

SHEET INDEX	
SHEET No.	SHEET
1	TITLE SHEET
2	DEMO PLAN
3	LINDERA COURT PLAN AND PROFILE
4	CRAPE MYRTLE COURT PLAN AND PROFILE
5	LINEAR PROFILES AND ROADWAY DETAILS
6-8	STREET TREE, GRADING, AND SEDIMENT CONTROL PLAN
9	LANDSCAPE PLAN
10	LANDSCAPE NOTES & DETAILS
11-12	STORM DRAIN PROFILES
13	STORM DRAIN DRAINAGE AREA MAP
14-18	FOREST CONSERVATION PLANS
19-21	STORMWATER MANAGEMENT NOTES AND DETAILS
22	SEDIMENT AND EROSION CONTROL NOTES, DETAILS & SOIL BORINGS
23	SEDIMENT AND EROSION CONTROL NOTES AND DETAILS

FINAL ROAD CONSTRUCTION, GRADING AND STORMWATER MANAGEMENT PLAN

WALNUT CREEK

PHASE FOUR

**Lots 115 - 159 And
Non-Buildable Preservation Parcel 'W' & 'X'**

(A Resubdivision Of Buildable Bulk Parcel 'U' - Walnut Creek, Phase Three)

ZONING: RC-DEO & RR-DEO

TAX MAP NO. 28 GRID Nos. 4, 5, 10-12, 17 AND 18 PARCEL No. 49

ROADWAY INFORMATION CHART			
ROAD NAME	CLASSIFICATION	DESIGN SPEED	R/W WIDTH
LINDERA COURT	PUBLIC ACCESS STREET	30 M.P.H.	50'
CRAPE MYRTLE COURT	PUBLIC ACCESS STREET	30 M.P.H.	50'

APPROVED: DEPARTMENT OF PUBLIC WORKS	
<i>[Signature]</i> CHIEF, BUREAU OF HIGHWAYS	4/3/13 DATE
APPROVED: DEPARTMENT OF PLANNING AND ZONING	
<i>[Signature]</i> CHIEF, DIVISION OF LAND DEVELOPMENT	4/15/13 DATE
<i>[Signature]</i> CHIEF, DEVELOPMENT ENGINEERING DIVISION	4/12/13 DATE

GENERAL NOTES

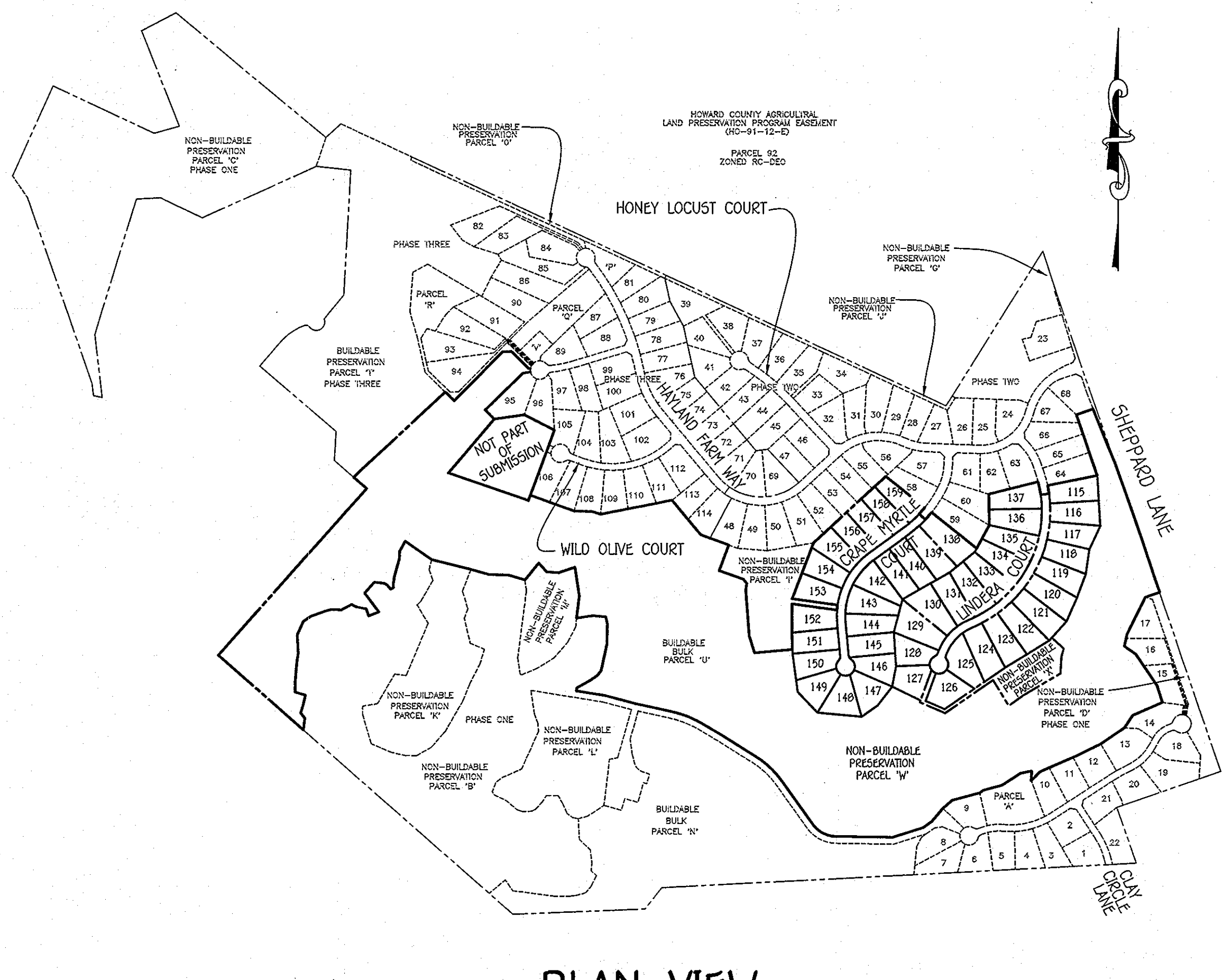
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS NSBA STANDARDS AND SPECIFICATIONS IF APPLICABLE.
- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS / BUREAU OF ENGINEERING / CONSTRUCTION INSPECTION DIVISION AT (410) 313-1800 AT LEAST (5) WORKING DAYS PRIOR TO THE START OF WORK.
- THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
- TRAFFIC CONTROL DEVICES, MARKINGS AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
- COORDINATES BASED ON NAD83 MARYLAND COORDINATE SYSTEM AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS NO. 28 FA AND NO. 28 FB.

HOWARD COUNTY MONUMENT NO. 28FA	N 572,455.665	ELEV. = 348.295
	E 1,328,957.66	
HOWARD COUNTY MONUMENT NO. 28FB	N 5707,028.95	ELEV. = 395.804
	E 1,329,954.63	
- THE TRAFFIC STUDY FOR THIS PROJECT WAS PREPARED BY THE TRAFFIC GROUP, DATED SEPTEMBER, 2005 AND WAS APPROVED UNDER SP-06-07 ON MAY 31, 2006.
- BACKGROUND INFORMATION:
 - SUBDIVISION NAME: WALNUT CREEK
 - TAX MAP NO.: 28
 - PARCEL NO.: 49
 - ZONING: RC-DEO & RR-DEO
 - ELECTION DISTRICT: FIFTH
 - TOTAL TRACT AREA: 141,214 AC. (Phase Four)
 - NO. OF BUILDABLE LOTS: 45 (Phase Four)
 - NO. OF NON-BUILDABLE PRESERVATION PARCELS: 2
 - AREA OF BUILDABLE LOTS: 35,291 AC.
 - AREA OF NON-BUILDABLE PRESERVATION PARCELS: 100,195 AC.
 - TOTAL AREA OF ROADWAY TO BE DEDICATED: 3,028
 - PREVIOUS FILE NOS.: SP-06-007 APPROVAL DATE: 5/31/06, BA-05-52E, BA-06-33E, BA-03-49E & WP-08-007 (SEE NOTE NO. 10 BUILDING, F-07-076 (Phase One), F-08-08 (Phase Two), F-13-026 (Phase Three)).
- ONE CEMETERY EXISTS WITHIN THIS SUBDIVISION (Non-Buildable Preservation Parcel 'Y', Phase Three).
 - THE DEVELOPER AND/OR THE WALNUT CREEK H.O.A. SHALL UPGRADE THE EXISTING SPLIT RAIL FENCE TO FURTHER PROTECT THE EXISTING CEMETERY SITE.
 - THE DEVELOPER AND/OR THE WALNUT CREEK H.O.A. SHALL REGULARLY MAINTAIN THE CEMETERY AREA.
 - THE DEVELOPER AND/OR THE WALNUT CREEK H.O.A. MUST PLACE A CEMETERY MARKER AT THE ENTRANCE OF THE CEMETERY SITE.
- ALL FILL AREAS WITHIN ROADWAYS AND UNDER STRUCTURES SHALL BE COMPACTED TO A MINIMUM OF 95% COMPACTION OF AASHTO T-100.
- THE FOREST CONSERVATION REQUIREMENTS PER SECTION 16.1200 OF THE HOWARD COUNTY CODE AND THE FOREST CONSERVATION MANUAL FOR THE ENTIRE SUBDIVISION WILL BE FULFILLED BY PROVIDING 57.32 ACRES OF ON-SITE FOREST RETENTION AND 36.16 ACRES OF ON-SITE AFFORESTATION FOR A TOTAL OF 93.48 ACRES. THERE IS NO SURETY REQUIRED FOR ON-SITE FOREST RETENTION, SURETY FOR ON-SITE AFFORESTATION @ \$0.50/SF FOR 1,775,130 SF. = \$797,565.00 IS REQUIRED. THE FOREST CONSERVATION PROVIDED WITH PHASE THREE ARE AS FOLLOWS:

CREDITED ON-SITE RETENTION OF 14.50 ACRES OF FOREST AND 13.41 ACRES OF ON-SITE AFFORESTATION ARE PROPOSED WITH THIS PHASE FOUR SUBMISSION.
A SURETY FOR ON-SITE AFFORESTATION @ \$0.50/SF FOR 584,140 SF. = \$292,070.00 IS REQUIRED. THE FOREST CONSERVATION SURETY IN THE AMOUNT OF \$292,070.00 IS TO BE PAID AS PART OF THE DPW DEVELOPER'S AGREEMENT.

 THIS FOREST CONSERVATION PROPOSAL IS SUBJECT TO WP-08-007, APPROVED ON AUGUST 21, 2007 TO THE FOLLOWING CONDITIONS:
 - THE MAVER PETITION APPROVAL APPLIES ONLY TO THE TEMPORARY DEFERRAL FOR ESTABLISHING THE FOREST CONSERVATION EASEMENTS FOR THIS SUBDIVISION BASED ON THE APPO 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 AFFORESTATION AS REQUIRED BY THE FOREST CONSERVATION WORKSHEET FOR THIS PROJECT TO SATISFY ITS OBLIGATION. THE ENTIRE AREA OF FOREST CONSERVATION OBLIGATION MUST BE PROVIDED WITH THE PROCESSING AND RECORDING OF THE LAST PHASE OF DEVELOPMENT FOR THIS PROJECT.
 - THE APPLICANT/DEVELOPER MUST CONTINUE PROCESSING THE SUBDIVISION PLANS FOR WALNUT CREEK AND MEET ALL APPLICABLE PROCESSING DEADLINE DATES IN ACCORDANCE WITH THE APPROVED APPO PHASING SCHEDULE.
- STORMWATER MANAGEMENT FACILITIES: S.H.P. NO. 2 (P-1) PRIVATELY OWNED BY THE HOMEOWNER'S ASSOCIATION AND JOINTLY MAINTAINED BY THE HOMEOWNER'S ASSOCIATION AND HOWARD COUNTY, MARYLAND.
 - WET EXTENDED DETENTION FACILITY FOR WQV & CPV. STORMWATER MANAGEMENT WILL BE PROVIDED IN ACCORDANCE WITH HOWARD COUNTY AND MARYLAND 376 SPECIFICATIONS. REDUCED VOLUME WILL BE PROVIDED THROUGH THE USE OF GRASS CHANNELS ALONG THE PROPOSED ROADWAYS, WATER QUALITY AND CHANNEL PROTECTION VOLUME WILL BE PROVIDED BY A MICRO-POND, (EXTENDED DETENTION) POND, OVEBANK FLOOD PROTECTION VOLUME AND EXTREME FLOOD VOLUME ARE NOT REQUIRED FOR THIS SITE.
 - ON NOVEMBER 2, 2012, AN ADMINISTRATIVE WAIVER FOR STORMWATER MANAGEMENT WAS APPROVED SUBJECT TO THIS PLANS APPROVED BY MAY 4, 2013 AND CONSTRUCTION BY MAY 4, 2017.
 - FOR THOSE LOTS WHICH DO NOT DRAIN INTO THE SWM POND, SUCH AS LOTS 115-121, 123-128 AND 145-151 OF THIS PHASE IV, SWM SHALL BE PROVIDED BY EITHER THE NATURAL AREA CONSERVATION CREDIT, DISCONNECTION CREDITS AND WHEREVER THESE CREDITS CANNOT BE OBTAINED, A SURETY TO BUFFER CREDIT WITH LEVEL SPREADERS MAY BE USED.
- THE PROPOSED WATER AND SEWER SYSTEMS SHALL BE PRIVATE. SEE CONTRACT NO. 50-4530-D & 50-4773-D FOR LOW PRESSURE SYSTEM.
- THE SUBJECT PROPERTY IS LOCATED OUTSIDE OF THE METROPOLITAN DISTRICT.
- TOPOGRAPHIC CONTOURS BASED ON HARFORD AERIAL SURVEYS, INC. DATED FEBRUARY, 2004.
- FOR FLAG OR PIPESTEM LOTS, REFUSE COLLECTION, SNOW REMOVAL AND ROAD MAINTENANCE IS TO BE PROVIDED AT THE DISCRETION OF THE FLAG OR PIPESTEM AND THE ROAD RIGHT-OF-WAY AND NOT ONTO THE FLAG OR PIPESTEM DRIVEWAY.
- THE GEOTECHNICAL REPORT FOR THIS PROJECT WAS PREPARED BY HERBST BENSON & ASSOCIATES, INC., DATED SEPTEMBER, 2005 AND APPROVED ON MAY 31, 2006.
- THE FOREST STAND DELINEATION AND WETLAND DELINEATION FOR THIS PROJECT WAS PREPARED BY ECO-SCIENCE PROFESSIONALS, INC., DATED SEPTEMBER, 2005 AND APPROVED ON MAY 31, 2006.
- THE NON-CRITICAL FLOODPLAIN STUDY FOR THIS PROJECT WAS PREPARED BY FISHER, COLLINS & CARTER, INC. DATED JULY, 2005, AND SUPPLEMENTED WITH INFORMATION OBTAINED FROM HO. CO. CAPITAL PROJECT D-1028A. THE FLOODPLAIN STUDY WAS APPROVED UNDER SP-06-007 DATED 5/31/06.
- SOILS INFORMATION TAKEN FROM SOIL MAP NO. 18, SOIL SURVEY, HOWARD COUNTY, MARYLAND, JULY 1968 ISSUE.
- THERE ARE STEEP SLOPES LOCATED ON THIS PROPERTY AS DEFINED BY "SLOPES THAT AVERAGE 25% OR GREATER OVER 10 VERTICAL FEET". PER SECTION 16.100(b)(5) OF THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS, TOTAL AREA OF 25% OR GREATER SLOPES = 8.9 AC.
- AS PER SECTION 104.F.4.B OF THE ZONING REGULATIONS, ONLY ONE EASEMENT HOLDER IS REQUIRED FOR PRESERVATION PARCELS DESIGNED SOLELY FOR SWM FACILITIES OR COMMUNITY SEWERAGE DISPOSAL SYSTEMS.

A. NON-BUILDABLE PRESERVATION PARCEL 'W' OWNED BY PROPERTIES, INC.	B. NON-BUILDABLE PRESERVATION PARCEL 'X' OWNED: HOMEOWNER'S ASSOCIATION
EASEMENT HOLDERS: HOWARD COUNTY, MARYLAND & HOMEOWNER'S ASSOCIATION	EASEMENT HOLDERS: HOWARD COUNTY, MARYLAND
USE: ENVIRONMENTAL CONSERVATION	USE: S.W.M.
- NO CLEARING, GRADING OR CONSTRUCTION IS PERMITTED WITHIN THE WETLANDS, STREAM OR THEIR REQUIRED BUFFERS.
- THE LANDSCAPE SURETY FOR THE 66 SHADE AND 51 EVERGREEN TREES IN THE AMOUNT OF \$27,450.00 FOR PERIMETER LANDSCAPE REQUIREMENTS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND LANDSCAPE MANUAL WILL BE POSTED WITH THE DEVELOPER'S AGREEMENT FOR THIS SUBDIVISION. FINANCIAL SURETY FOR THE REQUIRED 119 STREET TREES WILL BE POSTED AS PART OF THE DEVELOPER'S AGREEMENT IN THE AMOUNT OF \$35,700.00.
- THIS SUBDIVISION PLAN IS SUBJECT TO THE AMENDED FIFTH EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS AND THE 2004 ZONING REGULATIONS PER COUNCIL BILL NO. 45-2003 AND THE ZONING HOWARD COUNTY, MARYLAND, BILL NO. 75-2005 AND THE COMP LIFE ZONING REGULATION AMENDMENTS EFFECTIVE 7/28/06. DEVELOPMENT OR CONSTRUCTION ON THESE LOTS OR PARCELS MUST COMPLY WITH ORDINANCE AND BUFFER REGULATIONS IN EFFECT AT THE TIME OF SUBMISSION OF A BUILDING OR GRADING PERMIT APPLICATION.
- WELLS SHALL BE DRILLED ON LOTS PRIOR TO RECORDED OF THE FINAL RECORD PLAT.
- LOTS 115 THRU 159 ARE TO BE SERVED BY A PUBLIC SHARED SEPTIC FACILITY LOCATED ON NON-BUILDABLE PRESERVATION PARCEL 'B' (F-07-076), WALNUT CREEK, PHASE ONE.
- SIGN POSTS: ALL SIGN POST USED FOR TRAFFIC CONTROL SIGNS INSTALLED IN THE COUNTY RIGHT-OF-WAY SHALL BE MOUNTED ON GALVANIZED STEEL, PRESERATED SQUARE TUBE POST (1 1/2" GAUGE) INSERTED INTO A 2-1/2" GALVANIZED STEEL, PRESERATED, SQUARE TUBE SLEEVE (1 1/2" GAUGE) - 3' LONG A GALVANIZED STEEL POLE CAP SHALL BE MOUNTED ON TOP OF EACH POST.
- THIS PROJECT IS SUBJECT TO WASTEWATER DISCHARGE PERMIT NUMBER 06-0P-3538 AND IS EFFECTIVE FROM AUGUST 1, 2006 UNTIL AUGUST 1, 2011. WHEN IT EXPIRES, THE SHARED SEPTIC SYSTEM CONTRACT NO. IS 50-4441-D AND THE COLLECTION SYSTEM CONTRACT NO. IS 50-4773-D.
- THIS PLAN IS SUBJECT TO MAVER PETITION W/P-13-146, ON APRIL 8, 2013 THE PLANNING BOARD APPROVED A WAIVER FROM SECTION 16.144(b) - REQUIREMENT PAYMENT OF FEES AND PAYING OF FINANCIAL OBLIGATIONS, AND SECTION 16.144(c) - REQUIREMENT SUBMISSION OF THE FINAL SUBDIVISION PLAN FOR PRESERVATION.



PLAN VIEW

SCALE: 1" = 600'



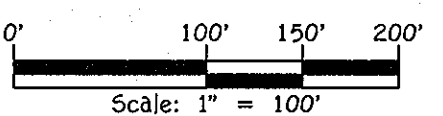
VICINITY MAP

SCALE: 1" = 2000'

FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

LEGEND	
SYMBOL	DESCRIPTION
---	EXISTING CONTOUR 2' INTERVAL
---	EXISTING CONTOUR 10' INTERVAL
---	PROPOSED CONTOUR 2' INTERVAL
---	PROPOSED CONTOUR 10' INTERVAL
---	SILT FENCE
---	SUPER-SILT FENCE
---	LIMIT OF DISTURBANCE
---	EARTH DIKE
---	WETLANDS BUFFER
---	WETLANDS LIMITS
---	STORM DRAIN
---	PROPOSED BORING LOCATION
---	EROSION CONTROL MATTING
---	LOW PRESSURE SEWER
---	PROPOSED STREET TREE
---	EXISTING TREELINE
---	PROPOSED TREELINE
---	PROPOSED DRIVEWAY CULVERT

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CONTINENTAL SQUARE OFFICE PARK - 12722 WALKERS NATIONAL PIKE
ELICOTT CITY, MARYLAND 21042
(410) 481 - 2895



Owner	Developer
BY Business Trust 15950 North Avenue P.O. Box 482 Lisbon, MD 21765 410-489-7900	Bäsler Venture, LLC 15950 North Avenue P.O. Box 482 Lisbon, MD 21765 410-489-7900

"Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 20748, Expiration Date: February 22, 2015."



3/20/13
DATE

WALNUT CREEK

PHASE FOUR

**Lots 115 - 159 And Non-Buildable
Preservation Parcel 'W' & 'X'**

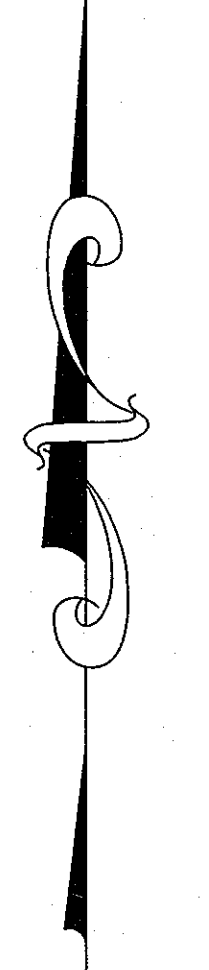
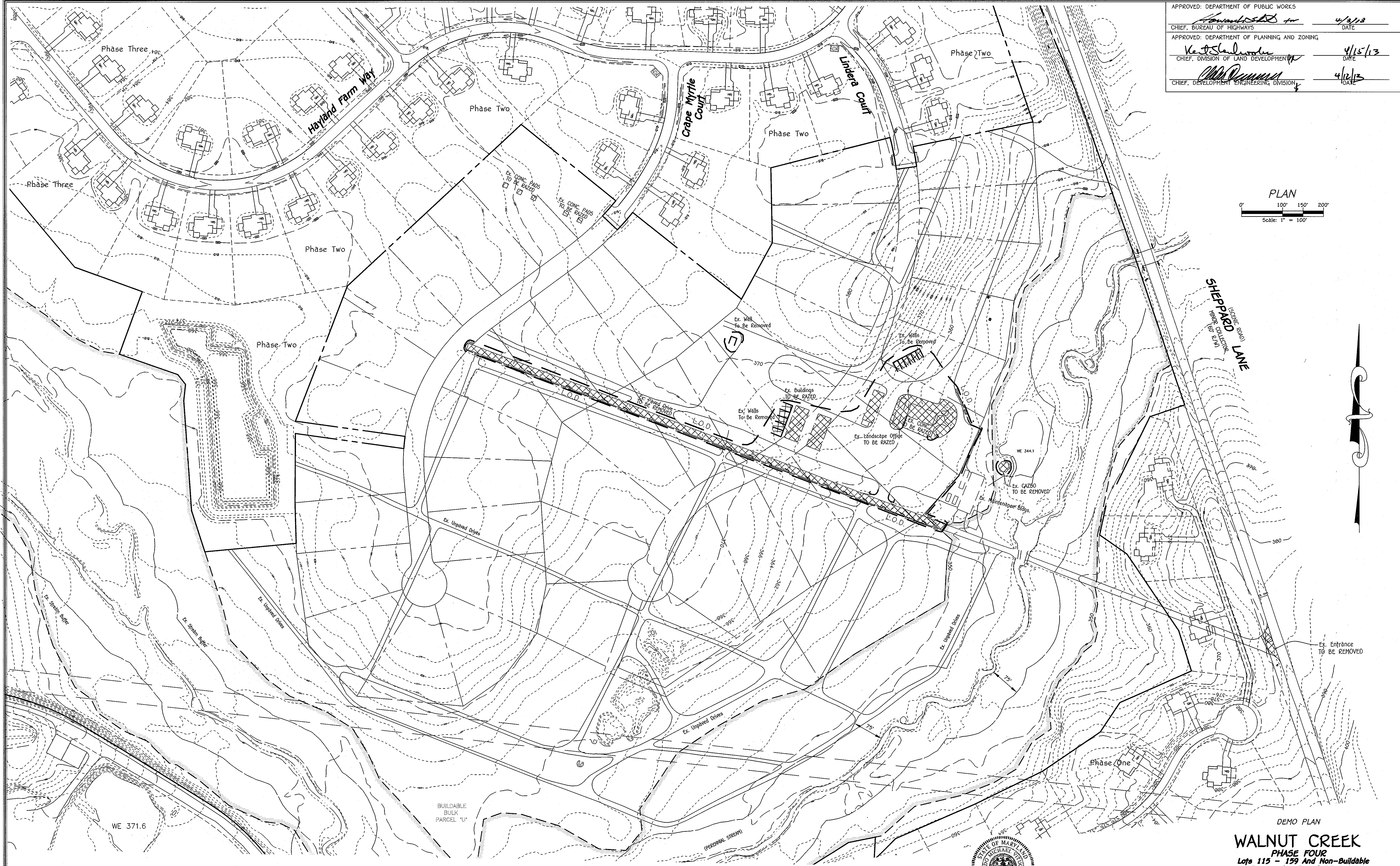
(A Resubdivision Of Buildable Bulk Parcel 'U' - Walnut Creek, Phase Three)
ZONED: RC-DEO & RR-DEO
TAX MAP NO. 28 GRID Nos. 4, 5, 10-12, 17, AND 18 PARCEL No. 49
FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DATE: MARCH 20, 2013
SHEET 1 OF 23

APPROVED: DEPARTMENT OF PUBLIC WORKS
 CHIEF, BUREAU OF HIGHWAYS
 DATE: 4/13/13

APPROVED: DEPARTMENT OF PLANNING AND ZONING
 CHIEF, DIVISION OF LAND DEVELOPMENT
 DATE: 4/15/13

CHIEF, DEVELOPMENT ENGINEERING DIVISION
 DATE: 4/12/13

PLAN
 0' 100' 150' 200'
 Scale: 1" = 100'



DEMO PLAN
WALNUT CREEK
 PHASE FOUR
 Lots 115 - 159 And Non-Buildable
 Preservation Parcel 'W' & 'X'
 (A Resubdivision Of Buildable Bulk Parcel 'U' - Walnut Creek, Phase Three)
 ZONED: RC-DEO & RR-DEO
 TAX MAP No. 28 GRID Nos. 4, 5, 10-12, 17, AND 18 PARCEL No. 49
 FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 DATE: MARCH 20, 2013
 SHEET 2 OF 23

FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTRAL SQUARE OFFICE: 10272 BALTIMORE NATIONAL PIKE
 ELICOTT CITY, MARYLAND 21042
 (410) 461-2295

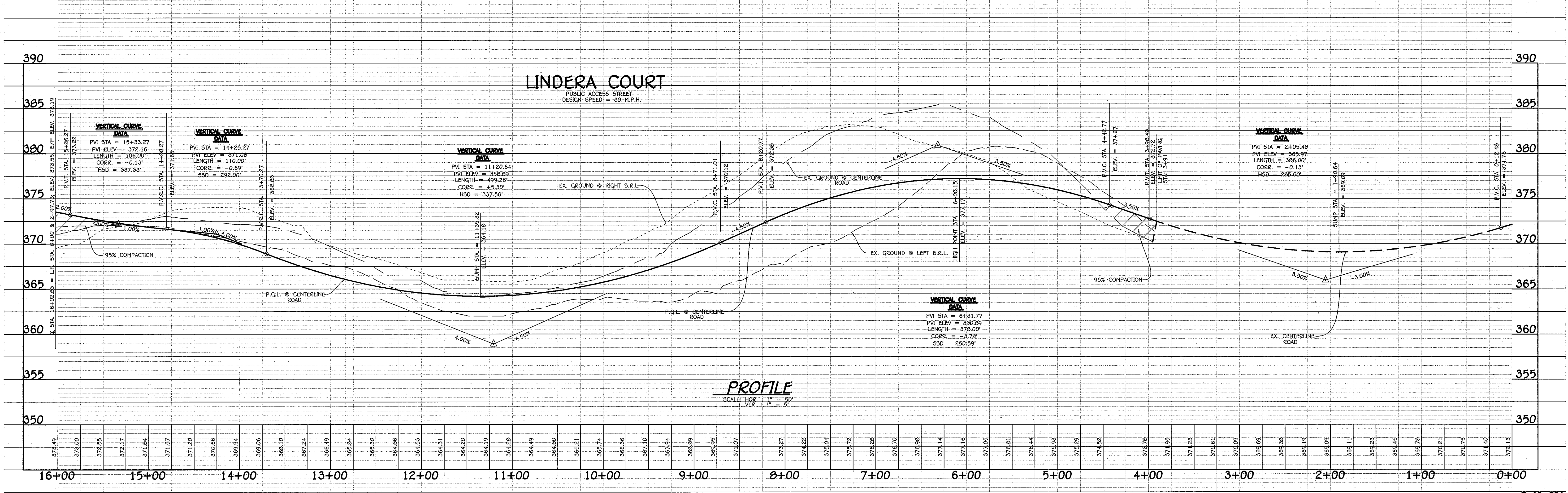
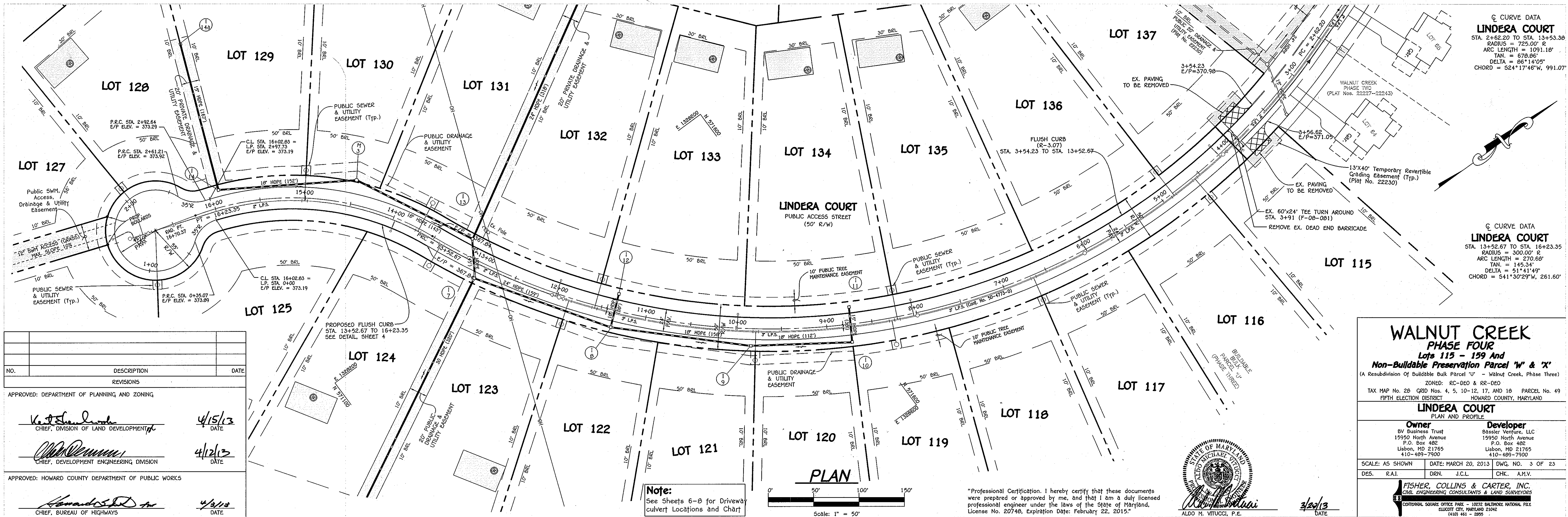
Owner	Developer
BV Business Trust 15950 North Avenue P.O. Box 482 Lisbon, MD 21765 410-489-7900	Bassler Venture, LLC 15950 North Avenue P.O. Box 482 Lisbon, MD 21765 410-489-7900

"Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 20748, Expiration Date: February 22, 2015."



s/ste/ls
 DATE

I:\2004\04001\WALNUT CREEK PHASE FOUR FINALS\C-02_F-13-034.dwg demo plan.dwg SHEET 2, 3/20/2013 7:12:13 AM, 1:1



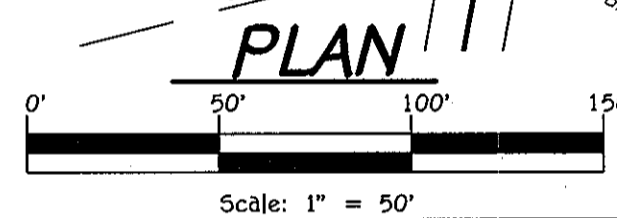
I:\2004\0401\WALNUT CREEK PHASE FOUR FINALS\C-03_F-13-034 road plan.dwg, SHEET 3, 3/20/2013 7:14:54 AM, 11

CRABE MYRTLE COURT
 STA. 2+50.12 TO STA. 5+77.71
 RADIUS = 700.00' R
 ARC LENGTH = 327.59'
 TAN. = 1.65.85°
 DELTA = 26°48'49"
 CHORD = 540°06'25"W, 324.61'

CRABE MYRTLE COURT
 STA. 8+38.29 TO STA. 12+89.54
 RADIUS = 435.00' R
 ARC LENGTH = 447.25'
 TAN. = 245.65°
 DELTA = 59°54'32"
 CHORD = 524°03'33"W, 427.81'

NO.	DESCRIPTION	DATE
	REVISIONS	
APPROVED: DEPARTMENT OF PLANNING AND ZONING		
	<i>W. J. Schuman</i> CHIEF, DIVISION OF LAND DEVELOPMENT	4/15/13 DATE
	<i>W. J. Schuman</i> CHIEF, DEVELOPMENT ENGINEERING DIVISION	4/12/13 DATE
APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS		
	<i>Howard S. ...</i> CHIEF, BUREAU OF HIGHWAYS	4/3/13 DATE

Note:
 See Sheets 6-8 for Driveway
 culvert Locations and Chart



"Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 20748, Expiration Date: February 22, 2015."



3/24/13
DATE

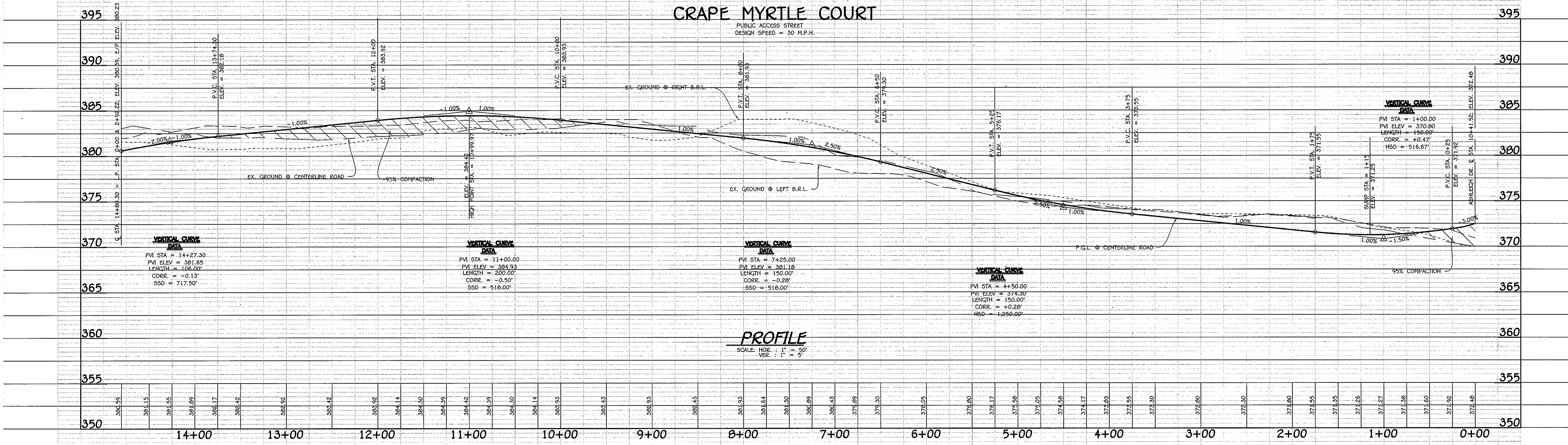
WALNUT CREEK PHASE FOUR
 Lots 115 - 159 And
 Non-Buildable Preservation Parcel 'W' & 'X'
 (A Resubdivision of Buildable Bulk Parcel 'U' - Walnut Creek, Phase Three)
 ZONED: RC-DEO & RR-DEO
 TAX MAP No. 28 GRID Nos. 4, 5, 10-12, 17, AND 18 PARCEL No. 49
 FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

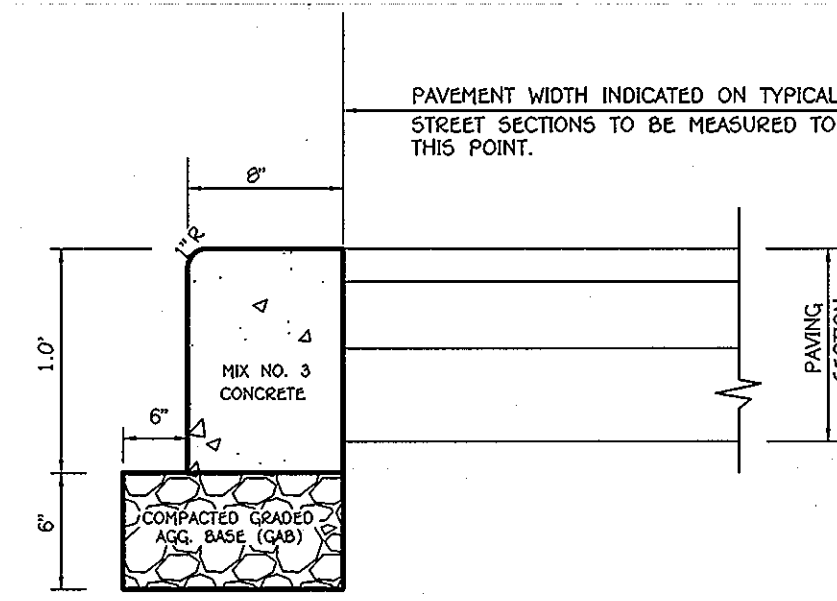
CRABE MYRTLE COURT
 PLAN AND PROFILE

Owner BY Business Trust 15950 North Avenue P.O. Box 482 Lisbon, MD 21765 410-489-7900	Developer Baseler Venture, LLC 15950 North Avenue P.O. Box 482 Lisbon, MD 21765 410-489-7900
---	--

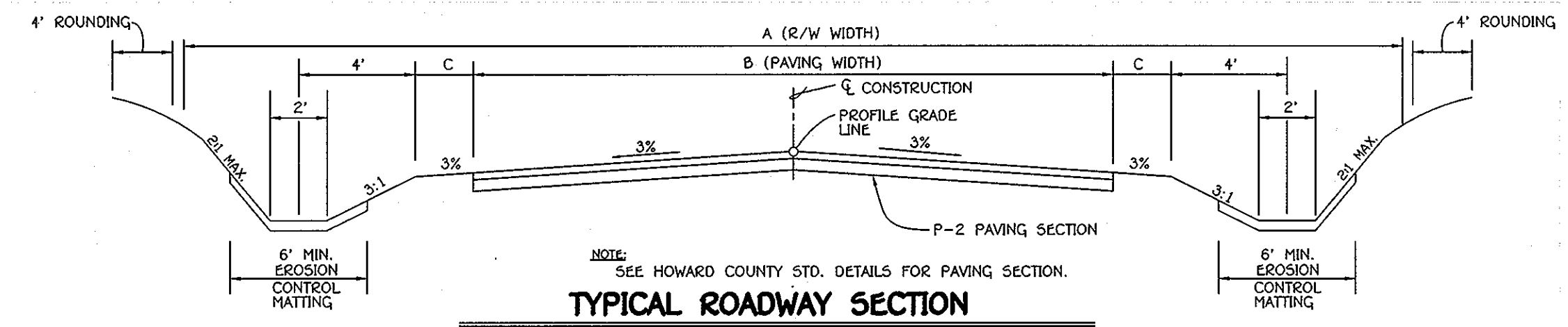
SCALE: AS SHOWN	DATE: MARCH 20, 2013	DWG. NO. 4 OF 23
DES. R.A.I.	DRN. J.C.L.	CHK. A.M.V.

FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTRAL SQUARE OFFICE PARK - 10232 BALTIMORE NATIONAL PIKE
 GAITHERSBURG CITY, MARYLAND 21040
 (410) 461-8895



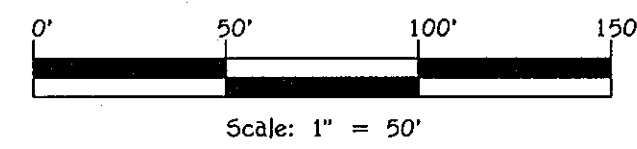


FLUSH CURB (R-3.07)
NO SCALE

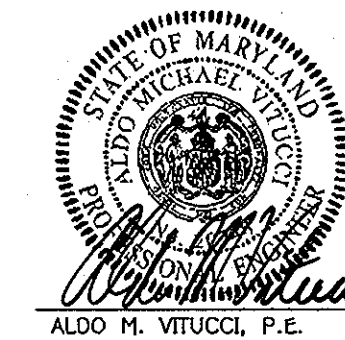


ROADWAY INFORMATION CHART									
ROAD NAME	CLASSIFICATION	DESIGN SPEED	ZONING	A	B	C	± STATION LIMITS	PAVING SECTION	
LINDERA COURT	PUBLIC ACCESS STREET	30 M.P.H.	RC-DEO	20'	24'	3'	±91 TO 16+70.37	P-2	
GRAPE MYRTLE COURT	PUBLIC ACCESS STREET	30 M.P.H.	RC-DEO	20'	24'	3'	±43 TO 15+45.04	P-2	

NO.	DESCRIPTION	DATE
REVISIONS		
APPROVED: DEPARTMENT OF PLANNING AND ZONING		
	<i>K. J. Shanley</i> CHIEF, DIVISION OF LAND DEVELOPMENT	4/15/13 DATE
	<i>M. D. ...</i> CHIEF, DEVELOPMENT ENGINEERING DIVISION	4/12/13 DATE
APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS		
	<i>...</i> CHIEF, BUREAU OF HIGHWAYS	4/3/13 DATE



Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 20748, Expiration Date: February 22, 2015.



