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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

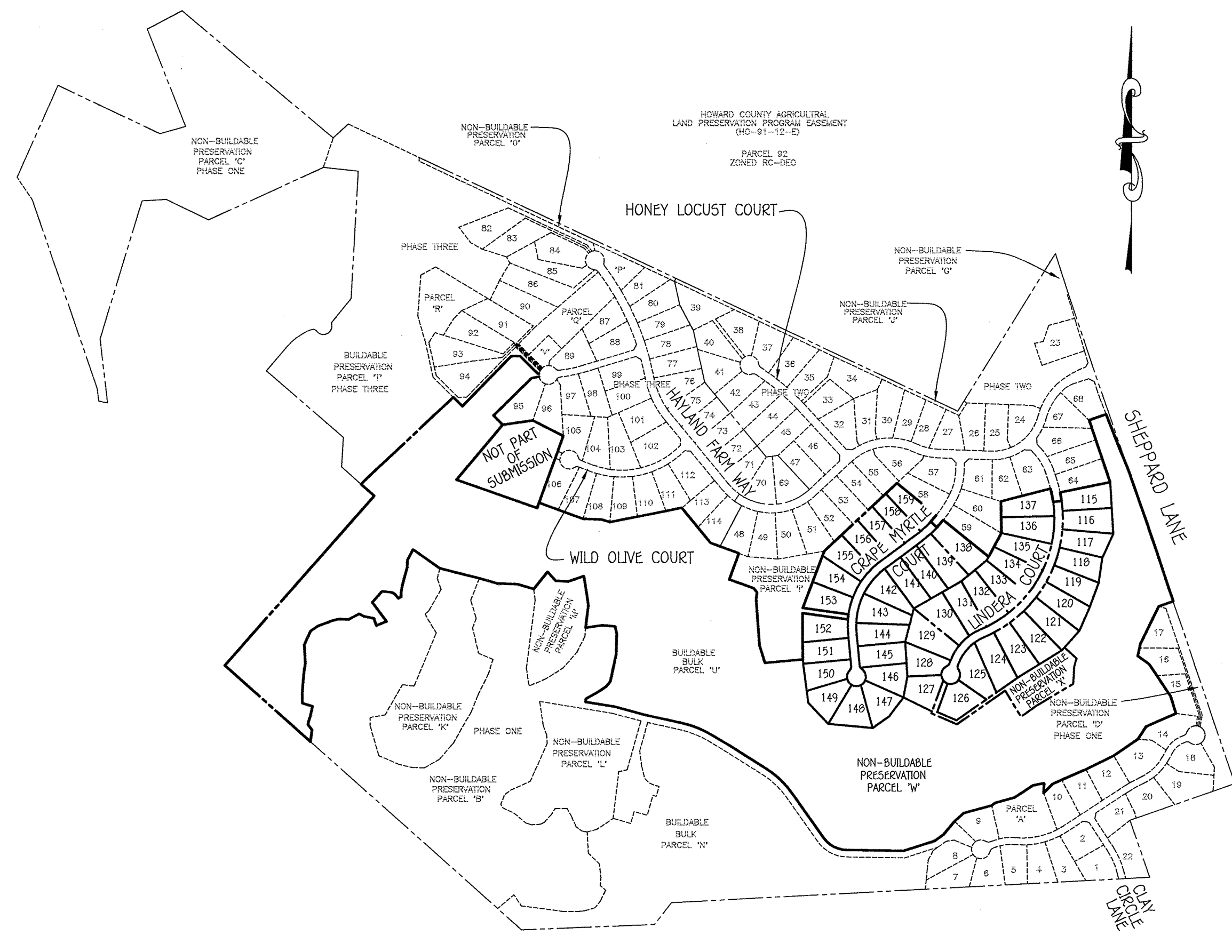
ROADWAY INFORMATION CHART			
ROAD NAME	CLASSIFICATION	DESIGN SPEED	R/W WIDTH
LINDERA COURT	PUBLIC ACCESS STREET	30 M.P.H.	50'
GRAPE MYRTLE COURT	PUBLIC ACCESS STREET	30 M.P.H.	50'

APPROVED: DEPARTMENT OF PUBLIC WORKS
 CHIEF, BUREAU OF HIGHWAYS *[Signature]* 4/3/13
 DATE

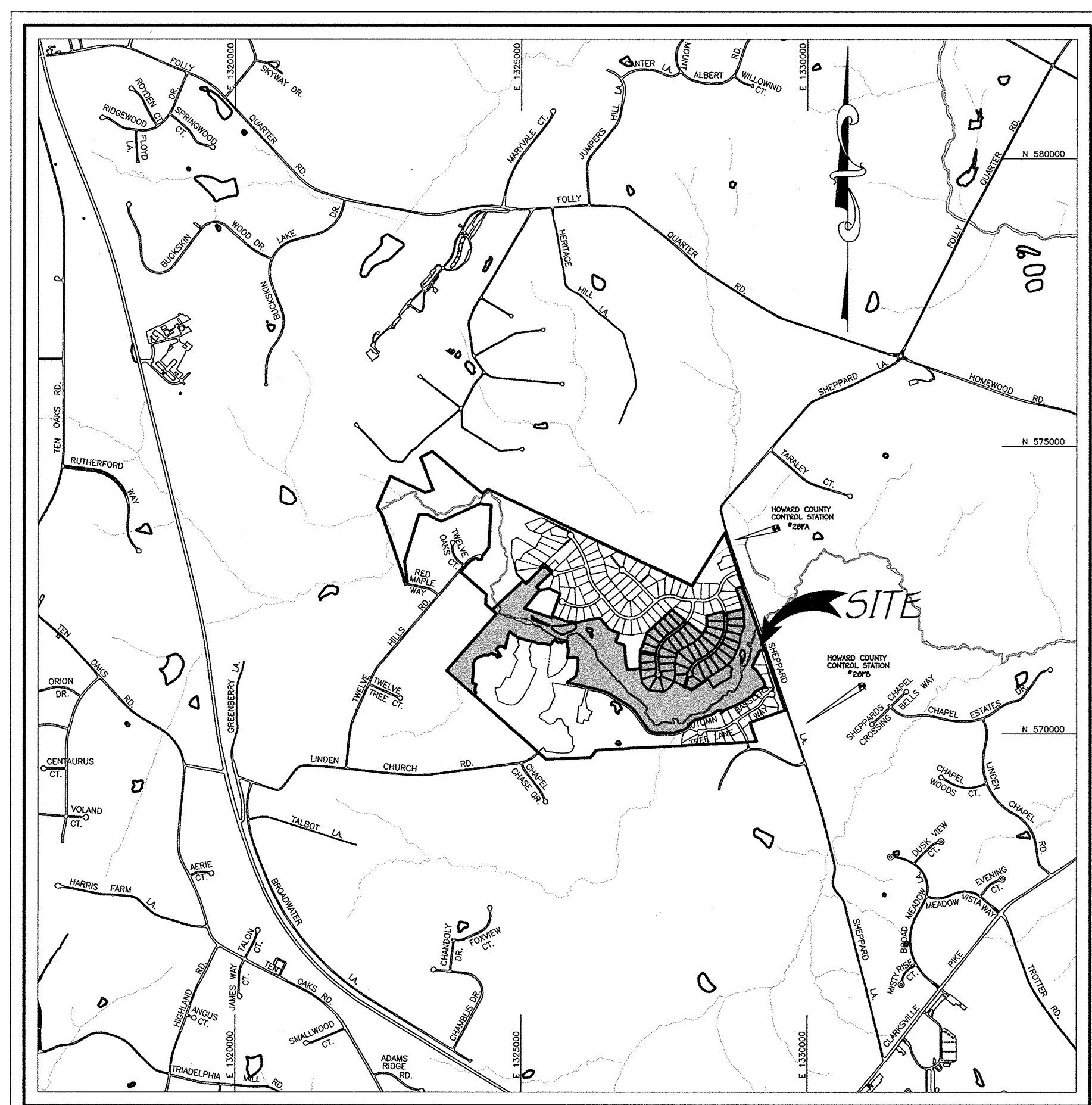
APPROVED: DEPARTMENT OF PLANNING AND ZONING
 CHIEF, DIVISION OF LAND DEVELOPMENT *[Signature]* 4/15/13
 DATE

CHIEF, DEVELOPMENT ENGINEERING DIVISION *[Signature]* 4/12/13
 DATE

- GENERAL NOTES**
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS IF APPLICABLE.
 - THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS / BUREAU OF ENGINEERING / CONSTRUCTION INSPECTION DIVISION AT (410) 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 572,456.665 ELEV. = 548.296 ✓
 E 1,328,937.66
 HOWARD COUNTY MONUMENT NO. 28FB ✓ N 570,710.839 ELEV. = 385.804 ✓
 E 1,325,524.63
 - 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:
 A. SUBDIVISION NAME: WALNUT CREEK
 B. TAX MAP NO.: 28
 C. PARCEL NO.: 49
 D. ZONING: RC-DEO & RR-DEO
 E. ELECTION DISTRICT: FIFTH
 F. TOTAL TRACT AREA: 141,514 AC. + (Phase Four)
 G. NO. OF BUILDABLE LOTS: 45 (Phase Four)
 H. NO. OF NON-BUILDABLE PRESERVATION PARCELS: 2
 I. AREA OF BUILDABLE LOTS: 38,251 AC.
 J. AREA OF NON-BUILDABLE PRESERVATION PARCELS: 100,195 AC.
 K. TOTAL AREA OF SUBDIVISION (Non-Buildable Preservation Parcel 'U', Phase Three)
 L. PREVIOUS FILE NOS.: SP-06-007 APPROVAL DATE: 5/31/06, BA-93-52E, BA-93-33E, BA-93-49E & WP-09-007 (SEE NOTE NO. 10 BELOW), F-07-076 (Phase One), F-09-081 (Phase Two), F-13-026 (Phase Three)
 1. THE DEVELOPER AND/OR THE WALNUT CREEK H.O.A. SHALL MAINTAIN THE CEMETERY AREA.
 2. THE DEVELOPER AND/OR THE WALNUT CREEK H.O.A. SHALL REGULARLY MAINTAIN THE CEMETERY AREA.
 3. THE DEVELOPER AND/OR THE WALNUT CREEK H.O.A. MUST PLACE A CEMETERY MARKER AT THE ENTRANCE OF THE CEMETERY SITE.
 9. ALL FILL AREAS WITHIN ROADWAYS AND UNDER STRUCTURES SHALL BE COMPACTED TO A MINIMUM OF 95% COMPACTION OF ASPHALT T-100.
 10. THE FOREST CONSERVATION REQUIREMENTS PER SECTION 16.1200 OF THE HOWARD COUNTY CODE AND THE FOREST CONSERVATION PLAN FOR THE ENTIRE SUBDIVISION WILL BE FULFILLED BY PROVIDING 97.32 ACRES OF ON-SITE FOREST RETENTION AND 36.16 ACRES OF ON-SITE FOREST 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 1,575,130 SF. = \$787,565.00 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 984,140 SF. = \$492,070.00 IS REQUIRED. THE FOREST CONSERVATION SURETY IN THE AMOUNT OF \$292,070.00 IS TO BE PAID AS PART OF THE DFW DEVELOPER'S AGREEMENT.
 THIS FOREST CONSERVATION PROPOSAL IS SUBJECT TO WP-09-007, APPROVED ON AUGUST 21, 2007 TO THE FOLLOWING CONDITIONS:
 1. THE WAREHOUSE PETITION APPROVAL APPLIES ONLY TO THE TEMPORARY DISPOSAL 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 PLANTING 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.
 2. 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.
 11. STORMWATER MANAGEMENT FACILITIES: B.M.P. NO. 2 (P-1) PRIMARILY OWNED BY THE HOMEOWNER'S ASSOCIATION AND MAINTAINED BY THE HOMEOWNER'S ASSOCIATION AND HOWARD COUNTY, MARYLAND.
 (1) WET EXTENDED DETENTION FACILITY FOR WOV & CFV.
 STORMWATER MANAGEMENT WILL BE PROVIDED IN ACCORDANCE WITH HOWARD COUNTY AND MARYLAND 378 SPECIFICATIONS. RECHARGE 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. OVERBANK FLOOD PROTECTION VOLUME AND EXTREME FLOOD VOLUME ARE NOT REQUIRED FOR THIS SITE.
 (2) ON NOVEMBER 2, 2012, AN ADMINISTRATIVE WATER FOR STORMWATER MANAGEMENT WAS APPROVED SUBJECT TO THIS PLANS APPROVAL BY MAY 4, 2013 AND CONSTRUCTION BY MAY 4, 2017.
 (3) FOR THOSE LOTS WHICH DO NOT DRAIN INTO THE SWM PONDS, SUCH AS LOTS 115-121, 125-128 AND 145-151 OF THIS PHASE IV, SWM SHALL BE PROVIDED BY EITHER THE NATURAL AREA LAND CONSERVATION CREDIT, DISCONNECTION CREDITS AND WHEREVER THESE CREDITS CANNOT BE OBTAINED, A SHEET PLOW TO BUFFER CREDIT WITH LEVEL SPREADERS MAY BE USED.
 12. THE PROPOSED WATER AND SEWER SYSTEMS SHALL BE PRIVATE. SEE CONTRACT NO. 50-4530-D & 50-4773-D FOR LOW PRESSURE SYSTEM.
 13. THE SUBJECT PROPERTY IS LOCATED OUTSIDE OF THE METROPOLITAN DISTRICT.
 14. TOPOGRAPHIC CONTOURS BASED ON HARPOD AERIAL SURVEYS, INC. DATED FEBRUARY, 2004.
 15. FOR FLAG OR PIPESTEM LOTS, REFUSE COLLECTION, SNOW REMOVAL AND ROAD MAINTENANCE IS TO BE PROVIDED AT THE JUNCTION OF THE FLAG OR PIPESTEM AND THE ROAD RIGHT-OF-WAY AND NOT ONTO THE FLAG OR PIPESTEM DRIVEWAY.
 16. THE GEOTECHNICAL REPORT FOR THIS PROJECT WAS PREPARED BY HERBST BENSON & ASSOCIATES, INC., DATED SEPTEMBER, 2005 AND APPROVED ON MAY 31, 2006.
 17. 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.
 18. 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 0-1028A. THE FLOODPLAIN STUDY WAS APPROVED UNDER SP-06-007 DATED 5/31/06.
 19. SOILS INFORMATION TAKEN FROM SOIL MAP NO. 18. SOIL SURVEY, HOWARD COUNTY, MARYLAND, JULY 1968 ISSUE.
 20. THERE ARE STEEP SLOPES LOCATED ON THIS PROPERTY AS DEFINED BY "SLOPES THAT AVERAGE 25% OR GREATER OVER 10 VERTICAL FEET". PER SECTION 16.108(b)(1)(5) OF THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS, TOTAL AREA OF 25% OR GREATER SLOPES = 0.9 AC.
 21. AS PER SECTION 104.7.4.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: B.V. PROPERTIES, INC.
 EASEMENT HOLDERS: HOWARD COUNTY, MARYLAND & HOMEOWNER'S ASSOCIATION
 USE: ENVIRONMENTAL CONSERVATION
 B. NON-BUILDABLE PRESERVATION PARCEL 'X' OWNED: HOMEOWNER'S ASSOCIATION
 EASEMENT HOLDERS: HOWARD COUNTY, MARYLAND
 USE: S.W.M.
 22. NO CLEARING, GRADING OR CONSTRUCTION IS PERMITTED WITHIN THE WETLANDS, STREAM OR THEIR REQUIRED BUFFERS.
 23. THE LANDSCAPE SURETY FOR THE 66 SHADE AND 51 EVERGREEN TREES IN THE AMOUNT OF \$27,450.00 FOR PERMETER 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 115 STREET TREES WILL BE POSTED AS PART OF THE DEVELOPER'S AGREEMENT IN THE AMOUNT OF \$35,700.00.
 24. 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 REGULATIONS AS AMENDED BY COUNCIL BILL NO. 79-2003 AND THE CORP. USE ZONING REGULATION AMENDMENTS EFFECTIVE 7/2/08. DEVELOPMENT OR CONSTRUCTION ON THESE LOTS OR PARCELS MUST COMPLY WITH SETBACK AND BUFFER REGULATIONS IN EFFECT AT THE TIME OF SUBMISSION OF A BUILDING OR GRADING PERMIT APPLICATION.
 25. WELLS SHALL BE DRILLED ON LOTS PRIOR TO RECORDATION OF THE FINAL RECORD PLAT.
 26. LOTS 115 THRU 159 ARE TO BE SERVED BY A PUBLIC SHARED SEPTIC FACILITY LOCATED ON NON-BUILDABLE PRESERVATION PARCEL 'U' (F-07-076), WALNUT CREEK, PHASE ONE.
 27. SIGN POSTS: ALL SIGN POSTS USED FOR TRAFFIC CONTROL SIGNS INSTALLED IN THE COUNTY RIGHT-OF-WAY SHALL BE MOUNTED ON A 2" GALVANIZED STEEL, PERFORATED, SQUARE TUBE POST (1 1/4 GAUGE) INSERTED INTO A 2-1/2" GALVANIZED STEEL, PERFORATED, SQUARE TUBE SLEEVE (1 1/2 GAUGE) - 3" LONG. A GALVANIZED STEEL POLE CAP SHALL BE MOUNTED ON TOP OF EACH POST.
 28. THIS PROJECT IS SUBJECT TO WASTEWATER DISCHARGE PERMIT NUMBER 06-09-3638 AND IS EFFECTIVE FROM AUGUST 1, 2008 UNTIL AUGUST 1, 2011 WHEN IT EXPIRES. THE SHARED SEPTIC SYSTEM CONTRACT NO. IS 50-4441-0 AND THE COLLECTION SYSTEM CONTRACT NO. IS 50-4773-0.
 29. THE PLAN IS SUBJECT TO WAREHOUSE PETITION WP-13-146, ON APRIL 9, 2013 THE PLANNING DIRECTOR APPROVED A NUMBER FROM SECTION 16.144(a) - REQUIRING FINANCIAL PROVISIONS AND POSTING OF FINANCIAL OBLIGATIONS, AND SECTION 16.144(a) - REQUIRING SUBMISSION OF THE FINAL SUBDIVISION PLAN FOR RECORDATION.



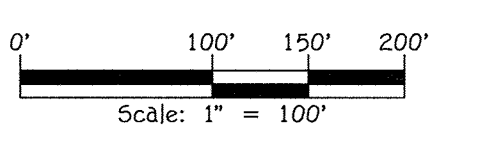
PLAN VIEW
SCALE: 1" = 600'



VICINITY MAP
SCALE: 1" = 2000'

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
 CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
 ELICOTT CITY, MARYLAND 21042
 (410) 461-7900



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

FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

"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."

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] 10/22/18
 CHARLES J. ORLO, P.E. No. 19904
 Date



3/20/13
 DATE

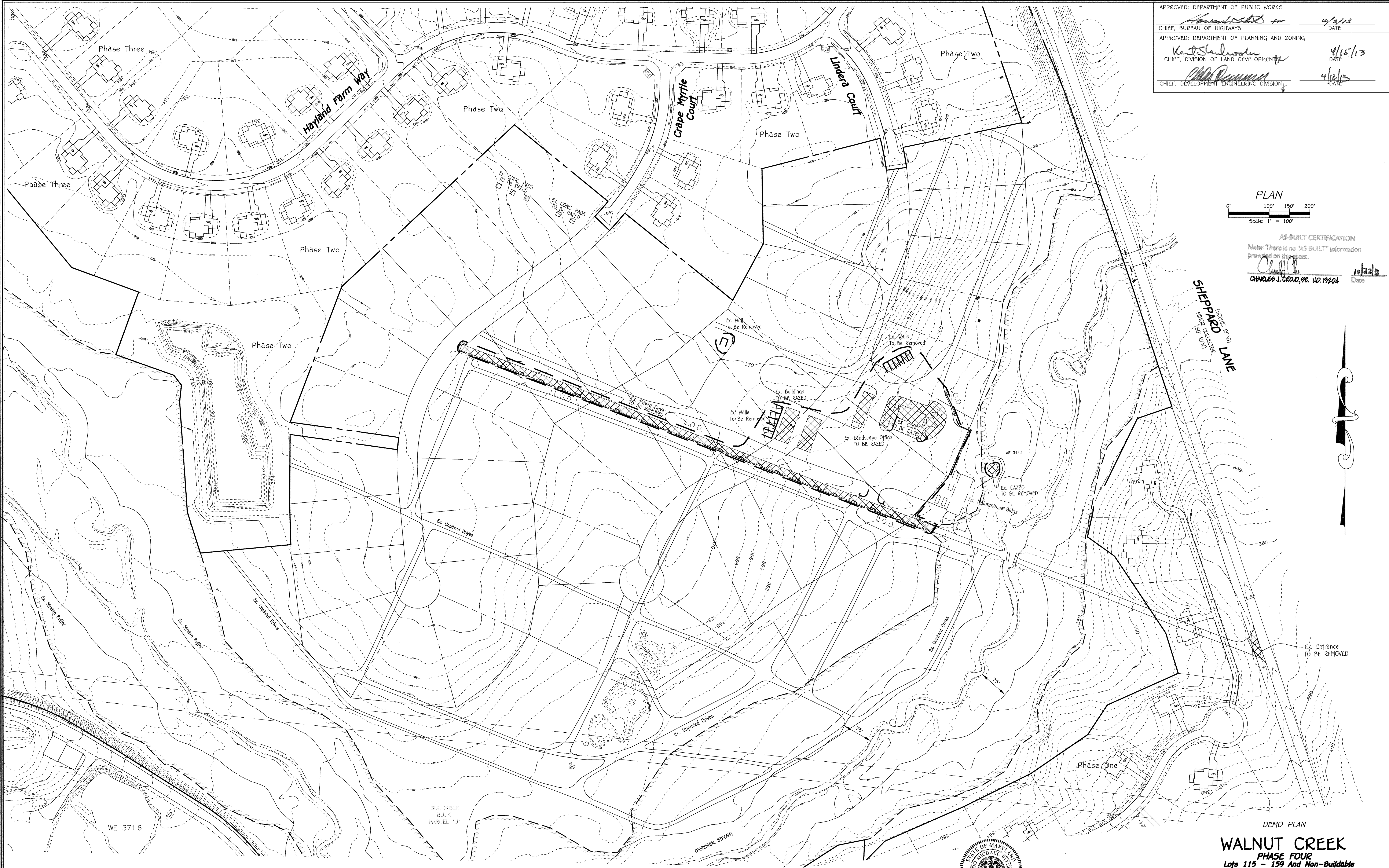
WALNUT CREEK
PHASE FOUR
Lots 115 - 159 And Non-Buildable
Preservation Parcel 'W' & 'X'
 (A Resubdivision Of Buildable Bulk Parcel 'U' - Walnut Creek, Phase Three)
 ZONED: RC-DEO & RR-DEO
 TAX MAP NO. 28 GRID Nos. 4, 5, 10-12, 17, AND 18 PARCEL NO. 49
 FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 DATE: MARCH 20, 2013
 SHEET 1 OF 23

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

4/3/13
 DATE
 4/15/13
 DATE
 4/12/13
 DATE

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

AS-BUILT CERTIFICATION
 Note: There is no "AS BUILT" information provided on this sheet.
 CHARLES J. ORZIO, P.E. 10/22/10
 Date



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

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

Developer
 Basler Venture, LLC
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 P.O. Box 482
 Liabon, MD 21765
 410-489-7900

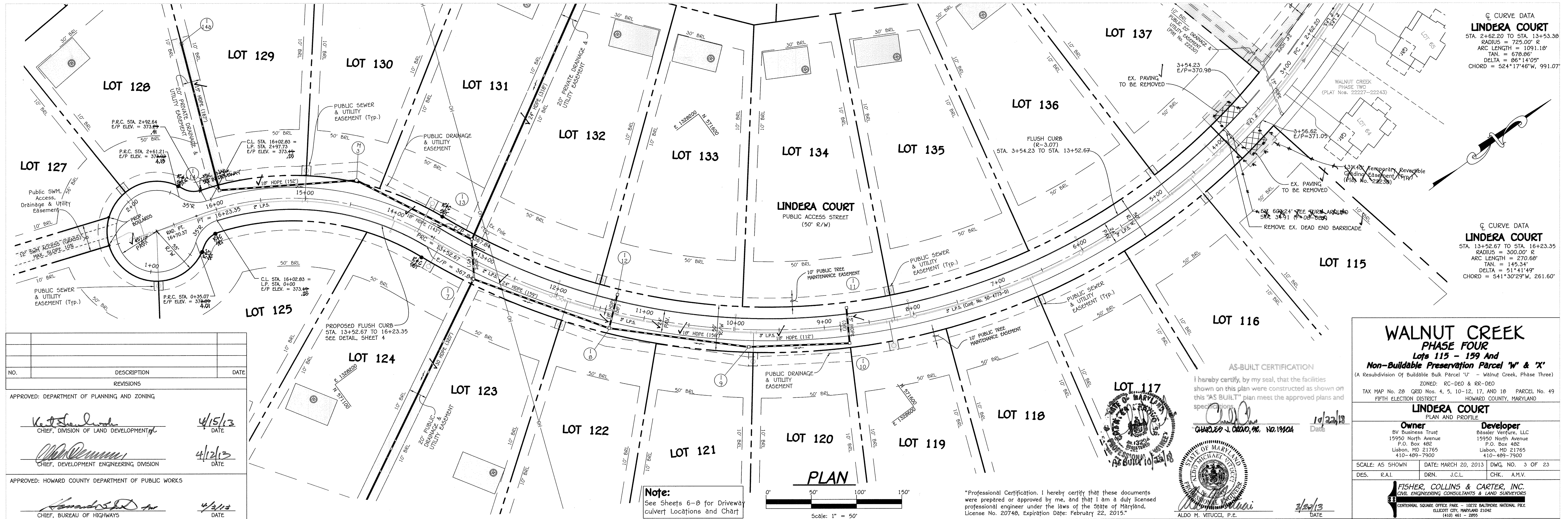
"Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 20740, Expiration Date: February 22, 2015."

ALDO M. VITUCCI, P.E.
 3/20/13
 DATE

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

THERE IS NO "AS-BUILT" INFORMATION PROVIDED ON THIS SHEET F-13-034

I:\2014\04\01\WALNUT CREEK PHASE FOUR FINAL\AS-BUILT-F-13-034.dwg (demo plan.dwg) SHEET 2, 3/20/2013 7:12:13 AM, 1:1



NO.	DESCRIPTION	DATE
REVISIONS		
APPROVED: DEPARTMENT OF PLANNING AND ZONING		
	<i>Kevin J. ...</i>	4/15/13
	<i>...</i>	4/12/13
APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS		
	<i>...</i>	4/3/13

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)

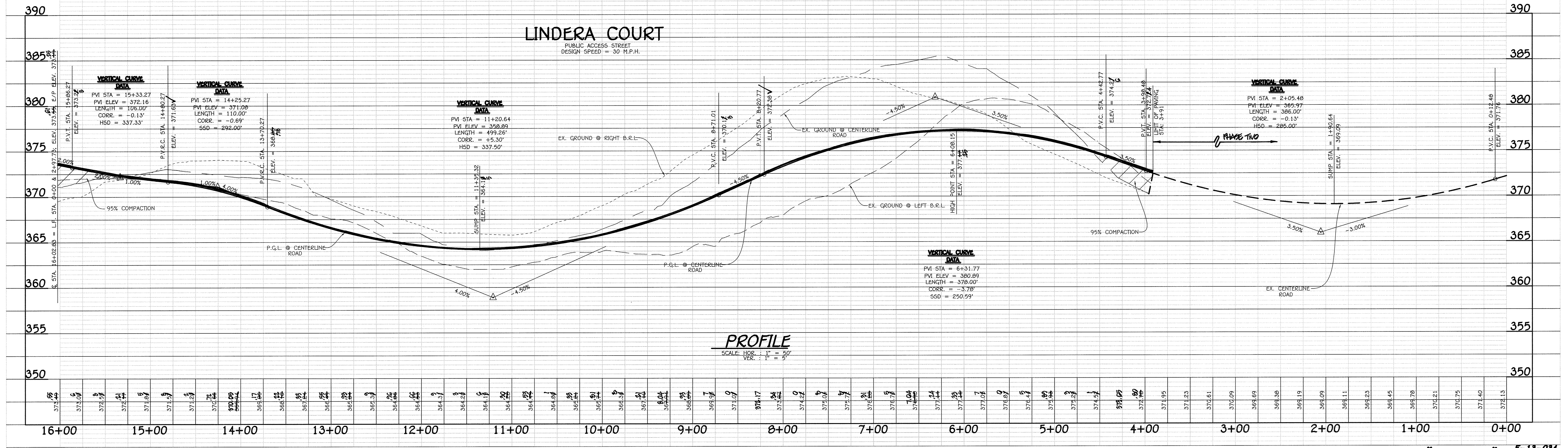
ZONED: RC-DEO & RR-DEO
TAX MAP No. 28 GRID Nos. 4, 5, 10-12, 17, AND 18 PARCEL No. 49
FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

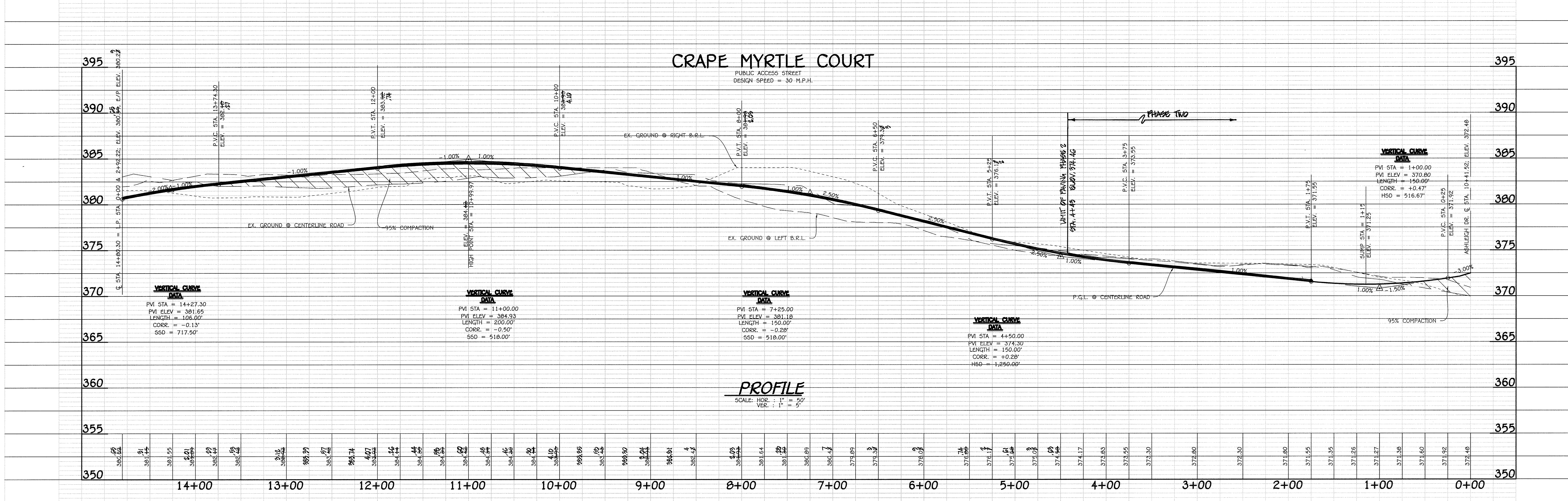
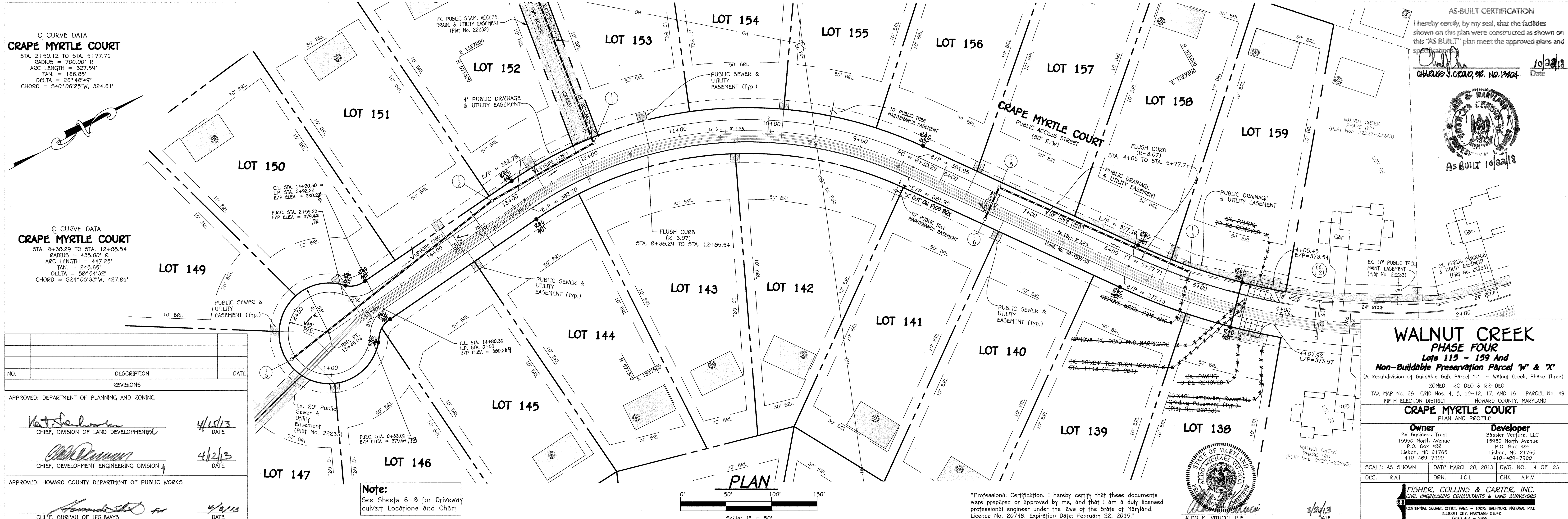
LINDERA COURT
PLAN AND PROFILE

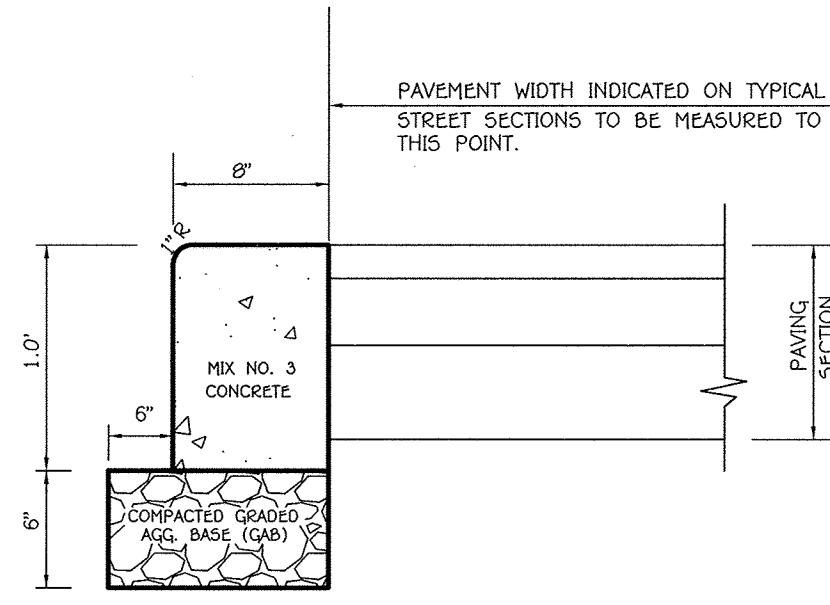
Owner BV Business Trust 15950 North Avenue P.O. Box 482 Lisbon, MD 21765 410-489-7900	Developer Basaler Venture, LLC 15950 North Avenue P.O. Box 482 Lisbon, MD 21765 410-489-7900
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SCALE: AS SHOWN DATE: MARCH 20, 2013 DWG. NO. 3 OF 23
DES. R.A.I. DRN. J.C.L. CHK. A.M.V.

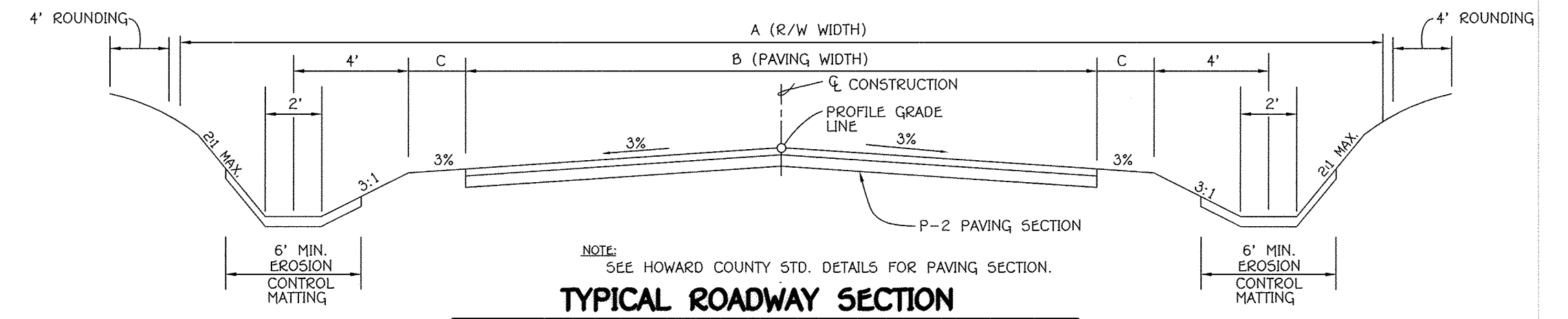
FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTRAL SQUARE OFFICE PARK - 10712 BALTIMORE NATIONAL PIKE
ELLEOTT CITY, MARYLAND 21142
(410) 461-2895







FLUSH CURB (R-3.07)
NO SCALE

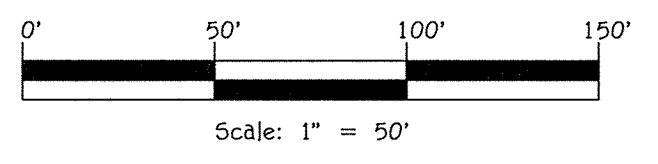


TYPICAL ROADWAY SECTION
NO SCALE

ROADWAY INFORMATION CHART						
ROAD NAME	CLASSIFICATION	DESIGN SPEED	ZONING	A	B	C
LINDERA COURT	PUBLIC ACCESS STREET	30 M.P.H.	RC-DEO	20'	24'	30'
GRAPE MYRTLE COURT	PUBLIC ACCESS STREET	30 M.P.H.	RC-DEO	20'	24'	30'

% STATION LIMITS		PAVING SECTION
ROADWAY	PAVING SECTION	
3+91 TO 16+70.37	P-2	P-2
4+43 TO 15+45.01	P-2	P-2

NO.	DESCRIPTION	DATE
REVISIONS		
APPROVED: DEPARTMENT OF PLANNING AND ZONING		
	<i>Karl S. Lusk</i> CHIEF, DIVISION OF LAND DEVELOPMENT	4/15/13 DATE
	<i>Alfred D. ...</i> CHIEF, DEVELOPMENT ENGINEERING DIVISION	4/12/13 DATE
APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS		
	<i>Robert ...</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."



