

# FINAL ROAD CONSTRUCTION PLAN

## BONNIE ORCHARD

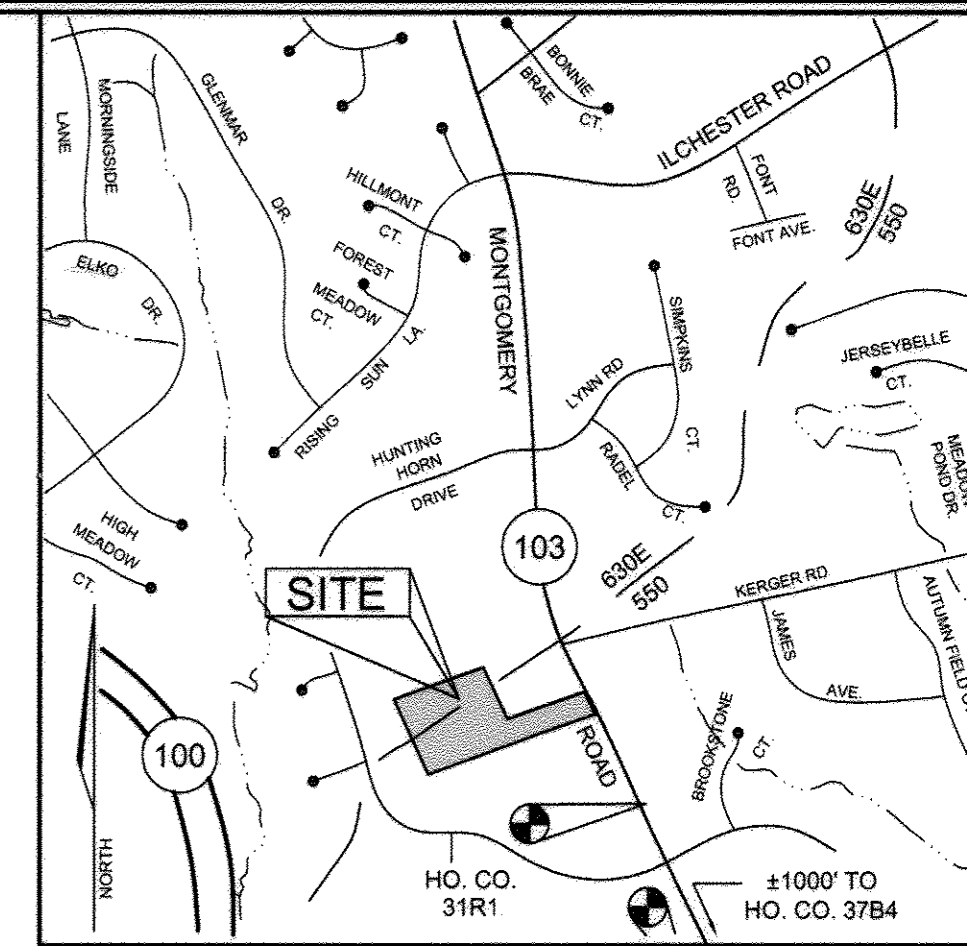
### LOTS 1 THRU 9 AND OPEN SPACE LOTS 10 AND 11 HOWARD COUNTY, MARYLAND

#### GENERAL NOTES

- THE SUBJECT PROPERTY IS ZONED R-20 PER THE 2/2/04 COMPREHENSIVE ZONING PLAN AND PER THE "COMP LITE" ZONING REGULATION AMENDMENTS EFFECTIVE 7/28/06.
- PUBLIC WATER AND SEWER WILL BE USED WITHIN THIS SITE. PUBLIC WATER WILL BE EXTENDED INTO THE SITE FROM CONTRACT NO. 132-W. PUBLIC SEWER WILL BE EXTENDED INTO THE SITE FROM CONTRACT NO. 10-1215.
- GROSS AREA OF PROPERTY = 5.3971 AC.±
- AREA OF PROPOSED PUBLIC ROW TOTAL = 0.7055 AC.±  
AREA OF PROPOSED PUBLIC ROW TO SHA. = 0.1104 AC.±  
AREA OF PROPOSED PUBLIC ROW TO HOWARD COUNTY = 0.5951 AC.±
- NUMBER OF PROPOSED BUILDABLE LOTS: 9  
AREA OF PROPOSED BUILDABLE LOTS: 4.2418 AC.±
- NUMBER OF PROPOSED OPEN SPACE LOTS: 2  
AREA OF PROPOSED CREDITED OPEN SPACE: 0.4123 AC.±  
AREA OF PROPOSED NON-CREDITED OPEN SPACE: 0.0375 AC.±
- OPEN SPACE REQUIREMENTS:  
A.) MINIMUM OPEN SPACE REQUIRED = 5.3971 AC.± X 6% = 0.3238 AC.  
B.) OPEN SPACE PROVIDED = 8.3% OR 0.4488 AC.±
- PREVIOUS HOWARD COUNTY FILE NUMBERS: CONTR.# 10-1215; P-07-004; S-04-007; WP-059; SP-03-018 (VOIDED 1.20.04); F-03-152; 10-1215; WP-07-059.
- BOUNDARY SURVEY PREPARED BY MILDENBERG BOENDER & ASSOCIATES, INC. ON OR ABOUT JUNE 2003. ON-SITE TOPOGRAPHY IS BASED ON A FIELD RUN SURVEY PREPARED BY MILDENBERG BOENDER & ASSOCIATES, INC. ON OR ABOUT JUNE 2003. OFF-SITE TOPOGRAPHY IS BASED ON HOWARD COUNTY 1999 AERIAL SURVEY.
- ALL EXISTING STRUCTURES ON-SITE ARE TO BE REMOVED.
- BASED ON A FIELD INVESTIGATED NON-TIDAL WETLAND AND STREAM EVALUATION CONDUCTED BY EXPLORATION RESEARCH, INC. DATED MARCH, 2007. NO WETLANDS OR STREAM SYSTEMS EXIST ON-SITE.
- THIS PROJECT IS WITHIN THE METROPOLITAN DISTRICT.
- THIS PROJECT IS IN CONFORMANCE WITH THE LATEST HOWARD COUNTY STANDARDS UNLESS WAIVERS HAVE BEEN APPROVED.
- THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED ON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY MONUMENT NUMBERS 31R1 AND 37B4 WERE USED FOR THIS PROJECT.
- THE NOISE STUDY FOR THIS PROJECT WAS PREPARED BY MARS GROUP AND APPROVED UNDER S-04-007. THE 65 dBA NOISE CONTOUR LINE DRAWN ON THIS SUBDIVISION PLAN IS ADVISORY AS REQUIRED BY THE HOWARD COUNTY DESIGN MANUAL CHAPTER 5, REVISED FEBRUARY, 1992 AND CANNOT BE CONSIDERED TO EXACTLY LOCATE THE 65 dBA NOISE EXPOSURE. THE 65 dBA NOISE LINE WAS ESTABLISHED BY HOWARD COUNTY TO ALERT DEVELOPERS, BUILDERS AND FUTURE RESIDENTS THAT AREAS BEYOND THIS THRESHOLD MAY EXCEED GENERALLY ACCEPTED NOISE LEVELS ESTABLISHED BY THE U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT.
- THIS PLAN COMPLIES WITH THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE OF FOREST CONSERVATION BY THE PAYMENT OF A FEE-IN-LIEU OF 0.81 ACRES OF FOREST PLANTING IN THE AMOUNT OF \$26,462.70 (\$0.75 X 35,285 SQUARE FEET OR BY AC.).
- FOR FLAG OR PIPESTEM LOTS, REFUSE COLLECTION, SNOW REMOVAL AND ROAD MAINTENANCE ARE PROVIDED TO THE JUNCTION OF THE FLAG OR PIPESTEM AND ROAD RIGHT-OF-WAY LINE AND NOT TO THE PIPESTEM LOT DRIVEWAY.
- THERE ARE NO FLOODPLAINS, WETLANDS, STEEP SLOPES, HISTORIC STRUCTURES OR CEMETERIES ON-SITE.
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY IN ADDITION TO MSHA STANDARDS AND SPECIFICATIONS IF APPLICABLE.
- 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 CONTRACTORS 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.
- 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. ROAD 'A' PAVING TO BE HOWARD COUNTY STANDARD P-2 PAVING SECTION (SEE SHEET 2 FOR DETAILS). GEOTECHNICAL ENGINEER TO CONFIRM ACCEPTABILITY OF PROPOSED PAVING SECTION, BASED ON SOIL TEST, PRIOR TO CONSTRUCTION.
- ALL TRAFFIC CONTROL DEVICES, MARKINGS AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MARYLAND MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MMUTCD).
- IN ACCORDANCE WITH SECTION 128 OF THE HOWARD COUNTY ZONING REGULATIONS, BAY WINDOWS, CHIMNEYS OR EXTERIOR STAIRWAYS NOT MORE THAN 18 FEET IN WIDTH MAY PROJECT NOT MORE THAN 4 FEET INTO ANY SETBACKS. PORCHES OR DECKS, OPEN OR ENCLOSED MAY PROJECT NOT MORE THAN 10 FEET INTO THE FRONT OR REAR YARD SETBACK.
- DRIVEWAY ENTRANCE TO BE PER HOWARD COUNTY STANDARD DETAIL R-6.06. DRIVEWAY CULVERTS WILL BE DESIGNED AT SITE DEVELOPMENT PLAN STAGE.
- DRIVEWAY(S) SHALL BE PROVIDED PRIOR TO ISSUANCE OF A USE AND OCCUPANCY PERMIT FOR ANY NEW DWELLINGS TO ENSURE SAFE ACCESS FOR AND EMERGENCY VEHICLES UNDER 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 14% GRADE, MAXIMUM 10% GRADE CHANGE AND 45-FOOT TURNING RADIUS;  
4) STRUCTURES (CULVERTS) - CAPABLE OF SUPPORTING 25 GROSS TONS (NET 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.
- THE CONTRACTOR SHOULD BE AWARE THAT THE GROUND CLEARANCE TO TWO EXISTING OVERHEAD POWER LINES IS APPROXIMATELY 12' IN THE VICINITY OF THE EXISTING HOUSE ON OPEN SPACE LOT 10.
- A DESIGN MANUAL WAIVER TO HOWARD COUNTY DESIGN MANUAL VOLUME IV, STANDARD DETAIL R-1.02, WHICH REQUIRES A CLOSED SECTION FOR A PUBLIC ROAD IN THE R-20 ZONING, WAS APPROVED ON APRIL 15, 2004, SUBJECT TO THE FOLLOWING CONDITIONS:  
A.) THE APPLICANT MUST PROVIDE ROAD FRONTAGE IMPROVEMENTS ALONG MARYLAND ROUTE 103 AS PER THE STATE HIGHWAY ADMINISTRATION.  
B.) THE APPLICANT SHALL ENSURE THAT ALL STORMWATER RUNOFF FROM THIS PROPERTY IS ADEQUATELY CHARGED TO A DOWNSTREAM OUTFALL WITH NO DELETERIOUS IMPACTS ON DOWNSTREAM PROPERTIES. TO THIS END, THE APPLICANT MUST VERIFY THAT EXISTING CONVEYANCE SYSTEMS ALONG AND ACROSS MARYLAND ROUTE 103 ARE ADEQUATELY SIZED TO CONVEY THE 10-YEAR STORMWATER DISCHARGE FROM THIS PROPERTY.  
C.) ALL ROAD FRONTAGE IMPROVEMENTS SHALL BE COORDINATED WITH ANY REQUIRED IMPROVEMENTS NECESSARY FOR STORMWATER RUNOFF CONVEYANCE.  
D.) THE APPLICANT SHALL PROVIDE A SIDEWALK ALONG THE ENTIRE AREA OF ROAD FRONTAGE IMPROVEMENTS REQUIRED BY SHA, SUBJECT TO MSHA APPROVAL.
- STORMWATER MANAGEMENT IS PROVIDED FOR THIS PROJECT. WATER QUALITY OBLIGATIONS WILL BE MET WITHIN THE BIORETENTION FACILITY. RECHARGE OBLIGATIONS WILL BE MET BY UTILIZING ROOFTOP DISCONNECTS, NON-ROOFTOP DISCONNECTS AND GRASS CHANNELS. CHANNEL PROTECTION IS NOT REQUIRED BECAUSE THE POST DEVELOPED 1 YEAR STORM RUNOFF IS LESS THAN 2 CFS. THE BIORETENTION FACILITY LOCATED ON OPEN SPACE LOT 10 IS FOR DETENTION PURPOSES ONLY. THE BIORETENTION FACILITY IS TO BE OWNED AND MAINTAINED BY THE HOME OWNERS ASSOCIATION. ADDITIONAL STORMWATER MANAGEMENT MEASURES WILL BE REQUIRED AT SITE DEVELOPMENT PLAN STAGE IF THE PROPOSED HOUSE FOOTPRINTS EXCEED 2,000 SF OR IF ADDITIONAL DRIVEWAYS/IMPERVIOUS AREAS ARE PROPOSED.
- A TRAFFIC STUDY WAS PERFORMED BY MARS GROUP ON OR ABOUT MAY 2003 AND APPROVED UNDER S-04-007.
- THE OPEN SPACE SHOWN HEREON IS HEREBY DEDICATED TO A PROPERTY OWNERS ASSOCIATION FOR THE RESIDENTS OF THIS SUBDIVISION AND RECORDING REFERENCES OF THE ARTICLES OF INCORPORATION AND RESTRICTIONS ARE SHOWN HEREON.
- ARTICLES OF INCORPORATION FOR THE HOMEOWNERS ASSOCIATION WERE ACCEPTED BY THE STATE DEPARTMENT OF ASSESSMENTS AND TAXATION ON ~~TO BE DEDICATED~~ INCORPORATION NO. ~~TO BE DEDICATED~~
- ANY EXISTING WELLS AND SEPTIC SYSTEMS LOCATED ON-SITE SHALL BE PROPERLY SEALED AND ABANDONED BY A LICENSED WELL DRILLER PRIOR TO SUBMISSION OF THE ORIGINALS ROAD CONSTRUCTION PLANS FOR SIGNATURE.
- WP-07-059 TO WAIVE SECTION 16.121(A)(2) TO ALLOW AN R-20 ZONED INFILL SUBDIVISION TO USE 18,000 S.F. LOT SIZE AND TO PROVIDE A 0.4 OWNED OPEN SPACE (12%), WAS DENIED ON FEBRUARY 2, 2007.
- LANDSCAPING FOR LOTS 1 THRU 11 IS PROVIDED IN ACCORDANCE WITH A CERTIFIED LANDSCAPE PLAN INCLUDING WITH THE ROAD CONSTRUCTION PLAN SET IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL. FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING WILL BE POSTED AS PART OF THE DEVELOPER'S AGREEMENT IN THE AMOUNT OF \$20,100.00 FOR STREET TREES; 33 SHADE TREES @ \$300.00 EACH AND \$10,200.00 FOR PERIMETER LANDSCAPING TREES; 34 SHADE TREES @ \$300.00 EACH AND WILL BE PLANTED AT THE SITE DEVELOPMENT PLAN STAGE.
- STREET LIGHT PLACEMENT AND THE TYPE OF FIXTURE AND POLE SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME III (1993) AND AS MODIFIED BY "GUIDELINES FOR STREET LIGHTS IN RESIDENTIAL DEVELOPMENTS (JUNE 1997)". A MINIMUM SPACING OF TWENTY FEET (20') SHALL BE MAINTAINED BETWEEN ANY STREET LIGHT AND ANY TREE.
- ALL SIGN POSTS USED FOR TRAFFIC CONTROL SIGNS INSTALLED IN THE COUNTY RIGHT-OF-WAY SHALL BE MOUNTED ON A TWO INCH (2") GALVANIZED STEEL, PERFORATED, SQUARE TUBE POST (14 GAUGE) INSERTED INTO A TWO AND A HALF INCH (2-1/2") GALVANIZED STEEL, PERFORATED, SQUARE TUBE SLEEVE (12 GAUGE) THREE FEET (3') LONG. A GALVANIZED STEEL POLE CAP SHALL BE MOUNTED ON TOP OF EACH POST.
- A DESIGN MANUAL WAIVER TO HOWARD COUNTY DESIGN MANUAL, VOLUME IV, DETAIL R-1.01, TO REDUCE THE REQUIRED RIGHT-OF-WAY WIDTH FROM 50 FEET TO 40 FEET WAS APPROVED ON OCTOBER 16, 2008, BASED ON THE FOLLOWING:  
A. THE PLAN WAS ORIGINALLY DESIGNED AND APPROVED UNDER SEPARATE REGULATIONS WHICH ONLY REQUIRED A 40 FOOT RIGHT-OF-WAY. UPDATING THE PLAN TO CURRENT STANDARDS WOULD HAVE A SIGNIFICANT EFFECT ON THE SUBDIVISION AS ALREADY APPROVED.  
B. THE REQUEST TO ALLOW THE 40 FOOT RIGHT-OF-WAY WIDTH IS APPROVED BUT THE MINIMUM PAVEMENT WIDTHS MUST BE PROVIDED AS SPECIFIED WITH THE WAIVER REQUEST.

