FINAL ROAD CONSTRUCTION PLAN

FAIRWAYS AT TURF VALLEY

PHASE III, LOTS 95 - 112, OPEN SPACE LOTS 113 - 115, AND GOLF SPACE LOT 116

A SUBDIVISION OF PARCELS 8 & 706 AND A RESUBDIVISION OF FAIRWAYS AT TURF VALLEY, PHASE I, NON-BUILDABLE BULK PARCEL D

POD 'F' SECTION IV : RESIDENTIAL PHASE IV E

HOWARD COUNTY, MARYLAND

GENERAL NOTES

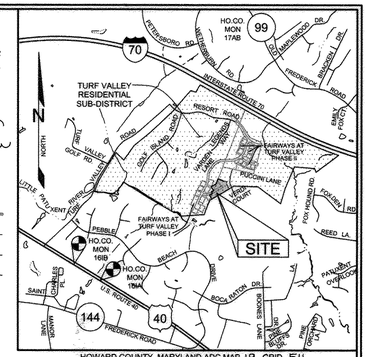
1. SUBJECT PROPERTY IS ZONED 'PGCC' PER THE OCTOBER 6, 2013 COMPREHENSIVE ZONING PLAN.
2. GROSS AREA OF SITE SUBJECT TO SUBDIVISION = 3.58 AC.±
3. AREA OF PROPOSED PUBLIC R/W: 0.41 AC±
4. NUMBER OF PROPOSED BUILDABLE LOTS: 18
5. AREA OF PROPOSED BUILDABLE LOTS: 2.21 AC±
6. NUMBER OF PROPOSED OPEN SPACE LOTS: 4
7. AREA OF PROPOSED OPEN SPACE LOTS: 0.96 AC±
   OPEN SPACE REQUIRED (15% OF GROSS AREA OF SITE SUBJECT TO SUBDIVISION): 3.58 AC. x 15% = 0.54 AC.
   CREDITED OPEN SPACE PROVIDED: 0.70 AC.±
   NON-CREDITED OPEN SPACE PROVIDED: 0.26 AC.±
   TOTAL OPEN SPACE PROVIDED: 0.96 AC.±
8. THIS PROPERTY IS WITHIN THE METROPOLITAN DISTRICT.
9. HOWARD COUNTY SOILS MAP 15.
10. TOPOGRAPHY IS BASED ON WINGS AERIAL MAPPING CO., INC. ON OR ABOUT JANUARY, 2008.
11. BOUNDARY SURVEY PREPARED BY MILDENBERG, BOENDER & ASSOCIATES ON OR ABOUT MARCH, 2006.
12. THERE ARE NO STEEP SLOPES, WETLANDS, STREAMS, FLOODPLAINS, HISTORIC STRUCTURES OR CEMETERIES WITHIN THE PROJECT BOUNDARY. THE FLOODPLAIN STUDY FOR THIS PROJECT WAS PREPARED BY BERNARD JOHNSON INCORPORATED, DATED MAY 1986, AND WAS APPROVED BY HOWARD COUNTY UNDER THE LITTLE PATUXENT RIVER WATERSHED MODEL UPDATE ULTIMATE WATERSHED DEVELOPMENT CAPITAL PROJECT D-1065. WETLAND LIMITS ARE BASED ON A STUDY CONDUCTED BY EXPLORATION RESEARCH,INC.
13. THE CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES OR AGENCIES AT LEAST FIVE (5) WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:

STATE HIGHWAY ADMINISTRATION	410.531.5533
BGE(CONTRACTOR SERVICES)	410.850.4620
BGE(UNDERGROUND DAMAGE CONTROL)	410.787.9068
MISS UTILITY	1.800.257.7777
COLONIAL PIPELINE COMPANY	410.795.1390
HOWARD COUNTY, DEPT. OF PUBLIC WORKS, BUREAU OF UTILITIES	410.313.4900
HOWARD COUNTY HEALTH DEPARTMENT	410.313.2640
AT&T	1.800.252.1133
VERIZON	1.800.743.0033/410.224.9210

14. 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; F-96-151; F-07-158; SDP-95-121; CONTR.#24-4354-D; PB-181; PB-294; PB-300; PB-351; PB-368; WP-09-048,SP-08-05, PLAT NO'S 20286-20287; WP-09-211, F-10-084, WP-09-24, WP-10-159, WP-11-108, WP-12-129, WP-13-128, WP-14-089, WP-14-104
15. ANY DAMAGE TO PUBLIC RIGHT-OF WAYS, PAVING OR EXISTING UTILITIES WILL BE CORRECTED AT THE CONTRACTOR'S EXPENSE.
16. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING CONSTRUCTION INSPECTION DIVISION AT (410) 313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
17. THE LOTS SHOWN HEREON COMPLY WITH THE MINIMUM OWNERSHIP, WIDTH AND LOT AREA AS REQUIRED BY THE MARYLAND STATE DEPARTMENT OF THE ENVIRONMENT.
18. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY IN ADDITION TO MSHA STANDARDS AND SPECIFICATIONS IF APPLICABLE.
19. THE PROJECT IS IN CONFORMANCE WITH THE LATEST HOWARD COUNTY STANDARDS UNLESS WAIVERS HAVE BEEN APPROVED.
20. EXISTING UTILITIES ARE LOCATED BY THE USE OF ANY OR ALL OF THE FOLLOWING: ROAD CONSTRUCTION PLANS, FIELD SURVEYS, PUBLIC WATER AND SEWER PLANS AND OTHER AVAILABLE RECORD DRAWINGS. APPROXIMATE LOCATION OF THE EXISTING UTILITIES ARE SHOWN FOR THE CONTRACTOR'S INFORMATION. CONTRACTOR SHALL LOCATE EXISTING UTILITIES WELL IN ADVANCE OF CONSTRUCTION ACTIVITIES AND TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND TO MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED DUE TO THE CONTRACTOR'S OPERATION SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE.
21. ALL HDPE PIPE SPECIFICATION AND INSTALLATION SHALL MEET AASHTO M-252 TYPE S, M-294 TYPE S AND ASTM D2321, RESPECTIVELY.
22. SOIL COMPACTION SPECIFICATIONS, REQUIREMENTS, METHODS AND MATERIALS ARE TO BE IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE PROJECT GEOTECHNICAL ENGINEER. DRIVEWAY PAVING TO BE HOWARD COUNTY STANDARD P-1 PAVING SECTION. GEOTECHNICAL ENGINEER TO CONFIRM ACCEPTABILITY OF PROPOSED PAVING SECTION, BASED ON SOIL TEST, PRIOR TO CONSTRUCTION.
23. ALL TRAFFIC CONTROL DEVICES, MARKINGS AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
24. THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL, WHICH IS BASED ON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY MONUMENTS NUMBERS 16IA AND 16IB WERE USED FOR THIS PROJECT.
25. DRIVEWAY(S) SHALL BE PROVIDED PRIOR TO ISSUANCE OF A USE AND OCCUPANCY PERMIT FOR ANY NEW DWELLINGS TO ENSURE SAFE ACCESS FOR FIRE AND EMERGENCY VEHICLES PER THE FOLLOWING REQUIREMENTS:
    1) WIDTH - 12 FEET (16 FEET SERVING MORE THAN ONE RESIDENCE);
    2) SURFACE - SIX (6") INCHES OF COMPACTED CRUSHER RUN BASE WITH TAR AND CHIP COATING (1-1/2" MINIMUM);
    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-LOADING);
    5) DRAINAGE ELEMENTS - CAPABLE OF SAFELY PASSING 100 YEAR FLOOD WITH NO MORE THAN 1 FOOT DEPTH OVER DRIVEWAY SURFACE;
    6) MAINTENANCE - SUFFICIENT TO ENSURE ALL WEATHER USE
26. NO GRADING, REMOVAL OF VEGETATIVE COVER OR TREES, PAVING AND NEW STRUCTURES SHALL BE PERMITTED WITHIN THE LIMITS OF WETLANDS, STREAMS, OR THEIR REQUIRED BUFFERS, FLOODPLAIN AND FOREST CONSERVATION EASEMENT AREAS.
27. ALL DITCHES AND SWALES WILL HAVE EROSION CONTROL MATTING.
28. STORMWATER MANAGEMENT FOR THIS PHASE IS PROVIDED BY A REGIONAL STORMWATER MANAGEMENT POND CONSTRUCTED UNDER SDP-95-121, AND BY DRY SWALES AND THE SHEET FLOW TO BUFFER CREDIT. WQv, REv AND CPv REQUIREMENTS ARE PROVIDED FOR THE AREAS THAT DRAIN TO THE REGIONAL STORMWATER MANAGEMENT FACILITY BY THE FACILITY. WQv AND REv REQUIREMENTS ARE PROVIDED FOR THE AREAS THAT DO NOT DRAIN TO THE REGIONAL FACILITY BY DRY SWALES AND THE SHEET FLOW TO BUFFER CREDIT. CPv IS NOT REQUIRED FOR THESE AREAS BECAUSE THE 1 YEAR PEAK RUNOFF IS LESS THAN 2 CFS. SEE THE STORMWATER MANAGEMENT REPORT FOR SDP-95-121 FOR DESIGN COMPUTATIONS FOR THE REGIONAL STORMWATER MANAGEMENT FACILITY.
29. FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING HAS BEEN POSTED AS PART OF THE DEVELOPER'S AGREEMENT IN THE AMOUNT OF $2,700.00 (9 SHADE TREES @ $300.00 EACH). STREET TREES AND PERIMETER LANDSCAPE TREES WILL BE PLANTED AT THE SITE DEVELOPMENT PLAN STAGE. LANDSCAPING FOR LOTS 95 THRU 112 WILL BE PROVIDED FOR AT THE SITE DEVELOPMENT PLAN STAGE IN ACCORDANCE WITH SECTION 16.124 OF THE SUBDIVISION REGULATIONS AND THE LANDSCAPE MANUAL.
30. THE TRAFFIC STUDY FOR THIS PROJECT WAS PREPARED BY TRAFFIC GROUP, DATED JANUARY 07, 2005 AND WAS APPROVED UNDER THE 4TH AMENDED COMPREHENSIVE SKETCH PLAN ON APRIL 27, 2006.
31. 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 AN ADT OF TEN THOUSAND (10,000) VEHICLES.
32. 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.
33. OPEN SPACE LOTS 113-115 TO BE OWNED AND MAINTAINED BY THE HOME OWNERS ASSOCIATION.
34. GOLF SPACE LOT 116 TO BE OWNED AND MAINTAINED BY MANGIONE ENTERPRISES AT TURF VALLEY LIMITED PARTNERSHIP.
35. 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: 42
    PROPOSED PARKING: 51 (36 SPACES WITHIN GARAGES/ON DRIVEWAYS, (15 EXISTING PARKING SPACES ALONG VERDI COURT PROPOSED UNDER FAIRWAYS AT TURF VALLEY, PHASE 1 - F07-158)
36. 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 BETWEEN ANY STREET LIGHT AND ANY TREE. SEE STREET LIGHT CHART - SEE SHEET NO. 2
37. GOLF EASEMENTS LOCATED ON LOTS 106 & 107 IS 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.
38. THE FOREST CONSERVATION ACT REQUIREMENTS FOR THIS PROJECT WILL BE MET WITH 0.44 ACRES OF 'OFFSITE' RETENTION. THE OFFSITE RETENTION AREAS WILL BE ON OPEN SPACE LOT 104 OF THE VILLAGES OF TURF VALLEY PHASE 2 AND WILL BE PLACED IN A FOREST CONSERVATION EASEMENT SHOWN ON THE FINAL PLAT OF THE VILLAGES OF TURF VALLEY PHASE 2 (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 AMOUNT OF $3,833.00.
39. 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:
    1. WAIVER PETITION APPROVAL APPLIES ONLY TO TEMPORARY DEFERRAL FOR ESTABLISHING ON- OR OFF-SITE FOREST 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 PHASE OF DEVELOPMENT LOCATED ON PARCEL 706.
    2. APPLICABLE DEADLINE AND MILESTONE DATES IN ACCORDANCE WITH SECTIONS 16.144 AND 16.156 OF THE HOWARD COUNTY CODE MUST BE MET.
40. 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.
41. WATER AND SEWER SERVICE FOR THESE LOTS WILL BE GRANTED UNDER THE PROVISIONS OF SECTION 18.122.B OF THE HOWARD COUNTY CODE.

LEGEND

EXISTING CONTOUR	382
PROPOSED CONTOUR	382
EXISTING SPOT ELEVATION	382.3
PROPOSED SPOT ELEVATION	+82.53
DIRECTION OF FLOW	
EXISTING TREES TO REMAIN	
PROPOSED STREET LIGHT	
PROPOSED SIGN	
EXISTING FLOODPLAIN	
EXISTING STREAMBANK BUFFER	SB
EXISTING WETLANDS	W
EXISTING WETLAND BUFFER	WB



HOWARD COUNTY, MARYLAND ADC MAP 19 GRID F4

VICINITY MAP

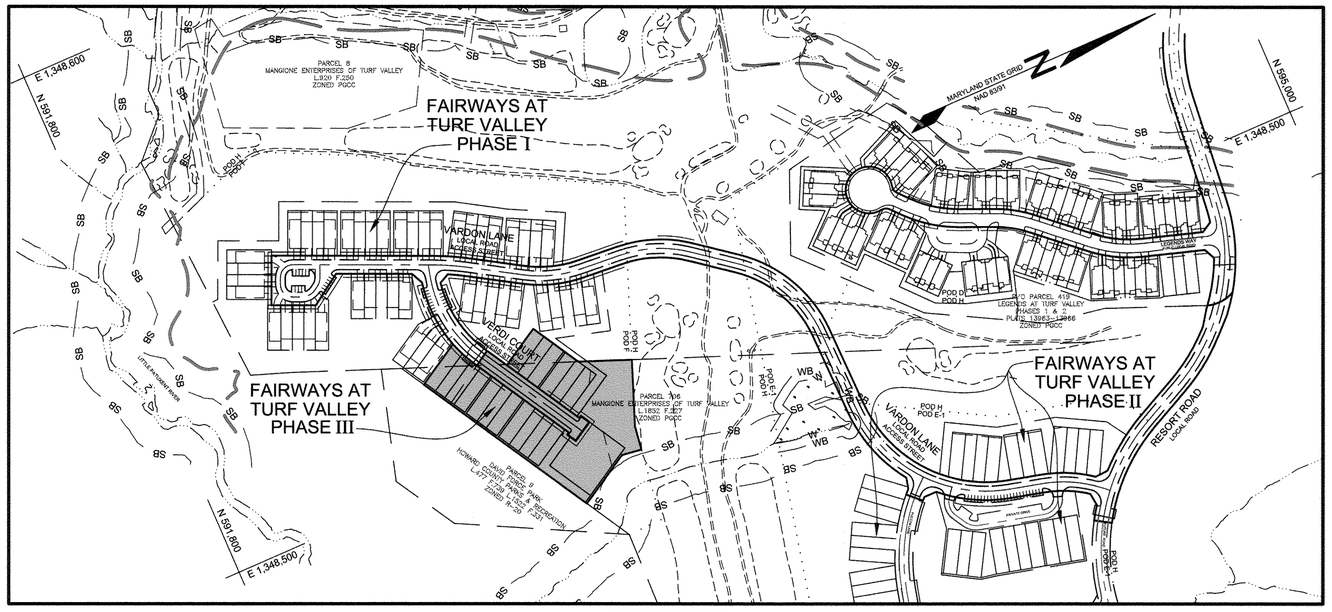
SCALE: 1"=2000'

BENCHMARKS

NUMBER	NORTHING	EASTING	ELEVATION	DESCRIPTION
16IA	589,509.3676	1,346,343.632	462.988	RT. 40 0.35 MILES WEST OF RT-144 JOINT
16IB	590,475.2538	1,344,753.9350	469.892	RT.40 0.8 MILES EAST OF MARRIOTTSVILLE ROAD

SHEET INDEX

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



LOCATION MAP

SCALE: 1"=200'

Revision #1 only

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. 22390, Expiration Date: 6-30-17

OWNER/DEVELOPER

MANGIONE ENTERPRISES OF TURF VALLEY, LP
1205 YORK ROAD, PENTHOUSE
LUTHERVILLE, MARYLAND 21093
410.825.8400

COVER SHEET
FAIRWAYS AT TURF VALLEY

PHASE III LOTS 95 -112, OPEN SPACE LOTS 113 - 115 & GOLF SPACE LOT 116
POD 'F' SECTION IV : RESIDENTIAL PHASE IV E
A SUBDIVISION OF P/O PARCELS 8 & 706 AND A RESUBDIVISION OF FAIRWAYS AT TURF VALLEY, PHASE I, NON-BUILDABLE BULK PARCEL D

TAX MAP 16 GRID 12 & TAX MAP 17 GRID 9 — PART OF PARCELS 8 & 706
2ND ELECTION DISTRICT — HOWARD COUNTY, MARYLAND

Sill · Adcock & Associates · LLC
Engineers · Surveyors · Planners
3300 North Ridge Road, Suite 160
Ellicott City, Maryland 21043
Phone: 443.325.7682 Fax: 443.325.7685
Email: info@saaland.com

