

- GENERAL NOTES**
- THE CONTRACTOR IS TO NOTIFY THE FOLLOWING UTILITIES OR AGENCIES AT LEAST FIVE DAYS BEFORE STARTING WORK ON THESE DRAWINGS:
 - MISS UTILITY 1-800-257-7777
 - VERIZON TELEPHONE 410-725-9976
 - HOWARD COUNTY BUREAU OF UTILITIES: 410-313-2366
 - AT&T CABLE LOCATION DIVISION: 410-383-3553
 - B.G.&E. CO. CONTRACTOR SERVICES: 410-850-4620
 - B.G.&E. CO. UNDERGROUND DAMAGE CONTROL: 410-787-4620
 - STATE HIGHWAY ADMINISTRATION: 410-531-5533
 - SITE ANALYSIS:
 - TOTAL AREA OF SITE: 4.06 AC.
 - PRESENT ZONING: R-20
 - LIMIT OF DISTURBANCE: 2.92 AC
 - PROPOSED USE OF SITE: SINGLE FAMILY DETACHED DWELLINGS
 - AREA OF OPEN SPACE REQUIRED: 20% OR 35,337 SF
 - AREA OF CREDITED OPEN SPACE PROVIDED: 36,478 SF
 - DWELLING UNITS PERMITTED BY FINAL PLAN: 8
 - TOTAL AREA OF OPEN SPACE PROVIDED: 36,478 SF
 - PROJECT BACKGROUND:
 - LOCATION: TAX MAP 31 PARCEL 501, GRID 14
 - ZONING: R-20
 - DEED REFERENCE: 8102/ 581
 - DPZ REFERENCES: S-02-06, WP-02-52, P-04-10, F-05-114
 - ALL ASPECTS OF THE PROJECT ARE IN CONFORMANCE WITH THE LATEST HOWARD COUNTY STANDARDS UNLESS WAIVERS HAVE BEEN APPROVED.
 - ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS IF APPLICABLE.
 - 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.
 - THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
 - TRAFFIC CONTROL DEVICES, MARKINGS AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF ANY ASPHALT.
 - THE PROJECT BOUNDARY IS BASED ON A FIELD RUN BOUNDARY SURVEY PERFORMED BY FREDERICK WARD ASSOCIATES, DATED JANUARY 7, 2002.
 - THE TOPOGRAPHY SHOWN HEREON IS BASED ON A TOPOGRAPHIC SURVEY PERFORMED BY FREDERICK WARD ASSOCIATES, INC. DATED JANUARY 7, 2002 AND GRADING ASSUMED IN CONJUNCTION WITH F-05-114.
 - COORDINATE DATUM IS BASED ON THE MARYLAND COORDINATE SYSTEM (NAD 83) AS PROJECTED BY THE FOLLOWING HOWARD COUNTY GEODETIC CONTROL STATIONS: 31A3 & 31D4.
 - WATER AND SEWER FOR THIS PROJECT WILL BE PUBLIC AND PROVIDED THROUGH CONTRACT NO. 64-W & NO. 865-S.
 - STORMWATER MANAGEMENT IS PROVIDED BY EXTENDED DETENTION OF THE 1 YEAR STORM (WQ) AND 10 YEAR MANAGEMENT. C/P IS NOT REQUIRED SINCE THE 1 YEAR STORM RUNOFF IS LESS THAN 2 CFS. THE STORM WATER MANAGEMENT FACILITY IS A (P-5) POCKET POND AND WILL BE PRIVATELY OWNED AND MAINTAINED BY THE HOA. THE REMAINING WQV AND REV WILL BE PROVIDED BY RAINGARDENS AND GRASS SWALES ALONG THE PROPOSED DRIVE. HAZARD CLASS A. PROVIDE A CLAY LINER FROM BOTTOM OF FACILITY TO ELEVATION 491.10. STORMWATER MANAGEMENT IS PROVIDED BY F-05-114.
 - STORMWATER MANAGEMENT SOIL BORINGS FOR THIS SITE ARE BASED ON A GEOTECHNICAL ANALYSIS PREPARED BY HILLIS CARNES ENGINEERING ASSOC, DATED AUGUST 12, 2003.
 - THERE ARE NO WETLANDS LOCATED ON SITE AS PER S-02-06.
 - FOREST STAND DELINEATION PLAN PREPARED BY EXPLORATION RESEARCH, INC. DATED AUGUST, 2001.
 - THE FOREST CONSERVATION EASEMENTS WERE FULFILLED UNDER F-05-114.
 - APFO TRAFFIC STUDY PREPARED BY THE TRAFFIC GROUP DATED AUGUST, 2001.
 - LANDSCAPING FOR THE STORMWATER MANAGEMENT POND, STREET TREES AND THE PERIMETER OF THE PROPERTY WAS FULFILLED WITH F-05-114.
 - WAIVER TO SECTION 16.121(a)(1) OF THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS APPROVED 1/18/02 TO ALLOW OPEN SPACE ACCESS FRONTAGE ON A PUBLIC ROAD TO BE LESS THAN 40'. (WP-02-52)
 - ALL LANDSCAPING REQUIREMENTS AS SET FORTH IN SECTION 16.124 OF THE HOWARD COUNTY SUBDIVISION REGULATIONS AND THE LANDSCAPE MANUAL SHALL BE COMPLIED WITH. FINANCIAL SURETY FOR THE REQUIRED 65 SHADE TREES, 26 EVERGREEN TREES AND 5 SHRUBS IN THE AMOUNT OF \$23,650.00 HAS BEEN PAID AS PART OF THE DEVELOPER'S AGREEMENT UNDER F-05-114.
 - TREE PROTECTION FENCING WILL BE PROVIDED AT THE LIMITS OF DISTURBANCE WHERE GRADING IS ADJACENT TO FOREST CONSERVATION RETENTION AREAS.
 - STREET LIGHTING HAS BEEN PROVIDED FOR THE PUBLIC ROAD IN ACCORDANCE WITH SECTION 16.135 OF THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS AND THE DESIGN MANUAL. A MINIMUM OF 20' SHALL BE MAINTAINED BETWEEN ANY STREET LIGHT AND ANY TREE.
 - SEDIMENT AND EROSION CONTROL HAS BEEN PROVIDED FOR THIS SITE.
 - THIS PROPERTY IS WITHIN THE METROPOLITAN DISTRICT.
 - TO THE BEST OF THE OWNERS KNOWLEDGE, THERE ARE NO BURIAL/CEMETERY LOCATIONS ON SITE. BASED ON THE CEMETERY INVENTORY LIST AND AVAILABLE MAPS AT THE DEPARTMENT OF PLANNING AND ZONING THERE ARE NO BURIAL/CEMETERY LOCATED ON SITE.
 - OPEN SPACE LOT 9 IS OWNED BY THE HOMEOWNER'S ASSOCIATION PER LIBER 10133 FOLIO 619.
 - THE NOISE STUDY WAS PREPARED BY FREDERICK WARD ASSOCIATES DATED AUGUST, 2001.
 - NO CLEARING, GRADING OR CONSTRUCTION IS PERMITTED WITHIN THE FOREST CONSERVATION EASEMENT; HOWEVER FOREST MANAGEMENT PRACTICES AS DEFINED IN THE DEED OF FOREST CONSERVATION EASEMENT ARE ALLOWED.
 - ALL DRIVEWAYS ARE PER HO. CO. DETAIL R - 6.03.
 - THERE ARE NO FLOODPLAINS ON SITE.
 - THERE ARE NO STEEP SLOPES ONSITE WITH A CONTIGUOUS AREA OF 20,000 SF OR GREATER.
 - THERE ARE NO HISTORIC SITES ON THE SUBJECT PARCEL.
 - THIS PLAN IS SUBJECT TO COMPLIANCE WITH THE AMENDED FIFTH EDITION OF THE SUBDIVISION REGULATIONS. DEVELOPMENT OR CONSTRUCTION OF THESE LOTS MUST COMPLY WITH SETBACK AND BUFFER REGULATIONS IN EFFECT AT THE TIME OF SUBMISSION OF THE SITE DEVELOPMENT PLAN, OR BUILDING/GRADING PERMIT.
 - FOR FLAG OR PIPE STEM LOTS, REFUSE COLLECTION, SNOW REMOVAL AND ROAD MAINTENANCE ARE PROVIDED TO THE JUNCTION OF THE FLAG OR PIPE STEM AND THE ROAD RIGHT-OF-WAY ONLY AND NOT ONTO THE FLAG OR PIPE STEM DRIVEWAY.
 - DRIVEWAYS SHALL BE PROVIDED PRIOR TO ISSUANCE OF A USE AND OCCUPANCY PERMIT FOR ANY NEW DWELLINGS TO ENSURE SAFE ACCESS FOR FIRE EMERGENCY VEHICLES PER THE FOLLOWING MINIMUM REQUIREMENTS:
 - A. WIDTH - 12' (14' FOR SERVING MORE THAN ONE RESIDENCE)
 - B. SURFACE - 6" OF COMPACTED CRUSHER RUN BASE WITH TAR AND CHIP COATING (1-1/2" MIN)
 - C. GEOMETRY - MAX 14% GRADE, MAX 10% GRADE CHANGE, AND MIN 45' TURNING RADIUS
 - D. STRUCTURES (CULVERTS/BRIDGES) - CAPABLE OF SUPPORTING 25 GROSS TONS (H25 LOADING)
 - E. DRAINAGE ELEMENTS - CAPABLE OF SAFELY PASSING 100-YEAR FLOOD WITH NO MORE THAN 1 FOOT OF DEPTH OVER DRIVEWAY SURFACE
 - F. MAINTENANCE - SUFFICIENT TO ENSURE ALL WEATHER USE
 - IN ACCORDANCE WITH SECTION 12B OF THE HOWARD COUNTY ZONING REGULATIONS, BAY WINDOWS, CHIMNEYS OR EXTERIOR STAIRWAYS NOT MORE THAN 16 FEET IN WIDTH MAY PROJECT NOT MORE THAN 4 FEET INTO ANY SETBACKS, PORCHES OR DECKS, OPEN OR ENCLOSED MAY PROJECT NOT MORE THAN 10 FEET INTO THE FRONT YARD SETBACK.
 - THE FIRST FLOOR ELEVATION CANNOT BE MORE THAN 1' HIGHER OR 0.2' LOWER THAN THE ELEVATIONS SHOWN ON THIS PLAN. THE FOUNDATION FOOTPRINT MUST BE WITHIN THE GENERIC BLOCK.
 - WAIVER TO SECTION 16.120(a)(1) OF THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS APPROVED 1/18/02 TO ALLOW DIRECT ACCESS TO A MINOR ARTERIAL ROADWAY (MD ROUTE 103). (WP-02-52)
 - TRASH COLLECTION AND RECYCLING WILL BE CURBSIDE PICKUP AT THE INTERSECTION OF KYLEMORE WAY AND MONTGOMERY ROAD.
 - ALL LANDSCAPING REQUIREMENTS HAVE BEEN PROVIDED PER F-05-114.

SITE DEVELOPMENT PLAN

WORTHINGTON WEST

LOTS 1 - 8

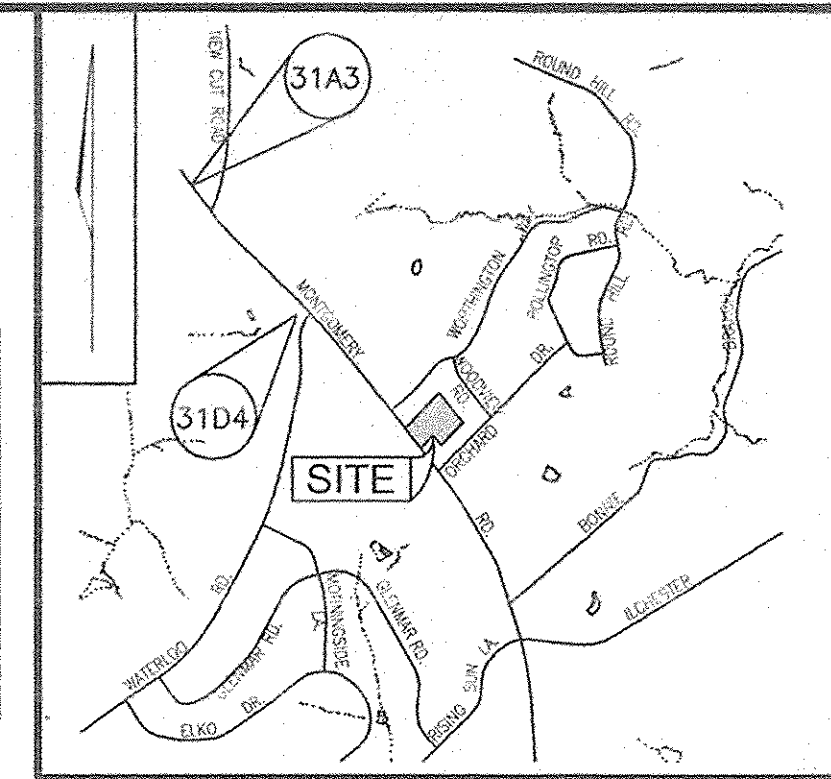
SINGLE FAMILY DETACHED UNITS AND

OPEN SPACE LOT 9

HOWARD COUNTY, MARYLAND

BENCHMARKS				
NO.	NORTHING	EASTING	ELEVATION	TYPE
3104	571700.659	1368606.281	495.179	CONC. MON.
31A3	573217.877	1368237.662	487.641	CONC. MON.