3/29/13
DATE

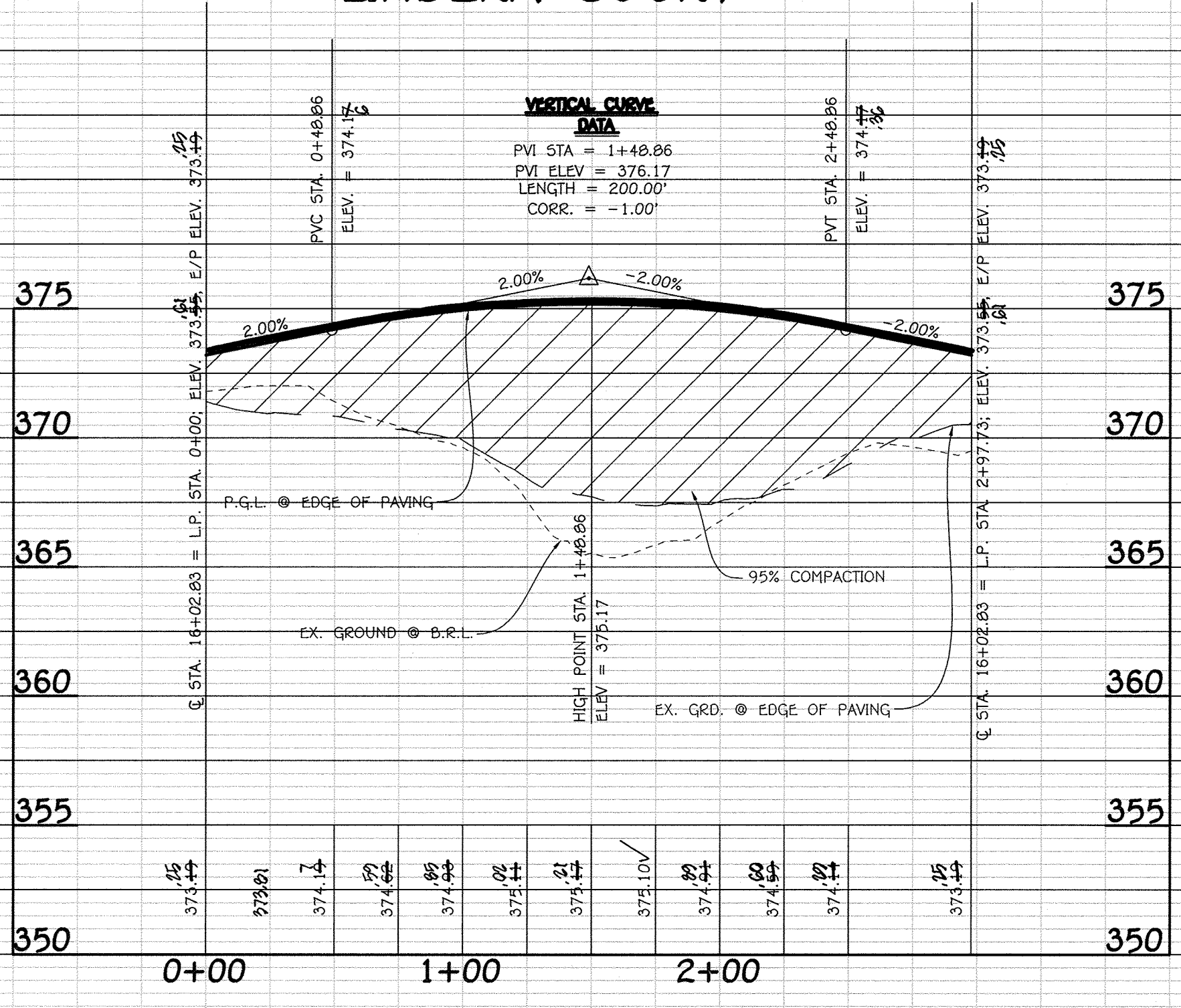


AS-BUILT CERTIFICATION
I hereby certify, by my seal, that the facilities shown on this plan were constructed as shown on this "AS BUILT" plan meet the approved plans and specifications.
Charles J. ...
CHARLES J. ...
Date: 10/22/13

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

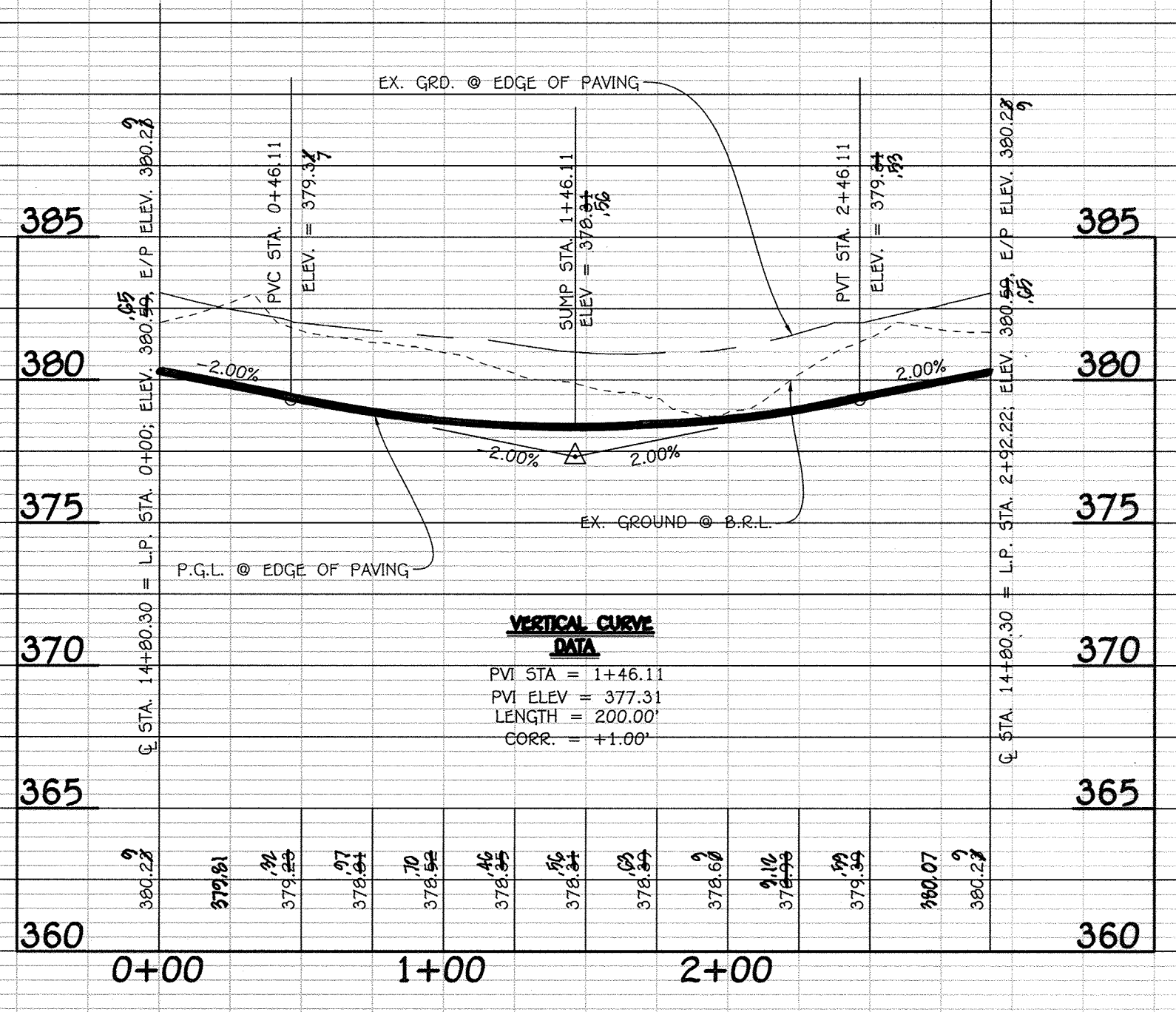
LINEAR PROFILES & ROADWAY DETAILS		
Owner	Developer	
BY Business Trust 15950 North Avenue P.O. Box 482 Lisbon, MD 21765 410-489-7900	Basler Venture, LLC 15950 North Avenue P.O. Box 482 Lisbon, MD 21765 410-489-7900	
SCALE: AS SHOWN	DATE: MARCH 20, 2013	DWG. NO. 5 OF 23
DES. R.A.I.	DRN. J.C.L.	CHK. A.M.V.
FISHER, COLLINS & CARTER, INC. CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS CENTENNIAL SQUARE OFFICE PARK - 10276 BALTIMORE NATIONAL PIKE ELLSWORTH CITY, MARYLAND 21042 (410) 461-2292		

LINDERA COURT

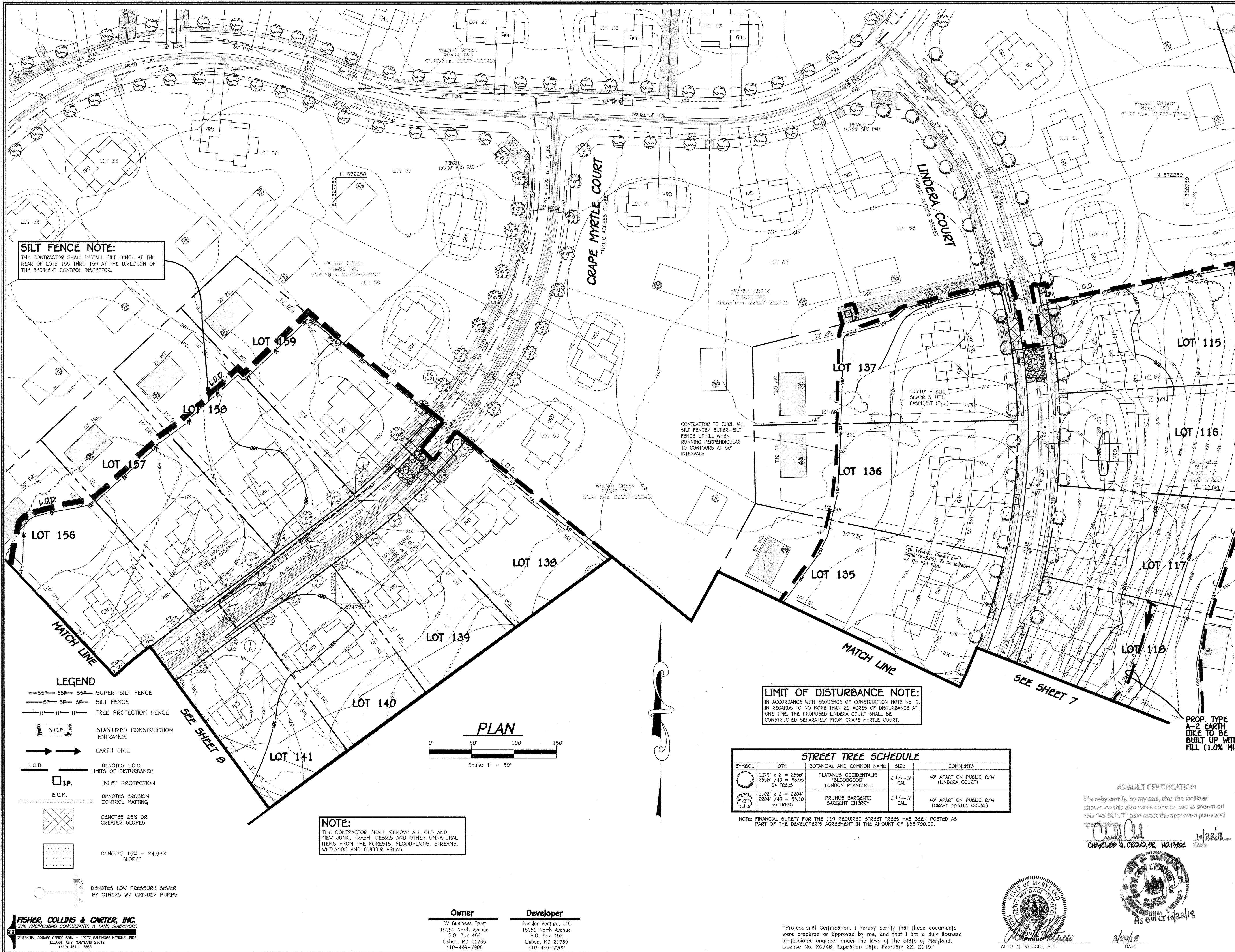


LINEAR PROFILE
SCALE: HOR. : 1" = 50'
VER. : 1" = 5'

GRAPE MYRTLE COURT



LINEAR PROFILE
SCALE: HOR. : 1" = 50'
VER. : 1" = 5'



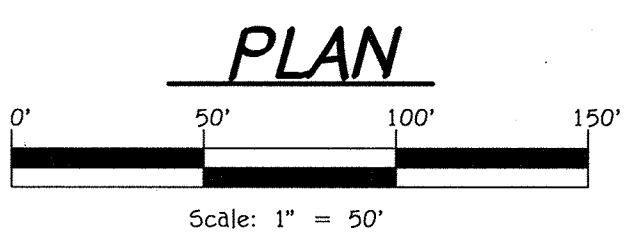
SILT FENCE NOTE:
 THE CONTRACTOR SHALL INSTALL SILT FENCE AT THE REAR OF LOTS 159 THRU 159 IN THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR.

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 NO. 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**
- SSF—SSF—SSF SUPER-SILT FENCE
 - 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
 - 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' 2558' / 40 = 63.95 64 TREES	PLATANUS OCCIDENTALIS "BLOODGOOD" LONDON PLANETREE	2 1/2"-3" CAL.	40' APART ON PUBLIC R/W (LINDERIA COURT)
	1102' x 2 = 2204' 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:
 Signature of Developer: *Timothy W. Feagan*
 Printed Name of Developer: **Timothy W. Feagan**
 Date: **3/26/13**

By The Engineer:
 Signature of Engineer: *John M. Roberts*
 Printed Name of Engineer: **John M. Roberts**
 Date: **3/26/13**

Approved: Department of Public Works
 Signature: *[Signature]*
 Chief - Bureau of Highways
 Date: **4/2/13**

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

Approved: Department of Engineering Division
 Signature: *[Signature]*
 Chief, Development Engineering Division
 Date: **4/15/13**

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	Expanded L.O.D. For Earthwork	5/7/12
2	Change L.O.D. TO MATCH BUILDERS L.P.S.	1/6/11
3	Remove Culverts On Lots 125 & 126 From The Chart	5/6/11

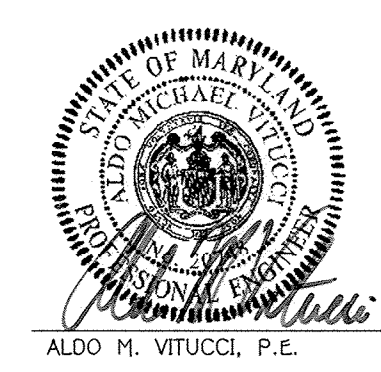
**Walnut Creek - Phase 4
 Driveway Culverts**

Lot	Slope (%)	Q10 (cfs)	DW Pipe Size
115	3.33	2.4	15" CMP
116	2.88	1.9	15" CMP
117	TOVC	0.2	NO PIPE
118	2.50	1.6	15" CMP
119	3.85	2.6	15" CMP
120	3.33	2.2	15" CMP
121	AT INLET	0.6	NO PIPE
122	1.44	1.9	15" CMP
123	2.80	3.3	15" CMP
124	4.00	5.0	15" 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	15" CMP
134	4.34	0.3	STANDARD
135	2.63	1.0	STANDARD
136	TOVC	0.2	STANDARD
137	3.03	2.4	15" CMP
138	2.38	3.6	15" CMP
139	2.38	2.2	15" CMP
140	1.80	0.4	STANDARD
141	1.04	2.2	15" CMP
142	1.04	1.1	STANDARD
143	TOVC	0.1	NO PIPE
144	1.70	1.2	STANDARD
145	1.10	2.0	STANDARD
146	2.15	2.0	15" CMP
147	2.10	4.3	15" CMP
148	2.10	4.9	15" CMP
149	2.15	3.9	15" CMP
150	1.10	2.4	STANDARD
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	15" 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: *Charles W. Crowe, Jr.*
 Date: **10/22/18**



FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
 ELICOTT CITY, MARYLAND 21042
 (410) 461-2099

Owner
 BV Business Trust
 19950 North Avenue
 P.O. Box 482
 Lisbon, MD 21765
 410-409-7900

Developer
 Basaler Venture, LLC
 19950 North Avenue
 P.O. Box 482
 Lisbon, MD 21765
 410-409-7900

"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."

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. 28 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

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. Feag* Date: 3/26/13

Printed Name of Developer: **Timothy W. Feag**

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 Had This Developer Sign His/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]* Date: 3/26/13

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
 Chief, Bureau of Highways Date: 4/3/13

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

SWM SUMMARY TABLE		
TYPE OF REQUIREMENT	VOLUME REQUIRED	VOLUME PROVIDED AND NOTES
Recharge Vol. for Entire Site	10.04 acres-feet or 1,110 acre-feet	12.4 acres w/ % Area Method
Design Point #1	0.35 acre-feet	0.35 ac. ft. @ BMP Facility #2
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 area this watershed area is not classified as one of the sensitive watershed areas for Howard County.

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.



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: *[Signature]* Date: 10/22/18
 License No. 102418

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 exist. = 0.09 c.f.s.
 Q1 prop. = 0.03 c.f.s. @ EL. = 356.43

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]* Date: 10/22/18
 License No. 102418

13204

10/22/18

1327650

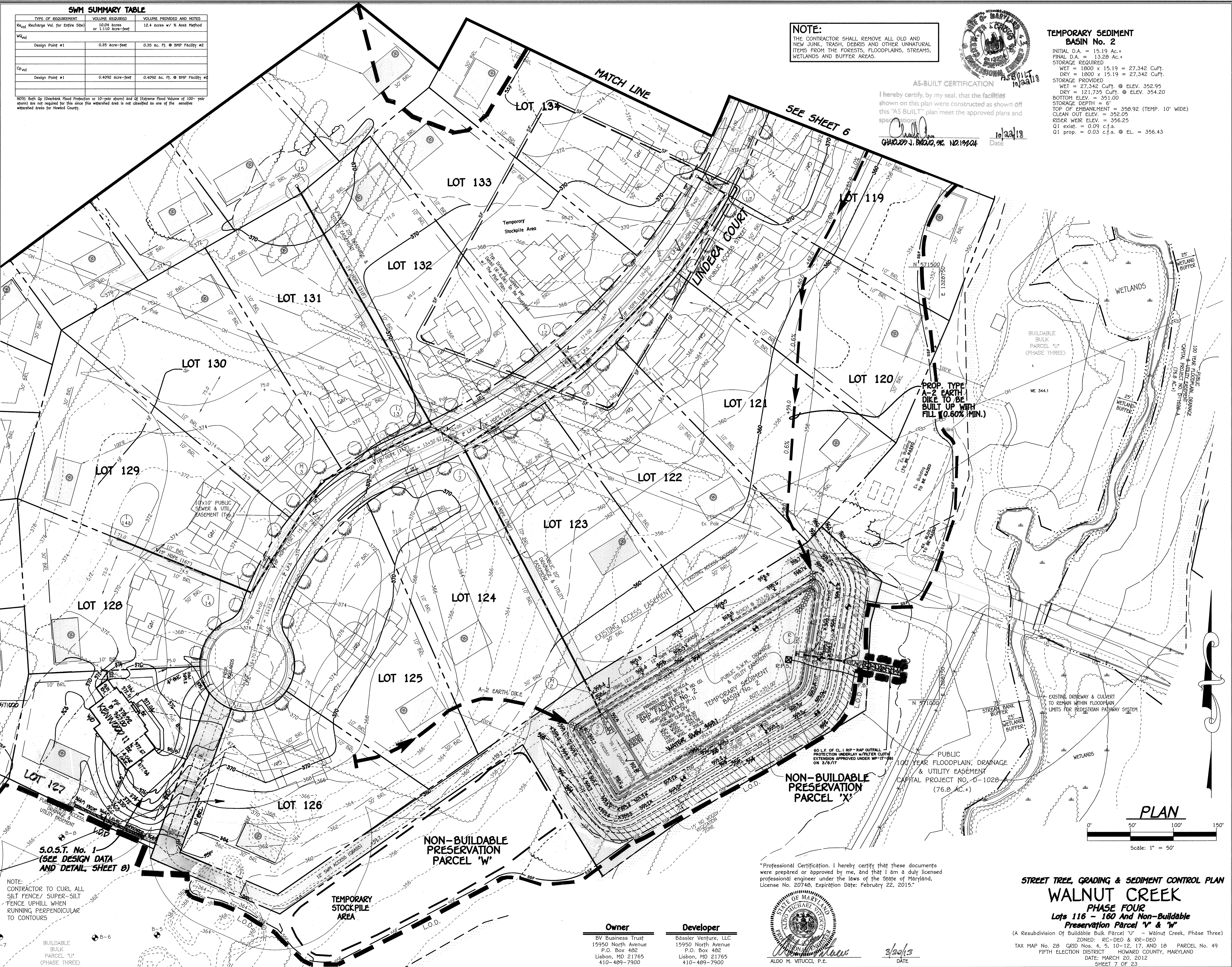
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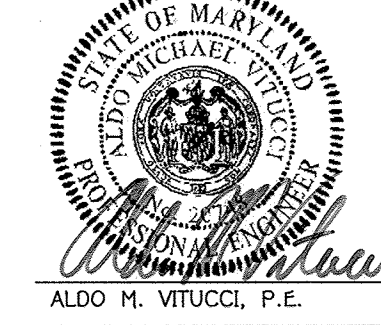
1571000

NO.	DESCRIPTION	DATE
1	Expanded L.O.D. For Earthwork	5-9-10
2	REMOVE LOT TO WHICH BUILDERS UPD	1/6/17
3	REMOVE D/W CURVES FOR LOTS 125 & 126, EXTEND SUP. RAP AT S-3	5/9/17
4	REMOVE FENCE & CURB LOT 127 FROM FINAL BOX TO YESWOOD II	4/9/18

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



"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."



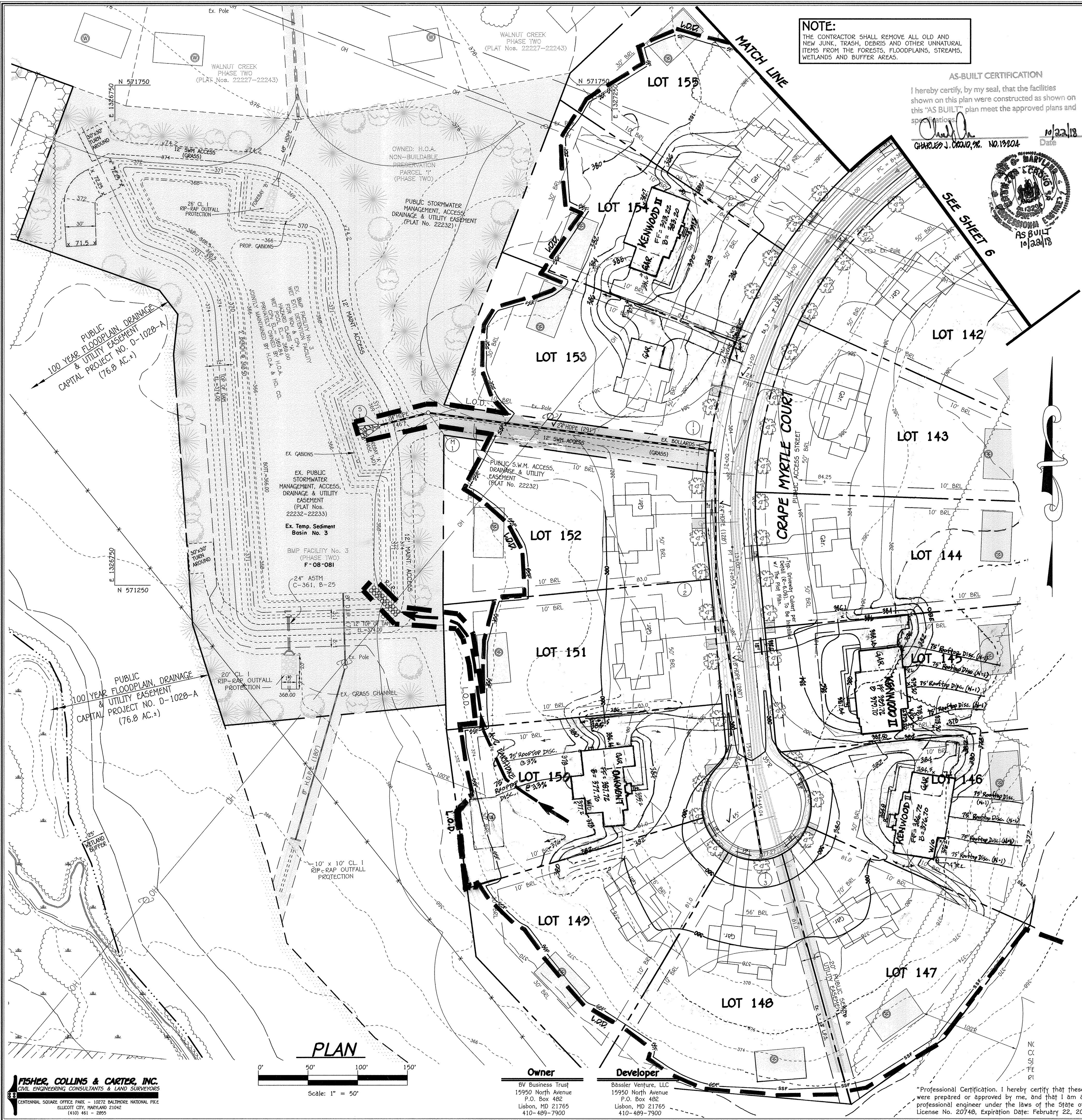
Signature: *[Signature]* Date: 3/26/13

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

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

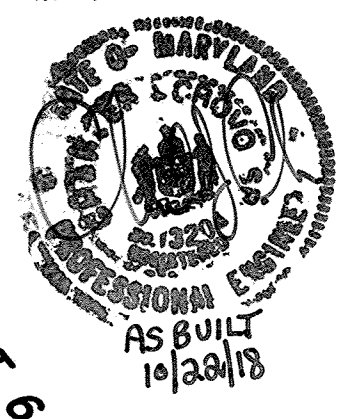
FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTRAL SQUARE OFFICE PARK - 10772 BALTIMORE NATIONAL PIKE
 ELICOTT CITY, MARYLAND 21042
 (410) 461-3899

STREET TREE, GRADING & SEDIMENT CONTROL PLAN
WALNUT CREEK
PHASE FOUR
Lots 116 - 160 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, 2012
 SHEET 7 OF 23

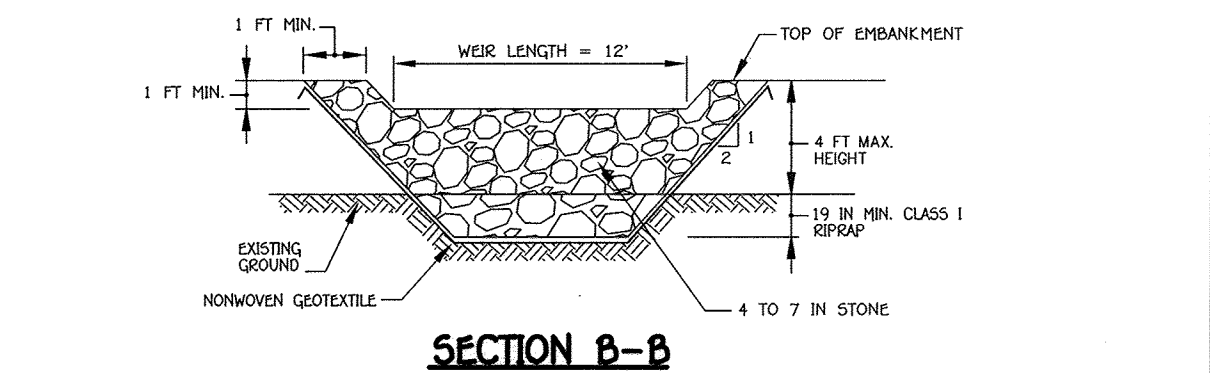
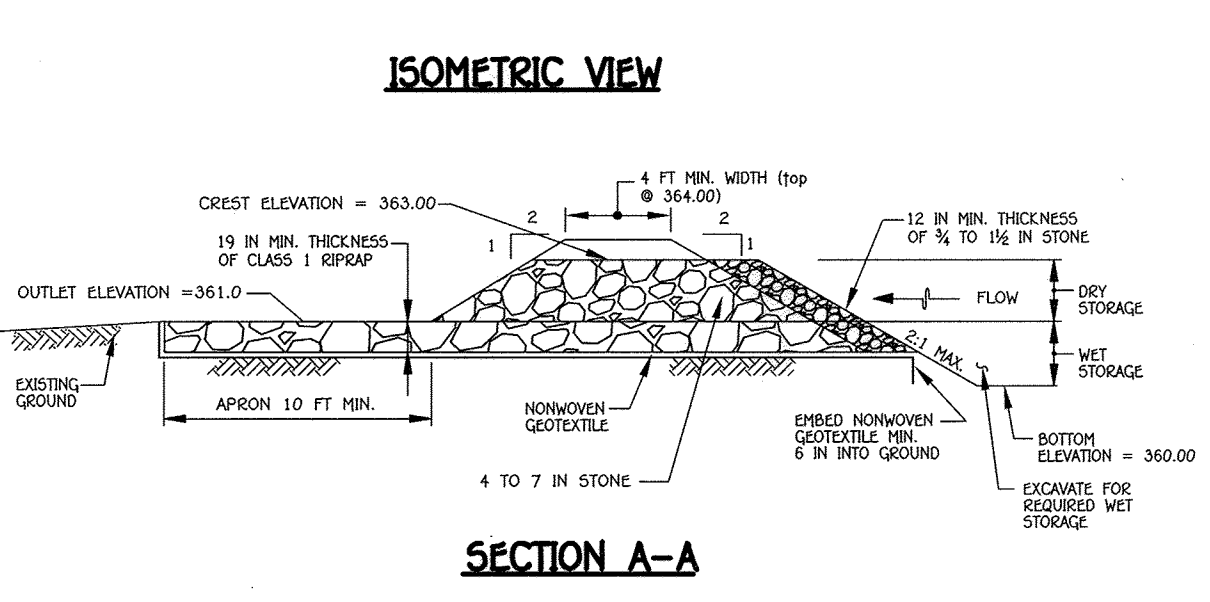
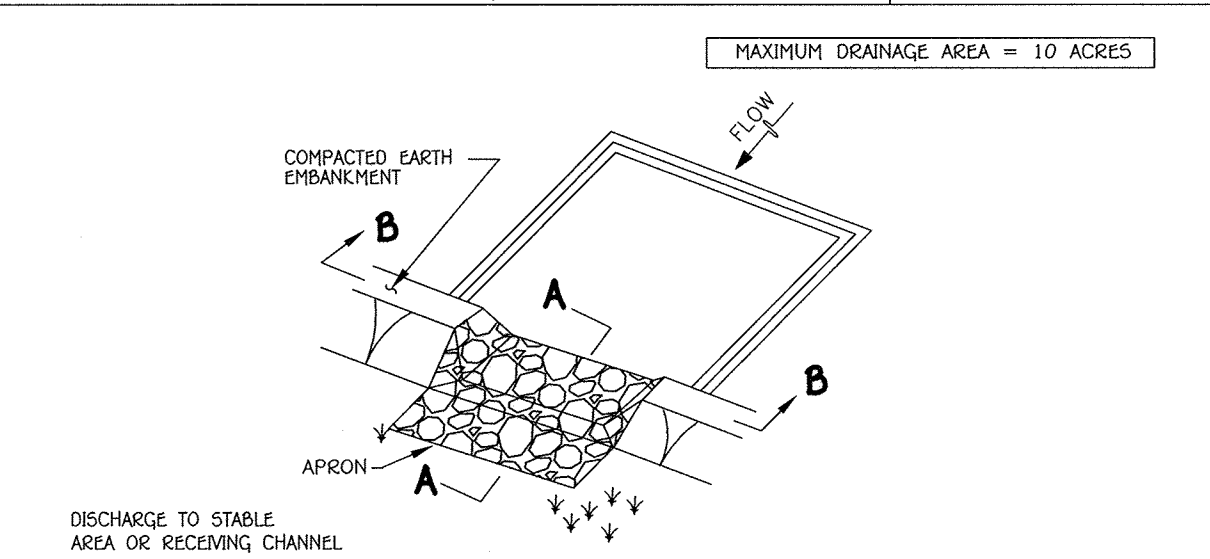


NOTE:
THE CONTRACTOR SHALL REMOVE ALL OLD AND NEW JUNK, TRASH, DEBRIS AND OTHER UNNATURAL ITEMS FROM THE FORESTS, FLOODPLAINS, STREAMS, WETLANDS AND BUFFER AREAS.

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.
Charles J. Vitucci, P.E. 10/22/13
Date



STONE/RIPRAP OUTLET SEDIMENT TRAP ST-II



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 TRAVELING 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. EMBED 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 3/8 TO 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 ERODE. 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	---
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 & 154 TO SHOW FINAL HOUSES, GRADING, SWM 7/23/13

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 3/28/13 Date

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 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 Within 30 Days Of Completion."
Signature of Engineer 3/28/13 Date

These Plans For Small Pond Construction, Soil Erosion And Sediment Control Meet The Requirements Of The Howard Soil Conservation District.
John R. Hester 3/28/13 Date
Howard Soil Conservation District
Approved: Department Of Public Works
Signature 4/3/13 Date
Chief, Bureau Of Highways

Approved: Department Of Planning And Zoning
Signature 4/15/13 Date
Chief, Division Of Land Development
Signature 4/21/13 Date
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.

NO.	DESCRIPTION	DATE
1	Expanded L.O.D. For Earthwork	5-9-10
2	REMOVE LOTS TO MATCH BUILDERS COPY	1/6/17
3	REMOVE LOTS 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000	7/3/13

LEGEND

- SUPER-SILT FENCE
- SILT FENCE
- 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

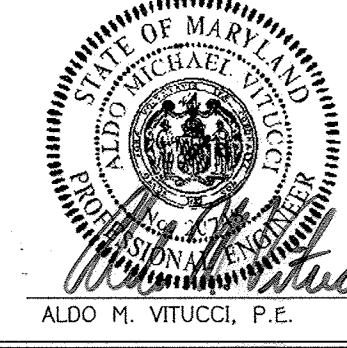
STREET TREE, GRADING & SEDIMENT CONTROL PLAN
WALNUT CREEK
PHASE FOUR
Lots 115 - 159 And Non-Buildable Preservation Parcel "W" & "X"
(A Resubdivision Of Buildable Bulk Parcel "V" - Walnut Creek, Phase Three)
ZONED: RC-DEO & RR-DEO
TAX MAP NO. 28 GRID NOS. 4, 5, 10-12, 17, AND 18 PARCEL NO. 49
FIFTH ELECTION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

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL FILE
ELLSWORTH CITY, MARYLAND 21042
410.651.1611

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."



Aldo M. Vitucci, P.E. 3/20/13 Date

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

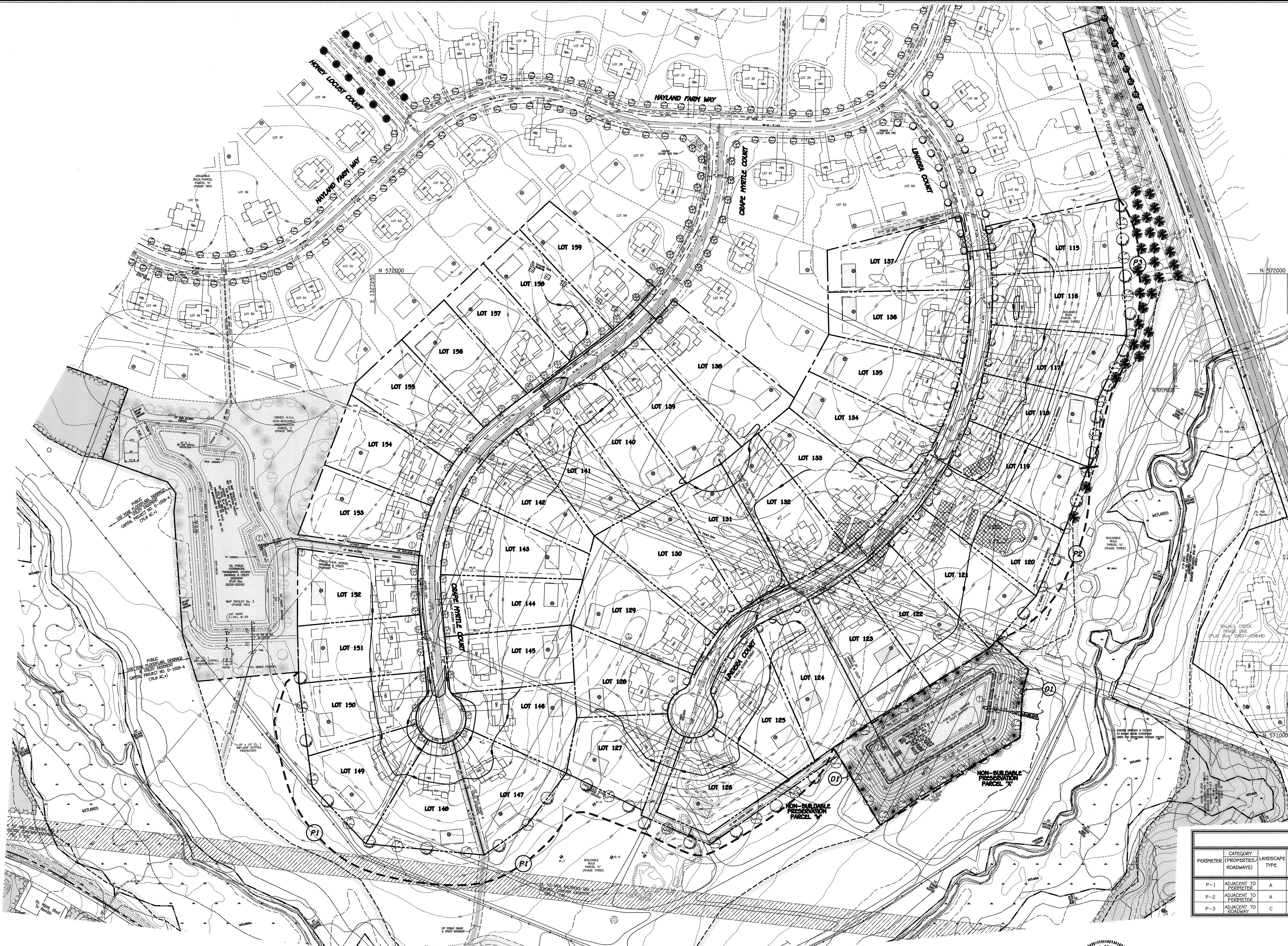
Approved: Department of Planning And Zoning
 Chief, Division of Land Development *[Signature]* 4/15/12
 Date

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

SCHEDULE D STORMWATER MANAGEMENT AREA LANDSCAPING	
LINEAR FEET OF PERIMETER	D-1 : 1233'
NUMBER OF TREES REQUIRED:	
SHADE TREES	25
EVERGREEN TREES	31
CREDIT FOR EXISTING VEGETATION (NO, YES AND %)	YES (39%)
CREDIT FOR OTHER LANDSCAPING (NO, YES AND %)	NO
NUMBER OF TREES PROVIDED:	
SHADE TREES	1233' - 39% = 638' / 50 = 17 TREES
EVERGREEN TREES	1233' - 39% = 638' / 40 = 21 TREES

NO.	DESCRIPTION	DATE
1	EXTEND RIP-RAP OUTFALL AT S-3 REMOVE D/W CULVERTS FOR LOTS 125 & 126	5/9/17
REVISIONS		

AS-BUILT CERTIFICATION
 Note: There is no "AS BUILT" information provided on this sheet.
[Signature]
 CHARLES J. BRADY, P.E. NO. 19924
 10/22/18
 Date

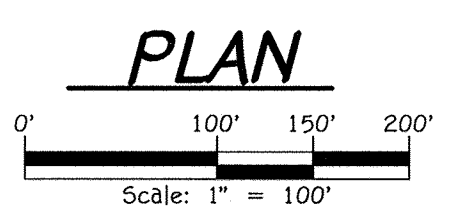


SCHEDULE A PERIMETER LANDSCAPE EDGE						
PERIMETER	CATEGORY (PROPERTIES/ROADWAYS)	LANDSCAPE TYPE	LINEAR FEET OF ROADWAY FRONTAGE PERIMETER	CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	CREDIT FOR WALL, FENCE OR BEAM (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	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	602'	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."



[Signature]
 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-OEO & RC-OEO
 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

THERE IS NO "AS-BUILT" INFORMATION PROVIDED ON THIS SHEET F-13-034

I:\2014\04\01\WALNUT CREEK PHASE FOUR FINAL\13-034 Landscape Plan.dwg, sheet, 3/20/2013 7:27:50 AM, 1:1

NOTE: CONTRACTOR TO REGRADE, SOO OR HYDROSEED AND STRAW MULCH ALL AREAS DISTURBED AS A RESULT OF THEIR WORK.