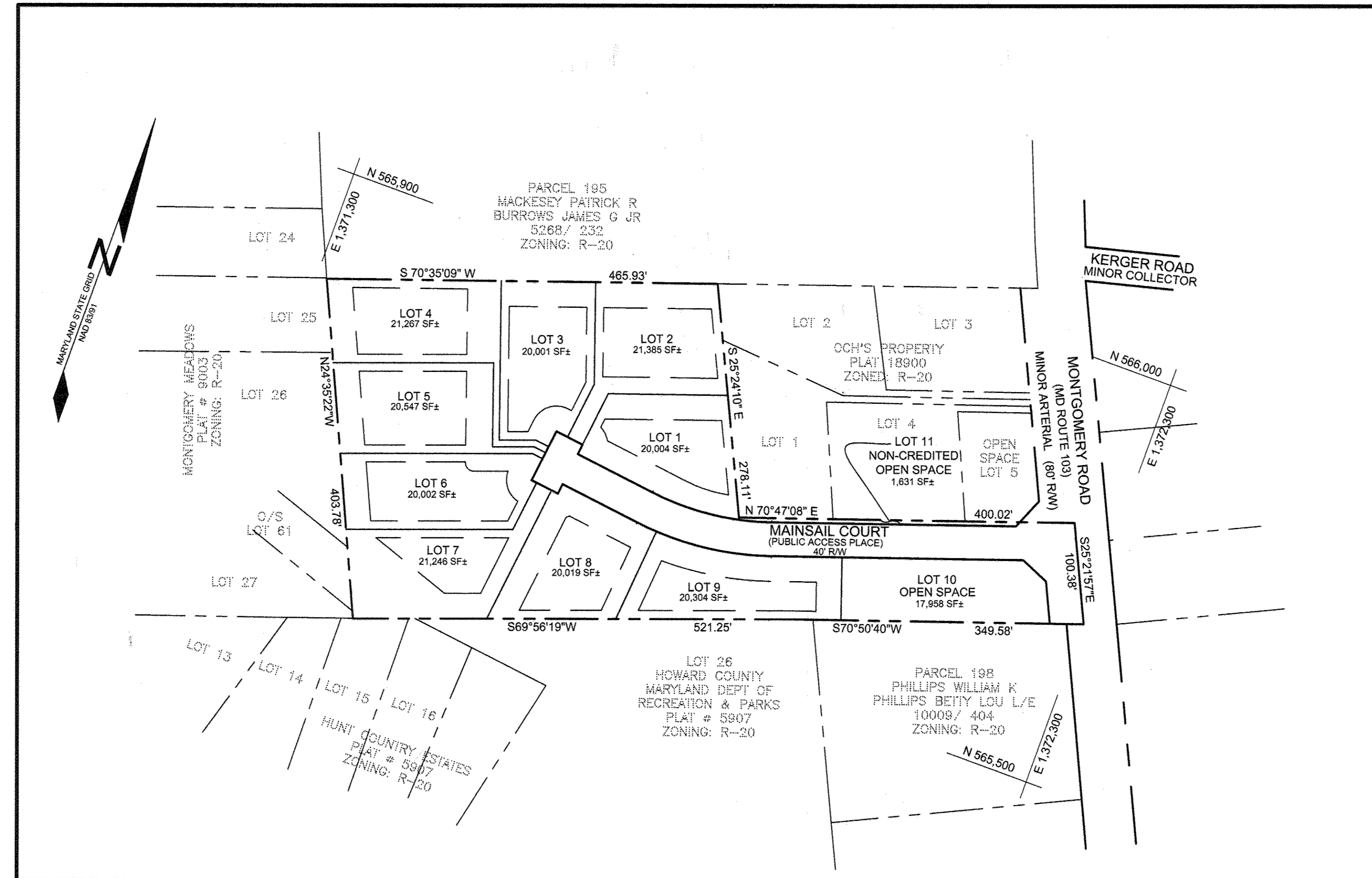
#### LEGEND

- EXISTING CONTOUR
- PROPOSED CONTOUR
- EXISTING SPOT ELEVATION
- PROPOSED SPOT ELEVATION
- DIRECTION OF FLOW
- EXISTING TREELINE
- PROPOSED TREELINE
- EXISTING TREE
- LIGHT POLES



BENCHMARKS				
NUMBER	NORTHING	EASTING	ELEVATION	DESCRIPTION
31R1	965,303.4777	1,372,517.7171	400.99	EAST SIDE OF MONTGOMERY ROAD, 45.5' SOUTH OF FIRE HYDRANT, 56.0' NORTH OF SIDE POLE #594189
37B4	963,928.5542	1,373,109.1044	401.411	SOUTHWEST SIDE OF MONTGOMERY ROAD AND THE MONTGOMERY ROAD INTERSECTION, 41.1' WEST OF SEWER MANHOLE, 96.6' EAST OF SIDE POLE #128575

MINIMUM LOT SIZE CHART			
LOT NUMBER	GROSS AREA (SF)	PIPESTEM AREA (SF)	MINIMUM LOT SIZE (SF)
2	21,395±	1,381±	20,004±
4	21,267±	1,287±	20,002±
5	20,547±	504±	20,043±
7	21,246±	1,244±	20,002±



LOCATION MAP  
SCALE: 1"=100'

SHEET INDEX	
SHEET NO.	DESCRIPTION
1	COVER SHEET
2	ROAD PLAN AND PROFILE MAINSAIL COURT
3	GRADING, SEDIMENT AND EROSION CONTROL PLAN AND TRAFFIC DETAILS
4	SEDIMENT AND EROSION CONTROL NOTES AND DETAILS
5	STORM DRAIN PROFILES BIORETENTION NOTES AND DETAILS
6	STORM DRAIN DRAINAGE AREA MAP
7	FOREST CONSERVATION AND LANDSCAPE PLAN

#### OWNER/DEVELOPER

BONNIE ORCHARD, LLC  
8835-P COLUMBIA 100 PARKWAY  
COLUMBIA, MARYLAND 21045  
410.730.1810

#### AS-BUILT

#### COVER SHEET

##### BONNIE ORCHARD

LOTS 1 THRU 9 AND OPEN SPACE LOTS 10 AND 11  
DPZ. FILE NO. S-03-018 (VOIDED 1.20.04), S-04-007, F-03-152, V-132, 10-1215  
WP-07-059, P-07-004  
TAX MAP 31 GRID 21 ZONED R-20  
2ND ELECTION DISTRICT  
PARCEL 565 & 595  
HOWARD COUNTY, MARYLAND

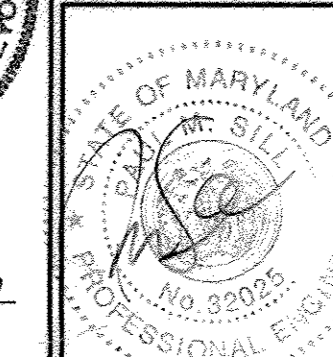


#### AS-BUILT CERTIFICATION

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

*Michael D. Adcock*  
MICHAEL D. ADCOCK, PROFESSIONAL LAND SURVEYOR  
MD REG. NO. 21252, EXPIRATION DATE: 06-10-15

3/12/13  
DATE



**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@silladcock.com

DESIGN BY: PS-JT  
DRAWN BY: JT  
CHECKED BY: PS  
SCALE: AS SHOWN  
DATE: DECEMBER 21, 2009  
PROJECT #: 08-010  
SHEET #: 1 of 7

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
*Jeffrey S. ...*  
CHIEF, DIVISION OF LAND DEVELOPMENT  
DATE: 2/2/10

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
*William Z. ...*  
CHIEF, BUREAU OF HIGHWAYS  
DATE: 2-5-10

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. 20205, EXPIRATION DATE: JUNE 20, 2011

### STREET SIGN CHART

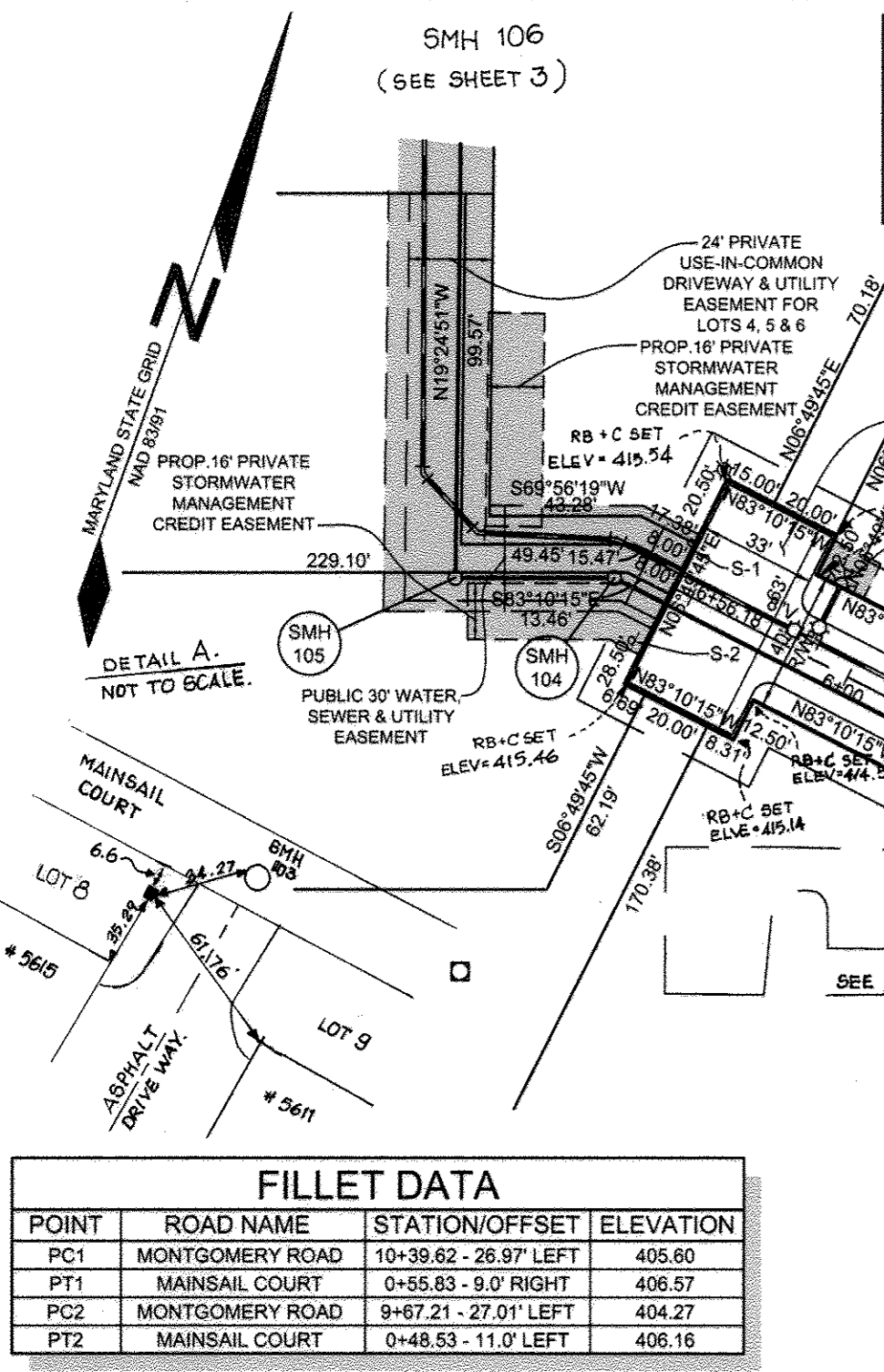
SYMBOL	ROAD NAME	STATION	OFFSET	DESCRIPTION
↓	ROAD 'A'	0+50	16' LEFT	R1-1 "STOP"
↑	ROAD 'A'	1+50	15' RIGHT	R2-1 "SPEED LIMIT 25"
↓	ROAD 'A'	6+59	14' RIGHT	(S-2) "NO PARKING IN TEE TURNAROUND"
↑	ROAD 'A'	6+59	10' LEFT	(S-2) "NO PARKING IN TEE TURNAROUND"

NOTE: 1. OFFSETS ARE FROM CENTERLINE OF PAVING

NOTE: 2. ROAD 'A' IS "MAINSAIL COURT"

### ROAD CLASSIFICATION

ROAD NAME	CLASSIFICATION	PAVING TYPE	DESIGN SPEED	LIMITS OF CONSTRUCTION	R/W
ROAD 'A'	PUBLIC ACCESS PLACE	P-2	25	0+00 TO 6+55.07	40'



### FILLET DATA

POINT	ROAD NAME	STATION/OFFSET	ELEVATION
PC1	MONTGOMERY ROAD	10+38.62 - 26.87' LEFT	405.80
PT1	MAINSAIL COURT	0+55.83 - 9.0' RIGHT	406.57
PC2	MONTGOMERY ROAD	9+67.21 - 27.01' LEFT	404.27
PT2	MAINSAIL COURT	0+48.53 - 11.0' LEFT	406.16