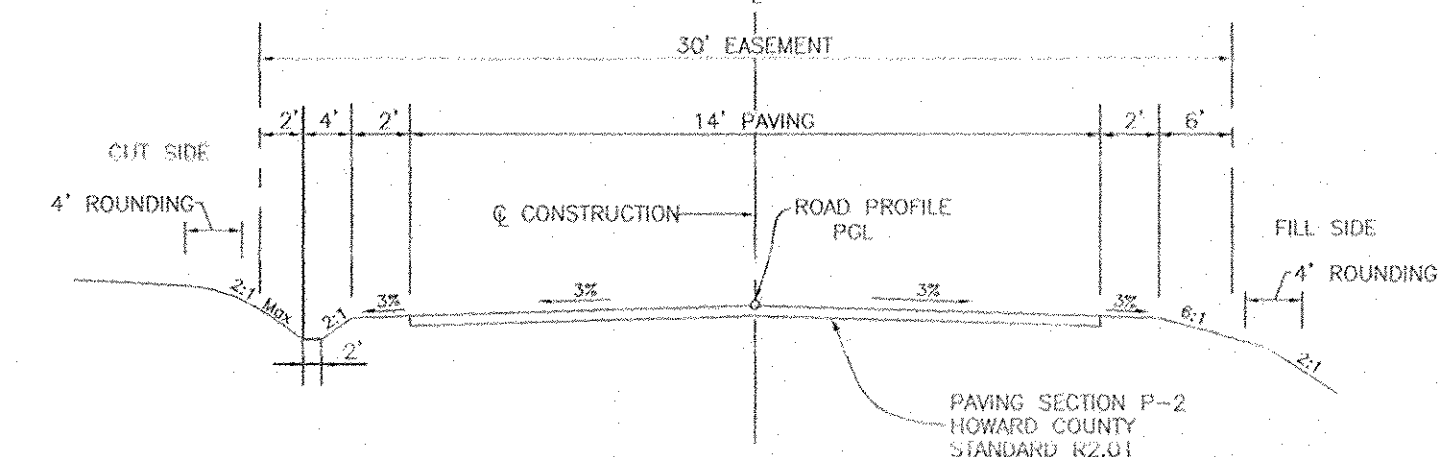
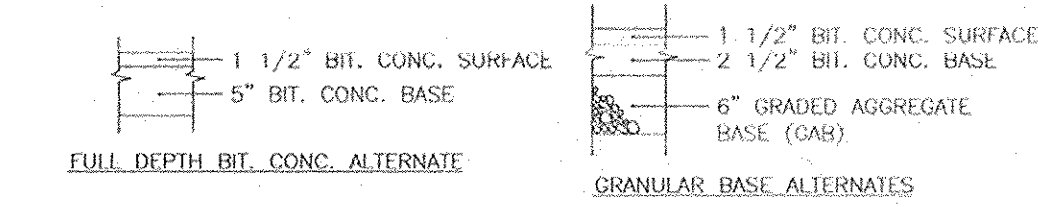
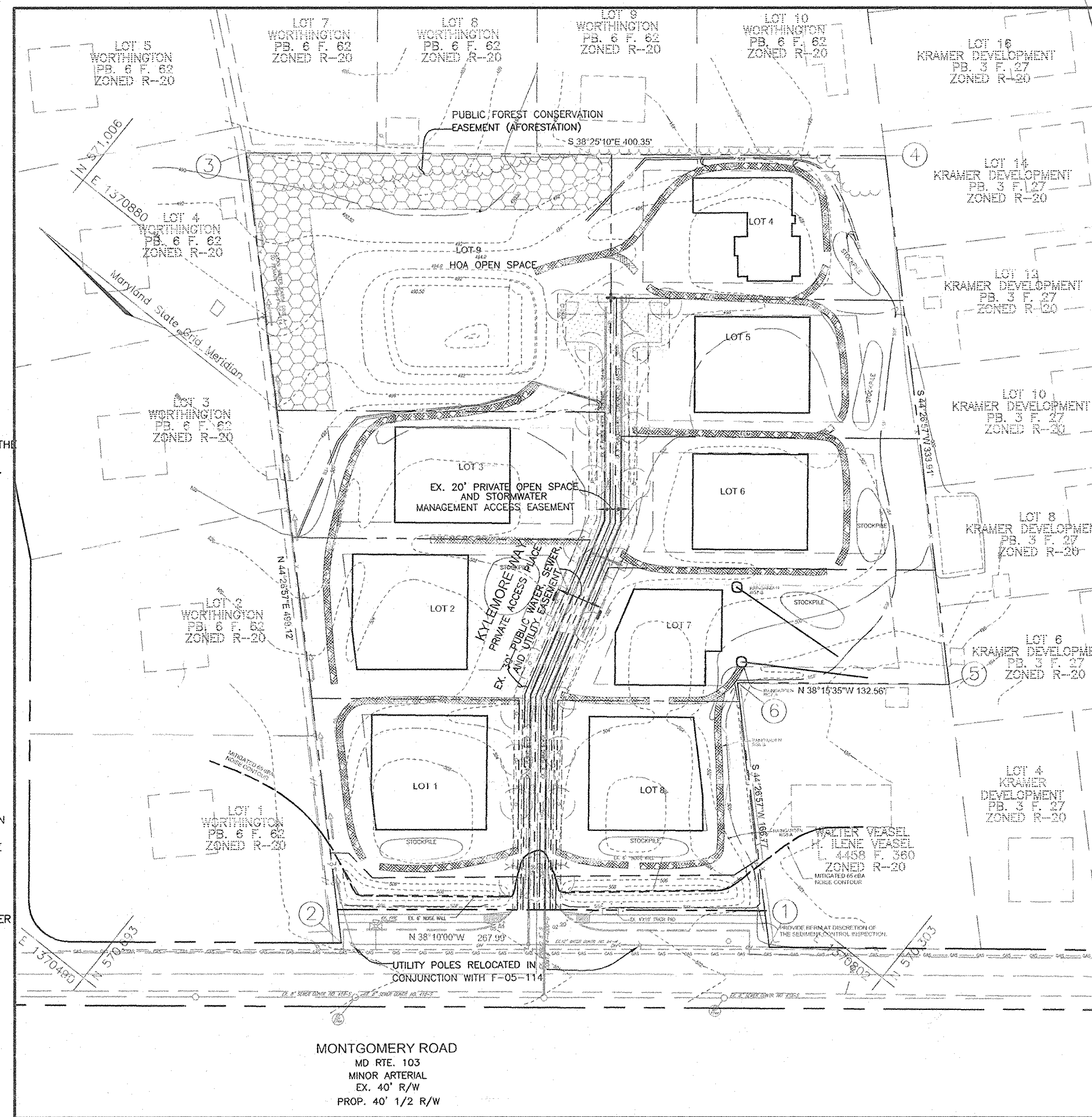
SHEET INDEX	
DESCRIPTION	SHEET NO
COVER SHEET	1 OF 4
SITE DEVELOPMENT AND SEDIMENT AND EROSION CONTROL PLAN	2 OF 4
SEDIMENT AND EROSION CONTROL NOTES AND DETAILS	3 OF 4
HOUSE TYPES	4 OF 4



PERMIT INFORMATION CHART						
PROJECT NAME		SECTION/AREA	LOT/PARCEL			
WORTHINGTON WEST		N/A	501			
PLAT REF	BLOCK NO	ZONE	TAX MAP	ELECT DIST	CENSUS TR	
18441	14	R-20	31	2ND	602700	
WATER CODE:		630	SEWER CODE:		419-S	

VICINITY MAP
SCALE: 1"=2000'

COORDINATE TABLE		
NO.	NORTHING	EASTING
1	570370.54	1370773.38
2	570581.24	1370607.78
3	570937.54	1370957.30
4	570625.88	1371206.08
5	570385.51	1370972.25
6	570489.59	1370990.17



ADDRESS CHART	
LOT NO	STREET ADDRESS
1	8103 KYLEMORE WAY
2	8107 KYLEMORE WAY
3	8111 KYLEMORE WAY
4	8118 KYLEMORE WAY
5	8114 KYLEMORE WAY
6	8110 KYLEMORE WAY
7	8106 KYLEMORE WAY
8	8102 KYLEMORE WAY
9	OPEN SPACE

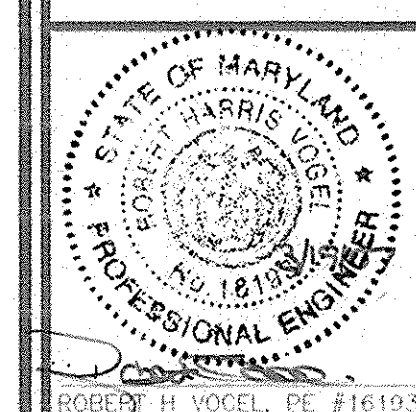
- FOREST CONSERVATION HAS BEEN FULFILLED IN CONJUNCTION WITH THE FINAL ROAD CONSTRUCTION PLANS (F-05-114). AFFORESTATION IS PROVIDED ON OPEN SPACE LOT 9 AND A FEE-IN-LIEU FOR THE BALANCE OF THE REQUIREMENT HAS BEEN PAID TO HOWARD COUNTY.
- THE NOISE WALL HAS BEEN CONSTRUCTED IN ACCORDANCE WITH THE FINAL ROAD CONSTRUCTION PLANS (F-05-114).
- A DEVELOPER AGREEMENT IS REQUIRED TO BE EXECUTED FOR THE RAINGARDENS ON LOTS 7 AND 8 IN CONJUNCTION WITH THIS SITE DEVELOPMENT PLAN.
- WAIVER OF GRAVITY BASEMENT SEWER SERVICE APPROVED OCTOBER 4, 2005 BY HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS, BUREAU OF ENGINEERING.
- THIS PROPERTY IS ZONED R-20 PER THE 2-2-04 COMPREHENSIVE ZONING PLAN AND THE COMP LITE ZONING AMENDMENTS EFFECTIVE 7-28-06

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

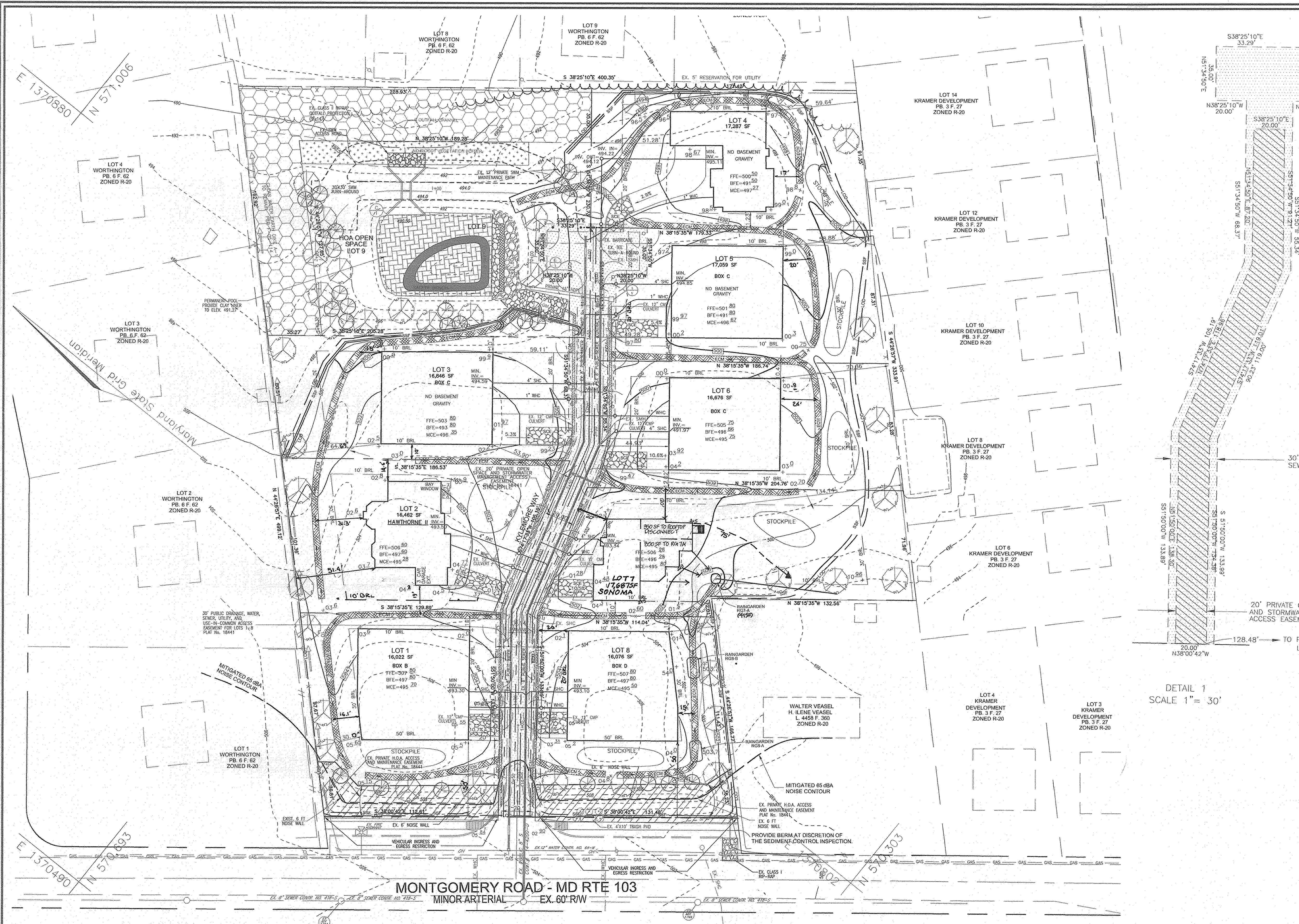
CHIEF, DEVELOPMENT AND ENGINEERING DIVISION: *[Signature]* 4/19/09
 CHIEF, DIVISION OF LAND DEVELOPMENT: *[Signature]* 4/25/09
 DIRECTOR: *[Signature]* 4/25/09