SPRAY WITH WILT-PROOF ACCORDING TO MANUFACTURERS STANDARDS

PRUNE 1/3 LEAF AREA BUT RETAIN NATURAL FORM OF TREE

2 PIECES OF REINFORCED RUBBER HOSE
DOUBLE #12 GALVANIZED WIRE GUYS TWISTED

3-2" X 2" OAK STAKES, NOTCH STAKES TO HOLD WIRE

WRAP TRUNK TO SECOND TIER OF BRANCHES WITH WATERPROOF TREE WRAP, TIE AT 24" INTERVALS (EXCEPT EVERGREENS)

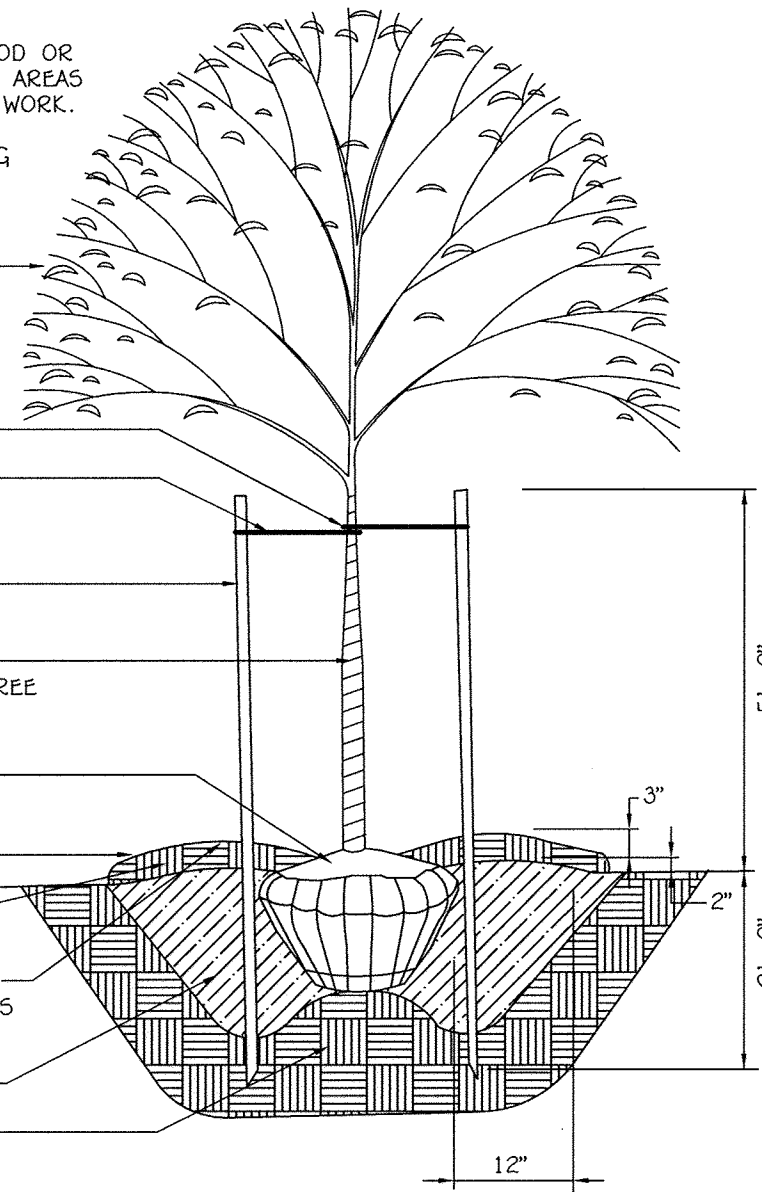
REMOVE ANY COVERING FROM TOP OF ROOT CROWN

3" MULCH

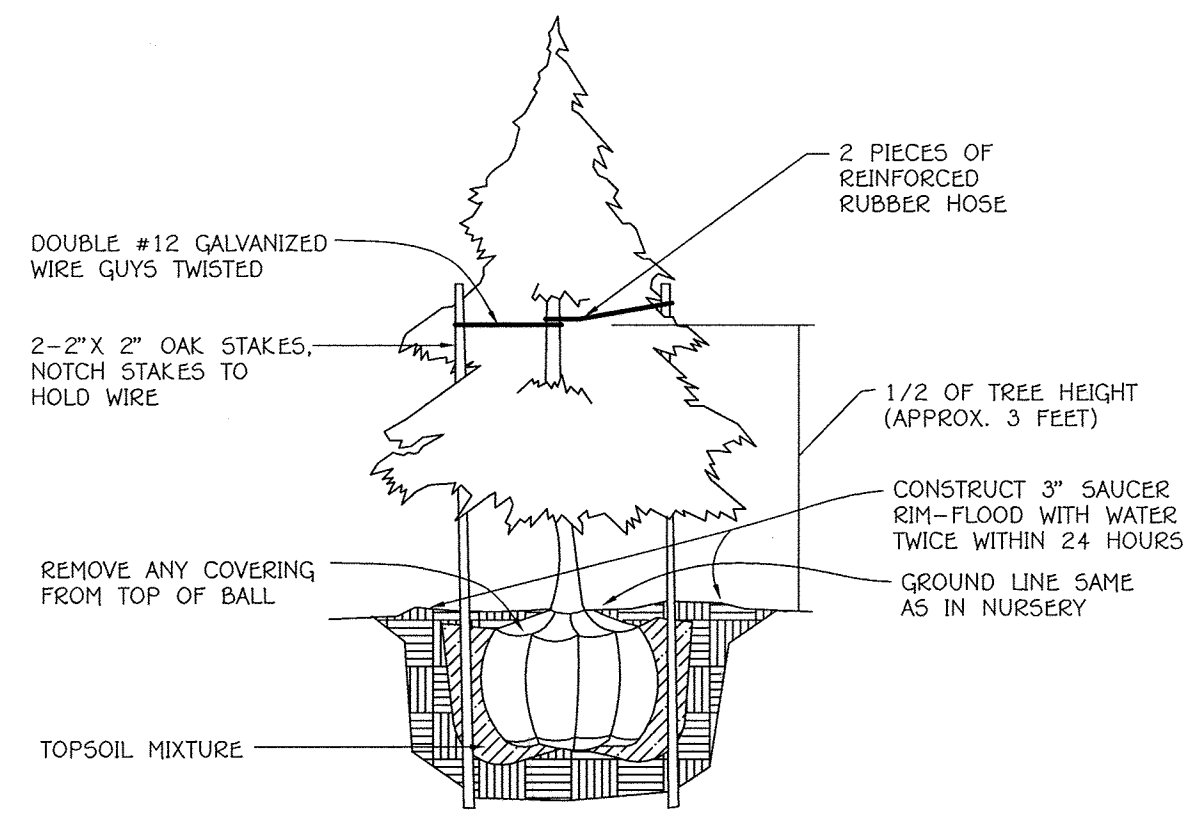
MAINTAIN GROUND LINE WITH TOP OF ROOT CROWN

CONSTRUCT 3" SAUCER RIM-FLOOD WITH WATER TWICE WITHIN 24 HOURS

TOP SOIL MIXTURE
CONVEX BOTTOM 6" MIN. HT.



TREE PLANTING DETAIL



EVERGREEN PLANTING DETAIL

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 relocations of the required plantings may be made without prior review and approval from the Department of Planning and Zoning. Any deviations from the approved Landscape Plan may result in denial or delay in the release of landscape surety until such time as all required materials are planted and/or revisions are made to the road drawing plans."

"The Owner, tenants and/or their agents shall be responsible for maintenance of the required perimeter landscaping. All plant materials shall be maintained in good growing condition, and when necessary, replaced with new materials to ensure continued compliance with applicable regulations. All the other required landscaping shall be permanently maintained in good condition, and when necessary, repaired or replaced."

No.	Description	Date
1	Extend Rip-Rap Outfall @ S-3	6/9/17
	Revisions	

Approved: Department of Public Works <i>Charles J. Crook, Jr.</i>	4/3/13 Date
Chief, Bureau of Highways	
Approved: Department of Planning and Zoning <i>Michael J. ...</i>	4/15/13 Date
Chief, Division of Land Development	
Approved: <i>Michael J. ...</i>	4/12/13 Date
Chief, Development Engineering Division	

PLANT LIST			
SYMBOL	QTY.	BOTANICAL AND COMMON NAME	SIZE
	41	ACER RUBRUM "Armstrong" ARMSTRONG COLUMNAR RED MAPLE	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 66 SHADE & 51 EVERGREEN TREES HAS BEEN POSTED AS PART OF THE DEVELOPER'S AGREEMENT IN THE AMOUNT OF \$27,450.00 .

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 completion of site construction.

Bid shall be based 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.

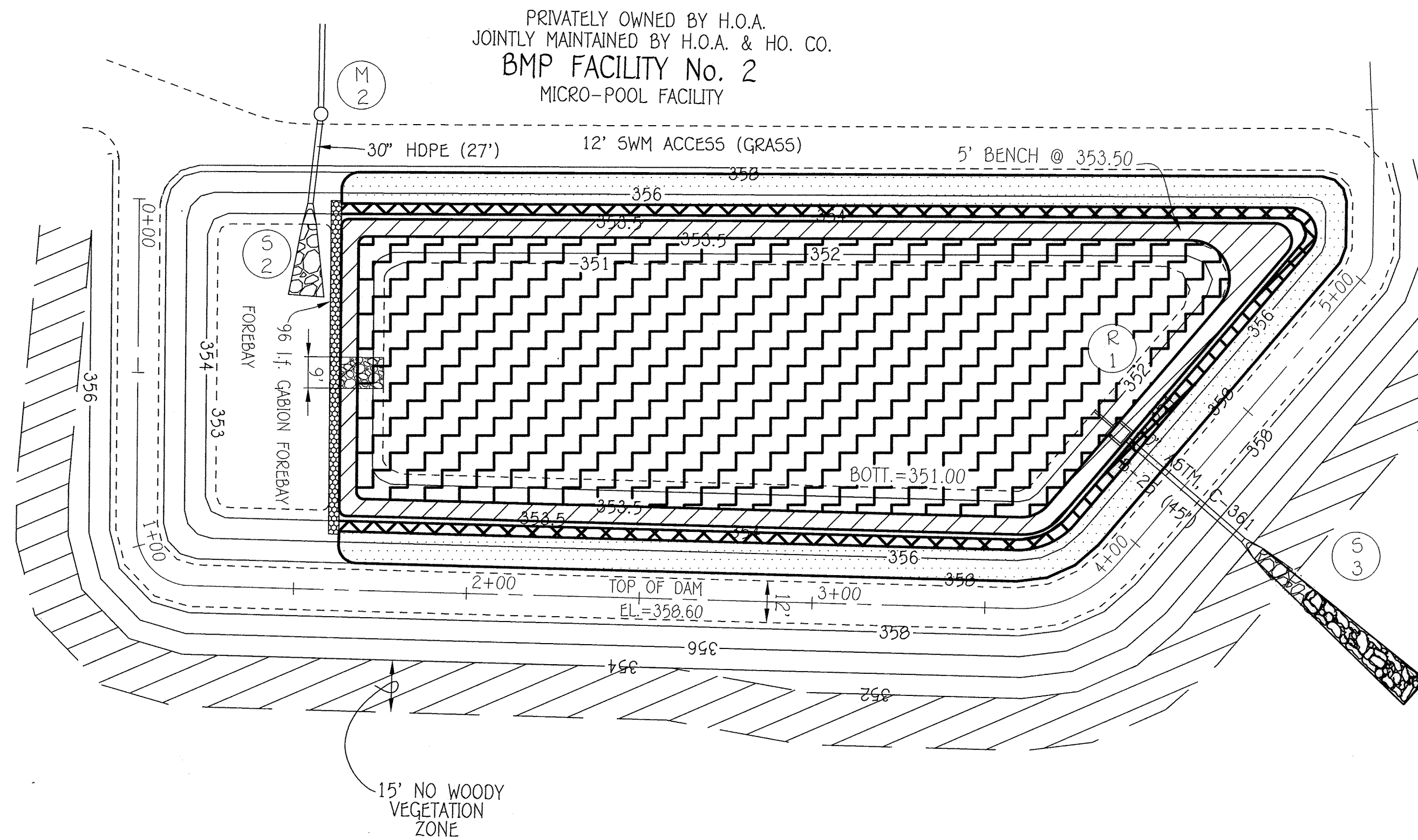
Positive drainage shall be maintained in planting beds 2 percent slope).

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.



POND NO. 2 INTERNAL PLANTING DETAIL

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/ BLUEBERRY, WITCHHAZEL & WINTERBERRY QUANTITY - 16 EACH SPACING - 12" MAX.
ZONE 2 SHALLOW WATER BENCH	0' - 12' ELEVATION BELOW NORMAL POOL ELEVATION - PLANT AREA w/ BLUEBERRY, WITCHHAZEL & WINTERBERRY QUANTITY - N/A SPACING - N/A
ZONE 1 DEEPWATER POOL	1' - 3' ELEVATION BELOW NORMAL POOL ELEVATION - PLANT AREA w/ WEDGEON-GRASS QUANTITY - N/A SPACING - N/A

AS-BUILT CERTIFICATION

Note: There is no "AS BUILT" information provided on this sheet.

Charles J. Crook, Jr. 10/23/18
CHARLES CROOK, JR. NO. 19204 Date

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.

James C. ... 3/20/13
Name Date

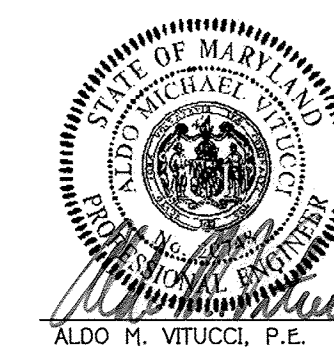
Owner

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. 20740, Expiration Date: February 22, 2015."



Aldo M. Vitucci 3/20/13
Date

Landscape Plan Notes

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-D50 & R2-D50
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

THERE IS NO "AS-BUILT" INFORMATION PROVIDED ON THIS SHEET F-13-034

STRUCTURE SCHEDULE

STRUCTURE NO.	TOP ELEVATION	INV. IN	INV. OUT	LOCATION	ROAD STA / COORDINATE	OFFSET	TYPE AND WIDTH	REMARKS
I-1	* 302.50.47	370.90 (24")	370.90 (24")	CRAPE MYRTLE COURT	11+91.02	15.85' RT	√'D' INLET - 3.0'	D - 4.10
I-2	* 301.80.46	372.10 (18")	371.60 (24")	CRAPE MYRTLE COURT	13+15.50	19.85' RT	√'D' INLET - 3.0'	D - 4.10
I-3	* 377.27.9	373.40 (18")	373.40 (18")	CRAPE MYRTLE COURT	L.P. 1+46.11	5' PARKING	√'D' INLET - 2.5'	D - 4.10
I-4	* 374.43.93	369.60 (18")	369.30 (18")	CRAPE MYRTLE COURT	5+11.00	19.47' RT	√'D' INLET - 2.5'	D - 4.10
I-5	* 379.74.00	376.10 (15")	375.50 (18")	CRAPE MYRTLE COURT	7+44.00	15.83' RT	√'D' INLET - 2.5'	D - 4.10
I-6	* 379.74.00	376.10 (15")	376.10 (15")	CRAPE MYRTLE COURT	7+44.00	19' LT	√'D' INLET - 2.5'	D - 4.10
I-7	* 364.44.42	357.30 (24")	357.30 (24")	LINDERA COURT	12+91.16	15.84' LT	√'D' INLET - 3.5'	D - 4.10
I-8	* 362.80.40	358.00 (18")	358.00 (18")	LINDERA COURT	11+30.05	19' LT	√'D' INLET - 3.0'	D - 4.10
I-9	* 364.43.39	361.00 (18")	360.50 (18")	LINDERA COURT	9+83.00	19' LT	√'D' INLET - 2.5'	D - 4.10
I-10	* 368.54.45	364.00 (15")	364.00 (18")	LINDERA COURT	8+74.00	19' LT	√'D' INLET - 2.5'	D - 4.10
I-11	* 368.54.45	365.20 (15")	365.20 (15")	LINDERA COURT	8+74.00	19' RT	√'D' INLET - 2.5'	D - 4.10
I-12	* 362.80.41	359.00 (18")	359.00 (18")	LINDERA COURT	11+30.05	19' LT	√'D' INLET - 2.5'	D - 4.10
I-13	* 365.27.41	360.00 (24")	358.50 (18")	LINDERA COURT	13+17.00	15.85' RT	√'D' INLET - 3.0'	D - 4.10
I-14	* 371.27.4	365.00 (15")	365.00 (18")	LINDERA COURT	15+91.02	15.85' RT	√'D' INLET - 2.5'	D - 4.10
(PRIVATE) I-14a	* 374.00.091	367.00 (15")	367.00 (15")	LINDERA COURT	N 571195.00 E 1327087.50	-	√'D' INLET - 2.5'	D - 4.10
(PRIVATE) I-15	* 367.00.670	363.00 (24")	363.00 (24")	LINDERA COURT	N 571593.00 E 1328004.00	-	√'D' INLET - 3.0'	D - 4.10
M-1	370.00.03	369.40 (24")	369.40 (24")	CRAPE MYRTLE COURT	N 571400.00 E 1327065.00	-	√'4" DIA. MANHOLE	G - 5.12
M-2	359.00.070	353.00 (30")	353.00 (30")	-	N 571008.00 E 1328340.00	-	√'5" DIA. MANHOLE	G - 5.13
M-3	373.00.077	362.00 (18")	362.00 (18")	LINDERA COURT	14+49.00	20' R	√'4" DIA. MANHOLE	G - 5.12
S-1	371.00.11	369.00 (24")	-	EX. FACILITY NO. 3	N 571400.00 E 1327065.00	-	√'24" FLARED END SECTION	**
S-2	355.00.41	350.00 (30")	-	FACILITY NO. 2	N 571008.00 E 1328340.00	-	√'30" FLARED END SECTION	**
S-3	352.00.70	350.00 (30")	-	FACILITY NO. 2	N 571044.00 E 1328630.00	-	√'30" CONC. END SECT.	D - 5.51
R-1	357.00.45	350.00 (30")	350.00 (30")	FACILITY NO. 2	N 571052.00 E 1328590.00	-	√'CONC. RISER	

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

APPROVED: DEPARTMENT OF PUBLIC WORKS

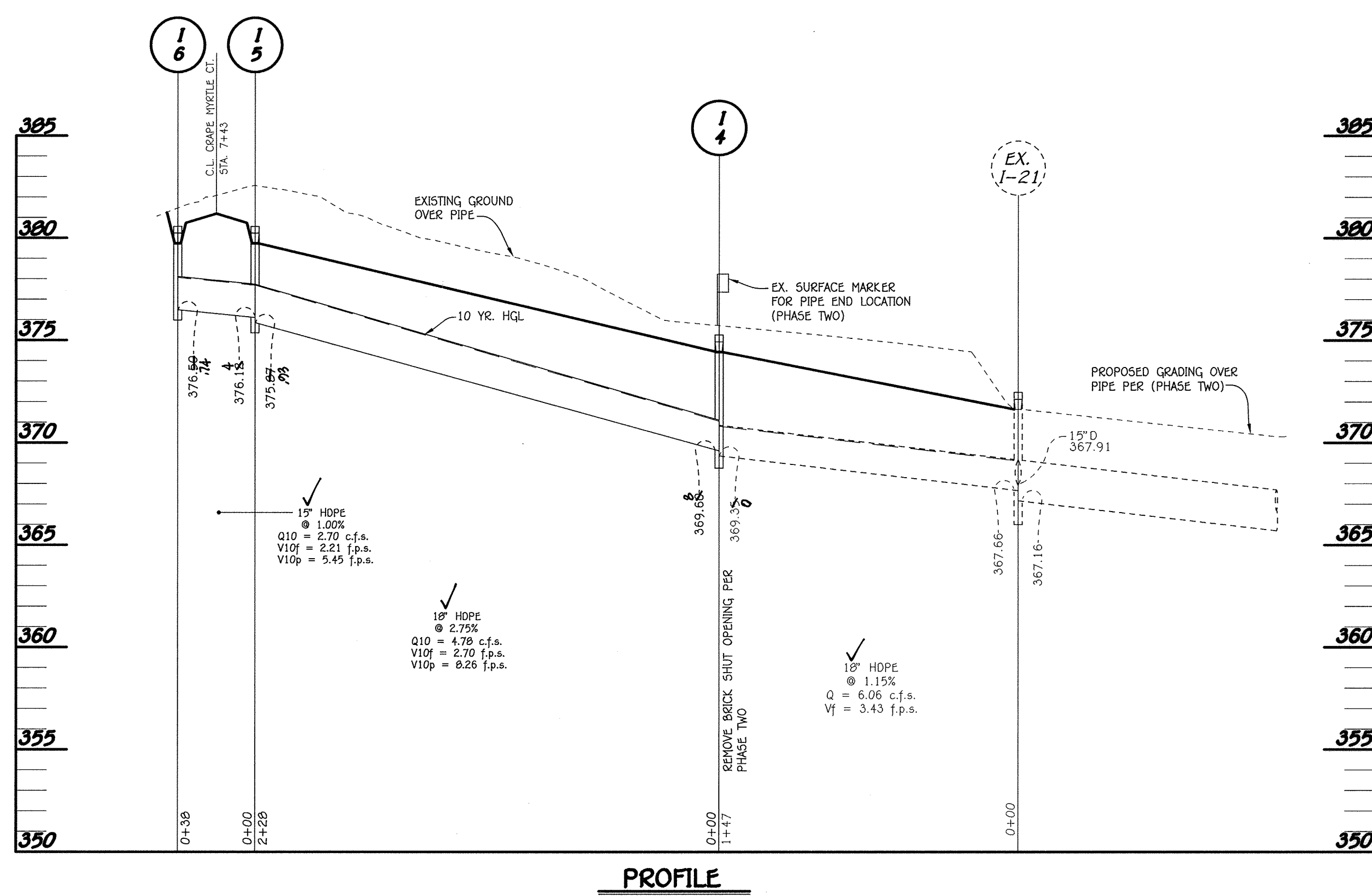
CHIEF, BUREAU OF HIGHWAYS *[Signature]* 4/3/13 DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT *[Signature]* 4/15/13 DATE

CHIEF, DEVELOPMENT ENGINEERING DIVISION *[Signature]* 4/12/13 DATE

REVISIONS		
NO.	DESCRIPTION	DATE



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

PIPE SCHEDULE (PUBLIC)

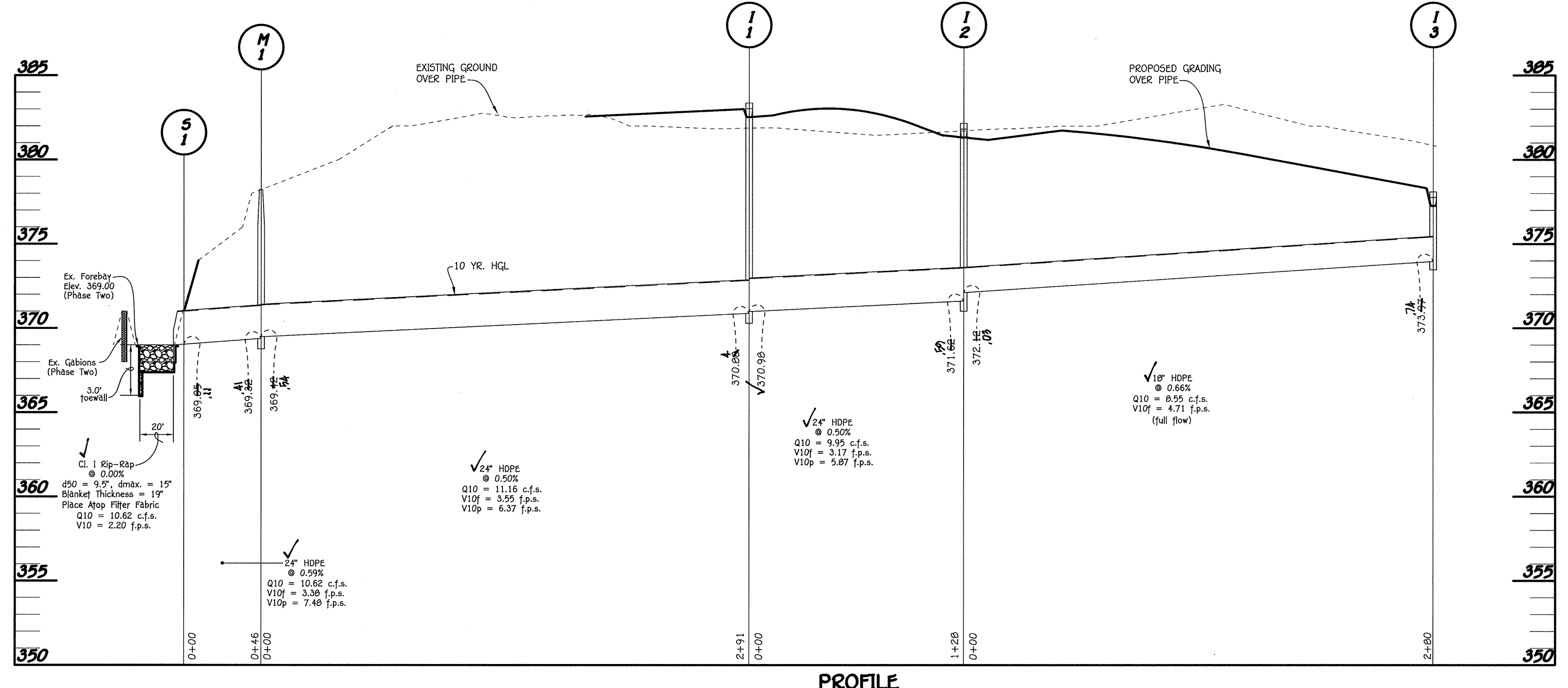
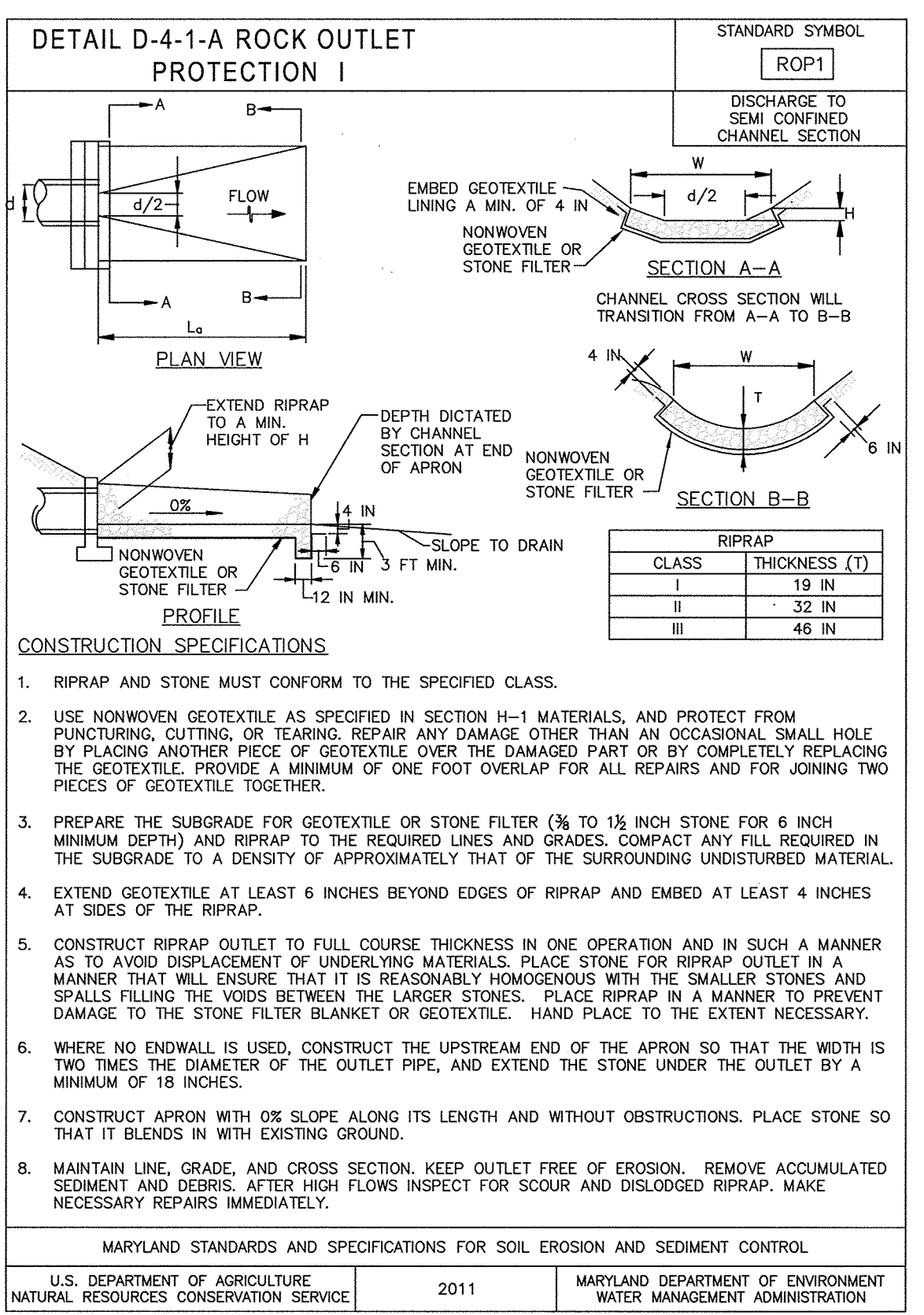
SIZE	CLASS	LENGTH
15"	HDPE	76 L.F.
18"	HDPE	1,109 L.F.
24"	HDPE	669 L.F.
30"	HDPE	347 L.F.
30"	ASTM, C-361, B-25	45 L.F.

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

PIPE SCHEDULE (PRIVATE)

SIZE	CLASS	LENGTH
15"	HDPE	485 L.F.

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



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

ROCK OUTLET PROTECTION DESIGN DATA

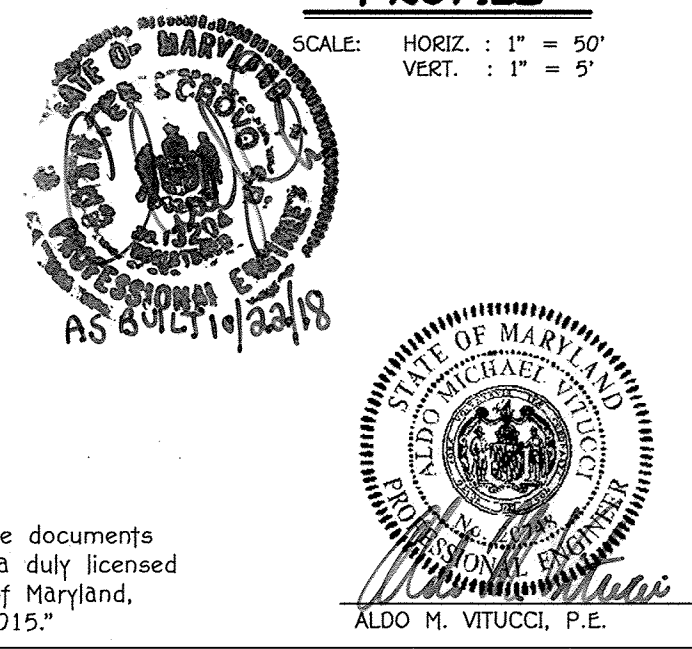
STRUCTURE	AREA (S.F.)	WETTED PERIMETER	R	R ^{2/3}	S	5 1/2'	W	d	n	V ((p.s.)	Q10 (c.f.s.)	Q100 (c.f.s.)	BLANKET THICKNESS	PIPE SIZE	La
S-1	4.092	5.744	0.712	0.796	0.005	0.0707	8.0	2.27	0.04	2.09	10.62	9.5'	15"	19"	20'
S-2	11.37	9.796	1.161	1.105	0.005	0.0707	10.0	4.01	0.04	2.90	37.10	9.5'	15"	19"	20'

AS-BUILT CERTIFICATION

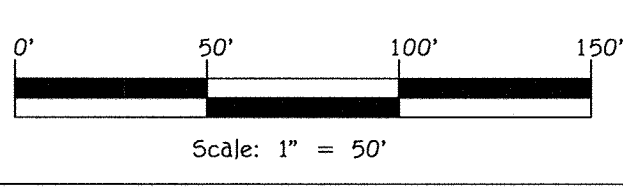
I hereby certify, by my seal, that the facilities shown on this plan were constructed as shown on this "AS BUILT" plan meet the approved plans and specifications.

[Signature] 10/22/18 Date

CHARLES J. CREW, P.E. NO. 19404



FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
 ELICOTT CITY, MARYLAND 21042
 (410) 461 - 2925



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

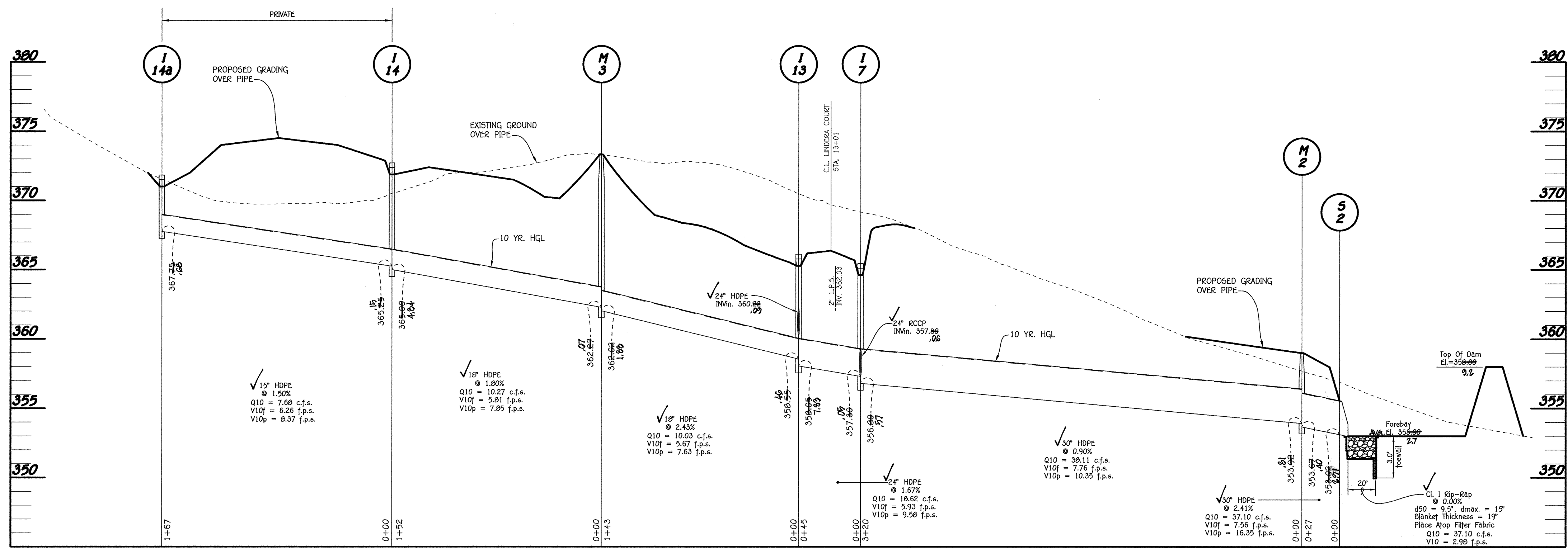
Developer
 Bassler Venture, LLC
 15950 North Avenue
 P.O. Box 482
 Lisbon, MD 21765
 410-489-7900

"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."

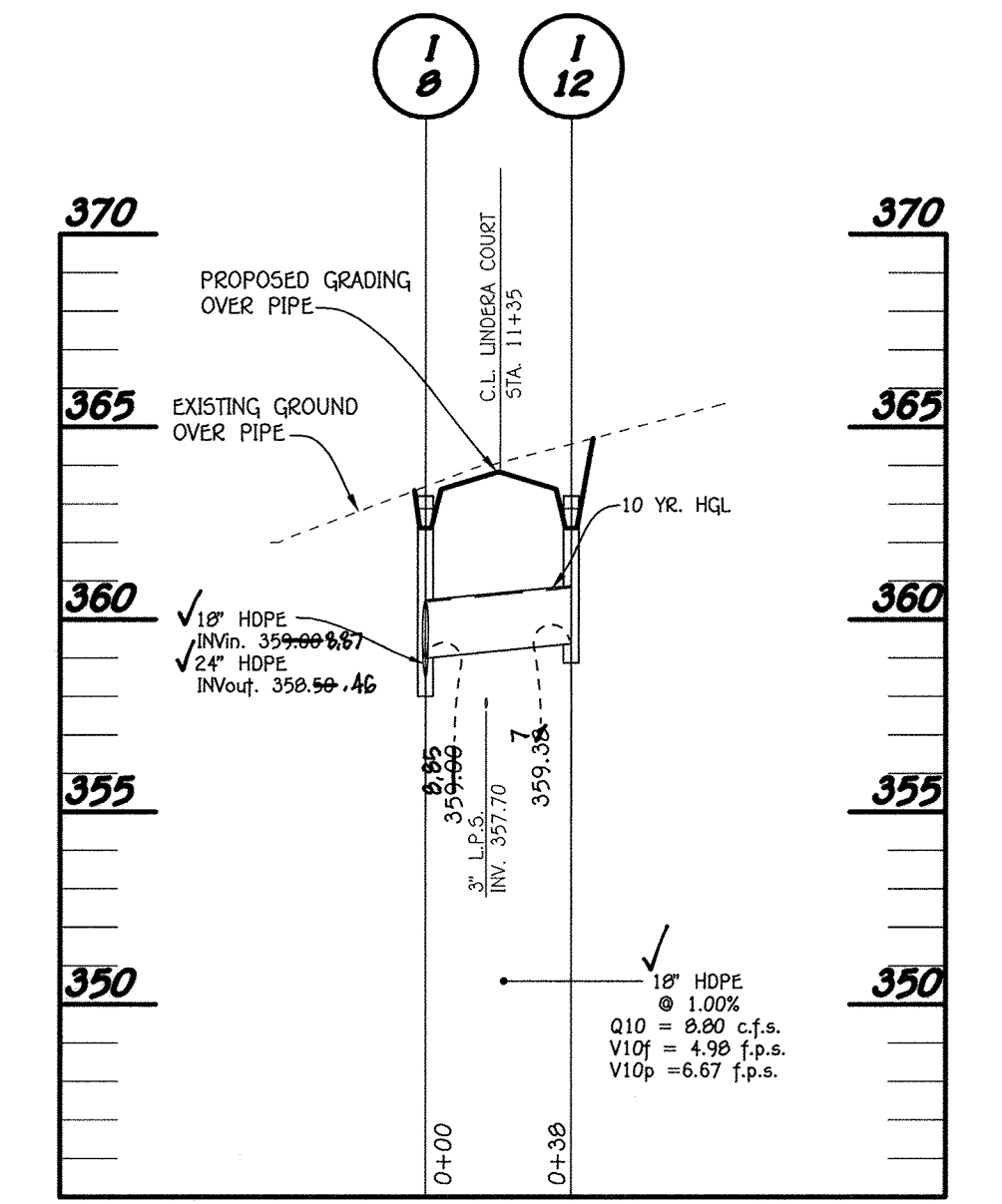
STORM DRAIN PROFILES
WALNUT CREEK
 PHASE FOUR
 Lots 115 - 159 And Non-Buildable
 Preservation Parcel 'W' & 'X'

(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 11 OF 23

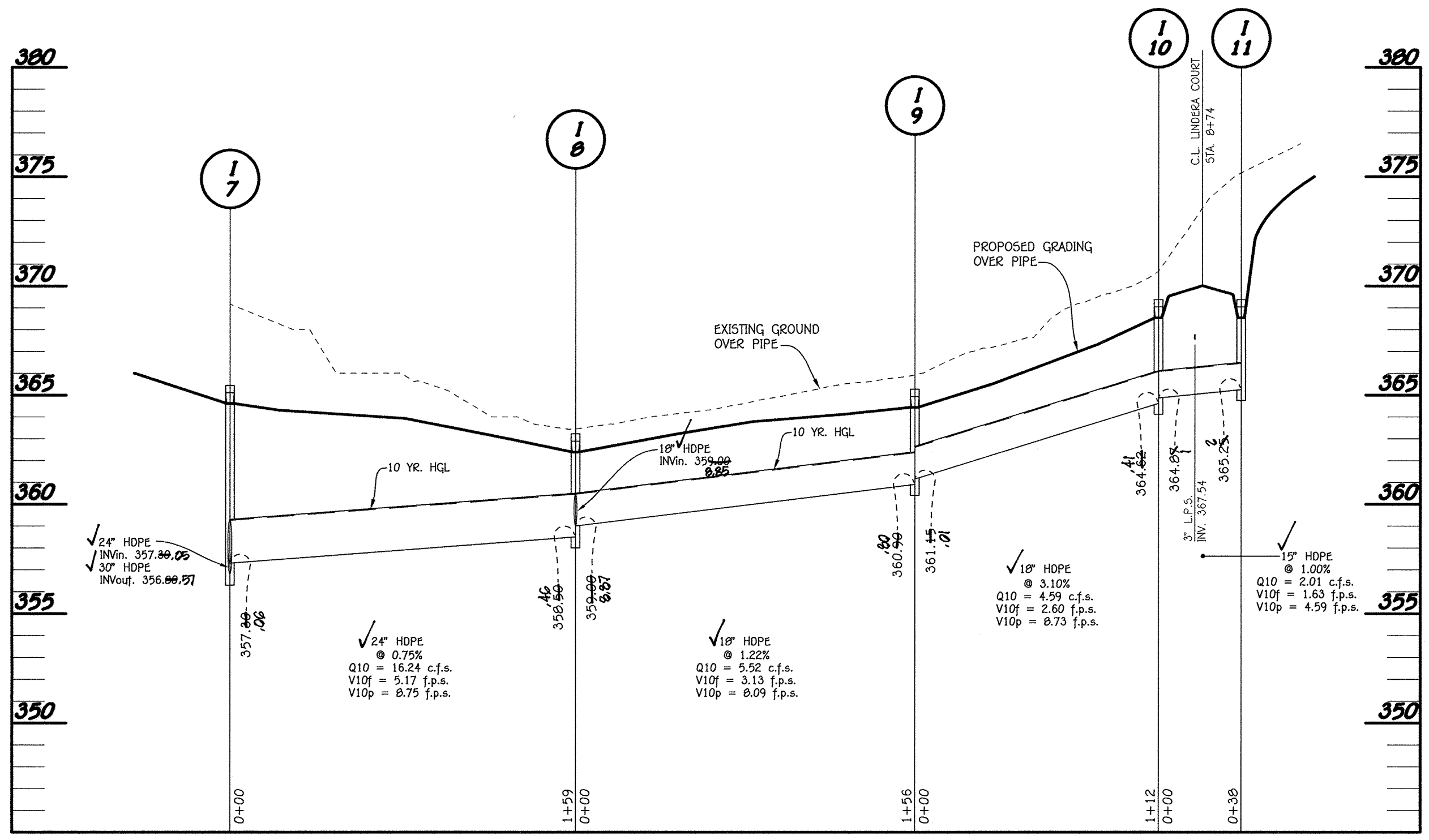
APPROVED: DEPARTMENT OF PUBLIC WORKS		
CHIEF, BUREAU OF HIGHWAYS	<i>[Signature]</i>	4/3/13
APPROVED: DEPARTMENT OF PLANNING AND ZONING		
CHIEF, DIVISION OF LAND DEVELOPMENT	<i>[Signature]</i>	4/15/13
CHIEF, DEVELOPMENT ENGINEERING DIVISION	<i>[Signature]</i>	4/12/13
REVISIONS		
NO.	DESCRIPTION	DATE



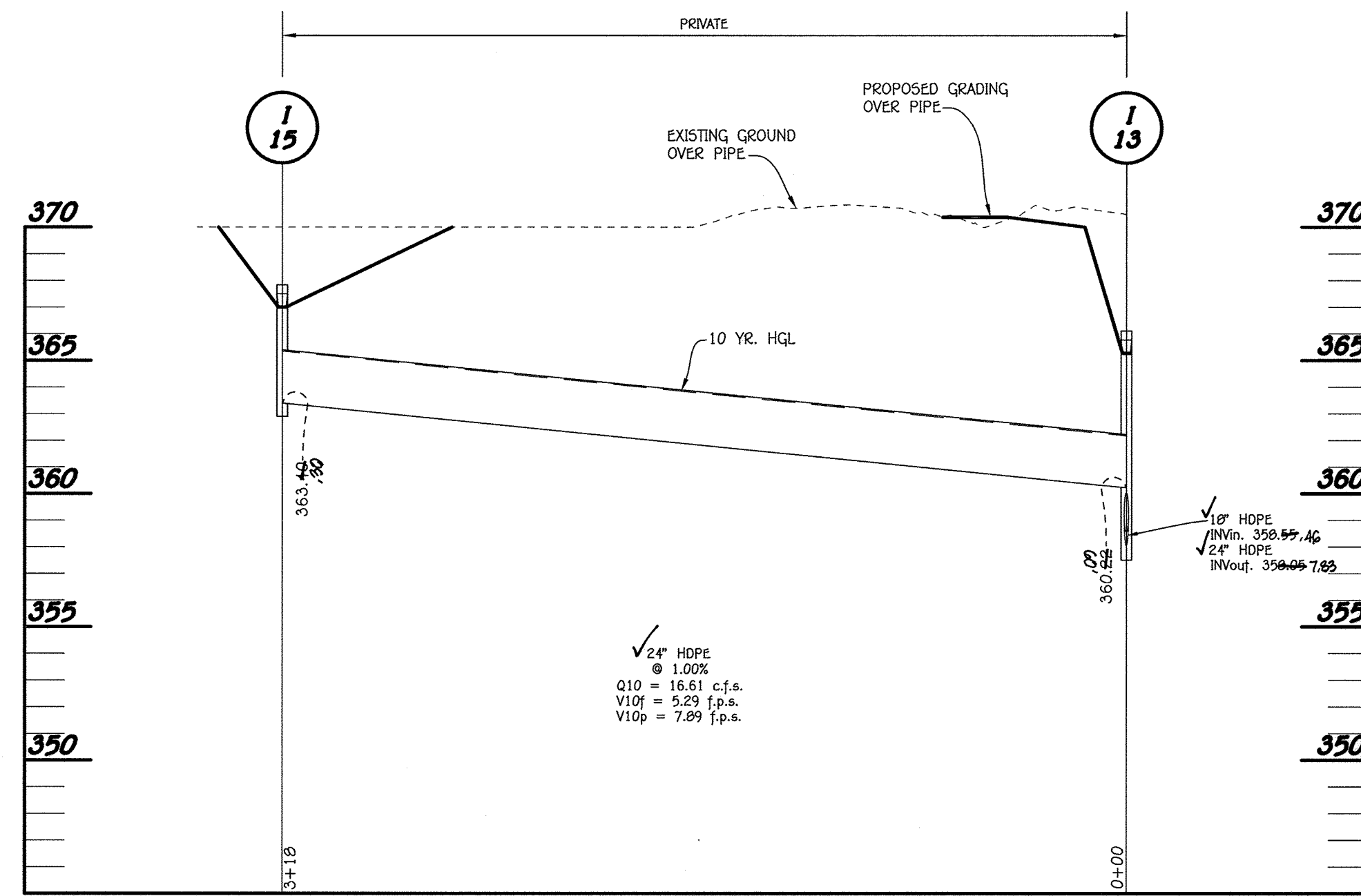
PROFILE
SCALE: HORIZ. : 1" = 50'
VERT. : 1" = 5'



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

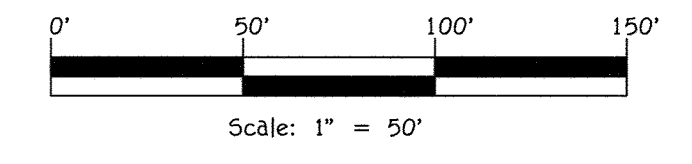


PROFILE
SCALE: HORIZ. : 1" = 50'
VERT. : 1" = 5'



PROFILE
SCALE: HORIZ. : 1" = 50'
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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] 10/22/13
CHARLES J. ORLOV, P.E., NO. 19404 Date

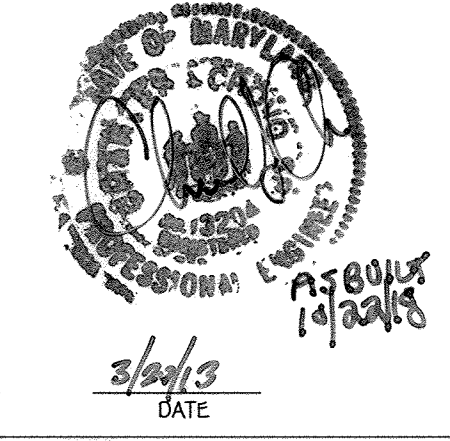


FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELICOTT CITY, MARYLAND 21042
410.461.3295

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."



