GENERAL NOTES

SUBJECT PROPERTY IS ZONED "PGCC" PER THE 10-6-2013 COMPREHENSIVE ZONING PLAN

- AREA OF PROPOSED PUBLIC RW: 2.05 AC± NUMBER OF PROPOSED BUILDABLE LOTS: 65
- AREA OF PROPOSED BUILDARI E LOTS: 7.06 AC+
- NUMBER OF PROPOSED OPEN SPACE LOTS: 6 AREA OF PROPOSED OPEN SPACE LOTS: 4.65 AC±

OPEN SPACE REQUIRED (15% OF GROSS AREA OF SITE SUBJECT TO SUBDIVISION): 13.64 AC. x 15% = 2.05 AC CREDITED OPEN SPACE PROVIDED: 3.98 AC.± NON-CREDITED OPEN SPACE PROVIDED: 0.55 AC.± TOTAL OPEN SPACE PROVIDED: 4.53 AC.±

HOWARD COUNTY SOILS MAP 15.

TOPOGRAPHY IS BASED ON WINGS AFRIAL MAPPING CO., INC. ON OR ABOUT JANUARY, 2006

BEFORE STARTING WORK SHOWN ON THESE PLANS:

BGE(UNDERGROUND DAMAGE CONTROL

410.787.9068 1 800 257 777 410.795.1390 HOWARD COUNTY, DEPT. OF PUBLIC WORKS, BUREAU OF UTILITIES 410.313.2640 1.800.252.1133

1 800 743 0033/410 224 921 PREVIOUS HOWARD COUNTY FILE NUMBERS: S-86-013; S-94-045; S-04-012; SP-97-012; SP-06-013; F-94-006; F-96-107; F-96-150

15. ANY DAMAGE TO PUBLIC RIGHT-OF WAYS, F

ADDITION TO MSHA STANDARDS AND SPECIFICATIONS IF APPLICABLE.

MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) 24. THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL, WHICH IS

ENSURE SAFE ACCESS FOR FIRE AND EMERGENCY VEHICLES PER THE FOLLOWING REQUIREMENTS

 WIDTH - 12 FEET (16 FEET SERVING MORE THAN ONE RESIDENCE) 3) GEOMETRY - MAXIMUM 15% GRADE, MAXIMUM 10% GRADE CHANGE AND 45-FOOT TURNING RADIUS; 4) STRUCTURES (CULVERTS/BRIDGES) - CAPABLE OF SUPPORTING 25 GROSS TONS (H25-I OADING)

ALL TRAFFIC CONTROL DEVICES, MARKINGS AND SIGNING SHALL BE IN ACCORDANCE

AGREEMENT IN THE AMOUNT OF \$2,700,00 (9 SHADE TREES @ \$300,00 EACH). THE STREET TREES AND PERIMETER LANDSCAPE TREES SHOWN HEREON SHALL BE PLANTED AT THE SITE DEVELOPMENT PLAN STAGE. INTERNAL LANDSCAPING FOR LOTS 1-47 AND 95-112 SHALL BE PROVIDED AT THE SITE DEVELOPMENT PLAN STAGE IN ACCORDANCE WITH SECTION 16.124 OF THI SUBDIVISION REGULATIONS AND THE LANDSCAPE MANUAL. THE TRAFFIC STUDY FOR THIS PROJECT WAS PREPARED BY TRAFFIC GROUP, DATED JANUARY 07, 2005 AND WAS APPROVE

29. A NOISE STUDY IS NOT REQUIRED FOR THIS PROJECT SINCE IT IS MORE THAN FIVE HUNDRED FEET (500') FROM A PRINCIPAL OR INTERMEDIATE ARTERIAL HIGHWAY AND SINCE THE HEAVY TRUCK TRAFFIC ON INTERSTATE ROUTE 70 DOES NOT EXCEED

30. THIS PLAN COMPLIES WITH CRITERIA ESTABLISHED BY THE HOWARD COUNTY ZONING REGULATIONS AND THE SECOND AMENDMENT TO THE TURF VALLEY RESIDENTIAL SUBDISTRICT FINAL DEVELOPMENT PLAN.

31. OPEN SPACE LOTS 48, 49 & 113 - 115 ARE TO BE DEDICATED TO THE FAIRWAYS AT TURF VALLEY NEIGHBORHOOD ASSOCIATION,

32. GOLF SPACE LOT 116 IS TO BE OWNED AND MAINTAINED BY MANGIONE ENTERPRISES AT TURF VALLEY LIMITED PARTNERSHIP.

33. PARKING FOR THIS DEVELOPMENT IS REQUIRED AT THE RATE OF 2.3 SPACES PER UNIT (TWO SPACES FOR EACH UNIT STANDARD AND 0.3 SPACES FOR EACH UNIT OVERFLOW).

REQUIRED PARKING: 150 (65 UNITS x 2.3) PROPOSED PARKING: 290 (260 SPACES WITHIN GARAGES AND ON DRIVEWAYS + 30 ON-STREET PARKING SPACES

34. STREET LIGHT PLACEMENT AND THE TYPE OF FIXTURE AND POLE SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME III (2006), SECTION 5.5.A. A MINIMUM SPACING OF TWENTY FEET (20') SHALL BE MAINTAINED

35. THE GOLF EASEMENTS LOCATED ON LOTS 1-20, 105 & 106 ARE INTENDED TO ADVISE PROPERTY OWNERS OF THE POTENTIAL FOR ENCROACHMENT BY ERRANT GOLF BALLS INTO THE PROPERTY FROM THE FIELD OF PLAY OF THE GOLF COURSE. THE INDUSTRY STANDARD IS TO LOCATE BUILDABLE LOTS 150 FEET FROM THE CENTERLINE OF ADJACENT FAIRWAYS. THE DEVELOPER HAS ATTEMPTED TO KEEP 200 FEET FROM THE FAIRWAYS CENTERLINE TO BUILDABLE LOTS. PRIVATE GOLF EASEMENTS ARE LOCATED WHERE THE 200 FOOT DISTANCE CANNOT BE MAINTAINED GOLF COURSE FUNCTIONS SUCH AS PLAYER OR CART TRESPASS IS PROHIBITED.

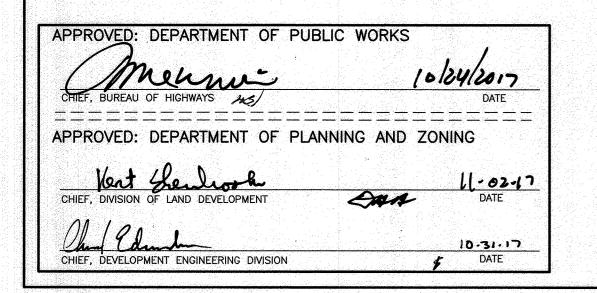
36. FOREST CONSERVATION FOR THE AREA CONSISTING OF NON-BUILDABLE BULK PARCEL 'D' WAS PROVIDED UNDER F-07-158, FOREST CONSERVATION FOR THE REMAINING PORTION OF THIS PHASE SHALL BE MET BY 0.44 ACRES OF 'OFFSITE' RETENTION WITHIN A FOREST CONSERVATION EASEMENT LOCATED ON OPEN SPACE LOT 204 OF THE VILLAGES OF TURF VALLEY, PHASE 2 SECTION 1. F-08-084. THE RETAINED AREAS WILL BE POSTED WITH APPROPRIATE PROTECTIVE SIGNAGE. THE PORTION OF THIS PROJECT LOCATED ON PARCEL 8 IS EXEMPT FROM FOREST CONSERVATION REQUIREMENTS UNDER SECTION 16.1202(b)(1)(iv) SINCE IT IS A PLANNED UNIT DEVELOPMENT WHICH HAD PRELIMINARY DEVELOPMENT PLAN APPROVAL AND 50% OR MORE OF THE LAND WAS RECORDED AND SUBSTANTIALLY DEVELOPED BEFORE DECEMBER 31, 1992. FINANCIAL SURETY FOR THE REQUIRED FOREST CONSERVATION OBLIGATION HAS BEEN POSTED AS PART OF THE DEVELOPER'S AGREEMENT IN THE

37. THIS PLAN IS SUBJECT TO WAIVER PETITION, WP-09-048, TO WAIVE SECTION 16.1202(a)(1) OF THE HOWARD COUNTY CODE AND

WAS APPROVED ON NOVEMBER 26, 2008, SUBJECT TO THE FOLLOWING CONDITIONS: WAIVER PETITION APPROVAL APPLIES ONLY TO TEMPORARY DEFERRAL FOR ESTABLISHING ON- OR OFF-SITE FORES. CONSERVATION EASEMENTS FOR DEVELOPMENT OF TURF VALLEY 4TH AMENDED CSP, PARCEL 706. EACH SUBSEQUENT PHASE OF DEVELOPMENT MUST ESTABLISH THE REQUIRED AREA OF FOREST CONSERVATION EASEMENTS AND PROVIDE THE NECESSARY AREA OF FOREST RETENTION AND AFFORESTATION PLANTING AS REQUIRED BY THE FOREST CONSERVATION WORKSHEET FOR THE DEVELOPMENT TO SATISFY IT'S OBLIGATION. THE ENTIRE AREA OF FOREST CONSERVATION OBLIGATION FOR PARCEL 706 MUST BE PROVIDED WITH TH EPROCESSING AND RECORDING OF THE LAST 2. APPLICABLE DEADLINE AND MILESTONE DATES IN ACCORDANCE WITH SECTIONS 16.144 AND 16.156 OF THE HOWARD COUNTY CODE MUST BE MET

38. 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 MOUNTED ON TOP OF EACH POST.

39. WATER AND SEWER SERVICE FOR THESE LOTS WILL BE GRANTED UNDER THE PROVISIONS OF SECTION 18.122.B OF THE



FINAL ROAD CONSTRUCTION PLAN FAIRWAYSAT TURE VALLEY

PHASE 3

LOTS 1-47, 95-112; OPEN SPACE LOTS 48, 49, 113-115; AND GOLF SPACE LOT 116

A SUBDIVISION OF PARCELS 8 AND 706 AND A RESUBDIVISION OF NON-BUILDABLE BULK PARCEL 'D' POD 'F' SECTION IV RESIDENTIAL PHASE IV E

HOWARD COUNTY, MARYLAND

AS-BUILT NOTES: 1.) HORIZONTAL AND VERTICAL DATUM FOR THIS AS-BUILT IS BASED ON THE MARYLAND STATE REFERENCE SYSTEM NAD 83/ ADJ 07AS PROJECTED FROM HO. CO. GEODETIC CONTROL STATIONS IGUS 2.) THE INSTRUMENTS USED IN PERPORMING

LEGEND

PROJECT BOUNDARY

THE AS-BUILT WERE A 5"TOTAL STATION AND PRISH AND RTK GPS. 3.) THIS AS BUILT WAS PERFORMED BY

BENCHMARK ENGINEERING, THC.

