·	SHEET INDEX
SHEET NO.	DESCRIPTION
1	TITLE SHEET
1	SITE DEVELOPMENT PLAN
3	SEDIMENT CONTROL PLAN, DRAINAGE AREA MAP AND SOILS MAP
4	GEOMETRY PLAN
5	DEMOLITION PLAN
6	STREET TREE AND LANDSCAPE PLAN
7	BUILDING FOOTPRINTS AND ROADWAY DETAILS
8	STORM DRAIN PROFILES, STRUCTURES AND DETAILS
9	STORM DRAIN PROFILES, PRIVATE SEWER PROFILES AND FIRE LANE PLAN
10	BORING LOGS
11	SEDIMENT CONTROL NOTES AND DETAILS
12	STORMWATER MANAGEMENT OVERALL DRAINAGE AREA MAPS
13	STORMWATER MANAGEMENT FACILITY DRAINAGE AREA MAP
14	STORMWATER MANAGEMENT FACILITY "1
15	STORMWATER MANAGEMENT FACILITY *2
` 16	STORMWATER MANAGEMENT FACILITY •3
17	STORMWATER MANAGEMENT NOTES AND DETAILS
18	SIGHT DISTANCE PLAN AND PROFILE
19	FOREST CONSERVATION PLAN
20	FOREST CONSERVATION NOTES AND DETAILS
21	OFF-SITE REFORESTATION PLAN AT FULTON MANOR II
22	REFORESTATION NOTES

# HAMMONDS PROMISE 0VFRI 00K

SITE DEVELOPMENT PLAN

LOTS 1 THRU 15, 17 THRU 19, OPEN SPACE LOT 20

		ZONE	ED: R	2-5C		
TAX	MAP	No.	47	GRID	No.	15
	P	ARCE	I. No	137		

	SITE	
SONGENIUL (1) DOLEY  SONGENIUL (1)  SONGENIUL (1)	47H2	AND THE PROPERTY OF THE PROPER
TYMAT CT. COSTILLED		

VICINITY MAP

## SIXTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

FOUNDATIONS OF EXISTING BUILDINGS TO BE REMOVED SHALL BE DEMOLISHED AND FILLED AS DIRECTED BY THE GEOTECHNICAL ENGINEER

#### STREET SIGN CHART STATION OFFSET POSTED SIGN HAMMONDS OVERLOOK COURT 0+34 19'L RI-1 ('STOP') SIGN

· · · · · · · · · · · · · · · · · · ·		······	
		STREET	LIGHT CHART
STREET NAME	STATION	OFFSET	FIXTURE/POLE TYPE
HAMMONDS OVERLOOK COURT	0+31	29°R	150-WATT H.P.S. VAPOR PREMIER POST-TOP MOUNTED ON A 14-FOOT BLACK FIBERGLASS POLE.
HAMMONDS OVERLOOK COURT	PRIVATE STREET LIGHT 1+20	19'R	100-WATT "TRADITIONAIRE" H.P.S. VAPOR COLONIAL POST TOP FIXTURE MOUNTED ON A 14-FOOT BLACK FIBERGLASS POLE.
HAMMONDS OVERLOOK COURT	PRIVATE STREET LIGHT 2+81	23'L	100-WATT "TRADITIONAIRE" H.P.S. VAPOR COLONIAL POST TOP FIXTURE MOUNTED ON A 14-FOOT BLACK FIBERGLASS POLE.

Forest Stand/Vegetative Data

Key	Community Type	Acreage	Dominant Vegetation	General Condition	Size Range Dominant Trees	Priority Acreage
F1	Poplar	1.8	Liriodendron tulipifera, Liquidanbar styraciflua, Prunus serotina, Acer rubrum, Juglans nigra	Good	14-20 inch dbh	0
Lawn	Lawn	2.0	Mixed grasses, landscape and ornamental trees and shrubs	Fair	NA	0

STR	EET ADDRESS CHART
UNIT No.	STREET ADDRESS
1	9610 HAMMONDS OVERLOOK COURT
2	9612 HAMMONDS OVERLOOK COURT
3	9614 HAMMONDS OVERLOOK COURT
4	9621 HAMMONDS OVERLOOK COURT
5	9623 HAMMONDS OVERLOOK COURT
6	9625 HAMMONDS OVERLOOK COURT
7	9627 HAMMONDS OVERLOOK COURT
8	9631 HAMMONDS OVERLOOK COURT
9	9633 HAMMONDS OVERLOOK COURT
10	9635 HAMMONDS OVERLOOK COURT
11	9637 HAMMONDS OVERLOOK COURT
12	9641 HAMMONDS OVERLOOK COURT
13	9643 HAMMONDS OVERLOOK COURT
14	9645 HAMMONDS OVERLOOK COURT
15	9647 HAMMONDS OVERLOOK COURT
17	9602 HAMMONDS OVERLOOK COURT
18	9604 Hammonds Overlook Court
19	9606 Hammonds Overlook Court

"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. 13204, Expiration Date: November 3, 2010."

FISHER, COLLINS & CARTER, INC. REVISED PLAN TO ADD LOTS 17-20 8-12-10 DATE

HAMMONDS PROMISE OVERLOOK ETC PARTNERSHIP HOMEOWNERS ASSOCIATES, INC. c/o MR. EARL D. COLLINS 5300 DORSEY HALL DRIVE CENTENNIAL SQUARE OFFICE PARK 5UITE 102 ELLICOTT CITY, MARYLAND 21042 ELLICOTT CITY, MARYLAND 21042

DEVELOPER HP OVERLOOK, LLC 5300 DORSEY HALL DRIVE 10272 BALTIMORE NATIONAL PIKE ELLICOTT CITY, MARYLAND 21042

- 1. THIS PLAN IS SUBJECT TO THE AMENDED 5TH EDITION OF THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS, COUNCIL BILL 45-2003, THE 2/2/04 COMPREHENSIVE PLAN AND THE
- THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK. THE EXISTING UTILITIES SHOWN HEREON WERE DERIVED FROM AVAILABLE
- SECTION 128 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 FFFT INTO ANY SETBACKS. PORCHES OR DECKS. OPEN OR ENCLOSED MAY PROJECT NOT MORE THAN 10 FEET INTO THE FRONT OR REAR YARD SETBACK.

WATER QUALITY AND CHANNEL PROTECTION MANAGEMENT, FACILITY \*2 AND \*3 ARE BIO-RENTENTION FACILITIES PROVIDING WATER QUALITY AND CHANNEL PROTECTION MANAGEMENT.

- 9. ANY DAMAGE TO THE COUNTY'S RIGHT-OF-WAY SHALL BE CORRECTED AT THE CONTRACTOR'S EXPENSE.
- 10. CONTRACTOR WILL CHECK SEWER HOUSE CONNECTION ELEVATION AT EASEMENT LINE PRIOR TO CONSTRUCTION 11. STORMWATER MANAGEMENT WILL BE PROVIDED IN 3 FACILITIES WHICH WILL BE PRIVATELY OWNED AND MAINTAINED BY THE H.O.A. FACILITY . 1 IS A SAND FILTER FACILITY PROVIDING
- ALL REQUIRED RECHARGE VOLUME STORAGE IS PROVIDED IN GRAVEL STORAGE BENEATH THE UNDER DRAIN OF FACILITY \*2.
- 12. THIS SITE WILL UTILIZE PUBLIC WATER AND PUBLIC SEWER. THE ON-SITE WATER MAIN IS PUBLIC, AND WAS CONSTRUCTED UNDER CONTRACT NO. 24-4396-1 13. SITE ANALYSIS DATA:
- A. TOTAL PROJECT AREA: 4.505 AC. +
- B. RIGHT OF WAY DEDICATION: 0.358 AC.±
  C. AREA OF PLAN SUBMISSION: 4:147 AC.±
- LIMIT OF DISTURBED AREA: 3.11 AC. PRESENT ZONING: R-SC
- BUILDING COVERAGE OF SITE: 0.36 AC. OR 8.4% ALLOWABLE NUMBER OF UNITS 4.505 AC./4 UNITS PER ACRE =/8.02 UNITS OR 18 UNITS
- H. PROPOSED NUMBER OF UNITS: 18 UNITS OPEN SPACE REQUIRED = 25% OF GROSS ACREAGE = 1-13 AC.
- J. OPEN SPACE PROVIDED = 3.23 AC. + RECREATIONAL OPEN SPACE REQUIRED = 400 SQ.FT. PER UNIT = (10 x 400 =7, 200 SQ.FT.) RECREATIONAL OPEN SPACE PROVIDED: 8577 SQ.FT.
- 1. THIS PROJECT IS SUBJECT TO HOWARD COUNTY DPZ FILE: SDP-06-150, F-06-243, WP-07-032, WP-07-082, WP 09-095 AND WP 09-202 (REVISED), F-10-075 N. LOT COVERAGE: MIN. LOT SIZE 1760 SQ. FT., BUILDING AREA = 840 SQ. FT., 840/1760 = 47.7%
- 14. PROPOSED USE FOR SITE AND STRUCTURES: TOWNHOUSES 15. PARKING REQUIREMENTS:

34. PLAN SUBJECT TO THE FOLLOWING WAIVERS:

HAMMONDS PROMISE OVERLOOK

LAT REF. NO. BLOCK NO. ZONE

VATER CODE

15

R-5C

- NO. OF SPACES REQUIRED: 2 PER UNIT (2 X 18 UNITS) = 36 NO. OF SPACES PROVIDED: 18 SINGLE CAR GARAGE UNITS WITH ONE SPACE AT FRONT OF GARAGE = 18 x 2 = 36
- OFF-STREET GUEST PARKING SPACES REQUIRED = 10 UNITS X 0.3 = 6 SPACES TOTAL NO. OF OFF-STREET GUEST PARKING SPACES PROVIDED = 21 SPACES
- TOTAL NO. OF PARKING SPACES PROVIDED = 57
- 53 SHADE TREES, 74 EVERGREEN TREES AND 20 PRIVATE STREET TREES HAS BEEN POSTED AS PART OF THE DEVELOPER'S AGREEMENT IN THE AMOUNT OF \$35,400.00.
- 17. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS IF
- 19. THE EXISTING STRUCTURE ON PARCEL 137 IS NOT A ROSENWALD SCHOOL BASED ON A LETTER FROM ANN HOLMES JONES, PRESIDENT OF THE HOWARD COUNTY CONSERVANCY, INC.
- 20. THERE ARE NO KNOWN GRAVESITES OR CEMETERIES ON THIS SITE BASED ON A VISUAL SITE VISIT, AND BASED ON AN EXAMINATION OF THE HOWARD COUNTY CEMETERY
- 21. TRENCH BEDDING FOR STORM DRAIN STRUCTURES SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY STANDARD G.201 CLASS 'C' BEDDING UNLESS OTHERWISE NOTED. 22. THERE ARE NO SLOPES 25% OR GREATER AND NO FLOODPLAIN WITHIN THE SUBDIVISION, BASED ON AN ENVIRONMENTAL STUDY BY ECO-SCIENCE PROFESSIONALS, INC., THERE IS A SMALL ISOLATED IMPACT THIS RESOURCE. THE TRACKING NUMBER FOR THE JOINT PERMIT APPLICATION PROCESS IS \$2006-64453-M02. WP-07-002 IS A WAIVER APPROVED ON MARCH IG, 2007, THE PLANNING DIRECTOR APPROVED THE REQUEST FOR A WAIVER FROM SECTION 16.116(a)(I), GRADING, REMOVAL OF VEGETATIVE COVER AND TREES, PAVING AND NEW STRUCTURES SHALL NOT BE PERMITTED WITHIN 25 FEET OF A WETLAND IN ANY ZONING DISTRICT AND SECTION 16.116(cx)) GRADING, REMOVAL OF VEGETATIVE COVER AND TREES AND PAVING ARE NOT PERMITTED IN WETLANDS. STREAMS. WETLAND PLIFFERS OR STEEP SLOPES, ON JANUARY 22, 2009 MDE ISSUED A LETTER OF AUTHORIZATION TO IMPACT 180 SQUARE FEET OF ISOLATED NONTIDAL WETLAND AND 3900 SQUARE FEET OF REGULATED WETLAND
- 23. ALL PLAN DIMENSIONS ARE TO FACE
- 24. A. REFUSE COLLECTION (CURBSIDE PICK-UP) TO BE PROVIDED BY PRIVATE CONTRACTOR.
- B. SNOW REMOVAL AND ROAD MAINTENANCE TO BE PRIVATE. 25. "SIGN POSTS" - ALL SIGN POSTS USED FOR TRAFFIC CONTROL SIGNS INSTALLED IN THE COUNTY RIGHT-OF-WAY SHALL BE MOUNTED ON A 2" GALVANIZED STEEL, PERFORATED, SQUARE TUBE POST (14 GAUGE) INSERTED INTO A 2-1/2" GALVANIZED STEEL, PERFORATED, SQUARE TUBE SLEEVE (12 GAUGE) - 3' LONG. A GALVANIZED STEEL POLE CAP SHALL BE
- 26. A HOME OCCUPATION PERMIT MUST BE ISSUED BY THE DIVISION OF ZONING ADMINISTRATION AND PUBLIC SERVICE BEFORE ANY BUSINESS IS CONDUCTED FROM THE HOME. 27. FOR FLAG OR PIPESTEM LOTS, REFUSE COLLECTION, SNOW REMOVAL AND ROAD MAINTENANCE IS TO BE PROVIDED AT THE JUNCTION OF THE FLAG OR PIPESTEM AND THE ROAD RIGHT-
- OF-WAY AND NOT ONTO THE FLAG OR PIPESTEM DRIVEWAY. USE-IN-COMMON DRIVEWAYS SHALL BE PROVIDED PRIOR TO RESIDENTIAL OCCUPANCY TO ENSURE SAFE ACCESS FOR FIRE AND EMERGENCY VEHICLES PER THE FOLLOWING (MINIMUM) REQUIREMENTS:
  - A) WIDTH 12 FEET (14 FEET SERVING MORE THAN ONE RESIDENCE); B) SURFACE - SIX (6") INCHES OF COMPACTED CRUSHER RUN BASE WITH TAR AND CHIP COATING. (1 -1/2" MINIMUM):
  - C) GEOMETRY MAXIMUM 14% GRADE, MAXIMUM 10% GRADE CHANGE AND 45-FOOT TURNING RADIUS; D) STRUCTURES (CULVERTS/BRIDGES) - CAPABLE OF SUPPORTING 25 GROSS TONS (H25-LOADING);
- E) DRAINAGE ELEMENTS CAPABLE OF SAFELY PASSING 100 YEAR FLOOD WITH NO MORE THAN I FOOT DEPTH OVER DRIVEWAY SURFACE; F) STRUCTURE CLEARANCES - MINIMUM 12 FEET:
- G) MAINTENANCE SUFFICIENT TO ENSURE ALL WEATHER USE.
- SIGNATURE 29. SOIL ANALYSIS PREPARED BY HILLIS-CARNES ENGINEERING ASSOCIATES, INC. DATED APRIL 3, 2006.
- 30. THIS PLAN IS SUBJECT TO MDE TRACKING NUMBER 2006-64453 FOR PROPOSED WORK WITHIN THE EPHEMERAL CHANNEL. 31. THE FOREST CONSERVATION REQUIREMENTS PER SECTION 16.1200 OF THE HOWARD COUNTY CODE AND THE FOREST CONSERVATION MANUAL FOR THIS SUBDIVISION WILL BE FULFILLED BY PROVIDING 0.50 ACRES OF ONSITE FOREST RETENTION . \$0.20/SE FOR 21.780 SE = \$4.356.00. THE REFORESTATION REQUIREMENT OF 0.80 ACRE WILL BE PROVIDED AT THE FULTON MANOR II SUBDIVISION \$0.50/SF FOR 34.848 SF = \$17.424.00.
- TOTAL FOREST CONSERVATION SURETY = \$21,780.00 32. ALL EXISTING DWELLINGS AND BUILDINGS ARE TO BE RAZED. THE CIRCA DATE FOR THE EXISTING DWELLING AT 8831 STEPHENS ROAD IS 1952 AND 1900 FOR THE EXISTING DWELLING
- AT 8841 STEPHENS ROAD. THIS INFORMATION IS ALSO SHOWN ON SHEET 5. 33. A FEE-IN-LIEU PAYMENT HAS BEEN PAID FOR PROVIDING ROAD IMPROVEMENT ALONG STEPHENS ROAD WITH THE DEVELOPER'S AGREEMENT FOR SDP-06-150 IN THE AMOUNT OF
- \$47,449.00 FOR CAPITAL PROJECT J-4202 ACCOUNT NO. 816-99J-4202.

TAX/ZONE | ELEC. DIST.

SEWER CODE

7390000

- A. APPROVAL OF A WAIVER BY DEVELOPMENT ENGINEERING DIVISION FROM DESIGN MANUAL VOLUME ONE, SECTION 5.2.4.1 REQUIRING 25 FOOT POND SETBACK FROM THE PROPERTY LINE. B. WP-07-032 IS A WAIVER APPROVED ON NOVEMBER 3, 2006. THE PLANNING DIRECTOR APPROVED THE REQUEST FOR A WAIVER FROM SECTION 16.134(a)(1) WHICH REQUIRES INSTALLATION OF SIDEWALKS ALONG BOTH SIDES OF ALL STREETS WITHIN THE PROJECT AND SECTION 16.134(b)(I) WHICH PERMITS THE DEPARTMENT OF PLANNING AND ZONING TO ELIMINATE ALL OR PART OF THE SIDEWALK REQUIREMENT WHERE ONE SIDE OF A STREET ADJOINS A LANDSCAPED PARKING ISLAND, PARK, GOLF COURSE OR OTHER TYPE OF USE WHICH DOES NOT REQUIRE A SIDEWALK
- C. WP-07-082 IS A WAIVER APPROVED ON MARCH 16, 2007. THE PLANNING DIRECTOR APPROVED THE REQUEST FOR A WAIVER FROM SECTION 16.116(a)(1). GRADING. REMOVAL OF VEGETATIVE COVER AND TREES, PAVING AND NEW STRUCTURES SHALL NOT BE PERMITTED WITHIN 25 FEET OF A WETLAND IN ANY ZONING DISTRICT AND SECTION 16.116(cXI) GRADING, REMOVAL OF
- VEGETATIVE COVER AND TREES AND PAVING ARE NOT PERMITTED IN WETLANDS, STREAMS, WETLAND BUFFERS OR STEEP SLOPES. D. WP-09-202 IS A WAIVER APPROVED ON JUNE 16, 2009, THE PLANNING DIRECTOR APPROVED THE REQUEST FOR A WAIVER FROM SECTION 16.120 (c)(4) WHICH REQUIRES THAT SINGLE FAMILY ATTACHED LOTS SHALL HAVE A MINIMUM OF 15 FEET OF FRONTAGE ON A PUBLIC ROAD SUBJECT TO:
- I. PRIOR TO THE SUBMISSION OF ANY RESUBDIVISION PLAT TO CREATE FEE SIMPLE LOTS, THE APPLICANT MUST COORDINATE WITH THE DEVELOPMENT ENGINEERING DIVISION AND THE DEPARTMENT OF PUBLIC WORKS CONCERNING THE PRIVATE/PUBLIC STATUS OF THE ON-SITE UTILITY LINES. THE APPROPRIATE EASEMENT DESIGNATIONS MUST BE REFLECTED ON THE FORTHCOMING PLAT(5) AND INCORPORATED ONTO PREVIOUSLY APPROVED PLANS (IF NECESSARY) THROUGH RED-LINE PROCESS.
- 2. THE CONSULTANT SHALL SUBMIT THE PROPOSED RESUBDIVISION PLAT TO CREATE THE FEE SIMPLE LOTS, DESIGNATE THE HOA OWNERSHIP OF THE OPEN SPACE LOTS AND SHOW ANY REQUIRED PUBLIC UTILITY EASEMENTS. IN ACCORDANCE WITH THE ATTACHED "ORIGINALS ONLY" REQUIREMENTS, THIS RESUBDIVISION PLAT MAY BE PROCESSED AS AN "ORIGINALS ONLY" MYLAR. IF THAT PROCESS IS SELECTED THE ORIGINAL AND ALL REQUIRED FEES MUST BE SUBMITTED WITHIN 60 DAYS OF THIS WAIVER APPROVAL (ON OR BEFORE AUGUST 15, 2009). 3. A HOMEOWNER'S ASSOCIATION WILL BE CREATED THAT WILL BE THE RESPONSIBLE PARTY FOR THE MAINTENANCE OF THE PRIVATE ROADS AND STORMWATER CONVEYANCE AND MANAGEMENT
- FACILITIES, WATER AND SEWER SHALL BE PUBLIC AND MAINTAINED FOR EACH UNIT WITHIN THE RECORDED PUBLIC EASEMENT. 4. THE APPLICANT IS ADVISED THAT THIS REQUEST TO CREATE FEE SIMPLE LOTS DOES NOT ALTER THE PROCESSING DEADLINES ASSOCIATED WITH SDP-06-150 (ORIGINALS DUE BY
- E. WP-09-095 IS A WAIVER APPROVED ON FEBRUARY 3, 2009, THE PLANNING DIRECTOR APPROVED THE REQUEST FOR A WAIVER FROM SECTION 16.156(b), SECTION 16.156(b) AND SECTION 16.156 (m) WHICH ESTABLISH DEADLINES FOR COMPLETION OF DEVELOPER'S AGREEMENTS, SUBMISSION FEES, POSTING OF FINANCIAL OBLIGATIONS AND THE SUBMISSION OF SITE DEVELOPMENT PLAN ORIGINALS 1. THE DEVELOPER MUST SUBMIT DEVELOPER'S AGREEMENTS AND POST FINANCIAL SURETY FOR ROAD CONSTRUCTION, WATER AND SEWER CONSTRUCTION, STORM DRAINS, STORMWATER
- MANAGEMENT CONSTRUCTION AND MAINTENANCE, LANDSCAPING AND FOREST CONSERVATION. EXECUTE A DEED OF FOREST CONSERVATION EASEMENT AND A FOREST CONSERVATION AGREEMENT FOR BOTH ON-SITE AND OFF-SITE MITIGATION AND PAYMENT OF ASSOCIATED FEES ON OR BEFORE AUGUST 2, 2009. 2. THE DEVELOPER MUST SUBMIT SITE DEVELOPMENT PLAN ORIGINALS FOR SIGNATURE AND RECORDATION ON OR BEFORE AUGUST 2, 2009. F. THE PLANNING DIRECTOR APPROVED A REQUEST FOR WAIVER RECONSIDERATION (WP-09-202) ON JULY 22, 2009 TO ADD F-09-031 TO WAIVER REQUEST FOR EXTENSION OF PLAT SUBMITTAL
- DEADLINES (SECTION 16.144(q) WHICH ESTABLISHES DEADLINE DATES TO SUBMIT THE FINAL SUBDIVISION PLAT, SUBJECT TO THE FOLLOWING CONDITION: 1. THE DEVELOPER MUST SUBMIT FINAL PLAT ORIGINALS IN ASSOCIATION WITH F-09-031 FOR SIGNATURE AND RECORDATION ON OR BEFORE AUGUST 15, 2009.
- 35. THE EXISTING SPECIMEN TREES SHOWN ON SHEET 19 ARE a.) BLACK WALNUT, 30" dbh, GOOD CONDITION, b.) NORWAY SPRUCE, 30" dbh, GOOD CONDITION, c.) TULIP POPLAR, 36" dbh, GOOD CONDITION, ALL EXISTING SPECIMEN TREES ARE TO BE REMOVED.
- 36. ADDITIONAL FOREST CONSERVATION RETENTION EASEMENT NO. 2 HAS BEEN PROVIDED ABOVE THE REQUIRED FOREST CONSERVATION OBLIGATION. THIS FOREST CONSERVATION EASEMENT IS PROVIDED AS A CONDITION BETWEEN THE OWNER OF HAMMOND PROMISE OVERLOOK AND THE HOPE BAPTIST CHURCH, OWNER OF LOT 1, BOLLING BROOKE. NO FOREST CONSERVATION SURETY IS REQUIRED FOR THE CREATION OF FOREST CONSERVATION EASEMENT NO. 2, HOWEVER, A DEED OF EASEMENT FOR FOREST

37. ORIGINAL LOT 1, BOLLING BROOKE SUBDIVISION CONTAINS 11.1020 ACRES. A TOTAL OF 0.621 ACRES OF LOT 1, BOLLING BROOKE IS BEING TRANFERRED TO EXITING OPEN SPACE LOT 16 (2.609 ACRES) OF THE HAMMONDS PROMISE OVERLOOK SUBDIVISION CREATING A NEW 3.23 ACRE OPEN SPACE LOT 20.