OWNER/DEVELOPER
 FORTY WEST GROUP, INC.
 3230 BETHANY LANE
 ELLICOTT CITY, MARYLAND 21042
 (410) 418-8900

ROBERT H. VOGEL ENGINEERING, INC.
 ENGINEERS • SURVEYORS • PLANNERS
 8407 MAIN STREET, ELLICOTT CITY, MD 21043
 TEL: 410.461.7666
 FAX: 410.461.8961

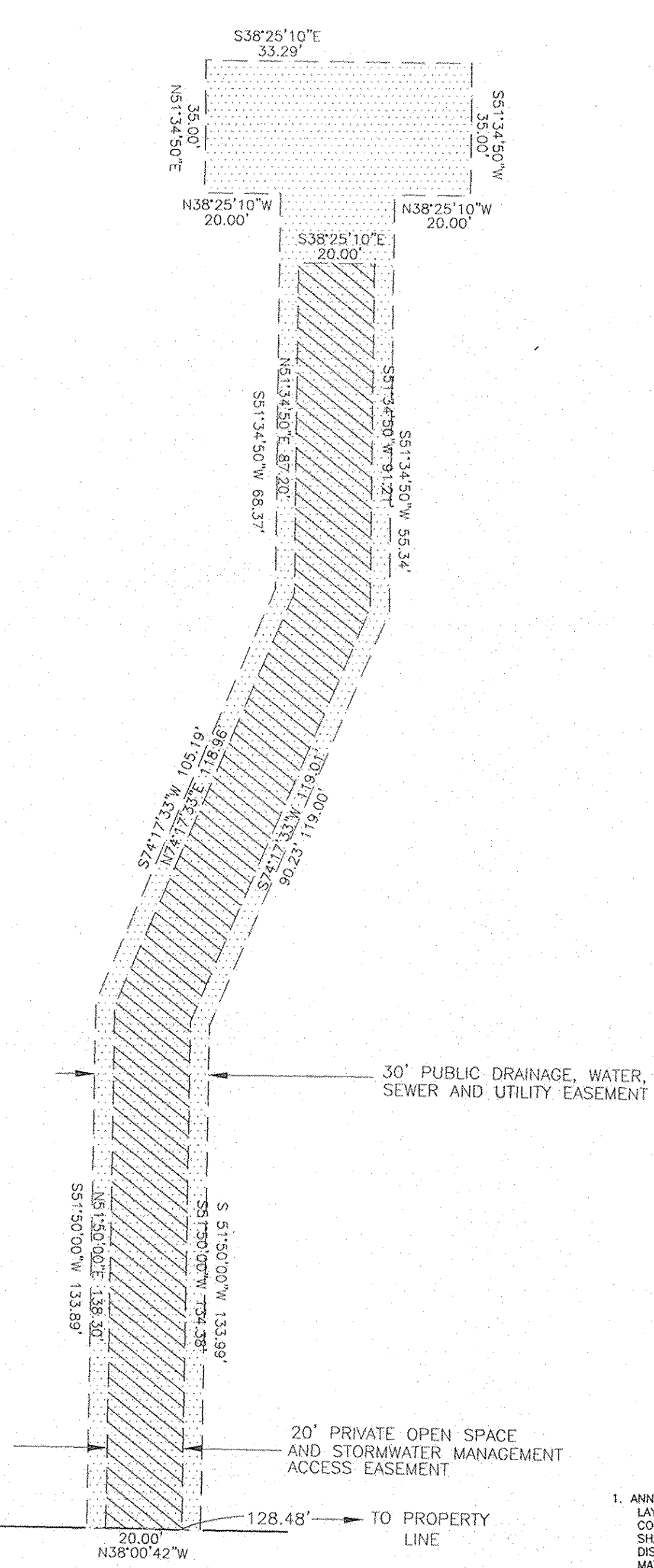


DESIGN BY: _____ MY
 DRAWN BY: _____ MY
 CHECKED BY: _____ RHV
 DATE: 06-01-2006
 SCALE: AS SHOWN
 W.O. NO.: 2017158



LEGEND

---	EXISTING 2 FT CONTOUR
---	EXISTING 10 FT CONTOUR
---	PROPOSED 2 FT CONTOUR
---	PROPOSED 10 FT CONTOUR
---	SUPER SILT FENCE
---	LIMIT OF DISTURBANCE
---	EXISTING TREELINE
---	EX. WOOD FENCE
---	EX. METAL FENCE
---	MITIGATED NOISE CONTOUR
---	NOISE WALL EXISTING 6' NOISE WALL
---	EARTH DIKE
○	EXISTING STREET TREE
⊗	EROSION CONTROL MATTING
⊗	NO WOODY VEGETATION BUFFER
⊗	PUBLIC WATER, SEWER, AND UTILITY EASEMENT
⊗	PRIVATE OPEN SPACE ACCESS EASEMENT
⊗	FOREST CONSERVATION EASEMENT (AFFORESTATION)
⊗	STABILIZED CONSTRUCTION ENTRANCE
⊗	EX. PRIVATE HOA ACCESS MAINTENANCE AND NOISE EASEMENT
⊗	EXISTING SHADE TREE AS SHOWN ON F-05-114
⊗	EXISTING EVERGREEN TREE AS SHOWN ON F-05-114



DETAIL 1
SCALE 1" = 30'

- OPERATION AND MAINTENANCE SCHEDULE FOR BIO-RETENTION AREAS**
- ANNUAL MAINTENANCE OF PLANT MATERIAL, MULCH LAYER AND SOIL LAYER IS REQUIRED. MAINTENANCE OF MULCH AND SOIL IS LIMITED TO CORRECTING AREAS OF EROSION OR WASH OUT. ANY MULCH REPLACEMENT SHALL BE DONE IN THE SPRING. PLANT MATERIAL SHALL BE CHECKED FOR DISEASE AND INSECT INFESTATION AND MAINTENANCE WILL ADDRESS DEAD MATERIAL AND PRUNING.
 - SCHEDULE OF PLANT INSPECTION WILL BE TWICE A YEAR IN SPRING AND FALL. THIS INSPECTION WILL INCLUDE REMOVAL OF DEAD AND DISEASED VEGETATION CONSIDERED BEYOND TREATMENT, TREATMENT OF ALL DEFICIENT STAKES AND WIRES.
 - MULCH SHALL BE INSPECTED EACH SPRING. REMOVE PREVIOUS MULCH LAYER BEFORE APPLYING NEW LAYER ONCE EVERY 2 TO 3 YEARS.
 - SOIL EROSION TO BE ADDRESSED ON AN AS NEEDED WITH A MINIMUM OF ONCE PER MONTH AND AFTER HEAVY STORM EVENTS.

NO.	REVISION	DATE
1	ADD SONOMA HOUSE TYPE TO LOT 7, DELETE RAIN GARDEN 7B	7-31-07

LAYOUT, GRADING, SEDIMENT & EROSION CONTROL PLAN
WORTHINGTON WEST
 LOTS 1 - 8 AND OPEN SPACE LOT 9
 DPZ REF: S-02-06, WP-02-52 & P-04-10
 TAX MAP 31 BLOCK 14 PARCEL 501
 2ND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL ENGINEERING, INC.
 ENGINEERS • SURVEYORS • PLANNERS
 8407 MAIN STREET TEL: 410.461.7666
 ELLICOTT CITY, MD 21043 FAX: 410.461.8961

DESIGN BY: MY
 DRAWN BY: MY
 CHECKED BY: RHV
 DATE: 06-01-2006
 SCALE: AS SHOWN
 W.O. NO.: 2017158

2 SHEET OF 4

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

Signature of Engineer: Robert H. Vogel, P.E.
 DATE: 4/5/07

DEVELOPER'S CERTIFICATE
 I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE IN ACCORDANCE TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT THE DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT.

Signature of Developer: [Signature]
 DATE: 4/5/07

THESE PLANS HAVE BEEN REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.

Signature: [Signature]
 DATE: 4/17/07

Signature: [Signature]
 DATE: 4/17/07

PLAN
 SCALE: 1" = 30'

OWNER/DEVELOPER
 FORTY WEST GROUP, INC.
 3230 BETHANY LANE
 ELLICOTT CITY, MARYLAND 21042
 (410) 418-8900

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Signature: [Signature]
 DATE: 4/19/07

Signature: [Signature]
 DATE: 4-25-07

Signature: [Signature]
 DATE: 4/25/07

21.0 STANDARDS AND SPECIFICATIONS FOR TOPSOIL

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 GRADUATION.

CONDITIONS WHERE PRACTICE APPLIES

I. THIS PRACTICE IS LIMITED TO AREAS HAVING 2:1 OR FLATTER SLOPES WHERE:

- THE TEXTURE OF THE EXPOSED SUBSOIL/PARENT MATERIAL IS NOT ADEQUATE TO PRODUCE VEGETATIVE GROWTH.
- THE SOIL MATERIAL IS SO SHALLOW THAT THE ROOTING ZONE IS NOT DEEP ENOUGH TO SUPPORT PLANTS OR FURNISH CONTINUING SUPPLIES OF MOISTURE AND PLANT NUTRIENTS.
- THE ORIGINAL SOIL TO BE VEGETATED CONTAINS MATERIAL TOXIC TO PLANT GROWTH.
- THE SOIL IS SO ACIDIC THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.

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 EXPERIMENT STATION.

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

- 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 APPLICABLE AUTHORITY. REGARDLESS, TOPSOIL SHALL NOT BE A MIXTURE OF CONTRASTING TEXTURED SUBSOILS AND SHALL CONTAIN LESS THAN 5% BY VOLUME OF CHINDERS, STONES, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, KNOTS, HASK, OR OTHER MATERIALS LARGER THAN 1 AND 1/2" IN DIAMETER.
- 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.

IV. FOR SITES HAVING DISTURBED AREAS UNDER 5 ACRES:

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

- FOR SITES HAVING DISTURBED AREAS OVER 5 ACRES:
 - ON SOIL MEETING TOPSOIL SPECIFICATIONS, OBTAIN TEST RESULTS DICTATING FERTILIZER AND LIME AMENDMENTS REQUIRED TO BRING THE SOIL INTO COMPLIANCE WITH THE FOLLOWING:
 - 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.
 - ORGANIC CONTENT OF TOPSOIL SHALL BE NOT LESS THAN 1.5 PERCENT BY WEIGHT.
 - TOPSOIL HAVING SOLUBLE SALT CONTENT GREATER THAN 500 PARTS PER MILLION SHALL NOT BE USED.
 - 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.
 - PLACE TOPSOIL (IF REQUIRED) AND APPLY SOIL AMENDMENTS 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 DIKS, SLOPE SILT FENCE AND SEDIMENT TRAPS AND BASINS.

II. GRADES ON THE AREAS TO BE TOPSOILED, WHICH HAVE BEEN PREVIOUSLY ESTABLISHED, SHALL BE MAINTAINED, ALBERT 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, WHICH THE SUBSOIL IS EXCESSIVELY WET OR IN A CONDITION THAT MAY OTHERWISE BE DETRIMENTAL TO PROPER GRADING AND SEEDING PREPARATION.

