

SHEET INDEX	
SHEET No.	SHEET
1	TITLE SHEET
2	VICTORY LANE - PLAN AND PROFILE
3	STREET TREE, GRADING AND SEDIMENT CONTROL PLAN
4	STREET TREE, GRADING AND SEDIMENT CONTROL PLAN
5	LANDSCAPE PLAN
6	ROADWAY DETAILS
7	STORM DRAIN PROFILES & STRUCTURE SCHEDULE
8	STORMWATER MANAGEMENT PROFILES AND DETAILS - BMP#1
9	STORMWATER MANAGEMENT PROFILES AND DETAILS - BMP#1
10	SEDIMENT CONTROL NOTES
11	SEDIMENT CONTROL DETAILS
12	STORM DRAIN DRAINAGE AREA MAP
13	SOIL BORINGS
14	FOREST CONSERVATION PLAN
15	STONE RESERVOIR PROFILE & DETAILS

FINAL ROAD CONSTRUCTION, GRADING AND STORMWATER MANAGEMENT PLAN

MERIWETHER FARM

SECTION TWO PHASE ONE

BUILDABLE LOTS 1 THRU 10, NON-BUILDABLE PRESERVATION PARCELS 'C' & 'D' AND BUILDABLE BULK PARCEL 'E'

(A RESUBDIVISION OF BUILDABLE BULK PARCEL 'A', MERIWETHER FARM, SECTION TWO, F-08-198)

ZONING: RC-DEO

TAX MAP No. 21 GRID No. 15, 16, 21 & 22 PARCEL No. 28

APPROVED: DEPARTMENT OF PUBLIC WORKS
W. J. Mallon 1-12-09
 CHIEF, BUREAU OF HIGHWAYS DATE

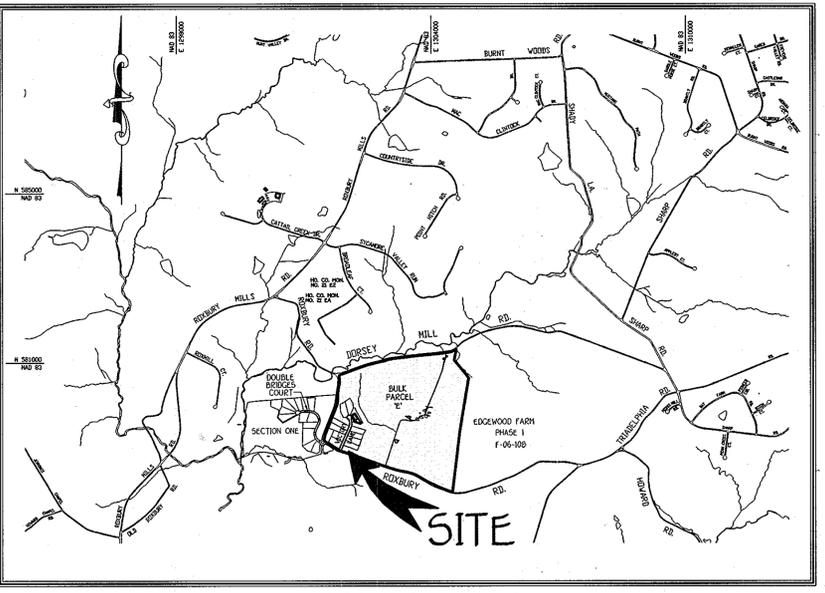
APPROVED: DEPARTMENT OF PLANNING AND ZONING
Cindy Hamstra 1/22/09
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Andrzej Chmura 1/16/09
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

- GENERAL NOTES:**
- 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 410-330-8500 AT LEAST 48 HOURS 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 COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM, HOWARD COUNTY HORIZONTAL AND VERTICAL CONTROL DATUM IS BASED ON HOWARD COUNTY GEODETIC CONTROL STATIONS.
 HOWARD COUNTY MONUMENT NO. 21 E1 N 582715489 ELEV. = 450.292
 E 150095994
 HOWARD COUNTY MONUMENT NO. 21 E2 N 582976443 ELEV. = 476.653
 E 1500868416
 - THE TRAFFIC STUDY FOR THIS PROJECT WAS PREPARED BY HARS GROUP DATED NOVEMBER, 2006 AND WAS APPROVED UNDER SP-07-007.
 - BACKGROUND INFORMATION:
 A. SUBDIVISION NAME: MERIWETHER FARM
 B. TAX MAP NO.: 21
 C. PARCEL NO.: 28
 D. ZONING: RC-DEO
 E. ELECTION DISTRICT: FOURTH
 F. TOTAL TRACT AREA: 177.862 AC. (BULK PARCEL 'A', PLAT NO. 3 ORIGINAL TRACT AREA = 183.068 AC.)
 G. NET AREA = 183.068 - 6.78 (FLOODPLAIN - 5.81 STEEP SLOPES OUTSIDE FLOODPLAIN = 176.479 AC.)
 H. AREA OF STEEP SLOPES 2% AND GREATER = 6.0 AC. TOTAL USBI AC. OUTSIDE FLOODPLAIN
 I. NO. OF BUILDABLE LOTS: 10
 J. NO. OF NON-BUILDABLE PRESERVATION PARCELS: 2
 K. NO. OF BUILDABLE BULK PARCELS: 1
 L. AREA OF BUILDABLE LOTS: 11,000 AC.
 M. AREA OF NON-BUILDABLE PRESERVATION PARCELS: 2,781 AC.
 N. AREA OF BUILDABLE BULK PARCELS: 162,902 AC.
 O. TOTAL AREA OF ROADWAY TO BE DEDICATED: 1,139 AC.
 P. AREA OF FLOODPLAIN: 6.78 AC.
 - NO CEMETERIES EXIST WITHIN THIS SUBDIVISION.
 - ALL FILL AREAS WITHIN ROADWAYS AND UNDER STRUCTURES SHALL BE COMPACTED TO A MINIMUM OF 95% COMPACTION OF AASHTO T-99.
 - PLAN SUBJECT TO PRIOR DPZ FILE NO. SP-07-009, F-08-198 & WP-09-043
 - THE PROPOSED WATER AND SEWER SYSTEMS SHALL BE PRIVATE.
 - THE SUBJECT PROPERTY IS LOCATED OUTSIDE OF THE METROPOLITAN DISTRICT.
 - TOPOGRAPHIC CONTOURS BASED ON AERIAL BY HANFORD AERIAL SURVEYS, INC. DATED APRIL 6, 2004.
 - THE LOTS SHOWN HEREON COMPLY WITH THE MINIMUM OWNERSHIP WIDTH AND LOT AREA AS REQUIRED BY THE MARYLAND STATE DEPARTMENT OF THE ENVIRONMENT.
 - BOUNDARY OUTLINE BASED ON FIELD RUN SURVEY PERFORMED BY FISHER, COLLINS & CARTER, INC. DATED JUNE 15, 2005.
 - SUBJECT PROPERTY ZONED RC-DEO PER THE 2004 ZONING REGULATIONS AND THE COMPLETE ZONING AMENDMENTS DATED 7/28/06.
 - THIS SUBDIVISION PLAN IS SUBJECT TO THE AMENDED FIFTH EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS AND THE ZONING REGULATIONS PER COUNCIL BILL NO. 49-2003 AND THE ZONING REGULATIONS AS AMENDED BY COUNCIL BILL NO. 75-2003. DEVELOPMENT OR CONSTRUCTION ON THIS LOTS OR PARCELS MUST COMPLY WITH SETBACK AND BUFFER REGULATIONS IN EFFECT AT THE TIME OF SUBMISSION OF A BUILDING OR GRADING PERMIT APPLICATION.
 - THERE ARE AREAS OF STEEP SLOPES (2% OR GREATER) LOCATED ON THIS PROPERTY AS DEFINED BY THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS, SECTION 16.15B. THESE AREAS ARE LOCATED WITHIN THE PRESERVATION PARCELS AND NOT ON THE RESIDENTIAL LOTS.
 - STORMWATER MANAGEMENT WILL BE PROVIDED IN ACCORDANCE WITH HOWARD COUNTY AND MARYLAND 37B SPECIFICATIONS. THE PROPOSED STORMWATER MANAGEMENT FOR THIS SITE IS CHANNEL PROTECTION AND WATER QUALITY AND IS PROVIDED IN THE FOLLOWING FACILITIES:
 a. BMP# 1 IS A MICRO-POND, EXTENDED DETENTION POND AND IS PRIVATELY OWNED BY HOA AND JOINTLY MAINTAINED BY HOA AND HOWARD COUNTY, LOCATED ON NON-BUILDABLE PRESERVATION PARCEL 'D'.
 b. BMP# 2, 3 & 4 ARE LEVEL SPREADERS, PRIVATELY OWNED AND MAINTAINED BY HOMEOWNER, LOCATED ON NEAR LOTS 1, 5 & 6 RESPECTIVELY.
 - THE NON-CRITICAL FLOODPLAIN STUDY FOR THIS PROJECT WAS PREPARED BY FISHER, COLLINS & CARTER, INC. DATED NOVEMBER 2006, AND SUPPLEMENTED WITH INFORMATION OBTAINED FROM HOCO. CAPITAL PROJECT D-1079 AND WAS APPROVED UNDER SP-07-007.
 - AS PER SECTION 10A1.4.B OF THE ZONING REGULATIONS, ONLY ONE EASEMENT HOLDER IS REQUIRED FOR PRESERVATION PARCELS DESIGNATED SOLELY FOR SWM FACILITIES OR COMMUNITY SEWERAGE DISPOSAL SYSTEMS.
 A. NON-BUILDABLE PRESERVATION PARCEL 'C' B. NON-BUILDABLE PRESERVATION PARCEL 'D'
 OWNED: PRIVATELY OWNED OWNED: HOWARD COUNTY, MARYLAND & HOVSEANER'S ASSOCIATION
 EASEMENT HOLDER: HOWARD COUNTY, MARYLAND & HOVSEANER'S ASSOCIATION
 USE: ENVIRONMENTAL PROTECTION (E.C.P.) EASEMENT HOLDER: HOWARD COUNTY, MARYLAND
 USE: SWM
 - NO CLEARING, GRADING OR CONSTRUCTION IS PERMITTED WITHIN THE WETLANDS, STREAM, FOREST CONSERVATION EASEMENT OR THEIR REQUIRED BUFFERS.
 - THE GEOTECHNICAL REPORT FOR THIS PROJECT WAS PREPARED BY PENNINGAN & BROWN DATED NOVEMBER, 2006.
 - THE FOREST STAND DELINEATION AND WETLAND DELINEATION FOR THIS PROJECT WAS PREPARED BY ECO-SCIENCE PROFESSIONALS, INC. DATED NOVEMBER, 2006 AND WAS APPROVED UNDER SP-07-007.
 - THE FOREST CONSERVATION REQUIREMENTS PER SECTION 16.200 OF THE HOWARD COUNTY CODE AND THE FOREST CONSERVATION MANUAL FOR MERIWETHER FARM, SECTION TWO, PHASE ONE SUBDIVISION WILL BE FULFILLED BY PROVIDING A TOTAL OF ONSITE RETENTION OF 14,249 ACRES OF FOREST AND 8,124 ACRES OF ONSITE PLANTING.
 A. TOTAL FOREST RETENTION OBLIGATION FOR MERIWETHER FARM, SECTION TWO, PHASE ONE = 301 ACRES.
 B. REQUIRED FOREST RETENTION OBLIGATION FOR MERIWETHER FARM, SECTION TWO, PHASE ONE = 640 ACRES.
 800 AC. OF TOTAL RETENTIONWAY TOTAL DUL = 640 AC. (UL. X 10 DU. = 640 AC.)
 C. PROVIDED FOREST RETENTION CONSERVATION EASEMENT FOR MERIWETHER FARM, SECTION TWO, PHASE ONE = 14,249 AC.
 D. REQUIRED FOREST REFORESTATION OBLIGATION FOR MERIWETHER FARM, SECTION TWO, PHASE ONE = 4,55 AC.
 624 AC. OF TOTAL REFORESTATIONWAY TOTAL DUL = 624 AC. (UL. X 10 DU. = 624 AC.)
 E. PROVIDED FOREST REFORESTATION CONSERVATION EASEMENT FOR MERIWETHER FARM, SECTION TWO, PHASE ONE = 8,173 AC.
 THE FOREST CONSERVATION SURETY AMOUNT REQUIRED IS \$302,146.00 (14,249 AC. x 43,560 x 10.00 = 424,431,600) - (8,173 x 43,560 x 10.00) = 406,258,560 AND SHALL BE PROVIDED WITH THE DEVELOPER'S AGREEMENT.
 - THE LANDSCAPE SURETY IN THE AMOUNT OF \$150,000 FOR PREVENTER LANDSCAPE REQUIREMENTS (75 SHADE TREES AND 63 EVERGREEN TREES OF SECTION 16.24 OF THE HOWARD COUNTY CODE AND LANDSCAPE MANUAL IS POSTED WITH THE DEVELOPER'S AGREEMENT FOR THIS SUBDIVISION.
 - FINANCIAL SURETY FOR THE 44 REQUIRED STREET TREES SHALL BE POSTED AS PART OF THE DEVELOPER'S AGREEMENT IN THE AMOUNT OF \$420,000.
 - ALL EXISTING WELLS AND SEPTIC FIELDS WITHIN 100 FEET OF SUBJECT PROPERTY HAVE BEEN SHOWN.
 - ALL SIGN POSTS USED FOR TRAFFIC CONTROL SIGNS INSTALLED IN THE COUNTY RIGHT-OF-WAY SHALL BE MOUNTED ON 2" GALVANIZED STEEL REINFORCED SQUARE TUBE POST (8 GAUGE) INSERTED INTO A 2 1/2" GALVANIZED STEEL POSTERATED SQUARE TUBE SLEEVE (2 GAUGE) - 3' LONG. A GALVANIZED STEEL POLE CAP SHALL BE MOUNTED ON TOP OF EACH POST.
 - DRIVEWAY (S) SHALL BE PROVIDED PRIOR TO RESIDENTIAL OCCUPANCY TO ENSURE SAFE ACCESS FOR FIRE AND EMERGENCY VEHICLES PER THE FOLLOWING MINIMUM REQUIREMENTS:
 a) WIDTH - 12 FEET (6 FEET SERVING MORE THAN ONE RESIDENCE)
 b) SURFACE - 50 (57) INCHES OF COMPACTED CRUMBER RUN BASE WITH 1/4" AND CHIP COATING
 c) GEOMETRY - MAXIMUM 10% GRADE, MAXIMUM 10% GRADE AND MINIMUM OF 15 FOOT TURNING RADIUS
 d) STRUCTURES (CULVERTS/BRIDGES) CAPABLE OF SUPPORTING 25 TONS PER 100 SQ. FT. LOADING
 e) DRAINAGE ELEMENTS - CAPABLE OF SAFELY PASSING 100 YEAR FLOOD WITH NO MORE THAN 1 FOOT DEPTH OVER DRIVEWAY SURFACE
 f) STRUCTURE CLEARANCES - MINIMUM 12 FEET
 g) MAINTENANCE - SUFFICIENT TO ENSURE ALL WEATHER USE
 - GROUND WATER APPROPRIATION PERMIT SHALL BE ISSUED PRIOR TO SUBMISSION OF RECORD PLAT FOR SIGNATURE.
 - ALL WELLS TO BE DRILLED PRIOR TO FINAL PLAT APPROVAL. IT IS THE DEVELOPER'S RESPONSIBILITY TO SCHEDULE THE WELL DRILLING PRIOR TO FINAL PLAT SUBMISSION. IT WILL NOT BE CONSIDERED "UNIFORM DELAY" IF THE WELL DRILLING HOLDS UP THE HEALTH DEPARTMENT SIGNATURE OF THE RECORD PLAT.
 - THERE IS AN EXISTING DWELLING/STRUCTURE(S) ON BUILDABLE BULK PARCEL 'E' TO REMAIN. NO NEW BUILDINGS, EXTENSIONS OR ADDITIONS TO THE EXISTING DWELLING ARE TO BE CONSTRUCTED AT A DISTANCE LESS THAN THE ZONING REGULATION REQUIREMENTS.
 - ALL EXISTING WELLS, BUILDINGS AND SEPTIC SYSTEMS WHICH ARE TO BE REMOVED SHALL BE REMOVED PRIOR TO FINAL PLAT SIGNATURE.
 - THIS AREA DESIGNATES A PRIVATE SEWAGE EASEMENT OF AT LEAST 10,000 SQUARE FEET AS REQUIRED BY THE MARYLAND STATE DEPARTMENT OF THE ENVIRONMENT FOR INDIVIDUAL SEWAGE DISPOSAL (COMAR 26.04.03). IMPROVEMENTS OF ANY NATURE IN THIS AREA ARE RESTRICTED UNTIL PUBLIC SEWAGE IS AVAILABLE. THESE EASEMENTS SHALL SECURE NULL AND VOID UPON CONNECTION TO A PUBLIC SEWAGE SYSTEM. THE COUNTY HEALTH OFFICE SHALL HAVE THE AUTHORITY TO GRANT VARIANCES FOR REQUIREMENTS INTO THE PRIVATE SEWAGE EASEMENT. RECONSTRUCTION OF A MODIFIED SEWAGE EASEMENT SHALL NOT BE NECESSARY.
 - THIS PLAN IS SUBJECT TO HANVER PETITION WP-09-043 WHICH WAS APPROVED ON OCTOBER 23, 2006 BY HOWARD COUNTY DEVELOPMENT ENGINEERING DIVISION FROM SECTION 16.20 (G) OF THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS TO ALLOW FOR THE PHASING OF FOREST CONSERVATION AREA FOR THIS PROJECT WITH THE FOLLOWING CONDITIONS:
 1. THE WAIVER PETITION APPROVAL APPLIES ONLY TO THE TEMPORARY DEFERRAL FOR ESTABLISHING THE FOREST CONSERVATION EASEMENTS FOR THIS SUBDIVISION BASED ON THE AFO PHASING SCHEDULE FOR THIS PROJECT. EACH SUBSEQUENT PHASE OF DEVELOPMENT MUST ESTABLISH A PROPORTIONATE AREA OF FOREST CONSERVATION EASEMENTS AND PROVIDE THE NECESSARY AREA OF FOREST RETENTION AND AFFORDANCE PLANNING AS REQUIRED BY THE FOREST CONSERVATION HANDBOOK FOR THIS PROJECT TO SATISFY ITS OBLIGATION. THE ENTIRE AREA OF FOREST CONSERVATION OBLIGATION MUST BE PROVIDED WITH THE PROCESS AND RECORDING OF THE LAST PHASE OF DEVELOPMENT FOR THIS PROJECT.
 2. THE APPLICANT/DEVELOPER MUST CONTINUE PROCESSING THE SUBDIVISION PLANS FOR MERIWETHER FARM AND MUST ALL APPLICABLE PROCESSING DEADLINE DATES IN ACCORDANCE WITH THE APPROVED AFO PHASING SCHEDULE.

ROAD NAME	CLASSIFICATION	DESIGN SPEED	R/W WIDTH
VICTORY LANE	PUBLIC ACCESS PLACE	25 MPH	50'

ROAD NAME	CENTERLINE STA.	OFFSET	POSTED SIGN	SIGN CODE
VICTORY LANE	0+25	16' L	STOP	R1-1
VICTORY LANE	2+10	16' R	SPEED LIMIT 25	R2-1



VICINITY MAP
SCALE: 1" = 2000'

FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

PHASE	ALLOCATION YEAR	No. OF LOTS
ONE	2010	10
TWO	2011	36 AND 1 BUILDABLE PRESERVATION PARCEL = 37

DENSITY TABULATIONS

- ORIGINAL BASE DENSITY IS BASED ON ORIGINAL TRACT AREA OF 183.068 ACRES (INCLUDING DORSEY HILL ROAD AND ROXBURY ROAD DEDICATED RIGHT-OF-WAY) SEE (F-08-198)
- BASE DENSITY: 183.068 ACRES / 4.25 = 43,077 UNITS OR 43 SINGLE FAMILY DETACHED HOMES
- 43 LOTS (4-16) = 183,068 - 149,582 AC. LOT AREA = 10.89 AC. ROAD R/W = 10.82 AC. NON-BUILDABLE PARCELS = 112,039 AC.
- 112,039 AC. FOR PRESERVATION PARCEL 'A' / 25 AC. = 4 BONUS UNITS.
- BONUS UNITS ARE LOTS 1, 2, 3 & BUILDABLE PRESERVATION PARCEL 'A'
- MAXIMUM DENSITY: 183,068 ACRES - 6.78 AC. FLOODPLAIN - 5.81 AC. STEEP SLOPES / 2 = 85,239 UNITS OR 85 SINGLE FAMILY DETACHED HOMES
- TOTAL NUMBER OF PROPOSED DWELLING UNITS = 47
 a. PHASE ONE - 10 BUILDABLE LOTS
 b. PHASE TWO - 36 BUILDABLE LOTS AND 1 BUILDABLE PRESERVATION PARCEL
- PRESERVATION EASEMENT TABULATION FOR SECTION TWO, PHASE ONE:
 A. TOTAL PRESERVATION EASEMENT OBLIGATION = 42,550 ACRES
 10 LOTS x 4.25 AC. LOT = 42,550 ACRES
 B. PRESERVATION EASEMENT REQUIRED = 33,822 ACRES
 TOTAL PRESERVATION AREA - LOT 1006-VICTORY LANE AREA - ROAD DEDICATION (PLAT NO. 42.50 AC. = 11,040 AC. - 1,199 AC. = 4,479 AC. = 23,822 ACRES (F-08-198)
 C. PRESERVATION EASEMENT PROVIDED = 23,822 ACRES
 (NON-BUILDABLE PRESERVATION PARCELS 'C', 'D' AND PRESERVATION EASEMENT #1)
 (1,166 AC. + 1,977 AC. + 23,460 ACRES)

OWNER
 MERIWETHER FARM II, LLC
 C/O SECOND GARDEN, LLC
 10715 CHATELAIN DRIVE
 SUITE 250
 COLUMBIA, MARYLAND 21044
 PH: (410) 977-7501
 ATTN: MR. ROBERT G. GOODER, JR.

DEVELOPER
 TOLL BROTHERS, INC.
 MARYLAND DIVISION
 7104 COLUMBIA GATEWAY DRIVE
 SUITE 200
 COLUMBIA, MARYLAND 21046
 PH: (410) 977-7501
 ATTN: MR. JEFF DEWALD

NO.	REVISION	DATE
1	REVISED OWNER AND DEVELOPER AND REVISED OWNER'S EASEMENT HOLDER OF PARCEL 'C'	11/8/11

FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTRAL SQUARE OFFICE PARK - 18072 BALTIMORE NATIONAL PARK
 ELLSWORTH CITY, MARYLAND 21042
 (410) 461-2855

ALDO
 PROFESSIONAL ENGINEER
 I hereby certify that these documents were prepared by me, and that I am a duly Licensed Professional Engineer under the laws of the State of Maryland, License No. 20748, Expiration Date 2-22-09.