3/24/13
DATE

**WALNUT CREEK
PHASE FOUR**
Lots 115 - 159 And
Non-Buildable Preservation Parcel 'W' & 'X'
(A Resubdivision Of Buildable Bulk Parcel 'U' - Walnut Creek, Phase Three)

ZONED: RC-DEO & RR-DEO
TAX MAP No. 28 GRID Nos. 4, 5, 10-12, 17, AND 18 PARCEL No. 49
FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

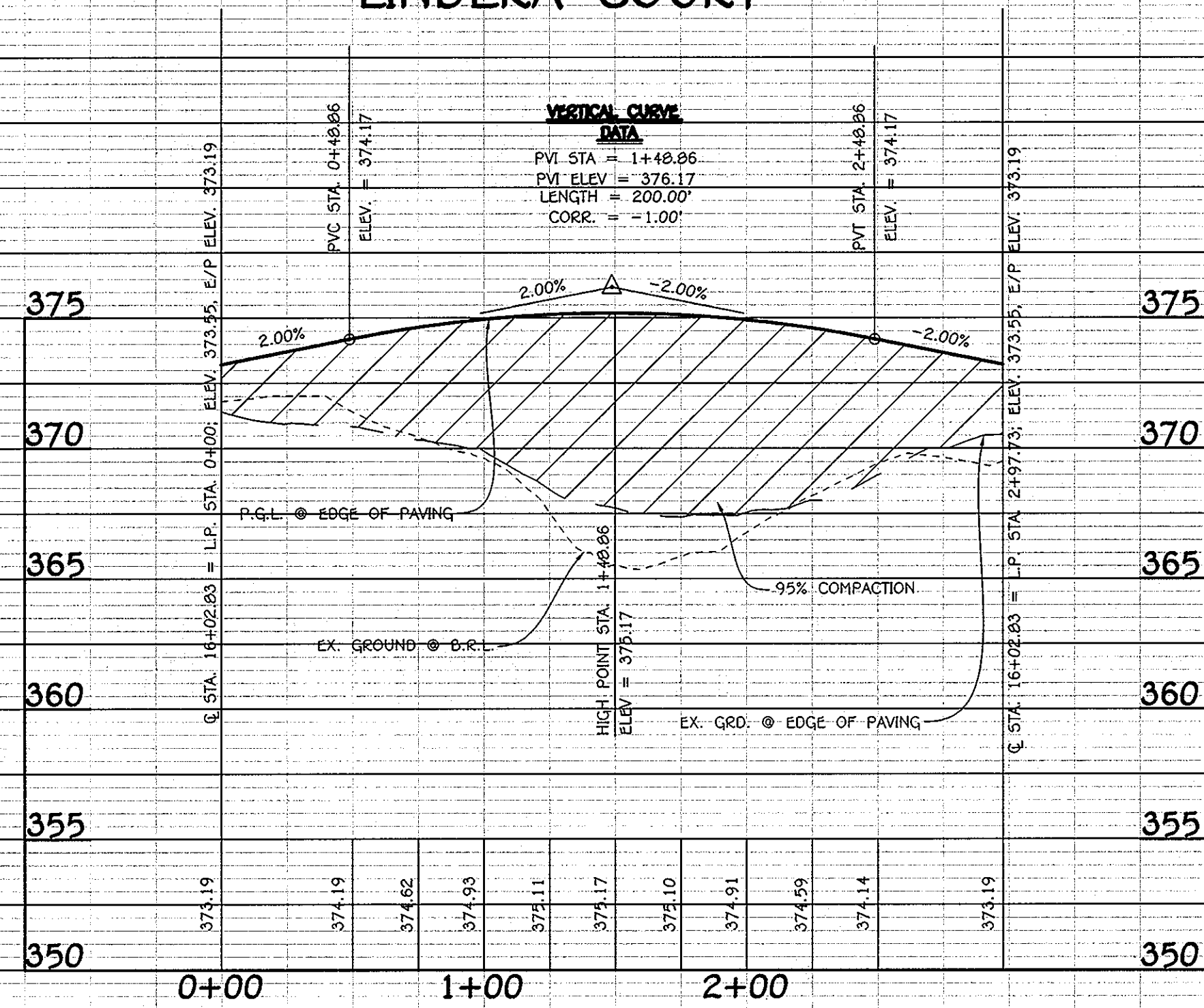
LINEAR PROFILES & ROADWAY DETAILS

Owner	Developer
BY Business Trust 15950 North Avenue P.O. Box 482 Lisbon, MD 21765 410-489-7900	Bassler Venture, LLC 15950 North Avenue P.O. Box 482 Lisbon, MD 21765 410-489-7900

SCALE: AS SHOWN DATE: MARCH 20, 2013 DWG. NO. 5 OF 23
DES. R.A.I. DRN. J.C.L. CHK. A.M.V.

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
1200 NATIONAL SQUARE OFFICE FLOOR - 10725 BALTHAZAR NATIONAL Pkwy
ELLSWORTH CITY, MARYLAND 21042
(410) 461-2225

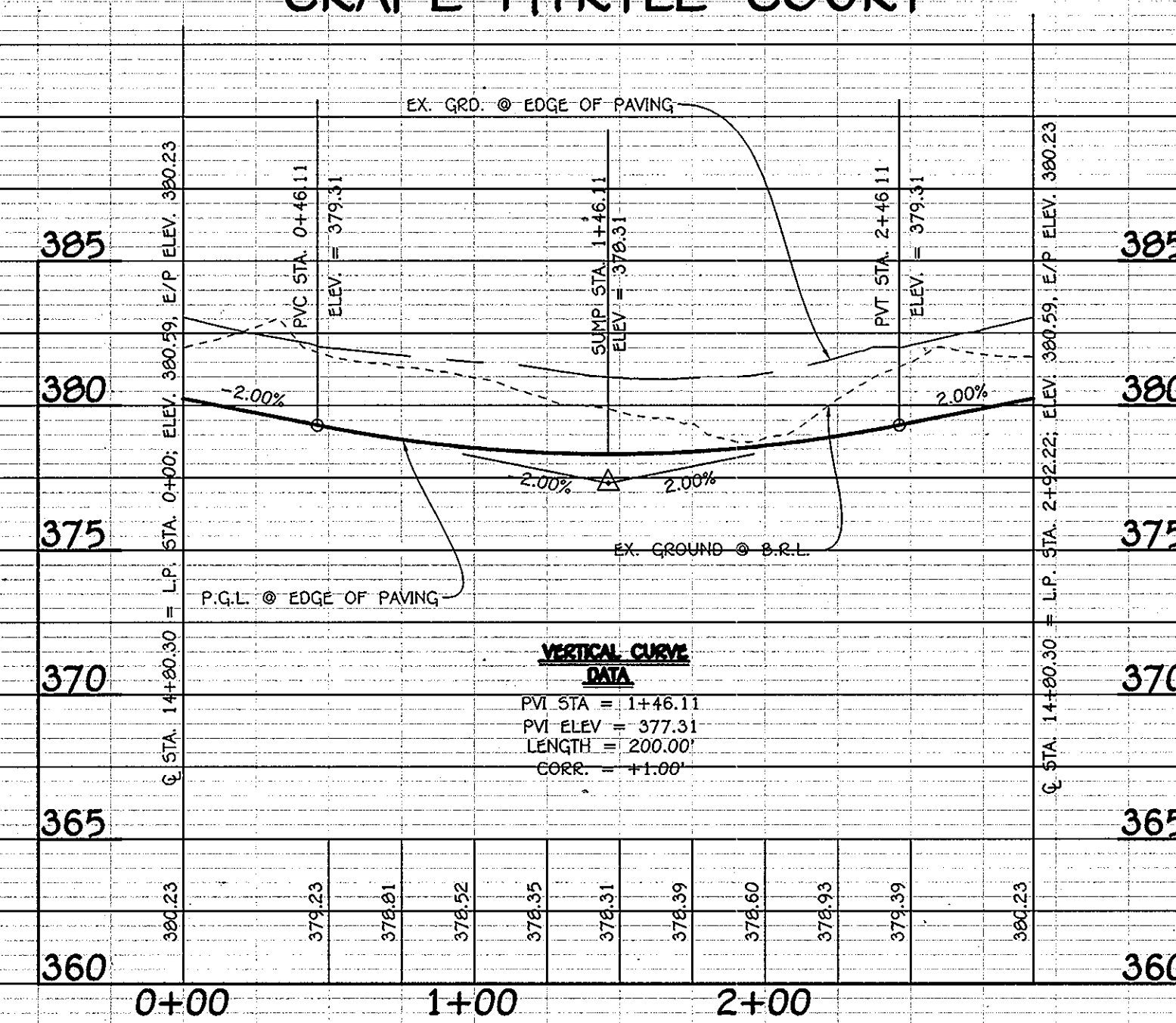
LINDERA COURT



LINEAR PROFILE

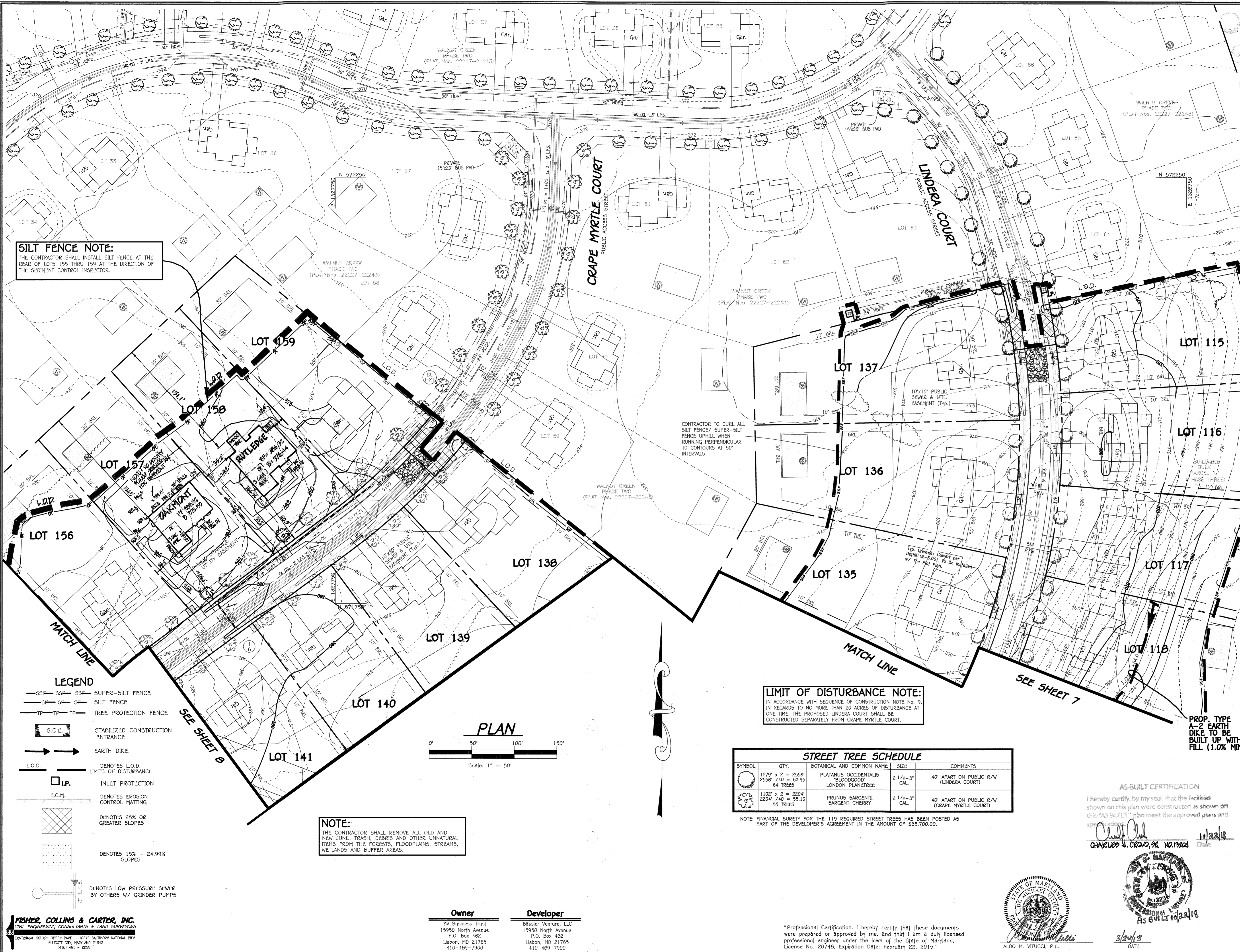
SCALE: HOR: 1" = 50'
VER: 1" = 5'

GRAPE MYRTLE COURT



LINEAR PROFILE

SCALE: HOR: 1" = 50'
VER: 1" = 5'



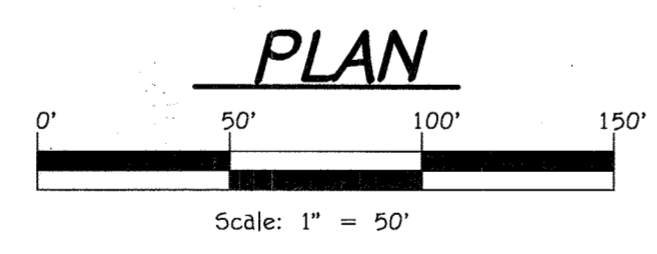
SILT FENCE NOTE:
 THE CONTRACTOR SHALL INSTALL SILT FENCE AT THE REAR OF LOTS 155 THRU 159 AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR.

CONTRACTOR TO CURL ALL SILT FENCE/ SUPER-SILT FENCE UPHILL WHEN RUNNING PERPENDICULAR TO CONTOURS AT 50' INTERVALS

LIMIT OF DISTURBANCE NOTE:
 IN ACCORDANCE WITH SEQUENCE OF CONSTRUCTION NOTE 9, IN REGARDS TO NO MORE THAN 20 ACRES OF DISTURBANCE AT ONE TIME, THE PROPOSED LINDERIA COURT SHALL BE CONSTRUCTED SEPARATELY FROM CRAPE MYRTLE COURT.

NOTE:
 THE CONTRACTOR SHALL REMOVE ALL OLD AND NEW JUNK, TRASH, DEBRIS AND OTHER UNNATURAL ITEMS FROM THE FORESTS, FLOODPLAINS, STREAMS, WETLANDS AND BUFFER AREAS.

- LEGEND**
- SS SS SS SUPER-SILT FENCE
 - SS SS SILT FENCE
 - TF TF TF TREE PROTECTION FENCE
 - S.C.E. STABILIZED CONSTRUCTION ENTRANCE
 - → → EARTH DIKE
 - L.O.D. DENOTES L.O.D. LIMITS OF DISTURBANCE
 - IP. INLET PROTECTION
 - E.C.M. DENOTES EROSION CONTROL MATTING
 - DENOTES 25% OR GREATER SLOPES
 - DENOTES 15% - 24.99% SLOPES
 - DENOTES LOW PRESSURE SEWER BY OTHERS W/ GRINDER PUMPS



STREET TREE SCHEDULE

SYMBOL	QTY.	BOTANICAL AND COMMON NAME	SIZE	COMMENTS
	1279' x 2 = 2558' 2588' / 40 = 63.95 64 TREES	PLATANUS OCCIDENTALIS 'BLOODGOOD' LONDON PLANETREE	2 1/2" - 3" CAL.	40' APART ON PUBLIC R/W (LINDERIA COURT)
	1182' x 2 = 2364' 2204' / 40 = 55.10 55 TREES	PRUNUS SARGENTII SARGENT CHERRY	2 1/2" - 3" CAL.	40' APART ON PUBLIC R/W (CRAPE MYRTLE COURT)

NOTE: FINANCIAL SURETY FOR THE 119 REQUIRED STREET TREES HAS BEEN POSTED AS PART OF THE DEVELOPER'S AGREEMENT IN THE AMOUNT OF \$35,700.00.

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 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 Authorize Periodic On-Site Inspections By The Howard Soil Conservation District.

Signature of Developer: *John W. Feagan* Date: 3/28/13
 Printed Name of Developer: John W. Feagan

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 Notified 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 of Engineer: *John M. Vitucci* Date: 3/28/13
 Printed Name of Engineer: John M. Vitucci

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

Signature of Inspector: *John M. Vitucci* Date: 3/28/13
 Printed Name of Inspector: John M. Vitucci

Approved: Department Of Public Works
 Chief, Bureau Of Highways: *John M. Vitucci* Date: 4/1/13

Approved: Department Of Planning And Zoning
 Chief, Division Of Land Development: *John M. Vitucci* Date: 4/15/13

Chief, Development Engineering Division: *John M. Vitucci* Date: 4/12/13

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.

REVISIONS

NO.	DESCRIPTION	DATE
1	Expanded L.O.D. For Earthwork	5/7/10
2	REMOVE L.O.D. TO MATCH BUILDINGS & P	1/6/17
3	REMOVE CURBS ON LOTS 125 & 128 FROM THE CHART	5/9/17
4	REMOVE LOTS 157 & 158 TO SHOW FINAL HOUSE & GRADING	5/9/17
5	REV. LOT 158 TO SHOW FINAL HOUSE & GRADING	10/2/19

Walnut Creek - Phase 4 Driveway Culverts

Lot	Slope (%)	Q10 (cfs)	DW Pipe Size
115	3.33	2.4	18" CMP
116	2.86	1.9	18" CMP
117	TOVC	0.2	NO PIPE
118	2.50	1.6	18" CMP
119	3.85	2.6	18" CMP
120	3.33	1.2	18" CMP
121	AT INLET	0.6	NO PIPE
122	TOVC	0.8	NO PIPE
123	2.80	3.3	18" CMP
124	4.00	5.0	18" CMP
125	TOVC	2.5	NO PIPE
126	TOVC	0.8	NO PIPE
127	TOVC	0.4	NO PIPE
128	TOVC	1.3	NO PIPE
129	1.53	0.6	STANDARD
130	2.85	1.0	STANDARD
131	3.33	1.3	STANDARD
132	3.33	1.8	STANDARD
133	3.33	4.4	18" CMP
134	4.34	0.3	STANDARD
135	2.83	1.0	STANDARD
136	TOVC	0.2	STANDARD
137	3.03	2.4	18" CMP
138	2.38	3.6	18" CMP
139	2.38	2.2	18" CMP
140	1.90	0.4	STANDARD
141	1.04	2.2	18" CMP
142	1.04	1.1	STANDARD
143	TOVC	0.1	NO PIPE
144	1.70	1.2	STANDARD
145	1.10	1.2	STANDARD
146	2.15	2.0	18" CMP
147	2.10	4.3	18" CMP
148	2.10	4.9	18" CMP
149	2.15	3.9	18" CMP
150	1.10	2.4	18" CMP
151	1.70	1.2	STANDARD
152	1.70	1.3	STANDARD
153	TOVC	0.1	NO PIPE
154	TOVC	0.3	NO PIPE
155	1.00	1.8	STANDARD
156	1.00	2.3	18" CMP
157	1.82	0.1	NO PIPE
158	2.50	1.1	STANDARD
159	2.40	0.4	STANDARD

ALL Q's HAVE BEEN EXTRAPOLATED FROM THE 10 YEAR STORM DRAIN COMPUTATIONS STANDARD = HOWARD COUNTY STANDARD 12" CIRCULAR OR 14" x 9" ARCH PIPE TOVC = LOCATED NEAR THE TOP OF A VERTICAL CURVE

AS-BUILT CERTIFICATION

I hereby certify, by my seal, that the facilities shown on this plan were constructed as shown on this "AS BUILT" plan meet the approved plans and specifications.

Signature: *Alfredo M. Vitucci* Date: 10/22/18
 CHARLES J. CRANDALL, No. 12344



STREET TREE, GRADING & SEDIMENT CONTROL PLAN
WALNUT CREEK
PHASE FOUR
Lots 115 - 159 And Non-Buildable
Preservation Parcel 'W' & 'X'
 (A Resubdivision Of Buildable Bulk Parcel 'U' - Walnut Creek, Phase Three)
 ZONED: RC-DEO & RR-DEO
 TAX MAP NO. 2B GRID NOS. 4, 5, 10-12, 17, AND 18 PARCEL NO. 49
 FIFTH ELECTION DISTRICT - HOWARD COUNTY, MARYLAND
 DATE: MARCH 20, 2012
 SHEET 6 OF 23

FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTRAL SQUARE OFFICE BUILDING - 1072 BALTIMORE NATIONAL PIKE
 ELKTON CITY, MARYLAND 21842
 (410) 461-2895

Owner
 BV Business Trust
 15950 North Avenue
 P.O. Box 482
 Lisbon, MD 21765
 410-489-7900

Developer
 Bossier Venture, LLC
 15950 North Avenue
 P.O. Box 482
 Lisbon, MD 21765
 410-489-7900

"Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 20748, Expiration Date: February 22, 2015."

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 Authorize Periodic On-Site Inspections By The Howard Soil Conservation District.

Signature of Developer: *Timothy W. Feape* Date: 3/24/13
 Printed Name of Developer: **Timothy W. Feape**

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

Signature of Engineer: *Alfredo M. Vitucci* Date: 3/24/13
 Printed Name of Engineer: **Alfredo M. Vitucci**

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

Approved: Department of Public Works
 Signature: *[Signature]* Date: 4/1/13
 Chief, Bureau Of Highways

Approved: Department of Planning And Zoning
 Signature: *[Signature]* Date: 4/15/13
 Chief, Division Of Land Development

Signature: *[Signature]* Date: 4/12/13
 Chief, Development Engineering Division

SWM SUMMARY TABLE

TYPE OF REQUIREMENT	VOLUME REQUIRED	VOLUME PROVIDED AND NOTES
Revol (Recharge Vol. for Entire Site)	10.04 Acres or 1,112,000 Gallons	12.4 Acres w/ % Area Method
WQ-vol	Design Point #1: 0.35 acre-feet	0.35 ac. Ft. @ BMP Facility #2
CP-vol	Design Point #1: 0.4092 acre-feet	0.4092 ac. Ft. @ BMP Facility #2

NOTE: Both Q₁ (Overbank Flood Protection or 10-year storm) and Q₂ (Extreme Flood Volume of 100-year storm) are not required for this since this watershed area is not classified as one of the sensitive watershed areas for Howard County.

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

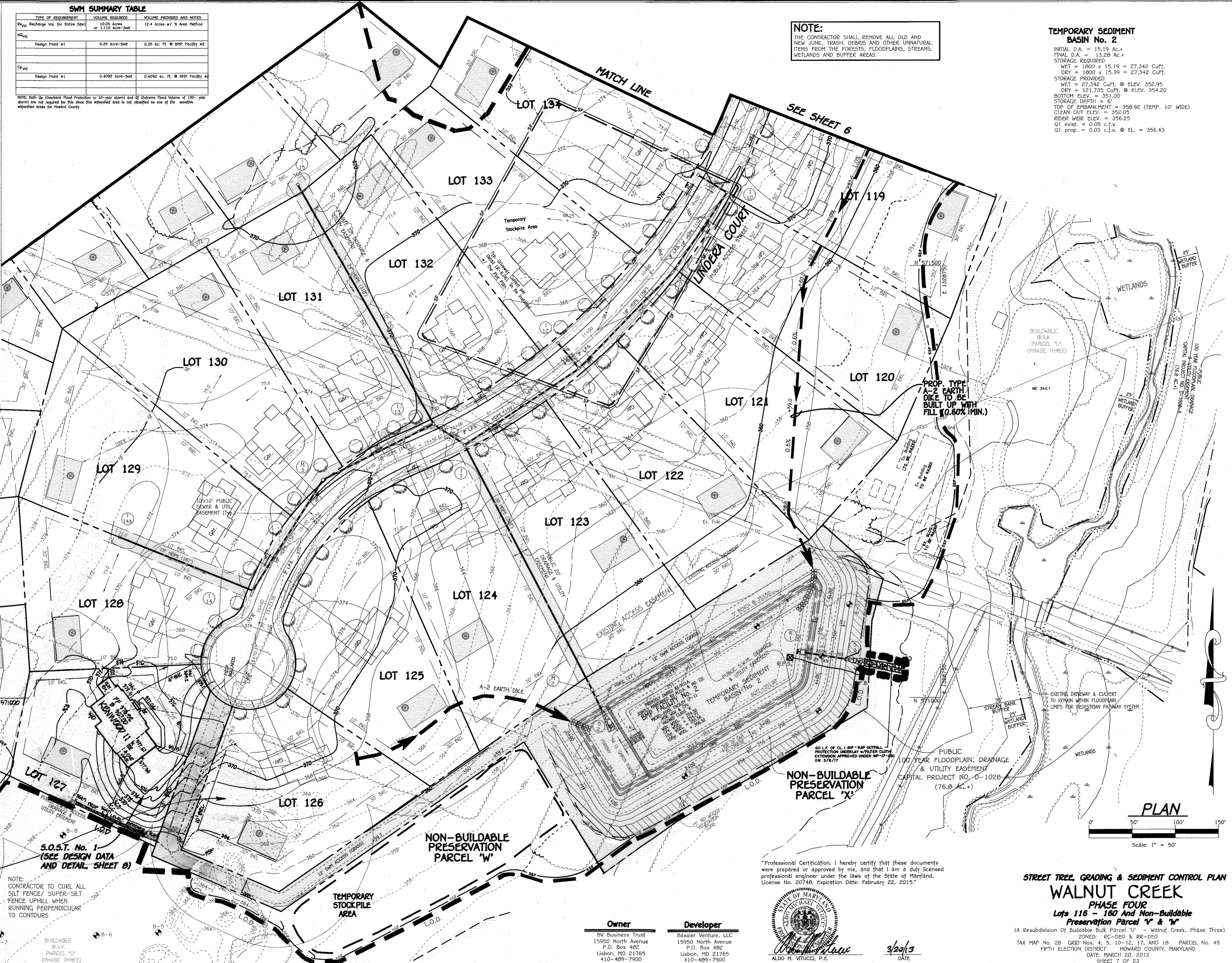
Signature: _____ P.E. No. _____
 Date: _____

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 Relieve Any Other Party From Meeting Requirements Imposed By Contract, Employment, Or Other Means, Including Meeting Commonly Accepted Industry Practices.

REVISIONS

NO.	DESCRIPTION	DATE
1	Expanded L.O.D. For Earthwork	5-9-10
2	Change L.O.D. TO MATCH BUILDERS RFP	1/6/11
3	REMOVE D.M. CHANGERS FOR LOTS 125-129, EXISTING RIP-RAP AT S-S	5/9/11
4	REMOVE HIGH & LOW LOT 127 FROM SEAL BOX TO VEGANWOOD II	4/19/10

- SF — SF — SF — SILT FENCE
- TP — TP — TP — TREE PROTECTION FENCE
- S.C.E. — STABILIZED CONSTRUCTION ENTRANCE
- EARTH DIKE
- L.O.D. — DENOTES L.O.D. LIMITS OF DISTURBANCE
- E.C.M. — DENOTES EROSION CONTROL MATTING
- DENOTES 25% OR GREATER SLOPES
- DENOTES 15% - 24.99% SLOPES
- DENOTES LOW PRESSURE SEWER BY OTHERS W/ GRINDER PUMPS
- R.I.P. — RIP-RAP INFLOW PROTECTION
- R.P.S. — REMOVABLE PUMPING STATION
- F.B. — FILTER BAG
- 100 YEAR FLOODPLAIN
- WETLANDS
- WETLAND BUFFER
- STREAM BANK BUFFER



NOTE:
 THE CONTRACTOR SHALL REMOVE ALL OLD AND NEW JUNK, TRASH, DEBRIS AND OTHER UNNATURAL ITEMS FROM THE FORESTS, FLOODPLAINS, STREAMS, WETLANDS AND BUFFER AREAS.

TEMPORARY SEDIMENT BASIN No. 2
 INITIAL D.A. = 15.19 Ac.
 FINAL D.A. = 13.28 Ac.
 STORAGE REQUIRED:
 WET = 1800 x 15.19 = 27,342 CuFt.
 DRY = 1800 x 15.19 = 27,342 CuFt.
 STORAGE PROVIDED:
 WET = 27,342 CuFt. @ ELEV. 352.95
 DRY = 121,735 CuFt. @ ELEV. 354.20
 BOTTOM ELEV. = 351.00
 STORAGE DEPTH = 6'
 TOP OF EMBANKMENT = 358.92 (TEMP. 10' WIDE)
 CLEAN OUT ELEV. = 352.05
 RISER WEIR ELEV. = 356.25
 Q1 ext. = 0.09 c.f.s.
 Q1 prop. = 0.03 c.f.s. @ EL. = 356.43

EXISTING SEDIMENT TRAP HAS BEEN REMOVED EXISTING DRAINAGE IN THIS AREA HAS CHANGED. ACCESS ROAD EXISTING DRAINAGE HAS BEEN SHOWN IN RED ON THE ADJACENT PARCEL WHICH THE PROPOSED GRADE MEET.

NOTE: CONTRACTOR TO CURL ALL SILT FENCE / SUPER-SILT FENCE UP/HILL WHEN RUNNING PERPENDICULAR TO CONTOURS

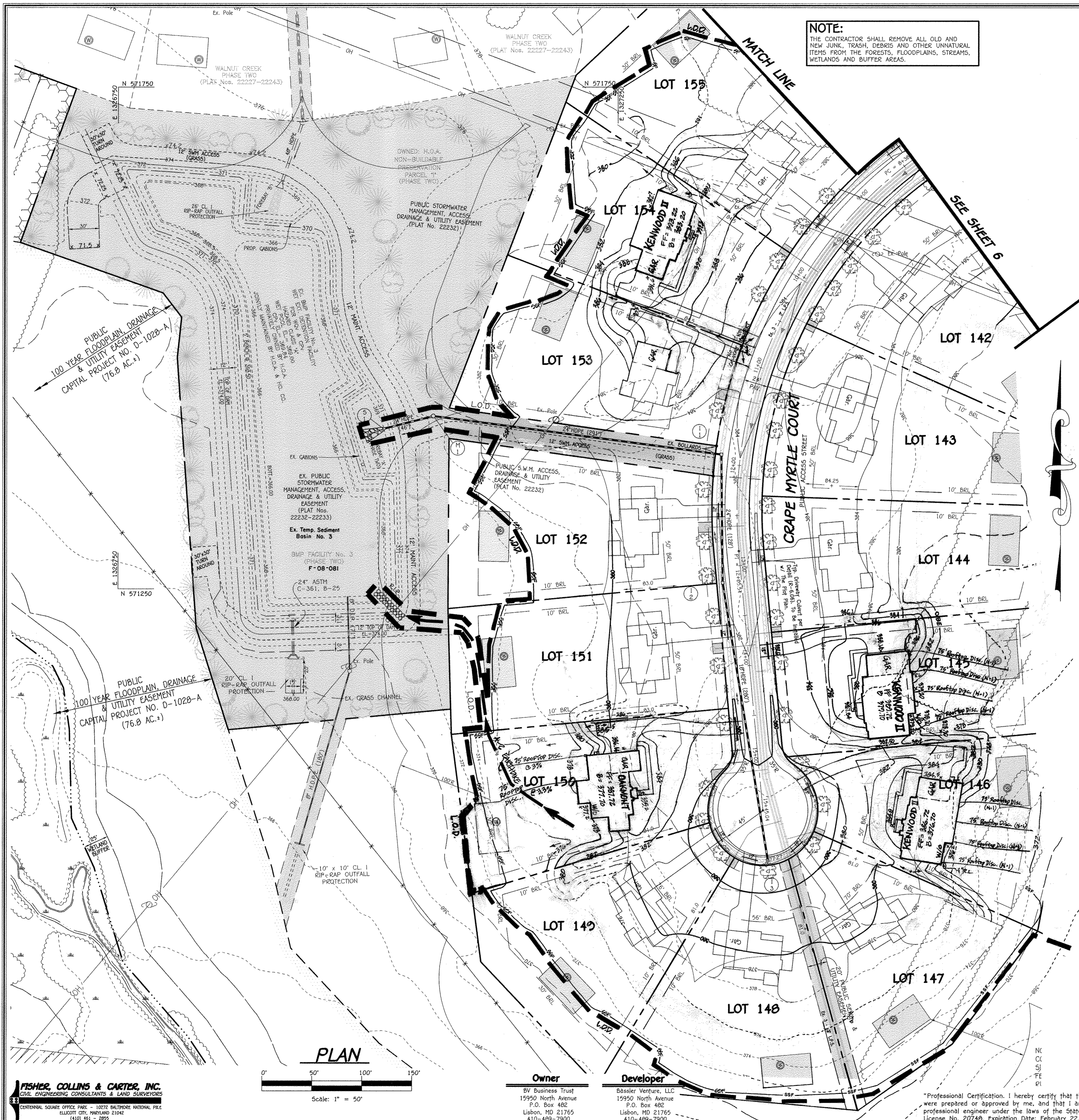
OWNER: **Bay Business Trust**
 15950 North Avenue
 P.O. Box 482
 Liabon, MD 21769
 410-489-7900

DEVELOPER: **Baasler Venture, LLC**
 15950 North Avenue
 P.O. Box 482
 Liabon, MD 21769
 410-489-7900

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 20748, Expiration Date: February 22, 2015.

Signature: *[Signature]*
 ALDO M. VITUCCI, P.E.
 DATE: 3/24/13

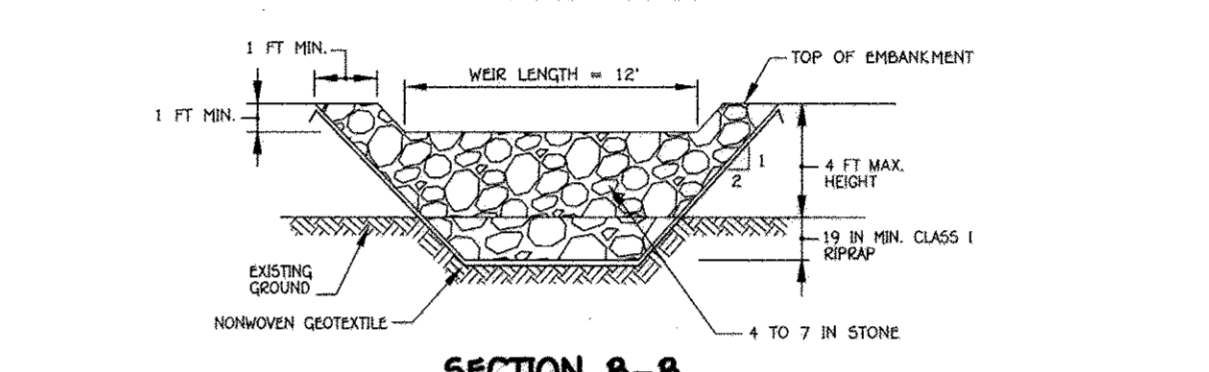
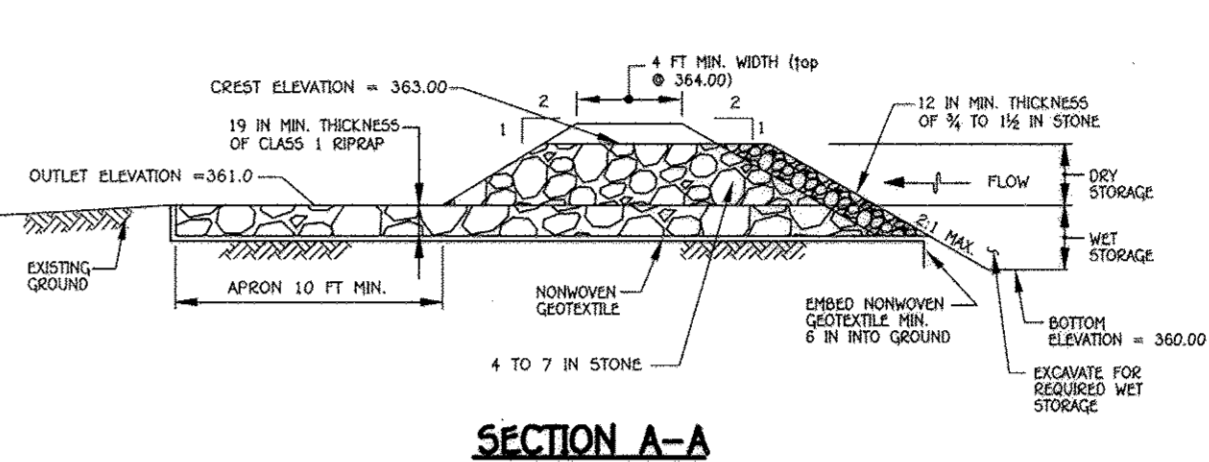
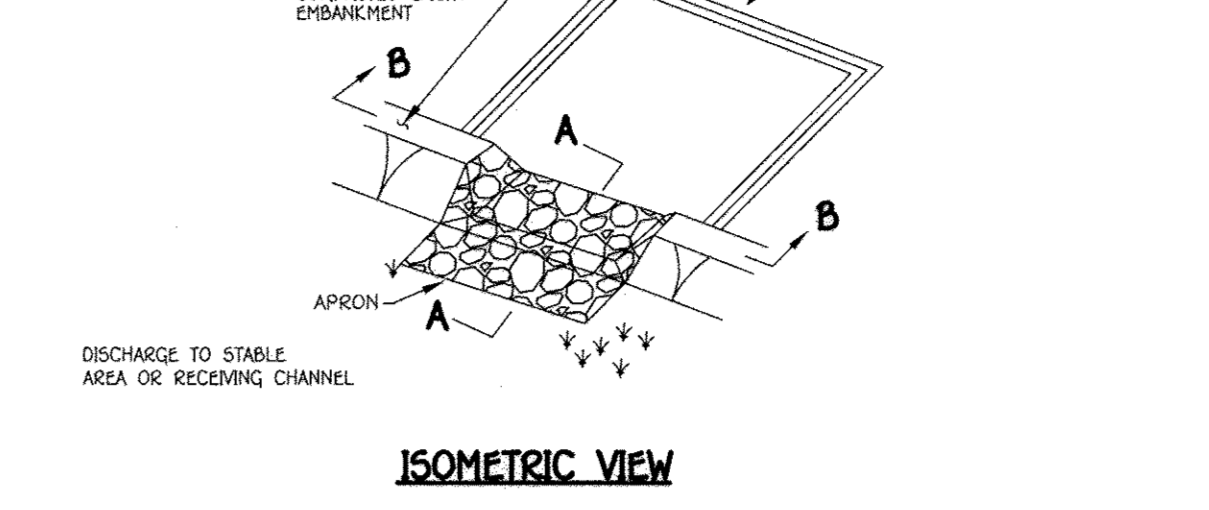
STREET TREE, GRADING & SEDIMENT CONTROL PLAN
WALNUT CREEK
PHASE FOUR
Lots 116 - 160 And Non-Buildable Preservation Parcel 'V' & 'W'
 (A Resubdivision Of Buildable Bulk Parcel 'U' - Walnut Creek, Phase Three)
 ZONED: RC-DEO & R8-DEO
 TAX MAP No. 28 GRID Nos. 4, 5, 10-12, 17, AND 18 PARCEL No. 49
 FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 DATE: MARCH 20, 2012
 SHEET 7 OF 23



NOTE:
THE CONTRACTOR SHALL REMOVE ALL OLD AND NEW JUNK, TRASH, DEBRIS AND OTHER UNNATURAL ITEMS FROM THE FORESTS, FLOODPLAINS, STREAMS, WETLANDS AND BUFFER AREAS.

STONE/RIPRAP OUTLET SEDIMENT TRAP ST-II

DETAIL G-1-2
STANDARD SYMBOL
ST-II
MAXIMUM DRAINAGE AREA = 10 ACRES



CONSTRUCTION SPECIFICATIONS

- CONSTRUCT TRAP IN SUCH A MANNER THAT EROSION AND WATER POLLUTION ARE AVOIDED.
- CLEAR, GRUB, AND STRIP ANY VEGETATION AND ROOT MAT FROM THE AREA UNDER THE EMBANKMENT AND TRAP BOTTOM.
- USE FILL MATERIAL FREE OF ROOTS, WOODY VEGETATION, OVERSIZED STONES, ROCKS, ORGANIC MATERIAL OR OTHER OBJECTIONABLE MATERIAL FOR THE EMBANKMENT.
- CONSTRUCT TOP OF EMBANKMENT 1 FOOT MINIMUM ABOVE WEIR CREST. COMPACT THE EMBANKMENT BY TROWELING WITH EQUIPMENT WHILE IT IS BEING CONSTRUCTED.
- MAKE ALL CUT AND FILL SLOPES 2:1 OR FLATTER.
- PLACE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS, OVER THE BOTTOM AND SIDES OF OUTLET AND APRON PRIOR TO PLACEMENT OF RIPRAP. OVERLAP SECTIONS OF GEOTEXTILE AT LEAST 1 FOOT WITH THE SECTION NEARER TO THE TRAP PLACED ON TOP. RIPRAP GEOTEXTILE AT LEAST 6 INCHES INTO EXISTING GROUND AT ENTRANCE OF OUTLET CHANNEL.
- USE CLEAN 4 TO 7 INCH RIPRAP TO CONSTRUCT THE WEIR. USE CLASS I RIPRAP FOR THE APRON. USE OF RECYCLED CONCRETE EQUIVALENT IS ACCEPTABLE.
- PLACE 1 FOOT OF CLEAN 3/4 TO 1 1/2 INCH STONE OR EQUIVALENT RECYCLED CONCRETE ON THE UPSTREAM FACE OF THE WEIR.
- CONSTRUCT AND MAINTAIN THE OUTLET ACCORDING TO APPROVED PLAN, AND IN SUCH A MANNER THAT EROSION AT OR BELOW THE OUTLET DOES NOT OCCUR.
- STABILIZE THE EMBANKMENT AND INTERIOR SLOPES WITH SEED AND MULCH. STABILIZE POINTS OF CONCENTRATED INFLOW AS SHOWN ON APPROVED PLAN.
- REMOVE SEDIMENT AND RESTORE TRAP TO ORIGINAL DIMENSIONS WHEN SEDIMENT HAS ACCUMULATED TO CLEANOUT ELEVATION (50% OF WEIR STORAGE DEPTH). DEPOSIT REMOVED SEDIMENT IN AN APPROVED AREA AND IN SUCH A MANNER THAT IT WILL NOT ESCAPE. KEEP POINTS OF INFLOW AND OUTFLOW AS WELL AS INTERIOR OF THE TRAP FREE FROM EROSION, AND REMOVE ACCUMULATED DEBRIS. MAINTAIN EMBANKMENTS TO CONTINUOUSLY MEET REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION. REMOVE ANY TREES, BRUSH, OR OTHER WOODY VEGETATION GROWING ON EMBANKMENT OR NEAR PRINCIPAL SPILLWAY. MAINTAIN LINE, GRADE, AND CROSS SECTION.
- WHEN DEWATERING TRAP, PASS REMOVED WATER THROUGH AN APPROVED SEDIMENT CONTROL PRACTICE.
- UPON REMOVAL, GRADE AND STABILIZE THE AREA OCCUPIED BY TRAP.