DESIGN BY: PS
DRAWN BY: JH
CHECKED BY: PS
SCALE: AS SHOWN
DATE: OCTOBER 29, 2010
PROJECT #: 06-025
SHEET #: 1 of 10

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. 32025, EXPIRATION DATE: JUNE 20, 2011

1	7-14-16	REVISE LOT NUMBERS	BEI

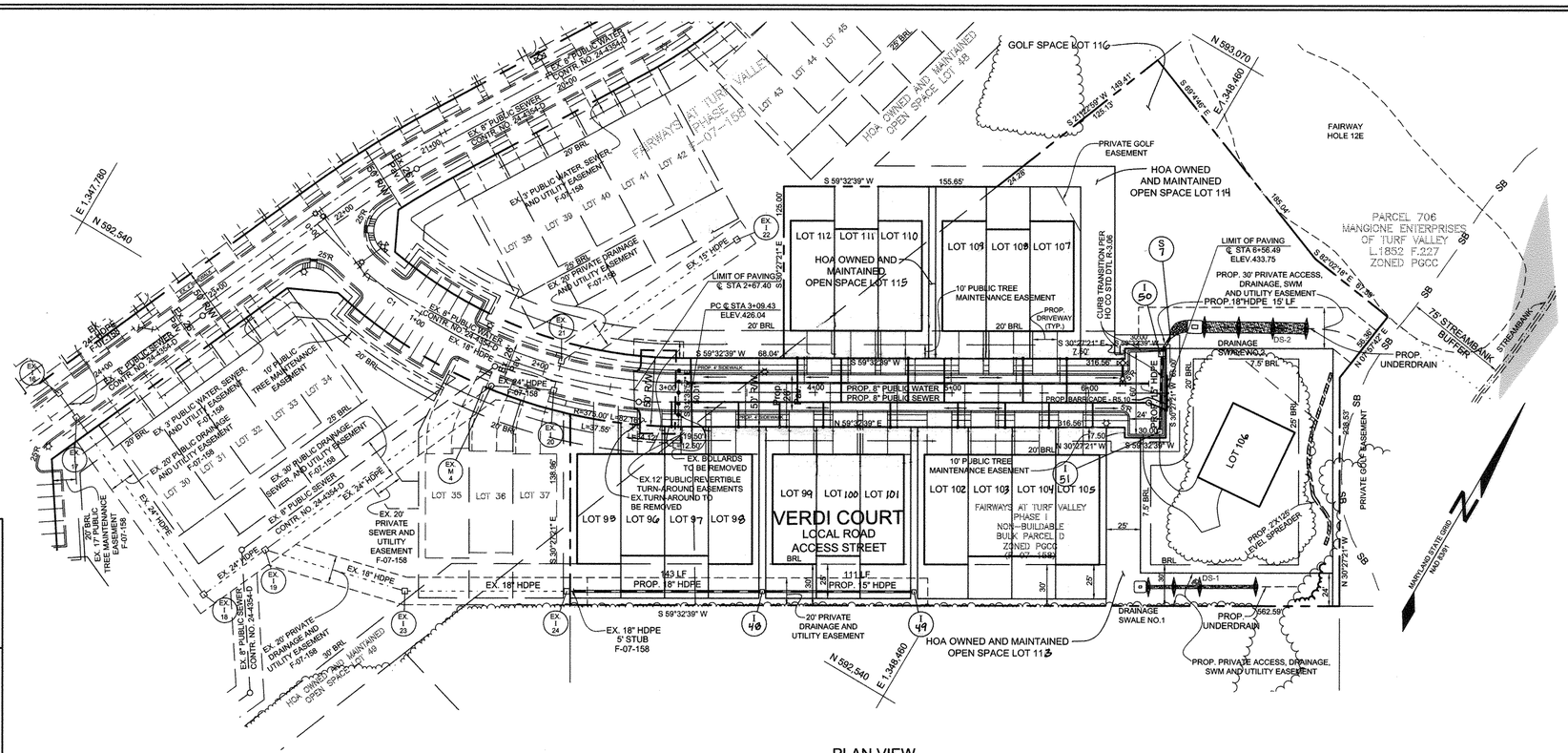
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT	11/19/10 DATE
CHIEF, DEVELOPMENT ENGINEERING DIVISION	11/18/10 DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

CHIEF, BUREAU OF HIGHWAYS	11-17-10 DATE

F-10- 086



PLAN VIEW

SCALE - : 1"=50'

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

CHIEF, BUREAU OF HIGHWAYS — DATE 11-17-10

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 11/18/10

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 11/18/10

STATE OF MARYLAND PROFESSIONAL ENGINEER — 7/26/16 — Revision #1 only

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. 22390, Expiration Date: 6-30-17

OWNER/DEVELOPER

MANGIONE ENTERPRISES OF TURF VALLEY, LP
1205 YORK ROAD, PENTHOUSE
LUTHERVILLE, MARYLAND 21093
410.825.8400

ROAD PLAN AND PROFILE - VERDI COURT
FAIRWAYS AT TURF VALLEY

PHASE III LOTS 95 - 112, OPEN SPACE LOTS 113 - 115 & GOLF SPACE LOT 116
POD 'F' SECTION IV : RESIDENTIAL PHASE IV E
A RESUBDIVISION OF FAIRWAYS AT TURF VALLEY, PHASE I,
NON-BUILDABLE BULK PARCEL D

TAX MAP 17 GRID 13
2ND ELECTION DISTRICT

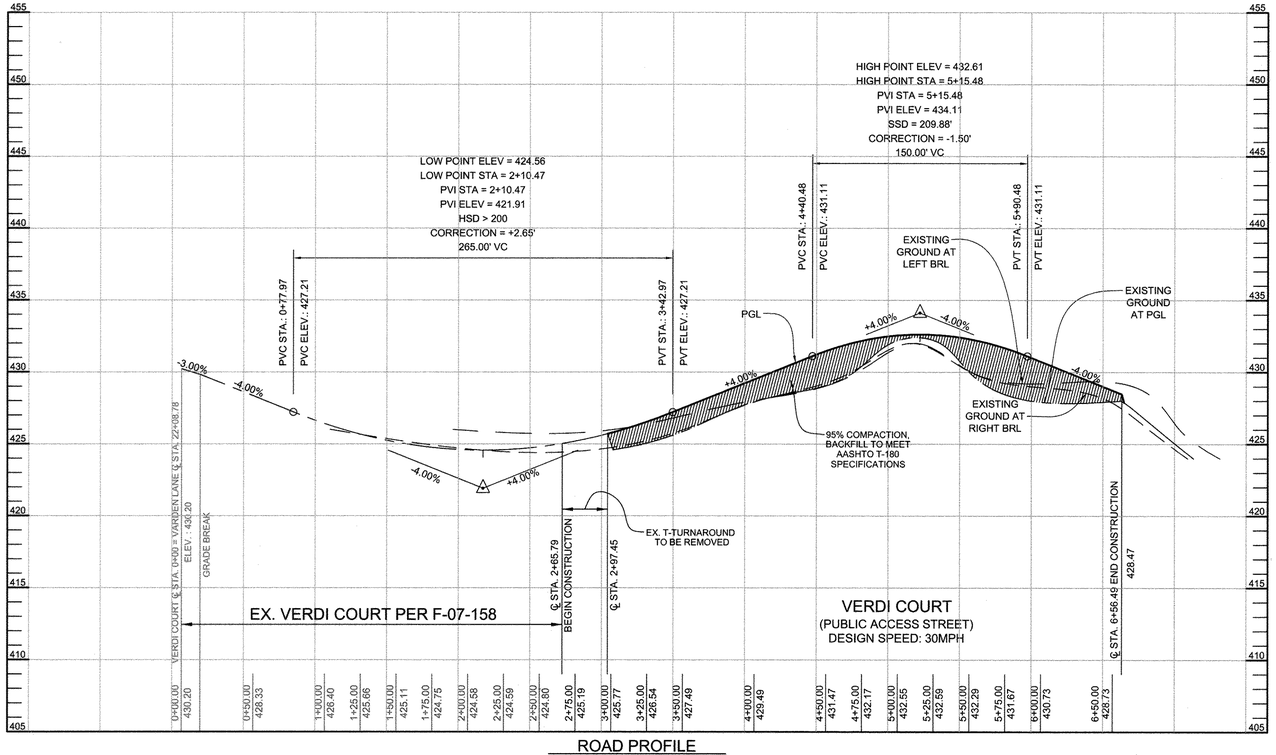
PART OF PARCELS 8 AND 706
HOWARD COUNTY, MARYLAND

1	7-14-16	REVISE STORM DRAIN STRUCTURE NUMBERS, DELETE 3' PUBLIC W&S ESMT, REVISE LOT NUMBERS, REVISE TYP. SEC. DIMENSIONS	BEI

Sill · Adcock & Associates · LLC
Engineers · Surveyors · Planners
3300 North Ridge Road, Suite 160
Ellicott City, Maryland 21043
Phone: 443.325.7682 Fax: 443.325.7685
Email: info@sasland.com

DESIGN BY:	PS
DRAWN BY:	JH
CHECKED BY:	PS
SCALE:	AS SHOWN
DATE:	OCTOBER 29, 2010
PROJECT #:	06-025
SHEET #:	2 OF 10

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. 32025, EXPIRATION DATE: JUNE 20, 2011



ROAD PROFILE

SCALE- HORIZONTAL: 1"=50'
VERTICAL: 1"=5'

ROAD CLASSIFICATION

ROAD NAME	CLASSIFICATION	PAVING TYPE	DESIGN SPEED	LIMITS OF CONSTRUCTION	R/W
VERDI COURT	ACCESS STREET	P-2	30	3+09.43 TO 6+56.49	50'

STREET LIGHT CHART

FIXTURE TYPE	POLE TYPE	LOCATION	STREET
100 watt HPS vapor Colonial post top mounted	14' black fiberglass	℄ Sta. 3+62 15' left	VERDI COURT
100 watt HPS vapor Colonial post top mounted	14' black fiberglass	℄ Sta. 6+13 22' right	VERDI COURT

Note: Light pole location given at center of base

CENTERLINE ROAD CURVE DATA

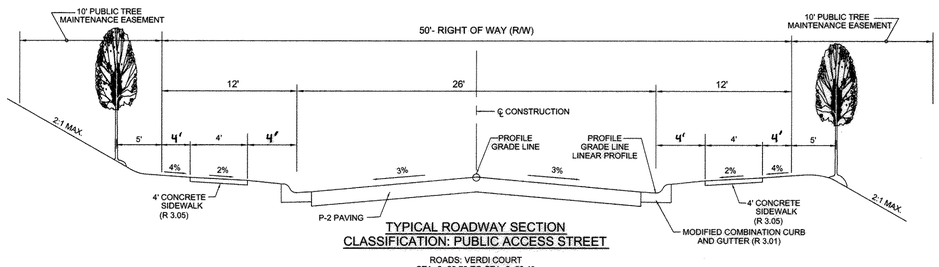
CURVE	RADIUS	ARC LENGTH	DELTA	CHORD BEARING	CHORD LENGTH
C1	350.00	276.80'	45°18'47"	N82°12'02"E	269.64'

PAVING SECTIONS

SEC. NO.	ROAD AND STREET CLASSIFICATION	CALIFORNIA BEARING RATIO (CBR)	3 TO <5	5 TO <7	≥7	3 TO <5	5 TO <7	≥7
		PAVEMENT MATERIAL (INCHES)	MIN HMA WITH GAB			HMA WITH CONSTANT GAB		
P-2	**PARKING DRIVE AISLES:** RESIDENTIAL AND NON-RESIDENTIAL WITH NO MORE THAN 10 HEAVY TRUCKS PER DAY	HMA SUPERPAVE FINAL SURFACE 9.5 MM, PG 64-22, LEVEL 1 (ESAL)	1.5	1.5	1.5	1.5	1.5	1.5
		HMA SUPERPAVE INTERMEDIATE SURFACE 9.5 MM, PG 64-22, LEVEL 1 (ESAL)	1.0	1.0	1.0	1.0	1.0	1.0
	LOCAL ROADS: ACCESS PLACE, ACCESS STREET	HMA SUPERPAVE BASE 19.0 MM, PG 64-22, LEVEL 1 (ESAL)	2.0	2.0	2.0	3.5	2.0	2.0
	CUL-DE-SACS: RESIDENTIAL	GRADED AGGREGATE BASE (GAB)	8.0	4.0	3.0	4.0	4.0	4.0

NOTES :
1. HEAVY TRUCKS ARE DEFINED AS THOSE WITH SIX (6) WHEELS OR MORE INCLUDING GARBAGE TRUCKS.
2. HMA SUPERPAVE LAYERS SHALL BE PLACED IN APPROPRIATE COMPACTED LIFT THICKNESS: 19.0 MM BASE (2.0" MIN TO 4.0" MAX), 12.5 MM SURFACE (1.5" MIN TO 3.0" MAX), AND 9.5 MM SURFACE (1.0" MIN TO 2.0" MAX)
3. GRADED AGGREGATE BASE (GAB) TO BE PLACED AND COMPACTED IN 6" MAX COMPACTED THICKNESS LAYERS.
4. THE INTERMEDIATE SURFACE COURSE LAYER MUST BE PLACED WITHIN 2 WEEKS OF PLACEMENT OF BASE COURSE, AND IS REQUIRED PRIOR TO SUBSTANTIAL COMPLETION INSPECTION AND BOND REDUCTION.
5. IN LIEU OF PLACING THE INTERMEDIATE SURFACE COURSE LAYER FOR COMMERCIAL / INDUSTRIAL ENTRANCE APRONS WITHIN THE COUNTY RIGHT-OF-WAY WHERE AUXILIARY LANES ARE NOT REQUIRED, THE THICKNESS OF THE INTERMEDIATE PAVEMENT LAYER CAN BE ADDED TO THE REQUIRED THICKNESS OF THE BASE ASPHALT LAYER.
6. THE CONSTRUCTION DRAWINGS SHALL SHOW THE PAVING SECTION, ROAD CLASSIFICATION AND CRB VALUE FOR EACH ROADWAY.

HMA SUPERPAVE FINAL SURFACE
HMA SUPERPAVE INTERMEDIATE SURFACE
HMA SUPERPAVE BASE
GRADED AGGREGATE BASE (GAB)



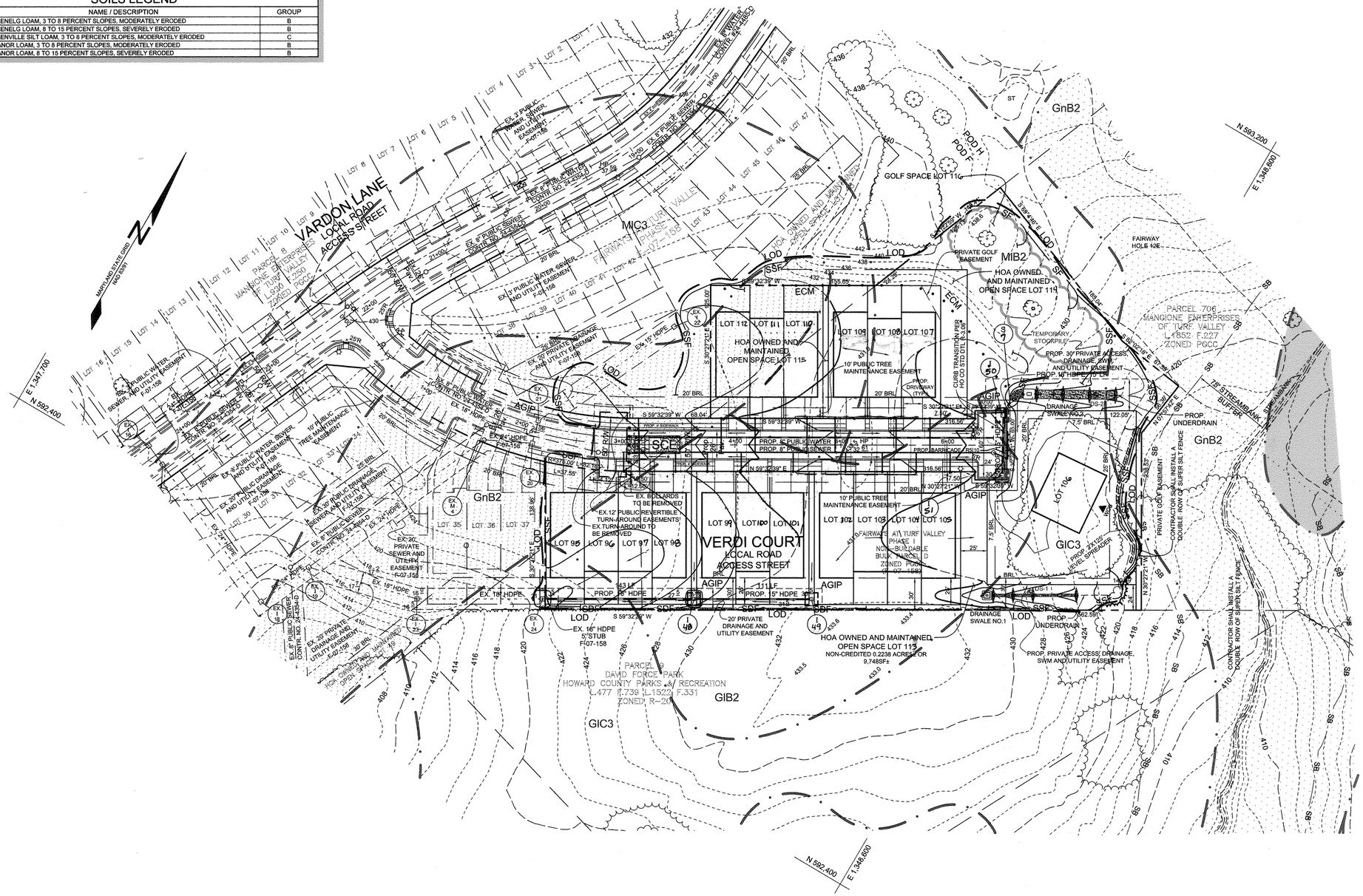
TYPICAL ROADWAY SECTION
CLASSIFICATION: PUBLIC ACCESS STREET

ROADS: VERDI COURT
STA. 2+65.79 TO STA. 6+56.49
DESIGN SPEED: 30 MPH
NOT TO SCALE

F-10-086

SOILS LEGEND

SYMBOL	NAME / DESCRIPTION	GROUP
GIB2	GLENELG LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED	B
GIC3	GLENELG LOAM, 8 TO 15 PERCENT SLOPES, SEVERELY ERODED	B
GnB2	GLENVILLE SILT LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED	C
MIB2	MANOR LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED	B
MIC3	MANOR LOAM, 8 TO 15 PERCENT SLOPES, SEVERELY ERODED	B



