ROAD CONSTRUCTION PLANS NAD'83 HORIZONTAL **GENERAL NOTES** HO. CO. #16E1 (AKA: 3438001) A 3ft DEEP COLUMN OF CONCRETE. N 593250.960' E 1340192.70' CAPERTON VILLAGE AT TURF VALLEY 2. THE SUBJECT PROPERTY IS ZONED PGCC PER THE OCTOBER 6, 2013 COMPREHENSIVE ZONING PLAN **ELEVATION: 463.981'** 3. THIS PROJECT IS SUBJECT TO THE 3RD AMENDED TURF VALLEY MULTI-USE SUB-DISTRICT FINAL DEVELOPMENT PLAN RECORDED AS PLAT NUMBERS 21029-21031 ON MARCH 26, 2010 AND THE AMENDED FIFTH EDITION OF THE SUBDIVISION 4. THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY MONUMENTS NO. 16E1 AND 0012 WERE USED FOR THIS PHASE 2 **ELEVATION: 486.298'** A RESUBDIVISION OF NON-BUILDABLE BULK PARCEL 'D' ESTABLISHED THE EXISTING UTILITIES SHOWN ON THESE PLANS HAVE BEEN TAKEN FROM AERIAL SURVEY, APPROVED CONTRACT DRAWINGS AND FIELD SURVEYED LOCATIONS. IF NECESSARY, THE CONTRACTOR SHALL ADJUST ANY OR ALL STRUCTURE TOP ELEVATIONS 8. THERE ARE NO WETLANDS, STREAMS, THEIR REQUIRED BUFFERS, 100 YEAR-FLOODPLAINS, OR STEEP SLOPES 25% OR UNDER CAPERTON VILLAGE AT TURF VALLEY, PHASE 1, F-17-101 BY ECO-SCIENCE PROFESSIONALS, INC. ON MAY 26, 2016. THE LIMITS SHOWN ARE IN ACCORDANCE WITH THOSE SHOWN ON THE 4TH AMENDMENT TO THE TURF VALLEY COMPREHENSIVE SKETCH PLAN (S-86-13, PB 368) APPROVED JULY 28, 2006 10. THE OFFSITE 100-YEAR FLOODPLAIN LIMITS SHOWN ARE BASED ON A STUDY PREPARED BY BENCHMARK ENGINEERING, INC. ADC MAP: 19 GRID: D4 MANGIONE ENTERPRISES OF 12. A NOISE STUDY IS NOT REQUIRED FOR THIS DEVELOPMENT AS NONE OF THE PROPOSED LOTS ARE WITHIN 500 FEET OF TURF VALLEY LIMITED PARTNERSHIP INTERSTATE 70 OR ROUTE 40 RIGHTS-OF-WAY CLUBHOUSE, PHASE 1, S-08-001, FOR 128 UNITS WAS PREPARED ON NOVEMBER 1, 2007 AND A SUPPLEMENTAL LETTER FOR THE TURF VALLEY CLUBHOUSE, PHASE 2, S-11-00, FOR 53 UNITS WAS PREPARED ON MAY 27, 2011 VERIFYING COMPLIANCE WITH THE 2005 STUDY. THE TRAFFIC STUDY WAS APPROVED UNDER S-08-001 AND S-11-003. "CAPERTON VILLAGE AT TURF VALLEY" WAS FORMERLY REFERRED TO AS "TURF VALLEY CLUBHOUSE". 15. WATER & SEWER IS PUBLIC, THE CONTRACT NO. IS 14-4978-D. THE DRAINAGE AREA IS THE LITTLE PATUXENT. WATER AND NON-BUILDABLE TURF VALLEY SEWER SERVICE TO THESE LOTS WILL BE GRANTED UNDER THE PROVISIONS OF SECTION 18.122.B OF THE HOWARD COUNTY BULK PARCEL'E L 00447 F 00775 CODE, PUBLIC WATER AND SEWERAGE ALLOCATIONS WILL BE GRANTED AT TIME OF ISSUANCE OF BUILDING PERMIT IF CAPACITY MANGIONE ENTERPRISES OF 16. THE GEO-TECHNICAL REPORT FOR THE GRANDFATHERED STORMWATER MANAGEMENT FACILITIES WAS SUBMITTED AND APPROVE UNDER SDP-13-038. NO ADDITIONAL GEO-TECHNICAL WORK IS NEEDED. 17. THIS PROJECT IS EXEMPT FROM THE HOWARD COUNTY FOREST CONSERVATION REQUIREMENTS PER SECTION 16.1202(b)(1)(i) OF THE HOWARD COUNTY CODE SINCE IT IS A PLANNED UNIT DEVELOPMENT WHICH HAD PRELIMINARY DEVELOPMENT PLAN MANUAL VIA A CERTIFIED LANDSCAPE PLAN AS PART OF THIS PLAN SET. FINANCIAL SURETY FOR THE REQUIRED PERIMETER NON-BUILDABLE BULK PARCEL B-4 PLAT NO. 23185-88 19. STORMWATER MANAGEMENT FOR THIS PROJECT IS "GRANDFATHERED" TO THE MDE 2000 REGULATIONS AND WAS PROVIDED AND MANGIONE ENTERPRISES OF APPROVED UNDER SDP-13-038 BY TWO (F-6) BIO-RETENTION FACILITIES AND ONE (F-3) EXTENDED DETENTION FACILITY TURF VALLEY WITH MICRO-POOL. THESE FACILITIES WERE CONSTRUCTED PRIOR TO THE MAY 4, 2017 IN ORDER TO RETAIN THEIR GRANDFATHERING STATUS. THE F-3 FACILITY IS PRIVATELY OWNED AND JOINTLY MAINTAINED AND THE THE F-6 FACILITIES ARE PRIVATELY OWNED AND PRIVATELY MAINTAINED. (N-2) DISCONNECTION OF NON-ROOFTOP RUNOFF HAS BEEN UTILIZED TO TREAT THE PROPOSED 10' GOLF CART PATH SINCE THIS PATH IS NOT WITHIN THE DRAINAGE AREA OF THE AFOREMENTIONFI Site Analysis Data Chart 21. THE PURPOSE OF OPEN SPACE LOT 92 IS TO ENCOMPASS THE PRIVATELY OWNED AND JOINTLY MAINTAINED STORMWATER MANAGEMENT FACILITY AND FOR THE USE OF THE RESIDENCES OF THIS SUBDIVISION. IT SHALL BE OWNED AND MAINTAINED BY Zoned: PGCC THE PURPOSE OF OPEN SPACE LOT 93 IS TO ENCOMPASS THE PAVED GOLF CART PATH. IT SHALL BE OWNED AND 12.73 acres 27.22 acres MAINTAINED BY MANGIONE ENTERPRISES OF TURF VALLEY LIMITED PARTNERSHIP 100yr Floodplain 0.00 acres 0.00 acres 0.00 acres Steep Slopes 25% or >(outside floodplain) 0.00 acres 0.00 acres 0.00 acres 27.22 acres 12.73 acres 27.22 acres Single Family Detached 24. STREET LIGHT PLACEMENT AND TYPE OF FIXTURES AND POLES SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME III (2006), SECTION 5.5.A. A MINIMUM OF 20' SHALL BE MAINTAINED BETWEEN ANY STREET LIGHT AND ANY NON-BUILDABLE BULK CAPERTON AT TURF VALLEY F-17-101 PLAT NO. 23185-88 25. TRAFFIC CONTROL DEVICES: Area of Buildable Lots 5.39 acres 10.42 acres 5.03 acres PHASE 1 A) THE R1-1 "STOP" SIGN AND STREET NAME SIGN (SNS) ASSEMBLY FOR THIS DEVELOPMENT MUST BE INSTALLED MANGIONE ENTERPRISES OF Area of Buildable Bulk Parcels 3.87 acres 3.87 acres 0.00 acres BEFORE THE BASE PAVING IS COMPETED LIMITED PARTNERSHIP Area of Non-Buildable Bulk Parcels 12.79 acres 2.01 acres 2.07 acres B) THE TRAFFIC CONTROL DEVICE LOCATIONS SHOWN ON THE PLANS ARE APPROXIMATE AND MUST BE FIELD APPROVED ZONED: PGCC Area of Proposed Right-of-way 2.11 acres 1.47 acres 3.58 acres BY HOWARD COUNTY TRAFFIC DIVISION (410-313-2430) PRIOR TO THE INSTALLATION OF ANY OF THE TRAFFIC **Open Space Calculations** Area of Open Space Required (15% of gross) 4.08 acres 1.91 acres 4.08 acres C) ALL TRAFFIC CONTROL DEVICES AND THEIR LOCATIONS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE FORUM PLACE Area of Open Space Provided 7.28 acres 3.42 acres 3.86 acres MARYLAND MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MdMUTCD). NON-BUILDABLE BULK Non-Credited 0.51 acres 0.04 acres 0.55 acres PARCEL E-1 D) ALL SIGN POSTS USED FOR TRAFFIC CONTROL SIGNS INSTALLED IN THE COUNTY RIGHT-OF-WAY SHALL BE MOUNTED 6.73 acres 2.91 acres 3.82 acres LOT 39 ON A 2" GALVANIZED STEEL, PERFORATED "QUICK PUNCH", SQUARE TUBE POST (14 GAUGE) INSERTED INTO A 2-1/2" PLAT NO. 23185-88 Recreational Open Space Required NA (PGCC) NA (PGCC) NA (PGCC) GALVANIZED STEEL. PERFORATED, SQUARE TUBE SLEEVE (12 GAUGE) - 3' LONG. THE ANCHOR SHALL NOT EXTEND MANGIONE ENTERPRISES OF MORE THAN TWO "QUICK PUNCH" HOLES ABOVE GROUND LEVEL. A GALVANIZED STEEL POLE CAP SHALL BE MOUNTED PARCEL 8 TURF VALLEY Parking Calculations TURF VALLEY LIMITED PARTNERSHIP Parking Required SFA and SFD Lots: L 00447 F 00775\ ZONED: PGCC 26. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION MANGIONE\ENTERPRISES\OF 2.5 spaces per unit (Section 133.0.D.2.a) NON-BUILDABLE DIVISION AT 410-313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK. TURK VALLEY BULK PARCEL 'C' Parking Provided SFA and SFD Lots: 379 LOT 37 LIMITED PARTNERSHIP 27. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK 2 spaces per garage + 2 spaces per drivew ay ZONED: PGCC (includes 34 spaces along Forum Place for total & P1 Parking Required Apartments 28. DRIVEWAYS SHALL BE PROVIDED PRIOR TO ISSUANCE OF A USE AND OCCUPANCY PERMIT FOR ANY NEW DWELLINGS FOR FIRE AND EMERGENCY VEHICLES PER THE FOLLOWING MINIMUM REQUIREMENTS: 2.3 spaces per unit (Section 133.0.D.2 b) Parking Provided Apartments A) WIDTH - 12' (16' SERVING MORE THAN ONE RESIDENCE). 3) SURFACE - 6" OF CRUSHER RUN BASE WITH TAR AND CHIP COATING (1.5" MIN) TURF VALLEY GEOMETRY - MAX 15% GRADE, MAX 10% GRADE CHANGE & MIN. 45' TURNING RADIUS. This area is all or part of Non-Buildable Bulk Parcel 'D' established under Phase 1, F-17-101 L 00447 F 00775 STRUCTURES (CULVERTS/BRIDGES) - CAPABLE OF SUPPORTING 25 GROSS TONS (H25 LOAD) FOR MONUMENT RECOVERY SKETCH MANGIONE ENTERPRISES OF and therefore, does not factor in "Total" column. DRAINAGE ELEMENTS - CAPABLE OF SAFELY PASSING 100 YEAR FLOODPLAIN WITH NO MORE THAN 1 FOOT DEPTH OVER SEE SHEET NOZ LIMITED PARTNERSHIP * Apartment parking shall be provided within Buildable Bulk Parcels 'A' and 'B' under a future F) STRUCTURE CLEARANCES - MINIMUM 12 FEET ZONED: PGCC G) MAINTENANCE - SUFFICIENT TO ENSURE ALL WEATHER USE 29. APPLICABLE PREVIOUS HOWARD COUNTY FILE REFERENCES: S-86-013, S-08-001, S-11-003, SDP-13-038, F-14-096, SP-16-010, F-17-101 30. PRIOR TO THE GRADING PERMIT APPLICATION, THE PROJECT SHALL COMPLY WITH THE REQUIREMENTS OF SECTION 16.129 OF THE HOWARD COUNTY CODE. PARCEL 8 TURF VALLEY AS-BUILT NOTES: REVISION L 00447 F 00775 Professional Certification. I hereby certify that these MANGIONE ENTERPRISES OF 1.) HORIZONTAL AND VERTICAL DATUM FOR documents were prepared or approved by me, and that were prepared or approved by me, and that I am a duly licensed THIS AS-BUILT IS BASED ON THE LIMITED PARTNERSHIP professional engineer under the laws of the State of Maryland I am a duty licensed professional engineer under the laws **BENCHMARK** MARYLAND STATE REFERENCE SYSTEM ZONED: PGCC of the State of Maryland. NAO 83 / ADJ CHAS PROJECTED FROM ► ENGINEERS ▲ LAND SURVEYORS ▲ PLANNERS 140.CO. GEODETIC CONTROL STATIONS IGE! License No. 21443 Expiration Date: 12-21-22 AND 0012. ENGINEERING, INC 2.) THE INSTRUMENTS USED IN PERFORMING THE AS-BUILT WERE A 5" TOTAL STATION 8480 BALTIMORE NATIONAL PIKE A SUITE 315 A ELLICOTT CITY, MARYLAND 21043 SHEET INDEX DRAINAGE AREA 'G' STORMWATER MANAGEMENT SUMMARY TABLE P) 410-465-6105 (F) 410-465-664 AND PRISM AND RTK GPS. 1 inch = 100 iWWW.BEI-CIVILENGINEERING.COM 3.) THIS AS-BUILT WAS PERFORMED BY TITLE SHEET BENCHMARK ENGINEERING, INC. COVER SHEET (N-2) Disconnection of Non-Rooftop 2473 218 1.0 Private ROAD PLAN, PROFILE, & DETAILS: BRAVA COURT (N-2) Disconnection of Non-Rooftop 34679 5830 17% 0.20 1.0 582 0.7 Private CAPERTON VILLAGE AT TURF VALLEY APPROVED: DEPARTMENT OF PUBLIC WORKS (N-2) Disconnection of Non-Rooftop 3,630 ROAD PLAN, PROFILE, & DETAILS: CAVALIER WOOD ROAD AS-BUILT CERTIFICATION OWNER: PHASE 2 I hereby certify, by my seal, that to the best of my knowledge ROAD SIGNAGE, LIGHTING, AND STRIPING PLAN MANGIONE ENTERPRISES OF LOTS 56-91; OPEN SPACE LOTS 92-93; and belief the facilities shown on this "AS-BUILT" 11,933 13% 0.16 1.0 1286 680 TURF VALLEY, LIMITED PARTNERSHIP AND NON-BUILDABLE BULK PARCELS 'E' Plan meet the Approved Plans and Specifications LANDSCAPE PLAN 1205 YORK ROAD, PENTHOUSE LUTHERVILLE, MARYLAND 21093 1. Pe provided to the MEP. Full Pe treatment of the entire length of the cart path was not achievable due to the amount 0 8-19-22 STORMWATER MANAGEMENT DRAINAGE AREA MAP 410-825-8400 ofuphill contributing area which could not be diverted around path. Donald Mason, P.E. TAX MAP: 16 - GRID: 19 - PARCEL: P/O 8 STORM DRAIN DRAINAGE AREA MAP APPROVED: DEPARTMENT OF PLANNING AND ZONING **DEVELOPER:** ELECTION DISTRICT NO. 3 - HOWARD COUNTY, MARYLAND GRADING, SEDIMENT AND EROSION CONTROL PLAN ZONED: PGCC MANGIONE ENTERPRISES OF J. Marshand for KS TURF VALLEY, LIMITED PARTNERSHII 3-13-18 GRADING, SEDIMENT AND EROSION CONTROL NOTES **ROAD CHART** 1205 YORK ROAD, PENTHOUSE **COVER SHEET** CHIEF, DIVISION OF LAND DEVELOPMENT KB FOR DS LUTHERVILLE, MARYLAND 21093 GRADING, SEDIMENT AND EROSION CONTROL DETAILS RIGHT-OF-WAY PVMT TYPE CLASSIFICATION DESIGN SPEED 410-825-8400 BRAVA COURT 25 MPH 50 FEET P-3PUBLIC ACCESS STREET DATE: JANUARY 2, 2018 BEI PROJECT NO. 2757 CAVALIER WOOD ROAD | PUBLIC ACCESS STREET 50 FEET P-2CHIEF. DEVELOPMENT ENGINEERING DIVISION