STORM DRAIN PROFILES
WALNUT CREEK
PHASE FOUR
Lots 115 - 119 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, 2013
SHEET 12 OF 23

Approved: Department of Public Works
Signature 4/3/12
 Chief, Bureau of Highways Date

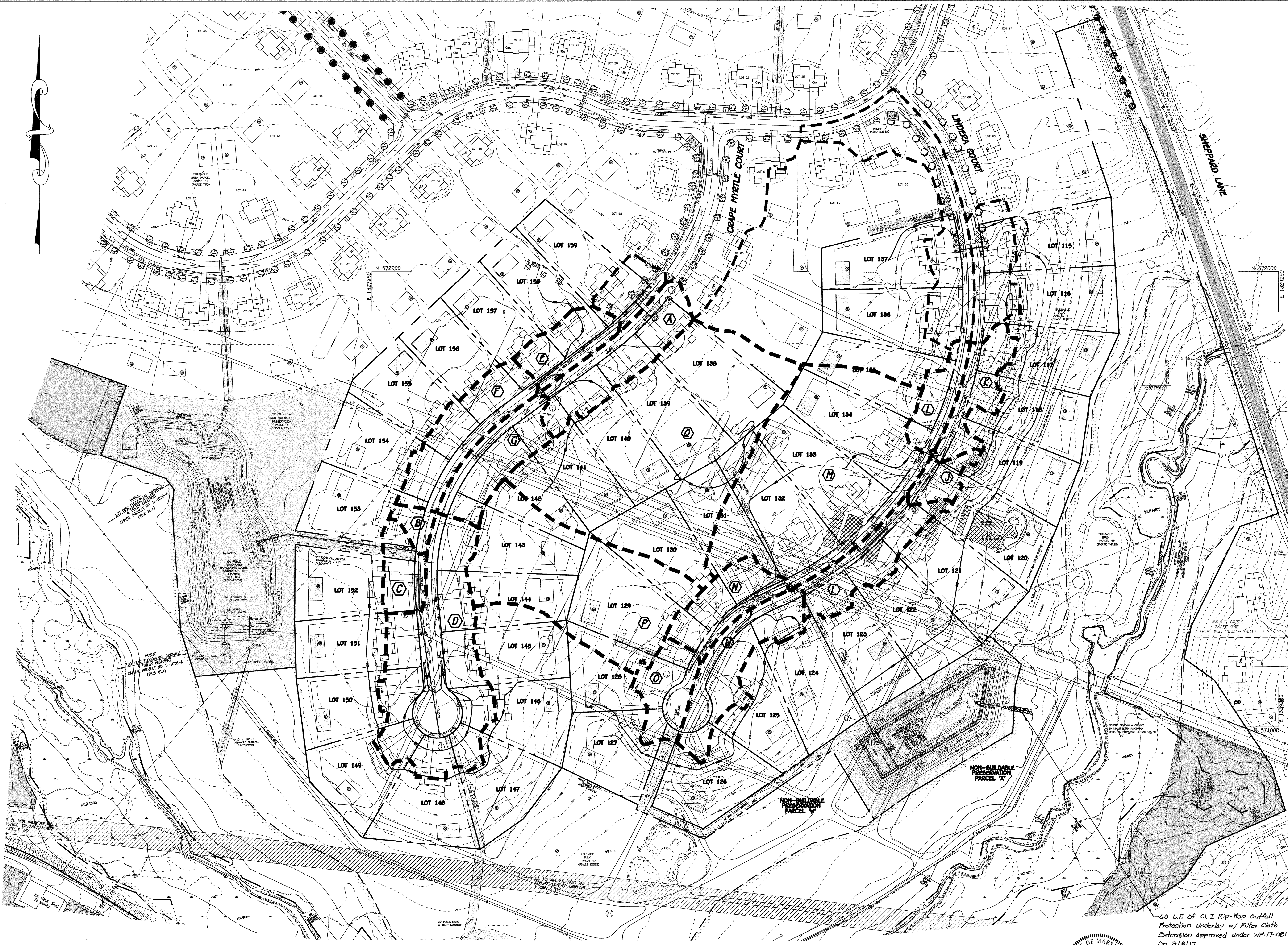
Approved: Department of Planning and Zoning
Signature 4/15/13
 Chief, Division of Land Development Date

Signature 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	0.53	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-Map Outfall @ 8-3 Remove D/W Culvert For Lots 125 & 128	6/19/11
	Revisions	

AS-BUILT CERTIFICATION
 Note: There is no "AS BUILT" information provided on this sheet.
Signature 10/22/18
 CHARLES J. CRAIG, P.E., NO. 19904 Date

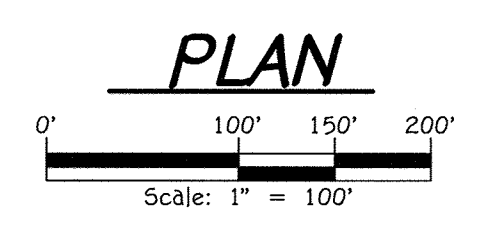


Storm Drain Drainage Area Map
WALNUT CREEK
 PHASE FOUR
 Lots 115 - 159 And Non-Buildable
 Preservation Parcel 'W' & 'X'
 (A Resubdivision Of Buildable Bulk Parcel 'U' - Walnut Creek, Phase Three)
 ZONED: RC-DEO & RC-DEO
 TAX MAP No. 28 GRID Nos. 4, 5, 10-12, 17, And 18 PARCEL No. 49
 FIFTH ELECTION DISTRICT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

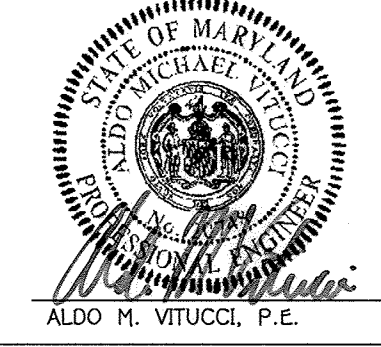
FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
 ELICOTT CITY, MARYLAND 21042
 (410) 461 - 2000

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."



40 L.F. OF C.I. Rip-Rap Outfall Protection Underlay w/ Filter Cloth Extension Approved under WP-17-081 on 3/8/17

Signature 3/20/13
 DATE

THERE IS NO "AS-BUILT" INFORMATION PROVIDED ON THIS SHEET F-13-034

APPROVED: DEPARTMENT OF PUBLIC WORKS
 CHIEF, BUREAU OF HIGHWAYS
 DATE: 4/12/13

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

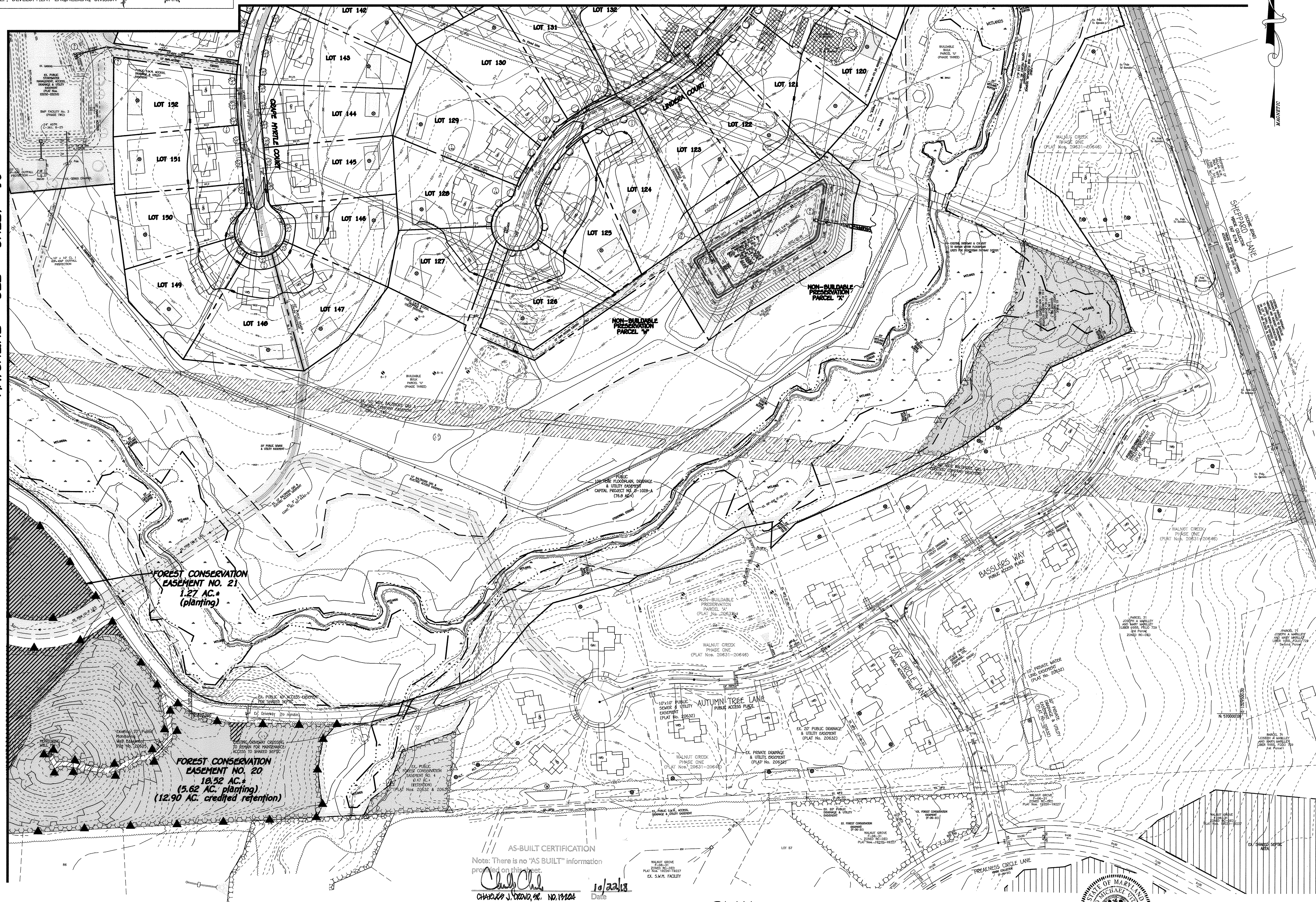
CHIEF, DEVELOPMENT ENGINEERING DIVISION
 DATE: 4/12/13

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.

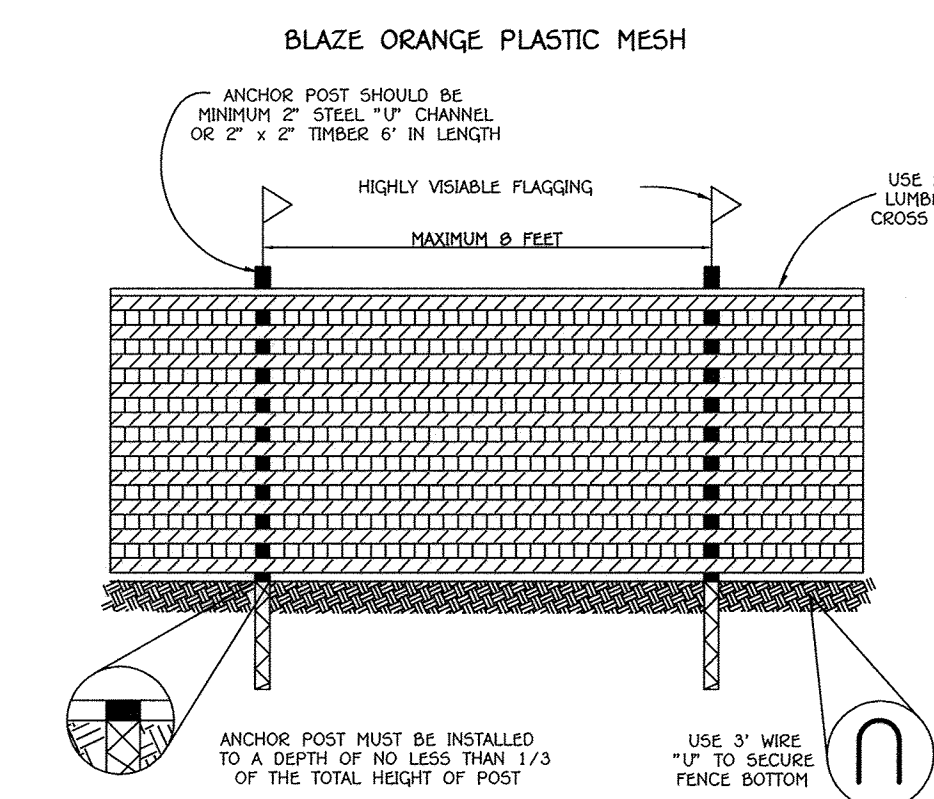
MATCHLINE SEE SHEET 15

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, 48 inch dbh	good condition
D	Tulip poplar, 74 inch dbh	poor condition, substantial dieback and poor canopy spread



TREE PROTECTION DETAIL
 NOT TO SCALE

FCP NOTES

- FOREST PROTECTION DEVICE ONLY.
- RETENTION AREA WILL BE SET AS PART OF THE REVIEW PROCESS.
- 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.

FCP NOTES

- Any Forest Conservation Easement (FCE) area shown hereon 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 57.32 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 manual for the entire subdivision will be fulfilled by providing 97.32 acres of on-site forest retention and 36.16 acres of on-site forest afforestation 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 to meet the requirements of the Forest Conservation Act. A SURETY FOR ON-SITE AFFORESTATION @ \$0.50/sq.ft. FOR 584,140 sq.ft. = \$292,070.00 IS REQUIRED. THE FOREST CONSERVATION SURETY IN THE AMOUNT OF \$292,070.00 IS BE PAID AS PART OF THE DPW DEVELOPER'S AGREEMENT.

LEGEND

	Existing Contours
	Wetland Limits
	Wetland/Stream Buffer
	Proposed Contours
	Forest Conservation Easement (Retention Area)
	Forest Conservation Easement To Be Planted
	Forest Conservation Signs
	Ex. Forest Conservation Signs
	Tree Protection Fence
	Limits Of Floodplain
	Proposed Treeline

No.	Description	Date
1	Extend Rip-Rap Outfall @ B-3 Remove D/W Culverts For Lots 125 & 128	5/19/17

Revisions

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. 2B 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 SURVEYORS
 CENTRAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
 ELLICOTT CITY, MARYLAND 21042
 (410) 461-2295

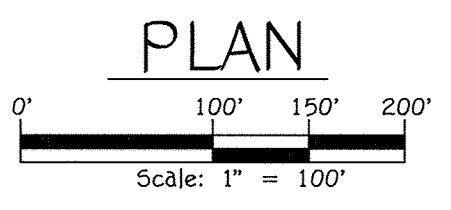
Eco-Science Professionals, Inc.
 CONSULTING ECOLOGISTS

MD DNR Qualified Professional
 USASCO Wetland Delineator
 Certification # MD093810061004148
 JOHN P. CANOLES

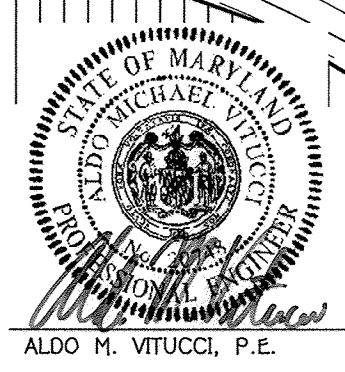
Owner
 BY Business Trust
 19950 North Avenue
 P.O. Box 482
 Lisbon, MD 21785
 410-489-7900

Developer
 Basaler Venture, LLC
 19950 North Avenue
 P.O. Box 482
 Lisbon, MD 21785
 410-489-7900

AS-BUILT CERTIFICATION
 Note: There is no "AS BUILT" information provided on this sheet.
 Date: 10/22/13
 CHARLES J. DODD, P.E. NO. 191204



"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."



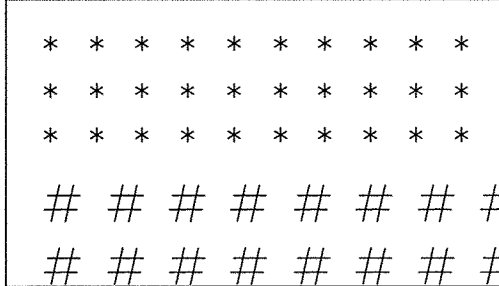
3/2/13
 DATE

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: 4/12/13

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

PATTERN SPACING DIAGRAM



Planting Notes:

Planting units defined by the spacing requirements established in the FCA Manual. One plant unit is defined as 1 seedling or whip without shelter. The Manual states that 700 seedlings/whips without shelters are required per acre, or 350 whips w/shelters, or 200 1" caliper trees, or 100 2" caliper trees. By conversion it has been determined that a seedling or whip without shelter = 1 unit, whip with shelter = 2 units, 1" caliper tree = 3.5 units and 2" caliper tree = 7 units. The use of plant units simplifies the plant density calculations when mixing stock sizes.

** - These species should not be planted within the wetland limits.

1" caliper trees should be staggered along the outer perimeter of the planting area to serve as demarcation of the boundary. The trees should be no closer than 15 Foot Spacing. Whip spacing to be placed on 11 foot centers, shelters will be required per Howard County policy.

Planting shall be made in a curvilinear fashion along contour. The planting should avoid a grid appearance but should be spaced to facilitate maintenance.

Multiflorous rose/heavy brush removal/control may be required prior to installation of planting.

All whips are required to be installed with tree shelters per Howard County FCA requirements.

Planting/Soil Specifications

- Installation of bare-root 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 stabilized as per general construction plan for project. Planting areas not impacted by site grading shall have no additional topsoil installed.
- Bare-root 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 Agriform 22-8-2, or equivalent, applied as per manufacturer's specifications, for woody plants. Herbaceous plants shall be fertilized with Osmocote 8-8-12.
- Plant material shall be transported to the site in a tarp 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.
- Plants 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 quantified in accordance with the Maintenance and Guarantee requirements for project.

Maintenance of Plantings

- Maintenance of plantings shall last for a 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 exotics 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 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.

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/seedling specifications.

Construction Period Protection Program

A. Forest Protection Techniques

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

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

The Soil Protection Area (SPFA) shall be established on the plan showing the proposed extent of construction activities. Eco-Science Professionals, or another qualified professional designated by the developer, will advise on the field steps of the SPFA to ensure that the Critical Root Zone (CRZ) is protected. Eco-Science Professionals, or another qualified professional, will also assess the condition of the tree (root edge) to determine if selective thinning or pruning is required to improve the condition of the edge.

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. Installation of these devices will be supervised by Eco-Science Professionals or another qualified professional. Fencing will extend along all CRZ lines that occur within 50 feet of existing structures. Signage will be placed along the edge of the CRZ every 100 feet. Fencing will consist of 4' high orange mesh fence or superior all fence. See Forest Conservation Plan for detailed specifications.

B. Pre-Construction Meeting

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

C. Storage Facilities/Equipment Cleaning

All equipment, parking, staging facilities, material stockpiling, etc. associated with construction of the project will be restricted to those areas shown within the limit of disturbance. Staging of equipment will be prohibited from all forest retention areas. Whenever material from equipment cleaning will be contained in prevent runoff into wetlands, streams and other environmentally sensitive areas.

D. Sequence of Construction

The following timetable represents the proposed timetable for construction of the proposed project. The construction start date for this project has not been finalized. The actual start date will be included on the schedule of all necessary permits and approvals for the project. The items outlined in the Forest Conservation Plan will be executed in the sequence of construction.

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 activities have been undertaken within the forest retention areas.

F. Activities Permitted During Construction

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

- Passive recreation (birdwatching, hiking, etc.)
- These activities will not damage or negatively impact the forest resources on the property.

G. Post-Construction Meeting

Upon completion of construction, Eco-Science Professionals, or another qualified professional designated by the developer, will notify the County that construction has been completed and request for a post-construction meeting to review the project site. The meeting will allow the County representative to verify that all Forest Conservation Plan items have been properly retained and that all post-construction protection measures have been implemented.

Post-Construction Management Plan

The post-construction management plan will ensure that all Forest Conservation Plan items are maintained. The developer will be responsible for implementation of the post-construction management plan.

A. Signage

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

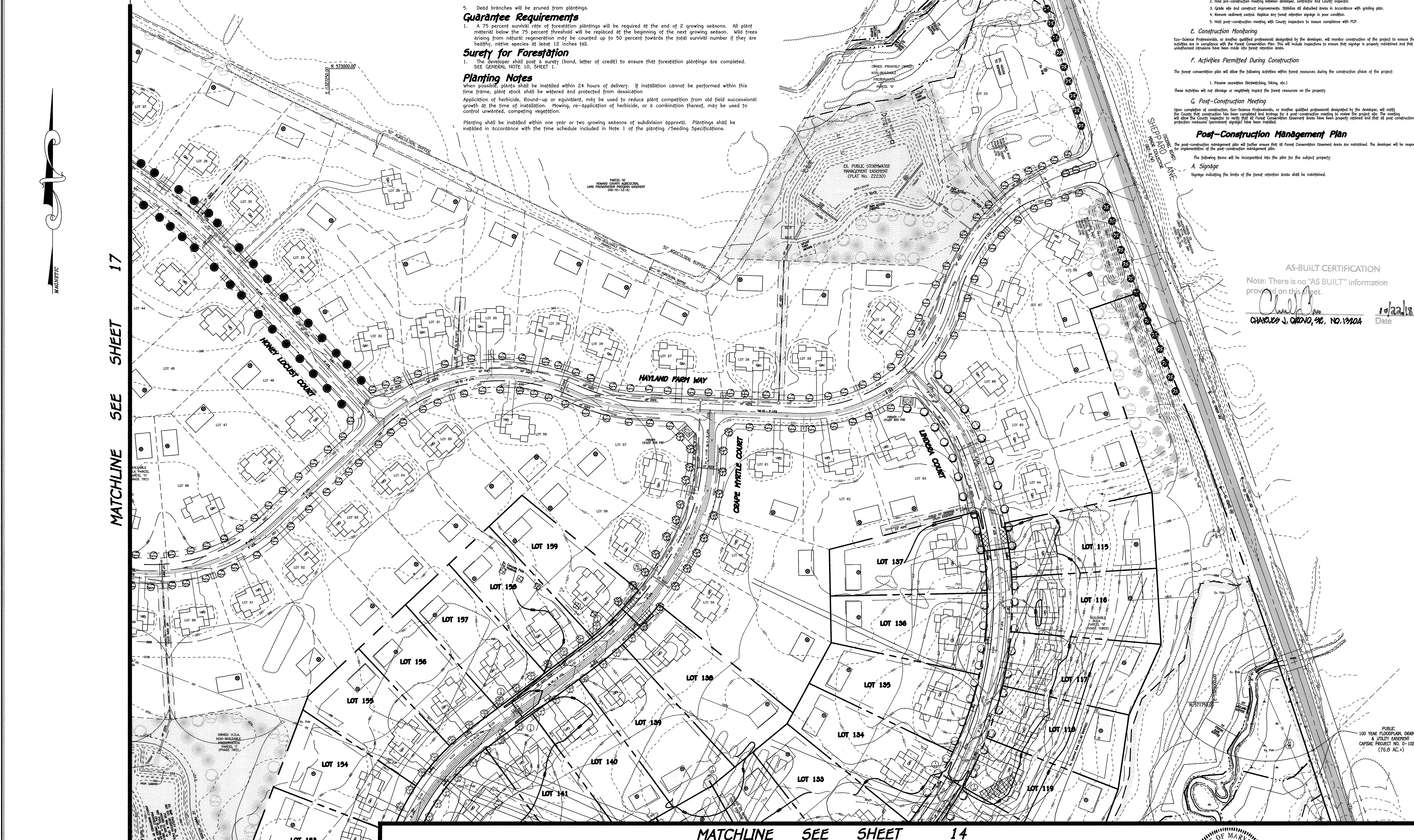
FOREST CONSERVATION DATA (Phase Four)

EASEMENT NO.	CREATED RETENTION AREA	PLANTING AREA	NON-CREATED 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	0.06 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	435.8
B. DEDUCTIONS (COTICAL AREA, AREA RESTRICTED BY LOCAL OR PROGRAM) (78.6 AC. FLOORPLAN & 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)	0/3
(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 CLEARING PERMITTED WITHOUT MITIGATION	0
I = EXISTING FOREST COVER (F) - BREAK-EVEN POINT (H)	
PROPOSED FOREST CLEARING	
J. TOTAL AREA OF FOREST TO BE CLEARED	19.00
K. TOTAL AREA OF FOREST TO BE RETAINED	323.1
K = EXISTING FOREST COVER (F) - FOREST TO BE CLEARED (J)	
PLANTING REQUIREMENTS	
IF THE TOTAL AREA OF FOREST TO BE RETAINED (K) IS AT OR ABOVE THE BREAK-EVEN POINT (H), NO PLANTING IS REQUIRED, AND NO FURTHER CALCULATIONS ARE NECESSARY (L=0, M=0, N=0, P=0, Q=0, R=0).	
OTHERWISE, CALCULATE THE PLANTING REQUIREMENT(S) AS FOLLOWS:	
L. REFORESTATION FOR CLEARING ABOVE THE CONSERVATION THRESHOLD	0
(1) IF THE TOTAL AREA OF FOREST TO BE RETAINED (K) 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 (K) 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	31.66
M = EXISTING FOREST COVER (F) IS GREATER THAN THE CONSERVATION THRESHOLD (E) AND THE FOREST TO BE RETAINED (K) IS LESS THAN OR EQUAL TO THE CONSERVATION THRESHOLD (E), THEN M = 2.0 x (CONSERVATION THRESHOLD (E) - FOREST TO BE RETAINED (K))	
(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 (K) IS GREATER THAN THE CONSERVATION THRESHOLD (E), THEN N = K - E, OTHERWISE N = 0	
P. TOTAL REFORESTATION REQUIRED P = L + M - N	31.66
Q. TOTAL AFFORESTATION REQUIRED	36.16
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	31.66
R = 0, OTHERWISE R = P + Q	
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.	

AS-BUILT CERTIFICATION
 Note: There is no "AS BUILT" information provided on this sheet.
 CHARLES J. ORONO, JR., No. 19704
 Date: 10/24/13

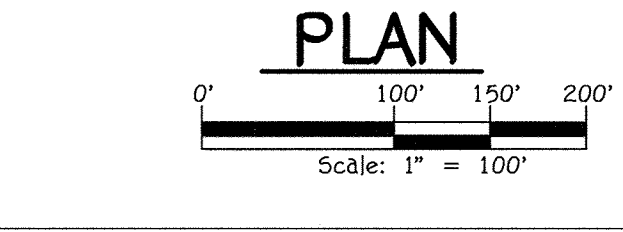


FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTENNIAL SQUARE OFFICE PARK - 10272 BATHURST NATIONAL PIKE
 ELICOTT CITY, MARYLAND 21042
 (410) 461 - 2000

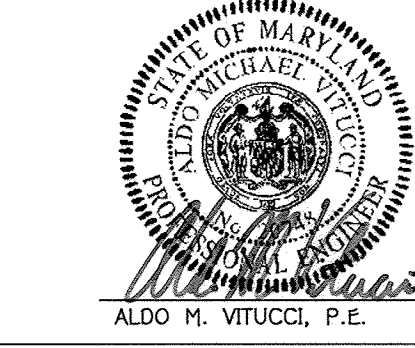
Eco-Science Professionals, Inc.
 CONSULTING ECOLOGISTS
 MD DNR Qualified Professional
 USACE Wetland Designer
 Certification # WDCP93MD06100448
 03/10/13
 JOHN P. CANOLIS

Owner
 BV Business Trust
 15950 North Avenue
 P.O. Box 482
 Lisbon, MD 21765
 410-489-7300

Developer
 Bassler Venture, LLC
 15950 North Avenue
 P.O. Box 482
 Lisbon, MD 21765
 410-489-7300



"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."



ALDO M. VITUCCI, P.E.
 DATE: 3/24/13

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 & 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 15 OF 23

THERE IS NO "AS-BUILT" INFORMATION PROVIDED ON THIS SHEET F-13-034

APPROVED: DEPARTMENT OF PUBLIC WORKS
 CHIEF, BUREAU OF HIGHWAYS DATE 4/2/13

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 (936 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.	
100	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 (950 + 1526) = 1876				

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				

FCE Planting Area # 20 - 5.62 acres

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

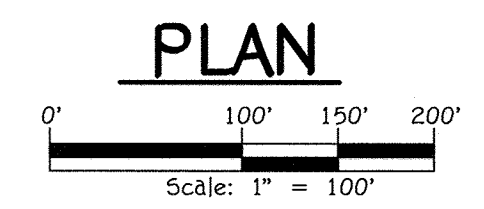
Qty	Species	Size	Spacing	Total FCA Units
100	Acer rubrum - Red maple	1" cal.	15' o.c.	
100	Quercus alba - White oak	1" cal.	15' o.c.	
200 Total 1" caliper trees (3.5 planting units per tree) = 700 Total FCA unit credit				
250	Acer rubrum - Red maple	2-3" whip	11' o.c.	
250	Cercis canadensis - Red bud	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.	
150	Quercus alba - White oak	2-3" whip	11' o.c.	
150	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				

FCE Planting Area # 21 - 1.27 acres

Planting units required: 890 (445 whips)
 Planting units provided: 890 (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				

AS-BUILT CERTIFICATION
 Note: There is no "AS BUILT" information provided on this sheet.
 Signature: Charles J. O'Neil, Inc. NO. 19924
 Date: 10/22/13



FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
 ELICOTT CITY, MARYLAND 21142
 (410) 461-3292

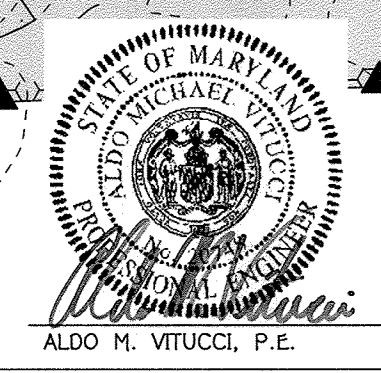
Eco-Science Professionals, Inc.
 CONSULTING ECOLOGISTS

MD DNR Qualified Professional
 USACE Wetland Delineator
 Certification # WD093MD06100448
 Signature: JOHN P. CANOLES
 Date: 03/10/13

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: Aldo M. Vitucci, P.E.
 Date: 3/26/13

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 & 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 16 OF 23

THERE IS NO "AS-BUILT" INFORMATION PROVIDED ON THIS SHEET F-13-034

MATCHLINE SEE SHEET 14

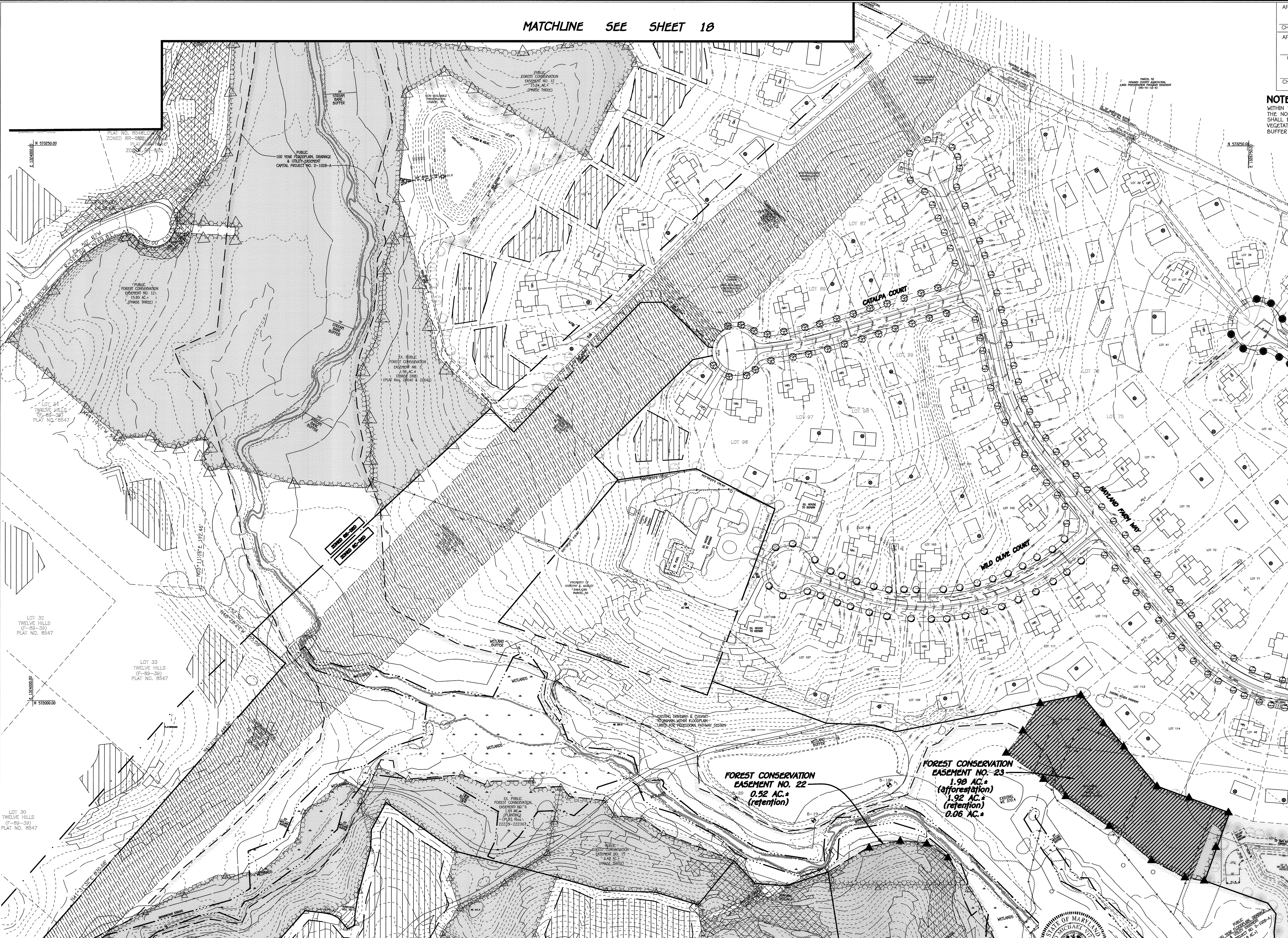
MATCHLINE SEE SHEET 18

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

[Signature] 4/12/13
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 DATE

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



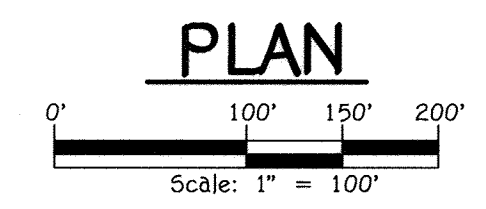
AS-BUILT CERTIFICATION
 Note: There is no "AS BUILT" information provided on this sheet.
[Signature] 10/22/13
 CHARLES J. ORLANDO, INC. NO. 19024
 DATE

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 (3.5 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	Fraxinus 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				1345

1" CAL. TREES = 200/Acre (50 Trees/200 = 0.25 AC.)
 WHIPS w/shelters = 350/Acre = 350 x 1.67 AC. = 585 WHIPS
 3.5 Planting units = 1 - 1" Cal. Tree
 2 Planting units = 1 Whip



FOREST CONSERVATION PLAN
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-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
 CENTRAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
 ELLICOTT CITY, MARYLAND 21042
 (410) 461-2999

Eco-Science Professionals, Inc.
 CONSULTING ECOLOGISTS
 MD DNR Qualified Professional
 USACOE Wetland Delineator
 Certification # WDCP93M006100448
[Signature]
 JOHN P. CANOLES

Owner
 BV Business Trust
 15950 North Avenue
 P.O. Box 402
 Lisbon, MD 21765
 410-469-7900

Developer
 Baseler Ventures, LLC
 15950 North Avenue
 P.O. Box 482
 Lisbon, MD 21765
 410-469-7900

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. 20748, Expiration Date: February 22, 2015."