LEGEND

- EXISTING CONTOUR — 382
- PROPOSED CONTOUR — 382
- EXISTING SPOT ELEVATION — 382.3
- PROPOSED SPOT ELEVATION — +82.53
- DIRECTION OF FLOW
- EXISTING TREELINE
- PROPOSED TREELINE
- LIGHT POLES — POST TOP
- STABILIZED CONSTRUCTION ENTRANCE
- SILT FENCE — SF
- SUPER SILT FENCE — SSF
- SUPER DIVERSION FENCE — SDF
- LIMIT OF DISTURBANCE — LOD
- EROSION CONTROL MATTING — ECM
- SOIL BOUNDARY
- RIP-RAP INFLOW PROTECTION — RRP
- AT GRADE INLET PROTECTION — AGIP
- 'B' SOIL GROUP
- 'C' SOIL GROUP
- 'D' SOIL GROUP

STATE OF MARYLAND PAUL MARK SILL No. 32025 PROFESSIONAL ENGINEER
7/26/16
Revision #1 only

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. 32390 Expiration Date: 6.30.17

OWNER/DEVELOPER

MANGIONE ENTERPRISES OF TURF VALLEY, LP
1205 YORK ROAD, PENTHOUSE
LUTHERVILLE, MARYLAND 21093
410.825.8400

GRADING, SEDIMENT AND EROSION CONTROL PLAN

FAIRWAYS AT TURF VALLEY

PHASE III LOTS 95-112, OPEN SPACE LOTS 113 - 115 & GOLF SPACE LOT 116
POD 'F' SECTION IV : RESIDENTIAL PHASE IV E
A SUBDIVISION OF P/O PARCELS 8 & 706 AND A RESUBDIVISION OF FAIRWAYS AT TURF VALLEY, PHASE I, NON-BUILDABLE BULK PARCEL D

TAX MAP 16 GRID 12 & TAX MAP 17 GRID 9 — PART OF PARCELS 8 & 706
2ND ELECTION DISTRICT — HOWARD COUNTY, MARYLAND

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 11/19/10
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 11/18/10

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

CHIEF, BUREAU OF HIGHWAYS — DATE 11-17-10

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS
THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT

HOWARD SCD — DATE 11/24/10

ENGINEERS CERTIFICATE

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

SIGNATURE OF ENGINEER PAUL M. SILL, PE, LEED AP — DATE 10/27/10

DEVELOPER'S CERTIFICATE

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

SIGNATURE OF DEVELOPER — DATE 10/27/10

1	7-14-16	REVISE STORM DRAIN STRUCTURE NUMBERS, REVISE LOT NUMBERS & REMOVE LOT AREAS

STATE OF MARYLAND PAUL M. SILL No. 32025 PROFESSIONAL ENGINEER

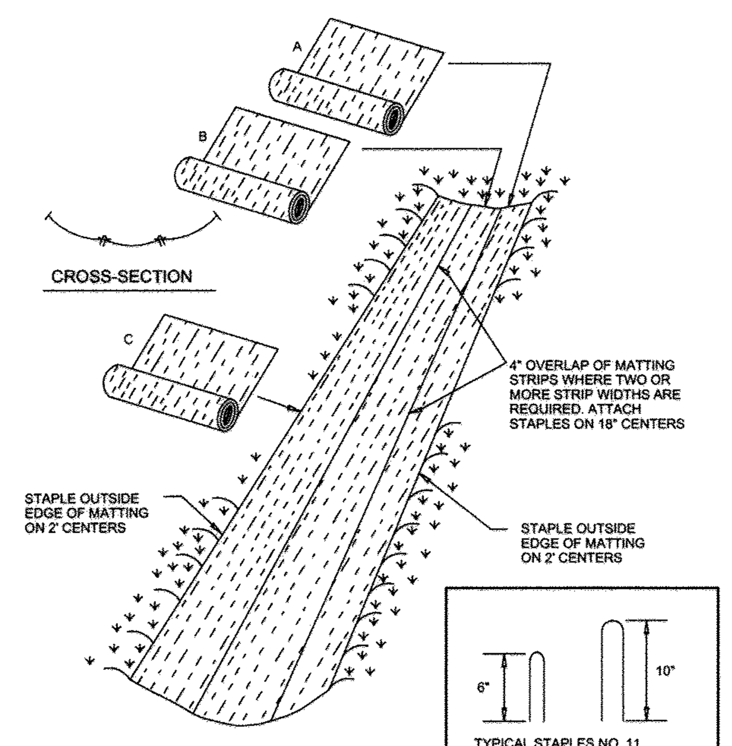
Sill · Adcock & Associates · LLC
Engineers · Surveyors · Planners
3300 North Ridge Road, Suite 160
Ellicott City, Maryland 21043
Phone: 443.325.7682 Fax: 443.325.7685
Email: info@saaland.com

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. 32025, EXPIRATION DATE: JUNE 20, 2011

DESIGN BY: PS
DRAWN BY: JH
CHECKED BY: PS
SCALE: 1" = 50'
DATE: OCTOBER 29, 2010
PROJECT #: 06-025
SHEET #: 3 of 10

F-10- 086

DETAIL 30 - EROSION CONTROL MATTING



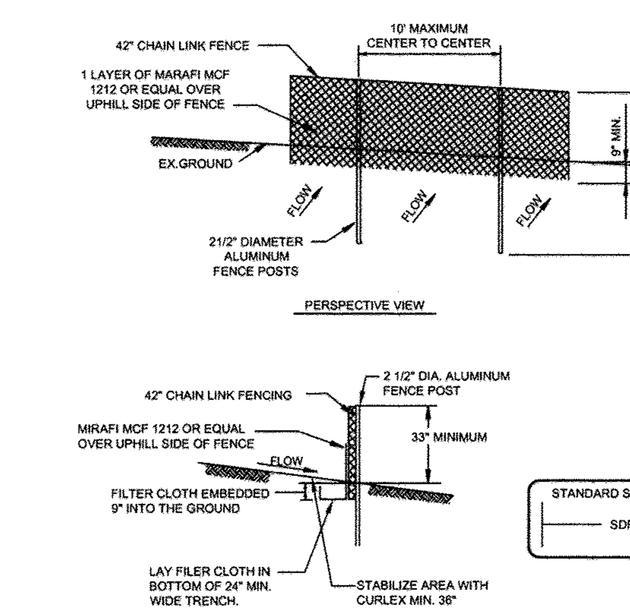
CONSTRUCTION SPECIFICATIONS

1. KEY-IN THE MATTING BY PLACING THE TOP ENDS OF THE MATTING IN A NARROW TRENCH, 6" IN DEPTH. BACKFILL THE TRENCH AND TAMP FIRMLY TO CONFORM TO THE CHANNEL CROSS-SECTION. SECURE WITH A ROW OF STAPLES ABOUT 4" DOWN SLOPE FROM THE TRENCH. SPACING BETWEEN STAPLES IS 6".
2. STAPLE THE 4" OVERLAP IN THE CHANNEL CENTER USING AN 18" SPACING BETWEEN STAPLES.
3. BEFORE STAPLING THE OUTER EDGES OF THE MATTING, MAKE SURE THE MATTING IS SMOOTH AND IN FIRM CONTACT WITH THE SOIL.
4. STAPLES SHALL BE PLACED 2' APART WITH 4 ROWS FOR EACH STRIP, 2 OUTER ROWS, AND 2 ALTERNATING ROWS DOWN THE CENTER.
5. WHERE ONE ROLL OF MATTING ENDS AND ANOTHER BEGINS, THE END OF THE TOP STRIP SHALL OVERLAP THE UPPER END OF THE LOWER STRIP BY 4", SHIPLAP FASHION. REINFORCE THE OVERLAP WITH A DOUBLE ROW OF STAPLES SPACED 6" APART IN A STAGGERED PATTERN ON EITHER SIDE.
6. THE DISCHARGE END OF THE MATTING LINER SHOULD BE SIMILARLY SECURED WITH 2 DOUBLE ROWS OF STAPLES.

NOTE: IF FLOW WILL ENTER FROM THE EDGE OF THE MATTING THEN THE AREA EFFECTED BY THE FLOW MUST BE KEYED-IN.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE G - 22 - 2	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL - SUPER DIVERSION FENCE



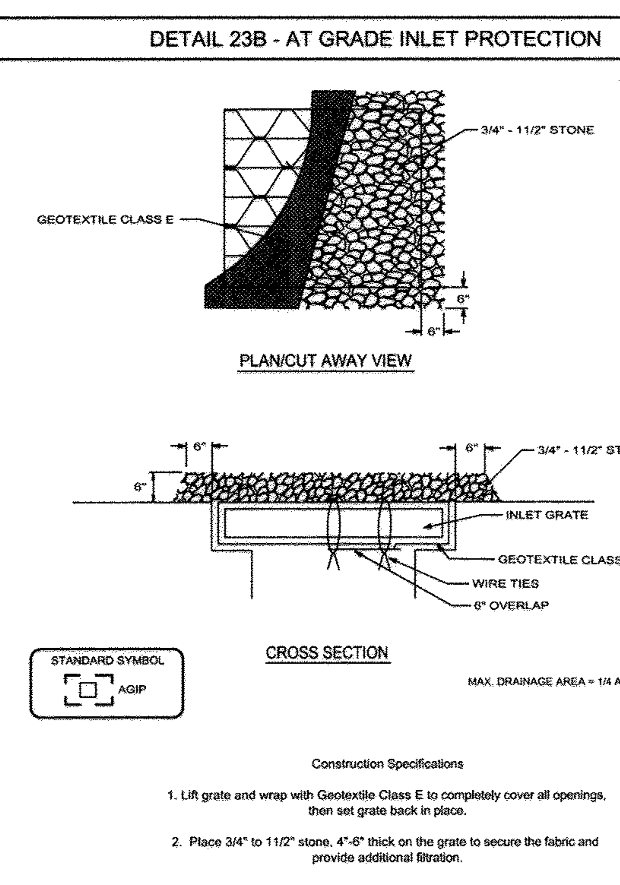
FENCING:

FENCING SHALL BE 42" HIGH CHAIN LINK FENCE CONSTRUCTED IN ACCORDANCE WITH THE LATEST MARYLAND STATE HIGHWAY ADMINISTRATION STANDARD DETAILS 690.01 AND 690.02. THE SPECIFICATIONS FOR A 6'- 0" FENCE SHALL BE USED, SUBSTITUTE 42" FABRIC & 70" POSTS. POSTS SHALL BE PLACED WITHOUT CONCRETE EMBEDMENT.

1. CHAIN LINK FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH TIES OR STAPLES.
2. FILTER CLOTH TO BE FASTENED SECURELY TO CHAIN LINK FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY SIX INCHES AND FOLDED.
4. MAINTAINENCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN BULGES DEVELOP IN THE SILT FENCE.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 23B - AT GRADE INLET PROTECTION



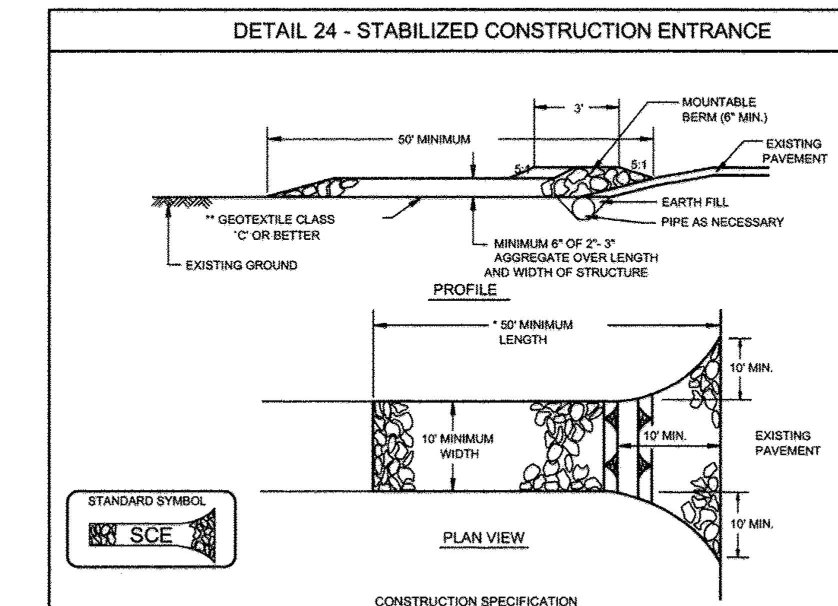
Construction Specifications

1. Lift grate and wrap with Geotextile Class E to completely cover all openings, then set grate back in place.

2. Place 3/4" to 11/2" stone, 4"-6" thick on the grate to secure the fabric and provide additional filtration.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE E - 16 - 5A	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 24 - STABILIZED CONSTRUCTION ENTRANCE

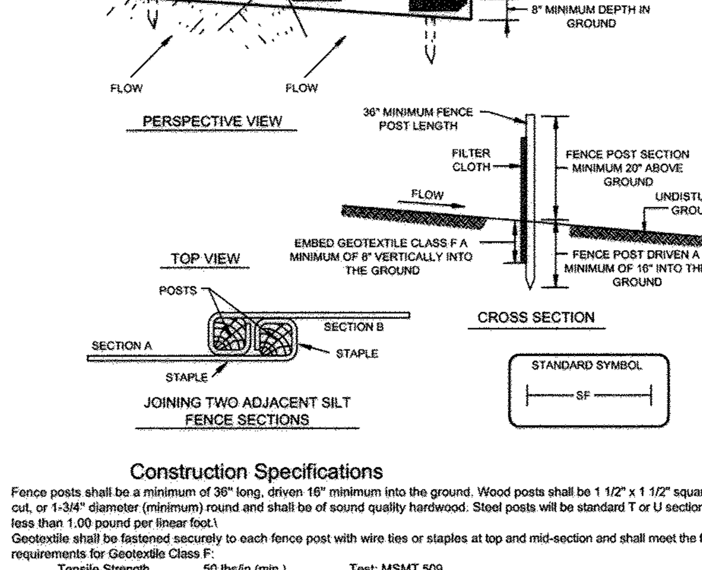


CONSTRUCTION SPECIFICATION

1. LENGTH - MINIMUM OF 50' (* 30' FOR A SINGLE RESIDENCE LOT).
2. WIDTH - 10' MINIMUM, SHOULD BE FLARED AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.
3. GEOTEXTILE FABRIC (FILTER CLOTH) SHALL BE PLACED OVER THE EXISTING GROUND PRIOR TO PLACING STONE. ** THE PLAN APPROVAL AUTHORITY MAY NOT REQUIRE SINGLE FAMILY RESIDENCES TO USE GEOTEXTILE.
4. STONE - CRUSHED AGGREGATE (2" TO 3") OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT SHALL BE PLACED AT LEAST 6" DEEP OVER THE LENGTH AND WIDTH OF THE ENTRANCE.
5. SURFACE WATER - ALL SURFACE WATER FLOWING TO OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED THROUGH THE ENTRANCE, MAINTAINING POSITIVE DRAINAGE.PIPE INSTALLED THROUGH THE STABILIZED CONSTRUCTION ENTRANCE SHALL BE PROTECTED WITH A MOUNTABLE BERM WITH 5:1 SLOPES AND A MINIMUM OF 6" OF STONE OVER THE PIPE. PIPE HAS TO BE SIZED ACCORDING TO THE DRAINAGE. WHEN THE SCE IS LOCATED AT A HIGH SPOT AND HAS NO DRAINAGE TO CONVEY, A PIPE WILL NOT BE NECESSARY. PIPE SHOULD BE SIZED ACCORDING TO THE AMOUNT OF RUNOFF TO BE CONVEYED. A 6" MINIMUM WILL BE REQUIRED.
6. LOCATION - A STABILIZED CONSTRUCTION ENTRANCE SHALL BE LOCATED AT EVERY POINT WHERE CONSTRUCTION TRAFFIC ENTERS OR LEAVES A CONSTRUCTION SITE. VEHICLES LEAVING THE SITE MUST TRAVEL OVER THE ENTIRE LENGTH OF THE STABILIZED CONSTRUCTION ENTRANCE.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE F - 17 - 3	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 22 - SILT FENCE