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

STONE/RIPRAP OUTLET SEDIMENT TRAP ST-II, TRAP NO. 1		
DRAINAGE AREA - INITIAL	2.9	ACRES
DRAINAGE AREA - INTERIM	--	ACRES
DRAINAGE AREA - FINAL	4.1	ACRES
TOTAL STORAGE REQUIRED	14,760	CF
TOTAL STORAGE PROVIDED	16,520	CF
WET STORAGE REQUIRED	7,380	CF
WET STORAGE PROVIDED	7,988	CF
DRY STORAGE REQUIRED	7,380	CF
DRY STORAGE PROVIDED	8,532	CF
EXISTING GROUND ELEVATION AT OUTLET (WET STORAGE ELEVATION)	361.00	FT
TRAP BOTTOM ELEVATION	360.00	FT
TRAP BOTTOM DIMENSIONS	120' x 45'	FT x FT
WEIR LENGTH	12'	FT
WEIR CREST (DRY STORAGE) ELEVATION	363.00	FT
CLEANOUT ELEVATION	360.5	FT
TOP OF EMBANKMENT ELEVATION	364.00	FT
SIDE SLOPE	2:1	HV RATIO
EMBANKMENT TOP WIDTH	6'	FT
OUTLET PROTECTION - LENGTH	10'	FT
OUTLET PROTECTION - DEPTH	18"	IN

REVISION (CONT.)
5 REMOVE LOTS 146 & 147 TO SHOW FINAL HOUSES, GRADING, SWM 7/23/18

By The Developer:
Signature of Developer: *[Signature]* Date: 3/20/13

Printed Name of Developer: _____

By The Engineer:
Signature of Engineer: *[Signature]* Date: 3/20/13

Printed Name of Engineer: _____

These Plans For Small Pond Construction, Soil Erosion And Sediment Control Meet The Requirements Of The Howard Soil Conservation District.
Signature of District: *[Signature]* Date: 3/28/13

Approved: Department of Public Works
Signature: *[Signature]* Date: 4/3/12

Approved: Department of Planning And Zoning
Signature: *[Signature]* Date: 4/15/13

Signature: *[Signature]* Date: 4/12/13

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 Relieve Any Other Party From Meeting Requirements Imposed By Contract, Employment, Or Other Means, Including Meeting Commonly Accepted Industry Practices.

NO.	DESCRIPTION	DATE
1	Expanded L.O.D. For Earthwork	5-9-16
2	REMOVE LOTS TO MATCH BUILDINGS 6/9	1/6/17
3	REMOVE LOTS 146, 147, 148, 149, 150, 151, 152, 153, 154, 155 TO SHOW FINAL HOUSES, GRADING, SWM, 7/23/18	7/23/18
4	REVISE LOT 150, SHOW FINAL HOUSE, SWM, GRADING, LOTS, 7/23/18	7/23/18

LEGEND

- SSP SSP SSP SUPER-SILT FENCE
- SSP SILT FENCE
- TF TF TF TREE PROTECTION FENCE
- S.C.E. STABILIZED CONSTRUCTION ENTRANCE
- Earth Dike
- L.O.D. DENOTES L.O.D. LIMITS OF DISTURBANCE
- E.C.M. DENOTES EROSION CONTROL MATTING
- Denotes 25% OR GREATER SLOPES
- Denotes 15% - 24.99% SLOPES
- Denotes LOW PRESSURE SEWER BY OTHERS W/ GRINDER PUMPS
- RIP-RAP INFLOW PROTECTION
- 100 YEAR FLOODPLAIN
- WETLANDS
- WETLAND BUFFER
- STREAM BANK BUFFER

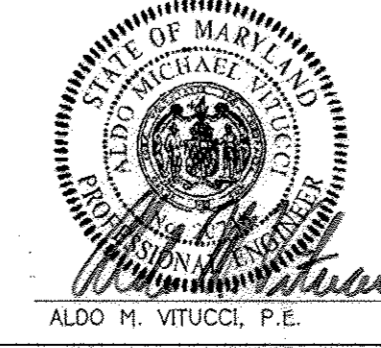
STREET TREE, GRADING & SEDIMENT CONTROL PLAN
WALNUT CREEK
PHASE FOUR
Lots 115 - 159 And Non-Buildable Preservation Parcel 'W' & 'X'
(A Resubdivision Of Buildable Bulk Parcel 'U' - Walnut Creek, Phase Three)
ZONED: RC-DE0 & RC-DE0
TAX MAP NO. 28 GRID NOS. 4, 5, 10-12, 17, AND 18 PARCEL NO. 49
FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DATE: MARCH 20, 2012
SHEET 8 OF 23

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELICOTT CITY, MARYLAND 21042
(410) 461-2929

Owner
BV Business Trust
15950 North Avenue
P.O. Box 482
Lisbon, MD 21765
410-489-7900

Developer
Bassler Venture, LLC
15950 North Avenue
P.O. Box 482
Lisbon, MD 21765
410-489-7900

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 20748, Expiration Date: February 22, 2015.



Signature: *[Signature]* Date: 3/20/13

Approved: Department Of Public Works
 Chief, Bureau Of Highways *[Signature]* 4/3/12 Date

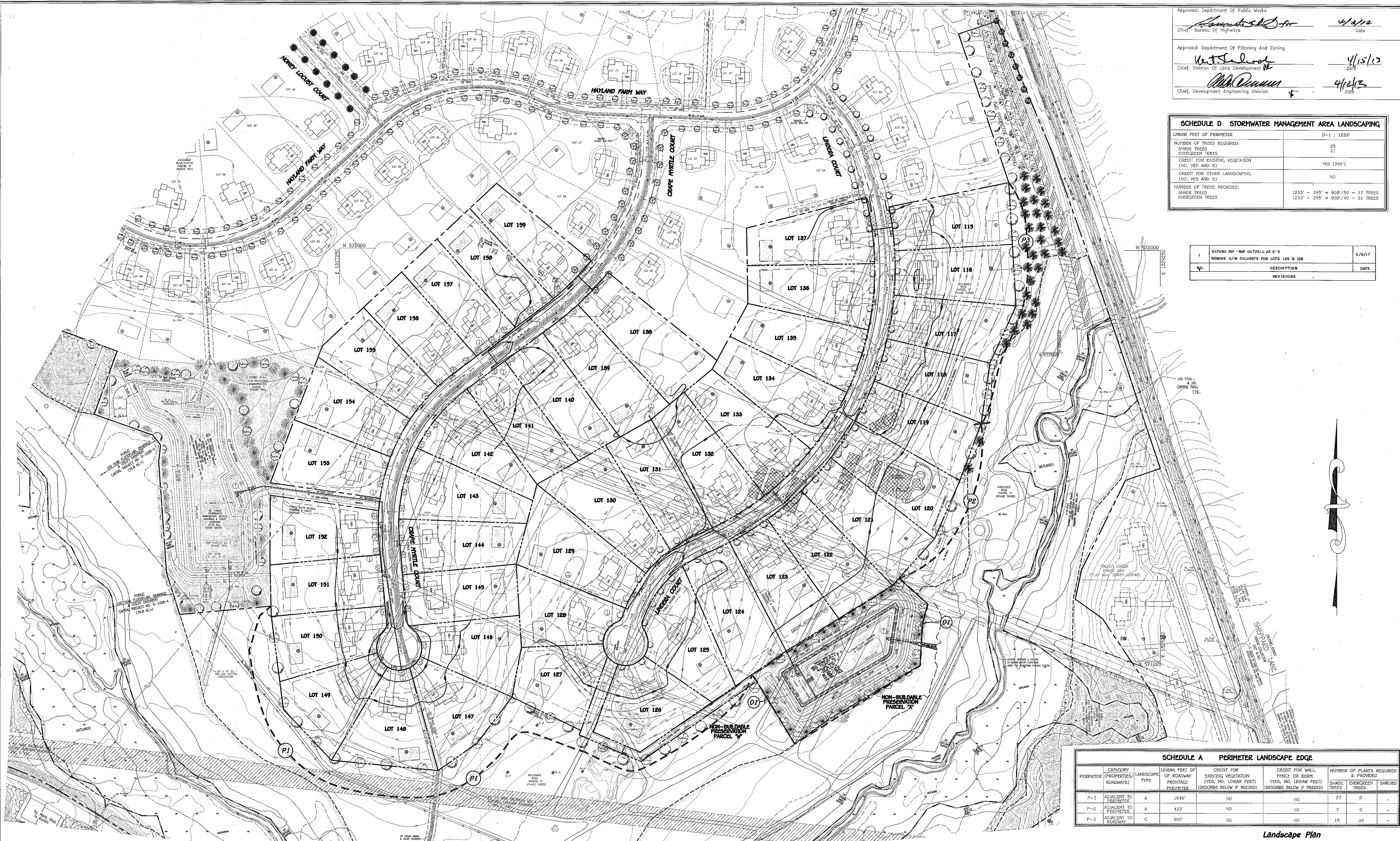
Approved: Department Of Planning And Zoning
 Chief, Division Of Land Development *[Signature]* 4/15/13 Date

Chief, Development Engineering Division *[Signature]* 4/2/13 Date

SCHEDULE D STORMWATER MANAGEMENT AREA LANDSCAPING

LINEAR FEET OF PERIMETER	0-1 : 1233'
NUMBER OF TREES REQUIRED:	25
SHADE TREES	31
EVERGREEN TREES	
CREDIT FOR EXISTING VEGETATION (NO, YES AND %)	YES (39%)
CREDIT FOR OTHER LANDSCAPING (NO, YES AND %)	NO
NUMBER OF TREES PROVIDED:	
SHADE TREES	1233' - 395' = 0.38750 = 17 TREES
EVERGREEN TREES	1233' - 395' = 0.38750 = 21 TREES

1	EXTEND RIP-UP OUTFALL AT S-3 REMOVE O/W CULVERTS FOR LOTS 125 & 128	5/9/17
NO.	DESCRIPTION	DATE
	REVISIONS	



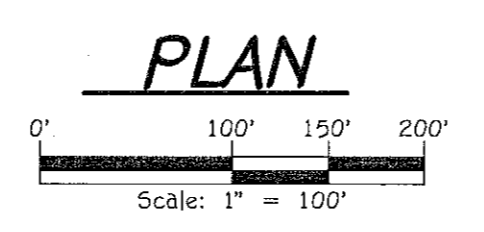
SCHEDULE A PERIMETER LANDSCAPE EDGE

PERIMETER	CATEGORY (PROPERTIES/ROADWAYS)	LANDSCAPE TYPE	LINEAR FEET OF ROADWAY FRONTAGE PERIMETER	CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	CREDIT FOR WALL, FENCE OR BUSH (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NUMBER OF PLANTS REQUIRED & PROVIDED		
						SHADE TREES	EVERGREEN TREES	SHRUBS
P-1	ADJACENT TO PERIMETER	A	1646'	NO	NO	27	0	-
P-2	ADJACENT TO PERIMETER	A	433'	NO	NO	7	0	-
P-3	ADJACENT TO ROADWAY	C	622'	NO	NO	15	30	-

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 letter of landscape installation accompanied by an executed one year guarantee of plant materials will be submitted to the Department of Planning and Zoning.

Owner
 BV Business Trust
 15950 North Avenue
 P.O. Box 482
 Lisbon, MD 21765
 410-489-7900

Developer
 Bassler Venture, LLC
 15950 North Avenue
 P.O. Box 482
 Lisbon, MD 21765
 410-489-7900



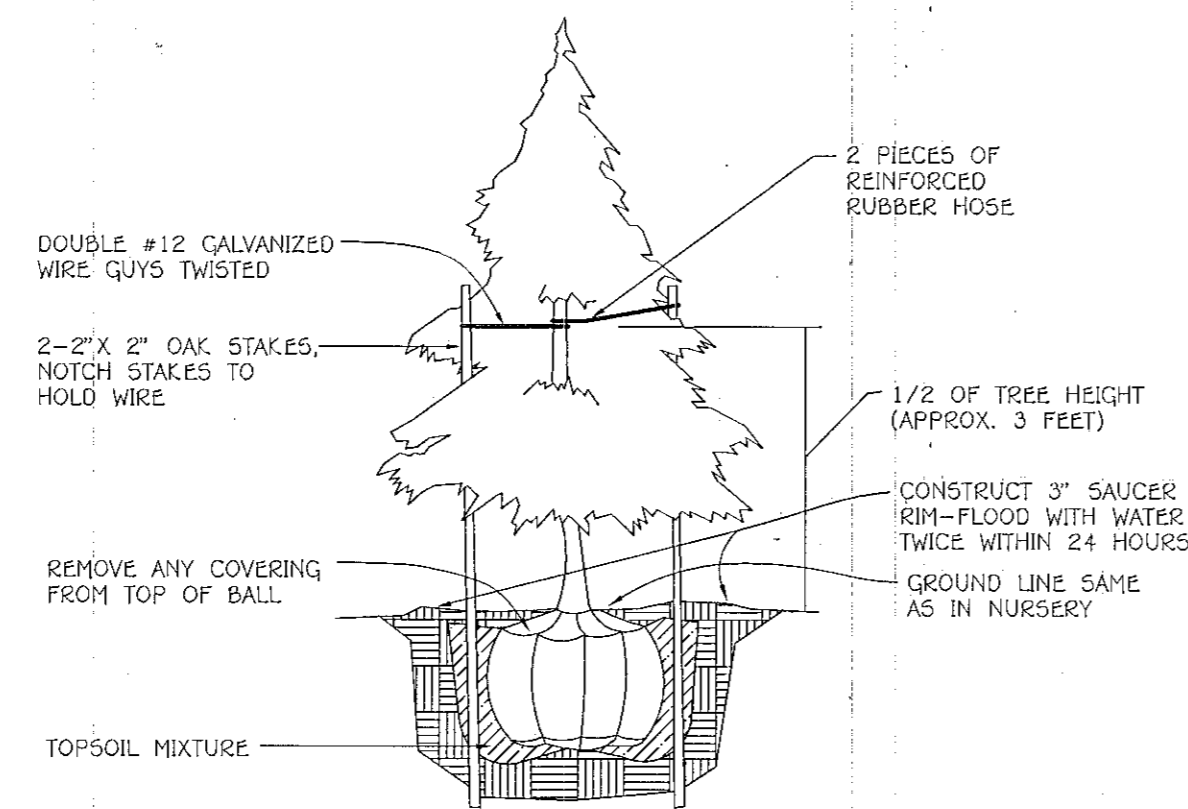
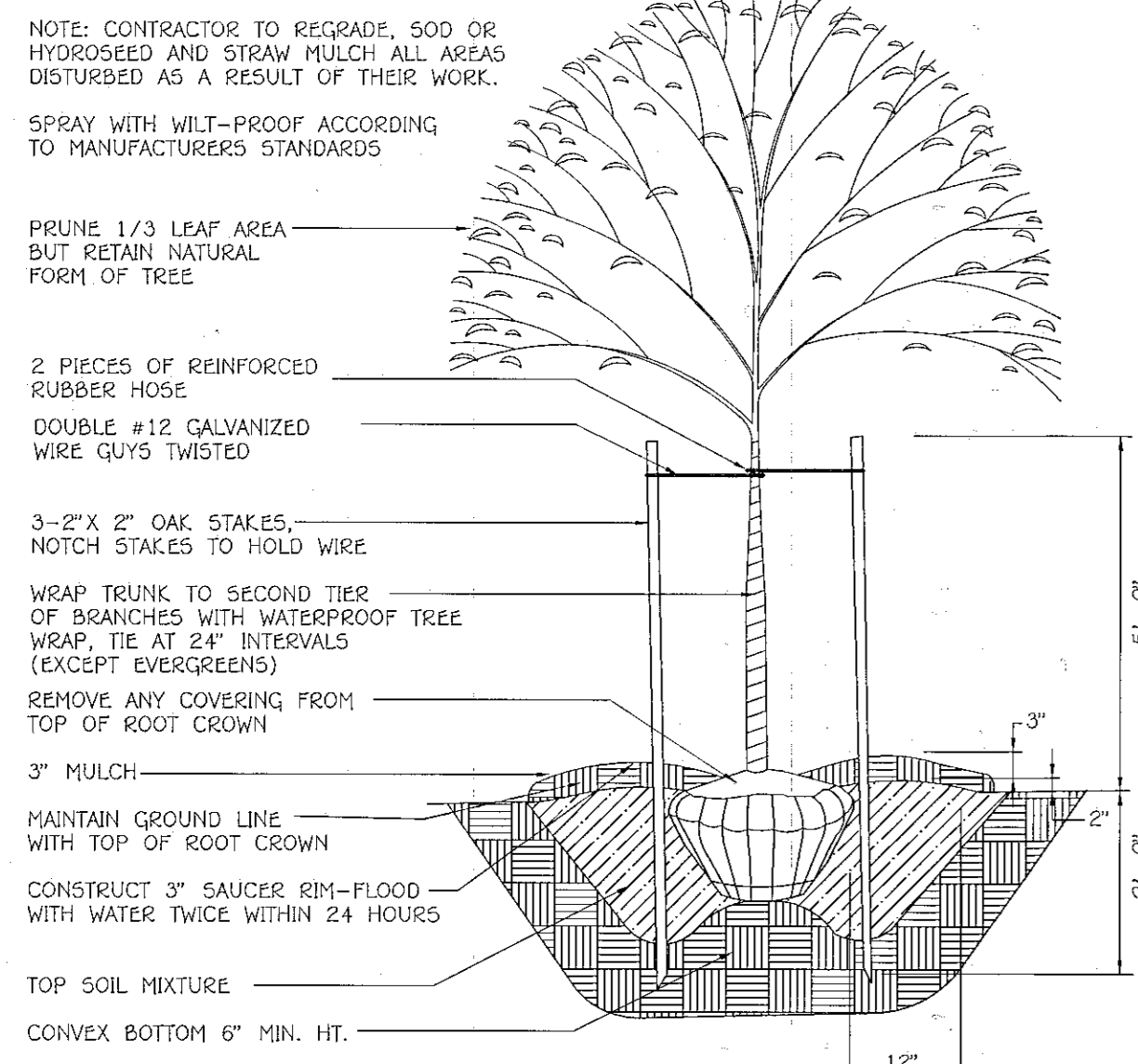
"Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland. License No. 20748, Expiration Date: February 22, 2015."



3/29/13
 DATE

Landscape Plan
WALNUT CREEK
PHASE FOUR
Lots 115 - 159 And Non-Buildable
Preservation Parcel 'W' & 'X'
 (A Resubdivision Of Buildable Bulk Parcel 'U' - Walnut Creek, Phase Three)
 ZONED: RC-DEO & RR-DEO
 TAX MAP No. 28 GRID Nos. 4, 5, 10-12, 17, AND 18 PARCEL No. 49
 FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 DATE: MARCH 20, 2013
 SHEET 9 OF 23

I:\2014\0401\Lang\PHASE FOUR FINALS\C-09_F-13-034_Landscape_Plan.dwg, sheets: 3/20/2013 7:27:50 AM, 11



EVERGREEN PLANTING DETAIL

TREE PLANTING DETAIL

PLANTING SPECIFICATIONS

Plants, related material, and operations shall meet the detailed description as given on the plans and as described herein.

All plant material, unless otherwise specified, shall be nursery grown, uniformly branched, have a vigorous root system, and shall conform to the species, size, root and shape shown on the plant list and the American Association of Nurserymen (AAN) Standards. Plant material shall be healthy, vigorous, free from defects, decay, disfiguring roots, sun scald injuries, abrasions of the bark, plant disease, insect pest eggs, borers and all forms of insect infestations or objectionable disfigurements. Plant material that is weak or which has been cut back from larger grades to meet specified requirements will be rejected. Trees with forked leaders will not be accepted. All plants shall be freshly dug; no heated-in plants from cold storage will be accepted.

Unless otherwise specified, all general conditions, planting operations, details and planting specification shall conform to "Landscape Specification Guidelines for Baltimore-Washington Metropolitan Areas", (hereinafter "Landscape Guidelines") approved by the Landscape Contractors Association of Metropolitan Washington and the Potomac Chapter of the American Society of Landscape Architect, latest edition, including all agenda.

Contractor shall be required to guarantee all plant material for a period of one year after date of acceptance in accordance with the appropriate section of the Landscape Guidelines. Contractor's attention is directed to the maintenance requirements found within the one year specifications including watering and replacement of specified plant material.

Contractor shall be responsible for notifying utility companies, utility contractors and "Miss Utility" a minimum of 48 hours prior to beginning any work. Contractor may make minor adjustments in spacing and location of plant material to avoid conflicts with utilities. Damage to existing structure and utilities shall be repaired at the expense of the Contractor.

Protection of existing vegetation to remain shall be accomplished by the temporary installation of 4 foot high snow fence or blaze orange safety fence at the drip line.

Contractor is responsible for installing all material in the proper planting season for each plant type. All planting is to be completed within the growing season of site construction.

Bid shall be base on actual site conditions. No extra payment shall be made for work arising from site conditions differing from those indicated on drawings and specifications.

Plant quantities are provided for the convenience of the contractor only. If discrepancies exist between quantities shown on plan and those shown on the plant list, the quantities on the plan take precedence.

All shrubs shall be planted in continuous trenches or prepared planting beds and mulched with composted hardwood mulch as details and specified except where noted on plans.

Positive drainage shall be maintained in planting beds 2 percent slope.

Planting mix shall be as follows: Deciduous Plants - Two parts topsoil, one part well-rotted cow or horse manure. Add 3 lbs. of standard fertilizer per cubic yard of planting mix. Evergreen Plants - two parts topsoil, one part humus or other approved organic material. Add 3 lbs. of evergreen (acidic) fertilizer per cubic yard of planting mix. Topsoil shall conform to the Landscape Guidelines.

Weed Control: Incorporate a pre-emergent herbicide into the planting bed following recommended rates on the label. Caution: Be sure to carefully check the chemical used to assure its adaptability to the specific ground cover to be treated.

All areas within contract limits disturbed during or prior to construction not designated to receive plants and mulch shall be fine graded and seeded.

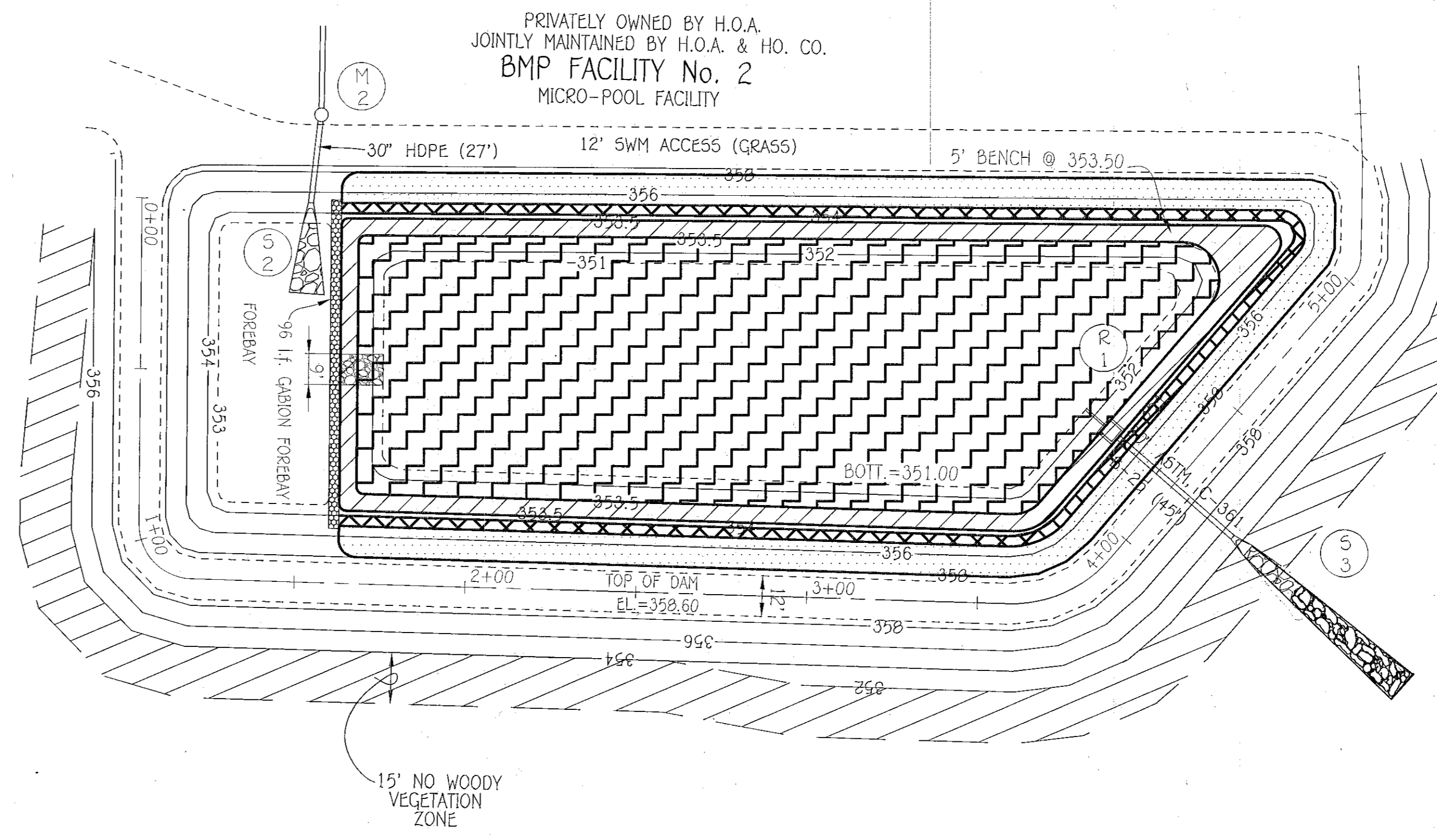
This plan is intended for landscape use only. see other plan sheets for more information on grading, sediment control, layout, etc.

NOTES:

"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 rescissions 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".

No.	Description	Date
1	Extend Rip-Rap Outfall @ S-3	5/9/17
	Revisions	



PLANT LIST

SYMBOL	QTY.	BOTANICAL AND COMMON NAME	SIZE
	41	ACER RUBRUM 'Armstrong'	2 1/2-3" CAL.
	25	QUERCUS COCCINEA SCARLET OAK	2 1/2-3" CAL.
	21	PINUS STROBUS EASTERN WHITE PINE	6' - 8' HT.
	30	CHINESE JUNIPER ROBUSTA	5' - 6' HT.

"THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL. FINANCIAL SURETY FOR THE REQUIRED 56 SHADE & 51 EVERGREEN TREES HAS BEEN POSTED AS PART OF THE DEVELOPER'S AGREEMENT IN THE AMOUNT OF \$27,450.00."

INTERNAL POND PLANT LIST

- ZONE 5 FLOODPLAIN TERRACE: 1' - 4" ELEVATION ABOVE NORMAL POOL ELEVATION - PLANT AREA w/ SWITCH GRASS QUANTITY - N/A SPACING - N/A
- ZONE 3 SHORELINE FRINGE: 0' - 12" ELEVATION ABOVE NORMAL POOL ELEVATION - PLANT AREA w/ BUCKLEBERRY, MITCHHAZEL & WINTERBERRY QUANTITY - 16 EACH SPACING - 12" MAX.
- ZONE 2 SHALLOW WATER BENCH: 0' - 12" ELEVATION BELOW NORMAL POOL ELEVATION - PLANT AREA w/ BUCKLEBERRY QUANTITY - N/A SPACING - N/A
- ZONE 1 DEEPWATER POOL: 1' - 3' ELEVATION BELOW NORMAL POOL ELEVATION - PLANT AREA w/ WIDGEON-GRASS QUANTITY - N/A SPACING - N/A

POND NO. 2 INTERNAL PLANTING DETAIL

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 letter of landscape installation accompanied by an executed one year guarantee of plant materials will be submitted to the Department of Planning and Zoning.

Owner: BV Business Trust, 15950 North Avenue, P.O. Box 482, Lisbon, MD 21765, 410-489-7900

Developer: Basser Venture, LLC, 15950 North Avenue, P.O. Box 482, Lisbon, MD 21765, 410-489-7900

3/20/13 Date

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
10272 WILKINSON AVENUE, SUITE 100
ELLSWORTH CITY, MARYLAND 21114
(410) 461-4299



"Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 20748, Expiration Date: February 22, 2015."

3/20/13 DATE

Landscape Plan Notes
WALNUT CREEK
PHASE FOUR
Lots 115 - 159 And Non-Buildable Preservation Parcel 'W' & 'X'
(A Resubdivision Of Buildable Bulk Parcel 'U' - Walnut Creek, Phase Three)
ZONED: RC-DEO & R2-DEO
TAX MAP No. 28 GRID Nos. 4, 5, 10-12, 17, and 18 PARCEL No. 49
FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DATE: MARCH 20, 2013
SHEET 10 OF 23

STRUCTURE SCHEDULE

STRUCTURE NO.	TOP ELEVATION	INV. IN	INV. OUT	LOCATION	ROAD STA./COORDINATE	OFFSET	TYPE AND WIDTH	REMARKS
I-1	* 382.53	370.98 (24")	370.80 (24")	CRAPE MYRTLE COURT	11+91	19' RT	'D' INLET - 3.0'	D - 4.10
I-2	* 381.32	372.12 (18")	371.62 (24")	CRAPE MYRTLE COURT	13+16	19' RT	'D' INLET - 3.0'	D - 4.10
I-3	* 377.27	-----	373.97 (18")	CRAPE MYRTLE COURT	L.P. 1+46.11	5' BEHIND	'D' INLET - 2.5'	D - 4.10
I-4	* 374.43	369.60 (18")	369.35 (18")	CRAPE MYRTLE COURT	5+13	19' RT	'D' INLET - 2.5'	D - 4.10
I-5	* 379.74	376.12 (15")	375.87 (18")	CRAPE MYRTLE COURT	7+43	19' RT	'D' INLET - 2.5'	D - 4.10
I-6	* 379.74	-----	376.50 (15")	CRAPE MYRTLE COURT	7+43	19' LT	'D' INLET - 2.5'	D - 4.10
I-7	* 364.61	357.30 (24"), 357.30 (24")	356.80 (30")	LINDERA COURT	12+91	19' LT	'D' INLET - 3.5'	D - 4.10
I-8	* 362.38	359.00 (18"), 359.00 (18")	358.50 (24")	LINDERA COURT	11+35	19' LT	'D' INLET - 3.0'	D - 4.10
I-9	* 364.43	361.15 (18")	360.90 (18")	LINDERA COURT	9+83	19' LT	'D' INLET - 2.5'	D - 4.10
I-10	* 368.54	364.87 (15")	364.62 (18")	LINDERA COURT	8+74	19' LT	'D' INLET - 2.5'	D - 4.10
I-11	* 368.54	-----	365.25 (15")	LINDERA COURT	8+74	19' RT	'D' INLET - 2.5'	D - 4.10
I-12	* 362.38	-----	359.38 (18")	LINDERA COURT	11+35	19' LT	'D' INLET - 2.5'	D - 4.10
I-13	* 365.27	360.22 (24"), 358.55 (18")	358.05 (24")	LINDERA COURT	13+12	19' RT	'D' INLET - 3.0'	D - 4.10
I-14	* 371.87	365.25 (15")	365.00 (18")	LINDERA COURT	16+17	36' RT	'D' INLET - 2.5'	D - 4.10
(PRIVATE) I-14a	* 371.00	-----	367.75 (15")				'D' INLET - 2.5'	D - 4.10
(PRIVATE) I-15	* 367.00	-----	363.40 (24")	LINDERA COURT	N 571933.86 E 1328004.5		'D' INLET - 3.0'	D - 4.10
M-1	378.00	369.42 (24")	369.32 (24")	CRAPE MYRTLE COURT	N 571482.32 E 1327055.38		4' DIA. MANHOLE	G - 5.12
M-2	359.00	353.92 (30")	353.67 (30")		N 571055.75 E 1328345.64		5' DIA. MANHOLE	G - 5.13
M-3	373.30	362.27 (15")	362.02 (18")	LINDERA COURT	14+49	27.2' R	4' DIA. MANHOLE	G - 5.12
S-1	371.05	369.05 (24")	-	EX. BMP FACILITY NO. 3	N 571409.56 E 1327016.16		24" FLARED END SECTION	**
S-2	355.52	353.02 (30")	-	FACILITY NO. 2	N 571055.75 E 1328345.64		30" FLARED END SECTION	**
S-3	352.90	350.40 (30")	-	FACILITY NO. 2	N 571044.78 E 1328287.09		30" CONC. END SECT.	D - 5.51
R-1	357.50	351.00 (6")	350.90 (30")	FACILITY NO. 2	N 571052.59 E 1328295.97		CONC. RISER	

* - DENOTES THROAT ELEVATION
 (PRIVATE) - DENOTES OWNED AND MAINTAINED BY H.O.A.
 ** - ADVANCED DRAINAGE SYSTEMS, INC. (ADS) FLARED END SECTION OR EQUAL

PIPE SCHEDULE (PUBLIC)

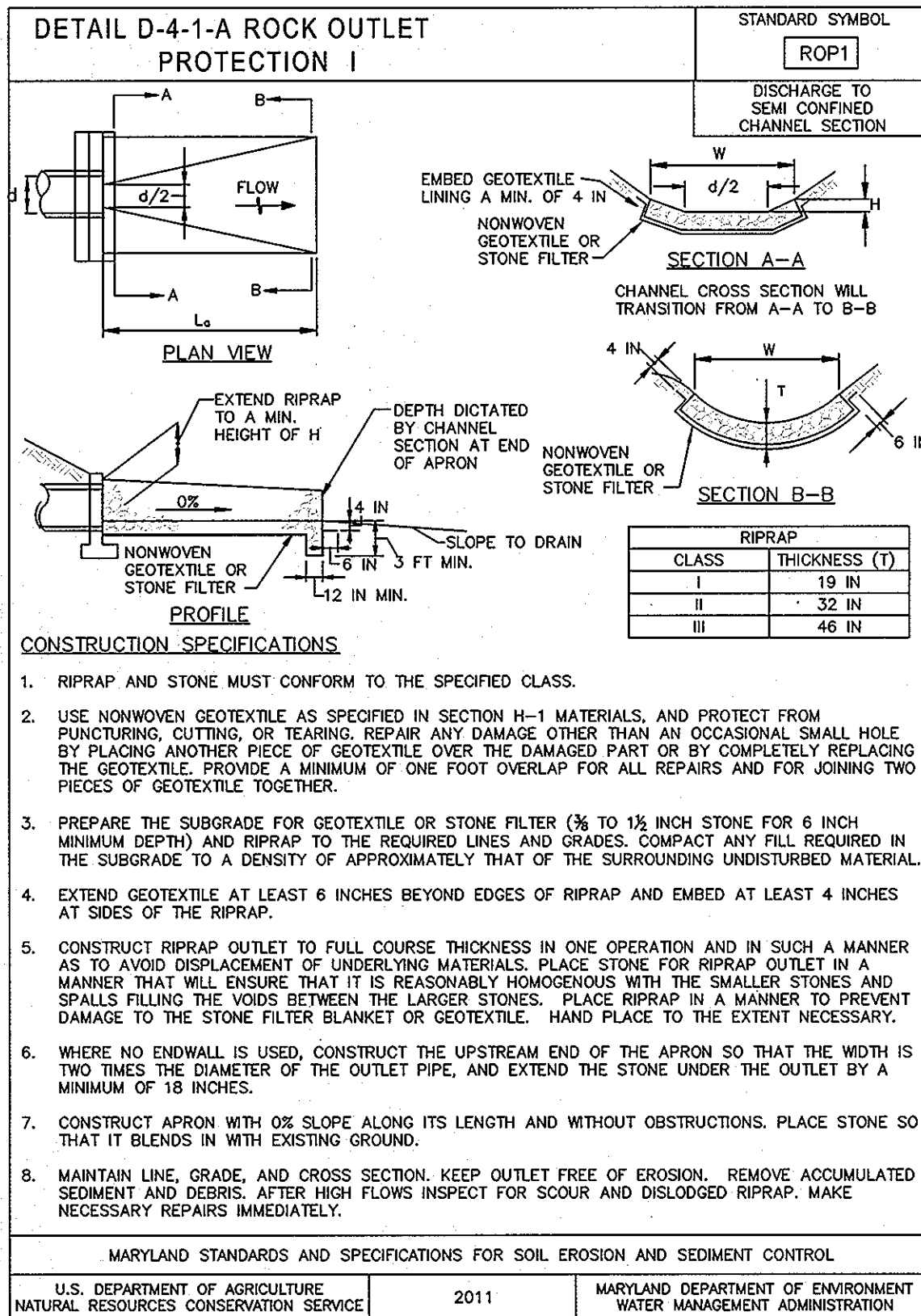
SIZE	CLASS	LENGTH
15"	HDPE	76 L.F.
18"	HDPE	1,109 L.F.
24"	HDPE	669 L.F.
30"	HDPE	347 L.F.
30"	ASTM, C-361, B-25	45 L.F.

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

PIPE SCHEDULE (PRIVATE)

SIZE	CLASS	LENGTH
15"	HDPE	185 L.F.