RESIDENTIA

VICINITY MAP

NUMBER NORTHING EASTING ELEVATION DESCRIPTION	
16IB 590,475.2538 1,344,753.9350 469.892 11.5' SOUTHWEST OF WBL 20.8' WEST OF PK NAIL IN SHI 66.4' SOUTH OF LAST POST IN C	OULDÉR,
17AB 598,435.249 1,348,615.2482 508.469 SE OF INTERSECTION OF RTI WETHERBURN ROAD, 14.8' WES' POST, 35' NE OF MANHO	T OF FENCE

HEET NO.	DESCRIPTION
1	COVER SHEET
2	ROAD PLAN AND PROFILE VARDON LANE
3	ROAD PLAN AND PROFILE VERDI COURT
4	GRADING, SEDIMENT, AND EROSION CONTROL PLAN
5	GRADING, SEDIMENT, AND EROSION CONTROL NOTES
6	GRADING, SEDIMENT, AND EROSION CONTROL DETAILS
7	SWM OPEN CHANNEL PROFILES AND NOTES
8	STORM DRAIN DRAINAGE AREA MAP
9	STORM DRAIN PROFILES, CHARTS, AND DETAILS
10	LANDSCAPE PLAN
11	FOREST CONSERVATION PLAN AND DETAILS
12	FOREST CONSERVATION PLAN - NOTES AND DETAILS
13	FOREST CONSERVATION PLAN - OFFSITE EASEMENTS

	<u> </u>	
	PHASE 3	
RIGHT	of way ele	/ATICAL
R/WPT.Nb.	DESCRIPTION	ELEATION
165	REBAR & CAP	435 84'
182	MAGNAIL	435,69'
201	MAG NAIL	438.01
202	MAG NAVL	434.75
, 203	REBAR & CAP	417.72'
201	REBARACAP	431.32'
265	REBAR &CAP	416.21
211	REBUR & CAP	129.11
212	X MARK ON VERIZON BOX	429.11
213	REBAR & CAP	417.69'
219	CONC. MON.	428.721
220	REBAR OCAP	432.35
221	REBAR & CAP	134.71'
222	MAGNAUL	437.99
223	REBAL & CAP	120.87'
22.4	REBAR & CAP	429.08
225	REBARECAP	429.63
226	MAG NAIL	426.26'
227	REBAR & CAP	428.45'
223	REBAR & ODP	428,75
229	REBARGOAP	429.40'
230	rebar ecap	429.36

THIS SHEET REPLACES THI PREVIOUS SHEET SIGNED ON 6-21-2017

were prepared or approved by me, and that I am a duly license

professional engineer under the laws of the State of Maryland

Date: 6-30-2019

PARCEL 8 MANGIONE ENTERPRISES OF TURF VALLEY L.920 F.250 ZONED: PGCC-1 FAIRWAYS AT TURF	OT 54 WALLEY OT 54 WALLEY	E. 1348.250 kg.	
GOLF SPACE LOT 54 FAIRWAYS AT TURF PISZ F-07-158 GOLF SPACE LOT 54 FAIRWAYS AT TURF VALLEY P1SZ F-07-158 F-07-158 F-07-158 F-07-158	VARDON LANE	PARCEL 8 MANGIONE ENTERPRISES OF TURF VALLEY L.920 F.250 ZONED: PGCC-1 PARCEL 419 LEGENDS AT TURF VALLEY PHASES 1 & 2 PLATS 13963-13966 ZONED: PGCC-1 PARCEL 706 MANGIONE ENTERPRISES OF TURF VALLEY L.920 F.250 ZONED: PGCC-1 PARCEL 706 MANGIONE ENTERPRISES TIRF VALLEY PARCEL 706 TIRF VALLEY TIRF VALLEY	\
PARCEL 9 DAVID FORCE PARK HOWARD COUNTY PARKS & RECREATION L.477 F.739 L.1522 F.331 ZONED: R-20	GOLF SPACE LOT 55 FAIRWAYS AT TURF VALLEY P1S2 F-07-158 OPEN SPACE FAIRWAYS AT TU P1S2 F-07-1 PARCEL, 706 MANGIONE ENTERPRISES OF TURF, VALLEY L. 1852 F. 227 ZONED: PGCC-1	GOLF SPACE LOT 52 P1S2 FAIRWAYS AT TURF VALLEY F-16-087 P1S2 L1852 F.227 ZONED: PGCC L1852 F.227 ZONED: PGCC URF VALLEY	
FAIRWAYS AT TURF VALLEY PHASE 3 F-10-086 1348,500	COLF SPACE LOT 95 FAIRWAYS AT TURE WALLEY F-10-084	PUCCO NON-BUILDBLE BULK PARCEL 'E' FAIRWAYS AT TURF VALLEY P2 F-10-084	
STORMWATER MANAGEMENT SLIMMARY TABLE	LOCATION MAP		

STORMWATER MANAGEMENT SUMMARY TABLE PROTECTION QUALITY REQUIRED | PROVIDED REQUIRED | PROVIDED 915cf (2) 915cf (2) N/A(3) N/A(3) 240cf (2) 240cf (2) 1,873cf (2)

1) PROVIDED UNDER REGIONAL SWM FACILITY SDP-95-121 2) WQv AND REV HAVE BEEN CALCULATED FOR THE AREAS SUBJECT TO GRADING AND LAND COVER CHANGE. TREATMENT FOR WQV AND REV WILL BE PROVIDED FOR AS FOLLOWS:

793cf(2)

4,966cf(2)

4,966cf(2)

-DRAINAGE AREA 'C' AND 'D' BY A DRY SWALE (O-1) -DRAINAGE AREA 'F' BY A BIORETENTION FACILITY (F-6) -DRAINAGE AREA 'B' IS A BY-PASS AREA. NO NEW DEVELOPMENT PROPOSED.

793cf(2)

3) CPv IS NOT REQUIRED FOR THESE DRAINAGE AREAS SINCE THE COMPUTED, POST-DEVELOPED -YEAR RUNOFF IS LESS THEN 2.0cfs OR LESS THAN THE EXISTING RUNOFF. DRAINAGE AREA 'B' IS A BY-PASS AREA. NO NEW DEVELOPMENT IS PROPOSED. CPv IS NOT REQUIRED. 4) OVERBANK FLOOD PROTECTION VOLUME, Qp, IS NOT REQUIRED FOR THIS SITE.

5) EXTREME FLOOD VOLUME, Qf, IS NOT REQUIRED FOR THIS SITE.

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. 21443 ____ Expiration Date: 2-21-2022

I hereby certify, by my seal, that to the best of my knowledge and belief the facilities shown on this "AS-BUILT" Plan meet the Approved Plans and Specifications

Donald Mason, P.E.

N/A(3)

FIXTURE TYPE	POLE TYPE	LOCATION	STREET
LED-100 COLONIAL POST TOPS	14' BLACK FIBERGLASS	€ STA. 19+45 15.33' LEFT	VARDON LANE
LED-100 COLONIAL POST TOPS	14' BLACK FIBERGLASS	© STA. 22+57 23' LEFT	VARDON LANE
LED-100 COLONIAL POST TOPS	14' BLACK FIBERGLASS	© STA. 24+83 16' LEFT	VARDON LANE
LED-100 COLONIAL POST TOPS	14' BLACK FIBERGLASS	€ STA. 26+35 17' LEFT	VARDON LANE
LED-100 COLONIAL POST TOPS	14' BLACK FIBERGLASS	€ STA. 27+83 17' LEFT	VARDON LANE
LED-100 COLONIAL POST TOPS	14' BLACK FIBERGLASS	Ç STA. 1+50 15.33' RIGHT	VERDI COURT
LED-100 COLONIAL POST TOPS	14' BLACK FIBERGLASS	Ç STA. 3+62 15.33' LEFT	VERDI COURT
LED-100 COLONIAL POST TOPS	14' BLACK FIBERGLASS	Ç STA. 6+13 15.33' RIGHT	VERDI COURT

VERDI COURT 0+39 17' RIGHT R1-1 "STOP"	
b b	
그는 사용하는 사람이 하다 하는 사람들은 사람들은 사람들이 되었다면 하는 사람들이 되었다. 하는 사람들은 사람들이 되었다면 하는 사람들이 되었다면 하는데 되었다면 되었다면 하는데 되었다면 되었다면 하는데 되었다면 되었다면 되었다면 되었다면 되었다면 되었다면 되었다면 되었다면	
li ji da ka <mark>le da kale kale kale kale da da kale da da kale kale kale kale kale kale kale kal</mark>	

	RO/	AD CLASS	IFICATION		
ROAD NAME	CLASSIFICATION	PAVING TYPE	DESIGN SPEED	LIMITS OF CONSTRUCTION	R/W
VARDON LANE	PUBLIC ACCESS STREET	P-2	30	17+79 TO END	50'
VERDI COURT	PUBLIC ACCESS STREET	P-2	30	0+00 TO 3+09.43	50'

LIMITED PARTNERSHIP 1205 YORK ROAD, PENTHOUSE 410-825-8400

ANGIONE ENTERPRISES OF TURF VALLE

7-14-2016 REVISE LOT NUMBERS

BENCHMARK

ENGINEERING, INC.

8480 BALTIMORE NATIONAL PIKE ▲ SUITE 315 ▲ ELLICOTT CITY, MARYLAND 21043

(P) 410-465-6105 (F) 410-465-6644

WWW.BEI-CIVILENGINEERING.COM

NIGNEERS LAND SURVEYORS PLANNERS

DATE

ANGIONE ENTERPRISES OF TURF VALLE LIMITED PARTNERSHIP 1205 YORK ROAD, PENTHOUSE LUTHERVILLE, MARYLAND 21093 410-825-8400

FAIRWAYS AT TURF VALLEY PHASE 3 LOTS 1-47 AND 95-112; OPEN SPACE LOTS 48, 49, AND 113-115; GOLF SPACE LOT 116 TAX MAP: 16 - GRID: 16 - PARCEL: P/O 8 & 706 ZONED: PGCC (RESIDENTIAL SUBDISTRICT) ELECTION DISTRICT NO. 2 - HOWARD COUNTY, MARYLAND