SCALE:

AS-BUILT

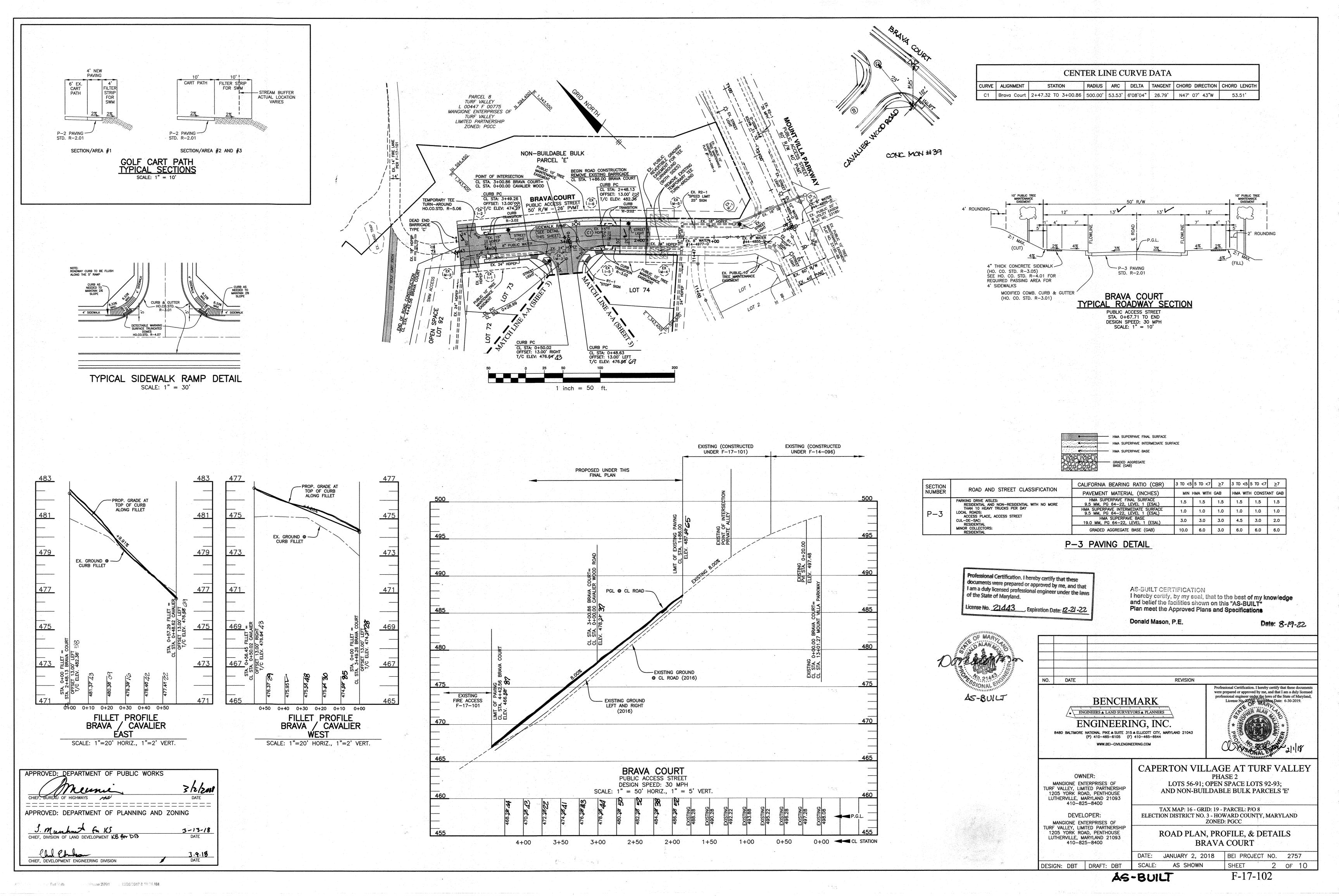
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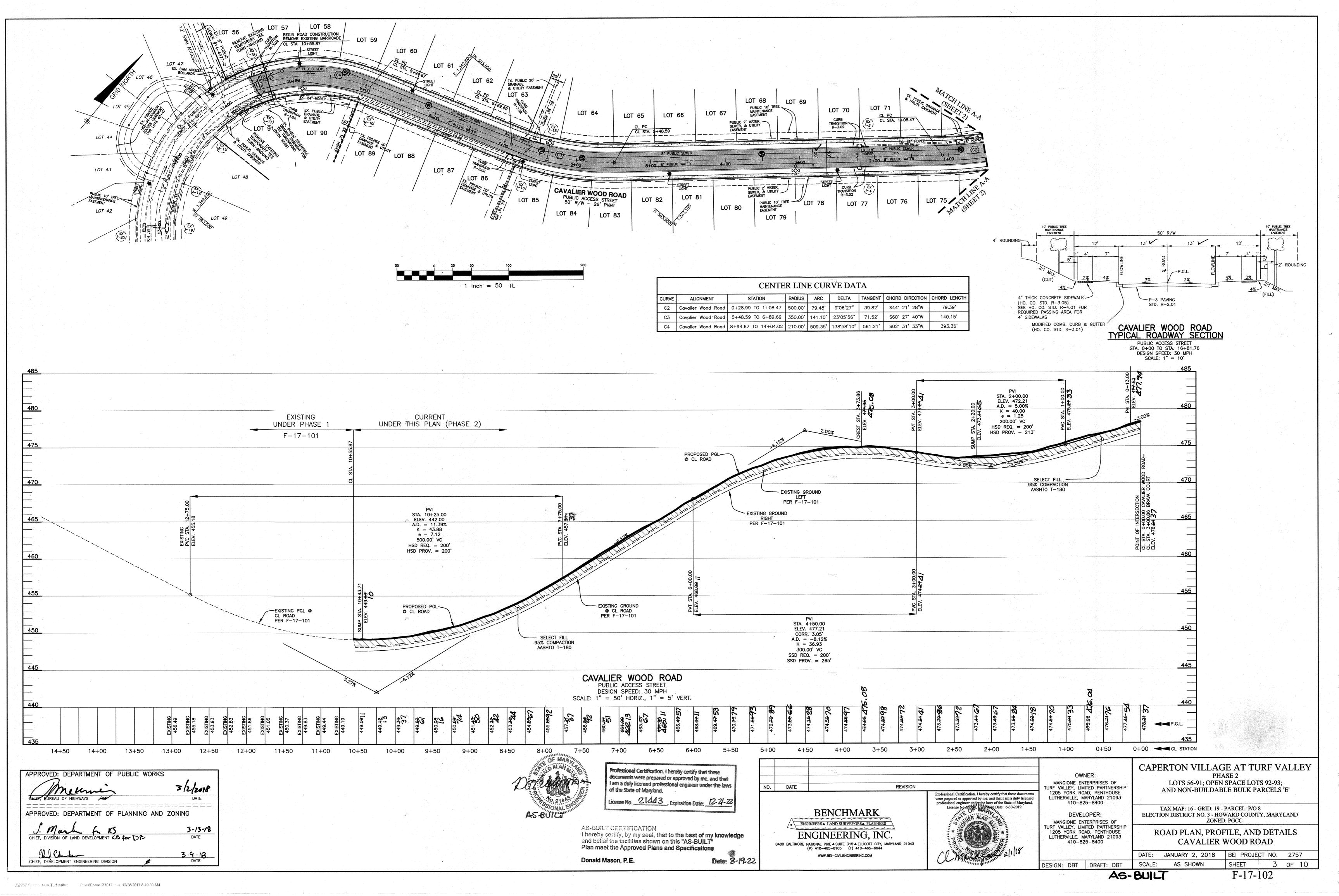
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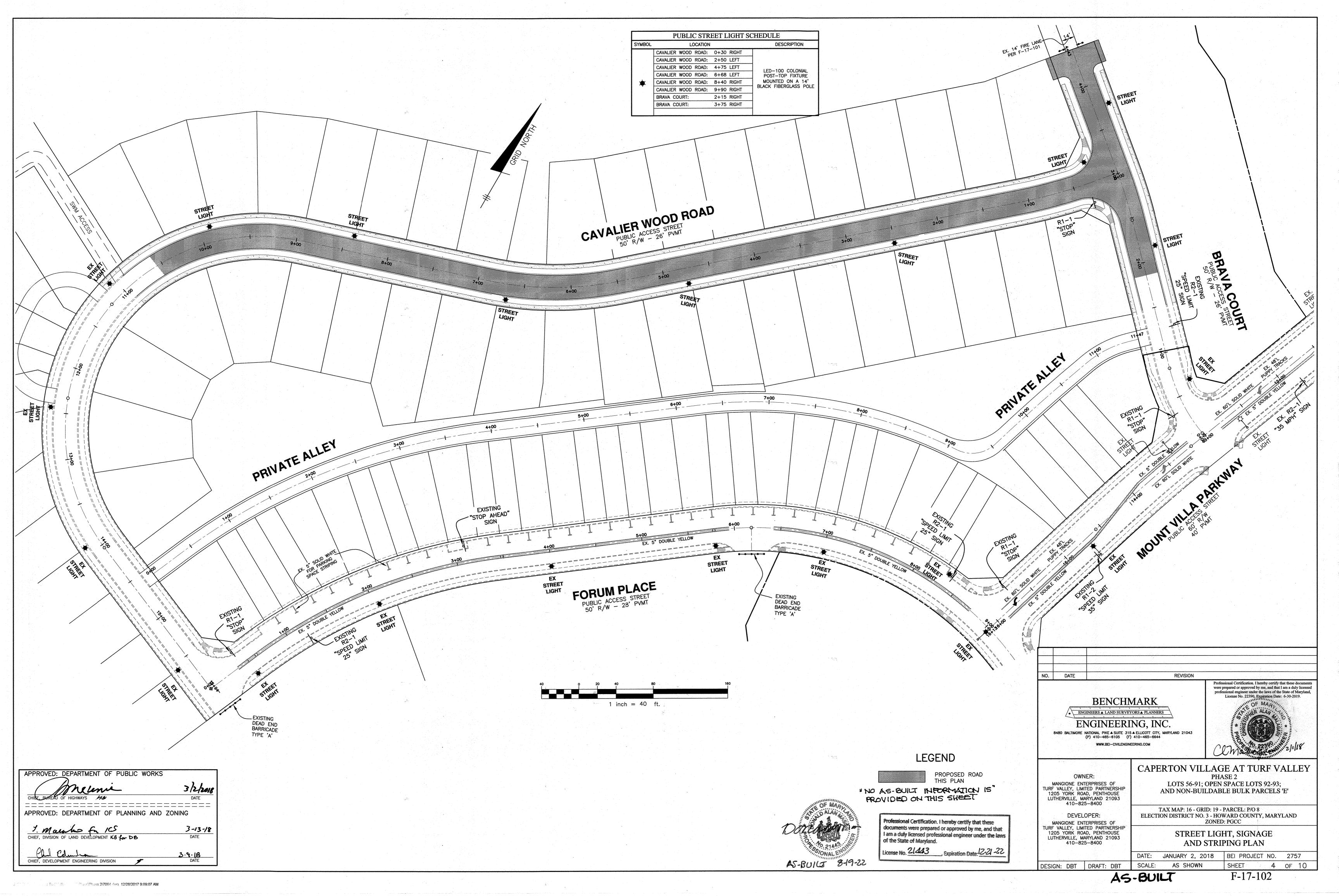