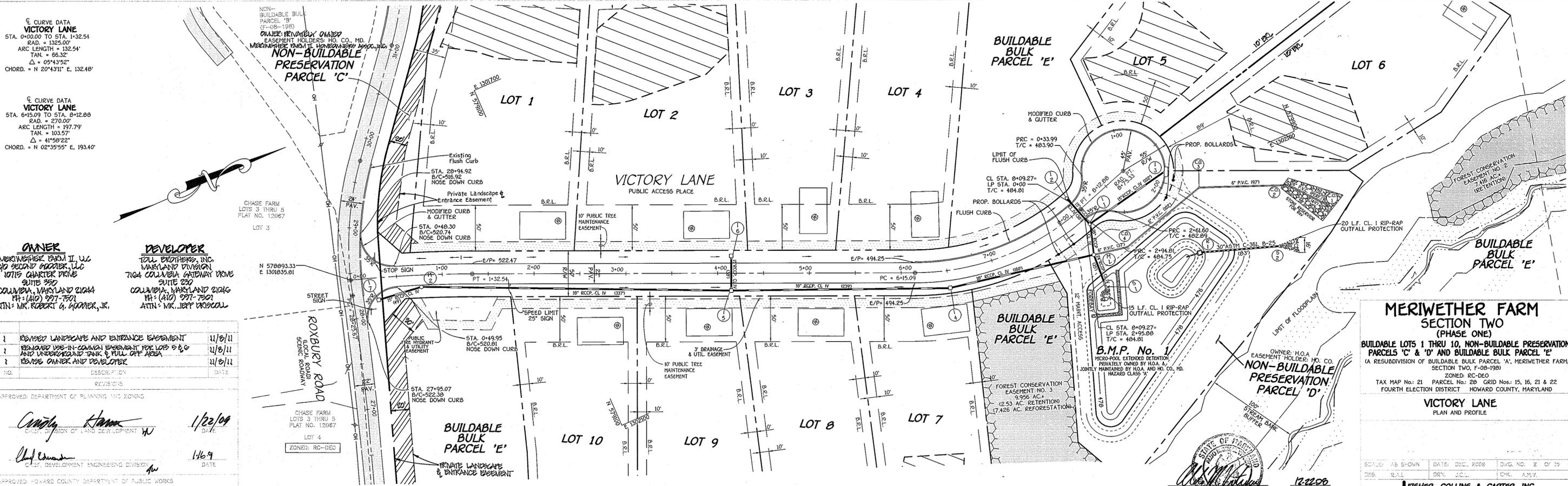
12-22-08
DATE

**TITLE SHEET
MERIWETHER FARM
SECTION TWO
PHASE ONE**

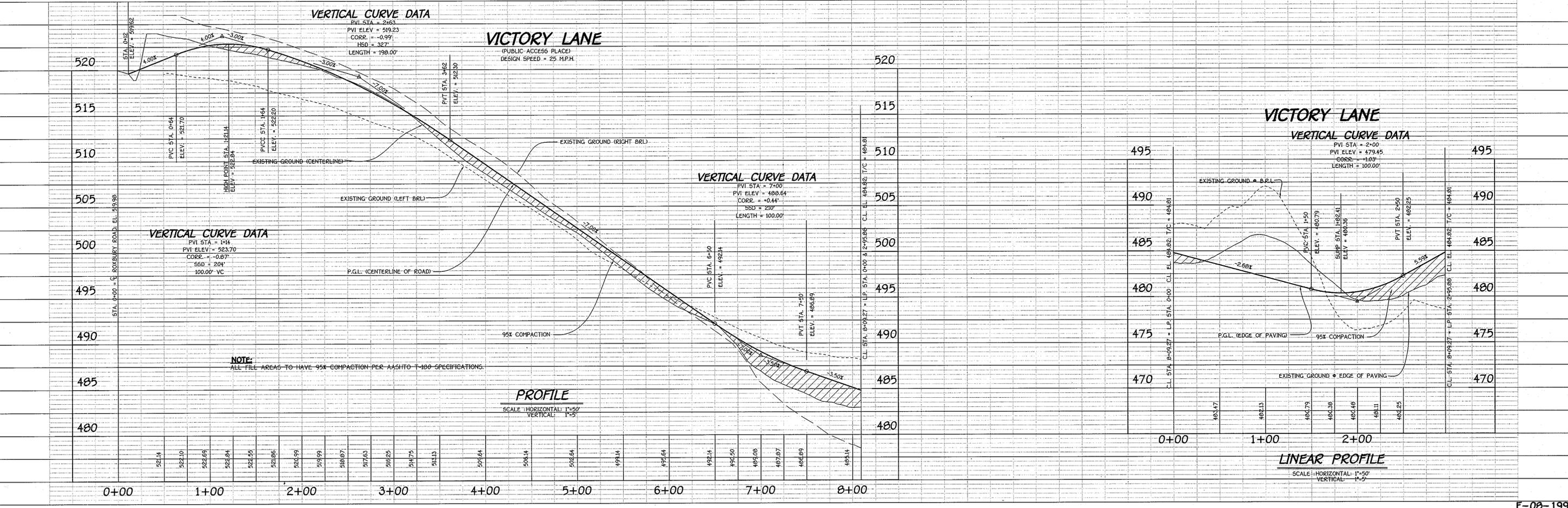
**BUILDABLE LOTS 1 THRU 10, NON-BUILDABLE PRESERVATION
PARCELS 'C' & 'D' AND BUILDABLE BULK PARCEL 'E'**

(A RESUBDIVISION OF BUILDABLE BULK PARCEL 'A', MERIWETHER FARM,
SECTION TWO, F-08-198)

ZONED: RC-DEO
 TAX MAP No. 21 PARCEL No. 28 GRID Nos. 15, 16, 21 & 22
 FOURTH ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND
 SCALE: AS SHOWN
 DATE: DECEMBER, 2008
 SHEET 1 OF 15



PLAN
SCALE: 1"=50'



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

MERIWETHER FARM SECTION TWO (PHASE ONE)
BUILDABLE LOTS 1 THRU 10, NON-BUILDABLE PRESERVATION PARCELS 'C' & 'D' AND BUILDABLE BULK PARCEL 'E'
(A RESUBDIVISION OF BUILDABLE BULK PARCEL 'A', MERIWETHER FARM, SECTION TWO, F-08-198)
ZONED: RC-DEO
TAX MAP No. 21 PARCEL No. 20 GRID Nos. 15, 16, 21 & 22 FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

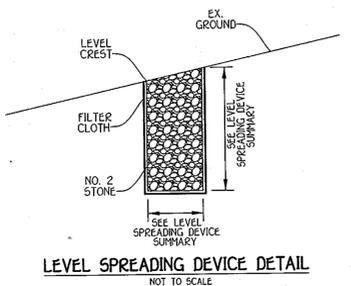
SCALE: AS SHOWN DATE: DEC. 2008 D.W.G. NO. 2 OF 19
266 R.A.L. DRN. J.C.L. CHK. A.M.V.

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
33 CONTONIAL SQUARE OFFICE PARK - 10722 BALTIMORE NATIONAL PIKE
ELKLOTT CITY, MARYLAND 21042
(410) 481 - 2825

STREET TREE SCHEDULE				
SYMBOL	QTY.	BOTANICAL AND COMMON NAME	SIZE	COMMENTS
	875.33 x 2 / 40 = 43.77 44 TREES	PRUNUS SARGENTII SARGENT CHERRY	2 1/2"-3" CAL.	40' APART ON PUBLIC R/W

NOTE: STREET TREE TYPES ARE ONLY A RECOMMENDATION AND MAY BE SUBSTITUTED WITH A COUNTY ACCEPTED EQUIVALENT FROM THE HOWARD COUNTY LANDSCAPE MANUAL. FINANCIAL SURETY FOR THE 44 REQUIRED STREET TREES HAS BEEN POSTED AS PART OF THE DEVELOPER'S AGREEMENT IN THE AMOUNT OF \$13,200.00

LEVEL SPREADING DEVICE SUMMARY					
LS NO.	TRENCH LENGTH	TRENCH WIDTH & DEPTH	WQV VOLUME REQUIRED	WQV VOLUME PROVIDED	CREST ELEVATION
BMP 2	105'	-	- CU. FT.	- CU. FT.	513.0
BMP 3	58'	-	- CU. FT.	- CU. FT.	480.0
BMP 4	48'	108"	- CU. FT.	- CU. FT.	478.0 473.0



By The Developer:
I/We Certify That All Development And/OR Construction Will Be Done According 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. I Shall Engage A Registered Professional Engineer To Supervise Pond Construction And Provide The Howard Soil Conservation District With An "As-Built" Plan Of The Pond Within 30 Days Of Completion. I Also Will Have Periodic On-Site Inspections By The Howard Soil Conservation District.

Signature: *Robert Goodier* Date: 12-22-08
Printed Name Of Developer: Robert Goodier

By The Engineer:
I Certify That This Plan For Pond Construction, Erosion And Sediment Control Represents A Practical Approach To Erosion Control Based On My Personal Knowledge Of The Site Conditions. This Plan Was Prepared In Accordance With The Requirements Of The Howard Soil Conservation District. I Have Reviewed The Plans That Herein Must Engage A Registered Professional Engineer To Supervise Pond Construction And Provide The Howard Soil Conservation District With An "As-Built" Plan Within 30 Days Of Completion.

Signature: *Alfred J. ...* Date: 12-22-09
Printed Name Of Engineer: Alfred J. ...

These Plans For Pond Construction, Soil Erosion And Sediment Control Meet The Requirements Of The Howard Soil Conservation District.

Howard Soil Conservation District: *[Signature]* Date: 1/6/09

Approved Department Of Public Works: *[Signature]* Date: 1-12-09
Chief, Bureau Of Highways

Approved Department Of Planning And Zoning: *[Signature]* Date: 1/22/09
Chief, Division Of Land Development

[Signature] Date: 1/6/9
Chief, Development Engineering Division

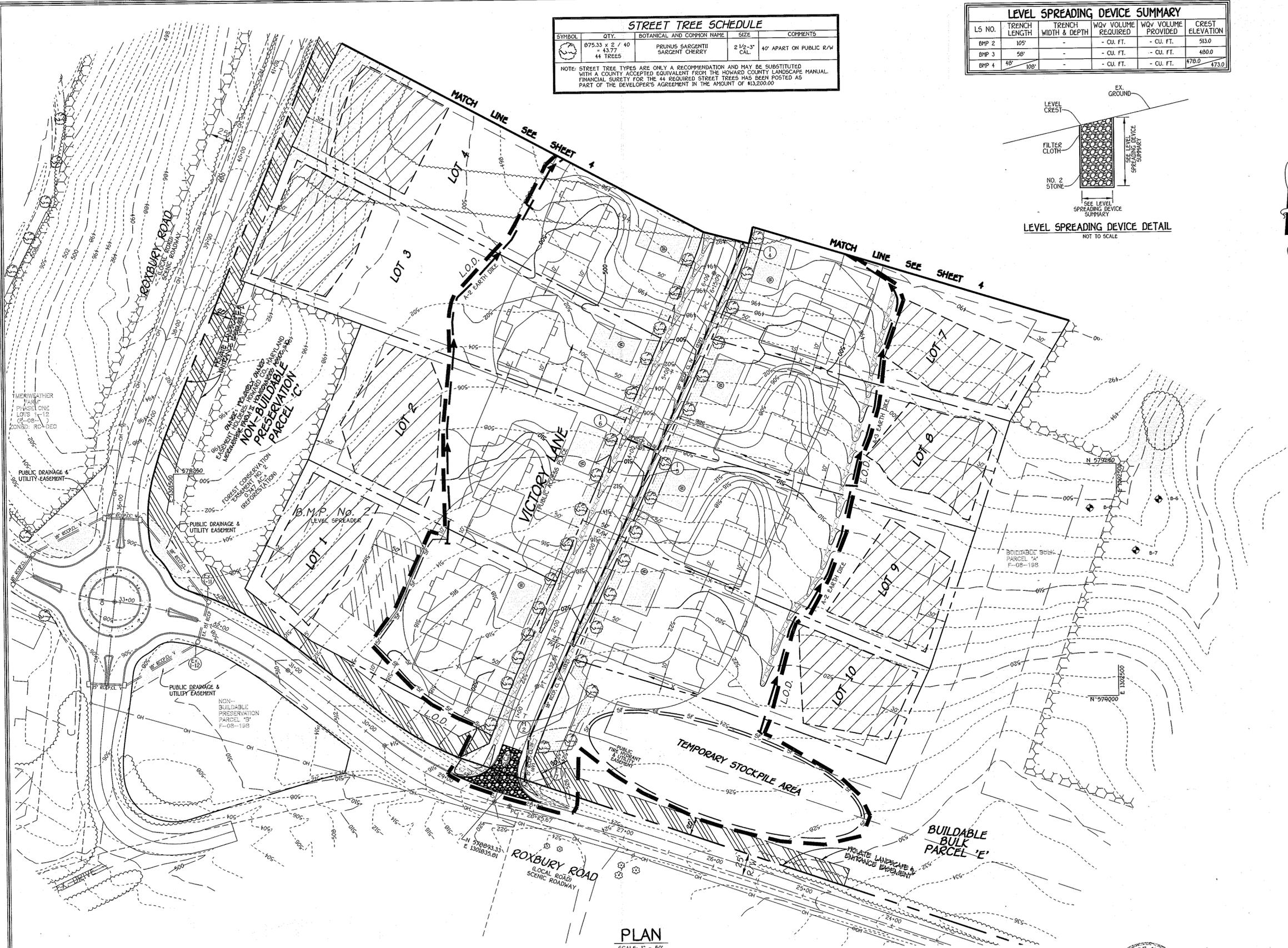
AS-BUILT CERTIFICATION
I Herby Certify That The Facility Shown On This Plan Was Constructed As Shown On The "As-Built" Plans And Meets The Approved Plans And Specifications.

Signature: _____ P.E. No. _____
Date: _____

Certify Means To State Or Declare A Professional Opinion Based Upon Onsite Inspections And Material Tests Which Are Conducted During Construction. The Onsite Inspections And Material Tests Are Those Inspections And Tests Deemed Sufficient And Appropriate Commonly Accepted Engineering Standards. Certify Does Not Mean Or Imply A Guarantee By The Engineer Nor Does An Engineer's Certification Release Any Other Party From Meeting Requirements Imposed By Contract, Employment, Or Other Means, Including Meeting Commonly Accepted Industry Practices.

NOTE:
CONTRACTOR SHALL REMOVE ANY AND ALL JUNK, DEBRIS AND TRASH FROM WITHIN THE FLOODPLAIN, BUFFERS AND PRESERVATION PARCELS.

LEGEND	
	SUPER-SILT FENCE
	SILT FENCE
	STABILIZED CONSTRUCTION ENTRANCE
	EARTH DIKE
	DENOTES LIMITS OF DISTURBANCE
	DENOTES EROSION CONTROL MATTING
	DENOTES SLOPES 25% OR GREATER
	DENOTES SLOPES 15% TO 24.99%



PLAN
SCALE: 1" = 50'

NO.	DESCRIPTION	REVISIONS
1	REVISED LANDSCAPE AND ENTRANCE EMBLEMENT	11/8/11
1	REMOVED USE-IN-COMMON EASEMENT FOR LOTS 9 & 10	11/8/11
1	REVISE OWNER AND DEVELOPER	11/8/11

OWNER
MERIWETHER FARM II, LLC
C/O ROBERT G. GOODIER, LLC
10715 CHARTER DRIVE
SUITE 350
COLUMBIA, MARYLAND 21044
PH: (410) 297-7501
ATTN: MR. ROBERT G. GOODIER, JR.

DEVELOPER
TOLL BROTHERS, INC.
MARYLAND DIVISION
7104 COLUMBIA GATEWAY DRIVE
SUITE 230
COLUMBIA, MARYLAND 21046
PH: (410) 297-7501
ATTN: MR. JEFF DRISCOLL

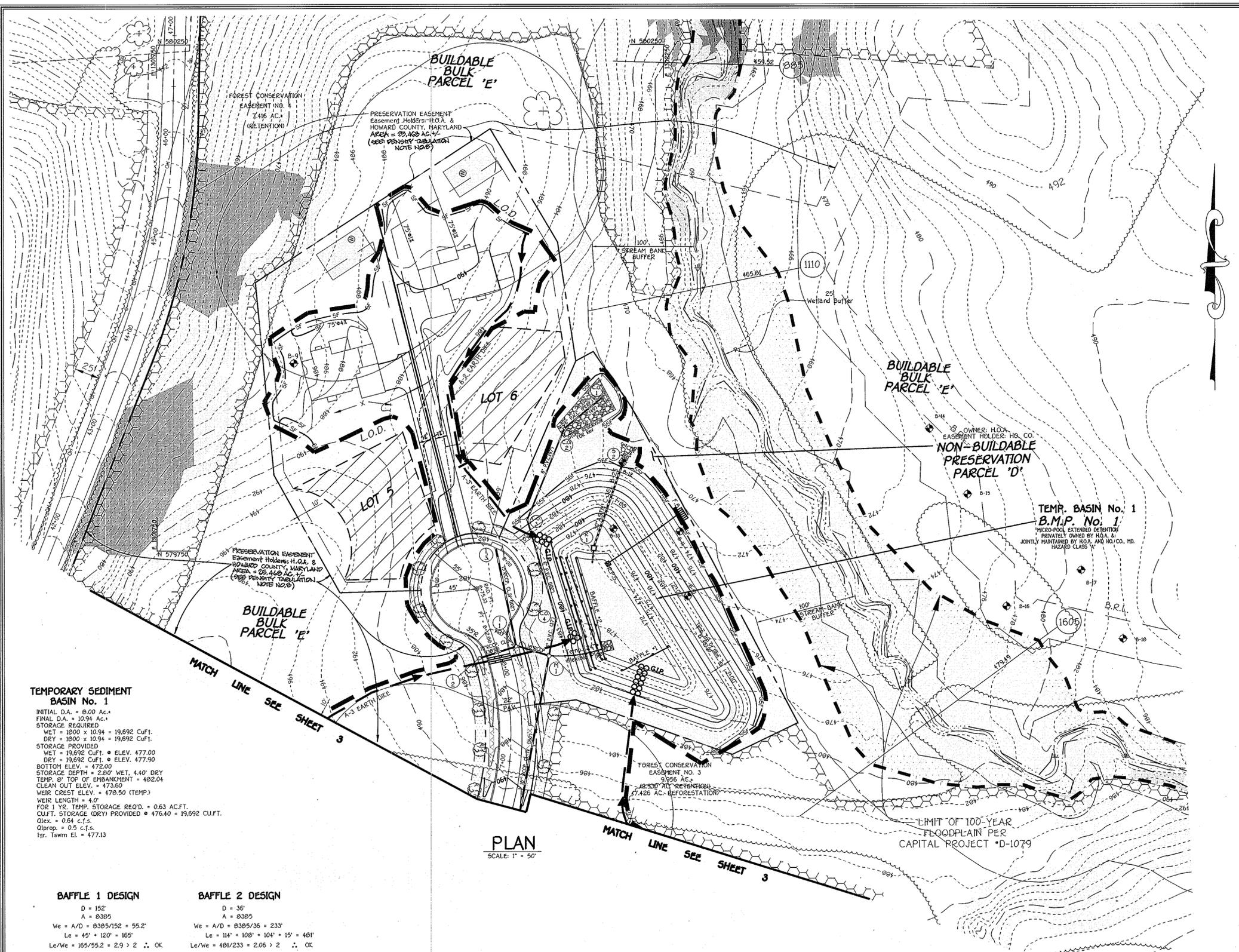


ALSO HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 20748, EXPIRATION DATE 2-22-09.

Signature: *[Signature]* Date: 12-22-08

STREET TREE, GRADING & SEDIMENT CONTROL PLAN
MERIWETHER FARM
SECTION TWO
PHASE ONE
BUILDABLE LOTS 1 THRU 10, NON-BUILDABLE PRESERVATION PARCELS 'C' & 'D' AND BUILDABLE BULK PARCEL 'E'
(A RESUBDIVISION OF BUILDABLE BULK PARCEL 'A', MERIWETHER FARM, SECTION TWO, F-08-198)

ZONED: RC-DEO
TAX MAP No.: 21
PARCEL No.: 29
GRID NOS: 15, 16, 21 & 22
FOURTH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN
DATE: DECEMBER, 2008
SHEET 3 OF 15



LEGEND

---SF---SF---SF---	SUPER-SILT FENCE
---SF---SF---	SILT FENCE
[Symbol]	S.C.E.
[Symbol]	STABILIZED CONSTRUCTION ENTRANCE
[Symbol]	EARTH DIKE
[Symbol]	L.O.D.
[Symbol]	DENOTES LIMITS OF DISTURBANCE
[Symbol]	E.C.M.
[Symbol]	DENOTES EROSION CONTROL MATTING
[Symbol]	DENOTES SLOPES 25% OR GREATER
[Symbol]	DENOTES SLOPES 15% TO 24.99%
[Symbol]	STREAM
[Symbol]	WETLANDS
[Symbol]	FLOODPLAIN

By The Developer:
 I/We Certify That All Development And/Or Construction Will Be Done According 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. I Shall Engage A Registered Professional Engineer To Supervise Pond Construction And Provide The Howard Soil Conservation District With An "As-Built" Plan Of The Pond Within 30 Days Of Completion. I Also Will Have The Pond Undergo On-Site Inspections By The Howard Soil Conservation District.

Signature: *Robert Goodier* Date: 12-22-08
 Printed Name Of Developer: Robert Goodier

By The Engineer:
 I Certify That This Plan For Pond Construction, 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. I Have Verified The Developer That He/She Must Engage A Registered Professional Engineer To Supervise Pond Construction And Provide The Howard Soil Conservation District With An "As-Built" Plan Of The Pond Within 30 Days Of Completion.

Signature: *Alfred M. Vitacco* Date: 12-22-08
 Printed Name Of Engineer: Alfred M. Vitacco

These Plans For Small Pond Construction, Soil Erosion And Sediment Control Meet The Requirements Of The Howard Soil Conservation District.