V. TOPSOILING 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.

VI. TOPSOILING 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.

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:

- 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.)
- ACCEPTABLE-APPLY 2 TONS PER ACRE DOLOMITIC 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 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. PER ACRE (1.4 LBS./1000 SQ.FT.) OF KENTUCKY 31 TALL FESCUE. FOR THE PERIOD 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 SOIL UPLIFT (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 SEEDING 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 WEEPCHESS LOVEGRASS (0.7 LBS./1000 SQ.FT.) FOR THE PERIOD NOVEMBER 16 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 SOIL.

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 (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, SOIL 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
TOTAL AREA	1.06 AC
AREA TO BE ROOFED OR PAVED	0.92 AC
AREA TO BE VEGETATIVELY STABILIZED	3.03 AC
TOTAL CUT	1800 CY
TOTAL FILL	1800 CY
OFFSITE WASTE/BORROW AREA LOCATION	NA

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.

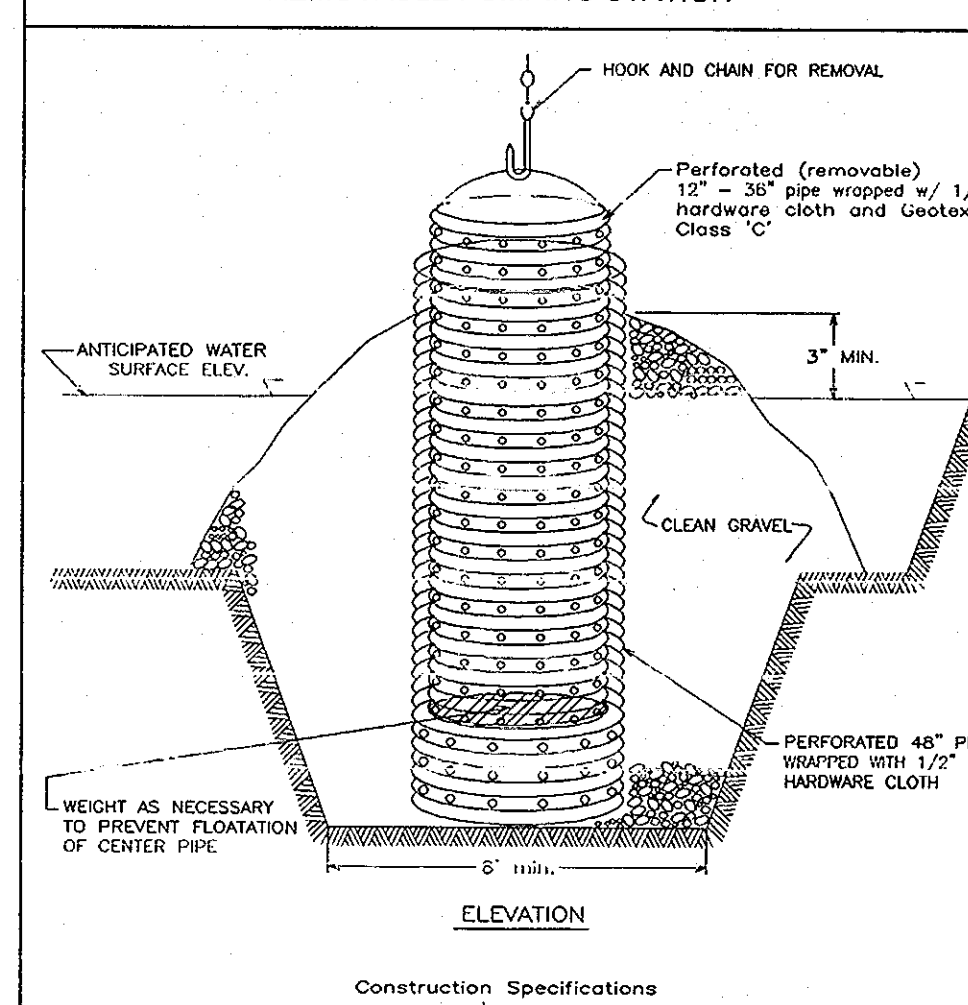
10. ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS 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.

12. ALL SILT FENCE AND SUPER SILT FENCE SHALL BE CURLED UPHILL AT LEAST 2 FEET WHEN RUNNING PERPENDICULAR WITH SLOPE.

* TO BE DETERMINED BY CONTRACTOR, WITH PRE-APPROVAL OF THE SEDIMENT CONTROL INSPECTOR WITH AN APPROVED AND ACTIVE GRADING PERMIT

DETAIL 20A - REMOVABLE PUMPING STATION

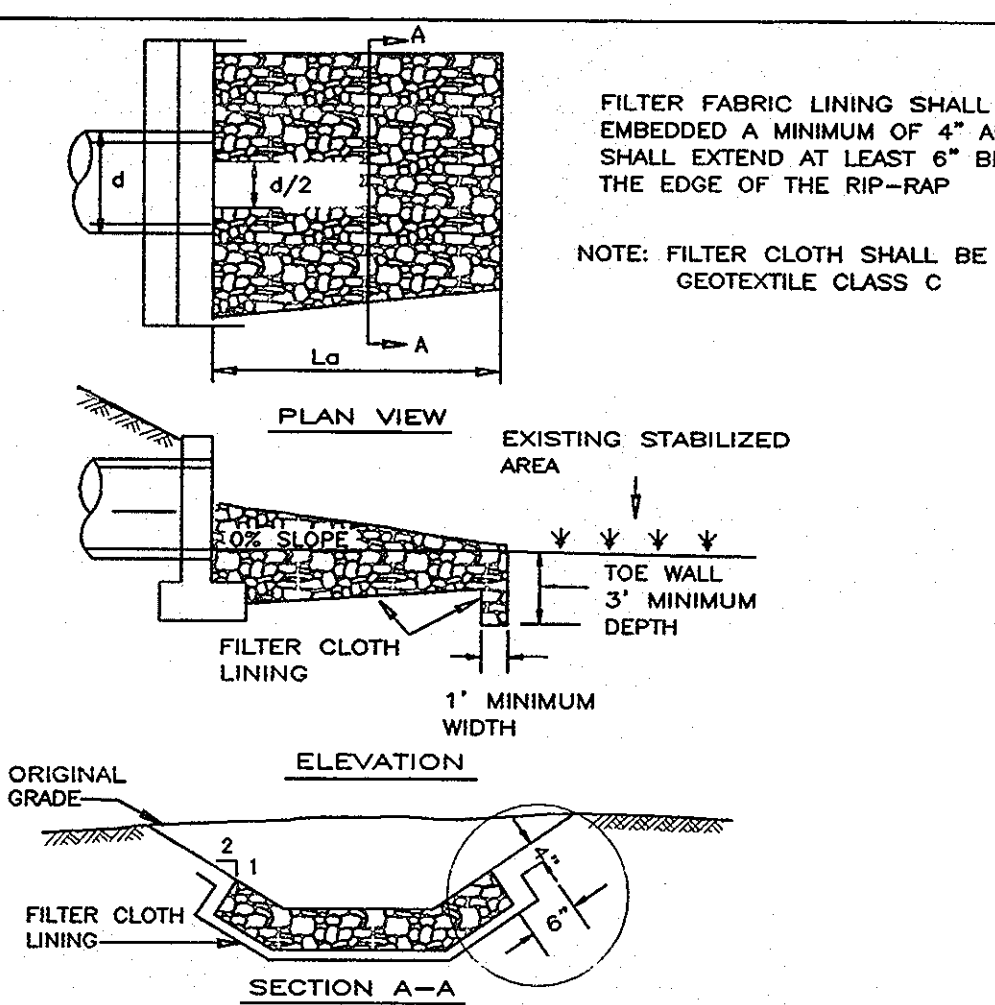


Construction Specifications

- The outer pipe should be 48" dia. or shall, in any case, be at least 4" greater in diameter than the center pipe. The outer pipe shall be wrapped with 1/2" drainage cloth to prevent backfill material from entering the perforations.
- After installing the outer pipe, backfill around outer pipe with 2" aggregate or clean gravel.
- The inside stand pipe (center pipe) should be constructed by perforating a corrugated or PVC pipe between 12" and 36" in diameter. The perforations shall be 1/2" x 8" slots or 1" diameter holes 6" on center. The center pipe shall be wrapped with 1/2" drainage cloth then wrapped again with Geotextile Class C.
- The center pipe should extend 12" to 18" above the anticipated water surface elevation or riser crest elevation when dewatering a basin.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE 18-10 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 27 - ROCK OUTLET PROTECTION III



Construction Specifications

- The subgrade for the filter, rip-rap, or gabion shall be prepared to the required lines and grades. Any fill required in the subgrade shall be compacted to a density of approximately that of the surrounding undisturbed material.
- The rock or gravel shall conform to the specified grading limits when installed respectively in the rip-rap or filter.
- Geotextile shall be protected from punching, cutting, or tearing. Any damage other than an occasional small hole shall be repaired by placing another piece of geotextile over the damaged part or by completely replacing the geotextile. All overlaps whether for repairs or for joining two pieces of geotextile shall be a minimum of one foot.
- Stone for the rip-rap or gabion outlets may be placed by equipment. They shall be constructed to the full course thickness in one operation and in such a manner as to avoid displacement of underlying materials. The stone for rip-rap or gabion outlets shall be delivered and placed in a manner that will ensure that it is reasonably homogeneous with the smaller stones and spalls filling the voids between the larger stones. Rip-rap shall be placed in a manner to prevent damage to the filter blanket or geotextile. Hand placement will be required to the extent necessary to prevent damage to the permanent works.
- The stone shall be placed so that it blends in with the existing ground. If the stone is placed too high then the flow will be forced out of the channel and scour adjacent to the stone will occur.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE 18-10 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

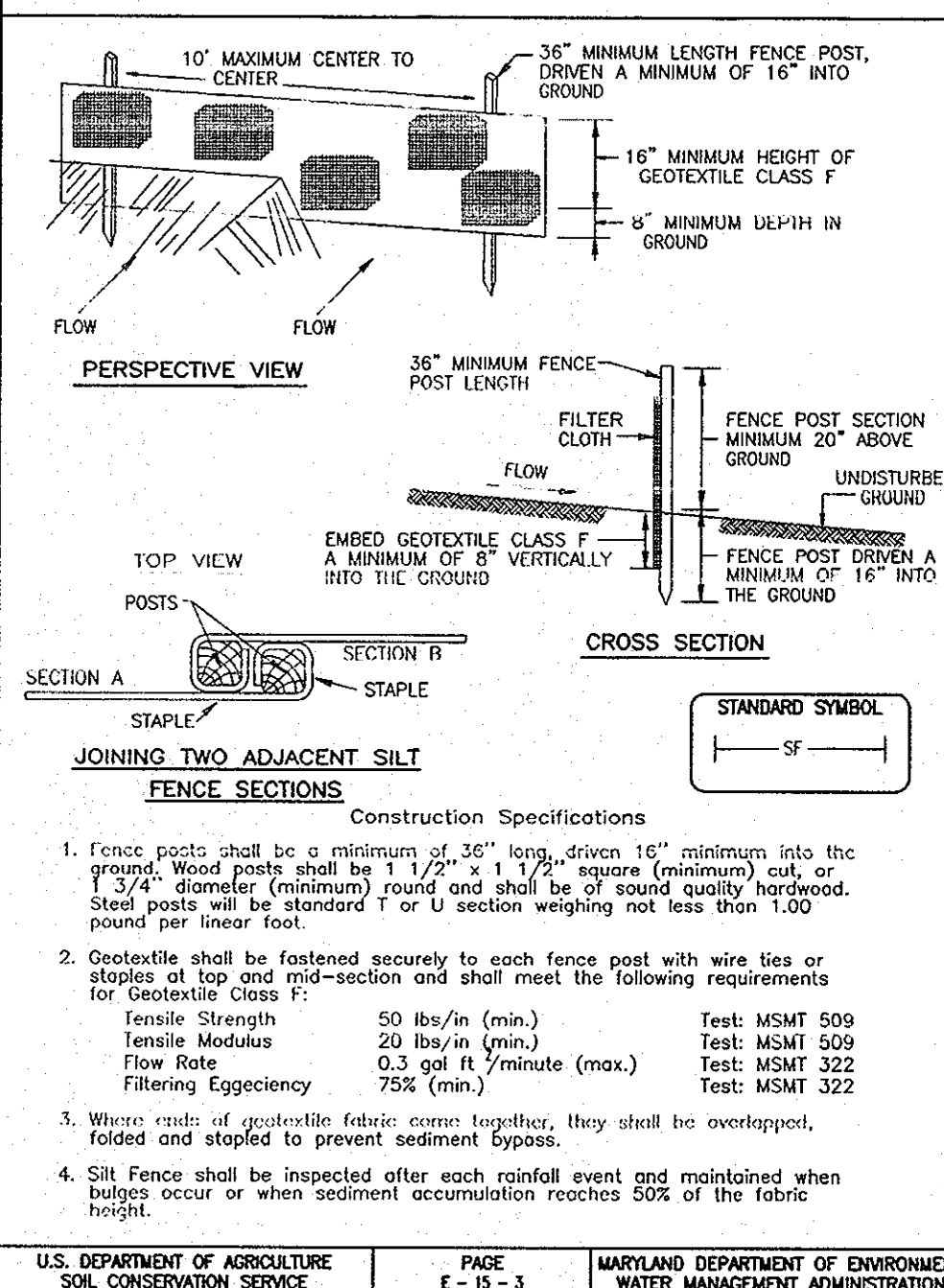
ROCK OUTLET PROTECTION

Construction Specifications

- Rip-rap lined inflow channels shall be 1' in depth, have a trapezoidal cross section with 2:1 or flatter side slopes and 3" (min.) bottom width. The channel shall be lined with 4" to 12" rip-rap to a depth of 18".
- Filter cloth shall be installed under all rip-rap. Filter cloth shall be Geotextile Class C.
- Entrance and exit sections shall be installed as shown on the detail section.
- Rip-rap used for the lining may be recycled for permanent outlet protection if the basin is to be converted to a stormwater management facility.
- Gabion Inflow Protection may be used in lieu of Rip-rap Inflow Protection.
- Rip-rap should blend into existing ground.
- Rip-rap Inflow Protection shall be used where the slope is between 4:1 and 10:1, for slopes flatter than 10:1 use Earth Dike or Temporary Swale lining criteria.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE 18-10 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 22 - SILT FENCE