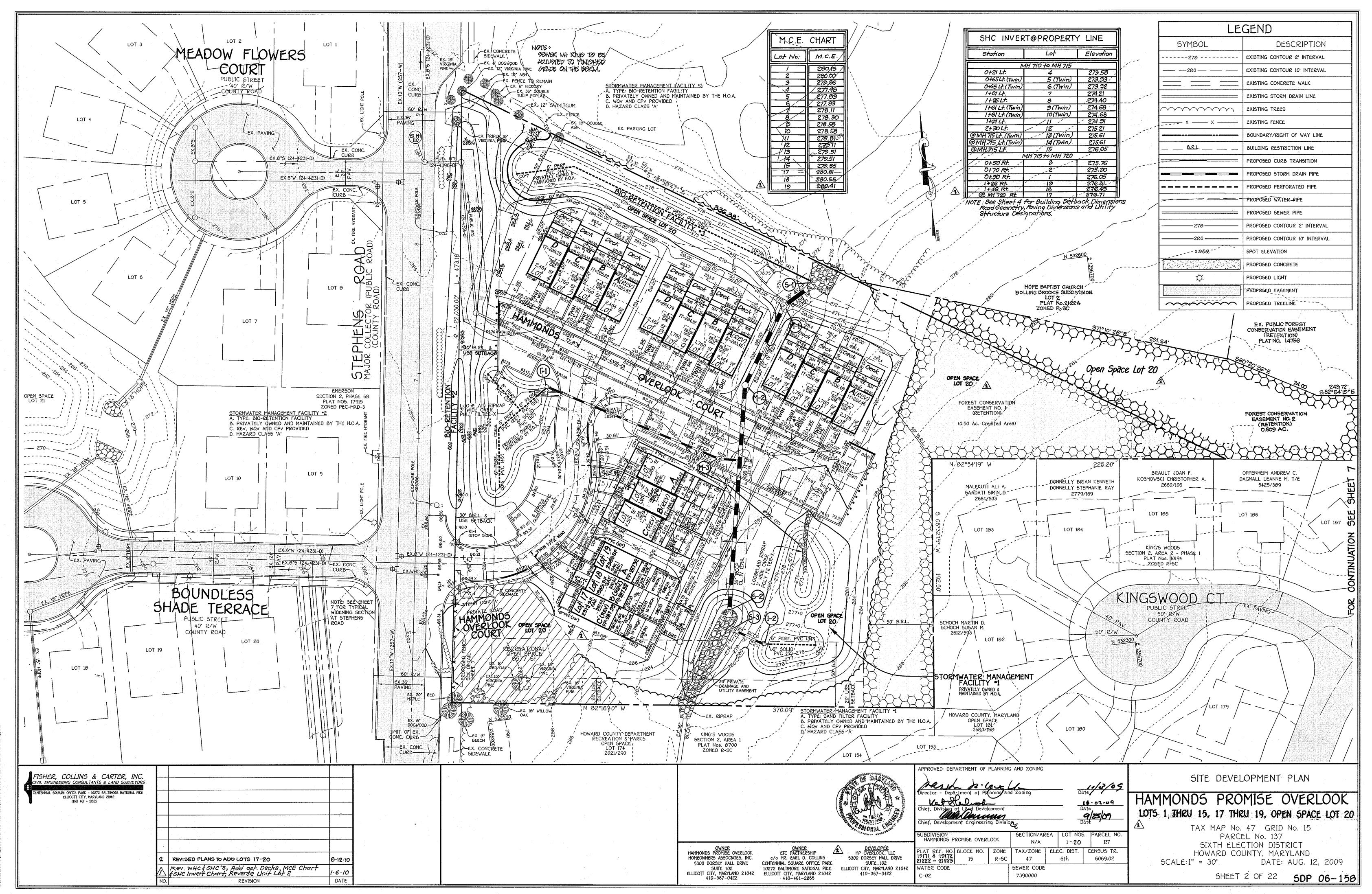
38. THE ORIGINAL STORMWATER DESIGN FOR THE REVISION DATED 8/12/10, WHICH INCLIDES THE ADDITION OF UNITS 17-19 AND OPEN SPACE LOT 20 WAS PREVIOUSLY DESIGNED WITH THIS SITE DEVELOPMENT PLAN APPROVED IN NOV. 2009. CONSTRUCTION WILL BE COMPLETED PRIOR TO MAY 2017. APPROVED: DEPARTMENT OF PLANNING AND ZONING

TITLE SHEET 11-02-09 LOTS 1 THRU 15, 17 THRU 19, OPEN SPACE LOT 20 ief, Development Engineering Division SECTION/AREA LOT NOS. PARCEL NO.

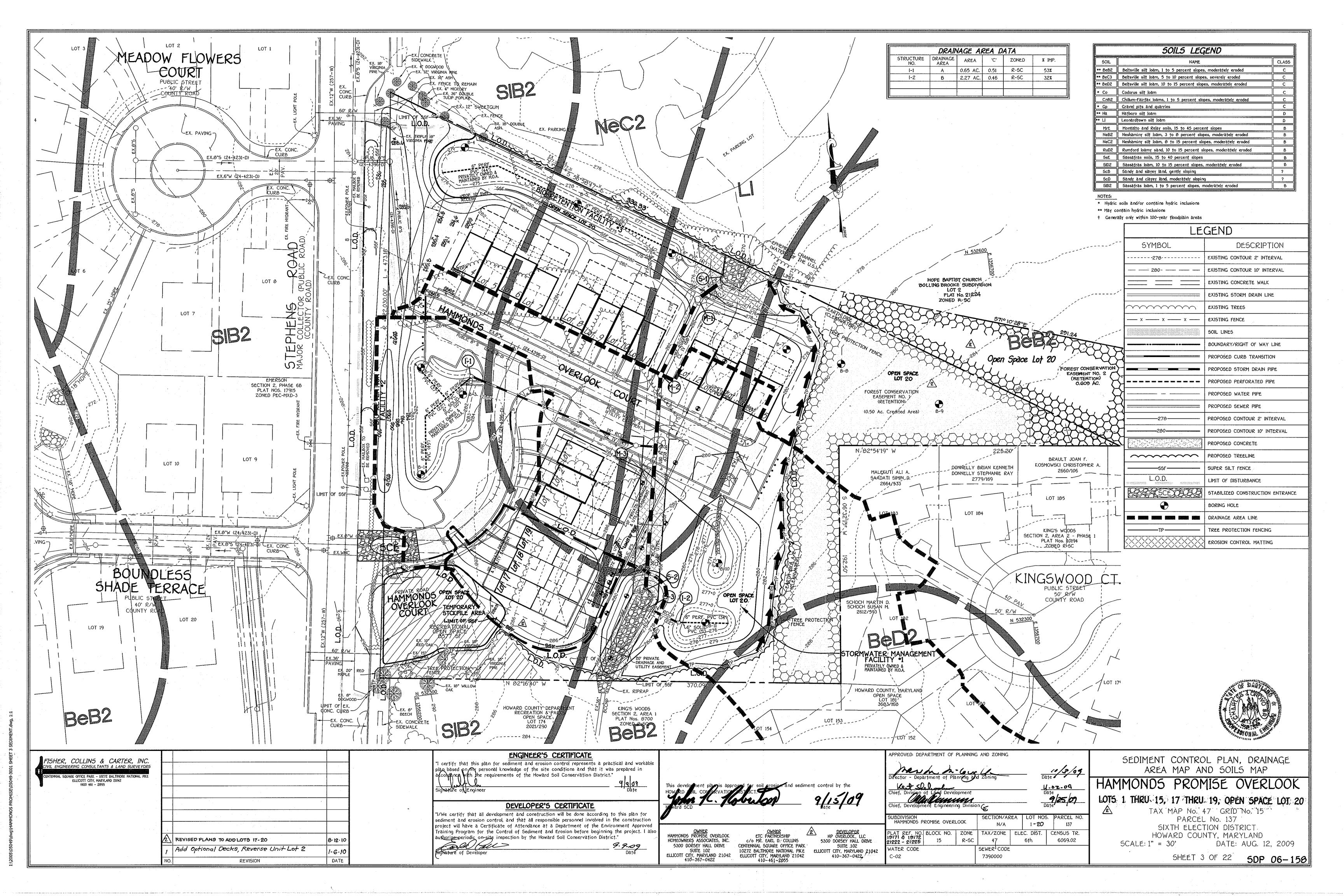
TAX MAP No. 47 GRID No. 15 PARCEL No. 137 SIXTH ELECTION DISTRICT CENSUS TR. HOWARD COUNTY, MARYLAND 6069.02

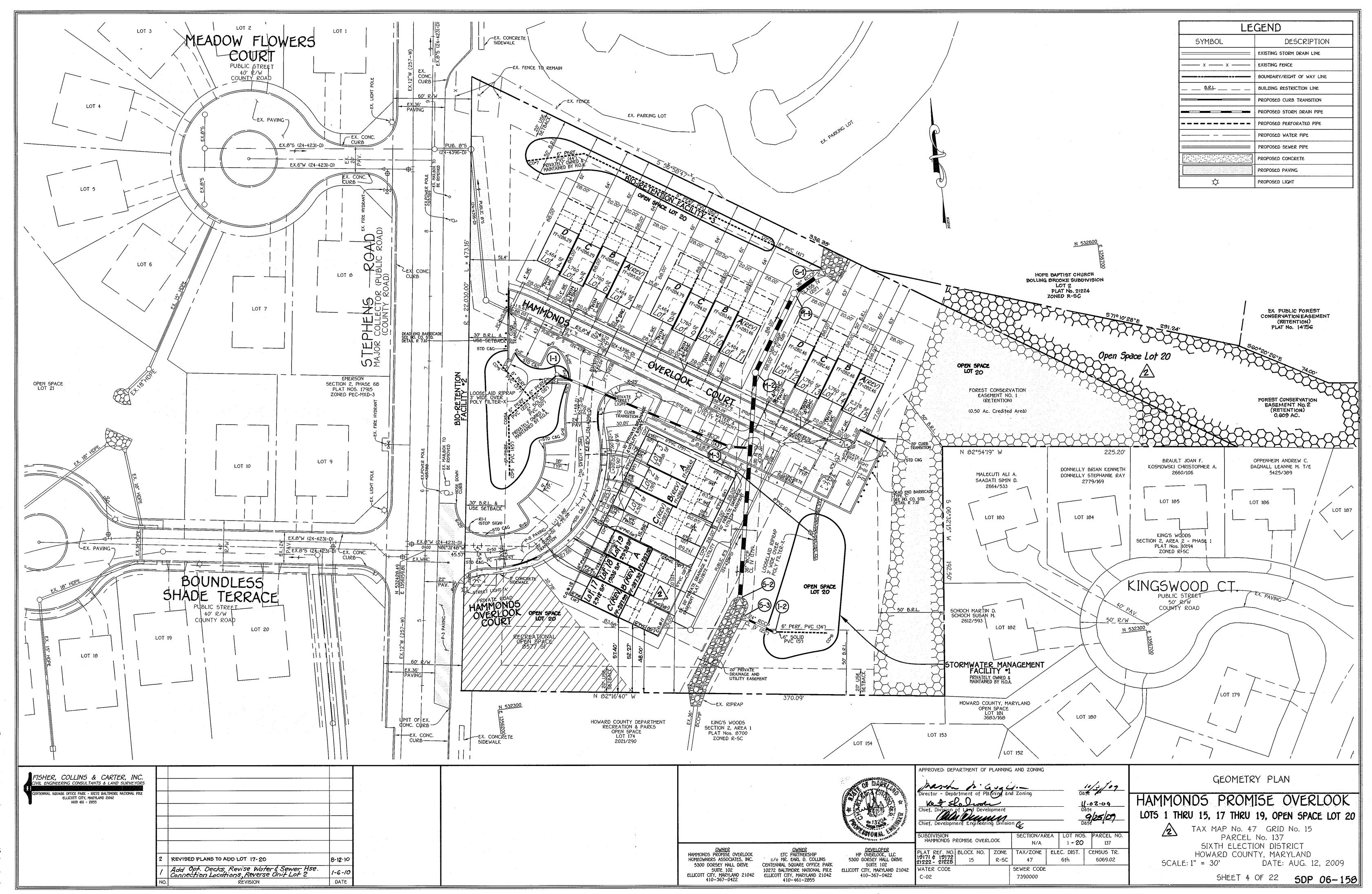
SCALE: AS SHOWN DATE: AUG. 12, 2009

SHEET 1 OF 22 SDP 06-158

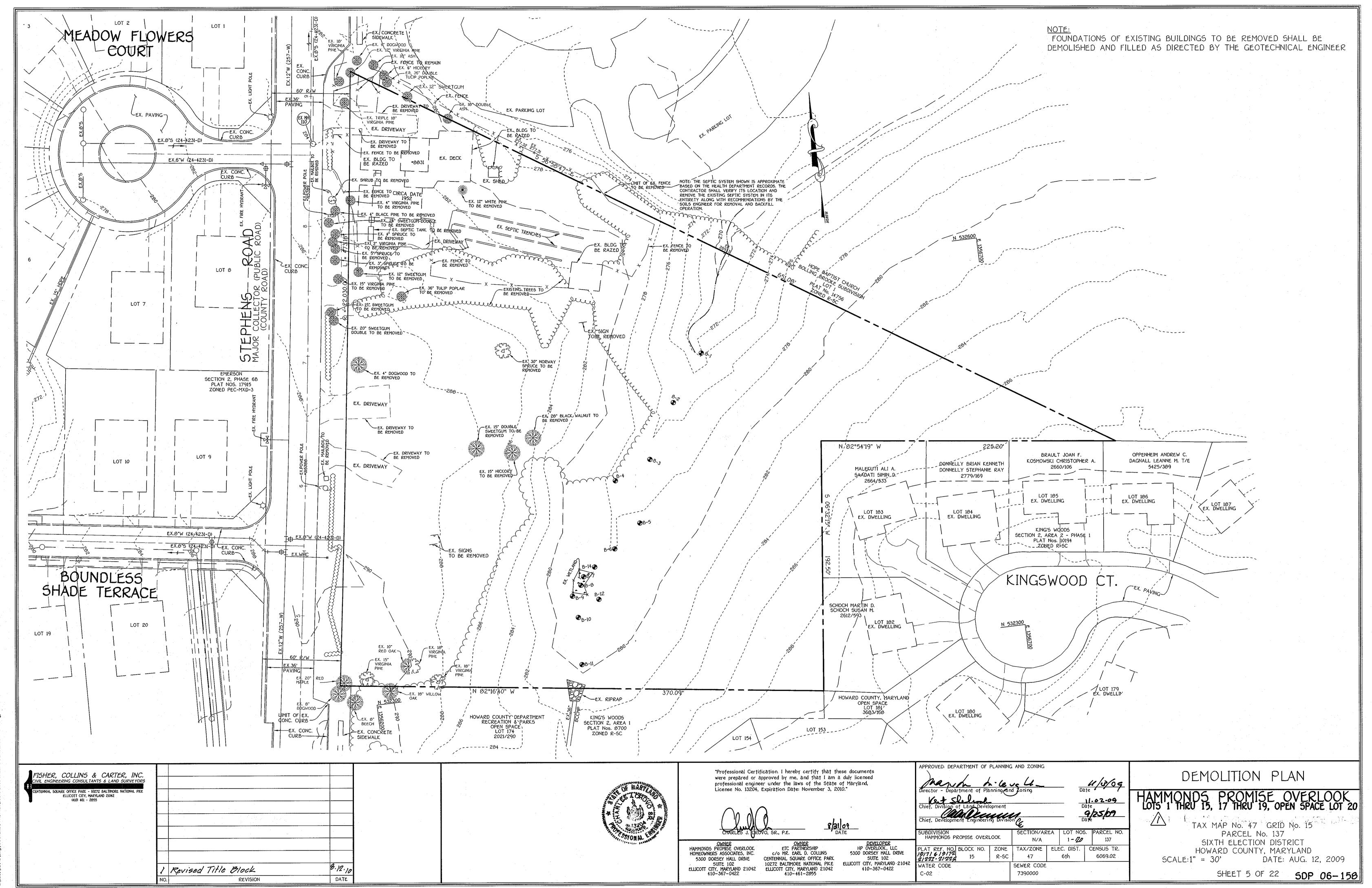


5/05049\dwq\HAMMONDS PROMISE\05049-3001 SHEET 2 SITE PLAN.

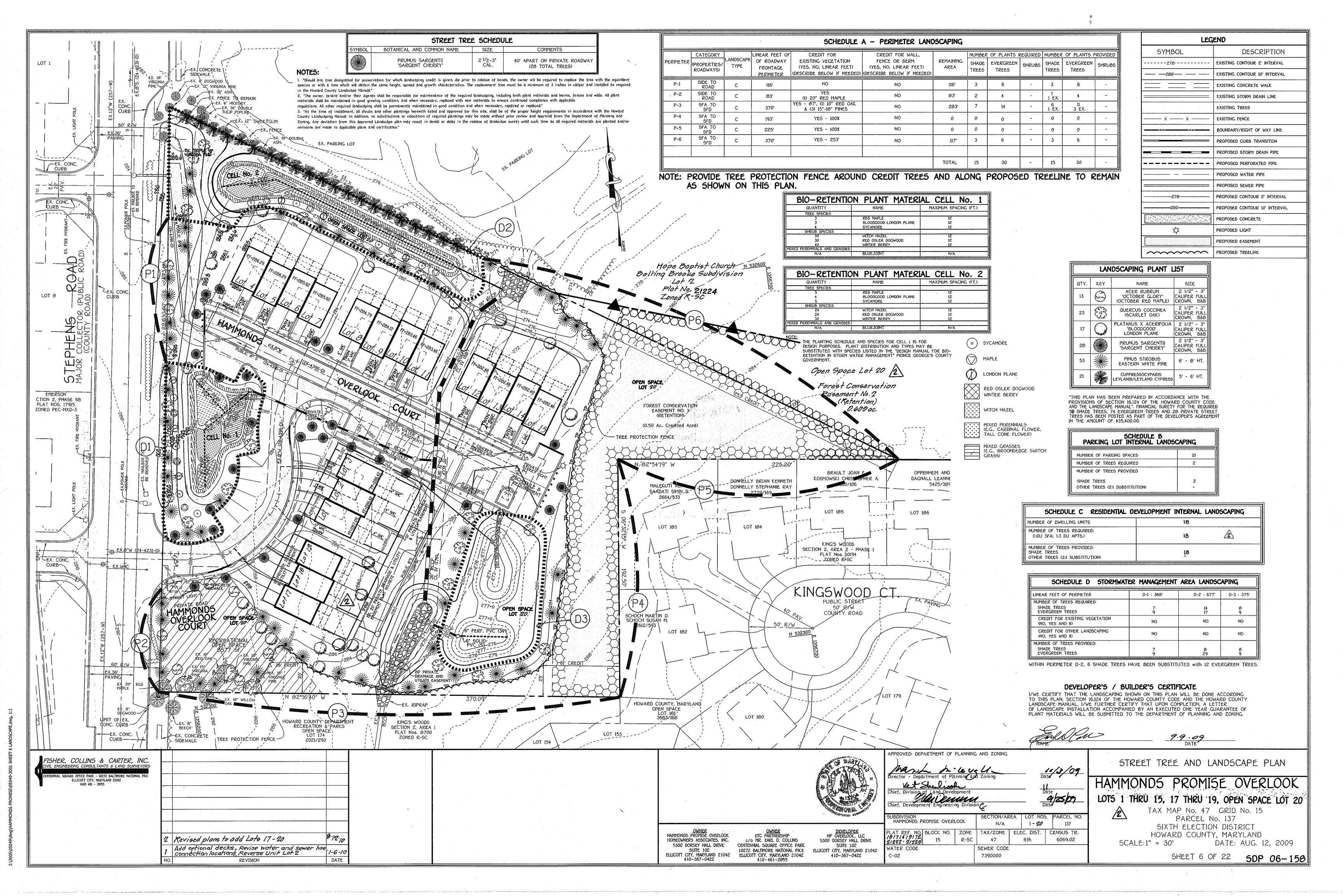


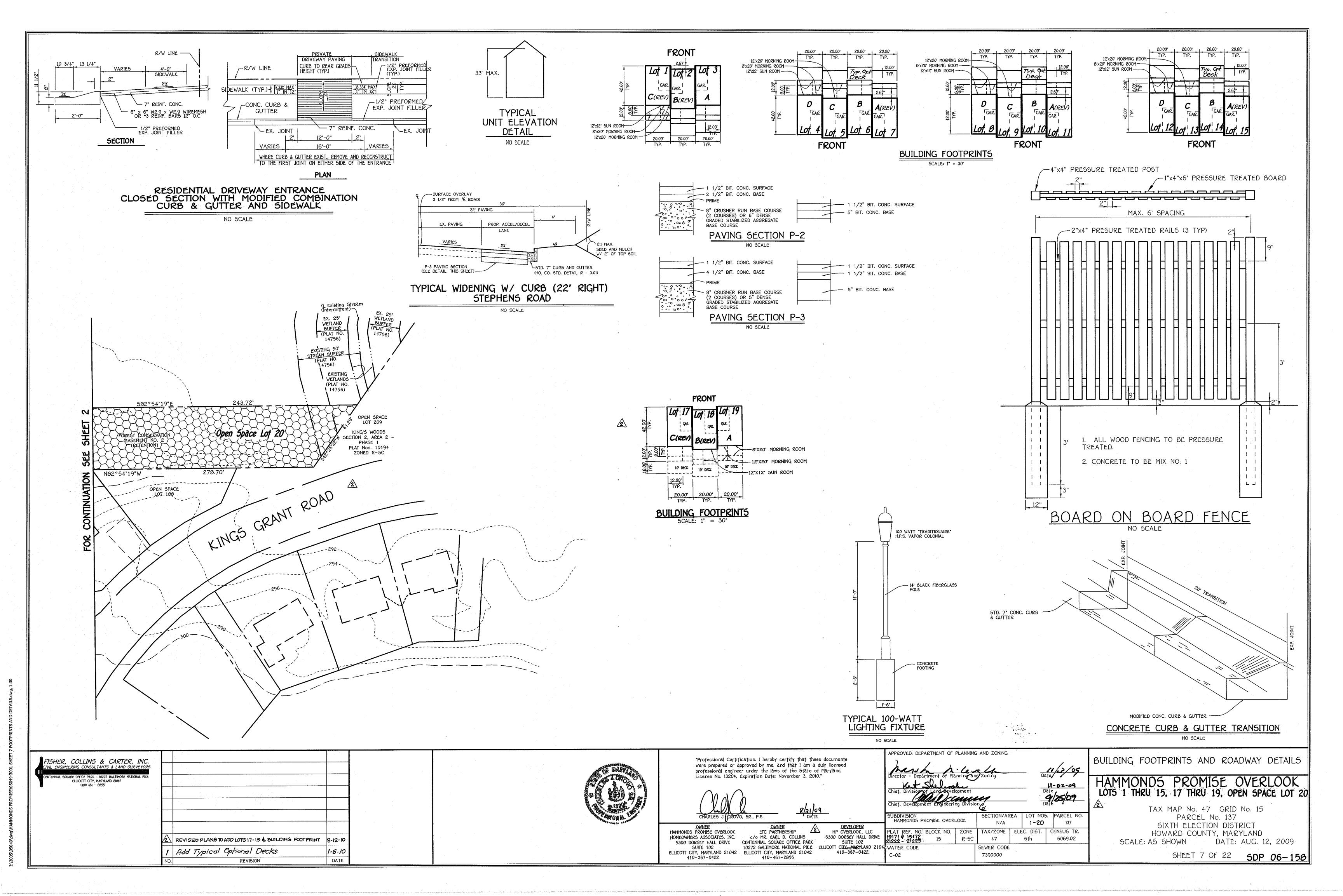


.\2005\05049\dwq\HAMMONDS PROMISE\05049-3001 SHEET 4 GEOMETRY.dwg, 1:1



I:\2005\05049\dwq\HAMMONDS PROMISE\05049-3001 SHEET 5 DEMOLITION PL



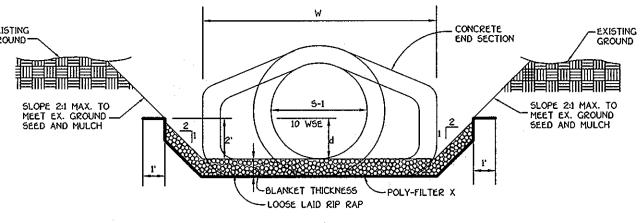


	STORM DRAIN STRUCTURE SCHEDULE							
STRUCTURE NO.	TOP ELEVATION	INV.IN	TUO.VAI	COORDINATES	TYPE	WIDTH	REMARKS	
I-1	* 282.75	278.33 (6")	277.58 (15")	N 532551.18 E 1356276.68	D INLET	-	D - 4.11	
I-2	* 278.25	274.00 (6")	272.34 (24")	N 532333.44 E 1356417.60	D INLET	-	D - 4.11	
M-1	277.50	269.54 (36")	269.44 (36*)	N 532590.62 E 1356464.61	STD. MANHOLE	5.0'	G - 5.13	
M-2	281.30	269.98 (36")	269.88 (36")	N 532533.50 E 1356427.71	STD. MANHOLE	5.0'	G - 5.13	
M-3	281.51	272.88 (15")	272.78 (15*)	N 532479.50 E 1356401.00	STD. MANHOLE	4.0'	G - 5.12	
5-1	-	-	269.34 (36")	N 532600.20 E 1356481.60	36" CONC. END SECT	-	D. 5.51	
5-2	_	-	271.00 (36")	N 532365.15 E 1356394.93	36" CONC. END SECT	-	D. 5.51	
I-1 I-2 M-1 M-2 M-3 5-1 5-2 5-3		-	272.12 (24*)	N 532344.05 E 1356399.35	24" CONC. END SECT	-	D. 5.51	

\* - DENOTES THROAT OPENING ELEVATION

		CLEAN	1-0UT 50	CHEDULE	
STRUCTURE TOP NO. ELEVATION		INVERT	LOCAT NORTH	TION EAST	REMARKS
C.O-1	283.00	280.00 279.83	532459.16	1356404.75	SEE DETAIL THIS SHEET
C.O-2	285.50	282.50	532405.41	1356369,90	SEE DETAIL THIS SHEET
C.O-3	284.20	280.80	532500.26	1356341.54	SEE DETAIL THIS SHEET
C.O-4	285.84	282.39	532446.04	1356306.31	SEE DETAIL THIS SHEET
C.O-5	283.00	278.33	532478.39	1356231.16	SEE DETAIL THIS SHEET
C.O-5A	283.00	278.33	532523.51	1356236.07	SEE DETAIL THIS SHEET
C.O-6	283.00	276.33	532566.37	1356233.16	SEE DETAIL THIS SHEET
C.O-7	276.00	271.33	532717.06	1356274.05	SEE DETAIL THIS SHEET
C.O-7A	276.00	271.33	532629.10	1356453.07	SEE DETAIL THIS SHEET
C.O-8	278.25	274.00	532327.79	1356456.72	SEE DETAIL THIS SHEET
C.O-9	286.00	282.94	532390.52	1356360.13	SEE DETAIL THIS SHEET
C.O-10	286.00	282.81	532432.04	1356297.21	SEE DETAIL THIS SHEET
C.O-11	286.20	283.52	532341.68	1356328.39	See Detoil This Sheet
0.0-12	287.00	284.26		1356264.90	See Detail This Sheet

PIPE 5CHEDULE						
SIZE	CLA55	LENGTH				
6 <b>-</b>	PVC, SCH. 40	459 L.F.				
6*	PERF. PVC	360 L.F.				
ø•	PVC, 5CH. 40	71 L.F.				
15*	RCCP, CLASS IV	159 L.F.				
24"	RCCP, CLASS IV	22 L.F.				
36"	RCCP, CLASS IV	259 L.F.				