Signature: *John J. ...* Date: 1/6/09
 Printed Name: John J. ...
 Chief, Bureau Of Highways

Signature: *Walter F. ...* Date: 1-12-09
 Printed Name: Walter F. ...
 Chief, Bureau Of Highways

Signature: *Wendy ...* Date: 1/22/09
 Printed Name: Wendy ...
 Chief, Division Of Land Development

Signature: *David ...* Date: 1/16/09
 Printed Name: David ...
 Chief, Development Engineering Division

TEMPORARY SEDIMENT BASIN No. 1
 INITIAL D.A. = 0.00 Ac.
 FINAL D.A. = 10.94 Ac.
 STORAGE REQUIRED:
 WET = 1800 x 10.94 = 19,692 Cuft.
 DRY = 1800 x 10.94 = 19,692 Cuft.
 STORAGE PROVIDED:
 WET = 19,692 Cuft. @ ELEV. 477.00
 DRY = 19,692 Cuft. @ ELEV. 477.90
 BOTTOM ELEV. = 472.00
 STORAGE DEPTH = 2.90' WET, 4.40' DRY
 TEMP. @ TOP OF EMBANKMENT = 482.04
 CLEAN OUT ELEV. = 473.60
 WEIR CREST ELEV. = 478.50 (TEMP.)
 WEIR LENGTH = 4.0'
 FOR 1 YR. TEMP. STORAGE REQ'D. = 0.63 AC.FT. CUFT. STORAGE (DRY) PROVIDED = 476.40 = 19,692 CU.FT.
 Q/cfs = 0.64 c.f.s.
 Q/prop. = 0.5 c.f.s.
 1yr. Tswm El. = 477.13

BAFFLE 1 DESIGN
 D = 152'
 A = 0305'
 We = A/D = 0305/152 = 55.2'
 Le = 45' + 120' = 165'
 Le/We = 165/55.2 = 2.9 > 2 ∴ OK

BAFFLE 2 DESIGN
 D = 35'
 A = 0305'
 We = A/D = 0305/35 = 233'
 Le = 14' + 108' + 104' + 15' = 481'
 Le/We = 481/233 = 2.06 > 2 ∴ OK

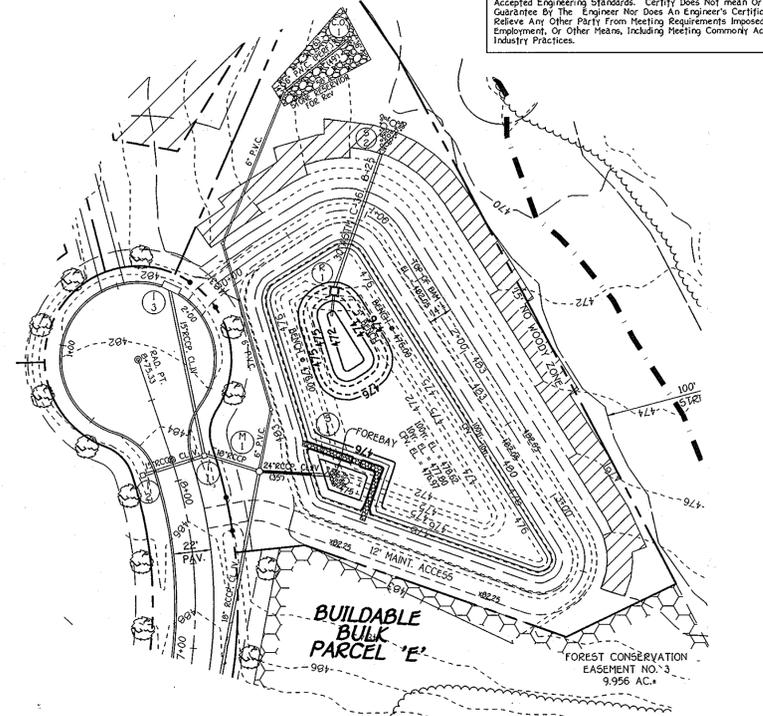
SEE BAFFLE DETAIL, SHEET 11

NOTE:
 CONTRACTOR SHALL REMOVE ANY AND ALL JUNK, DEBRIS AND TRASH FROM WITHIN THE FLOODPLAIN, BUFFERS AND PRESERVATION PARCELS.

OWNER
 MERIWETHER FARM II, LLC
 C/O SECOND GOODIER, LLC
 10715 CHARTER DRIVE
 SUITE 250
 COLUMBIA, MARYLAND 21044
 PH: (410) 997-7501
 ATTN: MR. ROBERT A. GOODIER, JR.

DEVELOPER
 TOLL BROTHERS, INC.
 MARYLAND DIVISION
 7104 COLUMBIA GATEWAY DRIVE
 SUITE 230
 COLUMBIA, MARYLAND 21046
 PH: (410) 997-7501
 ATTN: MR. JEFF DEYCOLL

1	REMOVED USE-IN-COMMON BASEMENT FOR LOTS B, C, D AND UNDERGROUND TANK	11/8/11
1	REVISE OWNER AND DEVELOPER	11/8/11
NO.	DESCRIPTION	REVISIONS



FINAL GRADING PLAN B.M.P. No. 1
 SCALE: 1" = 50'

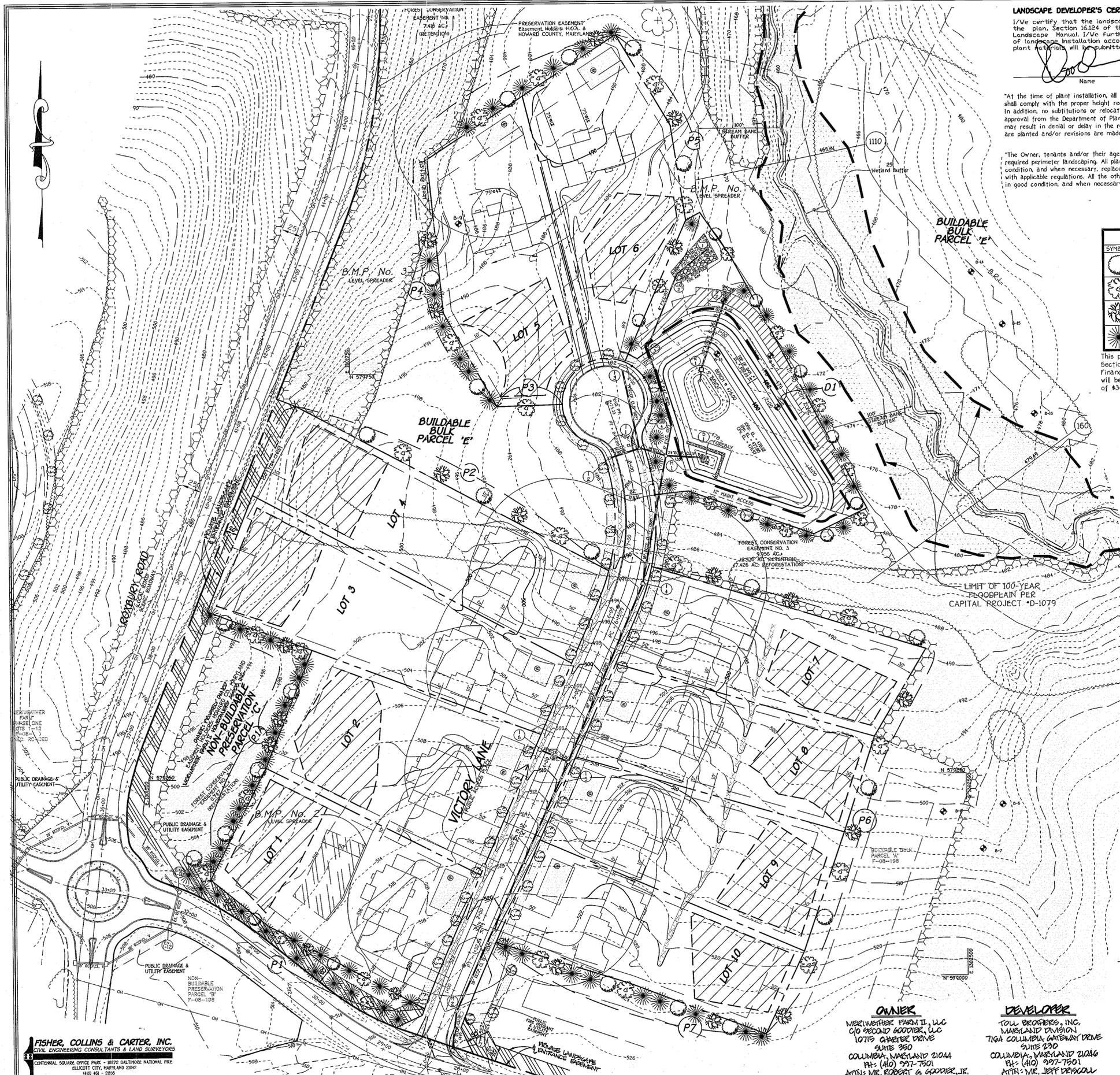
STREET TREE, GRADING & SEDIMENT CONTROL PLAN MERIWETHER FARM SECTION TWO PHASE ONE BUILDABLE LOTS 1 THRU 10, NON-BUILDABLE PRESERVATION PARCELS 'C' & 'D' AND BUILDABLE BULK PARCEL 'E'
 (A RESUBDIVISION OF BUILDABLE BULK PARCEL 'A', MERIWETHER FARM, SECTION TWO, F-08-198)

ZONED: RC-DEO
 PARCEL No: 25 GRID Nos: 15, 16, 21 & 22
 FOURTH ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND
 SCALE: AS SHOWN
 DATE: DECEMBER, 2008
 SHEET 4 OF 15

TAX MAP No: 21
 PARCEL No: 25
 GRID Nos: 15, 16, 21 & 22
 FOURTH ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND
 SCALE: AS SHOWN
 DATE: DECEMBER, 2008
 SHEET 4 OF 15



ALDO M. VITACCO
 I/We, the undersigned, hereby certify that these documents were prepared by me, and that I am a duly Licensed Professional Engineer under the laws of the State of Maryland, License No. 22726, Expiration Date 2-22-09.



LANDSCAPE DEVELOPER'S CERTIFICATE

I/We certify that the landscaping shown on this plan will be done according to the plan, Section 16.124 of the Howard County Code and the Howard County Landscape Manual. I/We further certify that upon completion a certification of landscape installation accompanied by an executed one year guarantee of plant materials will be submitted to the Department of Planning and Zoning.

Name: [Signature] Date: 12-22-08

"At the time of plant installation, all trees listed and approved on the Landscape Plan, shall comply with the proper height requirement in accordance with the Howard County Landscape Manual. In addition, no substitutions or relocations of the required plantings may be made without prior review and approval from the Department of Planning and Zoning. Any deviations from the 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 the road drawing plans."

"The Owner, tenants and/or their agents shall be responsible for maintenance of the required perimeter landscaping. 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 the other required landscaping shall be permanently maintained in good condition, and when necessary, repaired or replaced."

PLANT LIST		
SYMBOL	QTY.	BOTANICAL AND COMMON NAME SIZE
[Symbol]	31	PLATANUS OCCIDENTALIS "BLOODGOOD" LONDON PLANETREE 2 1/2'-3' CAL.
[Symbol]	30	QUERCUS ACUTISSEMA SAWTOOTH OAK 2 1/2'-3' CAL.
[Symbol]	20	ILEX OPACA AMERICAN HOLLY 5' - 6' HT.
[Symbol]	70	PINUS STROBUS EASTERN WHITE PINE 6' - 8' HT.

This plan has been prepared in accordance with the provision of Section 16.124 of the Howard County Code and Landscape Manual. Financial surety for the required 81 shade and 70 evergreen trees will be posted as part of the Developer's Agreement in the amount of \$34,800.00.

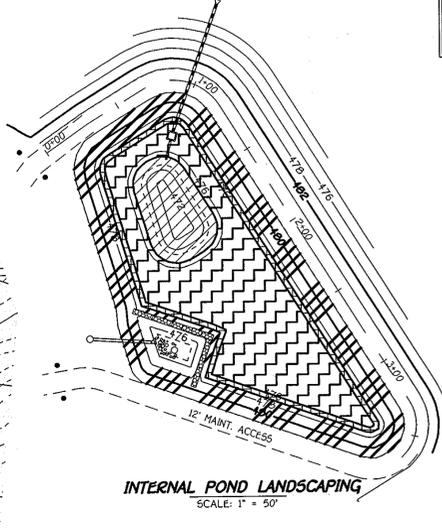
Approved Department of Public Works
 Chief, Bureau of Highways [Signature] 1-12-09
 Date

Approved Department of Planning and Zoning
 Chief, Bureau of Planning and Zoning [Signature] 1/22/09
 Date

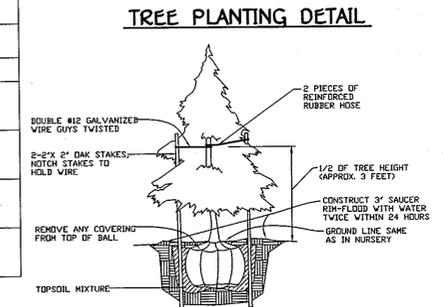
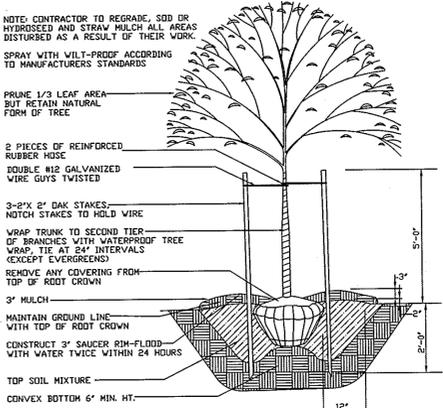
Chief, Development Engineering Division [Signature] 1/16/9
 Date

SCHEDULE A - PERIMETER LANDSCAPING						
PERIMETER	CATEGORY (PROPERTIES/ROADWAYS)	LANDSCAPE TYPE	LINEAR FEET OF ROADWAY FRONTAGE	CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NUMBER OF PLANTS REQUIRED AND PROVIDED (SHADE TREES, EVERGREEN TREES, SHRUBS)
P-1	ADJACENT TO ROADWAY	C	307'	NO	NO	8 15 -
P-1A	ADJACENT TO ROADWAY	B	724'	YES (507' 574' REMAINING)	NO	12 14 -
P-2	ADJACENT TO PERIMETER	A	434'	NO	NO	7 - -
P-3	ADJACENT TO PERIMETER	A	807'	NO	NO	1 - -
P-4	ADJACENT TO ROADWAY	B	607'	YES (137' 488' REMAINING)	NO	10 12 -
P-5	ADJACENT TO PERIMETER	A	349'	NO	NO	6 - -
P-6	ADJACENT TO PERIMETER	A	866'	NO	NO	14 - -
P-7	ADJACENT TO ROADWAY	B	350'	NO	NO	7 9 -
					TOTAL	65 50 -

SCHEDULE D STORMWATER MANAGEMENT AREA LANDSCAPING	
LINEAR FEET OF TYPE 'B' PERIMETER	D-1 : 782'
NUMBER OF TREES REQUIRED:	
SHADE TREES	(782' / 50) = 15
EVERGREEN TREES	(782' / 40) = 20
CREDIT FOR EXISTING VEGETATION (NO, YES AND X)	NO
CREDIT FOR OTHER LANDSCAPING (NO, YES AND X)	NO
NUMBER OF TREES PROVIDED:	
SHADE TREES	15
EVERGREEN TREES	20



INTERNAL LANDSCAPING S.W.M. PONDS		
ZONE	DESCRIPTION	BMP NO. 1 ELEVATION
ZONE 1 [Symbol]	1' - 4' ELEVATION ABOVE NORMAL POOL ELEVATION - PLANT AREA W/ CONIFER, VIOLETS, PINK ROSE, MILEWORT OR LILIES QUANTITY - N/A SPACING - N/A	477.00 to 481.00
ZONE 2 [Symbol]	0' - 12" ELEVATION ABOVE NORMAL POOL ELEVATION - PLANT AREA W/ THE FOLLOWING: IRIS, WITCHAMEL & WINTERBERRY QUANTITY - 15 EACH SPACING - 12" MAX.	476.00 to 477.00
ZONE 3 [Symbol]	0' - 12" ELEVATION BELOW NORMAL POOL ELEVATION - PLANT AREA W/ LOBELIA, BAYBERRY, IRIS OR BLUEFLAG QUANTITY - N/A SPACING - N/A	475.00 to 476.00
ZONE 4 [Symbol]	1' - 6' ELEVATION BELOW NORMAL POOL ELEVATION - PLANT AREA W/ LOTUS, WILD CELERY OR REDHEAD GRASS QUANTITY - N/A SPACING - N/A	475.00 to 472.00



NO.	DESCRIPTION	DATE
1	REVISED LANDSCAPE AND ENTRANCE EASEMENT	11/8/11
1	REMOVED USE-IN-COMMON EASEMENT FOR LOTS 5 & 6 AND UNDERGROUND TANK & PULL OFF AREA	11/8/11
1	REMOVE OWNER AND DEVELOPER	11/8/11
NO.	DESCRIPTION	DATE
	REVISIONS	



DATE: 12-22-08
 I, [Signature] hereby certify that these documents were prepared by me, and that I am a duly Licensed Professional Engineer under the laws of the State of Maryland, License No. 20740, Expiration Date 2-22-09.

EVERGREEN PLANTING DETAIL

LANDSCAPE PLAN MERIWETHER FARM SECTION TWO

BUILDABLE LOTS 1 THRU 10, NON-BUILDABLE PRESERVATION PARCELS 'C' & 'D' AND BUILDABLE BULK PARCEL 'E'

(A RESUBDIVISION OF BUILDABLE BULK PARCEL 'A', MERIWETHER FARM, SECTION TWO, F-08-198)

ZONED: RC-DEO
 PARCEL No.: 29 GRID Nos.: 15, 16, 21 & 22
 FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 SCALE: AS SHOWN
 DATE: DECEMBER, 2008
 SHEET 5 OF 15

TAX MAP No.: 21

OWNER
 MERIWETHER FARM II, LLC
 C/O SECOND GOODER, LLC
 10715 GARBER DRIVE
 SUITE 350
 COLUMBIA, MARYLAND 21044
 PH: (410) 997-7501
 ATTN: MR. ROBERT G. GOODER, JR.

DEVELOPER
 TOLL BROTHERS, INC.
 MARYLAND DIVISION
 7184 COLUMBIA GATEWAY DRIVE
 SUITE 230
 COLUMBIA, MARYLAND 21046
 PH: (410) 997-7501
 ATTN: MR. JEFF DRISCOLL

NOTIFICATIONS FOR UNDERGROUND WATER SUPPLY TANKS

1.1 Scope
The construction of underground tanks for fire protection in accordance with Howard County Code, Title 17 and this specification is part of a program designed to improve level of protection from fires in residential and commercial properties. These Specifications, along with associated documents, provides the information necessary for the construction and placement of fire protection tanks used for this purpose.

1.2 Purpose
The purpose of this specification is to provide the technical information required for the construction of underground water storage tanks in accordance with Howard County Maryland, Title 17 and all data therein referenced.

2. Underground tanks

2.1 Materials for a static water supply tank

2.1.1 Tanks shall be constructed of single-wall fiberglass per approved manufacturer's specifications.

2.1.2 The manufacturer shall provide a 30-year warranty, against defects in material for the tank system, to the purchaser of the tank and their heirs, successors, and assigns.

2.2 Features

2.2.1 The tank system shall include a device for holding the tank in position against flotation. This configuration shall be supplied by the tank manufacturer as part of the tank package. Installation shall be in accordance with the manufacturer's recommendations.

2.2.2 The tank shall include a removable access cover at grade (minimum, at least 48" in diameter, to allow entry for maintenance and inspection of the inside of the tank. The access cover shall be secured to the tank. The cover shall be properly sealed and labeled.

2.2.3 A pad consisting of 4 inch thick concrete shall be placed over the tank, and shall enclose all fittings. Refer to tank drawings for concrete specifications.

2.2.4 Fittings

2.2.4.1 One draft connection shall consist of a 6 inch diameter galvanized or ductile iron pipe. The draft connection shall terminate in a steel standard flange, female connection with plug or cap. A PVC draft pipe with an anti-vortex plate shall be installed inside the tank by the manufacturer. The draft connection above the fire department pump to connect and remove water from the tank at the specified rate of flow (1000 GPM). Draft connection shall be painted "Fire Engine Red".

2.2.4.2 One combination vent/fill indicator shall consist of an 8 inch diameter PVC pipe which allows visual inspection of the tank water level, as well as providing the required venting to the tank.

2.2.4.3 One fill connection shall consist of a 4 inch diameter galvanized or ductile iron pipe, with a standard connection with two, two and one half inch (2-1/2") connection and one 4" short connection. The fitting shall be angled downward 30 degrees to reduce hose and fitting strain during filling operation.

2.2.4.4 All pipe joints above the slab shall be flanged.

2.2.5 Any features not included in this specification as well as any special circumstances such as multiple tank designs shall be evaluated and approved during design phase and before any construction is started.

2.2.6 The standard tank drawings, Fire Suppression Water Storage, 12,000 Gallon defines the requirements for a 12,000 gallon, 10-foot diameter tank installation. Tank sizes other than 12,000 gallons may require additional designs to be provided to fit the requirements for a particular site. Detailing Fire Suppression Water Storage, 12,000 Gallon defines the general requirements for 6-inch diameter tanks, and shall be used accordingly. Supplemental drawings shall be reviewed and approved by the Fire Official prior to construction as needed.

2.3 Installation

2.3.1 All tanks shall be installed per the manufacturer's requirements.

2.3.2 Location and orientation of the tank shall be determined during site plan or preliminary subdivision plan input, as approved by the Fire Official.

2.3.3 The installing contractor shall be responsible for obtaining all necessary permits for work and for scheduling required inspections.

2.3.4 The fittings shall be placed as follows:

2.3.4.1 The draft connection shall be located at least 18 inches from the edge of the parking surface or curb line. This allows for a 18" section of section above to be used for drafting. The draft connection opening shall be turned facing directly toward the road surface.

2.3.4.2 Total elevation from the bottom of the draft pipe to the centerline of the draft connection shall not exceed 12 feet zero inches. This dimension shall be maintained as much as possible to reduce head loss, while maintaining correct depth of cover over tank, per manufacturer's specifications.

2.3.4.3 The draft connection shall be fixed at a minimum of 18 inches above finished grade of the pull off pad, to the centerline of the pad.

2.3.4.4 The fill connection shall be fixed at a minimum of 18 inches above finished grade of the pull off pad, to the centerline of the pad.

2.3.5 Excavation shall be performed per all applicable regulations. The excavation shall be backfilled with a material per manufacturer's specifications. In designs in which the draft pipe is placed on the tank end, the tank shall have a percent slope toward the draft connection end.

2.4 Testing and acceptance

2.4.1 The tank shall be operable with a flow rate of 1000 gallons per minute (GPM) minimum using a fire department pump operation.

2.4.2 A pressure test shall be performed prior to installation of the tank, per manufacturer's specifications.

2.4.3 A pressure test shall be performed after the tank is installed and covered at a minimum pressure of 9 psi pounds per square inch (PSI) and held for a 24-hour period as determined by the Fire Official, or per manufacturer's specifications.

2.4.4 An operational test shall be performed when construction is completed, in accordance with the approved procedures. The test shall be conducted by the Fire Department and the installer. When testing has been completed, the installer shall provide the tank to full capacity as required unless noted. Further use of the tank shall be limited to firefighting operations and routine tests. The Fire Department shall be notified for subsequent testing to full capacity within 12 hours after using water from the tank.

2.5 Final approval will be notified in writing by the Fire Official.

2.5. Accessibility and surrounding features

2.5.1 A pad shall be constructed per Appendix S.1, Drawing 0201, Tank, to provide access to the tank. The pad shall be constructed per the Fire Official prior to start of work. Details shall be indicated on the site plan subdivision plan as applicable.

2.5.2 No obstructions shall impede access to tank fittings. The facility shall remain accessible on a year-round basis.

2.5.2.1 Landscaping and trees shall be trimmed away from fittings, including branches and limbs, trimmed away at a minimum of 12 feet overhead. Grass and weeds shall be kept as neat as possible.