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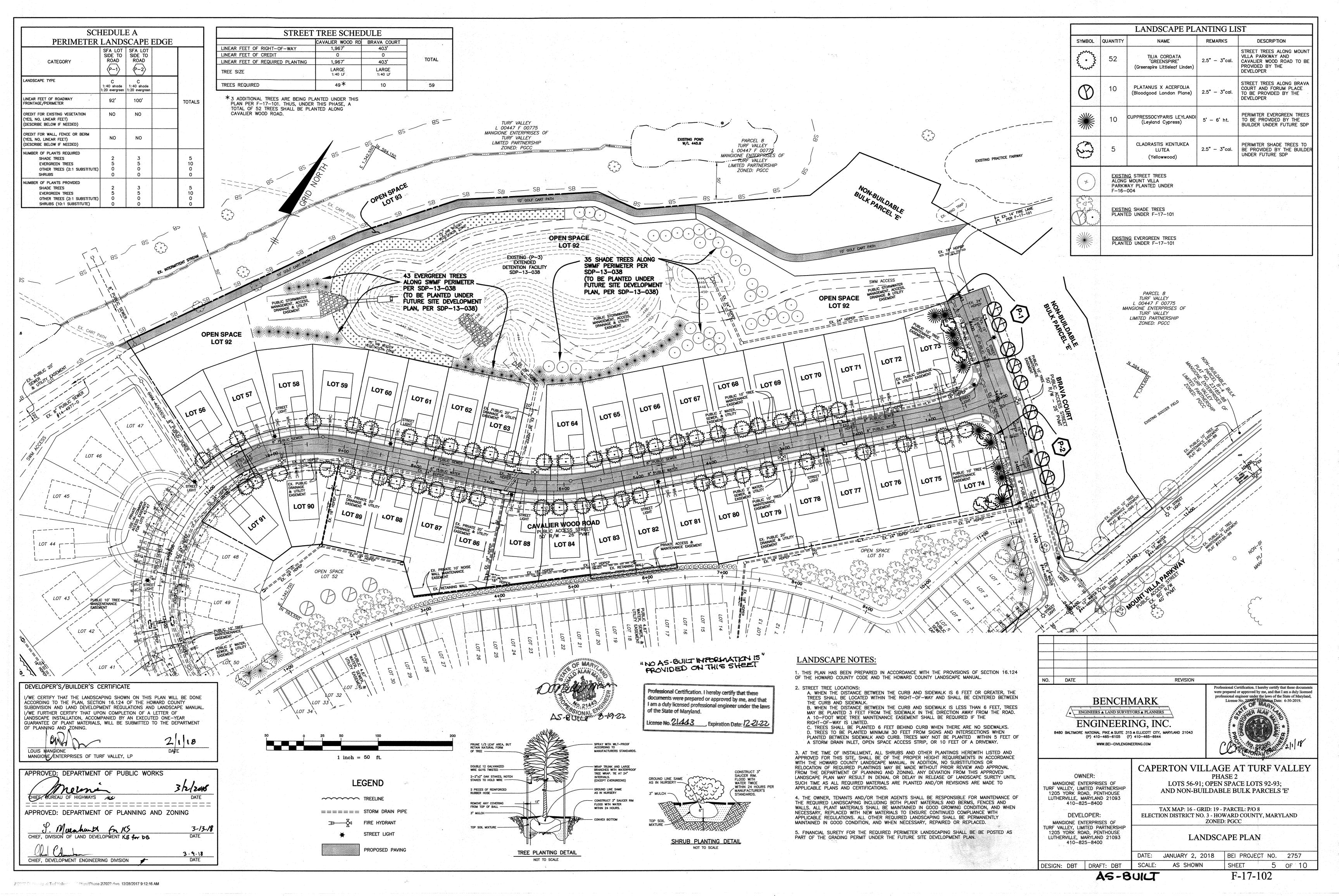
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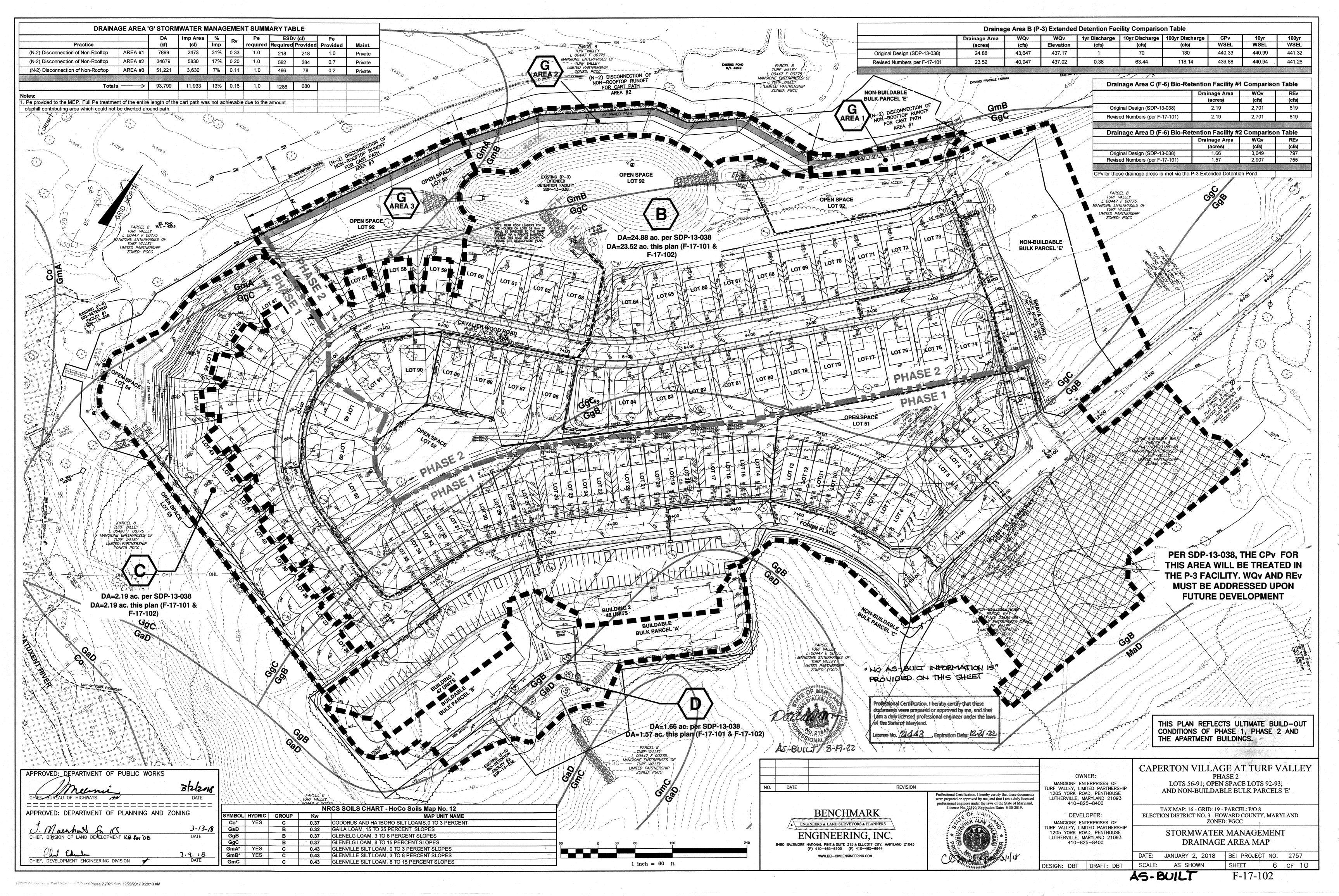
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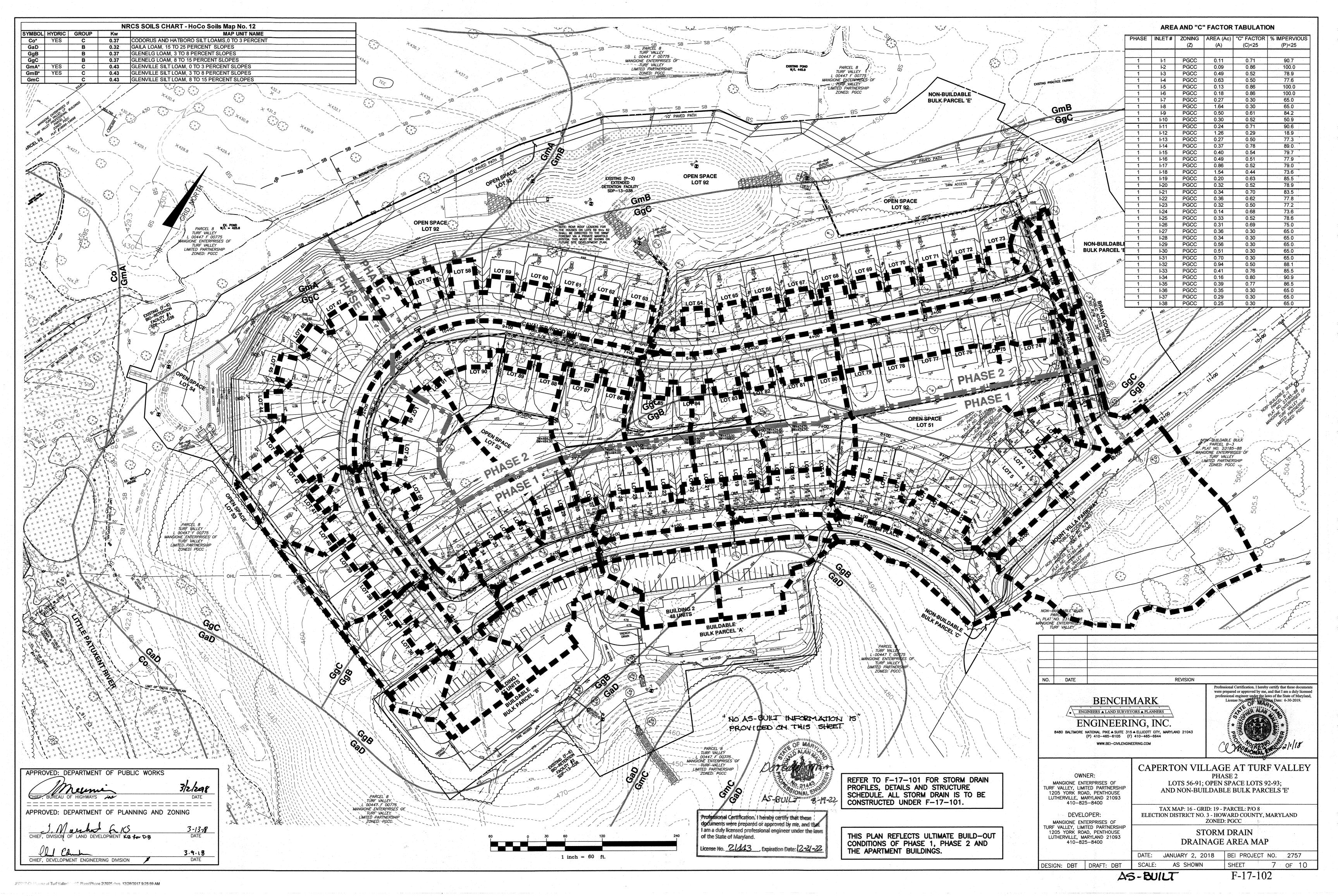