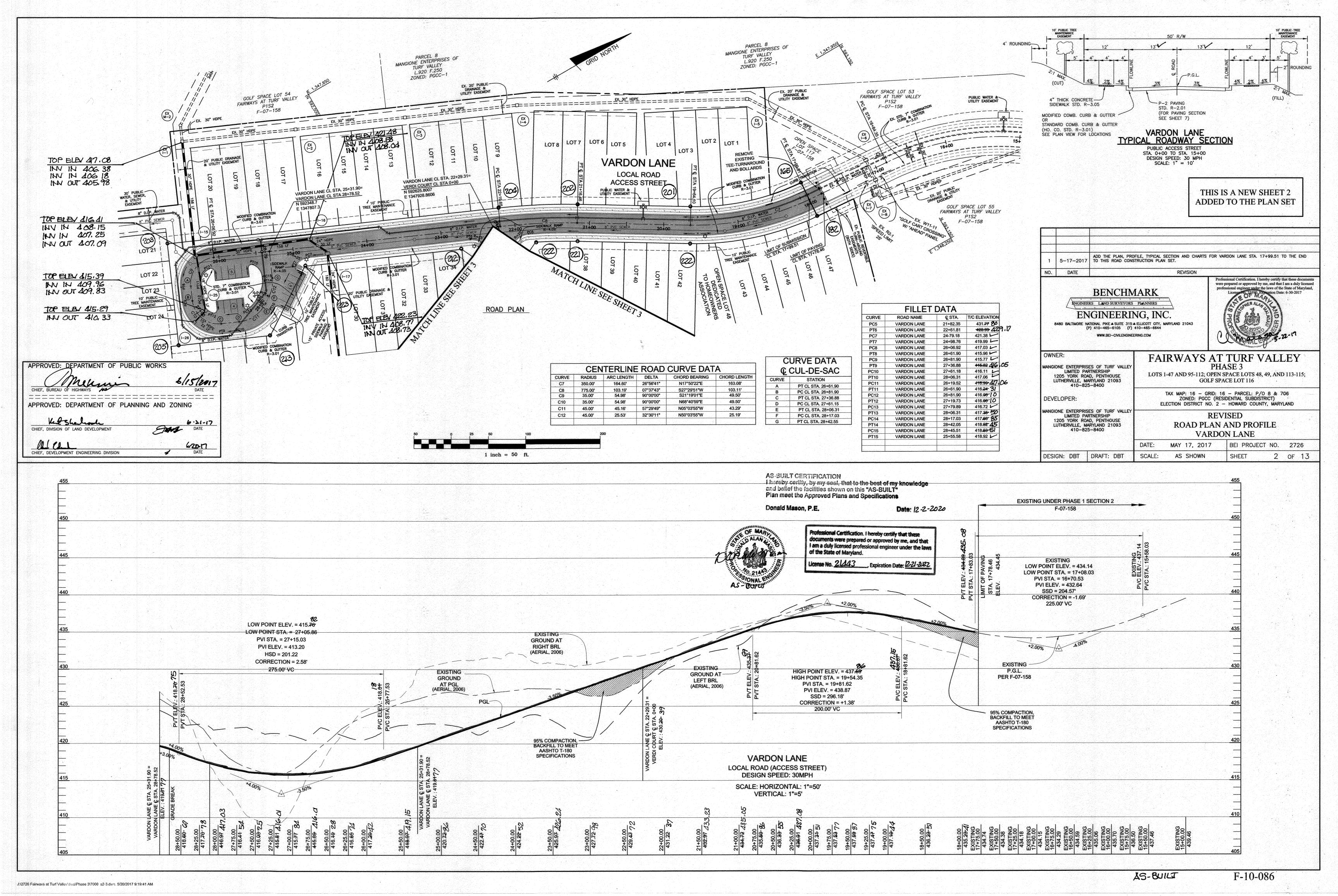
> REVISED **COVER SHEET**

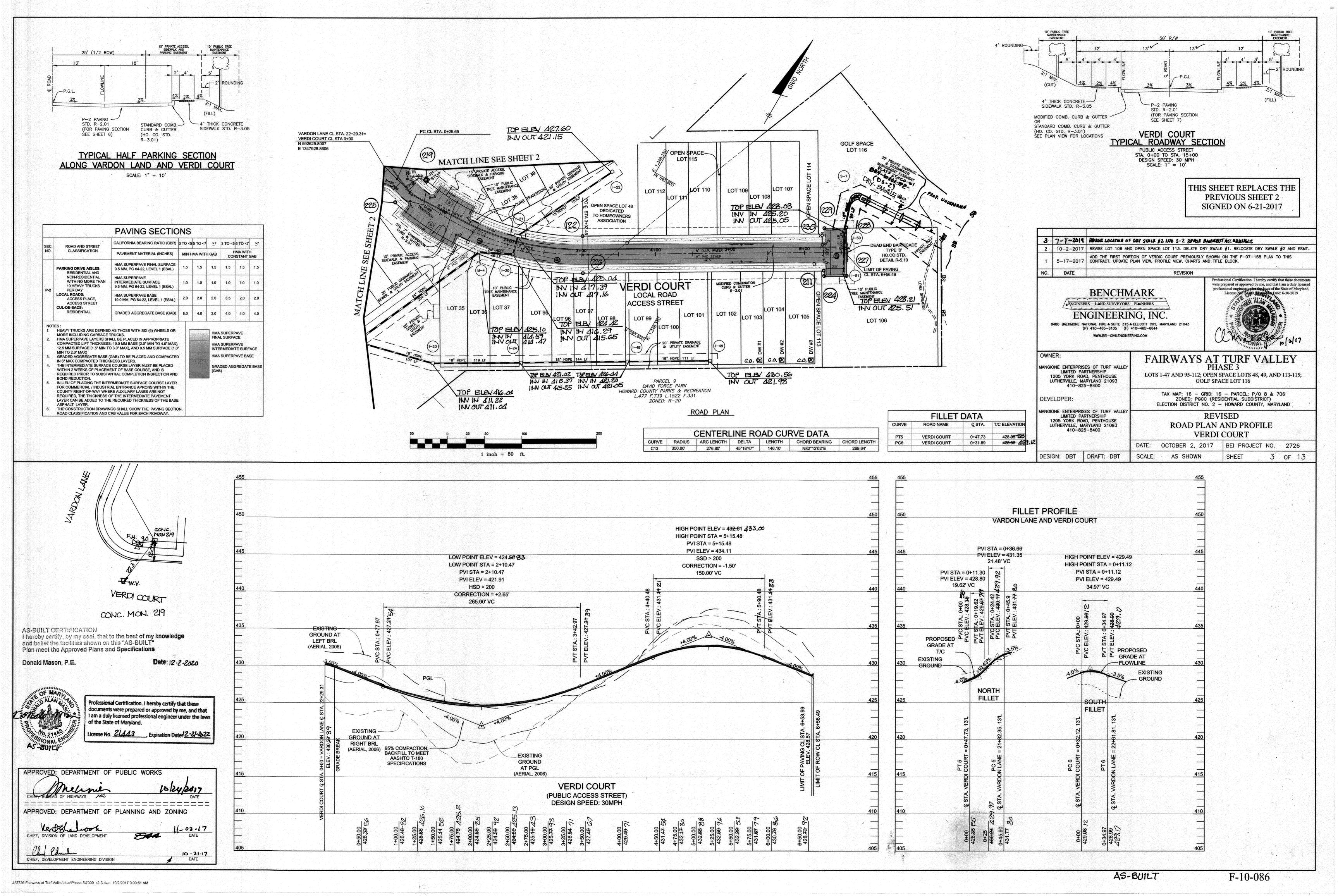
DATE: OCTOBER 2, 2017 BEI PROJECT NO. 2726 DESIGN: DBT | DRAFT: DBT AS SHOWN

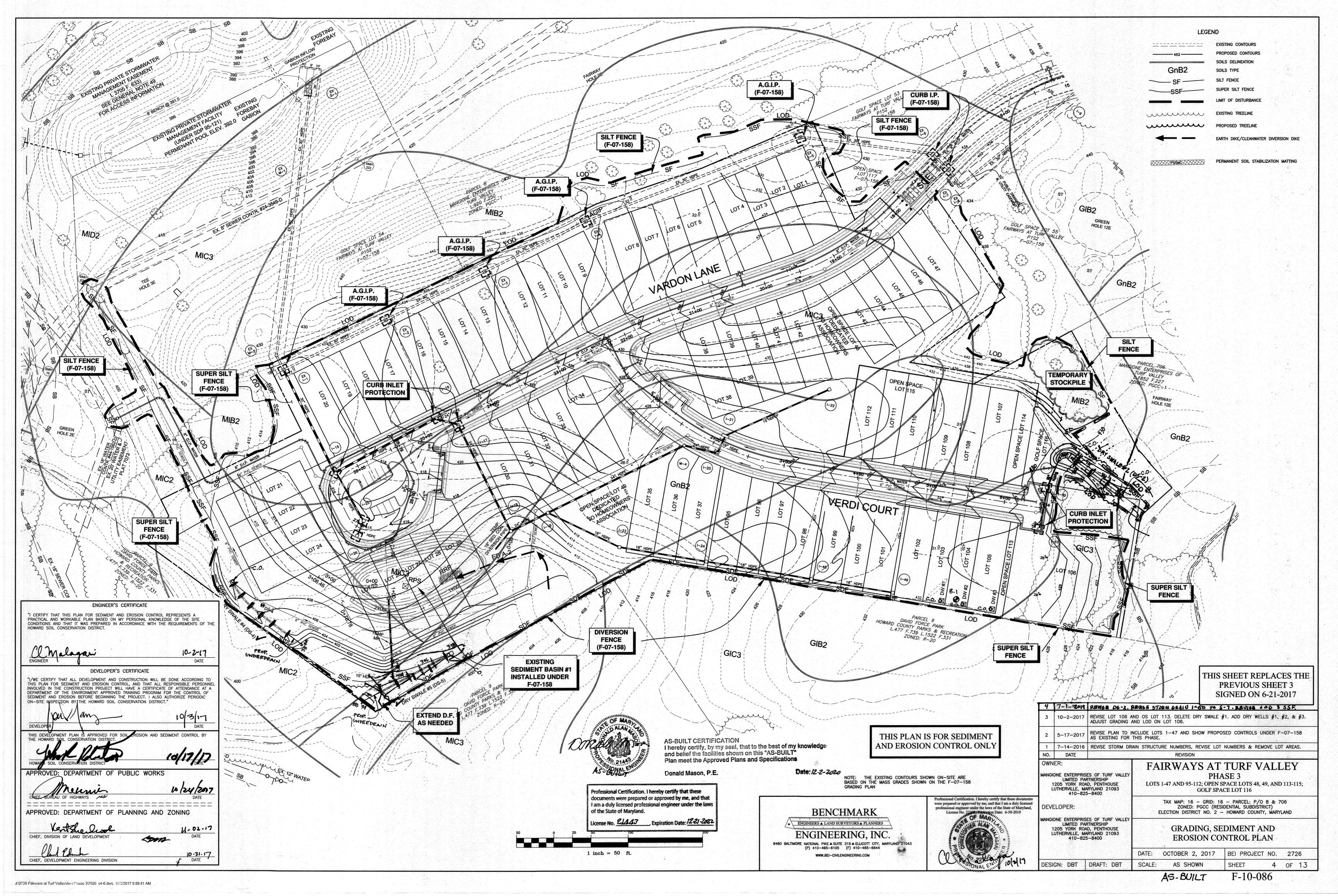
3 | 10-2-2017 | REVISE GEN NOTES 5, 7, & 26. REVISE LOT LINES IN LOCATION MAP FOR LOT 106 AND OS LOT 113

AS-BUILT F-10-086

J:\2726 Fairways at Turf Valley\dwo\Phase 3\7000 s1.dwg. 10/2/2017 9:02:06 AM







VEGETATIVE STABILIZATION Using vegetation as cover to protect exposed soil from erosion

To promote the establishment of vegetation on exposed soil. Conditions Where Practice Applies On all disturbed areas not stabilized by other methods. This specification is divided into sections on

stabilization; soil preparation, soil amendments and topsoiling; seeding and mulching; temporary and permanent stabilization

Effects on Water Quality and Quantity Stabilization practices 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,

reducing sediment loads and runoff to downstream areas. Planting vegetation in disturbed areas will have an effect on the water budget, especially on volumes and runoff, infiltration, evaporation, transpiration, percolation, and groundwater recharge. Over time, vegetation

increase organic matter content and improve the water holding capacity of the soil and subsequent plant 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 within the root zone.

Sediment control practices must remain in place during grading, seedbed preparation, seeding, mulching, and vegetative establishment. Adequate Vegetative Establishment

Inspect seeded areas for vegetative establishment and make necessary repairs, replacements, and reseedings within the planting season.

1. Adequate vegetative stabilization requires 95 percent groundcover. 2. If an area has less than 40 percent groundcover, restabilize following the original recommendations for lime, fertilizer, seedbed preparation, and seeding. 3. If an area has between 40 and 94 percent groundcover, over-seed and fertilize using half of the rates 4. Maintenance fertilizer rates for permanent seeding are shown in Table B.6

> **B-4-1 STANDARDS AND SPECIFICATIONS** INCREMENTAL STABILIZATION

Establishment of vegetative cover on cut and fill slopes.

To provide timely vegetative cover on cut and fill slopes as work progresses Conditions Where Practice Applies

Any cut or fill slope greater than 15 feet in height. This practice also applies to stockpiles. A Incremental Stabilization - Cut Slones

1. Excavate and stabilize cut slopes in increments not to exceed 15 feet in height. Prepare seedbed and apply seed and mulch on all cut slopes as the work progresses. 2. Construction sequence example (Refer to Figure B.1): a. Construct and stabilize all temporary swales or dikes that will be used to convey runoff

around the excavation. b. Perform Phase 1 excavation, prepare seedbed, and stabilize. c. Perform Phase 2 excavation, prepare seedbed, and stabilize. Overseed Phase 1 areas as

d. Perform final phase excavation, prepare seedbed, and stabilize. Overseed previously seeded areas as necessary.