2.5.3 Protective fences shall be used as applicable to prevent damage to fittings and to provide safety for operators. These include, but are not limited to the following:

- a. Fences
- b. Gates
- c. Barriers
- d. Other barriers/devices as determined by the Fire Official

2.5.4 A reflective sign shall be posted which clearly indicates tank full capacity and shall include the tank number. An identification number shall be developed by the Fire Department and the site signs shall be placed on all major roads indicating the distance and direction to the tank within a 1/2 mile radius.

2.5.5 All permanent no parking signs shall be provided and attached to a metal post.

2.5.6 All fittings above grade shall be painted with exterior-grade enamel. Color shall be yellow unless otherwise specified.

3. References

3.1.1 NFPA 1850 - Standard for Fire Hose Screw Threads

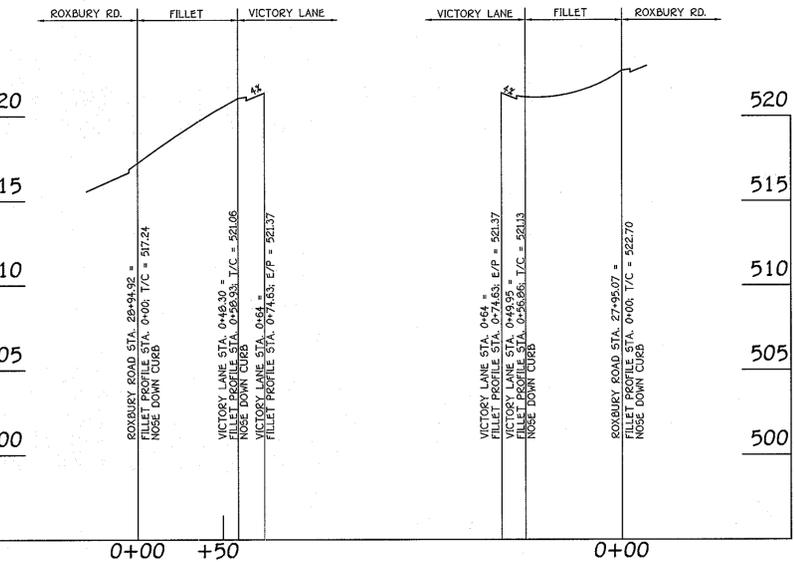
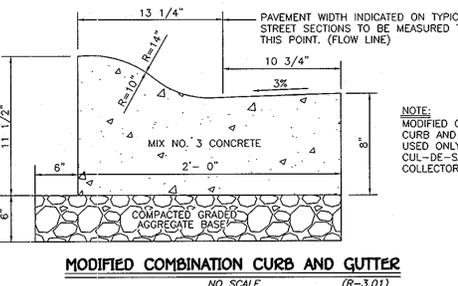
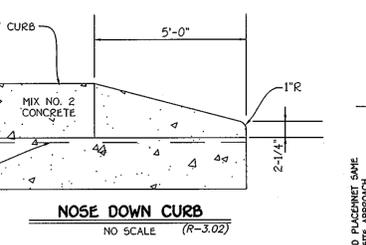
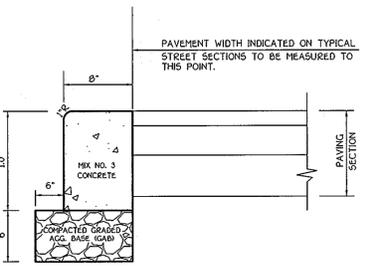
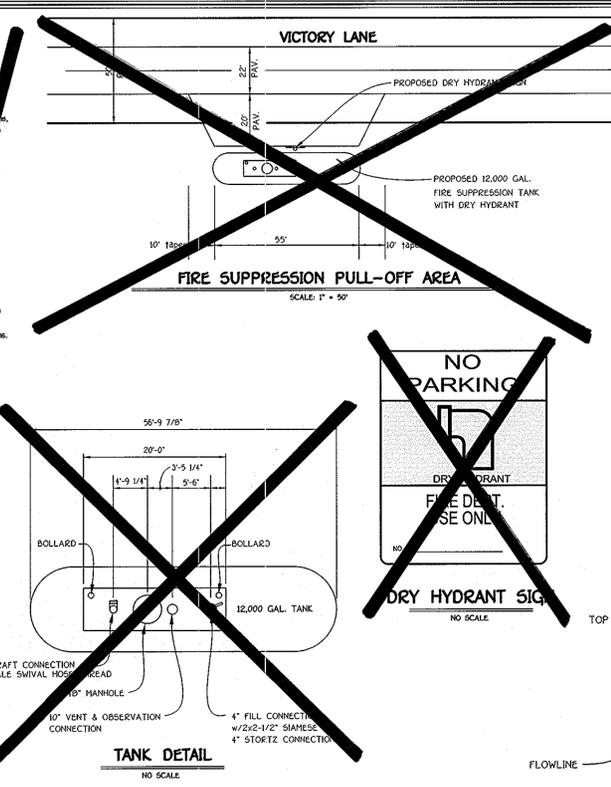
3.1.2 NFPA 1842 - Standard for Water Supplies for Suburban and Rural Fire Protection

3.1.3 NFPA 1841 - Standard for Fire Protection in Placed Building Groups

3.2.1 Referenced documents

3.2.1.1 The Code of Public Local Laws and Ordinances of Howard County Maryland, Chapter 17C, Underground Tanks & Dry Fire Hydrant Maintenance and Inspection, Chief Greg Oaks / Regional Fire Protection Committee, 2003.

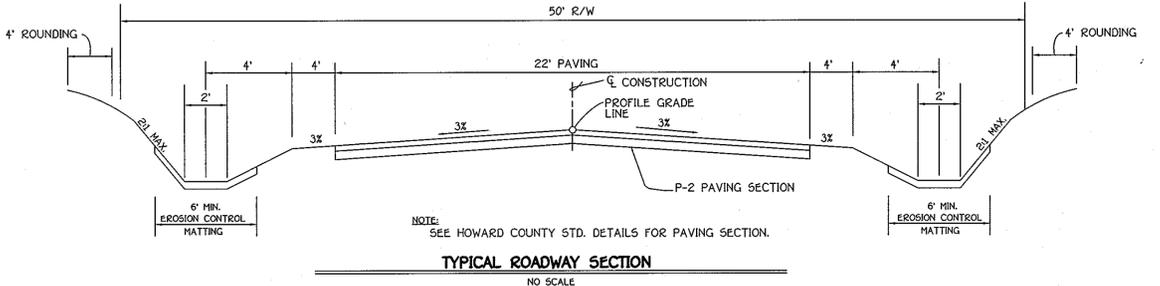
3.2.1.2 Drawing, Pad/Tank Access



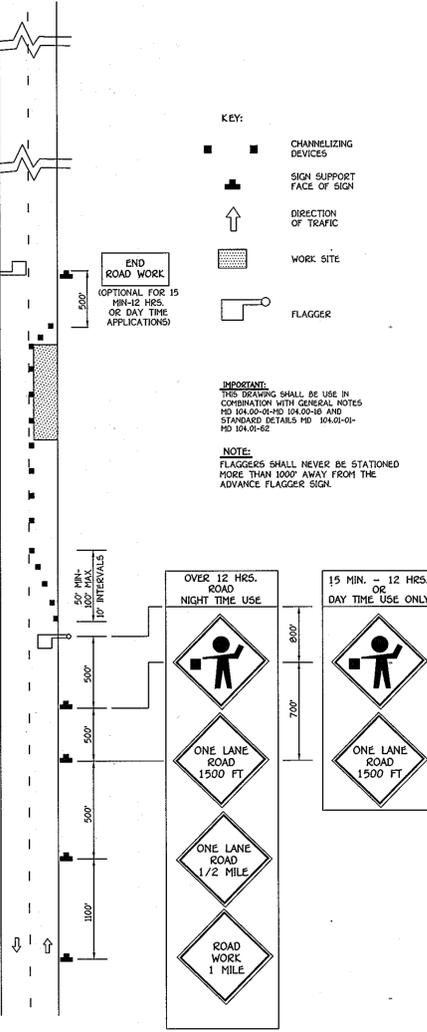
SECTION NUMBER	ROAD AND STREET CLASSIFICATION	CALIFORNIA BEARING RATIO (CBR)					
		3 TO <5	5 TO <7	>7	3 TO <5	5 TO <7	>7
P-2	PARKING DRIVE AISLES, RESIDENTIAL AND NON-RESIDENTIAL WITH NO MORE THAN 10 HEAVY TRUCKS PER DAY LOCAL ROADS: ACCESS PLACE, ACCESS STREET CUL-DE-SACS, RESIDENTIAL	PAVEMENT MATERIAL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

APPROVED: DEPARTMENT OF PUBLIC WORKS
 [Signature] 1-12-09
 CHIEF, BUREAU OF HIGHWAYS
 APPROVED: DEPARTMENT OF PLANNING AND ZONING
 [Signature] 1/22/09
 CHIEF, DIVISION OF LAND DEVELOPMENT
 [Signature] 1/16/09
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

NOTE:
ALL FILL AREAS TO HAVE 95% COMPACTION PER AASHTO T-100 SPECIFICATIONS.



ROAD NAME	CLASSIFICATION	DESIGN SPEED	ZONING	STATION LIMITS	PAVING SECTION
VICTORY LANE	PUBLIC ACCESS PLACE	25 MPH	RC-DEO	0+00 TO 0+75.33	P-2



MAINTENANCE OF TRAFFIC SPECIAL PROVISIONS

GENERAL

1. THE PURPOSE OF THIS PORTION OF THE SPECIAL PROVISION IS TO SET FOR THE TRAFFIC CONTROL REQUIREMENTS NECESSARY FOR THE SAFE AND EFFICIENT MAINTENANCE TO TRAFFIC WITHIN WORK AREAS AND TO MINIMIZE ANY IMPEDIMENTS TO THE TRAVELING PUBLIC AND THE CONTRACTOR AND/OR PERMITTEE.

2. PROPER TRAFFIC CONTROL THROUGH WORK AREAS IS ESSENTIAL FOR INSURING THE SAFETY AND THAT OF HIGHWAY WORKERS HAS THE HIGHEST PRIORITY OF ALL TASKS WITHIN THIS PROJECT. THE PROPER APPLICATION OF THE APPROVED TRAFFIC CONTROL PLAN (TCP) WILL PROVIDE THE DESIRED LEVEL OF SAFETY.

3. THROUGHOUT THESE SPECIAL PROVISIONS, ANY MENTION OF THE TCP SHALL BE IMPLIED TO INCLUDE ANY COMBINATION OF TYPICAL TRAFFIC CONTROL STANDARDS WHICH FORM THE OVERALL TCP FOR THIS PROJECT WHICH HAS BEEN APPROVED BY THE APPROPRIATE SIGN TRAFFIC ENGINEER.

4. THE CONTRACTOR AND/OR PERMITTEE SHALL BE REQUIRED TO ADHERE TO THE PROVISIONS OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), 1990 EDITION, ESPECIALLY PART VI, AND TO SECTION 614 OF THE MARYLAND DOT STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS (UNIFORM), 1995, INCLUDING ALL REVISIONS AND SUPPLEMENTS TO EACH.

5. THE CONTRACTOR AND/OR PERMITTEE SHALL BE REQUIRED TO ADHERE TO THE REQUIREMENTS SET FORTH IN THE TCP AND THESE SPECIAL PROVISIONS, UNLESS OTHERWISE DIRECTED BY THE ENGINEER. ANY REQUESTS TO MAKE MINOR CHANGES TO THE TCP OR THE SPECIAL PROVISIONS WITH REGARD TO THE TRAFFIC CONTROL DEVICES SHALL BE MADE IN WRITING TO THE ENGINEER. A MINIMUM OF THIRTEEN WORKING DAYS PRIOR TO THE PROPOSED SCHEDULING CHANGE, THE CONTRACTOR AND/OR PERMITTEE SHALL HAVE WRITTEN APPROVAL OF THE ENGINEER PRIOR TO THE IMPLEMENTATION OF ANY CHANGE.

6. NO WORK SHALL BEGIN ON ANY WORK ACTIVITY OR WORK PHASE UNTIL ALL REQUIRED TRAFFIC CONTROL PATTERNS AND DEVICES INDICATED ON THE TCP FOR THAT ACTIVITY OR PHASE ARE COMPLETELY AND CORRECTLY IN PLACE TO HAVE BEEN CHECKED FOR APPROVED USAGE.

7. GENERAL AND SPECIFIC WARNING SIGNS SHALL ONLY BE IN PLACE WHEN SPECIFIC WORK TASKS AND ACTIVITIES ARE ACTUALLY UNDERWAY OR CONDITIONS EXIST THAT POSE A POTENTIAL HAZARD TO THE PUBLIC, AND ANY ADDITIONAL SIGNING HAS BEEN APPROVED BY THE APPROPRIATE SIGN TRAFFIC ENGINEER. NOTE: THE PRACTICE OF PLACING SIGNS AND OTHER TRAFFIC CONTROL DEVICES IN ADDITION TO THOSE INDICATED ON THE APPROVED TCP IS NOT PERMITTED.

8. THE CONTRACTOR AND/OR PERMITTEE SHALL PROVIDE, MAINTAIN IN NEW CONDITION AND MOVE WHEN NECESSARY, OR AS DIRECTED BY THE ENGINEER, ALL TRAFFIC CONTROL DEVICES USED FOR THE GUIDANCE AND PROTECTION OF MOTORISTS, PEDESTRIANS, AND WORKERS.

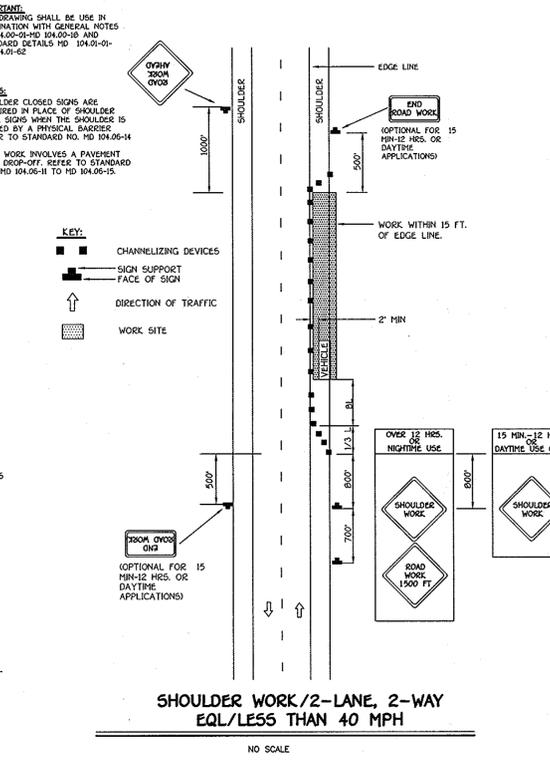
9. ALL TRAFFIC CONTROL DEVICES REQUIRED BY THE TCP SHALL BE KEPT IN GOOD CONDITION, FULLY PERFORMING AS SET FORTH IN THE TCP. THE MUTCD, AND/OR SECTION 614 OF THE SPECIFICATIONS, FOR REFLECTIVE DEVICES, A PARTICULAR DEVICE IS ASSUMED TO HAVE FAILED TO MEET MINIMUM OPERATIONAL STANDARDS WHEN THE DEVICE NO LONGER HAS RETRO-REFLECTANCE CAPABILITY OF AT LEAST 50% OF THE SPECIFIED MINIMUM VALUE OVER AT LEAST 50% OF THE VISIBLE REFLECTIVE SURFACE.

10. ALL TRAFFIC CONTROL DEVICES NOT REQUIRED FOR THE SAFE CONDUCT OF TRAFFIC SHALL BE PROPERLY REMOVED, COMPLETELY COVERED, TURNED AWAY FROM TRAFFIC, OR OTHERWISE TAKEN OUT OF SERVICE. IT IS INTENDED THAT NO TRAFFIC CONTROL DEVICE IS TO BE IN SERVICE WHEN THERE IS NO CLEAR CUT REASON FOR THE DEVICE.

11. THROUGHOUT THE PERIODS OF WORK ACTIVITIES, TRAFFIC SHALL BE MAINTAINED BY IMPLEMENTING THE APPROVED TCP. IN LIEU OF THE TCP PREPARED FOR THIS PROJECT, AND/OR INDIVIDUAL TYPICAL TRAFFIC CONTROL STANDARDS, THE CONTRACTOR AND/OR PERMITTEE HAS THE OPTION OF PREPARING AND SUBMITTING A TCP, WHOLLY OR IN PART, OF HIS OWN DESIGN, FOLLOWING GUIDELINES SET FORTH IN THE MUTCD AND PRESCRIBED BY THE ADMINISTRATOR. A TCP DEVELOPED BY THE CONTRACTOR AND/OR PERMITTEE SHALL NOT BE IMPLEMENTED UNTIL ADVANCE WRITTEN APPROVAL IS OBTAINED FROM THE ENGINEER. TCP'S MAY BE IMPLEMENTED WITHIN A SINGLE PROJECT OR JOINTLY BETWEEN TWO OR MORE PROJECTS. IN SITUATIONS WHERE TCP'S JOINTLY IMPLEMENTED, CARE SHALL BE EXERCISED TO PRESENT CORRECT AND NON-CONFLICTING GUIDANCE TO THE TRAVELING PUBLIC.

12. THROUGHOUT THESE SPECIAL PROVISIONS, WHERE SPEED OF TRAFFIC IS NOTED THIS MEANS THE POSTED SPEED OR PREVALUING TRAVEL SPEED, WHICHEVER IS HIGHER, UNLESS OTHERWISE NOTED.

13. TRAFFIC SHALL BE MAINTAINED AT ALL TIMES THROUGHOUT THE ENTIRE LENGTH OF THE PROJECT, UNLESS OTHERWISE NOTED. NO TRAVEL LANE(S) OTHER THAN THOSE DESIGNATED FOR POSSIBLE CLOSURE IN THE TCP SHALL BE CLOSED WITHOUT OBTAINING PRIOR APPROVAL FROM THE ENGINEER. ALL INGRESS AND EGRESS TO THE WORK AREA BY THE CONTRACTOR AND/OR PERMITTEE SHALL BE PERFORMED WITH THE FLOW OF TRAFFIC.



ROADWAY DETAILS
MERIWETHER FARM
SECTION TWO
PHASE ONE
 BUILDABLE LOTS 1 THRU 10, NON-BUILDABLE PRESERVATION PARCELS 'C' & 'D' AND BUILDABLE BULK PARCEL 'E'
 (A RESUBDIVISION OF BUILDABLE BULK PARCEL 'A', MERIWETHER FARM, SECTION TWO, F-08-198)
 ZONED: RC-DEO
 TAX MAP No: 21 PARCEL No: 20 GRID Nos: 15, 16, 21 & 22
 FOURTH ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND
 SCALE: AS SHOWN
 DATE: DECEMBER, 2008
 SHEET 6 OF 15

FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTRAL SQUARE OFFICE PARK - 10275 BALTIMORE NATIONAL PARK
 ELLETT CITY, MARYLAND 21704
 410 461-2855

NO.	DESCRIPTION	REVISION
1	REMOVE UNDERGROUND FIRE TANK & PULL OFF AREA	1/16/11
1	REMOVE OWNER AND DEVELOPER	1/16/11

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

OWNER
 MERIWETHER FARM II, LLC
 C/O GEORGE COOPER, LLC
 10718 CHARLES DRIVE
 SUITE 200
 COLUMBIA, MARYLAND 21044
 PH: (410) 997-7501
 ATTN: MR. ROBERT G. GOODIER, JR.

DEVELOPER
 TOLL BROTHERS, INC.
 MARYLAND DIVISION
 7164 COLUMBIA GARDENWAY DRIVE
 SUITE 200
 COLUMBIA, MARYLAND 21046
 PH: (410) 997-7501
 ATTN: MR. JEFF DRISCOLL

ALDO R. WITTE, P.E.
 PROFESSIONAL CERTIFICATION: I hereby certify that these drawings were prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Maryland, License No. 20746, Expiration Date 2-22-09.
 DATE: 12/22/09

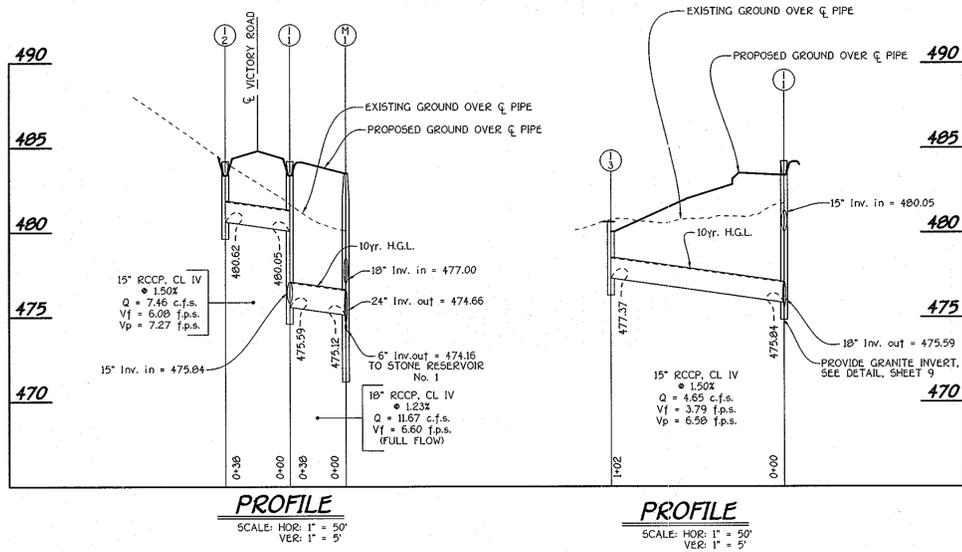
STRUCTURE SCHEDULE

STRUCTURE NO.	TOP ELEVATION	INV.IN	INV.OUT	LOCATION	STATION	OFFSET	TYPE	REMARKS
I-1	THROAT = 483.37	480.05	475.59	VICTORY LANE	8+09.27	19.0' R	'K' INLET	D - 4.12 w/D - 4.13
I-2	THROAT = 483.37	----	480.62	VICTORY LANE	8+09.27	19.0' L	'K' INLET	D - 4.12 w/D - 4.13
I-3	TOP = 480.62	----	477.37	VICTORY LANE	L.P. 1+82.41	----	A-10	D - 4.01
I-4	THROAT = 490.62	486.62	486.37	VICTORY LANE	6+51	19.0' R	'K' INLET	D - 4.12 w/D - 4.13
I-5	THROAT = 507.14	504.01, 502.39	502.14	VICTORY LANE	4+15	19.0' R	'K' INLET	D - 4.12 w/D - 4.13
I-6	THROAT = 507.14	----	504.39	VICTORY LANE	4+15	19.0' L	'K' INLET	D - 4.12 w/D - 4.13
I-7	THROAT = 519.17	----	516.42	VICTORY LANE	0+29	24.5' R	'K' INLET	D - 4.12 w/D - 4.13
M-1	TOP = 483.50	475.12, 477.00	474.66, 474.16	VICTORY LANE	7+93	47.5' R	STD. MANHOLE	G - 5.12
M-2	TOP = 521.77	515.93	515.68	VICTORY LANE	0+77	13.0' R	STD. MANHOLE	G - 5.12
S-1	TOP = 476.49	474.49	----	VICTORY LANE	7+85	82.0' R	CONC. END SECTION	D - 5.51
S-2	TOP = 472.50	470.00	----	N 579,846.11 E 1,302,212.55	----	----	CONC. END SECTION	D - 5.51
R-1	TOP = 480.60	472.00	471.60	N 579,766.50 E 1,302,185.21	----	----	CONCRETE RISER	SEE SHEET B