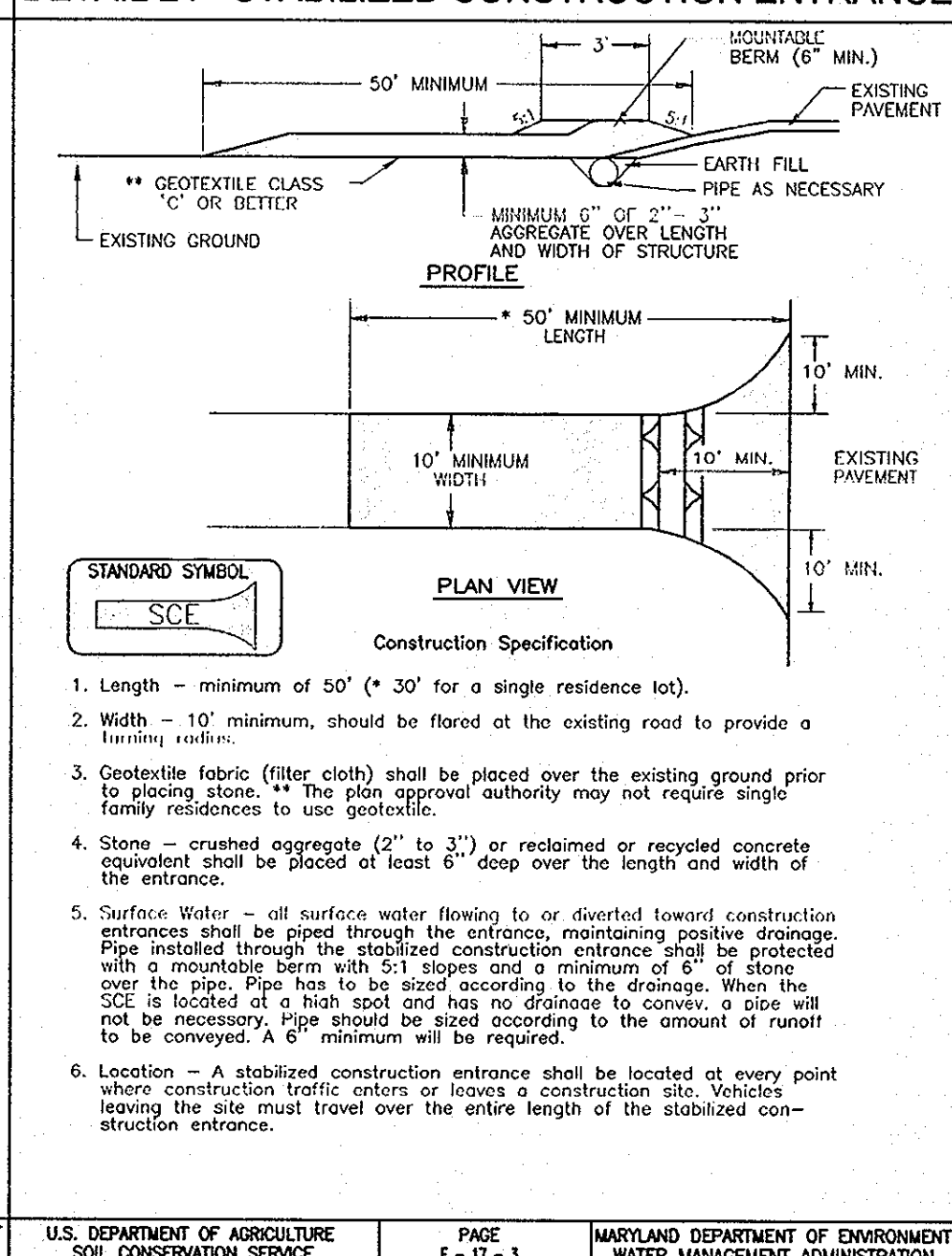
Construction Specifications

- 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 to 3/4" diameter (minimum) round and shall be of sound quality hardwood. Steel posts will be standard 1" or U section weighing not less than 1.50 pound per linear foot.
- Geotextile shall be fastened securely to each fence post with wire ties or staples at top and bottom 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 ² /minute (max.)	Test: MSMT 322
Filtering Efficiency	75% (min.)	Test: MSMT 322
- When ends of geotextile fabric come together, they shall be overlapped, folded and stapled to prevent sediment bypass.
- 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 18-5 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 24 - STABILIZED CONSTRUCTION ENTRANCE

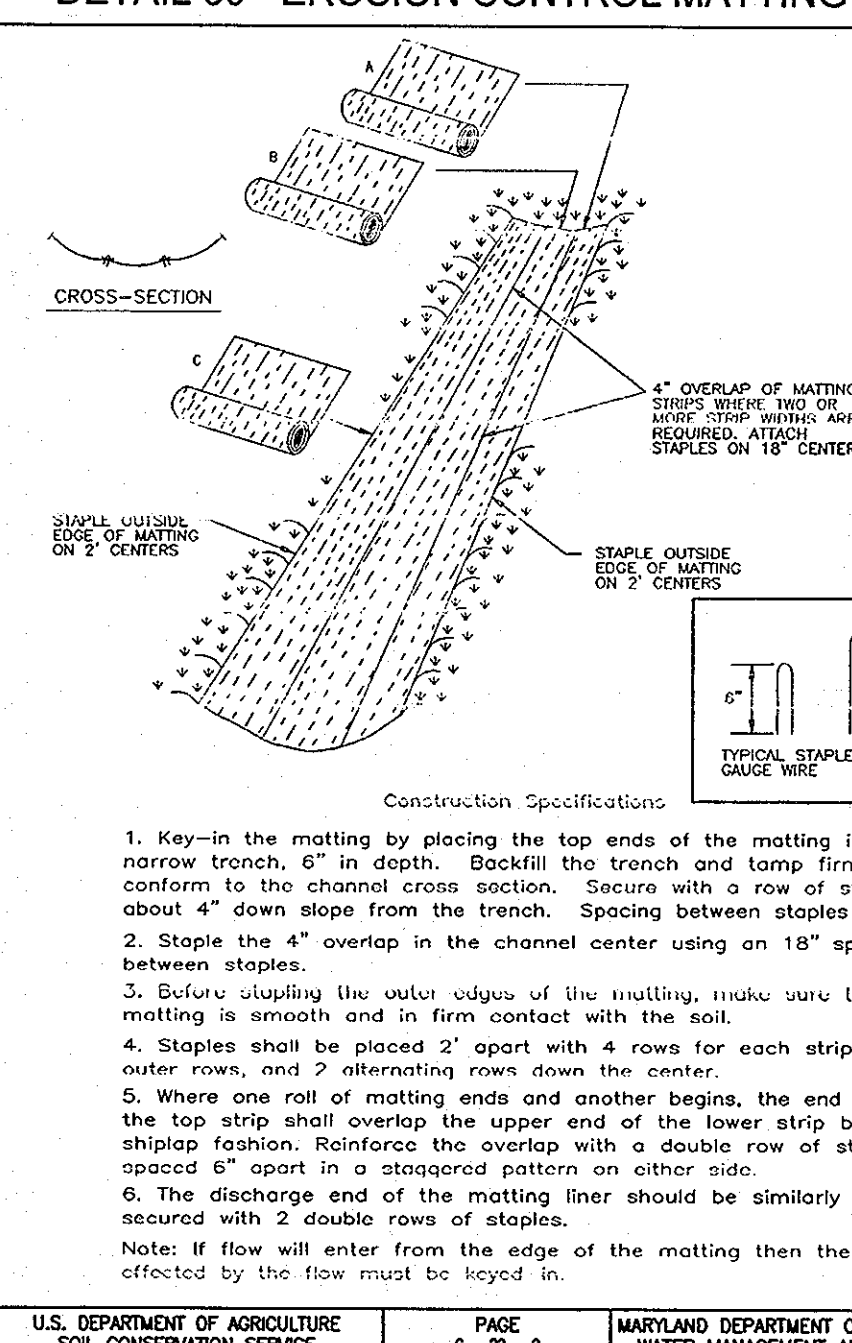


Construction Specifications

- Length - minimum of 50' (+ 30' for a single residence lot).
- Width - 10' minimum, should be flared at the existing road to provide a turning radius.
- 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 geotextiles.
- Stone - crushed aggregate (2" to 3") or reclaimed or recycled concrete surface shall be placed at least 6" deep over the length and width of the entrance.
- 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 mounded berm with 5:1 slopes and a minimum of 6" of stone over the pipe. Pipe ties to be staked according to the drainage. When the SCE is located at a high spot and has no drainage to convey, a side will not be required. Pipe should be sized according to the amount of runoff to be collected. A 6" minimum will be required.
- 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 17-3 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 30 - EROSION CONTROL MATTING



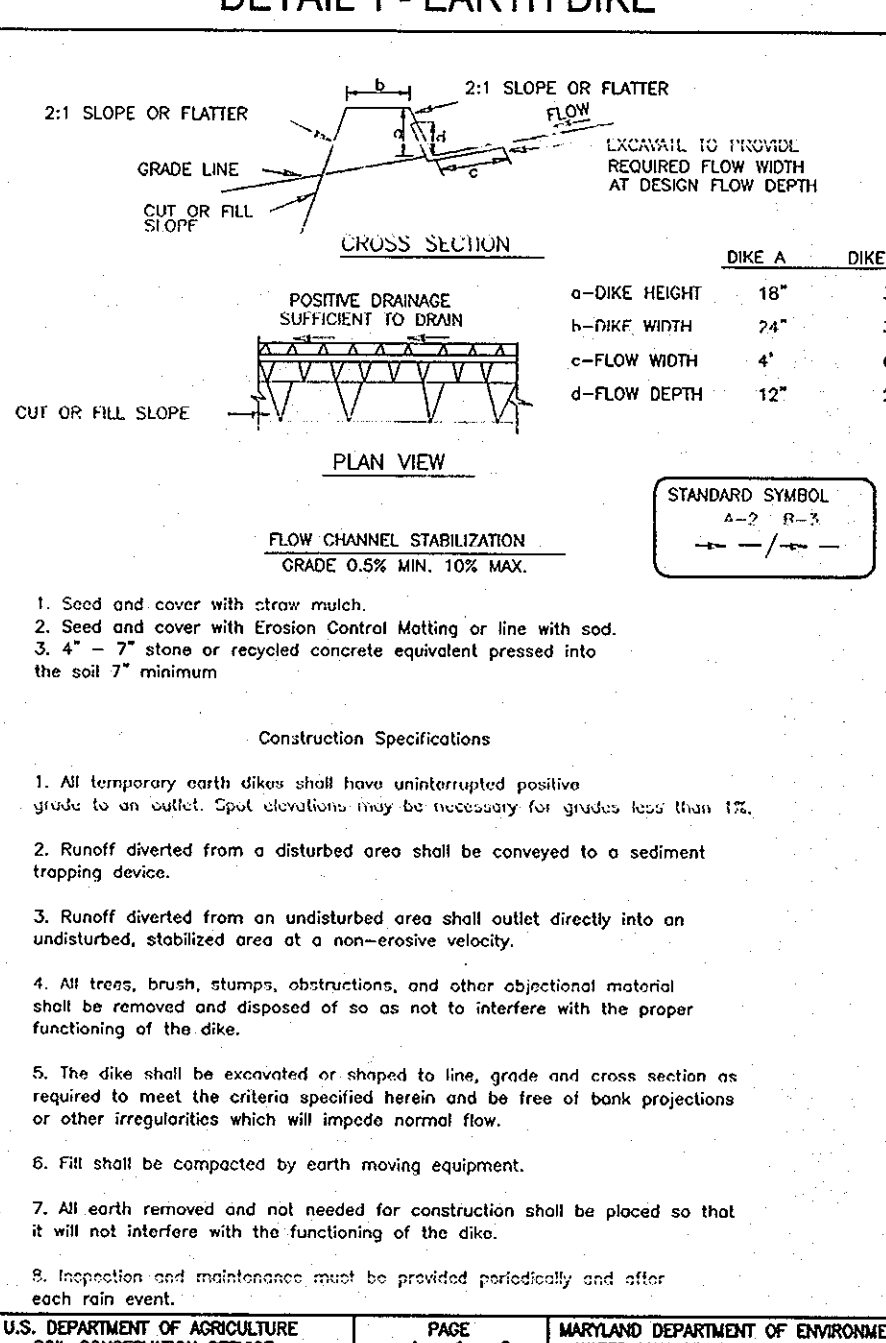
Construction Specifications

- 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".
- Staple the 4" overlap in the channel center using an 18" spacing between staples.
- Before stapling the outer edges of the matting, make sure the matting is smooth and in firm contact with the soil.
- Staples shall be placed 2' apart with 4 rows for each strip, 2 outer rows, and 2 alternating rows down the center.
- 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", ship-lap fashion. Reinforce the overlap with a double row of staples spaced 6" apart in a staggered pattern on either side.
- 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 affected by the flow must be key-in.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE 6-2-2 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 1 - EARTH DIKE