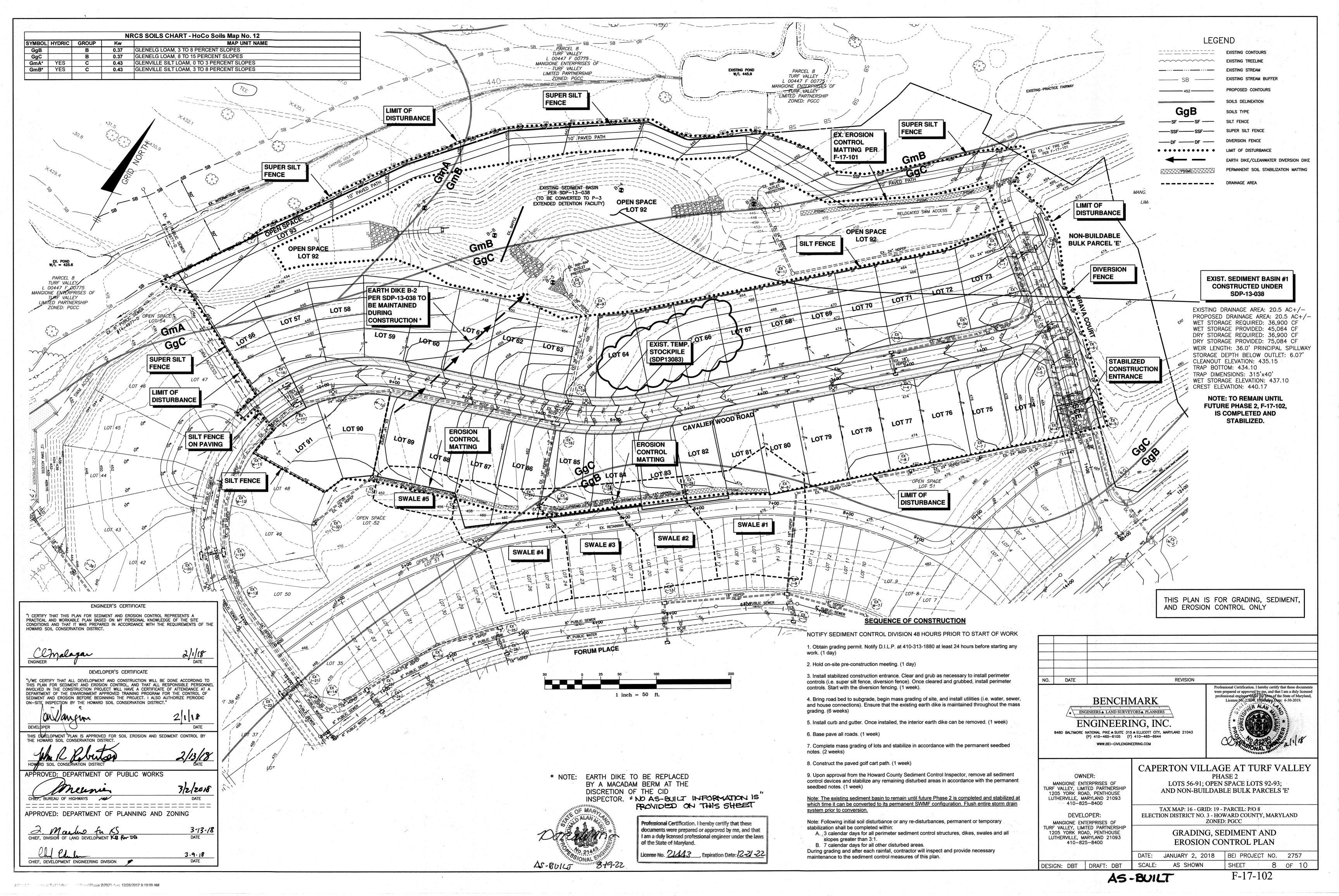












B-4 STANDARDS AND SPECIFICATIONS VEGETATIVE STABILIZATION

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 stabilization; 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, Adequate Vegetative Establishmen

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 Slopes 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

necessary. 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 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 pplication of temporary stabilization Figure B.