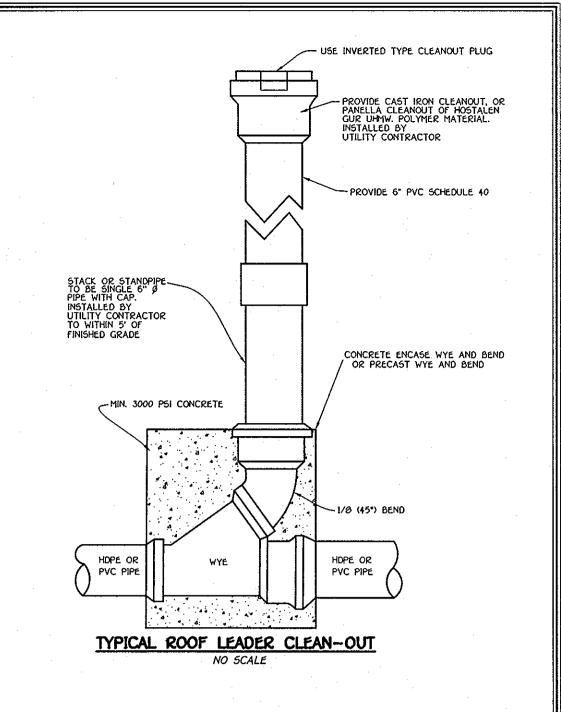


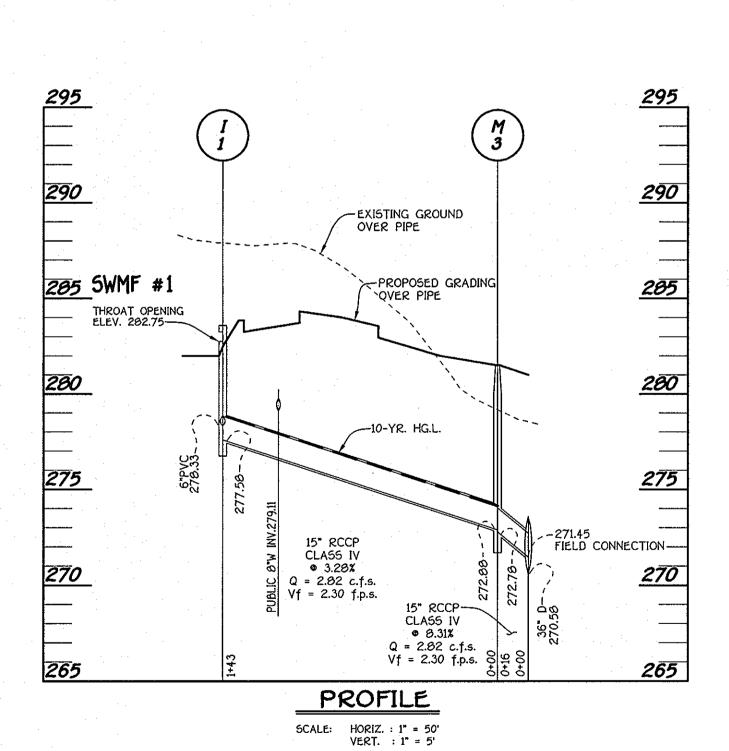
RIP RAP CHANNEL DETAIL

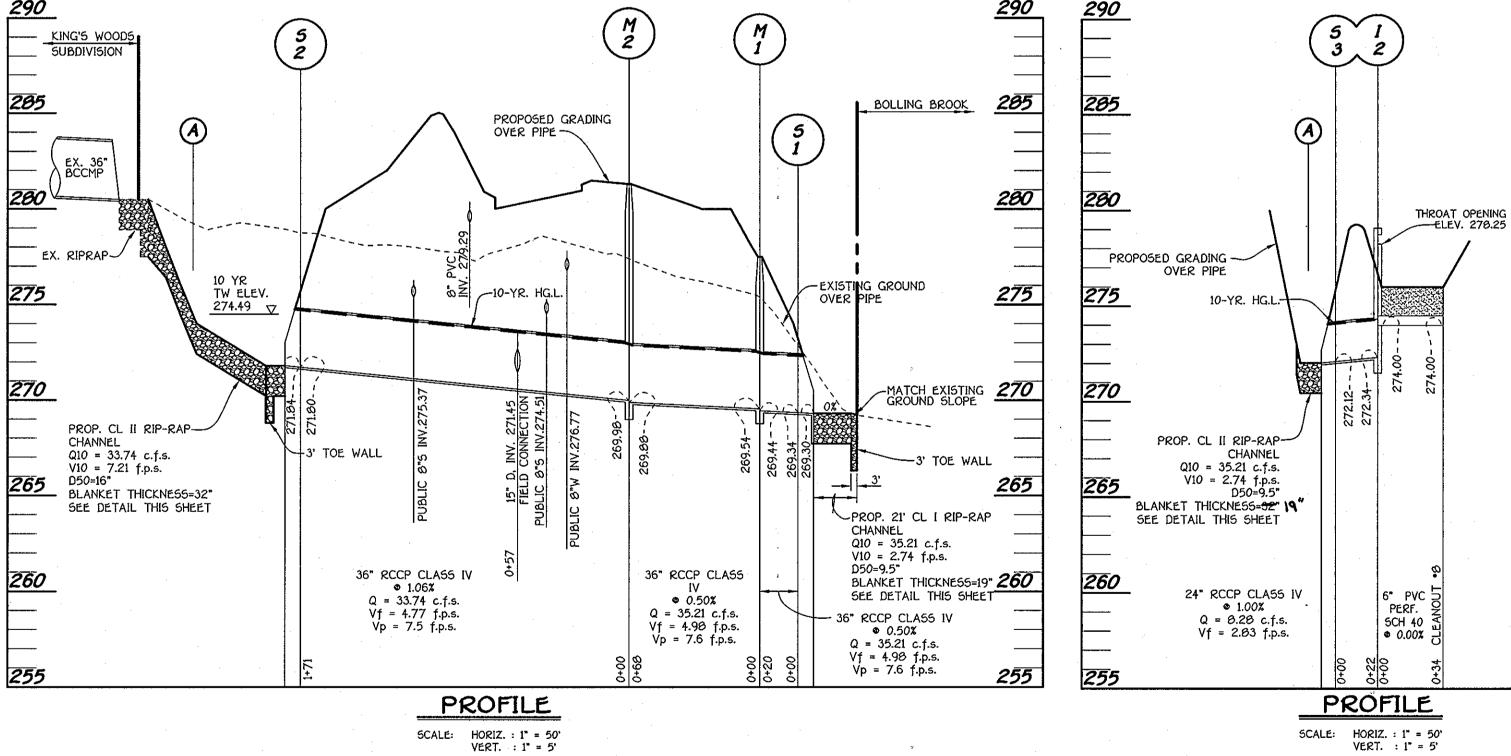
				RIP-R	AP CH	ANNEL	DESIG	GN DA	ITA					
STRUCTURE	AREA	WETTED PERIMETER	R	R 2/3	5	5 1/2	W	ď	N	V (f.p.s.)	Q (c.f.s.)	RIP-RA D 50	P SIZE	BLANKET THICKNESS
5-1	12.84	12.05	1.066	1.043	0.005	0.0707	5.0	1.58	0.04	2.74	35.21	9.5"	15"	19"
SECT. A	4.68	8.25	0.567	0.685	0.080	0.2828	5.0'	0.73	0.04	7.21	33.74	16"	24*	32"

#### CONSTRUCTION SPECIFICATIONS FOR RIP-RAP OUTFALLS

- The subgrade for the filter, riprap or gabion shall be prepared to the required lines and grades. Any fill required in the subgrade shall be compacted to a density of approximately that of the surrounding undisturbed material.
- The rock or gravel shall conform to the specified grading limits when installed respectively in the riprap or filter.
- 3. Filter cloth shall be protected from punching, cutting or tearing. Any damage other than an occasional shall hole shall be repaired by placing another piece of cloth over the damaged part or by completely replacing the cloth. All overlaps whether for repairs or for joining two pieces of cloth shall be a minimum of one foot.
- 4. Stone for the riprap or gabion outlets may be placed by equipment. Both shall each be constructed to the full course thickness in one operation and in such a manner as to avoid displacement of underlying materials. The stone for riprap or gabion outlets shall be delivered and placed in a manner that will insure that it is reasonably homogenous with the smaller stones and spalls filling the voids between the larger stones. Riprap shall be placed in a manner to prevent damage to the filter blanket or filter cloth. Hand placement will be required to the extent necessary to prevent damage to the permanent works.









270

255

CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE ELLICOTT CITY, MARYLAND 21042 (410) 461 - 2055	FISHER, COLLINS & CARTER, INC.
	CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE

1	Revised Title Block & Cleonout Schedule	B-12-10
	NOVISED TITLE DIVERY CIEDIDUL SCREDUE	1 IV

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·	OWNER HAMMONDS PROMISE OVERLOOK HOMEOWNERS ASSOCIATES, INC. 5300 DORSEY HALL DRIVE SUITE 102 ELLICOTT CITY, MARYLAND 21042 410-367-0422

		•
LOOK	<u>Owner</u> etc partnership	<u>DEVELOPER</u> HP OVERLOOK, LLC
INC. IVE	c/o MR. EARL D. COLLINS CENTENNIAL SQUARE OFFICE PARK	5300 DORSEY HALL DRIVE SUITE 102
21042	10272 BALTIMORE NATIONAL PIKE ELLICOTT CITY, MARYLAND 21042 410-461-2055	ELLICOTT CITY, MARYLAND 21042 410-367-0422

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	APPROVED: DEP								
	Director - Depa	irtment of Pla	unni (g) r	nd Zoning			11/	3/05	F
	Chief, Division	B' AD / 1	•				11-0: ate	209	
	Chief, Developm	ent Engineeri	ng Divisio	on Ce		<u> </u>	ate	5/07_	
	SUBDIVISION HAMMONDS P	ROMISE OVERI	LOOK	SECTION/AR N/A	REA	1 - 20	). PA	ARCEL NO. 137	
	PLAT REF. NO. 19171 & 19172 21222-21225	BLOCK NO. 15	ZONE R-SC	TAX/ZONE 47	£Lf	C. DIST. 6th		15U5 TR. 5069.02	
2	WATER CODE C-02			SEWER CODE 7390000					

STORM DRAIN PROFILES, SCHEDULES & DETAILS

## HAMMONDS PROMISE OVERLOOK LOTS 1 THRU 15, 17 THRU 19, OPEN SPACE LOT 20

TAX MAP No. 47 GRID No. 15

PARCEL No. 137

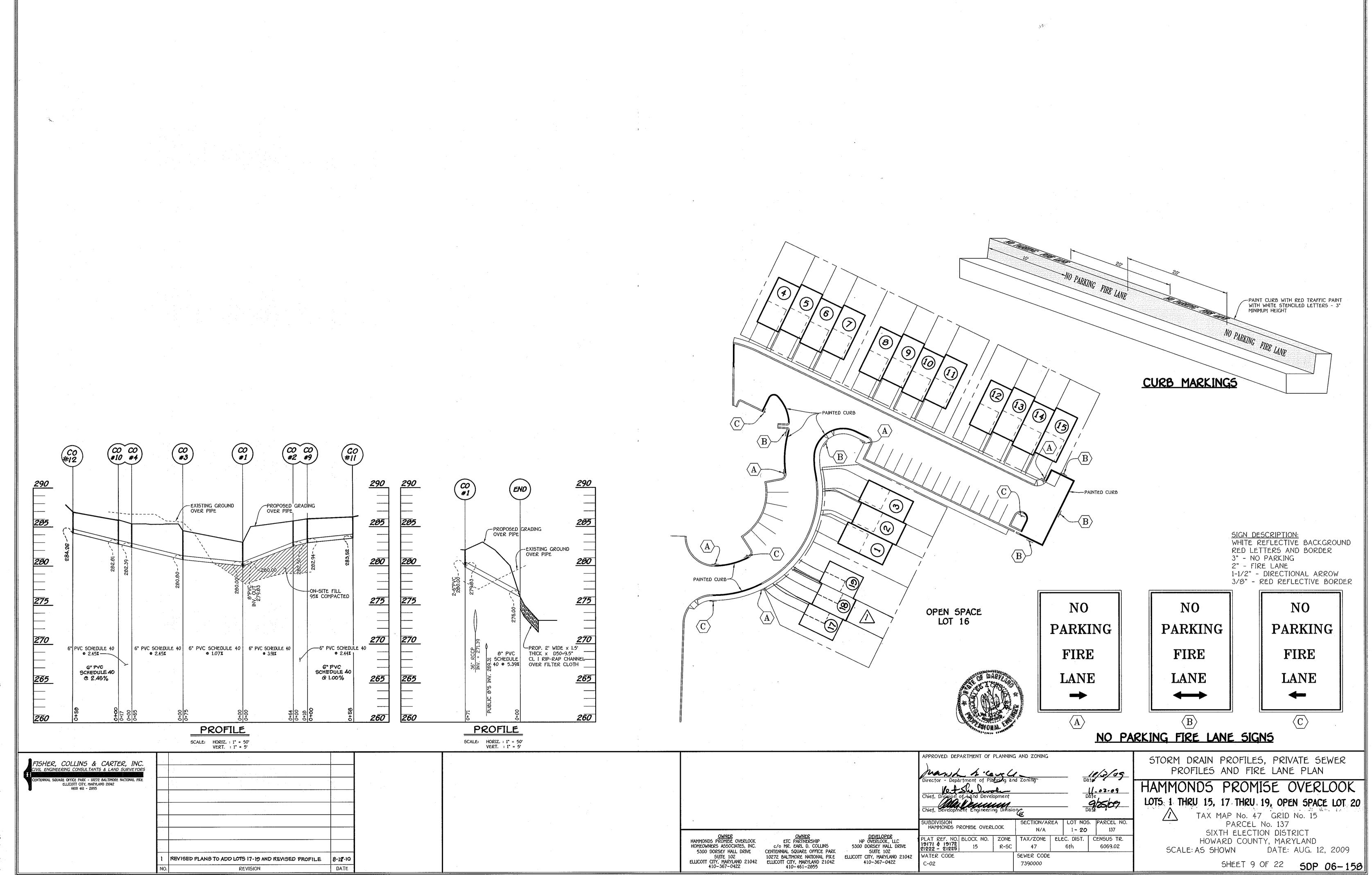
SIXTH ELECTION DISTRICT

HOWARD COUNTY, MARYLAND

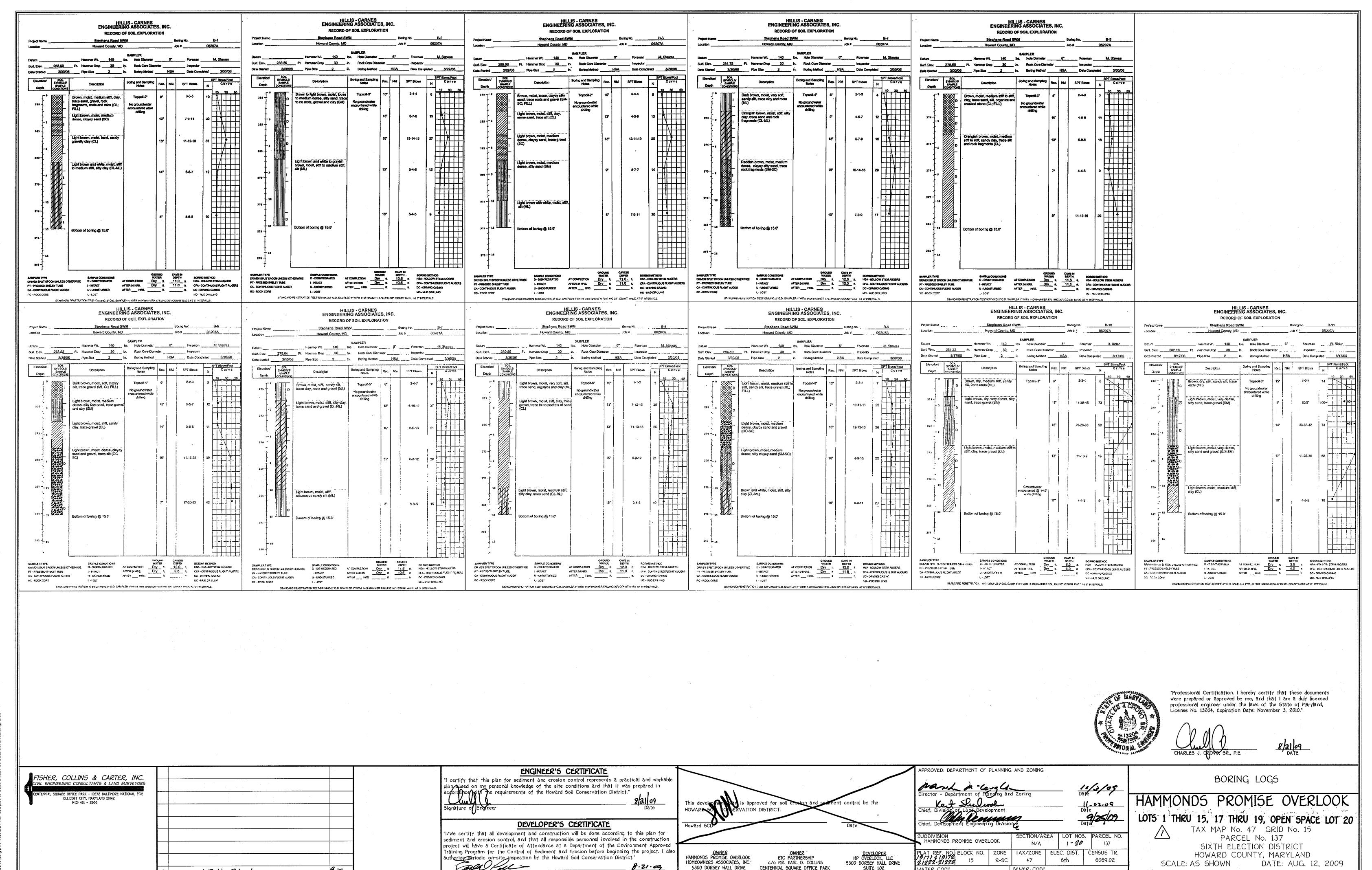
SCALE: AS SHOWN DATE: AUG. 12, 2009

SHEET 8 OF 22 SDP 06-158

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HOMEOWNERS ASSOCIATES, INC.

ELLICOTT CITY, MARYLAND 21042 410-367-0422

5300 DORSEY HALL DRIVE

SUITE 102

C/O MR. EARL D. COLLINS

CENTENNIAL SQUARE OFFICE PARK

10272 BALTIMORE NATIONAL PIKE

ELLICOTT CITY, MARYLAND 21042 410-461-2055

SUITE 102

ELLICOTT CITY, MARYLAND 21042

WATER CODE

thorize periodic on-site inspection by the Howard Soil Conservation District."

HOWARD COUNTY, MARYLAND

DATE: AUG. 12, 2009

SHEET 10 OF 22 SDP 06-158

SCALE: AS SHOWN

6th

SEWER CODE

7390000

6069.02

Revised Title Block

REVISION

OFFINITION Using vegetation as cover for barren soil to protect it from forces that cause erosion

PURPOSE Vegetative stabilization specifications are used to promote the establishment of vegetation on exposed soil. When soil is stabilized with vegetation, the soil is less likely to erode and more likely to allow infiltration of rainfall, thereby reducing sediment loads and run-off to downstream areas, and improving wildlife habitat and visual resources. CONDITIONS WHERE PRACTICE APPLIES

This practice shall be used on denuded areas as specified on the plans and may be used on highly erodible or critically eroding areas. This specification is divided into Temporary Seeding, to quickly establish vegetative cover for short duration Olup to one year), and Permanent Seeding, for long term vegetative cover. Examples of applicable areas for Temporary Seeding are temporary Soil Stockpiles, cleared areas being left idle between construction phases, earth dikes, etc. and for Permanent Seeding are lawns, dams, cut and fill slopes and other areas at final grade, former stockpile and staging areas, etc.

EFFECTS ON WATER QUALITY AND QUANTITY Planting vegetation in disturbed areas will have an effect on the water budget, especially on volumes and rates of runoff. infiltration evaporation, transpiration, percolation, and groundwater recharge. Vegetation, over time, will increase organic matter content and improve the water holding capacity of the soil and subsequent plant growth. Vegetation will help reduce the movement of sediment, nutrients, and other chemicals carried by runoff to receiving waters. Plants will also help protect groundwater supplies by assimilating those substances present within the root zone. Sediment control devices must remain in place during grading, seedbed preparation, seeding, mulching and vegetative establishment to prevent large quantities of sediment and associated chemicals and nutrients from washing into surface waters.

SECTION 1 - VEGETATIVE STABILIZATION METHODS AND MATERIALS A. Site Preparation i. Install erosion and sediment control structures (either temporary of permanent) such as diversions, grade stabilization structures, berms, waterways, or sediment control basins. ii. Perform all grading operations at right angles to the slope. Final grading and shaping is not usually necessary for temporary seeding.

iii. Schedule required soil tests to determine soil amendment composition and application rates for sites having disturbed area over 5 acres.

Soil Amendments (Fertilizer and Lime Specifications)

Soil tests must be performed to determine the exact ratios and application rates for both lime and fertilizer on sites having disturbed areas over 5 acres. Soil analysis may be performed by the University of Maryland or a recognized commercial laboratory. Soil samples taken for engineering

purposes may also be used for chemical analyses. i. Fertilizers shall be uniform in composition, free flowing and suitable for accurate application by approved equipment. Manure may be substituted for fertilizer with prior approval from the appropriate approval authority. Fertilizers shall all be delivered to the site fully labeled according to the applicable state fertilizer laws and shall bear the name, trade name or trademark and warrantee

of the producer. iii. Lime materials shall be ground limestone (hydrated or burnt lime may be substituted) which contains at least 50% total oxides (calcium oxide plus magnesium oxide). Limestone shall be ground to such fineness that at least 50% will pass through a \*100 mesh sieve and 90-100% will pass through a \*20 mesh sieve.

iv. Incorporate lime and fertilizer into the top 3-5" of soil by disking or other suitable means.

Seedbed Preparation Seedbed preparation shall consist of loosening soil to a depth of 3" to 5" by means of suitable agricultural or construction equipment, such as disc harrows or chisel plows of rippers mounted on construction equipment. After the soil is loosened it should not be rolled or dragged smooth, but left in the roughened condition. Sloped areas (greater

than 3:1) should be tracked leaving the surface in an irregular condition with ridges running parallel to the contour of the slope. b. Apply fertilizer and lime as prescribed on the plans.
c. In corporate lime and fertilizer into the top 3-5" of soil by disking or other suitable means.
ii. Permanent Seeding

 a. Minimum soil conditions required for permanent vegetative establishments
 1. Soil pH shall be between 6.0 and 7.0. Soluble salts shall be less than 500 parts per million (ppm) The soil shall contain less than 40% clay, but enough fine grained

material (>30% silt plus clay) to provide the capacity to hold a moderate amount of moisture. An exception is if lovegrass or serecia lespedezas is to be planted, then a sandy soil (30% s plus clay) would be acceptable. Soil shall contain 1.5% minimum organic matter by weight.

Soil must contain sufficient pore space to permit adequate root penetration of these conditions cannot be met by soils on site, adding topsoil is required in accordance with Section 21 Standard and Specification for Topsoil. b. Areas previously graded in conformance with the drawings shall be maintained in a true and even grade, then scarified or otherwise loosened to a depth of 3-5" to permit bonding of the topsoil to the surface area and to create horizontal erosion check slots to prevent topsoil to the surface area and to create horizontal erosion check slots to prevent topsoil from

sliding down a slope.

Apply soil amendments as per soil test or as included on the plans.

Mix soil amendments into the top 3-5" of topsoil by disking or other suitable means. Lawn areas should be raked to smooth the surface, remove large objects like stones and branches, and ready the area for seed and application. Where site conditions will not permit normal seedbed preparation, loosen surface soil by dragging with a heavy chain or other equipment to roughen the surface. Steep slopes (steeper than 3:1) should be tracked by a dozer leaving the soil in an irregular condition with ridges running parallel to the contour of the slope. Th top 1-3" of soil should be loose and friable. Seedbed loosening may not be necessary or

Seed Specifications i. All seed must meet the requirements of the Maryland State Seed Law. All seed shall be subject to re-testing by a recognized seed laboratory. All seed used shall have been tested within the 6 months immediately preceding the date of sowing such material on this Job.

Note: Seed tags shall be made available to the inspector to verify type and rate of seed used Inoculant - The inoculant for treating legume seed in the seed mixtures shall be a pure culture of nitrogen-fixing bacteria prepared specifically for the species. Inoculants shall not be used later than the date indicated on the container. Add fresh inoculant as directed on package. Use four times the recommended rate when hydroseeding. Note: It is very important to keep inoculant as cool as possible until used. Temperatures above 75°-80° F. can weaken bacteria and make the inoculant less effective

or drop seeded, or a cultipacker seeder a. If fertilizer is being applied at the time of seeding, the application rates amounts will not exceed the following: nitrogen maximum of 100 lbs. per acre total of soluble nitrogen. P205 (phosphorous); 200 lbs/ac; K20 (potassium): 200 lbs/ac. Lime - use only ground agricultural limestone. (Up to 3 tons per acre may be applied by Normally, not more than 2 tons are applied by hydroseeding at any one time. Do not use burnt or hydrated lime when hydroseeding. Seed and fertilizer shall be mixed on site and seeding shall be done immediately and

without interruption. without interruption.

ii. Dry Seeding: This includes use of conventional drop or broadcast spreaders.

a. Seed spread dry shall be incorporated into the subsoil at the rates prescribed on the Temporary or Permanent Seeding Summaries or Tables 265 or 26. The seeded area shall then be rolled with a weighted roller to provide good seed to soil contact.

b. Where practical, seed should be applied in two directions perpendicular to each other. Apply half the seeding rate in each direction.

iii. Drill or Cultipacker Seeding: Mechanized seeders that apply and cover seed with soil.

a. Cultipacking seeders are required to bury the seed in such a fashion as to provide at least 1/4 inch of soil covering. Seedbed must be firm after planting. Where practical, seed should be applied in two directions perpendicular to each other. Apply half the seeding rate in each direction.