Construction Specifications

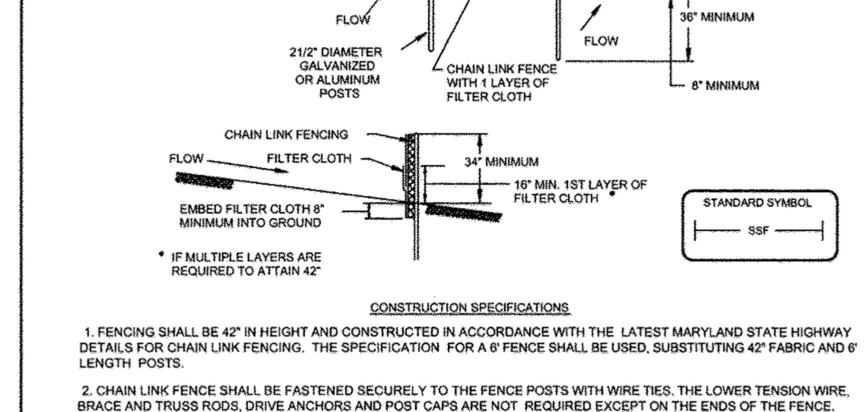
1. Fence posts shall be a minimum of 36" long, driven 16" minimum into the ground. Wood posts shall be 1 1/2" x 1 1/2" square (minimum) cut, or 1-3/4" diameter (minimum) round and shall be of sound quality hardwood. Steel posts will be standard T or U section weighing not less than 1.00 pound per linear foot.\
2. Geotextile shall be fastened securely to each fence post with wire ties or staples at top and mid-section and shall meet the following requirements for Geotextile Class F:

Tensile Strength	50 lbs/in (min.)	Test: MSMT 509
Tensile Modulus	20 lbs/in (min.)	Test: MSMT 509
Flow Rate	0.3 gal ft /minute (max.)	Test: MSMT 322
Filtering Eggeciency	75% (min.)	Test: MSMT 322

3. Where ends of geotextile fabric come together, they shall be overlapped, folded and stapled to prevent sediment bypass.
4. Silt Fence shall be inspected after each rainfall event and maintained when bulges occur or when sediment accumulation reaches 50% of the fabric height.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE E - 15 - 3	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 33 - SUPER SILT FENCE



CONSTRUCTION SPECIFICATIONS

1. FENCING SHALL BE 42" IN HEIGHT AND CONSTRUCTED IN ACCORDANCE WITH THE LATEST MARYLAND STATE HIGHWAY DETAILS FOR CHAIN LINK FENCING. THE SPECIFICATION FOR A 6' FENCE SHALL BE USED, SUBSTITUTING 42" FABRIC AND 6' LENGTH POSTS.

2. CHAIN LINK FENCE SHALL BE FASTENED SECURELY TO THE FENCE POSTS WITH WIRE TIES. THE LOWER TENSION WIRE, BRACE AND TRUSS RODS, DRIVE ANCHORS AND POST CAPS ARE NOT REQUIRED EXCEPT ON THE ENDS OF THE FENCE.

3. FILTER CLOTH SHALL BE FASTENED SECURELY TO THE CHAIN LINK FENCE WITH TIES SPACED EVERY 24" AT THE TOP AND MID SECTION.

4. FILTER CLOTH SHALL BE EMBEDDED A MINIMUM OF 8" INTO THE GROUND.

5. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER, THEY SHALL BE OVERLAPPED BY 6" AND FOLDED.

6. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND SILT BUILDUPS REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE, OR WHEN SILT REACHES 50% OF FENCE HEIGHT

7. FILTER CLOTH SHALL BE FASTENED SECURELY TO EACH FENCE POST WITH WIRE TIES OR STAPLES AT TOP AND MID SECTION AND SHALL MEET THE FOLLOWING REQUIREMENTS FOR GEOTEXTILE CLASS F:

TENSILE STRENGTH	50 LBS/IN (MIN.)	TEST: MSMT 509
TENSILE MODULUS	20 LBS/IN (MIN.)	TEST: MSMT 509
FLOW RATE	0.3 GAL/FT /MIN. (MAX.)	TEST: MSMT 322
FILTERING EFFICIENCY	75% (MIN.)	TEST: MSMT 322

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE H - 26 - 3	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

21.0 STANDARDS AND SPECIFICATIONS FOR TOPSOILS

DEFINITION

PLACEMENT OF TOPSOIL OVER A PREPARED SUBSOIL PRIOR TO ESTABLISHMENT OF PERMANENT VEGETATION.

PURPOSE

TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETABLE GROWTH. SOILS OF CONCERN HAVE LOW MOISTURE CONTENT, LOW NUTRIENT LEVELS, LOW PH, MATERIALS TOXIC TO PLANTS, AND/OR UNACCEPTABLE SOIL GRADATION.

CONDITIONS WHERE PRACTICE APPLIES

I. THIS PRACTICE IS LIMITED TO AREAS HAVING 2:1 OR FLATTER SLOPES WHERE:
   A. THE TEXTURE OF THE EXPOSED SUBSOIL/PARENT MATERIAL IS NOT ADEQUATE TO PRODUCE VEGETATIVE GROWTH.
   B. THE SOIL MATERIAL IS SO SHALLOW THAT THE ROOTING ZONE IS NOT DEEP ENOUGH TO SUPPORT PLANTS OR FURNISH CONTINUING SUPPLIES OF MOISTURE AND PLANT NUTRIENTS.
   C. THE ORIGINAL SOIL TO BE VEGETATED CONTAINS MATERIAL TOXIC TO PLANT GROWTH.
   D. THE SOIL IS SO ACIDIC THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.

II. FOR THE PURPOSE OF THESE STANDARDS AND SPECIFICATIONS, AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATION AND DESIGN FOR ADEQUATE STABILIZATION. AREAS HAVING SLOPES STEEPER THAN 2:1 SHALL HAVE THE APPROPRIATE STABILIZATION SHOWN ON THE PLANS.

CONSTRUCTION AND MATERIAL SPECIFICATIONS

I. TOPSOIL SALVAGED FROM THE EXISTING SITE MAY BE USED PROVIDED THAT IT MEETS THE STANDARDS AS SET FORTH IN THESE SPECIFICATIONS. TYPICALLY, THE DEPTH OF TOPSOIL TO BE SALVAGED FOR A GIVEN SOIL TYPE CAN BE FOUND IN THE REPRESENTATIVE SOIL PROFILE SECTION IN THE SOIL SURVEY PUBLISHED BY USDA-SCS IN COOPERATION WITH MARYLAND AGRICULTURAL EXPERIMENTAL STATION.

II. TOPSOIL SPECIFICATIONS - SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING:

   i. TOPSOIL SHALL BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM, LOAMY SAND. OTHER SOILS MAY BE USED IF RECOMMENDED BY AN AGRONOMIST OR A SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY. REGARDLESS, TOPSOIL SHALL NOT BE A MIXTURE OF CONTRASTING TEXTURED SUBSOILS AND SHALL CONTAIN LESS THAN 5% BY VOLUME OF CINDERS, STONES, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIAL LARGER THAT 1 AND 1/2" IN DIAMETER.

   ii. TOPSOIL MUST BE FREE OF PLANTS OR PLANT PARTS SUCH AS BERMUDA GRASS, QUACKGRASS, JOHNSONGRASS, NUTSEDGE, POISON IVY, THISTLE, OR OTHERS AS SPECIFIED.

   iii. WHERE THE SUBSOIL IS EITHER HIGHLY ACIDIC OR COMPOSED OF HEAVY CLAYS, GROUND LIMESTONE SHALL BE SPREAD AT THE RATE OF 4-8 TONS/ACRE (200-400 POUNDS PER 1,000 SQUARE FEET) PRIOR TO THE PLACEMENT OF TOPSOIL. LIME SHALL BE DISTRIBUTED UNIFORMLY OVER DESIGNATED AREAS AND WORKED INTO THE SOIL IN CONJUNCTION WITH TILLAGE OPERATIONS AS DESCRIBED IN THE FOLLOWING PROCEDURES.

II. FOR SITES HAVING DISTURBED AREAS UNDER 5 ACRES:

   i. PLACE TOPSOIL (IF REQUIRED) AND APPLY SOIL AMENDMENTS AS SPECIFIED IN 20.0 VEGETATIVE STABILIZATION - SECTION I - VEGETATIVE STABILIZATION METHODS AND MATERIALS.

III. FOR SITES HAVING DISTURBED AREAS OVER 5 ACRES:

   I. ON SOIL MEETING TOPSOIL SPECIFICATIONS, OBTAIN TEST RESULTS DICTATING FERTILIZER AND LIME AMENDMENTS REQUIRED TO BRING THE SOIL INTO COMPLIANCE WITH THE FOLLOWING:

      A. PH FOR TOPSOIL SHALL BE BETWEEN 6.0 AND 7.5. IF THE TESTED SOIL DEMONSTRATES A PH OF LESS THAN 6.0, SUFFICIENT LIME SHALL BE PRESCRIBED TO RAISE THE PH TO 6.5 OR HIGHER.

      B. ORGANIC CONTENT OF TOPSOIL SHALL BE NOT LESS THAN 1.5 PERCENT BY WEIGHT.

      C. TOPSOIL HAVING SOLUBLE SALT CONTENT GREATER THAN 500 PARTS PER MILLION SHALL NOT BE USED.

      D. NO SOD OR SEED SHALL BE PLACED ON SOIL SOIL WHICH HAS BEEN TREATED WITH SOIL STERILANTS OR CHEMICALS USED FOR WEED CONTROL UNTIL SUFFICIENT TIME HAS ELAPSED (14 DAYS MIN.) TO PERMIT DISSIPATION OF PHYTO-TOXIC MATERIALS.

NOTE: TOPSOIL SUBSTITUTES OR AMENDMENTS, AS RECOMMENDED BY A QUALIFIED AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY, MAY BE USED IN LIEU OF NATURAL TOPSOIL.

ii. PLACE TOPSOIL (IF REQUIRED) AND APPLY SOIL AMENDMENTS A SPECIFIED IN 20.0 VEGETATIVE STABILIZATION - SECTION I - VEGETATIVE STABILIZATION METHODS AND MATERIALS.

V. TOPSOIL APPLICATION

i. WHEN TOPSOILING, MAINTAIN NEEDED EROSION AND SEDIMENT CONTROL PRACTICES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, EARTH DIKES, SLOPE SILT FENCE AND SEDIMENT TRAPS AND BASINS.

ii. GRADES ON THE AREAS TO BE TOPSOILED, WHICH HAVE BEEN PREVIOUSLY ESTABLISHED, SHALL BE MAINTAINED, ALBEIT 4"-8" HIGHER IN ELEVATION.

iii. TOPSOIL SHALL BE UNIFORMLY DISTRIBUTED IN A 4"-8" LAYER AND LIGHTLY COMPACTED TO A MINIMUM THICKNESS OF 4". SPREADING SHALL BE PERFORMED IN SUCH A MANNER THAT SODDING OR SEEDING CAN PROCEED WITH A MINIMUM OF ADDITIONAL SOIL PREPARATION AND TILLAGE. ANY IRREGULARITIES IN THE SURFACE RESULTING FROM TOPSOILING OR OTHER OPERATIONS SHALL BE CORRECTED IN ORDER TO PREVENT THE FORMATION OF DEPRESSIONS OR WATER POCKETS.

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

PERMANENT SEEDING NOTES

APPLY TO GRADED OR CLEARED AREAS NOT SUBJECT TO IMMEDIATE FURTHER DISTURBANCE WHERE A PERMANENT LONG-LIVED VEGETATIVE COVER IS NEEDED.

SEEDBED PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY LOOSENED.

SOIL AMENDMENTS: IN LIEU OF SOIL TEST RECOMMENDATIONS, USE ONE OF THE FOLLOWING SCHEDULES

1) PREFERRED - APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS/100 SQ.FT.) AND 600 LBS PER ACRE 10-10-10 FERTILIZER (14 LBS/1000 SQ.FT.) BEFORE SEEDING. HARROW OR DISC INTO UPPER THREE INCHES OF SOIL. AT THE TIME OF SEEDING, APPLY 400 LBS PER ACRE 30-0-0 UREAFORM FERTILIZER (9 LBS/1000 SQ.FT.)

2) ACCEPTABLE - APPLY 2 TONS PER ACRE DOLOMATIC LIMESTONE (92 LBS/1000 SQ.FT.) AND APPLY 1000 LBS PER ACRE 10-10-10 FERTILIZER (23 LBS/1000 SQ.FT.) BEFORE SEEDING. HARROW OR DISC INTO UPPER THREE INCHES OF SOIL.

SEEDING: FOR THE PERIODS MARCH 1 THRU APRIL 30, AND AUGUST 1 THRU OCTOBER 15, SEED WITH 60 LBS PER ACRE (1.4 LBS/1000 SQ.FT.) OF KENTUCKY 31 TALL FESCUE. FOR THE PERIOD MAY 1 THRU JULY 31, SEED WITH 60 LBS KENTUCKY 31 TALL FESCUE PER ACRE AND 2 LBS PER ACRE (0.05 LBS/1000 SQ.FT.) OF WEEPING LOVEGRASS. DURING THE PERIOD OF OCTOBER 16 THRU FEBRUARY 28, PROTECT SITE BY: OPTION (1) 2 TONS PER ACRE WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING. OPTION (2) USE SOD. OPTION (3) SEED WITH 60 LBS/ACRE KENTUCKY 31 TALL FESCUE AND MULCH WITH 2 TONS/ACRE WELL ANCHORED STRAW.

MULCHING: APPLY 1 1/2 TO 2 TONS PER ACRE (70 TO 90 LBS/1000 SQ.FT.) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GALLONS PER ACRE (5 GAL/1000 SQ.FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPES 8 FEET OR HIGHER, USE 348 GALLONS PER ACRE (8 GAL/1000 SQ.FT.) FOR ANCHORING.

MAINTENANCE: INSPECT ALL SEEDED AREAS AND MAKE NEEDED REPAIRS, REPLACEMENTS AND RESEEDINGS.

TEMPORARY SEEDING NOTES

SEEDBED PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY LOOSENED.

SOIL AMENDMENTS: APPLY 600 LBS PER ACRE 10-10-10 FERTILIZER (14 LBS/1000 SQ.FT).

SEEDING: FOR PERIODS MARCH 1 THRU APRIL 30 AND FROM AUGUST 15 THRU NOVEMBER 15, SEED WITH 2 1/2 BUSHEL PER ACRE OF ANNUAL RYE (3.2 LBS/1000 SQ.FT.) FOR THE PERIOD MAY 1 THRU AUGUST 14, SEED WITH 3 LBS PER ACRE OF WEEPING LOVEGRASS (0.07 LBS/1000 SQ.FT.). FOR THE PERIOD NOVEMBER 1 THRU FEBRUARY 28, PROTECT SITE BY APPLYING 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING, OR USE SOD.

MULCHING: APPLY 1 1/2 TO 2 TONS PER ACRE (70 TO 90 LBS/1000 SQ.FT.) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GALLONS PER ACRE (5 GAL/1000 SQ.FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPES 8 FEET OR HIGHER, USE 348 GALLONS PER ACRE (8 GAL/1000 SQ.FT.) FOR ANCHORING.

REFER TO THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR RATE AND METHODS NOT COVERED.

SEDIMENT CONTROL NOTES

1. A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTION, LICENSE AND PERMITS SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION (410-313-1855).
2. ALL VEGETATION AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL; AND REVISIONS THERETO.
3. FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: (A) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES, AND ALL SLOPES GREATER THAN 3:1, (B) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
4. ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 7, HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
5. ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDING, SOD, TEMPORARY SEEDING, AND MULCHING (SEC. G). TEMPORARY STABILIZATION WITH MULCH ALONE SHALL BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
6. ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
7. SITE ANALYSIS :

TOTAL AREA:	3.58 ACRES
AREA DISTURBED:	3.85 ACRES
AREA TO BE ROOFED OR PAVED:	1.56 ACRES
AREA TO BE VEGETATIVELY STABILIZED:	2.29 ACRES
TOTAL CUT:	* 1,082 CY
TOTAL FILL:	* 1,920 CY
OFFSITE WASTE/BORROW AREA LOCATION:	**

8. ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
9. ADDITIONAL SEDIMENT CONTROLS MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
10. ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.
11. TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH SHALL BE BACK-FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.

* EARTHWORK QUANTITIES ARE SOLELY FOR THE PURPOSE OF CALCULATING FEES. CONTRACTOR TO VERIFY ALL QUANTITIES PRIOR TO THE START OF CONSTRUCTION.
** TO BE DETERMINED BY CONTRACTOR, WITH PRE-APPROVAL OF THE SEDIMENT CONTROL INSPECTOR WITH AN APPROVED AND ACTIVE GRADING PERMIT.