PIPE SCHEDULE

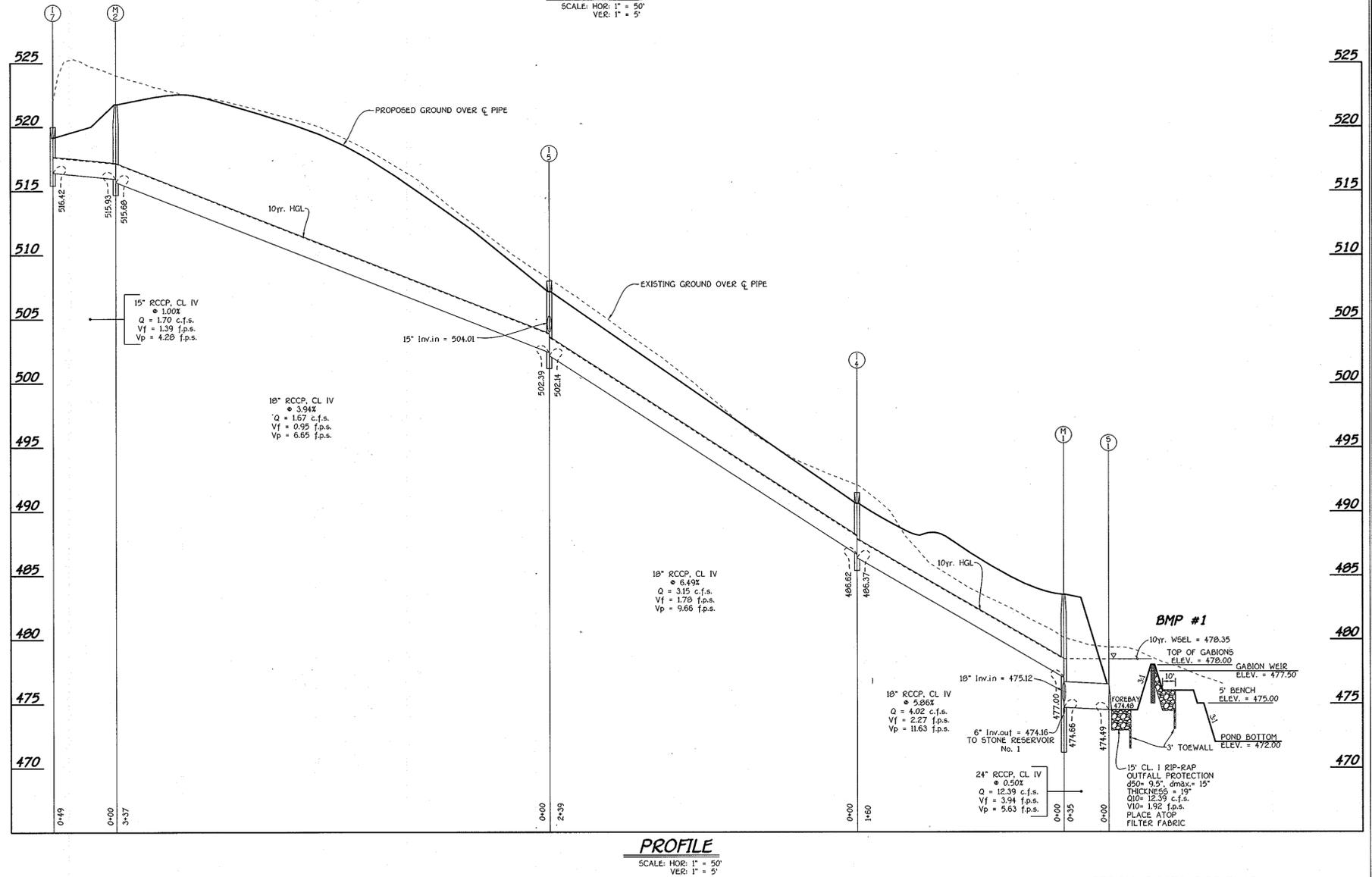
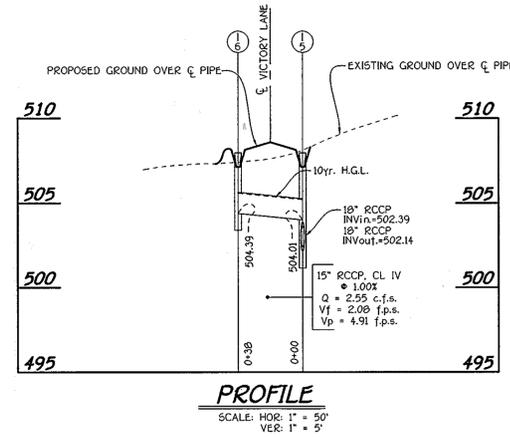
SIZE	CLASS	LENGTH
15"	RCCP. CL. V	227'
18"	RCCP. CL. IV	774'
24"	RCCP. CL. IV	35'
30"	ASTM C-361 B-25	83'
6"	D.I.P. POND DRAIN	7'
6"	PVC, SCH. 40	171'
6"	PERFORATED PVC, SCH. 40	62'

NOTE: RCCP, CL. IV PIPE MAY BE SUBSTITUTED WITH HDPE PIPE.



PROVIDE STD. MANHOLE STEPS

PROVIDE STD. MANHOLE STEPS



DRIVEWAY CULVERT DATA

LOT	SLOPE (%)	Q10 (cfs)	PIPE SIZE
1	N/A HIGHPOINT	CREST	NO PIPE
2	5.02	8.20	12"
3	7.00	9.60	12"
4	7.00	9.60	12"
5 & 6	N/A SUMP	SUMP	NO PIPE
7	7.00	9.60	12"
8	7.00	9.60	12"
9	6.75	9.45	12"
10	3.82	7.00	12"

APPROVED: DEPARTMENT OF PUBLIC WORKS
 W. J. ... 1-12-09 DATE
 CHIEF, BUREAU OF HIGHWAYS
 APPROVED: DEPARTMENT OF PLANNING AND ZONING
 C. ... 1/22/09 DATE
 CHIEF, DIVISION OF LAND DEVELOPMENT
 APPROVED: ... 1-16-9 DATE
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTRAL SQUARE OFFICE PARK - 10275 BALTIMORE NATIONAL PIKE
 ELLICOTT CITY, MARYLAND 21114
 (410) 461-2855

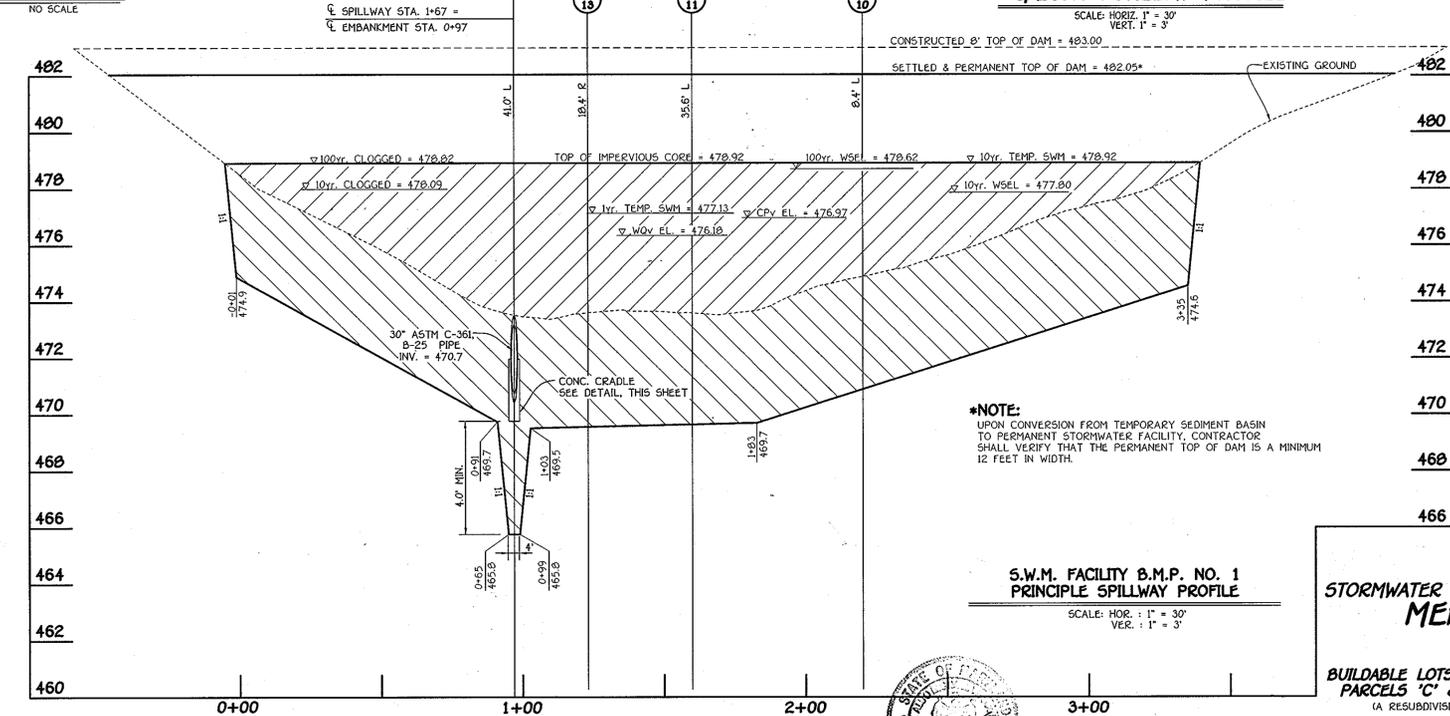
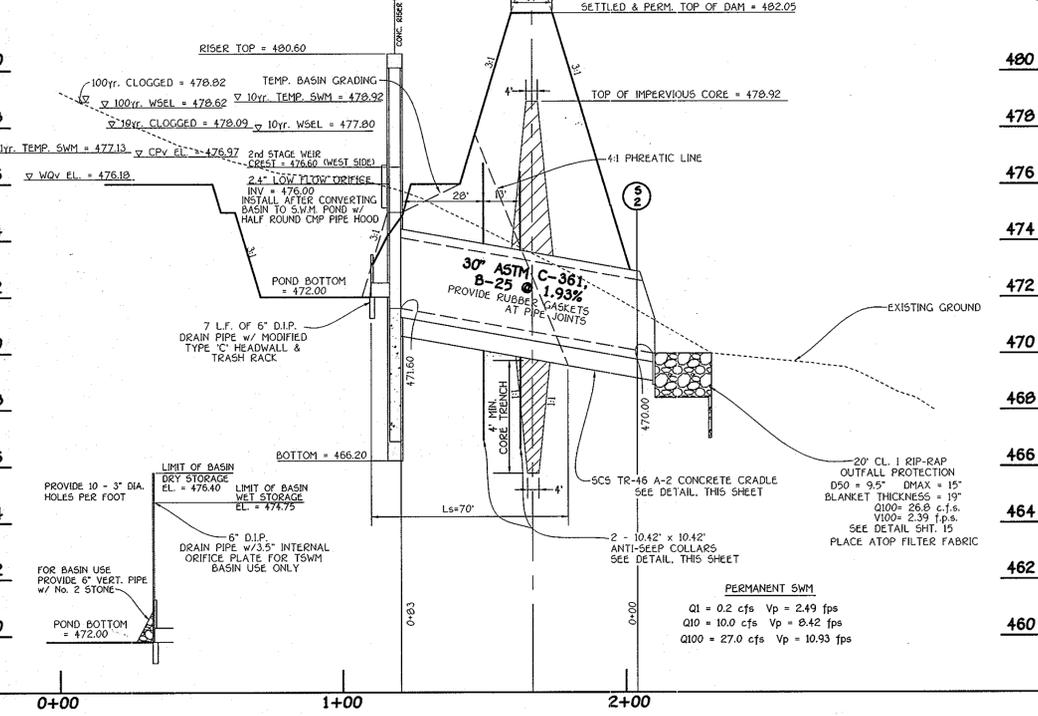
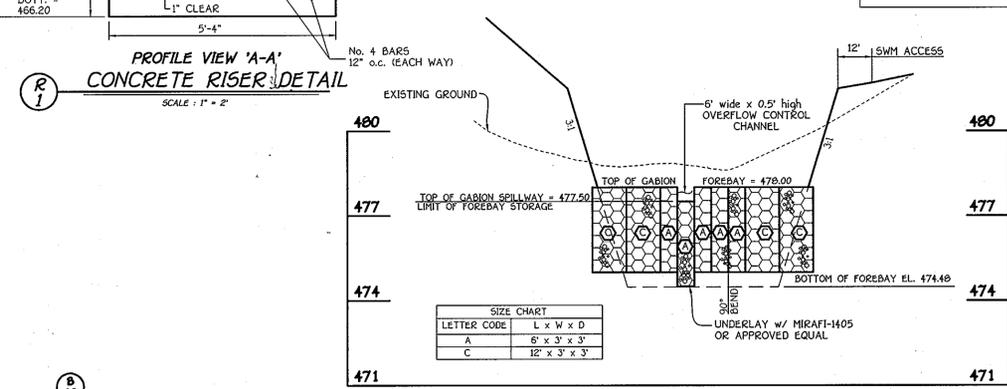
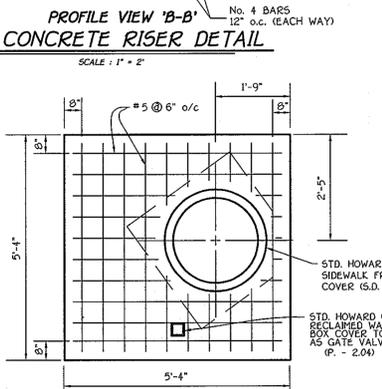
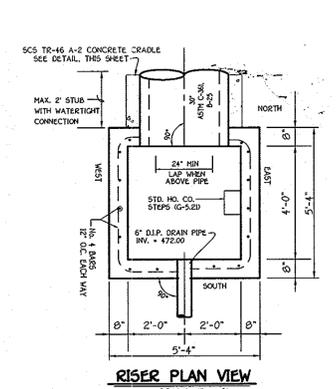
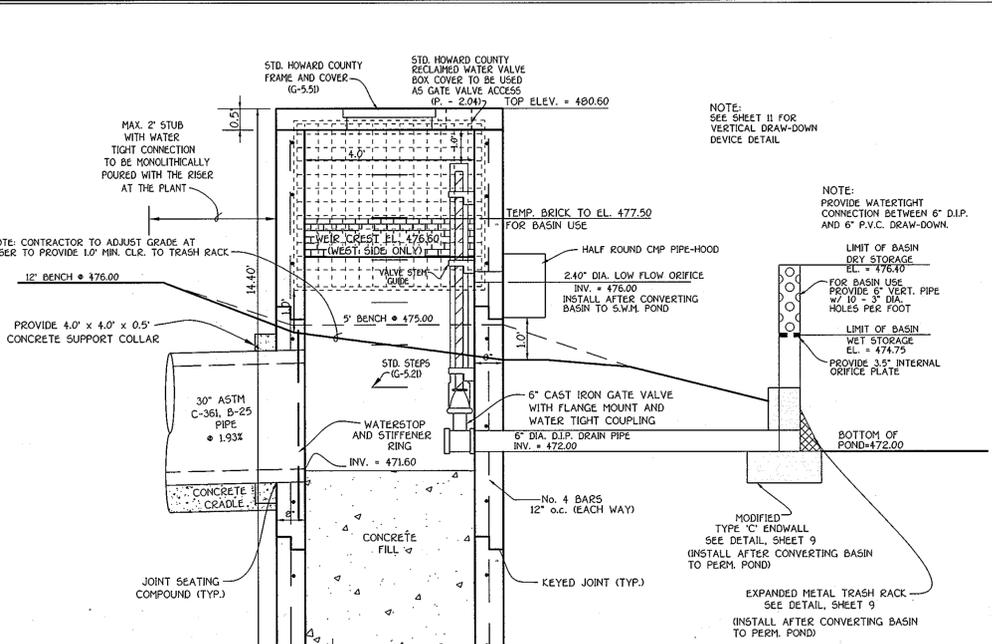
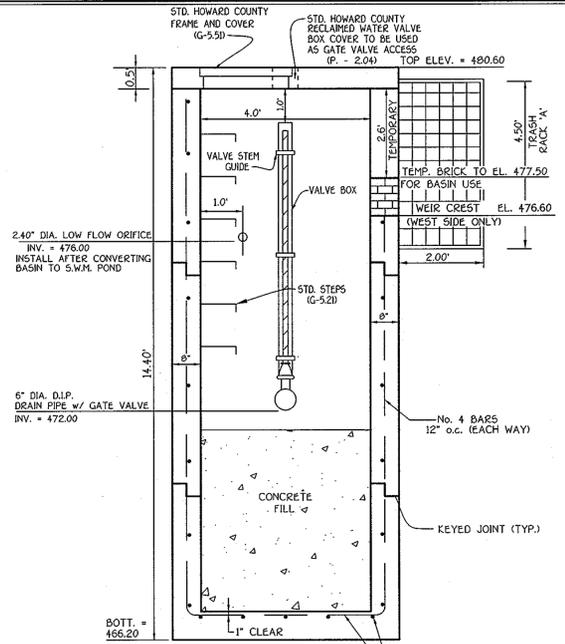
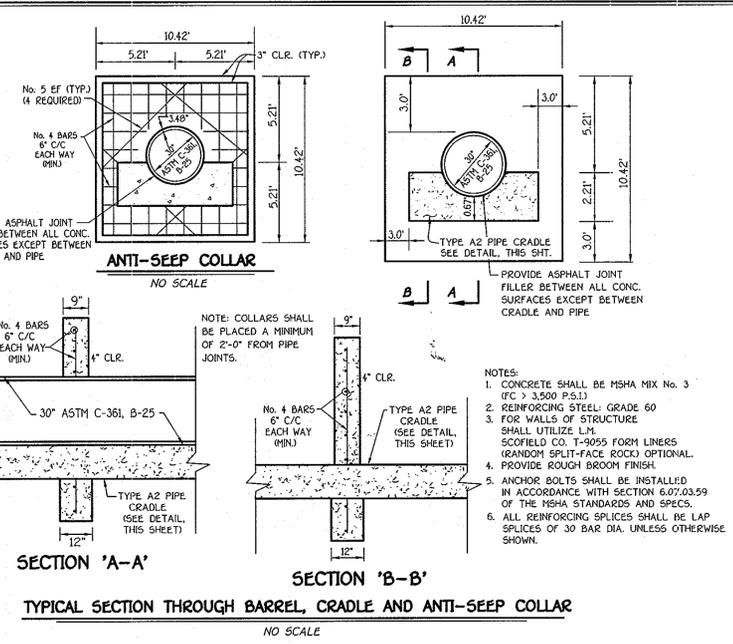
NO.	REVISION	DATE
1	REVISE OWNER AND DEVELOPER	11/8/11

OWNER
 MERIWETHER FARM II, LLC
 C/O GREGG GOODER, LLC
 10715 CHATEAU DRIVE
 SUITE 350
 COLUMBIA, MARYLAND 21044
 PH: (410) 977-7501
 ATTN: MR. ROBERT G. GOODER, JR.

DEVELOPER
 TOLL BROTHERS, INC.
 MARYLAND DIVISION
 7104 COLUMBIA GATEWAY DRIVE
 SUITE 250
 COLUMBIA, MARYLAND 21046
 PH: (410) 977-7501
 ATTN: MR. JEFF DRISCOLL

ALDO ...
 PROFESSIONAL ENGINEER
 STATE OF MARYLAND
 LICENSE NO. 20718, EXPIRATION DATE 2-22-09

STORM DRAIN PROFILES
MERIWETHER FARM
SECTION TWO
PHASE ONE
 BUILDABLE LOTS 1 THRU 10, NON-BUILDABLE PRESERVATION
 PARCELS 'C' & 'D' AND BUILDABLE BULK PARCEL 'E'
 (A RESUBDIVISION OF BUILDABLE BULK PARCEL 'A', MERIWETHER FARM,
 SECTION TWO, F-88-198)
 ZONED: RC-DEO
 PARCEL No: 29 GRID Nos: 15, 16, 21 & 22
 FOURTH ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND
 SCALE: AS SHOWN
 DATE: DECEMBER, 2008
 SHEET 7 OF 15



By the Developer:
I/We Certify That All Development And/Or Construction Will Be Done According 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. I Shall Engage A Registered Professional Engineer To Supervise Pond Construction And Provide The Howard Soil Conservation District With An "As-Built" Plan Of The Pond Within 30 Days Of Completion. I Also Will Provide On-Site Inspections By The Howard Soil Conservation District.

Signature: *Robert Goodier* 12-22-08 Date
Printed Name of Developer: **Robert Goodier**

By the Engineer:
I Certify That This Plan For Pond Construction, 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. I Have Noted The Requirements That He/She Must Engage A Registered Professional Engineer To Supervise Pond Construction And Provide The Howard Soil Conservation District With An "As-Built" Plan Within 30 Days Of Completion.

Signature: *Robert Goodier* 12-22-08 Date
Printed Name of Engineer: **Robert Goodier**

These Plans For Small Pond Construction, Soil Erosion And Sediment Control Meet The Requirements Of The Howard Soil Conservation District.

Signature: *William J. Walsh* 1-12-09 Date
Printed Name of Engineer: **William J. Walsh**
Title: Chief, Bureau Of Highways

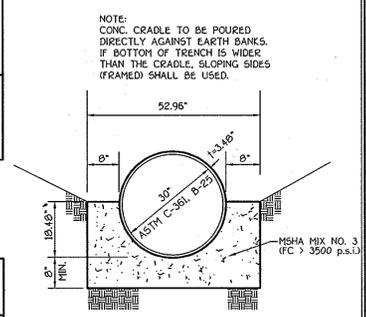
Signature: *Cindy Hanes* 1/22/08 Date
Printed Name of Engineer: **Cindy Hanes**
Title: Chief, Division Of Land Development

Signature: *Chad Edmund* 1/6/09 Date
Printed Name of Engineer: **Chad Edmund**
Title: Chief, Development Engineering Division

AS-BUILT CERTIFICATION
I Herby Certify That The Facility Shown On This Plan Was Constructed As Shown On The "As-Built" Plans And Meets The Approved Plans And Specifications.