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



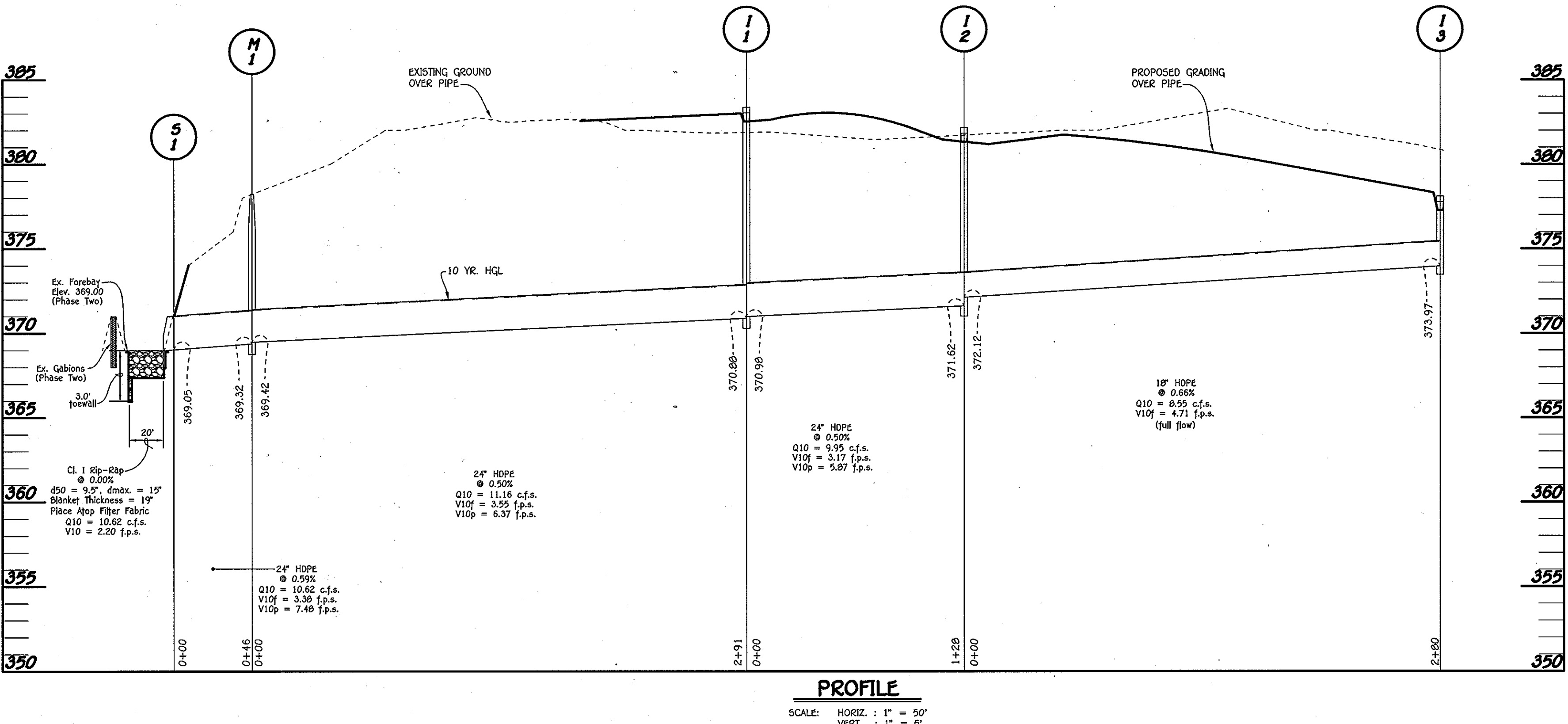
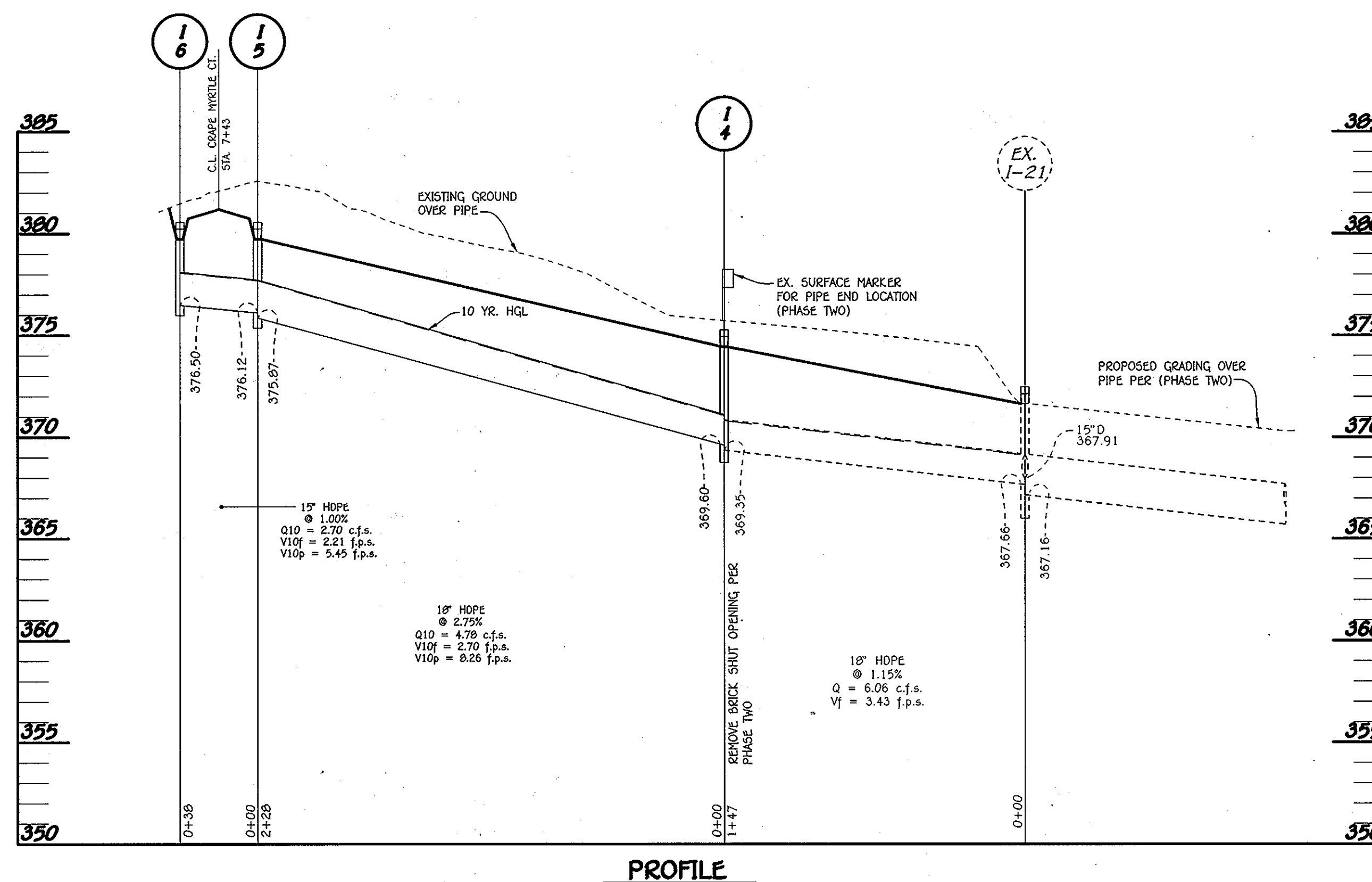
ROCK OUTLET PROTECTION DESIGN DATA

STRUCTURE	AREA (S.F.)	WETTED PERIMETER	R	R/R	S	S 1/2	W	d	d	V	Q10 (c.f.s.)	D _{max} (in.)	BLANKET THICKNESS	PIPE SIZE	LA
S-1	4.092	5.744	0.712	0.796	0.005	0.0707	8.0	2.27	0.04	2.09	10.62	9.5"	15"	19"	20"
S-2	11.37	9.798	1.161	1.105	0.005	0.0707	10.0	4.01	0.04	2.90	37.10	9.5"	15"	19"	20"

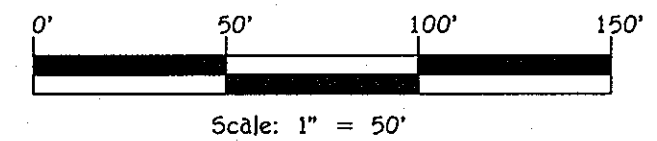
APPROVED: DEPARTMENT OF PUBLIC WORKS
 CHIEF, BUREAU OF HIGHWAYS
 APPROVED: DEPARTMENT OF PLANNING AND ZONING
 CHIEF, DIVISION OF LAND DEVELOPMENT
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

DATE: 4/2/13
 DATE: 4/15/13
 DATE: 4/12/13

NO.	DESCRIPTION	DATE



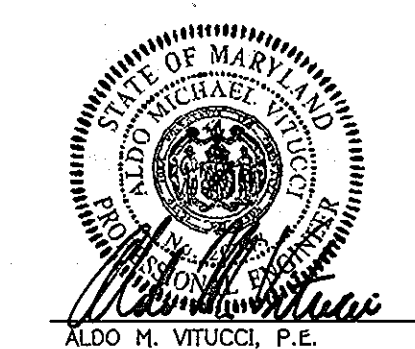
FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 10721 BALTIMORE NATIONAL PLACE
 ELICOTT CITY, MARYLAND 21142
 (410) 461-2895



Owner
 BV Business Trust
 15950 North Avenue
 P.O. Box 482
 Lisbon, MD 21765
 410-489-7900

Developer
 Bassler Venture, LLC
 15950 North Avenue
 P.O. Box 482
 Lisbon, MD 21765
 410-489-7900

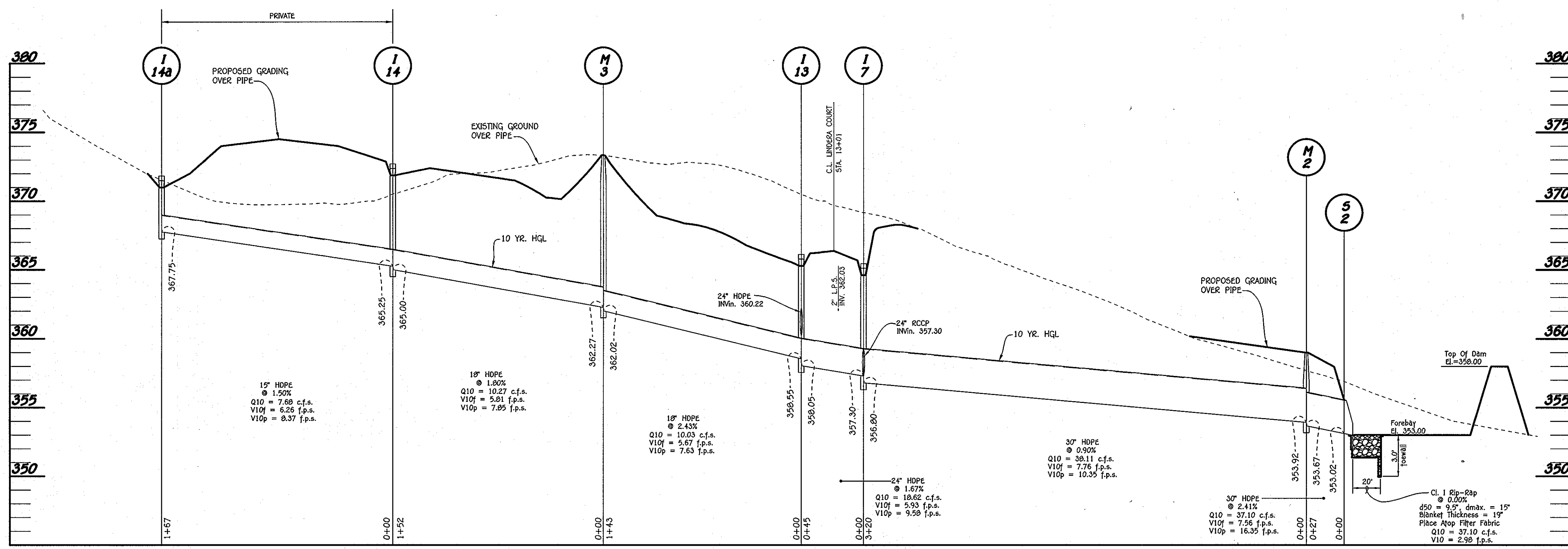
"Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 20748, Expiration Date: February 22, 2015."



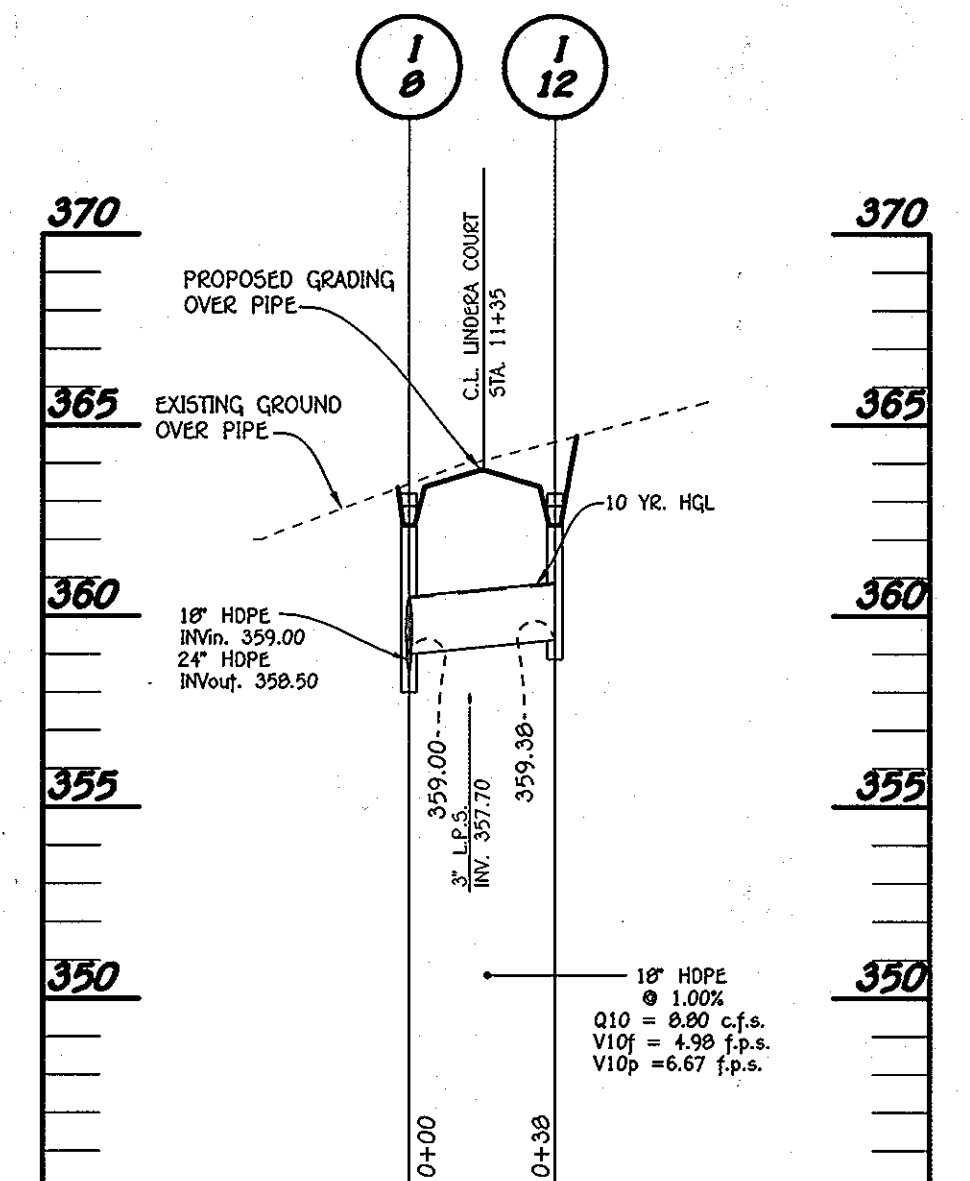
3/20/13
 DATE

STORM DRAIN PROFILES
WALNUT CREEK
 PHASE FOUR
 Lots 115 - 159 And Non-Buildable
 Preservation Parcel 'W' & 'X'
 (A Resubdivision Of Buildable Bulk Parcel 'U' - Walnut Creek, Phase Three)
 ZONED: RC-DEO & R2-DEO
 TAX MAP No. 28 GRID Nos. 4, 5, 10-12, 17, AND 18 PARCEL No. 49
 FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 DATE: MARCH 20, 2013
 SHEET 11 OF 23

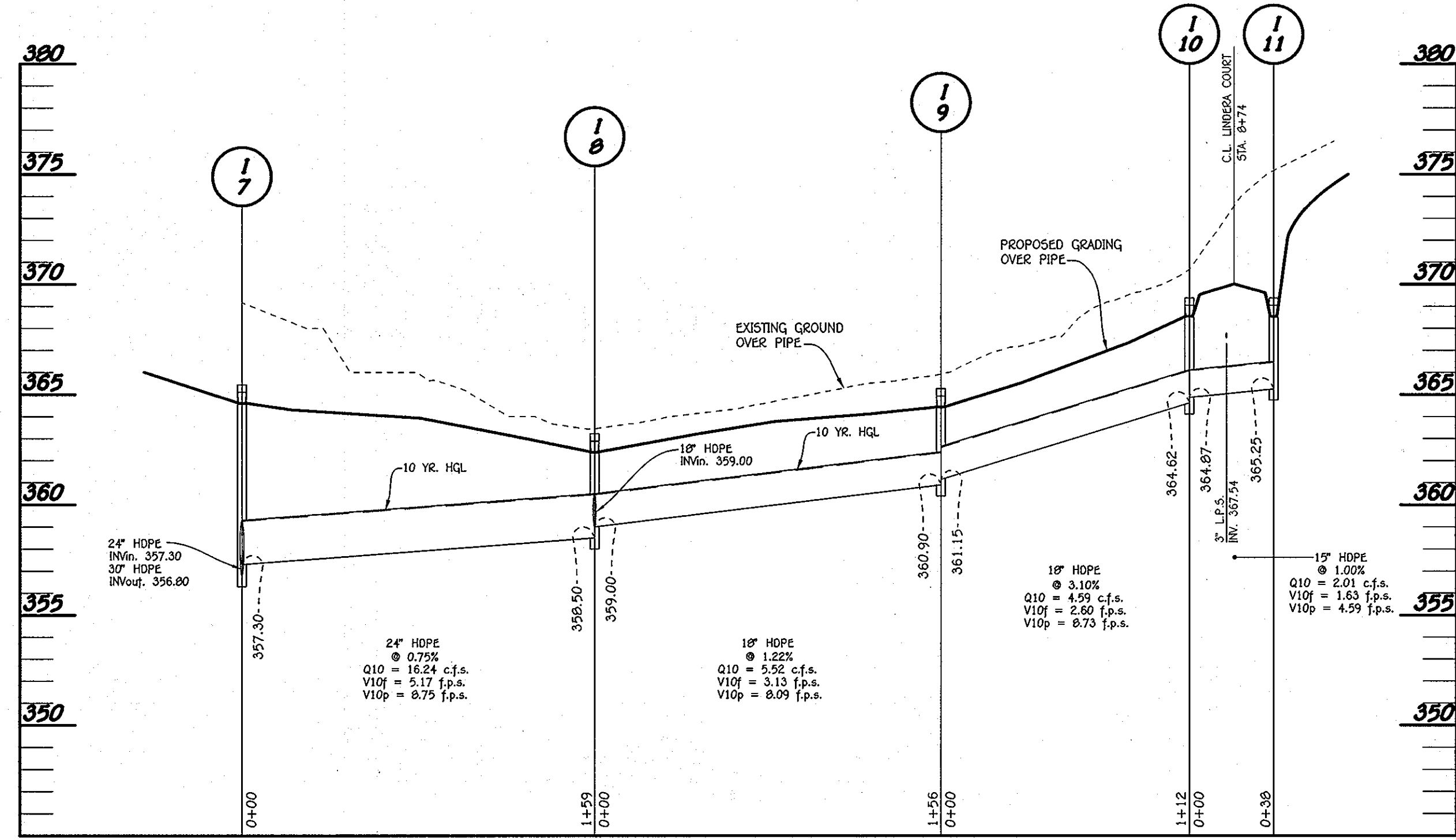
APPROVED: DEPARTMENT OF PUBLIC WORKS		
<i>Andrews</i>	4/3/13	DATE
CHIEF, BUREAU OF HIGHWAYS		
APPROVED: DEPARTMENT OF PLANNING AND ZONING		
<i>Neil Shulman</i>	4/15/13	DATE
CHIEF, DIVISION OF LAND DEVELOPMENT		
<i>Mike Dunne</i>	4/12/13	DATE
CHIEF, DEVELOPMENT ENGINEERING DIVISION		
REVISIONS		
NO.	DESCRIPTION	DATE



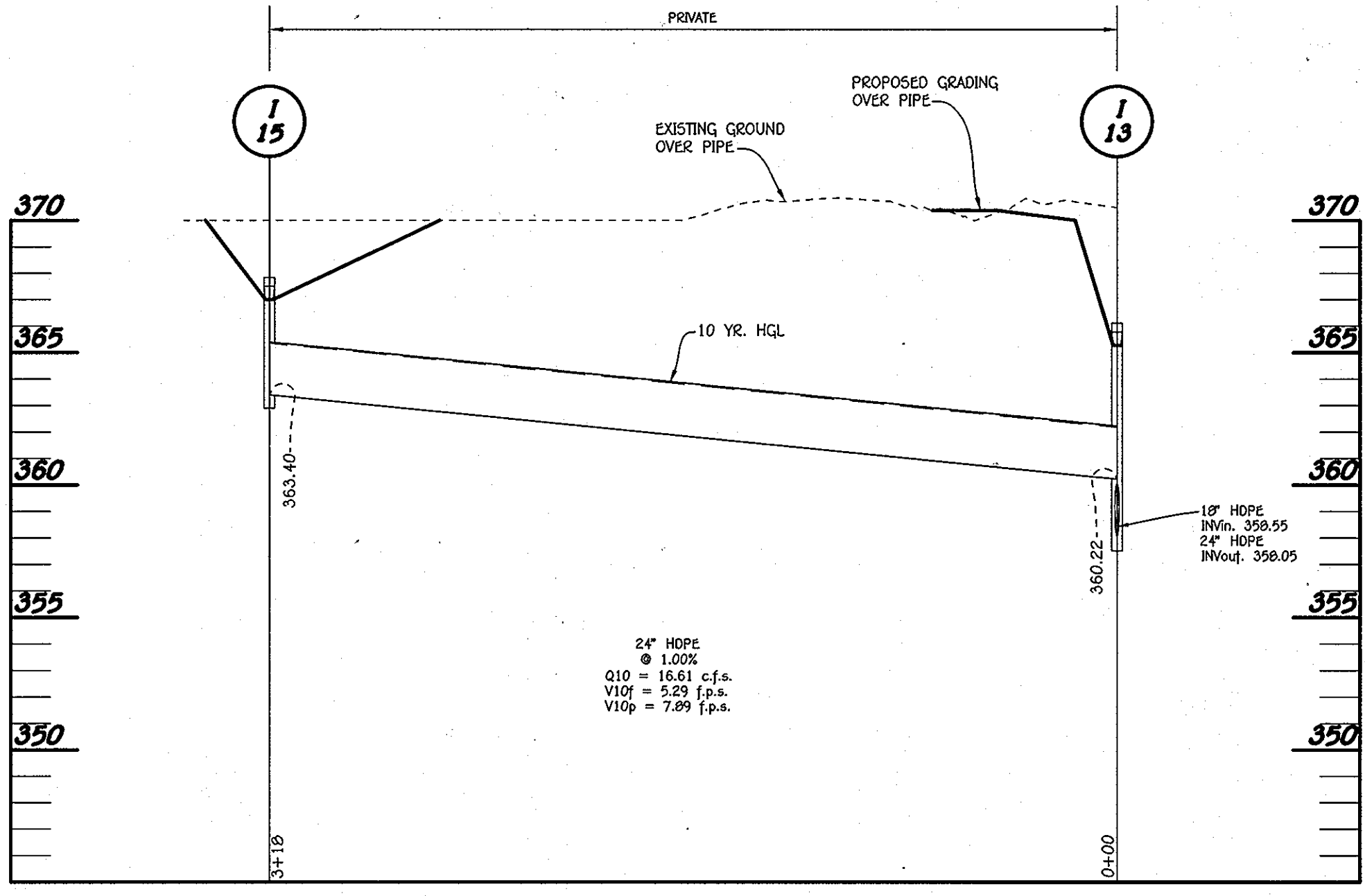
PROFILE
SCALE: HORIZ. : 1" = 50'
VERT. : 1" = 5'



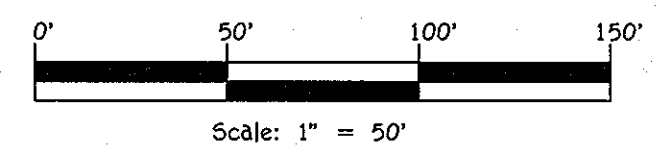
PROFILE
SCALE: HORIZ. : 1" = 50'
VERT. : 1" = 5'



PROFILE
SCALE: HORIZ. : 1" = 50'
VERT. : 1" = 5'



PROFILE
SCALE: HORIZ. : 1" = 50'
VERT. : 1" = 5'



FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CONTINENTAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELICOTT CITY, MARYLAND 21042
(410) 461-2899

Owner
BV Business Trust
15950 North Avenue
P.O. Box 482
Liesbon, MD 21765
410-489-7900

Developer
Bassler Venture, LLC
15950 North Avenue
P.O. Box 482
Liesbon, MD 21765
410-489-7900

"Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 20746, Expiration Date: February 22, 2015."



3/29/13
DATE

STORM DRAIN PROFILES
WALNUT CREEK
PHASE FOUR
Lots 115 - 159 And Non-Buildable
Preservation Parcel 'W' & 'X'
(A Resubdivision Of Buildable Bulk Parcel 'U' - Walnut Creek, Phase Three)
ZONED: RC-DEO & RR-DEO
TAX MAP NO. 28 GRID Nos. 4, 5, 10-12, 17, AND 18 PARCEL NO. 49
FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DATE: MARCH 20, 2013
SHEET 12 OF 23

Approved: Department of Public Works
Howard S. Seltzer 4/3/12
 Chief, Bureau of Highways Date

Approved: Department of Planning and Zoning
V. J. Schuchman 4/6/13
 Chief, Division of Land Development Date

W. J. ... 4/12/13
 Chief, Development Engineering Division Date

DRAINAGE AREA DATA					
STRUCTURE NO.	DRAINAGE AREA	AREA (Acres)	'C'	ZONED	% IMP.
EX. 1-25	A	0.89	0.48	RC-DEO	33
1-1	B	0.51	0.49	RC-DEO	34
1-2	C	0.51	0.46	RC-DEO	30
1-3	D	2.21	0.52	RC-DEO	38
1-4	E	0.49	0.52	RC-DEO	38
1-5	F	0.87	0.47	RC-DEO	31
1-6	G	0.68	0.47	RC-DEO	31
1-7	H	0.85	0.67	RC-DEO	60
1-8	I	0.69	0.55	RC-DEO	43
1-9	J	0.24	0.60	RC-DEO	50
1-10	K	0.50	0.62	RC-DEO	53
1-11	L	0.38	0.47	RC-DEO	32
1-12	M	3.44	0.34	RC-DEO	13
1-13	N	0.60	0.51	RC-DEO	37
1-14	O	0.50	0.50	RC-DEO	40
1-14a	P	2.46	0.32	RC-DEO	10
1-15	Q	4.35	0.26	RC-DEO	2

No.	Description	Date
1	Ex. Rip-Rap Outfall @ 0-3 Remove R/W Culvert For Lots 126 & 128	6/7/17
	Revisions	



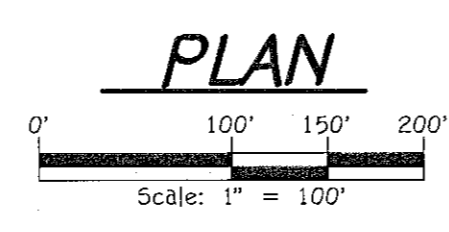
PUBLIC 100 YEAR FLOODPLAIN DRAINAGE STUDY SUBMITTAL CAPITAL PROJECT NO. D-1028-A (76.8 AC.)

60 L.F. OF CL I Rip-Rap Outfall Protection Underlay w/ Filter Cloth Extension Approved under WP-17-081 On 3/8/17

Storm Drain Drainage Area Map
WALNUT CREEK
 PHASE FOUR
 Lots 115 - 159 And Non-Buildable Preservation Parcel 'W' & 'X'
 (A Resubdivision Of Buildable Bulk Parcel 'U' - Walnut Creek, Phase Three)
 ZONED: RC-DEO & RR-DEO
 TAX MAP No. 28 GRID Nos. 4, 5, 10-12, 17, AND 18 PARCEL No. 49
 FIFTH ELECTION DISTRICT - HOWARD COUNTY, MARYLAND
 DATE: MARCH 20, 2013
 SHEET 13 OF 23

Owner
 BV Business Trust
 15950 North Avenue
 P.O. Box 482
 Lisbon, MD 21765
 410-489-7900

Developer
 Basaver Venture, LLC
 15950 North Avenue
 P.O. Box 482
 Lisbon, MD 21765
 410-489-7900



"Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland. License No. 20748, Expiration Date: February 22, 2015."



3/20/13
 DATE

FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 10222 BALTIMORE NATIONAL PIKE
 GAITHERSBURG, MARYLAND 20878
 (410) 461-2895

I:\2004\04\001\WALNUT\PHASE FOUR FINALS\C13_P13-034 Storm Drain.dwg, sheet 13, 3/20/2013 7:45:22 AM, 11

APPROVED: DEPARTMENT OF PUBLIC WORKS
 Chief, Bureau of Highways
 DATE: 4/13/13

APPROVED: DEPARTMENT OF PLANNING AND ZONING
 Chief, Division of Land Development
 DATE: 4/15/13

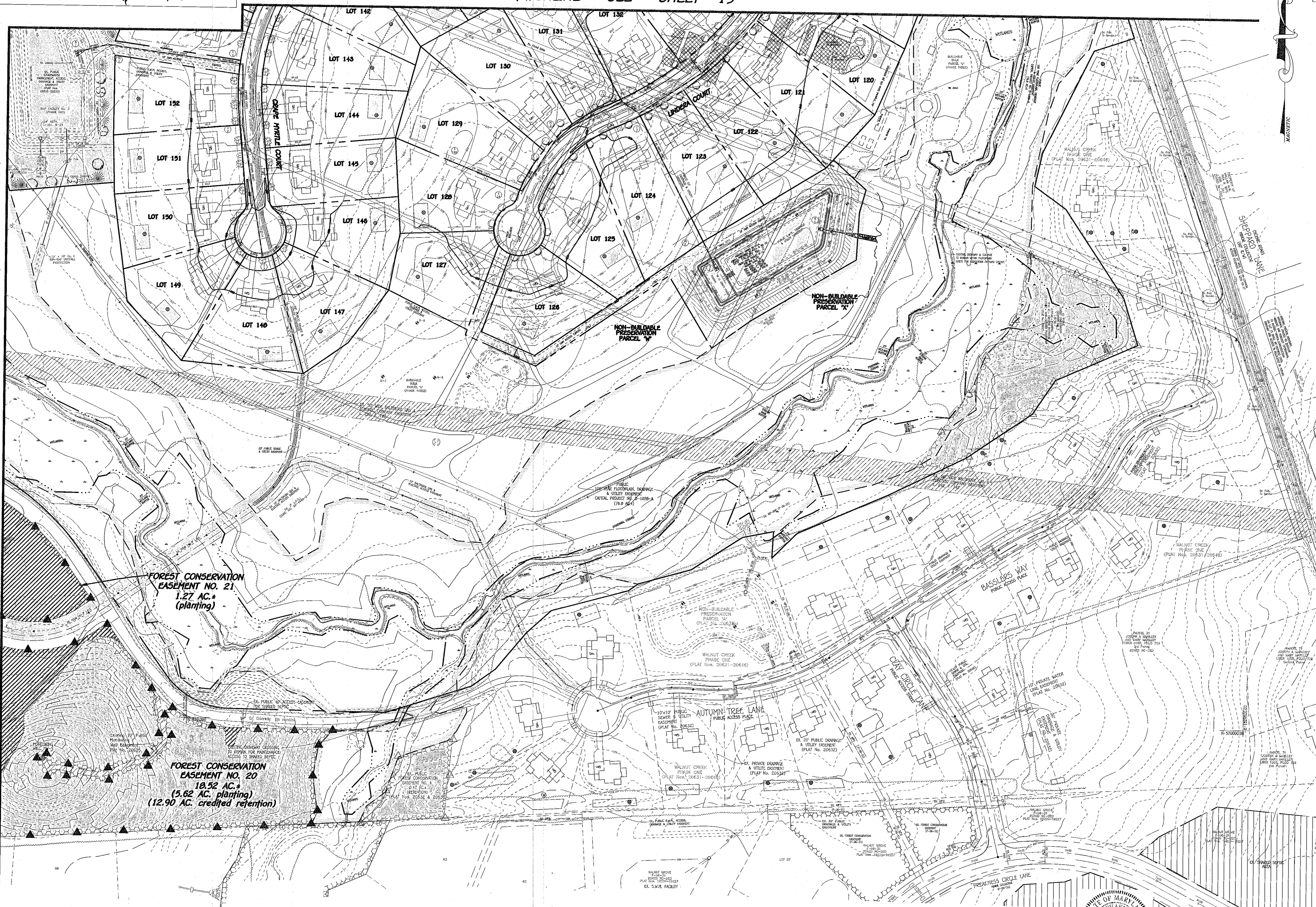
APPROVED: DEPARTMENT OF PLANNING AND ZONING
 Chief, Development Engineering Division
 DATE: 4/12/13

Note: THE FOREST CONSERVATION EASEMENT(S) WILL BE ESTABLISHED TO FULFILL THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY FOREST CONSERVATION ACT. NO CLEARING, GRADING OR CONSTRUCTION IS PERMITTED WITHIN THE FOREST CONSERVATION EASEMENT, EXCEPT AS SHOWN ON AN APPROVED ROAD CONSTRUCTION DRAWING. HOWEVER, FOREST MANAGEMENT PRACTICES AS DEFINED IN THE DEED OF FOREST CONSERVATION EASEMENT ARE ALLOWED.

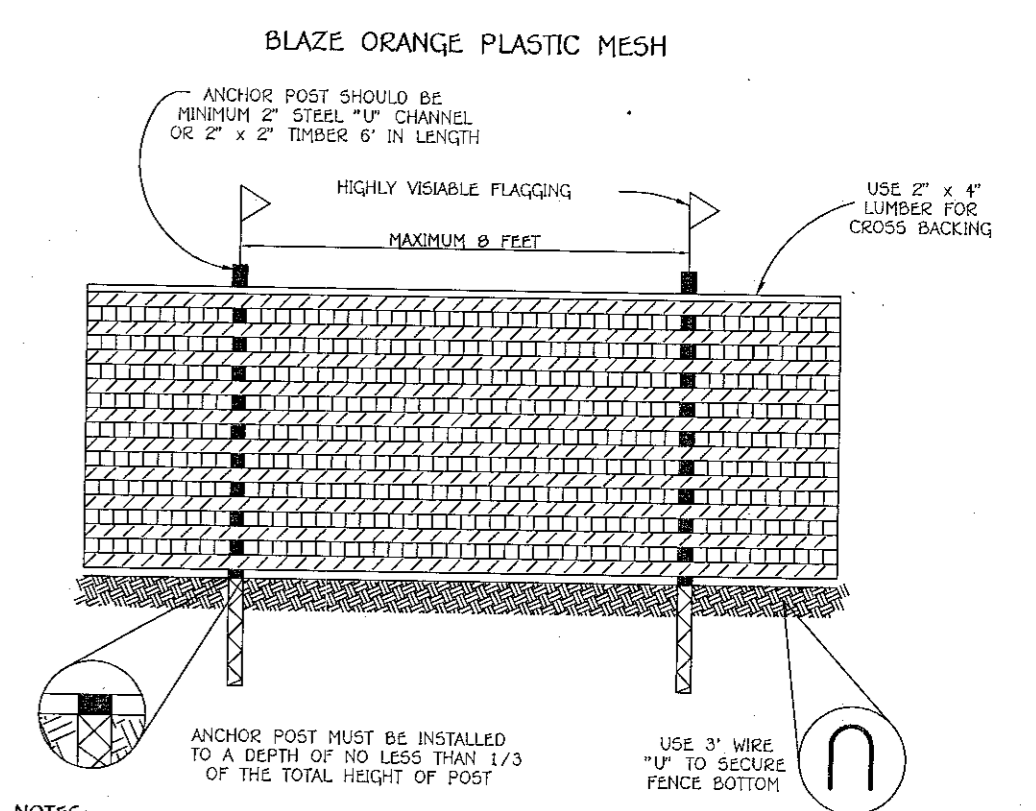
Reforestation Note:
 The reforestation obligation will be met within priority planting areas on the site. This includes floodplain, wetland and buffers.

MATCHLINE SEE SHEET 15

MATCHLINE SEE SHEET 16

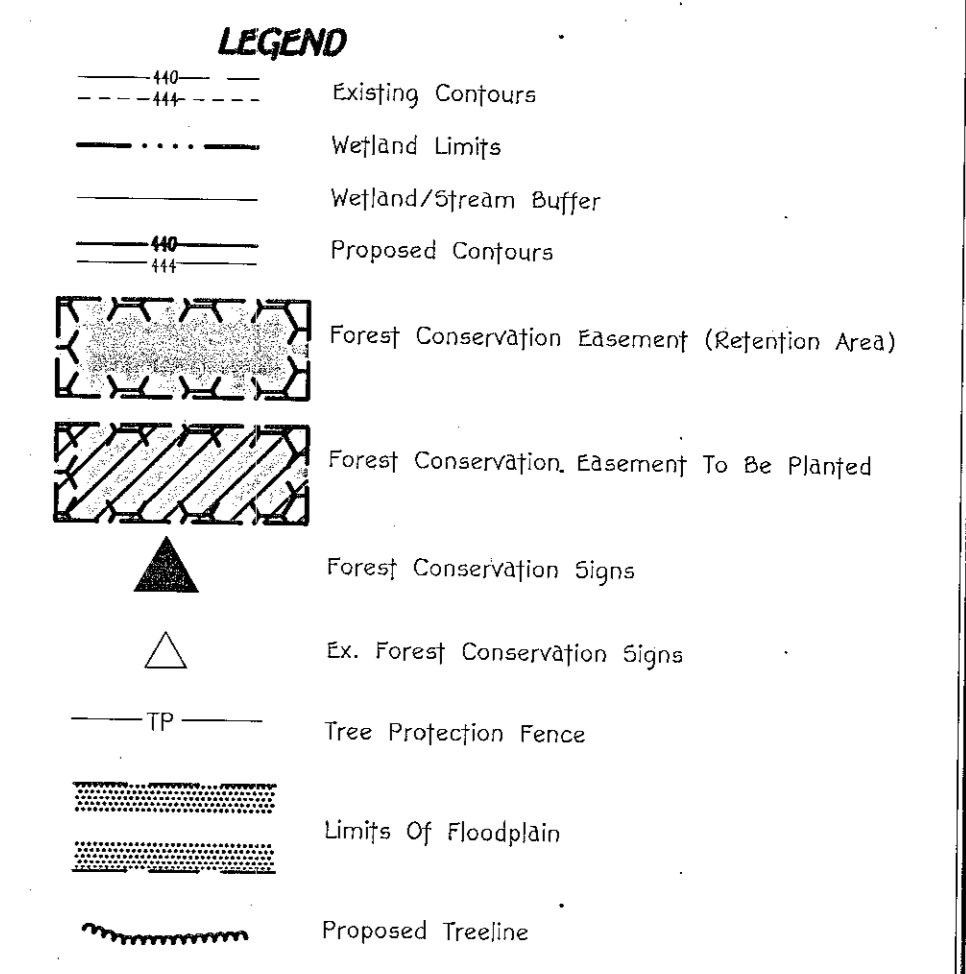


Specimen Tree Chart		
Key	Species/size	Comments
A	White oak, 44 inch dbh	fair condition, some dieback, poor crown spread
B	Tulip poplar, 30 inch dbh	good condition
C	Tulip poplar, 40 inch dbh	good condition
D	Tulip poplar, 74 inch dbh	poor condition, substantial dieback and poor canopy spread



- NOTES:**
- FOREST PROTECTION DEVICE ONLY.
 - BOUNDARIES OF RETENTION AREA SHOULD BE STAKED AND FLAGGED PRIOR TO INSTALLING DEVICE.
 - ROOT DAMAGE SHOULD BE AVOIDED.
 - PROTECTIVE SIGNAGE MAY ALSO BE USED.
 - DEVICE SHOULD BE MAINTAINED THROUGHOUT CONSTRUCTION.
- TREE PROTECTION DETAIL**
 NOT TO SCALE

- FCP NOTES**
- Any Forest Conservation Easement (FCE) area shown herein is subject to protective covenants which may be found in the Land Records of Howard County which restrict the disturbance and use of these areas.
 - Forested areas occurring outside of the FCE shall not be considered part of the FCE and shall not be subject to protective land covenants.
 - Limits of disturbance shall be restricted to areas outside the limit of temporary fencing or the FCE boundary, whichever is greater.
 - There shall be no clearing, grading, construction or disturbance of vegetation in the Forest Conservation Easement, except as permitted by Howard County DPZ.
 - No stockpiles, parking areas, equipment cleaning areas, etc. shall occur within areas designated as Forest Conservation Easements.
 - Temporary fencing shall be used to protect forest resources during construction. The fencing shall be placed along all FCE boundaries which occur within 15 feet of the proposed limits of disturbance.
 - Permanent signage shall be placed 50-100' apart along the boundaries of all areas included in Forest Conservation Easements.
 - The Forest Conservation Act requirements for the entire site will be met through the onsite retention of 97.32 acres of forest and 36.16 acres of onsite afforestation. Total Forest Conservation Obligation = 93.48 ac.
 - The forest conservation requirements per section 16.1200 of the howard county code And the forest conservation material for the entire subdivision will be fulfilled by providing for a total of 93.48 acres.
- A Total surety for on-site afforestation @ \$0.50/sq.ft. for 1,579,486 sq.ft. = \$789,743.00 is required.
- CREDITED ONSITE RETENTION OF 14.50 ACRES OF FOREST AND 13.41 ACRES OF ONSITE AFFORESTATION IS PROPOSED WITH THIS PHASE FOUR SUBMISSION.
- A SURETY FOR ON-SITE AFFORESTATION @ \$0.50/sq.ft. FOR 284,140 sq.ft. = \$142,070.00 IS REQUIRED. THE FOREST CONSERVATION SURETY IN THE AMOUNT OF \$292,070.00 IS PAID AS PART OF THE DPW DEVELOPER'S AGREEMENT.



No.	Description	Date
1	Extend Rip-Map Outfall @ 5-3 Remove D/W Culverts For Lots 125 & 128	5/9/17

FOREST CONSERVATION PLAN

**WALNUT CREEK
 PHASE FOUR
 Lots 115 - 159 And Non-Buildable
 Preservation Parcel 'W' & 'X'**

(A Resubdivision Of Buildable Bulk Parcel 'U' - Walnut Creek, Phase Three)
 ZONED: RC-DEO & RR-DEO
 TAX MAP No. 28 GRID Nos. 4, 5, 10-12, 17, AND 18 PARCEL No. 49
 FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 DATE: MARCH 20, 2013
 SHEET 14 OF 23

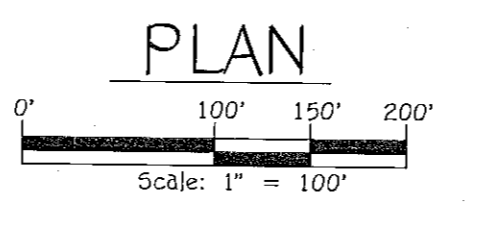
FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND DEVELOPERS
 CENTENAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
 CLARKVILLE, MD 21031
 (410) 461-2295

Eco-Science Professionals, Inc.
 CONSULTING ECOLOGISTS

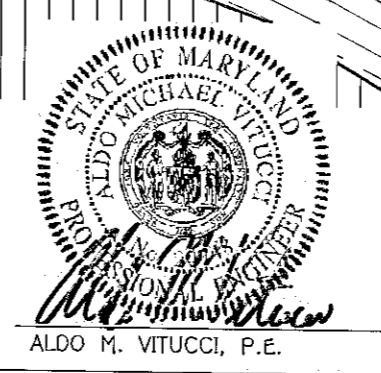
MD DNR Qualified Professional
 USACE Wetland Delineator
 Certification # WDCPSM006100418
 JOHN P. CANOLES 03/01/13

Owner
 BV Business Trust
 15950 North Avenue
 P.O. Box 482
 Lisbon, MD 21765
 410-489-7900

Developer
 98aslar Venture, LLC
 15950 North Avenue
 P.O. Box 482
 Lisbon, MD 21765
 410-489-7900



"Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 20748, Expiration Date: February 22, 2015."

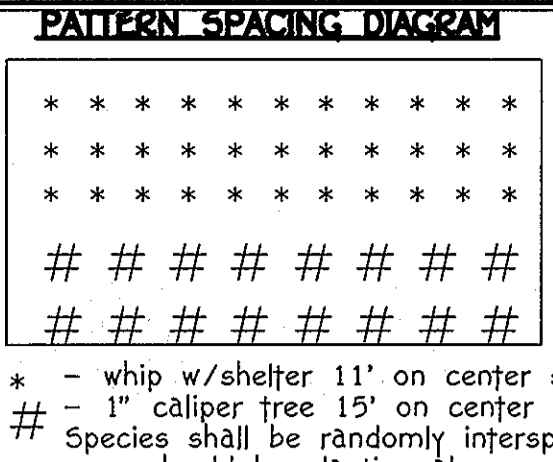


3/24/13
 DATE

APPROVED: DEPARTMENT OF PUBLIC WORKS
James G. Williams 4/3/13
 CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING
Vicki J. DeLong 4/15/13
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

APPROVED: DEVELOPMENT ENGINEERING DIVISION
John P. Canoles 4/12/13
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE



Planting/Soil Specifications

- Installation of bareroot plant stock shall take place between March 15 - April 20; b&b/container stock March 15 - May 30 or September 15 - November 15. Fall planting of b&b stock is not recommended.
- Disturbed areas shall be seeded and established as per general construction plan for project. Planting areas not impacted by site grading shall have no additional topsoil installed.
- Bareroot plants shall be installed so that the top of root mass is level with the top of existing grade. Roots shall be dipped in an anti-desiccant gel prior to planting. Backfill in the planting pits shall consist of 3 parts existing soil to 1 part pine fines or equivalent.
- Fertilizer shall consist of Agriplan 22-0-2, or equivalent, applied as per manufacturer's specifications, for woody plants. Herbaceous plants shall be fertilized with Oscocote 8-6-12.
- Plant material shall be transported to the site in a tarped or covered truck. Plants shall be kept moist prior to planting.
- All non-organic debris associated with the planting operation shall be removed from the site by the contractor.