SEQUENCE OF CONSTRUCTION

1. OBTAIN GRADING PERMIT.
2. NOTIFY HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSE AND PERMITS AT (410) 313-1880 AT LEAST 24 HOURS BEFORE STARTING ANY WORK.
3. INSTALL STABILIZED CONSTRUCTON ENTRANCE, SILT FENCE, SUPER DIVERSION FENCE, SUPER SILT FENCE AND INLET PROTECTION TO EXISTING INLETS I-20, I-21 AND I -24. (1 WEEK)
4. ROUGH GRADE SITE AND BEGIN ROAD CONSTRUCTION. (1 MONTH)
5. CONSTRUCT STORM DRAINS SYSTEM, WATER AND SEWER. ADD INLET PROTECTION ON ALL STORM DRAIN INLETS AS CONSTRUCTED. INLETS I-1 AND EX. I-24 SHALL BE WRAPPED IN SUPER SILT FENCE (TWO MONTHS)
6. FINE GRADE SITE AND COMPLETE ROAD CONSTRUCTION. (1 MONTH)
7. STABALIZE ALL DISTURBED AREAS AND INSTALL DRAINAGE SWALES NO. 1 & 2 (TWO WEEKS)
8. UPON STABILIZATION OF ALL DISTURBED AREAS AND WITH THE PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, REMOVE ALL SEDIMENT CONTROL MEASURES AND STABILIZE ANY REMAINING DISTURBED AREA. (1 WEEK)

NOTE: -FOLLOWING INITIAL SOIL DISTURBANCE OR ANY REDISTURBANCES, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN:
A. 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, SWALES AND ALL SLOPES GREATER THAN 3:1.
B. 14 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 ON THIS PLAN.

STATE OF MARYLAND PROFESSIONAL ENGINEER (seal) 7/26/16
Revision #1 only

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. 28390, Expiration Date: 6-30-17

OWNER/DEVELOPER

MANGIONE ENTERPRISES OF TURF VALLEY, LP
1205 YORK ROAD, PENTHOUSE
LUTHERVILLE, MARYLAND 21093
410.825.8400

SEDIMENT AND EROSION CONTROL NOTES AND DETAILS
FAIRWAYS AT TURF VALLEY

PHASE III LOTS 95 -112, OPEN SPACE LOTS 113 - 115 & GOLF SPACE LOT 116
POD 'F' SECTION IV : RESIDENTIAL PHASE IV E
A SUBDIVISION OF P/O PARCELS 8 & 706 AND A RESUBDIVISION OF FAIRWAYS AT TURF VALLEY, PHASE I, NON-BUILDABLE BULK PARCEL D

TAX MAP 16 GRID 12 & TAX MAP 17 GRID 9 — PART OF PARCELS 8 & 706
2ND ELECTION DISTRICT — HOWARD COUNTY, MARYLAND

Sill · Adcock & Associates · LLC
Engineers · Surveyors · Planners
3300 North Ridge Road, Suite 160
Ellicott City, Maryland 21043
Phone: 443.325.7682 Fax: 443.325.7685
Email: info@saaland.com

DESIGN BY:	PS
DRAWN BY:	JH
CHECKED BY:	PS
SCALE:	AS SHOWN
DATE:	OCTOBER 29, 2010
PROJECT #:	06-025
SHEET #:	4 of 10

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. 32025, EXPIRATION DATE: JUNE 20, 2011

1	7-14-16	REVISE LOT NUMBERS IN TITLE BLOCK	BEI

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 6/19/10

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 6/18/10

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

CHIEF, BUREAU OF HIGHWAYS — DATE 11-17-10

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS

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

HOWARD SCD — DATE 11/2/10

ENGINEERS CERTIFICATE

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

SIGNATURE OF ENGINEER — DATE 28 OCT 10
PAUL M. SILL, PE, LEED AP

DEVELOPER'S CERTIFICATE

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

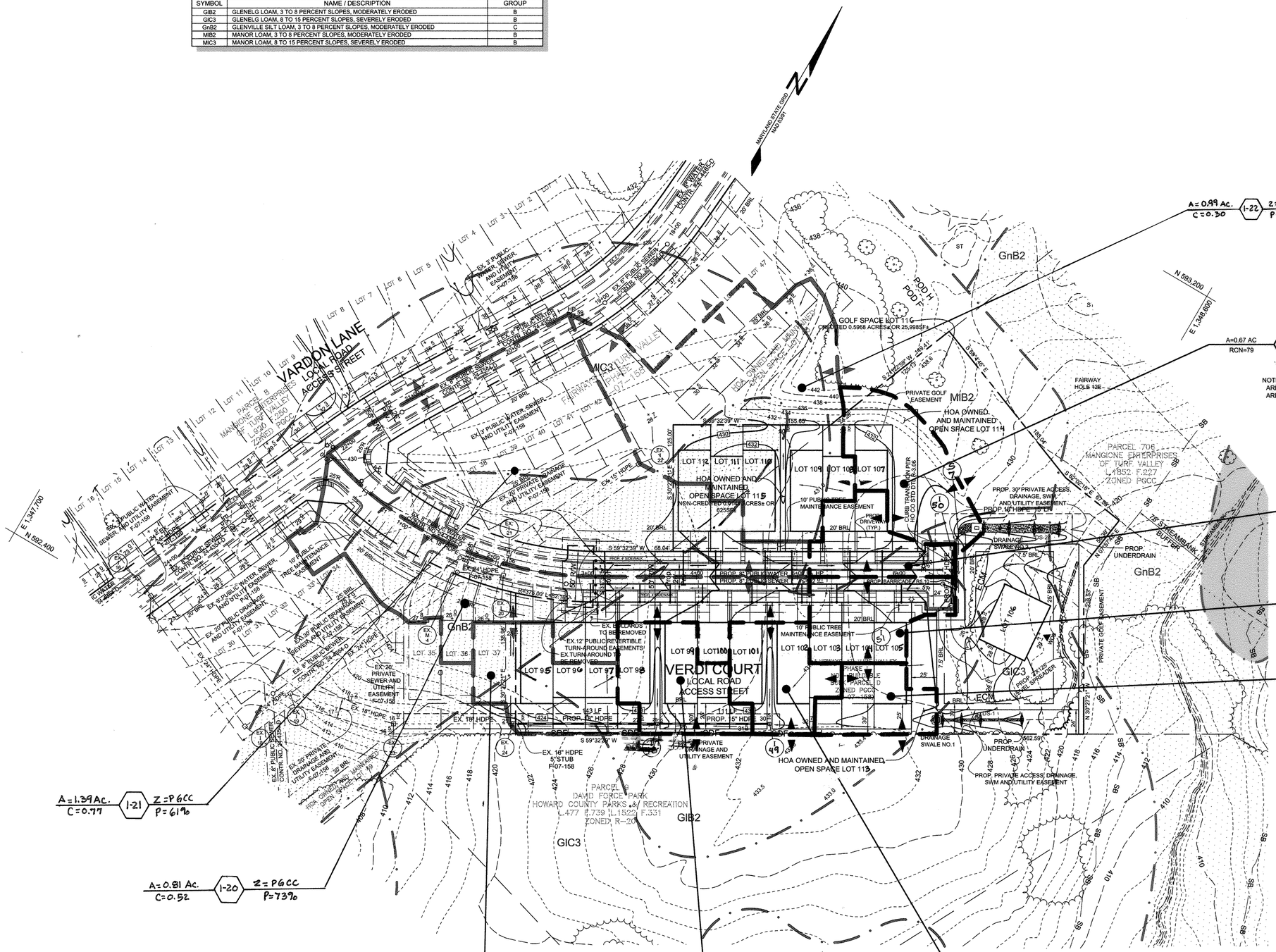
SIGNATURE OF DEVELOPER — DATE 10/27/10

SOILS LEGEND

SYMBOL	NAME / DESCRIPTION	GROUP
GlB2	GLENELG LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED	B
GlC3	GLENELG LOAM, 8 TO 15 PERCENT SLOPES, SEVERELY ERODED	B
GnB2	GLENVILLE SILT LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED	C
MlB2	MANOR LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED	B
MlC3	MANOR LOAM, 8 TO 15 PERCENT SLOPES, SEVERELY ERODED	B

LEGEND

- EXISTING CONTOUR — 382
- PROPOSED CONTOUR — 382
- EXISTING SPOT ELEVATION — 382.3
- PROPOSED SPOT ELEVATION — +82.53
- DIRECTION OF FLOW
- EXISTING TREELINE
- PROPOSED TREELINE
- SOIL BOUNDARY
- EXISTING DRAINAGE DIVIDE (UNDER F-07-158)
- PROPOSED DRAINAGE DIVIDE
- 'B' SOIL GROUP
- 'C' SOIL GROUP
- 'D' SOIL GROUP



STATE OF MARYLAND — CHRISTOPHER ALAN ADCOCK — PROFESSIONAL ENGINEER

7/26/16

Revision #1 only

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. 22390 Expiration Date: 6-30-17

OWNER/DEVELOPER

MANGIONE ENTERPRISES OF TURF VALLEY, LP
1205 YORK ROAD, PENTHOUSE
LUTHERVILLE, MARYLAND 21093
410.825.8400

STORM DRAIN DRAINAGE AREA MAP
FAIRWAYS AT TURF VALLEY

PHASE III LOTS 95 -112, OPEN SPACE LOTS 113 - 115 & GOLF SPACE LOT 116
POD 'F' SECTION IV : RESIDENTIAL PHASE IV E
A SUBDIVISION OF P/O PARCELS 8 & 706 AND A RESUBDIVISION OF FAIRWAYS AT TURF VALLEY, PHASE I, NON-BUILDABLE BULK PARCEL D

TAX MAP 16 GRID 12 & TAX MAP 17 GRID 9 — PART OF PARCELS 8 & 706
2ND ELECTION DISTRICT — HOWARD COUNTY, MARYLAND

STATE OF MARYLAND — CHRISTOPHER ALAN ADCOCK — PROFESSIONAL ENGINEER

Sill · Adcock & Associates · LLC
Engineers · Surveyors · Planners
3300 North Ridge Road, Suite 160
Ellicott City, Maryland 21043
Phone: 443.325.7682 Fax: 443.325.7685
Email: info@saaland.com

DESIGN BY: PS
DRAWN BY: JH
CHECKED BY: PS
SCALE: 1" = 50'
DATE: OCTOBER 29, 2010
PROJECT #: 06-025
SHEET #: 5 of 10

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. 32025, EXPIRATION DATE: JUNE 20, 2011

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 11/19/10

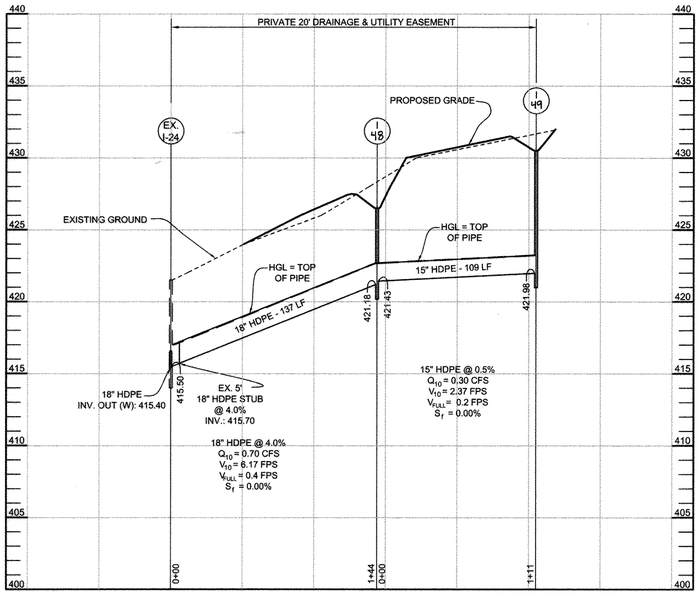
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 11/18/10

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

CHIEF, BUREAU OF HIGHWAYS — DATE 11-17-10

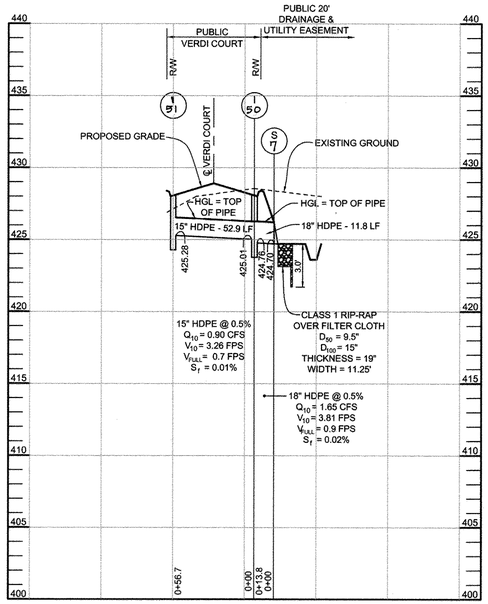
1	7-19-16	REVISE DATA TO MATCH F-07-158, REVISE LOT NUMBERS, DELETE AREA NUMBERS

F-10- 086



STORM DRAIN PROFILE - EX I-24 TO I-49

HORIZONTAL SCALE : 1" = 50'
VERTICAL SCALE : 1" = 5'



STORM DRAIN PROFILE - I-51 TO S-7

HORIZONTAL SCALE : 1" = 50'
VERTICAL SCALE : 1" = 5'

PIPE SCHEDULE

SIZE	TYPE	LENGTH
15" PUBLIC	HDPE	57 LF
15" PRIVATE	HDPE	111 LF
18" PRIVATE	HDPE	14 LF
18" PRIVATE	HDPE	139 LF
4" PRIVATE	SOLID PVC	67 LF
4" PRIVATE	PERFORATED PVC	156 LF

STRUCTURE SCHEDULE

NO.	TYPE & OWNERSHIP	LOCATION	TOP ELEV.	INV. IN	INV. OUT	REMARKS
I-48	YARD INLET PRIVATE	N 592,560.73 E 1,348,345.16	426.50	421.43	421.18	D-4.14
I-49	YARD INLET PRIVATE	N 592,616.99 E 1,348,440.84	430.50	---	421.98	D-4.14
I-50	TYPE 'S' COMBINATION INLET PUBLIC	VERDI COURT - ℄ STA. 6+54.42 - 28.5' LT	428.57	425.01	424.76	D-4.32
I-51	TYPE 'S' INLET PUBLIC	VERDI COURT - ℄ STA. 6+52.20 - 28.2' RT	428.06	---	425.28	D-4.22
S-7	18" HDPE END SECTION PUBLIC	N 592,871.71 E 1,348,508.21	---	---	424.70	SEE DETAIL

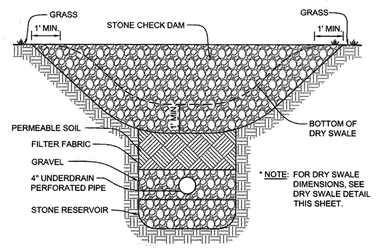
NOTES :
1. TOP ELEVATIONS FOR TYPE SINGLE `S' INLETS IN PAVEMENT ALONG FLOW LINE OF CURB ARE TO THE CENTER TOP OF GRATE.
2. TOP ELEVATIONS FOR TYPE `S' COMBINATION INLETS ARE AT MIDDLE OF INLET AT FACE OF CURB ON TOP OF CURB.
3. TOP ELEVATIONS FOR YARD INLETS ARE TO THE CENTER OF INLET.
4. TOP SLOPE OF STRUCTURES TO CONFORM TO SLOPE OF PAVING.
5. FOR TYPE 'S' COMBINATION INLET WITHIN THE TRAFFIC LANES, USE A BICYCLE-SAFE GRATE PER HOWARD COUNTY STANDARD DETAIL D-4.96 (WR INLET FRAME, GRATE & SUPPORT)
6. INVERT AT END OF PIPE.

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.

