GENERAL NOTES PROJECT BACKGROUND: - SECTION/AREA LOT/PARCEL ZB/BA REFERENCE ELECTION DISTRIC COORDINATE TABLE TOTAL (GROSS) TRACT AREA 3.0654 ACRES - AREA OF R/W TRANSFER - SECTION/AREA 58 RESIDENTIAL APSARTMENT UNITS 2.5217 ACRES± (3.0654 SITE-0.475 ENV.-0.0687 ROW=2.5217 AC.) 101 | 564593.37 | 1395667.64 NUMBER OF PROPOSED UNITS - NET AREA OF PROJECT 102 | 564565.89 | 1395669.40 AREA OF PROPOSED R/W - OPEN SPACE REQ. 0.96 ACRES± WATER CONTRACT NO. 44-3126 SEWER CONTRACT NO. 22-S GREEN AREA PROVIDEDPUBLIC WATER & SEWER 105 | 564005.97 | 1395474.19 564087.41 1395417.92 IN CONFORMANCE WITH THE LATEST HOWARD COUNTY STANDARDS UNLESS WAIVERS HAVE BEEN APPROVED. THE PROJECT ARE IN CONFORMANCE WITH THE LATEST HOWARD COUNTY STANDARDS UNLESS WAIVERS HAVE 108 | 564394.98 | 1395457.90 109 | 564491.04 | 1395167.49 IE CONTRACTOR IS TO NOTIFY THE FOLLOWING UTILITIES OR AGENCIES AT LEAST FIVE DAYS BEFORE STARTING WORK ON THESE DRAWINGS: HOWARD COUNTY BUREAU OF UTILITIES: AT&T CABLE LOCATION DIVISION: - 410-850-4620 - 410-787-4620 UNDERGROUND DAMAGE CONTROL: THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION AT (410) 313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO START OF WORK. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK. THE SUBJECT PROPERTY IS ZONED CAC-CLI IN ACCORDANCE WITH THE 10/6/13 ZONING REGULATIONS, AND IS SUBJECT TO THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS EFFECTIVE 10/2/03 PER COUNCIL BILL 75-2003. DEVELOPMENT OR CONSTRUCTION OF THESE LOTS MUST COMPLY WITH SETBACK AND BUFFER REGULATIONS IN EFFECT AT THE TIME OF SUBMISSION OF THE SITE DEVELOPMENT PLAN, ALTERNATIVE COMPLIANCE REQUEST, OR BUILDING AND GRADING PERMITS. THE PROJECT BOUNDARY IS BASED ON A BOUNDARY SURVEY PREPARED BY ROBERT H. VOGEL ENGINEERING, INC., DATED DECEMBER 19, 2017. THE EXISTING TOPOGRAPHY SHOWN HERON IS BASED ON A TOPOGRAPHIC SURVEY PREPARED BY ROBERT H. VOGEL ENGINEERING, INC., DATED DECEMBER 19, 2017. THE COORDINATES SHOWN HERON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATEPLANE COORDINATE SYSTEM. HOWARD COUNTY MONUMENT NOS. 38BM4 AND 38BM5 WERE USED FOR THIS PROJECT. THIS PLAN IS SUBJECT TO THE AMENDED FIFTH EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS. DEVELOPMENT OR CONSTRUCTION OF THESE LOTS MUST COMPLY WITH SETBACK AND BUFFER REGULATIONS IN EFFECT AT THE TIME OF SUBMISSION OF THE SITE DEVELOPMENT PLAN, ALTERNATIVE COMPLIANCE REQUEST, OR BUILDING AND GRADING PERMITS. THIS PROPERTY IS LOCATED WITHIN THE METROPOLITAN DISTRICT. WATER FOR THIS PROJECT IS TO BE A PUBLIC EXTENTION OF EXISTING PUBLIC WATER. (CONTRACT #14-5079-D) THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION AT WATER FOR THIS PROJECT IS TO BE A PUBLIC EXTENTION OF EXISTING PUBLIC WATER. (CONTRACT #14-5079-D) SEWER FOR THIS PROJECT IS TO BE A PRIVATE EXTENTION OF EXISTING PUBLIC SEWER. (CONTRACT #14-5079-D) EXISTING UTILITIES WERE LOCATED BY A FIELD SURVEY BY VOGEL ENGINEERING, INC. DATED DECEMBER, 19, 2017, AND SUPPLEMENTED WITH AS-BUILT RECORD DRAWINGS AND COUNTY GIS. CONTRACTOR SHALL LOCATE EXISTING UTILITIES WELL IN ADVANCE OF CONSTRUCTION ACTIVITIES AND TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND TO MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED DUE TO CONTRACTOR'S OPERATION SHALL BE REPAIRED IMMEDIATELY AT THE THE EXISTING UTILITIES AND TO MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED DUE TO CONTRACTOR'S OPERATION SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S SPENSE. 1. HERE IS AN AREA OF "100 YEAR FLOODPLAIN" LOCATED WITHIN THE DEVELOPMENT AREA AS PER FEMA DFIRM MAPS AND ELEVATIONS APPROVEDBY FEMA AND EFFECTIVE FOR COUNTY DEVELOPMENT RESTRICTIONS AS OF MAY 6, 2013. THE FLOODPLAIN WILL REMAIN UNDISTURBED WITH THE EXCEPTION OF A NECESARY OUTFALL FOR STORMWATER MANAGMENT, REMOVAL OF EXISTING PAVING AND NECESSARY GRADING TO RESTORE PAVED AREAS TO NATURAL CONDITION. 8. AREA OF MODERATE SLOPES (15% 2-49.98%) 2-0,000 S.F. CONTIGUOUS = 0 S.F. OR 0.00 AC. AREA OF SIEEP SLOPES (25% & GREATER) > 20,000 S.F. CONTIGUOUS = 0.00 AC. AREA OF MODERATE SLOPES (25% & GREATER) > 20,000 S.F. CONTIGUOUS = 0.00 AC. AREA OF SIEEP SLOPES (25% & GREATER) > 20,000 S.F. CONTIGUOUS = 0.00 AC. AREA OF MODERATE SLOPES (15% & GREATER) > 20,000 S.F. CONTIGUOUS = 0.00 AC. AREA OF SIEEP SLOPES (25% & GREATER) > 20,000 S.F. CONTIGUOUS = 0.00 AC. AREA OF SIEEP SLOPES (25% & GREATER) > 20,000 S.F. CONTIGUOUS = 0.00 AC. AREA OF MODERATE SLOPES (15% & GREATER) > 20,000 S.F. CONTIGUOUS = 0.00 AC. AREA OF MODERATE SLOPES (15% & GREATER) > 20,000 S.F. CONTIGUOUS = 0.00 AC. AREA OF MODERATE SLOPES (15% & GREATER) > 20,000 S.F. CONTIGUOUS = 0.00 AC. AREA OF MODERATE SLOPES (15% & GREATER) > 20,000 S.F. CONTIGUOUS = 0.00 AC. AREA OF STEEP SLOPES (15% & GREATER) > 20,000 S.F. CONTIGUOUS = 0.00 AC. AREA OF MODERATE SLOPES (15% & GREATER) > 20,000 S.F. CONTIGUOUS = 0.00 AC. AREA OF MODERATE SLOPES (15% & GREATER) > 20,000 S.F. CONTIGUOUS = 0.00 AC. AREA OF STEEP SLOPES (15% & GREATER) > 20,000 S.F. CONTIGUOUS = 0.00 AC. AREA OF MODERATE SLOPES (15% & GREATER) > 20,000 S.F. CONTIGUOUS = 0.00 AC. AREA OF THE PROPOSES OF A RESERVOIL SLOPE AREA OF THE PROPOSES OF A RESERVOIL SLOPE AREA OF THE PROPOSES OF A NECESSARY STORM DATE AND THE REPARABLE SLOPES (15% ACCOUNTY OF A SCIENT STORM STEEP SLOPE SLOPES (15% ACCOUNTY OF A SCIENT STORM STEEP SLOPES (15% ACCOU DEVELOPMENT AREA. ALL EXISTING STRUCTURES WITHIN THE DEVELOPMENT AREA SHALL BE DEMOLISHED AND REMOVED. THE PROPOSED BUILDINGS SHALL HAVE AN AUTOMATIC FIRE PROTECTION SPRINKLER SYSTEM. THIS SITE QUALIFIES AS REDEVELOPMENT. STORMWATER MANAGEMENT FOR THE PROJECT IS PROVIDED BY THE USE OF NON-STRUCTURAL AND MICRO-SCALE PRACTICES IN ACCORDANCE WITH ENVIRONMENTAL SITE DESIGN CRITERIA. MICRO-SCALE PRACTICES INCLUDE TWO (2) MICRO-SCALE PRACTICES IN ACCORDANCE WITH ENVIRONMENTAL SITE DESIGN CRITERIA. MICRO-SCALE PRACTICES INCLUDE TWO (2) MICROBIORETENTION FACILIES (M-6). THESE FACILITIES WILL BE PRIVATELY OWNED AND MAINTAINED. HYDRIC SOILS ARE PRESENT ONSITE. IN ACCORDANCE WITH SECTION 128.0 OF THE HOWARD COUNTY ZONING REGULATIONS, BAY WINDOWS, CHIMNEYS OR EXTERIOR STAIRWAYS NOT MORE THAN 16 FEET IN WIDTH MAY PROJECT NOT MORE THAN 4 FEET INTO ANY SETBACKS. PORCHES, OR DECKS, OPEN OR ENCLOSED MAY PROJECT NOT MORE THAN 10 FEET INTO THE FRONT OR REAR YARD SETBACK. DRIVEWAYS SHALL BE PROVIDED PRIOR TO ISSUANCE OF A USE AND OCCUPANCY PERMIT FOR ANY NEW DWELLINGS TO INSURE SAFE ACCESS FOR FIRE AND EMERGENCY VEHICLES PER THE FOLLOWING MINIMUM REQUIREMENTS: WIDTH — 12' (16' IF SERVING MORE THAN ONE RESIDENCE). SURFACE — 6° OF COMPACTED CRUSHER RUN BASE WITH TAR AND CHIP COATING (1-1)" MIN.) GEOMETRY — MAX. 15% GRADE, MAX 10% GRADE CHANGE AND MIN. 45' TURNING RADIUS STRUCTURE (CULVERTS/BRIDGES) — CAPABLE OF SUPPORTING 25 GROSS TONS (H25 LOADING) DRAINAGE ELEMENTS — SAFELY PASSING 100 YEAR STORM WITH NO MORE THAN 1 FOOT DEPTH OVER DRIVEWAY MAINTENTANCE - SUFFICIENT TO INSURE ALL WEATHER USE PUBLIC STREET TREES ARE PROVIDED FOR THIS PROJECT IN ACCORDANCE WITH SECTION 16.124(E)(1) OF THE SUBDIVISION REGULATIONS AND THE LANDSCAPE MANUAL UNDER THIS PLAN. THERE IS NO FINAL PLAN ASSOCIATED WITH THIS PROJECT. FINANCIAL SURETY IN THE AMOUNT OF \$2,100 SHALL BE POSTED AS PART OF THE SITE DEVELOPMENT PLAN DEVELOPER'S AGREEMENT FOR THE REQUIRED 7 STREET TREES. THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY AND THE LANDSCAPE MANUAL. FINANCIAL SURETY IN THE AMOUNT OF (\$12,150,) SHALL BE POSTED AS PART OF THE SITE DEVELOPMENT PLAN DEVELOPER'S AGREEMENT FOR THE REQUIRED 39 SHADE TREES (\$11,700), 1 ORNAMENTAL TREES (\$150) AND 2 EVERGREENS (\$300). A TRAFFIC STUDY FOR THIS PROJECT WAS PREPARED BY THE TRAFFIC GROUP, INC., DATED NOVEMBER 29, 2017. RESULTS OF THE STUDY SHOW THAT THE KEY INTERSECTION IN THIS STUDY, THE INTERSECTION OF ROUTE 1 AND MONTGOMERY ROAD, IS PROJECTED TO MAINTAIN ACCEPTABLE LEVEL OF THE KEY INTERSECTION IN THIS STUDY, THE INTERSECTION OF ROUTE 1 AND MONTGOMERY ROAD, IS PROJECTED TO MAINTAIN ACCEPTABLE LEVEL OF SERVICE OF "D" OR BETTER CONDITIONS DURING BOTH THE WEEKDAY MORNING AND EVENING PEAK HOURS. THEREFORE, THE PROPOSED DEVELOPMENT OF RIVERWATCH II SATISFIES HOWARD COUNTY ADEQUATE ROAD FACILITIES TEST EVALUATION REQUIREMENTS. NO GRADING, REMOVAL OF VEGETATIVE COVER OR TREES, PAVING AND NEW STRUCTURES SHALL BE PERMITTED WWITHIN THE LIMITS OF WETLANDS, STREAMS OR THEIR REQUIRED BUFFERS, FLOODPLAIN AND FOREST CONSERVATION AREAS. THE OFFICIAL PRE-SUBMISSION COMMUNITY MEETING WAS HELD FOR THIS PROJECT ON OCTOBER 16, 2017 AT MELVILLE CHAPEL UNITED METHODIST CHURCH, 5660 FUNRNACE AVENUE, ELKRIDGE, MD 21075. AN ENVIRONMENTAL CONCEPT PLAN (ECP-18-005) WAS APPROVED ON FEBRUARY 7, 2018. IN ACCORDANCE WITH SECTION 16.121(A)(4) OF THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS, THERE IS NO RECREATION OPEN SPACE REQUIREMENT FOR THIS CAC-CLI PROJECT. THE AMENITY AREA REQUIREMENT FOR THIS CAC-CLI PROJECT IS 10% OF NET AREA OR 0.25 AC., WHICHEVER IS GREATER. 13,787. x 0.10) =11,379 S.F. = 0.2612 AC > 0.25 AC *USE 0.2612 AC. TOTAL AMENITY AREA PLUS CREDITS PROVIDED = 33,999 S.F. OR 0.77 AC. E AMENITY REQUIREMENT IS BEING MET BY A 0.77 ACRE AMENITY AREA CONSISTING OF 0.51 ACRES OF LAND AREA, AS WELL AS ADDITIONAL CREDITS FOR FOR PICNIC AREAS, TOT LOT, SEATING AREAS PATHWAYS AND A GAZEBO. (SEE AMENITY TABULATION.) THE PROPOSED UNITS SHALL HAVE AN AUTOMATIC FIRE PROTECTION SPRINKLER SYSTEM. STORMWATER MANAGEMENT FOR THE PROJECT IS PROVIDED BY THE USE OF MICRO-SCALE PRACTICES IN ACCORDANCE WITH ENVIRONMENTAL SITE DESIGN CRITERIA. MICRO-SCALE PRACTICES INCLUDE TWO (2) MICRO-BIORETENTION FACILITIES. IN ACCORDANCE WITH DESIGN MANUAL-VOLUME 3, CHAPTER 2 — SECTION 2.9.B. PARKING IS REQUIRED AT TWO (2) SPACES PER UNIT OFF STREET PARKING TO INCLUDE GARAGE SPACE, DRIVEWAY, PARKING PAD AND COURTS. GARAGES COUNT AS A FULL SPACE. GUEST PARKING IS PROVIDED AT A RATE OF 0.3 SPACES PER APARTMENT UNIT. TOTAL PARKING SPACES REQUIRED: 147 SPACES. TOTAL PARKING SPACES PROVIDED: 144 SPACES (*SEE SHARED PARKING ADJUSTMENT TABULATION) *INCLUDES 5 HANDICAP SPACES: 2 GARAGE (IN UNITS 13/14) AND 3 SURFACE AT COMMERCIAL BUILDING. SEE PARKING TABULATION THIS SHEET. TRAFFIC CONTROL WILL BE PROVIDED FOR THE PROPOSED ROAD CONNECTION TO FURNACE AVENUE IN ACCORDANCE WITH THE LATEST MDMUTCD. A. MD-104.02-02 - SHOULDER WORK/2 LANE, 2 WAY - EQL/LESS THAN 40 MPH B. MD-104.02-10 - RIGHT LANE CLOSURE/2 LANE, 2 WAY - EQL/LESS THAN 40 MPH - FOR ALL STANDARDS REFERRED TO ON THIS PLAN THE CONTRACTOR MUST GO TO THE BOOK OF STANDARDS WHICH WILL HAVE THE MOST CURRENT VERSION. THE BOOK OF STANDARDS CAN BE ACCESSED AT: HTTP://APPS.ROADS.MARYLAND.GOV/BUSINESSWITHSHA/BIZZSTDSPECS/DESMANUALSTDPUB/UPUBLICATIONSONLINE/OHD/BOOKSTD/INDEX.ASP ALL ITEMS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT VERSION OF THE REFERENCED STANDARD AT THE TIME OF CONSTRUCTION. REFER TO DETAILS ON SHEET 2 OF THIS PLAN SET. TRAFFIC CONTROL DEVICES: L. TOTAL BUILDING COVERAGE WITHIN THE DEVELOPMENT AREA: 35,770 S.F. (0.82 AC. OR 28.72%) A. THE R1-1(STOP) SIGNS AND STREET NAME SIGN (SNS) ASSEMBLIES FOR THIS DEVELOPMENT MUST BE INSTALLED BEFORE THE BASE PAVING IS COMPLETE. B. THE TRAFFIC CONTROL DEVICE LOCATIONS SHOWN ON THE PLANS ARE APPROXIMATE AND MUST BE FIELD APPROVED BY HOWARD COUNTY TRAFFIC DIVISION (410-313-2430) PRIOR TO THE INSTALLATION OF ANY OF THE TRAFFIC CONTROL DEVICES. C. ALL TRAFFIC CONTROL DEVICES AND THEIR LOCATIONS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MARYLAND MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES' (MDMUTCD D. ALL SIGN POST USED FOR TRAFFIC CONTROL SIGNS INSTALLED IN THE COUNTY RIGHT-OF-WAY SHALL BE MOUNTED ON A 2" GALVANIZED STEEL, PERFORATED, ("QUICK PUNCH") SQUARE TUBE POST (14 GAUGE) INSERTED INTO A 2-%" GALVANIZED STEEL, PERFORATED, SQUARE TUBE SLEEVE (12 GAUGE - 3" LONG). THE ANCHOR SHALL NOT EXTEND MORE THAN TWO "QUICK PUNCH" HOLES ABOVE GROUND LEVEL. A GALVANIZED STEEL POLE CAP SHALL BE MOUNTED ON THE TOP TREET LIGHTING IS REQUIRED FOR THIS SITE IN ACCORDANCE WITH SECTION 16.135 OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS. STREET LIGHT PLACEMENT NO THE TYPE OF FIXTURES AND POLES SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME III, SECTION 5.5.A. A MINIMUM OF 20 FEET SHALL BE MAINTAINED BETWEEN ANY STREET LIGHT AND ANY TREE. 45. IN ACCORDANCE WITH SECTION 112.1.F OF THE 10/06/13 COMPREHENSIVE ZONING REGULATIONS, THIS SUBDIVISION IS SUBJECT TO MODERATE INCOME HOUSING UNITS. A MIHU AGREEMENT ANDMIHU COVENANTS WILL BE REQUIRED IN ACCORDANCE WITH SECTION 13.402 OF THE HOWARD COUNTY CODE. THE MIHU REQUIREMENTS FOR THIS TRASH AND RECYCLING COLLECTION SHALL BE PRIVATE. PROPOSED DECKS (IF APPLICABLE) SHALL BE 10' FROM UTILITY EASEMENTS. 3. ALL SURFACE HANDICAP PARKING SHALL BE T"REINFORCED CONCRETE SWM PRACTICE CHART PARCEL 782 (HOA) MODERATE INCOME HOUSING UNITS (MIHU) ALLOCATION EXEMPTIONS TRACKING ESD PRACTICES BY LOT TOTAL NUMBER OF LOTS/UNITS PROPOSED 58 LOT # ESD PRACTICE NUMBER OF MIHU REQUIRED NUMBER OF MIHU PROVIDED ONSITE PARCEL 782 TWO (2) MICROBIORETENTION FACILITIES (M-6) (exempt from APFO allocations) NUMBER OF APFO ALLOCATIONS REQUIRED (remaining lots/units) TOTAL COMMERICAL OFFICE SPACE: 3,839 S.F. MIHU FEE-IN-LIFU APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING (indicate lot/unit numbers) CHIEF, DEVELOPMENT ENGINEERING DIVISION 18 APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS

COUNTY HEALTH OFFICER

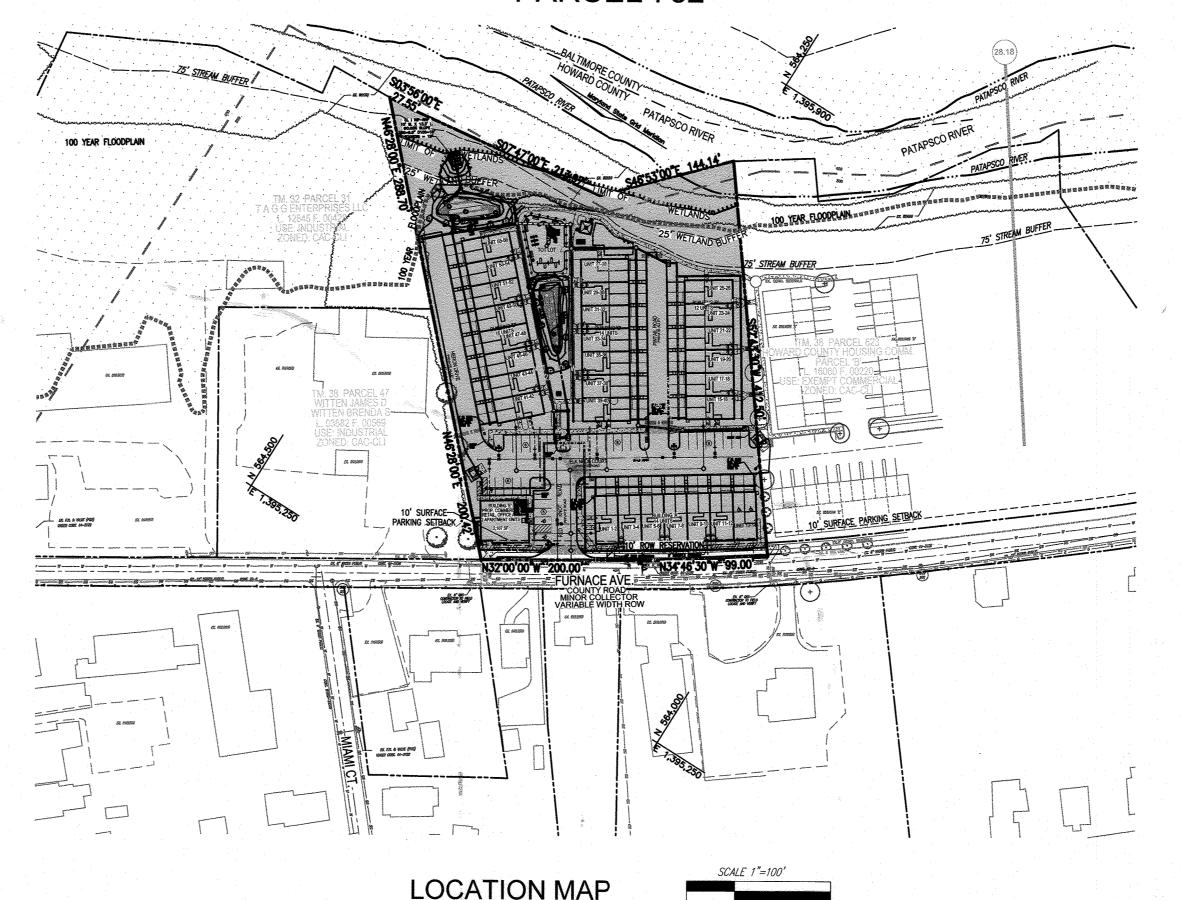
HOWARD COUNTY HEALTH DEPARTMENT H.O.

1-3-19

DIVISION OF LAND DEVELOPMENT AFF

SITE DEVELOPMENT PLAN RIVER WATCH II

5635-5659 FURNACE AVENUE PARCEL 782



SCALE: 1"=100'

RIV	ER WATC	H II - DENS	SITY TAB	ULATIO	N
TOTAL SUBDIVISION AREA (GROSS AREA)	FLOODPLAIN	STEEP SLOPES (>20,000 S.F.)	NET AREA	UNITS PERMITTED BY NET (25/AC.)	UNITS PROPOSED
3.0654 ACRES	0.3844 ACRES	0.00 ACRES	2.6809 AC.	67	58 APARTMENTS

SITE ANALYSIS DATA CHART

A. TOTAL PROJECT AREA / GROSS TRACT AREA: 133,528 S.F. OR 3.0654 AC. +/-PARCEL 1: 91,567 S.F. OR 2.1021 AC. PARCEL 2: 41,961 S.F. OR 0.9633 AC.

NON-BUILDABLE ENVIRONMENTAL AREAS: 16,747 S.F. OR 0.3844 AC. - NET TRACT AREA 116,781 S.F. OR 2.6809 AC. +/-

. AREA OF PLAN SUBMISSION: 124,533 S.F. OR 2.86 AC. +/- (INCLUDES OFFSITE DISTURBANCES)
. LIMIT OF DISTURBED AREA/DEVELOPMENT AREA: 124,533 S.F. OR 2.86 AC. +/- (INCLUDES OFFSITE DISTURBANCES) B. AREA OF PLAN SUBMISSION: PRESENT ZONING DESIGNATION: . PROPOSED USES FOR SITE AND STRUCTURES: APARTMENT RESIDENTIAL/COMMERICIAL OFFICE/AMENITY TOTAL NUMBER OF UNITS ALLOWED:

TOTAL NUMBER OF UNITS PROPOSED:

TOTAL NUMBER OF PARKING SPACES REQUIRED:

TOTAL NUMBER OF PARKING SPACES REQUIRED:

147 (SEE PARKING TABULATION THIS SHEET) TOTAL NUMBER OF PARKING SPACES PROVIDED:

F. TOTAL NUMBER OF UNITS ALLOWED: G. TOTAL NUMBER OF UNITS PROPOSED: INCLUDES 5 HANDICAP SPACES - 2 GARAGE, 3 SURFACE)

MENITY OPEN SPACE AREA PEOLIBER (40%) AMENITY OPEN SPACE AREA REQUIRED: (10% NET AREA or 0.25 AC., WHICHEVER IS GREATER)

(2.68 AC. \times 0.10) = 0.268 AC. \times 0.25 AC *USE 0.27 AC. AMENITY AREA PLUS CREDITS PROVIDED: 30,091 S.F. OR 0.69 AC. K. TOTAL SITE OPEN SPACE REQUIRED: (10% GROSS TRACT AREA)=133,528 S.F x 0.10=13,352 S.F.=0.3065 AC.± TOTAL SITE OPEN SPACE PROVIDED: 48,228 S.F. OR 1.1072 AC. ±

M. AREA OF WETLANDS AND BUFFERS:

N. STREAMS AND THEIR BUFFERS: O. AREA OF FLOODPLAIN: P. AREA OF FOREST:

Q. AREA OF MODERATE SLOPES (15% -24.99%) > 20,000 S.F. CONTIGUOUS: 0 S.F. OR 0.00 AC. R. AREA OF STEEP SLOPES (25% & GREATER) > 20,000 S.F. CONTIGUOUS: 0 S.F. OR 0.00 AC. S. ERODIBLE SOILS: 13,819 S.F. (0.32 AC.) T. TAX MAP 38, BLOCK 4, PARCEL 782 U. 1ST ELECTION DISTRICT V. DPZ FILE REFERENCES: CONTR.T #W108B-30335. CONTR. #22-S, CONTR. #44-3126, ECP-18-005 W. DEED/PLAT REFERENCES: L.07200/F.00336, L.07200/F.00375, L.06662/F.00378

X. LOCATION: EAST SIDE OF FURNACE AVENUE, SOUTH OF MIAMI COURT . PUBLIC ACCESS ROAD: FURNACE AVENUE Z. INTERIOR ROADS: PRIVATE ROADS AA. PAVING WITHIN THE DEVELOPMENT AREA: 49,530 SF (1.13 AC. OR 39.76%) BB. TOTAL PROPOSED IMPERVIOUS WITHIN DEVELOPMENT AREA: 85,300 S.F. (1.96 AC. OR 68.53%) ON-SITE:45,234.F. (1.04 AC. OR 34.67%)
WITHIN THE DEVELOPMENT AREA: 39,233 S.F. (0.901 AC. OR 31.49%) CC. GREEN OPEN AREA:

WETLAND-ONSITE: 6,591 S.F. OR 00.15 AC. WETLAND-WITHIN LOD: 0.00 S.F. OR 0.00 AC

WITHIN THE LOD: 4,259 S.F. OR 0.0978 AC.

ON-SITE: 16,747 S.F. OR 0.3844 AC. WITHIN THE LOD: 1,943 S.F. OR 0.446 AC.

ON-SITE: 12779 S.F. OR 0.2934 AC.

0.03 AC. (REFER TO FSD WORKSHEET)

BUFFER-ONSITE: 15,410 S.F. OR 0.35 AC. *INCLUDES WETLAND BUFFER-WITHIN LOD: 3,550 S.F. OR 0.0815 AC.

DD. MAXIMUM BUILDING HEIGHT: 40' EE. MINIMUM BUILDING HEIGHT: 25 FF. MIHU UNITS REQUIRED: 15% OF 58 UNITS = 9 UNITS GG. COMMERCIAL SPACE REQUIRED: 70 S.F./UNIT \times (0.85 \times 58 UNITS) = 3,451 S.F. 1ST FLOOR COMMERCIAL OFFICE SPACE: 2,012 S.F. 2ND FLOOR COMMERCIAL OFFICE SPACE: 1,827 S.F.

AS-BUILT CERTIFICATION FOR PSWM OF MARL I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN NARRIO WAS CONSTRUCTED AS SHOWN ON THE "AS-BUILT" PLANS AND COMPLIES WITH THE APPROVED PLANS AND SPECIFICATIONS. HAVE VERIFIED THAT THE CONTRIBUTING DRAINAGE AREA IS 3-2/ SUFFICIENTLY STABILIZED TO PREVENT CLOGGING OF THE UNDERGROUND SWM FACILITY,

AMENITY AREA TABULATION

SECTION 127.5.E.1.b AMENITY AREAS: CAC DEVELOPMENTS SHALL INCLUDE AN AMENITY AREA OR AREAS. NO AMENITY AREA SHALL BE SMALLER THAN 0.25 ACRES. THE AMENITY AREA SHALL INCLUDE SEATING AND TREES PROPORTIONAL TO THE SIZE OF THE AMENITY AREA. AMENITY AREAS SHALL BE CONNECTED BY PEDESTRIAN AND BICYCLE IMPROVEMENTS THAT LINK WITH EXISTING AND FUTURE CONNECTIONS TO SURROUNDING DEVELOPMENTS. IN ACCORDANCE WITH 16.121(B) OF THE CODE, ALL OR A PORTION OF THE OPEN SPACE AREA SHALL BE DEDICATED AND DEEDED WITHOUT CHARGE TO HOWARD COUNTY FOR RECREATION OR FOR PUBLIC USE, INCLUDING BUT NOT LIMITED TO COMMUNITY CENTERS AND LIBRARIES ALONG ROUTE 1. FOR CAC DEVELOPMENTS LESS THAN 20 ACRES, PROVIDE 10% OF THE NET ACREAGE AS OPEN SPACE WHICH MUST BE DESIGNED AS AN AMENITY AREA OPEN TO THE PUBLIC.

AMENITY OPEN SPACE AREA REQUIRED = 10% X NET AREA = 10% X 116,781.S.F = 11.678 S.F. = 0.268 AC0.268 AC. > 0.25 AC. *USE 0.27 AC. AMENITY AREA PROVIDED = LAND AREA = 19,111 SF OR 0.44 ACRES +/-* SECTION 16.121(A)(4) POLICY TO ALLOW CREDIT 1. $GAZEBO = 2,000 \text{ SF } \times 1 = 2,000 \text{ SF}$ BENCHES = 200 SF x 6 = 1,200 SF3. PICNIC TABLES WITH BENCHES = $500 \text{ SF}_{\odot} \text{X}$ 4 = 2,000 SF 4. TOT LOT/PLAYGROUND EQUIPMENT - 2,000 SF x 1 = 2,000 SF 4. SITE PATHWAY - 1,260 SF X 3 CREDIT = 3,780 SF RECREATIONAL AMENITIES CREDIT TOTALS: 10,980 SF TOTAL AMENITY LAND AREA + CREDITS PROVIDED = 30,091 SF OR 0.69 ACRES +/-DOG PARK TO REPLACE SAME ON RIVER WATCH I (826 S.F. NOT CREDITED)

FOREST CONSERVATION WORKSHEET

Date: August 9, 2017			
NET TRACT AREA	· · · · · · · · · · · · · · · · · · ·		1
ALT TOO TAKEA			Acres
A. Total tract area	·	······································	3.1
B. Area within 100 Year Floodplain			0.3
C. Area of existing impervious surfa	ce		2.7
D. Net Tract Area			0.1
LAND USE CATEGORY: (from table ARA MDR IDA HDR X E. Afforestation Threshold	MPD ČIA	anual)	
F. Conservation Threshold	(percentage)	20	0.0
. Ochservation Threshold	(percentage)	120	1 0.0
EXISTING FOREST COVER: G. Existing forest cover (excluding f	loodalaia)	· 	1. 0
H. Area of forest above afforestation			0
. Area of forest above anorestation			0
. Thea of forest above conservation	IIIICSIIVIU		
BREAK EVEN POINT:			NA
J. Forest retention above threshold	with no mitigation		
		Break-Even Point	
Clearing permitted without mitiga	tion		
PROPOSED FOREST CLEARING		-	
Total area of forest to be Cleared	or Retained Outsid	le FCE	0
M. Total area of forest to be Retaine			0
PLANTING REQUIREMENTS			
N. Reforestation for clearing above	Conservation Thres	shold	To
P. Reforestation for clearing below (Conservation Thres	hold	0

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		*SHAR	ED PARK	(ING TA	BULATIO	N	
USE		WEEKDAY WEEKEND			NIGHT		
SPACES	MORNING 6AM-8AM	MID-DAY 8AM-3PM	AFTERNOON 3PM-5PM	EVENING 5PM-MID	DAYTIME 6AM-6PM	EVENING 6PM-MID	MIDNIGHT- 6AM
OFFICE	80%	100%	100%	10%	10%	5%	5%
. 13	10.4	13	13	1.3	1.3	0.65	0.65
RESIDENTIAL	80%	60%	60%	100%	100%	100%	100%
134	107.2	80.4	80.4	134	134	134	134

PARKING PROVIDED IS IN ACCORDANCE WITH SECTION 133 OF THE HOWARD COUNTY ZONING REGULATIONS.