Mulch Specifications (In order of preference) Straw shall consist of thoroughly threshed wheat, rye or oat straw, reasonable bright in color, and shall not be musty, moldy, caked, decayed, or excessively dusty and shall be free of noxious weed seeds as specified in the Maryland Seed Law.

i. Wood Cellulose Fiber Mulch (WCFM)

a. WCFM shall consist of specially prepared wood cellulose processed into a uniform fibrous physical state. b. WCFM shall be dyed green or contain a green dye in the package that will provide an appropriate color to facilitate visual inspection of the uniformly spread slurry.
c. WCFM, including dye, shall contain no germination or growth inhibiting factors.
d. WCFM materials shall be manufactured and processed in such a manner that the wood cellulose fiber mulch will remain in uniform suspension in water under agitation and will blend with seed, fertilizer and other additives to form a homogeneous slurry.

The mulch material shall form a blotter-like ground cover, on application, having moisture absorption and percolation properties and shall cover and hold grass seed in contact with the soil without inhibiting the growth of the grass seedlings. WCFM material shall contain no elements or compounds at concentration levels that will be phytol-toxic. f. WCFM must conform to the following physical requirements: fiber length to approximately 10 mm., diameter approximately 1 mm., pH range of 4.0 to 8.5, ash content of 1.6% maximum and water holding capacity of 90% minimum.

Only sterile straw mulch should be used in areas where one species of grass is desired.

Mulching Seeded Areas - Mulch shall be applied to all seeded areas immediately after seeding.

i. If grading is completed outside of the seeding season, mulch along shall be applied as prescribed in this section and maintained until the seeding season returns and seeding can be performed in accordance with these specifications. ii. When straw mulch is used, it shall be spread over all seeded areas at the rate of 2 tons/acre. Mulch

shall be applied to a uniform loose depth of between 1" and 2". Mulch applied shall achieve a uniform distribution and depth so that the soil surface is not exposed. If a mulch anchoring tool is to be used, the rate should be increased to 2.5 tons/acre. iii. Wood cellulose fiber used as a mulch shall be applied at a net dry weight of 1,500 lbs. per acre. The wood cellulose fiber shall be mixed with water, and the mixture shall contain a maximum of 50 lbs of wood cellulose fiber per 100 gallons of water.

Securing Straw Mulch (Mulch Anchoring): Mulch anchoring shall be performed immediately following mulch application to minimize loss by wind or water. This may be done by one of the following methods (listed by

preference), depending upon size of area and erosion hazard: A mulch anchoring tool is a tractor drawn implement designed to punch and anchor mulch into the soil surface a minimum of two (2) inches. 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 be used on the contour if possible.

Wood cellulose fiber may be used for anchoring straw. The fiber binder shall be applied at a net dry weight of 750 pounds/acre. The wood cellulose fiber shall be mixed with water and he mixture shall contain a maximum of 50 pounds of wood cellulose fiber per 100 gallons

Application of liquid binders should be heavier at the edges where wind catches mulch, such as in valleys and crest of barks. The remainder of area should be appear uniform after binder application. Synthetic binders - such as Acrylic DLR (Agro-Tack), DCA-70 Petroset, Terra Tax II, Terra Tack AR or other approved equal may be used at rates recommended by the manufacturer to anchor mulch. Lightweight plastic netting may be stapled over the mulch according to manufacturer's recom-

mendations. Netting is usually available in rolls 4' to 15' feet wide and 300 to 3,000 feet long.

FISHER, COLLINS & CARTER, INC.

EROSION CONTROL MATTING

REVISION

Incremental Stabilization - Cut Slopes All cuts slopes shall be dressed, prepared, seeded and mulched as the work progresses. Slopes shall be excavated and stabilized in equal increments not to exceed 15

Construction sequence (Refer to Figure 3 below): a. Excavate and stabilize all temporary swales, side ditches, or berms that will be used to convey runoff from the excavation.
 b. Perform Phase 1 excavation, dress, and stabilize.

Perform Phase 2 excavation, dress and stabilize. Overseed Phase 1 areas as necessary.

Perform final phase excavation, dress and stabilize. Overseed previously seeded

Note: Once excavation has begun the operation should be continuous from grubbing through the completion of grading and placement of topsoil (if required) and permanent seed and mulch. Any interruptions int he operation of completing the operation out of the seeding season will necessitate the application of temporary stabilization Incremental Stabilization of Embankments - Fill Slopes

Embankments shall be constructed in lifts as prescribed on the plans.

ii. Slopes shall be stabilized immediately when the vertical height of the multiple lifts reaches

15°, or when the grading operation ceases as prescribed in the plans.

iii. At the end of each day, femporary berms and pipe slope drains should be constructed along the top edge of the embankment to intercept surface runoff and convey it down the slope in a non-erosive manner to intercept surface runoff and convey it down the slope in a non-erosive manner to a sediment trapping device. Construction sequence: Refer to Figure 4 (below).

a. Excavate and stabilize all temporary swales, side ditches, or berms that will be used to divert runoff around the fill. Construct slope silt fence on low side of fill as shown in Figure 5, unless other methods shown on the plans address this area.

b. Place Phase 1 embankment, dress and stabilize.

c. Place Phase 2 embankment, dress and stabilize.

d. Place final phase embankment, dress and stabilize. Overseed previously seeded areas as necessary.

Note: Once the placement of fill has begun the operation should be continuous from grubbing through the completion of grading and placement of topsoil (if required) and permanent seed and mulch. any interruptions in the operation or completing the operation out of the seeding season will necessitate the application of temporary stabilization.

SECTION 2 - TEMPORARY SEEDING Vegetation - annual grass or grain used to provide cover on disturbed areas for up to 12 months. For longer duration of vegetative cover, Permanent Seeding is required.

A. Seed mixtures - Temporary Seeding

i. Select one or more of the species or mixtures listed in Table 26 for the appropriate Plant Hardiness Zone (from Figure 5) and enter them in the Temporary seeding summary below, along with application rates, seeding dates and seeding depths. If this summary is not put on the plans and completed, then Table 26 must be put on the plans.

ii. For sites having soil tests performed, the rates shown on this table shall be deleted and the rates recommended by the testing agency shall be written in. Soil tests are not required for Temporary Seeding.

Se	ed Mixture (Hardi From	iness Zone6b Table 26	<b>.</b>		Fertilizer Rate	Lime Rate	
No.	Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depths	(10-10-10)		
1	BARLEY OATS RYE	122 96 140	3/1 - 5/15, 8/15 - 10/15	1" - 2" 1" - 2" 1" - 2"	600  b/ac (15  b/1000sf)	2 tons/ac (100 lb/1000sf)	

SECTION 3 - PERMANENT SEEDING Seeding grass and legumes to establish groung cover for a minimum of one year on disturbed areas generally receiving low maintenance.

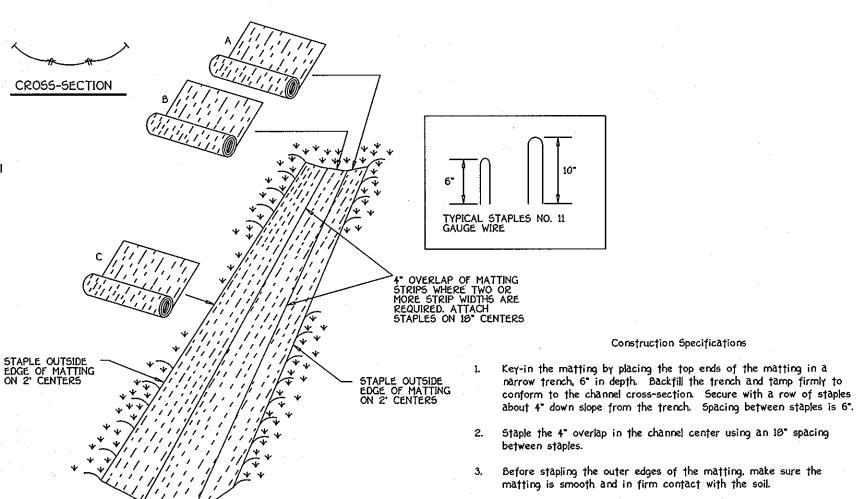
A. Seed mixtures - Permanent Seeding

i. Select one or more of the species or mixtures listed in Table 25 for the appropriate Plant Hardiness Zone (from Figure 5) and enter them in the Permanent Seeding Summary below, along with application rates and seeding dates. Seeding depths can be estimated using Table 26. If this summary is not put on the construction plans and completed, then Table 25 must be put on the plans. Additional planting specifications for exceptional sites such as shorelines, streambanks, or dunes or for special purposes such as wildlife or aesthetic treatment may be found in USDA-SCS Techinical Field Office Guide, Section - Critical Area Planting. For special lawn maintenance areas, see Sections IV Sod and V Turfgrass

ii. For sites having disturbed area over 5 areas, the rates shown on this table shall be deleted and the rates recommended by the soil testing agency shall be written in.

iii. For areas receiving low maintenance, apply ureaform fertilizer (46-0-0) at 3 1/2 lbs/1000 sq. ft. (150 lbs/ac), in addition to the above soil amendments shown in the table below, to be performed at

	Seed Mixture (Hardiness Zone <u>6b</u> _) From Table 25				Fertilizer Rate (10-20-20)			Lime Rate
No.	Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depths	N	P205	K20	Raje
3	TALL FESCUE (85%) PERENNIAL RYE GRASS (10%) KENTUCKY BLUEGRASS (5%)	125 15 10	3/1 - 5/15, 8/15 - 10/15	1" - 2"	90 lb/ac (2.0 lb/	175  b/ac (4  b/	175  b/ac	2 tons/a
10	TALL FESCUE (00%) HARD FESCUE (20%)	120 30	3/1 - 5/15, 8/15 - 10/15	i - 2	1000sf)	1000sf)	1000sf)	1000sf)



4. Staples shall be placed 2' apart with 4 rows for each strip, 2 5. Where one roll of matting ends and another begins, the end of

6. The discharge end of the matting liner should be similarly

secured with 2 double rows of staples.

the top strip shall overlap the upper end of the lower strip by 4".

shiplap fashion. Reinforce the overlap with a double row of staples

outer rows, and 2 alternating rows down the center.

spaced 6" apart in a staggered pattern on either side.

Note: If flow will enter from the edge of the matting then the area

effected by the flow must be keyed-in ENGINEER'S CERTIFICATE

Definition Placement of topsoil over a prepared subsoil prior to establishment of permanent vegetation.

Purpose 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.

Conditions Where Practice Applies 1. This practice is limited to areas having 2:1 or flatter slopes

a. The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth. b. The soil material is so shallow that the rooting zone is not deep

enough to support plants or furnish continuing supplies of moisture and plant growth. c. The original soil to be vegetated contains material toxic to plant

d. The soil is so acidic that treatment with limestone is not feasible. II. For the purpose of these Standards and Specifications, areas having slopes steeper than 2:1 require special consideration and design for adequate stabilization. Areas having slopes steeper than 2:1 shall have the appropriate

stabilization shown on the plans.

Construction and Material Specifications I. Topsoil salvaged from the existing site may be used provided that 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 in the representative soil profile section in the Soil Survey published by USDA-SCS in cooperation with Maryland Agricultural Experimental Station.

II. Topsoil Specifications - Soil to be used as topsoil must meet the Topsoil shall be a loam, sandy loam, clay loam, silt loam, sandy clay loam, loamy sand. Other soils may be used if recommended by an

agronomist or soil scientist and approved by the appropriate approval authority. Regardless topsoil shall not be a mixture of contrasting textured subsoils and shall contain less than 5% b volume of cinders, stones, slag, coarse fragments, gravel, sticks, roots, trash, or other materials larger than 1 1/2" in diameter. ii. Topsoil must be free of plants or plant parts such as Bermuda grass, quackgrass, Johnsongrass, nutsedge, poison

ivy, thistle, or others as specified. Where the subsoil is either highly acidic or composed of heavy clays, ground limestone shall be spread at a rate of 4-8 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement of topsoil. Lime shall be distributed uniformly over designated areas and worked into the soil in conjunction with tillage operations as described in the following procedures. II. For sites having disturbed areas under 5 acres:

Place topsoil (if required) and apply soil amendments as specified in 10.0 Vegetative Stabilization - Section 1 - Vegetative Stabilization Methods and Materials. III. For sites having disturbed areas over 5 acres: On soil meeting Topsoil specifications, obtain test results

dictating fertilizer and lime amendments required to bring the soil into compliance with the following:

a. pH for topsoil shall be between 6.0 and 7.5. If the tested soil demonstrates a pH of less than 6.0, sufficient lime shall be prescribed to raise the pH to 6.5 or higher. b. Organic content of topsoil shall be not less than 1.5 percent by weight.

2:1 SLOPE OR FLATTER

GRADE LINE

1. Seed and cover with straw mulch.

sediment trappina device.

the soil 7" minimum

each rain event.

CUT OR FILL SLOPE

#### TOPSOIL SPECIFICATIONS

c. Topsoil having soluble salt content greater than 500 parts per million shall not be used. d. No sod or seed shall be placed on soil which has been

treated with soil sterilants or

chemicals used for weed control until sufficient time has elapsed (14 days min.) to permit dissipation of phyto-toxic materials. Note: Topsoil substitutes or amendments, as recommended by a qualified agronomist or soil scientist and approved by the appropriate approval authority, may be used in lieu of natural topsoil. ii. Place topsoil (if required) and apply soil amendments as specified in 10.0 Vegetative Stabilization - Section 1 - Vegetative Stabilization Methods and Materials. V. Topsoil Application

When topsoiling, maintain needed erosion and sediment control practices such as diversions, Grade Stabilization Structures, Earth Dikes, Slope Silt Fence and Sediment Traps and Basins. Grades on the areas to be topsoiled, which have been previously established, shall be maintained, albeit 4" - 8" higher in elevation iii. Topsoil shall be uniformly distributed in a 4" - 8" layer and lightly compacted to a minimum thickness of 4". Spreading shall 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 shall be corrected in order to prevent the formation of depressions or water pockets. iv. Topsoil shall not be placed while 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 preparation VI. Alternative for Permanent Seeding - Instead of applying the full amounts of lime and commercial fertilizer, composted sludge and

amendments may be applied as specified below: Composted Sludge Material for use as a soil conditioner for sites having disturbed areas over 5 acres shall be tested to prescribe amendments and for sites having disturbed areas under 5 acres shall conform to the following requirements.

a. Composted sludge shall be supplied by, or originate from, a person or persons that are permitted (at the time of acquisition of the compost) bt the Maryland Department of the Environment under COMAR 26.04.06. . Composted sludge shall contain at least 1 percent nitrogen, 1.5 percent phosphorus, and 0.2 percent potassium and have a Ph of 7.0 to 8.0. If compost does not meet these requirements, the appropriate constituents must be added to meet the requirements prior to use. c. Composted sludge shall be applied at a rate of 1 ton/1,000

iv. Composted sludge shall be amended with a potassium fertilizer applied at the rate of 4 lb/1,000 square feet, and 1/3 the normal lime application rate.

- EXCAVATE TO PROVIDE

a-DIKE HEIGHT

b-DIKE WIDTH

c-FLOW WIDTH

d-FLOW DEPTH

REQUIRED FLOW WIDTH

AT DESIGN FLOW DEPTH

DIKE B

STANDARD SYMBOL

A-2 B-3

---/---

#### SEQUENCE OF CONSTRUCTION

1. OBTAIN GRADING PERMIT. (1 DAY)

2. NOTIFY "MISS UTILITY" AT LEAST 40 HOURS BEFORE BEGINNING ANY WORK AT 1-800-257-7777. NOTIFY THE HOWARD COUNTY OFFICE OF CONSTRUCTION/INSPECTION DIVISION AT 410-313-1870 AT LEAST 24 HOURS BEFORE STARTING ANY WORK. 3. INSTALL STABILIZED CONSTRUCTION ENTRANCE. (1 DAY)

4. THE CONTRACTOR WILL RECEIVE WRITTEN PERMISSION FROM THE COUNTY INSPECTOR BEFORE PROCEEDING WITH THE STORM DRAIN CONSTRUCTION FROM 5-1 TO 5-2. THERE WILL BE A 5 DAY CLEAR WEATHER FORECAST BEFORE CONSTRUCTING 5-1 TO 5-2. THE CONTRACTOR SHALL INSTALL SUPER SILT FENCE ALONG THE NORTHERN PROPERTY LINE. THE CONTRACTOR SHALL CLEAR THE MINIMUM AREA NECESSARY FOR CONSTRUCTING THE STORM ORAIN SYSTEM FROM 5-1 TO M-3 CONSTRUCT 5-1 TO M-3 THE CONTRACTOR SHALL THEN CLEAR THE MINIMUM AREA NECESSARY FROM M-3 TO THE SOUTH PROPERTY LINE AND IMMEDIATELY INSTALL SUPER SILT FENCE ON EACH SIDE OF THE PROPOSED STORM DRAIN AND RIPRAP CHANNEL CONSTRUCTION. CONSTRUCT THE STORM DRAIN PIPE FROM M-3 TO 5-2 AND INSTALL THE RIPRAP. THE DISTURBED AREA DUE TO CONSTRUCTION OF 5-1 TO M-3, RIPRAP CHANNEL AND M-3 TO 5-2 SHALL BE FINE GRADED AND STABILIZED WITH EROSION CONTROL MATTING AS SHOWN ON SHEET 3. (1 WEEK)

5. CLEAR FOR AND INSTALL/CONSTRUCT ALL PERIMETER TEMPORARY SEDIMENT

ROUGH GRADE SITE AND IMMEDIATELY STABILIZE ALL SLOPES UPON COMPLETION OF GRADING WITH TEMPORARY SEEDING WITH RECEIVING WRITTEN PERMISSION FROM THE COUNTY INSPECTOR BEFORE PROCEEDING. (3 WEEKS)

8. INSTALL CURB AND PAVING IN ALL PRIVATE ROADWAYS AND SIDEWALK ALONG ROAD 'A' AS SHOWN ON PLANS. (3 WEEKS)

7. INSTALL STORM DRAINS, SEWER AND WATER. (3 WEEKS)

9. CONSTRUCT ALL BUILDING UNITS (1-15) AS INDICATED ON PLANS, (10 MONTHS) 10. CONSTRUCT THE THREE STORMWATER MANAGEMENT FACILITIES AND STABILIZE WITH PERMANENT SEEDING (6 WEEKS)

1). FOLLOWING SUCCESSFUL STABILIZATION GE. FULLY-ESTABLISHED VEGETATION OR PAVING) OF ALL DISTURBED AREAS, OBTAIN PERMISSION FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR TO REMOVE ALL REMAINING SEDIMENT & EROSION CONTROL DEVICES AND THEN STABILIZE THOSE AREAS DISTURBED BY THIS PROCESS WITH PERMENANT SEEDING. (I WEEK)

12. NOTIFY HOWARD COUNTY OFFICE OF INSPECTIONS AND PERMITS FOR A FINAL INSPECTION OF THE COMPLETED SITE.

BLAZE ORANGE PLASTIC MESH

BOUNDARIES OF RETENTION AREA SHOULD BE STAKED AND FLAGGED PRIOR TO INSTALLING DEVICE. ROOT DAMAGE SHOULD BE AVOIDED. PROTECTIVE SIGNAGE MAY ALSO BE USED. DEVICE SHOULD BE MAINTAINED THROUGHOUT CONSTRUCTION.

TREE PROTECTION DETAIL

A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF

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 MOST CURRENT MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL AND REVISIONS

3) FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY

b) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.

WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND

) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER

4) ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND

5) 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), SOD (SEC. 54), TEMPORARY SEEDING (SEC

50), AND MULCHING (SEC. 52). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE

6) 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

3.00 ACRES

1.20 ACRES

1.80 ACRES

N/A CU.YDS.

8) ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEM

9) ADDITIONAL SEDIMENT CONTROLS MUST BE PROVIDED. IF DEEMED NECESSARY BY THE HOWARD

10) 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

GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL

11) TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGHTS OR THAT

WHICH SHALL BE BACK-FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.

11/4/05 Pate

11-02-09

SEDIMENT CONTROLS. BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR

OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE

THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE

APPROVED: DEPARTMENT OF PLANNING AND ZONING

THEIR PERIMETER IN ACCORDANCE WITH VOL. 1. CHAPTER 12, OF THE HOWARD COUNTY DESIGN

STABILIZATION SHALL BE COMPLETED WITHIN:

SLOPES AND ALL SLOPES STEEPER THAN 3:1,

HOWARD COUNTY SEDIMENT CONTROL INSPECTOR

MANUAL, STORM DRAINAGE.

7) SITE ANALYSIS: TOTAL AREA OF SITE

AREA DISTURBED AREA TO BE ROOFED OR PAVED

ONSITE BORROW AREA LOCATION

AREA TO BE VEGETATIVELY STABILIZED

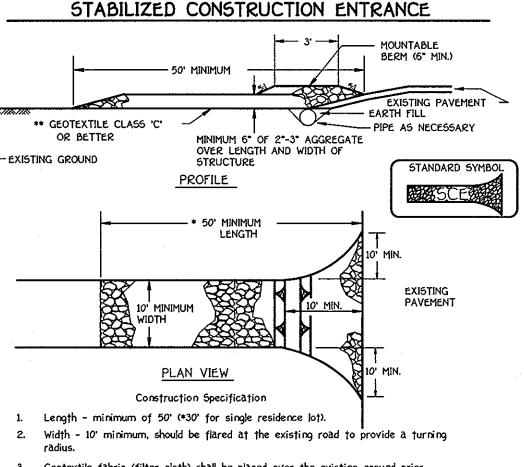
COUNTY SEDIMENT CONTROL INSPECTOR.

NSPECTIONS, LISCENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY

SEDIMENT CONTROL NOTES

FOREST PROTECTION DEVICE ONLY.
RETENTION AREA WILL BE SET AS PART OF THE REVIEW PROCESS.

HIGHLY VISIABLE FLAGGING -



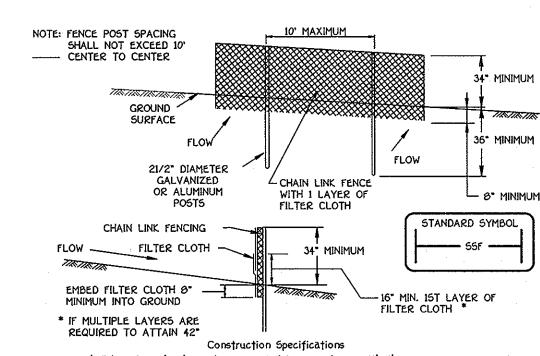
3. Geotextile fabric (filter cloth) shall be placed over the existing ground prior

to placing stone. \*\*The plan approval authority may not require single family residences to use geotextile.

Stone - crushed aggregate (2" to 3") or reclaimed or recycled concrete equivalent shall be placed at least 6° deep over the length and width of the

5. Surface Water - all surface water flowing to or diverted toward construction entrances shall be piped through the entrance, maintaining positive drainage. Pipe installed through the stabilized construction entrance shall be protected with a mountable berm with 5:1 slopes and a minimum of 6" of stone over the pipe. Pipe has to be sized according to the drainage. When the SCE is located at a high spot and has no drainage to convey a pipe will not be necessary. Pipe should be sized according to the amount of runoff to be conveyed. A 6° minimum will be required.

6. Location - A stabilized construction entrance shall be located at every point where construction traffic enters or leaves a construction site. Vehicles leaving the site must travel over the entire length of the stabilized construction entrance.



1. Fencing shall be 42" in height and constructed in accordance with the latest Maryland State Highway Details for Chain Link Fencing. The specification for a 6' fence shall be used, substituting 42" fabric and 6' length

2. Chain link fence shall be fastened securely to the fence posts with wire ties. The lower tension wire, brace and truss rods, drive anchors and post caps are not required except on the ends of the fence. 3. Filter cloth shall be fastened securely to the chain link fence with ties spaced

every 24" at the top and mid section. 4. Filter cloth shall be embedded a minimum of 8" into the ground. 5. When two sections of filter cloth adjoin each other, they shall be overlapped

6. Maintenance shall be performed as needed and silt buildups removed when "bulges" develop in the silt fence, or when silt reaches 50% of fence height 7. Filter cloth shall be fastened securely to each fence post with wire ties or

staples at top and mid section and shall meet the following requirements for Geotextile Class F: Tensile Strength 50 lbs/in (min.) Test: MSMT 509 20 lbs/in (min.) Test: MSMT 509 Tensile Modulus

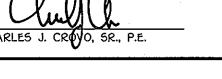
Flow Rate 0.3 gai/ft /minuté (max.) Test: MSMT 322 Filtering Efficiency 75% (min.) Test: MSMT 322

Design Criteria Silt Fence Length Slope Length Steepness (maximum) (maximum) 0 - 10% 0 - 10:1 Unlimited Unlimited 200 feet 1.500 feet 5:1 - 3:1 100 feet 1.000 feet 33 - 50% 3:1 - 2:1 100 feet 500 feet 50 feet 250 feet

SUPER SILT FENCE

"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. 13204, Expiration Date: November 3, 2010.