MATERIALS SPECIFICATION FOR DRY SWALES

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

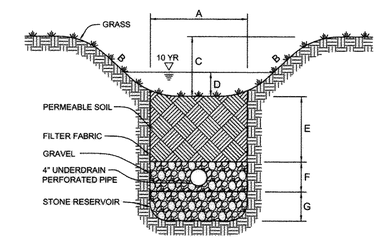


CHECK DAM DETAIL

NOT TO SCALE

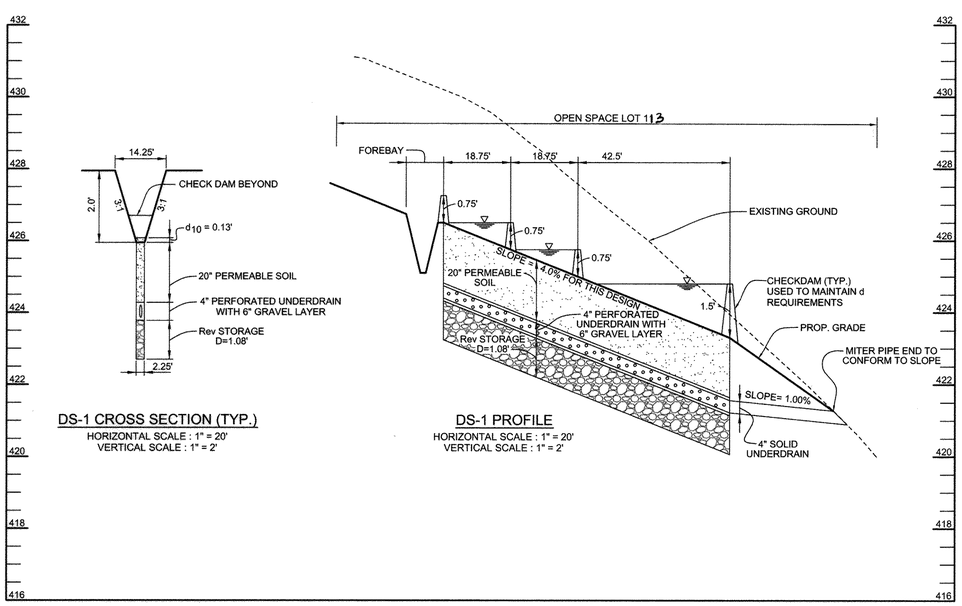
DRY SWALE CHART

SWALE NO.	A	B	C	D	E	F	G	PHASE UTILIZED
1	2.25'	3:1	2.00'	0.13'	2.5'	0.5'	1.08'	III
2	8.0'	3:1	2.00'	1.69'	2.5'	0.5'	1.25'	III



DRY SWALE DETAIL

NOT TO SCALE

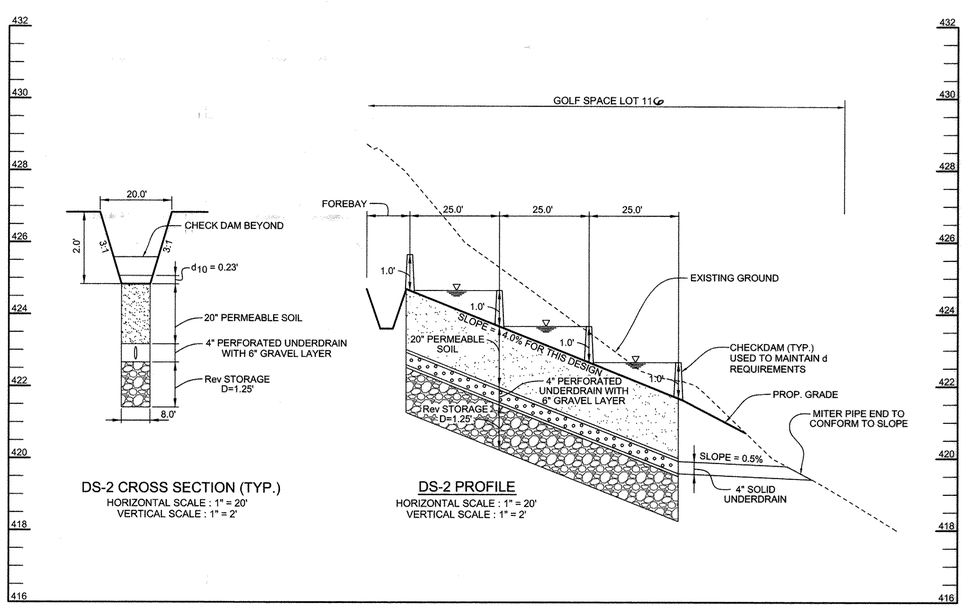


DS-1 CROSS SECTION (TYP.)

HORIZONTAL SCALE : 1" = 20'
VERTICAL SCALE : 1" = 2'

DS-1 PROFILE

HORIZONTAL SCALE : 1" = 20'
VERTICAL SCALE : 1" = 2'



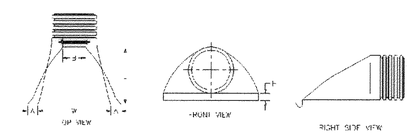
DS-2 CROSS SECTION (TYP.)

HORIZONTAL SCALE : 1" = 20'
VERTICAL SCALE : 1" = 2'

DS-2 PROFILE

HORIZONTAL SCALE : 1" = 20'
VERTICAL SCALE : 1" = 2'

PIPE DIAMETER, in (mm)						
Diameter in (mm)	12 (300)	15 (375)	18 (450)	24 (600)	30 (750)	36 (900)
A in (mm)	6.5 (165)	6.5 (165)	7.5 (191)	7.5 (191)	7.5 (191)	7.5 (191)
B (max) in (mm)	10.0 (254)	10.0 (254)	15.0 (381)	18.0 (457)	22.0 (559)	25.0 (635)
H in (mm)	6.5 (165)	6.5 (165)	6.5 (165)	6.5 (165)	8.6 (218)	8.6 (218)
L in (mm)	25.0 (635)	25.0 (635)	32.0 (813)	36.0 (914)	58.0 (1473)	58.0 (1473)
W in (mm)	29.0 (737)	29.0 (737)	35.0 (889)	45.0 (1143)	63.0 (1600)	63.0 (1600)



OWNER/DEVELOPER

MANGIONE ENTERPRISES OF TURF VALLEY, LP
1205 YORK ROAD, PENTHOUSE
LUTHERVILLE, MARYLAND 21093
410.825.8400

STORM DRAIN PROFILES, DETAILS AND CHARTS
FAIRWAYS AT TURF VALLEY

PHASE III LOTS 95-112, OPEN SPACE LOTS 113 - 115 & GOLF SPACE LOT 116
POD 'F' SECTION IV : RESIDENTIAL PHASE IV E
A SUBDIVISION OF P/O PARCELS 8 & 706 AND A RESUBDIVISION OF FAIRWAYS AT TURF VALLEY, PHASE I, NON-BUILDABLE BULK PARCEL D

TAX MAP 16 GRID 12 & TAX MAP 17 GRID 9
2ND ELECTION DISTRICT

PART OF PARCELS 8 & 706
HOWARD COUNTY, MARYLAND

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 11/19/10

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 11/19/10

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

CHIEF, BUREAU OF HIGHWAYS — DATE 11-17-10

STATE OF MARYLAND PROFESSIONAL ENGINEER — 7/26/16
Revision #1 only

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. 22390 Expiration Date: 6.30.17

1	7-14-16	REVISE LOT NUMBERS & STORM DRAIN STRUCTURE NUMBERS	BEI

Sill · Adcock & Associates · LLC
Engineers · Surveyors · Planners
3300 North Ridge Road, Suite 160
Ellicott City, Maryland 21043
Phone: 443.325.7682 Fax: 443.325.7685
Email: info@saaland.com

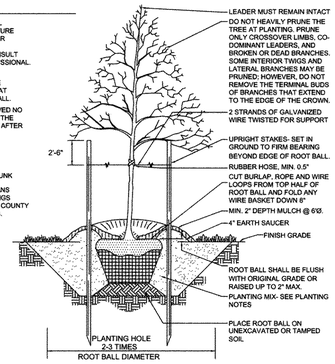
DESIGN BY: PS
DRAWN BY: JH
CHECKED BY: PS
SCALE: 1" = 50'
DATE: OCTOBER 29, 2010
PROJECT #: 06-025
SHEET #: 6 of 10

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. 32025, EXPIRATION DATE: JUNE 20, 2011

F-10- 086

NOTES

1. CONSULT INTERNATIONAL SOCIETY OF ARBORICULTURE GUIDELINES FOR FURTHER DETAILS OF PLANTING SPECIFICATIONS, OR CONSULT WITH A QUALIFIED PROFESSIONAL.
2. EACH TREE SHALL BE PLANTED SUCH THAT THE TRUNK FLARE IS VISIBLE AT THE TOP OF THE ROOT BALL.
3. STAKES SHALL BE REMOVED NO LATER THAN THE END OF THE FIRST GROWING SEASON AFTER PLANTING.
4. PLACE UPRIGHT STAKES PARALLEL TO WALKS & BUILDINGS.
5. KEEP MULCH 1" FROM TRUNK
6. SEE ARCHITECTURAL PLANS FOR ADDITIONAL PLANTINGS WHICH EXCEED HOWARD COUNTY MINIMUM REQUIREMENTS.
7. TREES ARE NOT TO BE PLANTED OVER PRIVATE SEWAGE EASEMENT.



TYPICAL TREE PLANTING AND STAKING

DECIDUOUS TREES UP TO 2-1/2" CALIPER — NOT TO SCALE

LANDSCAPE SCHEDULE

KEY	QUANTITY	BOTANICAL NAME	SIZE	NOTE
⊙	18	ACER RUBRUM (STREET TREES) OCTOBER GLORY RED MAPLE	2 1/2"-3" CAL.	B & B

STREET TREE SCHEDULE

STREET NAME	LF REQUIRED	TREES REQUIRED	TREES PROVIDED
VERDI COURT	694	18	18

SCHEDULE A
PERIMETER LANDSCAPE EDGE

CATEGORY	ADJACENT TO ROADWAYS	ADJACENT TO PERIMETER PROPERTIES		
PERIMETER/FRONTAGE DESIGNATION LANDSCAPE TYPE	N/A	1 A	- -	- -
LINEAR FEET OF ROADWAY FRONTAGE/PERIMETER	-	563	-	-
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) REMAINING PERIMETER LENGTH	-	NO 563	- -	- -
CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET) REMAINING PERIMETER LENGTH	-	NO	-	-
NUMBER OF PLANTS REQUIRED SHADE TREES EVERGREEN TREES SHRUBS	- - -	1:60 9 - -	- - -	- - -
NUMBER OF PLANTS PROVIDED SHADE TREES EVERGREEN TREES OTHER TREES (2:1 SUBSTITUTION) SHRUBS (10:1 SUBSTITUTION) (DESCRIBE PLANT SUBSTITUTION CREDITS BELOW IF NEEDED)	- - - - -	9 * - - - -	- - - - -	- - - - -

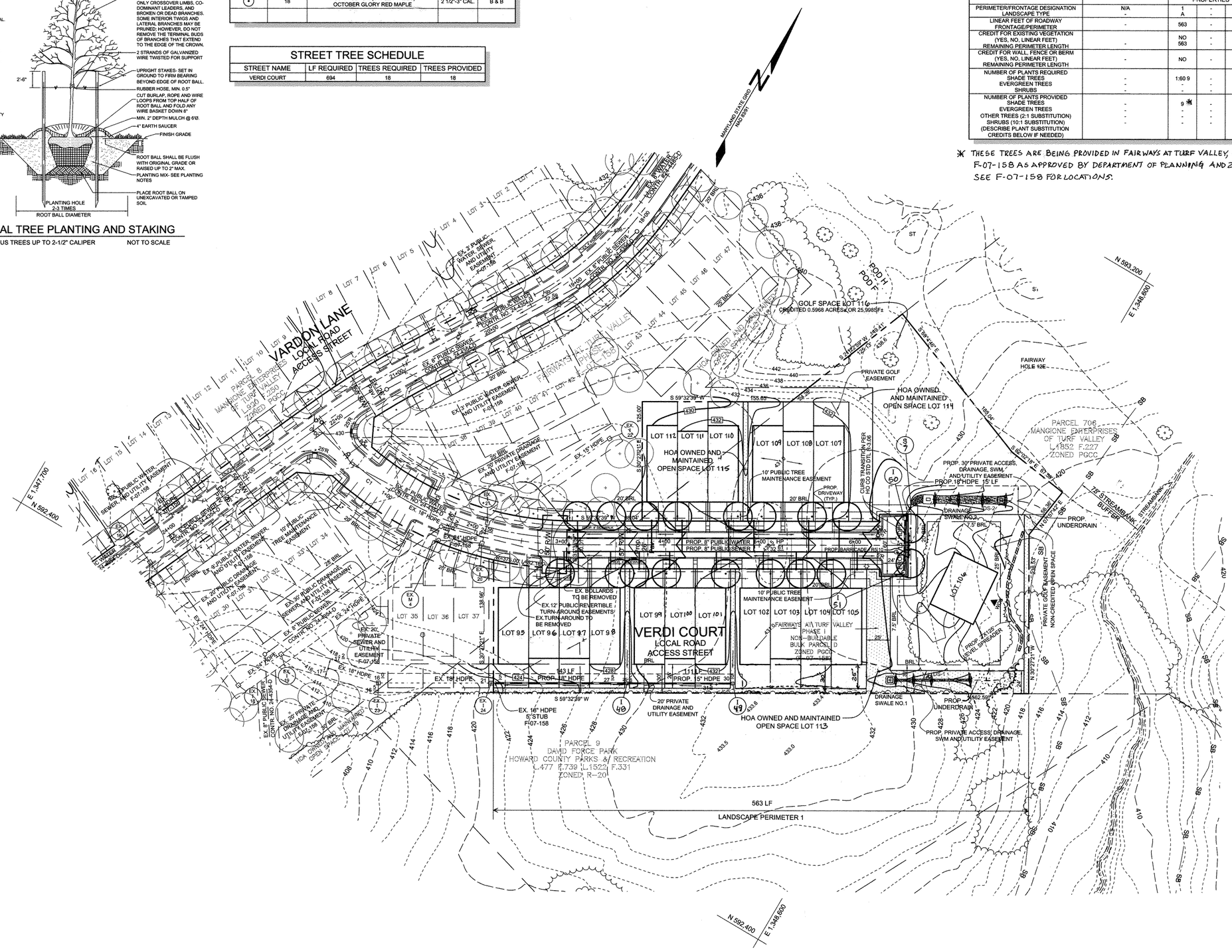
* THESE TREES ARE BEING PROVIDED IN FAIRWAYS AT TURF VALLEY, PHASE 1, F-07-158 AS APPROVED BY DEPARTMENT OF PLANNING AND ZONING. SEE F-07-158 FOR LOCATIONS.

LEGEND

- EXISTING CONTOUR — 382
- PROPOSED CONTOUR — 382
- EXISTING SPOT ELEVATION — 362.3
- PROPOSED SPOT ELEVATION — + 82 53
- DIRECTION OF FLOW
- EXISTING TREELINE
- PROPOSED TREELINE
- EXISTING LANDSCAPE TREES AS PER F-07-158
- PROPOSED LANDSCAPE TREES
- NON-CREDITED OPEN SPACE

LANDSCAPE NOTES

1. AT THE TIME OF INSTALLMENT, ALL SHRUBS AND OTHER PLANTINGS HEREWITH LISTED AND APPROVED FOR THIS SITE, SHALL BE OF THE PROPER HEIGHT REQUIREMENTS IN ACCORDANCE WITH THE HOWARD COUNTY LANDSCAPING MANUAL. IN ADDITION, NO SUBSTITUTIONS OR RELOCATION OF REQUIRED PLANTINGS MAY BE MADE WITHOUT PRIOR REVIEW AND APPROVAL FROM THE DEPARTMENT OF PLANNING AND ZONING. ANY DEVIATION FROM THIS APPROVED LANDSCAPE PLAN MAY RESULT IN DENIAL OR DELAY IN THE RELEASE OF LANDSCAPE SURETY UNTIL SUCH TIME AS ALL REQUIRED MATERIALS ARE PLANTED AND/OR REVISIONS ARE MADE TO APPLICABLE PLANS AND CERTIFICATES.
2. THE OWNER, TENANT, AND/OR THEIR AGENTS SHALL BE RESPONSIBLE FOR MAINTENANCE OF THE REQUIRED LANDSCAPING, INCLUDING BOTH PLANT MATERIALS AND BERMS, FENCES AND WALLS. ALL PLANT MATERIALS SHALL BE MAINTAINED IN GOOD GROWING CONDITION, AND WHEN NECESSARY, REPLACED WITH NEW MATERIALS TO ENSURE CONTINUED COMPLIANCE WITH APPLICABLE REGULATIONS. ALL OTHER REQUIRED LANDSCAPING SHALL BE PERMANENTLY MAINTAINED IN GOOD CONDITION, AND WHEN NECESSARY, REPAIRED OR REPLACED.
3. FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING WILL BE POSTED AS PART OF THE DEVELOPER'S AGREEMENT IN THE AMOUNT OF $2,700.00 (9 SHADE TREES @ $300.00 EACH). STREET TREES AND PERIMETER LANDSCAPE TREES WILL BE PLANTED AT THE SITE DEVELOPMENT PLAN STAGE. LANDSCAPING FOR LOTS 9,5THRU 11Z WILL BE PROVIDED FOR AT THE SITE DEVELOPMENT PLAN STAGE IN ACCORDANCE WITH SECTION 16.124 OF THE SUBDIVISION REGULATIONS AND THE LANDSCAPE MANUAL.