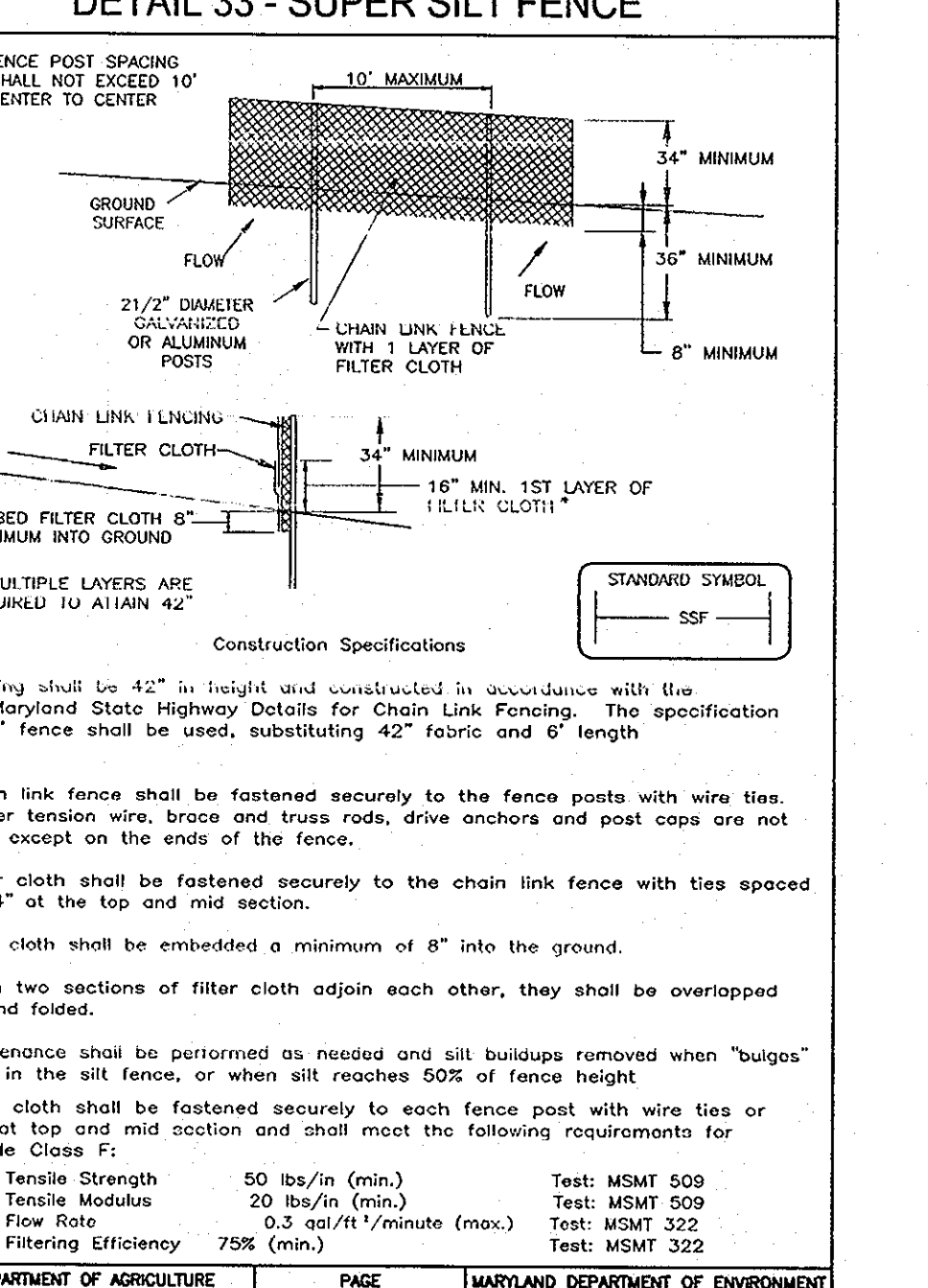


Construction Specifications

- Temporary earth dikes shall have unobstructed positive grade to a width. Spill solutions may be necessary for grades less than 1%.
- Runoff diverted from a disturbed area shall be conveyed to a sediment trapping device.
- Runoff diverted from an undisturbed area shall outlet directly into an undisturbed, stabilized area at a non-erosive velocity.
- All trees, brush, stumps, obstructions, and other objectional material shall be removed and disposed of so as not to interfere with the proper functioning of the dike.
- The dike shall be excavated or shaped to line, grade and cross section as required to meet the criteria specified herein and be free of bank projections or other irregularities which will impede normal flow.
- Fill shall be compacted by earth moving equipment.
- All earth removed and not needed for construction shall be placed so that it will not interfere with the functioning of the dike.
- Inspection and maintenance must be provided periodically and after each rain event.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE A-1-6 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 5 - RIP-RAP INFLOW PROTECTION

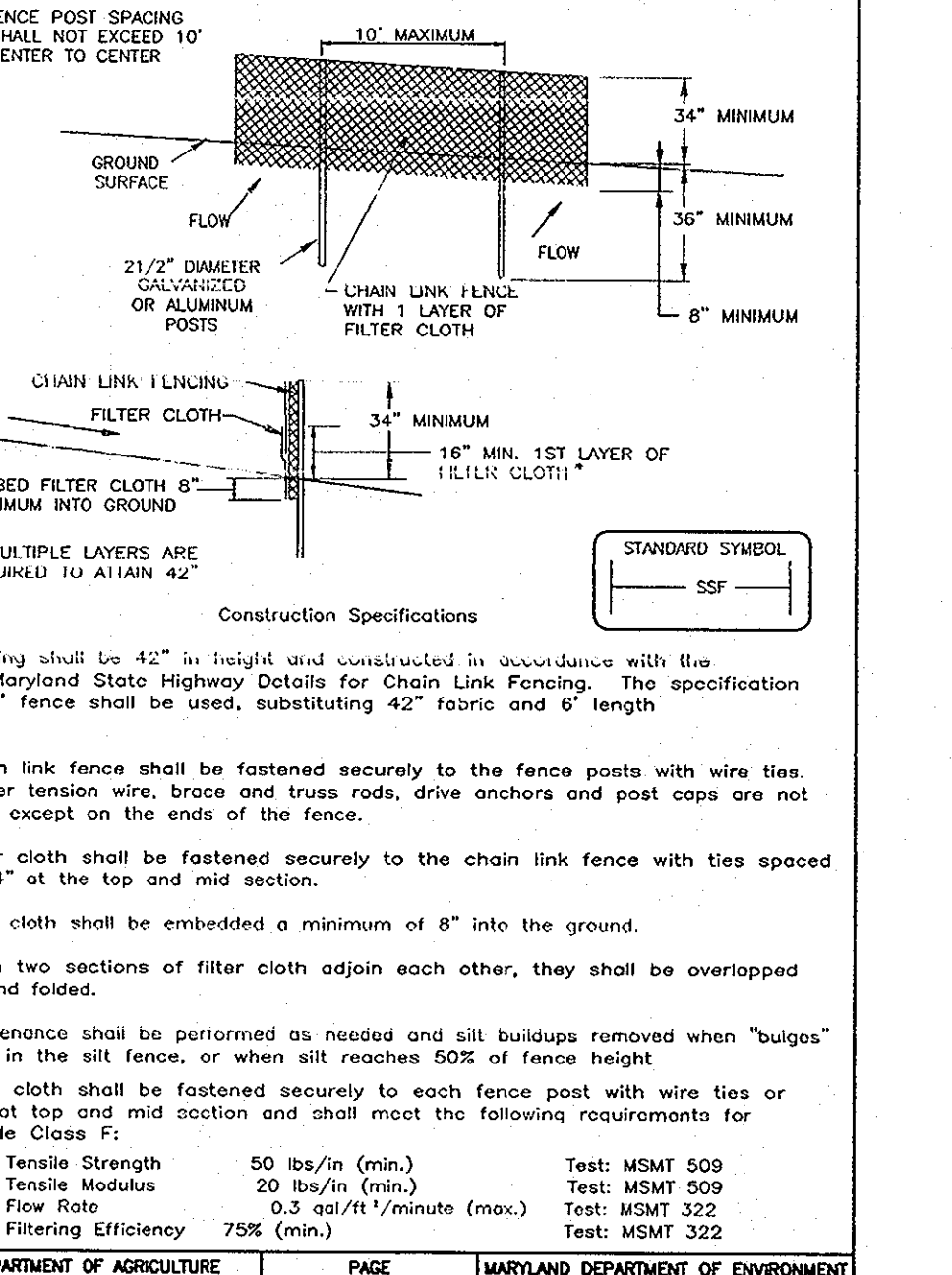


Construction Specifications

- Seed and cover with straw mulch.
- Seed and cover with Erosion Control Matting or silt with seed.
- 4" - 7" stone or recycled concrete equivalent pressed into the soil 7" minimum.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE 18-10 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 33 - SUPER SILT FENCE



Construction Specifications

- 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.
- 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.
- Filter cloth shall be fastened securely to the chain link fence with ties spaced every 24" at the top and mid section.
- Filter cloth shall be embedded a minimum of 8" into the ground.
- When two sections of filter cloth adjoin each other, they shall be overlapped by 6" and folded.
- Maintenance shall be performed as needed and all bulges removed when "bulges" develop in the silt fence, or when silt reaches 50% of fence height.
- 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 ² /minute (max.)	Test: MSMT 322
Filtering Efficiency	75% (min.)	Test: MSMT 322

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE 18-3 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

SEQUENCE OF CONSTRUCTION FOR SDP

- OBTAIN GRADING PERMIT (1 DAY)
- NOTIFY HOWARD COUNTY BUREAU OF INSPECTION AND PERMITS (313-1880) AT LEAST 24 HOURS PRIOR TO START OF WORK. (1 DAY)
- INSTALL INDIVIDUAL STABILIZED CONSTRUCTION ENTRANCES. (1 DAY)
- MAINTAIN/REINSTALL AS NECESSARY SEDIMENT CONTROL DEVICES SHOWN ON PLAN. (REF F-05-114) (1 DAY)
- BASED ON LOG SHOWING CLEAR EACH INDIVIDUAL LOT AS REQUIRED TO BEGIN HOUSE CONSTRUCTION. (2 DAYS)
- BEGIN HOUSE CONSTRUCTION. (5 MONTHS)
- INSTALL RAIN GARDENS AS SPECIFIED. (1 WEEK)
- UPON COMPLETION OF CONSTRUCTION, FINALIZED GRADING, STABILIZE DISTURBED AREA AND REMOVE SEDIMENT CONTROL DEVICES. (2 WEEKS)

NO.	REVISION	DATE
1	ADD SONOMA HOUSE TYPE TO LOT 7, DELETE RINGARDEN 7B	7-31-07

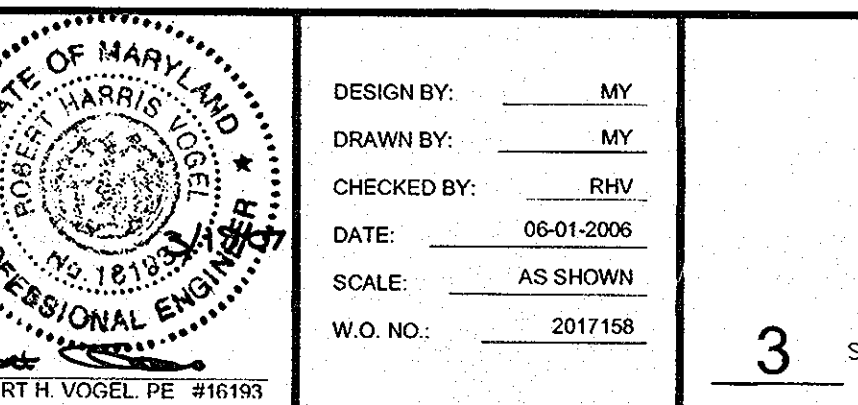
SEDIMENT & EROSION CONTROL DETAILS

WORTHINGTON WEST

LOTS 1 - 8 AND OPEN SPACE LOT 9

DPZ REF: S-02-06, WP-02-52 & P-04-10
TAX MAP 31 BLOCK 14 PARCEL 501
2ND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL ENGINEERING, INC.
ENGINEERS • SURVEYORS • PLANNERS
8407 MAIN STREET TEL: 410.461.7666
ELICOTT CITY, MD 21043 FAX: 410.461.8961



DESIGN BY: MY
DRAWN BY: MY
CHECKED BY: RHV
DATE: 06-01-2006
SCALE: AS SHOWN
W.O. NO.: 2017158
3 SHEET OF 4

ENGINEER'S CERTIFICATE

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

ROBERT H. VOGEL, P.E.
DATE: 7/19/07

DEVELOPER'S CERTIFICATE

I HEREBY CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE IN ACCORDANCE TO THESE PLANS, AND THAT ANY 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.