ENGINEER'S CERTIFICATE

DEVELOPER'S CERTIFICATE

"I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO

DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF

DATE

3/2/2018

3.4.18

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

CHIEF, DEVELOPMENT ENGINEERING DIVISION

- Tinf Valle

APPROVED: DEPARTMENT OF PLANNING AND ZONING

an 4Phase 2\702" - 12/28/2017 9:20:55 AM

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

"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 TH

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. **Conditions Where Practice Applies** Where vegetative stabilization is to be established.

Soil Preparation 1. Temporary Stabilization

a. Seedbed preparation consists of loosening soil to a depth of 3 to 5 inches by means of suitable agricultural or construction equipment, such as disc harrows or chisel plows or rippers mounted on construction equipment. After the soil is loosened, it must not be rolled or dragged smooth but left in the roughened condition. Slopes 3:1 or flatter are to be tracked with ridges running parallel to the contour of the slope. Apply fertilizer and lime as prescribed on the plans.

Incorporate lime and fertilizer into the top 3 to 5 inches of soil by disking or other suitable means. **Permanent Stabilization** a. A soil test is required for any earth disturbance of 5 acres or more. The minimum soil

conditions required for permanent vegetative establishment are: 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 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

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

USDA-NRCS. 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. 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. 5. 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 a. 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 Amendments (Fertilizer and Lime Specifications) Soil tests must be performed to determine the exact ratios and application rates for both lime and fertilizer on sites having disturbed areas 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

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

For sandy soils, plant seeds at twice the depth listed above.

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

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.

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 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 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

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: i. 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. 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.

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.

iv. 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. Purpose 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.

A. Seed Mixtures 1. General Use

in the Permanent Seeding Summary.

1 ½ to 3 pounds per 1000 square feet.

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 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

. 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:

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 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 1/2 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 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).

 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 ¾ inch, plus or minus ¼ 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 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. 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 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.

B-4-4 STANDARDS AND SPECIFICATIONS

TEMPORARY STABLIZATION

To stabilize disturbed soils with vegetation for up to 6 months.

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 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. . For sites having soil tests performed, use and show the recommended rates by the testing agency. Soil tests are not required for Temporary Seeding. 3. When stabilization is required outside of a seeding season, apply seed and mulch or straw mulch

alone as prescribed in Section B-4-3.A.1.b and maintain until the next seeding season.

B-4-8 STANDARDS AND SPECIFICATIONS

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 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. 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.

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.

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

Mulches: 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. Vegetative Cover: 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. Irrigation: Sprinkle site with water until the surface is moist. Repeat as needed. The site must 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 review authority.

HOWARD SOIL CONSERVATION DISTRICT (HSCD) STANDARD SEDIMENT CONTROL NOTES

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

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

d. Prior to the removal or modification of sediment control practices. 2. All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, and revisions thereto.

3. Following initial soil disturbance or re-disturbance, permanent or temporary stabilization is required within three (3) calendar days as to the surface of all perimeter controls, dikes, swales, ditches, perimeter slopes, and all slopes steeper than 3 horizontal to 1 vertical (3:1); 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 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 glone can only be applied between the fall and spring seeding dates if the ground is frozen. Incremental stabilization (Sec. B-4-1) specifications shall be enforced in areas with >15' of cut and/or fill. Stockpiles (Sec. B-4-8) in excess of 20 feet must be benched with stable outlet. All concentrated flow, steep slope, and highly erodible areas shall receive soil stabilization matting (Sec. B-4-6).

5. All sediment control structures are to remain in place, and are to be maintained in operative condition until permission for their removal has been obtained from the CID.

12.69_ Acres

8.48 Area Disturbed: 1.32 7.16 _ Acres Area to be vegetatively stabilized:

6. Site Analysis:

Total Area of Site:

20,000* _{Cu Yds} 20,000* Total fill: _ Cu Yds

SITE WITH AN ACTIVE GRADING PERMIT Off-site waste/borrow area location: 7. Any sediment control practice which is disturbed by grading activity for placement of

utilities must be repaired on the same day of disturbance 8. Additional sediment control must be provided, if deemed necessary by the CID. The site and all controls shall be inspected by the contractor weekly, and the next day after each rain event. A written report by the contractor, made available upon request, is part of every inspection and should include:

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

 Name and title of inspector • Weather information (current conditions as well as time and an=mount of last recorded • Brief description of project's status (e.g. percent complete) and/or current activities

 Evidence of sediment discharges Identification of plan deficiencie • Identification of sediment controls that require maintenance • Identification of missing or improperly installed sediment controls • Compliance status regarding the sequence of construction and stabilization requirements

Monitoring/sampling Maintenance and/or corrective action performed •Other inspection items as required by the General Permit for Stormwater Associated with

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

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

Unless otherwise specified and approved by the HSCD, no more than 20 acres cumulatively may be disturbed at a given time. 12. Wash water from any equipment, vehicles, wheels, pavement, and other sources must be treated in a sediment basin or other approved washout structur

13. Topsoil shall be stockpiled and preserved on-site for redistribution onto final grade.

disturbed area in the preceding grading unit has been stabilized and approved by the CID.

14. All silt fence and super silt fence shall be placed on-the-contour, and be imbricated of 25' minimum intervals, with lower ends curled uphill by 2' in elevation 15. Stream channels must not be disturbed during the following restricted time periods

• Use I and IP March 1 - June 15 • Use III and IIIP October 1 - April 30

Construction Activities (NPDES, MDE)

• Use IV March 1 - May 3 16. A copy of this plan, the 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, and associated permits shall be on-site and available when

*CUT/FILL NUMBERS ARE FOR SEDIMENT CONTROL PURPOSES ONLY. CONTRACTOR TO VERIFY.

Permanent Seeding Summary

	Hardiness Zone (from F Seed Misture (from Tak		6b Tall Fescue/Kentucky Bl	II Fescue/Kentucky Bluegrass (10-20-20)				Lime Rate
No.	Species	Application Rate (lb/ac.)	Seeding Dates	Seeding Depths	N	P2O5	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 (1.01b/	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

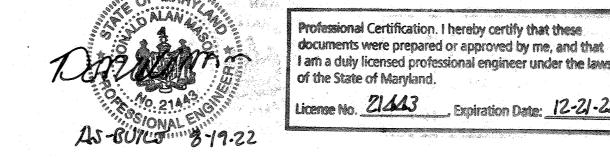
Dignt Species	Seeding Rate 1/		Seeding	Recommended Seeding Dates by Plant Hardiness Zone 3/		
Plant Species	lb/ac	lb/1000 ft2	Depth 2/ (inches)	5b and 6a	6b	7a and 7b
Cool-Season Grasses			-			
Annual Ryegrass (Lolium perenne ssp. Multiflorum	40	1.0	0.5		Mar 1 to May 15; Aug 1 to Oct 31	
Barley (Hordeum vulgare)	96	2.2	1.0		Mar 1 to May 15; Aug 1 to Oct 31	
Oats (Avena sativa)	72	1.7	1.0		Mar 1 to May 15; Aug 1 to Oct 31	
Wheat (Triticum aestivum)	120	2.8	1.0		Mar 1 to May 15; Aug 1 to Oct 31	
Cereal Rye (Secale cereale)	112	2.8	1.0		Mar 1 to May 15; Aug 1 to Nov 15	
Warm-Season Grasses						
Foxtail Millet (Serataria italica)	30	0.7	0.5		May 16 to Jul 31	
Pearl Millet (Pennisetum glaucum	20	0.5	0.5		May 16 to Jul 31	

Seeding rates for the warm season grasses are in pounds of Pure Live Seed (PLS). Actual planting rates shall be adjusted to reflect percent seed germination and purity, as tested. Adjustments are usually not needed for the cool-season grasses,

The planting dates listed are averages for each Zone and may require adjustment to reflect local conditions, especially near the boundaries of the zone.