Sequence of Construction

- Sediment control shall be installed in accordance with general construction plan for site.
- Plantings shall be installed as per Plant Schedule and the Planting/Soil Specifications for the project.
- Upon completion of the planting, signage shall be installed as shown.
- Plantings shall be maintained and guaranteed in accordance with the Maintenance and Guarantee requirements for project.

Maintenance of Plantings

- Maintenance of plantings shall last for 3 period of 2 years.
- Plantings must receive 2 gallons of water, either through precipitation or watering, weekly during the 1st growing season, as needed. During second growing season, once a month during May-September, if needed.
- Invasive exotic and noxious weeds will be removed, as required, from planting areas mechanically and/or with limited herbicide application (see groundcover note where appropriate). Old field successional species will be retained.
- Plants will be examined a minimum two times during the growing season for serious plant pests and diseases. Serious problems will be treated with the appropriate agent.
- Dead branches will be pruned from plantings.

Guarantee Requirements

- A 75 percent survival rate of forestation plantings will be required at the end of 2 growing seasons. All plant material below the 75 percent threshold will be replaced at the beginning of the next growing season. Wild trees arising from natural regeneration may be counted up to 50 percent towards the total survival number if they are healthy, native species of at least 12 inches tall.

Surety for Forestation

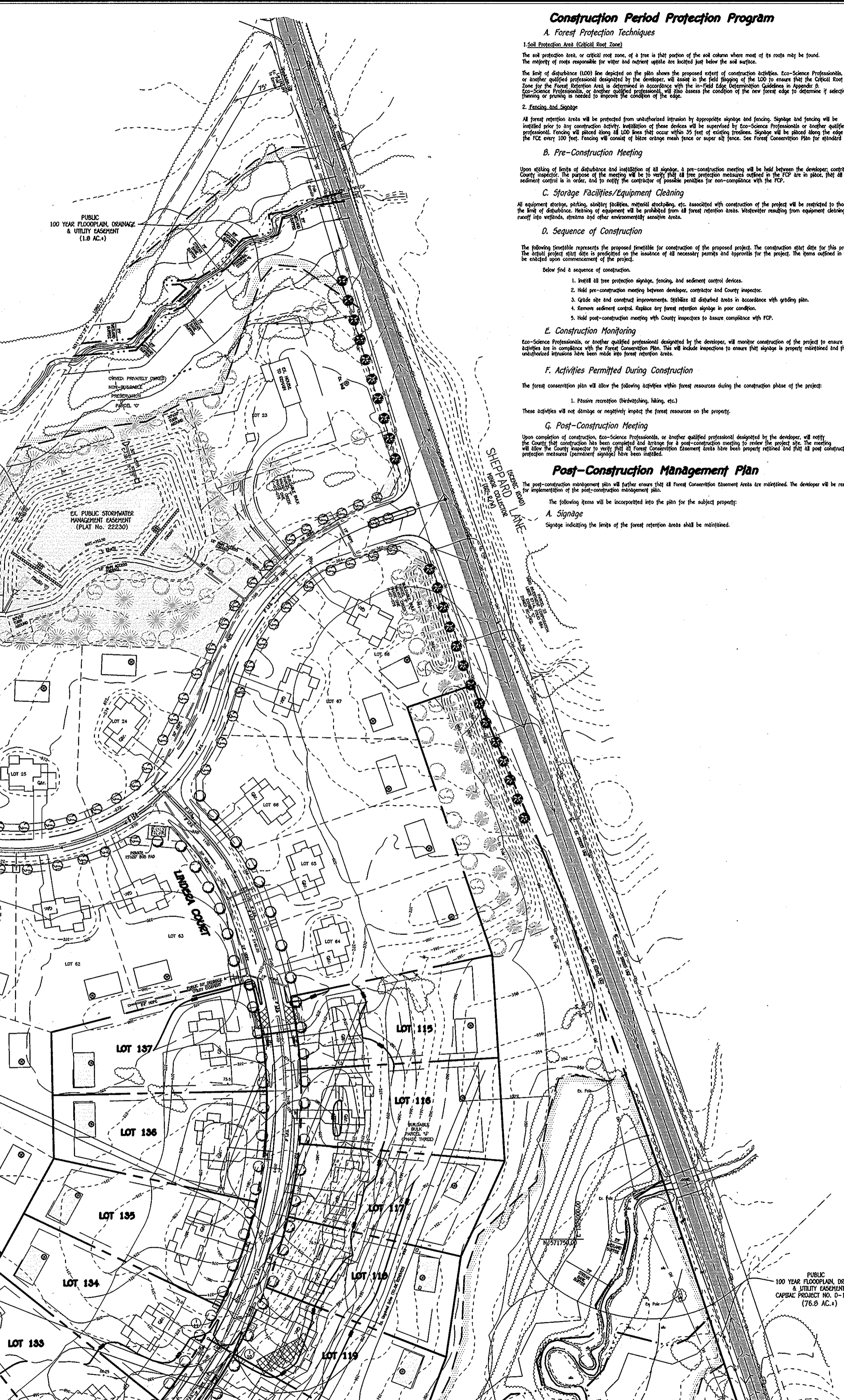
- The developer shall post a surety (bond, letter of credit) to ensure that forestation plantings are completed. See GENERAL NOTE 10, SHEET 1.

Planting Notes

When possible, plants shall be installed within 24 hours of delivery. If installation cannot be performed within this time frame, plant stock shall be watered and protected from desiccation.

Application of herbicide, Round-up or equivalent, may be used to reduce plant competition from old field successional growth at the time of installation. Mowing, re-application of herbicide, or a combination thereof, may be used to control unwanted, competing vegetation.

Planting shall be installed within one year or two growing seasons of subdivision approval. Plantings shall be installed in accordance with the time schedule included in Note 1 of the planting /Seeding Specifications.



Construction Period Protection Program
 A. Forest Protection Techniques

1. Soil Protection Area (SPSA) (See Note 1)

The soil protection area, or critical root zone, of a tree is that portion of the soil volume whose roots are most likely to be found. The majority of roots responsible for water and nutrient uptake are located just below the soil surface.

The duty of the contractor shall be to show the proposed extent of construction activities. Eco-Science Professionals, or another qualified professional designated by the developer, will assist in the field layout of the SPSA to ensure that the Critical Root Zone (CRZ) is not violated. CRZ shall be established and maintained in accordance with the Forest Conservation Plan for detailed specifications.

2. Fencing and Signage

All forest retention areas will be protected from unauthorized intrusion by appropriate signage and fencing. Signage and fencing will be installed prior to any construction activity within the forest retention areas. Eco-Science Professionals or another qualified professional, if available, shall be consulted for the layout and placement of fencing and signage. Signage will be placed along the edge of the CRZ every 100 feet. Fencing will consist of these orange mesh fence or other material. See Forest Conservation Plan for detailed specifications.

B. Pre-Construction Meeting

Upon signing of the disturbance and installation of all signage, a pre-construction meeting will be held between the developer, contractor and appropriate County inspectors. The purpose of the meeting will be to verify that all pre-construction measures outlined in the FCP are in place, that all sediment control is in place, and to notify the contractor of possible penalties for non-compliance with the FCP.

C. Storage Facilities/Equipment Cleaning

All equipment storage, parking, loading/unloading, etc. associated with construction of the project will be restricted to those areas shown within the limit of disturbance. Fencing of equipment will be provided from all forest retention areas. Wastewater resulting from equipment cleaning will be contained in prevent runoff into wetlands, streams and other environmentally sensitive areas.

D. Sequence of Construction

The following schedule represents the proposed timeline for construction of the proposed project. The construction start date for this project has not been finalized. The start date shall be subject to the issuance of all necessary permits and approvals for the project. The terms defined in the Forest Conservation Plan will be applied upon commencement of the project.

E. Construction Monitoring

Eco-Science Professionals, or another qualified professional designated by the developer, will monitor construction of the project to ensure that all activities are in compliance with the Forest Conservation Plan. This will include inspections to ensure that signage is properly maintained and that no unauthorized equipment has been inside the forest retention areas.

F. Activities Permitted During Construction

The forest conservation plan will allow the following activities within forest retention areas during the construction phase of the project:

- Phase reversion (ditching, diking, etc.)

These activities will not damage or negatively impact the forest resources on the project.

G. Post-Construction Meeting

Upon completion of construction, Eco-Science Professionals, or another qualified professional designated by the developer, will verify that the forest resources have been properly protected and that the construction has been completed in accordance with the Forest Conservation Plan. The meeting will include a final inspection of the forest retention areas and a final meeting with County inspectors to ensure compliance with the FCP.

H. Post-Construction Management Plan

The post-construction management plan will outline the steps that all Forest Conservation Element Area are completed. The developer will be responsible for implementation of the post-construction management plan.

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

- Signage

Signage indicating the limits of the forest retention areas shall be maintained.

FOREST CONSERVATION DATA (Phase Four)

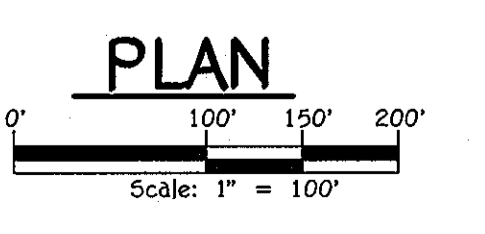
EASEMENT NO.	CRZED RETENTION AREA	PLANTING AREA	NON-CRZED RETENTION AREA	TOTAL EASEMENT AREA
18	0.75 AC.	2.68 AC.	0.00 AC.	3.43 AC.
19	0.27 AC.	1.92 AC.	0.00 AC.	2.19 AC.
20	12.90 AC.	5.62 AC.	0.00 AC.	18.52 AC.
21	0.00 AC.	1.27 AC.	0.00 AC.	1.27 AC.
22	0.52 AC.	0.00 AC.	0.00 AC.	0.52 AC.
23	0.05 AC.	1.92 AC.	0.00 AC.	1.98 AC.
TOTAL	14.50 AC.	13.41 AC.	0.00 AC.	27.91 AC.

(REVISED)
FOREST CONSERVATION WORKSHEET
 (For the entire Walnut Creek subdivision)

NET TRACT AREA	ACRES
A. TOTAL TRACT AREA	435.9
B. DEDUCTIONS (CRITICAL AREA AREA RESTRICTED BY LOCAL OR PROGRAM) (78.6 AC. FLOODPLAIN & 15.1 AC. UTILITY TRANSMISSION LINE EASEMENTS)	93.7
C. NET TRACT AREA - NET TRACT AREA = TOTAL TRACT (A) - DEDUCTIONS (B)	342.1
LAND USE CATEGORY: MEDIUM DENSITY RESIDENTIAL	
D. AFFORESTATION THRESHOLD (NET TRACT AREA (C) x 20%)	68.4
E. CONSERVATION THRESHOLD (NET TRACT AREA (C) x 25%)	85.5
EXISTING FOREST COVER	
F. EXISTING FOREST COVER WITHIN THE NET TRACT AREA	75.4
G. AREA OF FOREST ABOVE CONSERVATION THRESHOLD	0
IF THE EXISTING FOREST COVER (F) IS GREATER THAN THE CONSERVATION THRESHOLD (E), THEN G = F - E. OTHERWISE G = 0.	
BREAK-EVEN POINT	
H. BREAK-EVEN POINT (AMOUNT OF FOREST THAT MUST BE RETAINED SO THAT NO MITIGATION IS REQUIRED)	n/a
(1) IF THE AREA OF FOREST ABOVE CONSERVATION THRESHOLD (G) IS GREATER THAN 0, THEN H = (0.2 x THE AREA OF FOREST ABOVE CONSERVATION THRESHOLD (G) + THE CONSERVATION THRESHOLD (E)).	
(2) IF THE AREA OF FOREST ABOVE CONSERVATION THRESHOLD (G) IS EQUAL TO 0, THEN H = EXISTING FOREST COVER (F)	
I. FOREST RETAINED WITHOUT MITIGATION	0
J = EXISTING FOREST COVER (F) - BREAK-EVEN POINT (H)	
PROPOSED FOREST CLEARING	
J. TOTAL AREA OF FOREST TO BE CLEARED	145.93
K. TOTAL AREA OF FOREST TO BE RETAINED	57.32
L = EXISTING FOREST COVER (F) - FOREST TO BE CLEARED (J)	
PLANTING REQUIREMENTS	
IF THE TOTAL AREA OF FOREST TO BE RETAINED (L) IS AT OR ABOVE THE BREAK-EVEN POINT (H), NO PLANTING IS REQUIRED, AND NO FURTHER CALCULATIONS ARE NECESSARY (L=0, H=0, N=0, P=0, Q=0, R=0).	
OTHERWISE, CALCULATE THE PLANTING REQUIREMENTS AS FOLLOWS:	
L. REFORESTATION FOR CLEARING ABOVE THE CONSERVATION THRESHOLD	0
(1) IF THE TOTAL AREA OF FOREST TO BE RETAINED (L) IS GREATER THAN THE CONSERVATION THRESHOLD (E), THEN L = THE AREA OF FOREST TO BE CLEARED (J) x 0.25.	
(2) IF THE FOREST TO BE RETAINED (L) IS LESS THAN OR EQUAL TO THE CONSERVATION THRESHOLD (E), THEN L = AREA OF FOREST ABOVE CONSERVATION THRESHOLD (G) x 0.25	
M. REFORESTATION FOR CLEARING BELOW THE CONSERVATION THRESHOLD	36.16
(1) IF EXISTING FOREST COVER (F) IS GREATER THAN THE CONSERVATION THRESHOLD (E) AND THE FOREST TO BE RETAINED (L) IS LESS THAN OR EQUAL TO THE CONSERVATION THRESHOLD (E), THEN M = 2.0 x (CONSERVATION THRESHOLD (E) - FOREST TO BE RETAINED (L)).	
(2) IF EXISTING FOREST COVER (F) IS LESS THAN OR EQUAL TO THE CONSERVATION THRESHOLD (E), THEN M = 2.0 x FOREST TO BE CLEARED (J)	
N. CREDIT FOR RETENTION ABOVE THE CONSERVATION THRESHOLD	0
IF THE AREA OF FOREST TO BE RETAINED (L) IS GREATER THAN THE CONSERVATION THRESHOLD (E), THEN N = L - E. OTHERWISE N = 0	
P. TOTAL REFORESTATION REQUIRED P = L + M - N	36.16
Q. TOTAL AFFORESTATION REQUIRED	0
IF EXISTING FOREST COVER (F) IS LESS THAN THE AFFORESTATION THRESHOLD (D), THEN Q = AFFORESTATION THRESHOLD (D) - EXISTING FOREST COVER (F)	
R. TOTAL PLANTING REQUIREMENT R = P + Q	36.16

NOTE: THIS PROJECT IS USING "RURAL CLUSTER OPTION B" PER APPENDIX L OF THE FOREST CONSERVATION MANUAL FOR ITS FOREST REQUIREMENT CALCULATIONS WHICH INCLUDES THE AREA FOR ALL THE PRESERVATION PARCELS.

MATCHLINE SEE SHEET 14



FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS

CENTENNIAL SQUARE OFFICE PARK - 10712 WALTON NATIONAL PIKE
 ELLETTTOWN, MARYLAND 21442
 (410) 461-2099

Eco-Science Professionals, Inc.
 CONSULTING ECOLOGISTS

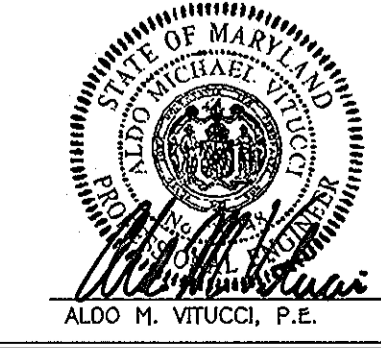
MD DNR Qualified Professional
 USACE Wetland Delineator
 Certification # WDOP93MD06100448

John P. Canoles 03/10/13

Owner
 BV Business Trust
 15950 North Avenue
 P.O. Box 482
 Lisbon, MD 21765
 410-489-7900

Developer
 Baseler Venture, LLC
 15950 North Avenue
 P.O. Box 482
 Lisbon, MD 21765
 410-489-7900

"Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 20748, Expiration Date: February 22, 2015."



Alford H. Vitucci, P.E.
 DATE: 4/2/13

FOREST CONSERVATION PLAN
WALNUT CREEK
 PHASE FOUR
 Lots 115 - 159 And Non-Buildable
 Preservation Parcel 'W' & 'X'

(A Resubdivision of Buildable Bulk Parcel 'U' - Walnut Creek, Phase Three)

ZONED: RC-DEO & R2-DEO
 TAX MAP NO. 2B CRD Nos. 4, 5, 10-12, 17, AND 18 PARCEL NO. 49
 FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 DATE: MARCH 20, 2013
 SHEET 15 OF 23

I:\2013\0401\16\PHASE FOUR FINALS\C-14_P-13-034 forest conservation.dwg, SHEET 15, 3/20/2013 7:55:04 AM, 11

APPROVED: DEPARTMENT OF PUBLIC WORKS
 CHIEF, BUREAU OF HIGHWAYS
 DATE: 4/13/13

APPROVED: DEPARTMENT OF PLANNING AND ZONING
 CHIEF, DIVISION OF LAND DEVELOPMENT
 DATE: 4/15/13

CHIEF, DEVELOPMENT ENGINEERING DIVISION
 DATE: 4/12/13

MATCHLINE SEE SHEET 17



FCE Planting Area # 18 - 2.68 acres

Planting units required: 1876 (938 whips)
 Planting units provided: 1876 (763 whips and 100 trees)

Qty	Species	Size	Spacing	Total FCA Units
50	Acer rubrum - Red maple	1" cal.	15' o.c.	
50	Quercus alba - White oak	1" cal.	15' o.c.	
100	Total 1" caliper trees (3.5 planting units per tree) =			350 Total FCA unit credit
100	Acer rubrum - Red maple	2-3" whip	11' o.c.	
100	Cercis canadensis - Red bud	2-3" whip	11' o.c.	
100	Cornus florida - Flowering dogwood	2-3" whip	11' o.c.	
100	Liriodendron tulipifera - Tulip poplar	2-3" whip	11' o.c.	
100	Prunus serotina - Black cherry	2-3" whip	11' o.c.	
100	Robinia pseudo-acacia - Black locust	2-3" whip	11' o.c.	
100	Quercus alba - White oak	2-3" whip	11' o.c.	
63	Viburnum prunifolium - Blackhaw	2-3" whip	11' o.c.	
763	Total whip plantings (2 planting units per tree) =			1526 Total FCA unit credit
	Total Unit Credit	(350 + 1526)		1876

1" CAL TREES = 200/ACRE (100 TREES/200 = 0.50 AC.)
 WHIPS w/shelters = 350/ACRE = 350 x 2.18 AC. = 763 WHIPS
 3.5 Planting units = 1 - 1" Cal. Tree
 2 Planting units = 1 Whip

FCE Planting Area # 19 - 1.92 acres

Planting units required: 1344 (672 whips)
 Planting units provided: 1344 (497 whips and 100 trees)

Qty	Species	Size	Spacing	Total FCA Units
50	Acer rubrum - Red maple	1" cal.	15' o.c.	
50	Quercus alba - White oak	1" cal.	15' o.c.	
100	Total 1" caliper trees (3.5 planting units per tree) =			350 Total FCA unit credit
75	Acer rubrum - Red maple	2-3" whip	11' o.c.	
72	Cercis canadensis - Red bud	2-3" whip	11' o.c.	
75	Cornus florida - Flowering dogwood	2-3" whip	11' o.c.	
75	Liriodendron tulipifera - Tulip poplar	2-3" whip	11' o.c.	
50	Prunus serotina - Black cherry	2-3" whip	11' o.c.	
50	Robinia pseudo-acacia - Black locust	2-3" whip	11' o.c.	
50	Quercus alba - White oak	2-3" whip	11' o.c.	
50	Viburnum prunifolium - Blackhaw	2-3" whip	11' o.c.	
497	Total whip plantings (2 planting units per tree) =			994 Total FCA unit credit
	Total Unit Credit	(350 + 994)		1344

1" CAL TREES = 200/ACRE (100 TREES/200 = 0.50 AC.)
 WHIPS w/shelters = 350/ACRE = 350 x 1.42 AC. = 497 WHIPS
 3.5 Planting units = 1 - 1" Cal. Tree
 2 Planting units = 1 Whip

FCE Planting Area # 20 - 5.62 acres

Planting units required: 3934 (1967 whips)
 Planting units provided: 3934 (1617 whips and 200 trees)

Qty	Species	Size	Spacing	Total FCA Units
100	Acer rubrum - Red maple	1" cal.	15' o.c.	
100	Quercus alba - White oak	1" cal.	15' o.c.	
200	Total 1" caliper trees (3.5 planting units per tree) =			700 Total FCA unit credit
250	Acer rubrum - Red maple	2-3" whip	11' o.c.	
250	Cercis canadensis - Red bud	2-3" whip	11' o.c.	
200	Cornus florida - Flowering dogwood	2-3" whip	11' o.c.	
200	Liriodendron tulipifera - Tulip poplar	2-3" whip	11' o.c.	
200	Prunus serotina - Black cherry	2-3" whip	11' o.c.	
200	Robinia pseudo-acacia - Black locust	2-3" whip	11' o.c.	
159	Quercus alba - White oak	2-3" whip	11' o.c.	
158	Viburnum prunifolium - Blackhaw	2-3" whip	11' o.c.	
1617	Total whip plantings (2 planting units per tree) =			3234 Total FCA unit credit
	Total Unit Credit	(700 + 3234)		3934

1" CAL TREES = 200/ACRE (200 TREES/200 = 1.00 AC.)
 WHIPS w/shelters = 350/ACRE = 350 x 4.62 AC. = 1617 WHIPS
 3.5 Planting units = 1 - 1" Cal. Tree
 2 Planting units = 1 Whip

FCE Planting Area # 21 - 1.27 acres

Planting units required: 990 (445 whips)
 Planting units provided: 990 (357 whips and 50 trees)

Qty	Species	Size	Spacing	Total FCA Units
25	Acer rubrum - Red maple	1" cal.	15' o.c.	
25	Quercus alba - White oak	1" cal.	15' o.c.	
50	Total 1" caliper trees (3.5 planting units per tree) =			175 Total FCA unit credit
70	Acer rubrum - Red maple	2-3" whip	11' o.c.	
70	Cercis canadensis - Red bud	2-3" whip	11' o.c.	
70	Cornus florida - Flowering dogwood	2-3" whip	11' o.c.	
70	Liriodendron tulipifera - Tulip poplar	2-3" whip	11' o.c.	
25	Prunus serotina - Black cherry	2-3" whip	11' o.c.	
20	Robinia pseudo-acacia - Black locust	2-3" whip	11' o.c.	
16	Quercus alba - White oak	2-3" whip	11' o.c.	
16	Viburnum prunifolium - Blackhaw	2-3" whip	11' o.c.	
357	Total whip plantings (2 planting units per tree) =			715 Total FCA unit credit
	Total Unit Credit	(175 + 715)		890

1" CAL TREES = 200/ACRE (50 TREES/200 = 0.25 AC.)
 WHIPS w/shelters = 350/ACRE = 350 x 1.02 AC. = 357 WHIPS
 3.5 Planting units = 1 - 1" Cal. Tree
 2 Planting units = 1 Whip

FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 33 CENTRAL SQUARE OFFICE PARK - 10232 WILMOTTE NATIONAL PIKE
 ELKNOTT CITY, MARYLAND 21042
 (410) 461-2899

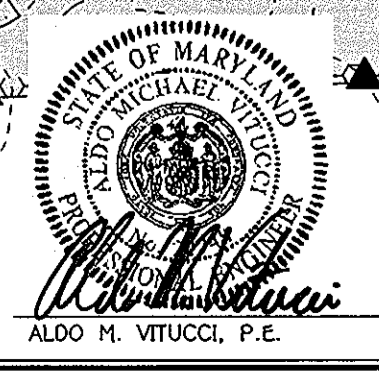
Eco-Science Professionals, Inc.
 CONSULTING ECOLOGISTS

MD DNR Qualified Professional
 USACE Wetland Delineator
 Certification # WDCP93M006100448
 JOHN P. CANOLES 03/26/13

Owner
 BV Business Trust
 15950 North Avenue
 P.O. Box 482
 Lisbon, MD 21765
 410-489-7900

Developer
 Basler Ventures, LLC
 15950 North Avenue
 P.O. Box 482
 Lisbon, MD 21765
 410-489-7900

"Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 20748, Expiration Date: February 22, 2015."



3/20/13
 DATE

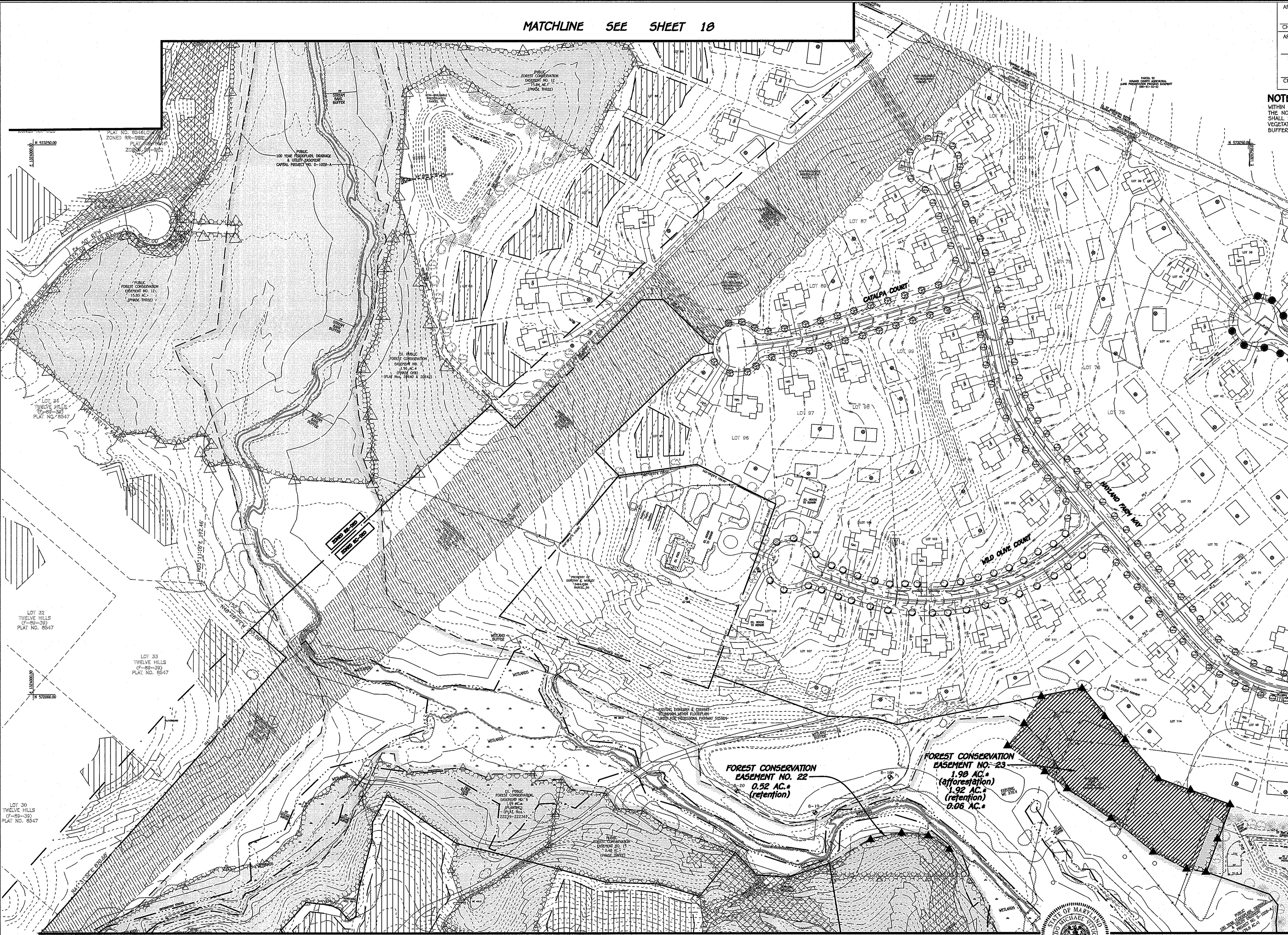
FOREST CONSERVATION PLAN
WALNUT CREEK
 PHASE FOUR
 Lots 115 - 159 And Non-Buildable Preservation Parcel 'W' & 'X'
 (A Resubdivision of Zoned Bulk Parcel 'U' - Walnut Creek, Phase Three)
 ZONED: RC-DEO & RE-DEO
 TAX MAP No. 28 GRID Nos. 4, 5, 10-12, 17, AND 18 PARCEL No. 49
 FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 DATE: MARCH 20, 2013
 SHEET 16 OF 23

MATCHLINE SEE SHEET 14

MATCHLINE SEE SHEET 10

APPROVED: DEPARTMENT OF PUBLIC WORKS
 CHIEF, BUREAU OF HIGHWAYS
 APPROVED: DEPARTMENT OF PLANNING AND ZONING
 CHIEF, DIVISION OF LAND DEVELOPMENT
 APPROVED: DEPARTMENT OF PLANNING AND ZONING
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

NOTE:
 WITHIN THE 50 FOOT WIDE AGRICULTURAL BUFFER EASEMENT LOCATED ALONG THE NORTHERN PROPERTY BOUNDARY, NO PRIMARY OR ACCESSORY STRUCTURES SHALL BE PERMITTED, AND WITHIN THE EASEMENT AREA, THE EXISTING HEDGEROW VEGETATION SHALL BE PRESERVED AND SUPPLEMENTED WITH A TYPE 'A' LANDSCAPE BUFFER WHERE INSUFFICIENT VEGETATION EXISTS.



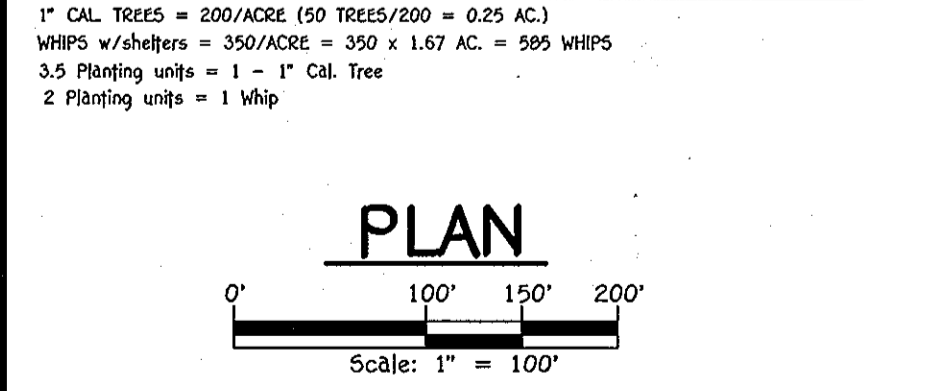
MATCHLINE SEE SHEET 19

FCE Planting Area # 23 - 1.92 acres

Planting units required: 1344 (672 whips)
 Planting units provided: 1345 (565 whips and 50 trees)

Qty	Species	Size	Spacing	Total FCA Units
25	Acer rubrum - Red maple	1" cal.	15' o.c.	
25	Quercus alba - White oak	1" cal.	15' o.c.	
50 Total 1" caliper trees (50 planting units per tree) = 175 Total FCA unit credit				
100	Acer rubrum - Red maple	2-3" whip	11' o.c.	
100	Cercis canadensis - Red bud	2-3" whip	11' o.c.	
100	Cornus florida - Flowering dogwood	2-3" whip	11' o.c.	
55	Liriodendron tulipifera - Tulip poplar	2-3" whip	11' o.c.	
55	Prunus serotina - Black cherry	2-3" whip	11' o.c.	
50	Robinia pseudo-acacia - Black locust	2-3" whip	11' o.c.	
50	Quercus alba - White oak	2-3" whip	11' o.c.	
75	Viburnum prunifolium - Blackhaw	2-3" whip	11' o.c.	
565 Total whip plantings (2 planting units per tree) = 1170 Total FCA unit credit				
Total Unit Credit (175 + 1170) = 1345				

1" CAL TREES = 200/ACRE (50 TREES/200 = 0.25 AC.)
 WHIPS w/wheters = 350/ACRE = 350 x 1.67 AC. = 585 WHIPS
 3.9 Planting units = 1 - 1" Cal. Tree
 2 Planting units = 1 Whip



FOREST CONSERVATION PLAN
WALNUT CREEK
 PHASE FOUR
 Lots 115 - 159 And Non-Buildable
 Preservation Parcel 'W' & 'X'
 (A Resubdivision of Buildable Bulk Parcel 'U' - Walnut Creek, Phase Three)
 ZONED: RC-DEO & R2-DEO
 TAX MAP No. 28 GRID Nos. 4, 5, 10-12, 17, AND 18 PARCEL No. 49
 FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 DATE: MARCH 20, 2013
 SHEET 17 OF 23

FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 10212 BALTIMORE NATIONAL PIKE
 ELICOTT CITY, MARYLAND 21042
 (410) 461-2095

Eco-Science Professionals, Inc.
 CONSULTING ECOLOGISTS

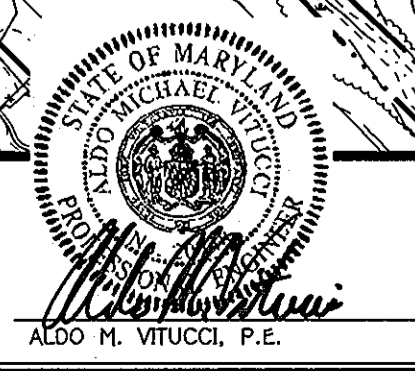
MD DNR Qualified Professional
 USACOE Wetland Delineator
 Certification # WD0P93M00610044B
 John P. Canoles

Owner
 BV Business Trust
 15950 North Avenue
 P.O. Box 482
 Lisbon, MD 21765
 410-489-7900

Developer
 Bassler Venture, LLC
 15950 North Avenue
 P.O. Box 482
 Lisbon, MD 21765
 410-489-7900

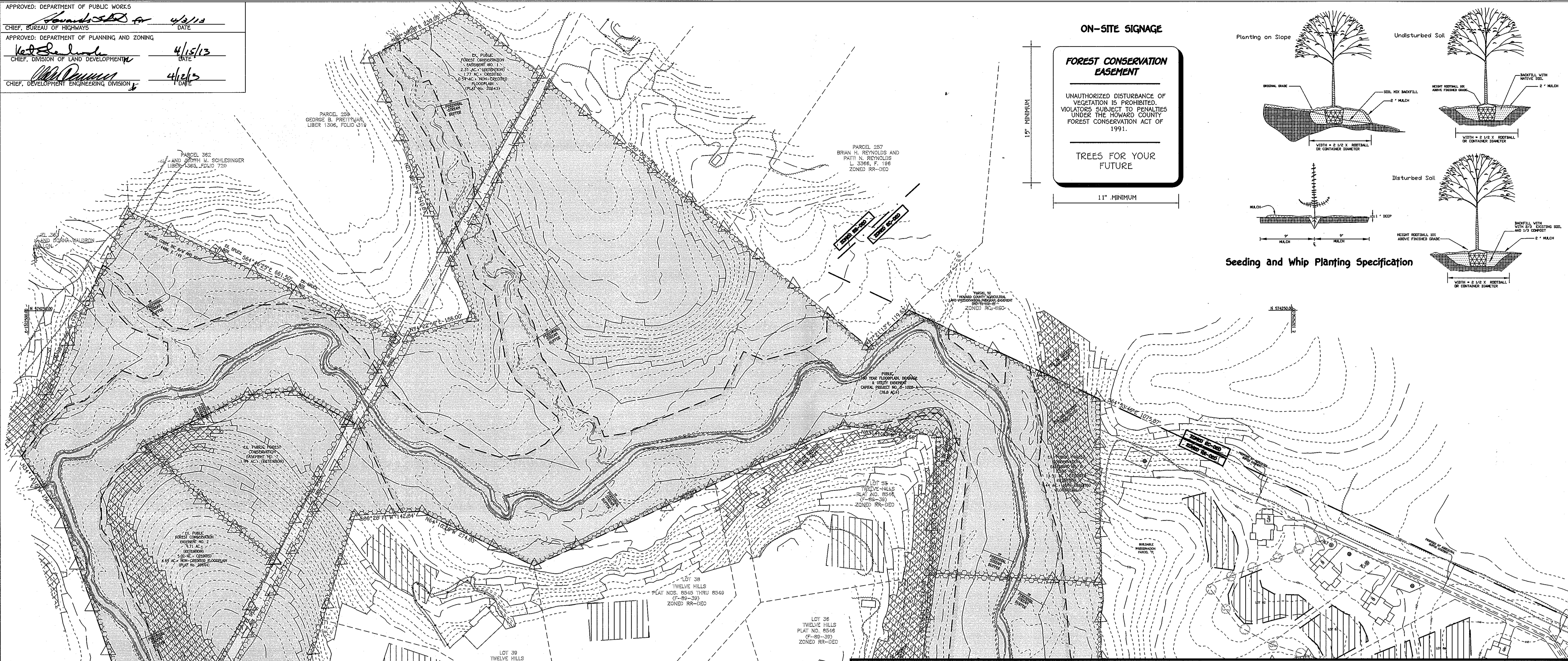
MATCHLINE SEE SHEET 16

"Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 20746, Expiration Date: February 22, 2015."



3/21/13 DATE

APPROVED: DEPARTMENT OF PUBLIC WORKS
 CHIEF, BUREAU OF HIGHWAYS
 APPROVED: DEPARTMENT OF PLANNING AND ZONING
 CHIEF, DIVISION OF LAND DEVELOPMENT
 CHIEF, DEVELOPMENT ENGINEERING DIVISION



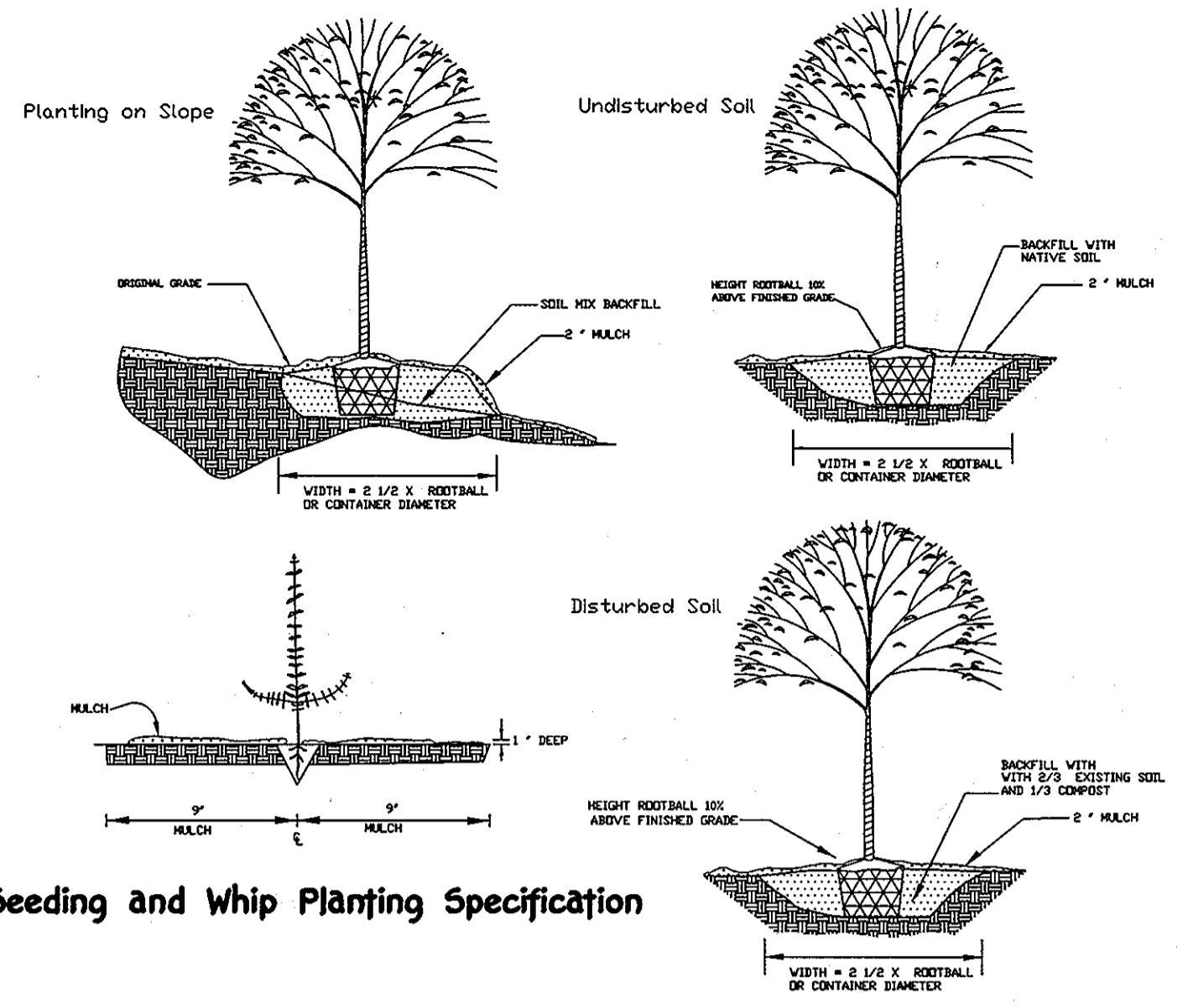
ON-SITE SIGNAGE

FOREST CONSERVATION EASEMENT

UNAUTHORIZED DISTURBANCE OF VEGETATION IS PROHIBITED. VIOLATORS SUBJECT TO PENALTIES UNDER THE HOWARD COUNTY FOREST CONSERVATION ACT OF 1991.