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.  
*William J. Mahan* 2-5-10  
 CHIEF, BUREAU OF HIGHWAYS

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
*Kurt S. ...* 2/23/10  
 CHIEF, DIVISION OF LAND DEVELOPMENT

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
*...* 2/22/10  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

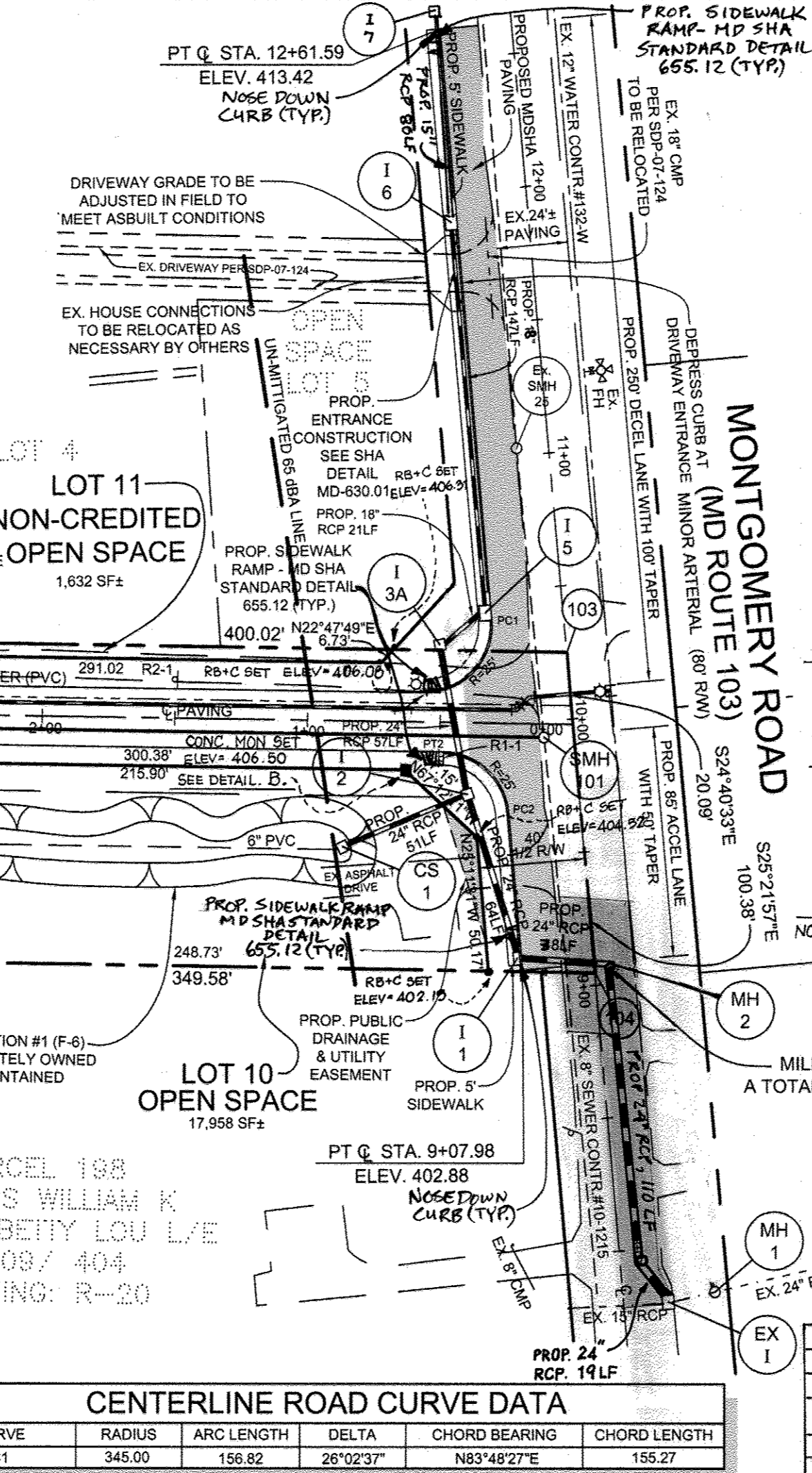
### ROAD PLAN

SCALE: 1"=50'

### STREET LIGHT TABLE

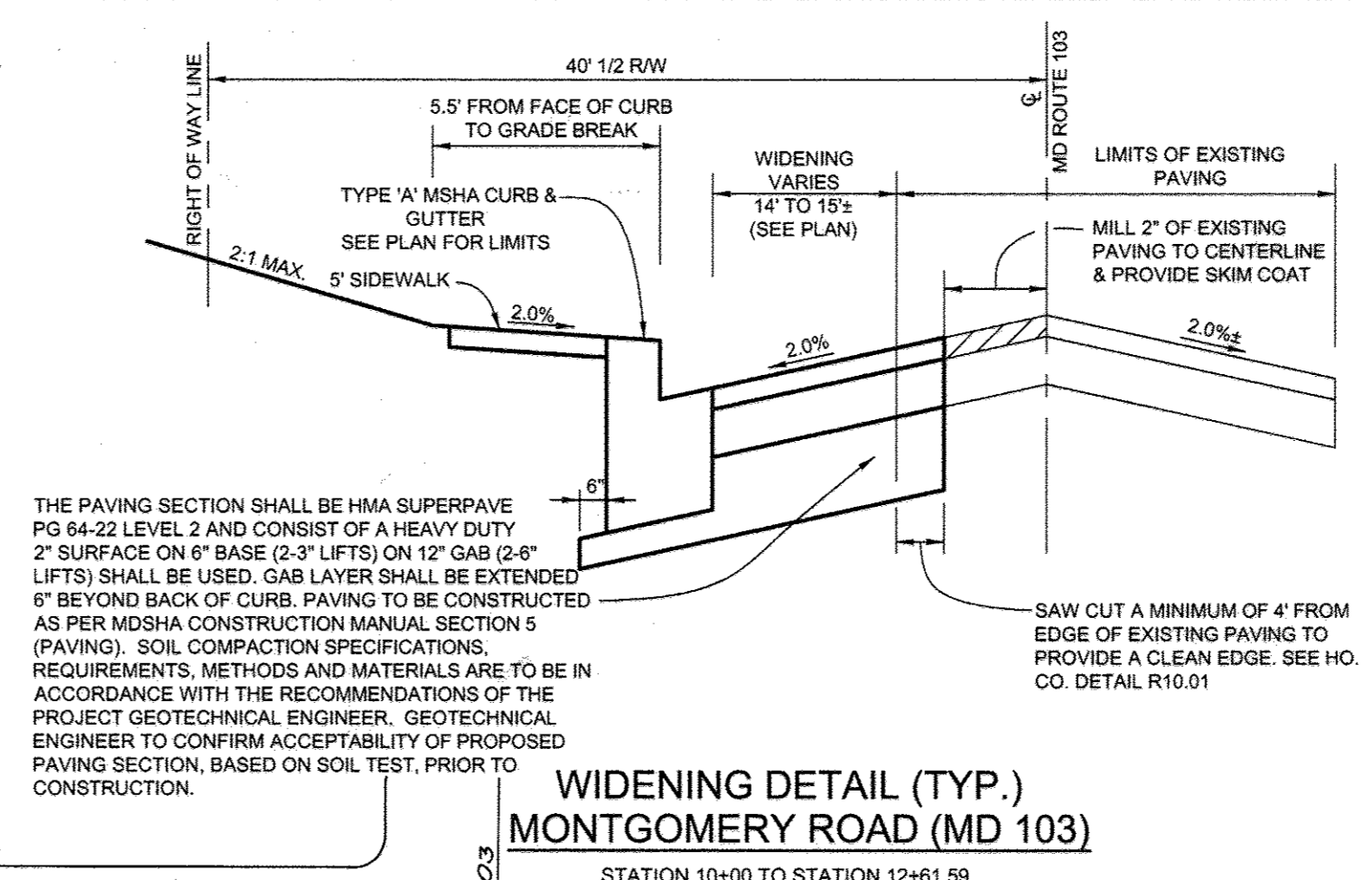
FIXTURE TYPE	POLE TYPE	LOCATION	STREET
150 WATT HPS VAPOR PREMIER POST TOP MOUNTED	14" BLACK FIBERGLASS	© STA. 0+59.3 14' RIGHT	ROAD 'A'
100 WATT HPS VAPOR PREMIER POST TOP MOUNTED	14" BLACK FIBERGLASS	© STA. 2+75.0 24' LEFT	ROAD 'A'
100 WATT HPS VAPOR PREMIER POST TOP MOUNTED	14" BLACK FIBERGLASS	© STA. 6+58.2 37' RIGHT	ROAD 'A'

NOTE: 1. LIGHT POLE LOCATION GIVEN AT CENTER OF BASE  
 2. OFFSETS ARE FROM CENTERLINE OF PAVING



### CENTERLINE ROAD CURVE DATA

CURVE	RADIUS	ARC LENGTH	DELTA	CHORD BEARING	CHORD LENGTH
C1	345.00	186.82	26°02'37"	N83°48'27"E	155.27



### WIDENING DETAIL (TYP.)

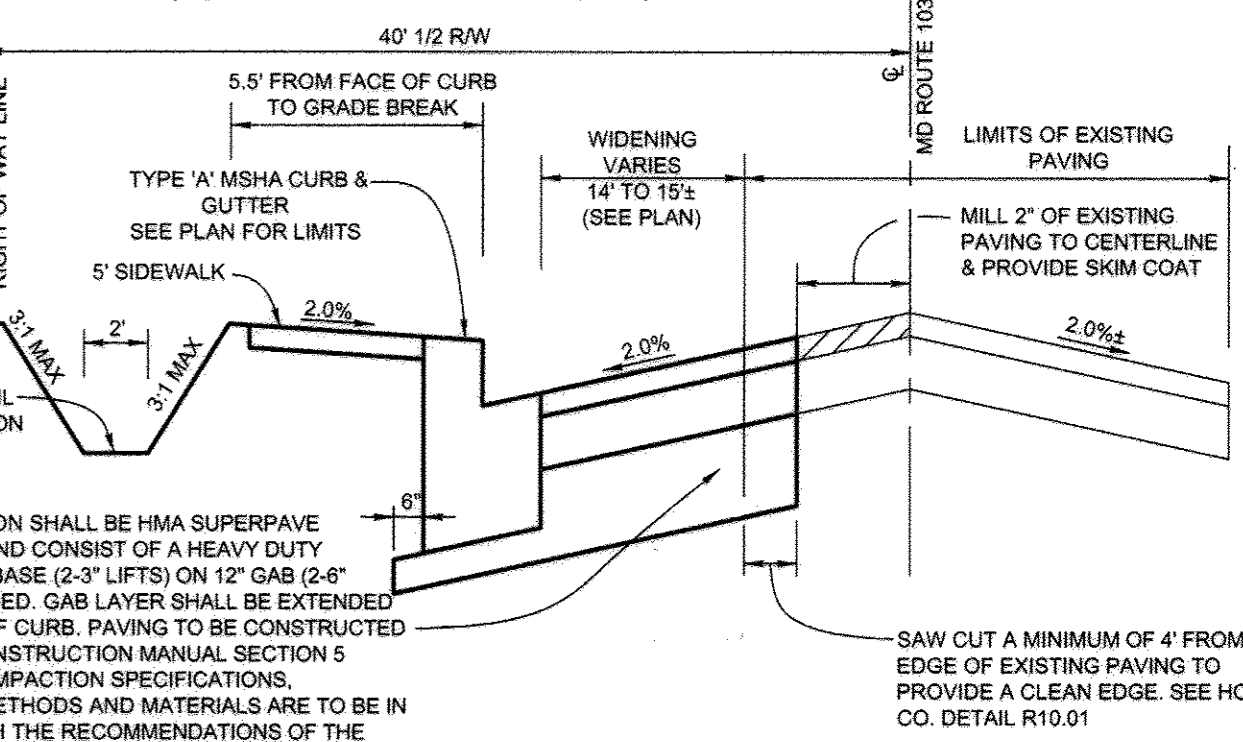
MONTGOMERY ROAD (MD 103)

STATION 10+00 TO STATION 12+61.59  
 NOT TO SCALE

### PAVING SECTIONS

SEC. NO.	ROAD AND STREET CLASSIFICATION	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
	LOCAL ROADS: ACCESS PLACE, ACCESS STREET	HMA SUPERPAVE INTERMEDIATE SURFACE 9.5 MM, PG 64-22, LEVEL 1 (ESAL)	1.0	1.0
	CUL-DE-SACS: RESIDENTIAL	HMA SUPERPAVE BASE 19.0 MM, PG 64-22, LEVEL 1 (ESAL)	2.0	2.0
		GRADED AGGREGATE BASE (GAB)	8.0	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 8" 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.



### WIDENING DETAIL (TYP.)

MONTGOMERY ROAD (MD 103)

STATION 9+97.88 TO STATION 10+00  
 NOT TO SCALE

### OWNER/DEVELOPER

BONNIE ORCHARD, LLC  
 8835 P. COLUMBIA 100 PARKWAY  
 COLUMBIA, MARYLAND 21045  
 410.730.1810

### ROAD PLAN AND PROFILE

MAINSAIL COURT  
 BONNIE ORCHARD  
 LOTS 1 THRU 9 AND OPEN SPACE LOTS 10 AND 11  
 DPZ, FILE NO. S: SP-03-018 (VOIDED 1.20.04), S-04-007, F-03-152, W-132, 10-1215  
 WP-07-059, P-07-004

TAX MAP 31 GRID 21 ZONED R-20  
 2ND ELECTION DISTRICT

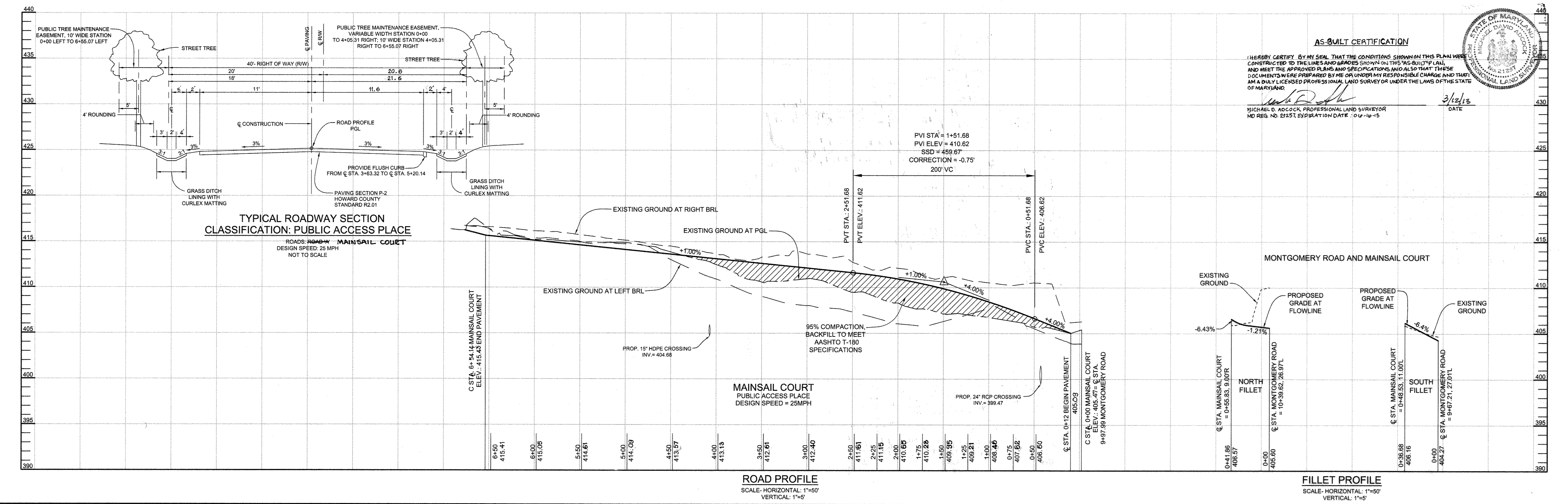
PARCEL 665 & 595  
 HOWARD COUNTY, MARYLAND

### 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@silladcock.com

DESIGN BY: PS  
 DRAWN BY: PS  
 CHECKED BY: PS  
 SCALE: AS SHOWN  
 DATE: OCTOBER 13, 2009  
 PROJECT #: 06-010  
 SHEET #: 2 of 7

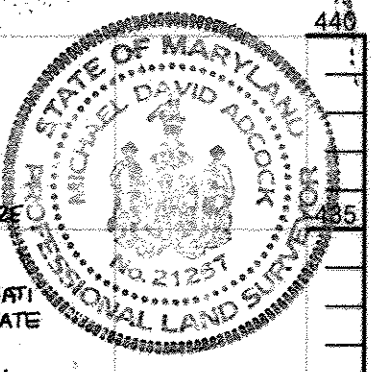
PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 32025, EXPIRATION DATE: JUNE 20, 2011.