[Signature]
 ALDO M. VITUCCI, P.E.
 DATE 3/20/13

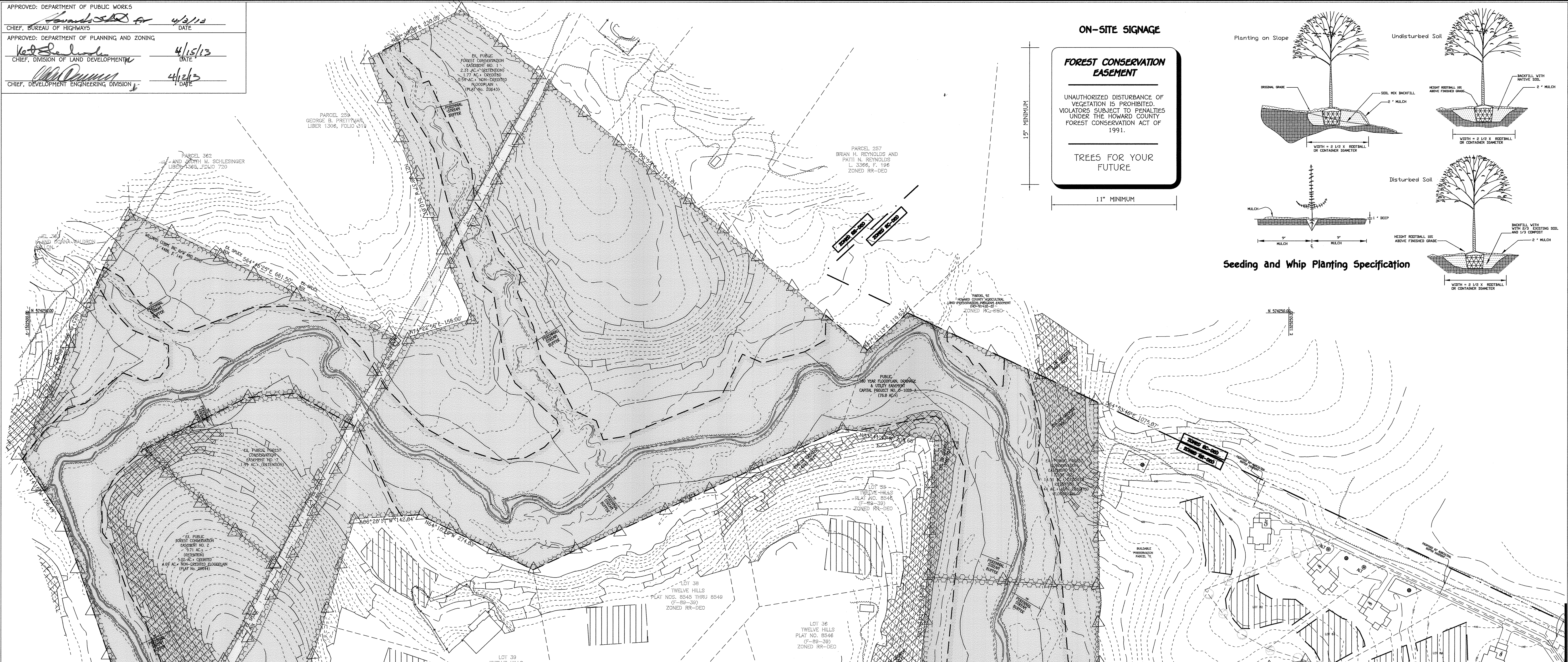
THERE IS NO "AS-BUILT" INFORMATION PROVIDED ON THIS SHEET F-13-034

1:320PM/04/01/13/PHASE FOUR FINAL/C-1-F-13-034 Forest Conservation.dwg, SHEET 17, 3/20/2013 8:01:05 AM, 1:1

APPROVED: DEPARTMENT OF PUBLIC WORKS
 CHIEF, BUREAU OF HIGHWAYS
 DATE: 4/3/13

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

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



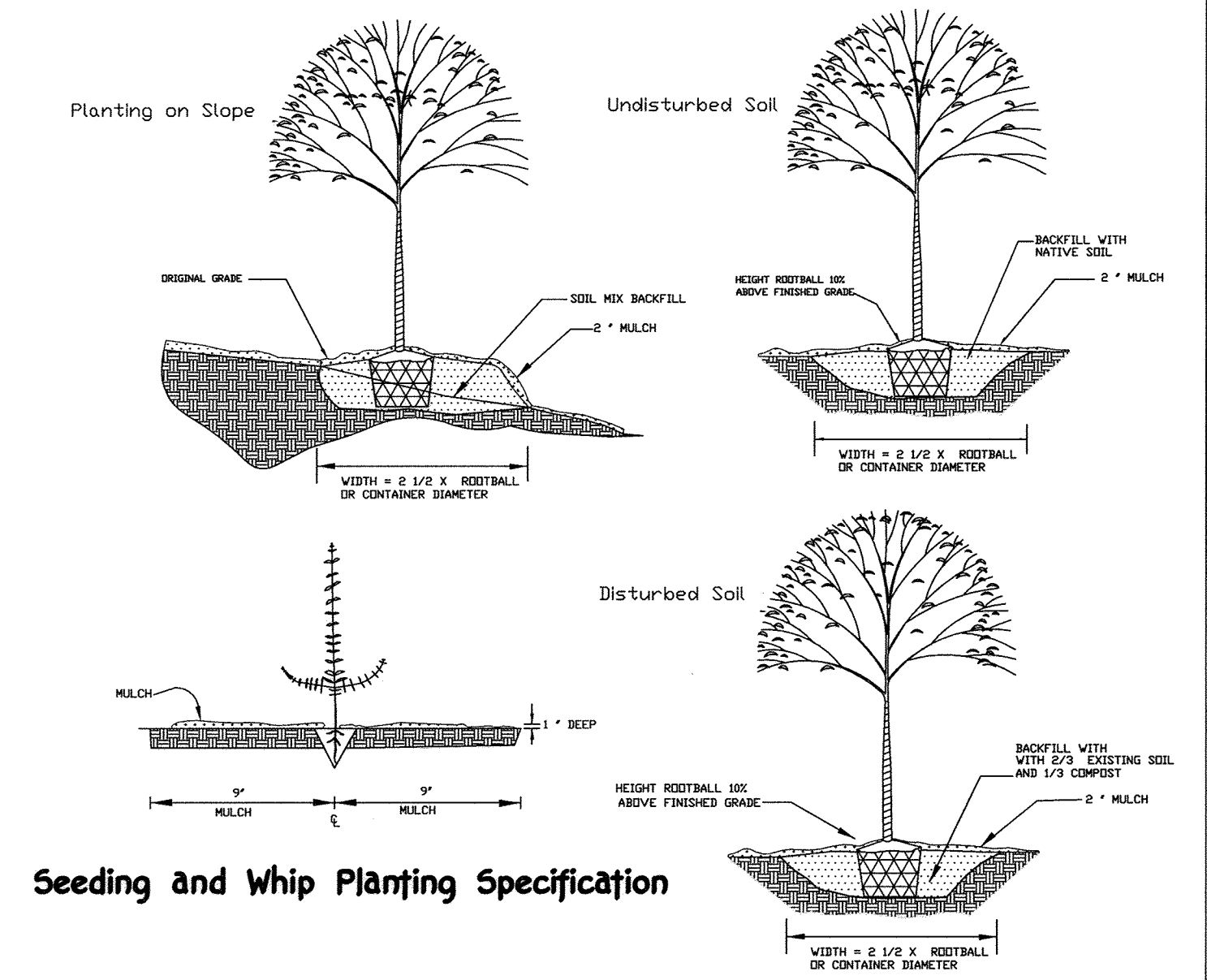
ON-SITE SIGNAGE

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

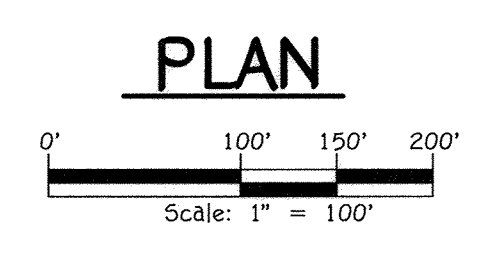


Seeding and Whip Planting Specification

MATCHLINE SEE SHEET 17

MATCHLINE SEE THIS SHEET

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

AS-BUILT CERTIFICATION

Note: There is no "AS BUILT" information provided on this sheet.

CHARLES J. KROGO, P.E. NO. 19404
 Date: 10/22/18

FOREST CONSERVATION PLAN
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-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, 2013
 SHEET 18 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."

FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
 ELICOTT CITY, MARYLAND 21042
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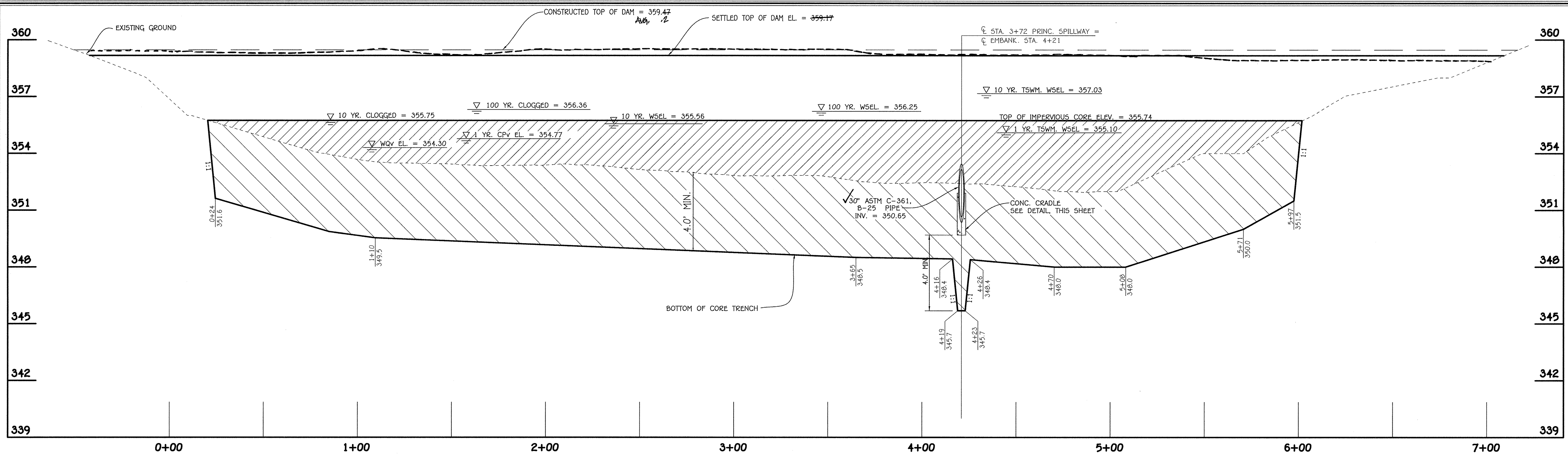
Eco-Science Professionals, Inc.
 CONSULTING ECOLOGISTS

MD DNR Qualified Professional
 USACE Wetland Delineator
 Certification # WDCP93M00610044B
 JOHN P. CANOLES

Owner
 BV Business Trust
 15950 North Avenue
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 410-489-7300

Developer
 Bassler Venture, LLC
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 P.O. Box 482
 Lisbon, MD 21765
 410-489-7300

THERE IS NO "AS-BUILT" INFORMATION PROVIDED ON THIS SHEET F-13-034



**S.W.M. FACILITY B.M.P. NO. 2 (P-1)
PROFILE ALONG EMBANKMENT**
SCALE: HOR. : 1" = 30'
VER. : 1" = 3'

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. Feaga* Date: 3/28/13
Printed Name Of Developer: **Timothy W. Feaga**

By The Engineer:
"I Certify That This Plan For Pond Construction, Erosion And Sediment Control Represents A Practical And Workable Plan Based On My Personal Knowledge Of The Site Conditions. This Plan Was Prepared In Accordance With The Requirements Of The Howard Soil Conservation District. I Have Noted The Developer's Plan And 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 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
Howard Soil Conservation District

Approved: Department Of Public Works
Signature: *Howard S. ...* Date: 4/2/13
Chief, Bureau Of Highways

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

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

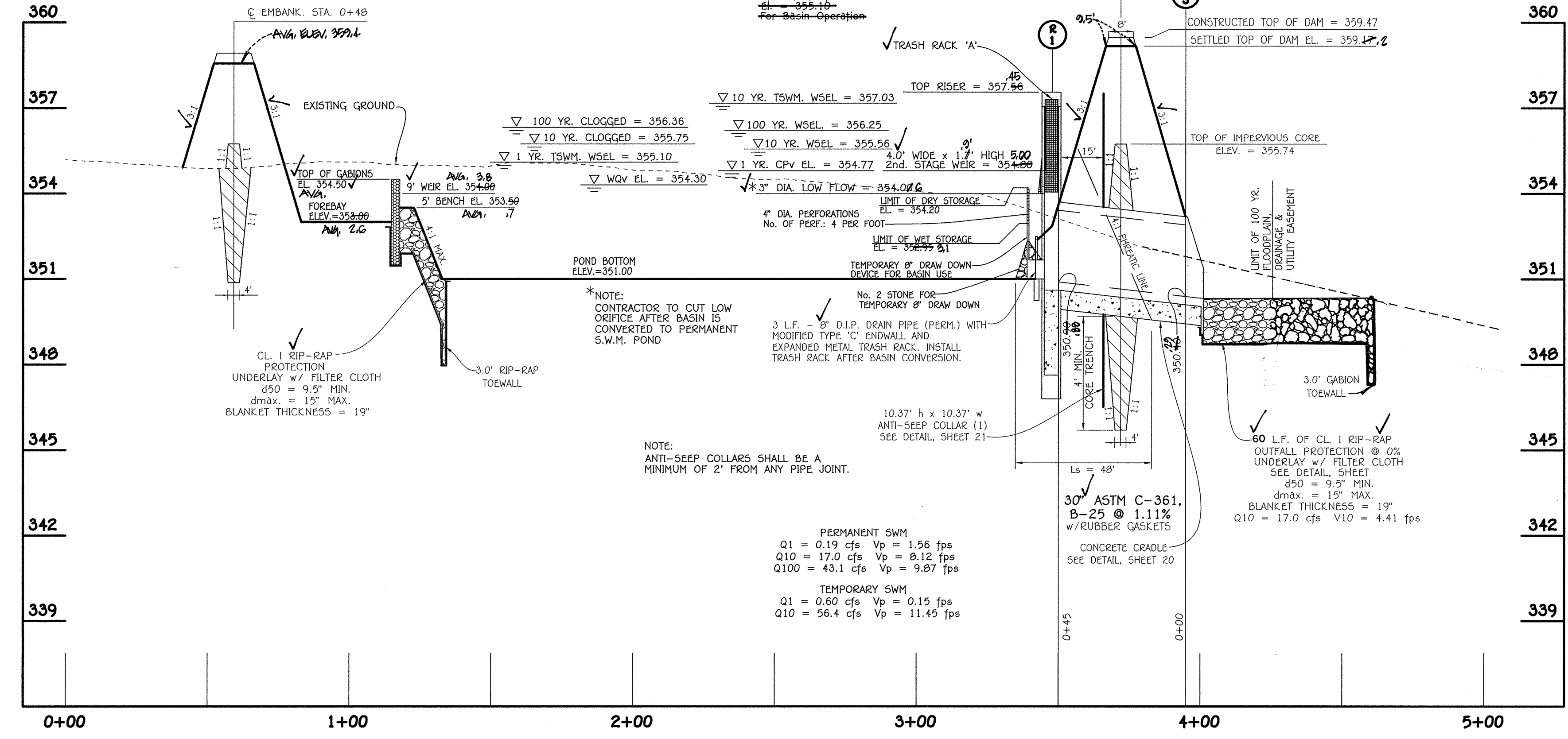
OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND JOINTLY MAINTAINED STORMWATER MANAGEMENT FACILITIES (P-1)

- ROUTINE MAINTENANCE**
1. Facility shall be inspected annually and after major storms. Inspections shall be performed during wet weather to determine if the pond is functioning properly.
 2. Top and side slopes of the embankment shall be mowed a minimum of two (2) times a year, once in June and once in September. Other side slopes and maintenance access should be mowed as needed.
 3. Debris and litter shall be removed during regular mowing operations and as needed.
 4. Visible signs of erosion in the pond as well as the rip-rap or gabion outlet area shall be repaired as soon as it is noticed.
- NON-ROUTINE MAINTENANCE**
1. Structural components of the pond such as the dam, the riser, and the pipes shall be repaired upon the detection of any damage. The components shall be inspected during routine maintenance operations.
 2. Sediment shall be removed from the pond, and forebay, no later than when the capacity of the pond or forebay, is half full of sediment, or, when deemed necessary for aesthetic reasons, upon approval from the Department of Public Works.

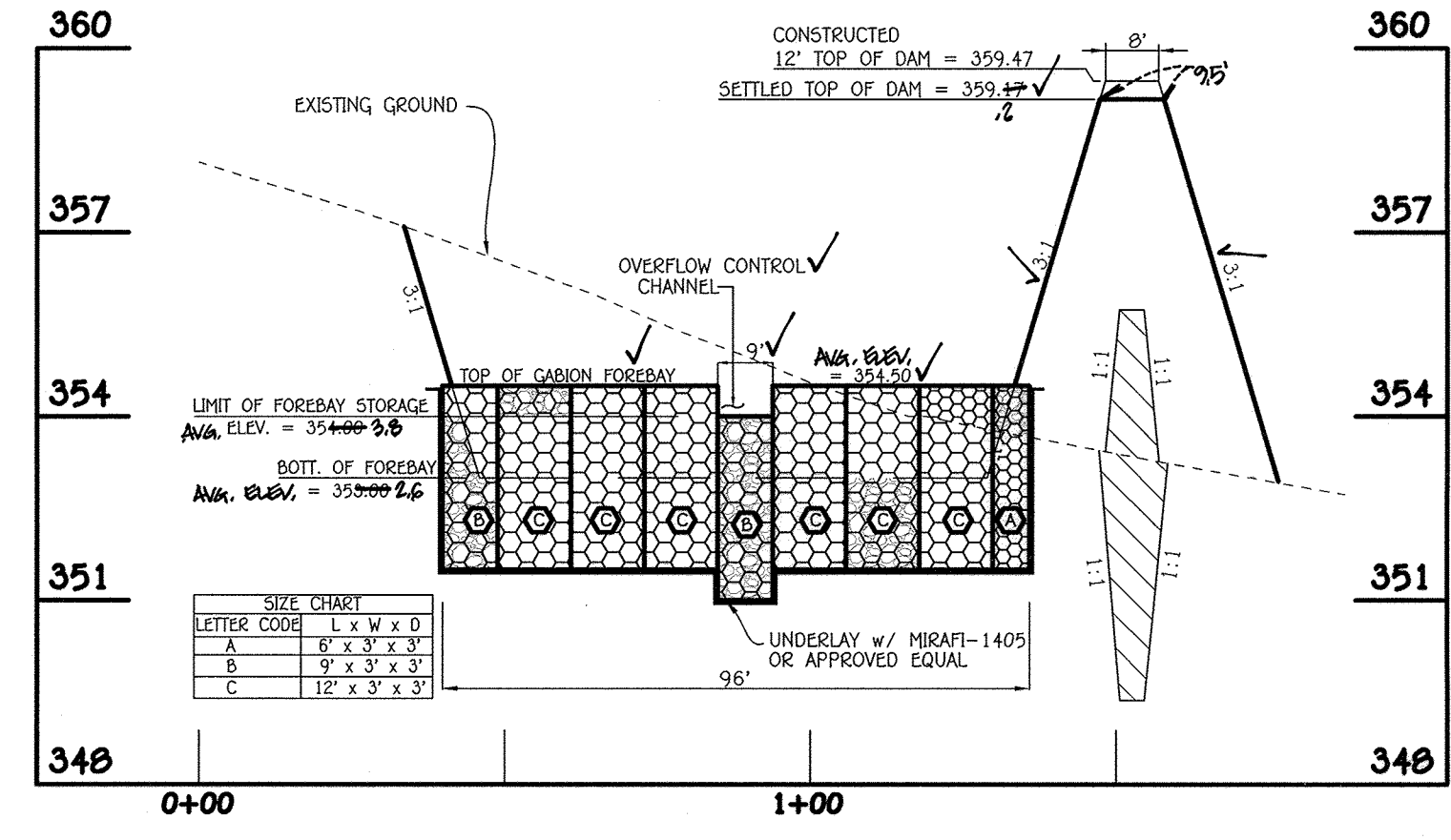
AS-BUILT CERTIFICATION
I hereby certify that the Facility shown on this Plan was Constructed As Shown On The "As-Built" Plans And Meets The Approved Plans And Specifications.
Signature: *...* Date: 10/22/18
P.E. No. 13284

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	9/7/17

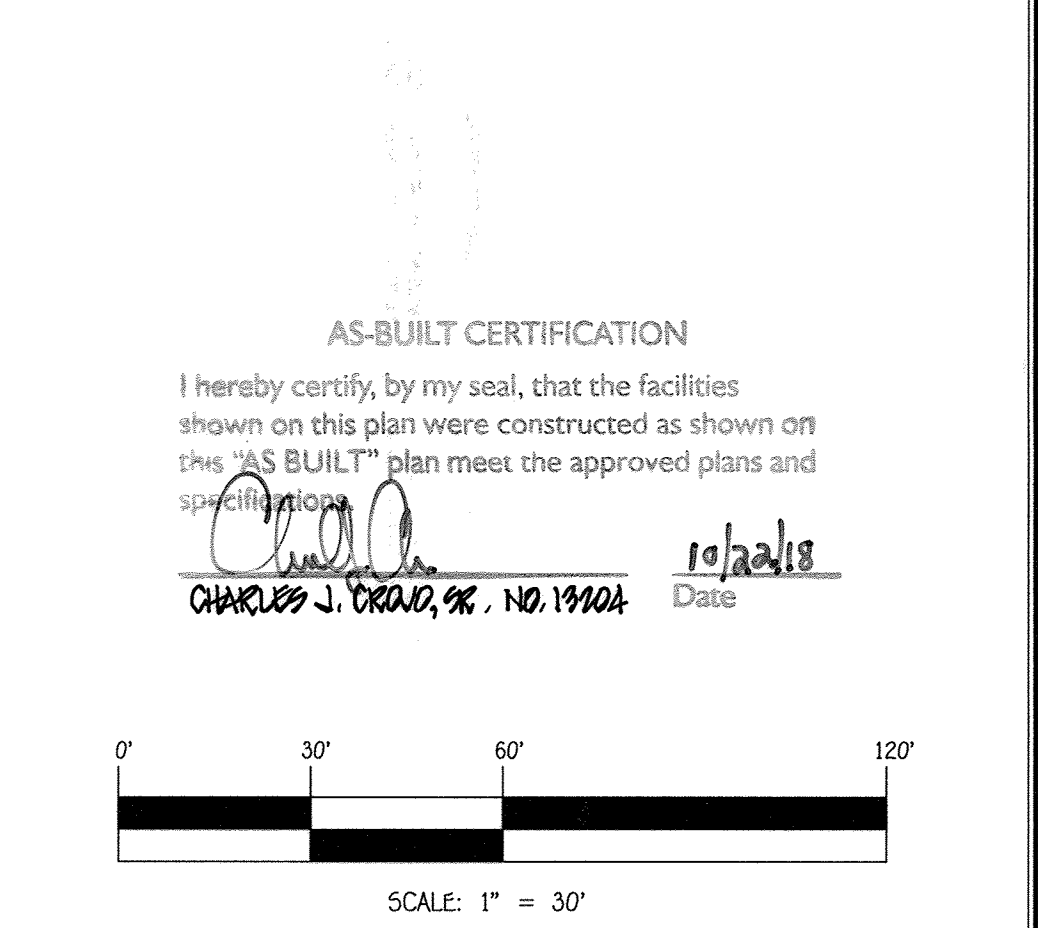


PRINCIPLE SPILLWAY PROFILE
SCALE: HOR. : 1" = 30'
VER. : 1" = 3'



GABION FOREBAY PROFILE
SCALE: HOR. : 1" = 30'
VER. : 1" = 3'

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: *Charles J. ...* Date: 10/22/18
CHARLES J. ... P.E. NO. 19104



**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. 2B 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

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10275 BALTIMORE NATIONAL PIKE
ELLSWORTH CITY, MARYLAND 21042
(410) 461-2200

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

Developer
Basler 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: *...* 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 stripped of 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 20-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 C-5, C-6, C-7, or C-8 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 core shell of the embankment must have the capability to support vegetation of the quality required to prevent erosion of the embankment.

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

Compaction - The movement of the hauling and spreading equipment over the fill shall be controlled so that the entire surface of each lift shall be traversed by not less than one tread track of heavy equipment or compaction shall be achieved by a minimum of four complete passes of a roller, or hand tamper 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 98% of maximum dry density with a moisture content within 2% of the optimum. Each layer of fill shall be compacted as necessary to obtain that density, and is to be certified by the Engineer at the time of construction. All compaction is to be determined by AASHTO Method T-99 (Standard Proctor).

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

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

Structure Backfill

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

Structure backfill may be flowable fill meeting the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 313 as modified. The mixture shall have a 100-200 psi, 20 day unconfined compressive strength. The flowable fill shall have a minimum pH of 4.0 and a minimum resistivity of 2,000 ohm-cm. Material shall be placed such that a minimum of 6" (measured perpendicular to the outside of the pipe) of flowable fill shall be under (bedding), over and, on the sides of the pipe. It only needs to extend up to the spring line for rigid conduits. Average slump of the fill shall be 7" to assure flowability of the material. Adequate measures shall be taken (sand bags, etc.) to prevent 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 allowed to operate closer than four feet, measured horizontally, to any part of a structure. Under no circumstances shall equipment be driven over any part of a structure or pipe unless there is a compacted fill of 24" or greater over the structure or pipe. Backfill material outside the structural backfill (flowable fill) zone shall be of the type and quality conforming to the specified for the core of the embankment or other embankment materials.

Pipe Conduits

All pipes shall be circular in cross section.

Corrugated Metal Pipe - All of the following criteria shall apply for corrugated metal pipe:

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

Materials - (Aluminum Coated Steel Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-274 with watertight coupling bands or flanges. Aluminum Coated Steel Pipe, when used with flowable fill or when soil and/or water conditions warrant the need for increased durability, shall be fully bituminous coated per requirements of AASHTO Specification M-190 Type A. Any aluminum coating damaged or otherwise removed shall be replaced with cold applied bituminous coating compound. Aluminum surfaces that are to be in contact with concrete shall be painted with one coat of zinc chromate primer or two coats of asphalt. Hot dip galvanized bolts may be used for connections. The pH of the surrounding soils shall be between 4 and 9.

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

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

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 lap type band with 12-inch wide by 3/8-inch thick closed cell circular neoprene gaskets; 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 internal 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 20% of 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 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 requirement of AASHTO M252 Type 5, and 12" through 24" inch shall meet the requirement of AASHTO M294 Type 5.

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 sumps from which the water shall be pumped.

Stabilization

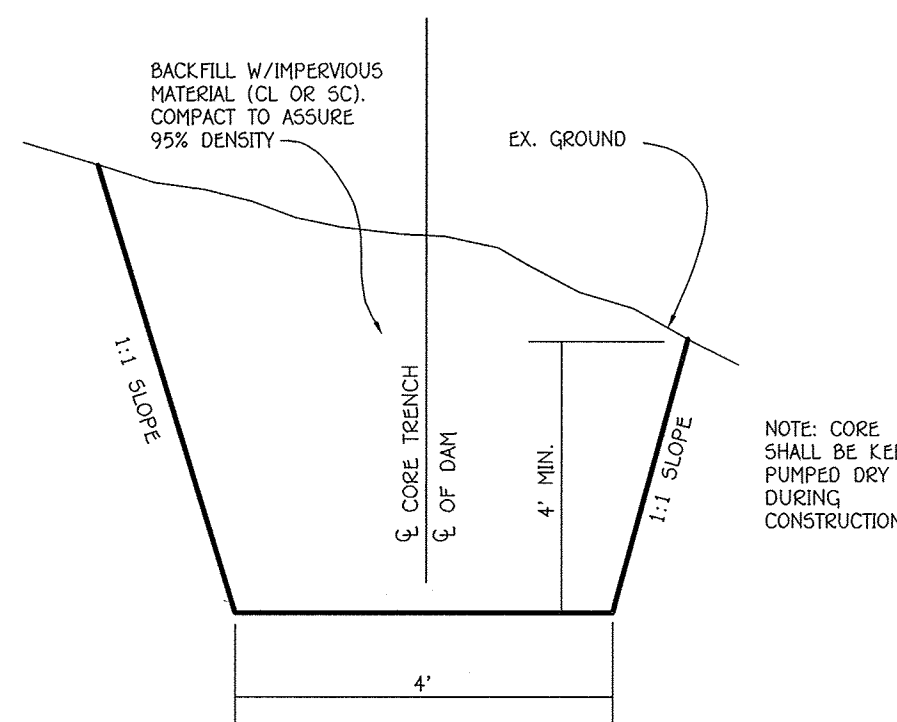
All borrow areas shall be graded to provide proper drainage and left in a slightly condition. All exposed surfaces of the embankment, spillway, spoil and borrow areas, and berms shall be stabilized by seeding, liming, fertilizing and mulching in accordance with the Natural Resources Conservation Service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

Erosion and Sediment Control

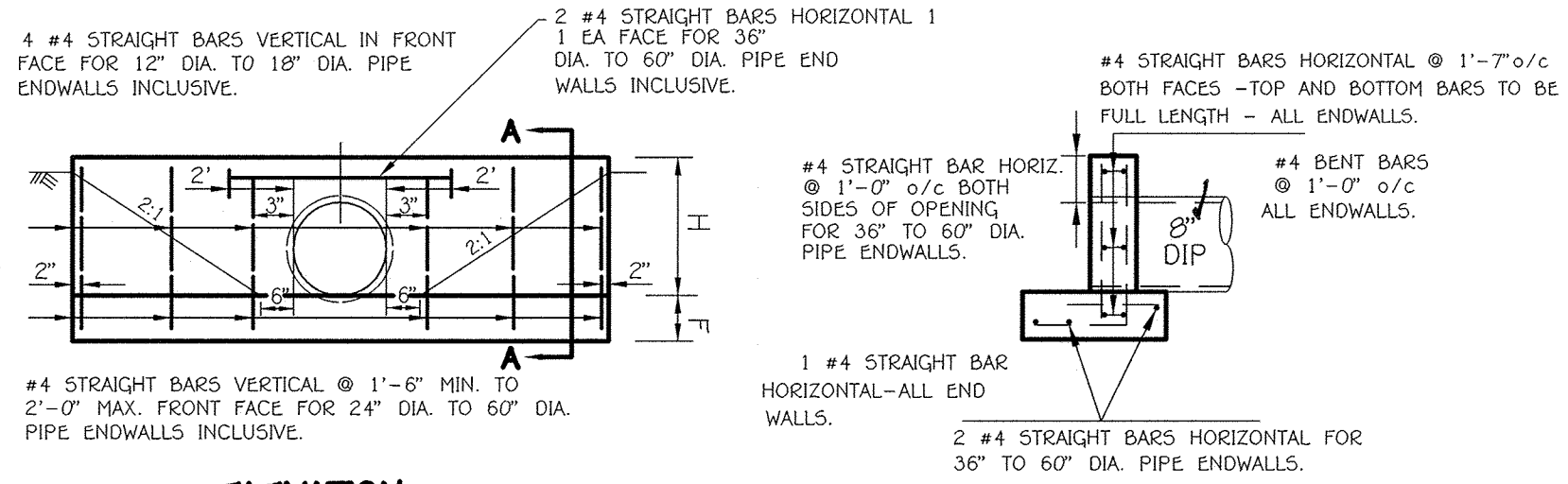
Construction operations will be carried out in such a manner that erosion will be controlled and water and air pollution minimized. State and local laws concerning pollution abatement will be followed. Construction plans shall detail erosion and sediment control measures.

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.



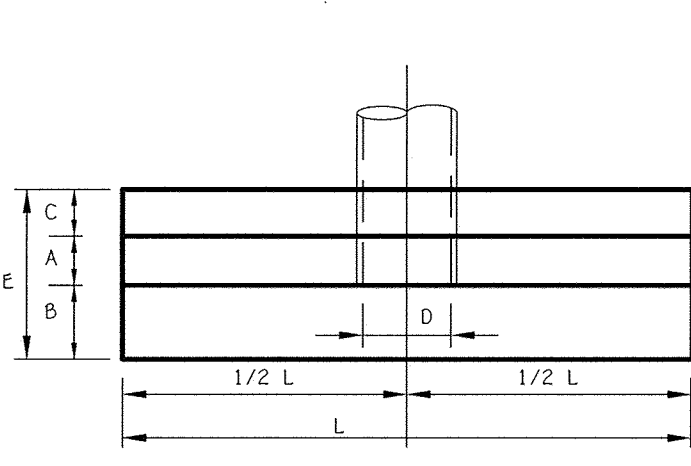
CORE TRENCH DETAIL
(NO SCALE)



ELEVATION

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.

SECTION A-A



PLAN

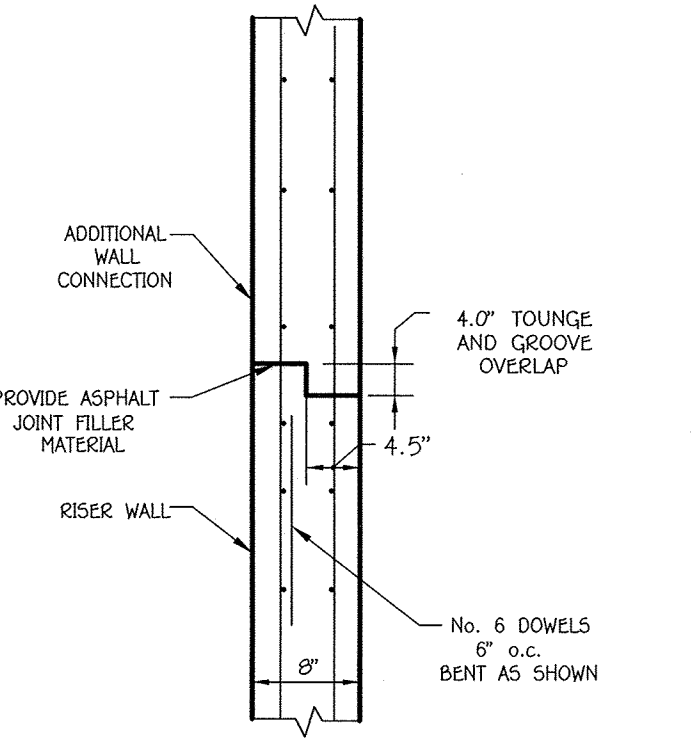
DISPOSITION OF BARS - DETAIL

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.

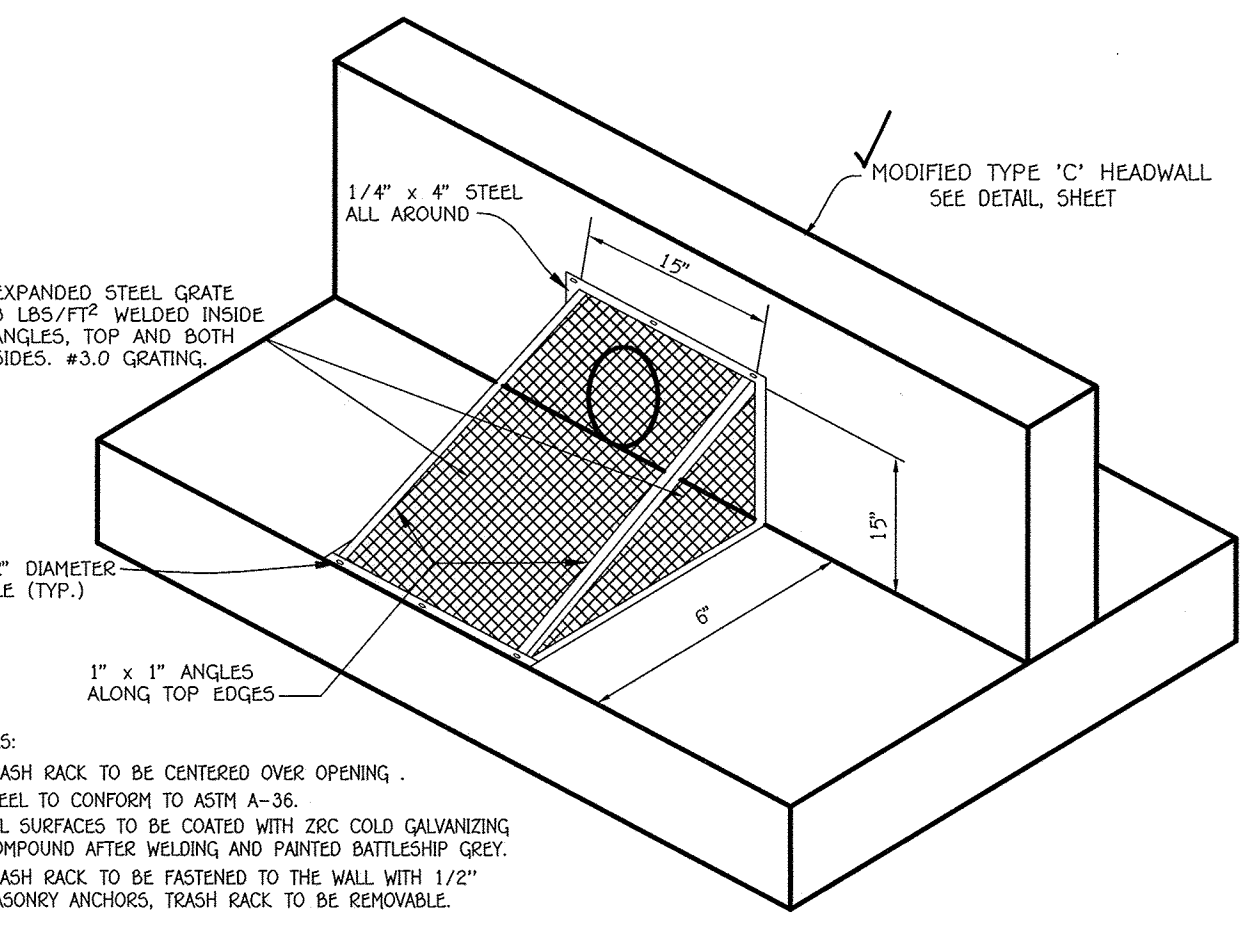
OPENINGS	DIMENSIONS								VOLUME	STEEL
D	A	B	C	E	F	H	L	CONC.	CONC.	
IN.	IN.	IN.	IN.	IN.	IN.	IN.	IN.	C.Y.	LBS.	
8"	0.79	9"	6"	6"	1'-9"	9"	1'-6"	5'-5"	0.61	38

MODIFIED TYPE 'C' ENDWALL

NO SCALE



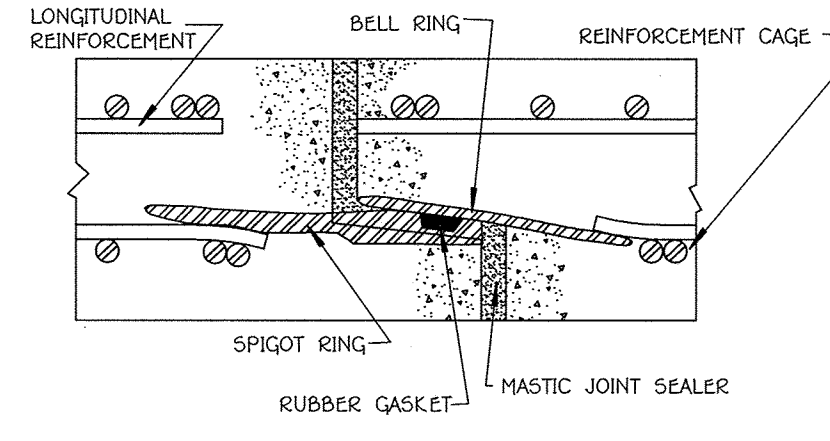
KEYED JOINT DETAIL
WALL SECTION TO WALL SECTION
(NO SCALE)



LOW FLOW EXPANDED METAL TRASH RACK

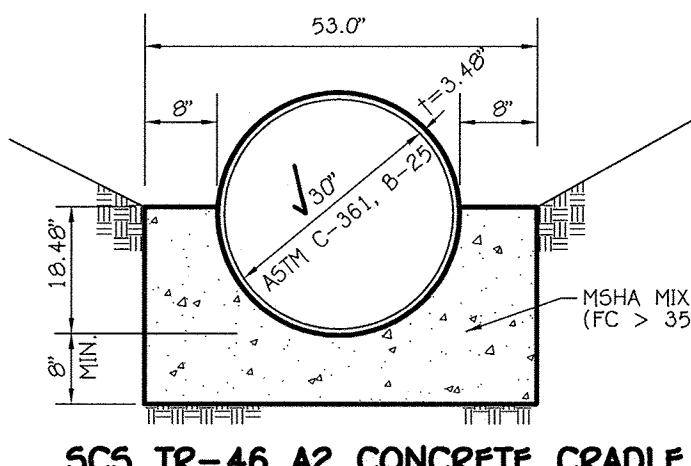
NOT TO SCALE

NOTES:
1. TRASH RACK TO BE CENTERED OVER OPENING.
2. STEEL TO CONFORM TO ASTM A-36.
3. ALL SURFACES TO BE COATED WITH 200 COAT GALVANIZING COMPOUND AFTER WELDING AND PAINTED BATTLESHIP GREY.
4. TRASH RACK TO BE FASTENED TO THE WALL WITH 1/2" MASONRY ANCHORS; TRASH RACK TO BE REMOVABLE.



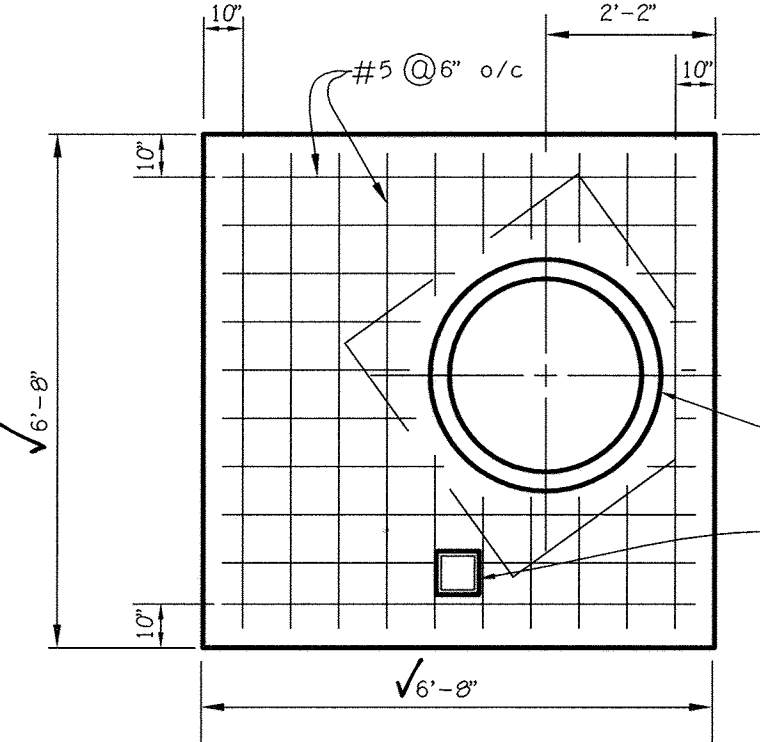
CONCRETE PIPE JOINT DETAIL
(NO SCALE)

NOTE: PROVIDE MASTIC JOINT SEALER FROM OUTSIDE OF PIPE JOINTS PRIOR TO INSTALLING BARREL UNDERGROUND



SCS TR-46 A2 CONCRETE CRADLE
(NO SCALE)

NOTE:
CONC. CRADLE TO BE POURED DIRECTLY AGAINST EARTH BANKS. IF BOTTOM OF TRENCH IS WIDER THAN THE CRADLE, SLOPING SIDES (FRAMED) SHALL BE USED.



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.M. SCOTFIELD 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.

AS-BUILT CERTIFICATION

I hereby certify, by my seal, that the facilities shown on this "As-Built" plan meet the approved plans and specifications.