7/26/16

Revision #1 only

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. 22390 Expiration Date: 6-30-17

OWNER/DEVELOPER

MANGIONE ENTERPRISES OF TURF VALLEY, LP
1205 YORK ROAD, PENTHOUSE
LUTHERVILLE, MARYLAND 21093
410.825.8400

LANDSCAPE PLAN
FAIRWAYS AT TURF VALLEY

PHASE III LOTS 95-112, OPEN SPACE LOTS 113 - 115 & GOLF SPACE LOT 116
POD 'F' SECTION IV : RESIDENTIAL PHASE IV E
A SUBDIVISION OF P/O PARCELS 8 & 706 AND A RESUBDIVISION OF FAIRWAYS AT TURF VALLEY, PHASE I, NON-BUILDABLE BULK PARCEL D

TAX MAP 16 GRID 12 & TAX MAP 17 GRID 9 — PART OF PARCELS 8 & 706
2ND ELECTION DISTRICT — HOWARD COUNTY, MARYLAND

Sill · Adcock & Associates · LLC
Engineers · Surveyors · Planners
3300 North Ridge Road, Suite 160
Ellicott City, Maryland 21043
Phone: 443.325.7682 Fax: 443.325.7685
Email: info@saaland.com

DESIGN BY:	PS
DRAWN BY:	JH
CHECKED BY:	PS
SCALE:	1" = 50'
DATE:	OCTOBER 29, 2010
PROJECT #:	06-025
SHEET #:	7 of 10

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 11/19/10
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 11/18/10

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

CHIEF, BUREAU OF HIGHWAYS	DATE 11-17-10

DEVELOPER'S CERTIFICATE

I CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE HOWARD COUNTY LANDSCAPE MANUAL. I FURTHER CERTIFY THAT UPON COMPLETION, A LETTER OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE(1) YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

DEVELOPER	DATE 10/27/10

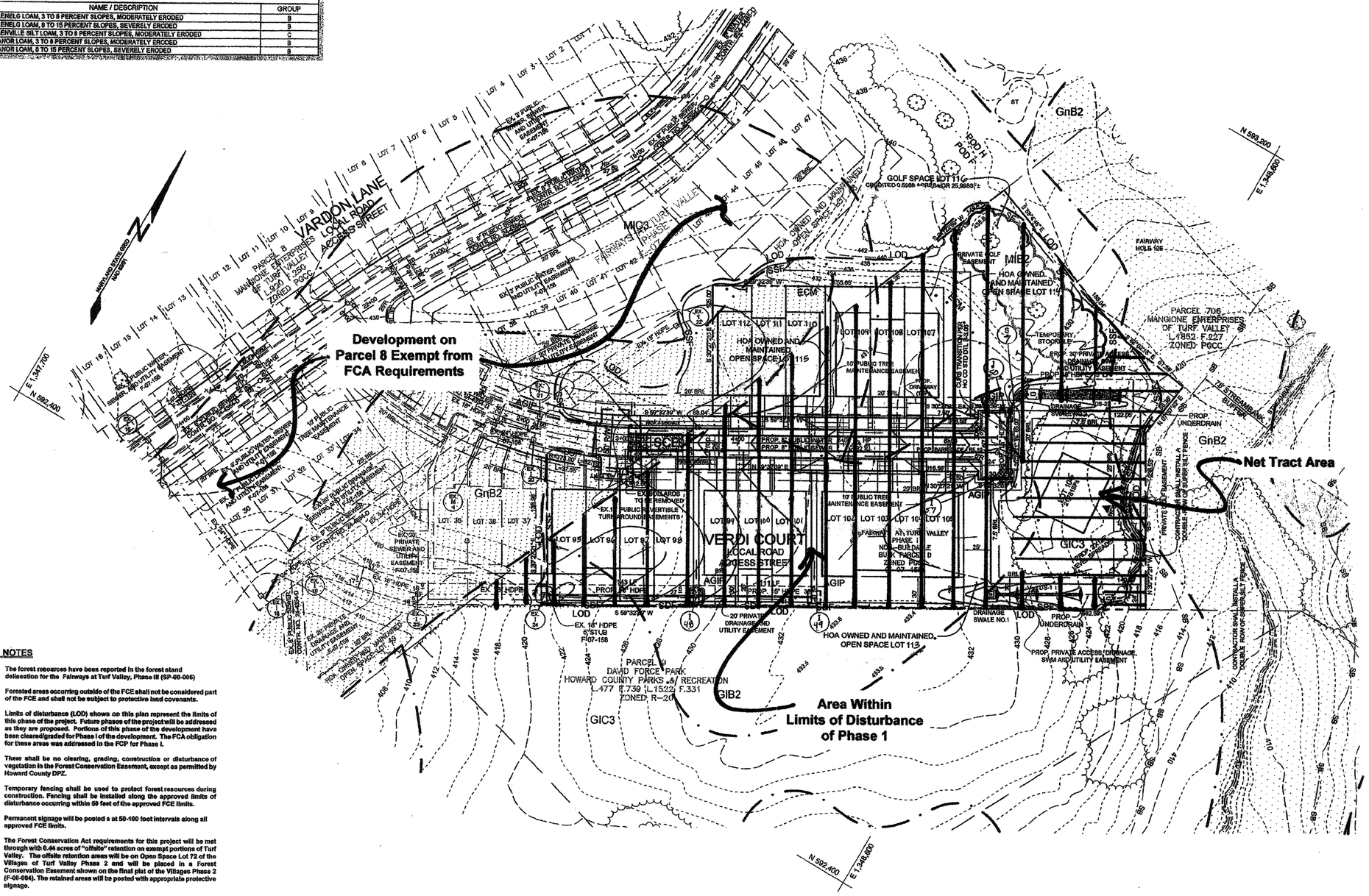
1	7-14-16	REMOVE 9 PERIMETER TREES AND RELOCATE TO F-07-158, REVISE LOT NUMBERS	BEF

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. 32025, EXPIRATION DATE: JUNE 20, 2011

F-10- 086

SOILS LEGEND

SYMBOL	NAME / DESCRIPTION	GROUP
GIB2	GLENELG LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED	B
GIC3	GLENELG LOAM, 8 TO 15 PERCENT SLOPES, SEVERELY ERODED	B
GnB2	GLENVILLE SILT LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED	C
MIB2	MANOR LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED	B
MIC3	MANOR LOAM, 8 TO 15 PERCENT SLOPES, SEVERELY ERODED	B



PLAN

SCALE: 1" = 50'

LEGEND

- EXISTING CONTOUR — 382
- PROPOSED CONTOUR — 382
- EXISTING SPOT ELEVATION — ×382.3
- PROPOSED SPOT ELEVATION — +82.5
- DIRECTION OF FLOW
- EXISTING TREELINE
- PROPOSED TREELINE
- LIGHT POLES — POST TOP
- STABILIZED CONSTRUCTION ENTRANCE
- SILT FENCE — SF
- SUPER SILT FENCE — SSF
- EARTH DIKE — ED A-1
- LIMIT OF DISTURBANCE — LOD
- EROSION CONTROL MATTING — ECM
- SOIL BOUNDARY
- RIP-RAP INFLOW PROTECTION — RRP
- GABION INFLOW PROTECTION — GM
- CURB INLET PROTECTION — CIP
- STANDARD INLET PROTECTION — SIP
- AT GRADE INLET PROTECTION — AGIP
- 'B' SOIL GROUP
- 'C' SOIL GROUP
- 'D' SOIL GROUP

FOREST CONSERVATION WORKSHEET

Version 1.0

Project: Fairways at Turf Valley Phase III
Date: July 23, 2010

NET TRACT AREA			Acres
A. Total tract area			93.0
B. Area within 100 Year Floodplain and future development areas			89.72
C. Area within limits of disturbance associated with Phase I			2.72
D. Net Tract Area			0.56
LAND USE CATEGORY: (from table 3.2.1, page 40, Manual) ARA MDR IDA HDR MPD CIA X			
E. Afforestation Threshold	(percentage)	0.15	0.08
F. Conservation Threshold	(percentage)	0.15	0.08
EXISTING FOREST COVER:			
G. Existing forest cover (excluding floodplain)			0.33
H. Area of forest above afforestation threshold			0.25
I. Area of forest above conservation threshold			0.25
BREAK EVEN POINT:			
J. Forest retention above threshold with no mitigation			0.05
		Break-Even Point	0.13
K. Clearing permitted without mitigation			0.2
PROPOSED FOREST CLEARING			
L. Total area of forest to be Cleared or Retained Outside FCE			0.33
M. Total area of forest to be Retained in FCE			0
PLANTING REQUIREMENTS			
N. Reforestation for clearing above Conservation Threshold			0.06
P. Reforestation for clearing below Conservation Threshold			0.16
Q. Credit for retention above conservation threshold			0
R. Total reforestation required			0.22
S. Total afforestation required			0
T. Total reforestation and afforestation required			0.22

FCP NOTES

1. The forest resources have been reported in the forest stand delineation for the Fairways at Turf Valley, Phase III (SP-08-005)
2. Forested areas occurring outside of the FCE shall not be considered part of the FCE and shall not be subject to protective land covenants.
3. Limits of disturbance (LOD) shown on this plan represent the limits of this phase of the project. Future phases of the project will be addressed as they are proposed. Portions of this phase of the development have been cleared/graded for Phase I of the development. The FCA obligation for these areas was addressed in the FCP for Phase I.
4. There shall be no clearing, grading, construction or disturbance of vegetation in the Forest Conservation Easement, except as permitted by Howard County DPZ.
5. Temporary fencing shall be used to protect forest resources during construction. Fencing shall be installed along the approved limits of disturbance occurring within 50 feet of the approved FCE limits.
6. Permanent signage will be posted a at 50-100 foot intervals along all approved FCE limits.
7. The Forest Conservation Act requirements for this project will be met through with 0.44 acres of "offsite" retention on exempt portions of Turf Valley. The offsite retention areas will be on Open Space Lot 72 of the Villages of Turf Valley Phase 2 and will be placed in a Forest Conservation Easement shown on the final plat of the Villages Phase 2 (F-08-084). The retained areas will be posted with appropriate protective signage.

FCA Exemption Note

The proposed development of Fairways of Turf Valley will occur on portions of Parcels 8 and 706 (tax map 16). The development occurring on Parcel 8 is exempt from the Forest Conservation Act regulations. Portions of Parcel 706 that occur outside the limits of disturbance for this phase of the project are not included as part of the project for the purpose of the Forest Conservation Act.

OWNER/DEVELOPER

MANGIONE ENTERPRISES OF TURF VALLEY, LP
1205 YORK ROAD, PENTHOUSE
LUTHERVILLE, MARYLAND 21093
410.825.8400

MD DNR Qualified Professional
USACOE Wetland Delineator
Certification # WDCP93MD0610044B2
John P. Canoles 10/28/10

Eco-Science Professionals, Inc.
Consulting Ecologists
P.O. Box 5006 Glen Arm, Maryland 21057 Telephone (410) 833-2480 Fax (410) 832-2488

FOREST CONSERVATION PLAN AND DETAILS
FAIRWAYS AT TURF VALLEY

PHASE III LOTS 95 -112, OPEN SPACE LOTS 113 - 115 & GOLF SPACE LOT 116
POD 'F' SECTION IV : RESIDENTIAL PHASE IV E
A SUBDIVISION OF P/O PARCELS 8 & 706 AND A RESUBDIVISION OF FAIRWAYS AT TURF VALLEY. PHASE I. NON-BUILDABLE BULK PARCEL D

TAX MAP 16 GRID 12 & TAX MAP 17 GRID 9 — PART OF PARCELS 8 & 706
2ND ELECTION DISTRICT — HOWARD COUNTY, MARYLAND

Sill · Adcock & Associates · LLC
Engineers · Surveyors · Planners
3300 North Ridge Road, Suite 160
Ellicott City, Maryland 21043
Phone: 443.325.7682 Fax: 443.325.7685
Email: info@saaland.com

DESIGN BY: JPC
DRAWN BY: JPC
CHECKED BY: JPC
SCALE: AS SHOWN
DATE: OCTOBER 28, 2010
PROJECT #: 08-025
SHEET #: 8 of 10

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. 32025, EXPIRATION DATE: JUNE 20, 2011

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 11/19/10

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 11/18/10

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

CHIEF, BUREAU OF HIGHWAYS — DATE 11-17-10

1	7-14-16	REVISE LOT NUMBERS IN TITLE BLOCK & LOTS.	BEI

F-10- 086

CONSTRUCTION PERIOD PROTECTION PROGRAM

A. Forest Protection Techniques

1. Soil Protection Area (Critical Root Zone)

The soil protection area, or critical root zone, of a tree is that portion of the soil column where most of a its roots may be found. The majority of roots responsible for water and nutrient uptake are located just below the soil surface. Temporary fencing shall be placed around the critical root zone of the forest in areas where the forest limits occur within 25 feet of the limit of disturbance.

2. Fencing and Signage

Existing forest limits occurring within 25 feet of the limits of disturbance shall be protected using temporary protective fencing. Permanent signage shall be placed around the afforestation area prior to plant installation, as shown on the plan.

B. Pre-Construction Meeting

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

C. Storage Facilities/Equipment Cleaning

All equipment storage, parking, sanitary facilities, material stockpiling, etc. associated with construction of the project will be restricted to those areas outside of the proposed Forest Conservation Easement. Cleaning of equipment will be limited to area within the LOD of the proposed homesites. Wastewater resulting from equipment cleaning will be controlled to prevent runoff into environmentally sensitive areas.

D. Sequence of Construction

The following timetable represents the proposed timetable for development of the subject property. The items outlined in the Forest Conservation Plan will be enacted within two (2) years of subdivision approval.

Below find a proposed sequence of construction.

1. Install all signage and sediment control devices.
2. Hold pre-construction meeting between developer, contractor and County inspector.
3. Build access roads, install water and sewer, and construct houses. Stabilize all disturbed areas accordingly.
4. Remove sediment control.
5. Hold post-construction meeting with County inspectors to assure compliance with FCP. Submit Certification of Retention.

E. Construction Monitoring

Eco-Science Professionals, or another qualified professional designated by the developer, will monitor construction of the project to ensure that all activities are in compliance with the Forest Conservation Plan.

F. Post-Construction Meeting

Upon completion of construction, Eco-Science Professionals, or another qualified professional designated by the developer, will notify the County that construction has been completed and arrange for a post-construction meeting to review the project site. The meeting will allow the County inspector to verify that forest retention requirements have been met

POST-CONSTRUCTION MANAGEMENT PLAN

Howard County requires a two year post-construction management plan be prepared as part of the Forest Conservation Plan. The plan goes into effect upon acceptance of the construction certification of completion by the County. Eco-Science Professionals, or another qualified professional designated by the developer, will be responsible for implementation of the post-construction management plan.

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

A. Fencing and Signage

Permanent signage indicating the limits of the retention/planting area shall be maintained.

B. General Site Inspections

Site inspections will be performed to insure that retention of the forest is met in accordance with this plan and that the forest edge remains healthy and stable.

C. Education

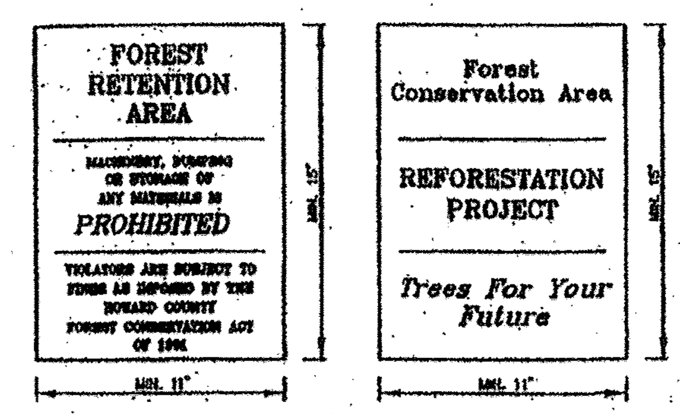
The developer will provide appropriate materials to property owners informing them of the location and purpose of the forest conservation easement. Materials may include site plans and information explaining the intent of the forest conservation law.

D. Final Inspection

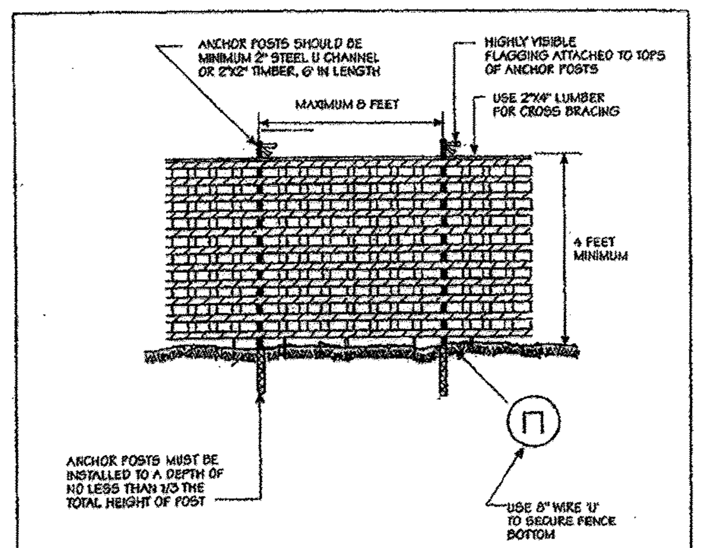
At the end of the two year post-construction management period, Eco-Science Professionals, or another qualified professional, will submit to the administrator of the Howard County Forest Conservation Program certification that all retention/afforestation requirements have been met. Upon acceptance of this certification, the County will release the developer from all future obligations and release the developer's bond.

FOREST CONSERVATION EASEMENTS

Easements are a legal means of providing permanent protection of forests, farmland and open space. In accordance with the criteria outlined in the Howard County Forest Conservation Manual, a forest conservation easement will be recorded for the retention areas the subject property. Submission of the easements for recordation will occur prior to commencement of construction activities.