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

1 inch = 60 ft.



"NO AS-BUILT INFORMATION IS" PROVIDED ON THIS SHEET

Professional Certification. I hereby certify that these

License No. 21443 Expiration Date: 12-21-2

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

NO.

DATE

OWNER:

MANGIONE ENTERPRISES OF

TURF VALLEY, LIMITED PARTNERSHIF

1205 YORK ROAD, PENTHOUSE

LUTHERVILLE, MARYLAND 21093

410-825-8400

DEVELOPER:

MANGIONE ENTERPRISES OF

TURF VALLEY, LIMITED PARTNERSHIP

1205 YORK ROAD, PENTHOUSE LUTHERVILLE, MARYLAND 21093

410-825-8400

DESIGN: DBT | DRAFT: DBT

CAPERTON VILLAGE AT TURF VALLEY

REVISION

PHASE 2 LOTS 56-91; OPEN SPACE LOTS 92-93; AND NON-BUILDABLE BULK PARCELS 'E'

TAX MAP: 16 - GRID: 19 - PARCEL: P/O 8 ELECTION DISTRICT NO. 3 - HOWARD COUNTY, MARYLAND ZONED: PGCC

SEDIMENT AND EROSION

CONTROL NOTES JANUARY 2, 2018 BEI PROJECT NO. 2757

AS-BUILT

SCALE:

SHEET

F-17-102

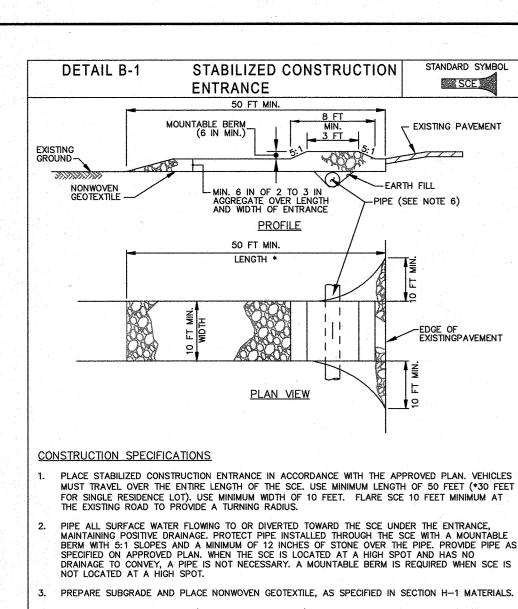
9 of 10

Professional Certification. I hereby certify that these documen

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

professional engineer under the laws of the State of Maryland

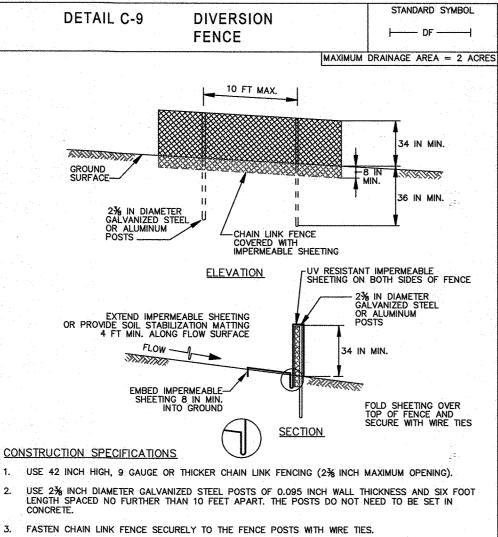
AS SHOWN



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, ANI 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 DIRECTED TO AN APPROVED SEDIMENT CONTROL PRACTICE.

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



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.

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.

WHEN TWO SECTIONS OF SHEETING ADJOIN EACH OTHER, OVERLAP BY 6 INCHES AND FOLD WITH

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL FROSION AND SEDIMENT CONTROL MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE

SUPER SILT

ELEVATION

CROSS SECTION

INSTALL 236 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 INCHES INTO THE GROUND.

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

PROVIDE MANUFACTURER CERTIFICATION TO THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING

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

CHAIN LINK FENCING -

WOVEN SLIT FILM GEOTEXTILE-

GALVANIZED CHAIN LINK FENCE WITH WOVEN SLIT FILM GEOTEXTILE

118/18/18

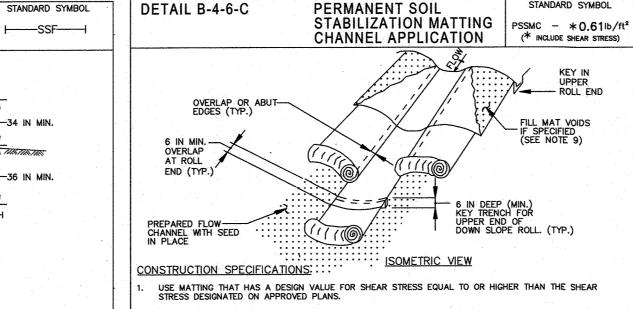
FENCE

DETAIL E-3

TIRTIR TIRTIR

GALVANIZED STEEL OF ALUMINUM POSTS

CONSTRUCTION SPECIFICATIONS



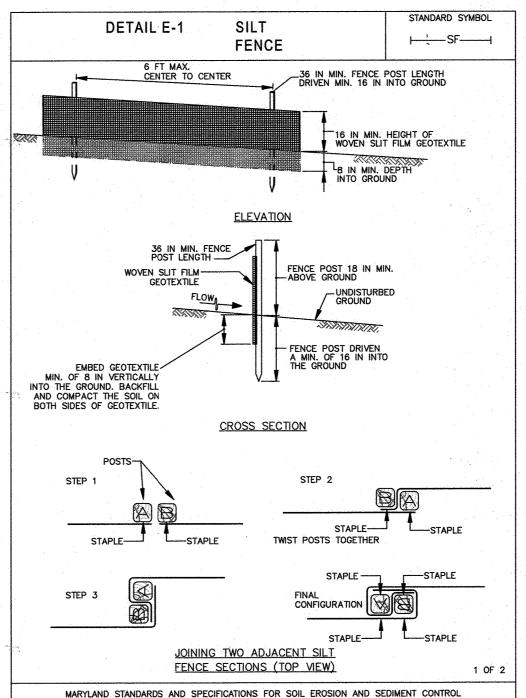
USE PERMANENT SOIL STABILIZATION MATTING MADE OF OPEN WEAVE SYNTHETIC, NON-DEGRADABLE FIBERS OR ELEMENTS OF UNIFORM THICKNESS AND DISTRIBUTION THROUGHOUT. CHEMICALS USED IN THE MAT MUST BE NON-LEACHING AND NON-TOXIC TO VEGETATION AND SEED GERMINATION AND NON-INJURIOUS TO THE SKIN. IF PRESENT, NETTING MUST BE EXTRUDED PLASTIC WITH A MUST BESH OPENING OF 2x2 INCHES AND SUFFICIENTLY BONDED OR SEWN ON 2 INCH CENTERS ALONG LONGITUDINAL AXIS OF THE MATERIAL TO PREVENT SEPARATION OF THE NET FROM THE PARENT MATERIAL. SECURE MATTING USING STEEL STAPLES OR WOOD STAKES. STAPLES MUST BE "U" OR "T" SHAPED STEEL WIRE HAVING A MINIMUM GAUGE OF NO. 11 AND NO. 8 RESPECTIVELY. "U" SHAPED STAPLES MUST AVERAGE 1 TO 1 ½ INCHES WIDE AND BE A MINIMUM OF 6 INCHES LONG. "T" SHAPED STAPLES MUST HAVE A MINIMUM 8 INCH MAIN LEG, A MINIMUM 1 INCH SECONDARY LEG, AND MINIMUM 4 INCH HEAD. WOOD STAKES MUST BE ROUGH-SAWN HARDWOOD, 12 TO 24 INCHES IN LENGTH, 1x3 INCH IN CROSS SECTION, AND WEDGE