SEDIMENT CONTROL NOTES AND DETAILS

HAMMONDS PROMISE OVERLOOK LOTS 1 THRU 15, 17 THRU 19, OPEN SPACE LOT 20

TAX MAP No. 47 GRID No. 15 PARCEL No. 137 SIXTH ELECTION DISTRICT

HOWARD COUNTY, MARYLAND SCALE: AS SHOWN DATE: AUG. 12, 2009

SHEET 11 OF 22 SDP 06-158

"I 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

OWNER
HAMMONDS PROMISE OVERLOOK OWNER ETC PARTNERSHIP HOMEOWNERS ASSOCIATES, INC. c/o MR. EARL D. COLLINS CENTENNIAL SQUARE OFFICE PARK 5300 DORSEY HALL DRIVE SUITE 102 ELLICOTT CITY, MARYLAND 21042 410-367-0422 ELLICOTT CITY, MARYLAND 21042

EARTH DIKE

NOT TO SCALE

b 2:1 SLOPE OR FLATTER

POSITIVE DRAINAGE

SUFFICIENT TO DRAIN

PLAN VIEW

FLOW CHANNEL STABILIZATION

GRADE 0.5% MIN. 10% MAX.

Construction Specifications

2. Seed and cover with Erosion Control Matting or line with sod.

1. All temporary earth dikes shall have uninterrupted positive grade to

. 3. Runoff diverted from an undisturbed area shall outlet directly into

material shall be removed and disposed of so as not to interfere

section as required to meet the criteria specified herein and be

free of bank projections or other irregularities which will impede

7. All earth removed and not needed for construction shall be placed

so that it will not interfere with the functioning of the dike.

8. Inspection and maintenance must be provided periodically and after

2. Runoff diverted from a disturbed area shall be conveyed to a

an undisturbed, stabilized area at a non-erosive velocity.

4. All trees, brush, stumps, obstructions, and other objectionable

5. The dike shall be excavated or shaped to line, grade and cross

with the proper functioning of the dike.

6. Fill shall be compacted by earth moving equipment.

an outlet. Spot elevations may be necessary for grades less than 1%.

3. 4" - 7" stone or recycled concrete equivalent pressed into

SUITE 102 10272 BALTIMORE NATIONAL PIKE ELLICOTT CITY, MARYLAND 210 410-367-0422

<u>DEVELOPER</u> HP OVERLOOK, LLC 5300 DORSEY HALL DRIVE

WATER CODE

HAMMONDS PROMISE OVERLOOK PLAT REF. NO. BLOCK NO. ZONE 19171 419172 21222-21225 15 R-SC 7390000

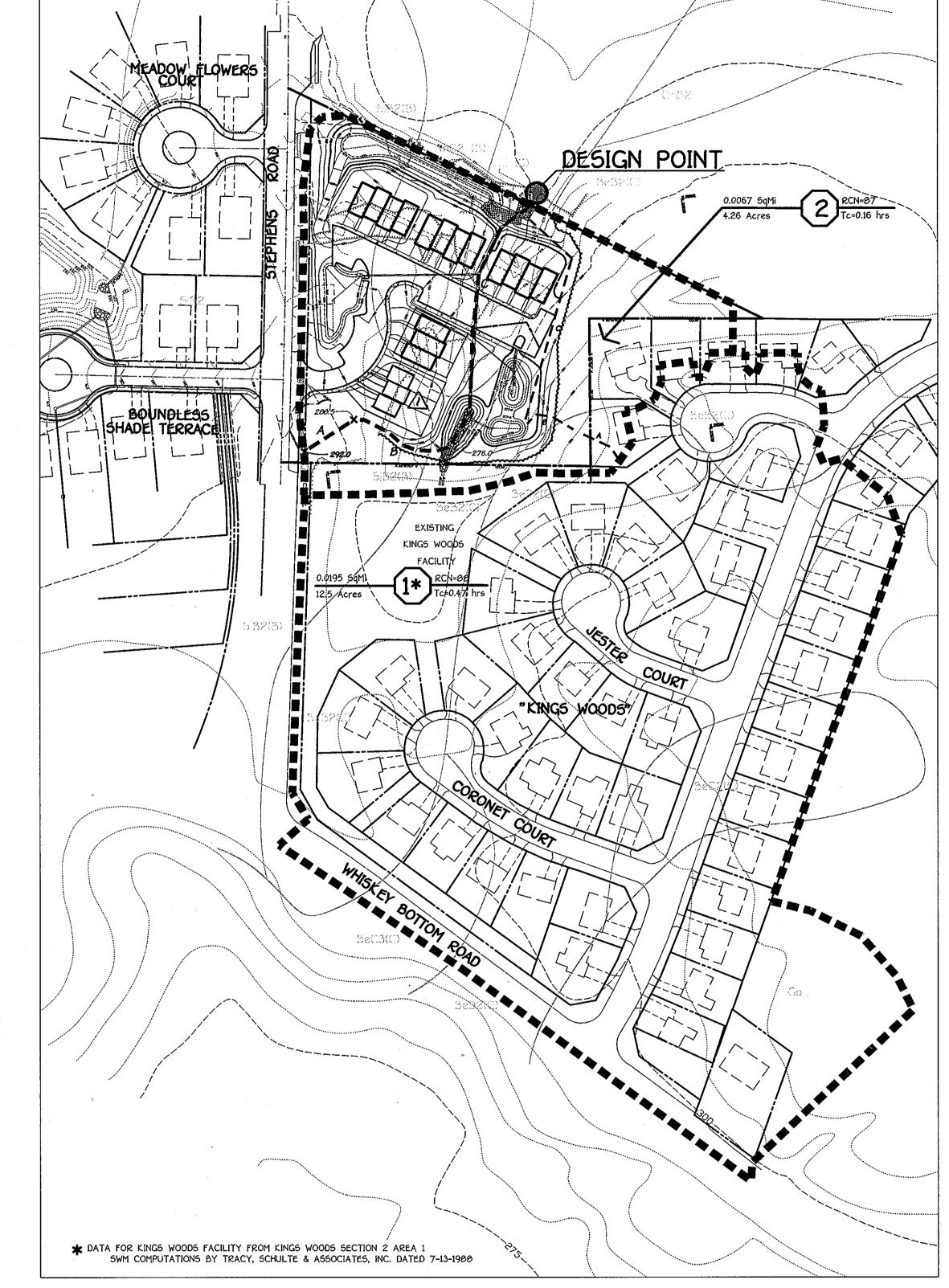
Mark poils ug Ch

IVIL ENGINEERING CONSULTANTS & LAND SURVEYORS reduirements of the Howard Soil Conservation District." ennial square office park - 10272 Baltimore national pike ELLICOTT CITY, MARYLAND 2104 (410) 461 - 2855 ignature of Endi 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 all 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 uthorize periodic on site inspection by the Howard Soil Conservation District." Kevised Title Block

SECTION/AREA |

4/507 PARCEL NO. 1-20 137 ELEC. DIST. CENSUS TR. TAX/ZONE SEWER CODE

### QUANTITY SWM ANALYSIS EXISTING DRAINAGE AREA MAP SCALE: 1"=100"



## QUANTITY SWM ANALYSIS PROPOSED DRAINAGE AREA MAP

SCALE: 1"=100"



"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. 13204, Expiration Date: November 3, 2010."

HYDROLOGY SUMMARY

AT DESIGN POINT

LEGEND

EXISTING 2' CONTOURS
EXISTING 10' CONTOURS

SOIL LINES AND TYPES

PROPOSED CONTOUR

DESIGN POINT

LIMIT OF DRAINAGE AREA

TIME OF CONCENTRATION PATH

EXISTING DISCHARGE (cfs)
PROPOSED DISCHARGE (cfs)

EXISTING RUNOFF VOLUME (ac/ft)
PROPOSED RUNOFF VOLUME (ac/ft)

INCREASED RUNOFF VOLUME (ac/ft) 0.29 ac/ft STORAGE VOLUME PROVIDED (ac/ft) 0.258 ac/ft

GLB2

MLC2

100 YEAR

25.00



8/21/09

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

APPLIED STORMWATER

dba T. E. SCOTT & ASSOCIATES, INC.

128 COCKEYSVILLE ROAD, SUITE 300 Phone: 410.458.2651
HUNT VALLEY, MARYLAND 21030 Fax: 443.269.0216
les@MdSW/M.com

REVISED PLANS TO ADD LOTS 17-19

8-12-10

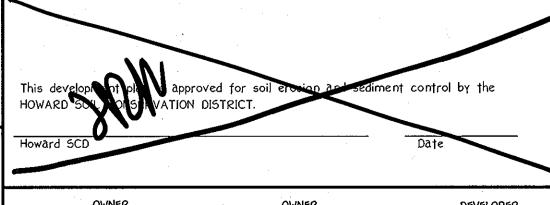
"I certify that this plan for sediment and erosion control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District."

Signature of Engineer

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 all 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 Conservation District."

8-21.09



OWNER
HAMMONDS PROMISE OVERLOOK
HOMEOWNERS ASSOCIATES, INC.
5300 DORSEY HALL DRIVE
SUITE 102
ELLICOTT CITY, MARYLAND 21042
410-367-0422

OWNER
ETC PARTNERSHIP
HP 0
5300 DO
CCHTENNIAL SQUARE OFFICE PARK
CENTENNIAL SQUARE OFFICE PARK
10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
410-461-2055

DEVELOPER

HP OVERLOOK, LLC

15 5300 DORSEY HALL DRIVE

PARK SUITE 102

PIKE ELLICOTT CITY, MARYLAND 21042

1042 410~367~0422

Director - Department of Rianning and Zoning

Chief, Division of Lard Development

Chief, Development Engineering Division

Chief, Development Engineering Division

SUBDIVISION
HAMMONDS PROMISE OVERLOOK

PARCEL NO.
N/A

1-20

137

PLAT REF. NO. BLOCK NO. ZONE TAX/ZONE ELEC. DIST. CENSUS TR.
19171 & 19172
21222 - 21225

15 R-SC 47 6th 6069.02

WATER CODE

C-02

SEWER CODE

7390000

PPROVED: DEPARTMENT OF PLANNING AND ZONING

STORMWATER MANAGEMENT OVERALL DRAINAGE AREA MAPS HAMMONDS PROMISE OVERLOOK

LOTS 1 THRU 15, 17 THRU 19, OPEN SPACE LOT 20

TAX MAP No. 47 GRID No. 15

PARCEL No. 137

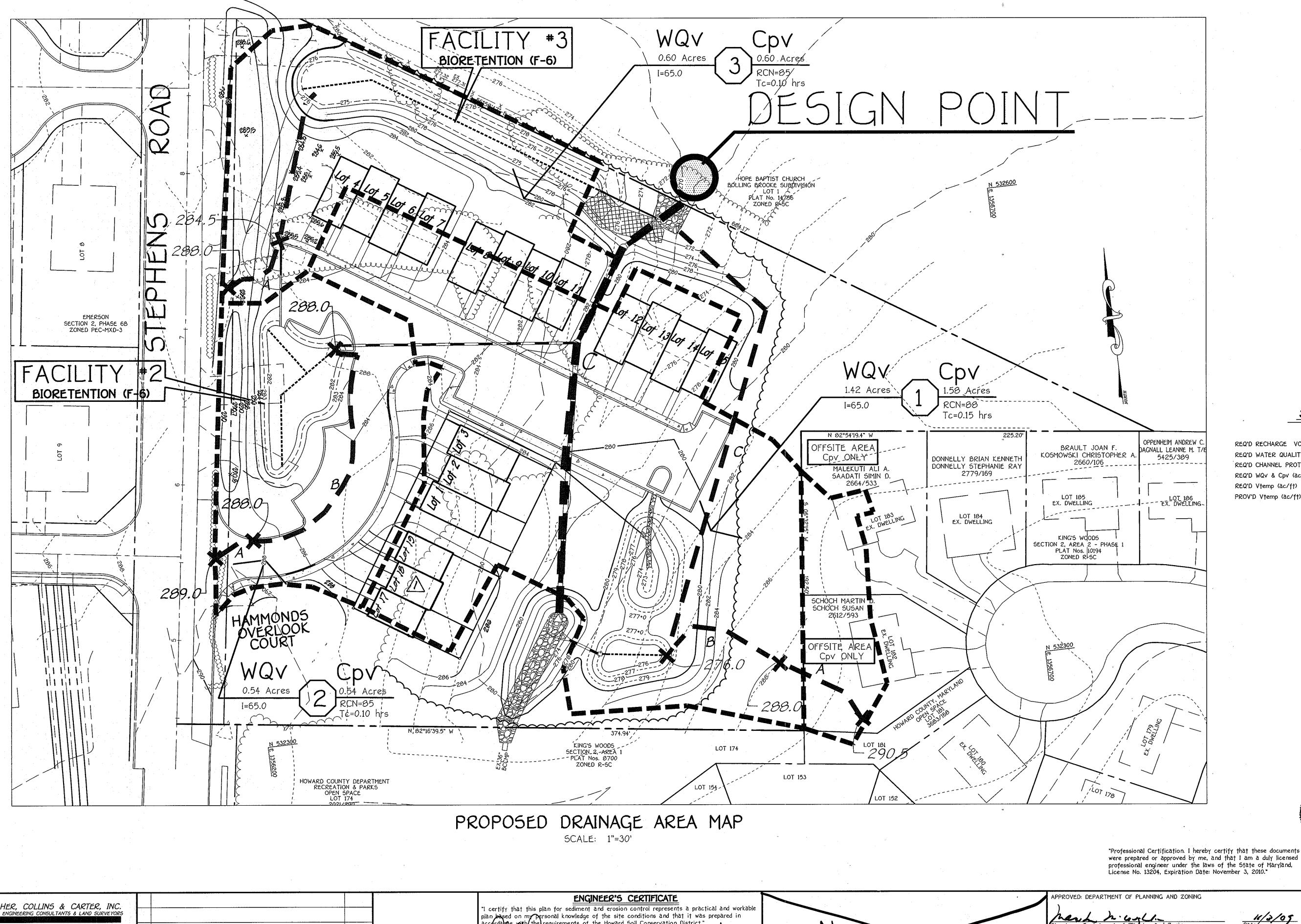
SIXTH ELECTION DISTRICT

HOWARD COUNTY, MARYLAND

SCALE: AS SHOWN

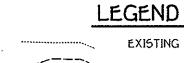
DATE: AUG. 12, 2009

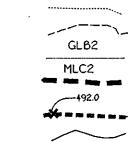
SHEET 12 OF 22 SDP 06-158



#### SWM REQUIREMENTS SUMMARY

	SUBAREA 1	SUBAREA 2	SUBAREA 3	TOTAL	
REQ'D RECHARGE VOLUME (ac/ft)	0.012	0.007	0.008	0.027	
REQ'D WATER QUALITY VOLUME (ac/ft)	0.075	0.029	0.032	0.136	
REQ'D CHANNEL PROTECTION VOLUME (ac/ft	0.127	0.037	0.041	0.205	
REQ'D WQv & Cpv (ac/ft)	0.202	0.066	0.073	0.341	
REQ'D Vtemp (ac/ft)	0.152	0.049	0.055	0.256	
PROV'D Vtemp (ac/ft)	0.156	0.050	0.056	0.258	
•		•			





EXISTING 2' CONTOURS EXISTING 10' CONTOURS SOIL LINES AND TYPES LIMIT OF DRAINAGE AREA TIME OF CONCENTRATION PATH

PROPOSED CONTOUR DESIGN POINT

8/21/09 DATE

FISHER, COLLINS & CARTER, INC. CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS APPLIED STORMWATER

Revised plans to odd Lots 17-19

REVISION

3.12.10

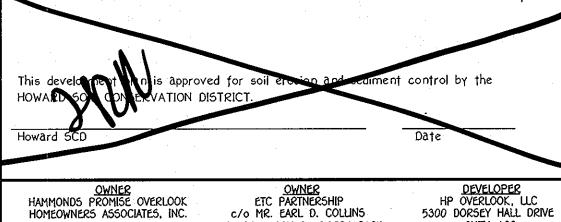
plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District."

Signature of Engineer

Date

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 all 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 Conservation District."



CENTENNIAL SQUARE OFFICE PARK

ELLICOTT CITY, MARYLAND 21042 410-461-2055

10272 BALTIMORE NATIONAL PIKE

HOMEOWNERS ASSOCIATES, INC.

5300 DORSEY HALL DRIVE SUITE 102 ELLICOTT CITY, MARYLAND 21042 410-367-0422

ELLICOTT CITY, MARYLAND 21042 WATER CODE

SUITE 102

410-367-0422

11-02-09 Date 09 Date IBDIVISION HAMMONDS PROMISE OVERLOOK 1-20 PLAT REF. NO. BLOCK NO. ZONE 19171 419172 21222-21225 15 R-5C TAX/ZONE | ELEC. DIST. | CENSUS TR. R-5C 6th SEWER CODE

7390000

11/3/05 Date

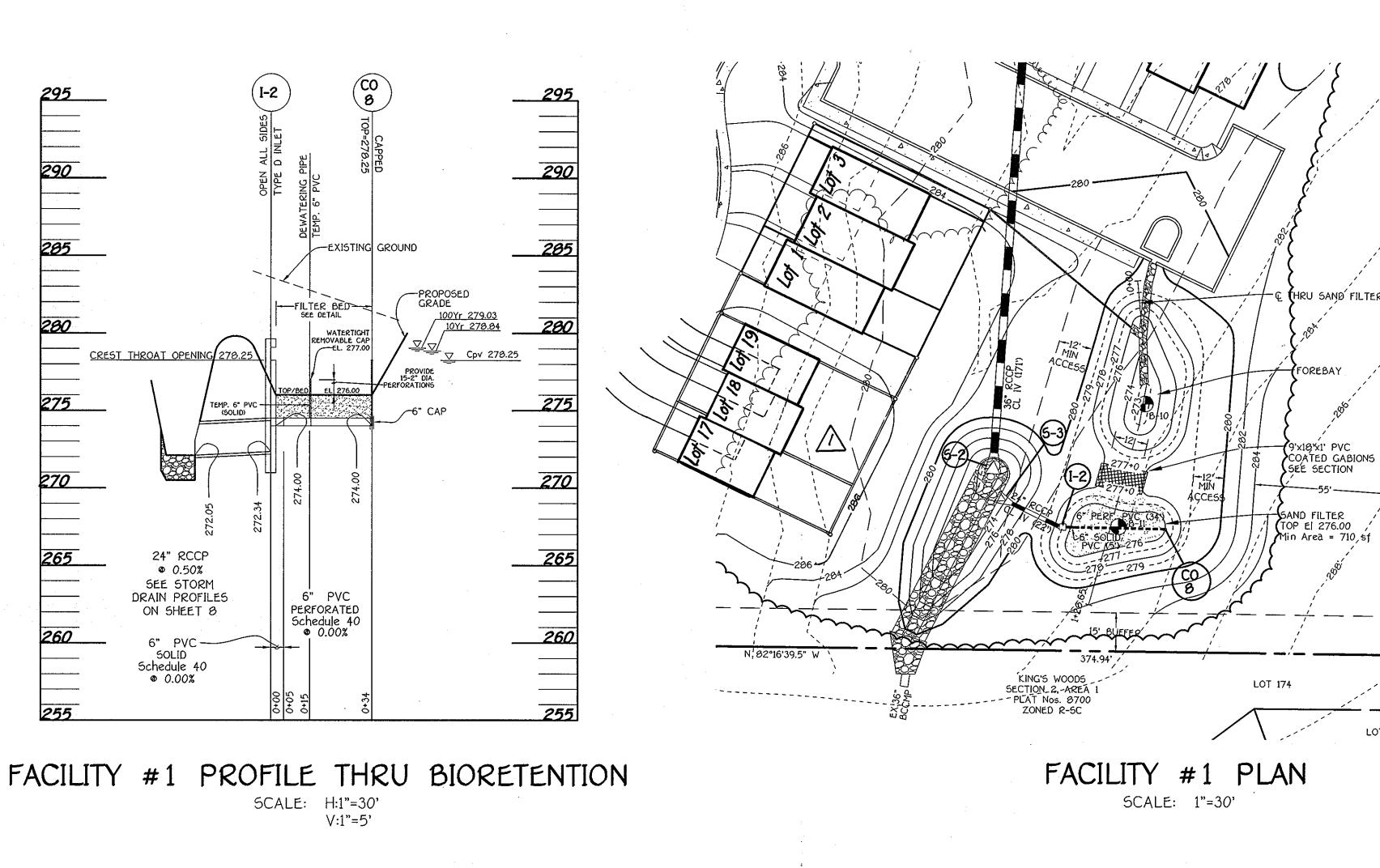
STORMWATER MANAGEMENT FACILITY DRAINAGE AREA MAP

# HAMMONDS PROMISE OVERLOOK LOTS 1 THRU 15, 17 THRU 19, OPEN SPACE LOT 20

TAX MAP No. 47 GRID No. 15 PARCEL No. 137 SIXTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND SCALE: AS SHOWN DATE: AUG. 12, 2009

SHEET 13 OF 22 SDP 06-158

128 COCKEYSVILLE ROAD, SUITE 300 Phono: 410.459.2651 HUNT VALLEY, MARYLAND 21030 Fax: 443.269.0216

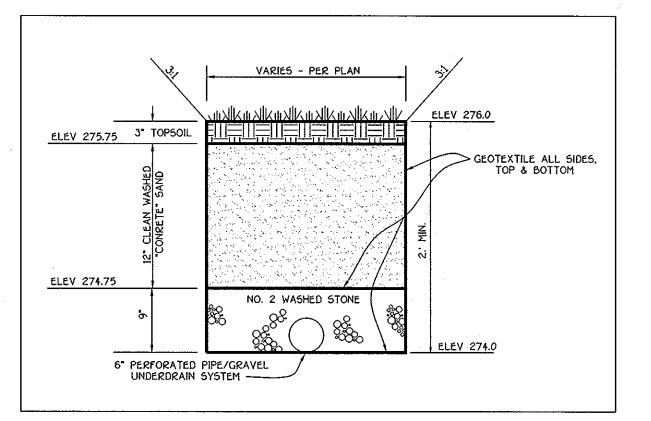


FACILITY SUMMARY

100 YEAR 12.72 279.03 Water Surface Elevation 278.25 N/A Watershed Little Patuxent River Structure Type Surface Sand Filter (F-1) LOW HAZARD A - 378 Exempt Structure Classification Structure Location Storage Height Product Watershed Area to Facility N/A 1.58 acres Minimum Top Width Provided 12.0 feet Maximum Height of Fill
Maximum 10-Year Impoundment Depth 1.5 feet 2.84 foot

FACILITY WILL BE PRIVATELY OWNED AND MAINTAINED. MANAGEMENT PROVIDED: WQV & CpV

Freeboard Provided Above 10 Year



TYPICAL SAND FILTER SECTION

NOT TO SCALE

## OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED SAND FILTER FACILITIES

- 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 infestation. Maintenance will also address dead material and pruning.
- 2. Schedule of plant inspection will be twice a year in spring and fall. This inspection will include removal of dead and diseased vegetation considered beyond treatment.
- . Mulch shall be inspected each spring. Remove previous mulch layer before applying new layer.
- . Soil erosion to be addressed on an as-needed basis, minimum once a month and after heavy storm events.

#### AS-BUILT CERTIFICATION

I Hereby Certify That The Facility Shown On This Plan Was Constructed As Shown On The " As-Built" Plans And Meets The Approved Plans And Specifications.

Signature

Industry Practices.

FISHER, COLLINS & CARTER, INC.

ELLICOTT CITY, MARYLAND 21042 (410) 461 - 2055

APPLIED STORMWATER

128 COCKEYSVILLE ROAD, SUITE 300 Phone: 410.458.2651
HUNT VALLEY, MARYLAND 21030 Fax: 443.269.0216

dba T. E. SCOTT & ASSOCIATES, INC.

ENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE

Certify Means To State Or Declare A Professional Opinion Based Upon Onsite Inspections and Material Tests Which are Conducted During Construction. The Onsite Inspections and Material Tests are Those Inspections and Tests Deemed Sufficient and Appropriate Commonly Accepted Engineering Standards. Certify Does Not mean Or Imply a Guarantee By The Engineer Nor Does an Engineer's Certification Relieve Any Other Party From Meeting Requirements Imposed By Contract, Employment, Or Other Means, Including Meeting Commonly Accepted

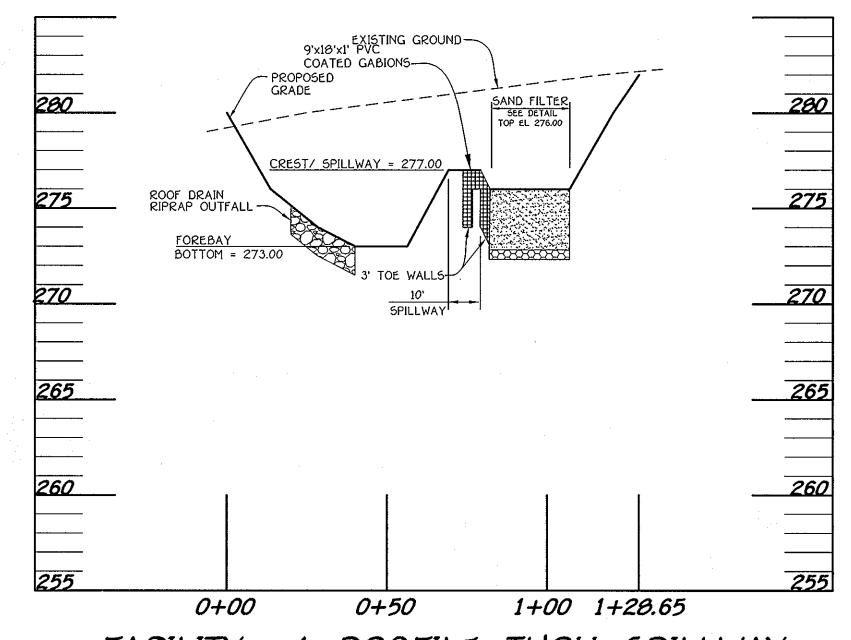
P.E. No.

REVISED PLANS TO ADD LOTS 17-19

REVISION

8-12-10

DATE



FACILITY #1 PROFILE THRU SPILLWAY

V:1"=5'

Signature of Angineer

ENGINEER'S CERTIFICATE

DEVELOPER'S CERTIFICATE

8.21.09

I 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 Ath the requirements of the Howard Soil Conservation District."