### AS-BUILT CERTIFICATION

I HEREBY CERTIFY BY MY SEAL THAT THE CONDITIONS SHOWN ON THIS PLAN WERE CONSTRUCTED TO THE LINES AND GRADES SHOWN ON THIS AS-BUILT PLAN, AND MEET THE APPROVED PLANS AND SPECIFICATIONS AND ALSO THAT THESE DOCUMENTS WERE PREPARED BY ME OR UNDER MY RESPONSIBLE CHARGE AND THAT I AM A DULY LICENSED PROFESSIONAL LAND SURVEYOR OR UNDER THE LAWS OF THE STATE OF MARYLAND.

*Michael D. Adcock* 3/12/13  
 MICHAEL D. ADCOCK, PROFESSIONAL LAND SURVEYOR  
 MD REG. NO. 22251, EXPIRATION DATE: 10-6-16-15



SOILS LEGEND		
SYMBOL	NAME / DESCRIPTION	GROUP
BcC3	BELTSVILLE SILT LOAM, 5 TO 10 PERCENT SLOPES, SEVERELY ERODED	C
CmB2	CHILLUM SILT LOAM, 1 TO 5 PERCENT SLOPES, MODERATELY ERODED	B
CnB2	CHILLUM-FAIRFAX LOAMS, 1 TO 5 PERCENT SLOPES, MODERATELY ERODED	B
luB	LUKA LOAM, LOCAL ALLUVIUM, 1 TO 5 PERCENT SLOPES	C
SIB2	SASSAFRAS LOAM, 1 TO 5 PERCENT SLOPES, MODERATELY ERODED	B
SIC2	SASSAFRAS LOAM, 5 TO 10 PERCENT SLOPES, MODERATELY ERODED	B
WoB2	WOODSTOWN SANDY LOAM, 1 TO 5 PERCENT SLOPES, MODERATELY ERODED	C

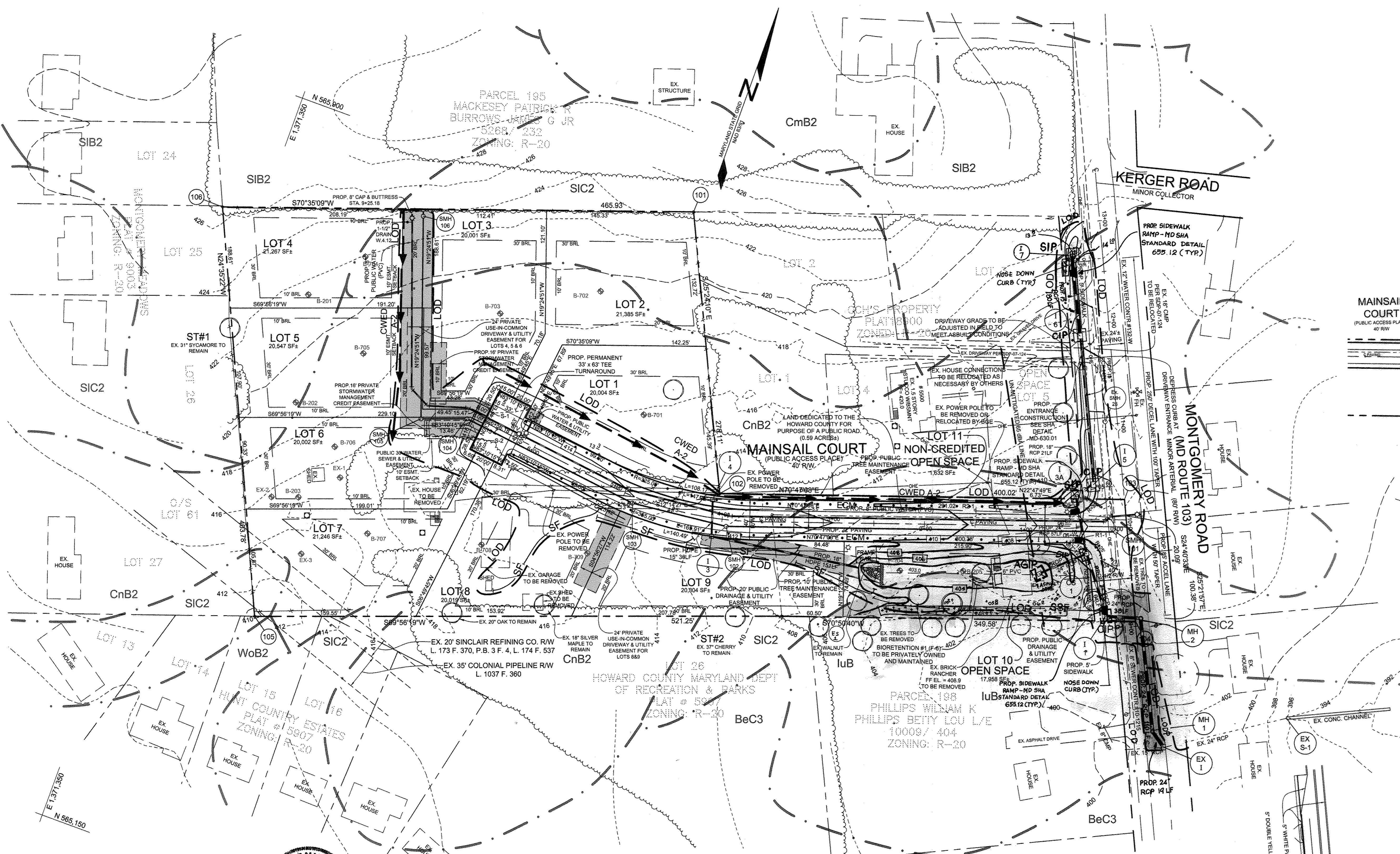
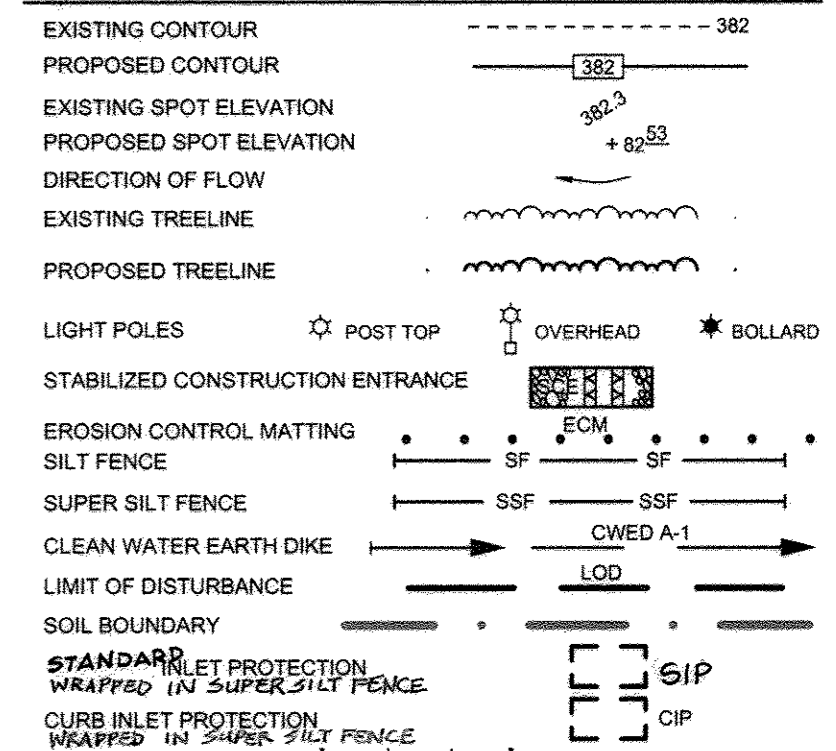
**GRADING NOTES:**

- THE PROPOSED SWALE ALONG MONTGOMERY ROAD IS TO BE IMMEDIATELY STABILIZED WITH SOD.
- THE GRADING ASSOCIATED WITH I-5 AND I-3A IS TO BE IMMEDIATELY STABILIZED WITH SOD.
- FOR SOD SPECIFICATIONS SEE NOTES ON SHEET 4.

MD 103 DITCH SCHEDULE		
STATION	OFFSET*	ELEVATION*
9+08	39' LEFT	402.0
9+50	39' LEFT	403.0

\*OFFSET AND ELEVATION GIVEN TO THE C OF SWALE

**LEGEND**



NOTES: - CONTRACTOR TO REFERENCE SECTION 104 OF THE SHA STANDARDS AND SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS.  
 - FOR SHOULDER WORK USE SHA TEMPORARY TRAFFIC CONTROL TYPICAL MD 104-02.02  
 - FOR ONE LANE CLOSURE USE SHA TEMPORARY TRAFFIC CONTROL TYPICAL MD 104-02.10  
 - FOR STAGED ROADWAY CONSTRUCTION USE SHA TEMPORARY TRAFFIC CONTROL TYPICAL MD 104-01.28  
 - AT NO TIME SHALL MONTGOMERY ROAD BE CLOSED IN BOTH DIRECTIONS AT THE SAME TIME.

**TRAFFIC CONTROL PLAN**

NOT TO SCALE

NOTE: FOR MD ROUTE 103 IMPROVEMENTS, TRAFFIC CONTROL AND STRIPING PLAN - SEE MARYLAND ROUTE 103 ACCESS PERMIT EXHIBIT

**OWNER/DEVELOPER**

BONNIE ORCHARD, LLC  
 8855 P COLUMBIA 103 PARKWAY  
 COLUMBIA, MARYLAND 21045  
 410.730.1810

**AS-BUILT GRADING, SEDIMENT AND EROSION CONTROL PLAN AND TRAFFIC DETAILS**

**BONNIE ORCHARD**

LOTS 1 THRU 9 AND OPEN SPACE LOTS 10 AND 11  
 DPZ FILE NO. S: SP-03-018 (VOIDED 1.20.04), S-04-007, F-03-152, W-132, 10-1215  
 WP-07-059, P-07-004  
 TAX MAP 31 GRID 21 ZONED R-20 PARCEL 565 & 595  
 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@sillandco.com

DESIGN BY: PS/JT  
 DRAWN BY: JT  
 CHECKED BY: PS  
 SCALE: AS SHOWN  
 DATE: DECEMBER 21, 2009  
 PROJECT #: 06-010  
 SHEET #: 3 of 7

**PLAN VIEW**  
SCALE: 1"=50'

NO.	DESCRIPTION	DATE
2	ADD AS-BUILT INFORMATION, BIO POND #1	03-12-15
1	ADD INLET I-7; RELOCATE SIDEWALK RAMPS; ADD RAMPS, ADD INLET PROTECTION #4, #5, #6, #7; REVISE BIORETENTION GRADING & NO WOODY ZONE; RELOCATE MH #2.	8/09/12

**ENGINEER'S 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: *Paul M. Sill*  
 SIGNATURE OF ENGINEER  
 PAUL M. SILL, P.E.  
 DATE: 12/22/09

**DEVELOPER'S CERTIFICATE**  
 I HEREBY 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 SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.