* BASED ON HOWARD COUNTY SHARED PARKING ADJUSTMENT, WEEKDAY 8:00 AM TO 5:00 PM. PARKING TABULATION:

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136

TOTAL NUMBER OF DWELLING UNITS PROPOSED . 5 OFF-STREET PARKING SPACES REQUIRED: 2 SPACES PER 58 UNITS = 116 SPACES MULTI-FAMILY (56 UNITS IN BUILDING A-D) 1 SPACE IN GARAGE = 56 SPACES (FOR 56 UNITS) 1 SPACE ON DRIVEWAY = 56 SPACES (FOR 56 UNITS)= 112 SPACES MULTI-FAMILY (ABOVE RETAIL) 2 SPACES/UNIT (FOR 2 UNITS) = 4 SPACES (LOCATED IN COMMON PARKING AREA) TOTAL RESIDENTIAL PARKING SPACES PROVIDED: = 116 SPACES OFF-STREET AREA OF PROPOSED OFFICE SPACE : 3,839 SF
OFFICE SPACES REQUIRED: 3.3 SPACES PER 1,000 SF = 13 SPACES TOTAL OFFICE PARKING SPACES PROVIDED: 13 SPACES VISTOR PARKING VISITORS PARKING SPACES REQUIRED: 0.3 SPACES PER SFD UNIT X 58 = 18 SPACES VISITOR OVERFLOW PARKING SPACES PROVIDED: = 18 SPACES (SEE PLAN, INCLUDES ON-STREET PARKING) TOTAL PARKING SPACES REQUIRED: 147 SPACES TOTAL PARKING SPACES PROVIDED: 144 SPACES (*SEE SHARED PARKING ADJUSTMENT TABULATION) *INCLUDES 5 HANDICAP SPACES: 2 GARAGE (IN UNITS 13/14) AND 3 SURFACE AT COMMERCIAL BUILDING

TOTAL REQUIRED 118 94

144

TOTAL PROVIDED 144

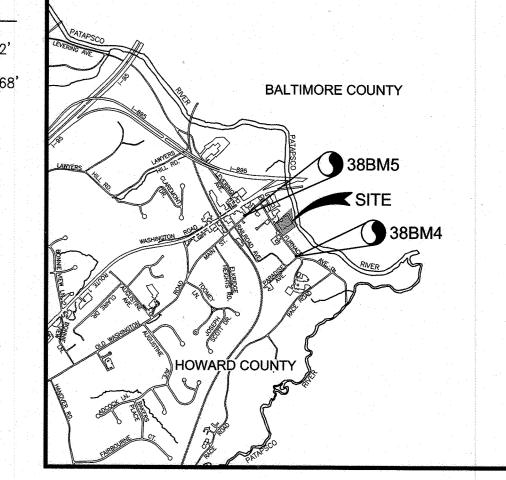
	PERMIT INF	ORMATIC	N CHA	RT	
,	SUBDIVISION RIVER WATCH II	NAME SDP-19-027		SECTION/ ARE	Α
LOT/ PARCELS LOTS 1 AND 2 /	PARCEL 782				
PLAT REF #	BLOCK NO Z	ZONE TAX MAP	ELECT DIST	CENSUS TR	(

WATER 44-3126-D / W-108B-30335 SEWER 22-S

BENCHMARKS

HOWARD COUNTY BENCHMARK 38BM4 N 563,602.10 E 1,395,768.99 ELEV.: 30.82' HOWARD COUNTY BENCHMARK 38BM5 N 564,441.00 E 1,394,694.00 ELEV.: 42.368'

A	DDRESS CHART
UNIT NO.	STREET ADDRESS
BUILDING A	5649 FURNACE AVENUE
1	5635-A FURNACE AVENUE
2	5635-B FURNACE AVENUE
4	5637—A FURNACE AVENUE
5	5637-B FURNACE AVENUE 5639-A FURNACE AVENUE
6	5639-B FURNACE AVENUE
7	5641-A FURNACE AVENUE
8	5641-B FURNACE AVENUE
9	5643-A FURNACE AVENUE
10	5643-B FURNACE AVENUE
11	5645-A FURNACE AVEENUE 5645-B FURNACE AVENUE
13	5647-A FURNACE AVENUE
14	5647-B FURNACE AVENUE
BUILDING B	5514 PINTAIL ROAD
15	5502-A PINTAIL ROAD
16	5502-B PINTAIL ROAD
17	5504—A PINTAIL ROAD
18	5504-B PINTAIL ROAD
20	5506-A PINTAIL ROAD 5506-B PINTAIL ROAD
21	5508-A PINTAIL ROAD
22	5508-B PINTAIL ROAD
23	5510-A PINTAIL ROAD
24	5510-B PINTAIL ROAD
25	5512-A PINTAIL ROAD
26	5512-B PINTAIL ROAD
BUILDING C	5515 PINTAIL ROAD
27 28	5513-A PINTAIL ROAD 5513-B PINTAIL ROAD
29	5511-A PINTAIL ROAD
30	5511-B PINTAIL ROAD
31	5509-A PINTAIL ROAD
32	5509-B PINTAIL ROAD
33	5507-A PINTAIL ROAD
34 35	5507-B PINTAIL ROAD
36	5505-A PINTAIL ROAD 5505-B PINTAIL ROAD
37	5503—A PINTAIL ROAD
38	5503-B PINTAIL ROAD
39	5501-A PINTAIL ROAD
40	5501-B PINTAIL ROAD
BUILDING D	5418 HERON DRIVE
41	5402-A HERON DRIVE
42	5402-B HERON DRIVE 5404-A HERON DRIVE
44	5404-B HERON DRIVE
45	5406-A HERON DRIVE
46	5406-B HERON DRIVE
47	5408-A HERON DRIVE
48	5408-B HERON DRIVE
49	5410 A HERON DRIVE
50 51	5410-B HERON DRIVE 5412-A HERON DRIVE
52	5412-A HERON DRIVE 5412-B HERON DRIVE
53	5414—A HERON DRIVE
54	5414-B HERON DRIVE
55	5416-A HERON DRIVE
56	5416-B HERON DRIVE
BUILDING E	5631 FURNACE AVENUE
57	5631 – A FURNACE AVENUE
58	5631-B FURNACE AVENUE



VICINITY MAP SCALE: 1"=2000' ADC MAP COORDINATES: 4937-G6

LEGEND	
=======================================	EXISTING CURB AND GUTTER
	EXISTING OVERHEAD UTILITIES
(S) s	EXISTING SANITARY MANHOLE EXISTING SANITARY LINE EXISTING VALVE
	EXISTING FIRE HYDRANT
BALTIMORE COUNTY	EXISTING WATER LINE EXISTING GAS LINE
HOWARD COUNTY	COUNTY LIMITS PROPERTY LINE
	RIGHT-OF-WAY LINE EXISTING TREELINE
	SITE AREA
	100 YEAR FLOODPLAIN

DESCRIPTION	SHEET N
COVER SHEET	1 OF 11
EXISTING CONDITIONS — DEMOLITION PLAN AND INITIAL GRADING, EROSION AND SEDIMENT CONTROL PLAN AND DRAINAGE MAP	2 OF 11
SITE LAYOUT PLAN AND PRIVATE SEWER PROFILES	3 OF 11
PROPOSED CONDITIONS — INTERMEDIATE AND FINAL GRADING, EROSION AND SEDIMENT CONTROL PLAN AND DRAINAGE MAP	4 OF 11
GRADING, EROSION AND SEDIMENT CONTROL NOTES AND DETAILS	5 OF 11
STORM DRAIN DRAINAGE AREA MAP	6 OF 11
PRIVATE STORM DRAIN PROFILES	7 OF 11
STORMWATER MANAGEMENT DRAINAGE AREA MAP	8 OF 11
SITE AND STORMWATER NOTES AND DETAILS	9 OF 11
LANDSCAPE PLAN AND DETAILS	10 OF 11
BUILDING DETAILS AND ELEVATIONS	11 OF 11

OWNER DEVELOPER VBH LLC J. KIRBY DEVELOPMENT, LLC 9113 BRAE BROOKE DRIVE C/O JEFF KIRBY, PRESIDENT LANHAM, MD 20706 5670 B FURNACE AVENUE ELKRIDGE, MD 21075 (410) 788-0027 TO REVISE PLANS TO MATCH THE BUILDING PERMIT PLANS 11-4-19

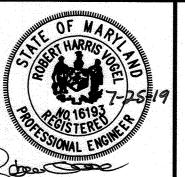
SITE DEVELOPMENT PLAN

COVER SHEET

RIVER WATCH II 5635-5659 FURNACE AVENUE

TAX MAP 38 GRID 04 1ST ELECTION DISTRICT ZONED: CAC-CLI HOWARD COUNTY, MARYLAN

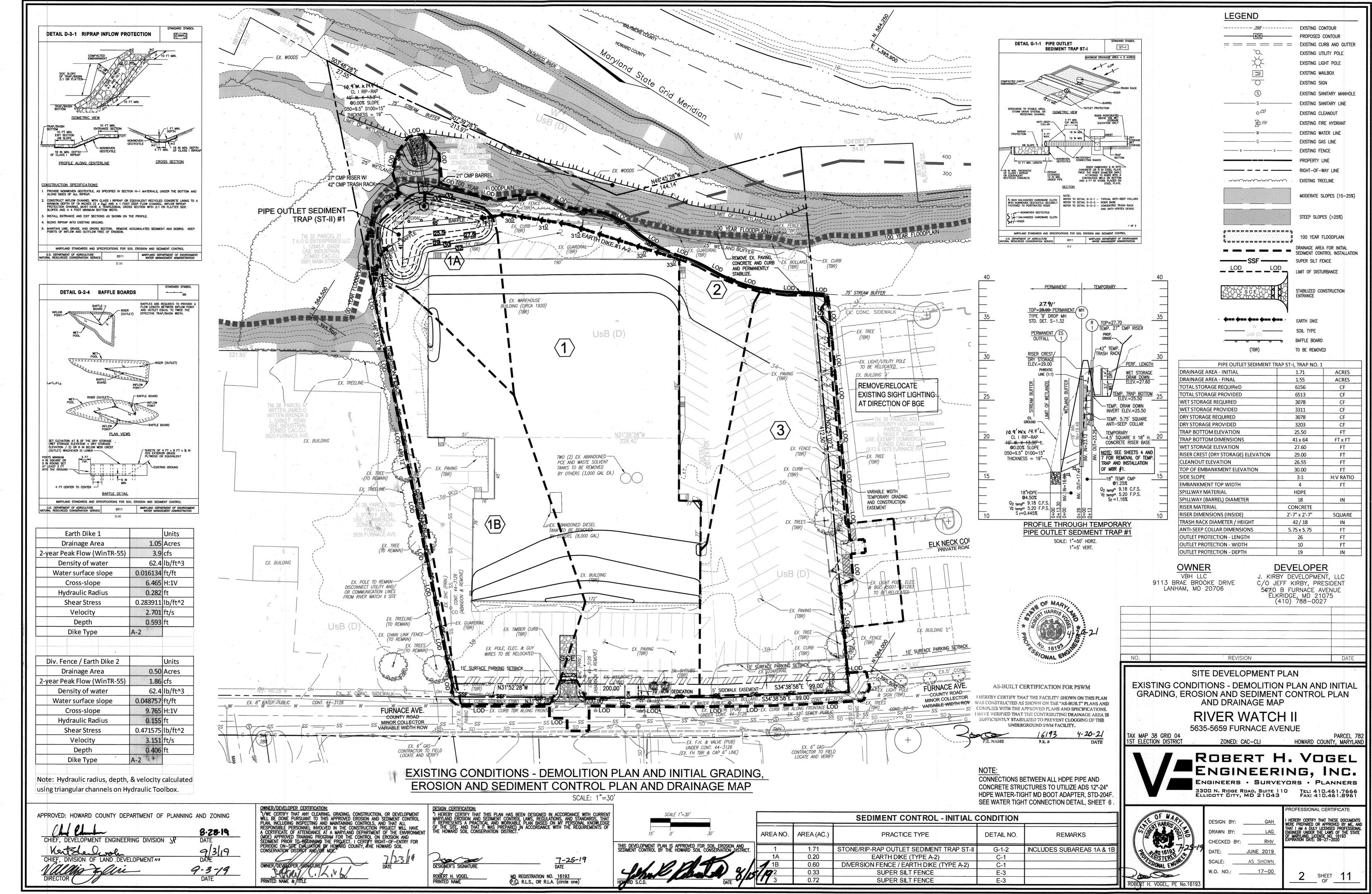




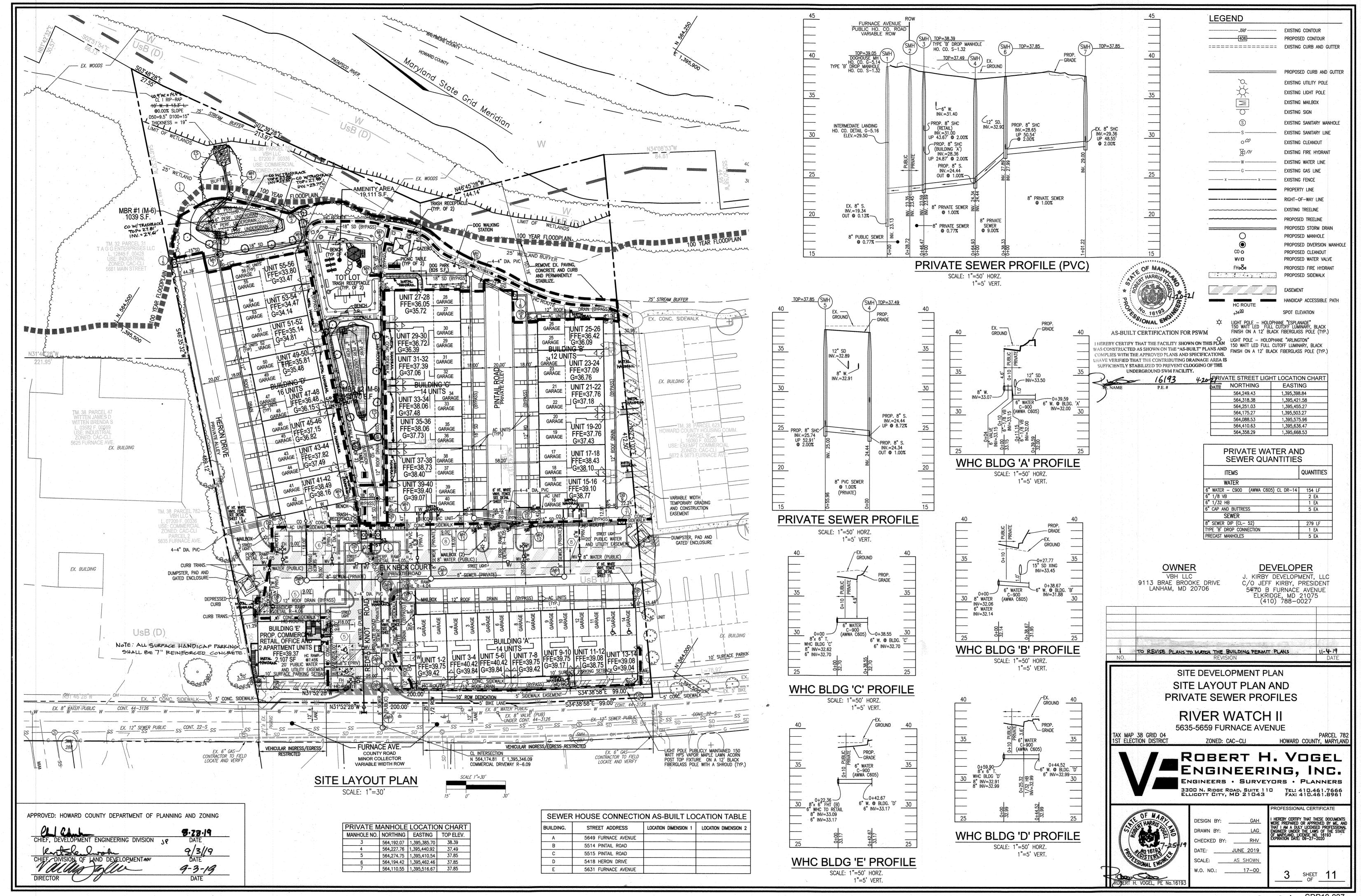
ROBERT H. VOGEL, PE No.1619

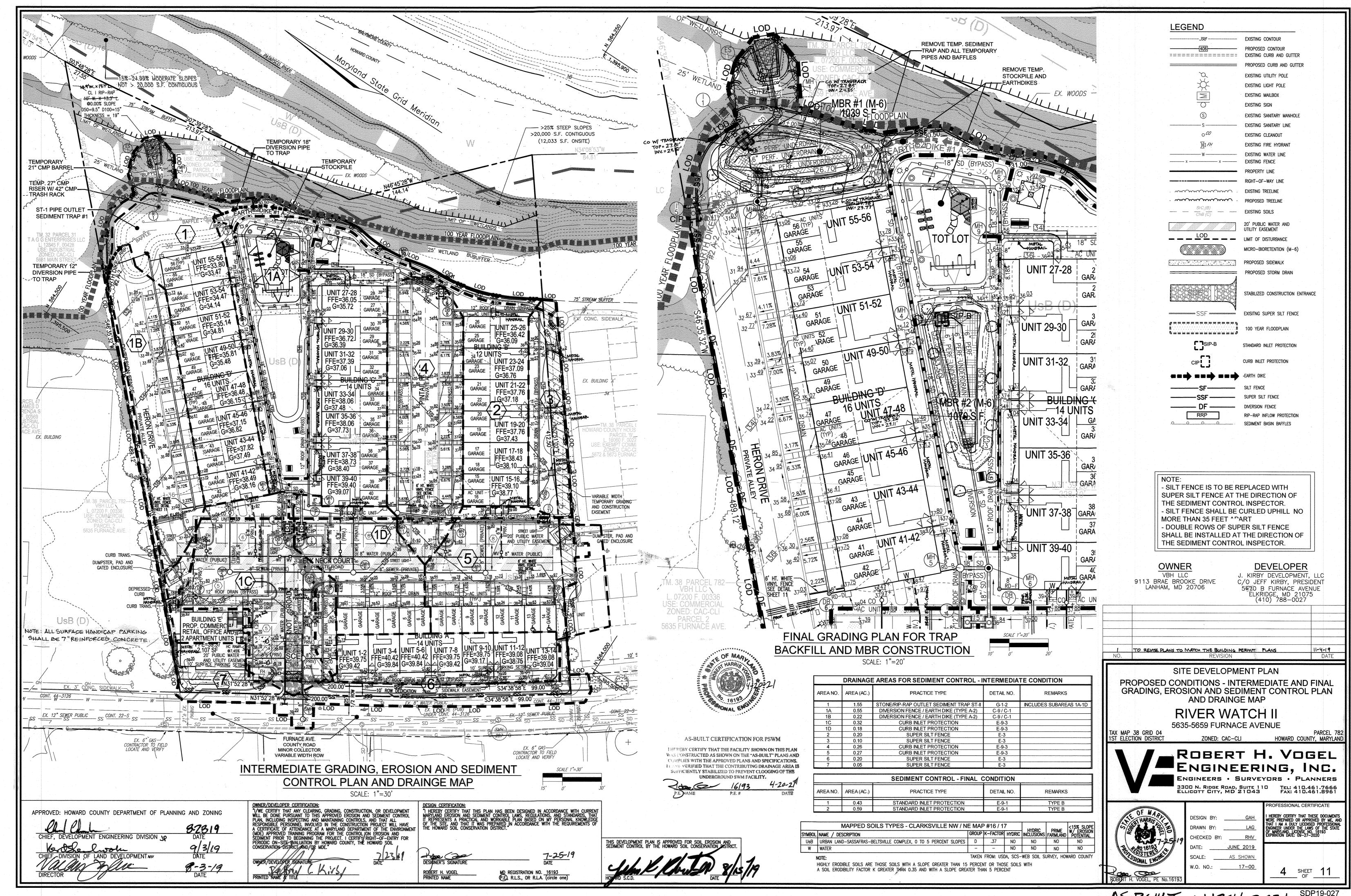
DESIGN BY:	GAH
DRAWN BY:	LAG
CHECKED BY:	RHV
DATE:	JUNE 2019
SCALE:	AS SHOWN
W.O. NO.:	17-00

HEREBY CERTIFY THAT THESE DOCUMENTS VERE PREPARED OR APPROVED BY ME, AND HAT I AM A DULY LICENSED PROFESSIONAL NGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 16193 XPIRATION DATE: 09-27-2020 SHEET 11 OF _____



AS-BUILT, MARCH 2021 SDP19-027





HOWARD SOIL CONSERVATION DISTRICT (HSCD) STANDARD SEDIMENT CONTROL NOTES A PRE-CONSTRUCTION MEETING MUST OCCUR WITH THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

CONSTRUCTION INSPECTION DIVISION (CID), 410-313-1855 AFTER THE FUTURE LOD AND PROTECTED AREAS ARE MARKED CLEARLY IN THE FIELD. A MINIMUM OF 48 HOUR NOTICE TO CID MUST BE GIVEN AT THE ARE MARKED CLEARLY IN THE FIELD. A MINIMUM OF 48 HOUR NOTICE TO CID MUST BE GIVEN AT THE FOLLOWING STAGES:

A. PRIOR TO THE START OF EARTH DISTURBANCE,
B. UPON COMPLETION OF THE INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING,
C. PRIOR TO THE START OF ANOTHER PHASE OF CONSTRUCTION OR OPENING OF ANOTHER GRADING UNIT,
D. PRIOR TO THE REMOVAL OR MODIFICATION OF SEDIMENT CONTROL PRACTICES. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE. OTHER RELATED STATE AND FEDERAL PERMITS SHALL BE REFERENCED, TO ENSURE COORDINATION AND TO AVOID CONFLICTS WITH THIS PLAN.
ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, AND REVISIONS THERETO.
FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION IS REOUIRED WITHIN THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER CONTROLS, DIKES,

FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION IS REQUIRED WITHIN THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER CONTROLS, DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1); AND SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED AREAS ON THE PROJECT SITE EXCEPT FOR THOSE AREAS UNDER ACTIVE GRADING.
ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR TOPSOIL (SEC. B-4-2), PERMANENT SEEDING (SEC. B-4-5), TEMPORARY SEEDING (SEC. B-4-4) AND MULCHING (SEC. B-4-3). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE APPLIED BETWEEN THE FALL AND SPRING SEEDING DATES IF THE GROUND IS FROZEN. INCREMENTAL TABILIZATION

(SEC. B-4-1) SPECIFICATIONS SHALL BE ENFORCED IN AREAS WITH >15' OF CUT AND/OR FILL. STOCKPILES (SEC. B-4-8) IN EXCESS OF 20 FT. MUST BE BENCHED WITH STABLE OUTLET. ALL CONCENTRATED FLOW, STEEP SLOPE, AND HIGHLY ERODIBLE AREAS SHALL RECEIVE SOIL STABILIZATION MATTING (SEC. B-4-6). ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE, AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE CID. SITE ANALYSIS:

OFFSITE WASTE/BORROW AREA LOCATION

ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.