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 in the operation or completing the operation out of the seeding season will necessitate the application of temporary stabilization. B. Incremental Stabilization - Fill Slopes

1. Construct and stabilize fill slopes in increments not to exceed 15 feet in height. Prepare seedbed and apply seed and mulch on all slopes as the work progresses. 2. Stabilize slopes immediately when the vertical height of a lift reaches 15 feet, or when the grading operation ceases as prescribed in the plans.

3. At the end of each day, install temporary water conveyance practice(s), as necessary, to intercept surface runoff and convey it down the slope in a non-erosive manner. 4. Construction sequence example (Refer to Figure B.2): a. Construct and stabilize all temporary swales or dikes that will be used to divert runoff around

the fill. Construct silt fence on low side of fill unless other methods shown on the plans address this area. b. At the end of each day, install temporary water conveyance practice(s), as necessary, to

intercept surface runoff and convey it down the slope in a non-erosive manner. c. Place Phase 1 fill, prepare seedbed, and stabilize. d. Place Phase 2 fill, prepare seedbed, and stabilize.

e. Place final phase fill, prepare seedbed, and stabilize. Overseed previously seeded areas as

Note: Once the placement of fill has begun the operation should be continuous from grubbing through the C. Soil Amendments (Fertilizer and Lime Specifications) 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 Figure B.

ENGINEER'S CERTIFICATE

CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE

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

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

DEPARTMENT OF PUBLIC WORKS

APPROVED: DEPARTMENT OF PLANNING AND ZONING

DEVELOPMENT ENGINEERING DIVISION

J.\2726 Fairways at Turf Vallev\dwo\Phase 3\7026 s4-6.dwo. 5/20/2017 9:32:12 AM

ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT."

5-22-17

5/30/17

6/15/2017

6.20.1

DATE

I CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION CONTROL REPRESENTS A

PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE

HOWARD SOIL CONSERVATION DISTRICT.

B-4-2 STANDARDS AND SPECIFICATIONS SOIL PREPARATION, TOPSOILING, AND SOIL AMENDMENTS

The process of preparing the soils to sustain adequate vegetative stabilization To provide a suitable soil medium for vegetative growth.

Where vegetative stabilization is to be established

A. Soil Preparation Temporary Stabilization

 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. Apply fertilizer and lime as prescribed on the plans.

Incorporate lime and fertilizer into the top 3 to 5 inches of soil by disking or other Permanent Stabilization

Conditions Where Practice Applies

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: 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. Application of amendments or topsoil is required if on-site soils do not meet the above

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. Apply soll 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.

1. Topsoil is placed over prepared subsoil prior to establishment of permanent vegetation. The purpose is to provide a suitable soil medium for vegetative growth. Soils of concern have low moisture content, low nutrient levels, low pH, materials toxic to plants, and/or unacceptable soil

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

3. Topsoiling is limited to areas having 2:1 or flatter slopes where: The texture of the exposed subsoil/parent material is not adequate to produce

vegetative growth. 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 nutrients. The original soil to be vegetated contains material toxic to plant growth.

The soil is so acidic that treatment with limestone is not feasible. Areas having slopes steeper than 2:1 require special consideration and design. Topsoil Specifications: Soil to be used as topsoil must meet the following criteria:

 Topsoil must be a loam, sandy loam, clay loam, silt loam, sandy clay loam, or loamy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Topsoil must not be a mixture of contrasting textured subsoils and must contain less than 5 percent by volume of cinders, stones, slag, coarse fragments, gravel, sticks, roots, trash, or other materials larger than 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. 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. Topsoil Application

 Erosion and sediment control practices must be maintained when applying topsoil. 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. 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. 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 ngineering purposes may also be used for chemical analyses.

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.

Lime materials must be ground limestone (hydrated or burnt lime may be substituted except when hydroseeding) which contains at least 50 percent total oxides (calcium oxide plus magnesium oxide). Limestone must be ground to such fineness that at least 50 percent will pass through a #100 mesh sieve and 98 to 100 percent will pass through a #20 mesh sieve 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.

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

B-4-3 STANDARDS AND SPECIFICATIONS SEEDING AND MULCHING

The application of seed and mulch to establish vegetative cover To protect disturbed soils from erosion during and at the end of construction. Conditions Where Practice Applies To the surface of all perimeter controls, slopes, and any disturbed area not under active grading.

1. Specifications

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. 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

d. Sod or seed must not 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.

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 B.1, Permanent Seeding Table B.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

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

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; P2O5 (phosphorous), 200 pounds per acre; K2O (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

iii. Mix seed and fertilizer on site and seed immediately and without interruption. iv. When hydroseeding do not incorporate seed into the soil.

1. Mulch Materials (in order of preference) a. Straw consisting of thoroughly threshed wheat, rye, oat, or barley and reasonably bright in color. Straw is to be free of noxious weed seeds as specified in the Maryland Seed Law and not musty, moldy, caked, decayed, or excessively dusty Note: Use only sterile straw mulch in areas where one species of grass is desired. b. Wood Cellulose Fiber Mulch (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

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,

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.

pH range of 4.0 to 8.5, ash content of 1.6 percent maximum and

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:

> 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. ii. 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.

i. A mulch anchoring tool is a tractor drawn implement designed to punch and anchor

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.

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

B-4-5 STANDARDS AND SPECIFICATIONS

PERMANENT STABILIZATION

To stabilize disturbed soils with permanent vegetation.

To use long-lived perennial grasses and legumes to establish permanent ground cover on disturbed soils. Conditions Where Practice Applies Exposed soils where around cover is needed for 6 months or more.

A. Seed Mixtures 1. General Use

a Select one or more of the species or mixtures listed in Table B.3 for the appropriate Plant Hardiness Zone (from Figure B.3) and based on the site condition or purpose found on Table B.2. Enter selected mixture(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 Guild, Section 342 - Critical Area Planting c For sites having disturbed areas 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 ½ 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 2. Turfgrass Mixtures

a. Areas where turfgrass may be desired include lawns, parks, playgrounds, and commercial sites which will receive a medium to high level of maintenance. 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. i. 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.

ii. 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 by weight.

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. iv.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:

1 ½ 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 Marvland" 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 line.

c. Ideal Times of Seeding for Turf Grass Mixtures Western MD: March 15 to June 1, August 1 to October 1 (Hardiness Zones: 5b. 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 1 ½ inches in diameter. The resulting seedbed must be in such condition that future mowing of grasses will pose

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 not especially true when seedings are made late in the planting season, in abnormally dry or hot seasons, or on adverse sites.

B. Sod: to provide quick cover on disturbed areas (2:1 grade or flatter). 1. General Specifications

a. Class of turfgrass 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 % inch, plus or minus % inch, at the time of cutting. Measurement for thickness must exclude top growth and thatch. Broken pads and torn-

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 (excessively dry or wet) may adversely affect its survival.

e. 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. 2. Sod Installation a. During periods of excessively high temperature or in areas having dry subsoil, lightly irrigate the

subsoil immediately prior to laving 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. Stagger 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

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

B-4-4 STANDARDS AND SPECIFICATIONS TEMPORARY STABLIZATION

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.

<u>Criteria</u>

1. Select one or more of the species or seed mixtures listed in Table B.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 B.1 plus fertilizer and lime rates must be put on the plan. 2. For sites having soil tests performed, use and show the recommended rates by the testing agency Soil tests are not required for Temporary Seeding.

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.

B-4-8 STANDARDS AND SPECIFICATIONS

Definition

STOCKPILE AREA

A mound or pile of soil protected by appropriately designed erosion and sediment control measures. Purnose To provide a designated location for the temporary storage of soil that controls the potential for erosion, sedimentation, and changes to drainage patterns. Conditions Where Practice Applies

Stockpile areas are utilized when it is necessary to salvage and store soil for later use.

1. The stockpile location and all related sediment control practices must be clearly indicated on the erosion and sediment control plan.

2. The footprint of the stockpile must be sized to accommodate the anticipated volume of material and based on a side slope ratio no steeper than 2:1. Benching must be provided in accordance with Section B-3 Land Grading.

3. Runoff from the stockpile area must drain to a suitable sediment control practice. 4. Access the stockpile area from the upgrade side.

accordance with Section B-3 Land Grading.

5. 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.

6. Where runoff concentrates along the toe of the stockpile fill, an appropriate erosion/sediment control practice must be used to intercept the discharge. 7. 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. 8. 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 impermeable sheeting.

Maintenance 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

H-5 STANDARDS AND SPECIFICATIONS

DUST CONTROL

Controlling the suspension of dust particles from construction activities. To prevent blowing and movement of dust from exposed soil surfaces to reduce on and off-site damage including health and traffic hazards.

Conditions Where Practice Applies Areas subject to dust blowing and movement where on and off-site damage is likely without treatment <u>Specifications</u>

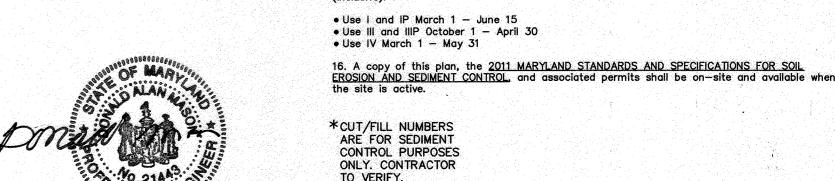
<u>Mulches:</u> See Section B-4-2 Soil Preparation, Topsoiling, and Soil Amendments, Section B-4-3

Seeding and Mulching, and Section B-4-4 Temporary Stabilization. Mulch must be anchored to prevent blowing. <u>Vegetative Cover:</u> See Section B-4-4 Temporary Stabilization. Tillage: Till to roughen surface and bring clods to the surface. Begin plowing on windward side of site. Chisel-type plows spaced about 12 inches apart, spring-toothed harrows, and similar plows are examples of equipment that may produce the desired effect.

not be irrigated to the point that runoff occurs. Barriers: Solid board fences, silt fences, snow fences, burlap fences, straw bales, and similar material can be used to control air currents and soil blowing. Chemical Treatment: Use of chemical treatment requires approval by the appropriate plan

Irrigation: Sprinkle site with water until the surface is moist. Repeat as needed. The site must

13. Topsoil shall be stockpiled and preserved on-site for redistribution onto final grade. 14. All silt fence and super silt fence shall be placed on—the—contour, and be imbricated a 25' minimum intervals, with lower ends curled uphill by 2' in elevation 15. Stream channels must not be disturbed during the following restricted time periods



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. <u>21443</u> Expiration Date: <u>2-21-2022</u>

AS-BUILTINEZ-2-2020 PROVIDED ON THIS SHEET

THIS SHEET REPLACES THE PREVIOUS SHEET 4 SIGNED ON 11-19-2010

HOWARD SOIL CONSERVATION DISTRICT (HSCD)
STANDARD SEDIMENT CONTROL NOTES

b. Upon completion of the installation of perimeter erosion and sediment controls, but

c. Prior to the start of another phase of construction or opening of another grading

2. All vegetative and structural practices are to be installed according to the provisions of

3. Following initial soil disturbance or re-disturbance, permanent or temporary stabilization is

swales, ditches, perimeter slopes, and all slopes steeper than 3 horizontal to 1 vertical (3:1);

required within three (3) calendar days as to the surface of all perimeter controls, dikes,

and seven (7) calendar days as to all other disturbed areas on the project site except for

4. 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

(Sec. B-4-4) and mulching (Sec. B-4-3). Temporary stabilization with mulch alone can only

13.6__ Acres

14.2 Acres

Acres

_ Acres

Cu Yds

SITE WITH AN ACTIVE GRADING PERMIT

1.9

12.3

34,286^{*}

34,286*

7. Any sediment control practice which is disturbed by grading activity for placement of

8. Additional sediment control must be provided, if deemed necessary by the CID. The site

and all controls shall be inspected by the contractor weekly, and the next day after each

• Weather information (current conditions as well as time and an=mount of last recorded

• Compliance status regarding the sequence of construction and stabilization requirements

•Other inspection items as required by the General Permit for Stormwater Associated with

9. 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 work day, whichever is shorter.

reviewed and approved by the HSCD prior to proceeding with construction. Minor revisions may be allowed by the CID per the list of HSCD—approved field changes.