S. P. ...
DATE: 7/19/07

THESE PLANS HAVE BEEN REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.

U.S. NATURAL RESOURCES CONSERVATION SERVICE
THESE PLANS FOR SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

Jim Moran
DATE: 4/17/07

John ...
DATE: 4/17/07

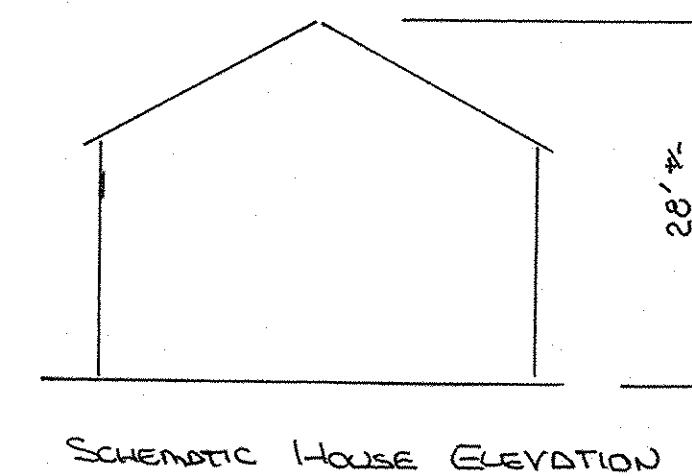
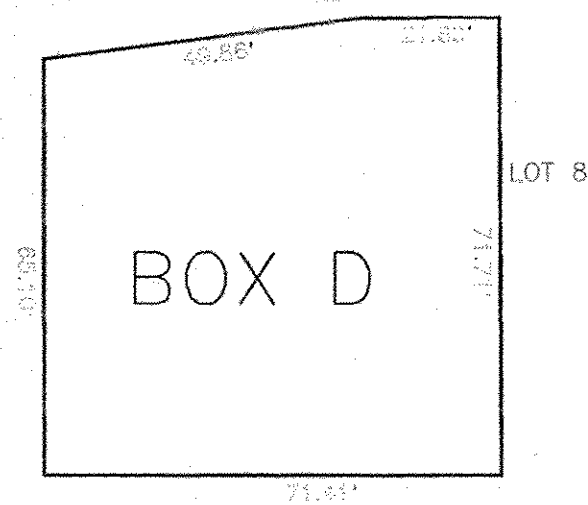
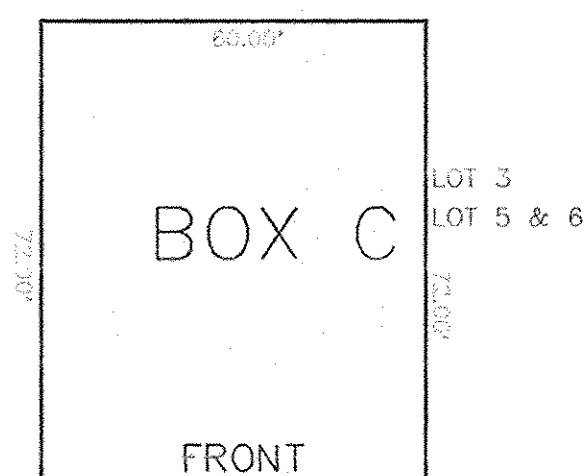
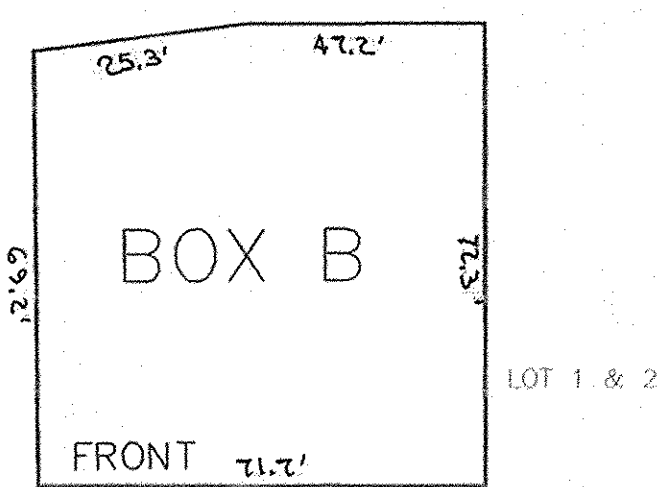
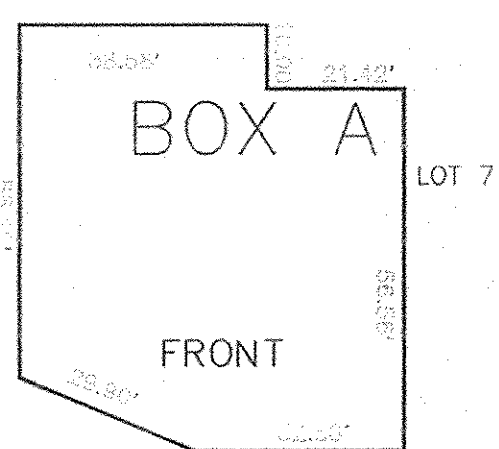
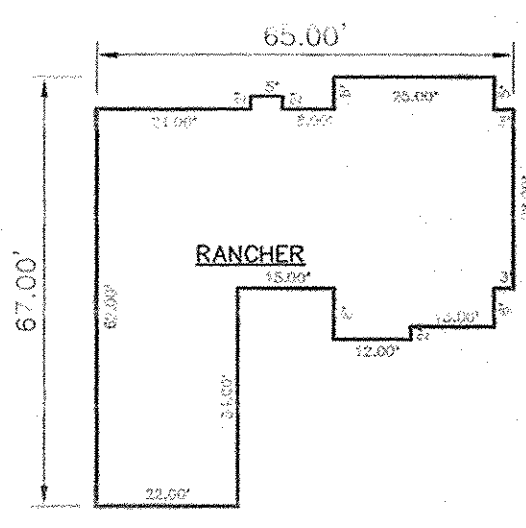
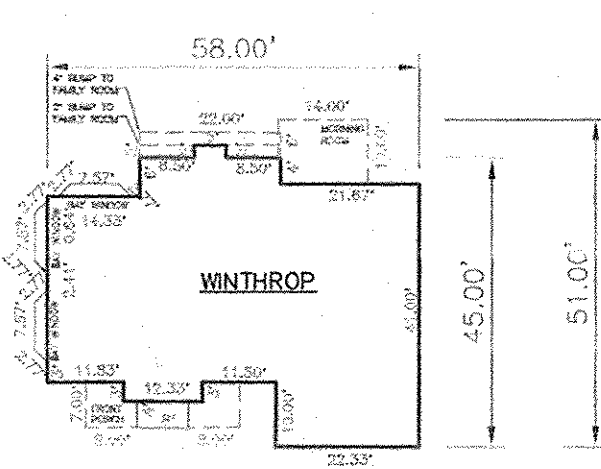
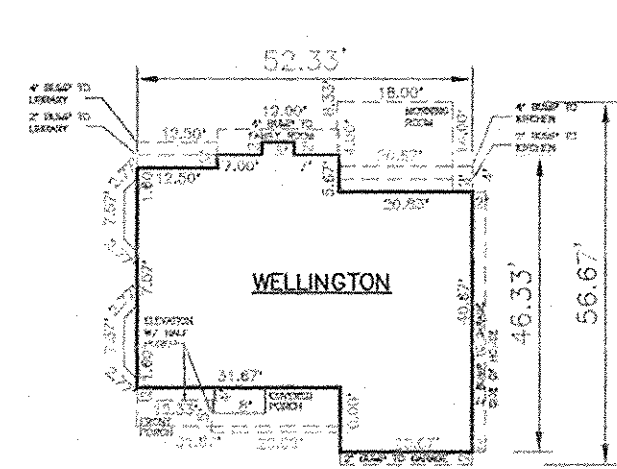
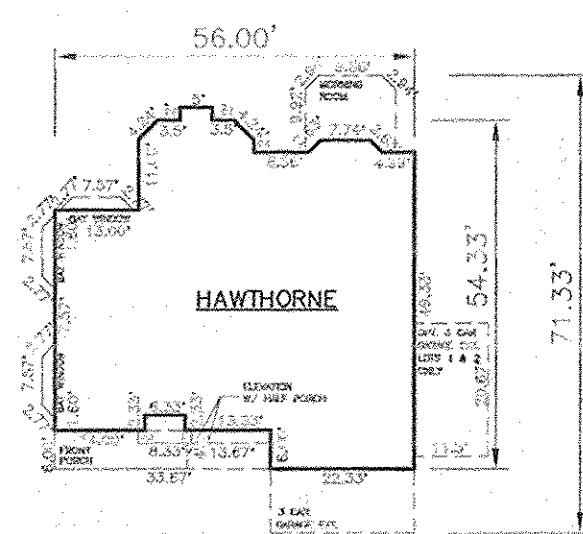
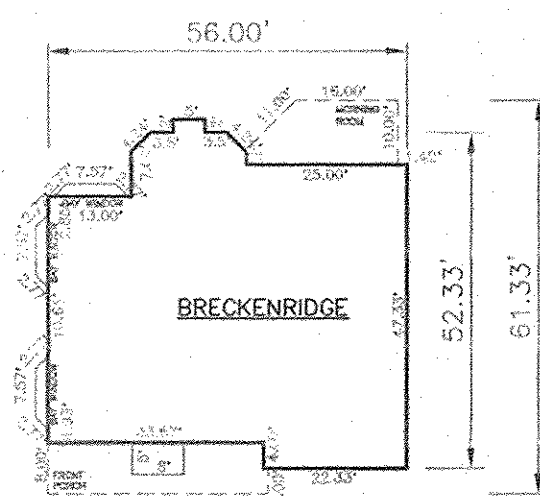
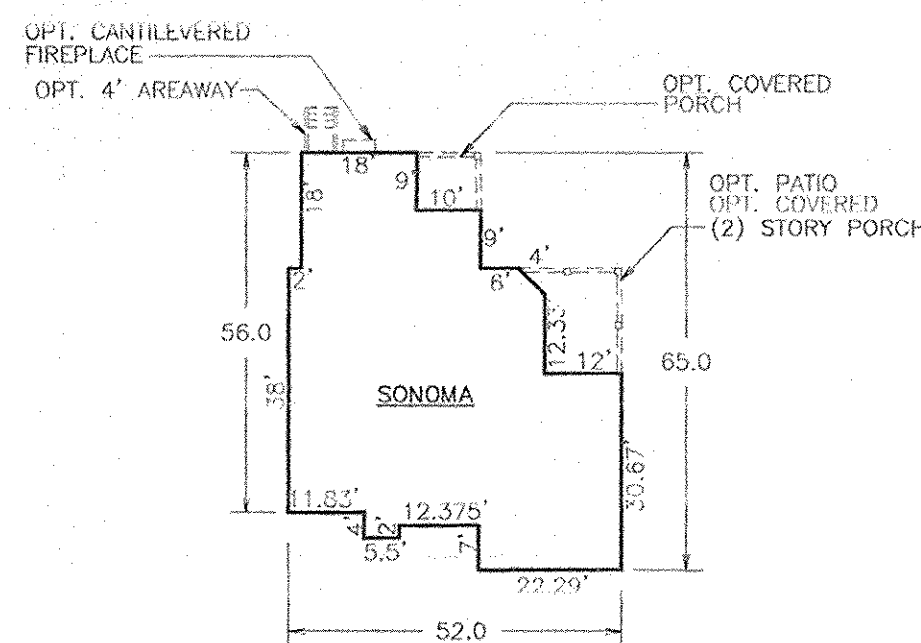
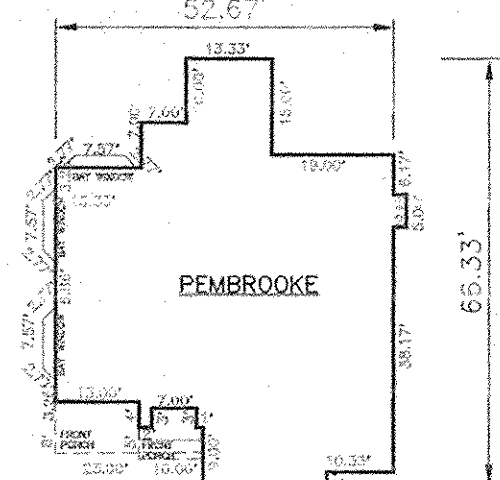
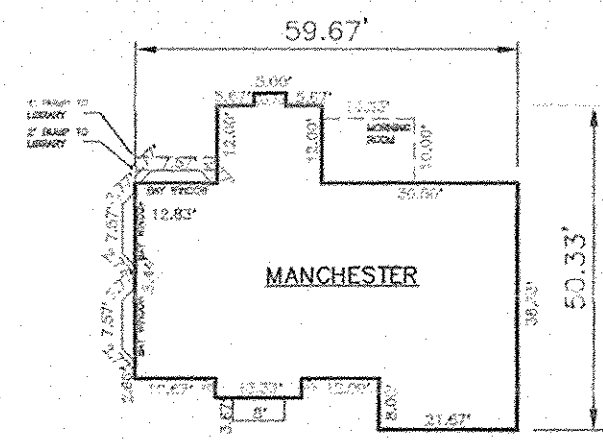
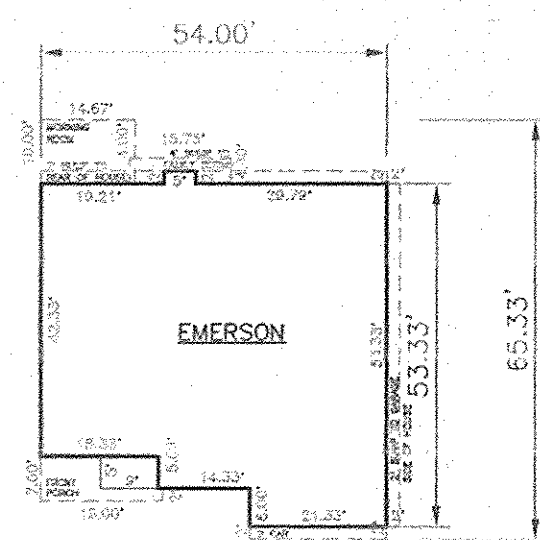
OWNER/DEVELOPER