CHARLES J. O'KEEFE, No. 19704
Date: 10/22/13

STORMWATER MANAGEMENT NOTES AND DETAILS POND No. 2

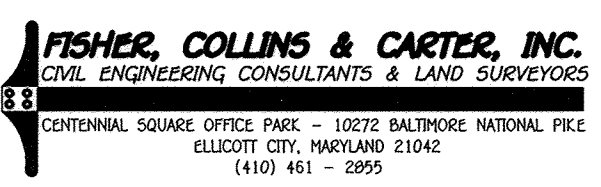
WALNUT CREEK PHASE FOUR

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

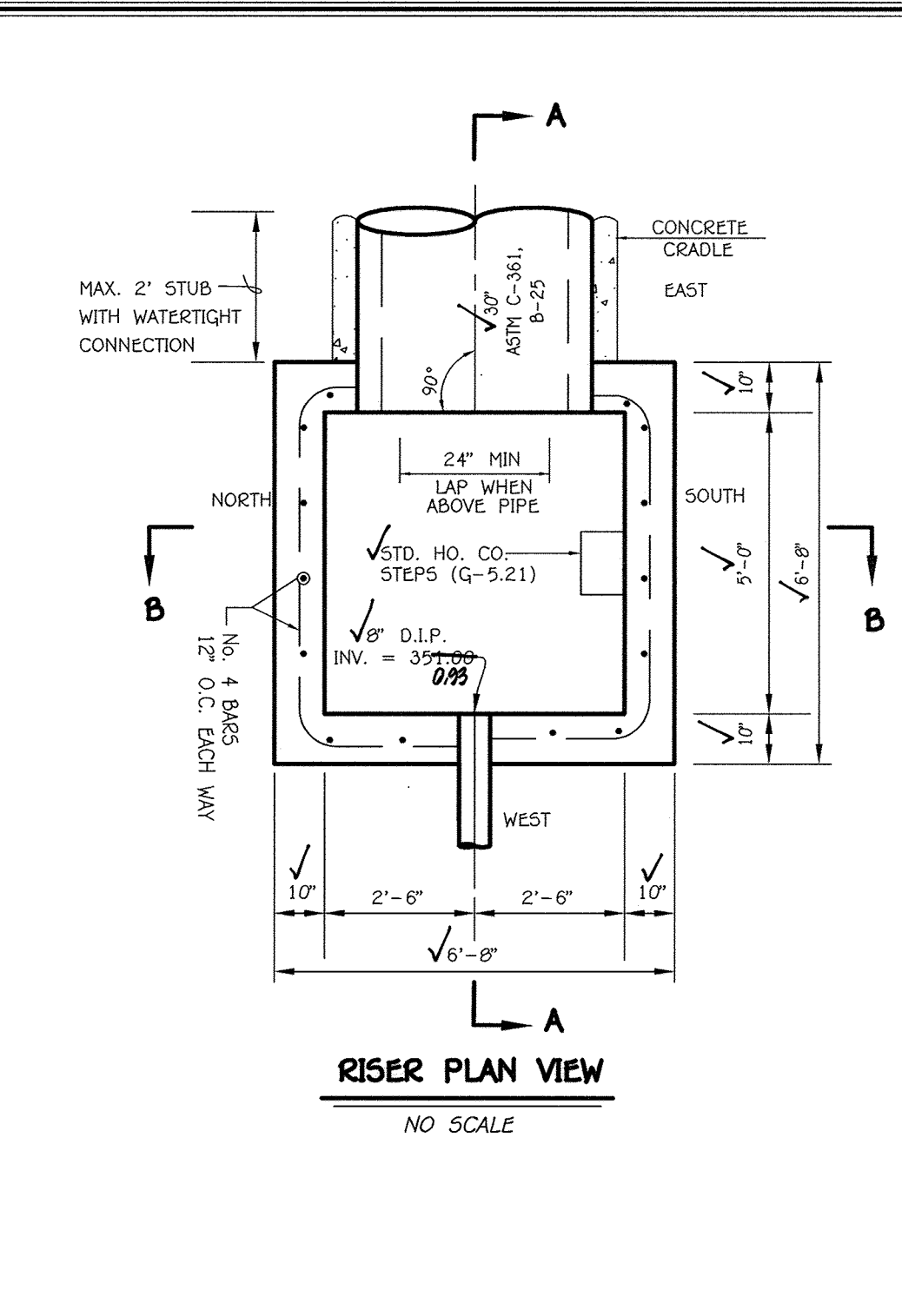
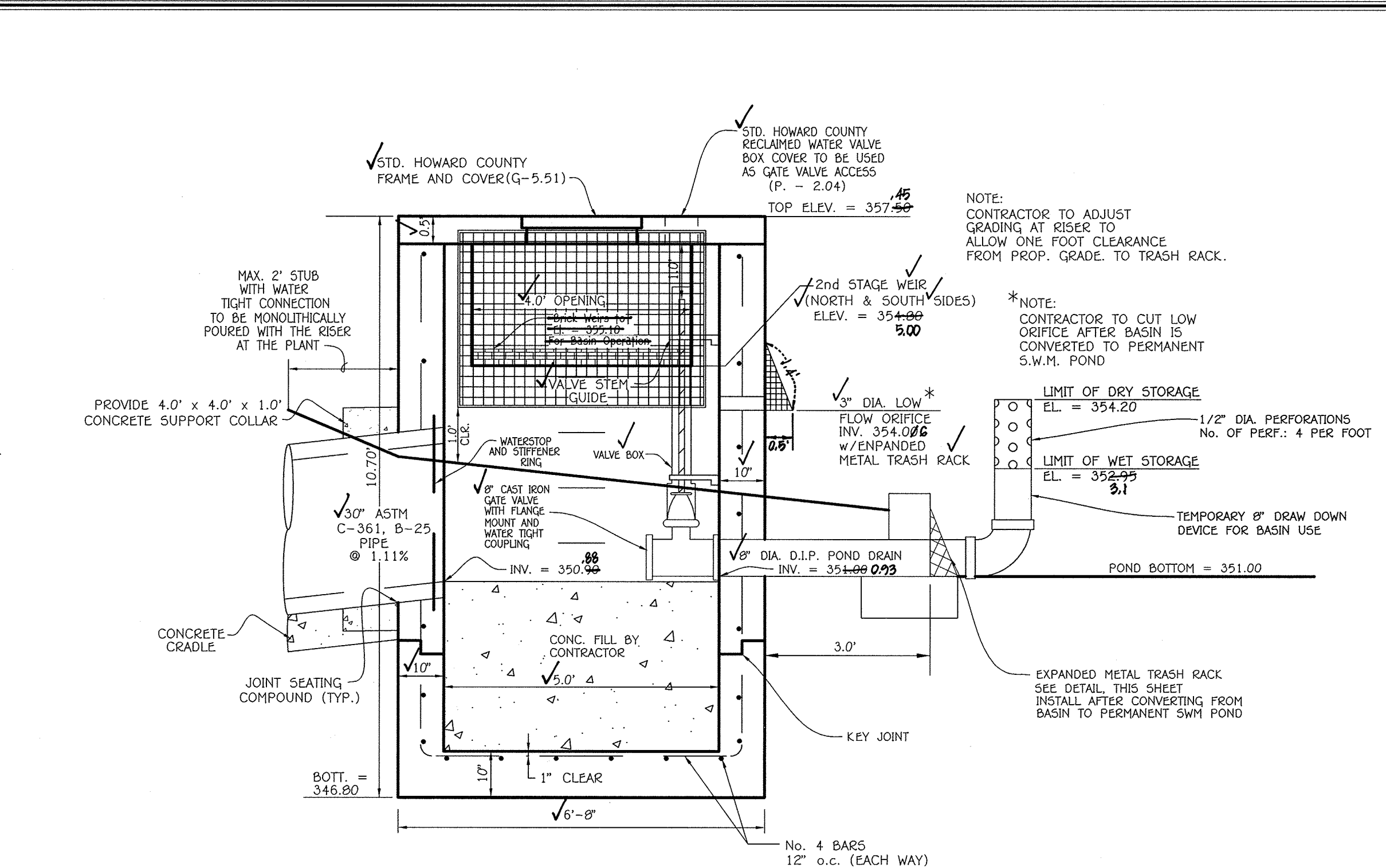
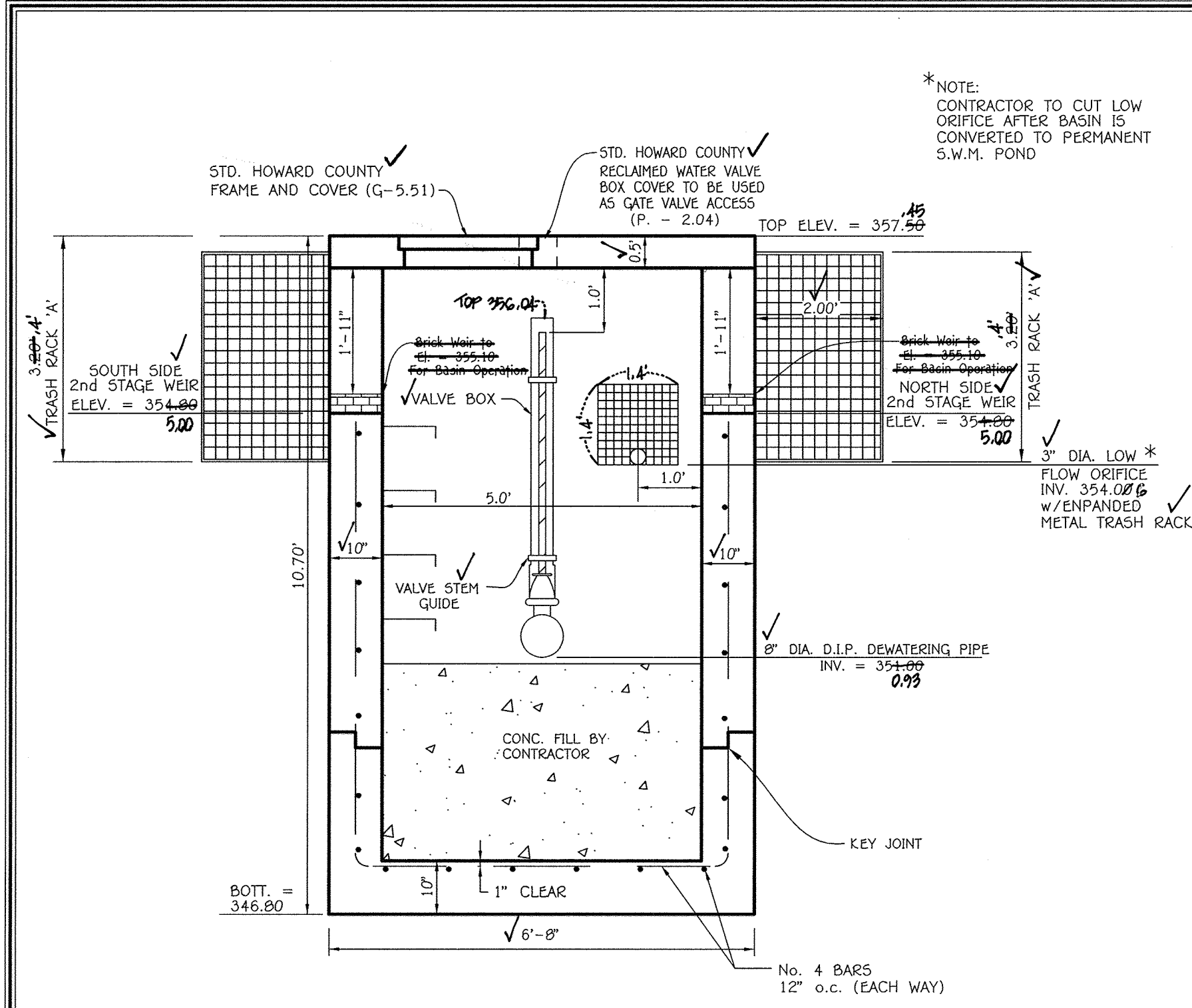


"Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 20748, Expiration Date: February 22, 2015."

3/29/13
DATE

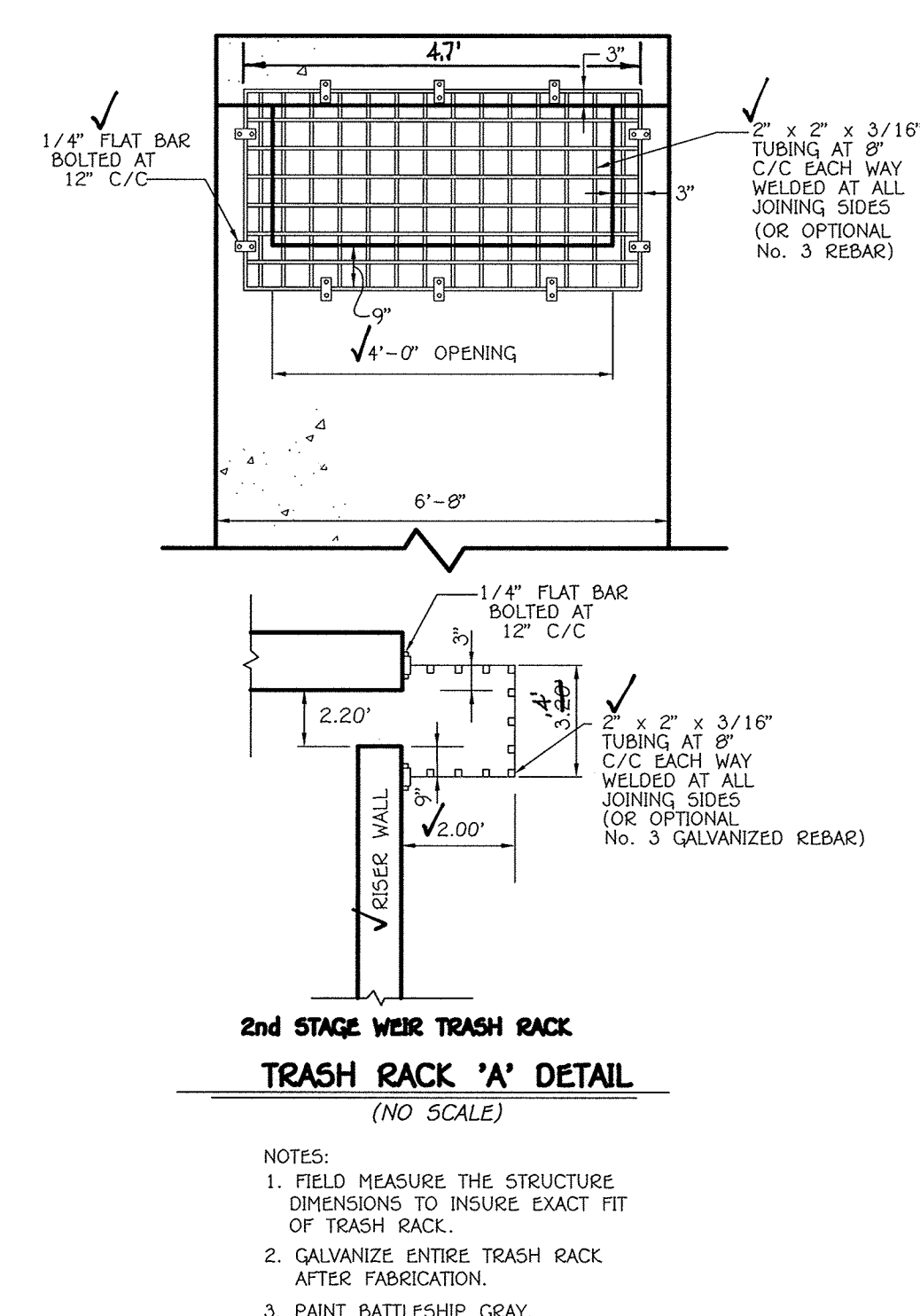
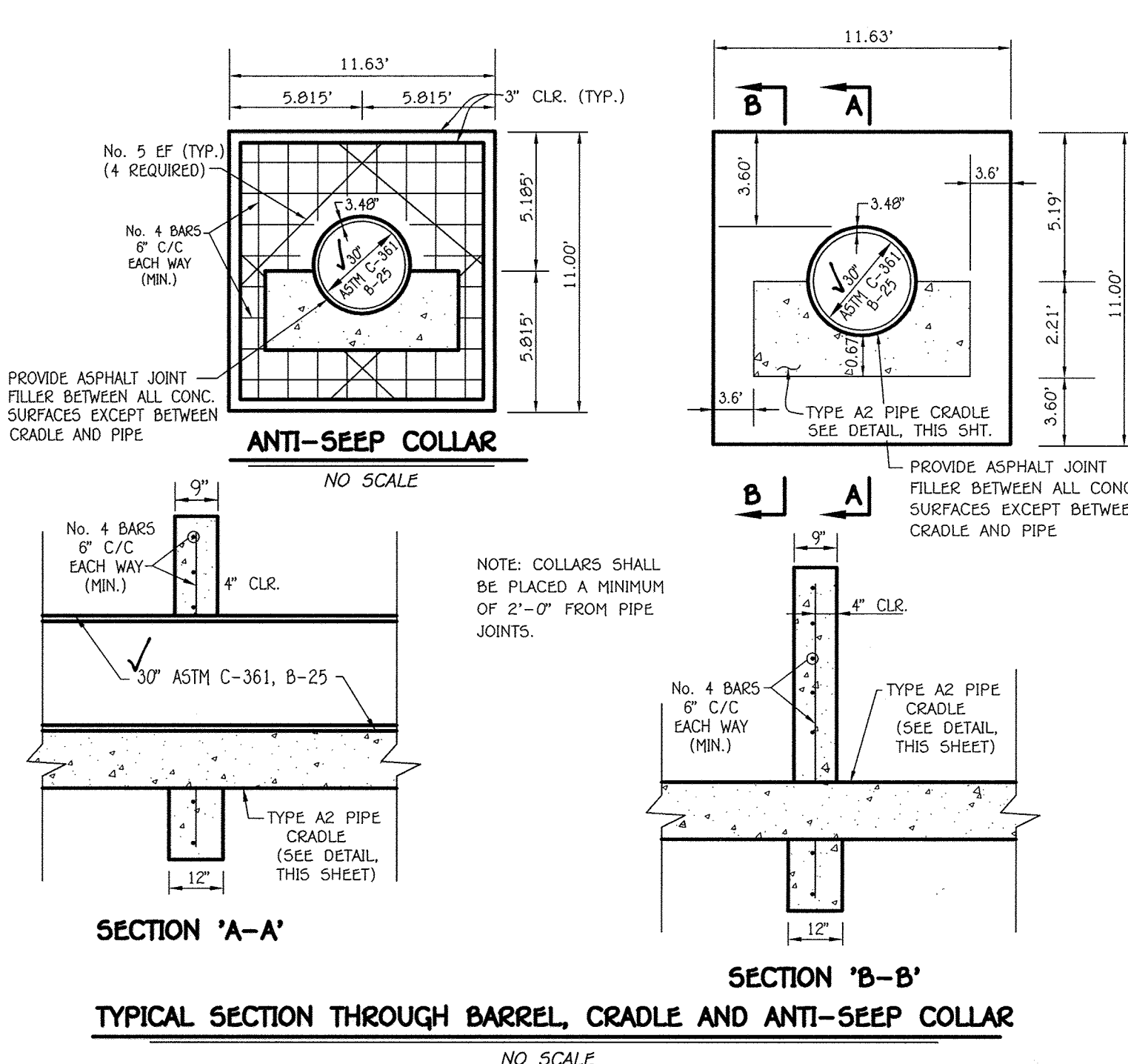
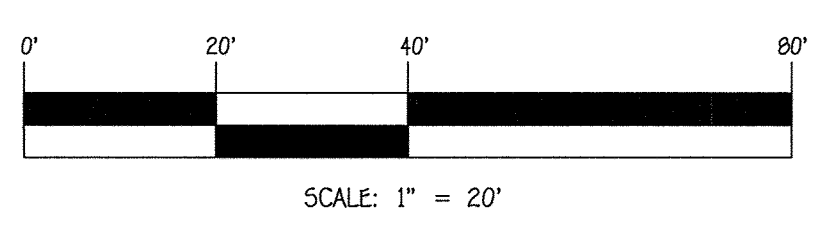


Owner	Developer
BY Business Trust 15950 North Avenue P.O. Box 482 Lisbon, MD 21765 410-489-7920	Basistar Venture, LLC 15950 North Avenue P.O. Box 482 Lisbon, MD 21765 410-489-7900



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

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



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: *[Signature]* Date: 3/24/13

Printed Name of Developer: Timothy W Feaga

By The Engineer:
"I Certify That This Plan For Pond Construction, Erosion And Sediment Control Represents A Practical And Feasible Design Based On My Personal Knowledge Of The Site Conditions. This Plan Was Prepared In Accordance With The Requirements Of The Howard Soil Conservation District. I Have Verified The Development 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]* Date: 3/20/13

Printed Name of Engineer: A. J. [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]* Date: 4/2/13
Chief, Bureau Of Highways

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

Approved: Department Of Public Works
Signature: *[Signature]* Date: 4/12/13
Chief, Development Engineering Division

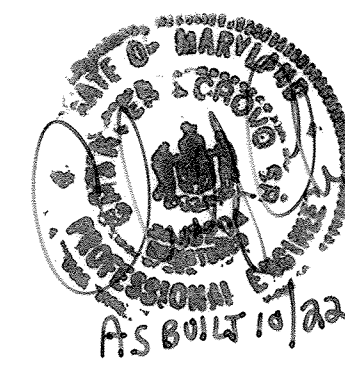
AS-BUILT CERTIFICATION

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: *[Signature]* Date: 10/22/18
A.E. No. 13204

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



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.

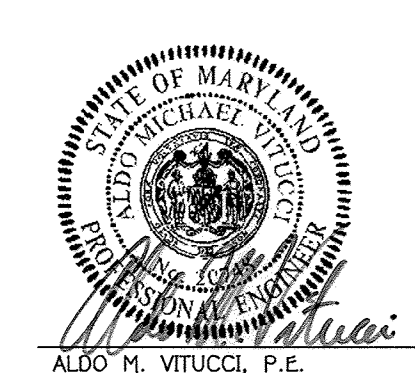
Signature: *[Signature]* Date: 10/22/18
A.S. 6014 10/22/18
A.S. 6014 10/22/18

STORMWATER MANAGEMENT NOTES AND DETAILS
POND No. 2

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

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

ZONED: RC-DEO & RS-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 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. 20748, Expiration Date: February 22, 2015."

Signature: *[Signature]* Date: 3/24/13

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTRAL SQUARE OFFICE PARK - 10272 BALDOR NATIONAL PIKE
ELLSWORTH CITY, MARYLAND 21142
(410) 461-2000

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

1:200104001\pmp\PHASE FOUR ETNALS1C19_F-13-034.rvt details.dwg, SHEET 21, 3/20/2013 8:44:39 AM, 1:1

SOIL PREPARATION, TOPSOILING AND SOIL AMENDMENTS (B-4-2)

- A. Soil Preparation**
1. Temporary Stabilization
 - a. Seeded preparation consists of loosening soil to a depth of 3 to 5 inches by means of suitable agricultural or construction equipment, such as disc harrows or chisel plows or rippers mounted on construction equipment. After the soil has been loosened, it must not be rolled or dragged smooth but left in the roughened condition. Slopes 3:1 or flatter are to be tracked with ridges running parallel to the contour of the slope.
 - b. Apply fertilizer and lime as prescribed on the plans.
 - c. Incorporate lime and fertilizer into the top 3 to 5 inches of soil by disking or other suitable permanent stabilization.
 - d. A soil test is required for any earth disturbance of 5 acres or more. The minimum soil conditions required for permanent vegetation establishment are:
 - i. Soil pH between 6.0 and 7.0.
 - ii. Soluble salts less than 500 parts per million (ppm).
 - iii. Soil contains less than 40 percent clay but enough fine grained material (greater than 30 percent silt plus clay) to provide the capacity to hold a moderate amount of moisture. An exception: if longgrass will be planted, then a sandy soil less than 30 percent silt plus clay would be acceptable.
 - iv. Soil contains 1.5 percent minimum organic matter by weight.
 - v. Soil contains sufficient pore space to permit adequate root penetration.
 2. Application of amendments or topsoil is required if on-site soils do not meet the above conditions.
 3. Graded areas must be maintained in a true and even grade as specified on the approved plan, then adapted or otherwise loosened to a depth of 3 to 5 inches.
 4. Apply soil amendments as specified on the approved plan or as indicated by the results of a soil test.
 5. Mix soil amendments into the top 3 to 5 inches of soil by disking or other suitable means. Rake lawn areas to the surface, remove heavy objects like stones and branches, and rake the area for seed application. Loosen surface soil by dragging with a heavy chain or other equipment to roughen the surface where site conditions will not permit normal seeded preparation. Track slopes 3:1 or flatter with tracked equipment leaving the soil in an irregular condition with ridges running parallel to the contour of the slope. Leave the top 1 to 3 inches of soil loose and friable. Seeded loosening may be unnecessary on newly disturbed areas.

- B. Topsoiling**
1. Topsoil is placed over prepared subsoil prior to establishment of permanent vegetation. The purpose is to provide a soil medium for vegetative growth. Soils of concern have low moisture content, low nutrient levels, low pH, materials toxic to plants, and unacceptable soil gradation.
 2. Topsoil obtained from an existing site may be used provided it meets the standards as set forth in these specifications. Typically, the depth of topsoil to be salvaged for a given soil type can be found in the representative soil profile section in the Soil Survey published by USDA-NRCS.
 3. Topsoiling is limited to areas having 2:1 or flatter slopes where:
 - a. The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth.
 - b. The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish continuing supplies of moisture and plant nutrients.
 - c. The original soil to be treated contains material toxic to plant growth.
 - d. The soil is so acidic that vegetation with limestone is not feasible.
 - e. Areas having slopes steeper than 2:1 require special consideration and design.
 4. Topsoil Specifications: Soil to be used as topsoil must meet the following criteria:
 - a. Topsoil must be a loam, sandy loam, clay loam, silt loam, silty clay loam, or loamy sand. Other soils may be used if recommended by an approved soil scientist and approved by the appropriate approval authority. Topsoil must not be a mixture of contrasting textured subsoils and must contain less than 5 percent by volume of cinders, stones, slag, coarse fragments, gravel, rocks, roots, trash, or other materials larger than 1 1/2 inches in diameter.
 - b. Topsoil must be free of noxious plants or plant parts such as Bermuda grass, quack grass, Johnson grass, nut sedge, poison ivy, thistle, or others as specified.
 - c. Topsoil substitutes or amendments, as recommended by a qualified agronomist or soil scientist and approved by the appropriate approval authority, may be used in lieu of natural topsoil.
 5. Erosion and sediment control practices must be maintained when applying topsoil.
 6. Uniformly distribute topsoil in a 5 to 8 inch layer and lightly compact to a minimum thickness of 4 inches. Spreading is to be performed in such a manner that sodding or seeding can proceed with a minimum of additional soil preparation and tillage. Any irregularities in the surface resulting from topsoiling or other operations must be corrected in order to prevent the formation of depressions or water pockets.
 7. Topsoil must not be placed if the topsoil or subsoil is in a frozen or muddy condition, when the subsoil is excessively wet or in a condition that may otherwise be detrimental to proper grading and seeded preparation.

- C. Soil Amendments (Fertilizer and Lime Specifications)**
1. Soil tests must be performed to determine the exact rates and application rates for both lime and fertilizer on areas having disturbed areas of 5 acres or more. Soil analysis may be performed by a recognized private or commercial laboratory. Soil samples taken for engineering purposes may also be used for chemical analyses.
 2. Fertilizers must be uniform in composition, free flowing and suitable for accurate application by appropriate equipment. Fertilizer must be substituted for fertilizer with prior approval from the appropriate approval authority. Fertilizers must all be labeled to the site fully labeled according to the applicable laws and must bear the name, trade name or trademark and warranty of the producer.
 3. Lime materials must be ground limestone (hydrated or burnt lime may be substituted except when hydroseeding) which contains at least 50 percent total oxides (calcium oxide plus magnesium oxide). Limestone must be ground to such fineness that at least 50 percent will pass through a #100 mesh sieve and 90 to 100 percent will pass through a #20 mesh sieve.
 4. Lime and fertilizer are to be evenly distributed and incorporated into the top 3 to 5 inches of soil by disking or other suitable means.
 5. Where the subsoil is either highly acidic or composed of heavy clays, spread ground limestone at the rate of 4 to 8 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement of topsoil.

- TEMPORARY SEEDING NOTES (B-4-4)**
- Definition: 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:
1. 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.
 2. For sites having soil tests performed, use and show the recommended rates by the testing agency. Soil tests are not required for Temporary Seeding.
- A. When stabilization is required outside of a seeding season, apply seed and mulch or straw mulch as prescribed in Section B-4-4.3A.1.b and maintain until the next seeding season.

Hardness Zone (from Figure B.3):	_____	Fertilizer Rate (10-20-20)	Lime Rate
Seed Mixture (from Table B.1):	_____		
No. Species	Application Rate (lb./ac)	Seeding Dates	Seeding Depth
B	TALL FESCUE	Mar. 1-15/15 Aug. 15-Oct. 15	1.5 1.5
			90 lb./ac (2 lb./1000 sf)
			90 lb./ac (2 lb./1000 sf)
			2 tons/ac (90 lb./1000 sf)

Hardness Zone (from Figure B.3):	_____	Fertilizer Rate (10-20-20)	Lime Rate
Seed Mixture (from Table B.1):	_____		
Species	Application Rate (lb./ac)	Seeding Dates	Seeding Depth
BARLEY	96	3/1 - 5/15	1"
			436 lb./ac (10 lb./1000 sf)
OATS	72	8/15 - 10/15	1"
			436 lb./ac (10 lb./1000 sf)
RYE	112		1"
			436 lb./ac (10 lb./1000 sf)

PERMANENT SEEDING NOTES (B-4-5)

- A. Seed Mixtures**
1. General Use
 - a. Select one or more of the species or mixtures listed in Table B.3 for the appropriate Plant Hardness Zone (from Figure B.3) and based on the site condition or purpose found on Table B.2, enter selected mixtures, application rates, and seeding dates in the Permanent Seeding Summary. The Summary is to be placed on the plan.
 - b. Additional planting specifications for exceptional sites such as shorelines, stream banks, or dunes or for special purposes such as wildlife or aesthetic treatment may be found in USDA-NRCS Technical Field Office Guide, Section 345 - Critical Area Planting.
 - c. For sites having disturbed areas over 5 acres, use and show the rates recommended by the soil testing agency. d. For areas receiving low maintenance, apply seed form fertilizer (46-0-0) 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
 - a. Areas where turfgrass may be desired include lawns, parks, playgrounds, and commercial sites which will receive a medium to high level of maintenance.
 - b. 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.
 3. Kentucky Bluegrass: Full Sun Mixture: For use in areas that receive intensive management, irrigation required in the areas of central Maryland and Eastern Shore. Recommended Certified Kentucky Bluegrass Cultivars Seeding Rate: 15 to 20 pounds per 1000 square feet. Choose a minimum of three Kentucky bluegrass cultivars with each ranging from 10 to 30 percent of the total mixture by weight.
 4. Kentucky Bluegrass/Perennial Ryegrass: Full Sun Mixture: For use in full sun areas where rigid establishment is necessary and when turf will receive medium to intensive management. 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 30 percent of the total mixture by weight.
 5. Tall Fescue/Kentucky Bluegrass: Full Sun Mixture: For use in drought prone areas and/or for areas receiving low to medium management in full sun to medium shade. Recommended mixture includes: 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.
 6. Kentucky Bluegrass/Fine Fescue: Shade Mixture: For use in areas with shade in bluegrass lawns. For establishment in high quality, intensively managed turf areas. Mixture includes: Certified Kentucky Bluegrass Cultivars 50 to 60 percent and Certified Fine Fescue and 40 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.

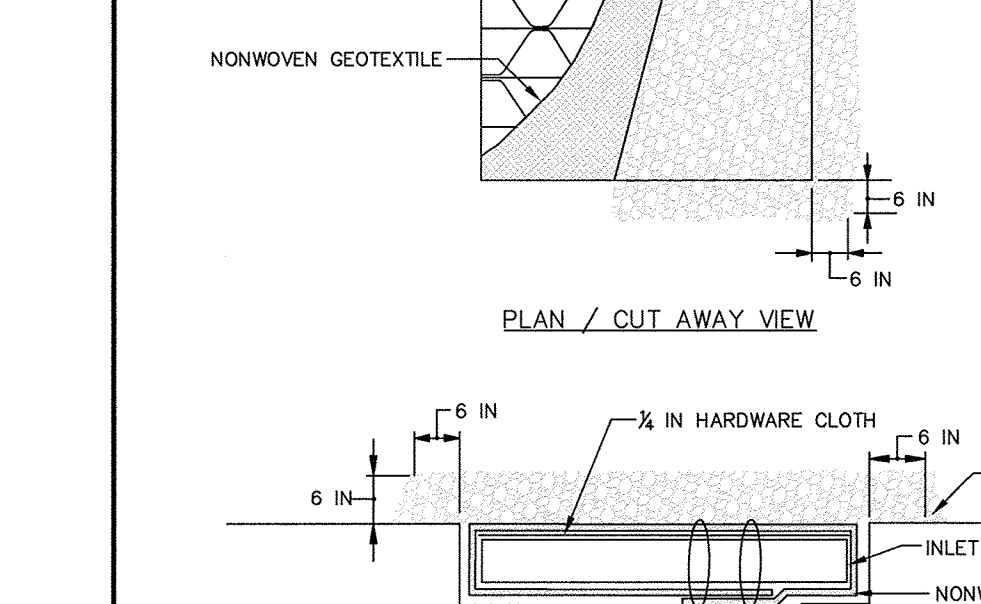
Choose certified material. Certified material is the best guarantee of cultivar purity. The certification program of the Maryland Department of Agriculture, Turf and Seed Section, provides a reliable means of consumer protection and assures a pure genetic line.

Local Times of Seeding for Turf Grass Mixtures Western MD: March 15 to June 1, August 1 to October 1 (Hardness Zone 5a, 6a) Central MD: March 1 to May 15, August 15 to October 15 (Hardness Zone 6) Southern MD Eastern Shore: March 1 to May 15, August 15 to October 15 (Hardness Zone 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 when seedlings are made late in the planting season, in abnormally dry or hot seasons, or on adverse sites.

Permanent Seeding Summary

Hardness Zone (from Figure B.3):	_____	Fertilizer Rate (10-20-20)	Lime Rate
Seed Mixture (from Table B.3):	_____		
No. Species	Application Rate (lb./ac)	Seeding Dates	Seeding Depth
B	TALL FESCUE	Mar. 1-15/15 Aug. 15-Oct. 15	1.5 1.5
			90 lb./ac (2 lb./1000 sf)
			90 lb./ac (2 lb./1000 sf)
			2 tons/ac (90 lb./1000 sf)



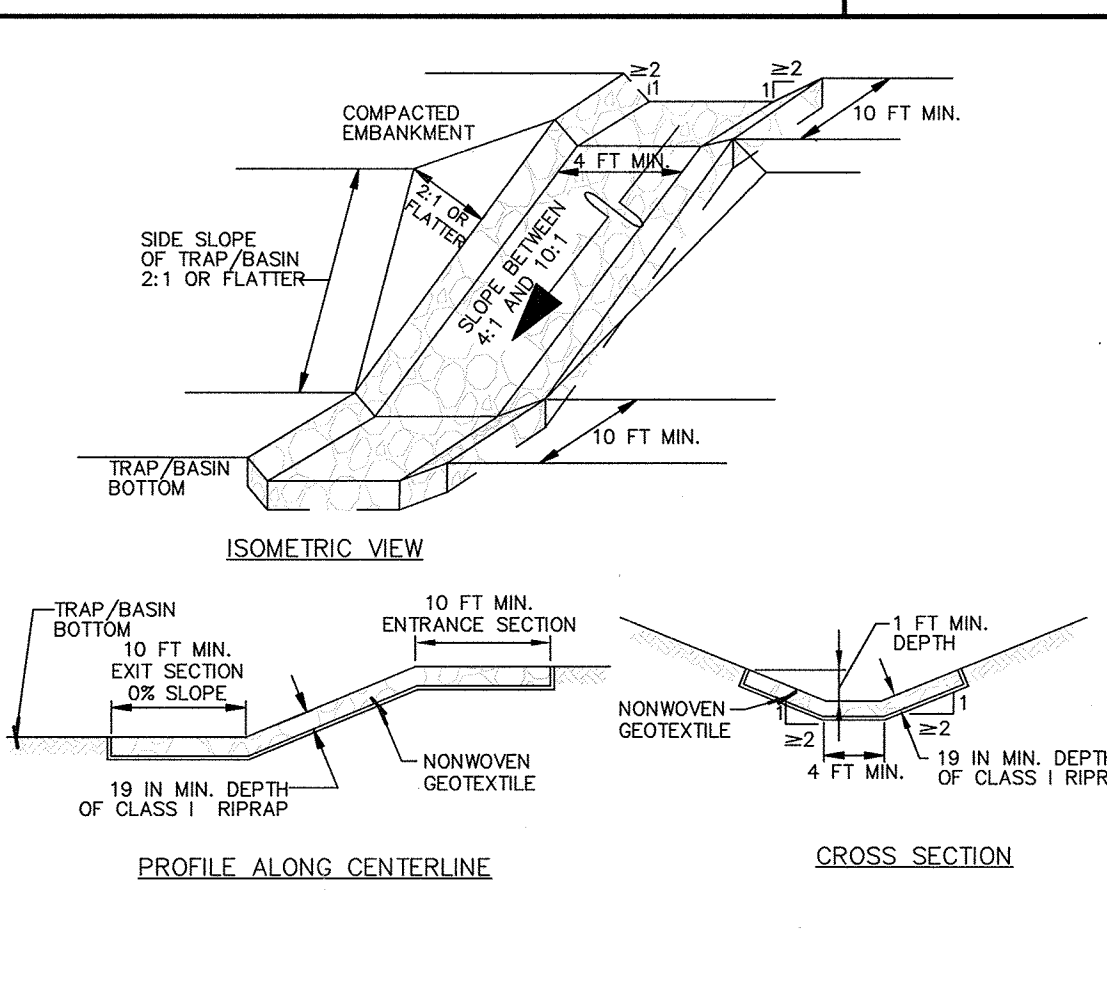
- CONSTRUCTION SPECIFICATIONS**
1. USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS.
 2. LIFT GRATE AND WRAP WITH NONWOVEN GEOTEXTILE TO COMPLETELY COVER ALL OPENINGS. SECURE WITH WIRE TIES AND SET GRATE BACK IN PLACE.
 3. PLACE CLEAN 1/2 TO 1 1/2 INCH STONE OR EQUIVALENT RECYCLED CONCRETE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

DETAIL D-3-1 RIPRAP INFLOW PROTECTION



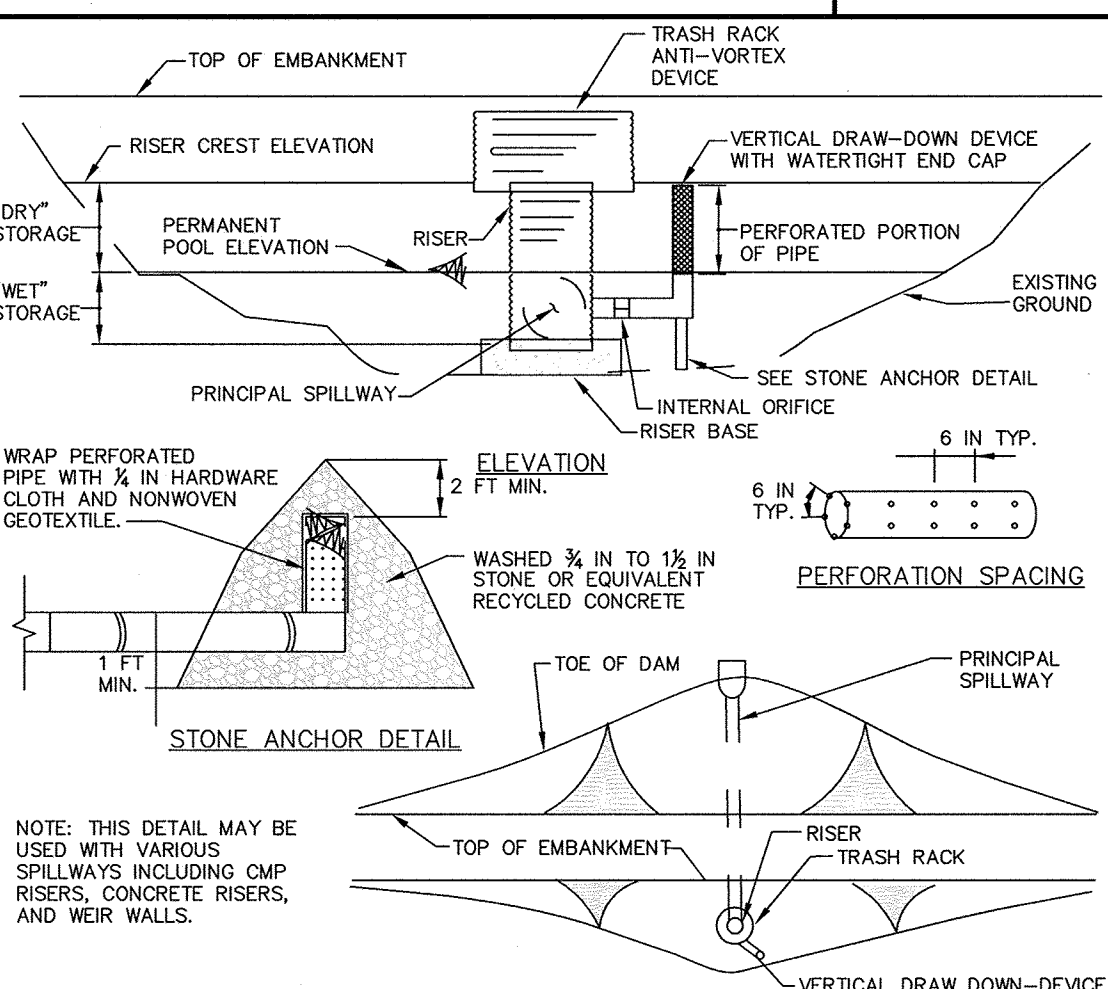
- CONSTRUCTION SPECIFICATIONS**
1. PROVIDE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS, UNDER THE BOTTOM AND ALONG SIDES OF ALL RIPRAP.
 2. CONSTRUCT INFLOW CHANNEL WITH CLASS 1 RIPRAP OR EQUIVALENT RECYCLED CONCRETE LINING TO A MINIMUM DEPTH OF 19 INCHES (2 x D₅₀) AND A 1 FOOT DEEP FLOW CHANNEL INFLOW RIPRAP PROTECTION CHANNEL MUST HAVE A TRAPEZOIDAL CROSS SECTION WITH 2:1 OR FLATTER SIDE SLOPES AND A 4 FOOT MINIMUM BOTTOM WIDTH.
 3. INSTALL ENTRANCE AND EXIT SECTIONS AS SHOWN ON THE PROFILE.
 4. BLEND RIPRAP INTO EXISTING GROUND.
 5. 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