Signature: _____ P.E. No. _____
Date: _____

Certify Means To State Or Declare A Professional Opinion Based Upon On-site Inspections And Material Tests Which Are Conducted During Construction. The On-site Inspections And Material Tests Are Those Inspections And Tests Deemed Sufficient And Appropriate Commonly Accepted Engineering Standards. Certify Does Not Mean Or Imply A Guarantee By The Engineer Nor Does An Engineer's Certification Solve Any Other Party From Meeting Requirements Imposed By Contract, Employment, Or Other Means, Including Meeting Commonly Accepted



**STORMWATER MANAGEMENT NOTES & DETAILS
MERIWETHER FARM
SECTION TWO
PHASE ONE**

BUILDABLE LOTS 1 THRU 10, NON-BUILDABLE PRESERVATION PARCELS 'C' & 'D' AND BUILDABLE BULK PARCEL 'E'
(A RESUBDIVISION OF BUILDABLE BULK PARCEL 'A', MERIWETHER FARM, SECTION TWO, F-08-198)

ZONED: RC-DEO
TAX MAP No: 21 PARCEL No: 28 GRID Nos: 15, 16, 21 & 22
FOURTH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN
DATE: DECEMBER, 2008
SHEET 8 OF 15

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTRAL SQUARE OFFICE PARK - 10725 BALTIMORE NATIONAL PIKE
ELICOTT CITY, MARYLAND 21042
(410) 461-2895

**S.W.M. FACILITY B.M.P. NO. 1
PRINCIPLE SPILLWAY PROFILE**
SCALE: HOR. 1" = 30'
VER. 1" = 3'

NO.	DESCRIPTION	DATE
1	REVISE OWNER AND DEVELOPER	11/8/11

STATE OF MARYLAND
ALDO J. [Signature]
DATE: 12/22/08
I hereby certify that these documents were prepared by me, and that I am a duly Licensed Professional Engineer under the laws of the State of Maryland, License No. 22748, Expiration Date 2-22-09.

STORM WATER MANAGEMENT POND CONSTRUCTION SPECIFICATIONS

These specifications are appropriate to all ponds within the scope of the Standard for practice MD-378. All references to ASTM and AASHTO specifications apply to the most recent version.

Site Preparation

Areas designated for borrow areas, embankment, and structural works shall be cleared, grubbed and stripped of topsoil. All trees, vegetation, roots and other objectionable material shall be removed. Channel banks and sharp breaks shall be sloped to no steeper than 1:1. All trees shall be cleared and grubbed within 15 feet of the toe of the embankment.

Areas to be covered by the reservoir will be cleared of all trees, brush, logs, fences, rubbish and other objectionable material unless otherwise designated on the plans. Trees, brush, and stumps shall be cut approximately level with the ground surface. For stormwater management ponds, a minimum of a 25-foot radius around the inlet structure shall be cleared.

All cleared and grubbed material shall be disposed of outside and below the limits of the dam and reservoir as directed by the owner or his representative. When specified, a sufficient quantity of topsoil will be stockpiled in a suitable location for use on the embankment and other designated areas.

EARTH FILL

Material - The fill material shall be taken from approved designated borrow areas. It shall be free of roots, stumps, wood, rubbish, stones greater than 6", frozen or other objectionable materials. Fill material for the center of the embankment, and cut off trench shall conform to Unified Soil Classification CC, CL or CI and must have at least 30% passing the #200 sieve. Consideration may be given to the use of other materials in the embankment if designed by a geotechnical engineer. Such special designs must have construction supervised by a geotechnical engineer. Materials used in the outer shell of the embankment must have the capability to support vegetation of the quality required to prevent erosion of the embankment.

Placement - Areas on which fill is to be placed shall be scarified prior to placement of fill. Fill materials shall be placed in maximum 8-inch thick (before compaction) layers which are to be continuous over the entire length of the fill. The most permeable borrow material shall be placed in the downstream portions of the embankment. The principal spillway must be installed concurrently with fill placement and not excavated into the embankment.

Compaction - The movement of the hauling and spreading equipment over the fill shall be controlled so that the entire surface of each lift shall be traversed by not less than one tread track of heavy equipment or compaction roller. A minimum of four complete passes of a sheepsfoot, rubber tired or vibratory roller. Fill material shall contain sufficient moisture such that the required degree of compaction will be obtained with the equipment used. The fill material shall contain sufficient moisture so that if formed into a ball it will not crumble, yet not be so wet that water can be squeezed out.

When required by the reviewing agency the minimum required density shall not be less than 95% maximum dry density with a moisture content within +2% of the optimum. Each layer of fill shall be compacted as necessary to obtain that density, and is to be certified by the Engineer at the time of construction. All compaction is to be determined by AASHTO Method T-99 (Standard Proctor).

Cut Off Trench - The cutoff trench shall be excavated into impervious material along or parallel to the centerline of the embankment as shown on the plans. The bottom width of the trench shall be governed by the equipment used for excavation, with the minimum width being four feet. The depth shall be at least four feet below existing grade or as shown on the plans. The side slopes of the trench shall be 1 to 1 or flatter. The backfill shall be compacted with construction equipment, rollers, or hand tampers to assure maximum density and minimum permeability.

Embankment Core - The core shall be parallel to the centerline of the embankment as shown on the plans. The top width of the core shall be a minimum of four feet. The height shall extend up to at least the 10 year water elevation or as shown on the plans. The side slopes shall be 1 to 1 or flatter. The core shall be compacted with construction equipment, rollers, or hand tampers to assure maximum density and minimum permeability. In addition, the core shall be placed concurrently with the outer shell of the embankment.

Structure Backfill

Backfill adjacent to pipes or structures shall be of the type and quality conforming to that specified for the adjoining fill material. The fill shall be placed in horizontal layers not to exceed four inches in thickness and compacted by hand tampers or other manually directed compaction equipment. The material needs to fill completely all spaces under and adjacent to the pipe. At no time during the backfilling operation shall driven equipment be allowed to operate closer than four feet, measured horizontally, to any part of a structure. Under no circumstances shall equipment be driven over any part of a concrete structure or pipe, unless there is a compacted fill of 24" or greater over the structure or pipe.

Structure backfill may be flowable fill meeting the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 313 as modified. The mixture shall have a 100-200 psi 28 day unconfined compressive strength. The flowable fill shall have a minimum pH of 4.0 and a minimum resistivity of 2,000 ohm-cm. Material shall be placed such that a minimum of 6" (measured perpendicular to the outside of the pipe) of flowable fill shall be under (bedding), over and on the sides of the pipe. It only needs to extend up to the spring line for rigid conduits. Average slump of the fill shall be 7" to assure flowability of the material. Adequate measures shall be taken (sand bags, etc.) to prevent the flowable fill from flowing away from the structure. Bituminous coating the pipe. When using flowable fill, all metal pipe shall be bituminous coated. Any adjoining soil fill shall be placed in horizontal layers not to exceed four inches in thickness and compacted by hand tampers or other manually directed compaction equipment. The material shall completely fill all voids adjacent to the flowable fill zone. At no time during the backfilling operation shall driven equipment be allowed to operate closer than four feet, measured horizontally, to any part of a structure. Under no circumstances shall equipment be driven over any part of a structure or pipe, unless there is a compacted fill of 24" or greater over the structure or pipe. Backfill material outside the structural backfill (flowable fill) zone shall be of the type and quality conforming to the specified for the core of the embankment or other embankment materials.

Pipe Conduits

All pipes shall be circular in cross section.
Corrugated Metal Pipe - All of the following criteria shall apply for corrugated metal pipe:

1. Materials - (Polymer Coated steel pipe) - Steel pipes with polymeric coatings shall have a minimum coating thickness of 0.01 inch (10 mil) on both sides of the pipe. This pipe and its appurtenances shall conform to the requirements of AASHTO Specifications M-245 & M-246 with watertight coupling bands or flanges.

Materials - (Aluminum Coated Steel Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-274 with watertight coupling bands or flanges. Aluminum Coated Steel Pipe, when used with flowable fill or when soil and/or water conditions warrant the need for increased durability, shall be fully bituminous coated per requirements of AASHTO Specification M-190 Type A. Any aluminum coating damaged or otherwise removed shall be replaced with cold applied bituminous coating compound. Aluminum surfaces that are to be in contact with concrete shall be painted with one coat of zinc chromate primer or two coats of asphalt.

Materials - (Aluminum Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-196 or M-211 with watertight coupling bands or flanges. Aluminum Pipe, when used with flowable fill or when soil and/or water conditions warrant for increased durability, shall be fully bituminous coated per requirements of AASHTO Specification M-190 Type A. Aluminum surfaces that are to be in contact with concrete shall be painted with one coat of zinc chromate primer or two coats of asphalt. The pH of the surrounding soils shall be between 4 and 9.

2. Coupling bands, anti-seep collars, end sections, etc., must be composed of the same material and coatings as the pipe. Metals must be insulated from dissimilar materials with use of rubber or plastic insulating materials at least 24 mils in thickness.

3. Connections - All connections with pipes must be completely watertight. The drain pipe or barrel connection to the riser shall be welded all around when the pipe and riser are metal. Anti-seep collars shall be connected to the pipe in such a manner as to be completely watertight. Dimple bands are not considered to be watertight.

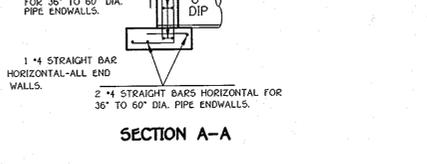
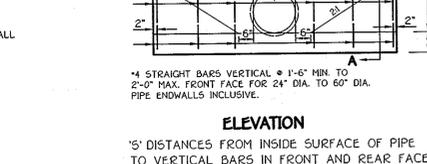
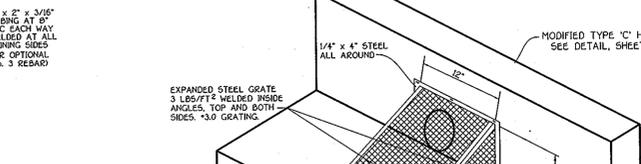
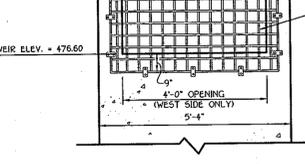
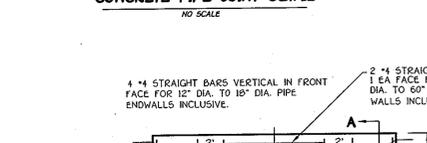
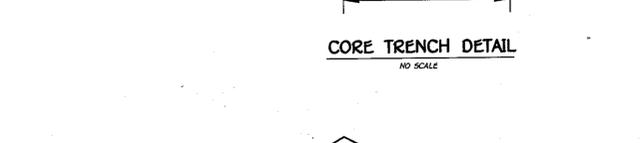
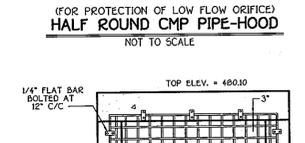
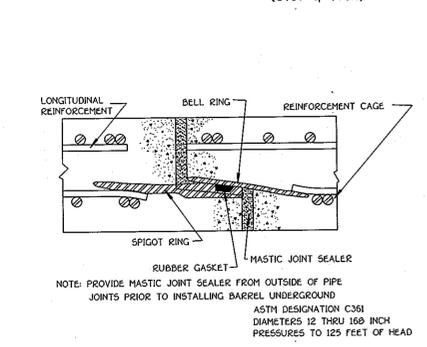
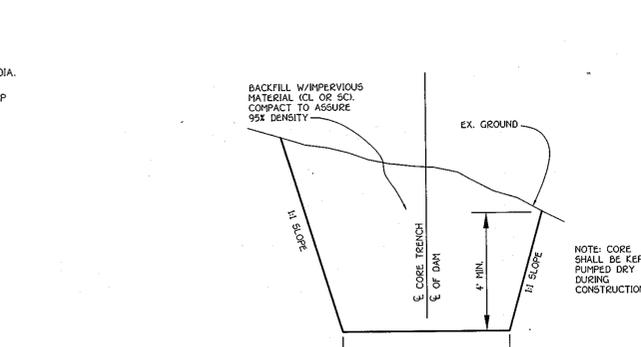
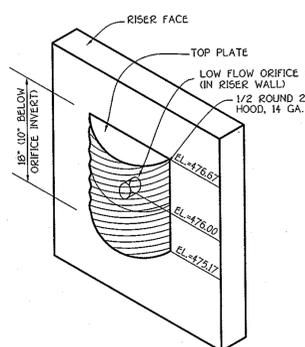
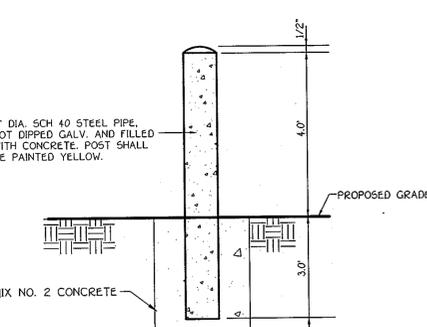
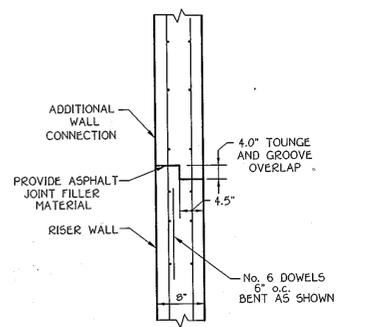
OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND JOINTLY MAINTAINED STORMWATER MANAGEMENT FACILITIES FOR BMP POND #1 & UNDERGROUND STONE RESERVOIR

ROUTINE MAINTENANCE

1. Facility shall be inspected annually and after major storms. Inspections shall be performed during wet weather to determine if the pond is functioning properly.
2. Top and side slopes of the embankment shall be mowed a minimum of two (2) times a year, once in June and once in September. Other side slopes and maintenance access should be mowed as needed.
3. Debris and litter shall be removed during regular mowing operations and as needed.
4. Visible signs of erosion in the pond as well as the rip-rap or gabion outlet area shall be repaired as soon as it is noticed.
5. The off-line storm drain (M-1 to CO-1) and underground reservoir shall be inspected annually and after major storms.

NON-ROUTINE MAINTENANCE

1. Structural components of the pond such as the dam, the riser, and the pipes shall be repaired upon the detection of any damage. The components shall be inspected during routine maintenance operations.
2. Sediment shall be removed from the pond, and forebay, no later than when the capacity of the pond or forebay, is half full of sediment, or, when deemed necessary for aesthetic reasons, upon approval from the Department of Public Works.



OPENINGS D IN.	AREA SQ.FT.	DIMENSIONS						VOLUME CU.Y.	STEEL LBS.
		A	B	C	E	F	H		
6"	0.79	9"	6"	6"	1'-9"	9"	1'-6"	5'-5"	30

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CONTINENTAL SQUARE OFFICE BUILDING 1072 BALTIMORE NATIONAL PARK
ELICOTT CITY, MARYLAND 21042
410 481-2855

NO.	REVISIONS	DATE
1	REVISE OWNER AND DEVELOPER	11/8/11

OWNER
MERIWETHER FARM II, LLC
C/O ROBERT GOODIER, LLC
10715 CHAMBER DRIVE
SUITE 350
COLUMBIA, MARYLAND 21046
PH: (410) 997-7501
ATTN: MR. ROBERT J. GOODIER, JR.

DEVELOPER
TOLL BROTHERS, INC.
MARYLAND DIVISION
7164 COLUMBIA GATEWAY DRIVE
SUITE 130
COLUMBIA, MARYLAND 21046
PH: (410) 997-7501
ATTN: MR. JEFF WRESCOLL



122208
DATE
I, ROBERT J. GOODIER, JR., hereby certify that these documents were prepared by me, and that I am a duly Licensed Professional Engineer under the laws of the State of Maryland, License No. 20726, Expiration Date 2-22-09.

STORMWATER MANAGEMENT NOTES & DETAILS
MERIWETHER FARM
SECTION TWO
PHASE ONE
BUILDABLE LOTS 1 THRU 10, NON-BUILDABLE PRESERVATION PARCELS 'C' & 'D' AND BUILDABLE BULK PARCEL 'E'
(A RESUBDIVISION OF BUILDABLE BULK PARCEL 'A', MERIWETHER FARM, SECTION TWO, F-08-198)
ZONED RC-DEO
PARCEL No. 29, GRID Nos. 15, 16, 21 & 22
FOURTH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN
DATE: DECEMBER, 2008
SHEET 9 OF 15

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 and That It Was Prepared in Accordance With the Requirements of the Howard Soil Conservation District.

Signature of Engineer: [Signature]
Date: 12-22-09

DEVELOPER'S CERTIFICATE
I/We Certify that All Development and Construction Will Be Done According to This Plan of Development and Plan for Erosion and Sediment Control and That All Responsible Personnel Involved in the Construction Project Will Have a Certificate of Attendance At a Department of Natural Resources Approved Training Program For The Control of Sediment And Erosion Before Beginning The Project. I Also Authorize Periodic On-Site Inspections by The Howard Soil Conservation District or Their Authorized Agents As Are Deemed Necessary.

Signature of Developer: [Signature]
Date: 12-22-09

Approved: This Development is Approved For Erosion And Sediment Control By the Howard Soil Conservation District.

District: Howard Soil Conservation District
Date: 1/6/10

Approved: Department of Planning And Zoning

Chief, Division of Land Development
Date: 1/6/10

Chief, Howard County Department of Public Works
Date: 1/6/10

Approved: Department of Planning And Zoning
Date: 1-12-09

Chief, Bureau of Highways
Date: 1-12-09

20.0 STANDARDS AND SPECIFICATIONS

VEGETATIVE STABILIZATION

Using vegetation as cover for barren soil to protect it from forces that cause erosion. Vegetative stabilization specifications are used to promote the establishment of vegetation on exposed soil. When soil is stabilized with vegetation, the soil is less likely to allow infiltration of rainfall, thereby reducing sediment loads and run-off to downstream areas, and improving wildlife habitat and visual resources.

CONDITIONS WHERE PRACTICE APPLIES
This practice shall be used on denuded areas as specified on the plans and may be used on highly erodible or critically eroding areas. This specification is divided into Temporary Seeding, to quickly establish vegetative cover for short duration (up to one year), and Permanent Seeding, for long term vegetative cover. Examples of applicable areas for Temporary Seeding are temporary soil stockpiles, cleared areas between construction phases, earth dikes, etc. and for Permanent Seeding are lawns, dams, cut and fill slopes and other areas at final grade, former stockpile and staging areas, etc.

EFFECTS ON WATER QUALITY AND QUANTITY

Planting vegetation in disturbed areas will have an effect on the water budget, especially on volumes and rates of runoff, infiltration, evaporation, transpiration, percolation, and groundwater recharge. Vegetation over time, will increase organic matter content and improve the water holding capacity of the soil and subsequent plant growth. Vegetation will help to reduce erosion, nutrients, and other chemicals carried by runoff receiving waters. Plants will also help protect groundwater supplies by assimilating those substances present within the root zone.

SELECTION 1 - VEGETATIVE STABILIZATION METHODS AND MATERIALS

- A. Site Preparation and sediment control structures (either temporary or permanent) such as diversions, grade stabilization structures, berms, waterways, or sediment control basins.
- i. Perform all grading operations at right angles to the slope. Final grading and shaping is not usually necessary for temporary structures.
- ii. Schedule required soil tests to determine soil amendment composition and application rates for sites having disturbed areas over 5 acres.
- iii. Soil Amendments (Fertilizer and Lime Specifications)
 - 1. Soil tests must be performed to determine the exact ratios and application rates for both lime and fertilizer on sites having disturbed areas over 5 acres. Soil analysis may be performed by the University of Maryland or a recognized commercial laboratory. Soil samples taken for engineering purposes may also be used for chemical analysis.
 - 2. Fertilizers shall be uniform in composition, free flowing and suitable for accurate application by approved equipment. Manure may be substituted for fertilizer with prior approval from the University of Maryland or a recognized commercial laboratory. Fertilizers shall be delivered according to the applicable state fertilizer laws and shall bear the name, trade name or trademark and warranty of the product.
 - 3. Lime materials shall be ground limestone (hydrated or burnt lime) may be substituted which contains at least 90% total oxides (calcium oxide plus magnesium oxide). Limestone shall be ground to such fineness that 100 mesh will pass through a 100 mesh sieve.
- iv. Incorporate lime and fertilizer into the top 3-5" of soil by diking or other suitable means.

C. Seeded Preparation

- i. Seeded preparation shall consist of loosening soil to a depth of 3" to 5" by means of suitable agricultural or construction equipment, such as disc harrows or chisel plows or ripper mounts on tractors, and soil to construction equipment. After soil is loosened it should not be rolled or dragged smooth, but left in the roughened condition. Sloped areas (greater than 3%) shall be tracked with the equipment to create horizontal erosion check slots to prevent topsoil from sliding down a slope.
- ii. Apply soil amendments as per soil test or as included on the plans.
- iii. Mix soil amendments into the top 3-5" of topsoil by diking or other suitable means. Lawn areas should be rolled to smooth the surface, remove large objects like stones and branches, and ready the area for seed and application. Where site conditions will not permit normal seeded preparation, loosen surface soil by dragging with a heavy chain or other equipment to roughen the surface. Steep slopes (steeper than 3%) should be tracked by a dozer leaving the soil in an irregular condition with ridges running parallel to the contour of the slope. The ridges shall be spaced to allow loose and friable. Seeded loosening may not be necessary on newly disturbed areas.

D. Seed Specifications

- i. All seed must meet the requirements of the Maryland State Seed Law. All seed shall be subject to inspection by a recognized laboratory. All seed used shall have been tested within the 6 months immediately preceding the date of sowing such material on the job.
- ii. Inoculant - The inoculant for treating legume seed in the seed mixtures shall be a pure culture of the appropriate rhizobium species for the legume. Inoculant shall be applied to the seed at the rate indicated on the container. Add fresh inoculant as directed on package. Use four times the recommended rate if the seed is to be stored for more than 30 days before use. Use four times the recommended rate if the seed is to be stored for more than 60 days before use. Use four times the recommended rate if the seed is to be stored for more than 90 days before use.
- iii. Hydroseeding - Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer), broadcast or drop seed.
- iv. Fertilizer - If fertilizer is being applied at the time of seeding, the application rates amounts will not exceed the following: nitrogen maximum of 100 lbs. per acre total of soluble nitrogen; P2O5 (phosphorous) 200 lbs/acre; K2O (potassium) 200 lbs/acre.
- v. Lime - Use only ground agricultural limestone. Up to 3 tons per acre may be applied by hydroseeding. Normally, not more than 2 tons per acre should be applied by hydroseeding at one time. Do not use burnt or hydrated lime when hydroseeding.
- vi. Seed and fertilizer shall be mixed on site and seeding shall be done immediately and without interruption.
- vii. Dry Seeding - This includes use of conventional drop or broadcast seeders.
- viii. Seed spread dry shall be incorporated into the subsoil at the rates prescribed on the Temporary or Permanent Seeding Summaries or Tables 25 or 26. The seeded area shall then be rolled with a weighted roller to provide good seed to soil contact.
- ix. Where practical, seed should be applied in two directions perpendicular to each other. Apply half the seeding rate in each direction.
- x. Drill or Outdragger Seeding - Mechanized seeders that apply and cover seed with soil.
- xi. Outdragger seeding - Steep slopes (steeper than 3%) should be tracked by a dozer leaving the soil in an irregular condition with ridges running parallel to the contour of the slope. The ridges shall be spaced to allow loose and friable. Seeded loosening may not be necessary on newly disturbed areas.
- xii. Apply half the seeding rate in each direction.