FORTY WEST GROUP, INC.
3230 BETHANY LANE
ELICOTT CITY, MARYLAND 21042
(410) 418-8900

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION
CHIEF, DIVISION OF LAND DEVELOPMENT
DIRECTOR

DATE: 4/19/07
DATE: 4-2



EMERSON ALL OPTIONS AVAILABLE
 MANCHESTER ALL OPTIONS AVAILABLE
 PEMBROOKE ALL OPTIONS AVAILABLE
 BRECKENRIDGE ALL OPTIONS AVAILABLE
 EXCEPT OPTION MORNING ROOM
 HAWTHORNE ALL OPTIONS AVAILABLE
 EXCEPT OPTION 3 CAR GARAGE EXT. & MORNING ROOM
 WELLINGTON ALL OPTIONS AVAILABLE
 WINTHROP ALL OPTIONS AVAILABLE
 SONOMA ALL OPTIONS AVAILABLE

EMERSON ALL OPTIONS AVAILABLE
 MANCHESTER ALL OPTIONS AVAILABLE
 PEMBROOKE ALL OPTIONS AVAILABLE
 BRECKENRIDGE ALL OPTIONS AVAILABLE
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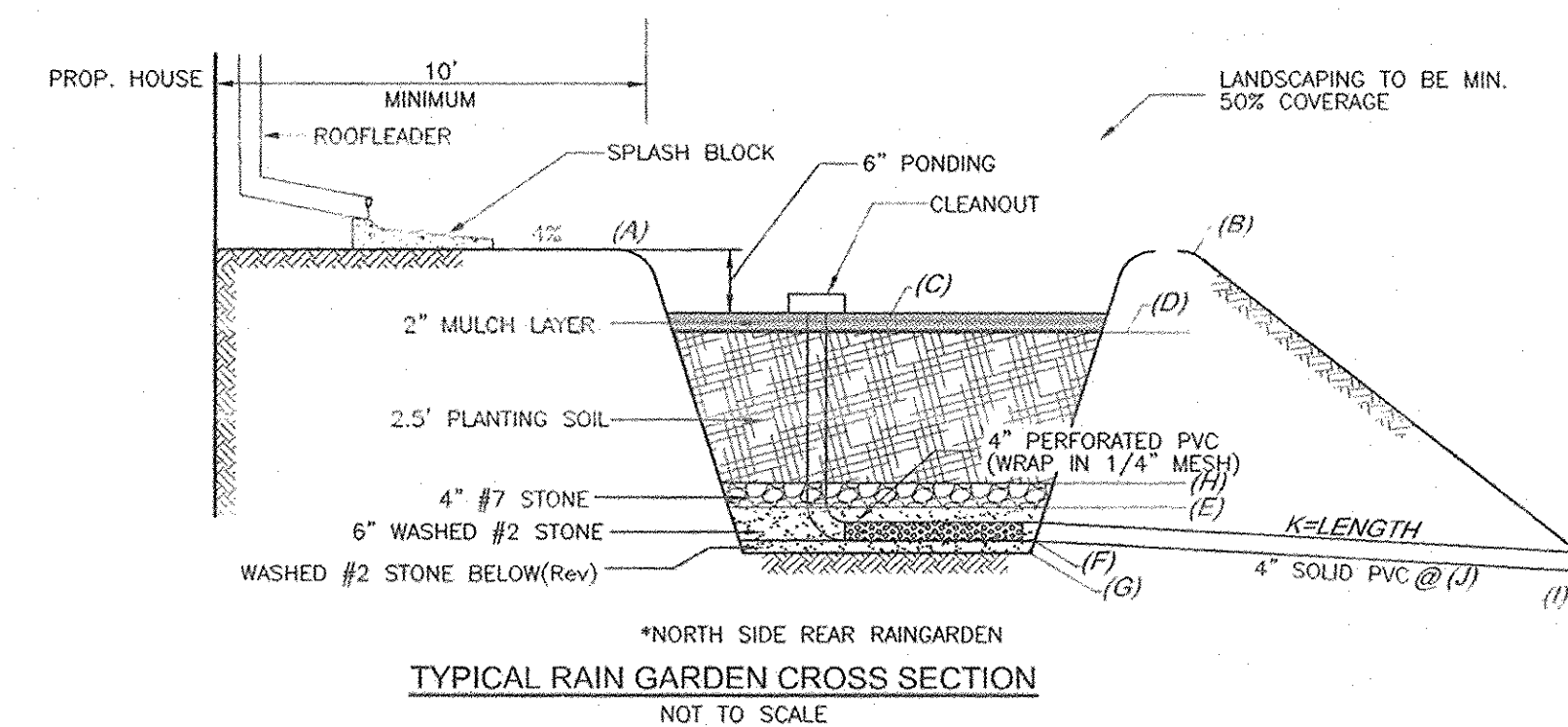
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 SONOMA ALL OPTIONS AVAILABLE

EMERSON ALL OPTIONS AVAILABLE
 MANCHESTER ALL OPTIONS AVAILABLE
 PEMBROOKE ALL OPTIONS AVAILABLE
 BRECKENRIDGE ALL OPTIONS AVAILABLE
 HAWTHORNE ALL OPTIONS AVAILABLE
 WELLINGTON ALL OPTIONS AVAILABLE
 WINTHROP ALL OPTIONS AVAILABLE
 SONOMA ALL OPTIONS AVAILABLE

PLAN
 SCALE: 1"=30'

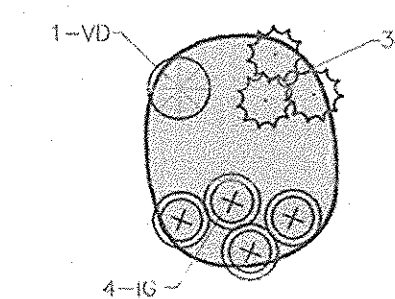
OPERATION AND MAINTENANCE SCHEDULE FOR RAIN GARDENS

- a. Annual maintenance of plant material, mulch layer and soil layer is required. Maintenance of mulch and soil is limited to correcting areas of erosion or wash out. Any mulch replacement shall be done in the spring. Plant material shall be checked for disease and insect infestation and maintenance will address dead material and pruning.
- b. Schedule of plant inspection will be twice a year in spring and fall. This inspection will include removal of dead and diseased vegetation considered beyond treatment, treatment of all diseased trees and shrubs and replacement of all deficient stakes and wires.
- c. Mulch shall be inspected each spring. Remove previous mulch layer before applying new layer once every 2 to 3 years.
- d. Soil erosion to be addressed on an as needed basis, with a minimum of once per month and after heavy storm events.



RAINGARDEN	A	B	C	D	E	F	G	H	I	J	K
RG7-A	500.0	500.0	499.5	499.33	496.50	496.08	496.00	496.83	495.28	1.00%	80
RG8-A	503.7	503.7	503.2	503.03	500.86	500.44	500.11	500.53	499.7	1.85%	40
RG8-B	503.7	503.7	503.2	503.03	500.86	500.44	500.11	500.53	499.7	1.06%	70

* DATA SUBJECT TO ADJUSTMENT BASED ON SPECIFIC HOUSE TYPE AND FIELD CONDITIONS
 # PROVIDE #1SF



RAIN GARDEN PLANTING DETAIL
 N.T.S.

(2) RAIN GARDEN PLANT LIST (SIZE 6'x5')

KEY	QTY	BOTANICAL NAME/ COMMON NAME	SIZE	ROOT
IV	3	ILEX VERTICILLATA WINTERBERRY	2'-3" HEIGHT	B & B OR CONT.
VD	1	VIBURNUM DENTATUM ARROW WOOD	3'-4" HEIGHT	B & B OR CONT.
IC	1	ILEX CLABRA INKBERRY	18" - 24" HEIGHT	B & B OR CONT.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION
 CHIEF, DIVISION OF LAND DEVELOPMENT
 DIRECTOR

4/19/07
 4-25-07
 4/25/07

OWNER/DEVELOPER

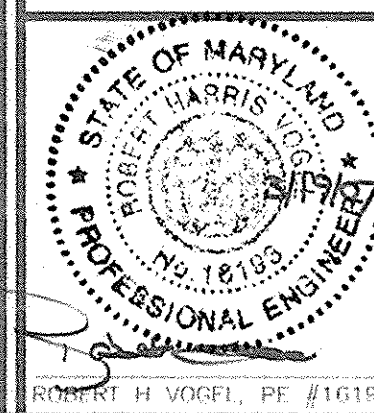
FORTY WEST GROUP, INC.
 3250 BETHANY LANE
 ELLICOTT CITY, MARYLAND 21042
 (410) 418-8200

NO.	REVISION	DATE
1	ADD SONOMA HOUSE TYPE TO LOT 7, DELETE RAIN GARDEN 7B	7/31/07

RAIN GARDEN DETAILS AND HOUSE MODELS
 SITE DEVELOPMENT PLAN
 WORTHINGTON WEST
 LOTS 1 - 8 AND OPEN SPACE LOT 9

DPZ REF: F-05-114, S-02-06, WP-02-52 & P-04-10
 RECORD PLAT #18441
 TAX MAP 31 BLOCK 14 PARCEL 501
 2ND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL ENGINEERING, INC.
 ENGINEERS • SURVEYORS • PLANNERS
 8407 MAIN STREET ELLICOTT CITY, MD 21043 TEL: 410-461-7666 FAX: 410-461-8961



DESIGN BY: MY
 DRAWN BY: MY
 CHECKED BY: RHW
 DATE: 06-01-2006
 SCALE: AS SHOWN
 W.O. NO.: 2017158