11. Disturbance shall not occur outside the L.O.D. A project is to be sequenced so that

grading activities begin on one grading unit (maximum acreage of 20 ac. per grading unit) at

a time. Work may proceed to a subsequent grading unit when at least 50 percent of the disturbed area in the preceding grading unit has been stabilized and approved by the CID.

Unless otherwise specified and approved by the HSCD, no more than 30 acres cumulatively

12. Wash water from any equipment, vehicles, wheels, payement, and other sources must be

10. Any major changes or revisions to the plan or sequence of construction must be

• Brief description of project's status (e.g. percent complete) and/or current activities

rain event. A written report by the contractor, made available upon request, is part of every

CONTROL for topsoil (Sec. B-4-2), permanent seeding (Sec. B-4-5), temporary seeding

be applied between the fall and spring seeding dates if the ground is frozen. Incremental

fill. Stockpiles (Sec. B-4-8) in excess of 20 feet must be benched with stable outlet. All

concentrated flow, steep slope, and highly erodible areas shall receive soil stabilization

5. All sediment control structures are to remain in place, and are to be maintained in

operative condition until permission for their removal has been obtained from the CID.

stabilization (Sec. B-4-1) specifications shall be enforced in areas with >15' of cut and/or

1. A pre-construction meeting must occur with the Howard County Department of Public

Works, Construction Inspection Division (CID), 410-3133-1855 after the future LOD and protected areas are marked clearly in the field. A minimum of 48 hours notice to CID must

before proceeding with any other earth disturbance or grading,

d. Prior to the removal or modification of sediment control practices.

this plan and are to be in conformance with the <u>2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL</u>, and revisions thereto.

be given at the following stages:

those areas under active grading.

matting (Sec. B-4-6).

Total Area of Site:

inspection and should include:

Name and title of inspector

Photographs

Monitoring/sampling

Evidence of sediment discharges

• Identification of plan deficiencies

Construction Activities (NPDES, MDE).

may be disturbed at a given time

"NO AS-BUILT INFORMATION 15"

Area to be roofed or paved:

Area to be vegetatively stabilized:

Off-site waste/borrow area location:

utilities must be repaired on the same day of disturbance

• Inspection type (routine, pre-storm event, during rain event)

• Identification of sediment controls that require maintenance

• Maintenance and/or corrective action performed

• Identification of missing or improperly installed sediment controls

treated in a sediment basin or other approved washout structure.

Area Disturbed:

Total cut:

6. Site Analysis:

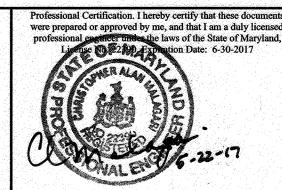
a. Prior to the start of earth disturbance,

| 5-17-2017 | UPDATE ALL SEDIMENT CONTROL NOTES AND SPECS TO THE MDE 2011 STANDARDS. DATE

BENCHMARK ENGINEERS LAND SURVEYORS PLANNERS

ENGINEERING, INC. 8480 BALTIMORE NATIONAL PIKE ▲ SUITE 315 ▲ ELLICOTT CITY, MARYLAND 21043 (P) 410-465-6105 (F) 410-465-6644

WWW.BEI-CIVILENGINEERING.COM



ANGIONE ENTERPRISES OF TURF VALLE LIMITED PARTNERSHIP 1205 YORK ROAD, PENTHOUSE LUTHERVILLE, MARYLAND 21093 410-825-8400

OWNER:

DEVELOPER: MANGIONE ENTERPRISES OF TURF VALLEY

LIMITED PARTNERSHIP 1205 YORK ROAD, PENTHOUSE LUTHERVILLE, MARYLAND 21093 410-825-8400

DESIGN: DBT

FAIRWAYS AT TURF VALLEY PHASE 3 LOTS 1-47 AND 95-112; OPEN SPACE LOTS 48, 49, AND 113-115; **GOLF SPACE LOT 116** TAX MAP: 16 - GRID: 16 - PARCEL: P/O 8 & 706

GRADING, SEDIMEN, TAND

MAY 17, 2017 BEI PROJECT NO. 2726 5 of 13

DRAFT: DBT

SCALE:

F-10-086

1. Obtain grading permit. Notify D.I.L.P. at 410-313-1880 at least 24 hours before starting any

SEQUENCE OF CONSTRUCTION

NOTIFY SEDIMENT CONTROL DIVISION 48 HOURS PRIOR TO START OF WORK

Install stabilized construction entrance and all perimeter controls. (2 weeks). 4. Proceed to grade site. No proposed grading is allowed below Basin #1 until the basin has

5. In conjunction with #4 above, install all utilities (water, sewer, house connections and storm drains. Once I-18 is in place, construct the temporary 18" diversion pipe to basin #1. Do not connect I-18 with I-17 until sediment basin is removed and permission is given from the sediment control inspector. Utilize inlet protection for I-15, I-16, I-17, I-25, I-26, I-50, and I-51. Inlet protection not needed for other inlets as long as basin #1 is in place. (2 months)

6. Install curb and gutter. (1 week)

been removed and the area stabilized.

Hold on-site pre-construction meeting. (1 day)

7. Base pave all roads. (1 week)

8. With the lots permanently stabilized and with the permission of the sediment control inspector, remove Sediment Basin #1 at this time (or after a maximum of 3 years after installation), connect I-18 to I-17, remove temporary sediment control pipe and proceed to grade area below the basin location. (3 weeks)

Upon approval from the Howard County Sediment Control Inspector, remove all sediment control devices and stabilize any remaining disturbed areas in accordance with the permanent seedbed notes. (1 week)

Note: Following initial soil disturbance or any re-disturbances, permanent or temporary stabilization shall be completed within: A. 3 calendar days for all perimeter sediment control structures, dikes, swales and all

slopes greater than 3:1. B. 7 calendar days for all other disturbed areas. During grading and after each rainfall, contractor will inspect and provide necessary maintenance to the sediment control measures of this plan.

Permanent Seeding Summary

		rdiness Zone (from Figure B.3): 6b ed Misture (from Table B.3): Tall Fescue/Kentucky Bluegrass				Fertilizer Rate (10-20-20)			
No.	Species	Application Rate (lb/ac.)	Seeding Dates	Seeding Depths	N	P205	K20		
	Fescue, Tall	60	Mar 1 to May 15 Aug 1 to Oct 15	1/4 - 1/2 in	45 pounds				
9	Bluegrass, Kentucky	40	Mar 1 to May 15 Aug 1 to Oct 15	1/4 - 1/2 in	per acre (1.0 lb/	90 lb/ac (2 lb/	90 lb/ac 2 lb/	2 tons/ac (90lb/	
				1/4 - 1/2 in	100 sf)	1000 sf)	1000 sf)	1000 sf)	

Table B.1: Temporary Seeding for Site Stabilization							
Seeding Rate 1/		Seeding	Recom	Recommended Seeding Dates by Plant Hardiness Zone 3/			
lb/ac	lb/1000 ft2	(inches)	5b and 6a	6b	7a and 7b		
40	1.0	0.5		Mar 1 to May 15; Aug 1 to Oct 31			
96	2.2	1.0		Mar 1 to May 15; Aug 1 to Oct 31			
72	1.7	1.0		Mar 1 to May 15; Aug 1 to Oct 31			
120	2.8	1.0		Mar 1 to May 15; Aug 1 to Oct 31			
112	2.8	1.0		Mar 1 to May 15; Aug 1 to Nov 15			
30	0.7	0.5		May 16 to Jul 31			
20	0.5	0.5		May 16 to Jul 31			
	Seedir Ib/ac 40 96 72 120 112 30	Seeding Rate 1/ lb/ac	Seeding Rate 1/ Seeding Depth 2/ (inches)	Seeding Rate 1/	Seeding Rate 1/		

tested. Adjustments are usually not needed for the cool-season grasses

Seeding rates listed above are for temporary seedings, when planted alone. When planted as a nurse crop with permanent seed mixes, use 1/3 of the seeding rate listed above

Seeding rates for the warm season grasses are in pounds of Pure Live Seed (PLS). Actual planting rates shall be adjusted to reflect percent seed germination and purity, as

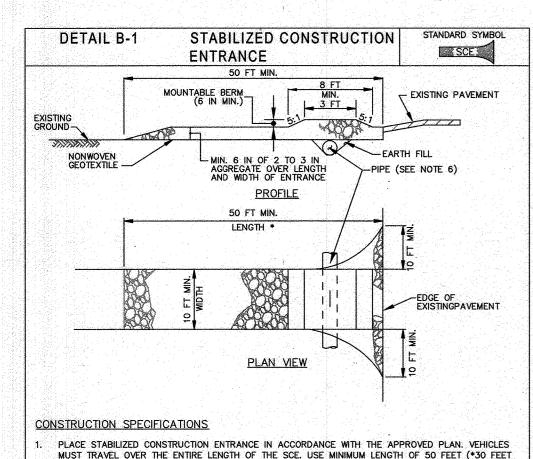
for barley, oats, and wheat. For smaller-seeded grasses (annual ryegrass, pearl millet, foxtail millet), do not exceed more than 5% (by weight) of the overall permanent seeding mix. Cereal rye generally should not be used as a nurse crop, unless planting will occur very late fall beyond the seeding dates for other temporary seedings. Cereal rye has allelopathic properties that inhibit the germination and growth of other plants. If it must be used as a nurse crop, seed at 1/3 of the rate listed above.

For sandy soils, plant seeds at twice the depth listed above The planting dates listed are averages for each Zone and may require adjustment to reflect local conditions, especially near the boundaries of the zone.

Oats are the recommended nurse crop for warm-season grasses.

EROSION CONTROL NOTES

AS SHOWN



- MUST TRAVEL OVER THE ENTIRE LENGTH OF THE SCE. USE MINIMUM LENGTH OF 50 FEET (*30 FEET FOR SINGLE RESIDENCE LOT). USE MINIMUM WIDTH OF 10 FEET. FLARE SCE 10 FEET MINIMUM AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.
- PIPE ALL SURFACE WATER FLOWING TO OR DIVERTED TOWARD THE SCE UNDER THE ENTRANCE, MAINTAINING POSITIVE DRAINAGE. PROTECT PIPE INSTALLED THROUGH THE SCE WITH A MOUNTABLE BERM WITH 5:1 SLOPES AND A MINIMUM OF 12 INCHES OF STONE OVER THE PIPE. PROVIDE PIPE AS SPECIFIED ON APPROVED PLAN. WHEN THE SCE IS LOCATED AT A HIGH SPOT AND HAS NO DRAINAGE TO CONVEY, A PIPE IS NOT NECESSARY. A MOUNTABLE BERM IS REQUIRED WHEN SCE IS
- PREPARE SUBGRADE AND PLACE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS PLACE CRUSHED AGGREGATE (2 TO 3 INCHES IN SIZE) OR EQUIVALENT RECYCLED CONCRETE
- (WITHOUT REBAR) AT LEAST 6 INCHES DEEP OVER THE LENGTH AND WIDTH OF THE SCE. MAINTAIN ENTRANCE IN A CONDITION THAT MINIMIZES TRACKING OF SEDIMENT, ADD STONE OR MAKE OTHER REPAIRS AS CONDITIONS DEMAND TO MAINTAIN CLEAN SURFACE. MOUNTABLE BERM, AND SPECIFIED DIMENSIONS. IMMEDIATELY REMOVE STONE AND/OR SEDIMENT SPILLED, DROPPED, OR TRACKED ONTO ADJACENT ROADWAY BY VACUUMING, SCRAPING, AND/OR SWEEPING. WASHING ROADWAY TO REMOVE MUD TRACKED ONTO PAVEMENT IS NOT ACCEPTABLE UNLESS WASH WATER IS

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

ENGINEER'S CERTIFICATE

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 PERSONNE

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

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY

ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT."