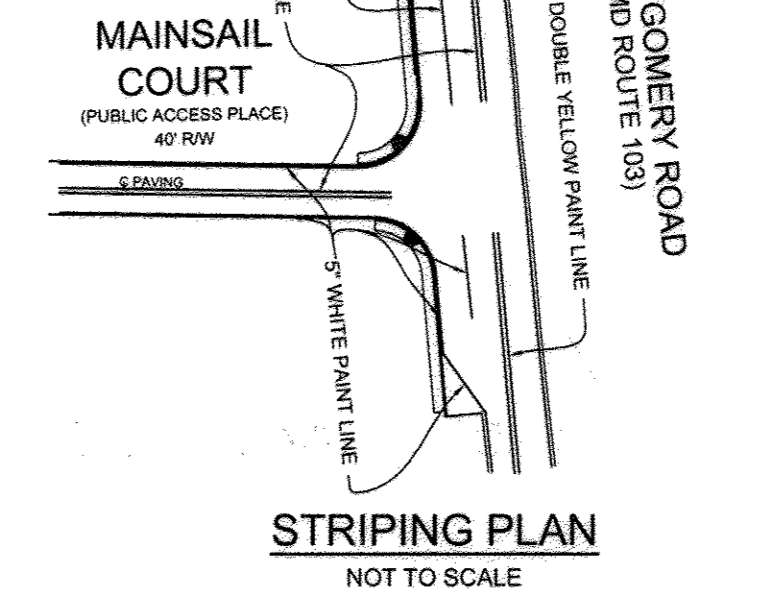
Signature: *Michael D. Adcock*  
 SIGNATURE OF DEVELOPER  
 DATE: 12/21/09

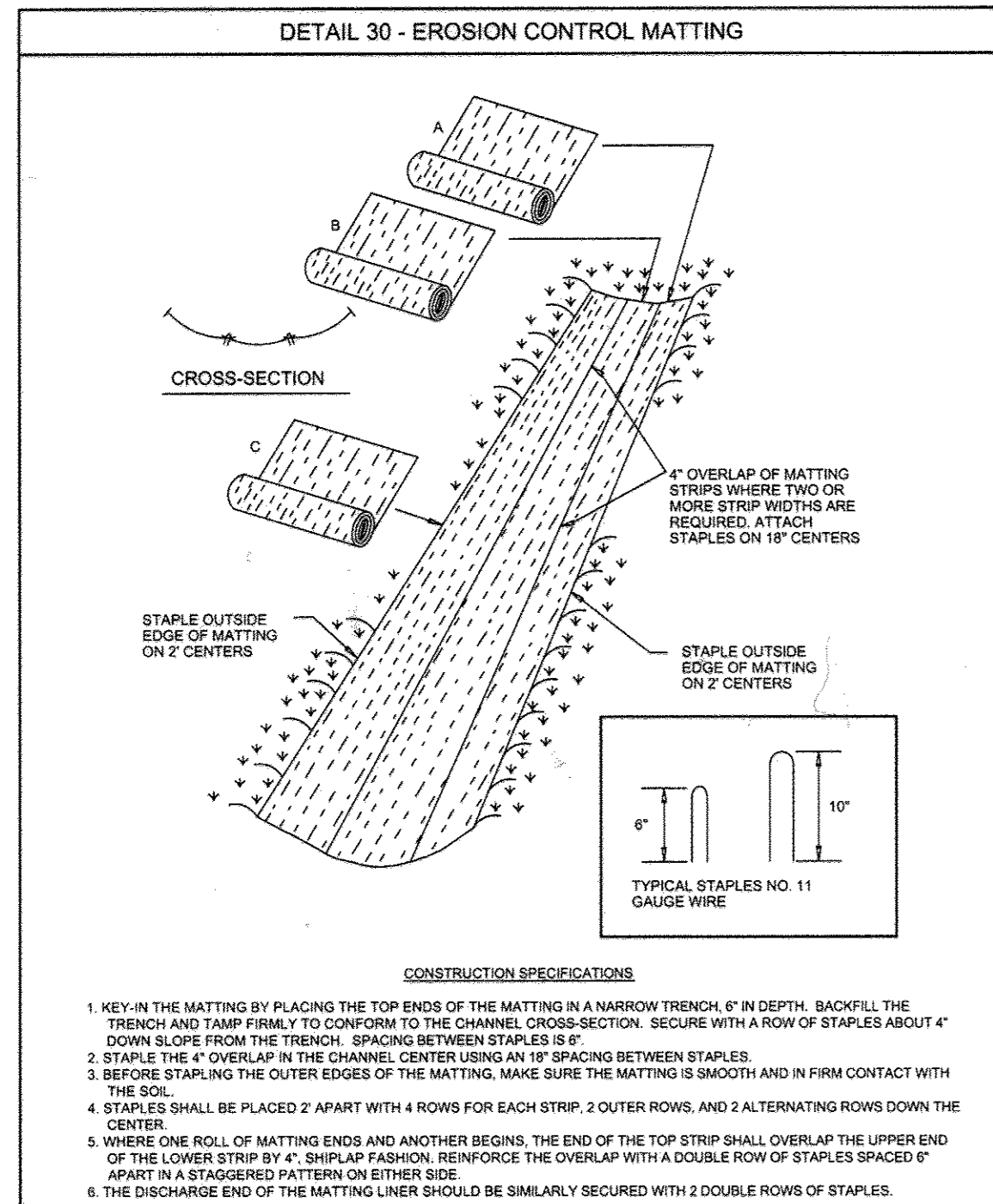
**AS-BUILT CERTIFICATION**

I HEREBY CERTIFY BY MY SEAL THAT THE CONDITIONS SHOWN ON THIS PLAN WERE CONSTRUCTED TO THE LINES AND GRADES SHOWN ON THIS "AS-BUILT" PLAN, AND MEET THE APPROVED PLANS AND SPECIFICATIONS AND ALSO THAT THESE DOCUMENTS WERE PREPARED BY ME OR UNDER MY RESPONSIBLE CHARGE AND THAT I AM A DULY LICENSED PROFESSIONAL LAND SURVEYOR UNDER THE LAWS OF THE STATE OF MARYLAND.

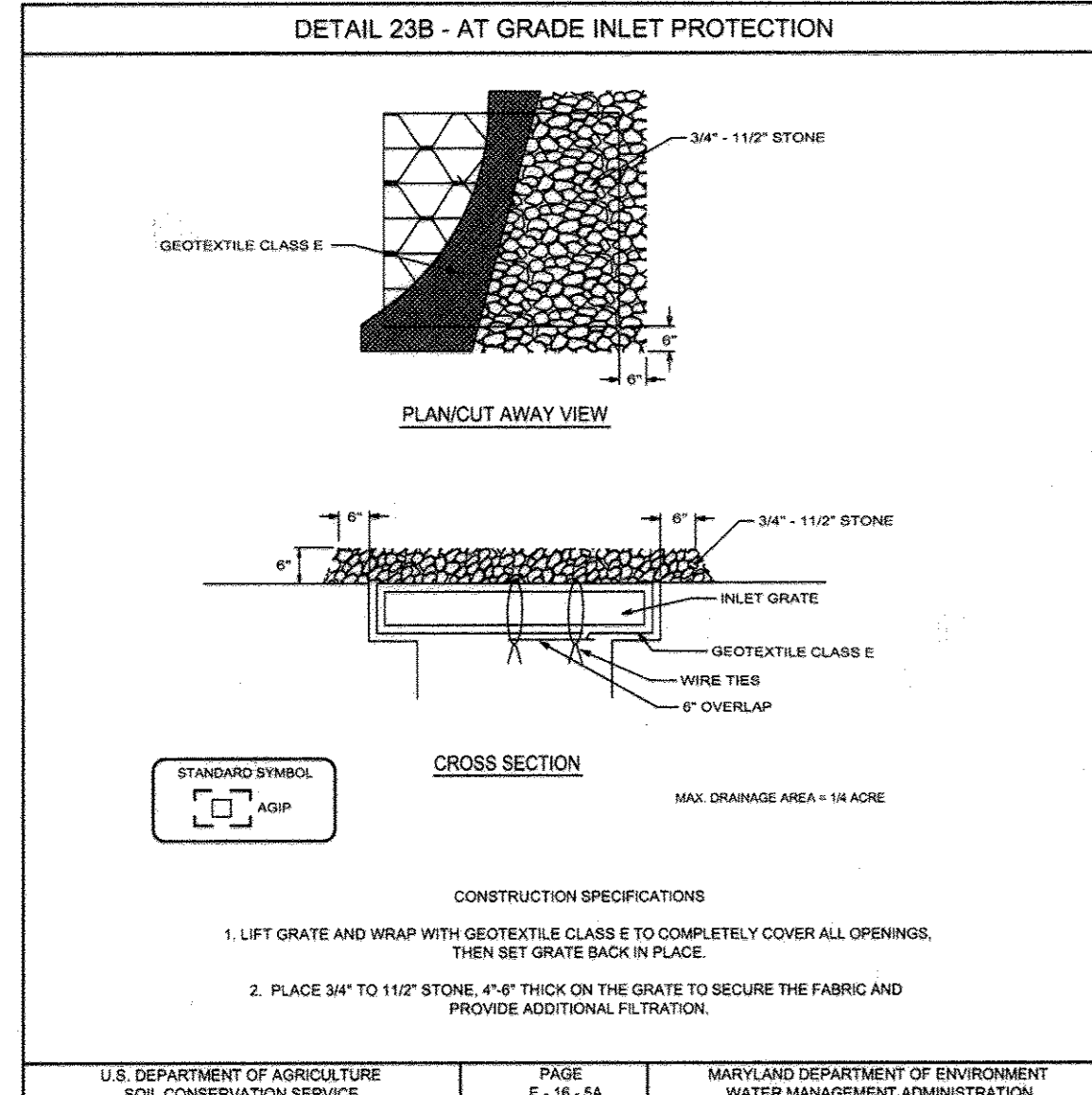
Signature: *Michael D. Adcock*  
 MICHAEL D. ADCOCK, PROFESSIONAL LAND SURVEYOR  
 MD REG. NO. 21251, EXPIRATION DATE: 06-10-15  
 DATE: 3/12/12

<p>APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING</p> <p>Signature: <i>Robert S. ...</i>        CHIEF, DIVISION OF LAND DEVELOPMENT        DATE: 2/3/10</p>	<p>APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.</p> <p>Signature: <i>William J. ...</i>        CHIEF, BUREAU OF HIGHWAYS        DATE: 2-5-10</p>	<p>THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT</p> <p>Signature: <i>John P. ...</i>        HOWARD SCD        DATE: 1/7/10</p>
--	---	--

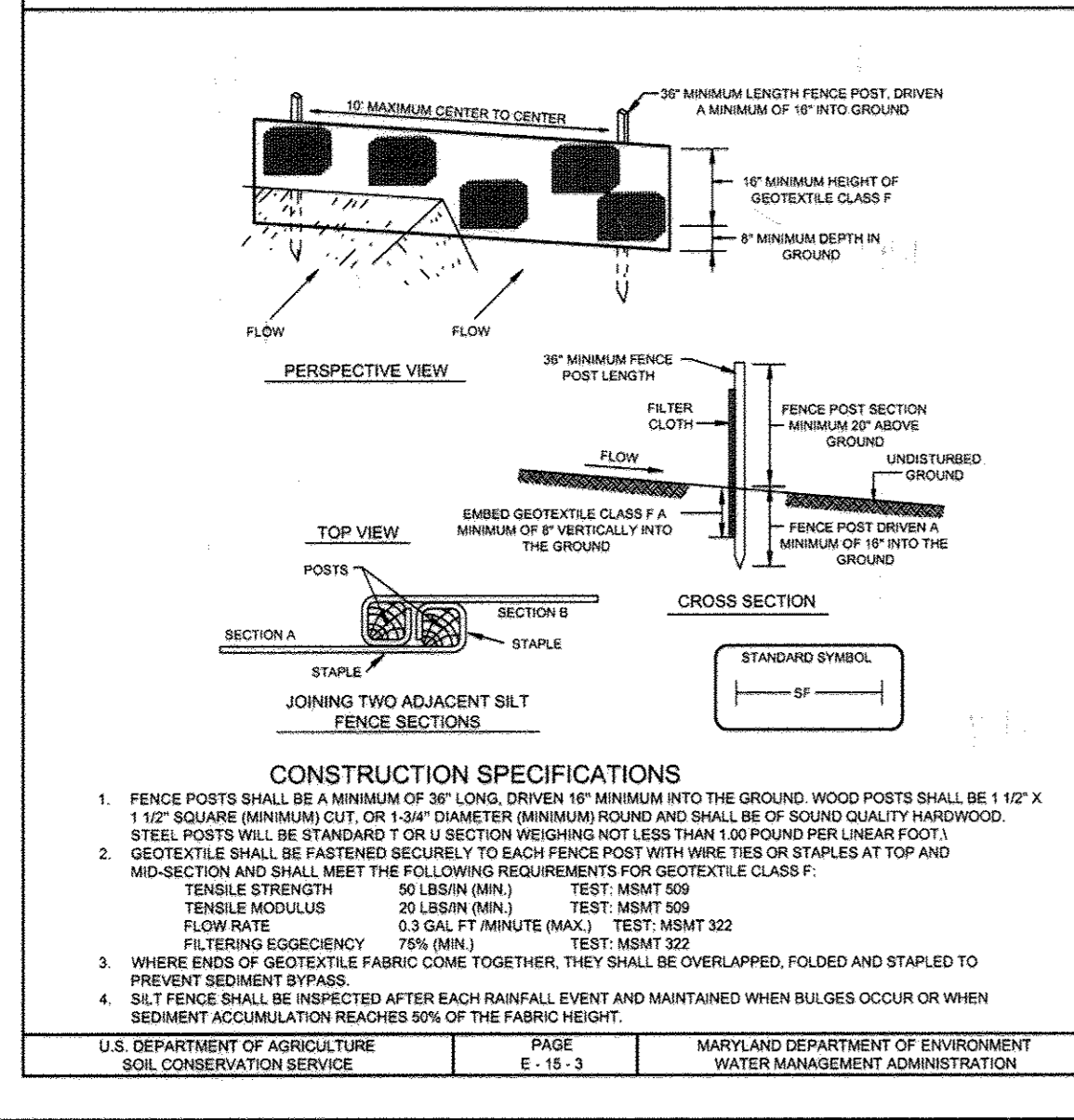




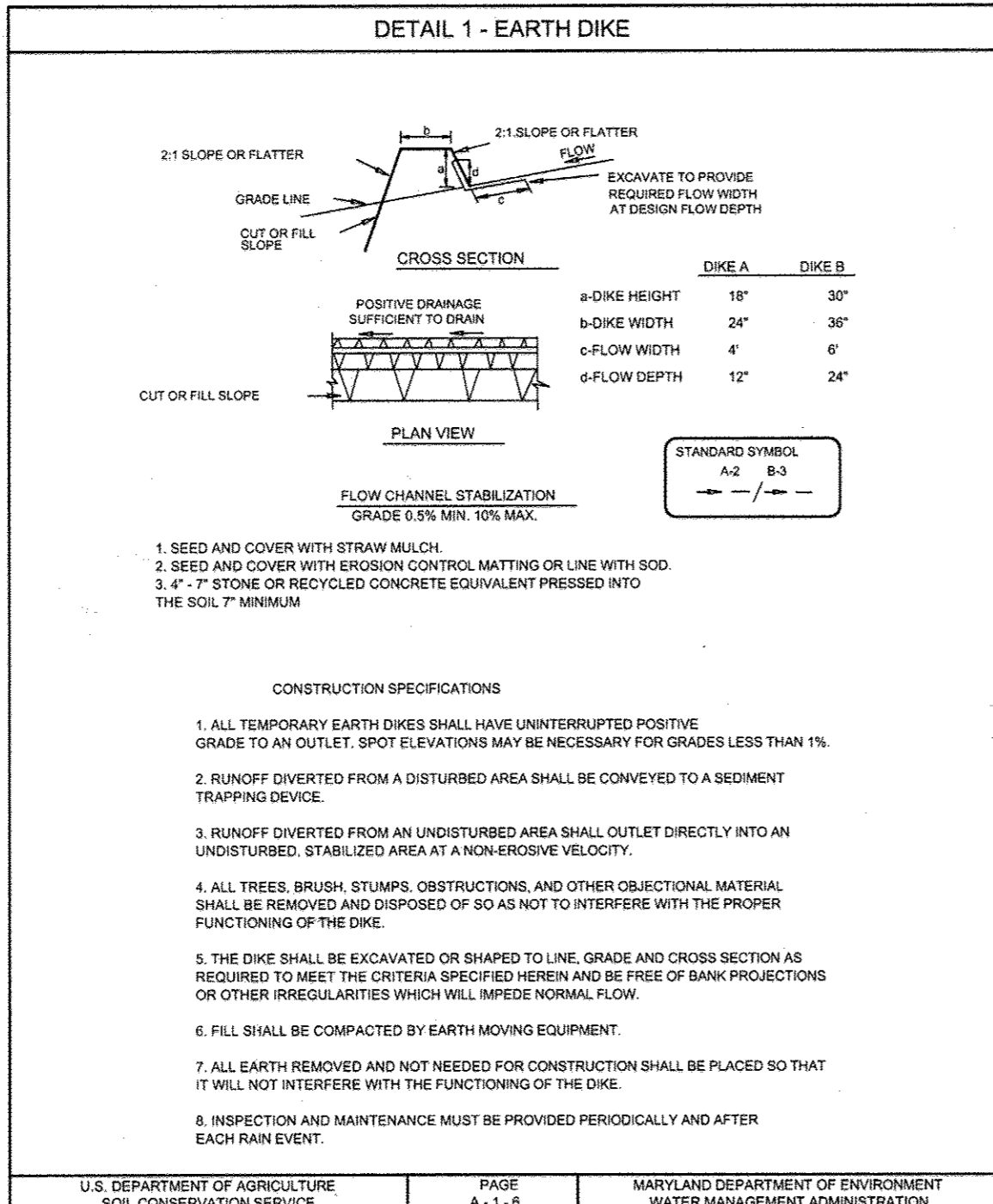
U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE G-22-2	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
---	----------------	---