DETAIL G-2-7 SEDIMENT BASIN SCHEMATIC VERTICAL DRAW-DOWN DEVICE



- CONSTRUCTION SPECIFICATIONS**
1. PERFORATE PIPE WITH 1 INCH DIAMETER PERFORATIONS SPACED 6 INCHES APART LONGITUDINALLY AND RADIIALLY OR IN ACCORDANCE WITH APPROVED PLAN.
 2. DO NOT EXTEND PERFORATIONS IN THE DRAW-DOWN DEVICE INTO WET STORAGE.
 3. WRAP THE PERFORATED PORTION OF THE DRAW-DOWN DEVICE FIRST WITH 1/2 INCH GALVANIZED HARDWARE CLOTH, THEN WITH NONWOVEN GEOTEXTILE. USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS. DO NOT WRAP WITH MORE THAN ONE LAYER OF GEOTEXTILE.
 4. AS AN ALTERNATE TO STONE ANCHORING, SECURE DRAW-DOWN DEVICE WITH TWO 1 INCH STEEL ANGLES SET 3 FEET MINIMUM INTO THE GROUND ATTACHED TO DRAW-DOWN DEVICE BY A 1 INCH WIDE GALVANIZED STEEL STRAP OR 12 GAUGE OR HEAVIER WIRE.
 5. REMOVE SEDIMENT WHEN IT ACCUMULATES TO CLEANOUT ELEVATION (SOX OF THE WET STORAGE DEPTH). DEPOSIT REMOVED SEDIMENT IN AN APPROVED AREA IN 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

SEQUENCE OF CONSTRUCTION

1. OBTAIN A GRADING PERMIT. (2 WEEKS)
 2. NOTIFY "MSS UTILITY" AT LEAST 48 HOURS BEFORE BEGINNING ANY WORK AT 1-800-257-7777. NOTIFY THE HOWARD COUNTY OFFICE OF CONSTRUCTION/INSPECTION AT 410-335-1332 AT LEAST 24 HOURS BEFORE STARTING WORK.
 3. INSTALL THE STABILIZED CONSTRUCTION ENTRANCE. INSTALL ALL TREE PROTECTION FENCE FOR TREES TO BE UNDISTURBED AS INDICATED ON THE PLANS. (1 WEEK)
 4. INSTALL SILT FENCE, EARTH DIKES AND UNDISTURBED DEVICES IN CONJUNCTION WITH CONSTRUCTION OF THE PROPOSED SEDIMENT BASIN/SW POND AND DAM EMBANKMENT. NOTE THAT NO DISTURBANCE IS ALLOWED UNTIL ALL SWP/DAW MATERIALS FOR THE PRINCIPAL SPILLWAYS ARE ON SITE AND PERMISSION FROM THE INSPECTOR IS OBTAINED BEFORE PROCEEDING. (4 WEEKS)
 5. NOTE: ALL DAM EMBANKMENT AND CORE 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/SW POND EMBANKMENT, WHERE NECESSARY, RIPPING AND JACK HAMMERING SHOULD BE UTILIZED IN THE EXCAVATION OF THE FACILITY.
 6. UPON COMPLETION OF THE SWM POND/SEDIMENT BASINS CONSTRUCTION RECEIVE PERMISSION FROM THE SEDIMENT CONTROL INSPECTOR PRIOR TO PROCEEDING. (1 WEEK)
 7. CLEAR AND GRUB FOR THE INSTALLATION OF THE REMAINING PERIMETER SEDIMENT CONTROL MEASURES, INSTALL TREE PROTECTION FENCE, SILT FENCE, EARTH DIKES AS SHOWN ON THESE PLANS. (1 WEEK)
 8. CLEAR AND GRUB FROM THE REMAINDER OF THE SITE. (2 WEEKS)
 9. 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 CONVERT SEDIMENT RUNOFF INTO THE TWO EXISTING SEDIMENT BASINS. (2 WEEKS)
- NOTE: BHP No. 4 FROM PHASE TWO IS BEING UTILIZED TO PROVIDE SEDIMENT CONTROL FROM STATION 11+10+ OF GRAPE MYTLE COURT TO THE EXISTING ROAD. THIS FACILITY ALSO PROVIDES SEDIMENT CONTROL FOR THE FRONT PORTION OF LOTS 138-142, HALF OF LOTS 143 & 153, THE FRONT PORTION OF LOTS 154-156 & 157. THIS FACILITY ALSO PROVIDES SEDIMENT CONTROL FOR THE FRONT PORTION OF LOTS 119-118 & LOTS 136-137. IN ADDITION, BHP No. 3 FROM PHASE TWO IS BEING UTILIZED TO PROVIDE SEDIMENT CONTROL FOR THE REMAINDER OF GRAPE MYTLE COURT. THIS FACILITY WILL PROVIDE SEDIMENT CONTROL FOR THE FRONT PORTION OF LOTS 143-149, 150-152 & HALF OF LOT 153.
- NOTE: THE CONTRACTOR SHALL COORDINATE WITH THE INSPECTOR IN REGARDS TO THE REQUIREMENT THAT NO MORE THAN 20-ACRES OF "OPEN" GRADE SHALL BE DISTURBED AT ANY GIVEN TIME. THIS MAY BE ACCOMPLISHED BY GRADING ONE ROAD AT A TIME.
- NOTE: BHP No. 4 FROM PHASE TWO IS BEING UTILIZED TO PROVIDE SEDIMENT CONTROL FROM STATION 11+10+ OF GRAPE MYTLE COURT TO THE EXISTING ROAD. THIS FACILITY ALSO PROVIDES SEDIMENT CONTROL FOR THE FRONT PORTION OF LOTS 138-142, HALF OF LOTS 143 & 153, THE FRONT PORTION OF LOTS 154-156 & 157. THIS FACILITY ALSO PROVIDES SEDIMENT CONTROL FOR THE FRONT PORTION OF LOTS 119-118 & LOTS 136-137. IN ADDITION, BHP No. 3 FROM PHASE TWO IS BEING UTILIZED TO PROVIDE SEDIMENT CONTROL FOR THE REMAINDER OF GRAPE MYTLE COURT. THIS FACILITY WILL PROVIDE SEDIMENT CONTROL FOR THE FRONT PORTION OF LOTS 143-149, 150-152 & HALF OF LOT 153.
- 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 FORD/BASIN WHICH THE CLEANOUT ELEVATION HAS BEEN REACHED. ALL SEDIMENT MUST BE PLACED UPSTREAM OF THE APPROVED TRAPPING DEVICE.
- 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 FORD/BASIN WHICH THE CLEANOUT ELEVATION HAS BEEN REACHED. ALL SEDIMENT MUST BE PLACED UPSTREAM OF THE APPROVED TRAPPING DEVICE.
14. FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION MUST BE COMPLETED WITHIN:
- a) THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER DIKES, SWALES, DITCHES, PERIMETER SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1); AND
 - b) SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE NOT UNDER ACTIVE GRADING.

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: Timothy W. Feaga
Date: 3/6/13

By The Engineer:

I Certify That These Plans Comply With The National Knowledge Of The Site Conditions. These Plans Were Prepared And Checked By The Registered Professional Engineer Of The Howard Soil Conservation District. I Have Reviewed The Plans And I Certify That I Am 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: [Signature]
Date: 3/6/13

Approved: Department Of Public Works
Signature: [Signature]
Date: 4/2/13

Approved: Department Of Planning And Zoning
Signature: [Signature]
Date: 4/11/13

Chief, Division Of Land Development
Signature: [Signature]
Date: 4/2/13

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

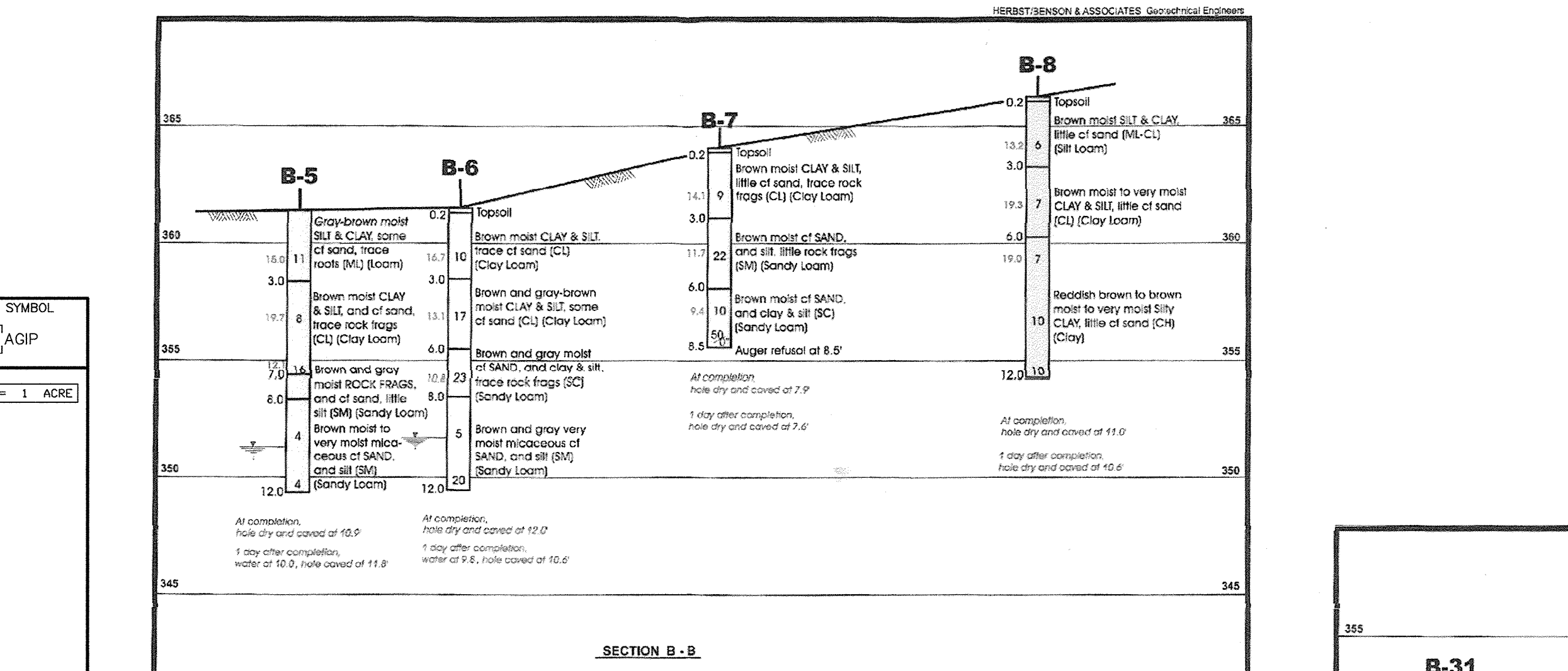
AS-BUILT CERTIFICATION

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 Meets 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 The Engineer's Certification Relieve Any Other Party From Meeting Requirements Imposed By Contract, Employment Or Other Means, Including Meeting Commonly Accepted Industry Practices.

No.	Revisions	Date
1	Expanded L.O.D. For Earthwork	5-9-10
2	REMOVE WORD TO MATCH BUREAU OF 69	1/6/17



STORM WATER MANAGEMENT STUDY WALNUT CREEK HOWARD COUNTY, MARYLAND

05138MD OCT. 2005

BORING PROFILES

PLAN 3

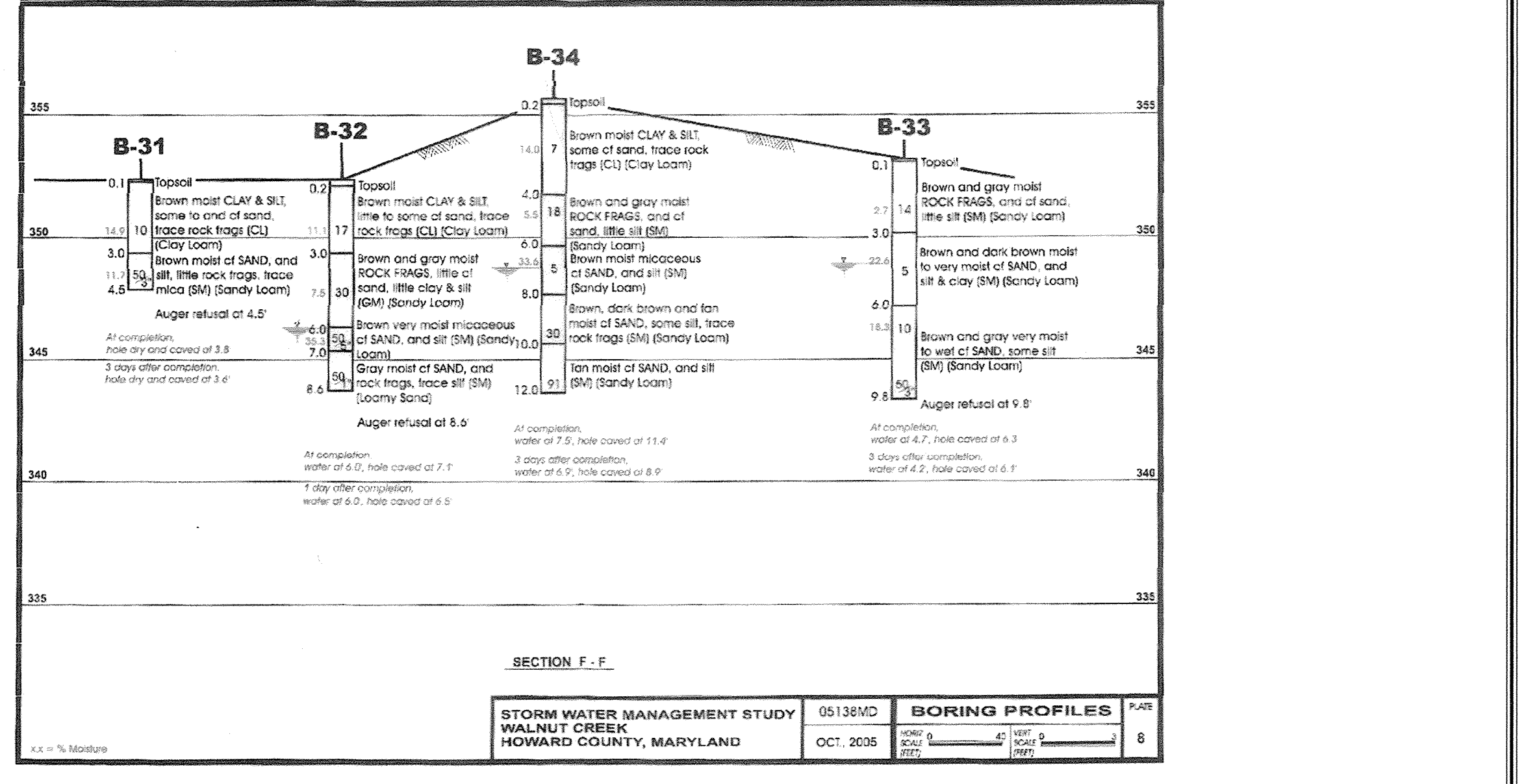
SEDIMENT CONTROL NOTES

- 1) A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSING AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION (313-1895).
- 2) ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE MOST CURRENT MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL AND REVISIONS THERE TO.
- 3) FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: a) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES STEEPER THAN 3:1, b) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
- 4) ALL SEDIMENT TRAPPING/BAINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 12, OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
- 5) ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDING (SEC. 51), SOO (SEC. 54), TEMPORARY SEEDING (SEC. 50), AND MULCHING (SEC. 52). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
- 6) ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- 7) SITE ANALYSES:
 - TOTAL AREA OF SITE: 141.51 ACRES
 - AREA DISTURBED: 36.44 ACRES
 - AREA TO BE ROOFED OR PAVED: 1.29 ACRES
 - AREA TO BE VEGETATIVELY STABILIZED: 340.77 ACRES
 - TOTAL CUT: 30.00 CU.YDS.
 - TOTAL FILL: 30.00 CU.YDS.
 - OFFSITE WASTE/BORROW AREA LOCATION: N/A
 - ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
- 8) ADDITIONAL SEDIMENT CONTROLS MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- 9) ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.
- 10) TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH SHALL BE BACK-FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.

"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: 3/6/13

ALDO M. VIUCCI, P.E.



STORM WATER MANAGEMENT STUDY WALNUT CREEK HOWARD COUNTY, MARYLAND

05138MD OCT. 2005

BORING PROFILES

PLAN 8

AS-BUILT CERTIFICATION

Note: There is no "AS BUILT" information provided on this sheet.

Signature: [Signature]
Date: 11/22/18

CHARLES J. CRABO, PE, NO. 19044

SEDIMENT AND EROSION CONTROL NOTES, DETAILS, & SOIL BORINGS

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 & RE-DEO

TAX MAP No. 2B GRD Nos. 4, 5, 10-12, 17, AND 18 PARCEL No. 49

FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

DATE: MARCH 20, 2013

SHEET 22 OF 23

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

F-13-034

FISHER, COLLINS & CARTER, INC.

CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS

CENTRAL SOURCE OFFICE PARK - 10272 WALTHAM NATIONAL PARK ELLICOTT CITY, MARYLAND 21042 (410) 461-2999

Owner	Developer
BV Business Trust 15950 North Avenue P.O. Box 482 Lisbon, MD 21765 410-469-7900	Bassler Ventures, LLC 15950 North Avenue P.O. Box 482 Lisbon, MD 21765 410-469-7900

ENGINEER'S CERTIFICATE

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

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

PROPER'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."

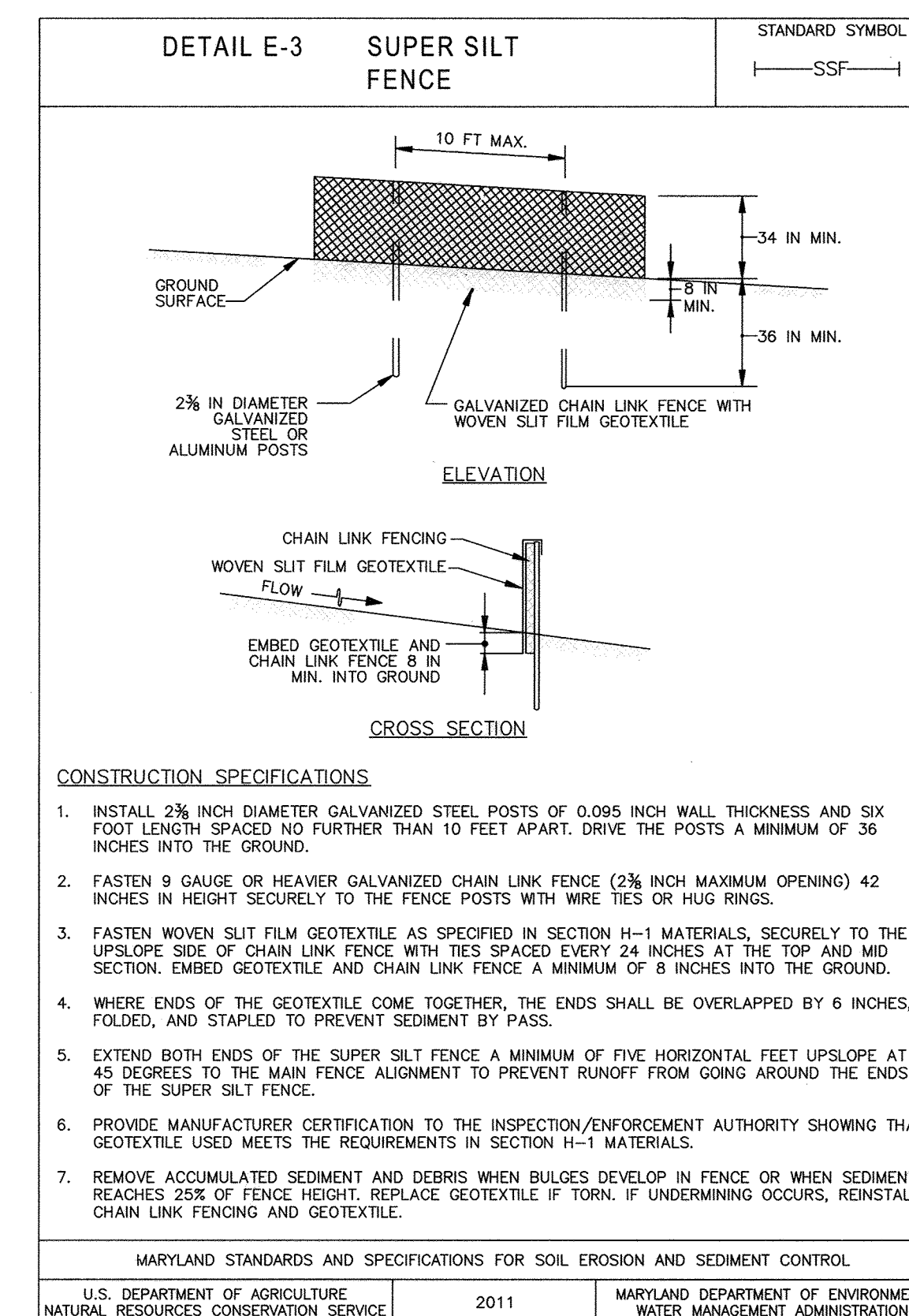
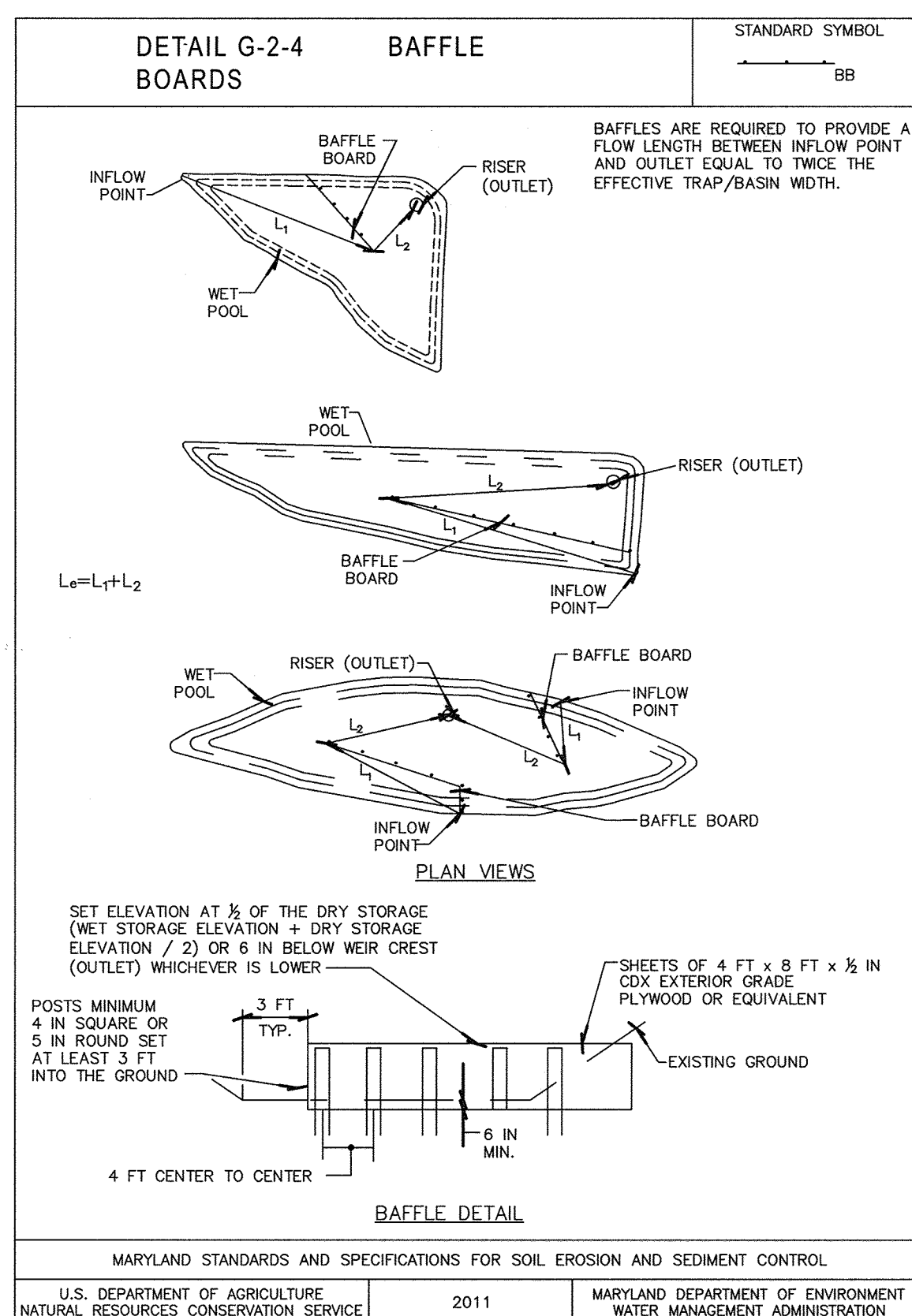
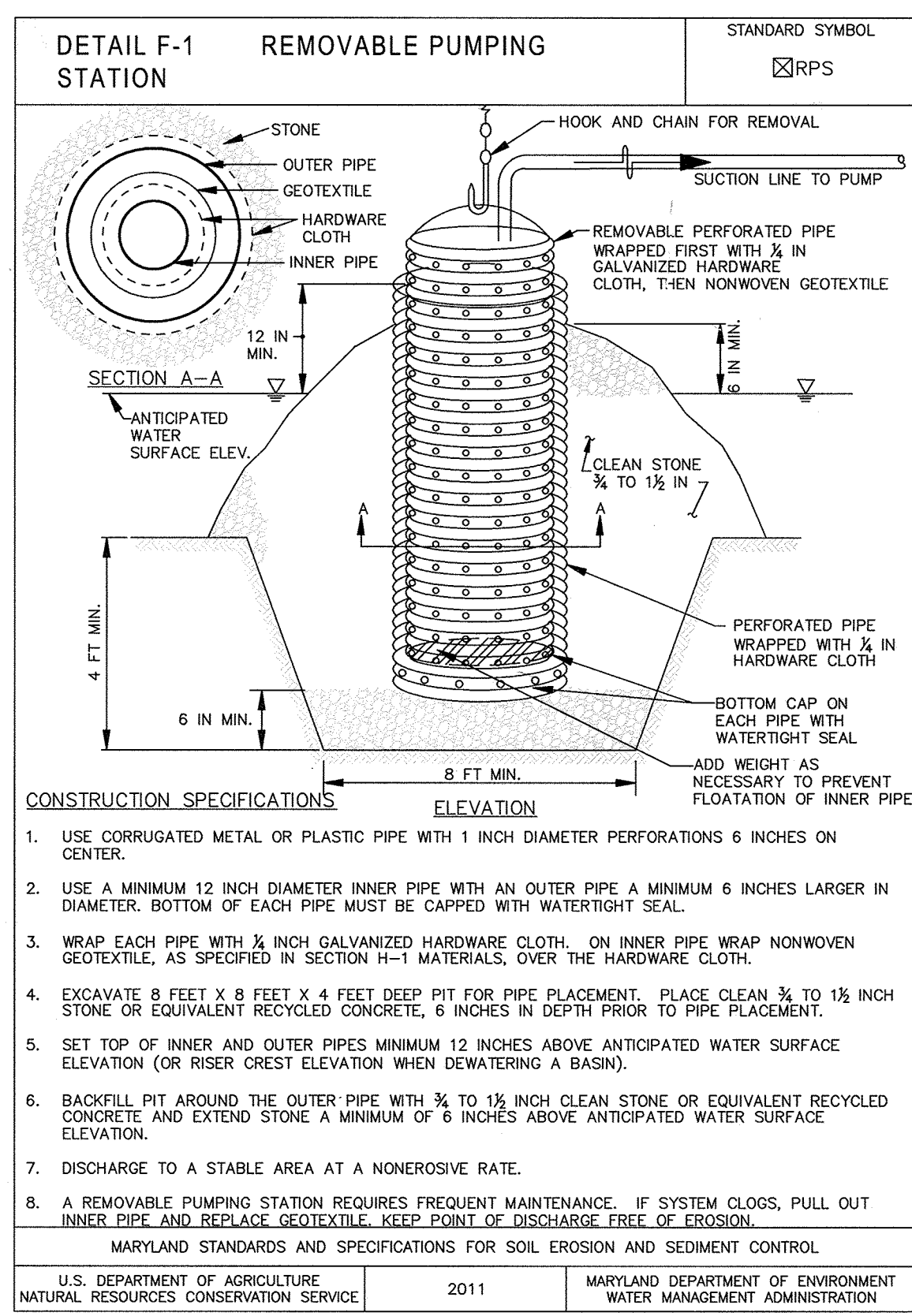
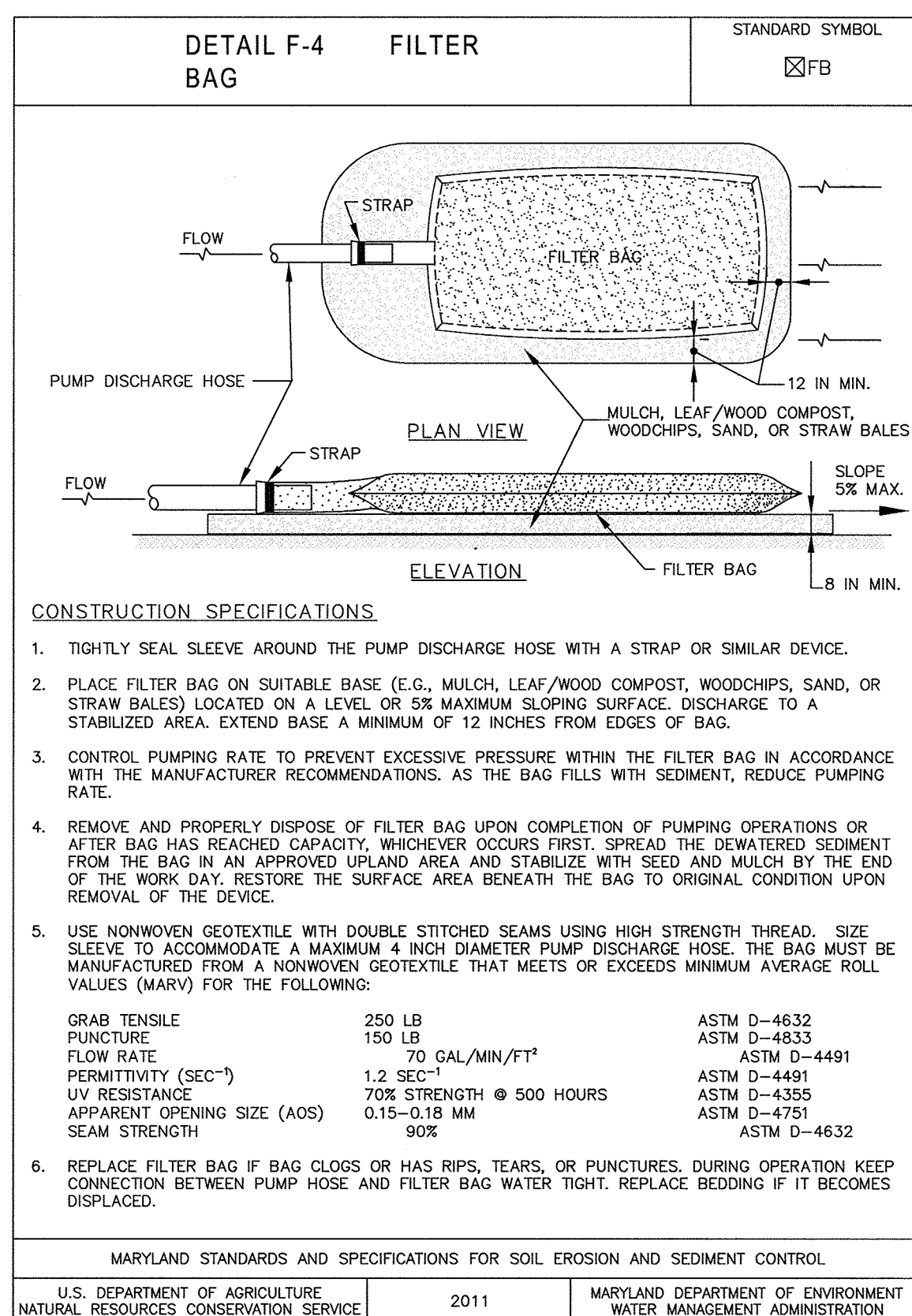
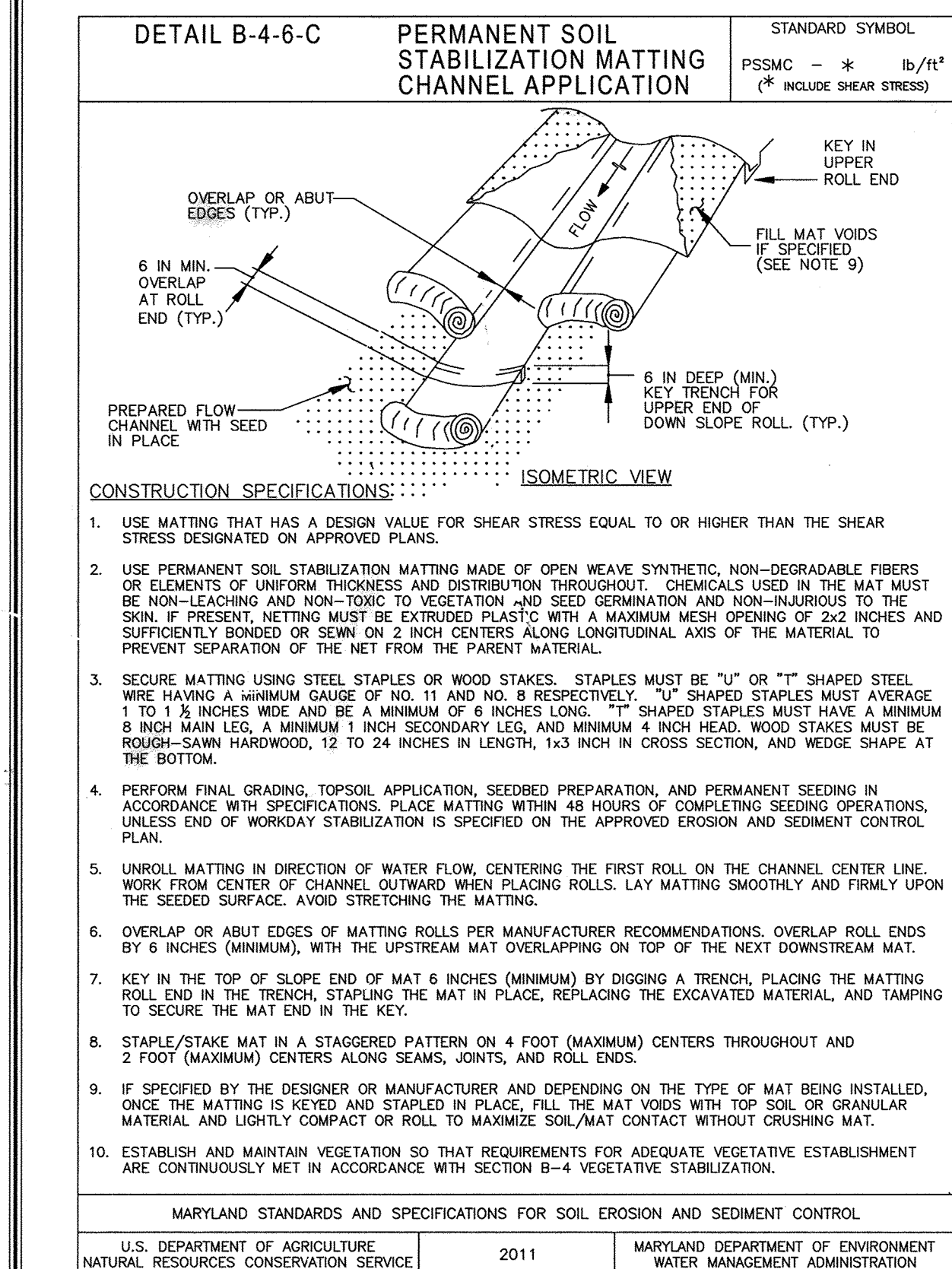
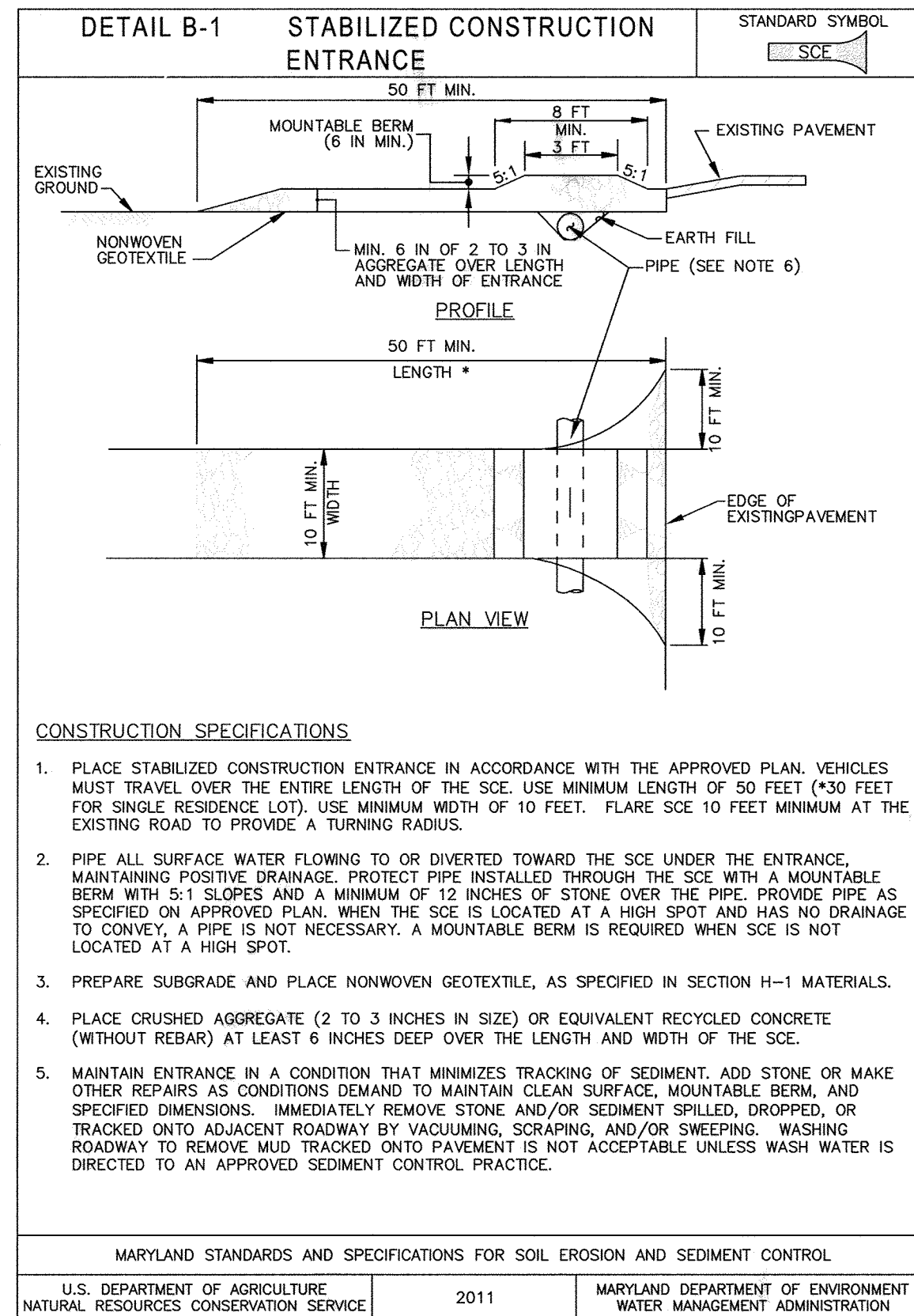
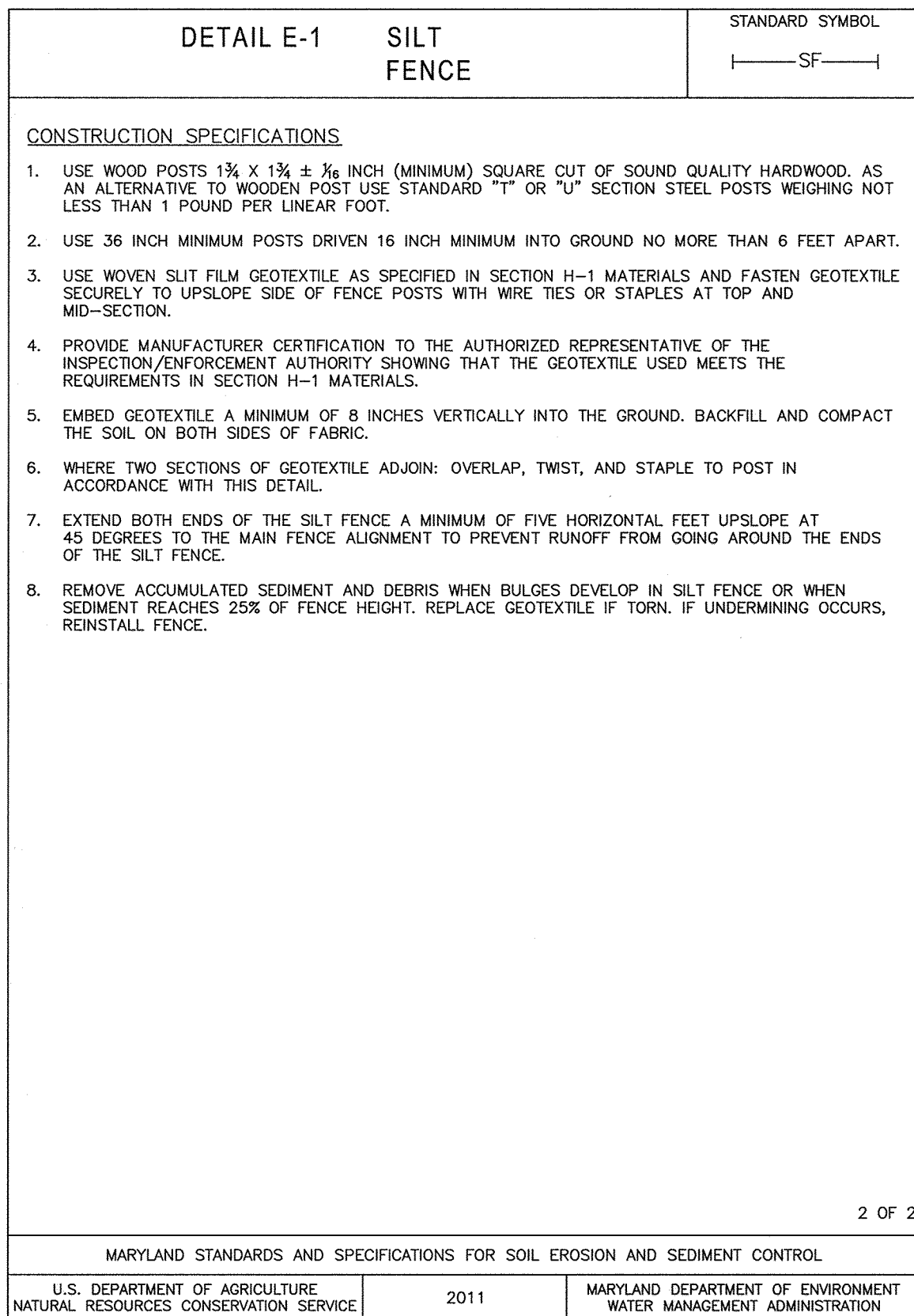
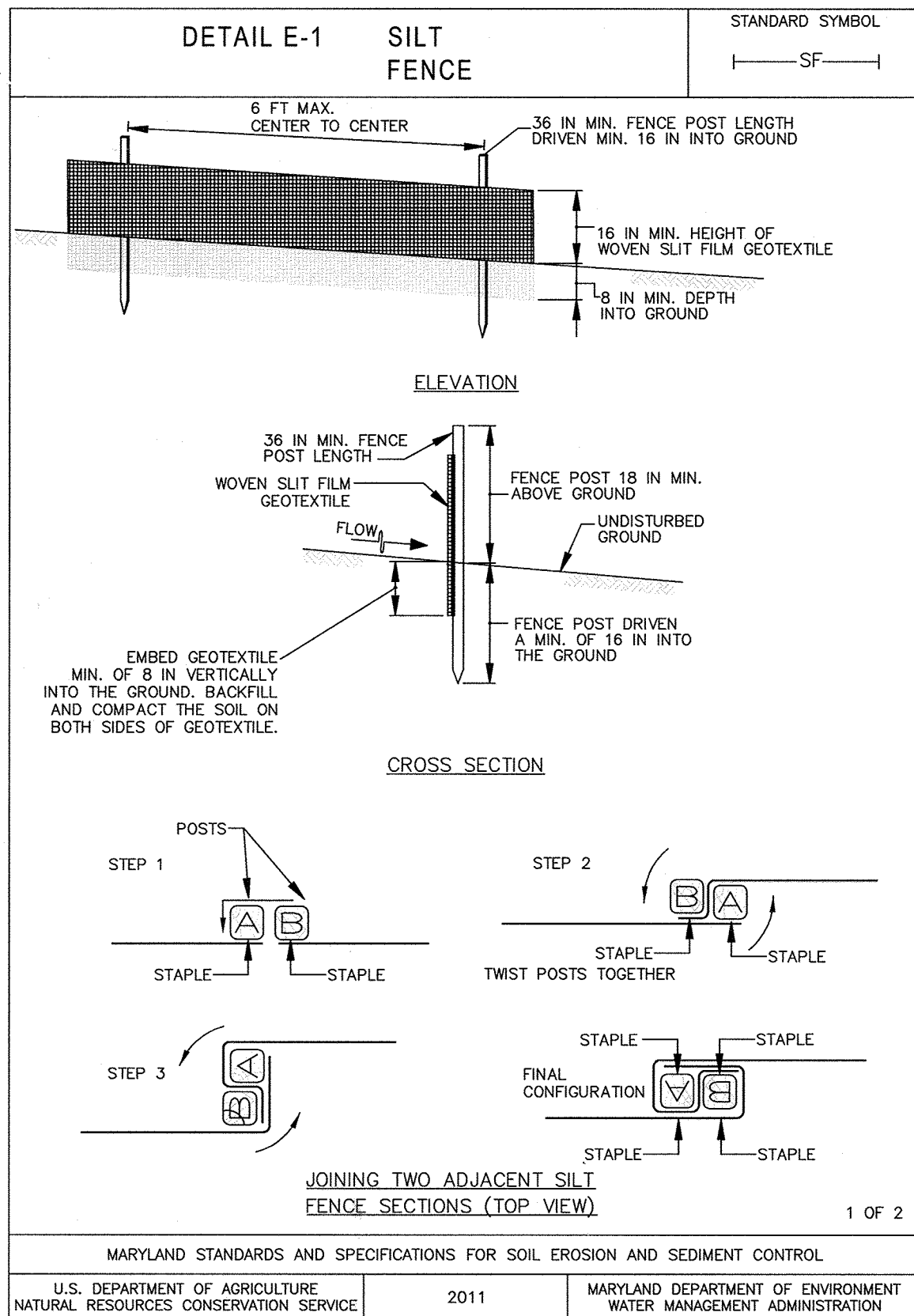
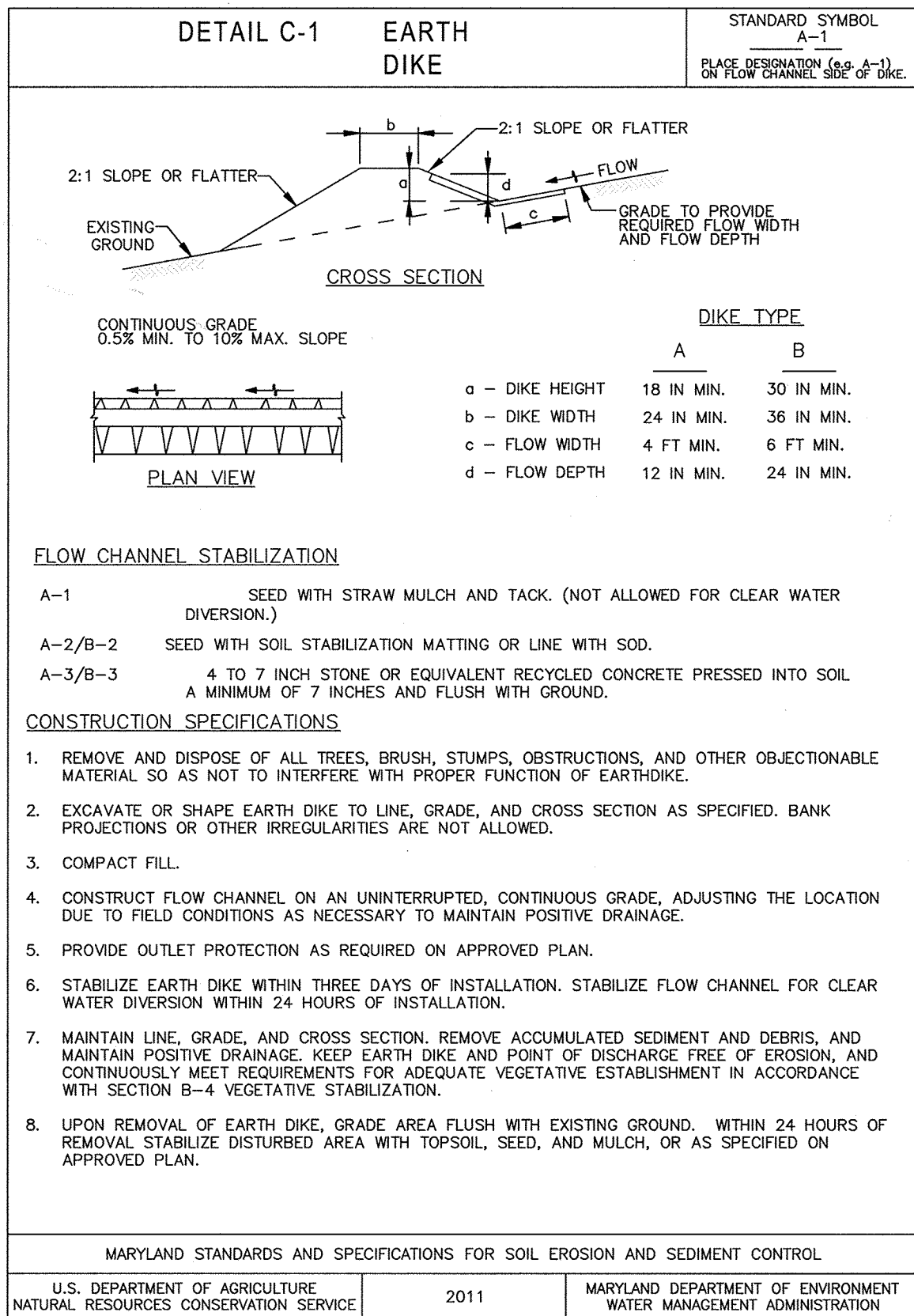
Signature of Developer: *[Signature]* Date: 3/28/13