ADDITIONAL SEDIMENT CONTROL MUST BE PROVIDED, IF DEEMED NECESSARY BY THE CID. THE SITE AND ALL CONTROLS SHALL BE INSPECTED BY THE CONTRACTOR WEEKLY; AND THE NEXT DAY AFTER EACH RAIN EVENT. A WRITTEN REPORT BY THE CONTRACTOR, MADE AVAILABLE UPON REQUEST, IS PART OF EVERY INSPECTION AND SHOULD BE THE CONTRACTOR, MADE AVAILABLE UPON REQUEST, IS PART OF EVERY INSPECTION * INSPECTION TYPE (ROUTINE, PRE-STORM EVENT, DURING RAIN EVENT)
* NAME AND TITLE OF INSPECTOR

* WEATHER INFORMATION (CURRENT CONDITIONS AS WELL AS TIME AND AMOUNT OF LAST RECORDED PRECIPITATION) LAST RECORDED PRECIPITATION)

* BRIEF DESCRIPTION OF PROJECT'S STATUS (E.G., PERCENT COMPLETE) AND/OR CURRENT ACTIVITIES

* EVIDENCE OF SEDIMENT DISCHARGES

* IDENTIFICATION OF PLAN DEFICIENCIES

* IDENTIFICATION OF SEDIMENT CONTROLS THAT REQUIRE MAINTENANCE

* IDENTIFICATION OF MISSING OR IMPROPERLY INSTALLED SEDIMENT CONTROLS

* COMPLIANCE STATUS REGARDING THE SEQUENCE OF CONSTRUCTION AND STABILIZATION REQUIREMENTS

* MONITORING/SAMPLING * MAINTENANCE AND/OR CORRECTIVE ACTION PERFORMED * OTHER INSPECTION ITEMS AS REQUIRED BY THE GENERAL PERMIT FOR STORMWATER * OTHER INSPECTION TIEMS AS REQUIRED BY THE GENERAL PERMIT FOR STORMWATER

ASSOCIATED WITH CONSTRUCTION ACTIVITIES (NPDES, MDE).

TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH CAN AND SHALL BE BACK-FILLED AND STABILIZED BY THE END OF EACH WORKDAY, WHICHEVER IS SHORTER. ANY MAJOR CHANGES OR REVISIONS TO THE PLAN OR SEQUENCE OF CONSTRUCTION MUST BE REVIEWED AND JAPPROVED BY THE HSCD PRIOR TO PROCEEDING WITH CONSTRUCTION. MINOR REVISIONS MAY ALLOWED BY THE CID PER THE LIST OF HSCD-APPROVED FIELD CHANGES.

DISTURBANCE SHALL NOT OCCUR OUTSIDE THE LOOD. A PROJECT IS TO BE SEQUENCED SO THAT GRADING

ACTIVITIES BEGIN ON ONE GRADING UNIT (MAXIMUM ACREAGE OF 20 AC. PER GRADING UNIT) AT A TIME.
WORK MAY PROCEED TO A SUBSEQUENT GRADING UNIT WHEN AT LEAST 50 PERCENT OF THE DISTURBED
AREA IN THE PRECEDING GRADING UNIT HAS BEEN STABILIZED AND APPROVED BY THE CID. UNLESS
OTHERWISE SPECIFIED AND APPROVED BY THE HSCD, NO MORE THAN 30 ACRES CUMULATIVELY MAY BE
DISTURBED AT A GIVEN TIME. DISTURBED AT A GIVEN TIME.
WASH WATER FROM ANY EQUIPMENT, VEHICLES, WHEELS, PAVEMENT, AND OTHER SOURCES MUST BE TREATED
IN A SEDIMENT BASIN OR OTHER APPROVED WASHOUT STRUCTURE.
TOPSOIL SHALL BE STOCKPILED AND PRESERVED ON—SITE FOR REDISTRIBUTION ONTO FINAL GRADE.
ALL SILT FENCE AND SUPER SILT FENCE SHALL BE PLACED ON—THE—CONTOUR, AND BE IMBRICATED AT 25'

MINIMUM INTERVALS, WITH LOWER ENDS CURLED UPHILL BY 2' IN ELEVATION. STREAM CHANNELS MUST NOT BE DISTURBED DURING THE FOLLOWING RESTRICTED TIME PERIODS (INCLUSIVE):

* USE II AND IIP OCTOBER 1 - APRIL 30 * USE IV MARCH 1 - MAY 31

6. A COPY OF THIS PLAN, THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, AND ASSOCIATED PERMITS SHALL BE ON-SITE AND AVAILABLE WHEN THE SITE IS ACTIVE.

ESTIMATE ONLY; CONTRACTOR SHALL VERIFY QUANTITIES TO HIS OWN SATISFACTION. TO BE DETERMINED BY CONTRACTOR, WITH PRE—APPROVAL OF THE SEDIMENT CONTROL INSPECTOR, WITH AN APPROVED AND ACTIVE GRADING PERMIT

> B-4-4 STANDARDS AND CONSTRUCTION NOTES FOR TEMPORARY STABILIZATION

DEFINITION TO STABILIZE DISTURBED SOILS WITH VEGETATION FOR UP TO 6 MONTHS

PURPOSE TO USE FAST GROWING VEGETATION THAT PROVIDES COVER ON DISTURBED SOILS.

CONDITIONS WHERE PRACTICE APPLIES EXPOSED SOILS WHERE GROUND COVER IS NEEDED FOR A PERIOD OF 6 MONTHS OR LESS. FOR LONGER DURATION OF TIME, PERMANENT STABILIZATION PRACTICES ARE REQUIRED.

1. SELECT ONE OR MORE OF THE SPECIES OR SEED MIXTURES LISTED IN TABLE 8.1
FOR THE APPROPRIATE PLANT HARDINESS ZONE (FROM FIGURE B.3), 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 PLAN
AND COMPLETED, THEN TABLE 8.1 PLUS FERTILIZER AND LIME RATES MUST BE PUT
ON THE PLAN ON THE PLAN.

2. FOR SITES HAVING SOIL TESTS PERFORMED, USE AND SHOW THE RECOMMENDED RATES BY THE TESTING AGENCY. SOIL TESTS ARE NOT REQUIRED FOR TEMPORARY WHEN STABILIZATION IS REQUIRED OUTSIDE OF A SEEDING SEASON, APPLY SEED AND MULCH OR STRAW MULCH ALONE AS PRESCRIBED IN SECTION B-4-3.A.1.B AND MAINTAIN UNTIL THE NEXT SEEDING SEASON.

TEMPODARY SEEDING SHAMA

		TEMPO	RARY SEEDIN	NG SUMMA	NRY	
	4	ONE (FROM FIGU E (FROM TABLE	FERTILIZER RATE	LIME RATE		
NO	SPECIES	APPLICATION RATE (LB/AC)	SEEDING DATES	SEEDING DEPTHS	(10-20-20)	LIME IXIL
1	COOL SEASON ANNUAL RYEGRASS OR EQUAL	40 LB / AC	3/1 TO 5/15 8/1 TO 10/15	1/2 IN.	436 LB/AC	2 TONS/AC
2	WARM SEASON FOXTAIL MILLET OR EQUAL	30 LB / AC	5/16 TO 7/31	1/2 IN.	(10 LB PER 1000 SF)	(90 LB PER 1000 SF)

B-4-8 STANDARDS AND CONSTRUCTION NOTES FOR STOCKPILE AREA

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

TO PROVIDE A DESIGNATED LOCATION FOR THE TEMPORARY STORAGE OF SOIL THAT CONTROLS THE POTENTIAL FOR EROSION, SEDIMENTATION, AND CHANGES TO DRAINAGE

CONDITIONS WHERE PRACTICE APPLIES

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

CRITERIA

 THE STOCKPILE LOCATION AND ALL RELATED SEDIMENT CONTROL PRACTICES MUST BE CLEARLY INDICATED ON THE EROSION AND SEDIMENT CONTROL PLAN.
 THE FOOTPRINT OF THE STOCKPILE MUST BE SIZED TO ACCOMMODATE THE ANTICIPATED VOLUME OF MATERIAL AND BASED ON A SIDE SLOPE RATIO NO STEEPER THAN 2:1. BENCHING MUST BE PROVIDED IN ACCORDANCE WITH SECTION B—3 LAND GRADING.
 RUNOFF FROM THE STOCKPILE AREA MUST DRAIN TO A SUITABLE SEDIMENT CONTROL PRACTICE.
 ACCESS THE STOCKPILE AREA FROM THE UPGRADE SIDE.
 CLEAR WATER RUNOFF INTO THE STOCKPILE AREA MUST BE MINIMIZED BY USE OF A DIVERSION DEVICE SUCH AS AN EARTH DIKE, TEMPORARY SWALE OR DIVERSION FENCE. PROVISIONS MUST BE MADE FOR DISCHARGING CONCENTRATED FLOW IN A NON-EROSIVE MANNER.
 WHERE RUNOFF CONCENTRATED FLOW IN A NON-EROSIVE MANNER. WHERE RUNOFF CONCENTRATES ALONG THE TOE OF THE STOCKPILE FILL, AN APPROPRIATE EROSION, SEDIMENT CONTROL PRACTICE MUST BE USED TO INTERCEPT THE DISCHARGE. SEDIMENT CONTROL PRACTICE MUST BE USED TO INTERCEPT THE DISCHARGE.

STOCKPILES MUST BE STABILIZED IN ACCORDANCE WITH THE 3/7 DAY STABILIZATION REQUIREMENT AS WELL AS STANDARD B-4-1 INCREMENTAL STABILIZATION AND STANDARD B-4-4 TEMPORARY STABILIZATION IF THE STOCKPILE IS LOCATED ON AN IMPERVIOUS SURFACE, A LINER SHOULD BE PROVIDED BELOW THE STOCKPILE TO FACILITATE CLEANUP. STOCKPILES CONTAINING CONTAMINATED MATERIAL MUST BE COVERED WITH INTERPREDUCABLE SUBSTRICT.

THE STOCKPILE AREA MUST CONTINUOUSLY MEET THE REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION. SIDE SLOPES MUST BE MAINTAINED AT NO STEEPER THAN A 2:1 RATIO. THE STOCKPILE AREA MUST BE KEPT FREE OF EROSION. IF THE VERTICAL HEIGHT OF A STOCKPILE EXCEEDS 20 FEET FOR 2:1 SLOPES, 30 FEET FOR 3:1 SLOPES, OR 40 FEET FOR 4:1 SLOPES, BENCHING MUST BE PROVIDED IN ACCORDANCE WITH SECTION B-3 LAND GRADING.

APPROVED BY PLANNING BOARD OF HOWARD COUNTY

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION 18 9/3/19 DATE B-4-5 STANDARDS AND CONSTRUCTION NOTES FOR PERMANENT STABILIZATION

<u>DEFINITION</u>
TO STABILIZE DISTURBED SOILS WITH PERMANENT VEGETATION

<u>PURPOSE</u>
TO USE LONG-LIVED PERENNIAL GRASSES AND LEGUMES TO ESTABLISH PERMANENT GROUND COVER ON DISTURBED SOILS. CONDITIONS WHERE PRACTICE APPLIES EXPOSED SOILS WHERE GROUND COVER IS NEEDED FOR 6 MONTHS OR MORE.

GENERAL USE

A. SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED IN TABLE 8.3 FOR THE APPROPRIATE PLANT HARDINESS ZONE (FROM FIGURE 8.3) AND BASED ON THE THE APPROPRIATE PLANT HARDINESS ZONE (FROM FIGURE 8.3) AND BASED ON THE SITE CONDITION OR PURPOSE FOUND ON TABLE 8.2. ENTER SELECTED MIXTURE(S), APPLICATION RATES, AND SEEDING DATES IN THE PERMANENT SEEDING SUMMARY. THE SUMMARY IS TO BE PLACED ON THE PLAN.

B. ADDITIONAL PLANTING SPECIFICATIONS FOR EXCEPTIONAL SITES SUCH AS SHORELINES, STREAM BANKS, OR DUNES OR FOR SPECIAL PURPOSES SUCH AS WILDLIFE OR AESTHETIC TREATMENT MAY BE FOUND IN USDA—NRCS TECHNICAL FIELD OFFICE GUIDE, SECTION 342 — CRITICAL AREA PLANTING. 2. FOR SITES HAVING DISTURBED AREA OVER 5 ACRES, USE AND SHOW THE RATES RECOMMENDED BY THE SOIL TESTING AGENCY. D. FOR AREAS RECEIVING LOW MAINTENANCE, APPLY UREA FORM FERTILIZER (46-0-0)
AT 3-1/2 POUNDS PER 1000 SQUARE FEET (150 POUNDS PER ACRE) AT THE TIME
OF SEEDING IN ADDITION TO THE SOIL AMENDMENTS SHOWN IN THE PERMANENT SEEDING SUMMARY. TURFGRASS MIXTURES

A. AREAS WHERE TURFGRASS MAY BE DESIRED INCLUDE LAWNS, PARKS, PLAYGROUNDS, AND COMMERCIAL SITES WHICH WILL RECEIVE A MEDIUM TO HIGH LEVEL OF MAINTENANCE. B. SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED BELOW BASED ON THE

B. SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED BELOW BASED ON THE SITE CONDITIONS OR PURPOSE. ENTER SELECTED MIXTURE(S), APPLICATION RATES, AND SEEDING DATES IN THE PERMANENT SEEDING SUMMARY. THE SUMMARY IS TO BE PLACED ON THE PLAN.

1. KENTUCKY BLUEGRASS: FULL SUN MIXTURE: FOR USE IN AREAS THAT RECEIVE INTENSIVE MANAGEMENT. IRRIGATION REQUIRED IN THE AREAS OF CENTRAL MARYLAND AND EASTERN SHORE. RECOMMENDED CERTIFIED KENTUCKY BLUEGRASS CULTIVARS SEEDING RATE: 1.5 TO 2.0 POUNDS PER 1000 SQUARE FEET. CHOOSE A MINIMUM OF THREE KENTUCKY BLUEGRASS CULTIVARS WITH EACH RANGING FROM 10 TO 35 PERCENT OF THE TOTAL MIXTURE BY WEIGHT.

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

111. TALL FESCUE/KENTUCKY BLUEGRASS: FULL SUN MIXTURE; FOR USE IN DROUGHT. III. TALL FESCUE/KENTUCKY BLUEGRASS: FULL SUN MIXTURE: FOR USE IN DROUGHT PRONE AREAS AND/OR FOR AREAS RECEIVING LOW TO MEDIUM MANAGEMENT IN FULL SUN TO MEDIUM SHADE. RECOMMENDED MIXTURE INCLUDES; CERTIFIED TALL FESCUE CULTIVARS 95 TO 100 PERCENT, CERTIFIED KENTUCKY BLUEGRASS CULTIVARS 0 TO 5 PERCENT. SEEDING RATE: 5 TO 8 POUNDS PER 1000 SQUARE FEET, ONE OR MORE CULTIVARS MAY BE BLENDED. V. KENTUCKY BLUEGRASS/FINE FESCUE: SHADE MIXTURE: FOR USE IN AREAS WITH SHADE IN BLUEGRASS LAWNS. FOR ESTABLISHMENT IN HIGH QUALITY, INTENSIVELY MANAGED TURF AREA. MIXTURE INCLUDES; CERTIFIED KENTUCKY BLUEGRASS CULTIVARS 30 TO 40 PERCENT AND CERTIFIED FINE FESCUE AND 60 TO 70 PERCENT.

SEEDING RATE: 11/2 TO 3 POUNDS PER 1000 SQUARE FEET. NOTES: SELECT TURFGRASS VARIETIES FROM THOSE LISTED IN THE MOST CURRENT UNIVERSITY OF MARYLAND PUBLICATION, AGRONOMY MEMO #77, "TURFGRASS CULTIVAR RECOMMENDATIONS FOR MARYLAND" CHOOSE CERTIFIED MATERIAL. CERTIFIED MATERIAL IS THE BEST GUARANTEE OF CULTIVAR PURITY. THE CERTIFICATION PROGRAM OF THE MARYLAND DEPARTMENT OF AGRICULTURE, TURF AND SEED SECTION, PROVIDES A RELIABLE MEANS OF CONSUMER PROTECTION AND ASSURES A PURE GENETIC

C. IDEAL TIMES OF SEEDING FOR TURF GRASS MIXTURES

- WESTEM MD: MARCH 15 TO JUNE 1, AUGUST ITO OCTOBER 1 (HARDINESS ZONES: SB, 6A) - CENTRAL MD: MARCH 1 TO MAY 15, AUGUST 15 TO OCTOBER 15 (HARDINESS ZONE: 6B) - SOUTHERN MD, EASTERN SHORE: MARCH 1 TO MAY 15, AUGUST 15 TO OCTOBER 15 (HARDINESS ZONES: 7A, 7B)
D. TILL AREAS TO RECEIVE SEED BY DISKING OR OTHER APPROVED METHODS TO A DEPTH OF 2 TO 4 INCHES, LEVEL AND RAKE THE AREAS TO PREPARE A PROPER SEEDBED. REMOVE STONES AND DEBRIS OVER 1½ INCHES IN DIAMETER. THE RESULTING SEEDBED. REMOVE
STONES AND DEBRIS OVER 1½ INCHES IN DIAMETER. THE RESULTING SEEDBED MUST BE IN
SUCH CONDITION THAT FUTURE MOWING OF GRASSES WILL POSE NO DIFFICULTY.