F. Mulch Specifications (in order of preference)

- i. Straw shall consist of thoroughly threshed wheat, rye or oat straw, reasonable bright in color, and shall not be musty, moldy, decayed or excessively dusty and shall be free of noxious weed seeds as specified in the Maryland Seed Law.
- ii. Wood Cellulose Fiber Mulch (WCFF)
 - a. WCFF shall consist of specially prepared wood cellulose processed into a uniform fibrous physical state.
 - b. WCFF shall consist of green or contain a green dye in the package that will provide an appropriate color to facilitate visual inspection of the uniform spread slurry.
 - c. WCFF shall contain no gravel or other hard particles.
 - d. WCFF materials shall be manufactured and processed in such a manner that the wood cellulose fiber mulch will remain in uniform suspension in water under agitation and will blend with seed, fertilizer and other additives to form a homogeneous slurry. The mulch material shall form a blotter-like ground cover, on application, having moisture absorption and retention properties and shall cover the soil and grass seed in contact with the soil without inhibiting the growth of the grass seedlings.
 - e. WCFF shall contain no elements or compounds that will be phytotoxic.
 - f. WCFF must conform to the following physical requirements: fiber length to approximately 1/2" mm., diameter approximately 1 mm., pH range of 4.0 to 8.5, ash content of 10% maximum.
 - iii. Note: Only straw mulch should be used in areas where one species of grass is desired.
 - iv. Mowing Seeded Areas - Mow shall be applied to all seeded areas immediately after seeding.
 - v. If grading of the seeding season, mulch should be applied as prescribed in this section and maintained until the seeding season returns and seeding can be performed in accordance with these specifications.
 - vi. When straw mulch is used, it shall be spread over all seeded areas at the rate of 2 tons/acre. Mulch shall be applied to a uniform loose depth of between 1" and 2". Mulch shall have a uniform distribution and depth so that the soil surface is not exposed. If a mulch anchoring tool is to be used, the rate should be increased to 2.5 tons/acre.
 - vii. Wood cellulose fiber used as a mulch shall be applied at a net dry weight of 1,500 lbs. per acre. The wood cellulose fiber shall be mixed with water, and the mixture shall contain a maximum of 50 lbs. of wood cellulose fiber per 100 gallons of water.
 - viii. Securing Straw Mulch (Mulch Anchoring): Mulch anchoring shall be performed immediately following mulch application to minimize loss by wind or water. This may be done by one of the following methods listed by preference, depending upon size of area and erosion hazard:
 - 1. A mulch anchoring tool is a tractor drawn implement designed to punch and anchor mulch into the soil surface a minimum of two (2) inches. This practice is most effective on large areas, but is limited to flatter slopes where equipment can operate safely. If used on sloping land, this practice should be used on the contour if possible.
 - 2. Wood cellulose fiber may be used for anchoring straw. The fiber binder shall be applied at a net dry weight of 1,000 pounds/acre. The wood cellulose fiber shall be applied at the rate of 1,000 lbs. per acre and the mixture shall contain a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.
 - 3. Application of liquid binders should be heavier at the edges where wind catches mulch, such as in valleys and around berms. The remainder of the area should be treated uniformly after binder application. Synthetic binders - such as Acrylic DLE (Ago-Tack), DCA-70 Petroseal, Terra Tac, etc. or other approved binders may be used at rates recommended by the manufacturer to anchor mulch.
 - 4. Lightweight plastic mulch shall be stapled over the mulch according to manufacturer's recommendations. Netting is usually available in rolls 4' to 15' wide and 300 to 3,000 feet long.

H. Incremental Stabilization - Cut Slopes

- i. All cuts slopes shall be dressed, prepared, seeded and mulched as the work progresses. Slopes shall be excavated and stabilized in equal increments not to exceed 15'.
 - a. Excavate and stabilize all temporary erosion, side ditches, or berms that will be used to convey runoff from the excavation.
 - b. Perform Phase 1 excavation, dress and stabilize.
 - c. Perform Phase 2 excavation, dress and stabilize. Overseed Phase 1 areas as recommended.
 - d. Perform final phase excavation, dress and stabilize. Overseed previously seeded areas as necessary.
- ii. Construction sequence (Refer to Figure 3 below):
 - 1. Excavate and stabilize all temporary erosion, side ditches, or berms that will be used to convey runoff from the excavation.
 - 2. Perform Phase 1 excavation, dress and stabilize.
 - 3. Perform Phase 2 excavation, dress and stabilize. Overseed Phase 1 areas as recommended.
 - 4. Perform final phase excavation, dress and stabilize. Overseed previously seeded areas as necessary.
- iii. Embankments shall be constructed in lifts as prescribed on the plans.
 - 1. Slopes shall be stabilized immediately when the vertical height of the multiple lifts reaches 15', or when the grading operation ceases as prescribed in the plans.
 - 2. The top of each lift, temporary berms and pipe slope drains should be constructed along the top edge of the embankment to intercept surface runoff and convey it down the slope in a non-erosive manner to a sediment trap.
- iv. Construction sequence (Refer to Figure 4 below):
 - 1. Excavate and stabilize all temporary erosion, side ditches, or berms that will be used to divert runoff around the fill. Construct slope fill fence on low side of fill as shown on the plans.
 - 2. Place Phase 1 embankment, dress and stabilize.
 - 3. Place Phase 2 embankment, dress and stabilize.
 - 4. Perform final phase embankment, dress and stabilize. Overseed previously seeded areas as necessary.

Note: Once excavation has begun the operation should be continuous from grubbing through the completion of grading and placement of topsoil if required and permanent seed and mulch. Any interruptions in the operation or completing the operation out of the seeding season will necessitate the application of temporary stabilization.

J. Incremental Stabilization of Embankments - Fill Slopes

- i. Embankments shall be constructed in lifts as prescribed on the plans.
 - 1. Slopes shall be stabilized immediately when the vertical height of the multiple lifts reaches 15', or when the grading operation ceases as prescribed in the plans.
 - 2. The top of each lift, temporary berms and pipe slope drains should be constructed along the top edge of the embankment to intercept surface runoff and convey it down the slope in a non-erosive manner to a sediment trap.
- ii. Construction sequence (Refer to Figure 4 below):
 - 1. Excavate and stabilize all temporary erosion, side ditches, or berms that will be used to divert runoff around the fill. Construct slope fill fence on low side of fill as shown on the plans.
 - 2. Place Phase 1 embankment, dress and stabilize.
 - 3. Place Phase 2 embankment, dress and stabilize.
 - 4. Perform final phase embankment, dress and stabilize. Overseed previously seeded areas as necessary.

Note: Once placement of fill has begun the operation should be continuous from grubbing through the completion of grading and placement of topsoil if required and permanent seed and mulch. Any interruptions in the operation or completing the operation out of the seeding season will necessitate the application of temporary stabilization.

SECTION 2 - TEMPORARY SEEDING

Vegetation - Annual grass or grain used to provide cover on disturbed areas for up to 12 months. For longer duration of vegetative cover, Permanent Seeding is required.

A. Seed mixtures - Temporary Seeding

- i. Select one or more of the species or mixtures listed in Table 25 for the appropriate Plant Hardness Zone (from Figure 5) and enter them in the Temporary Seeding Summary below, along with application rates, seeding dates and seeding depths. If this summary is not put on the plans and completed, then Table 25 must be put on the plans.
- ii. For sites having soil tests performed, the rates shown on this table shall be deleted and the rates recommended by the testing agency shall be written in. Soil tests are not required for Temporary Seeding.

Seed Mixture (Hardness Zone - Eb.)	Application Rate (lb/acre)	Seeding Dates	Seeding Depths	Fertilizer Rate (lb/acre)	Lime Rate (lb/acre)
No. Species				00-10-10	
1 BARLEY	122	3/1 - 5/15	1" - 2"	600 lb/acre	2 tons/acre
OATS	96	8/15 - 10/15	1" - 2"	05 lb/1000sq ft	000 lb/1000sq ft
RYE	140				

SECTION 3 - PERMANENT SEEDING

Seeding grass and legumes to establish ground cover for a minimum of one year on disturbed areas generally receiving low maintenance.

A. Seed mixtures - Permanent Seeding

- i. Select one or more of the species or mixtures listed in Table 25 for the appropriate Plant Hardness Zone (from Figure 5) and enter them in the Permanent Seeding Summary below, along with application rates and seeding dates. Seeding depths can be estimated using Table 26. If this summary is not put on the construction plans and completed, then Table 25 must be put on the plans. Additional planting specifications for exceptional sites such as shorelines, streambanks, or dunes or for special purposes such as wildlife or aesthetic treatment may be found in USDA-SCS Technical Field Office Guide, Section 342 - Critical Area Planting, for special farm maintenance areas, see Sections IV, V and VI.
- ii. For sites having disturbed area over 5 acres, the rates shown on this table shall be deleted and the rates recommended by the soil testing agency shall be written in.
- iii. For areas receiving low maintenance apply uniform fertilizer 46-0-0 @ 3 1/2 lbs/1000 sq. ft. (50 lbs/acre), in addition to the above soil amendments shown in the table below, to be performed at the time of seeding.

Seed Mixture (Hardness Zone - Eb.)	Application Rate (lb/acre)	Seeding Dates	Seeding Depths	N	P205	K2O	Lime Rate
No. Species				00-20-20			
3 TALL FESCUE (80%)	125	3/1 - 5/15	1" - 2"	90 lb/acre	175 lb/acre	175 lb/acre	2 tons/acre
PERENNIAL RYE GRASS (50%)	100	8/15 - 10/15	1" - 2"	02 lb/1000sq ft	04 lb/1000sq ft	04 lb/1000sq ft	000 lb/1000sq ft
KENTUCKY BLUEGRASS (5%)	10						
10 TALL FESCUE (80%)	120	3/1 - 5/15	1" - 2"				
HARD FESCUE (20%)	30	8/15 - 10/15	1" - 2"				

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. Placement of topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Selection 1 - 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, about 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". Seeding shall be performed in such a manner that seeding or seedling can proceed with a minimum of additional soil preparation and tillage. Any irregularities in the surface resulting from topsoiling or other operations shall be corrected in order to prevent the formation of depressions or water pockets.
- iv. Topsoil shall not be placed while the topsoil or subsoil is in a frozen or muddy condition when the subsoil is excessively wet or in a condition that may otherwise be detrimental to proper grading and seeding operations.

VI. Alternative for Permanent Seeding - Instead of applying the full amount of lime and commercial fertilizer, composted sludge and amendments may be applied as specified below:

- i. Composted Sludge Material for use as a soil conditioner, for sites having disturbed areas over 5 acres shall conform to the following requirements:
 - a. Composted sludge shall be supplied by, or originate from, a person or persons that are permitted (at the time of the compost) by the Maryland Department of the Environment under COMAR 26.04.06.
 - b. Composted sludge shall contain at least 1 percent nitrogen, 15 percent phosphorus, and 0.2 percent potassium and have a pH of 7.0 to 8.0. If compost does not meet these requirements, the appropriate constituents must be added to meet the requirements prior to use.
 - c. Composted sludge shall be applied at a rate of 1 ton/1,000 square feet.
- ii. Composted sludge shall be amended with potassium fertilizer applied at the rate of 4 lb/1,000 square feet, and 1/3 the normal lime application rate.

References: Guideline Specifications, Soil Preparation and Seeding, MD-VA, Pub. #1, Cooperative Extension Service, University of Maryland and Virginia Polytechnic Institutes. Revised 1973.

SUMMARY TABLE #1

The following is a summary of the peak discharges from each of the drainage areas and study points.

Study Point	One-Year Storm (cfs)	Ten-Year Storm (cfs)	100-Year Storm (cfs)
1 - Area 'A'	0.03	13.36	29.95
2 - Area 'B'	8.58	120.37	262.51
3 - Area 'C'	1.50	23.37	51.16
4 - Area 'D'	1.60	34.54	76.92
5 - Area 'E'	1.35	7.06	15.76
6 - Area 'F'	2.03	21.62	44.79
Total Composite Release	11.7	225.4	508.6

Study Point	One-Year Storm (cfs)	Ten-Year Storm (cfs)	100-Year Storm (cfs)
A - No BMP	21.26	27.59	42.70
B - BMP #1	28.04	185.36	389.93
C - No BMP	4.26	32.00	63.75
D - BMP #1	9.71	57.83	112.27
E - No BMP	*1.58	12.74	21.13
F - No BMP	*4.99	33.88	66.63

Allowable Release Rates:
@ Design Point #1: Area A: * No CPV required.
@ Design Point #2: Area B: 8.58 c.f.s. @ Proposed Micro-pool Ponds - Total of 3 ponds.
@ Design Point #3: Area C: * No CPV required.
@ Design Point #4: Area D: 1.60 c.f.s. @ Proposed Micro-pool Pond.
@ Design Point #5: Area E: * No CPV required.
@ Design Point #6: Area F: * No CPV required.
@ Total Composite From Site: 11.7 c.f.s.; 10-yr = 225.4 c.f.s. (See Enclosed Tr-20)

Location & Drainage Area	Required Min. Surface Area	Proposed Surface Area
Area 'B'-BMP #1 - 10.83 ac.	0.1083 or 4,717.5 sq. ft.	4,718 sq. ft.
Area 'B'-BMP #5 - 15.61 ac.	0.1561 or 6,799.7 sq. ft.	9,030 sq. ft.
Area 'B'-3-BMP #11 - 12.61 ac.	0.1261 or 5,492.9 sq. ft.	5,493 sq. ft.
Area 'D' - BMP #6 - 22.59 ac.	0.2259 or 9,822.4 sq. ft.	9,825 sq. ft.

Micro-pool Surface Area Tabulation Summary

Location & Drainage Area	Required Min. Surface Area	Proposed Surface Area
Area 'B'-BMP #1 - 10.83 ac.	0.1083 or 4,717.5 sq. ft.	4,718 sq. ft.
Area 'B'-BMP #5 - 15.61 ac.	0.1561 or 6,799.7 sq. ft.	9,030 sq. ft.
Area 'B'-3-BMP #11 - 12.61 ac.	0.1261 or 5,492.9 sq. ft.	5,493 sq. ft.
Area 'D' - BMP #6 - 22.59 ac.	0.2259 or 9,822.4 sq. ft.	9,825 sq. ft.

OWNER: MERIWETHER FARM II, LLC
1015 CHARLES DRIVE
SUITE 200
COLUMBIA, MARYLAND 21046
PH: (410) 997-7501
ATTN: MR. ROBERT A. ADRIANO, JR.

DEVELOPER: TOLL BROOKERS, INC.
MARGAND DIVISION
7164 COLUMBIA GREENWAY DRIVE
SUITE 200
COLUMBIA, MARYLAND 21046
PH: (410) 997-7501
ATTN: MR. JEFF DEWOLFF

TOPSOIL NOTES

Placement of topsoil over a prepared subsoil prior to establishment of permanent vegetation.

Purpose: To provide a suitable soil medium for vegetative growth. Soils of concern have low moisture content, low nutrient levels, low pH materials toxic to plants, and/or unacceptable soil gradation.

Conditions Where Practice Applies: This practice is limited to areas having 2:1 or flatter slopes where:

- a. The texture of the exposed subsoil material is not adequate to produce vegetative growth.
- b. The soil material in the root zone is not deep enough to support plants or furnish restraining 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.

For the purpose of these standards and specifications, areas having slopes steeper than 2:1 require 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: Topsoil salvaged from the existing site may be used provided that it meets the standards as set forth in these specifications. Topsoil: 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.

Topsoil Specifications - Soil to be used as specified 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 soil scientist and approved by the appropriate approval authority. Topsoil shall not be a mixture of contrasting textured subsoils and shall contain less than 5% by volume of cinders, stones, slag, coarse fragments, gravel, sticks, roots, trash, or other materials larger than 1/2" in diameter.
- ii. 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 the entire area and worked into the soil in conjunction with tillage operations as described in the following paragraphs.
- iii. For sites having disturbed areas under 5 acres:
 - a. pH for topsoil shall be between 6.0 and 7.5. If the tested soil demonstrates a pH of less than 6.0, sufficient lime shall be prescribed to raise the pH to 6.5 or higher.
 - b. Organic content of topsoil shall be not less than 1.5 percent by weight.
 - c. Topsoil having soluble salt content greater than 500 parts per million shall not be used.
 - d. No seed or soil shall be placed on soil which has been treated with soil sterilants or chemicals used for weed control until sufficient time has elapsed (30 days min) to permit dissipation of phytotoxic materials.

Note: Topsoil substitutes or amendments, as recommended by a qualified agronomist or soil scientist and approved by the appropriate approval authority, may be used in lieu of natural topsoil.

ii. Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Selection 1 - 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, about 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". Seeding shall be performed in such a manner that seeding or seedling can proceed with a minimum of additional soil preparation and tillage. Any irregularities in the surface resulting from topsoiling or other operations shall be corrected in order to prevent the formation of depressions or water pockets.
- iv. Topsoil shall not be placed while the topsoil or subsoil is in a frozen or muddy condition when the subsoil is excessively wet or in a condition that may otherwise be detrimental to proper grading and seeding operations.

VI. Alternative for Permanent Seeding - Instead of applying the full amount of lime and commercial fertilizer, composted sludge and amendments may be applied as specified below:

- i. Composted Sludge Material for use as a soil conditioner, for sites having disturbed areas over 5 acres shall conform to the following requirements:
 - a. Composted sludge shall be supplied by, or originate from, a person or persons that are permitted (at the time of the compost) by the Maryland Department of the Environment under COMAR 26.04.06.
 - b. Composted sludge shall contain at least 1 percent nitrogen, 15 percent phosphorus, and 0.2 percent potassium and have a pH of 7.0 to 8.0. If compost does not meet these requirements, the appropriate constituents must be added to meet the requirements prior to use.
 - c. Composted sludge shall be applied at a rate of 1 ton/1,000 square feet.
- ii. Composted sludge shall be amended with potassium fertilizer applied at the rate of 4 lb/1,000 square feet, and 1/3 the normal lime application rate.

References: Guideline Specifications, Soil Preparation and Seeding, MD-VA, Pub. #1, Cooperative Extension Service, University of Maryland and Virginia Polytechnic Institutes. Revised 1973.

SEDIMENT CONTROL NOTES

A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION (03-18-95).

2) ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE MOST CURRENT HAZARD AND SEDIMENT CONTROL SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL AND REVISIONS THERE TO.

3) FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: a) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES STEEPER THAN 3:1, b) 14 DAYS AS TO ALL OTHER DISTURBED AREAS.

4) ALL SEDIMENT TRAPS/BASINS MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 12, OF THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION.

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 (SEC. 5) SOI (SEC. 54), TEMPORARY SEEDING (SEC. 50), AND MULCHING (SEC. 52). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY 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 PERMITS FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.

7) SITE ANALYSIS:

- a. TOTAL AREA OF SITE: 177,782 ACRES
- b. AREA DISTURBED: 9.29 ACRES
- c. AREA TO BE ROOFED OR PAVED: 1.59 ACRES
- d. AREA TO BE VEGETATIVELY STABILIZED: 7.70 ACRES
- e. TOTAL CUT: 10,000 CU.YDS.
- f. TOTAL FILL: 9,174 CU.YDS.

8) ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES SHALL 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 PERMITTED 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 OBTAINED.

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) OBTAIN PERMITS FROM THE SEDIMENT CONTROL INSPECTOR PRIOR TO PROCEEDING WITH CONSTRUCTION.

13) REMOVE SEDIMENT EROSION CONTROL DEVICES AND TREE PROTECTION FENCE AS SHOWN ON THE PLAN UPON APPROVAL FROM THE SEDIMENT CONTROL INSPECTOR.

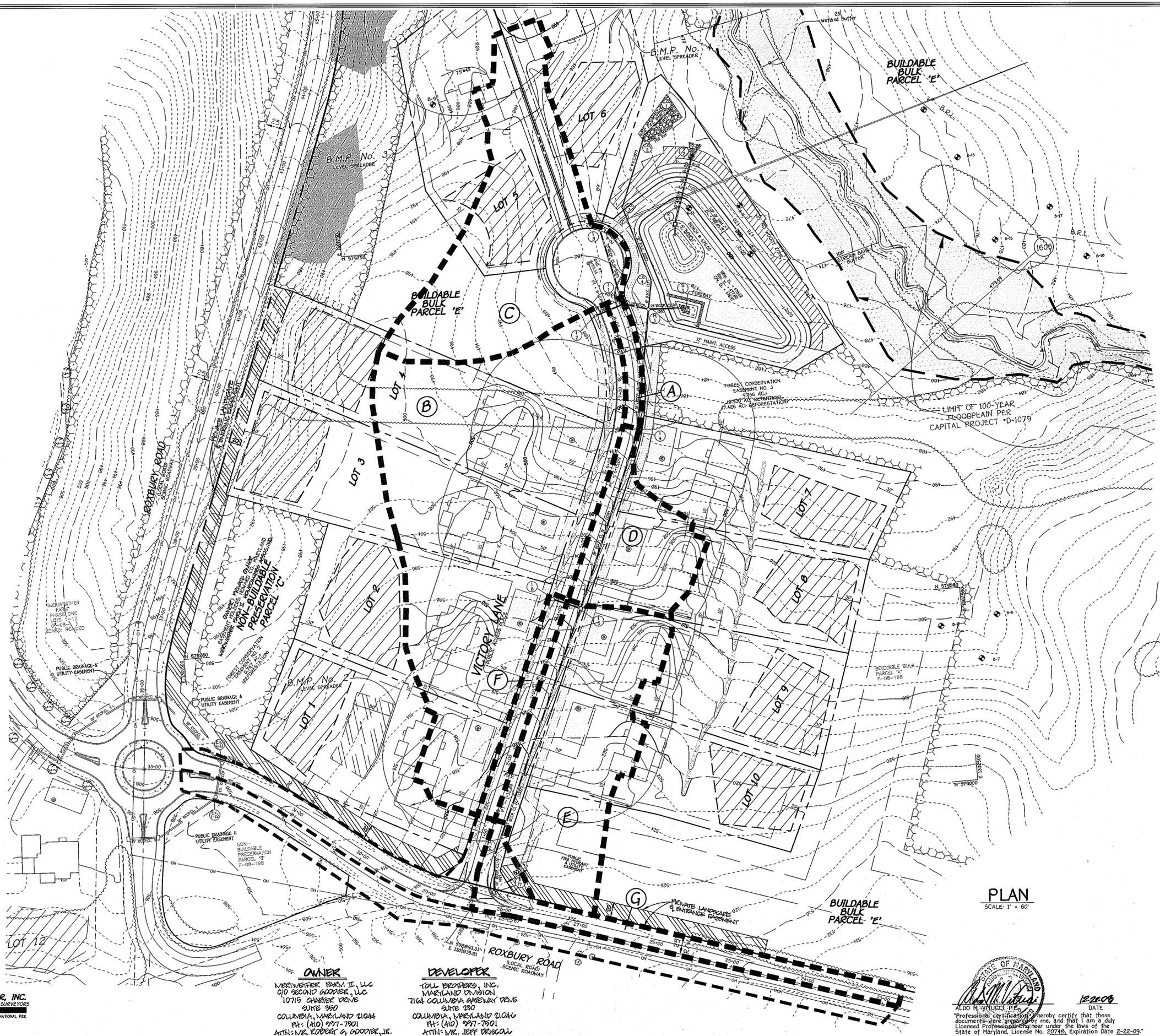
14) CONTRACTOR SHALL REMOVE ANY AND ALL JUNK, DEBRIS AND TRASH FROM WITHIN THE FLOOD

Approved Department of Public Works
 William R. White, Jr. 1-12-09
 Chief, Bureau of Highways

Approved Department of Planning and Zoning
 Cindy Hammett 1/23/09
 Chief, Division of Land Development

Approved
 David Robinson 1/16/09
 Chief, Development Engineering Division

DRAINAGE AREA DATA				
STRUCTURE NO.	DRAINAGE AREA	AREA	'C'	ZONED
I-1	A	0.08 acres	0.61	RC-DEO
I-2	B	2.90 acres	0.39	RC-DEO
I-3	C	1.51 acres	0.41	RC-DEO
I-4	D	0.51 acres	0.43	RC-DEO
I-5	E	1.20 acres	0.39	RC-DEO
I-6	F	0.14 acres	0.61	RC-DEO
I-7	G	0.37 acres	0.61	RC-DEO



PLAN
 SCALE: 1" = 60'

1	REMOVE LANDSCAPE AND ENTRANCE EASEMENT	11/8/11
1	RESTORE USE-IN-COMMUN EASEMENT FOR LOTS 5 & 6 AND UNDERGROUND TANK & PUMP OUT AREA	11/8/11
1	REMOVE OWNER AND DEVELOPER	11/8/11
NO.	DESCRIPTION	DATE
	REVISIONS	

STORM DRAIN DRAINAGE AREA MAP
MERIWETHER FARM
 SECTION TWO
 PHASE ONE
 BUILDABLE LOTS 1 THRU 10, NON-BUILDABLE PRESERVATION PARCELS 'C' & 'D' AND BUILDABLE BULK PARCEL 'E'
 (A RESUBDIVISION OF BUILDABLE BULK PARCEL 'A', MERIWETHER FARM, SECTION TWO, F-08-198)

FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTRAL SQUARE OFFICE PARK - 10775 BALTIMORE NATIONAL PIKE
 ELLSWORTH CITY, MARYLAND 21042
 (410) 481-2895

OWNER
 MERIWETHER FARM II, LLC
 610 SECOND CORNER, LLC
 10718 CHARLES DRIVE
 SUITE 350
 COLUMBIA, MARYLAND 21044
 PH: (410) 997-7501
 ATTN: MR. ROBERT G. GOODRICK, JR.