TREES FOR YOUR FUTURE

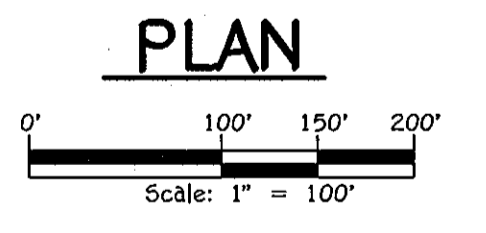
15" MINIMUM
 11" MINIMUM



Seeding and Whip Planting Specification

MATCHLINE SEE SHEET 17

- LEGEND**
- Existing Contours
 - - - Wetland Limits
 - - - Wetland/Stream Buffer
 - Proposed Contours
 - [Hatched Box] Forest Conservation Easement (Retention Area)
 - [Hatched Box] Forest Conservation Easement To Be Planted
 - ▲ Forest Conservation Signs
 - △ Ex. Forest Conservation Signs
 - TP — Tree Protection Fence
 - Limits Of Floodplain
 - Proposed Treeline



FOREST CONSERVATION DATA (entire project)				
PHASE	CREATED RETENTION AREA	PLANTING AREA	NON-CREATED RETENTION AREA	TOTAL EASEMENT AREA
ONE (F-07-076)	8.19 AC.	4.35 AC.	5.46 AC.	18.00 AC.
TWO (F-08-081)	17.13 AC.	9.10 AC.	9.44 AC.	35.67 AC.
THREE (F-13-026)	17.50 AC.	9.30 AC.	11.04 AC.	37.84 AC.
FOUR	14.50 AC.	13.41 AC.	0.00 AC.	27.91 AC.
TOTAL	57.32 AC.	36.16 AC.	25.94 AC.	119.42 AC.

MATCHLINE SEE THIS SHEET

MATCHLINE SEE THIS SHEET

FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 3330 CENTRAL SQUARE OFFICE PARK - 10212 BALTIMORE NATIONAL PIKE
 ELKLOFT CITY, MARYLAND 21042
 (410) 481-2099

Eco-Science Professionals, Inc.
 CONSULTING ECOLOGISTS

MD DNR Qualified Professional
 USACOE Wetland Designer
 Certification # WDCP93MD06100448
 John P. Canoles
 JOHN P. CANOLES

Owner
 BV Business Trust
 15950 North Avenue
 P.O. Box 482
 Lisbon, MD 21765
 410-489-7900

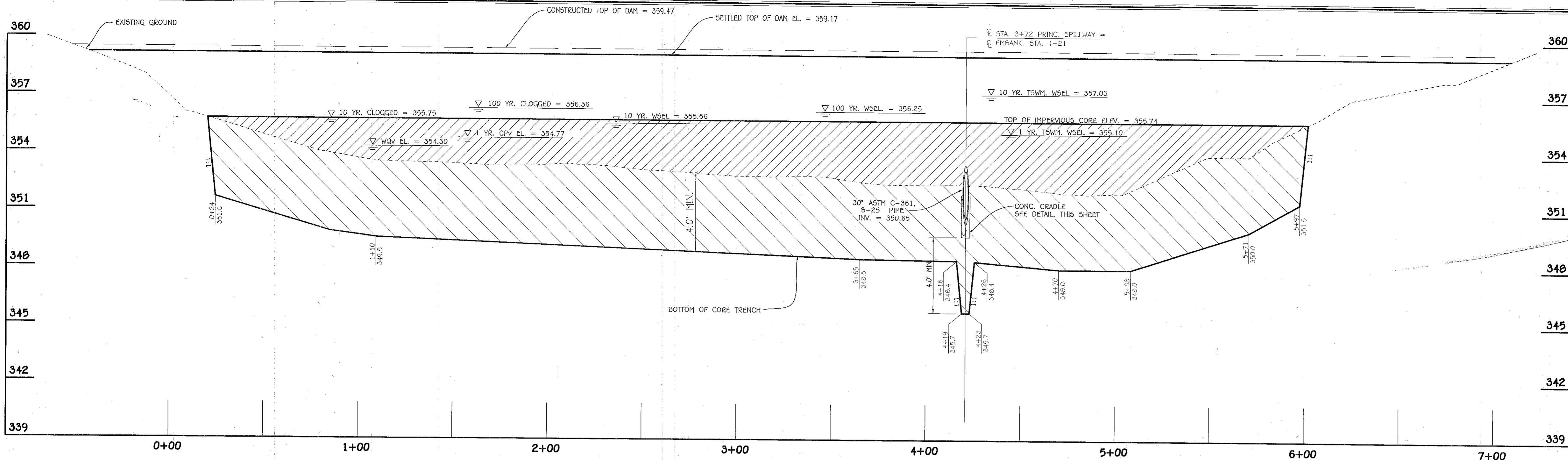
Developer
 Bassler Venture, LLC
 15950 North Avenue
 P.O. Box 482
 Lisbon, MD 21765
 410-489-7900

"Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 20748, Expiration Date: February 22, 2015."



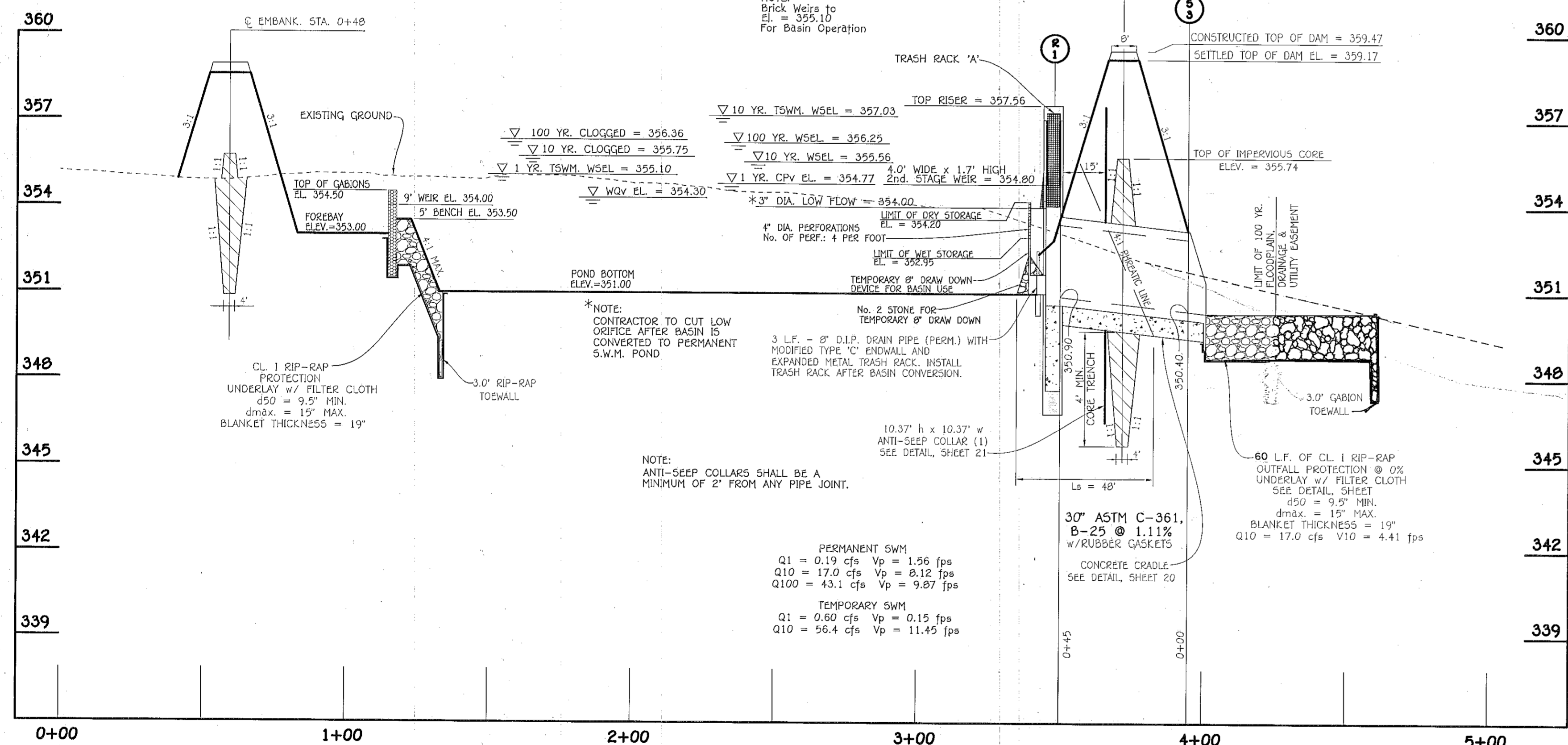
3/29/13
 DATE

FOREST CONSERVATION PLAN
WALNUT CREEK
PHASE FOUR
Lots 115 - 159 And Non-Buildable
Preservation Parcel 'W' & 'X'
 (A Resubdivision Of Buildable Bulk Parcel 'U' - Walnut Creek, Phase Three)
 ZONED: RC-DEO & RR-DEO
 TAX MAP No. 28 GRID Nos. 4, 5, 10-12, 17, AND 18 PARCEL No. 49
 FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 DATE: MARCH 20, 2013
 SHEET 18 OF 23



S.W.M. FACILITY B.M.P. NO. 2 (P-1)
PROFILE ALONG EMBANKMENT

SCALE: HOR. : 1" = 30'
VER. : 1" = 3'



PRINCIPLE SPILLWAY PROFILE

SCALE: HOR. : 1" = 30'
VER. : 1" = 3'

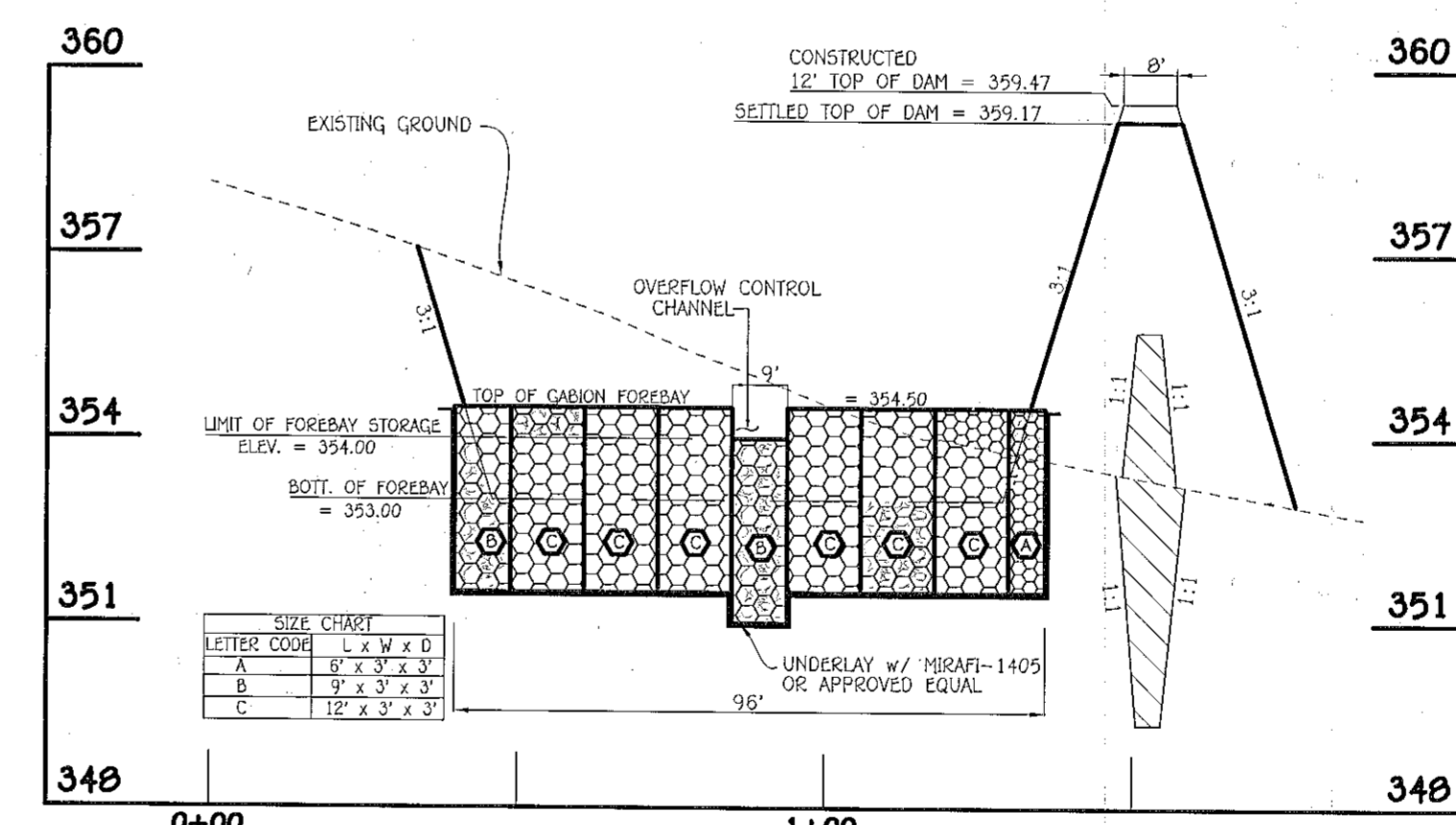
FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
10000 GAITHERSBURG ROAD, SUITE 200
GAITHERSBURG, MD 20878
TEL: 410-481-2999

Owner
BY Business Trust
15950 North Avenue
P.O. Box 482
Lisbon, MD 21765
410-489-7900

Developer
Bassler Venture, LLC
15950 North Avenue
P.O. Box 482
Lisbon, MD 21765
410-489-7900

OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND JOINTLY MAINTAINED STORMWATER MANAGEMENT FACILITIES (P-1)

- ROUTINE MAINTENANCE**
- Facility shall be inspected annually and after major storms. Inspections shall be performed during wet weather to determine if the pond is functioning properly.
 - 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.
 - Debris and litter shall be removed during regular mowing operations and as needed.
 - 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.
- NON-ROUTINE MAINTENANCE**
- 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.
 - 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.



GABION FOREBAY PROFILE

SCALE: HOR. : 1" = 30'
VER. : 1" = 3'

By The Developer:
Signature of Developer: *Tina W. Feaga* Date: 3/28/13
Printed Name of Developer: Tina W. Feaga

By The Engineer:
Signature of Engineer: *John R. Roberts* Date: 3/28/13
Printed Name of Engineer: John R. Roberts

These Plans For Small Pond Construction, Soil Erosion And Sediment Control Meet The Requirements Of The Howard Soil Conservation District.
Signature: *John R. Roberts* Date: 3/28/13
Chief, Department of Public Works

Approved: Department of Public Works
Signature: *John R. Roberts* Date: 4/2/13
Chief, Bureau of Highways

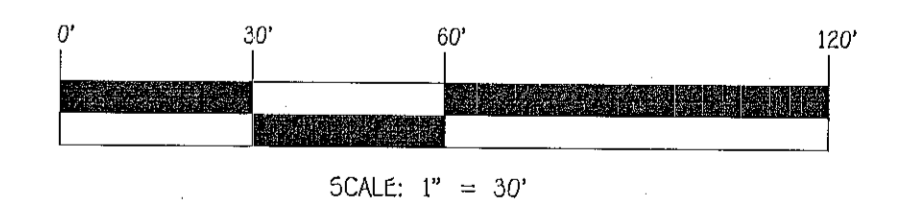
Approved: Department of Planning And Zoning
Signature: *John R. Roberts* Date: 4/2/13
Chief, Division Of Land Development

Signature: *John R. Roberts* Date: 4/12/13
Chief, Development Engineering Division

AS-BUILT CERTIFICATION
I hereby 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 Relieve Any Other Party From Meeting Requirements Imposed By Contract, Employment, Or Other Means, Including Meeting Commonly Accepted Industry Practices.

REVISIONS		
NO.	DESCRIPTION	DATE
1	Extend Rip-Rap Outfall @ S-3	6/7/17



STORMWATER MANAGEMENT NOTES AND DETAILS
POND No. 2

WALNUT CREEK
PHASE FOUR
Lots 115 - 199 And Non-Buildable Preservation Parcel 'W' & 'X'

(A Resubdivision Of Buildable Bulk Parcel 'U' - Walnut Creek, Phase Three)
ZONED: RC-660 & RC-160
TAX MAP No. 28 GRID Nos. 4, 5, 10-12, 17, AND 18 PARCEL No. 49
FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DATE: MARCH 20, 2013
SHEET 19 OF 23



"Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 20748, Expiration Date: February 22, 2015."

Signature: *Aldo M. Vitucci* Date: 3/28/13

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 topped. All trees, vegetation, roots and other objectionable material shall be removed. Channel banks and shrub 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 dry 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, SC, CH, or CL 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 shall be achieved by 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% of maximum dry density with a moisture content within .02 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. In addition, the core shall be placed concurrently with the outer shell of the embankment.

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. If 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 floating 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 operated 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. Hot dip galvanized bolts may be used for connections. The pH of the surrounding soils shall be between 4 and 9.

2. Coupling bands, anti-seep collars, and 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.

All connections shall use a rubber or neoprene gasket when joining pipe sections. The end of each pipe shall be re-rolled an adequate number of corrugations to accommodate the bandwidth. The following type connections are acceptable for pipes less than 24-inches in diameter: flanges on both ends of the pipe with a circular 3/8" inch closed cell neoprene gasket, pre-punched to the flange bolt circle, sandwiched between adjacent flanges; a 12-inch wide standard lip type band with 12-inch wide by 3/8-inch thick closed cell circular neoprene gasket; and a 12-inch wide hugger type band with o-ring gaskets having a minimum diameter of 1/2" inch greater than the corrugation depth. Pipes 24-inches in diameter and larger shall be connected by a 24-inch long annular corrugated band using a minimum of 4 (four) rods and lugs, 2 on each connecting pipe end. A 24-inch wide by 3/8-inch thick closed cell circular neoprene gasket will be installed with 12-inches on the end of each pipe. Flanged joints with 3/8-inch closed cell gaskets the full width of the flange is also acceptable.

Helically corrugated pipe shall have either continuously welded seams or have lock seams with infernal caulking or a neoprene bead.

4. Bedding - The pipe shall be firmly and uniformly bedded throughout its entire length. Where rock or soft, spongy or other unstable soil is encountered, all such material shall be removed and replaced with suitable earth compacted to provide adequate support.

5. Backfilling shall conform to "Structure Backfill".

6. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

Reinforced Concrete Pipe - All of the following criteria shall apply for reinforced concrete pipe:

1. Materials - Reinforced concrete pipe shall have bell and spigot joints with rubber gaskets and shall equal or exceed ASTM C-361.

2. Bedding - Reinforced concrete pipe conduits shall be laid in a concrete bedding/cradle for their entire length. This bedding/cradle shall consist of high slump concrete placed under the pipe and up the sides of the pipe at least 100% its outside diameter with a minimum thickness of 6 inches. Where a concrete cradle is not needed for structural reasons, flowable fill may be used as described in the "Structure Backfill" section of this standard. Gravel bedding is not permitted.

3. Laying pipe - Bell and spigot pipe shall be placed with the bell end upstream. Joints shall be made in accordance with recommendations of the manufacturer of the material. After the joints are sealed for the entire line, the bedding shall be placed so that all spaces under the pipe are filled. Care shall be exercised to prevent any deviation from the original line and grade of the pipe. The first joint must be located within 4 feet from the riser.

4. Backfilling shall conform to "Structure Backfill".

5. Other details (Anti-seep collars, valves, etc.) shall be as shown on the drawings.

Plastic Pipe

The following criteria shall apply for plastic pipe:

1. Materials - PVC pipe shall be PVC-1120 or PVC-1220 conforming to ASTM D-1785 or ASTM D-2241. Corrugated High Density Polyethylene (HDPE) pipe, couplings and fittings shall conform to the following: 4" - 10" inch pipe shall meet the requirements of AASHTO M252 Type S, and 12" through 24" inch shall meet the requirements of AASHTO M294 Type S.

2. Joints and connections to anti-seep collars shall be completely watertight.

3. Bedding - The pipe shall be firmly and uniformly bedded throughout its entire length. Where rock or soft, spongy or other unstable soil is encountered, all such material shall be removed and replaced with suitable earth compacted to provide adequate support.

4. Backfilling shall conform to "Structure Backfill".

5. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

Drainage Diaphragms - When a drainage diaphragm is used, a registered professional engineer will supervise the design and construction inspection.

Concrete

Concrete shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 414, Mix No. 3.

Rock Riprap

Rock riprap shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 311.

Geotextile shall be placed under all riprap and shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 921.09, Class C.

Care of Water during Construction

All work on permanent structures shall be carried out in areas free from water. The Contractor shall construct and maintain all temporary dikes, levees, cofferdams, drainage channels, and stream diversions necessary to protect the areas to be occupied by the permanent works. The contractor shall also furnish, install, operate, and maintain all necessary pumping and other equipment required for removal of water from various parts of the work and for maintaining the excavations, foundation, and other parts of the work free from water as required or directed by the engineer for constructing each part of the work. After having served their purpose, all temporary protective works shall be removed or leveled and graded to the extent required to prevent obstruction in any degree whatsoever of the flow of water to the spillway or outlet works and so as not to interfere in any way with the operation or maintenance of the structure. Stream diversions shall be maintained until the full flow can be passed through the permanent works. The removal of water from the required excavation and the foundation shall be accomplished in a manner and to the extent that will maintain stability of the excavated slopes and bottom required excavations and will allow satisfactory performance of all construction operations. During the placing and compacting of material in required excavations, the water level at the locations being refilled shall be maintained below the bottom of the excavation at such locations which may require draining the water pumps from which the water shall be pumped.

Stabilization

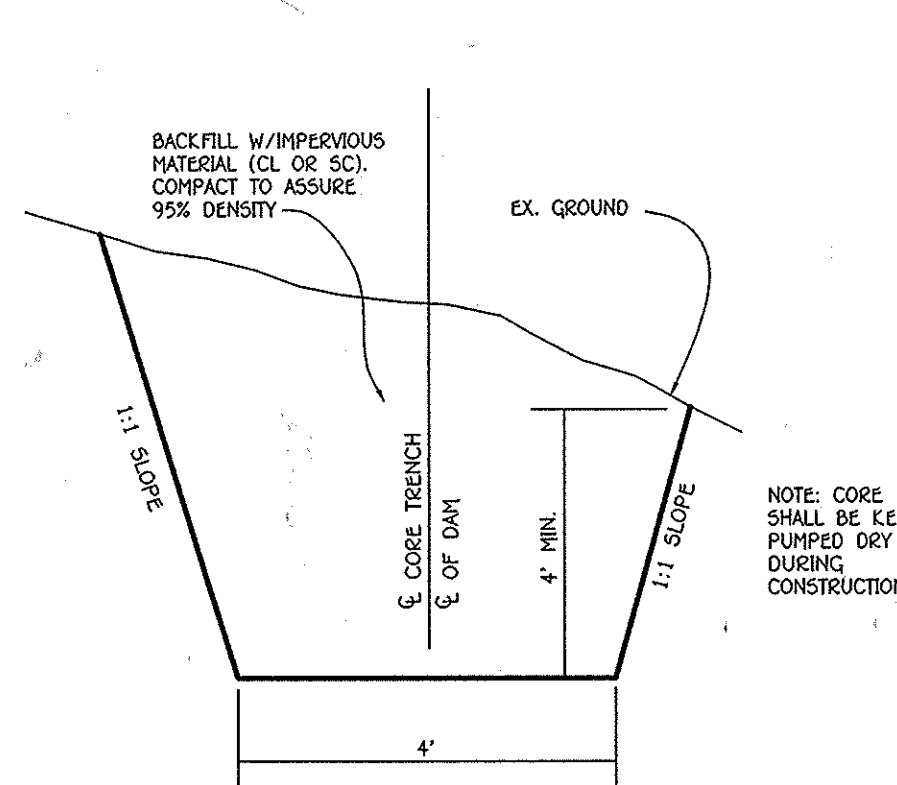
All borrow areas shall be graded to provide proper drainage and left in a slightly condition. All exposed surfaces of the embankment, spillway, spoil and borrow areas, and berms shall be stabilized by seeding, liming, fertilizing and mulching in accordance with the Natural Resources Conservation Service Standards and Specifications for Critical Area Planting (MD-342) or as shown on the accompanying drawings.

Erosion and Sediment Control

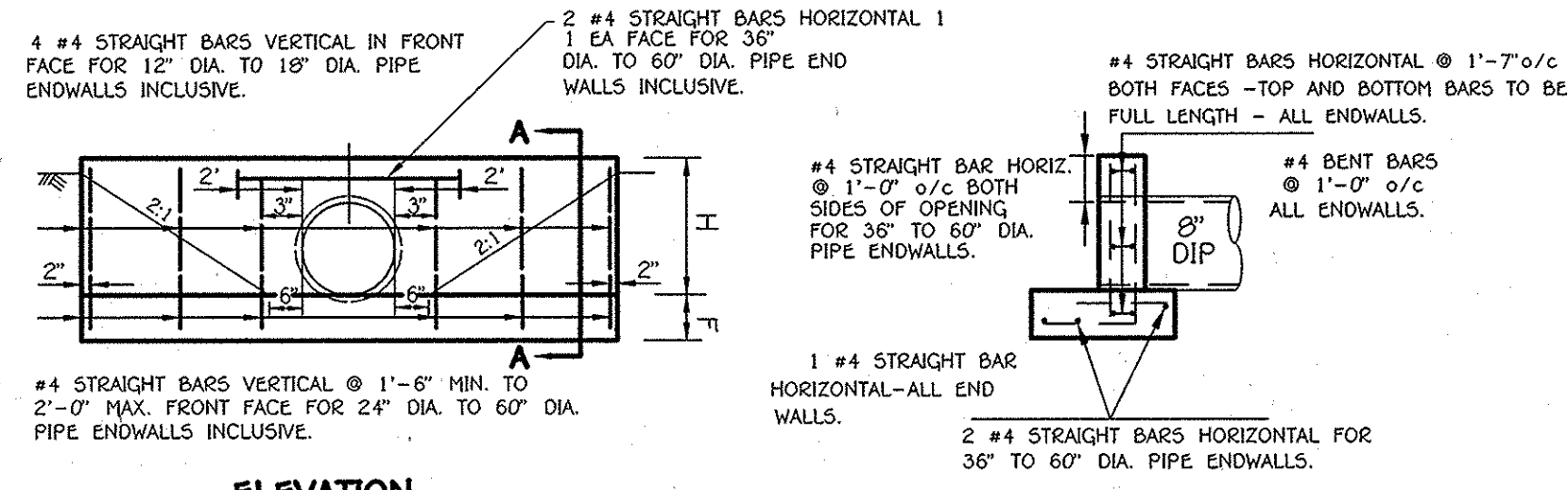
Construction operations will be carried out in such a manner that erosion will be controlled and water and air pollution minimized. State and local laws concerning pollution abatement will be followed. Construction plans shall detail erosion and sediment control measures.

OPERATION AND MAINTENANCE

An operation and maintenance plan in accordance with Local or State Regulations will be prepared for all ponds. As a minimum, the dam inspection checklist located in Appendix A shall be included as part of the operation and maintenance plan and performed at least annually. Written records of maintenance and major repairs needs to be retained in a file. The issuance of a Maintenance and Repair Permit for any repairs or maintenance that involves the modification of the dam or spillway from its original design and specifications is required. A permit is also required for any repairs or reconstruction that involve a substantial portion of the structure. All indicated repairs are to be made as soon as practical.



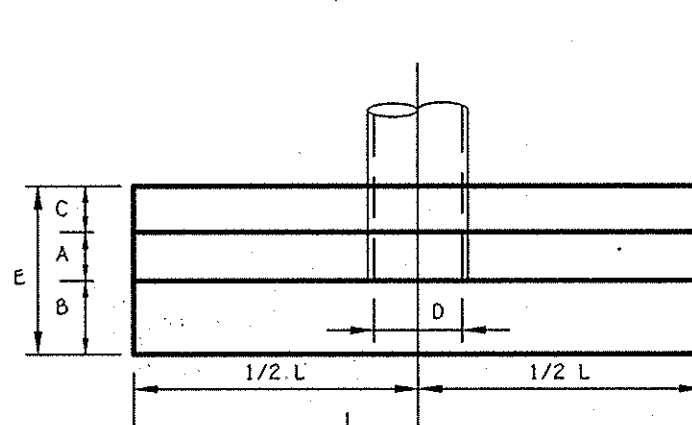
CORE TRENCH DETAIL (NO SCALE)



ELEVATION

SECTION A-A

5' DISTANCES FROM INSIDE SURFACE OF PIPE TO VERTICAL BARS IN FRONT AND REAR FACE.
4" FOR 12" DIA. TO 18" DIA. PIPES INCL.
6" FOR 24" DIA. TO 36" DIA. PIPES INCL.
8" FOR 42" DIA. TO 60" DIA. PIPES INCL.



PLAN

DISPOSITION OF BARS - DETAIL

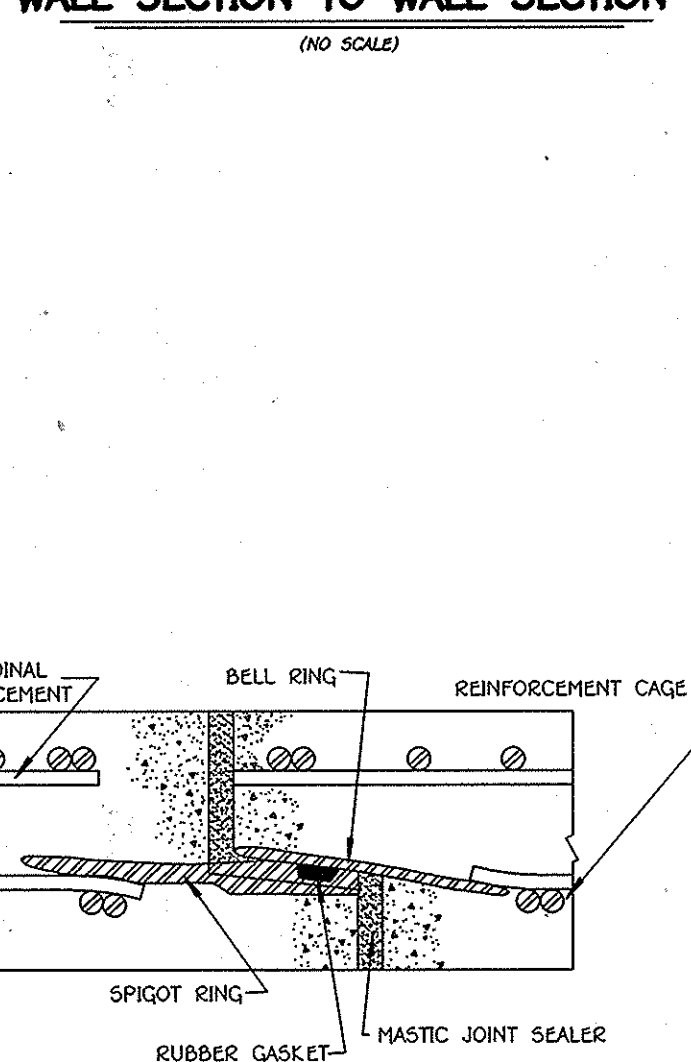
REINFORCING: DEFORMED STEEL BARS (1/2" DIA.)
CHAMFER: ALL EXPOSED EDGES 1" X 1" OR AS DIRECTED.
CONC. SHALL BE S.H.A. A. MIX No. 2.

D	AREA IN SQ. FT.	DIMENSIONS						VOLUME CONC. C.Y.	STEEL LBS.	
		A	B	C	E	F	H			
8"	0.79	9'	6'	6'	1'-9"	9'	1'-6"	5'-5"	0.61	38

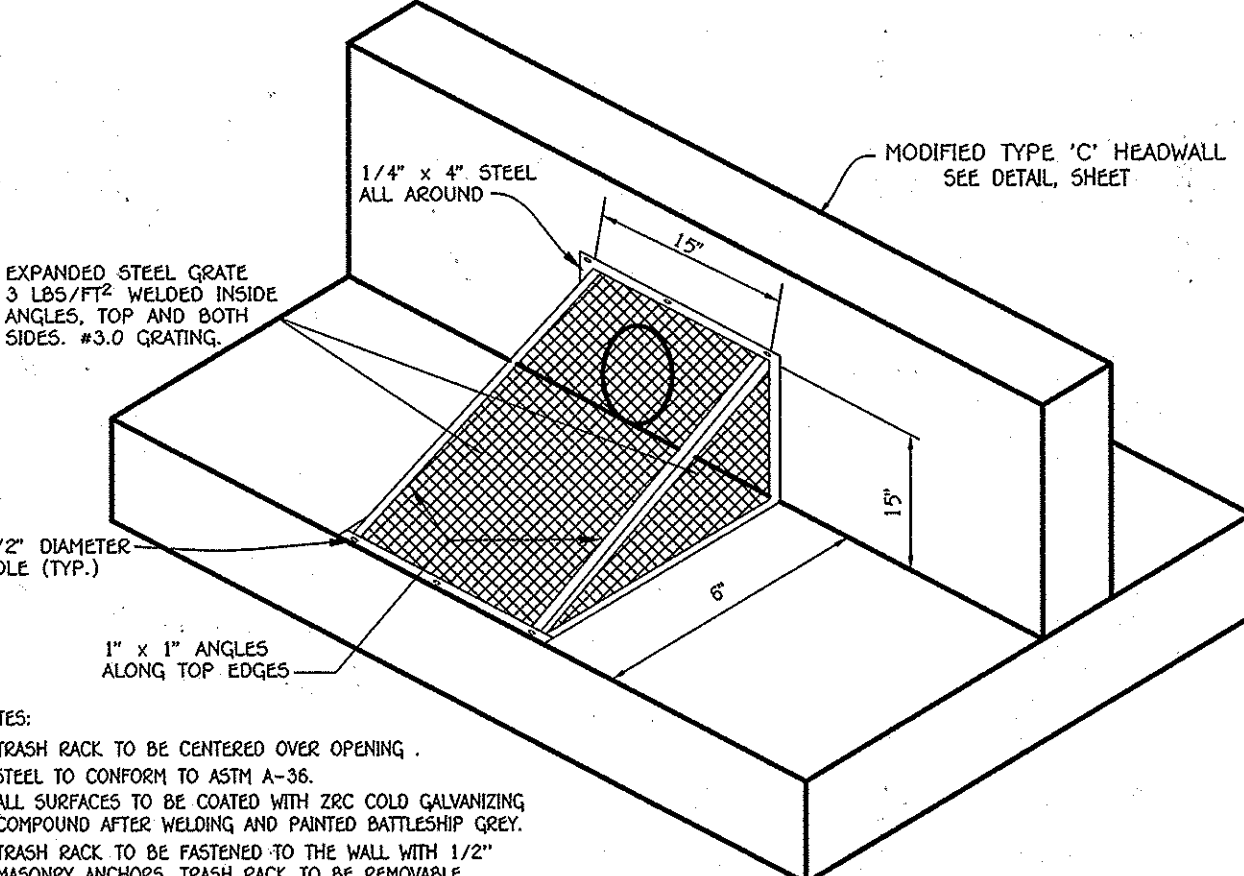
MODIFIED TYPE 'C' ENDWALL

NO SCALE

KEYED JOINT DETAIL WALL SECTION TO WALL SECTION (NO SCALE)

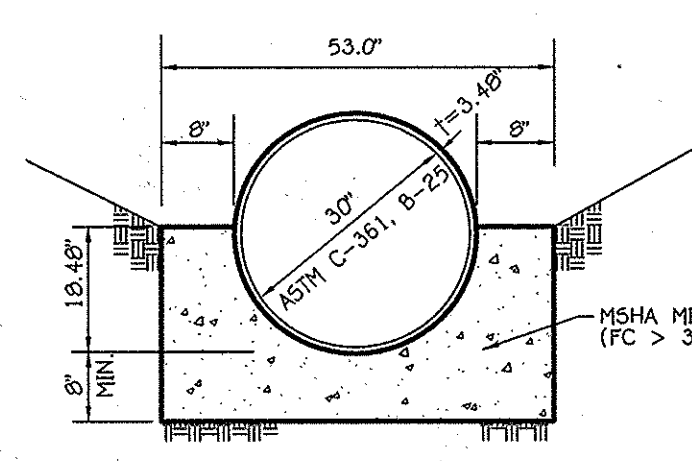


CONCRETE PIPE JOINT DETAIL (NO SCALE)

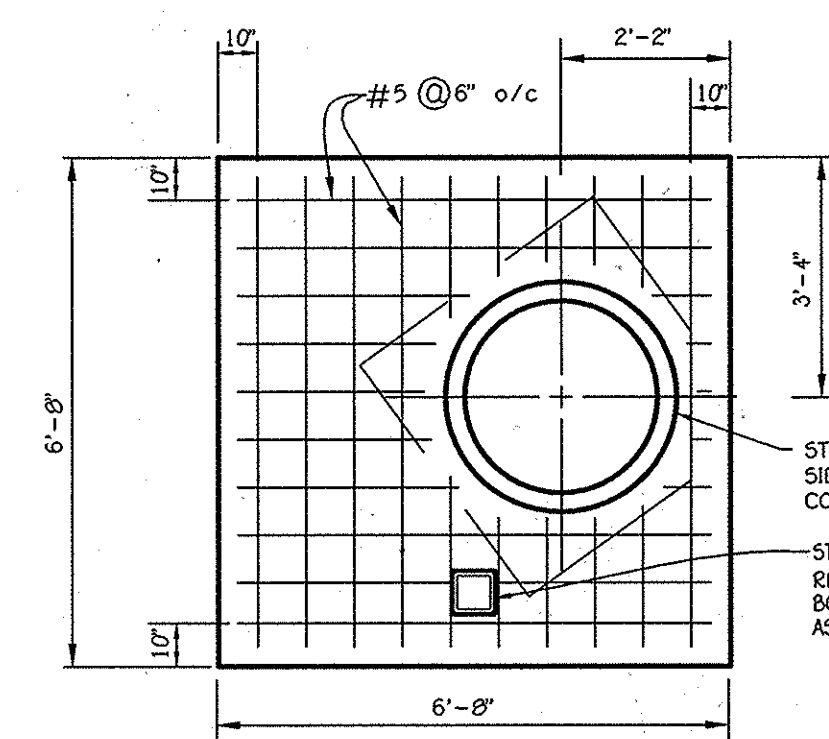


LOW FLOW EXPANDED METAL TRASH RACK

NOT TO SCALE



SCS TR-46 A2 CONCRETE CRADLE (NO SCALE)



TOP SLAB DETAIL (NO SCALE)

- NOTES:
1. CONCRETE SHALL BE MSHA MIX No. 3 (FC > 3,500 P.S.I.)
 2. REINFORCING STEEL: GRADE 60
 3. FOR WALLS OF STRUCTURE SHALL UTILIZE L.H. SCORFIELD CO. T-9055 FORM LINERS (RANDOM SPLIT-FACE ROCK) OPTIONAL
 4. PROVIDE ROUGH BROOM FINISH.
 5. ANCHOR BOLTS SHALL BE INSTALLED IN ACCORDANCE WITH SECTION 6.07.03.59 OF THE MSHA STANDARDS AND SPECS.
 6. ALL REINFORCING SPLICES SHALL BE LAP SPLICES OF 30 BAR DIA. UNLESS OTHERWISE SHOWN.

STORMWATER MANAGEMENT NOTES AND DETAILS POND No. 2

WALNUT CREEK PHASE FOUR

Lots 115 - 159 And Non-Buildable Preservation Parcel 'W' & 'X'
(A Resubdivision Of Buildable Bulk Parcel 'U' - Walnut Creek, Phase Three)
ZONED: RC-DEO & RR-DEO
TAX MAP No. 28 GRID Nos. 4, 5, 10-12, 17, AND 18 PARCEL No. 49
FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DATE: MARCH 20, 2013
SHEET 20 OF 23



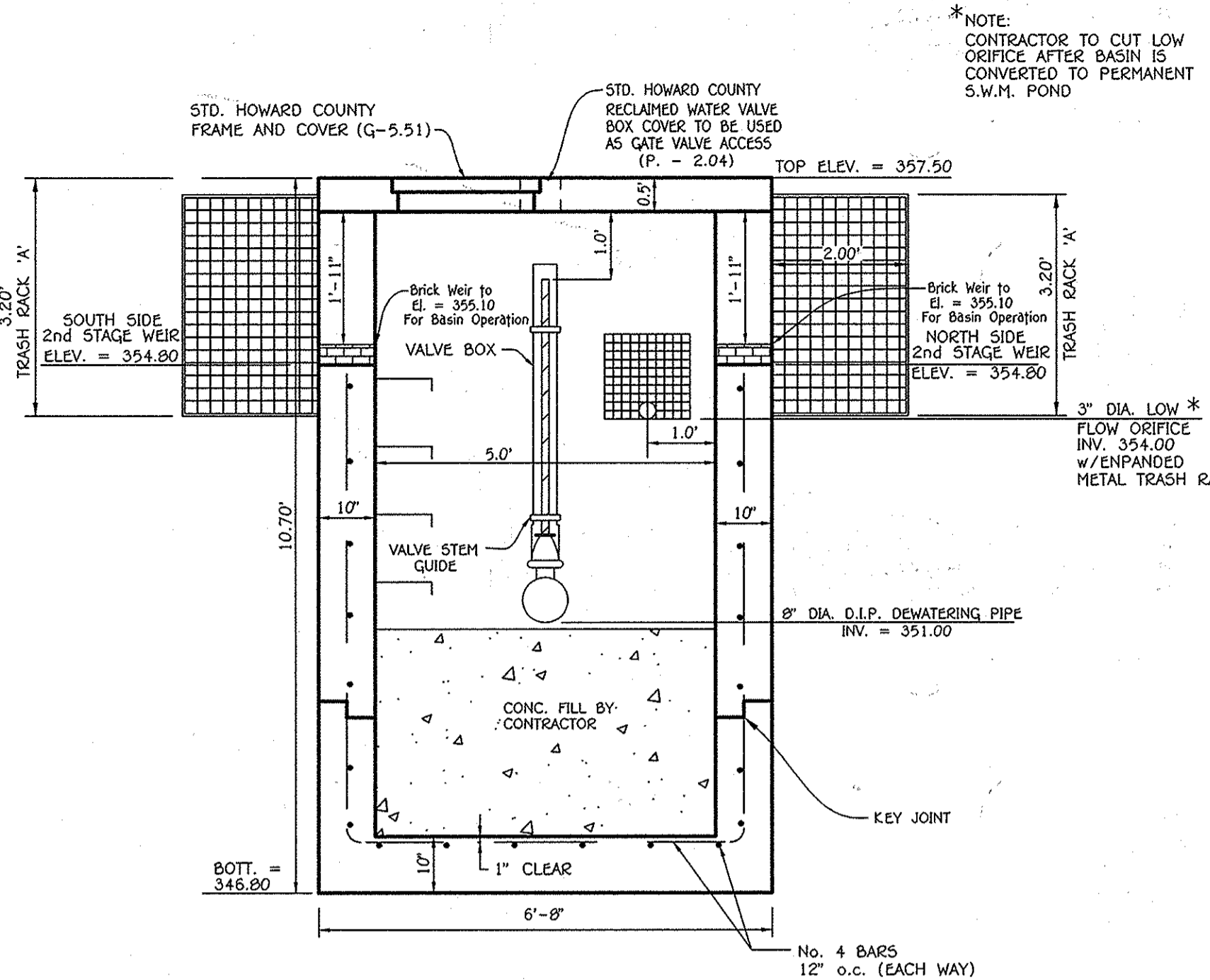
"Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland. License No. 20748, Expiration Date: February 22, 2015."