"I/We certify that all development and construction will be done according to this plan for

sediment and erosion control, and that all 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 Conservation District."

TOP ELEV 278.00

CREST ELEV 277.00

PVC COATED GABIONS

FOREBAY OUTFALL TYPICAL CROSS SECTION

"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. 13204, Expiration Date: November 3, 2010."

N 82°54'19.4"

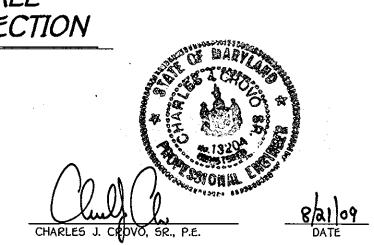
SCHOCH SUSAN M.

2612/593

MALEKUTI ALI A.

SAADATI SIMIN D.

2664/533\_



PPROVED: DEPARTMENT OF PLANNING AND ZONING march to le rele 14/3/05 Date irector - Department of Planning and Zoning olan is approved for soil This development plan is approved for s HOWAR OF ADMSERVATION DISTRICT. 11-02-09 ion of Land Bevelopment 9/5/09 LOT NOS. PARCEL NO. HAMMONDS PROMISE OVERLOOK 1-20 137 <u>DEVELOPER</u> HP OVERLOOK, LLC OWNER HAMMONDS PROMISE OVERLOOK OWNER ETC PARTNERSHIP c/o Mr. EARL D. COLLINS PLAT REF. NO. BLOCK NO. ZONE 1917! & 19172 15 R-SC TAX/ZONE | ELEC. DIST. | CENSUS TR. HOMEOWNERS ASSOCIATES, INC. 5300 DORSEY HALL DRIVE 47 6th 6069.02 5300 DORSEY HALL DRIVE SUITE 102 SUITE 102 ELLICOTT CITY, MARYLAND 21042 CENTENNIAL SQUARE OFFICE PARK 10272 BALTIMORE NATIONAL PIKE WATER CODE SEWER CODE ELLICOTT CITY, MARYLAND 21042 410-367-0422 ELLICOTT CITY, MARYLAND 21042 410-461-2055 410-367-0422 7390000

STORMWATER MANAGEMENT FACILITY #1

HAMMONDS PROMISE OVERLOOK LOTS 1 THRU 15, 17 THRU 19, OPEN SPACE LOT 20

TAX MAP No. 47 GRID No. 15

PARCEL No. 137

SIXTH ELECTION DISTRICT

HOWARD COUNTY, MARYLAND

SCALE: AS SHOWN DATE: AUG. 12, 2009

SHEET 14 OF 22 SDP 06-158

005\05049\dwg\HAMMONDS PROMISE\05049-3001 SHEET 12-17 TSA SWM 4 18 06.dw

### BIORETENTION FACILITY SUMMARY

FACILITY WILL BE PRIVATELY OWNED AND MAINTAINED. MANAGEMENT PROVIDED: Cpv, WQv & Rev

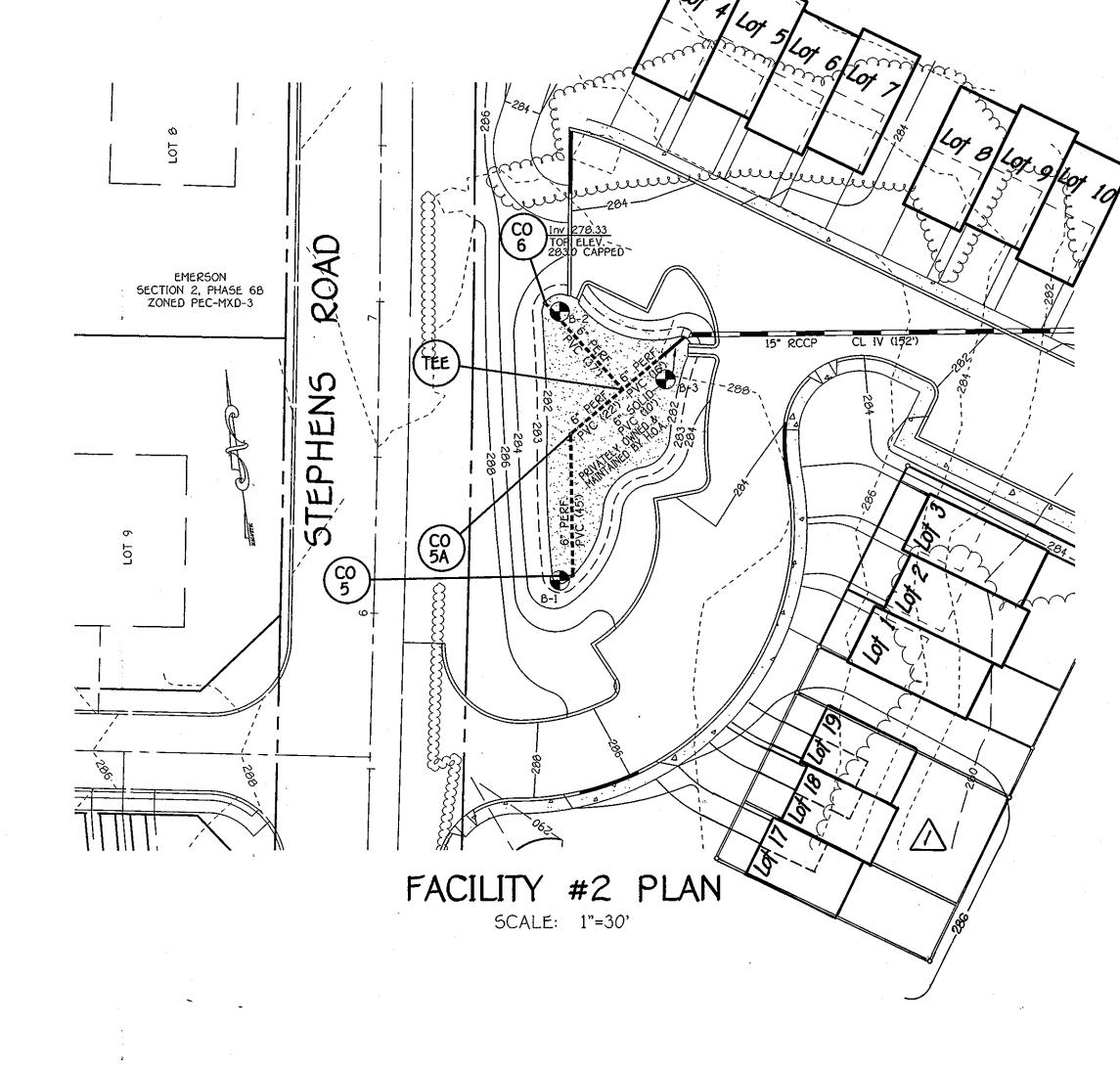
4.59 Developed Outflow (cfs) 283.15 Water Surface Elevation 0.007 0.092 Storage (ac. ft.) Watershed Little Patuxent River Bioretention (F-6) Structure Type LOW HAZARD A - 378 Exempt Structure Classification Structure Location
Storage Height Product
Watershed Area to Facility Urban N/A 0.60 acres Minimum Top Width Provided 28.0 feet Maximum Height of Fill Maximum 10-Year Impoundment Depth NONE 1.14 foot 1.66 foot Freeboard Provided Above 10 Year

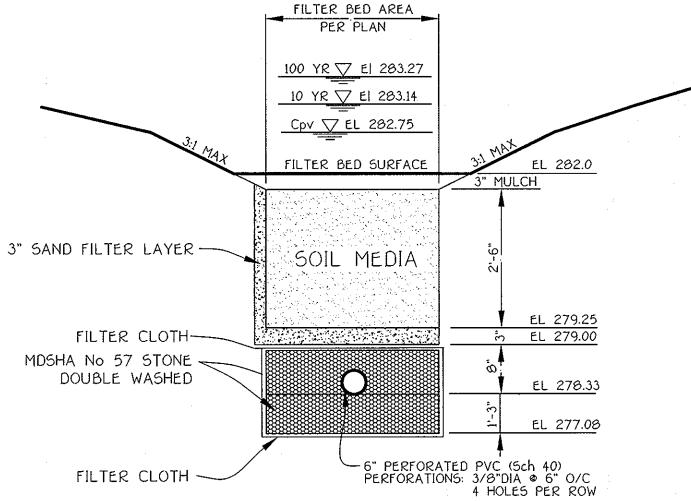
100 YEAR

### EXISTING GROUND -—FILTER BED-PROPOSED -CREST THROAT OPENING 282.75 6" CAP--1'-3" GRAVEL RECHARGE STORAGE 15" RCCP 0.50% SEE STORM DRAIN PROFILES 6" PVC 6" PVC ON SHEET 8 PERFORATED PERFORATED Schedule 40 Schedule 40 © 0.00% **o** 0.00% Schedule 40 **©** 0.00%

## FACILITY #2 PROFILE THRU BIORETENTION

SCALE: H:1"=30' V:1"=5'



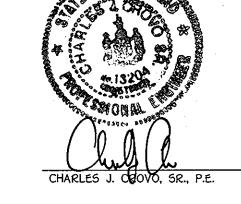


## I Hereby Certify That The Facility Shown On This Plan Was Constructed As Shown On The " As-Built" Plans And Meets The Approved Plans And OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED BIORETENTION FACILITIES

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 infestation. Maintenance will also address dead material and pruning.

- 2. Schedule of plant inspection will be twice a year in spring and fall. This inspection will include removal of dead and diseased vegetation considered beyond treatment.
- 3. Mulch shall be inspected each spring. Remove previous mulch layer before applying new layer.
- Soil erosion to be addressed on an as-needed basis, minimum once a month and after heavy storm events.

"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. 13204, Expiration Date: November 3, 2010."



#### TYPICAL BIORETENTION SECTION NOT TO SCALE

IFISHER, COLLINS & CARTER, INC. CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS ENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE ELLICOTT CITY, MARYLAND 21042 (410) 461 - 2855

APPLIED STORMWATER dba T. E. SCOTT & ASSOCIATES, INC. 128 COCKEYSVILLE ROAD, SUITE 300 Phono: 410.458.2651 HUNT VALLEY, MARYLAND 21030 Fax: 443.269.0216

8-12-10 REVISED PLANS TO ADD LOTS 17-19 DATE REVISION

AS-BUILT CERTIFICATION

Certify Means To State Or Declare A Professional Opinion Based Upon Onsite Inspections And Material Tests Which Are Conducted During Construction. The Onsite Inspections And Material Tests Are Those

Inspections And Tests Deemed Sufficient And Appropriate Commonly

Accepted Engineering Standards. Certify Does Not mean Or Imply A Guarantee By The Engineer Nor Does An Engineer's Certification Relieve Any Other Party From Meeting Requirements Imposed By Contract, Employment, Or Other Means, Including Meeting Commonly Accepted

Specifications.

Signature

Industry Practices.

#### ENGINEER'S CERTIFICATE I 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."

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 all 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 Conservation District."

OWNER
HAMMONDS PROMISE OVERLOOK <u>OWNER</u> ETC PARTNERSHIP c/o MR. EARL D. COLLINS HOMEOWNERS ASSOCIATES, INC. CENTENNIAL SQUARE OFFICE PARK 5300 DORSEY HALL DRIVE 10272 BALTIMORE NATIONAL PIKE ELLICOTT CITY, MARYLAND 21042 410-367-0422

11-02-09 9/25/09 SECTION/AREA LOT NOS. PARCEL NO. HAMMONDS PROMISE OVERLOOK 1-20 137 PLAT REF. NO. BLOCK NO. ZONE 19171 & 19172 21222 - 21225 15 R-5C TAX/ZONE ELEC. DIST. | CENSUS TR. 6th

APPROVED: DEPARTMENT OF PLANNING AND ZONING

FACILITY #2 14/2/09 Date HAMMONDS PROMISE OVERLOOK LOTS 1 THRU 15, 17 THRU 19, OPEN SPACE LOT 20

TAX MAP No. 47 GRID No. 15 PARCEL No. 137 SIXTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND SCALE:

STORMWATER MANAGEMENT

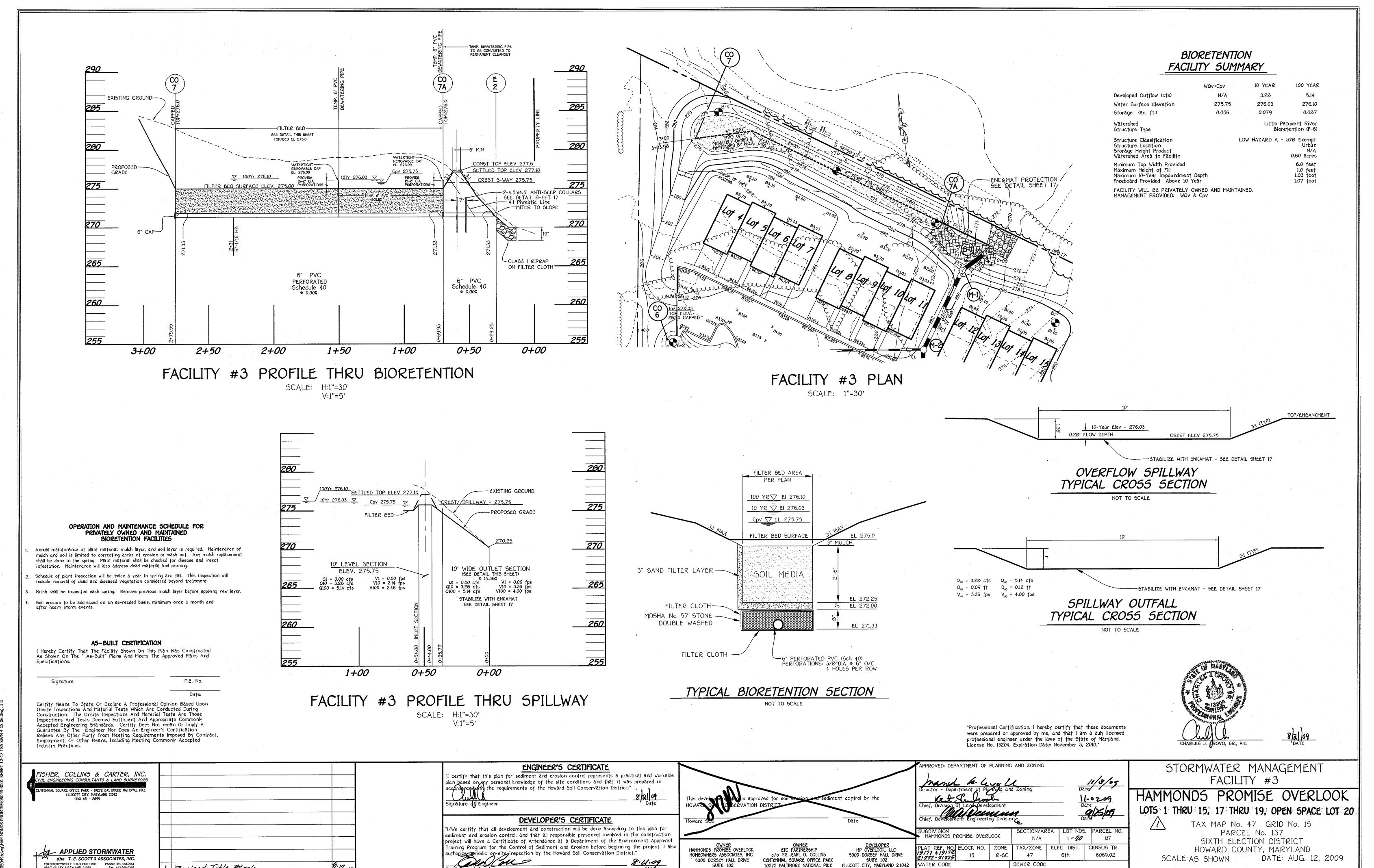
DATE: AUG. 12, 2009

ELLICOTT CITY, MARYLAND 21042 410-461-2055

<u>DEVELOPER</u> HP OVERLOOK, LLC 5300 DORSEY HALL DRIVE SUITE 102 ELLICOTT CITY, MARYLAND 21042 WATER CODE 410-367-0422

SEWER CODE 7390000

SHEET 15 OF 22 5DP 06-158



5300 DORSEY HALL DRIVE

ELLICOTT CITY, MARYLAND 21042 410-367-0422

CENTENNIAL SQUARE OFFICE PARK

ELLICOTT CITY, MARYLAND 21042

10272 BALTIMORE NATIONAL PIKE

Suite 102

410-367-0422

ELLICOTT CITY, MARYLAND 21042

WATER CODE

SEWER CODE

7390000

SHEET 16 OF 22 SDP 06-158

128 COCKEYSVILLE ROAD, SUITE 300 Phono: 410.458.2651 HUNT VALLEY, MARYLAND 21030 Fax: 443.269.0216

Revised Title Block

REVISION

DATE

Site Preparation Areas designated for borrow areas, embankment, and structural works shall be cleared, grubbed and stripped of topsoil. All trees, vegetation, roots and other objectionable material shall be removed. Channel banks and sharp breaks shall be sloped to no steeper than 1:1. All trees shall be cleared and grubbed within 15 feet of the toe of the embankment.

Areas to be covered by the reservoir will be cleared of all trees, brush, logs, fences, rubbish and other objectionable material unless otherwise designated on the plans. Trees, brush, and stumps shall be cut approximately level with the ground surface. For dry stormwater management ponds, a minimum of a 25-foot radius around the injet structure shall be cleared.

All cleared and grubbed material shall be disposed of outside and below the limits of the dam and reservoir as directed by the owner or his representative. When specified, a sufficient quantity of topsoil will be stockpiled in a suitable location for use on the embankment and other designated areas.

Material - The fill material shall be taken from approved designated borrow areas. It shall be free of roots, stumps, wood, rubbish, stones greater than 6°, frozen or other objectionable materials. Fill material for the center of the embarkment, and cut off trench shall conform to Unified Soil Classification GC. SC. CH. or CL and must have at least 30% passing the \*200 sieve. Consideration may be given to the use of other materials in the embarkment if designed by a geotechnical engineer. Such special designs must have construction supervised by a geotechnical engineer. Materials used in the outer shell of the embankment must have the capability to support vegetation of the quality required to prevent erosion of the embankment.

Placement - Areas on which fill is to be placed shall be scarified prior to placement of fill. Fill materials shall be placed in maximum 8-inch thick (before compaction) layers which are to be continuous over the entire length of the fill. The most permeable borrow material shall be placed in the downstream portions of the embankment. The principal spillway must be installed concurrently with fill placement and not excavated into the embankment.

Compaction - The movement of the hauling and spreading equipment over the fill shall be controlled so that the entire surface of each lift shall be traversed by not less than one tread track of heavy equipment or compaction shall be achieved by a minimum of four complete passes of a sheepsfoot, rubber tired or vibratory roller. Fill material shall contain sufficient moisture such that the required degree of compaction will be obtained with the equipment used. The fill material shall contain sufficient moisture so that if formed into a ball it will not crumble, yet not be so wet that water can be squeezed out.

When required by the reviewing agency the minimum required density shall not be less than 95% of maximum dry density with a moisture content within +2% of the optimum. Each layer of fill shall be compacted as necessary to obtain that density, and is to be certified by the Engineer at the time of construction. All compaction is to be determined by AASHTO Method T-99 (Standard Proctor).

#### Structure Backfill

Backfill adjacent to pipes or structures shall be of the type and quality conforming to that specified for the adjoining fill material. The fill shall be placed in horizontal layers not to exceed four inches in thickness and compacted by hand tampers or other manually directed compaction equipment. The material needs to fill completely all spaces under and adjacent to the pipe. At no time during the backfilling operation shall driven equipment be allowed to operate closer than four feet, measured horizontally, to any part of a structure. Under no circumstances shall equipment be driven over any part of a concrete structure or pipe, unless there is a compacted fill of 24" or greater over the structure or pipe.

Structure backfill may be flowable fill meeting the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 313 as modified. The mixture shall have a 100-200 psi; 28 day unconfined compressive strength. The flowable fill shall have a minimum pH of 4.0 and a minimum resistivity of 2,000 ohm-cm. Material shall be placed such that a minimum of 6" (measured perpendicular to the outside of the pipe) of flowable fill shall be under (bedding) over and, on the sides of the pipe. It only needs to extend up to the spring line for rigid conduits. Average slump of the fill shall be 7" to assure flowability of the material. Adequate measures shall be taken (sand bags, etc.) to prevent floating the pipe. When using flowable fill, all metal pipe shall be bituminous coated. Any adjoining soil fill shall be placed in horizontal layers not to exceed four inches in thickness and compacted by hand tampers or other manually directed compaction equipment. The material shall completely fill all voids adjacen to the flowable fill zone. At no time during the backfilling operation shall driven equipment be allowed to operate closer than four feet, measured horizontally, to any part of a structure. Under no circumstances shall equipment be driven over any part of a structure or pipe unless there is a compacted fill of 24° or greater over the structure or pipe. Backfill material outside the structural backfill flowable fill) zone shall be of the type and quality conforming to the specified fol the core of the embankment or other embankment materials. Pipe Conduits

All pipes shall be circular in cross section.

watertight.

Corrugated Metal Pipe - All of the following criteria shall apply for corrugated

1. Materials - (Polymer Coated steel pipe) - Steel pipes with polymeric coatings shall have a minimum coating thickness of 0.01 inch (10 mil) on both sides of the pipe. This pipe and its appurtenances shall conform to the requirements of AASHTO opecifications M-245 & M-246 with watertight coupling bands or flanges.

Materials - (Aluminum Coated Steel Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-274 with watertight coupling bands or flanges. Aluminum Coated Stel Pipe, when used with flowable fill or when soil and/or water conditions warrant the need for increased durability. shall be fully bituminous coated per requirements of AASHTO Specification M-190 Type A. Any aluminum coating damaged or otherwise removed shall be replaced with cold applied bituminous coating compound. Aluminum surfaces that are to be in contact with concrete shall be painted with one coat of zinc chromate primer or two coats of asphalt.

Materials - (Aluminum Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-196 or M-211 with watertight coupling banks or flanges. Aluminum Pipe, when used with flowable fill or when soil and/or water conditions warrant for increased durability, shall be fully bituminous coated per requirements of AASHTO Specification M-190 Type A. Aluminum surfaces that are to be in contact with concrete shall be painted with one coat of zinc chromate primer or two coats of asphalt. Hot dip galvanized bolts may be used for connections. The pH of the surrounding soils shall be between 4 and 9.

2. Coupling bands, anti-seep collars, end sections, etc., must be composed of the same material and coatings as the pipe. Metals must be insulated from dissimilar materials with use of rubber or plastic insulating materials at least 24 mils in

3. Connections- All connections with pipes must be completely watertight. The drain pipe or barrel connection to the riser shall be welded all around when the pipe and riser are metal. Anti-seep collars shall be connected to the pipe in such a manner as to be completely watertight. Dimple bands are not considered to be

All connections shall use a rubber or neoprene gasket when joining pipe sections. The end of each pipe shall be re-rolled an adequate number of corrugations to accommodate the bandwidth. The following type connections are acceptable for pipes less than 24-inches in diameter: flanges on both ends of the pipe with a circular 3/8 inch closed cell neoprene gasket, prepunched to the flange bolt circle, sandwiched between adjacent flanges: a 12-inch wide standard lap type band with 12-inch wide by 3/8-inch thick closed cell circular neoprene gasket; and a 12-inch wide hugger type band with o-ring gaskets having a minimum diameter of 1/2-inch greater than the corrugation depth. Pipes 24-inches in diameter and larger shall be connected by a 24-inch long annular corrugated band using a minimum of 4 (four) rods and lugs, 2 on each connecting pipe end. A 24-inch wide by 3/8-inch thick closed cell circular neoprene gasket will be installed with 12-inches on the end of each pipe. Flanged joints with 3/8-inch closed cell gaskets the full width of the flange is also acceptable

Helically corrugated pipe shall have either continuously welded seams or have lock seams with internal caulking or a neoprene bead. 4. Bedding - The pipe shall be firmly and uniformly bedded throughout its entire length. Where rock or soft, spongy or other unstable soil is encountered, all such material shall be removed and replaced with suitable earth compacted to provide

5. Backfilling shall conform to "Structure Backfill". 6. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

Reinforced Concrete Pipe - All of the following criteria shall apply for reinforced

1. Materials - Reinforced concrete pipe shall have bell and spigot joints with rubber aaskets and shall equal or exceed ASTM C-361

2. Bedding - Reinforced concrete pipe conduits shall be laid in a concrete bedding/cradle for their entire length. This bedding/cradle shall consist of high slump concrete placed under the pipe and up the sides of the pipe at least 50% of its outside diameter with a minimum thickness of 6 inches. Where a concrete cradle is not needed for structural reasons, flowable fill may be used as described in the "Stucture Backfill" section of this standard. Gravel bedding is not permitted

3. Laying pipe - Bell and spigot pipe shall be placed with the bell end upstream Joints shall be made in accordance with recommendations of the manufacturer of the material. After the joints are sealed for the entire line, the bedding shall be placed so that all spaces under the pipe are filled. Care shall be exercised to prevent any deviation from the original line and grade of the pipe. The first joint must be located within 4 feet from the riser.

4. Backfilling shall conform to "Structure Backfill". 5. Other details (Anti-seep collars, valves, etc.) shall be as shown on the drawings.

The following criteria shall apply for plastic pipe: 1. Materials - PVC pipe shall be PVC-1120 or PVC-1220 conforming to ASTM D-1785 or ASTM D-2241. Corrugated High Density Polyethylene (HDPE) pipe, couplings and fittings shall conform to the following: 4" - 10" inch pipe shall meet the requirement of AASHTO M252 Type 5, and 12" through 24" inch shall meet the requirement of AASHTO M294 Type 5.

2. Joints and connections to anti-seep collars shall be completely watertight 3. Bedding - The pipe shall be firmly and uniformly bedded throughout its entire length. Where rock or soft, spongy or other unstable soil is encountered, all such material shall be removed and replaced with suitable earth compacted to provide

4. Backfilling shall conform to "Structure Backfill".

Care of Water during Construction

Rock Riprap

5. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings. Drainage Diaphragms - When a drainage diaphragm is used, a registered professional engineer will supervise the design and construction inspection.