APPROVED: DEPARTMENT OF PUBLIC WORKS

APPROVED: DEPARTMENT OF PLANNING AND ZONING

5-22-17 DATE

5/22/1-

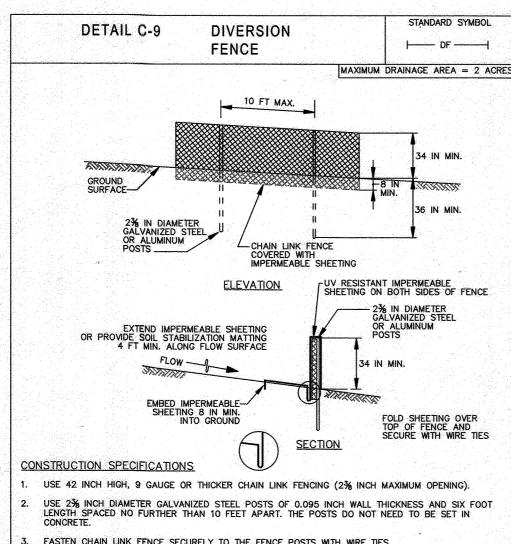
6/15/2017

6.ZO.17

"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.

DIRECTED TO AN APPROVED SEDIMENT CONTROL PRACTICE.

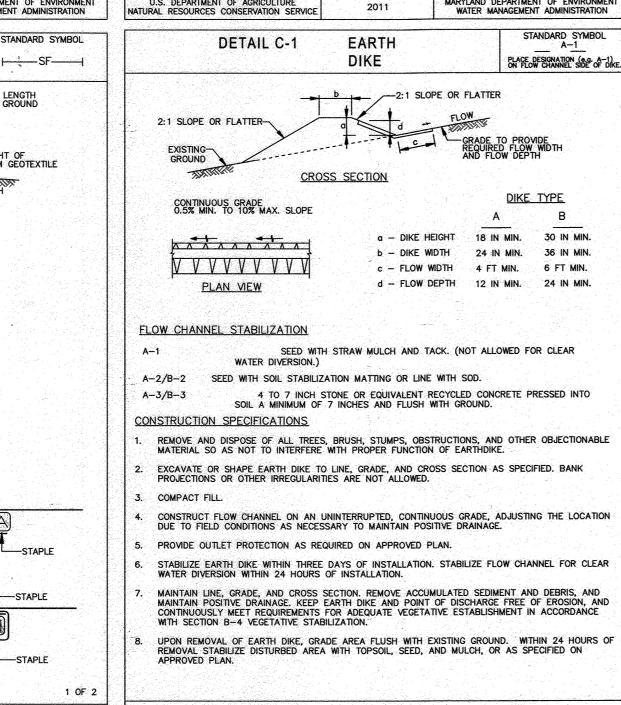


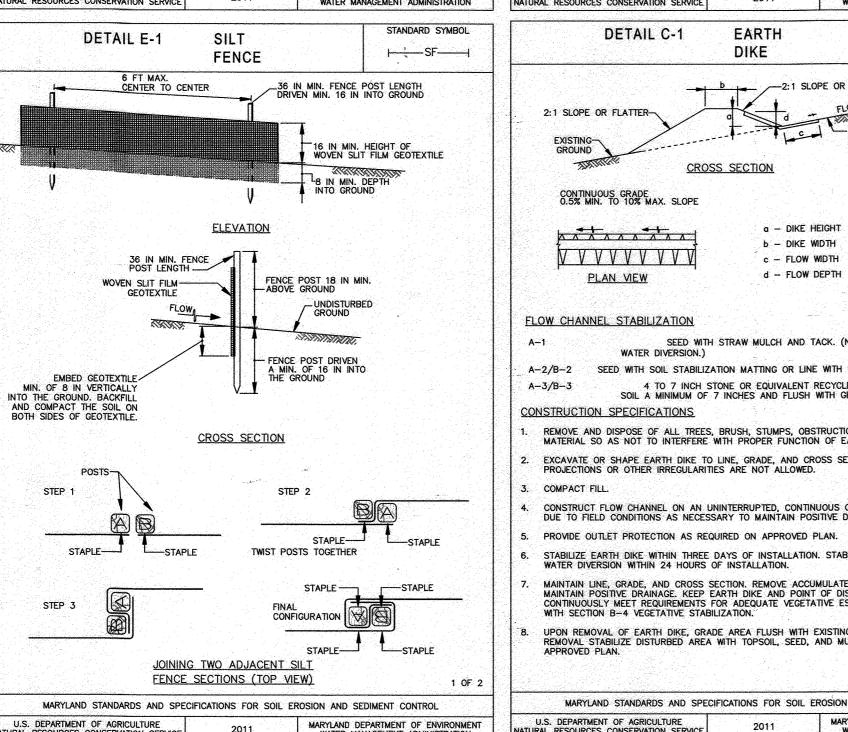
FASTEN CHAIN LINK FENCE SECURELY TO THE FENCE POSTS WITH WIRE TIES. SECURE 10 MIL OR THICKER UV RESISTANT, IMPERMEABLE SHEETING TO CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT TOP, MID SECTION, AND BELOW GROUND SURFACE.

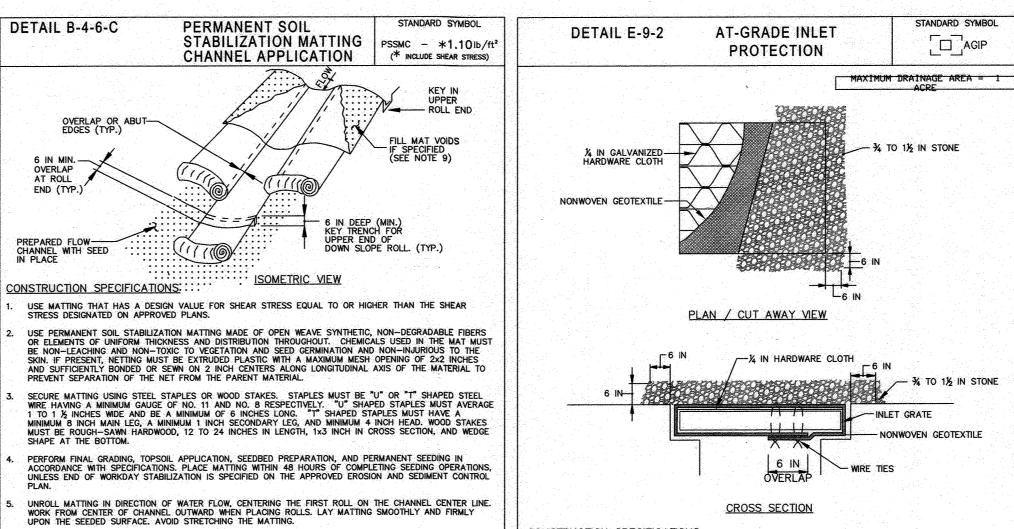
EXTEND SHEETING A MINIMUM OF 4 FEET ALONG FLOW SURFACE AND EMBED END A MINIMUM OF 8 INCHES INTO GROUND. SOIL STABILIZATION MATTING MAY BE USED IN LIEU OF IMPERMEABLE SHEETING ALONG FLOW SURFACE. WHEN TWO SECTIONS OF SHEETING ADJOIN EACH OTHER, OVERLAP BY 6 INCHES AND FOLD WITH SEAM FACING DOWNGRADE.

KEEP FLOW SURFACE ALONG DIVERSION FENCE AND POINT OF DISCHARGE FREE OF EROSION. REMOVE ACCUMULATED SEDIMENT AND DEBRIS. MAINTAIN POSITIVE DRAINAGE. REPLACE IMPERMEABLE SHEETING IF TORN. IF UNDERMINING OCCURS, REINSTALL FENCE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL MARYLAND DEPARTMENT OF ENVIRONMEN WATER MANAGEMENT ADMINISTRATION







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

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.

IF SPECIFIED BY THE DESIGNER OR MANUFACTURER AND DEPENDING ON THE TYPE OF MAT BEING INSTALLED, 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.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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

CONSTRUCTION SPECIFICATIONS

USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS.

LIFT GRATE AND WRAP WITH NONWOVEN GEOTEXTILE TO COMPLETELY COVER ALL OPENINGS. SECURE WITH WIRE TIES AND SET GRATE BACK IN PLACE.

PLACE CLEAN 3/4 TO 1/2 INCH STONE OR EQUIVALENT RECYCLED CONCRETE 6 INCHES THICK ON THE GRATE.

STORM DRAIN INLET PROTECTION REQUIRES FREQUENT MAINTENANCE. REMOVE ACCUMULATED SEDIMENT AFTER EACH RAIN EVENT TO MAINTAIN FUNCTION AND AVOID PREMATURE CLOGGING. IF INLET PROTECTION DOES NOT COMPLETELY DRAIN WITHIN 24 HOURS AFTER A STORM EVENT, IT IS CLOGGED. WHEN THIS OCCURS, REMOVE ACCUMULATED SEDIMENT AND CLEAN, OR REPLACE GEOTEXTILE AND STONE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

CURB INLET DETAIL E-9-3 [=]CIP **PROTECTION** MAXIMUM DRAINAGE AREA = 1/4 ACRE P 2 FT MIN. LENGTH OF 2 IN x 4 IN 2 IN x 4 IN WEIR-6 FT MAX. SPACING OF 2 IN x 4 IN SPACERS - GAL VANIZED L2 IN x 4 IN WEIR SECTION A-A ∠EDGE OF GUTTER PAN ISOMETRIC CONSTRUCTION SPECIFICATIONS 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 1/4, 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 2×4 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 2×4 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. INSTALL END SPACERS A MINIMUM OF 1 FOOT BEYOND THE ENDS OF THE THROAT OPENING. 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 ¾ TO 1½ INCH STONE OR EQUIVALENT RECYCLED CONCRETE. AT NON-SUMP LOCATIONS, INSTALL A TEMPORARY SANDBAG OR ASPHALT BERM TO PREVENT INLET BYPASS. STORM DRAIN INLET PROTECTION REQUIRES FREQUENT MAINTENANCE. REMOVE ACCUMULATED SEDIMENT AFTER EACH RAIN EVENT TO MAINTAIN FUNCTION AND AVOID PREMATURE CLOGGING. IF INLET PROTECTION DOES NOT COMPLETELY DRAIN WITHIN 24 HOURS AFTER A STORM EVENT, IT IS CLOGGED. WHEN THIS OCCURS, REMOVE ACCUMULATED SEDIMENT AND CLEAN, OR REPLACE