SIGNAGE
NOT TO SCALE



Notes:
1. Blaze orange or blue plastic mesh fence for forest protection device, only.
2. Boundaries of Retention Area will be established as part of the forest conservation plan review process.
3. Boundaries of Retention Area should be staked and flagged prior to installing device.
4. Avoid damage to critical root zone. Do not damage or sever large roots when installing posts.
5. Protection signs are required, See Figure C-4.
6. Device should be maintained throughout construction.

Source: Adapted from Prince George's County, Maryland; Woodland Conservation Manual and Forest Conservation Manual, 1991

Plastic Mesh Tree Protection Fence — Figure C-5

Fairways at Turf Valley
Forest Conservation Credit Calculations

Phase	Proposed onsite Retention	Reforestation/ Afforestation Required	Reforestation/ Afforestation Credit Provided Offsite*	FCE Credit Recorded but not Utilized by Phase and location of FCE easement**
Phase 1	0.3 acres	2.8 acres	3.52 acres	0.22 acres reforestation 1.0 acres retained forest Plat of Revision Parcel D - F-09-22
Phase 2	0 acres	1.12 acres	1.12 acres	0 acres
Phase 3	0 acres	0.22 acres	0.22 acres	0.48 acres retained forest Open Space Lot 72, Villages of Turf Valley Phase 2
Total FCE credit not yet utilized for project				0.96 acres FCE credit

* this credit may be obtained through 1:1 planting or 2:1 offsite retention
** Retention acreage reflects actual easement area and not 0.5 retention credit

Forest Conservation Notes

1. The 0.22 acres of reforestation obligation required for Fairways at Turf Valley, Phase III will be met by providing 0.44 acres of offsite retention in FCE # 14 which is located on Villages of Turf Valley, Phase 2, Open Space Lot 72 and will be placed in a Forest Conservation Easement shown on the final plat of the Villages Phase 2 (F-08-084).
2. Development on Parcel 8 is exempt from Howard County Forest Conservation requirements under section 16.1202 (b) of the County code since it is a Planned Unit Development under S-86-13.
3. Any Forest Conservation Easement (FCE) area shown hereon is subject to the protective covenants which may be found in the Land Records of Howard County which restrict the disturbance and use of these areas.
4. The Forest Conservation Easements shown hereon have been established to fulfill the requirements of section 16.1200 of the Howard County Code, Forest Conservation Area. No clearing, grading, or construction is permitted within the Forest Conservation Easements; however, Forest Management Practices as defined in the Deed of Forest Conservation Easement are allowed.
5. Limits of disturbance shall be restricted to areas outside the limits of temporary fencing or the FCE boundary, whichever is greater.
6. There shall be no clearing, grading, construction or disturbance of vegetation in the Forest Conservation Easement, except as permitted by Howard County DPZ.
7. No stockpiles, parking areas, equipment cleaning areas, etc. shall occur within areas designated as Forest Conservation Easements.
8. Temporary fencing shall be used to protect forest resources during construction. Fencing shall be installed along the approved limits of disturbance occurring within 50 feet of the approved FCE limits.
9. Permanent signage will be posted at 50-100 foot intervals along the boundaries of all areas included in Forest Conservation Easements.
10. Portions of the site occurring within the 100 year floodplain are not included as part of the net tract area of the site. Areas of floodplain forest occurring within the limits of a Forest Conservation Easement may be protected by the easement restrictions but have not/will not be credited toward the project's FCA obligation.
11. The site is located in the Little Patuxent River (upper) #1131105A watershed.
12. There are no rare, threatened, or endangered species located no this site. There are not specimen or champion trees located on this site. To the best of our knowledge there are no historic structures located on the site.
13. The protective signage shall stay on-site in perpetuity.

OFFSITE FCE NOTES:

All or a portion of the FCA obligations for Phases II and III of the Fairways at Turf Valley developments will be met within Forest Conservation Easement #14. FCE # 14 is located on Open Space Lot 72 of the Villages of Turf Valley Phase 2 and will be placed in a Forest Conservation Easement shown on the final plat of the Villages Phase 2 (F-08-084).

FCE #14 has 0.48 acres of retention (0.24 acres of offsite retention credit) that is not being utilized by Fairways at Turf Valley II and III

The FCA obligations for each phase will be met as follows:

Fairways at Turf Valley, Phase II

Note the 1.12 acre reforestation obligation for Fairways at Turf Valley, Phase II will be met in FCE #14. This obligation will be met by 0.71 acres of reforestation and 0.82 acres of offsite retention.

Fairways at Turf Valley, Phase III

The 0.22 acre reforestation obligation for Fairways at Turf Valley, Phase III will be met by retaining 0.44 acres of offsite retention in FCE #14.

OWNER/DEVELOPER

MANGIONE ENTERPRISES OF TURF VALLEY, LP
1205 YORK ROAD, PENTHOUSE
LUTHERVILLE, MARYLAND 21093
410.825.8400

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 11/19/10

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 11/18/10

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

CHIEF, BUREAU OF HIGHWAYS — DATE 11-17-10

MD DNR Qualified Professional
USACOE Wetland Delineator
Certification # WDCP93MD0610044B2
John P. Canoles 10/29/10

Eco-Science Professionals, Inc.
Consulting Ecologists
P.O. Box 5006 Glen Arm, Maryland 21057 Telephone (410) 832-2480 Fax (410) 832-2488

1	7-14-16	REVISE LOT NUMBERS IN TITLE BLOCK	BEI

FOREST CONSERVATION PLAN - NOTES AND DETAILS
FAIRWAYS AT TURF VALLEY
PHASE III LOTS 85-112, OPEN SPACE LOTS 113 - 115 & GOLF SPACE LOT 116
POD 'F' SECTION IV : RESIDENTIAL PHASE IV E
A SUBDIVISION OF P/O PARCELS 8 & 708 AND A RESUBDIVISION OF FAIRWAYS AT TURF VALLEY, PHASE I, NON-BUILDABLE BULK PARCEL D
TAX MAP 16 GRID 12 & TAX MAP 17 GRID 9 — PART OF PARCELS 8 & 708
2ND ELECTION DISTRICT — HOWARD COUNTY, MARYLAND

Sill · Adcock & Associates · LLC
Engineers · Surveyors · Planners
3300 North Ridge Road, Suite 160
Ellicott City, Maryland 21043
Phone: 443.325.7682 Fax: 443.325.7685
Email: info@saaland.com

DESIGN BY: JPC
DRAWN BY: JPC
CHECKED BY: JPC
SCALE: AS SHOWN
DATE: OCTOBER 29, 2010
PROJECT #: 08-025
SHEET #: 9 of 10

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. 32026, EXPIRATION DATE: JUNE 20, 2011

F-10-086

CONSTRUCTION PERIOD PROTECTION PROGRAM

A. Forest Protection Techniques

1. Soil Protection Area (Critical Root Zone)

The soil protection area, or critical root zone, of a tree is that portion of the soil column where most of a its roots may be found. The majority of roots responsible for water and nutrient uptake are located just below the soil surface. Temporary fencing shall be placed around the critical root zone of the forest in areas where the forest limits occur within 25 feet of the limit of disturbance.

2. Fencing and Signage

Existing forest limits occurring within 25 feet of the limits of disturbance shall be protected using temporary protective fencing. Permanent signage shall be placed around the afforestation area prior to plant installation, as shown on the plan.

B. Pre-Construction Meeting

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

C. Storage Facilities/Equipment Cleaning

All equipment storage, parking, sanitary facilities, material stockpiling, etc. associated with construction of the project will be restricted to those areas outside of the proposed Forest Conservation Easement. Cleaning of equipment will be limited to area within the LOD of the proposed homesites. Wastewater resulting from equipment cleaning will be controlled to prevent runoff into environmentally sensitive areas.

D. Sequence of Construction

The following timetable represents the proposed timetable for development of the subject property. The items outlined in the Forest Conservation Plan will be enacted within two (2) years of subdivision approval.

Below find a proposed sequence of construction.

1. Install all signage and sediment control devices.
2. Hold pre-construction meeting between developer, contractor and County inspector.
3. Build access roads, install water and sewer, and construct houses. Stabilize all disturbed areas accordingly.
4. Remove sediment control.
5. Hold post-construction meeting with County inspectors to assure compliance with FCP. Submit Certification of Retention.

E. Construction Monitoring

Eco-Science Professionals, or another qualified professional designated by the developer, will monitor construction of the project to ensure that all activities are in compliance with the Forest Conservation Plan.

F. Post-Construction Meeting

Upon completion of construction, Eco-Science Professionals, or another qualified professional designated by the developer, will notify the County that construction has been completed and arrange for a post-construction meeting to review the project site. The meeting will allow the County inspector to verify that forest retention requirements have been met

POST-CONSTRUCTION MANAGEMENT PLAN

Howard County requires a two year post-construction management plan be prepared as part of the Forest Conservation Plan. The plan goes into effect upon acceptance of the construction certification of completion by the County. Eco-Science Professionals, or another qualified professional designated by the developer, will be responsible for implementation of the post-construction management plan.

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

A. Fencing and Signage

Permanent signage indicating the limits of the retention/planting area shall be maintained.

B. General Site Inspections

Site inspections will be performed to insure that retention of the forest is met in accordance with this plan and that the forest edge remains healthy and stable.

C. Education

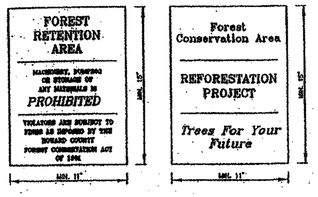
The developer will provide appropriate materials to property owners informing them of the location and purpose of the forest conservation easement. Materials may include site plans and information explaining the intent of the forest conservation law.

D. Final Inspection

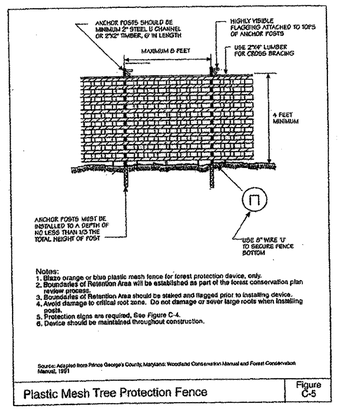
At the end of the two year post-construction management period, Eco-Science Professionals, or another qualified professional, will submit to the administrator of the Howard County Forest Conservation Program certification that all retention/afforestation requirements have been met. Upon acceptance of this certification, the County will release the developer from all future obligations and release the developer's bond.

FOREST CONSERVATION EASEMENTS

Easements are a legal means of providing permanent protection of forests, farmland and open space. In accordance with the criteria outlined in the Howard County Forest Conservation Manual, a forest conservation easement will be recorded for the retention areas the subject property. Submission of the easements for recordation will occur prior to commencement of construction activities.



SIGNAGE
NOT TO SCALE



Notes:
1. Blaze orange or blue plastic mesh fence for forest protection device, only.
2. Boundaries of Retention Area will be established as part of the forest conservation plan review process.
3. Boundaries of Retention Area should be staked and flagged prior to installing device.
4. Avoid damage to critical root zone. Do not damage or sever large roots when installing posts.
5. Protection signs are required. See Figure C-4.
6. Device should be maintained throughout construction.

Source: Adapted from Prince George's County, Maryland, Woodland Conservation Manual and Forest Conservation Manual, 1991

Plastic Mesh Tree Protection Fence	Figure C-3

Fairways at Turf Valley
Forest Conservation Credit Calculations

Phase	Proposed onsite Retention	Reforestation/ Afforestation Required	Reforestation/ Afforestation Credit Provided Offsite*	FCE Credit Recorded but not Utilized by Phase and location of FCE easement**
Phase 1	0.3 acres	2.8 acres	3.52 acres	0.22 acres reforestation 1.0 acres retained forest Plat of Revision Parcel D - F-09-22
Phase 2	0 acres	1.12 acres	1.12 acres	0 acres
Phase 3	0 acres	0.22 acres	0.22 acres	0.48 acres retained forest Open Space Lot 72, Villages of Turf Valley Phase 2
Total FCE credit not yet utilized for project				0.98 acres FCE credit

* this credit may be obtained through 1:1 planting or 2:1 offsite retention
** Retention acreage reflects actual easement area and not 0.5 retention credit

Forest Conservation Notes

1. The 0.22 acres of reforestation obligation required for Fairways at Turf Valley, Phase III will be met by providing 0.44 acres of offsite retention in FCE # 14 which is located on Villages of Turf Valley, Phase 2, Open Space Lot 72 and will be placed in a Forest Conservation Easement shown on the final plat of the Villages Phase 2 (F-08-084).
2. Development on Parcel 8 is exempt from Howard County Forest Conservation requirements under section 16.1202 (b) of the County code since it is a Planned Unit Development under S-86-13.
3. Any Forest Conservation Easement (FCE) area shown hereon is subject to the protective covenants which may be found in the Land Records of Howard County which restrict the disturbance and use of these areas.
4. The Forest Conservation Easements shown hereon have been established to fulfill the requirements of section 16.1200 of the Howard County Code, Forest Conservation Area. No clearing, grading, or construction is permitted within the Forest Conservation Easements; however, Forest Management Practices as defined in the Deed of Forest Conservation Easement are allowed.
5. Limits of disturbance shall be restricted to areas outside the limits of temporary fencing or the FCE boundary, whichever is greater.
6. There shall be no clearing, grading, construction or disturbance of vegetation in the Forest Conservation Easement, except as permitted by Howard County DPZ.
7. No stockpiles, parking areas, equipment cleaning areas, etc. shall occur within areas designated as Forest Conservation Easements.
8. Temporary fencing shall be used to protect forest resources during construction. Fencing shall be installed along the approved limits of disturbance occurring within 50 feet of the approved FCE limits.
9. Permanent signage will be posted at 50-100 foot intervals along the boundaries of all areas included in Forest Conservation Easements.
10. Portions of the site occurring within the 100 year floodplain are not included as part of the net tract area of the site. Areas of floodplain forest occurring within the limits of a Forest Conservation Easement may be protected by the easement restrictions but have not/will not be credited toward the project's FCA obligation.
11. The site is located in the Little Patuxent River (upper) #1131105A watershed.
12. There are no rare, threatened, or endangered species located no this site. There are not specimen or champion trees located on this site. To the best of our knowledge there are no historic structures located on the site.
13. The protective signage shall stay on-site in perpetuity.

OFFSITE FCE NOTES:

All or a portion of the FCA obligations for Phases II and III of the Fairways at Turf Valley developments will be met within Forest Conservation Easement #14. FCE # 14 is located on Open Space Lot 72 of the Villages of Turf Valley Phase 2 and will be placed in a Forest Conservation Easement shown on the final plat of the Villages Phase 2 (F-08-084).

FCE #14 has 0.48 acres of retention (0.24 acres of offsite retention credit) that is not being utilized by Fairways at Turf Valley II and III

The FCA obligations for each phase will be met as follows:

Fairways at Turf Valley, Phase II

Note the 1.12 acre reforestation obligation for Fairways at Turf Valley, Phase II will be met in FCE #14. This obligation will be met by 0.71 acres of reforestation and 0.82 acres of offsite retention.

Fairways at Turf Valley, Phase III

The 0.22 acre reforestation obligation for Fairways at Turf Valley, Phase III will be met by retaining 0.44 acres of offsite retention in FCE #14.

OWNER/DEVELOPER
MANGIONE ENTERPRISES OF TURF VALLEY, LP
1200 YORK ROAD, PENTHOUSE
LUTHERVILLE, MARYLAND 21093
410.825.8400

MD DNR Qualified Professional
USACOE Wetland Delineator
Certification # WDCP93MD0610044B2
10/29/10
John P. Canoles

Eco-Science Professionals, Inc.
Consulting Ecologists
P.O. Box 5006 Glen Arm, Maryland 21057 Telephone (410) 833-3450 Fax (410) 833-3488

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT	DATE 11/9/10
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 11/10/10

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

CHIEF, BUREAU OF HIGHWAYS	DATE 11-17-10

1	7-14-16	REVISE LOT NUMBERS IN TITLE BLOCK	BEI

FOREST CONSERVATION PLAN - NOTES AND DETAILS
FAIRWAYS AT TURF VALLEY
PHASE III LOTS 95-112, OPEN SPACE LOTS 113 - 115 & GOLF SPACE LOT 116
POD 'F' SECTION IV : RESIDENTIAL PHASE IV E
A SUBDIVISION OF P/O PARCELS 8 & 708 AND A RESUBDIVISION OF FAIRWAYS AT TURF VALLEY, PHASE I, NON-BUILDABLE BULK PARCEL D
TAX MAP 16 GRID 12 & TAX MAP 17 GRID 9 — PART OF PARCELS 8 & 708
2ND ELECTION DISTRICT — HOWARD COUNTY, MARYLAND

Sill · Adcock & Associates · LLC
Engineers · Surveyors · Planners
3300 North Ridge Road, Suite 160
Ellicott City, Maryland 21043
Phone: 443.325.7682 Fax: 443.325.7685
Email: info@ssaland.com

DESIGN BY: JPC
DRAWN BY: JPC
CHECKED BY: JPC
SCALE: AS SHOWN
DATE: OCTOBER 29, 2010
PROJECT #: 08-025
SHEET #: 9 of 10

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. 33206, EXPIRATION DATE: JUNE 30, 2011

F-10-086