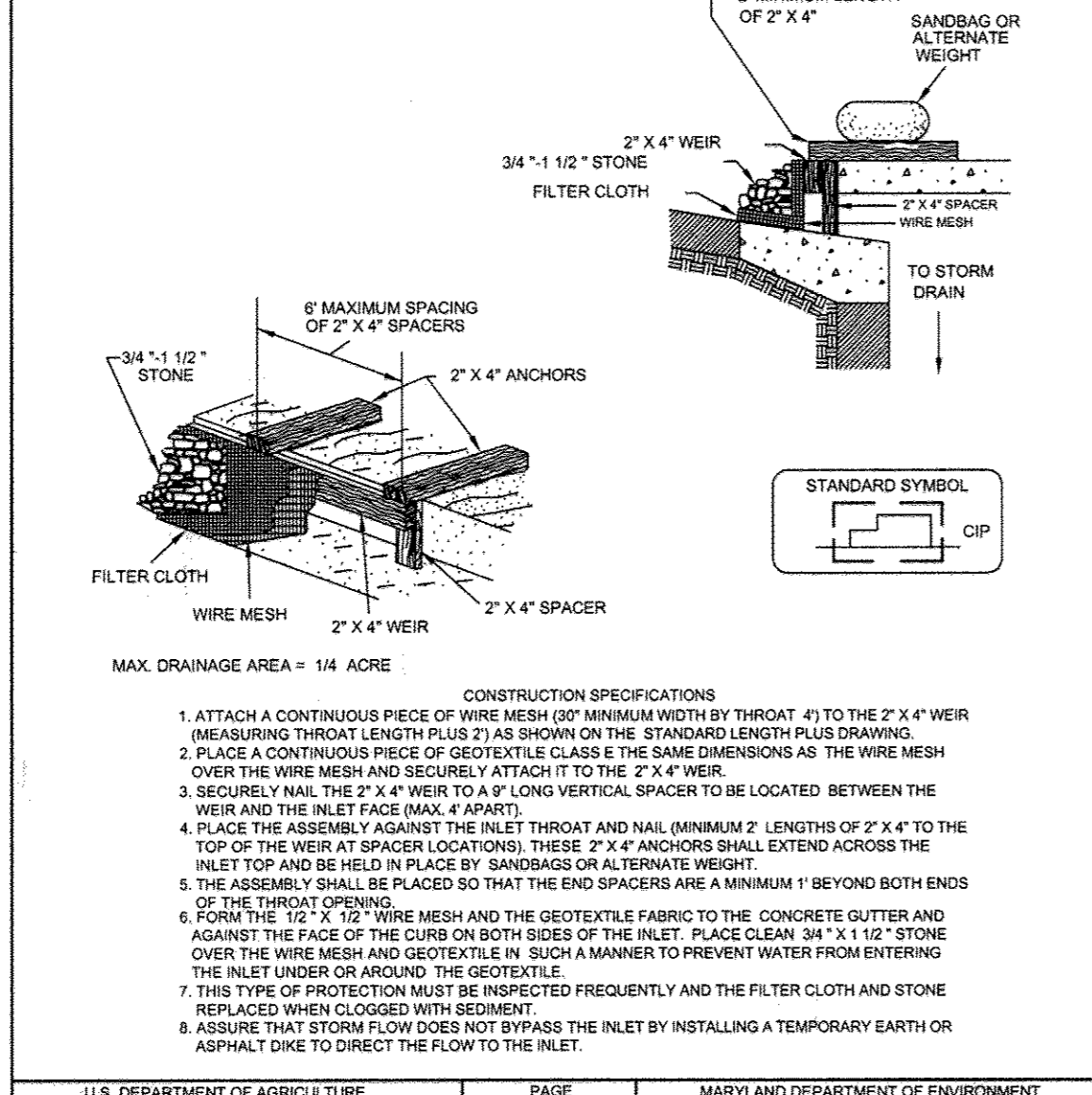
U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE E-16 SA	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
---	-----------------	---



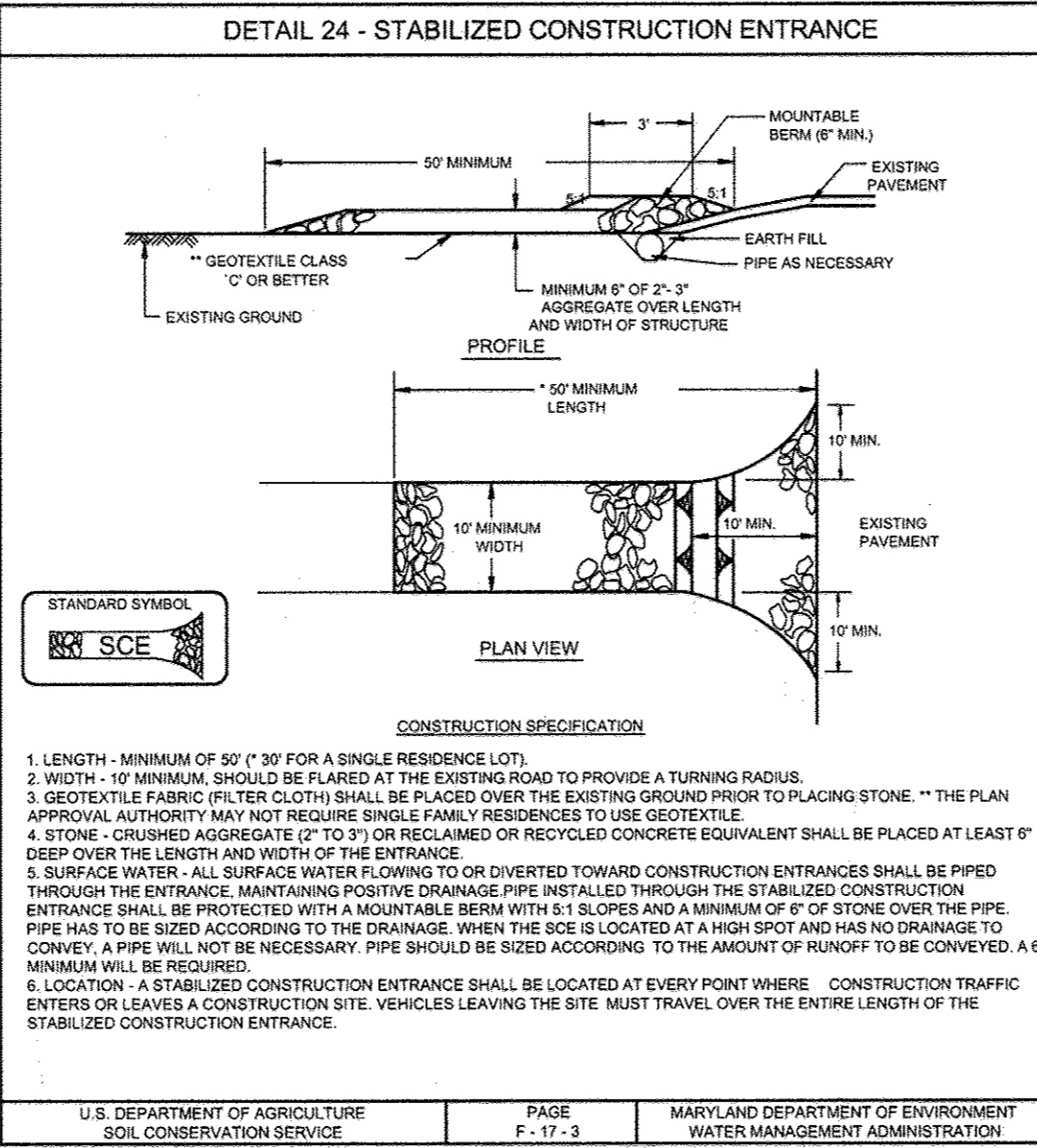
U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE E-15-3	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
---	----------------	---



U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE A-11-6	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
---	----------------	---



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



U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE F-17-2	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
---	----------------	---

### 21.0 STANDARDS AND SPECIFICATIONS FOR TOPSOILS

**DEFINITION:**  
I. FOR SITES HAVING DISTURBED AREAS UNDER 5 ACRES.  
II. PLACE TOPSOIL (IF REQUIRED) AND APPLY SOIL AMENDMENTS AS SPECIFIED IN 20.0 VEGETATIVE STABILIZATION - SECTION I - VEGETATIVE STABILIZATION METHODS AND MATERIALS.

**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.

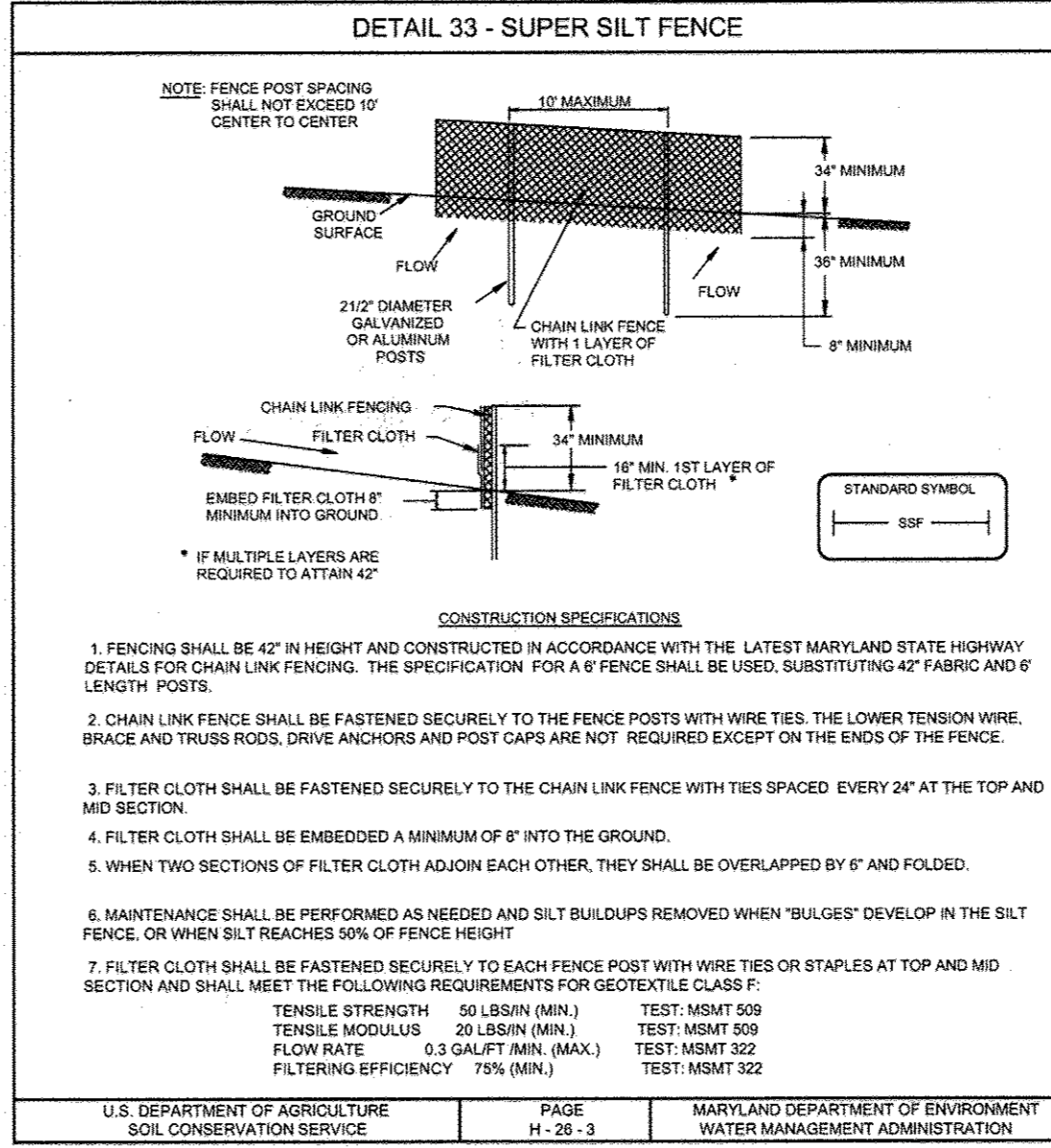
**CONDITIONS WHERE PRACTICE APPLIES:**  
I. THIS PRACTICE IS LIMITED TO AREAS HAVING 2:1 OR FLATTER SLOPES WHERE:  
A. THE TEXTURE OF THE EXPOSED SUBSOIL/PARENT MATERIAL IS NOT ADEQUATE TO PRODUCE VEGETATIVE GROWTH.  
B. THE SOIL MATERIAL IS SO SHALLOW THAT THE ROOTING ZONE IS NOT DEEP ENOUGH TO SUPPORT 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 CONTIGUOUS TEXTURED SUBSOILS AND SHALL CONTAIN LESS THAN 5% BY VOLUME OF CINDERS, STONES, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIAL LARGER THAN 1 AND 1/2" IN DIAMETER.  
II. TOPSOIL MUST BE FREE OF PLANTS OR PLANT PARTS SUCH AS BERMUDA GRASS, QUACKGRASS, JOHNSONGRASS, NUTCRACKER, POLYNYL, 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.

**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 AS 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, 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. WHEN THE SUBSOIL IS EXCESSIVELY WET OR MOIST, IT MAY OTHERWISE BE DETRIMENTAL TO PROPER GRADING AND SEEDING PREPARATION.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE H-29-3	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
---	----------------	---



U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE H-29-3	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
---	----------------	---

### PERMANENT SEEDING NOTES

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

SEEDS 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/1000 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 (22 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 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) 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

SEEDS 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 (32 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.