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

THIS IS A NEW SHEET 6 ADDED TO THE PLAN SET



rofessional 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. 21443 Expiration Date: 12-21-2022

"NO AS-BUILT INFORMATION IS

PROVIDED ON THIS SHEET

5-17-2017 NO. DATE OWNER: ANGIONE ENTERPRISES OF TURF VALLEY LIMITED PARTNERSHIP 1205 YORK ROAD, PENTHOUSE LUTHERVILLE, MARYLAND 21093 410-825-8400

> MANGIONE ENTERPRISES OF TURF VALLEY LIMITED PARTNERSHIP

1205 YORK ROAD, PENTHOUSE

410-825-8400

DESIGN: DBT | DRAFT: DBT

RELOCATE THE SEDIMENT CONTROL DETAILS TO THIS SHEET AND UPDATE TO 2011 SPECS. Professional Certification. I hereby certify that these documen were prepared or approved by me, and that I am a duly licensed **BENCHMARK** ENGINEERS LAND SURVEYORS PLANNERS ENGINEERING, INC. 8480 BALTIMORE NATIONAL PIKE A SUITE 315 A ELLICOTT CITY, MARYLAND 21043 (P) 410-465-6105 (F) 410-465-6644 WWW.BEI-CIVILENGINEERING.COM

FAIRWAYS AT TURF VALLEY PHASE 3 LOTS 1-47 AND 95-112; OPEN SPACE LOTS 48, 49, AND 113-115; GOLF SPACE LOT 116

TAX MAP: 16 - GRID: 16 - PARCEL: P/O 8 & 706
ZONED: PGCC (RESIDENTIAL SUBDISTRICT) **DEVELOPER:**

ELECTION DISTRICT NO. 2 - HOWARD COUNTY, MARYLAND GRADING, SEDIMENT, AND

LUTHERVILLE, MARYLAND 21093 **EROSION CONTROL DETAILS** MAY 17, 2017 BEI PROJECT NO. 2726

AS SHOWN

AS-BUILT

SCALE:

F-10-086

of 13

SHEET

J:\2726 Fairways at Turf Valley\dwg\Phase 3\7026 s4-6.dwg, 5/20/2017 9:36:16 AM

CHIEF, DEVELOPMENT ENGINEERING DIVISION

4 TO 7 INCH STONE OR EQUIVALENT RECYCLED CONCRETE PRESSED INTO MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

STANDARD SYMBOL

|----SSF-----|

GALVANIZED CHAIN LINK FENCE WITH WOVEN SLIT FILM GEOTEXTILE

SUPER SILT

ELEVATION

CROSS SECTION

INSTALL 2% INCH DIAMETER GALVANIZED STEEL POSTS OF 0.095 INCH WALL THICKNESS AND SIX FOOT LENGTH SPACED NO FURTHER THAN 10 FEET APART. DRIVE THE POSTS A MINIMUM OF 36

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.

FASTEN WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS, SECURELY TO THE UPSLOPE SIDE OF CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE AND CHAIN LINK FENCE A MINIMUM OF 8 INCHES INTO THE GROUND.

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.

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.

PROVIDE MANUFACTURER CERTIFICATION TO THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

THAT GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.

CHAIN LINK FENCING -

WOVEN SLIT FILM GEOTEXTILE-

FENCE

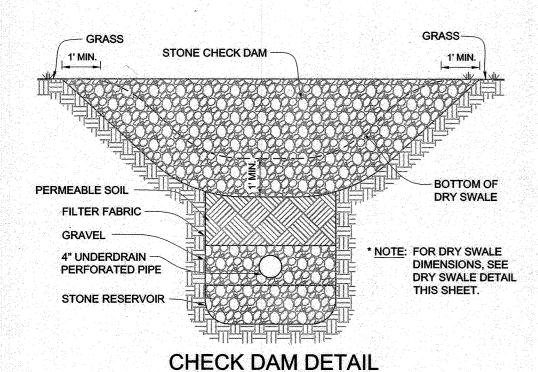
DETAIL E-3

THE THE THE THE THE

CONSTRUCTION SPECIFICATIONS

OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED **OPEN CHANNEL SYSTEMS** (O-1 AND O-2)

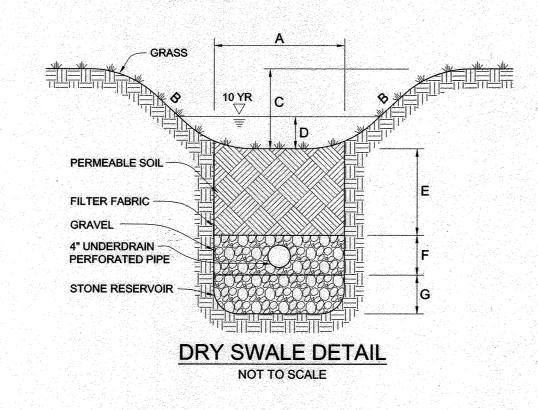
- 1. THE OPEN CHANNEL SYSTEM SHALL BE INSPECTED ANNUALLY AND AFTER MAJOR STORMS. INSPECTIONS SHALL BE PERFORMED DURING WET WEATHER TO DETERMINE IF THE FACILITY IS FUNCTIONING PROPERLY.
- 2. THE OPEN CHANNEL SHALL BE MOVED A MINIMUM OF ONCE A YEAR OR AS NEEDED DURING THE GROWING SEASON TO MAINTAIN A MAXIMUM GRASS HEIGHT OF LESS THAN 6 INCHES.
- 3. DEBRIS AND LITTER SHALL BE REMOVED DURING REGULAR MOWING OPERATIONS AND AS NEEDED.
- 4. VISIBLE SIGNS OF EROSION IN THE OPEN CHANNEL SYSTEM SHALL BE
- REPAIRED AS SOON AS IT IS NOTICED. 5. REMOVE SILT IN THE OPEN CHANNEL SYSTEM WHEN IT EXCEEDS 25% OF THE ORIGINAL WQv.



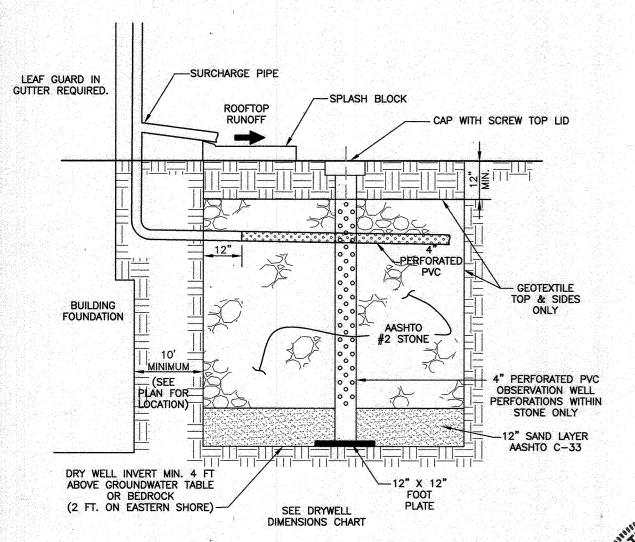
NOT TO SCALE

MATERIAL	SPECIFICATION	SIZE	NOTES
DRY SWALE SOIL	SAND 35% - 60% SILT 0% - 25% GROUND COMPOST 40%-50%	N/A	SOIL WITH A HIGHER PERCENT ORGANIC CONTENT IS PREFERRED.
CHECK DAMS (STONE)	AASHTO M-43	0.375" TO 0.75"	
UNDERDRAIN GRAVEL	AASHTO M-43	0.375" TO 0.75"	
UNDERDRAIN PIPING	F 758, TYPE PS 28 OR AASHTO M-278	4" TO 6" RIGID SCHEDULE 40 PVC OR SDR35	3/8" PERF. @ 6" ON CENTER, 4 HOLES PER ROW; MINIMUM OF 3" OF GRAVEL OVER PIPES; NOT NECESSARY UNDERNEATH PIPES, SEE PROFILES FOR DEPTHS OF GRAVEL OVER AND UNDER PIPING
GEOTEXTILE	CLASS "SE" - APPARENT OPENING SIZE (ASTM-D-4751), GRAB TENSILE STRENGTH (ASTM-D- 4632), PUNCTURE RESISTANCE (ASTM-D-4833)	N/A	FOR USE AS NECESSARY BENEATH UNDERDRAINS ONLY

DRY SWALE CHART									
SWALE NO.	Α	В	6	D	E	F	G	PHASE UTILIZED	
2	8.0'	3:1	2.00'	1.69'	2.5'	0.5'	1.25'	ш	
4	2.0' .	3:1	2.00'	0.18'	2.5'	0.5'	1.52'	ш	
5	2.0'	3:1	2.50'	0.42'	2.5'	0.5'	1.85'	ш	



Dry Well Dimension Chart										
Dry Well	Lot	Length (ft)	\\/id+h (f+\	Ground	Top of	Depth of	Bottom of	Bottom of		
Diy weii		religni (i.t)	vviach (icj	Elevation	Stone	Stone (Ft)	Stone Elevation	Sand Elevation		
#1	Lot 103	7.2	7.2	432.0	431.0	5.0	427.00	426.00		
#2	Lot 104	7.2	7.2	431.0	430.0	5.0	426.00	425.00		
#3	Lot 105	7.2	7.2	430.0	429.0	5.0	425.00	424.00		



DRY WELL DETAIL NOT TO SCALE

OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED (M-5) DRY WELLS

1. The monitoring wells and structures shall be inspected on a quarterly basis and after every large storm event.

2. Water levels and sediment build up in the monitoring wells shall be recorded over a period of several days to insure trench drainage.

3. A log book shall be maintained to determine the rate at which the facility drains

4. When the facility becomes clogged so that it does not drain down within the 72 hour time period, corrective action shall be taken.

5. The maintenance log book shall be available to Howard County for inspection to insure compliance with operation and maintenance criteria.

6. Once the performance characteristics of the infiltration facility have been verified, the monitoring schedule can be reduced to an annual basis unless the performance data indicates that a more frequent schedule is required.

> AS-BUILT CERTIFICATION I hereby certify, by my seal, that to the best of my knowledge and belief the facilities shown on this "AS-BUILT" Plan meet the Approved Plans and Specifications

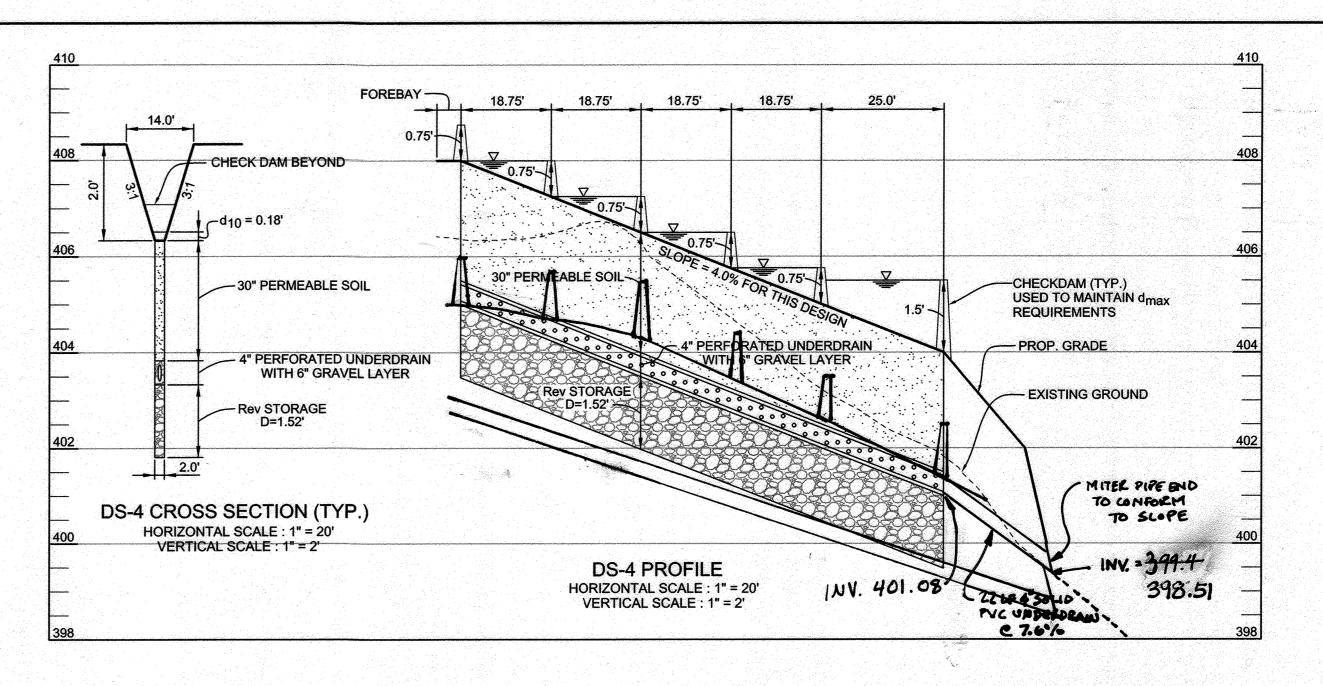
> > Donald Mason, P.E.