E. IF SOIL MOISTURE IS DEFICIENT, SUPPLY NEW SEEDINGS WITH ADEQUATE WATER FOR PLANT
GROWTH (1/2 TO 1 INCH EVERY 3 TO 4 DAYS DEPENDING ON SOIL TEXTURE) UNTIL THEY
ARE FIRMLY ESTABLISHED. THIS IS ESPECIALLY TRUE WHEN SEEDINGS ARE MADE LATE IN THE
PLANTING SEASON, IN ABNORMALLY DRY OR HOT SEASONS, OR ON ADVERSE SITES. SOD: TO PROVIDE QUICK COVER ON DISTURBED AREAS (2:1 GRADE OR FLATTER). GENERAL SPECIFICATIONS

GENERAL SPECIFICATIONS

A. CLASS OF TURFGRASS SOD MUST BE MARYLAND STATE CERTIFIED. SOD LABELS MUST BE MADE AVAILABLE TO THE JOB FOREMAN AND INSPECTOR.

B. SOD MUST BE MACHINE CUT AT A UNIFORM SOIL THICKNESS OF 3/4 INCH, PLUS OR MINUS 1/4 INCH, AT THE TIME OF CUTTING. MEASUREMENT FOR THICKNESS MUST EXCLUDE TOP GROWTH AND THATCH. BROKEN PADS AND TOM OR UNEVEN ENDS WILL NOT BE ACCEPTABLE.

C. STANDARD SIZE SECTIONS OF SOD MUST BE STRONG ENOUGH TO SUPPORT THEIR OWN WEIGHT AND RETAIN THEIR SIZE AND SHAPE WHEN SUSPENDED VERTICALLY WITH A FIRM GRASP ON THE UPPER 10 PERCENT OF THE SECTION.

D. SOD MUST NOT BE HARVESTED OR TRANSPLANTED WHEN MOISTURE CONTENT DESCRIPTION OF BE HARVESTED OR TRANSPLANTED WHEN MOISTURE CONTENT (EXCESSIVELY DRY OR WET) MAY ADVERSELY AFFECT ITS SURVIVAL.

SOD MUST BE HARVESTED, DELIVERED, AND INSTALLED WITHIN A PERIOD OF 36 HOURS. SOD NOT TRANSPLANTED WITHIN THIS PERIOD MUST BE APPROVED BY AN AGRONOMIST OR SOIL SCIENTIST PRIOR TO ITS INSTALLATION.

SOIL SCIENTIST PRIOR TO ITS INSTALLATION.

SOD INSTALLATION

A. DURING PERIODS OF EXCESSIVELY HIGH TEMPERATURE OR IN AREAS HAVING DRY SUBSOIL, LIGHTLY IRRIGATE THE SUBSOIL IMMEDIATELY PRIOR TO LAYING THE SOD.

B. LAY THE FIRST ROW OF SOD IN A STRAIGHT LINE WITH SUBSEQUENT ROWS PLACED PARALLEL TO IT AND TIGHTLY WEDGED AGAINST EACH OTHER. STAGGET LATERAL JOINTS TO PROMOTE MORE UNIFORM GROWTH AND STRENGTH. ENSURE THAT SOD IS NOT STRETCHED OR OVERLAPPED AND THAT ALL JOINTS ARE BUTTED TIGHT IN ORDER TO PREVENT VOIDS WHICH WOULD CAUSE AIR DRYING OF THE ROOTS.

C. WHEREVER POSSIBLE, LAY SOD WITH THE LONG EDGES PARALLEL TO THE CONTOUR AND WITH STAGGERING JOINTS. ROLL AND TAMP, PEG OR OTHERWISE SECURE THE SOD TO PREVENT SLIPPAGE ON SLOPES. ENSURE SOLID CONTACT EXISTS BETWEEN SOD ROOTS AND THE UNDERLYING SOIL SURFACE.

D. WATER THE SOD IMMEDIATELY FOLLOWING ROLLING AND TAMPING UNTIL THE UNDERSIDE OF THE NEW SOD PAD AND SOIL SURFACE BELOW THE SOD ARE THOROUGHLY WET. COMPLETE THE OPERATIONS OF LAYING, TAMPING AND IRRIGATING FOR ANY PIECE OF SOD WITHIN EIGHT HOURS.

A. IN THE ABSENCE OF ADEQUATE RAINFALL, WATER DAILY DURING THE FIRST WEEK OR AS OFTEN AND SUFFICIENTLY AS NECESSARY TO MAINTAIN MOIST SOIL TO A DEPTH OF 4 INCHES. WATER SOD DURING THE HEAT OF THE DAY TO PREVENT WILTING.

B. AFTER THE FIRST WEEK, SOD WATERING IS REQUIRED AS NECESSARY TO MAINTAIN ADEQUATE MOISTURE CONTENT. C. DO NOT MOW UNTIL THE SOD IS FIRMLY ROOTED. NO MORE THAN 1/3 OF THE GRASS LEAF MUST BE REMOVED BY THE INITIAL CUTTING OR SUBSEQUENT CUTTINGS. MAINTAIN A GRASS HEIGHT OF AT LEAST 3 INCHES UNLESS OTHERWISE SPECIFIED.

PERMANENT SEEDING SUMMARY

	HARDINESS ZONE (FROM FIGURE B.3): ZONE 6b FERTILIZER RATE (10-20-20)							LIME RATE	
NO	SPECIES	APPLICATION RATE (LB/AC)	SEEDING DATES	SEEDING DEPTHS	N	P ₂ 0 ₅	к ₂ 0	LIME TVITE	
1	COOL SEASON TALL FESCUE & KENTUCKY BLUEGRASS OR EQUAL	LIT. OU EDI AU	3/1 TO 5/15 8/15 TO 10/15	1/4-1/2 IN.	(1 LB PER	(2 LB PER	(2 LB PER	2 TONS/AC (90 LB PER 1000 SF)	

PERMANENT SOIL STABILIZATION MATTING

ISOMETRIC VIEW

USE MATTING THAT HAS A DESIGN VALUE FOR SHEAR STRESS EQUAL TO OR HIGHER THAN THE SHEAR STRESS DESIGNATED ON APPROVED PLANS.

3. SECURE MATTING USING STEEL STAPLES OR WOOD STAKES. STAPLES MUST BE "U" OR "I" SHAPED STEEL WIRE HAVING A MINIMUM GAUGE OF NO. 11 AND NO. 8 RESPECTIVELY. "U" SHAPED STAPLES MUST AVERAGE 1 TO 1 % INCHES MODE AND BE A MINIMUM OF 6 INCHES LONG. "I" SHAPED STAPLES MUST HAVE A MINIMUM IS INCH MAIN LEG, A MINIMUM INCH SECONDARY LEG, AND MINIMUM 4 HOTH HEAD. WOOD STAKES MUST BE ROUGH—SAWN HARDWOOD, 12 TO 24 INCHES IN LENGTH, 1x3 INCH IN CROSS SECTION, AND WEDGE SHAPE AT THE BOTTOM.

. UNROLL MATTING IN DIRECTION OF WATER FLOW, CENTERING THE FIRST ROLL ON THE CHANNEL CENTER LINE. WORK FROM CENTER OF CHANNEL OUTWARD WHEN PLACING ROLLS, LAY MATTING SMOOTHLY AND FIRMLY UPON THE SEEDED SURFACE. AVOID STRETCHING THE MATTING.

. KEY IN THE TOP OF SLOPE END OF MAT 6 INCHES (MINIMUM) BY DIGGING A TRENCH, PLACING THE MATTING ROLL END IN THE TRENCH, STAPLING THE MAT IN PLACE, REPLACING THE EXCAVATED MATERIAL, AND TAMPING TO SECURE THE MAT END IN THE KEY.

. OVERLAP OR ABUT EDGES OF MATTING ROLLS PER MANUFACTURER RECOMMENDATIONS, OVERLAP ROLL END BY 6 INCHES (MINIMUM), WITH THE UPSTREAM MAT OVERLAPPING ON TOP OF THE NEXT DOWNSTREAM MAT.

STAPLE/STAKE MAT IN A STAGGERED PATTERN ON 4 FOOT (MAXIMUM) CENTERS THROUGHOUT AND 2 FOOT (MAXIMUM) CENTERS ALONG SEAMS, JOINTS, AND ROLL ENDS.

IF SPECIFED BY THE DESIGNER OR MANUFACTURER AND DEPENDING ON THE TYPE OF MAT BEING INSTALLE ONCE THE MATTING IS KEYED AND STAPLED IN PLACE, FILL THE MAT VOIDS WITH TOP SOIL OR GRANULAR MATERIAL AND LIGHTLY COMPACT OR ROLL TO MAXIMIZE SOIL/MAT CONTACT WITHOUT CRUSHING MAT.

ESTABLISH AND MAINTAIN VEGETATION SO THAT REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT ARE CONTINUOUSLY MET IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION.

U.S. DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

2011

MARYLAND DEPARTMENT OF ENVIRONMEN
WATER MANAGEMENT ADMINISTRATION

PSSMC - * Ib/ft'
(* INCLUDE SHEAR STRESS)

R-4-2 STANDARDS AND CONSTRUCTION NOTES FOR SOIL PREPARATION, TOPSOILING AND SOIL AMENDMENTS

<u>Definition</u>
The process of preparing the soils to sustain adequate vegetative stabilization. PURPOSE TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH. CONDITIONS WHERE PRACTICE APPLIES
WHERE VEGETATIVE STABILIZATION IS TO BE ESTABLISHED.

A. SOIL PREPARATION

B. TOPSOILING

1. TEMPORARY STABILIZATION
A. SEEDBED PREPARATION CONSISTS OF LOOSENING SOIL TO A DEPTH OF 3 TO 5 INCHES A. SEEDBED PREPARATION CONSISTS OF LOOSENING SOIL TO A DEPTH OF 3 TO 5 INCHES BY MEANS OF SUITABLE AGRICULTURAL OR CONSTRUCTION EQUIPMENT, SUCH AS DISC HARROWS OR CHISEL PLOWS OR RIPPERS MOUNTED ON CONSTRUCTION EQUIPMENT. AFTER THE SOIL IS LOOSENED, IT MUST NOT BE ROLLED OR DRAGGED SMOOTH BUT LEFT IN THE ROUGHENED CONDITION. SLOPES 3:1 OR FLATTER ARE TO BE TRACKED WITH RIDGES RUNNING PARALLEL TO THE CONTOUR OF THE SLOPE.

B. APPLY FERTILIZER AND LIME AS PRESCRIBED ON THE PLANS.
C. INCORPORATE LIME AND FERTILIZER INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS.
2. PERMANENT STABILIZATION
A. A SOIL TEST IS REQUIRED FOR ANY EARTH DISTURBANCE OF 5 ACRES OR MORE. THE MINIMUM SOIL CONDITIONS REQUIRED FOR PERMANENT VEGETATIVE ESTABLISHMENT ARE:

MINIMUM SOIL CONDITIONS REQUIRED FOR PERMANENT VEGETATIVE ESTABLISHMENT ARE:

I. SOIL PH BETWEEN 6.0 AND 7.0. II. SOLUBLE SALTS LESS THAN 500 PARTS PER MILLION (PPM). III. SOIL CONTAINS LESS THAN 40 PERCENT CLAY BUT ENOUGH FINE GRAINED MATERIAL (GREATER THAN 30 PERCENT SILT PLUS CLAY) TO PROVIDE THE CAPACITY TO HOLD A MODERATE AMOUNT OF MOISTURE. AN EXCEPTION: IF LOVEGRASS WILL BE PLANTED, THEN A SANDY SOIL (LESS THAN 30 PERCENT SILT PLUS CLAY) WOULD BE ACCEPTABLE.

IV. SOIL CONTAINS 1.5 PERCENT MINIMUM ORGANIC MATTER BY WEIGHT.

V. SOIL CONTAINS SUFFICIENT PORE SPACE TO PERMIT ADEQUATE ROOT PENETRATION.

B. APPLICATION OF AMENDMENTS OR TOPSOIL IS REQUIRED IF ON—SITE SOILS DO NOT MEET

THE ABOVE CONDITIONS.

C. GRADED AREAS MUST BE MAINTAINED IN A TRUE AND EVEN GRADE AS SPECIFIED ON THE APPROVED PLAN, THEN SCARIFIED OR OTHERWISE LOOSENED TO A DEPTH OF 3 TO 5 INCHES.

D. APPLY SOIL AMENDMENTS AS SPECIFIED ON THE APPROVED PLAN OR AS INDICATED BY THE RESULTS OF A SOIL TEST.

E. MIX SOIL AMENDMENTS INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS. RAKE LAWN AREAS TO SMOOTH THE SURFACE, REMOVE LARGE OBJECTS LIKE STONES AND BRANCHES, AND READY THE AREA FOR SEED APPLICATION. LOOSEN SURFACE SOIL BY DRAGGING WITH A HEAVY CHAIN OR OTHER EQUIPMENT TO ROUGHEN THE SURFACE WHERE SITE CONDITIONS WILL NOT PERMIT NORMAL SEEDBED PREPARATION. TRACK SLOPES 3:1 OR FLATTER WITH TRACKED EQUIPMENT LEAVING THE SOIL IN AN IRREGULAR CONDITION WITH RIDGES RUNNING PARALLEL TO THE CONTOUR OF THE SLOPE. LEAVE THE TOP 1 TO 3 INCHES OF SOIL LOOSE AND FRIABLE. SEEDBED LOOSENING MAY BE UNNECESSARY ON NEWLY DISTURBED AREAS.

I. TOPSOIL IS PLACED OVER PREPARED SUBSOIL PRIOR TO ESTABLISHMENT OF PERMANENT VEGETATION. THE PURPOSE IS TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH. SOILS OF CONCEM HAVE LOW MOISTURE CONTENT, LOW NUTRIENT LEVELS, LOW PH, MATERIALS TOXIC TO PLANTS, AND/OR UNACCEPTABLE SOIL GRADATION.

2. TOPSOIL SALVAGED FROM AN EXISTING SITE MAY BE USED PROVIDED IT MEETS THE STANDARDS AS SET FORTH IN THESE SPECIFICATIONS. TYPICALLY, THE DEPTH OF TOPSOIL TO BE SALVAGED FOR A GIVEN SOIL TYPE CAN BE FOUND IN THE REPRESENTATIVE SOIL PROFILE SECTION IN THE SOIL SURVEY PUBLISHED BY USDA— 3. TOPSOILING IS LIMITED TO AREAS HAVING 2:1 OR FLATTER SLOPES WHERE: A. THE TEXTURE OF THE EXPOSED SUBSOIL/PARENT MATERIAL IS NOT ADEQUATE TO PRODUCE VEGETATIVE GROWTH. B. THE SOIL MATERIAL IS SO SHALLOW THAT THE ROOTING ZONE IS NOT DEEP ENOUGH TO SUPPORT PLANTS OR FLIRNISH CONTINUING SUPPLIES OF MOISTURE AND PLANT NUTRIENTS.

C. THE ORIGINAL SOIL TO BE VEGETATED CONTAINS MATERIAL TOXIC TO PLANT GROWTH.

D. THE SOIL IS SO ACIDIC THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.

4. AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATION AND DESIGN.
5. TOPSOIL SPECIFICATIONS: SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING CRITERIA:

A. TOPSOIL MUST BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM
OR LOAMY SAND. OTHER SOILS MAY BE USED IF RECOMMENDED BY AN AGRONOMIST OF
SOIL SCIENTIST AND APPROVED
BY THE APPROPRIATE APPROVAL AUTHORITY TOPSOIL MUST NOT BE A MIXTURE OF
CONTRASTING TEXTURED SUBSOILS AND MUST CONTAIN LESS THAN 5 PERCENT BY
VOLUME OF CINDERS, STONES, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1½ INCHES IN DIAMETER.

B. TOPSOIL MUST BE FREE OF NOXIOUS PLANTS OR PLANT PARTS SUCH AS BERMUDA GRASS, QUACK GRASS, JOHNSON GRASS, NUT SEDGE, POISON IVY, THISTLE, OR OTHERS AS SPECIFIED.

C. 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.

6. TOPSOIL APPLICATION
A. EROSION AND SEDIMENT CONTROL PRACTICES MUST BE MAINTAINED WHEN APPLYING A. EROSION AND SEDIMENT CONTROL FROCTICES MOST DE MAINTAINE MAINTEACH TOPSOIL.

B. UNIFORMLY DISTRIBUTE TOPSOIL IN A 5 TO 8 INCH LAYER AND LIGHTLY COMPACT TO A MINIMUM THICKNESS OF 4 INCHES, SPREADING IS TO BE PERFORMED IN SUCH A MANNER THAT SODDING OR SEEDING CAN PROCEED WITH A MINIMUM OF ADDITIONAL SOIL PREPARATION AND TILLAGE. ANY IRREGULARITIES IN THE SURFACE RESULTING FROM TOPSOILING OR OTHER OPERATIONS MUST BE CORRECTED IN ORDER TO PREVENT THE FORMATION OF DEPRESSIONS OR WATER POCKETS.

C. TOPSOIL MUST NOT BE PLACED IF THE TOPSOIL OR SUBSOIL IS IN A FROZEN OR MUDDY CONDITION, WHEN THE SUBSOIL IS EXCESSIVELY WET OR IN A CONDITION THAT MAY OTHERWISE BE DETRIMENTAL TO PROPER GRADING AND SEEDBED PREPARATION.

C. SOIL AMENDMENTS (FERTILIZER AND LIME SPECIFICATIONS)

I. SOIL TESTS MUST BE PERFORMED TO DETERMINE THE EXACT RATIOS AND APPLICATION RATES FOR BOTH LIME AND FERTILIZER ON SITES HAVING DISTURBED AREAS OF 5 ACRES OR MORE. SOIL ANALYSIS MAY BE PERFORMED BY A RECOGNIZED PRIVATE OR COMMERCIAL LABORATORY. SOIL SAMPLES TAKEN FOR ENGINEERING PURPOSES MAY ALSO BE USED FOR CHEMICAL ANALYSES.