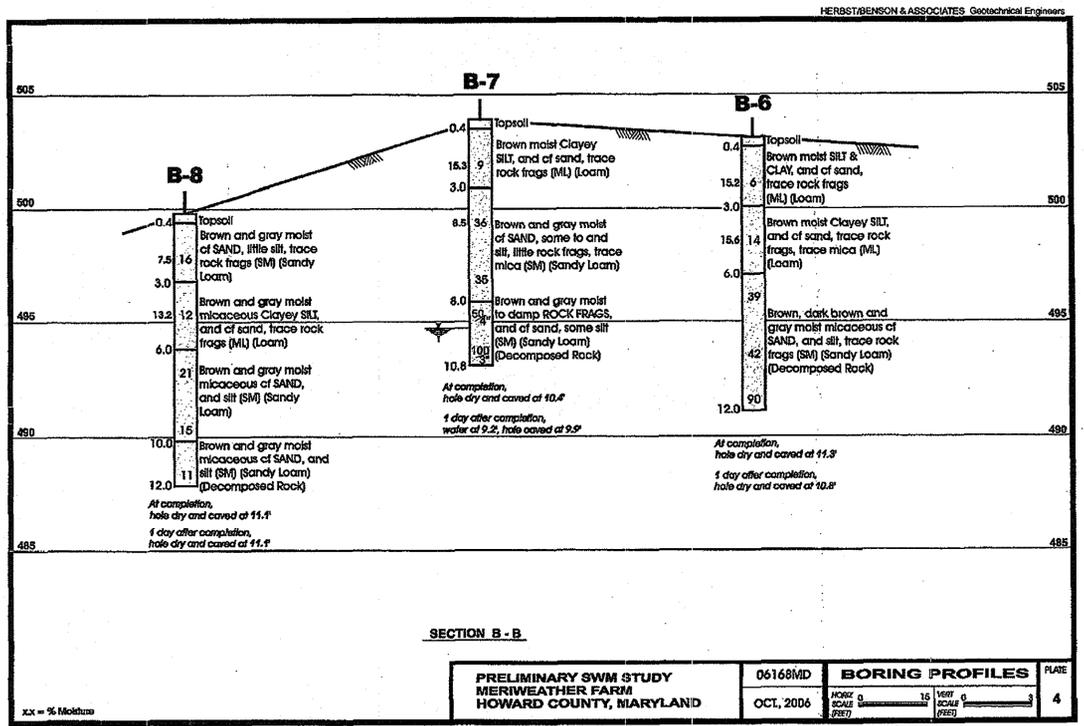
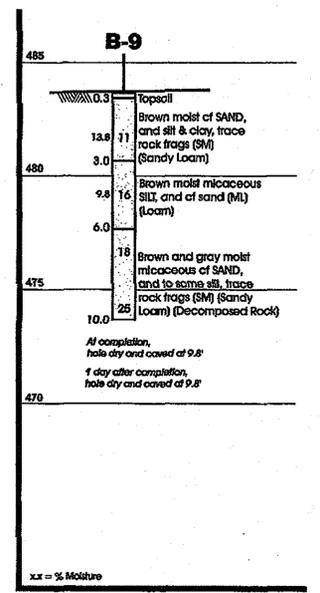
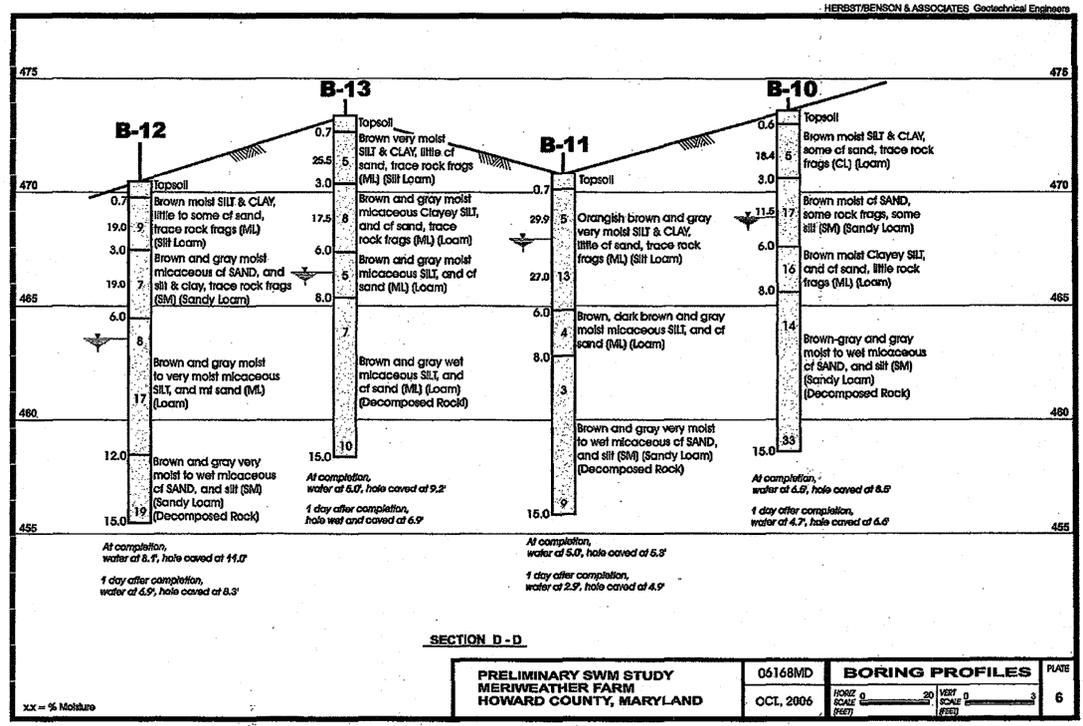
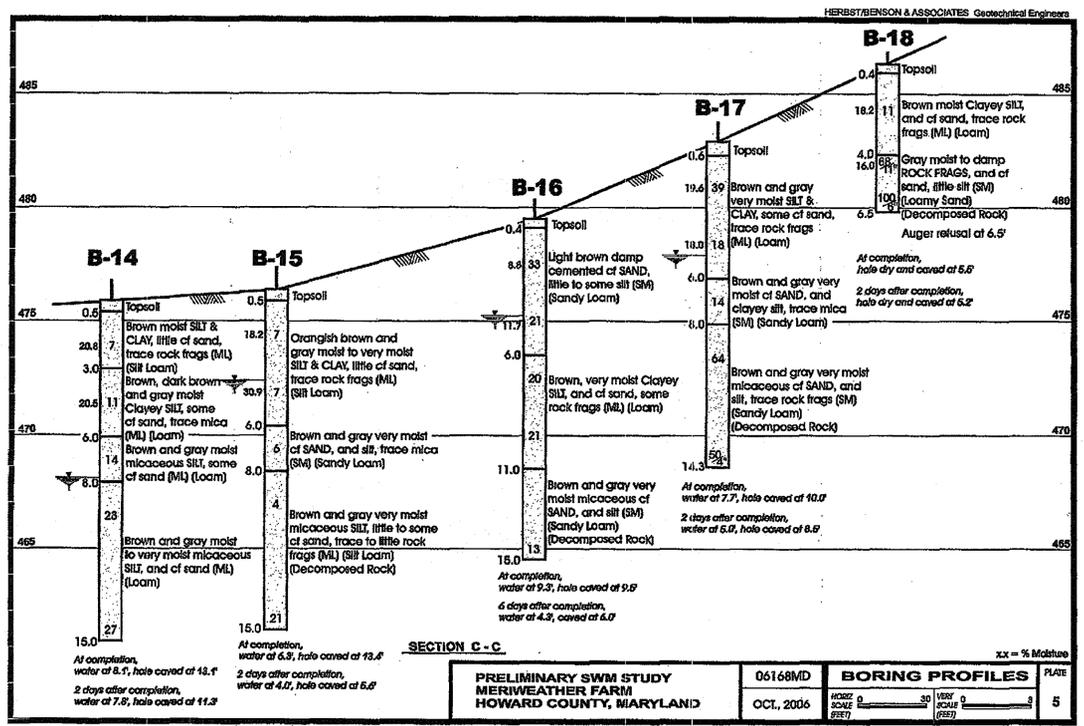
DEVELOPER
 TOLL BROTHERS, INC.
 MARYLAND DIVISION
 7104 COLUMBIA AVENUE DRIVE
 SUITE 750
 COLUMBIA, MARYLAND 21046
 PH: (410) 997-7501
 ATTN: MR. JEFF DRISCOLL



122008
 I, DAVID ROBINSON, hereby certify that these documents were prepared by me, and that I am a duly Licensed Professional Engineer under the laws of the State of Maryland, License No. 22749, Expiration Date 2-22-09.

TAX MAP No: 21
 ZONED: RC-DEO
 PARCEL No: 25 GRID Nos: 15, 16, 21 & 22
 FOURTH ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND
 SCALE: AS SHOWN
 DATE: DECEMBER, 2008
 SHEET 12 OF 15

APPROVED: DEPARTMENT OF PUBLIC WORKS
 1-12-09 DATE
 CHIEF, BUREAU OF HIGHWAYS
 APPROVED: DEPARTMENT OF PLANNING AND ZONING
 1/23/09 DATE
 CHIEF, DIVISION OF LAND DEVELOPMENT
 APPROVED: CHIEF, DEVELOPMENT ENGINEERING DIVISION
 1-16-9 DATE



FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 1072 BALTIMORE NATIONAL PIKE
 ELLICOTT CITY, MARYLAND 21114
 410-481-2855

NO.	REVISION	DATE
1	REVISE OWNER AND DEVELOPER	11/0/11

OWNER
 MERIWETHER FARM II, LLC
 610 SECOND GARDNER, LLC
 10715 CHARTER DRIVE
 SUITE 350
 COLUMBIA, MARYLAND 21044
 PH: (410) 997-7501
 ATTN: MR. ROBERT G. GOODER, JR.

DEVELOPER
 TOLL BROTHERS, INC.
 MARYLAND DIVISION
 7164 COLUMBIA GREENWAY DRIVE
 SUITE 020
 COLUMBIA, MARYLAND 21046
 PH: (410) 997-7501
 ATTN: MR. JEFF DRACOU



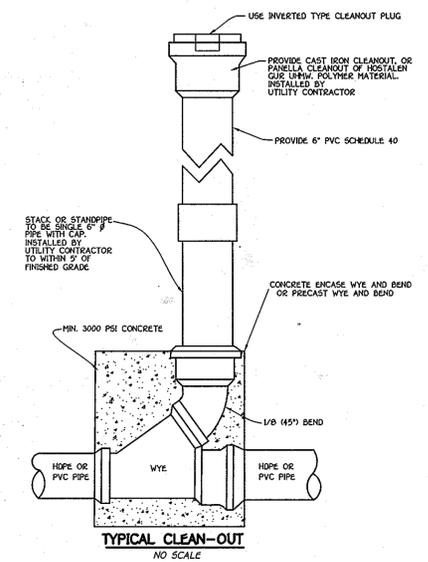
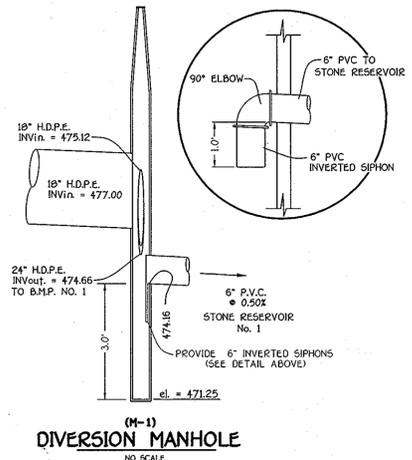
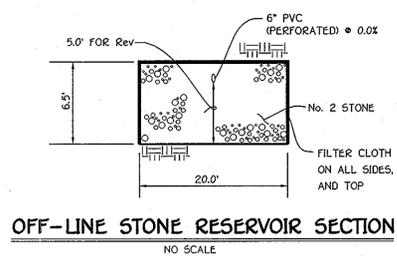
ALDO M. VISCELLI
 PROFESSIONAL ENGINEER
 I hereby certify that these documents were prepared by me, and that I am a duly Licensed Professional Engineer under the laws of the State of Maryland, License No. 20748, Expiration Date 2-22-09.
 DATE: 12/22/09

SOIL BORINGS
MERIWETHER FARM
 SECTION TWO
 PHASE ONE
 BUILDABLE LOTS 1 THRU 10, NON-BUILDABLE PRESERVATION PARCELS 'C' & 'D' AND BUILDABLE BULK PARCEL 'E'
 (A RESUBDIVISION OF BUILDABLE BULK PARCEL 'A', MERIWETHER FARM, SECTION TWO, F-08-198)
 ZONED: RC-DEO
 TAX MAP No: 21 PARCEL No: 29 GRID Nos: 15, 16, 21 & 22
 FOURTH ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND
 SCALE: AS SHOWN
 DATE: DECEMBER, 2008
 SHEET 13 OF 15

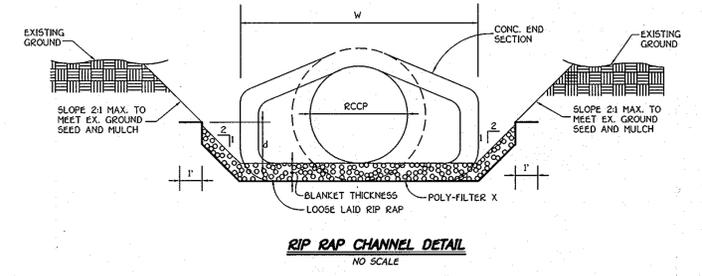
APPROVED: DEPARTMENT OF PUBLIC WORKS
William R. Caldwell 1-12-09
 CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING
Cindy Hannon 1/22/09
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Chad Edmister 1-16-9
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

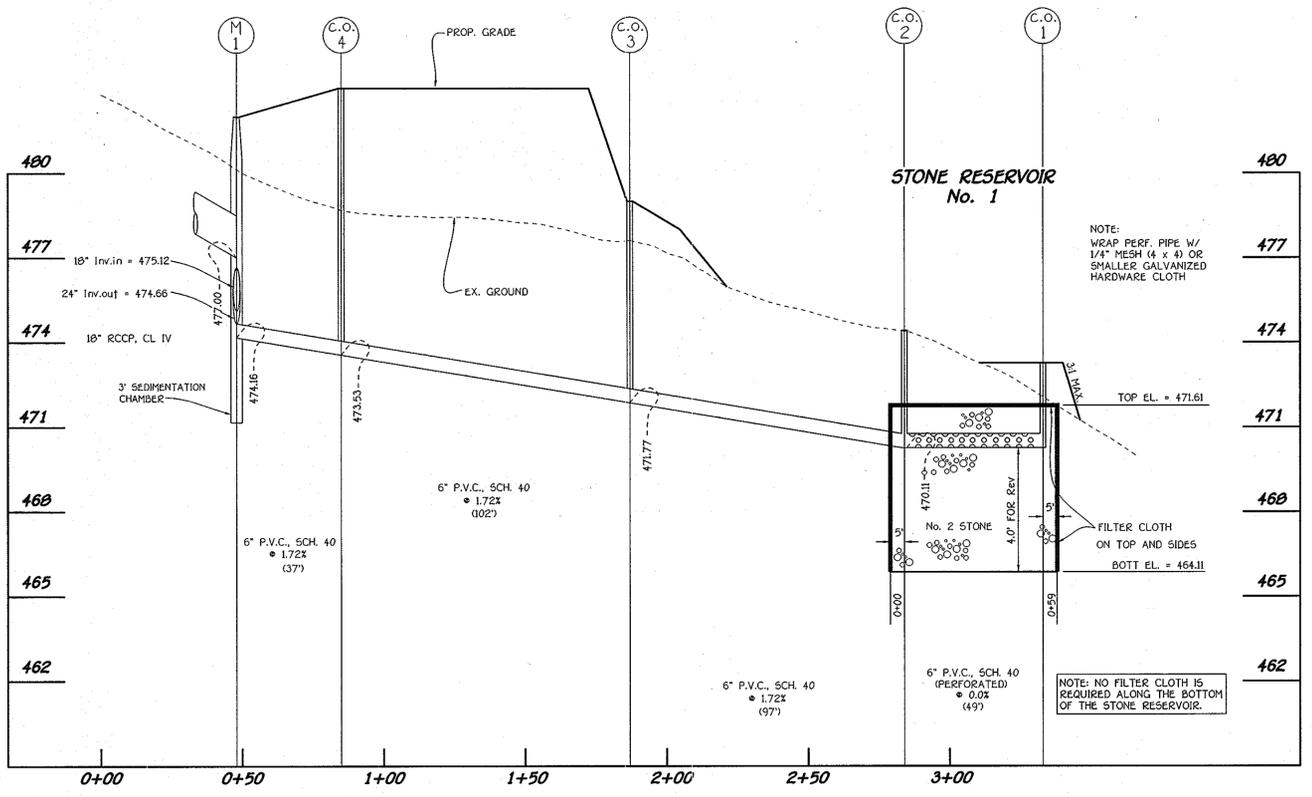


CLEAN-OUT SCHEDULE					
STRUCTURE NO.	TOP ELEVATION	INVERT	LOCATION		REMARKS
			NORTH	EAST	
C.O.-1	473.30	470.11	N 579,901.37	E 1,302,189.05	SEE DETAIL THIS SHEET
C.O.-2	474.40	470.11	N 579,870.47	E 1,302,151.61	SEE DETAIL THIS SHEET
C.O.-3	479.0	471.77	N 579,780.26	E 1,302,14.06	SEE DETAIL THIS SHEET
C.O.-4	483.0	473.53	N 579,682.20	E 1,302,143.00	SEE DETAIL THIS SHEET



RIP-RAP CHANNEL DESIGN DATA												
STRUCTURE	AREA	WETTED PERIMETER	R	R ^{2/3}	S	S ^{1/2}	W	d	N	V10 (f.p.s.)	Q10 (c.f.s.)	BLANKET THICKNESS
S-1	6.48	10.40	0.6231	0.7284	0.0050	0.0707	7.0'	0.76'	0.04	1.92	12.39	9.5" 15" 19"
S-2	11.22	12.92	0.8684	0.9098	0.0050	0.0707	8.0'	1.10'	0.04	* 2.39	* 26.8	9.5" 15" 19"

* - DENOTES 100-YEAR Q DESIGN



CONSTRUCTION SPECIFICATIONS FOR RIP-RAP OUTFALLS

- The subgrade for the filter, riprap 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 riprap or filter.
- Filter cloth shall be protected from punching, cutting or tearing. Any damage other than an occasional small hole shall be repaired by placing another piece of cloth over the damaged part or by completely replacing the cloth. All overlaps whether for repairs or for joining two pieces of cloth shall be a minimum of one foot.
- Stone for the riprap or gabion outlets may be placed by equipment. Both shall each 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 riprap or gabion outlets shall be delivered and placed in a manner that will insure that it is reasonably homogeneous with the smaller stones and spalls filling the voids between the larger stones. Riprap shall be placed in a manner to prevent damage to the filter blanket or filter cloth. Hand placement will be required to the extent necessary to prevent damage to the permanent works.

STONE RESERVOIR PROFILE & DETAILS
MERIWETHER FARM
 SECTION TWO
 PHASE ONE
 BUILDABLE LOTS 1 THRU 10, NON-BUILDABLE PRESERVATION PARCELS 'C' & 'D' AND BUILDABLE BULK PARCEL 'E'
 (A RESUBDIVISION OF BUILDABLE BULK PARCEL 'A', MERIWETHER FARM, SECTION TWO, F-08-198)
 ZONED: RC-DCO
 TAX MAP No. 21 PARCEL No. 20 GRID Nos. 15, 16, 21 & 22
 FOURTH ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND
 SCALE: AS SHOWN
 DATE: DECEMBER, 2008
 SHEET 15 OF 15

FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTRAL SQUARE OFFICE PARK, 18272 BALTIMORE NATIONAL PARK
 ELICOTT CITY, MARYLAND 21042
 (410) 461-2885

NO.	DESCRIPTION	DATE
1	REBASE OWNER AND DEVELOPER	11/8/11

OWNER
 MERIWETHER FARM II, LLC
 c/o SECOND GOODIER, LLC
 10715 CHASELIER DRIVE
 SUITE 200
 COLUMBIA, MARYLAND 21044
 PH: (410) 997-7801
 ATTN: MR. ROBERT G. GOODIER, JR.

DEVELOPER
 TOLL PROPERTIES, INC.
 MARYLAND DIVISION
 7104 COLUMBIA GARDENWAY DRIVE
 SUITE 200
 COLUMBIA, MARYLAND 21044
 PH: (410) 997-7801
 ATTN: MR. JEFF BRISCOLL



12/21/08
 DATE

I, ALDO M. VISCUCCI, hereby certify that these documents were prepared by me, and that I am a duly Licensed Professional Engineer under the laws of the State of Maryland, License No. 20748, Expiration Date 2-22-09.