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

### SEDIMENT CONTROL NOTES

- 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).
- 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 THERE TO.
- 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.
- ALL SEDIMENT TRAPS, BASINS, AND WARNING SIGNS MUST BE FENCED AND POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 7, HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
- 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.
- ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMITS FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- SITE ANALYSIS

TOTAL AREA:	5.40 ACRES
AREA DISTURBED:	2.41 ACRES
AREA TO BE ROOFED OR PAVED:	0.42 ACRES
AREA TO BE VEGETATIVELY STABILIZED:	1.99 ACRES
TOTAL CUT:	2087 CY
TOTAL FILL:	813 CY
OFFSITE WASTE/BORROW AREA LOCATION:	

- ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
- ADDITIONAL SEDIMENT CONTROL STRUCTURES MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF PERMANENT 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.
- 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.

### SOD SPECIFICATIONS

TO PROVIDE QUICK COVER ON DISTURBED AREAS (2:1 GRADE OR FLATTER).

**A. GENERAL SPECIFICATIONS:**

- CLASS OF TURFGRASS SOD SHALL BE MARYLAND OR VIRGINIA STATE CERTIFIED OR APPROVED. SOD LABELS SHALL BE MADE AVAILABLE TO THE JOB FOREMAN AND INSPECTOR.
- SOD SHALL BE MACHINE CUT IN A UNIFORM SOIL THICKNESS OF 3/4" PLUS OR MINUS 1/4". AT THE TIME OF CUTTING, MEASUREMENT FOR THICKNESS SHALL INCLUDE TOP GROWTH AND THATCH. INDIVIDUAL PIECES OF SOD SHALL BE CUT TO THE SUPPLIER'S WIDTH AND LENGTH. MAXIMUM ALLOWABLE DEVIATION FROM STANDARD WIDTHS AND LENGTHS SHALL BE 5 PERCENT. BROKEN EDGES AND TORN OR UNEVEN ENDS WILL NOT BE ACCEPTABLE.
- STANDARD SIZE SECTIONS OF SOD SHALL BE STRONG ENOUGH TO SUPPORT THEIR OWN WEIGHT AND RETAIN THEIR SIZE AND SHAPE WHEN SUSPENDED VERTICALLY TO THE UPPER 10 PERCENT OF THE SECTION.
- SOD SHALL BE HARVESTED, DELIVERED, AND INSTALLED WITHIN A PERIOD OF 96 HOURS. SOD NOT TRANSPLANTED WITHIN THIS PERIOD SHALL BE APPROVED BY AN AGRONOMIST OR SOIL SCIENTIST PRIOR TO ITS INSTALLATION.

**B. SOD INSTALLATION:**

- DURING PERIODS OF EXCESSIVELY HIGH TEMPERATURE OR IN AREAS HAVING DRY SUBSOIL, THE SUBSOIL SHALL BE LIGHTLY IRRIGATED IMMEDIATELY PRIOR TO LAYING THE SOD.
- THE FIRST ROW OF SOD SHALL BE LAID IN A STRAIGHT LINE WITH SUBSEQUENT ROWS PLACED PARALLEL TO AND TIGHTLY WEDGED AGAINST EACH OTHER. LATERAL JOINTS SHALL BE STAGGERED TO PROMOTE MORE UNIFORM GROWTH AND STRENGTH. ENSURE THAT SOD IS NOT STRETCHED OR OVERLAPPED AND THAT ALL JOINTS ARE BUTTED TIGHT IN ORDER TO PREVENT VOIDS WHICH WOULD CAUSE AIR DRYING OF THE ROOTS.
- WHEREVER POSSIBLE, SOD SHALL BE LAID WITH THE LONG EDGES PARALLEL TO THE CONTOUR AND WITH STAGGERING JOINTS. SOD SHALL BE ROLLED AND TAMPED, PEGGED OR OTHERWISE SECURED TO PREVENT SLIPPAGE ON SLOPES AND TO ENSURE SOLID CONTACT BETWEEN SOD ROOTS AND THE UNDERLYING SOIL SURFACE.
- SOD SHALL BE WATERED IMMEDIATELY FOLLOWING ROLLING OR TAMPING UNTIL THE UNDERSIDE OF THE NEW SOD PAD AND SOIL SURFACE BELOW THE SOD ARE THOROUGHLY WET. THE OPERATIONS OF LAYING, TAMPING, AND IRRIGATING FOR ANY PIECE OF SOD SHALL BE COMPLETED WITHIN EIGHT HOURS.

**C. SOD MAINTENANCE:**

- IN THE ABSENCE OF ADEQUATE RAINFALL, WATERING SHALL BE PERFORMED DAILY OR AS OFTEN AS NECESSARY DURING THE FIRST WEEK AND IN SUFFICIENT QUANTITIES TO MAINTAIN MOIST SOIL TO A DEPTH OF 4". WATERING SHOULD BE DONE DURING THE HEAT OF THE DAY TO PREVENT WILTING.
- AFTER THE FIRST WEEK, SOD WATERING IS REQUIRED AS NECESSARY TO MAINTAIN ADEQUATE MOISTURE CONTENT.
- THE FIRST MOWING OF SOD SHOULD NOT BE ATTEMPTED UNTIL THE SOD IS FIRMLY ROOTED. NO MORE THAN 1/3 OF THE GRASS LEAF SHALL BE REMOVED BY THE INITIAL CUTTING OR SUBSEQUENT CUTTINGS. GRASS HEIGHT SHALL BE MAINTAINED BETWEEN 2" AND 3" UNLESS OTHERWISE SPECIFIED.

AS-BUILT CERTIFICATION

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

MICHAEL D. ADCOCK, PROFESSIONAL LAND SURVEYOR  
MD REG. NO. 21527, EXPIRATION DATE: 06-11-15

OWNER/DEVELOPER  
BONNIE ORCHARD, LLC  
8835-P COLUMBIA 100 PARKWAY  
COLUMBIA, MARYLAND 21045  
410.730.1810

AS-BUILT

### SEDIMENT AND EROSION CONTROL NOTES AND DETAILS

**BONNIE ORCHARD**  
LOTS 1 THRU 9 AND OPEN SPACE LOTS 10 AND 11  
DPZ FILE NO. S: SP-03-018 (VOIDED 1.20.04), S-04-007, F-03-152, W-132, 10-1215  
WP-07-059, P-07-004

TAX MAP 31 GRID 21 ZONED R-20  
2ND ELECTION DISTRICT

PARCEL 565 & 595  
HOWARD COUNTY, MARYLAND

DESIGN BY: PSJT  
DRAWN BY: JT  
CHECKED BY: PS  
SCALE: AS SHOWN  
DATE: DECEMBER 21, 2009  
PROJECT #: 06-010  
SHEET #: 4 of 7

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
*Ket Sheleah* 2/23/10  
CHIEF, DIVISION OF LAND DEVELOPMENT

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
*Michael D. Adcock* 2-5-10  
CHIEF, BUREAU OF HIGHWAYS

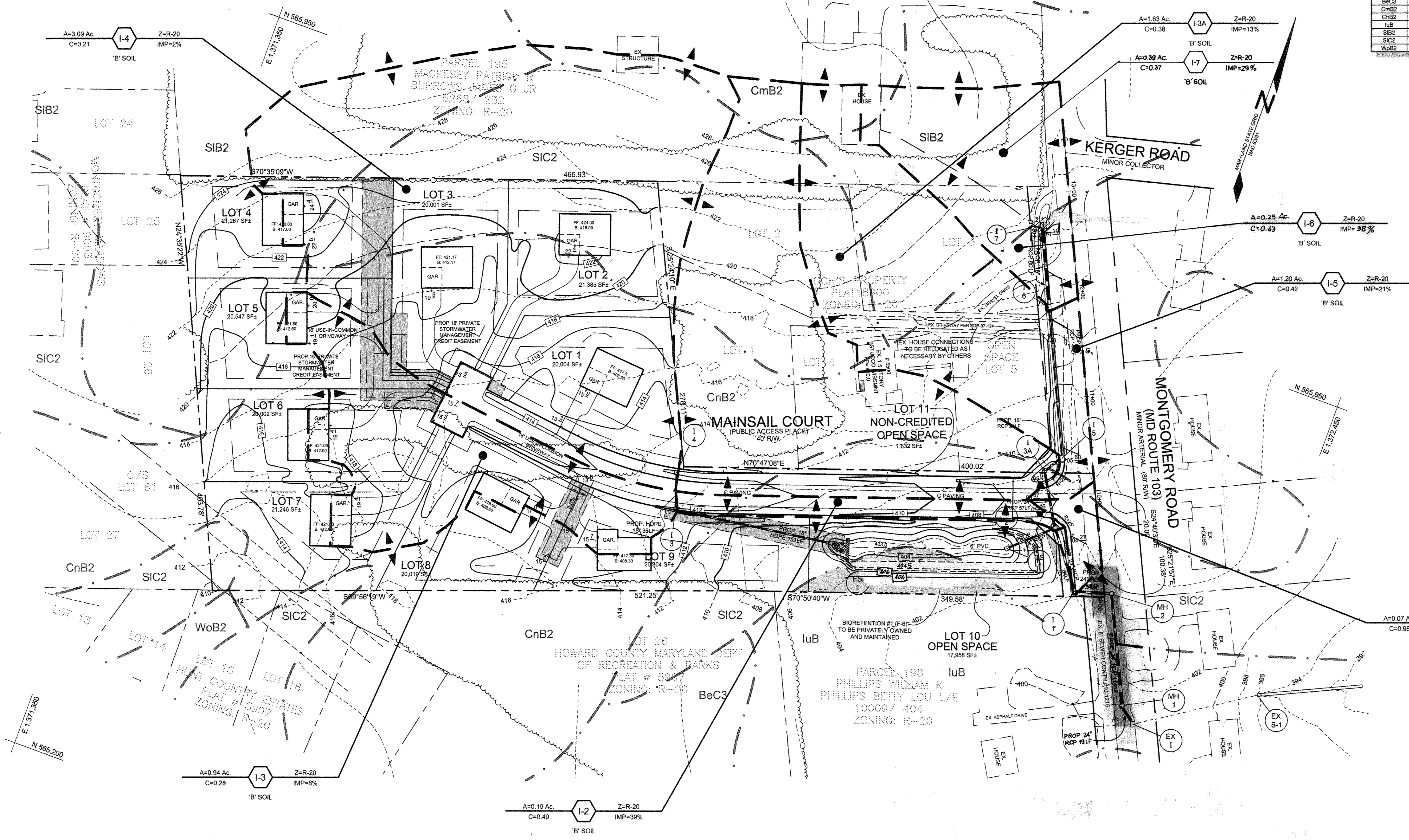
THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT

ENGINEERS CERTIFICATE  
"I CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL CERTIFICATE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."  
*John P. Rolston* 1/7/10  
SIGNATURE OF ENGINEER  
PAUL M. SILL, P.E.

DEVELOPER'S CERTIFICATE  
"I CERTIFY THAT ALL DISTURBED AREAS 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."  
*Michael D. Adcock* 12/22/09  
SIGNATURE OF DEVELOPER  
DATE



SOILS LEGEND		
SYMBOL	NAME / DESCRIPTION	GROUP
BcC3	BELTSVILLE SILT LOAM, 5 TO 10 PERCENT SLOPES, SEVERELY ERODED	C
CmB2	CHILLUM SILT LOAM, 1 TO 5 PERCENT SLOPES, MODERATELY ERODED	B
CnB2	CHILLUM-FAIRFAX LOAMS, 1 TO 5 PERCENT SLOPES, MODERATELY ERODED	B
IuB	IUKA LOAM, LOCAL ALLUVIUM, 1 TO 5 PERCENT SLOPES	C
SIB2	SASSAFRAS LOAM, 1 TO 5 PERCENT SLOPES, MODERATELY ERODED	B
SIC2	SASSAFRAS LOAM, 5 TO 10 PERCENT SLOPES, MODERATELY ERODED	B
WoB2	WOODSTOWN SANDY LOAM, 1 TO 5 PERCENT SLOPES, MODERATELY ERODED	C



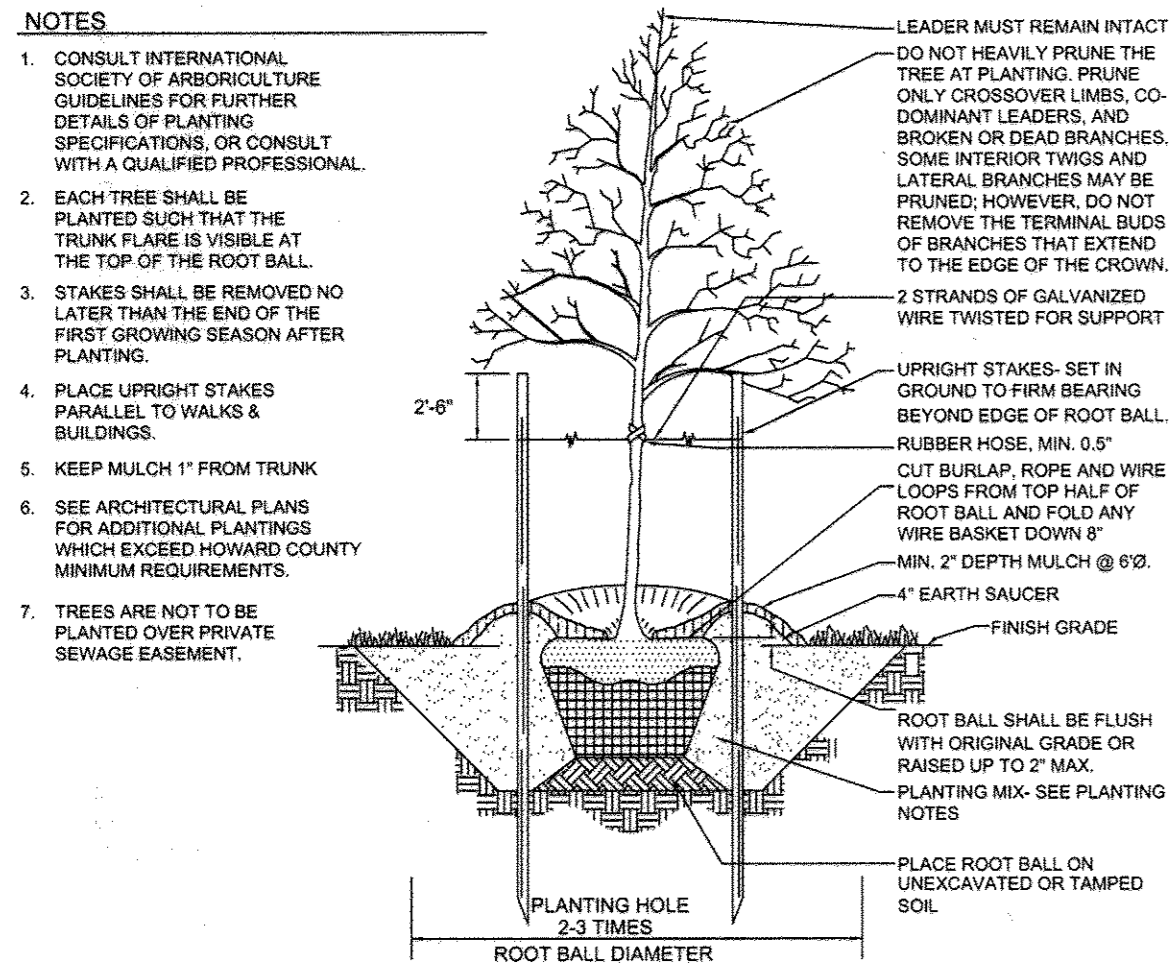
AS-BUILT CERTIFICATION  
 THERE IS NO "AS-BUILT" INFORMATION PROVIDED ON THIS SHEET.  
 Michael D. Adcock  
 MICHAEL D. ADCOCK, PROFESSIONAL LAND SURVEYOR  
 MD REG. NO. 21251, EXPIRATION DATE: 06-16-15  
 DATE: 3/12/13