2. FERTILIZERS MUST BE UNIFORM IN COMPOSITION, FREE FLOWING AND SUITABLE FOR ACCURATE APPLICATION BY APPROPRIATE EQUIPMENT. MANURE MAY BE SUBSTITUTED FOR FERTILIZER WITH PRIOR APPROVAL FROM THE APPROPRIATE APPROVAL AUTHORITY. FERTILIZERS MUST ALL BE DELIVERED TO THE SITE FULLY LABELED ACCORDING TO THE APPLICABLE LAWS AND MUST BEAR THE NAME, TRADE NAME OR TRADEMARK AND WARRANTY OF THE PRODUCER.

3. LIME MATERIALS MUST BE GROUND LIMESTONE (HYDRATED OR BURNT LIME MAY BE LIME MATERIALS MUST BE GROUND LIMESTONE (HYDRATED OR BURNT LIME MAY BI SUBSTITUTED EXCEPT WHEN HYDROSEEDING) WHICH CONTAINS AT LEAST 50 PERCENT TOTAL OXIDES (CALCIUM OXIDE PLUS MAGNESIUM OXIDE). LIMESTONE MUST BE GROUND TO SUCH FINENESS THAT AT LEAST 50 PERCENT WILL PASS THROUGH A #100 MESH SIEVE AND 98 TO 100 PERCENT WILL PASS THROUGH A #20 MESH SIEVE.

4. LIME AND FERTILIZER ARE TO BE EVENLY DISTRIBUTED AND INCORPORATED INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS.

5. WHERE THE SUBSOIL IS EITHER HIGHLY ACIDIC OR COMPOSED OF HEAVY CLAYS, SPREAD GROUND LIMESTONE AT THE RATE OF 4 TO 8 TONS/ACRE (200-400 POUNDS

PER 1,000 SQUARE FEET) PRIOR TO THE PLACEMENT OF TOPSOIL.

DETAIL D-4-1-C ROCK OUTLET PROTECTION III ROPIII CHANNEL OR FLAT AREA PLAN VIEW SECTION A-A W SECTION B-B RIPRAP
CLASS THICKNESS (T) ONSTRUCTION NOTES RIPRAP AND STONE MUST CONFORM TO THE SPECIFIED CLASS

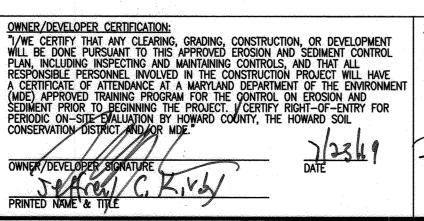
PREPARE THE SUBGRADE FOR GEOTEXTILE OR STONE FILTER (% TO 1½ INCH MINIMUM STONE FOR 6 INCH MINIMUM DEPTH) AND RIPRAP TO THE REQUIRED LINES AND GRADES. COMPACT ANY FILL REQUIRED IN THE SUBGRADE TO A DENSITY OF APPROXIMATELY THAT OF THE SURROUNDING UNDISTURBED MATERIAL

EXTEND GEOTEXTILE AT LEAST 6 INCHES BEYOND EDGES OF RIPRAP AND EMBED AT LEAST 4 INCHES AT SIDES OF RIPRAP.

WHERE NO ENDWALL IS USED, CONSTRUCT THE UPSTREAM END OF THE APRON SO THAT THE WIDTH TWO TIMES THE DIAMETER OF THE OUTLET PIPE, AND EXTEND THE STONE UNDER THE OUTLET BY A MINIMUM OF 18 INCHES. CONSTRUCT APRON WITH OX SLOPE ALONG ITS LENGTH AND WITHOUT OBSTRUCTIONS, PLACE STONE S THAT IT BLENDS IN WITH EXISTING GROUND.

MAINTAIN LINE, GRADE, AND CROSS SECTION. KEEP OUTLET FREE OF EROSION. REMOVE ACCUMULA SEDIMENT AND DEBRIS. AFTER HIGH FLOWS INSPECT FOR SCOUR AND RIPRAP DISLODGED RIPRAP. MAKE NECESSARY REPAIRS IMMEDIATELY. U.S. DEPARTMENT OF AGRICULTURE 2011 MARYLAND DEPARTMENT OF ENVIRONMENTURAL RESOURCES CONSERVATION SERVICE 2011 WATER MANAGEMENT ADMINISTRATION

<u>DESIGN CERTIFICATION:</u>



"I HERBY CERTIFY THAT THIS PLAN HAS BEEN DESIGNED IN ACCORDANCE WITH CURREN MARYLAND EROSION AND SEDIMENT CONTROL LAWS, REGULATIONS, AND STANDARDS, THAT IT REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE, AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT." 7-25-19 ND REGISTRATION NO. 16193

(P.E), R.L.S., OR R.L.A. (circle one)

B-4-3 STANDARDS AND CONSTRUCTION NOTES FOR SEEDING AND MULCHING

<u>DEFINITION</u>
THE APPLICATION OF SEED AND MULCH TO ESTABLISH VEGETATIVE COVER.

 $\begin{array}{c} \underline{\text{PURPOSE}} \\ \hline \text{TO PROTECT DISTURBED SOILS FROM EROSION DURING AND AT THE END OF CONSTRUCTION.} \end{array}$ CONDITIONS WHERE PRACTICE APPLIES
TO THE SURFACE OF ALL PERIMETER CONTROLS, SLOPES, AND ANY DISTURBED AREA NOT UNDER ACTIVE

1. NOTES

A. ALL SEED MUST MEET THE REQUIREMENTS OF THE MARYLAND STATE SEED LAW. ALL SEED MUST BE SUBJECT TO RE-TESTING BY A RECOGNIZED SEED LABORATORY. ALL SEED USED MUST HAVE BEEN TESTED WITHIN THE 6 MONTHS IMMEDIATELY PRECEDING THE DATE OF SOWING SUCH MATERIAL ON ANY PROJECT. REFER TO TABLE B.4 REGARDING THE QUALITY OF SEED. SEED TAGS MUST BE AVAILABLE UPON REQUEST TO THE INSPECTOR TO VERIFY TYPE OF SEED AND SEEDING RATE.

B. MULCH ALONE MAY BE APPLIED BETWEEN THE FALL AND SPRING SEEDING DATES ONLY IF THE GROUND IS FROZEN. THE APPROPRIATE SEEDING MIXTURE MUST BE APPLIED WHEN THE GROUND THAWS. THAWS.
C. INOCULANTS: THE INOCULANT FOR TREATING LEGUME SEED IN THE SEED MIXTURES MUST BE A PURE CULTURE OF NITROGEN FIXING BACTERIA PREPARED SPECIFICALLY FOR THE SPECIES. INOCULANTS MUST NOT BE USED LATER THAN THE DATE INDICATED ON THE CONTAINER. ADD FRESH INOCULANTS AS DIRECTED ON THE PACKAGE. USE FOUR TIMES THE RECOMMENDED RATE WHEN HYDROSEEDING, NOTE: IT IS VERY IMPORTANT TO KEEP INOCULANT AS COOL AS POSSIBLE UNTIL USED. TEMPERATURES ABOVE 75 TO 80 DEGREES FAHRENHEIT CAN WEAKEN BACTERIA AND MAKE THE INOCULANT LESS EFFECTIVE.
D. SOD OR SEED MUST NOT BE PLACED ON SOIL WHICH HAS BEEN TRATED WITH SOIL STERILANTS OR CHEMICALS LISED FOR WEED CONTROL LISTIN SUIFFICIENT TIME HAS ELABSED (144 DAYS MIN.) TO OR CHEMICALS USED FOR WEED CONTROL UNTIL SUFFICIENT TIME HAS ELAPSED (14 DAYS MIN.) TO PERMIT DISSIPATION OF PHYTO-TOXIC MATERIALS.

2. APPLICATION

A. DRY SEEDING: THIS INCLUDES USE OF CONVENTIONAL DROP OR BROADCAST SPREADERS.

I. INCORPORATE SEED INTO THE SUBSOIL AT THE RATES PRESCRIBED ON TEMPORARY SEEDING TABLE 8.1, PERMANENT SEEDING TABLE 8.3, OR SITE—SPECIFIC SEEDING SUMMARIES.

II. APPLY SEED IN TWO DIRECTIONS, PERPENDICULAR TO EACH OTHER. APPLY HALF THE SEEDING RATE IN EACH DIRECTION. ROLL THE SEEDED AREA WITH A WEIGHTED ROLLER TO PROVIDE GOOD SEED TO SOIL. CONTACT.

B. DRILL OR CULTIPACKER SEEDING: MECHANIZED SEEDERS THAT APPLY AND COVER SEED WITH SOIL.

I. 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.

II. APPLY SEED IN TWO DIRECTIONS, PERPENDICULAR TO EACH OTHER. APPLY HALF THE SEEDING RATE IN EACH DIRECTION.

C. HYDROSEEDING: APPLY SEED UNIFORMLY WITH HYDROSEEDER (SLURRY INCLUDES SEED AND

FERTILIZER).

I. IF FERTILIZER IS BEING APPLIED AT THE TIME OF SEEDING, THE APPLICATION RATES SHOULD NOT EXCEED THE FOLLOWING: NITROGEN, 100 POUNDS PER ACRE TOTAL OF SOLUBLE NITROGEN; P205 (PHOSPHOROUS), 200 POUNDS PER ACRE; K20 (POTASSIUM), 200 POUNDS PER ACRE. II. LIME: USE ONLY GROUND AGRICULTURAL LIMESTONE (UP TO 3 TONS PER ACRE MAY BE APPLIED BY HYDROSEEDING). NORMALLY, NOT MORE THAN 2 TONS ARE APPLIED BY HYDROSEEDING AT ANY ONE TIME. DO NOT USE BURNT OR HYDRATED LIME WHEN HYDROSEEDING.

III. MIX SEED AND FERTILIZER ON SITE AND SEED IMMEDIATELY AND WITHOUT INTERRUPTION.

IV. WHEN HYDROSEEDING DO NOT INCORPORATE SEED INTO THE SOIL.

I. MUCH MATERIALS (IN ORDER OF PREFERENCE)

A. STRAW CONSISTING OF THOROUGHLY THRESHED WHEAT, LYE, OAT, OR BARLEY AND REASONABLY BRIGHT IN COLOR. STRAW IS TO BE FREE OF NOXIOUS WEED SEEDS AS SPECIFIED IN THE MARYLAND SEED LAW AND NOT MUSTY, MOLDY, CAKED, DECAYED, OR EXCESSIVELY DUSTY. NOTE: USE ONLY STERILE STRAW MULCH IN AREAS WHERE ONE SPECIES OF GRASS IS DESIRED. USE ONLY STERILE STRAW MULCH IN AREAS WHERE ONE SPECIES OF GRASS IS DESIRED.

B. WOOD CELLULOSE FIBER MULCH (WCFM) CONSISTING OF SPECIALLY PREPARED WOOD CELLULOSE PROCESSED INTO A UNIFORM FIBROUS PHYSICAL STATE.

I. WCFM IS TO 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.

II. WCFM, INCLUDING DYE, MUST CONTAIN NO GERMINATION OR GROWTH INHIBITING FACTORS.

III. WCFM MATERIALS ARE TO BE MANUFACTURED AND PROCESSED IN SUCH A MANNER THAT THE WOOD CELLULOSE FIBER MULCH WILL REMAIN IN UNIFORM SUSPENSION IN WATER UNDER AGITATION AND WILL BLEND WITH SEED, FERTILIZER AND OTHER ADDITIVES TO FORM A HOMOGENEOUS SLURRY. THE MULCH MATERIAL MUST FORM A BLOTTER—LIKE GROUND COVER, ON APPLICATION, HAVING MOISTURE ABSORPTION AND PERCOLATION PROPERTIES AND MUST COVER AND HOLD GRASS SEED IN CONTACT WITH THE SOIL WITHOUT INHIBITING THE GROWTH OF THE GRASS SEEDLINGS.

IV. WCFM MATERIAL MUST NOT CONTAIN ELEMENTS OR COMPOUNDS AT CONCENTRATION LEVELS THAT WILL BE PHYTO—TOXIC. V. WCFM MUST CONFORM TO THE FOLLOWING PHYSICAL REQUIREMENTS: FIBER LENGTH OF APPROXIMATELY 10 MILLIMETERS, DIAMETER APPROXIMATELY 1 MILLIMETER, PH RANGE OF 4.0 TO 8.5, ASH CONTENT OF 1.6 PERCENT MAXIMUM AND WATER HOLDING CAPACITY OF 90 PERCENT MINIMUM.

2. APPLICATION

A. APPLY MULCH TO ALL SEEDED AREAS IMMEDIATELY AFTER SEEDING.

B. WHEN STRAW MULCH IS USED, SPREAD IT OVER ALL SEEDED AREAS AT THE RATE OF 2 TONS PER ACRE TO A UNIFORM LOOSE DEPTH OF 1 TO 2 INCHES. APPLY MULCH TO ACHIEVE A UNIFORM DISTRIBUTION AND DEPTH SO THAT THE SOIL SURFACE IS NOT EXPOSED. WHEN USING A MULCH ANCHORING TOOL, INCREASE THE APPLICATION RATE TO 2.5 TONS PER ACRE.

C. WOOD CELLULOSE FIBER USED AS MULCH MUST BE APPLIED AT A NET DRY WEIGHT OF 1500 POUNDS PER ACRE. MIX THE WOOD CELLULOSE FIBER WITH WATER TO ATTAIN A MIXTURE WITH A MAXIMUM OF 50 POUNDS OF WOOD CELLULOSE FIBER PER 100 GALLONS OF WATER.

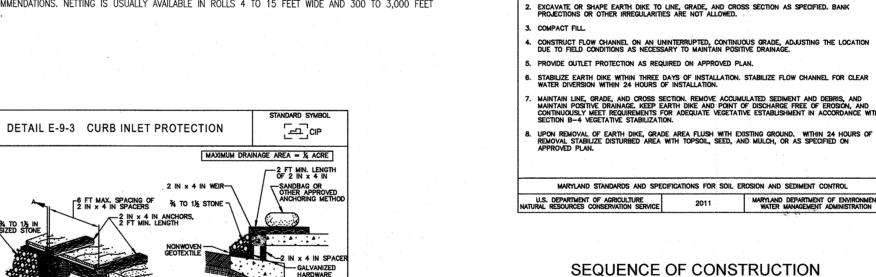
3. ANCHORING

A. PERFORM MULCH ANCHORING IMMEDIATELY FOLLOWING APPLICATION OF MULCH TO MINIMIZE A. PERFORM MULCH ANCHORING IMMEDIATELY FOLLOWING APPLICATION OF MULCH TO MINIMIZE
LOSS BY WIND OR WATER. THIS MAY BE DONE BY ONE OF THE FOLLOWING METHODS (LISTED
BY PREFERENCE), DEPENDING UPON THE SIZE OF THE AREA AND EROSION HAZARD:

1. A MULCH ANCHORING TOOL IS A TRACTOR DRAWN IMPLEMENT DESIGNED TO PUNCH AND ANCHOR MULCH
INTO THE SOIL SURFACE A MINIMUM OF 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 FOLLOW THE CONTOUR.

11. WOOD CELLULOSE FIBER MAY BE USED FOR ANCHORING STRAW. APPLY THE FIBER BINDER AT A NET DRY
WEIGHT OF 750 POUNDS PER ACRE. MIX THE WOOD CELLULOSE FIBER WITH WATER AT A MAXIMUM OF 50
POUNDS OF WOOD CELLULOSE FIBER PER 100 GALLONS OF WATER.

11. SYNTHETIC BINDERS SLICH AS ACRYLIC DIR (AGRO-TACK) DCA—70. PETROSET III. SYNTHETIC BINDERS SUCH AS ACRYLIC DLR (AGRO-TACK), DCA-70, PETROSET,
TERRA TAX II, TERRA TACK AR OR OTHER APPROVED EQUAL MAY BE USED. FOLLOW APPLICATION RATES AS
SPECIFIED BY THE MANUFACTURER. APPLICATION OF LIQUID BINDERS NEEDS TO BE HEAVIER AT THE EDGES
WHERE WIND CATCHES MULCH, SUCH AS IN VALLEYS AND ON CRESTS OF BANKS. USE OF ASPHALT BINDERS
IS STRICTLY PROHIBITED. S STRUCT PROPIDITED. V. LIGHTWEIGHT PLASTIC NETTING MAY BE STAPLED OVER THE MULCH ACCORDING TO MANUFACTURER RECOMMENDATIONS. NETTING IS USUALLY AVAILABLE IN ROLLS 4 TO 15 FEET WIDE AND 300 TO 3,000 FEET



∠2 IN x 4 IN WEIR ISOMETRIC

CONSTRUCTION SPECIFICATIONS 1. USE NOMINAL 2 INCH x 4 INCH LUMBER USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS.

. NAIL THE 2x4 WEIR TO 9 INCH LONG VERTICAL SPACERS (MAXIMUM 6 FEET APART). ATTACH A CONTINUOUS PIECE OF $\frac{1}{2}$ Inch Galvanized hardware cloth, with a minimum width of 30 inches and a minimum length of 4 feet longer than the throat opening, to the 2x4 weir, extending it 2 feet beyond throat on each side.

PLACE A CONTINUOUS PIECE OF NONWOVEN GEOTEXTILE OF THE SAME DIMENSIONS AS THE HARDWARE CLOTH OVER THE HARDWARE CLOTH AND SECURELY ATTACH TO THE 2x4 WEIR. PLACE THE ASSEMBLY AGAINST THE INLET THROAT AND NAIL TO 2x4 ANCHORS (MINIMUM 2 FEET LENGTH). EXTEND THE ANCHORS ACROSS THE INLET TOP AND HOLD IN PLACE BY SANDBAGS OR OTHER APPROVED ANCHORING METHOD.

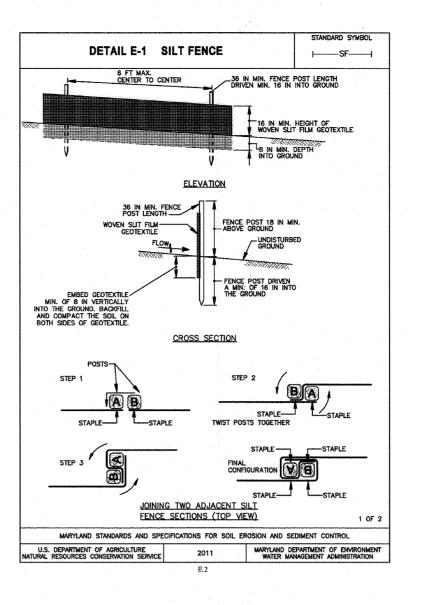
FORM THE HARDWARE CLOTH AND THE GEOTEXTILE TO THE CONCRETE GUTTER AND FACE OF CURB TO SPAN THE INLET OPENING. COVER THE HARDWARE CLOTH AND GEOTEXTILE WITH CLEAN %, TO 1½ INCH STONE OR EQUIVALENT RECYCLED CONCRETE. AT NON-SUMP LOCATIONS, INSTALL A TEMPORARY SANDBAG OR ASPHALT BERM TO PREVENT INLET BYPASS.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

SE OF MAPL 10. WITH PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, ROUGH GRADE SITE. BRING DRIVEWAYS, BUILDING PAD AND PARKING AREAS TO SUBGRADE WHERE SHOWN. INSTALL UTILITY MAINS, PVC CONDUIT, STORM DRAIN AND INLET PROTECTION WHERE SHOWN. PROVIDE TEMPORARY PIPES TO SEDIMENT TRAP. WITH PERMISSION FROM INSPECTOR, HARRIS 13. ONCE MAJOR CONSTRUCTION IS COMPLETE AND SITE IS STABILIZED, AND WITH PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, REMOVE SEDIMENT TRAP, TEMPORARY STOCKPILES AND TEMPORARY PIPES. INSTALL STORMWATER MANAGEMENT MICRO—BIORETENTION FACILITIESAND REMAINING ALLY AND DEPORT OF STORM DRAIN AND SPIJITER PIPES. BRING BENANDING ALLY AND DEPORT OF STORM DRAIN AND SPIJITER PIPES.