3/20/13 DATE

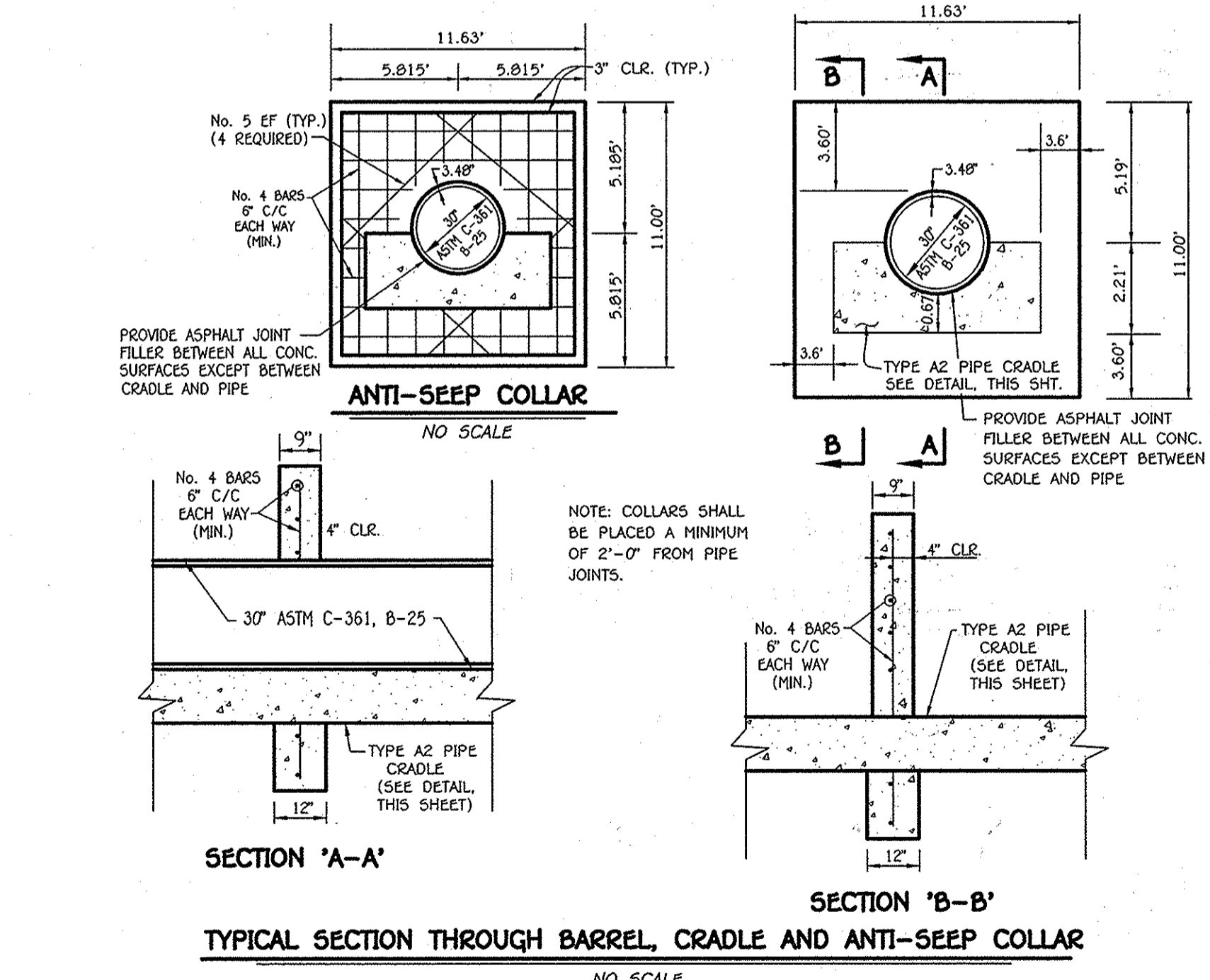
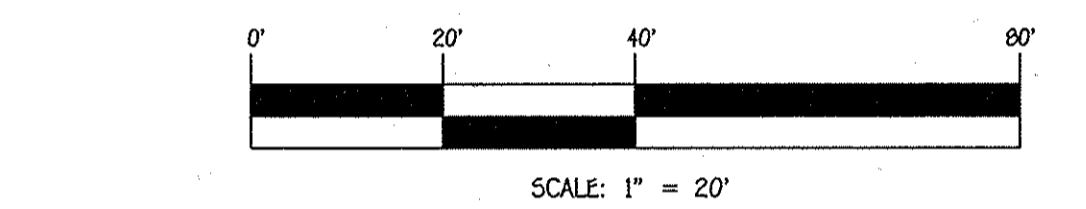
FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CORPORATE OFFICE: 10272 BALDWIN NATIONAL PIKE
ELICOTT CITY, MARYLAND 21042
(410) 461-2999

Owner
BV Business Trust
15950 North Avenue
P.O. Box 492
Lisbon, MD 21765
410-489-7900

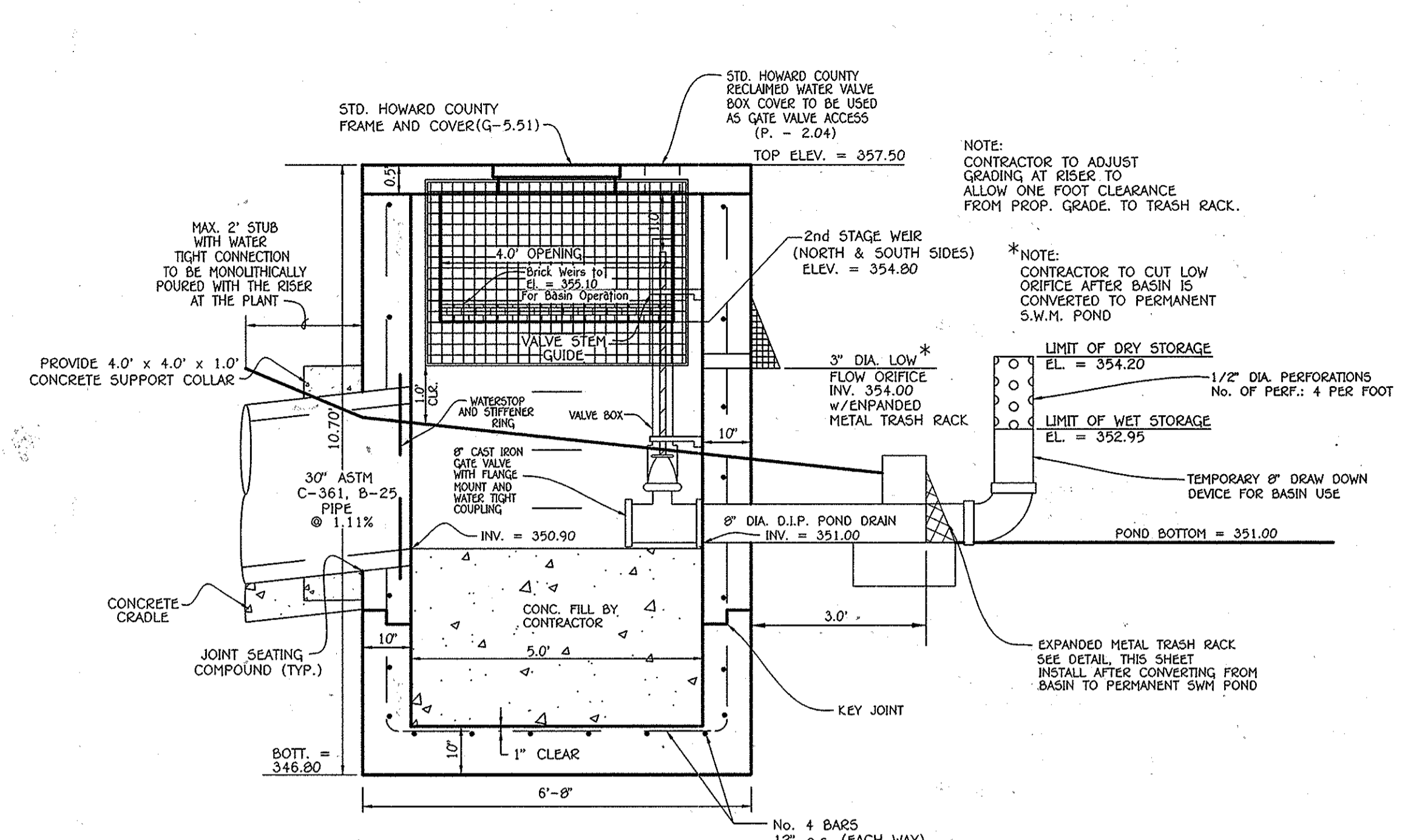
Developer
Bässler Venture, LLC
15950 North Avenue
P.O. Box 492
Lisbon, MD 21765
410-489-7900



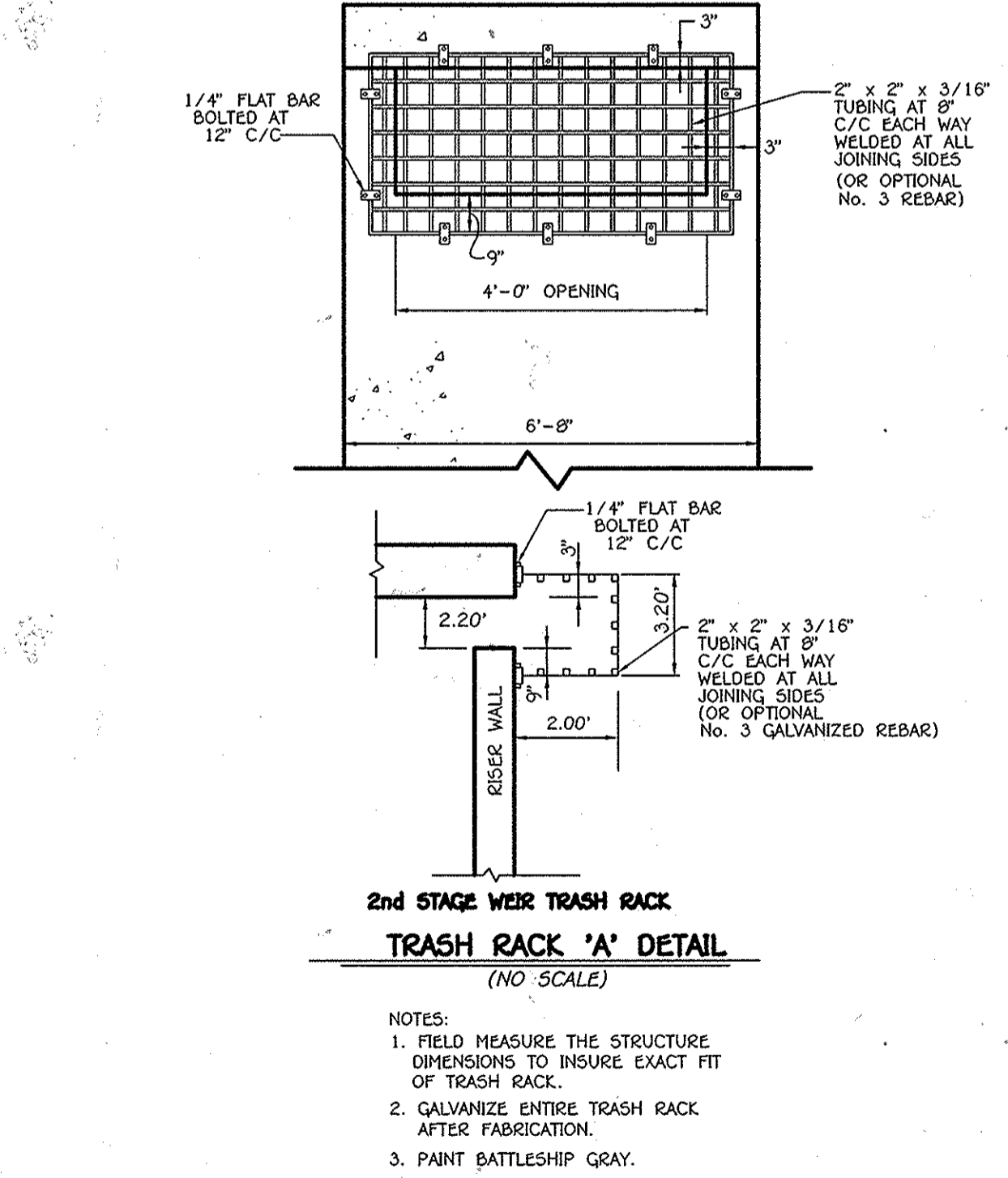
PROFILE VIEW B CONCRETE RISER DETAIL
SCALE: 1" = 2"



FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
1072 BALTIMORE NATIONAL PIKE
ELICOTT CITY, MARYLAND 21042
(410) 461-2899

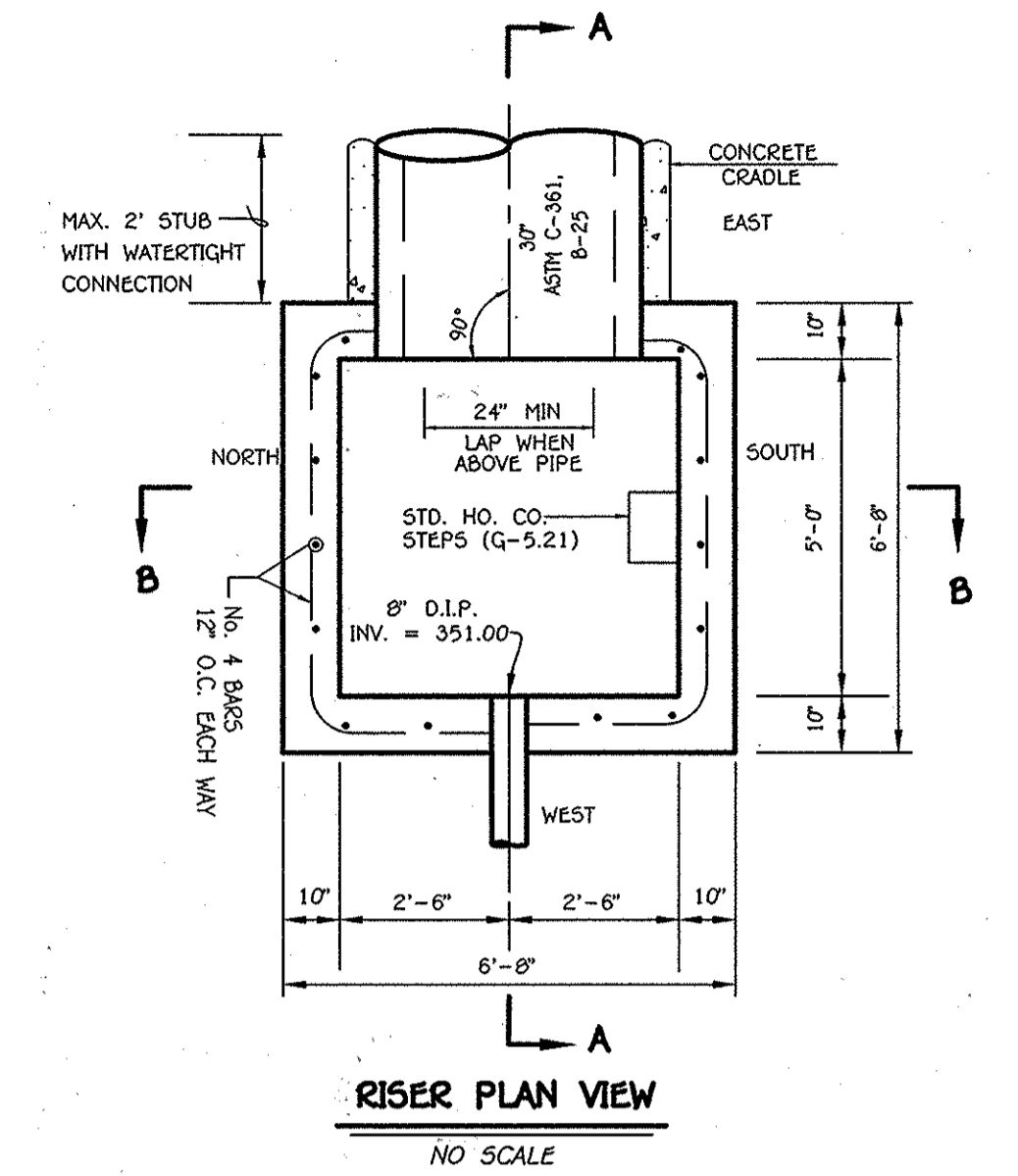


PROFILE VIEW A CONCRETE RISER DETAIL
SCALE: 1" = 2"



Owner
BV Business Trust
15950 North Avenue
P.O. Box 482
Lisbon, MD 21765
410-489-7900

Developer
Bassler Venture, LLC
15950 North Avenue
P.O. Box 482
Lisbon, MD 21765
410-489-7900



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 Authorize Periodic On-Site Inspections By The Howard Soil Conservation District.

Signature Of Developer: *Timothy W. Feagan* 3/29/13 Date

Printed Name Of Developer: **Timothy W. Feagan**

By The Engineer:
I Certify That This Plan For Pond Construction, Erosion And Sediment Control Represents A Practical And Feasible Solution 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 Advised 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 Of Engineer: *[Signature]* 3/29/13 Date

Printed Name Of Engineer: **[Name]**

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

Approved: Department Of Public Works
Signature: *[Signature]* 4/13/13 Date
Chief, Bureau Of Highways

Approved: Department Of Planning And Zoning
Signature: *[Signature]* 4/15/13 Date
Chief, Division Of Land Development

Approved: Department Of Planning And Zoning
Signature: *[Signature]* 4/12/13 Date
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 Believe Any Other Party From Meeting Requirements Imposed By Contract, Employment, Or Other Means, Including Meeting Commonly Accepted Industry Practices.

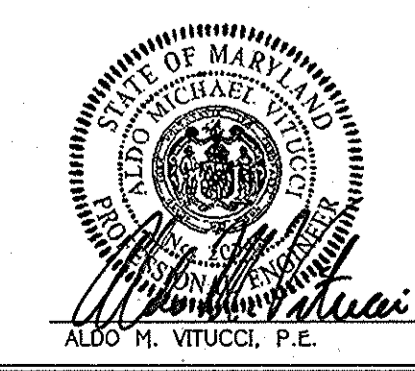
REVISIONS		
NO.	DESCRIPTION	DATE

STORMWATER MANAGEMENT NOTES AND DETAILS
POND No. 2

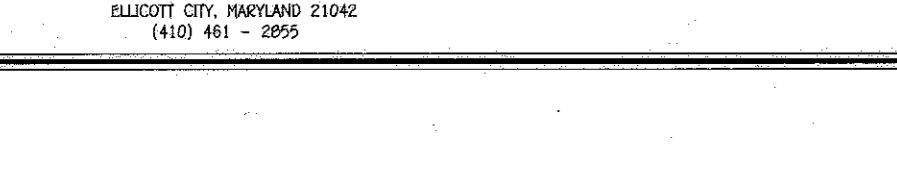
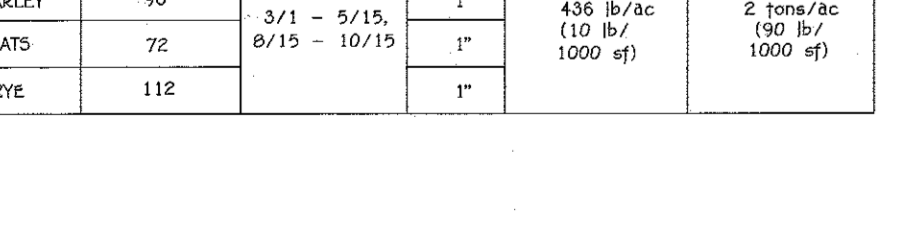
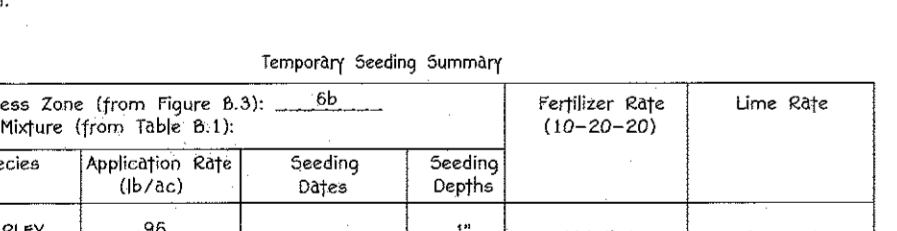
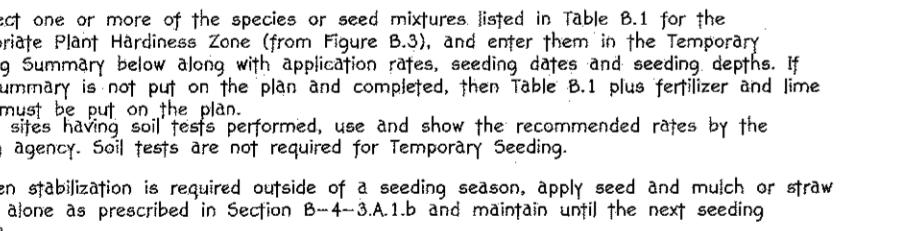
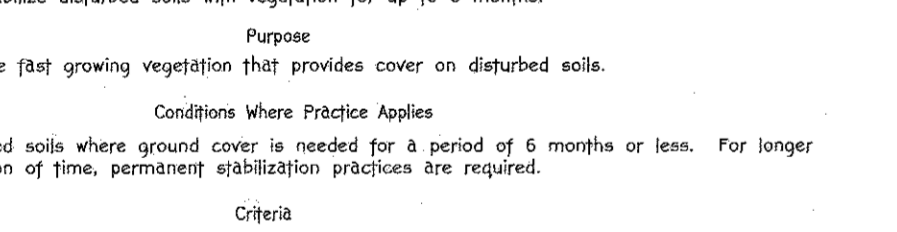
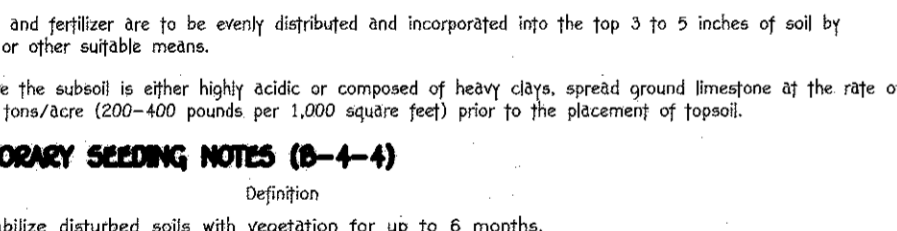
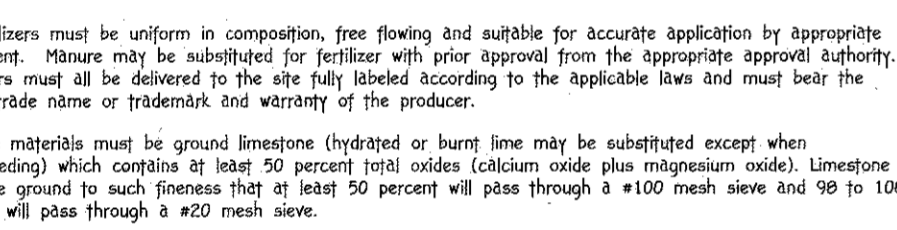
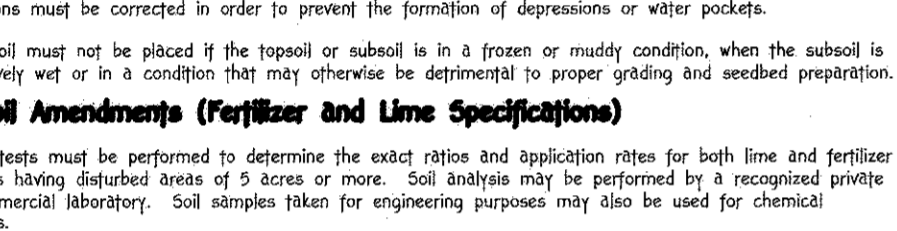
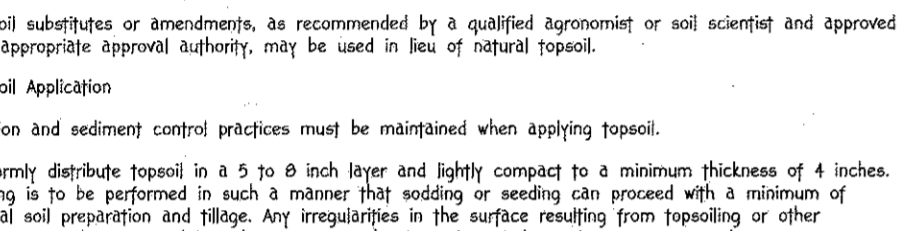
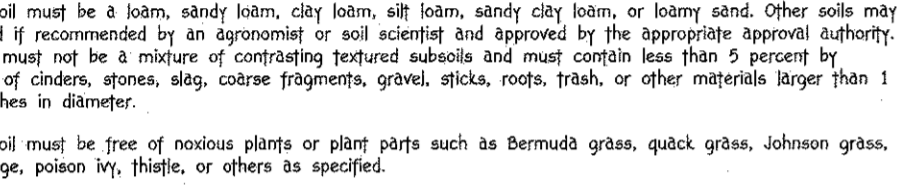
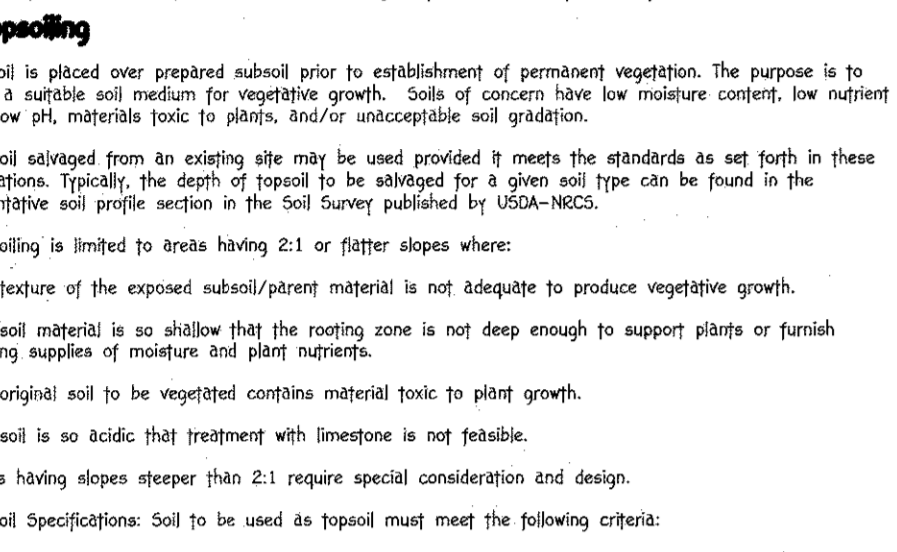
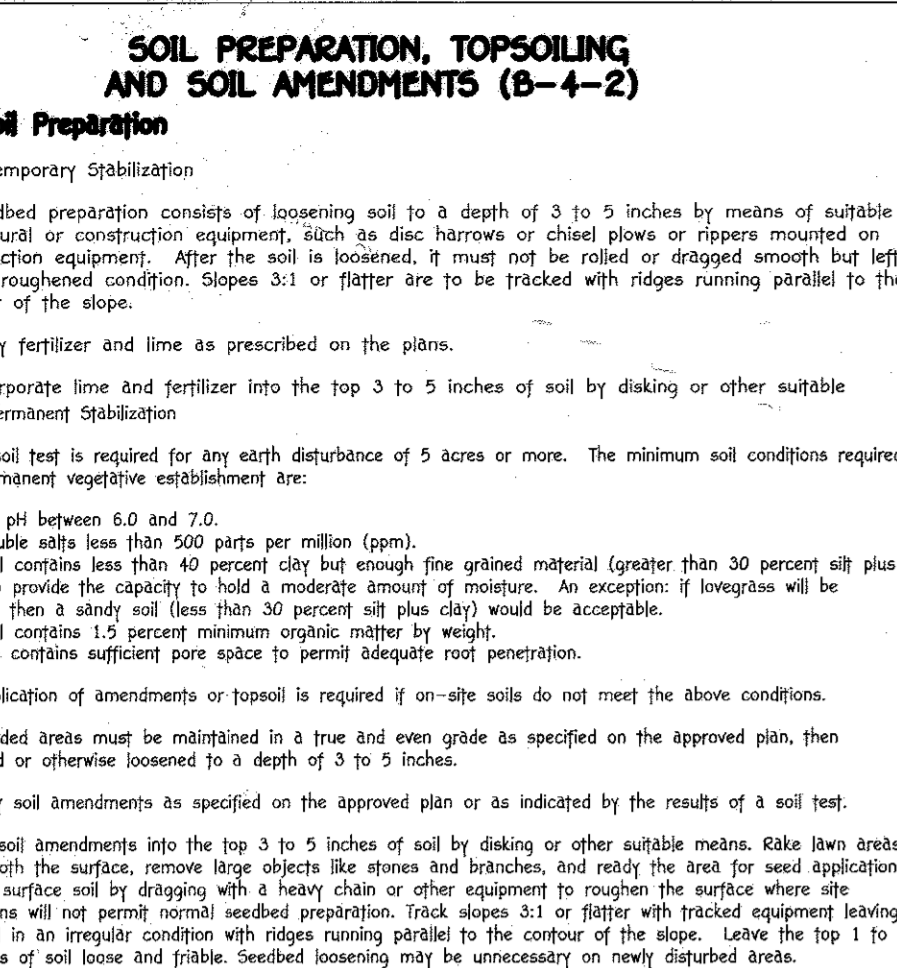
WALNUT CREEK
PHASE FOUR
Lots 115 - 159 And Non-Buildable
Preservation Parcel 'W' & 'X'

(A Resubdivision Of Buildable Bulk Parcel 'U' - Walnut Creek, Phase Three)

ZONED: RC-DEO & R2-DEO
TAX MAP No. 28 CSD No. 4, 5, 10-12, 17, AND 18 PARCEL No. 49
FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DATE: MARCH 20, 2013
SHEET 21 OF 23



"Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 20746, Expiration Date: February 22, 2015."



PERMANENT SEEDING NOTES (B-4-5)
A. Seed Mixtures

- General Use
- Turfgrass Mixtures
- For areas having disturbed areas over 5 acres, use and show the rates recommended by the soil testing agency.
- For areas requiring low maintenance, apply seed form fertilizer (16-0-0) at 3 1/2 pounds per 1000 square feet (150 pounds per acre) at the time of seeding in addition to the soil amendments shown in the Permanent Seeding Summary.

2. Turfgrass Mixtures

- Areas where turfgrasses may be desired include lawns, parks, playgrounds, and commercial sites which will receive a medium to high level of maintenance.
- Select one or more of the species or mixtures listed below based on the site conditions or purpose. Enter selected mixtures, application rates, and seeding dates in the Permanent Seeding Summary. The summary is to be placed on the plan.

- Kentucky Bluegrass: Full Sun Mixture. For use in areas that receive intensive maintenance irrigation required in the areas of central Maryland and Eastern Shore. Recommended Certified Kentucky Bluegrass Cultivars Seeding Rate: 1.5 to 2.0 pounds per 1000 square feet. Choose a minimum of three Kentucky bluegrass cultivars with each ranging from 10 to 35 percent of the total mixture by weight.
- Kentucky Bluegrass/Perennial Ryegrass: Full Sun Mixture. For use in full sun areas where rapid establishment is necessary and when turf will receive medium to intensive maintenance. Certified Perennial Ryegrass Cultivars/Certified Kentucky Bluegrass Seeding Rate: 2 pounds mixture per 1000 square feet. Choose a minimum of three Kentucky bluegrass cultivars with each ranging from 10 to 35 percent of the total mixture by weight.
- Tall Fescue/Kentucky Bluegrass: Full Sun Mixture. For use in drought prone areas and/or for areas receiving low to medium maintenance in full sun to medium shade. Recommended mixtures include: Certified Tall Fescue Cultivars 95 to 100 percent, Certified Kentucky Bluegrass Cultivars 0 to 5 percent. Seeding rate: 5 to 8 pounds per 1000 square feet. One or more cultivars may be blended.
- Kentucky Bluegrass/Fine Fescue: Shade Mixture. For use in areas with shade in bluegrass lawns. For establishment in high quality, intensively managed turf. Mixture includes: Certified Kentucky Bluegrass Cultivars 30 to 40 percent and Certified Fine Fescue and 60 to 70 percent. Seeding Rate: 1 1/2 to 3 pounds per 1000 square feet.

Notes:
Select turfgrass varieties from those listed in the most current University of Maryland Publication, Agronomy Memo #77, "Turfgrass Cultivar Recommendations for Maryland"

Choose certified material. Certified material is the best guarantee of cultivar purity. The certification program of the Maryland Department of Agriculture, Turf and Seed Section, provides a reliable means of consumer protection and assures a pure genetic line.

- Ideal Times of Seeding for Turf Grass Mixtures Western MD: March 15 to June 1, August 1 to October 1 (Hardness Zones 5b, 6a) Central MD: March 1 to May 15, August 15 to October 15 (Hardness Zones 6b, Southern MD, Eastern Shore: March 1 to May 15, August 15 to October 15 (Hardness Zones 7a, 7b)
- Soil moisture is deficient, supply new seedlings with adequate water for plant growth (1/2 to 1 inch every 3 to 4 days depending on soil texture) until they are firmly established. This is especially true in winter when seedlings are made late in the planting season, in normally dry or hot seasons, or on adverse sites.

PERMANENT SEEDING SUMMARY

Hardness Zone (from Figure B.3):	Seed Mixture (from Table B.1):	Fertilizer Rate (10-20-20):	Lime Rate					
No.	Species	Application Rate (lb/acre)	Seeding Dates	Seeding Depth (in.)	N	P ₂ O ₅	K ₂ O	Tons/acre (lb/1000 sq ft)
B	TALL FESCUE	100	Mar. 1 - May 15 Aug. 15 - Oct. 15	1/4" - 1/2" 1.0" (5" for 1000 sq ft)	45 lbs.	90 lb/acre (2 lb/1000 sq ft)	90 lb/acre (2 lb/1000 sq ft)	2 tons/acre (500 lb/1000 sq ft)

TEMPORARY SEEDING NOTES (B-4-4)

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

Purpose:
To use fast growing vegetation that provides cover on disturbed soils.

Conditions where Practice Applies:
Exposed soils where ground cover is needed for a period of 6 months or less. For longer duration of time, permanent stabilization practices are required.

Criteria

- Select one or more of the species or seed mixtures listed in Table B.1 for the appropriate Plant Hardness Zone (from Figure B.3), and enter them in the Temporary Seeding Summary below along with application rates, seeding dates and seeding depths. If this Summary is not put on the plan and completed, then Table B.1 plus fertilizer and lime rates must be put on the plan.
- For all temporary seed tests performed, use and show the recommended rates by the testing agency. Soil tests are not required for Temporary Seeding.

TEMPORARY SEEDING SUMMARY

Hardness Zone (from Figure B.3):	Seed Mixture (from Table B.1):	Fertilizer Rate (10-20-20):	Lime Rate				
Species	Application Rate (lb/acre)	Seeding Dates	Seeding Depth (in.)	N	P ₂ O ₅	K ₂ O	Tons/acre (lb/1000 sq ft)
BARLY	96	3/1 - 5/15	1"	436 lb/acre (110 lb/1000 sq ft)			2 tons/acre (500 lb/1000 sq ft)
OATS	72	6/15 - 10/15	1"				
RYE	112	1"					

CONSTRUCTION SPECIFICATIONS

- USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS.
- LIFT GRATE AND WRAP WITH NONWOVEN GEOTEXTILE TO COMPLETELY COVER ALL OPENINGS. SECURE WITH WIRE TIES AND SET BACK BACK IN PLACE.
- PLACE CLEAN 3/4 TO 1 1/2 INCH STONE OR EQUIVALENT RECYCLED CONCRETE 6 INCHES THICK ON THE GRATE.
- STORM DRAIN INLET PROTECTION REQUIRES FREQUENT MAINTENANCE. REMOVE ACCUMULATED SEDIMENT AFTER EACH RAIN EVENT TO MAINTAIN FUNCTION AND AVOID PERMITTEE CLOSING. IF INLET PROTECTION DOES NOT COMPLETELY DRAIN WITHIN 24 HOURS AFTER A STORM EVENT, IT IS CLOSED. WHEN THIS OCCURS, REMOVE ACCUMULATED SEDIMENT AND CLEAN, OR REPLACE GEOTEXTILE AND STONE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
--	------	---

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
--	------	---

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
--	------	---

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
--	------	---

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
--	------	---

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
--	------	---

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
--	------	---

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
--	------	---

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
--	------	---

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
--	------	---

STANDARD SYMBOL

RRIP

DETAIL D-3-1 RIPRAP INFLOW PROTECTION

ISOMETRIC VIEW

CROSS SECTION

PROFILE ALONG CENTERLINE

CONSTRUCTION SPECIFICATIONS

- PROVIDE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS, UNDER THE BOTTOM AND ALONG SIDES OF ALL RIPRAP.
- CONSTRUCT INFLOW CHANNEL WITH CLASS 1 RIPRAP OR EQUIVALENT RECYCLED CONCRETE LINING TO A MINIMUM DEPTH OF 19 INCHES (2 x 9.5) AND A 1 FOOT DEEP FLOW CHANNEL. INFLOW RIPRAP PROTECTION CHANNEL MUST HAVE A TRAPEZOIDAL CROSS SECTION WITH 2:1 OR FLATTER SIDE SLOPES AND A 4 FOOT MINIMUM WIDTH.
- INSTALL ENTRANCE AND EXIT SECTIONS AS SHOWN ON THE PROFILE.
- BLEND RIPRAP INTO EXISTING GROUND.
- MAINTAIN LINE, GRADE, AND CROSS SECTION. REMOVE ACCUMULATED SEDIMENT AND DEBRIS. KEEP POINTS OF INFLOW AND OUTFLOW FREE OF EROSION.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
--	------	---

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
--	------	---

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
--	------	---

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
--	------	---

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
--	------	---

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
--	------	---

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
--	------	---

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
--	------	---

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
--	------	---

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
--	------	---

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
--	------	---

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
--	------	---

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
--	------	---

STANDARD SYMBOL

WOOD

DETAIL G-2-7 SEDIMENT BASIN SCHEMATIC

TOP OF EMBANKMENT

RISER CREST ELEVATION

TRASH RACK ANTI-VORTEX DEVICE

VERTICAL DRAW-DOWN DEVICE WITH WATERTIGHT END CAP

PERFORATED PORTION OF PIPE

EXISTING GROUND

INTERNAL ORIFICE

RISER BASIN

SEE STONE ANCHOR DETAIL

PRINCIPAL SPILLWAY

WRAP PERFORATED PIPE WITH 1/2 IN HARDWARE CLOTH AND NONWOVEN GEOTEXTILE

WASHED 3/4 IN TO 1 1/2 IN STONE OR EQUIVALENT RECYCLED CONCRETE

PERFORATION SPACING

6 IN TYP.

6 IN TYP.

STONE ANCHOR DETAIL

TOP OF EMBANKMENT

RISER

TRASH RACK

PRINCIPAL SPILLWAY

VERTICAL DRAW-DOWN DEVICE

CONSTRUCTION SPECIFICATIONS

- PERFORATE PIPE WITH 1 INCH DIAMETER PERFORATIONS SPACED 6 INCHES APART LONGITUDINALLY AND RADIALLY OR IN ACCORDANCE WITH APPROVED PLAN.
- DO NOT EXTEND PERFORATIONS IN THE DRAW-DOWN DEVICE INTO WET STORAGE.
- WRAP THE PERFORATED PORTION OF THE DRAW-DOWN DEVICE FIRST WITH 1/2 INCH GALVANIZED HARDWARE CLOTH, THEN WITH NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS. DO NOT WRAP WITH MORE THAN ONE LAYER OF GEOTEXTILE.
- AS AN ALTERNATE TO STONE ANCHORING, SECURE DRAW-DOWN DEVICE WITH TWO 1 INCH STEEL ANCHORS SET 3 FEET MINIMUM INTO THE GROUND ATTACHED TO DRAW-DOWN DEVICE BY A 1 INCH WIDE GALVANIZED STEEL STRAP OR HEAVIER WIRE.
- REMOVE SEDIMENT WHEN IT ACCUMULATES TO CLEANOUT ELEVATION (50% OF THE WET STORAGE DEPTH). DEPOSIT REMOVED SEDIMENT IN AN APPROVED AREA IN A SUCH A MANNER THAT IT WILL NOT ERODE. MAINTAIN WATER TIGHT CONNECTIONS. REPLACE GEOTEXTILE AROUND PERFORATED RISER IF DRY STORAGE VOLUME DOES NOT DRAW DOWN WITHIN 10 HOURS.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
--	------	---

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
--	------	---

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
--	------	---

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
--	------	---

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
--	------	---

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
--	------	---

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
--	------	---

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
--	------	---

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
--	------	---

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
--	------	---

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
--	------	---

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
--	------	---

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
--	------	---

SEQUENCE OF CONSTRUCTION

- OBTAIN A GRADING PERMIT (2 WEEKS)
- NOTIFY "HIS UTILITY" AT LEAST 48 HOURS BEFORE BEGINNING ANY WORK AT 1-800-297-7777. NOTIFY THE HOWARD COUNTY OFFICE OF CONSTRUCTION/INSPECTION AT 410-303-1330 AT LEAST 24 HOURS BEFORE STARTING WORK.
- INSTALL THE STABILIZED CONSTRUCTION ENTRANCE. INSTALL ALL TREE PROTECTION FENCE FOR TREES TO BE UNOBTAINED AS INDICATED ON THE PLANS. (1 WEEK)
- INSTALL SILT FENCE, EARTH DIKES AND DEWATERING DEVICES IN CONJUNCTION WITH CONSTRUCTION OF THE PROPOSED SEDIMENT BASIN/SWAMP POND AND DAM EMBANKMENT. NOTE THAT NO DISTURBANCE IS ALLOWED UNTIL ALL SWAMP BASIN MATERIALS FOR THE PRINCIPAL SPILLWAYS ARE ON SITE AND PERMISSION FROM THE INSPECTOR IS OBTAINED IN WRITING TO PROCEED. (4 WEEKS)
- NOTE ALL DAM EMBANKMENT AND COSE TRENCH CONSTRUCTION SHALL BE COORDINATED WITH A PROFESSIONAL GEOTECHNICAL ENGINEER IN ACCORDANCE WITH THE RECOMMENDATIONS SHOWN ON THESE PLANS. NO BLASTING WILL BE PERMITTED FOR THE EXCAVATION OF SEDIMENT BASIN/SWAMP POND EMBANKMENTS. WHERE NECESSARY, STOPPING AND JACK HAMMERS SHOULD BE UTILIZED IN THE EXCAVATION OF THE FACILITY.
- UPON COMPLETION OF THE SWAMP POND/SEDIMENT BASIN CONSTRUCTION RECEIVE PERMISSION FROM THE SEDIMENT CONTROL INSPECTOR PRIOR TO PROCEEDING. (1 WEEK)
- CLEAR AND GRUB FOR THE INSTALLATION OF THE PERIMETER PERMETER SEDIMENT CONTROL MEASURES. INSTALL TREE PROTECTION FENCE, SILT FENCE, EARTH DIKES AS SHOWN ON THESE PLANS. (1 WEEK)
- CLEAR AND GRUB FOR THE REMAINDER OF THE SITE. (2 WEEKS)
- GRADE SITE TO PROPOSED SUBGRADE AND INSTALL THE STORM DRAIN SYSTEMS. STABILIZE ALL SLOPES IMMEDIATELY UPON COMPLETION OF GRADING. DO NOT BLOCK INLETS AS STORM DRAIN SYSTEM WILL BE USED TO CONVEY SEDIMENT RUNOFF INTO THE TWO EXISTING SEDIMENT BASINS. (5 WEEKS)

NOTE: THE CONTRACTOR SHALL COORDINATE WITH THE INSPECTOR IN REGARDS TO THE REQUIREMENT THAT NO MORE THAN 20 ACRES OF "OPEN" GROUND SHALL BE DISTURBED AT ANY GIVEN TIME. THIS MAY BE ACCOMPLISHED BY GRADING ONE ROAD AT A TIME.