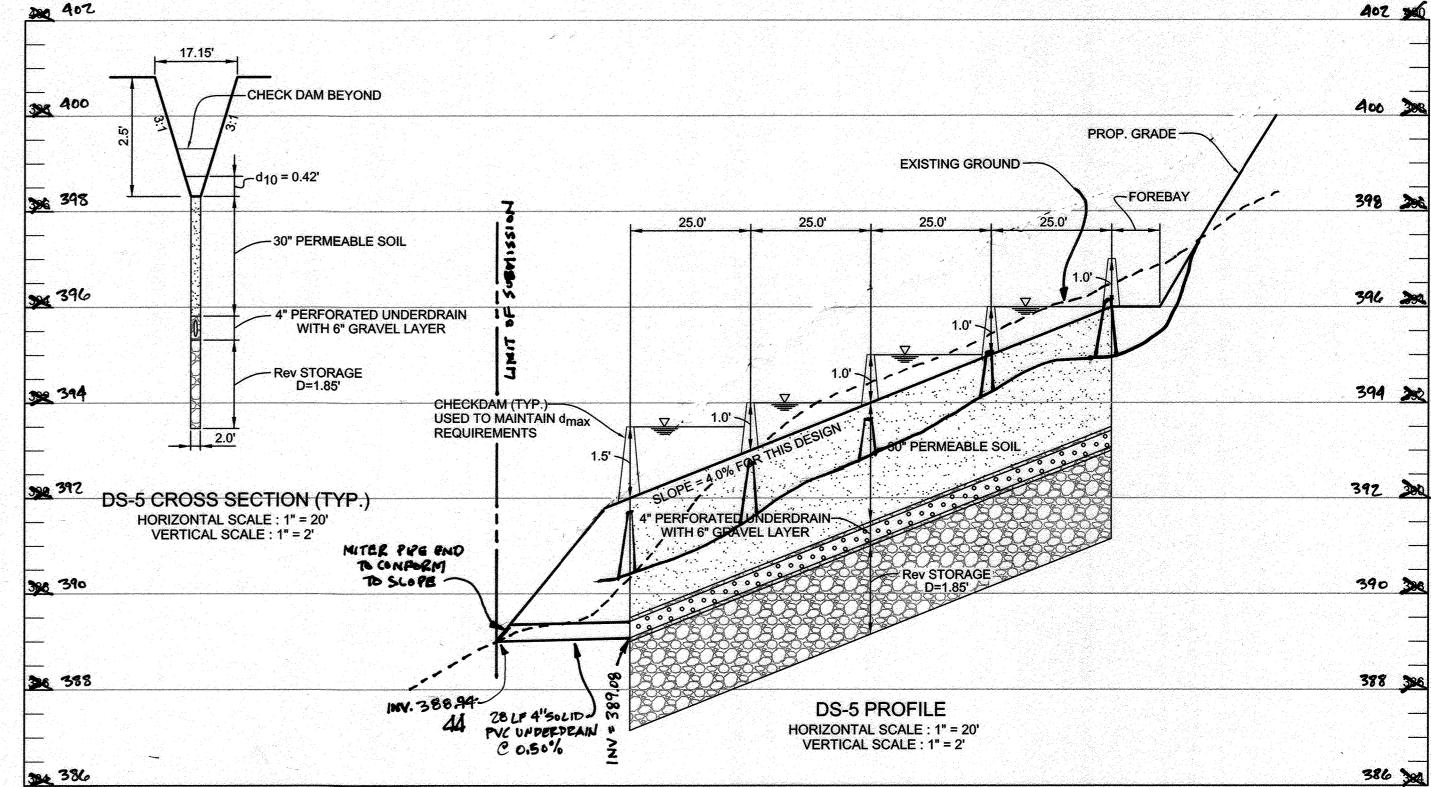
Professional Certification. I hereby certify that these

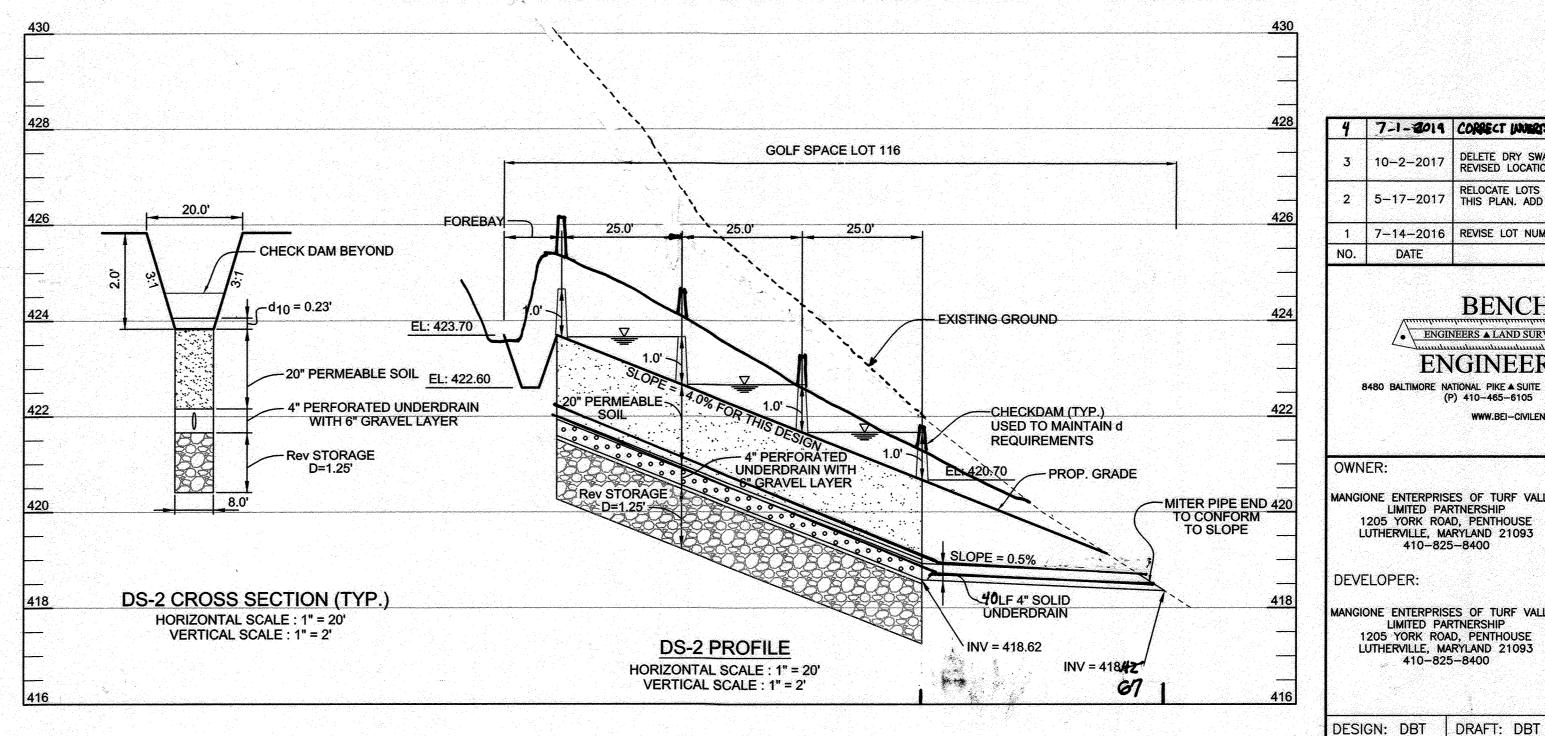
Date: 12-2-2020

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. 21443 Expiration Date: 12-21-2022

THIS SHEET REPLACES THE PREVIOUS SHEET 6 SIGNED ON 6-21-2017







4 7-1-2019 CORRECT HANKI'S AT DS-4 PROPILE COMMET LEMETH OF DS-2 UNDERDRAIN. 2 5-17-2017 RELOCATE LOTS 1-47, A PORTION OF VARDON LANE, REMAINDER OF VERDI COURT FROM F-07-158 TO THIS PLAN. ADD DS-1 AND DS-2 PROFILES AND DETAILS TO THIS PHASE. 1 | 7-14-2016 | REVISE LOT NUMBERS DATE REVISION Professional Certification. I hereby certify that these documen were prepared or approved by me, and that I am a duly licensed **BENCHMARK** ENGINEERS ▲ LAND SURVEYORS ▲ PLANNERS ENGINEERING, INC. 8480 BALTIMORE NATIONAL PIKE ▲ SUITE 315 ▲ ELLICOTT CITY, MARYLAND 21043 (P) 410-465-6105 (F) 410-465-6644 WWW.BEI-CIVILENGINEERING.COM

OWNER: MANGIONE ENTERPRISES OF TURF VALLE LIMITED PARTNERSHIP
1205 YORK ROAD, PENTHOUSE LUTHERVILLE, MARYLAND 21093 410-825-8400 DEVELOPER: MANGIONE ENTERPRISES OF TURF VALLE LIMITED PARTNERSHIP 1205 YORK ROAD, PENTHOUSE LUTHERVILLE, MARYLAND 21093 410-825-8400

FAIRWAYS AT TURF VALLEY PHASE 3 LOTS 1-47 AND 95-112; OPEN SPACE LOTS 48, 49, AND 113-115; GOLF SPACE LOT 116

TAX MAP: 16 - GRID: 16 - PARCEL: P/O 8 & 706. ZONED: PGCC (RESIDENTIAL SUBDISTRICT) ELECTION DISTRICT NO. 2 - HOWARD COUNTY, MARYLAND REVISED **SWM OPEN CHANNEL** PROFILES AND DETAILS

DATE: OCTOBER 2, 2017 BEI PROJECT NO. 2726 SCALE: AS SHOWN SHEET

APPROVED: DEPARTMENT OF PUBLIC WORKS 10/24/2017 APPROVED: DEPARTMENT OF PLANNING AND ZONING 11-02-17 10.31.17 DATE CHIEF, DEVELOPMENT ENGINEERING DIVISION

J.\2726 Fairways at Turf Valley\:\two\Phase 3\7024 s7.dwg 10/2/2017 9:58:00 AM

7 of 13