AS-BUILT CERTIFICATION FOR PSWM I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN

WAS CONSTRUCTED AS SHOWN ON THE "AS-BUILT" PLANS AND COMPLIES WITH THE APPROVED PLANS AND SPECIFICATIONS. HAVE VERIFIED THAT THE CONTRIBUTING DRAINAGE AREA IS SUFFICIENTLY STABILIZED TO PREVENT CLOGGING OF THE UNDERGROUND SWM FACILITY.



DETAIL C-1 EARTH DIKE

A-2/B-2 SEED WITH SOIL STABILIZATION MATTING OR LINE WITH SOD.

CONTINUOUS GRADE 0.5% MIN. TO 10% MAX. SLOPE

PLAN VIEW

FLOW CHANNEL STABILIZATION

CONSTRUCTION NOTES

2:1 SLOPE OR FLATTER

GRADE TO PROVIDE REQUIRED FLOW WIDTH AND FLOW DEPTH

a - DIKE HEIGHT 18 IN MIN. 30 IN MIN.

b - DIKE WIDTH 24 IN MIN. 36 IN MIN.

c - FLOW WIDTH 4 FT MIN. 6 FT MIN. d - FLOW DEPTH 12 IN MIN. 24 IN MIN.

DEVELOPER / CONTRACTOR SHALL REQUEST A PRE-CONSTRUCTION MEETING WITH THE APPROPRIATE ENFORCEMENT AUTHORITY PRIOR TO BEGINNING

AT LEAST 24 HOURS BEFORE STARTING ANY WORK. (1 DAY) STAKEOUT LIMITS OF DISTURBANCE. (3 DAYS)

NOTIFY HOWARD COUNTY BUREAU OF INSPECTIONS AND PERMITS (410-313-1880)

INSTALL STABILIZED CONSTRUCTION ENTRANCE, AS SHOWN HEREON. (1 DAY)
CLEAR AND GRUB ONSITE AREA, INCLUDING REMOVAL OF ANY STRUCTURES, FOR THE

FENCE, EARTH DIKES, ETC. AS SHOWN ON SHEET 2 OR AS DIRECTED BY SEDIMENT

THE CONTRACTOR SHALL INSPECT AND PROVIDE NECESSARY MAINTENANCE ON THE SEDIMENT AND EROSION CONTROLS SHOWN HEREON AFTER EACH RAINFALL AND

NOTE:
ONLY THAT PORTION OF SEWER AND STORM DRAIN WORK THAT CAN BE COMPLETED,
BACKFILLED AND STABILIZED AT THE END OF EACH WORKING DAY MAY BE EXCAVATED.

CONTROL INSPECTOR. (1 WEEK)
UPON COMPLETION OF ABOVE, AND WITH PERMISSION OF THE SEDIMENT
CONTROL INSPECTOR, CLEAR & GRUB INTERIOR OF SITE, INCLUDING DEMOLTION ITEMS

ADJUST OR REMOVE PORTIONS OF EARTH DIKE AS CONSTRUCTION PROGRESSES. (6 WEEKS) INSTALL STONE SUBBASE AND BASE COURSE PAVING WHERE SHOWN. (5 DAYS)
BRING BUILDING PADS TO COMPACTED PAD GRADE ELEVATIONS. CONSTRUCT BUILDINGS
AND COMPLETE THE INSTALLATION OF THE ROOF DRAINS AND BUILDING LATERALS.

STABILIZE DISTURBED AREAS WITH PERMANENT SEEDING MIXTURE AND STRAW MULCH OR AS DIRECTED BY THE SEDIMENT CONTROL INSPECTOR.

REMAINING ALLEY AND DRIVEWAY TO COMPACTED GRADE ELEVATIONS AND INSTALL REMAINING BASE PAVING. (4 WEEKS)
INSTALL SIDEWALKS, SURFACE PAVING, LANDSCAPING, AMENITIES, TOT LOT, LIGHTING AND

PERIMETER DEVICES, SUPER SILT FENCE, TREE PROTECTION FENCE, ETC SHALL BE INSPECTED

15. WITH PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, COMPLETE ANY REMAINING FINE GRADING IN ACCORDANCE WITH STORMWATER MANAGEMENT CRITERIA, ADD TOPSOIL

16. AFTER PERMISSION HAS BEEN GIVEN BY SEDIMENT CONTROL INSPECTOR, REMOVE ANY REMAINING PERIMETER CONTROLS AND STABILIZE THESE DISTURBED AREAS WITH

ANY CHANGES OR REVISIONS TO THE SEQUENCE OF CONSTRUCTION MUST BE REVIEWED AND

APPROVED BY THE PLAN APPROVAL AUTHORITY PRIOR TO PROCEEDING WITH CONSTRUCTION

AREAS WITH PERMANENT SEEDING MIXTURE AND STRAW MULCH (1 WEEK)

PERMANENT SEEDING MIXTURE AND STRAW MULCH. (1 WEEK)

PER THE SPECIFICATIONS SHOWN HEREON, AND STABILIZE ANY REMAINING DISTURBED

INSTALLATION OF PERIMETER CONTROLS. (1 DAY)
INSTALL SEDIMENT TRAP AND OUTFALL, PERIMETER SUPER SILT FENCE, DIVERSION

DIKE TYPE

FLOW

SEED WITH STRAW MULCH AND TACK. (NOT ALLOWED FOR CLEAR WATER DIVERSION.)

A-3/B-3 4 TO 7 INCH STONE OR EQUIVALENT RECYCLED CONCRETE PRESSED INTO SOIL A MINIMUM OF 7 INCHES AND FLUSH WITH GROUND.

OBTAIN GRADING PERMIT. (1 DAY)

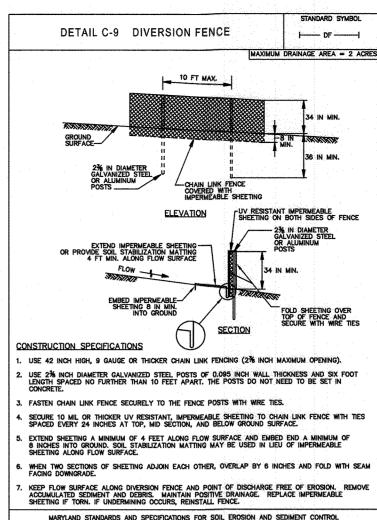
CONSTRUCTION: (1 DAY)

ON A DAILY BASIS (1 DAY)

(6 MONTHS)

SIGNAGE. (2 WEEKS)

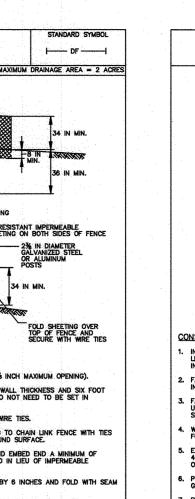
REMOVE AND DISPOSE OF ALL TREES, BRUSH, STUMPS, OBSTRUCTIONS, AND OTHER OBJECTIONABLE MATERIAL SO AS NOT TO INTERFERE WITH PROPER FUNCTION OF EARTHDIKE.

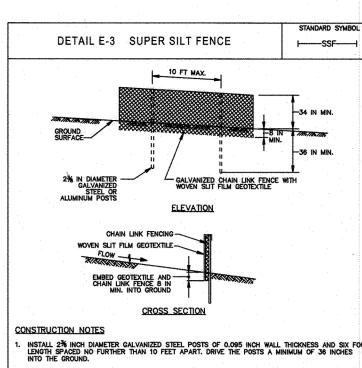


U.S. DEPARTMENT OF AGRICULTURE
URAL RESOURCES CONSERVATION SERVICE

2011

MARYLAND DEPARTMENT OF ENVIRONMEN
WATER MANAGEMENT ADMINISTRATION





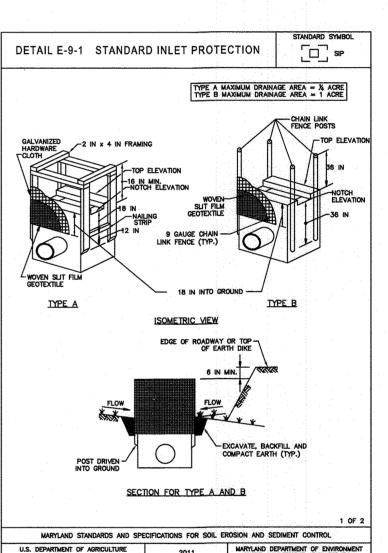
FASTEN 9 GAUGE OR HEAVIER GALVANIZED CHAIN LINK FENCE (2% INCH MAXIMUM OPENING) 42 INCHES IN HEIGHT SECURELY TO THE FENCE POSTS WITH WIRE TIES OR HUG RINGS. WHERE ENDS OF THE GEOTEXTILE COME TOGETHER, THE ENDS SHALL BE OVERLAPPED BY 6 INCHES, FOLDED, AND STAPLED TO PREVENT SEDIMENT BY PASS. EXTEND BOTH ENDS OF THE SUPER SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SUPER SILT FENCE. PROVIDE MANUFACTURER CERTIFICATION TO THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THA GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS. REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL CHAIN LINK FENCING AND GEOTEXTILE. MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL U.S. DEPARTMENT OF AGRICULTURE
URAL RESOURCES CONSERVATION SERVICE

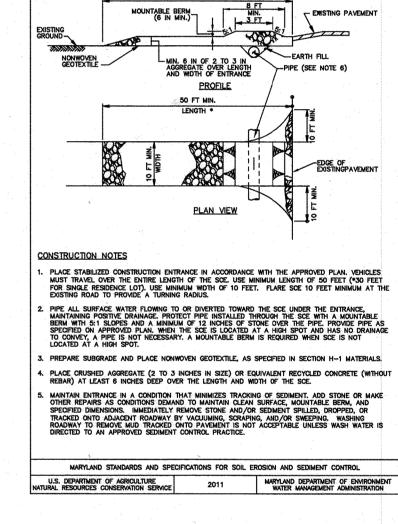
URAL RESOURCES CONSERVATION SERVICE

URAL RESOURCES CONSERVATION SERVICE

AMANGEMENT ADMINISTRATION

STANDARD SYMBOL





DETAIL B-1 STABILIZED CONSTRUCTION

ENTRANCE



NO AS-BUILT INFORMATION ON THIS SHEET

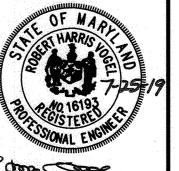
VBH LLC 9113 BRAE BROOKE DRIVE LANHAM, MD 20706

DEVELOPER KIRBY DEVELOPMENT, LLC C/O JEFF KIRBY, PRESIDENT 5670 B FURNACE AVENUE ELKRIDGE, MD 21075 (410) 788-0027

SITE DEVELOPMENT PLAN GRADING EROSION AND SEDIMENT CONTROL NOTES & DETAILS

RIVER WATCH I 5635-5659 FURNACE AVENUE TAX MAP 38 GRID 04 1ST ELECTION DISTRICT ZONED: CAC-CLI HOWARD COUNTY, MARYLAND

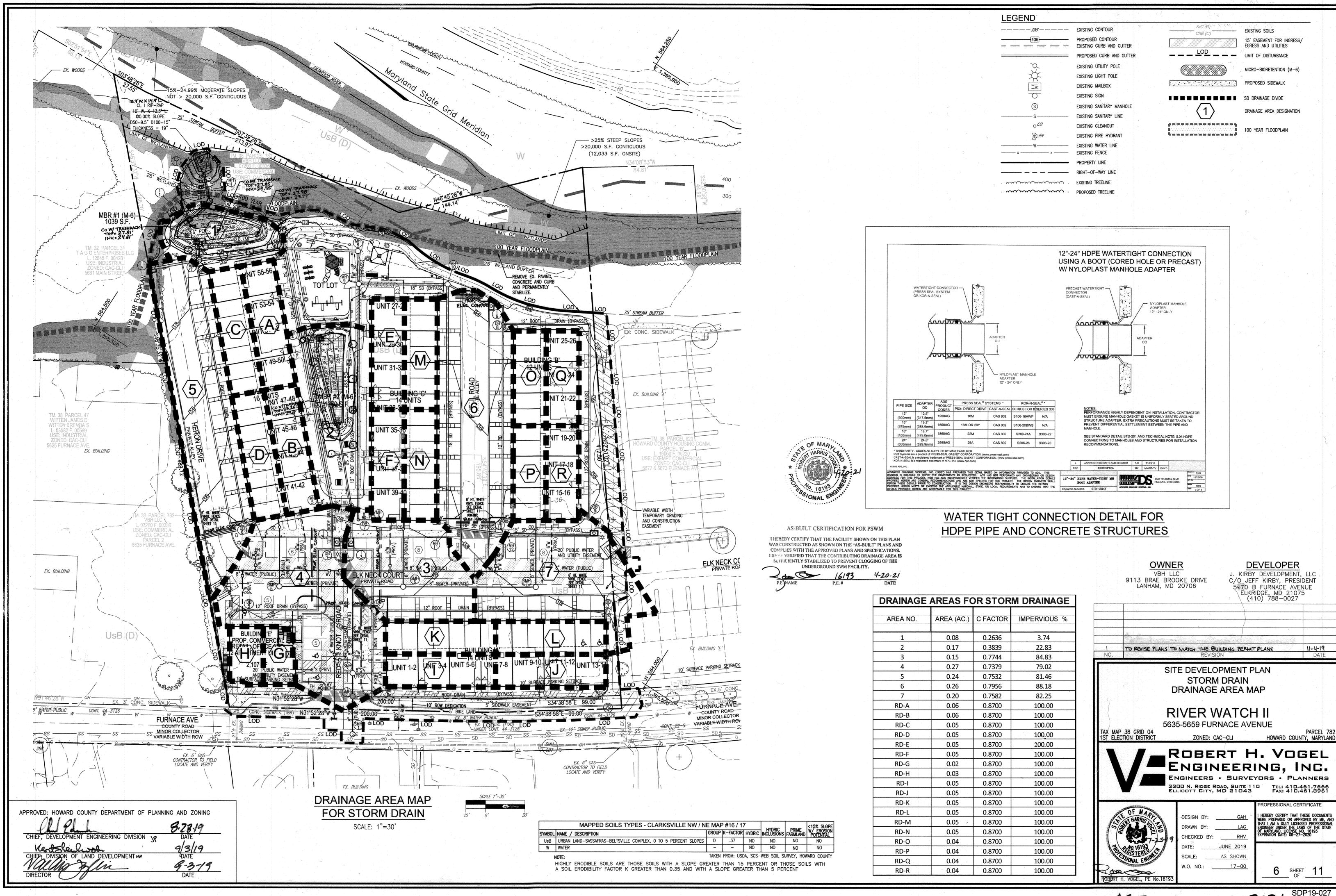
ROBERT H. VOGEL ENGINEERING, INC. ENGINEERS . SURVEYORS . PLANNERS 3300 N. RIDGE ROAD, SUITE 110 TEL: 410.461.7666 ELLICOTT CITY, MD 21043 FAX: 410.461.8961



DESIGN BY: _____GAH DRAWN BY: LAG RHV CHECKED BY: JUNE 2019 SCALE: AS SHOWN ____17-00 W.O. NO.:

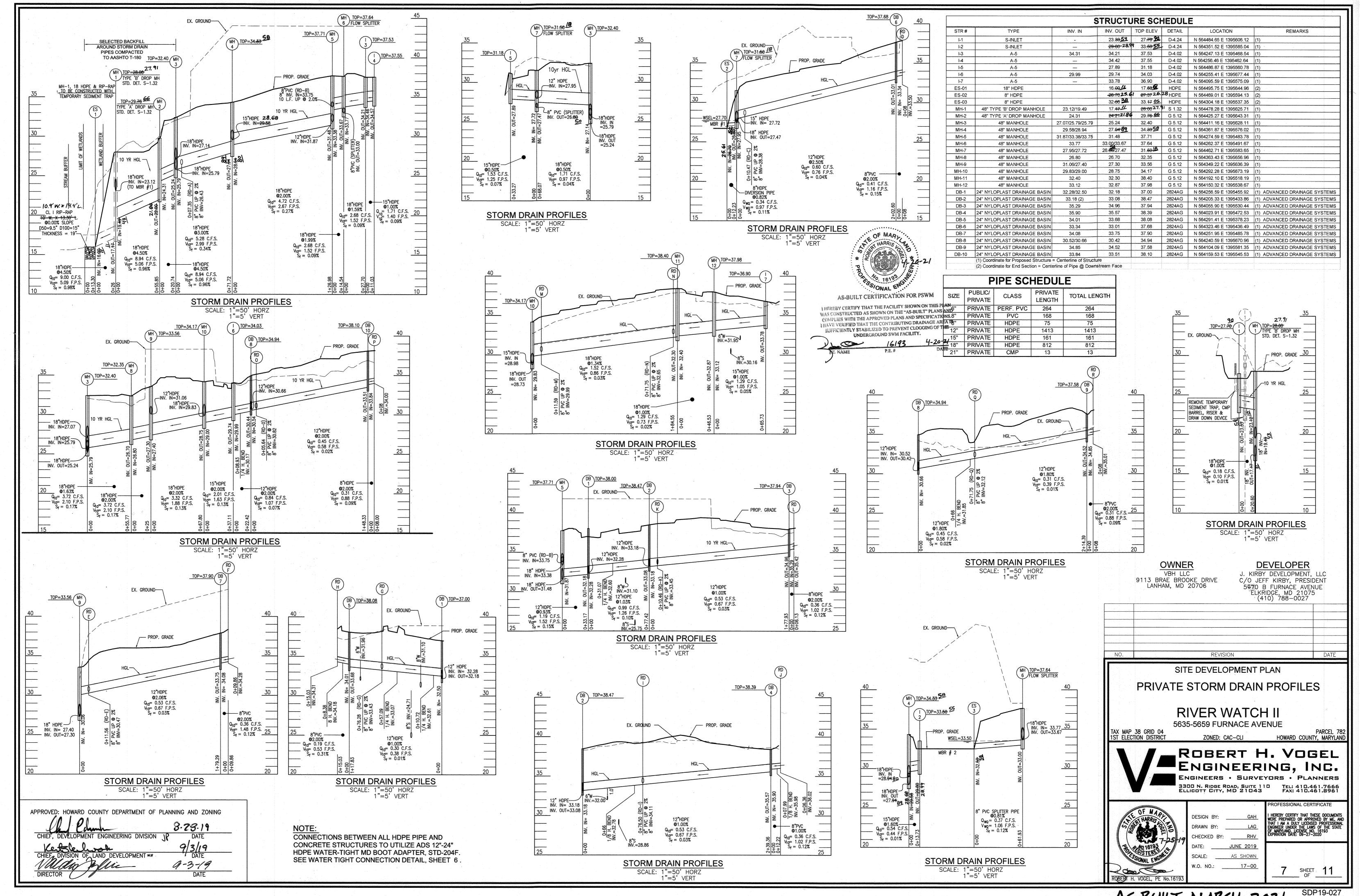
SHEET 11

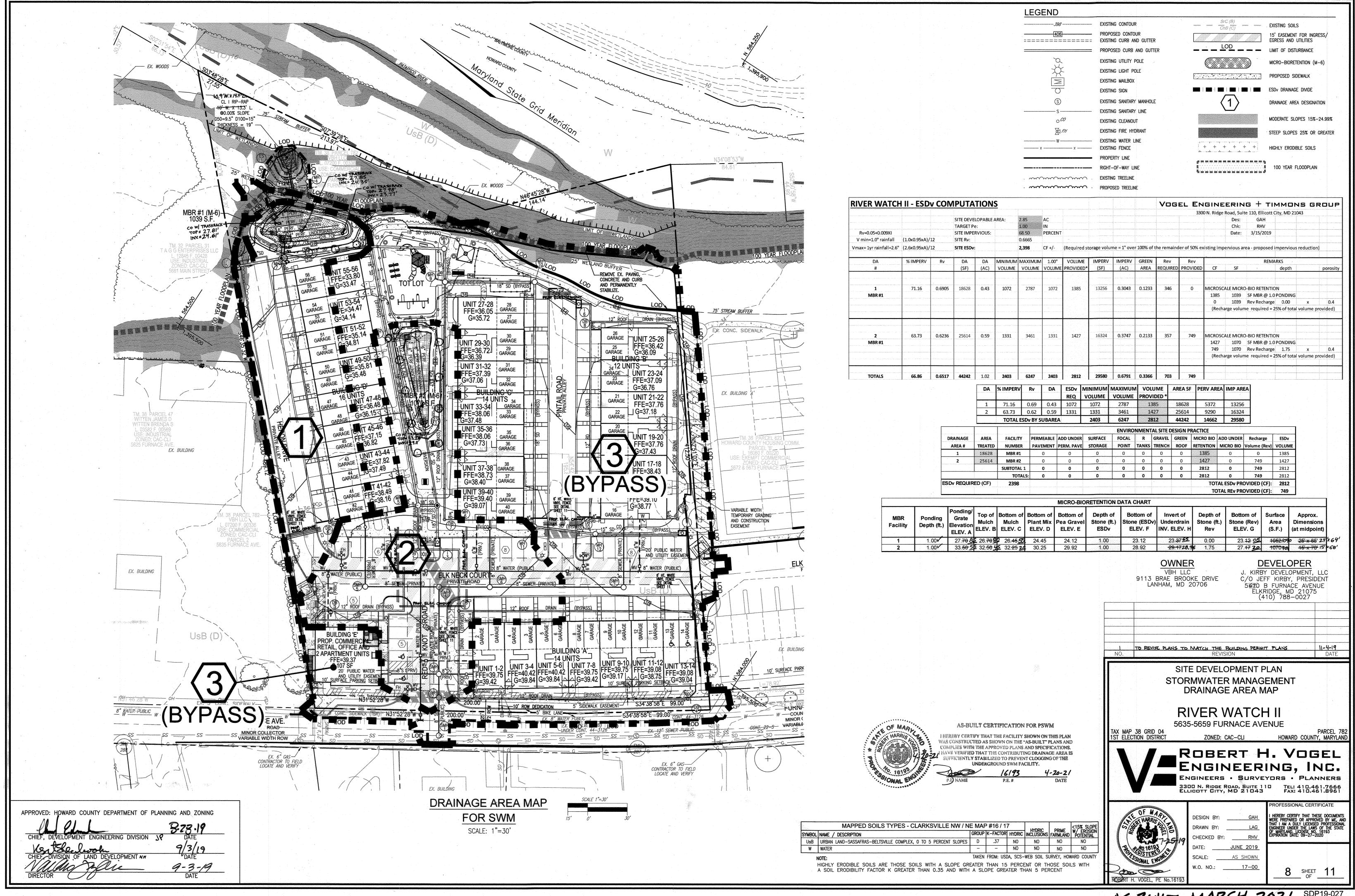
I HEREBY CERTIFY THAT THESE DOCUMENTS
WERE PREPARED OR APPROVED BY ME, AND
THAT I AM A DULY LICENSED PROFESSIONAL
ENGINEER UNDER THE LAWS OF THE STATE
OF MARYLAND, LICENSE NO. 16193
EXPIRATION DATE: 09-27-2020

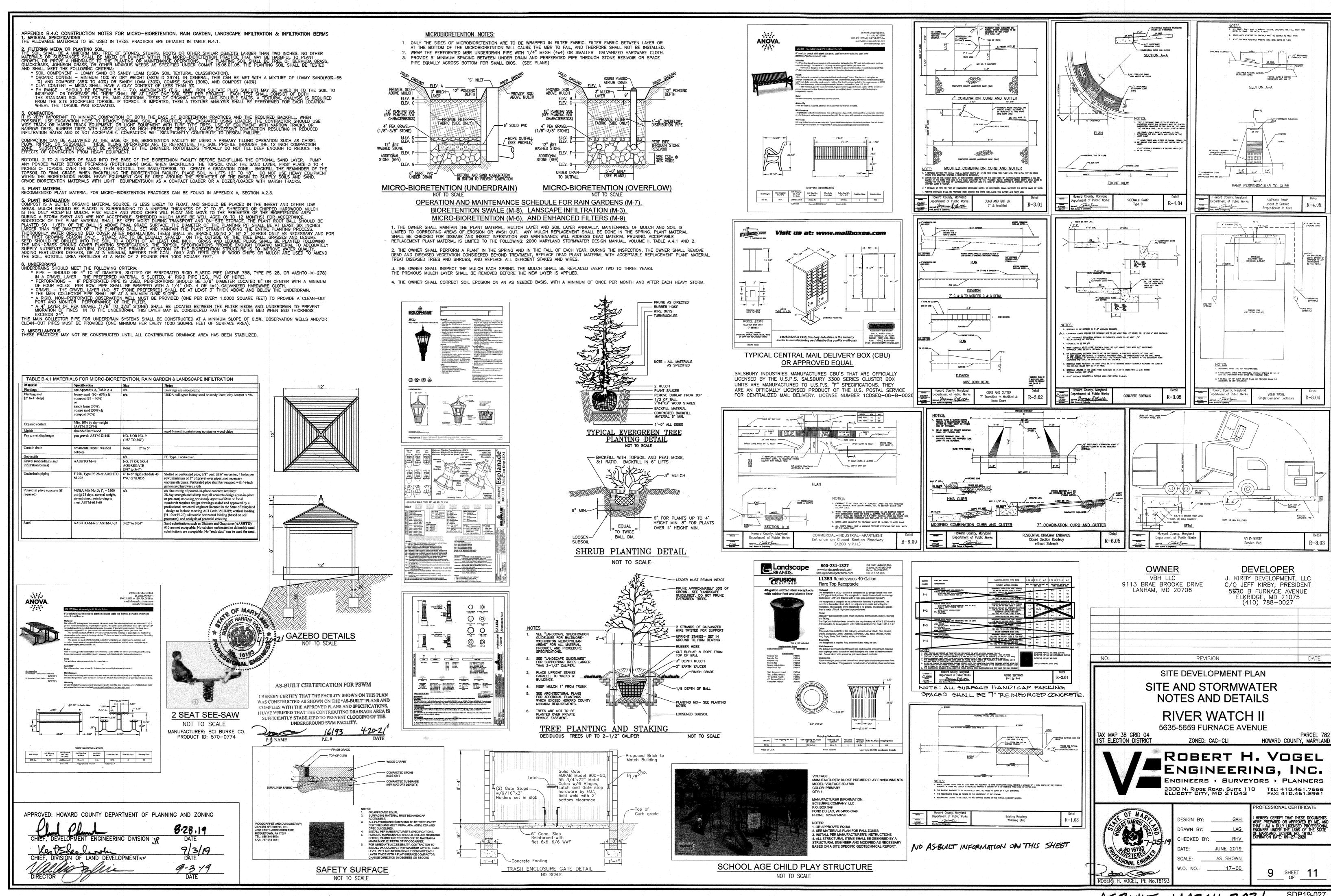


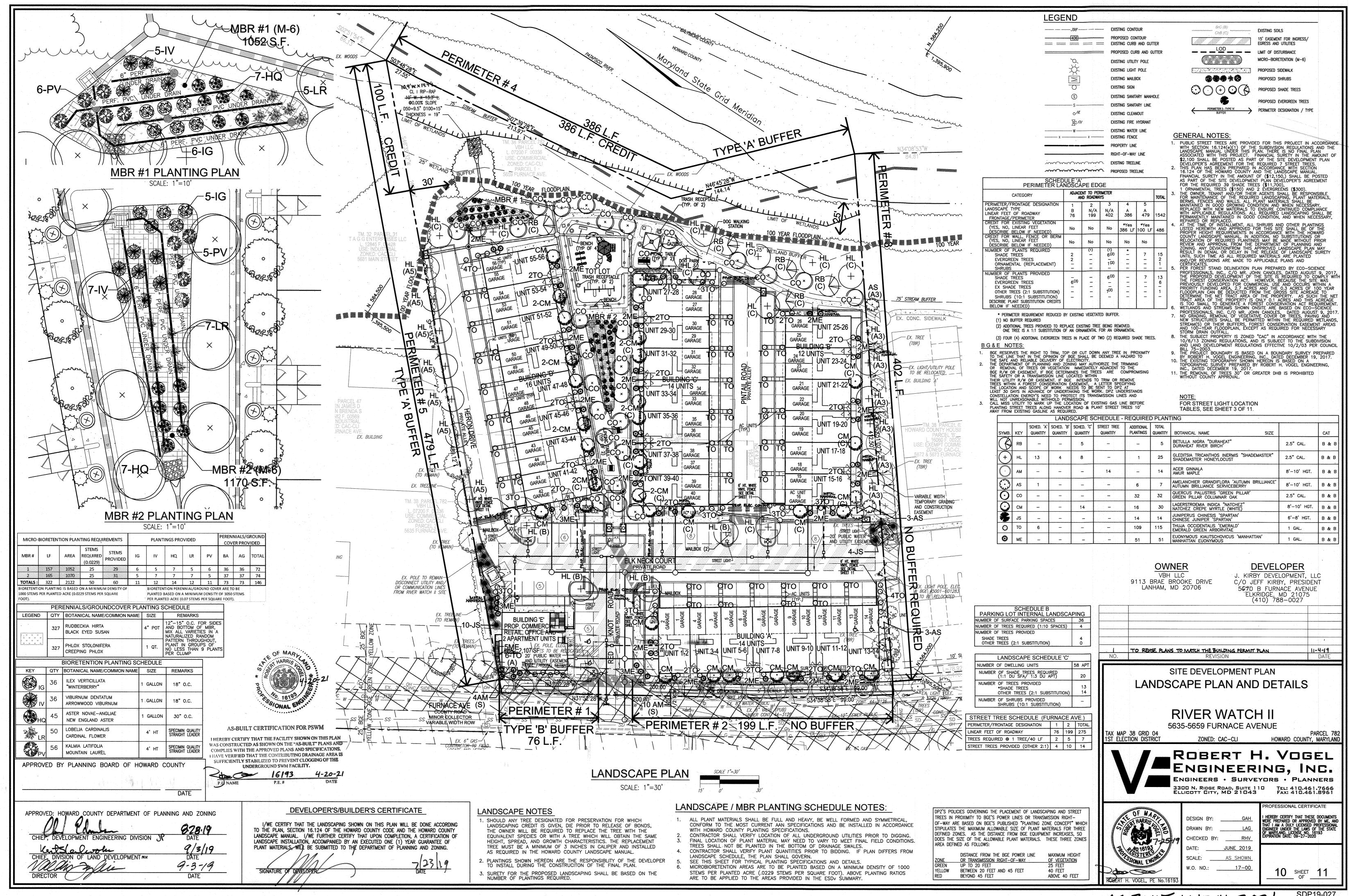
DATE

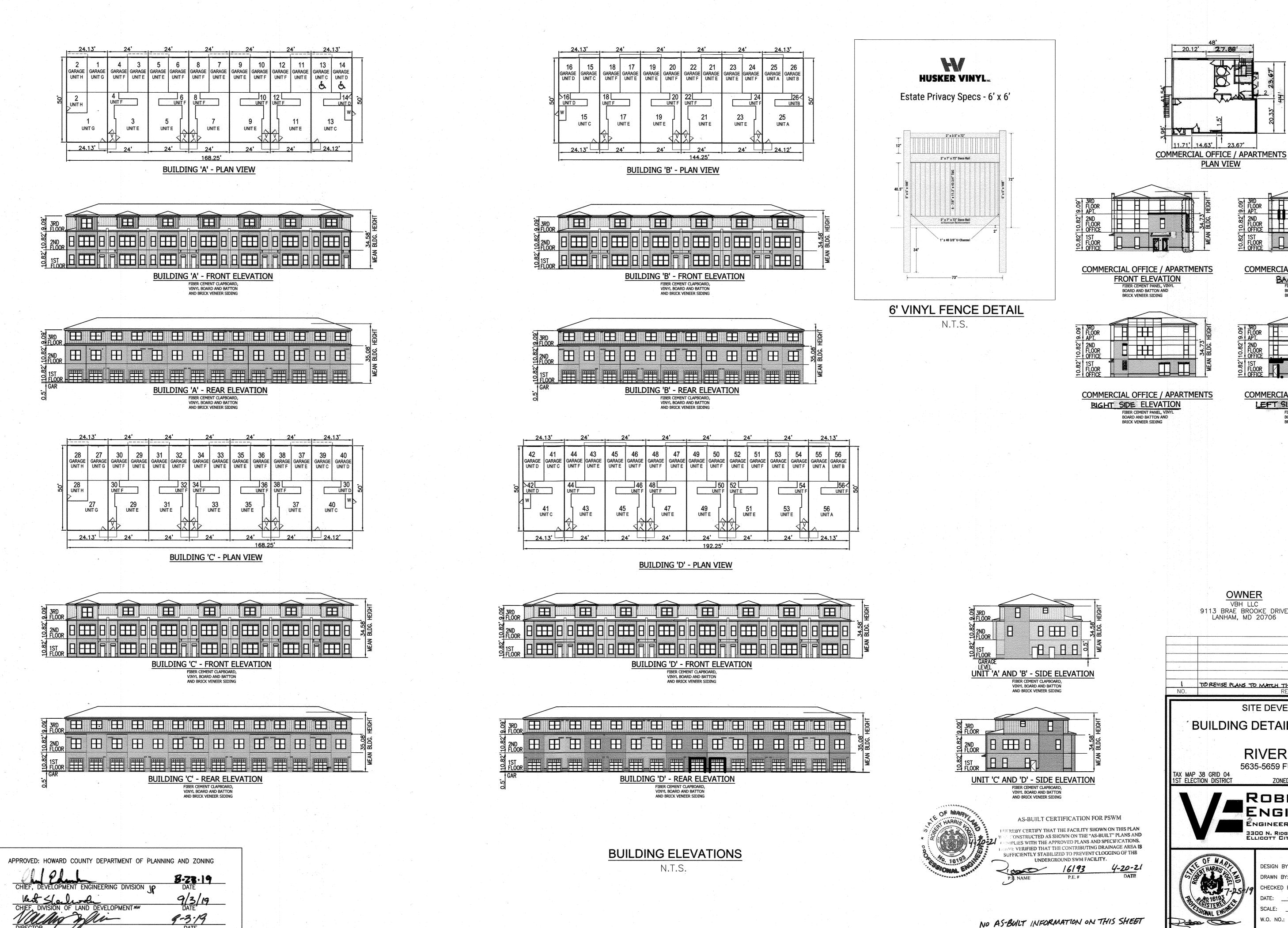
6 SHEET 11

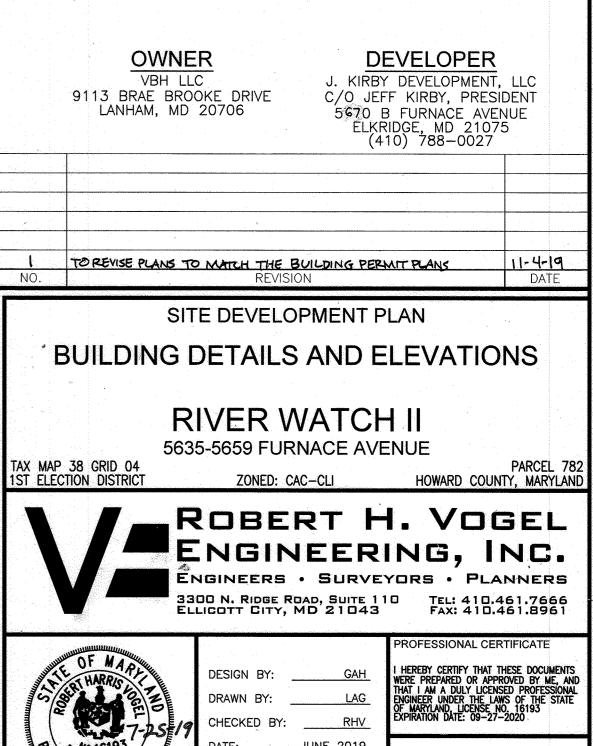












17-00

COMMERCIAL OFFICE / APARTMENTS

BACK ELEVATION
FIBER CEMENT PANEL, VINYL
BOARD AND BATTON AND
BRICK VENEER SIDING

COMMERCIAL OFFICE / APARTMENTS

FIBER CEMENT PANEL, VINYL

BOARD AND BATTON AND

LEFT SIDE ELEVATION

27.88

PLAN VIEW

11 SHEET 11