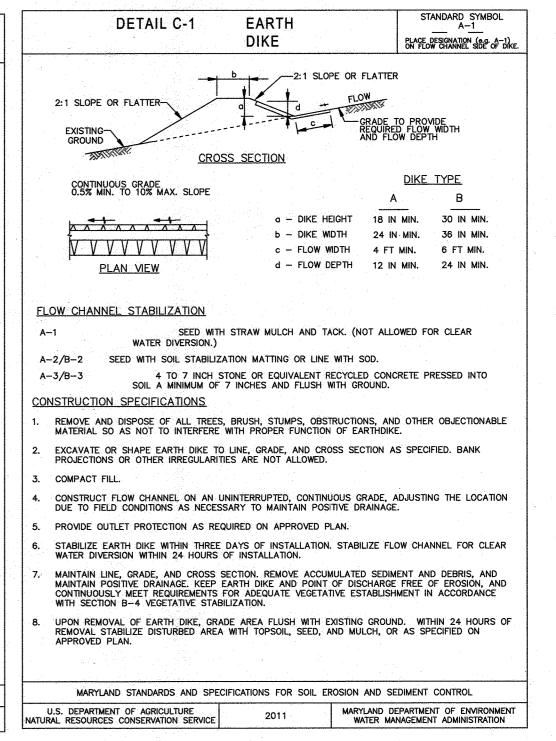
PERFORM FINAL GRADING, TOPSOIL APPLICATION, SEEDBED PREPARATION, AND PERMANENT SEEDING IN ACCORDANCE WITH SPECIFICATIONS, PLACE MATTING WITHIN 48 HOURS OF COMPLETING SEEDING OPERATIONS, UNLESS END OF WORKDAY STABILIZATION IS SPECIFIED ON THE APPROVED EROSION AND SEDIMENT CONTROL BI AN

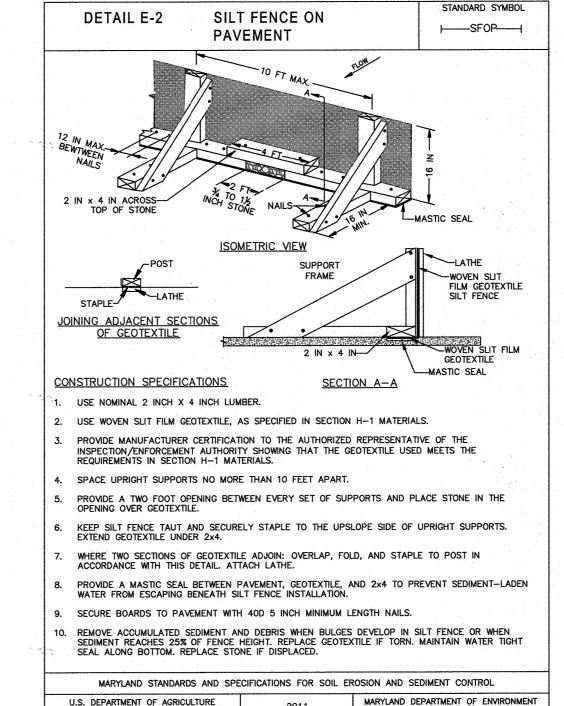
UNROLL MATTING IN DIRECTION OF WATER FLOW, CENTERING THE FIRST ROLL ON THE CHANNEL CENTER LINE. WORK FROM CENTER OF CHANNEL OUTWARD WHEN PLACING ROLLS. LAY MATTING SMOOTHLY AND FIRMLY UPON THE SEEDED SURFACE. AVOID STRETCHING THE MATTING. OVERLAP OR ABUT EDGES OF MATTING ROLLS PER MANUFACTURER RECOMMENDATIONS.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

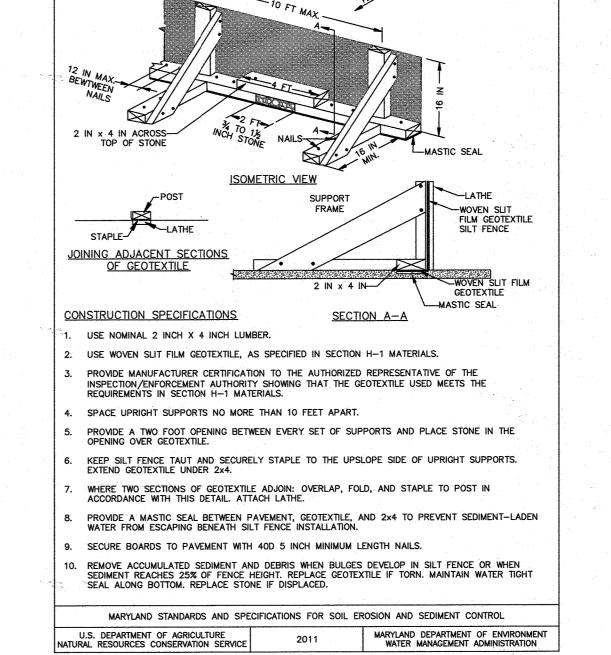
STAPLE/STAKE MAT IN A STAGGERED PATTERN ON 4 FOOT (MAXIMUM) CENTERS THROUGHOUT AND 2 FOOT (MAXIMUM) CENTERS ALONG SEAMS, JOINTS, AND ROLL ENDS. IF SPECIFIED BY THE DESIGNER OR MANUFACTURER AND DEPENDING ON THE TYPE OF MAT BEING INSTALLED ONCE THE MATTING IS KEYED AND STAPLED IN PLACE, FILL THE MAT VOIDS 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.

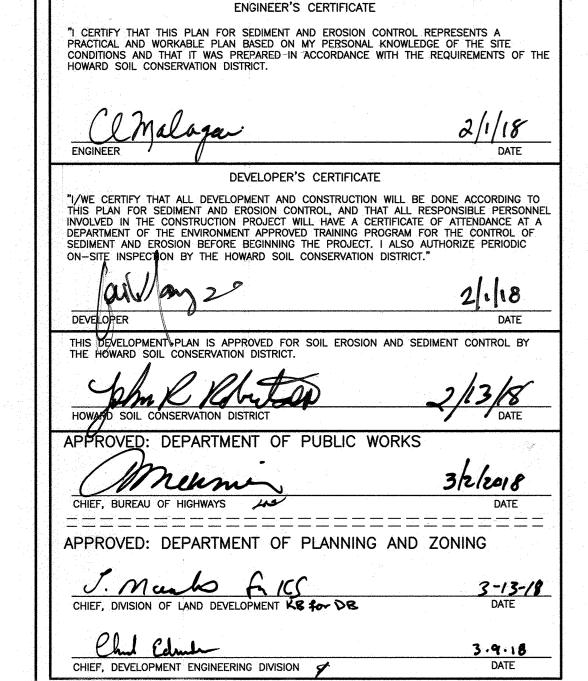
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL U.S. DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION 2011



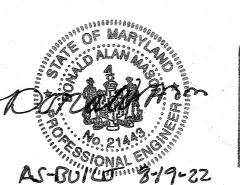






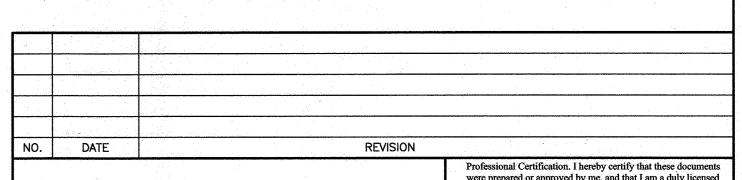


"NO AS-BUILT INFORMATION IS PROVIDED ON THIS SHEET



Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duty licensed professional engineer under the laws of the State of Maryland.

License No. 21443 Expiration Date: 12-21-22



were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, **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

CAPERTON VILLAGE AT TURF VALLEY

PHASE 2 LOTS 56-91; OPEN SPACE LOTS 92-93; AND NON-BUILDABLE BULK PARCELS 'E'

TAX MAP: 16 - GRID: 19 - PARCEL: P/O 8 ELECTION DISTRICT NO. 3 - HOWARD COUNTY, MARYLAND ZONED: PGCC

> SEDIMENT AND EROSION CONTROL DETAILS

DATE: JANUARY 2, 2018 | BEI PROJECT NO. 2757 AS SHOWN SHEET 10 of 10

SCALE:

OWNER:

MANGIONE ENTERPRISES OF

TURF VALLEY, LIMITED PARTNERSHIP

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

DEVELOPER:

MANGIONE ENTERPRISES OF

TURF VALLEY, LIMITED PARTNERSHIF

1205 YORK ROAD, PENTHOUSE

LUTHERVILLE, MARYLAND 21093

410-825-8400

DESIGN: DBT | DRAFT: DBT

JA2787 C. C. Of Tarrivalle