OWNER/DEVELOPER  
 BONNIE ORCHARD, LLC  
 8835 P COLUMBIA 100 PARKWAY  
 COLUMBIA, MARYLAND 21045  
 410.730.1810

AS-BUILT  
**STORM DRAIN DRAINAGE AREA MAP**  
**BONNIE ORCHARD**  
 LOTS 1 THRU 9 AND OPEN SPACE LOTS 10 AND 11  
 DPZ. FILE NO. S: SP-03-018 (VOIDED 1.20.04), S-04-007, F-03-152, W-132, 10-1215  
 WP-07-059, P-07-004  
 TAX MAP 31 GRID 21 ZONED R-20 PARCEL 565 & 595  
 2ND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

	<b>Sill &amp; Adcock &amp; Associates · LLC</b> 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, JT DRAWN BY: JT CHECKED BY: PS SCALE: 1" = 50' DATE: DECEMBER 21, 2009 PROJECT #: 08-010 SHEET #: 8 of 7						
	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. 32024, EXPIRATION DATE: JUNE 30, 2011.							
	REVISIONS <table border="1"> <tr> <th>NO.</th> <th>DESCRIPTION</th> <th>DATE</th> </tr> <tr> <td>1</td> <td>ADD INLET I-7, RELOCATE SIDEWALK RAMPS, ADD 2 RAMPS, REVISE DA 1-6, REVISE BIORETENTION ON GRADING, RELOCATE MH 2</td> <td>08/03/12</td> </tr> </table>		NO.	DESCRIPTION	DATE	1	ADD INLET I-7, RELOCATE SIDEWALK RAMPS, ADD 2 RAMPS, REVISE DA 1-6, REVISE BIORETENTION ON GRADING, RELOCATE MH 2	08/03/12
	NO.	DESCRIPTION	DATE					
1	ADD INLET I-7, RELOCATE SIDEWALK RAMPS, ADD 2 RAMPS, REVISE DA 1-6, REVISE BIORETENTION ON GRADING, RELOCATE MH 2	08/03/12						
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING [Signature] 2/23/10 CHIEF, DIVISION OF LAND DEVELOPMENT APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS [Signature] 2-5-10 CHIEF, BUREAU OF HIGHWAYS								

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
 [Signature] 2/23/10  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
 [Signature] 2-5-10  
 CHIEF, BUREAU OF HIGHWAYS



TYPICAL TREE PLANTING AND STAKING  
DECIDUOUS TREES UP TO 2-1/2" CALIPER NOT TO SCALE

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

CATEGORY	ADJACENT TO PERIMETER PROPERTIES				
	1	2	3	4	5
PERIMETER FRONTAGE DESIGNATION					
LANDSCAPE TYPE					
LINEAR FEET OF ROADWAY FRONTAGE/PERIMETER	361	280	466	404	522
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET)	NO	NO	NO	NO	YES(1)
REMAINING PERIMETER LENGTH	361	280	466	404	522
CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET)	NO	NO	NO	NO	NO
REMAINING PERIMETER LENGTH					
NUMBER OF PLANTS REQUIRED					
SHADE TREES	1:60.7	1:60.5	1:60.8	1:60.7	1:60.7 (1)
EVERGREEN TREES	-	-	-	-	-
SHRUBS	-	-	-	-	-
NUMBER OF PLANTS PROVIDED					
SHADE TREES	7	5	8	7	7(1)
EVERGREEN TREES	-	-	-	-	-
OTHER TREES (2:1 SUBSTITUTION)	-	-	-	-	-
SHRUBS (10:1 SUBSTITUTION)	-	-	-	-	-
(DESCRIBE PLANT SUBSTITUTION CREDITS BELOW IF NEEDED)					

NOTES:  
1. CREDIT TAKEN FOR EXISTING 20" OAK AND 18" SILVER MAPLE.

**LANDSCAPE NOTES**

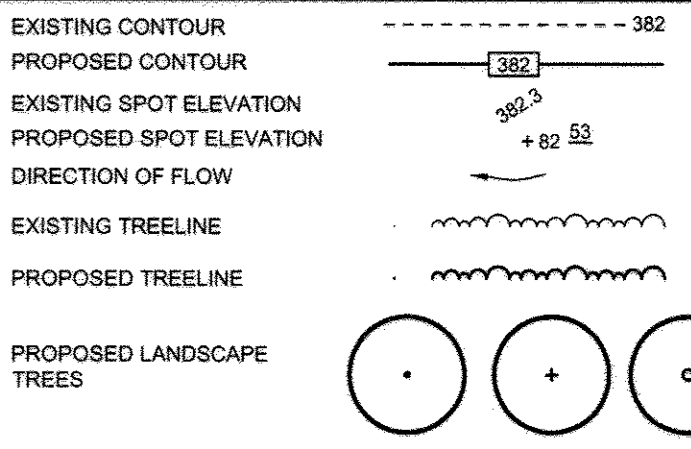
- AT THE TIME OF INSTALLMENT, ALL SHRUBS AND OTHER PLANTINGS HEREWITH LISTED AND APPROVED FOR THIS SITE, SHALL BE OF THE PROPER HEIGHT REQUIREMENTS IN ACCORDANCE WITH THE HOWARD COUNTY LANDSCAPING MANUAL. IN ADDITION, NO SUBSTITUTIONS OR RELOCATION OF REQUIRED PLANTINGS MAY BE MADE WITHOUT PRIOR REVIEW 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.
- 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.
- FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING WILL BE POSTED AS PART OF THE DEVELOPER'S AGREEMENT IN THE AMOUNT OF \$20,100.00 (\$9,900.00 FOR STREET TREES; 33 SHADE TREES @ \$300.00 EACH AND \$10,200.00 FOR PERIMETER LANDSCAPING TREES; 34 SHADE TREES @ \$300.00 EACH) AND WILL BE PLANTED AT THE SITE DEVELOPMENT PLAN STAGE.

STREET TREE SCHEDULE			
STREET NAME	LF REQUIRED	TREES REQUIRED	TREES PROVIDED
MAINSAIL COURT	1,310	33	33

LANDSCAPE SCHEDULE (STREET)				
KEY	QUANTITY	BOTANICAL NAME	SIZE	NOTE
AR	31	ACER RUBRUM 'RED SUNSET'	2 1/2"-3" CAL.	B & B
CC	2	RED SUNSET RED MAPLE	2 1/2"-3" CAL.	B & B
		CARPINUS CAROLINIANA	2 1/2"-3" CAL.	B & B
		AMERICAN HORNBEAM	2 1/2"-3" CAL.	B & B

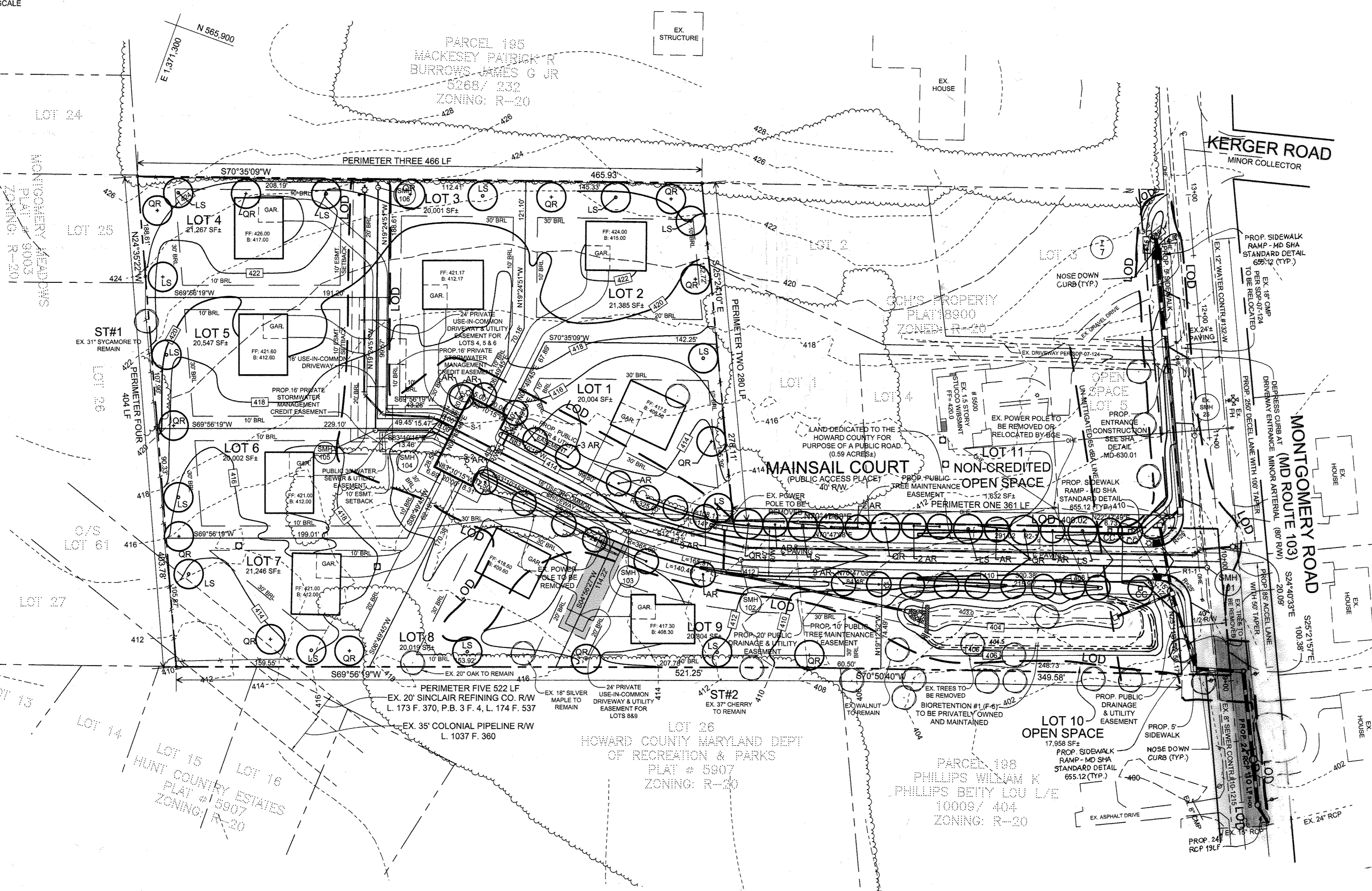
LANDSCAPE SCHEDULE (PERIMETER)				
KEY	QUANTITY	BOTANICAL NAME	SIZE	NOTE
QR	16	QUERCUS ROBUR 'FASTIGIATA'	2 1/2"-3" CAL.	B & B
LS	17	COLONIAL ENGLISH OAK	2 1/2"-3" CAL.	B & B
CC	1	LIQUIDAMBER STYRACIFLUA	2 1/2"-3" CAL.	B & B
		AMERICAN SWEETGUM	2 1/2"-3" CAL.	B & B
		CARPINUS CAROLINIANA	2 1/2"-3" CAL.	B & B
		AMERICAN HORNBEAM	2 1/2"-3" CAL.	B & B

**LEGEND**



**Forest Conservation Worksheet 2.2**

Net Tract Area					
A.	Total Tract Area		A = 5.40		
B.	Deductions		B = 0.00		
C.	Net Tract Area		C = 5.40		
Land Use Category					
Input the number "1" in the appropriate land use zoning, and limit to only one entry					
ARA	MDR	IDA	HDR	MPD	CIA
0	0	1	0	0	0
D. Afforestation Threshold ( Net Tract Area x 15% )				D = 0.81	
E. Conservation Threshold ( Net Tract Area x 20% )				E = 1.08	
Existing Forest Cover					
F.	Existing Forest Cover within the Net Tract Area		F = 0.00		
G.	Area of Forest Above Conservation Threshold		G = 0.00		
Break Even Point					
H.	Break Even Point		H = 0.00		
I.	Forest Clearing Permitted Without Mitigation		I = 0.00		
Proposed Forest Clearing					
J.	Total Area of Forest to be Cleared		J = 0.00		
K.	Total Area of Forest to be Retained		K = 0.00		
Planting Requirements					
L.	Reforestation for Clearing Above the Conservation Threshold		L = 0.00		
M.	Reforestation for Clearing Below the Conservation Threshold		M = 0.00		
N.	Credit for Retention above the Conservation Threshold		N = 0.00		
P.	Total Reforestation Required		P = 0.00		
Q.	Total Afforestation Required		Q = 0.81		
R.	Total Planting Requirement		R = 0.81		



AS-BUILT CERTIFICATION  
THERE IS NO "AS-BUILT" INFORMATION PROVIDED ON THIS SHEET.  
*Michael D. Adcock*  
MICHAEL D. ADCOCK, PROFESSIONAL LAND SURVEYOR  
NO. REG. NO. 21257, EXPIRATION DATE: 04-16-15  
3/12/13  
DATE

OWNER/DEVELOPER  
BONNIE ORCHARD, LLC  
885-P COLUMBIA 100 PARKWAY  
COLUMBIA, MARYLAND 21045  
410.730.1810

AS-BUILT  
FOREST CONSERVATION AND LANDSCAPE PLAN  
BONNIE ORCHARD  
LOTS 1 THRU 9 AND OPEN SPACE LOTS 10 AND 11  
DPZ FILE NO. S: SP-03-018 (VOIDED 1.20.04), S-04-007, F-03-152, W-132, 10-1215  
WP-07-059, P-07-004  
TAX MAP 31 GRID 21 ZONED R-20 PARCEL 565 & 595  
2ND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
*Kurt Sheard* 2/28/10  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE  
*Michael D. Adcock* 2/24/10  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
*Michael D. Adcock* 2-5-10  
CHIEF, BUREAU OF HIGHWAYS DATE

DEVELOPER'S BUILDER'S CERTIFICATE  
I CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN SECTION 18.124 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.  
*Michael D. Adcock* 1/24/10  
DATE

No.	DESCRIPTION	DATE
1	ADD INLET 1-7, ADD & RELOCATE STORM DRAIN PIPING, RELOCATE MH182, RELOCATE SIDEWALK RAMPS, ADD 2 RAMPS, REVISE BIOTRETENTION GRADING	08/09/12

**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@saailland.com

DESIGN BY: PS/JT  
DRAWN BY: JT  
CHECKED BY: PS  
SCALE: 1" = 50'  
DATE: DECEMBER 21, 2009  
PROJECT #: 08-010  
SHEET #: 7 of 7

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. 30225, EXPIRATION DATE: JUNE 20, 2011