Concrete Concrete shall meet the requirements of Maryland Department of Transportation. State Highway Administration Standard Specifications for Construction and Materials, Section 414, Mix No. 3.

Rock riprap shall meet the requirements of Maryland Department of Transportation. State Highway Administration Standard Specifications for Construction and

Geotextile shall be placed under all riprap and shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 921.09, Class C.

All work on permanent structures shall be carried out in areas free from water. The Contractor shall construct and maintain all temporary dikes, levees, cofferdams, drainage channels, and stream diversions necessary to protect the areas to be occupied by the permanent works. The contractor shall also furnis install, operate, and maintain all necessary pumping and other equipment required for removal of water from various parts of the work and for maintaining the excavations, foundation, and other parts of the work free from water as required or directed by the engineer for constructing each part of the work. After having served their purpose, all temporary protective works shall be removed or leveled and graded to the extent required to prevent obstruction in any degree whatsoever of the flow of water to the spillway or outlet works and so as not to interfere in any way with the operation or maintenance of the structure. Stream diversions shall be maintained until the full flow can be passed through the permanent works. The removal of water from the required excavation and the foundation shall be accomplished in a manner and to the extent that will maintain stability of the excavated slopes and bottom required excavations and will allow satisfactory performance of all construction operations. During the placing and compacting of material in required excavations, the water level at the locations being refilled shall be maintained below the bottom of the excavation at such locations which may require draining the water sumps from which the water shall be pumped. Stabilization

All borrow areas shall be graded to provide proper drainage and left in a sightly condition. All exposed surfaces of the embankment, spillway, spoil and borrow areas, and berms shall be stabilized by seeding, liming, fertilizing and mulching in accordance with the Natural Resources Conservation Service Standards and Specifications for Critical Area Planting (MD-342) or as shown on the

Erosion and Sediment Control

Construction operations will be carried out in such a manner that erosion will be controlled and water and air pollution minimized. State and local laws concerning pollution abatement will be followed. Construction plans shall detail erosion and sediment control measures.

OPERATION AND MAINTENANCE

An operation and maintenance plan in accordance with Local or State Regulations will be prepared for all ponds. As a minimum, the dam inspection checklist located in Appendix A shall be included as part of the operation and maintenance plan and performed at least annually. Written records of maintenance and major repairs needs to be retained in a file. The issuance of a Maintenance and Repair Permit for any repairs or maintenance that involves the modification of the dam or spillway from its original design and specifications is required. A permit is also required for any repairs or reconstruction that involve a substantial portion of the structure. All indicated repairs are to be made as soon as practical.

DATE

### BIORETENTION SPECIFICATIONS

SOIL TEXTURE AND STRUCTURE

Soil shall have a sandy loam, loamy sand, or loam texture per USDA uniform mix, free of stones, stumps, roots, or other similar objects larger than two inches. No other materials or substances should be mixed or dumped within the bioretention soil that may be harmful to plant growth, or prove a hindrance to the planting or maintenance operations. The planting soil must be free of plant or seed material of non-native, invasive species, or noxious weeds.

Planting soil for bioretention areas must be tested prior to installation for PH and organic matter. The soil should meet the following criteria (Landscape Contractors Association, 1986). PH Range: 5.5 - 6.5

Organic Matter: 1.5 - 3.0% Sieve analysis, PH, and organic matter tests shall be performed for each

bioretention area. SOIL PREPARATION

Soil preparation can be performed onsite or offsite and transported to the facility location when ready for installation. Prior to transport, the soil mix SOIL PRESOAK should be certified as meeting the criteria established for the soil medium and approved by the site inspector.

Soil preparation can be accomplished by thoroughly mixing soil components, amendments and additives, as needed utilizing a backhoe or front-end

SOIL PLACEMENT Placement of the planting soil in the bioretention area should be after scarifying the invert area of the proposed facility and installing the underdrain and/or recharge area (if applicable), in lifts of 12 to 18 inches and lightly compacted. Minimal compaction effort can be applied to the soil by tamping with a bucket from a dozer or backhoe. Lifts are not to be compacted but are performed in order to reduce the possibility of excessive settlement. Installation of soils must be done in a manner that will ensure adequate filtration.

SOIL COMPACTION

Avoid over compaction by allowing time for natural compaction and settlement. No additional manual compaction of soil is necessary. Rake soil material as needed to level out. Overfill above the proposed surface invert to accommodate natural settlement to proper grade. Depending upon the soil material, up to 20% natural compaction may occur. For facilities designed with a liner, no scarification of the invert area is required.

It is very important to minimize compaction of both the base of the bioretention area and the required backfill. When possible, use excavation hoes to remove original soil. If bioretention areas are excavated using a loader, the contractor should use wide track or marsh track equipment, or light equipment with turf-type tires.

SOIL COMPACTION (cont)

Use of equipment with narrow tracks or narrow tires, rubber tires with textural triangle. Maximum clay content shall be <5%. Soil mixture shall be large lugs, or high pressure tires will cause excessive compaction resulting 50-60% sand; 20-30% leaf compost; and 20-30% topsoil. The soil shall be a in reducing infiltration rates and storage volumes 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 back filling the facility and placement of underdrain. Pump any ponded water before preparing (rototilling) base.

When back filling the bioretention facility, do not use heavy equipment within the bioretention basin. Heavy equipment can be used around the perimeter of the basin 11&(()Am(()) to supply soils and sand. Grade bioretention materials with light equipment such as a compact loader or a dozer/loader with marsh tracks.

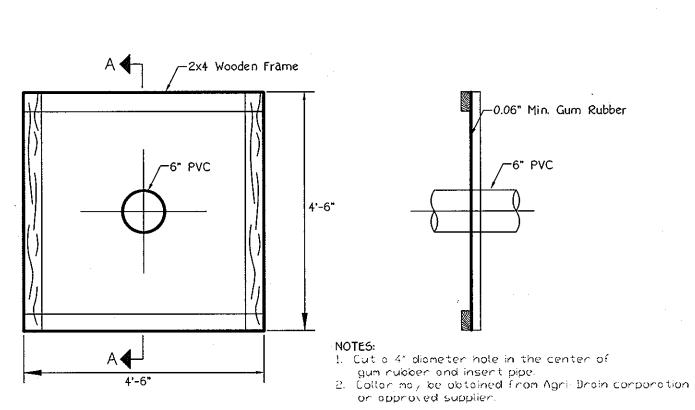
In order to speed up the natural compaction process, presoaking the placed soil may be performed. Significant settlement can occur after the first presoak, and additional settlement may occur subsequent to the initial wetting. If time and construction scheduling permits, it is preferable to allow natural settlement to occur with the help of rain events to presoak the soil medium.

Areas should be mulched once trees and shrubs have been planted. Any ground cover specified as plugs may be installed once mulch has been

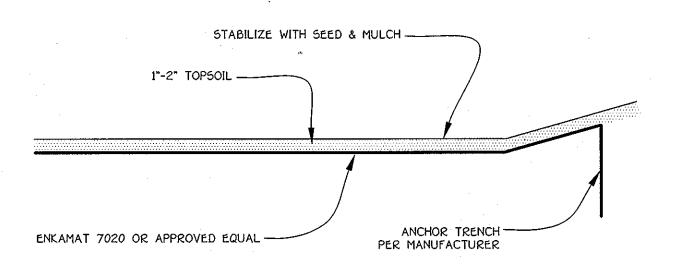
The mulch layer shall consist of either a standard landscape fine shredded hardwood mulch (preferred) or hardwood chips. The mulch may be either aged or fresh to maximize nitrogen and metal uptake by the facility. Mulch shall be free of weed seeds, soil, roots, or any other substance not consisting of either bole or branch wood and bark. The mulch should be uniformly applied approximately 2 to 3 inches in depth. Mulch applied any deeper than three inches reduces proper oxygen and carbon dioxide cycling between the soil and the atmosphere, and keeps plant roots from making good contact with the soil.

Sand shall be clean and free of deleterious materials, meeting AASHTO M-6 or ASTM C-33 with grain size of 0.02"- 0.04". MDSHA C-33 sand is

Geotextile fabric should meet ASTM D-751 (puncture strength - 125 LB), ASTM D-1117 (Mullen burst strength - 400 PSI), and ASTM D-1682 (Tensile strenath - 300 LB). Fabric should have 0.08" thick E.O.S. of \*80 sieve, and maintain 125 GPM per SQ. FT. flow rate.

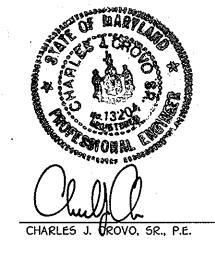


ANTI-SEEP COLLAR DETAIL NOT TO SCALE



1. ENKAMAT SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS AND INSTALLATION DOCUMENTATION. ALL JOINTS SHALL BE PARALLEL TO FLOW AND SHALL HAVE I' MIN. OVERLAP. 3. 18" "J" SHAPED REBAR STAPLES SHALL BE EVENLY SPACED AT 4 PER SQ. YD. AND 3' O/C ALONG ANCHOR TRENCH.

> ENKAMAT DETAIL NOT TO SCALE



"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. 13204, Expiration Date: November 3, 2010.\*

14/3/05

LOT NOS. PARCEL NO

137

1-20

PROVED: DEPARTMENT OF PLANNING AND ZONING

HAMMONDS PROMISE OVERLOOK

WATER CODE

C-02

STORMWATER MANAGEMENT

NOTES AND DETAILS HAMMONDS PROMISE OVERLOOK

16-02-09 LOTS 1 THRU 15, 17 THRU 19, OPEN SPACE LOT 20

TAX MAP No. 47 GRID No. 15 PARCEL No. 137 SIXTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND DATE: AUG. 12, 2009 SCALE: AS SHOWN

SHEET 17 OF 22 50P 06-158

FISHER, COLLINS & CARTER, INC. IVIL ENGINEERING CONSULTANTS & LAND SURVEYORS IAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKI ELLICOTT CITY, MARYLAND 21042 (410) 461 - 2855 APPLIED STORMWATER dba T. E. SCOTT & ASSOCIATES, INC. 128 COCKEYSVILLE ROAD, SUITE 300 Phone: 410.458.2651 HUNT VALLEY, MARYLAND 21030 Phone: 443.269.0216 REVISED TITLE BLOCK 8-12-10

REVISION

ENGINEER'S CERTIFICATE I 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."

bignature of Engineer

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 all 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 poiodic on-site inspection by the Howard Soil Conservation District."

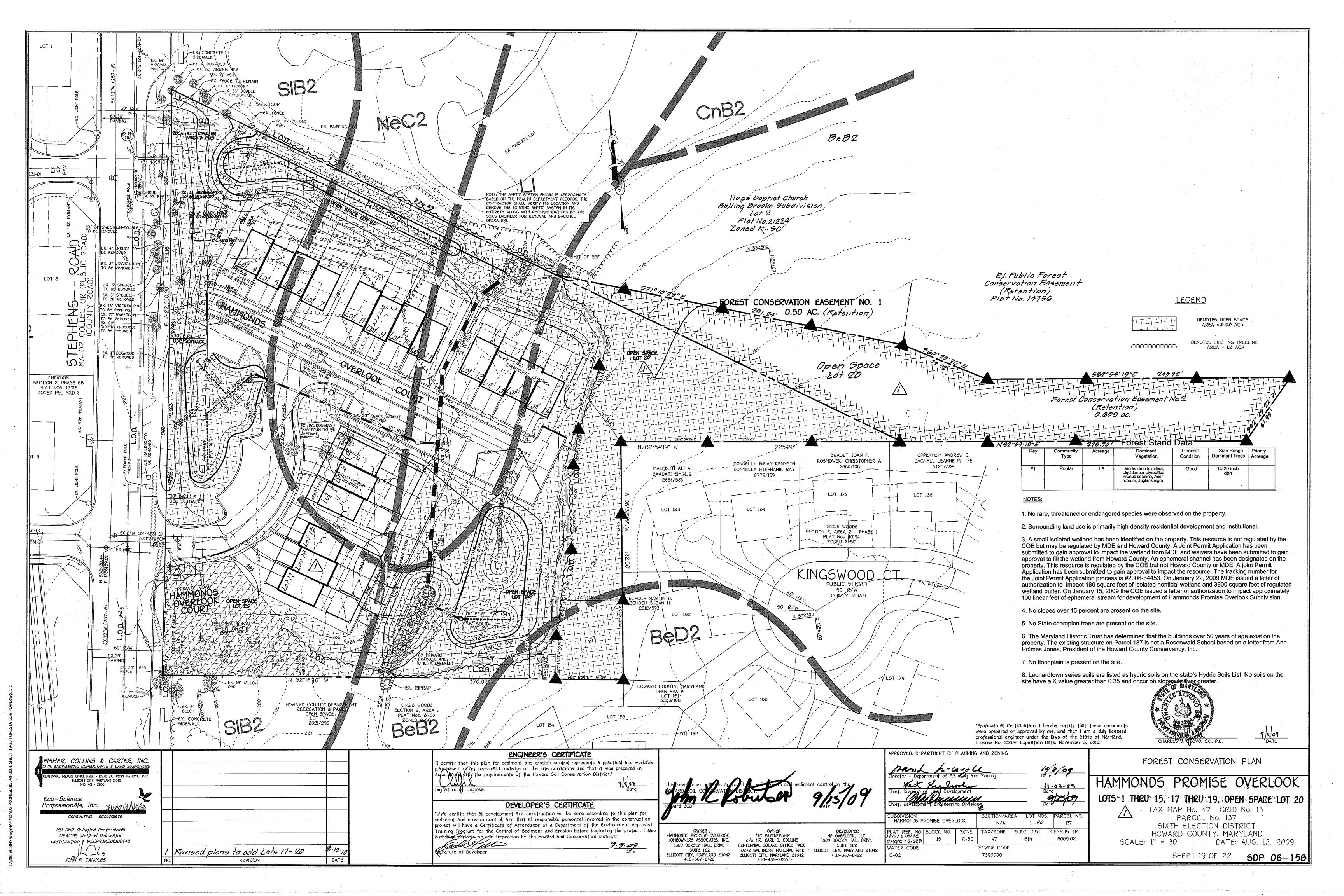
and sediment control by the

5300 DORSEY HALL DRIVE ELLICOTT CITY, MARYLAND 21042 410-367-0422 410-461-2855

OWNER HAMMONDS PROMISE OVERLOOK HOMEOWNERS ASSOCIATES, INC. c/o MR. EARL D. COLLINS 5300 DORSEY HALL DRIVE CENTENNIAL SQUARE OFFICE PARK SUITE 102 10272 BALTIMORE NATIONAL PIKE ELLICOTT CITY, MARYLAND 21042

PLAT REF. NO. BLOCK NO. ZONE 19171 & 19172 21222 - 21225 15 R-5C TAX/ZONE ELEC. DIST. CENSUS TR. 6th 47 SEWER CODE 7390000

SECTION/AREA



1. Fencing shall be 42" in height and constructed in accordance with the latest Maryland State Highway Details for Chain Link Fencing. The specification for a 6' fence shall be used, substituting 42" fabric and 6' length

2. Chain link fence shall be fastened securely to the fence posts with wire ties. The lower tension wire, brace and truss rods, drive anchors and post caps are not required except on the ends of the fence. 3. Filter cloth shall be fastened securely to the chain link fence with ties spaced

every 24" at the top and mid section. 4. Filter cloth shall be embedded a minimum of 8" into the ground. 5. When two sections of filter cloth adjoin each other, they shall be overlapped by 6" and folded.

6. Maintenance shall be performed as needed and silt buildups removed when "bulges" develop in the silt fence, or when silt reaches 50% of fence height 7. Filter cloth shall be fastened securely to each fence post with wire ties or staples at top and mid section and shall meet the following requirements for

Tensile Strength 50 fbs/in (min.) Test: MSMT 509 20 lbs/in (min.) Test: MSMT 509 Tensile Modulus 0.3 gal/ft /minuté (max.) Test: M5MT 322 Flow Rate Filtering Efficiency Design Criteria 5teepness 0 - 10x 10 - 20x 20 - 33x 0 - 10:1 10:1 - 5:1 Unlimited Unlimited 1,500 feet 1,000 feet

100 feet

3:1 - 2:1

500 feet

33 - 50%

CONSTRUCTION PERIOD PROTECTION PROGRAM

A. Forest Protection Techniques

1. Soil Protection Area (Critical Root Zone

The soil protection area, or critical root zone, of a tree is that portion of the soil column where most of its roots may be found. The majority of roots responsible for water and nutrient uptake are located just below the soil surface.

The limit of disturbance (LOD) line depicted on the plan shows the proposed extent of construction activities. Eco-Science Professionals or another qualified professional designated by the developer, will assist in the field flagging of the LOD to ensure that the Critical Root Zone for the Forest Retention Area is determined in accordance with the In-Field Edge Determination Guidelines in Appendix B. Eco-Science Professionals, or another qualified professional, will also assess the condition of the new forest edge to determine if selective thinning or pruning is needed to improve the condition

2. Fencing and Signage

All forest retention areas will be protected from unauthorized intrusion by appropriate signage and fencing. Signage and fencing will be installed prior to any construction activity. Installation of these devices will be supervised by Eco-Science Professionals or another qualified professional. Fencing will be placed along all LOD lines that occurs within 35 feet of existing treelines. Signage will be placed along the edge of the FCE every 100 feet. Fencing will consist of blaze orange mesh fence or super silt fence. See Forest Conservation Plan for standard specifications.

B. Pre-Construction Meeting

Upon staking of limits of disturbance and installation of all signage, a pre-construction meeting will be held between the developer, contractor and appropriate County inspector. The purpose of the meeting will be to verify that all tree protection measures outlined in the FCP are in place, that all sediment control is in order, and to notify the contractor of possible penalties for non-compliance with the FCP.

C. Storage Facilities/Equipment Cleaning

All equipment storage, parking, sanitary facilities, material stockpiling, etc. associated with construction of the project will be restricted to those areas shown within the limit of disturbance. Cleaning of equipment will be prohibited from all forest retention areas. Wastewater resulting from equipment cleaning will be controlled to prevent runoff into wetlands, streams and other environmentally sensitive areas.

D. Sequence of Construction

The following timetable represents the proposed timetable for construction of the proposed project. The construction start date for this project has not been formalized. The actual project start date is predicated on the issuance of all necessary permits and approvals for the project. The items outlined in the Forest Conservation Plan will be enacted upon commencement of the project.

Below find a sequence of construction:

1. Install all tree protection signage, fencing, and 2. Hold pre-construction meeting between developer,

sediment control devices.

contractor and County inspector. 3. Grade site and construct improvements. Stabilize all disturbed areas in accordance with grading plan. 4. Remove sediment control. Replace any forest retention

signage in poor condition. 5. Hold post-construction meeting with County inspector to assure compliance with FCP.

E. Construction Monitoring

Eco- Science Professionals, or another qualified professional designated by the developer, will monitor construction of the project to ensure that all activities are in compliance with the Forest Conservation Plan. This will include inspections to ensure that signage is properly maintained and that no unauthorized intrusions have been made into retention areas.

F. Activities Permitted During Construction

The forest conservation plan will allow the following activities within forest resources during the construction phase of the project:

1. Passive recreation (birdwatching, hiking, etc.) These activities will not damage or negatively impact the forest resources on the property.

G. Post-Construction Meeting

Joon completion of construction, Eco-Science Professionals, or another qualified professional designated by the developer, will notify the County that construction has been completed and arrange for a post-construction meeting to review the project site. The meeting will allow the County inspector to verify that all Forest Conservation Easement areas have been properly retained and that all post construction protection measures (permanent signage) have been installed.

POST-CONSTRUCTION MANAGEMENT PLAN

The post-construction management plan will further ensure that all Forest Conservation Easement Areas are maintained. The developer will be responsible for implementation of the post-construction management plan.

The following items will be incorporated into the plan for the subject property.

Signage indicating the limits of the forest retention areas shall be maintained.

#### FCP NOTES

- 1. ANY FOREST CONSERVATION EASEMENT (FCE) AREA SHOWN HEREON IS SUBJECT TO PROTECTIVE COVENANTS WHICH MAY BE FOUND IN THE LAND RECORDS OF HOWARD COUNTY WHICH RESTRICT THE DISTURBANCE AND USE OF THESE
- 2. THE FOREST CONSERVATION EASEMENTS HAVE BEEN ESTABLISHED TO FULFILL THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE, FOREST CONSERVATION ACT. NO CLEARING, GRADING, OR CONSTRUCTION IS PERMITTED WITHIN THE FOREST CONSERVATION EASEMENTS, HOWEVER, FOREST MANAGEMENT PRACTICES AS DEFINED IN THE DEED OF FOREST CONSERVATION EASEMENT ARE ALLOWED.
- 3. FORESTED AREAS OCCURRING OUTSIDE OF THE FCE SHALL NOT BE CONSIDERED PART OF THE FCE AND SHALL NOT
- 4. LIMITS OF DISTURBANCE SHALL BE RESTRICTED TO AREAS OUTSIDE THE LIMIT OF TEMPORARY FENCING OR THE FCE
- 5. THERE SHALL BE NO CLEARING, GRADING, CONSTRUCTION OR DISTURBANCE OF VEGETATION IN THE FOREST CONSERVATION EASEMENT, EXCEPT AS PERMITTED BY HOWARD COUNTY DPZ.
- 6. NO STOCKPILES, PARKING AREAS, EQUIPMENT CLEANING AREAS, ETC. SHALL OCCUR WITHIN AREAS DESIGNATED AS FOREST CONSERVATION EASEMENTS
- 7. TEMPORARY FENCING SHALL BE USED TO PROTECT FOREST RESOURCES DURING CONSTRUCTION. THE FENCING SHALL BE PLACED ALONG ALL FCE BOUNDARIES WHICH OCCUR WITHIN 15 FEET OF THE PROPOSED LIMITS OF DISTURBANCE.
- 8. PERMANENT SIGNAGE SHALL BE PLACED 50' 100' APART ALONG BOUNDARIES OF ALL AREAS INCLUDED IN FOREST CONSERVATION EASEMENTS. THE FOREST CONSERVATION REQUIREMENTS PER SECTION 16.1200 OF THE HOWARD
- 9. THE FOREST CONSERVATION REQUIREMENTS PER SECTION 16.1200 OF THE HOWARD COUNTY CODE AND THE FOREST CONSERVATION MANUAL FOR THIS SUBDIVISION WILL BE FULFILLED BY PROVIDING 0.50 ACRES OF ONSITE FOREST RETENTION . \$0.20/5F FOR 21,700 SF. = \$4,356.00 AND 0.0 ACRES OF REFORESTATION BEING PROVIDED AT THE FULTON MANOR II SUBDIVISION \$0.50/5F FOR 34,040 SF. = \$17,424.00. TOTAL FOREST CONSERVATION SURETY =
- 10. THERE ARE NO STEEP SLOPES (BOTH 15% TO 25% AND 25% OR GREATER), WETLANDS OR STREAMS, WETLAND OR STREAM BUFFERS, FLOODPLAIN, STATE CHAMPION TREES, HISTORIC SITES AND HISTORICAL STRUCTURES WITHIN THE
- 11. THE CONTRACTOR SHALL INSTALL THE SUPER SILT FENCE AND TREE PROTECTION FENCE AS SHOWN ON SHEET 19 PRIOR TO GRADING THE SITE.
- 12. a.) OPEN SPACE AREA REQUIRED = 25% OF GROSS ACREAGE = 0.97 AC.\*
- b.) OPEN SPACE AREA PROVIDED = 2.28 AC.\* c.) RECREATIONAL OPEN SPACE REQUIRED = 400 SQ. FT. PER UNIT = (15x400=6000 SQ. FT.) d.) RECREATIONAL OPEN SPACE PROVIDED = 8550 SQ. FT

#### HAMMOND'S PROMISE OVERLOOK-OFFSITE PLANTING SCHEDULE

FCE- HAMMONDS PROMISE OVERLOOK #1 - 0.8 acres Planting units Required: 560 Planting units Provided: 575

25 Viburnum prunifolium - Blackhaw

130 total whips w/shelters provided = 260 planting units

	·		
ty	Species	Size	Spacing
10	Acer rubrum - Red maple	2" cal.	20' o.c.
10	Fraxinus americana - White ash	2" cal.	20' o.c.
15	Liriodendron tulipifera - Tulip poplar	2" cal.	20' o.c.
10	Quercus alba - White oak	2" cal.	20' o.c.
45	total 2'çalip	er trees provided	- 45 planting units
25	Acer rubrum - Red maple	2-3' whip	11' o.c.
20	Diospyros virginiana - Persimmon	2-3' whip	11' o.c.
20	Liriodendron tulipifera - Tulip poplar	2-3' whip	11' o.c.
20	Nyssa sylvatica - Black gum	2-3' whip	11' o.c.
20	Prunus serotina - Black cherry	2-3' whip	11' o.c.

#### Planting Notes:

Planting density based spacing requirements: 2" caliper trees @ 20" on center, 1" caliper trees @ 15" on center, whips with shelter @ 11" on center.

|2-3' whip |11' o.c.

2' caliper trees should be staggered along the eastern perimeter of the planting area to serve as demarcation of the boundary. The trees should be no closer than 15 foot spacing. The western boundary of the planting area

Planting may be made in a curvilinear fashion along contour. The planting should avoid a grid appearance but

Multiflora rose/heavy brush removal/control may be required prior to installation of planting.