NOTE: BMP No. 4 FROM PHASE TWO IS BEING UTILIZED TO PROVIDE SEDIMENT CONTROL FROM STATION 11+10.4 OF GRAPE MYRTLE COURT TO THE EXISTING ROAD. THIS FACILITY ALSO PROVIDES SEDIMENT CONTROL FOR THE FRONT PORTION OF LOTS 143-144, HALF OF LOTS 143 & 153, THE FRONT PORTION OF LOTS 154-156 & 157-159. THIS FACILITY ALSO PROVIDES SEDIMENT CONTROL FOR THE FRONT PORTION OF LOTS 115-118 & LOTS 136-137. IN ADDITION, BMP No. 3 FROM PHASE TWO IS BEING UTILIZED TO PROVIDE SEDIMENT CONTROL FOR THE REMAINDER OF GRAPE MYRTLE COURT. THIS FACILITY WILL PROVIDE SEDIMENT CONTROL FOR THE FRONT PORTION OF LOTS 143-149, 150-152 & HALF OF LOT 153.

- CONSTRUCT ROAD BASE COURSE FOR SUBURBAN ROADS. (1 WEEK)
- WHEN ALL STABILIZING AREAS TO THE SEDIMENT CONTROL DEVICES AND PONDS HAVE BEEN STABILIZED AND WITH THE PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, THE SEDIMENT CONTROL DEVICES MAY BE REMOVED AND/OR BACKFILLED AND THE REMAINING AREAS BROUGHT TO FINAL GRADE. STABILIZE ALL AREAS IN ACCORDANCE WITH PERMANENT SEEDING NOTES. (3 WEEKS)
- NOTIFY HOWARD COUNTY OFFICE OF INSPECTIONS AND PERMITS FOR FINAL INSPECTION OF THE COMPLETED PROJECT. (1 WEEK)
- PREPARE FINAL POND "AS-BUILT" FOR APPROVAL BY SOIL CONSERVATION DISTRICT.

NOTE: THE CONTRACTOR SHALL INSPECT AND PROVIDE NECESSARY MAINTENANCE ON ALL SEDIMENT AND EROSION CONTROL STRUCTURES SHOWN HEREON, AFTER EACH RAINFALL AND ON A DAILY BASIS. REMOVE SEDIMENT FROM THE POND/BASIN WHEN THE CLEANOUT ELEVATION HAS BEEN REACHED. ALL SEDIMENT MUST BE PLACED UPSTREAM OF THE APPROVED TRAPPING DEVICE.

- FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION MUST BE COMPLETED WITHIN:
 - THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERMETER DIKES, SWALES, DITCHES, PERMETER SLOPES STEEPER THAN 3:1, HORIZONTAL TO 1 VERTICAL (3:1), AND
 - SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE NOT UNDER ACTIVE GRADING.

AS-BUILT CERTIFICATION

I hereby 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: *[Signature]* P.E. No. *[Number]* Date: *[Date]*

Signature: *[Signature]* P.E. No. *[Number]*

ENGINEER'S CERTIFICATE

I hereby certify that the Plan For Erosion And Sediment Control Represents a Feasible Plan Based on My Personal Knowledge and That It Was Prepared in Accordance with the Standards of The Howard Soil Conservation District.

Signature: *[Signature]* Date: 3/20/13

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 Inspection By The Howard Soil Conservation District Or Their Authorized Agents, As Are Deemed Necessary."

Signature of Developer: *[Signature]* Date: 3/28/13

Approved: This Development Is Approved For Erosion And Sediment Control By The Howard Soil Conservation District.

Signature: *[Signature]* Date: 3/28/13

Approved: Department of Planning And Zoning

Signature: *[Signature]* Date: 4/15/13

Chief, Division Of Land Development

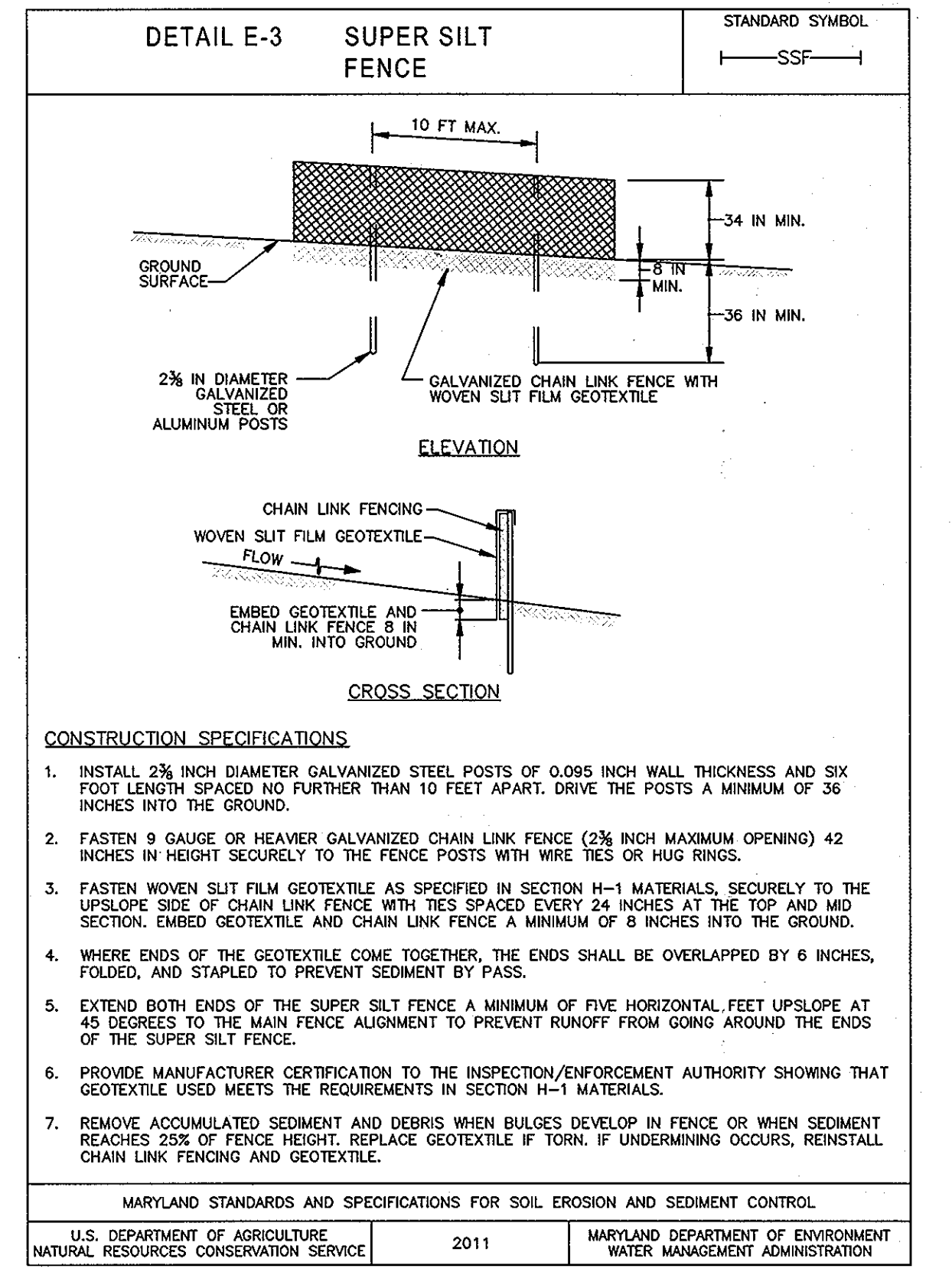
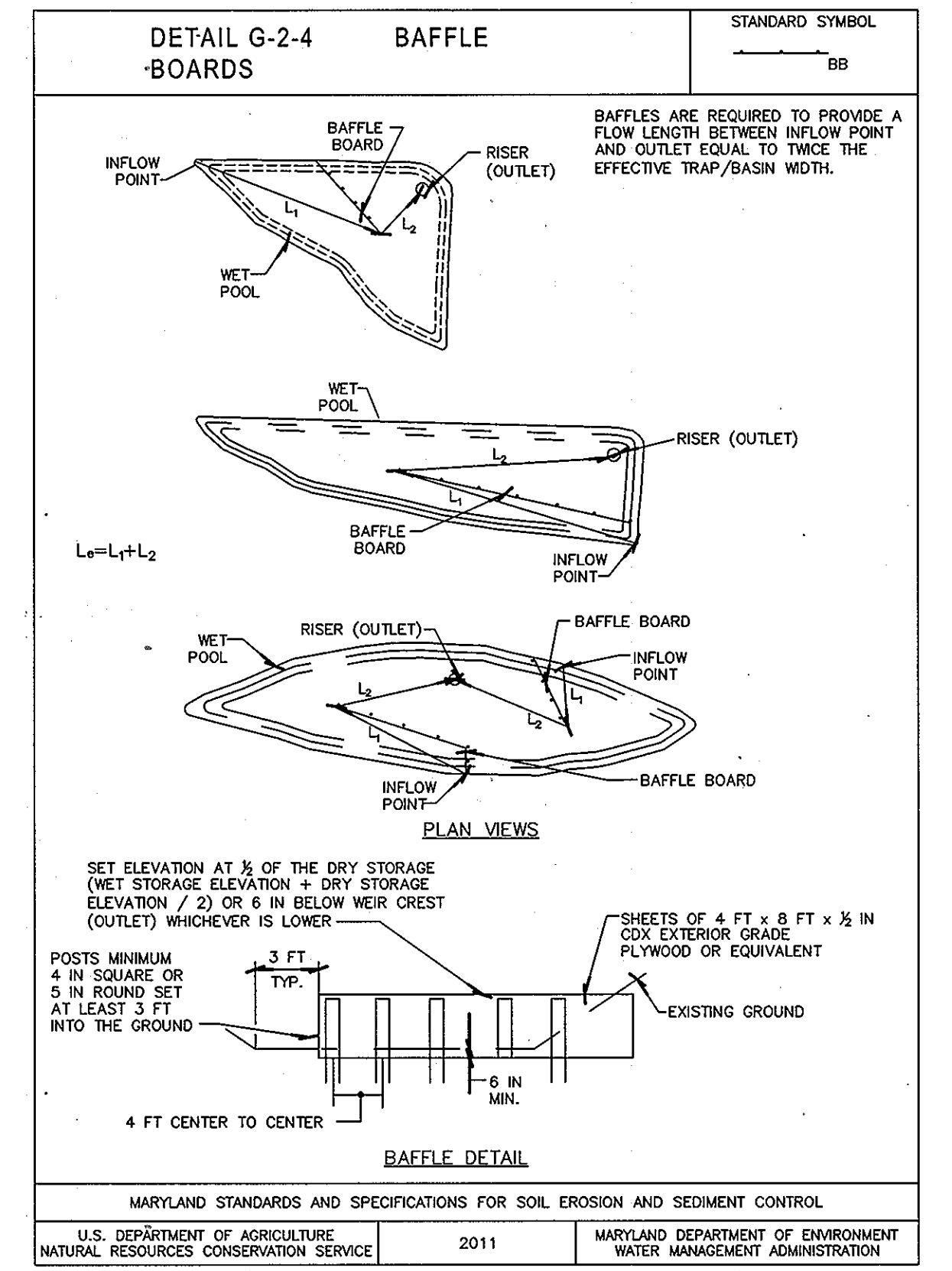
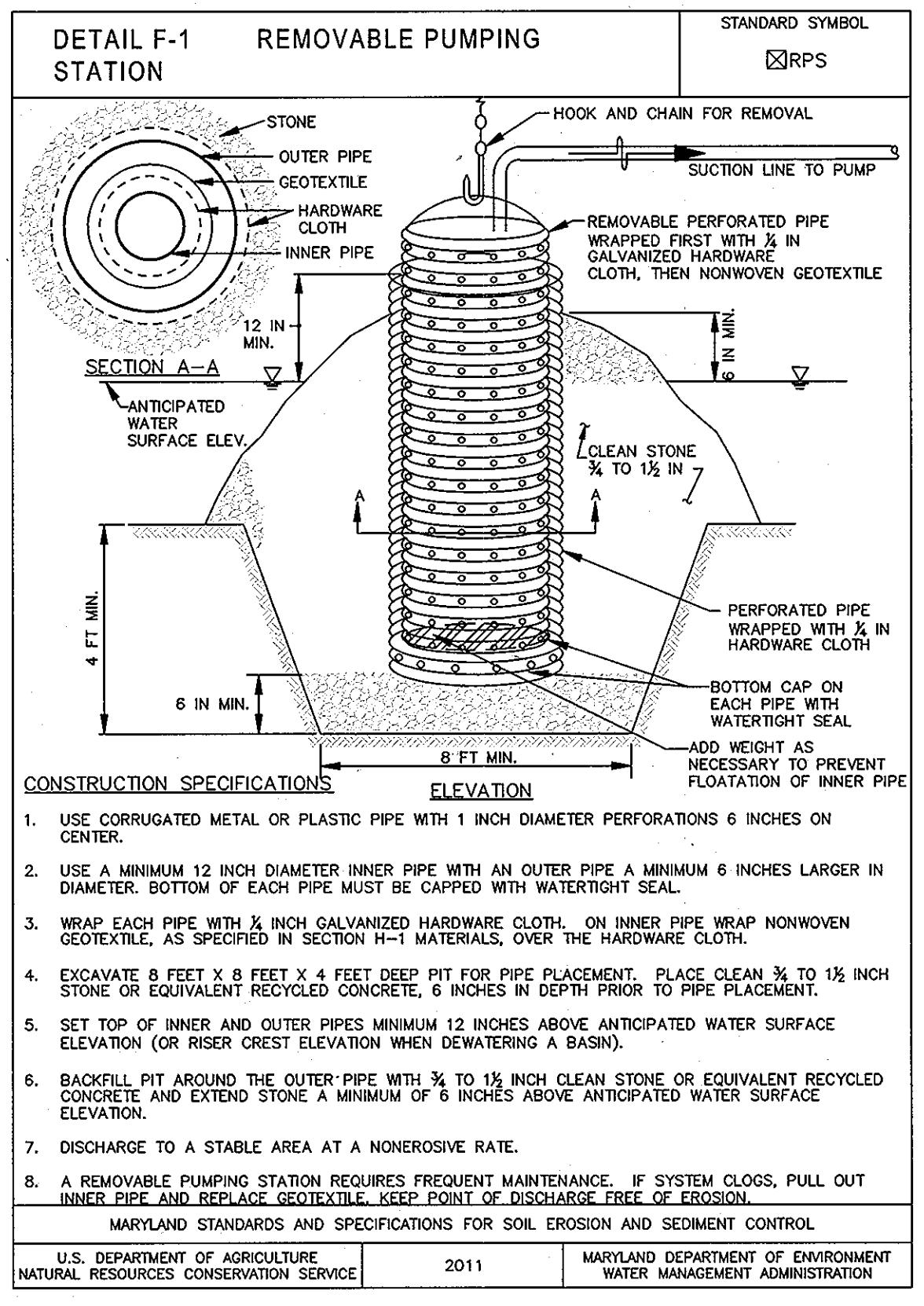
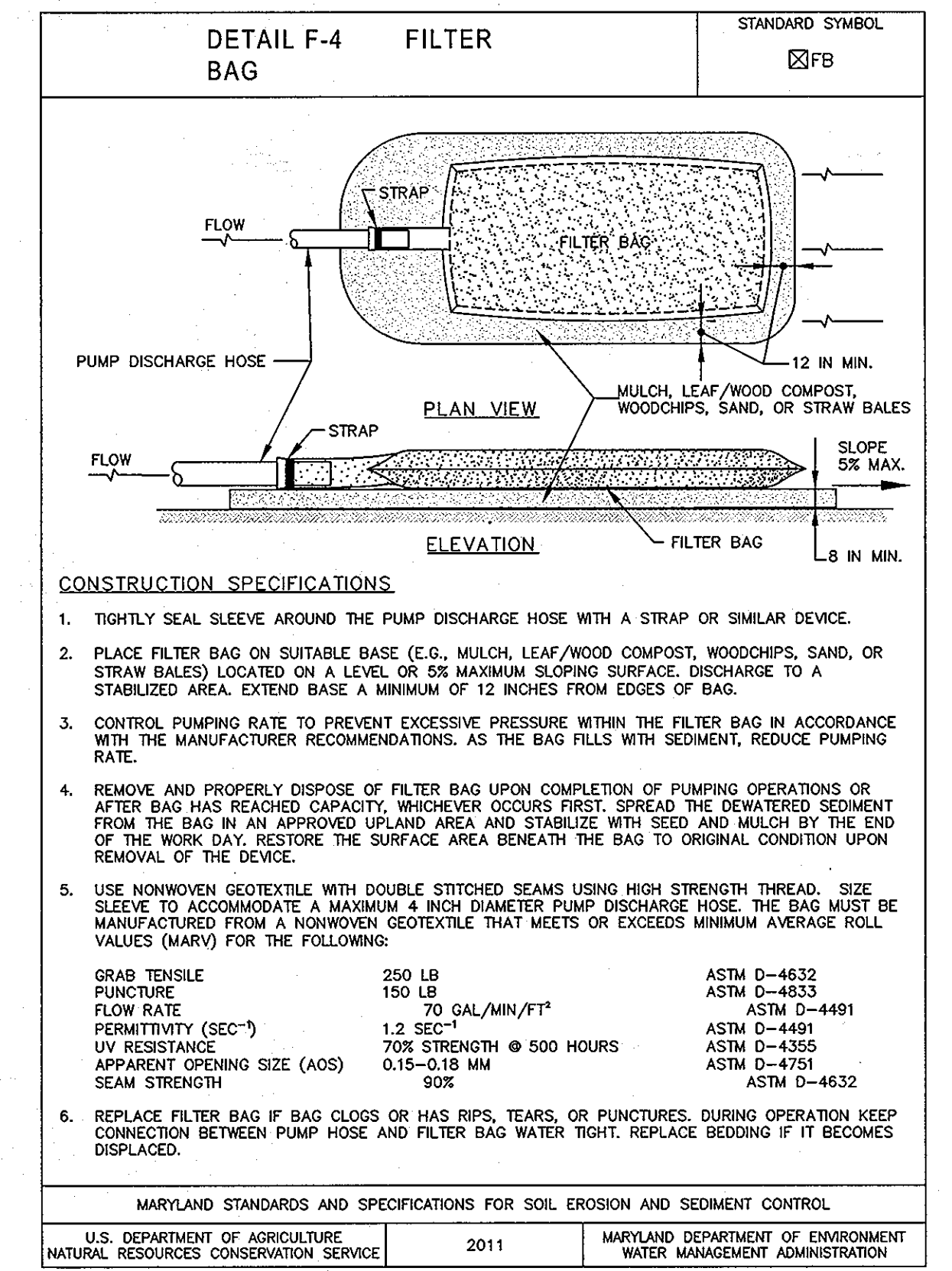
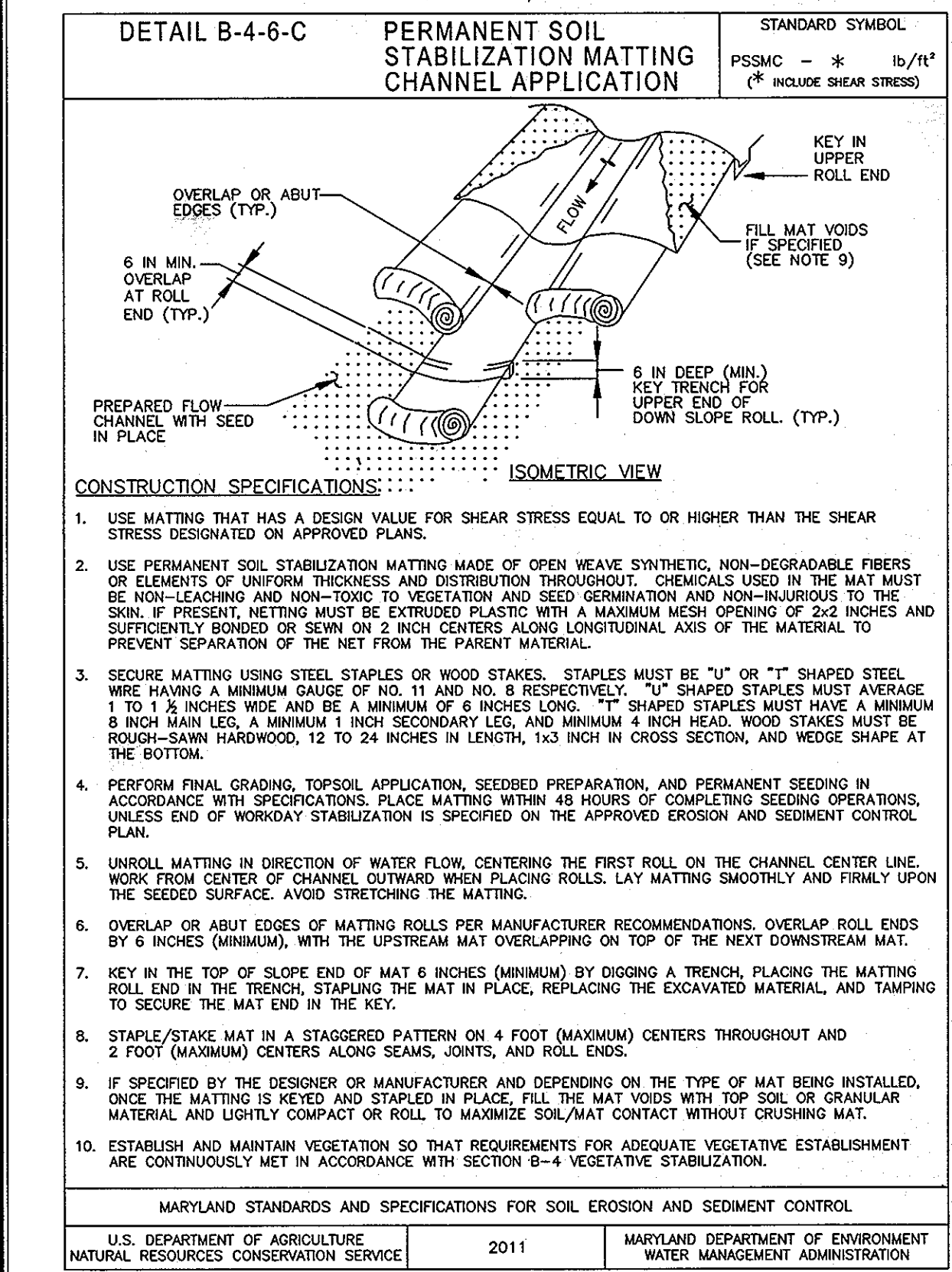
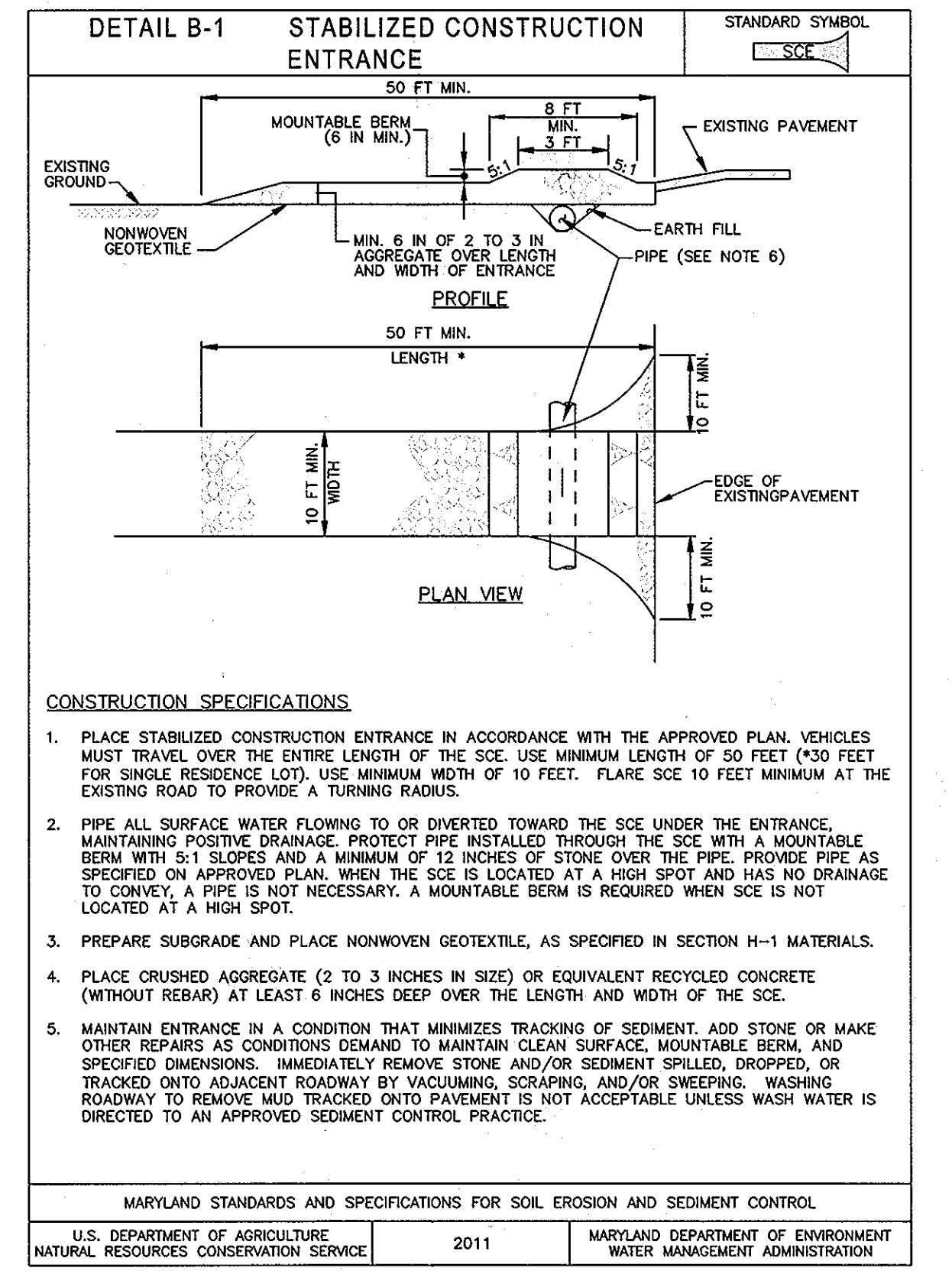
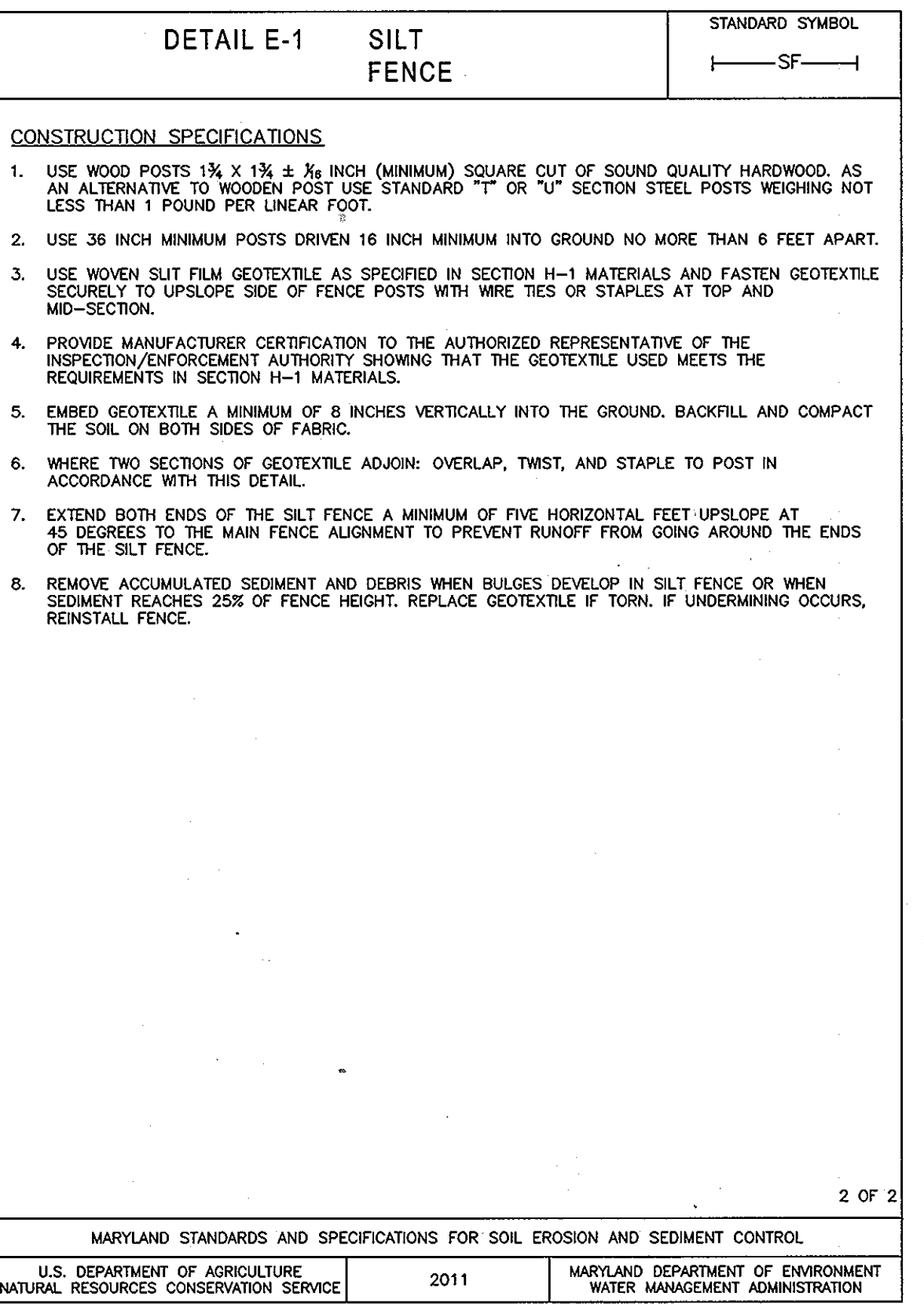
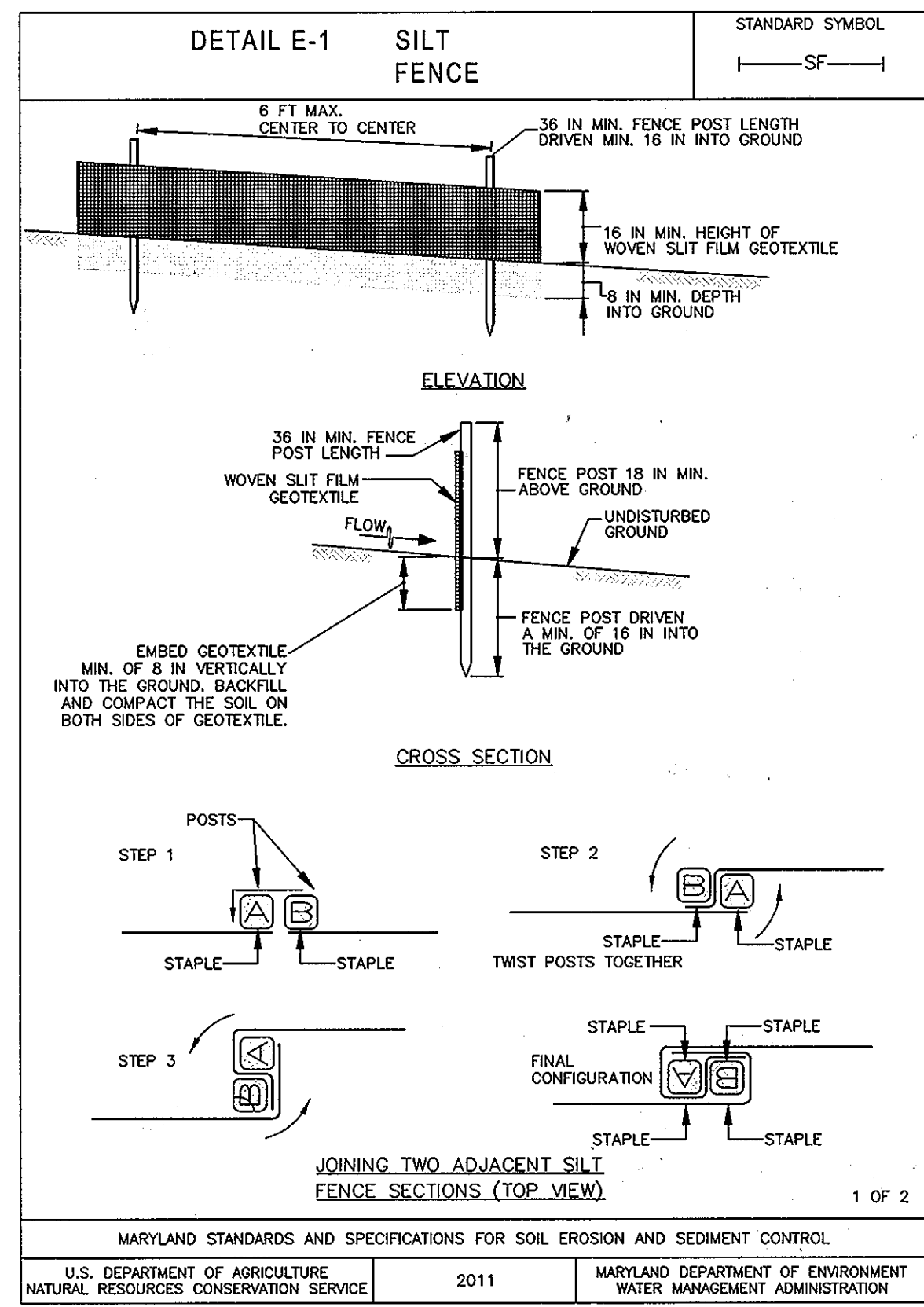
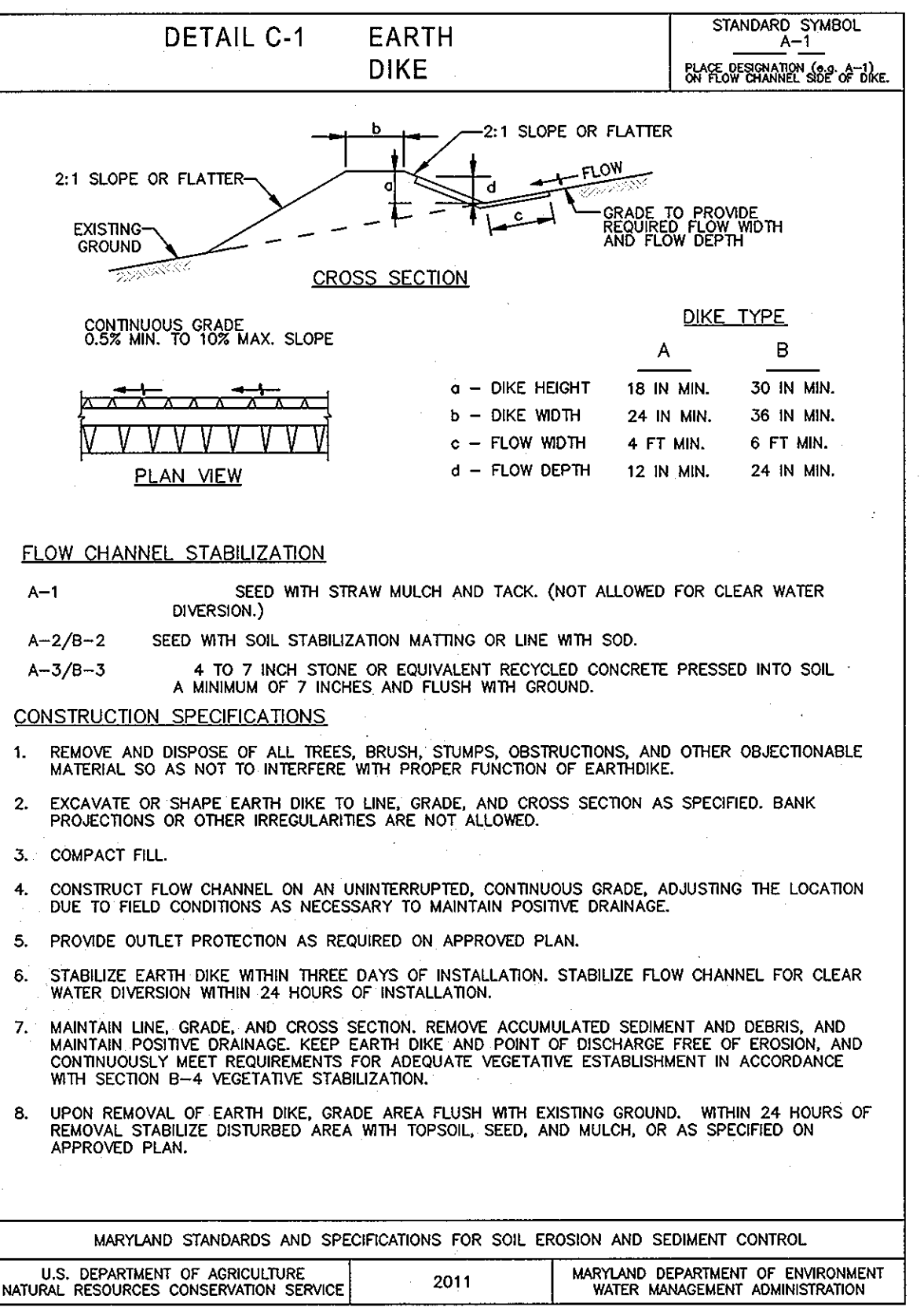
Signature: *[Signature]* Date: 4/21/13

Chief, Development Engineering Division

Approved: Howard County Department of Public Works

Signature: *[Signature]* Date: 4/2/13

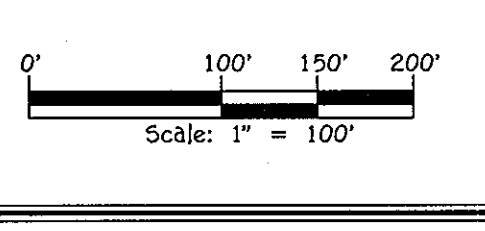
Chief, Bureau Of Highways



FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTRAL SERVICE OFFICE: 1077 BALDWIN ROAD, ELIOTT CITY, MARYLAND 21028
 (410) 461-2955

Owner
 By Business Trust
 15950 North Avenue
 P.O. Box 482
 Lisbon, MD 21765
 410-489-7900

Developer
 Bassler Venture, LLC
 15950 North Avenue
 P.O. Box 482
 Lisbon, MD 21765
 410-489-7900



"Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 20748, Expiration Date: February 22, 2015."



3/20/13
 DATE

SEDIMENT CONTROL NOTES AND DETAILS
WALNUT CREEK
 PHASE FOUR
 Lots 115 - 159 And Non-Buildable Preservation Parcel 'W' & 'X'
 (A Resubdivision Of Buildable Bulk Parcel 'U' - Walnut Creek, Phase Three)
 ZONED: RC-DO & RR-DO
 TAX MAP No. 28 C020 Nos. 4, 5, 10-12, 17, AND 19 PARCEL No. 49
 FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 DATE: MARCH 20, 2013
 SHEET 23 OF 23