All whips are required to be installed with tree shelters per Howard County FCA requirements. Planting units defined by the spacing requirements established in the FCA Manual. One plant unit is defined as 1 seedling or whip without shelter. The Manual states that 700 seedlings/whips without shelters are required per acre, or 350 whips wishelters, or 200 1" caliper trees, or 100 2" caliper trees. By conversion it has been determined that a seeding or whip without shelter = 1 unit, whip with shelter = 2 units, 1"caliper tree = 3.5 units and 2" caliper tree = 7 units. The use of plant units simplifies the plant density calculations when mixing stock

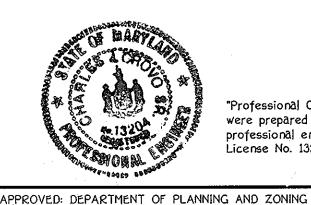
BLAZE ORANGE PLASTIC MESH ANCHOR POST SHOULD BE MINIMUM 2" STEEL "U" CHANNEL OR 2" x 2" TIMBER 6" IN LENGTH USE 2" x 4" HIGHLY VISIABLE FLAGGING LUMBER FOR CROSS BACKING USE 3' WIRE "U" TO SECURE NOTES: FOREST PROTECTION DEVICE ONLY.
RETENTION AREA WILL BE SET AS PART OF THE REVIEW PROCESS.
BOUNDARIES OF RETENTION AREA SHOULD BE STAKED AND FLAGGED PRIOR TO INSTALLING DEVICE. ROOT DAMAGE SHOULD BE AVOIDED.
PROTECTIVE SIGNAGE MAY ALSO BE USED.
DEVICE SHOULD BE MAINTAINED THROUGHOUT CONSTRUCTION. TREE PROTECTION DETAIL

ON-SITE SIGNAGE

FOREST CONSERVATION **EASEMENT** UNAUTHORIZED DISTURBANCE OF VEGETATION IS PROHIBITED. VIOLATORS SUBJECT TO PENALTIES UNDER THE HOWARD COUNTY FOREST CONSERVATION ACT OF TREES FOR YOUR FUTURE 11" MINIMUM DENOTES FOREST CONSERVATION EASEMENT PROJECT SIGN TO BE INSTALLED.

#### FOREST CONSERVATION WORKSHEET

BASIC SITE DATA: VERSION 1.0	
A. TOTAL TRACT AREA=	3.8
B. AREA WITHIN 100 YEAR FLOODPLAIN=	0
C. AREA TO REMAIN IN AGRICULTURAL PRODUCTION=	0.0
D. NET TRACT AREA=	3.8
LAND USE CATEGORY: (FROM TABLE 3.2.1, PAGE 40, MANUAL)	
ARA MDR IDA <u>HDR</u> MPD CIA	
INFORMATION FOR CALCULATIONS:	
E. AFFORESTATION THRESHOLD	0.57
F. FOREST CONSERVATION THRESHOLD	0.76
EXISTING FOREST COVER:	
G. EXISTING FOREST COVER (EXCLUDING FLOODPLAIN)=	1.8
H. AREA OF FOREST ABOVE REFORESTATION THRESHOLD	0.0
I. AREA OF FOREST ABOVE CONSERVATION THRESHOLD:=	1.04
BREAK EVEN POINT:	
J. FOREST RETENTION ABOVE THRESHOLD WITH NO MITIGATION	.= 0.0
BREAK-EVEN POIN	T _0.97_
K. CLEARING PERMITTED WITHOUT MITIGATION=	0.83
PROPOSED FOREST CLEARING:	
L. TOTAL AREA OF FOREST TO BE CLEARED=	_1.3
M. TOTAL AREA OF FOREST TO BE RETAINED=	_ <u>0.5_</u>
	·
PLANTING REQUIREMENTS:	_ 0.26
N. REFORESTATION FOR CLEARING ABOVE CONSERVATION THRESHOLD	····=
P. REFORESTATION FOR CLEARING BELOW CONSERVATION THRESHOLD	
R. TOTAL REFORESTATION REQUIRED	
S. TOTAL AFORESTION REQUIRED=	
T. TOTAL REFORESTATION AND AFFORESTATION REQUIRED=	



'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. 13204, Expiration Date: November 3, 2010."

10/3/05

FISHER, COLLINS & CARTER, INC. CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS (410) 461 - 2855 Eco-Science Professionals, Inc. XIWWIKYWAY

CONSULTING ECOLOGISTS MD DNR Qualified Professional USACOE Wetland Delineator Certification # WDCP93MD0610044B

12.10 Revised Title Block REVISION DATE

ENGINEER'S CERTIFICATE

I 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 ccordance with the requirements of the Howard Soil Conservation District."

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 all 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

thorize periodic on-site inspection by the Howard Soil Conservation District."

<u>OWNER</u> HAMMONDS PROMISE OVERLOOK HOMEOWNERS ASSOCIATES, INC. 5300 DORSEY HALL DRIVE CENTENNIAL SQUARE OFFICE PARK ELLICOTT CITY, MARYLAND 21042 410-367-0422

SUITE 102 ELLICOTT CITY, MARYLAND 21042 410-367-0422

11-02-09 9/25/09 SUBDIVISION HAMMONDS PROMISE OVERLOOK SECTION/AREA LOT NOS. PARCEL NO. 1917 4 19172 21222-21225 15 1-20 137 ELEC. DIST. CENSUS TR. TAX/ZONE 47 6th 6069.02 WATER CODE SEWER CODE

FOREST CONSERVATION NOTES AND DETAILS

HAMMONDS PROMISE OVERLOOK

LOTS 1 THRU 15, 17 THRU 19, OPEN SPACE LOT 20 TAX MAP No. 47 GRID No. 15

PARCEL No. 137 SIXTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

DATE: AUG. 12, 2009

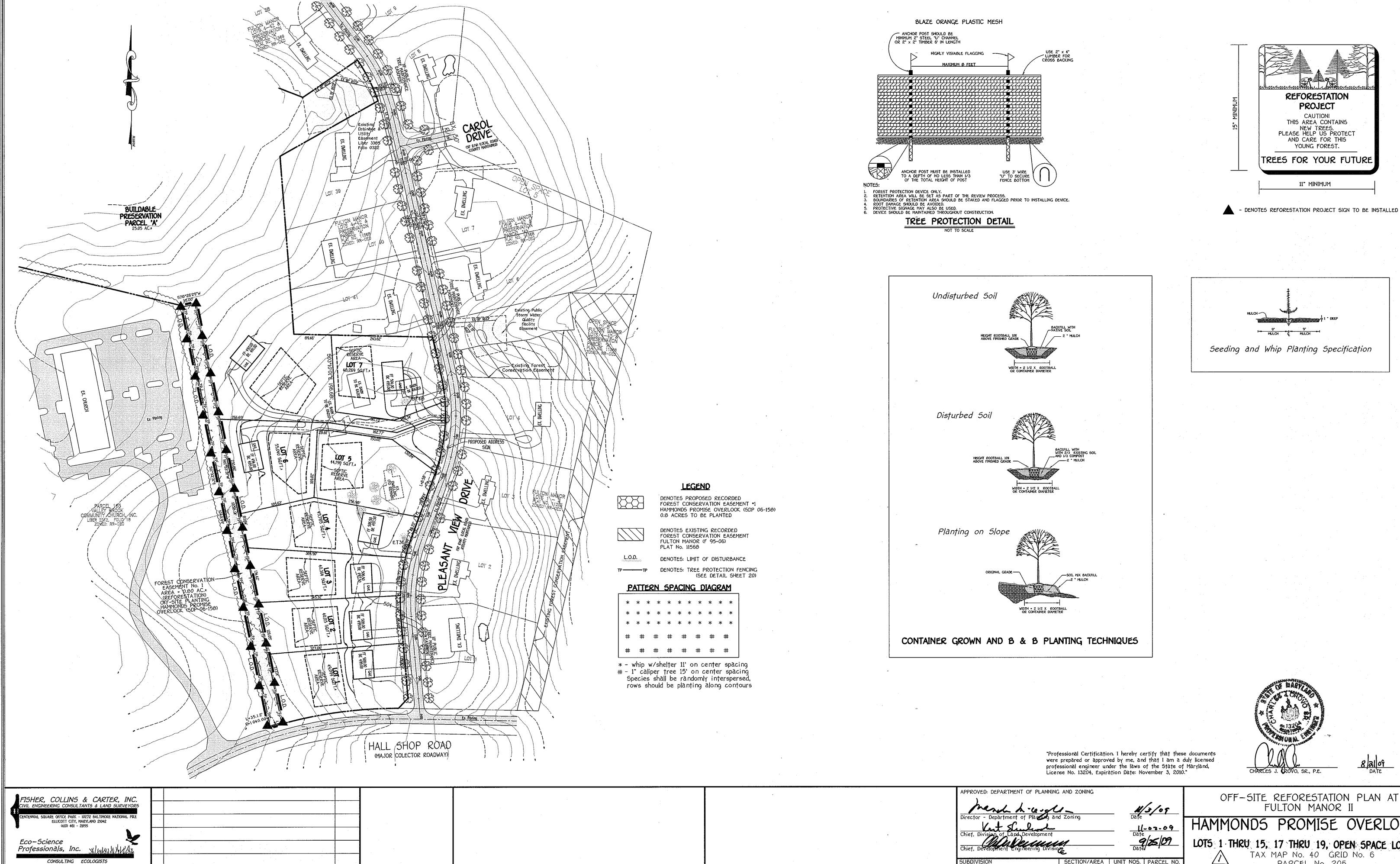
JOHN P. CANOLES

10272 BALTIMORE NATIONAL PIKE ELLICOTT CITY, MARYLAND 21042 410-461-2855

7390000

SCALE: 1" = 30'

SHEET 20 OF 22 SDP 06-158



MD DNR Qualified Professional

USACOE Wetland Delineator

8.12.10

DATE

1 Revised Title Block

Certification | WDCP93MD0610044B

JOHN P. CANOLES

OWNER

MR. OTHA D. UPCHURCH

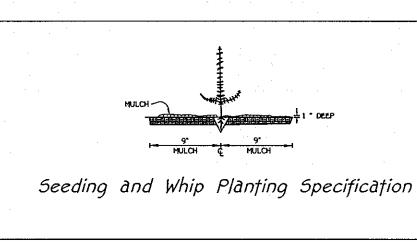
457 OLD ORCHARD CIRCLE

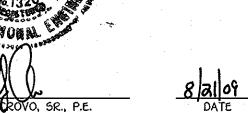
MILLERSVILLE, MARYLAND 21108

410-987-4990

REFORESTATION PROJECT CAUTIONI THIS AREA CONTAINS NEW TREES.
PLEASE HELP US PROTECT
AND CARE FOR THIS YOUNG FOREST. TREES FOR YOUR FUTURE 11" MINIMUM

- DENOTES REFORESTATION PROJECT SIGN TO BE INSTALLED





## HAMMONDS PROMISE OVERLOOK

LOTS 1 THRU 15, 17 THRU 19, OPEN SPACE LOT 20

SECTION/AREA | UNIT NOS. | PARCEL NO

PLAT REF. NO. BLOCK NO. ZONE TAX/ZONE ELEC. DIST. CENSUS TR.

40

SEWER CODE

RR-DEO

205

FULTON MANOR II

WATER CODE

6

DEVELOPER "

E.T.C. PARTNERSHIP

10272 BALTIMORE NATIONAL PIKE

ELLICOTT CITY, MARYLAND 21042

410-461-2855

TAX MAP No. 40 GRID No. 6 PARCEL No. 205 FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND SCALE: 1" = 100" DATE: AUG. 12, 2009

SHEET 21 OF 22 **SDP 06-158** 

#### A. Forest Protection Techniques

1. Soil Protection Area (Critical Root Zone)

The soil protection area, or critical root zone, of a tree is that portion of the soil column where most of its roots may be found. The majority of roots responsible for water and nutrient uptake are located just below the soil surface.

The limit of disturbance (LOD) line depicted on the plan shows the proposed extent of construction activities. Eco-Science Professionals, or another qualified professional designated by the developer, will assist in the field flagging of the LOD to ensure that the Critical Root Zone for the Forest Retention Area is determined in accordance with the In-Field Edge Determination Guidelines in Appendix B. Eco-Science Professionals, or another qualified professional, will also assess the condition of the new forest edge to determine if selective thinning or pruning is needed to improve the condition of the edge.

#### Fencing and Signage

All forest retention areas will be protected from unauthorized intrusion by appropriate signage and fencing. Signage and fencing will be installed prior to any construction activity. Installation of these devices will be supervised by Eco-Science Professionals or another qualified professional. Fencing will placed along all LOD lines that occur within 35 feet of existing treelines. Signage will be placed along the edge of the FCE every 100 feet. Fencing will consist of blaze orange mesh fence or super slit fence. See Forest Conservation Plan for standard specifications.

#### B. Pre-Construction Meeting

Upon staking of limits of disturbance and installation of all signage, a pre-construction meeting will be held between the developer, contractor and appropriate County inspector. The purpose of the meeting will be to verify that all tree protection measures outlined in the FCP are in place, that all sediment control is in order, and to notify the contractor of possible penalties for non-compliance with the

#### C. Storage Facilities/Equipment Cleaning

All equipment storage, parking, sanitary facilities, material stockplling, etc. associated with construction of the project will be restricted to those areas shown within the limit of disturbance. Cleaning of equipment will be prohibited from all forest retention areas. Wastewater resulting from equipment cleaning will be controlled to prevent runoff into wetlands, streams and other environmentally sensitive

#### D. Sequence of Construction

The following timetable represents the proposed timetable for construction of the proposed project. The construction start date for this project has not been formalized. The actual project start date is predicated on the issuance of all necessary permits and approvals for the project. The items outlined in the Forest Conservation Plan will be enacted upon commencement of the project.

#### Below find a sequence of construction.

1. Install all tree protection signage, fencing, and sediment control devices.

2. Hold pre-construction meeting between developer, contractor and County inspector.

3. Grade site and construct improvements. Stabilize all disturbed areas in accordance with grading plan.

4. Remove sediment control. Replace any forest retention signage in poor condition.

5. Hold post-construction meeting with County inspectors to assure compliance with FCP. E. Construction Monitoring

Eco-Science Professionals, or another qualified professional designated by the developer, will

The forest conservation plan will allow the following activities within forest resources during the

Upon completion of construction, Eco-Science Professionals, or another qualified professional designated by the developer, will notify the County that construction has been completed and arrange for a post-construction meeting to review the project site. The meeting will allow the County inspector to verify that all Forest Conservation Easement areas have been properly retained and that all post

These activities will not damage or negatively impact the forest resources on the property.

The post-construction management plan will further ensure that all Forest Conservation Easement Areas are maintained. The developer will be responsible for implementation of the post-

The following items will be incorporated into the plan for the subject property:

Signage indicating the limits of the forest retention areas shall be maintained.

monitor construction of the project to ensure that all activities are in compliance with the Forest Conservation Plan. This will include inspections to ensure that signage is properly maintained and that

no unauthorized intrusions have been made into forest retention areas.

1. Passive recreation (birdwatching, hiking, etc.)

construction protection measures (permanent signage) have been installed.

POST-CONSTRUCTION MANAGEMENT PLAN

construction phase of the project:

construction management plan.

A. Signage

G. Post-Construction Meeting

FCP Notes - Hammond's Promise Overlook

- 1. Any Forest Conservation Easement (FCE) area shown hereon is subject to protective covenants which may be found in the Land Records of Howard County which restrict the disturbance and use of these areas.
- 2. Forested areas occurring outside of the FCE shall not be considered part of the FCE and shall not be subject to protective land covenants.
- 3. Limits of disturbance shall be restricted to areas outside the limit of temporary fencing or the FCE boundary, whichever is greater.
- 4. There shall be no clearing, grading, construction or disturbance of vegetation in the Forest Conservation Easement, except as permitted by Howard County DPZ.
- 5. No stockpiles, parking areas, equipment cleaning areas, etc. shall occur within areas designated as Forest Conservation Easements.
- 6. Temporary fencing shall be used to protect forest resources during construction. The fencina shall be placed along all FCE boundaries which occur within 15 feet of the proposed limits of disturbance.
- 7. The Forest Conservation Act requirements for this project include 0.5 acres of onsite. retention and 0.80 acres of reforestation. The reforestation obligation of 0.80 acres for this. project shall be met through reforestation on the Fulton Manor II subdivision.
- 8. The Fulton Manor II project (Otha D. Upchurch Property) will meet its Forest Conservation Act obligation through onsite retention equal to or greater than the break-even point. No portion of the proposed reforestation to be credited toward the Hammonds Promise Overlook Subdivision will be used for the Fulton Manor F.C.A. obligation.
- 9. There are no floodplains, steep slopes, streams, stream buffers, wetlands, wetland buffers, historic structures or sites, cemeteries, specimen tree or critical habitats within the area impacted by the proposed planting.

Offsite Planting Area Existing Condition Note:

As was reported in the July 2006 Forest Stand Delineation report for the Fulton Manor II project, "The subject property is currently utilized as a residential/agricultural property. A residence and barn complex are located in the southeastern portion of the site, along Pleasant View Drive. The home is surrounded by a maintained lawn area that contains numerous trees and ornamental species. Notable landscape and ornamental trees include Norway maple, white pine, spruce. Several of these trees are specimen sized. The fields surrounding the house area are used for crop production. At the time of our field visit the fields had been most recently utilized for corn production."

The proposed offsite reforestation area for Hammond's Promise Overlook project will occur within agricultural lands. A mixed hedgerow is present along the property limits on the western edge of the planting zone. Typical vegetation within the hedge includes black red cedar, red maple and flowering dogwood. The hedgerow occurs primarily on the adjacent property and is not of sufficient size to be considered forest.

#### PLANTING/50IL SPECIFICATIONS

- 1. PLANTING OF NURSERY STOCK SHALL TAKE PLACE BETWEEN MARCH 15th. AND APRIL 30th. OR SEPTEMBER 15th. AND NOVEMBER 15th.
- 2. A TWELVE (12) INCH LAYER OF TOPSOIL SHALL BE SPREAD OVER ALL FORESTATION AREAS IMPACTED BY SITE GRADING TO ASSURE A SUITABLE PLANTING AREA. DISTURBED AREAS SHALL BE SEEDED AND STABILIZED AS PER GENERAL CONSTRUCTION PLAN FOR PROJECT. PLANTING AREAS NOT IMPACTED BY SITE GRADING SHALL HAVE NO ADDITIONAL TOPSOIL INSTALLED.
- 3. ALL BAREROOT PLANTING STOCK SHALL HAVE THEIR ROOT SYSTEMS DIPPED INTO AN ANTI-DESICCANT GEL PRIOR TO PLANTING.
- 4. PLANTS SHALL BE INSTALLED SO THAT THE TOP OF ROOT MASS IS LEVEL WITH THE TOP OF EXISTING GRADE. BACKFILL IN THE PLANTING PITS SHALL CONSIST OF 3 PARTS EXISTING SOIL TO 1 PART PINE FINES
- 5. FERTILIZER SHALL CONSIST OF AGRIFORM 22-8-2, OR EQUIVALENT, APPLIED AS PER MANUFACTURER'S SPECIFICATIONS. 6. A TWO (2) INCH LAYER OF HARDWOOD MULCH SHALL BE PLACED OVER THE ROOT AREA OF ALL PLANTINGS.
- 7. PLANT MATERIAL SHALL BE TRANSPORTED TO THE SITE IN A TARPED OR COVERED TRUCK. PLANTS SHALL BE KEPT MOIST PRIOR TO PLANTING.
- 8. ALL NON-ORGANIC DEBRIS ASSICIATED WITH THE PLANTING OPERATION SHALL BE REMOVED FROM THE SITE BY THE CONTRACTOR.

#### SEQUENCE OF CONSTRUCTION

- 1. SEDIMENT CONTROL AND TREE PROTECTION DEVICES SHALL BE INSTALLED IN ACCORDANCE WITH GENERAL CONSTRUCTION PLAN FOR SITE. SITE SHALL BE GRADED IN ACCORDANCE WITH GENERAL CONSTRUCTION PLANS. 2. PROPOSED FORESTATION AREAS IMPACTED BY SITE GRADING SHALL BE TOPSOILED AND STABILIZED AS PER NOTE NO. 2 OF PLANTING/SOIL SPECIFICATIONS FOR PROJECT.
- 3. PLANTS SHALL BE INSTALLED AS PER PLANT SCHEDULE AND THE PLANT STORE SPECIFICATIONS FOR THE PROJECT. 4. UPON COMPLETION OF THE PLANTING, SIGNAGE SHALL BE INSTALLED AS PER THE FOREST PROTECTION DEVICES SHOWN ON THE FOREST CONSERVATION PLAN.
- 5. PLANTINGS SHALL BE MAINTAINED AND GUARANTEED IN ACCORDANCE WITH THE MAINTENANCE AND GUARANTEE REQUIREMENTS FOR PROJECT.

#### MAINTENANCE OF PLANTINGS

- 1. MAINTENANCE OF PLANTINGS SHALL LAST FOR A PERIOD OF 26 MONTHS. 2. ALL PLANT MATERIAL SHALL BE WATERED TWICE A MONTH DURING THE 1st. GROWING SEASON. WATERING MAY BE MORE OR LESS FREQUENT DEPENDING IN WEATHER CONDITIONS. DURING 2nd. GROWING SEASON, ONCE A MONTH DURING
- MAY-SEPTEMBER, IF NEEDED.
- 3. INVASIVE EXOTICS AND NOXIOUS WEEDS WILL BE REMOVED FROM FORESTATION AREAS. OLD FIELD SUCCESSIONAL SPECIES WILL BE RETAINED.
- 4. PLANTS WILL BE EXAMINED A MINIMUM TWO TIMES DURING THE GROWING SEASON FOR SERIOUS PLANT PESTS AND

#### DISEASES. SERIOUS PROBLEMS WILL BE TREATED WITH THE APPROPRIATE AGENT. 5. DEAD BRANCHES WILL BE PRUNED FROM PLANTINGS.

#### GUARANTEE REQUIREMENTS

1. A 75 PERCENT SURVIVAL RATE OF FORESTATION PLANTINGS WILL BE REQUIRED AT THE END OF THE 24 MONTH MAINTENANCE PERIOD. ALL PLANT MATERIAL BELOW THE 75 PERCENT THRESHOLD WILL BE REPLACED AT THE BEGINNING OF THE NEXT GROWING SEASON.

#### SURETY FOR FORESTATION

- 1. THE DEVELOPER SHALL POST A SURETY (BOND, LETTER OF CREDIT) TO ENSURE THAT FORESTATION PLANTINGS ARE COMPLETED. UPON ACCEPTANCE OF THE PLANTINGS BY THE COUNTY, THE BOND SHALL BE RELEASED.
- 2. SURETY FOR OFF-SITE AFFORESTATION 0.0 ACRES (43,560 SF/ACRE  $\times$  \$0.50/SF = \$17,424.00). POSTED WITH THE DEVELOPER'S AGREEMENT FOR HAMMONDS PROMISE OVERLOOK (SDP 06-150).

#### HAMMOND'S PROMISE OVERLOOK-OFFSITE PLANTING SCHEDULE

FCE- HAMMONDS PROMISE OVERLOOK # 1 - 0.8 acres Planting units Provided: 575

Qty	Species	Size	Spacing		
10	Acer rubrum - Red maple	2" cat.	20' o.c.		
10	Fraxinus americana - White ash	2" cal.	20' o.c.		
15	Liriodendron tulipifera - Tulip poplar	2" cal.	20' o.c.		
10	Quercus alba - White oak	2" cal.	20' o.c.		
45					
25	Acer rubrum - Red maple	2-3' whip	11' o.c.		
20	Diospyros virginiana - Persimmon	2-3' whip	11' o.c.		
20	Liriodendron tulipifera - Tulip poplar	2-3' whip	11' o.c.		
20	Nyssa sylvatica - Black gum	2-3' whip	11' o.c.		
20	Prunus serotina - Black cherry	2-3' whip	11' o.c.		
25	Viburnum prunifolium - Blackhaw	2-3' whip	11' o.c.		
130					

Planting density based spacing requirements: 2" caliper trees @ 20" on center, 1" caliper trees @ 15" on center,

2' caliper trees should be staggered along the eastern perimeter of the planting area to serve as demarcation of the boundary. The trees should be no closer than 15 foot spacing. The western boundary of the planting area

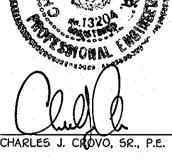
Planting may be made in a curvilinear fashion along contour. The planting should avoid a grid appearance but should be epaced to facilitate maintenance

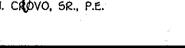
Multiflora rose/heavy brush removal/control may be required prior to installation of planting. All whips are required to be installed with tree shelters per Howard County FCA requirements.

Planting units defined by the spacing requirements established in the FCA Manual. One plant unit is defined as 1 seedling or whip without shelter. The Manual states that 700 seedlings/whips without shelters are required per acre, or 350 whips wishelters, or 200 1" caliper trees, or 100 2" caliper trees. By conversion it has been determined that a seeding or whip without shelter = 1 unit, whip with shelter = 2 units, 1"caliper tree = 3.5 units and 2" caliper tree =7 units. The use of plant units simplifies the plant density calculations when mixing stock



"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. 13204, Expiration Date: November 3, 2010."





REFORESTATION NOTES

HAMMONDS PROMISE OVERLOOK U-02-09 Date 9/25/09

LOTS 1 THRU 15, 17 THRU 19, OPEN SPACE LOT 20 TAX MAP No. 40 GRID No. 6 PARCEL No. 205

FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND SCALE: AS SHOWN DATE: AUG. 12, 2009

FISHER, COLLINS & CARTER, INC. CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS MIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE ELLICOTT CITY, MARYLAND 21042 Eco-Science Professionals, Inc. CONSULTING ECOLOGISTS MD DNR Qualified Professional USACOE Wetland Delineator Certification & WDCP93MD0610044B

JOHN P. CANOLES

Revised Title Block DATE

MR. OTHA D. UPCHURCH 457 OLD ORCHARD CIRCLE

410-987-4990

DEVELOPER E.T.C. PARTNERSHIP

410-461-2855

10272 BALTIMORE NATIONAL PIKE ELLICOTT CITY, MARYLAND 21042

PARCEL NO FULTON MANOR II 205 PLAT REF. NO. BLOCK NO. | ZONE | TAX/ZONE | ELEC. DIST. CENSUS TR. RR-DEO 6051.02 40 WATER CODE SEWER CODE

APPROVED: DEPARTMENT OF PLANNING AND ZONING

MILLERSVILLE, MARYLAND 21108

SHEET 22 OF 22 SDP 06-158