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

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

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

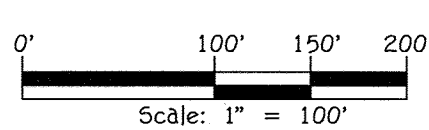
Signature: *[Signature]* Date: 4/21/13



FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTRAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
 ELKLOFT CITY, MARYLAND 21042
 (410) 461-2095

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

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



AS-BUILT CERTIFICATION

Note: There is no "AS BUILT" information provided on this sheet.

[Signature]
 Ophelia J. Orlov, P.E. NO. 13904
 Date: 10/24/13

"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. VIUCCI, P.E.
 Date: 3/21/13

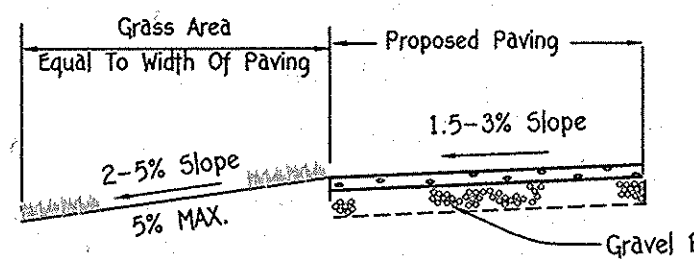
SEDIMENT CONTROL NOTES AND DETAILS
WALNUT CREEK
PHASE FOUR
Lots 115 - 159 Non-Buildable
Preservation Parcel 'W' & 'X'

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

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

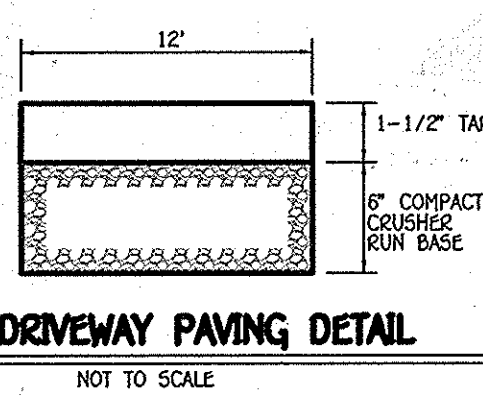
STREET TREE SCHEDULE				
QTY.	SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE
3		PRUNUS SARGENTH	SARGENT CHERRY	2 1/2" - 3" CALIPER FULL CROWN, B&B

STREET TREES WILL BE PROVIDED ALONG THE FRONTAGE OF LOTS 101 AND ADJACENT LOT 102. FINANCIAL SURETY FOR TREE INSTALLATION HAS BEEN POSTED AT THE TIME OF SUBMISSION AS PART OF A DPW DEVELOPER AGREEMENT, F-06-126.

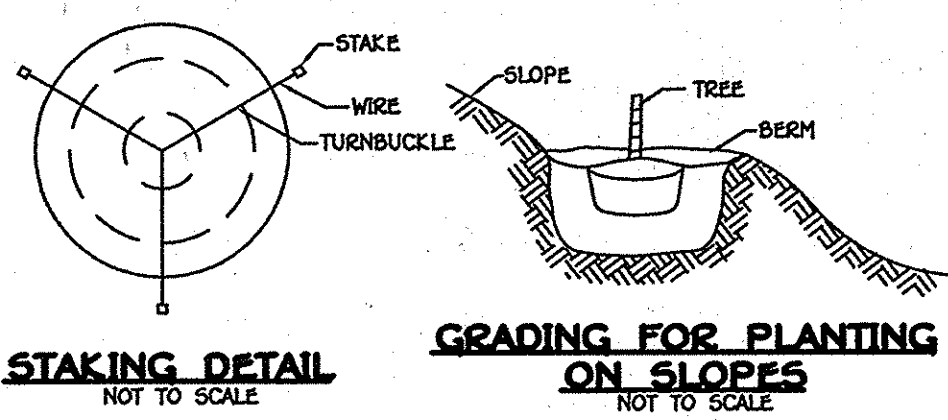


TYPICAL DRIVEWAY SECTION FOR NON-ROOFTOP DISCONNECT CREDIT (N-2)
NOT TO SCALE

SYMBOL	DESCRIPTION
---	EXISTING CONTOUR 2' INTERVAL
---ELEV. 2	SPOT ELEVATION
---	PROPOSED WALKOUT
---	DIRECTION OF DRAINAGE
---	SUPER SILT FENCE/TREE PROTECTION FENCE
---	LIMIT OF DISTURBANCE
---	STABILIZED CONSTRUCTION ENTRANCE
---	25% OR GREATER STEEP SLOPES (OFF SITE)
---	15-24% STEEP SLOPES
---	EXISTING TREE LINE
---	PROPOSED TREE LINE
---	PROPOSED LANDSCAPE TREE
---	EXISTING TREES TO REMAIN
---	SUPER DIMENSION FENCE
---	SOIL BORING



DRIVEWAY PAVING DETAIL
NOT TO SCALE



STAKING DETAIL
NOT TO SCALE

At the Time of Plant Installation All Shrubs and 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 Reductions of the Required Plantings May Be Made Without Prior Review and Approval From the Department of Planning and Zoning. Any Deviation 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 Revision are Made to the Applicable Plans.

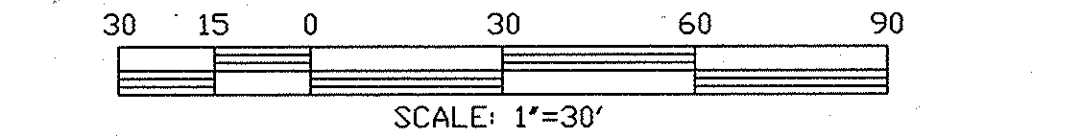
NO CLEARING OF EXISTING VEGETATION IS PERMITTED WITHIN THE LANDSCAPE EDGE FOR WHICH CREDIT IS BEING TAKEN. HOWEVER, MAINTENANCE IS AUTHORIZED SHOULD ANY TREE DESIGNATED FOR PRESERVATION FOR WHICH CREDIT IS BEING GIVEN, DIE PRIOR TO THE RELEASE OF BONDS. THE OWNER WILL BE REQUIRED TO REPLACE THE TREE WITH THE EQUIVALENT SPECIES OR WITH A TREE THAT WILL OBTAIN THE SAME HEIGHT, SPREAD AND GROWTH CHARACTERISTICS. THE REPLACEMENT TREE MUST BE A MINIMUM OF THREE (3) INCHES IN CALIPER AND INSTALLED AS REQUIRED IN THE LANDSCAPE MANUAL.

SCHEDULE A PERIMETER LANDSCAPE EDGE

LANDSCAPE TYPE	P-1 ADJACENT TO PERIMETER PROPERTIES		P-2 ADJACENT TO PERIMETER PROPERTIES		TOTALS
	A	A	A	A	
LINEAR FEET OF PERIMETER	263.00'	104.33'	104.56'	NO	
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET)	YES, 98.00'	YES, 54.00'	NO	NO	
CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET)	NO	NO	NO	NO	
NUMBER OF PLANTS REQUIRED	165.00/60 = 2.75 = 3	50.33/60 = .84 = 1	0	0	4
SMALL TREES	0	0	0	0	0
MEDIUM TREES	0	0	0	0	0
LARGE TREES	0	0	0	0	0
OTHER TREES (E.G. SUBSTITUTIONS)	0	0	0	0	0

LANDSCAPE SCHEDULE				
QUANTITY	SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE
4		ACER RUBRUM OCTOBER GLORY	OCTOBER GLORY (OCTOBER RED MAPLE)	2 1/2" - 3" CALIPER FULL CROWN, B&B

NOTE: FINANCIAL SURETY FOR THE 4 SHADE TREES IN THE AMOUNT OF \$1,200.00 WILL BE POSTED AT THE TIME OF ISSUANCE OF THE BUILDERS GRADING PERMIT.

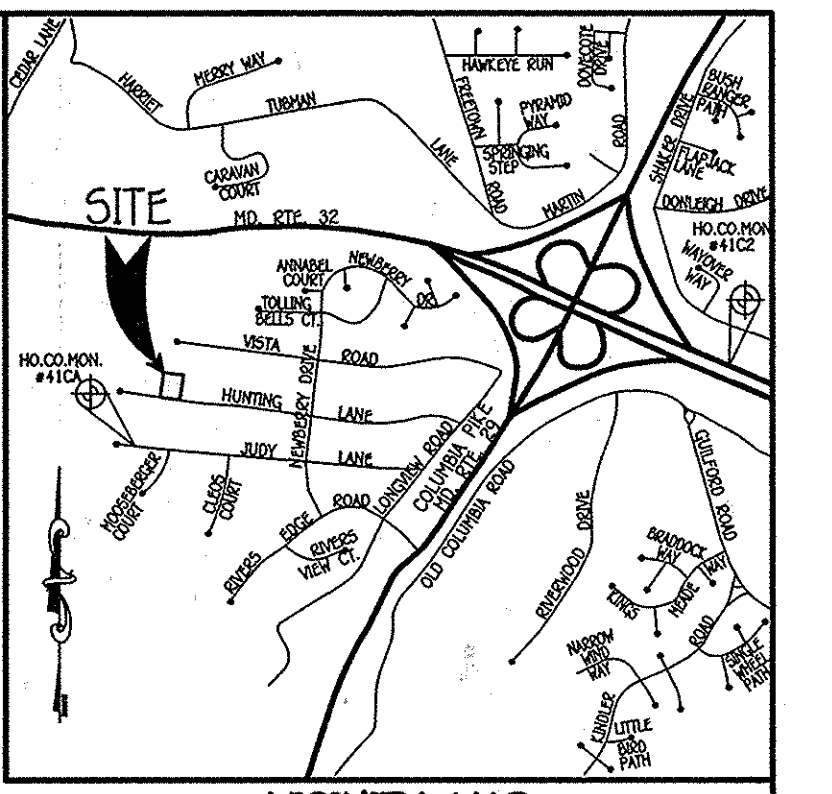


GENERAL NOTES CONTINUED

- COMPUTATION AND STAKEOUT OF THE FOUNDATION BY A LICENSED PROFESSIONAL SURVEYOR IS RECOMMENDED PRIOR TO CONSTRUCTION TO ENSURE COMPLIANCE WITH REGULATORY BUILDING RESTRICTION LINES.
- AN ENVIRONMENTAL CONCEPT PLAN WAS NOT REQUIRED BECAUSE THE FINAL PLAN, F-06-126, (MOR PLAN NO. 19775) WAS APPROVED BEFORE APRIL 4, 2010.

- SITE ANALYSIS DATA**
- TOTAL AREA OF SUBJECT PROPERTY = 0.6304 ACRES OR 27,462 Sq. Ft.
 - TOTAL AREA OF SUBMISSION = 0.6304 ACRES OR 27,462 Sq. Ft.
 - LIMIT OF DISTURBANCE = 0.3002 ACRES OR 13,100 Sq. Ft.
 - PRESENT ZONING DESIGNATION: R-20.
 - PROPOSED USES FOR SITE: RESIDENTIAL SINGLE FAMILY DETACHED DWELLING.
 - APPLICABLE DPZ FILE REFERENCES: F-00-106, F-03-188, F-06-126, W&S CONTR. NO. 24-3957-D, WP-06-074.

- BENCH MARKS**
- T.P. 41CA ELEV. 295.98
N. 550,124.853
E. 1,342,960.935
LOC. NEAR THE END OF & ALONG JUDY LANE
 - T.P. 41C2 ELEV. 395.856
N. 551,616.404
E. 1,348,104.227
LOC. NEAR THE INTERSECTION OF ROUTE 29 & ROUTE 32



VICINITY MAP
SCALE: 1" = 2000'
ADC MAP 5052 GRID H-2

GENERAL NOTES

- TOTAL PROPERTY IS ZONED R-20 PER THE 2/2/04 COMPREHENSIVE ZONING PLAN, AND THE COMP LITE ZONING AMENDMENT EFFECTIVE 7/28/06.
- TOTAL AREA OF SITE: 0.6304 ACRES.
- TOTAL NUMBER OF LOTS SUBMITTED: 1
- THE CONTRACTOR OR DEVELOPER SHALL NOTIFY THE CONSTRUCTION INSPECTION DIVISION AT (410)312-1800 24-HOURS PRIOR TO THE COMMENCEMENT OF WORK.
- THE CONTRACTOR SHALL NOTIFY MISS UTILITY AT 1-800-257-1777 AT LEAST 48 HOURS PRIOR TO THE COMMENCEMENT OF WORK.
- THIS PROJECT IS SUBJECT TO HOWARD COUNTY FILES: F-75-48, F-00-106, F-03-188, F-06-126 W & S CONTR. NO. 24-3957-D, WP 06-074.
- THIS PLAN IS BASED ON FIELD RUN TOPOGRAPHY PERFORMED ON MAY 28, 2004 BY FISHER, COLLINS & CARTER, INC.
- HORIZONTAL AND VERTICAL CONTROL DATUM IS BASED ON M.D. 83, MARYLAND COORDINATE SYSTEM AS PRECEDED BY HOWARD COUNTY GEODETIC CONTROL STATIONS.
- ANY DAMAGE TO THE COUNTY'S RIGHT-OF-WAY SHALL BE CORRECTED AT THE DEVELOPERS EXPENSE.
- THIS PLAN IS FOR HOUSE SITING AND GRADING ONLY. IMPROVEMENTS SHOWN WITHIN THE RIGHTS-OF-WAY OF THIS S.D.P. ARE NOT USED FOR CONSTRUCTION.
- CONTRACTOR SHALL CHECK SEWER HOUSE CONNECTION ELEVATION AT EASEMENT LINE PRIOR TO CONSTRUCTION.
- THE TOTAL AREA CLEARED OR DISTURBED PER THIS SITE DEVELOPMENT PLAN IS 19,100 SF.
- FOR DRIVEWAY ENTRANCE DETAIL REFER TO HO. CO. DESIGN MANUAL, VOL. IV STANDARD DETAIL R.6.05.
- IN ACCORDANCE WITH SECTION 12B OF THE HOWARD COUNTY ZONING REGULATIONS, ANY WINDOWS, CHIMNEYS OR EXTERIOR STAIRWAYS NOT MORE THAN 16' FEET IN WIDTH MAY PROJECT NOT MORE THAN 4 FEET INTO ANY SETBACKS, PORCHES OR DECKS OPEN OR ENCLOSED MAY PROJECT NOT MORE THAN 10 FEET INTO THE FRONT OR REAR YARD SETBACKS.
- DRIVEWAYS SHALL BE PROVIDED PRIOR TO ISSUANCE OF A USE AND OCCUPANCY PERMIT FOR ANY NEW DWELLINGS TO ENSURE SAFE ACCESS FOR FIRE AND EMERGENCY VEHICLES PER THE A) WIDTH - 12' (16' IF SERVING MORE THAN ONE RESIDENCE)
B) SURFACE - 6" OF COMPACTED CRUSHER RUN BASE W/TAR AND CHIP COATING (1-1/2" MIN.)
C) GEOMETRY - MAXIMUM 15% GRADE, MAXIMUM 10% GRADE CHANGE AND 45-FOOT TURNING RADIUS.
D) STRUCTURES - (BRIDGES/CULVERTS) CAPABLE OF SUPPORTING 25 GROSS TONS
E) DRAINAGE ELEMENTS CAPABLE OF SAFELY PASSING 100 YEAR FLOOD WITH NO MORE THAN 1 FOOT DEPTH OVER DRIVEWAY SURFACE.
F) STRUCTURE CLEARANCES - MINIMUM 12 FEET
G) MAINTENANCE SUFFICIENT TO INSURE ALL WEATHER USE.
- THERE ARE NO WETLAND AREAS LOCATED ON SITE OR WITHIN 25 FEET OF THIS PROPERTY PER THE ENVIRONMENTAL STUDY PERFORMED BY ECO-SCIENCE PROFESSIONALS, INC. DATED FEBRUARY 4, 2005. THERE ARE NO FLOODPLAINS LOCATED ON THIS LOT. THERE ARE NO STEEP SLOPES 25% OR GREATER LOCATED ON LOT 101, HOWEVER, THE AREA OF STEEP SLOPES 15-24% HAVE BEEN IDENTIFIED. THERE IS A 100' STREAM BUFFER LOCATED AT THE REAR OF THIS LOT DIRECTLY ADJACENT TO THE PERENNIAL STREAM.
- THIS PLAN IS IN COMPLIANCE WITH THE AMENDED 5TH EDITION OF THE SUBMISSION AND LAND DEVELOPMENT REGULATIONS PER COUNCIL BILL NO. 45-2003 AND THE ZONING REGULATIONS AS AMENDED BY COUNCIL BILL NO. 75-2003. DEVELOPMENT OR CONSTRUCTION ON THESE LOTS MUST COMPLY WITH SETBACK AND BUFFER REGULATIONS IN EFFECT AT THE TIME OF SUBMISSION OF THE SITE DEVELOPMENT PLAN, WAIVER PETITION APPLICATION, OR BUILDING/GRADING PERMIT AND PER COMP-LITE ZONING REGULATIONS DATED JULY 28, 2006.
- LANDSCAPING IS PROVIDED IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY CODE AND LANDSCAPE MANUAL. FINANCIAL SURETY IN THE AMOUNT OF \$1200.00 FOR THE FOUR (4) SHADE TREES SHALL BE POSTED AT THE TIME OF ISSUANCE OF THE BUILDERS GRADING PERMIT.
- THE PROPOSED WHC SHALL BE 1 1/2 INCHES WITH A 1" METER, IN AN OUTSIDE METER VAULT AT THE PROPERTY LINE.
- NO CEMETERIES EXIST ON THIS SITE BASED ON VISUAL SITE VISIT AND AN EXAMINATION OF THE HOWARD COUNTY CEMETERY PLAN.
- THIS PROJECT COMPLIES WITH THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE FOR FOREST CONSERVATION.
- A FEE-IN-LIEU FOR FOREST CONSERVATION WAS PAID AT THE TIME OF SUBMISSION UNDER F-06-126 (PLAT NO. 19775).
- THIS SOP SUBJECT WP-06-074 WHICH THE PLANNING DIRECTOR APPROVED FEBRUARY 28, 2006 SUBJECT TO THE FOLLOWING CONDITIONS:
A. SECTION 16.132(a)(2)(B): SUBMISSION OF A COST ESTIMATE FOR A FEE-IN-LIEU OF CONSTRUCTION 1/2 OF THE FULL PAYMENT WIDTH ALONG THE PROPERTY FRONTAGE.
B. SECTION 16.133: SUBMISSION OF A COST ESTIMATE FOR A FEE-IN-LIEU OF CONSTRUCTING STORM DRAIN WITH ROADWAY IMPROVEMENTS.
C. SECTION 16.135(a): SUBMISSION OF A COST ESTIMATE FOR A FEE-IN-LIEU OF INSTALLING STREET LIGHTING.
THE PLANNING DIRECTOR DENIED A REQUEST TO WAIVE THE FOLLOWING:
D. SECTION 16.134(1)(1) CONSTRUCTION OF SIDEWALK ALONG ROAD FRONTAGE.
E. SECTION 16.136: INSTALLATION OF STREET TREES ALONG ROAD FRONTAGE.
- FEE IN LIEU OF PROVIDING OPEN SPACE HAS BEEN PAID IN THE AMOUNT OF \$ 1,500.00 AT THE TIME OF SUBMISSION UNDER F-06-126 (PLAT NO. 19775).
- STORMWATER MANAGEMENT IS PROVIDED IN ACCORDANCE WITH THE 2000 MARYLAND STORMWATER DESIGN MANUAL, VOLUMES I AND II. IT WAS DETERMINED THAT THIS PROJECT MET THE CRITERIA OUTLINED IN THE MDE STORMWATER MANAGEMENT REGULATIONS FOR IMPLEMENTATION AND ACCEPTANCE OF THE 2000 DESIGN CRITERIA AND GRANTED A WAIVER ON NOVEMBER 30, 2012. THIS PLAN RECEIVED FINAL PLAN APPROVAL (F-06-126) ON MAY 4, 2010. THIS PLAN IS ALSO SUBJECT TO THE EXPIRATION OF THIS WAIVER UNLESS ALL STORMWATER MANAGEMENT IS CONSTRUCTED BY MAY 4, 2017. THE STORMWATER MANAGEMENT PRACTICES WILL BE PROBABLY OWNED AND MAINTAINED UNDER A DECLARATION OF COVENANTS AND HAS BEEN PROVIDED ON THE INDIVIDUAL LOTS AS FOLLOWS:
WATER QUALITY VOLUME AND GROUNDWATER RECHARGE REQUIREMENTS FOR THIS SITE WILL BE PROVIDED BY PRIVATE SEWERAGE SYSTEMS. THESE SYSTEMS WILL BE DESIGNED IN ACCORDANCE WITH THE 2000 MARYLAND STORMWATER MANAGEMENT DESIGN MANUAL, VOLUMES I AND II. CHANNEL PROTECTION VOLUME MANAGEMENT WILL NOT BE REQUIRED BECAUSE THE RUNOFF RATE GENERATED BY THE 1-YEAR POST DEVELOPMENT PEAK DISCHARGE IS LESS THAN THE 2.0 CFS AS MANDATED BY THE AFOREMENTIONED MANUAL. THE DRIVEWAY WILL BE DISCONNECTED BY THE USE OF NON-ROOFTOP DISCONNECT (N-2) TO PROMOTE VEGETATIVE FILTERING. THE HOUSE WILL BE TREATED WITH DRAINAGE SYSTEMS (N-2).
- TRAFFIC STUDY WAS PREPARED BY MARS GROUP ON NOVEMBER, 2005.
- WATER AND SEWER SERVICE TO THIS LOT WILL BE GRANTED UNDER THE PROVISIONS OF SECTION 18.122B OF THE HOWARD COUNTY CODE.
- PUBLIC WATER AND SEWER ALLOCATIONS WILL BE GRANTED AT TIME OF ISSUANCE OF THE BUILDING PERMIT IF CAPACITY IS AVAILABLE AT THAT TIME.
- IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION 16.134(a)(1)(16) AND 16.136, SIDEWALKS AND STREET TREES WILL BE PROVIDED ALONG THE FRONTAGES OF LOTS 101 AND ADJACENT LOT 102. FINANCIAL SURETY FOR THESE IMPROVEMENTS HAS BEEN POSTED AS PART OF A DPW DEVELOPER AGREEMENT AT THE TIME OF SUBMISSION AS SHOWN ON FINAL PLAN, F-06-126.

ADDRESS CHART

LOT NUMBER	STREET ADDRESS
101	1032 HUNTING LANE

SHEET INDEX CHART

SHEET NO.	DESCRIPTION
SHEET 1	SITE DEVELOPMENT, SEDIMENT AND EROSION CONTROL PLAN
SHEET 2	SEDIMENT AND EROSION CONTROL, LANDSCAPE, STORMWATER MANAGEMENT NOTES AND DETAILS

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTRAL SQUARE OFFICE PARK - 10772 BALDWIN NATIONAL PIKE
BLOOMING GARDEN, MARYLAND 21142
(410) 461-2299

STATE OF MARYLAND
FERRILL A. FISHER
Professional Engineer
No. 9751

ENGINEER'S CERTIFICATE
"I certify that this plan for erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District."
Signature of Engineer: *Ferrill A. Fisher* 3/6/13 Date

BUILDER/DEVELOPER'S CERTIFICATE
"I/we certify that all development and construction will be done according to this plan, for sediment and erosion control and that 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 also authorize periodic on-site inspection by the Howard Soil Conservation District."
Signature of Builder/Developer: *Rajesh Purbhi, Vibha Purbhi* 7/mar/2013 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. 9767, EXPIRATION DATE: 03/03/14.
Signature of Engineer: *Ferrill A. Fisher* 3/6/13 Date

STORMWATER MANAGEMENT PRACTICES

LOT NO.	ADDRESS	DISCONNECTION OF NON-ROOFTOP RUN OFF N-2, (Y/N)	DRAWN (M-E) NUMBER
LOT 101	HUNTING LANE	Y	?

SOILS LEGEND

SOIL	NAME	CLASS
MIE	Manor loam, 25 to 45 percent slopes	B
EKC2	Elk oak silt loam, 8 to 15 percent slopes, moderately eroded	B
GB2	Glenns loam, 3 to 8 percent slopes, moderately eroded	B
GIC2	Glenns loam, 8 to 15 percent slopes, moderately eroded	B
GD2	Glenns loam, 15 to 25 percent slopes, moderately eroded	B
MID2	Manor loam, 15 to 25 percent slopes, moderately eroded	B

BUILDER/DEVELOPERS/ CERTIFICATE
I/WE CERTIFY THAT THE REQUIRED LANDSCAPING WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS AND THE LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION, A LETTER OF NOTICE, ACCOMPANIED BY AN EXECUTED ONE YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.
Signature of Builder/Developer: *Rajesh Purbhi, Vibha Purbhi* 7mar 2013 Date

Reviewed for HOWARD SCD and meets Technical Requirements.
This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT.
Signature of Engineer: *John L. Robertson* 3/19/13 Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
Signature of Planning and Zoning: *Kate Leland* 4/11/13 Date
Signature of Planning and Zoning: *David P. King* 3/19/13 Date

OWNER/BUILDER
RAJESH & VIBHA PURBHI
1032 HUNTING LANE
COLUMBIA, MARYLAND 21044
240-795-0099

PROJECT
HOLIDAY HILLS SECTION 5 LOT 101

PLAT	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DISP.	CENSUS TR.
19775	5	R-20	41	FIFTH	6051.02

SITE DEVELOPMENT, SEDIMENT & EROSION CONTROL PLAN

SINGLE FAMILY DETACHED HOLIDAY HILLS SECTION 5, LOT 101
PLAT No. 19775

TAX MAP NO.: 0041 P/O PARCEL NO.: 0273 GRID NO.: 0005
FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: 1" = 30' DATE: MARCH 6, 2013

SHEET 1 OF 2 **SDP-13-034**

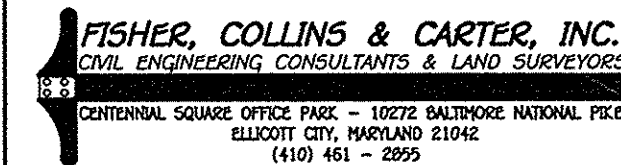
SOIL PREPARATION, TOPSOILING AND SOIL AMENDMENTS (B-4-2)

- A. Soil Preparation**
- Temporary Stabilization
 - Seeded preparation consists of loosening soil to a depth of 3 to 5 inches by means of suitable agricultural or construction equipment, such as disc harrows or chisel plows or ripper mounted on construction equipment. After the soil is loosened, it must not be rolled or dragged smooth but left in the roughened condition. Slopes 3:1 or flatter are to be treated with ridges running parallel to the contour of the slope.
 - Apply fertilizer and lime as prescribed on the plans.
 - Incorporate lime and fertilizer into the top 3 to 5 inches of soil by disking or other suitable means.
 - Permanent Stabilization
 - A soil test is required for any earth disturbance of 5 acres or more. The minimum soil conditions required for permanent vegetative establishment are:
 - Soil pH between 6.0 and 7.0.
 - Soluble salts less than 500 parts per million (ppm).
 - Soil contains less than 40 percent clay but enough fine grained material (greater than 30 percent silt plus clay) to provide the capacity to hold a moderate amount of moisture. An exception: if loesslike soil will be planted, then a sandy soil (less than 30 percent silt plus clay) would be acceptable.
 - Soil contains 1.5 percent minimum organic matter by weight.
 - Soil contains sufficient pore space to permit adequate root penetration.
 - Application of amendments or topsoil is required if on-site soils do not meet the above conditions.
 - Graded areas must be maintained in a true and even grade as specified on the approved plan, then scarified or otherwise loosened to a depth of 3 to 5 inches.
 - Apply soil amendments as specified on the approved plan or as indicated by the results of a soil test.
 - Mix soil amendments into the top 3 to 5 inches of soil by disking or other suitable means. Rake bare areas to smooth the surface, remove large objects like stones and branches, and ready the area for seed application. Loosen surface soil by dragging with a heavy chain or other equipment to roughen the surface where site conditions will not permit normal seedbed preparation. Track slopes 3:1 or flatter with tracked equipment leaving the soil in an irregular condition with ridges running parallel to the contour of the slope. Leave the top 1 to 3 inches of soil loose and friable, seedbed loosening may be unnecessary on newly disturbed areas.
- B. Topsoiling**
- Topsoil is placed over prepared subsoil prior to establishment of permanent vegetation. The purpose is to provide a suitable soil medium for vegetative growth. Soils of concern have low moisture content, low nutrient levels, low pH, materials toxic to plants, and/or unacceptable soil gradation.
 - Topsoil salvaged from an existing site may be used provided it meets the standards as set forth in these specifications. Typically, the depth of topsoil to be salvaged for a given soil type can be found in the representative soil profile section in the Soil Survey published by USDA-NRCS.
 - Topsoiling is limited to areas having 2:1 or flatter slopes where:
 - The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth.
 - The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish continuing supply of moisture and plant nutrients.
 - The original soil to be vegetated contains material toxic to plant growth.
 - The soil is so acidic that treatment with limestone is not feasible.
 - Areas having slopes steeper than 2:1 require special consideration and design.
 - Topsoil Specifications: Topsoil to be used as topsoil must meet the following criteria:
 - Topsoil must be loam, sandy loam, clay loam, silt loam, sandy clay loam, or loamy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Topsoil must not be a mixture of contrasting textures and must contain less than 10 percent by volume of cinders, stones, slag, coarse fragments, gravel, sticks, roots, trash, or other materials larger than 1 1/2 inches in diameter.
 - Topsoil must be free of noxious plants or plant parts such as Bermuda grass, quack grass, Johnson grass, nut sedge, poison ivy, thistle, or others as specified.
 - Topsoil substitutes or amendments, as recommended by a qualified agronomist or soil scientist and approved by the appropriate approval authority, may be used in lieu of natural topsoil.
 - Topsoil application
 - Erosion and sediment control practices must be maintained when applying topsoil.
 - Uniformly distribute topsoil in a 5 to 10 inch layer and lightly compact to a minimum thickness of 4 inches. Spreading is to be performed in a manner that seeding or sowing can proceed with a minimum of additional soil preparation and filling. Any irregularities in the surface resulting from topsoiling or other operations must be corrected in order to prevent the formation of depressions or water pockets.
 - Topsoil must not be placed if the topsoil or subsoil is in a frozen or muddy condition, when the subsoil is excessively wet or in a condition that may otherwise be detrimental to proper grading and seeded preparation.
- C. Soil Amendments (Fertilizer and Lime Specifications)**
- Soil tests must be performed to determine the exact ratios and application rates for both lime and fertilizer on sites having disturbed areas of 5 acres or more. Soil analysis may be performed by a recognized private or commercial laboratory. Soil samples taken for engineering purposes may also be used for chemical analyses.
 - Fertilizers must be uniform in composition, free flowing and suitable for accurate application by appropriate equipment. Name may be substituted for fertilizer with prior approval from the appropriate approval authority. Fertilizers must all be delivered to the site fully labeled according to the applicable laws and must bear the name, trade name or trademark and warranty of the producer.
 - Lime materials must be ground limestone (hydrated or burnt lime may be substituted except when hydroxydizing) which contains at least 50 percent total oxide (calcium oxide plus magnesium oxide). Limestone must be ground to such fineness that at least 50 percent will pass through a #100 mesh sieve and 90 to 100 percent will pass through a #20 mesh sieve.
 - Lime and fertilizer are to be evenly distributed and incorporated into the top 3 to 5 inches of soil by disking or other suitable means.
 - Where the subsoil is either highly acidic or composed of heavy clays, spread ground limestone at the rate of 4 to 8 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement of topsoil.

- TEMPORARY SEEDING NOTES (B-4-4)**
- Definition**
- 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 sites having soil tests performed, use and show the recommended rates by the testing agency. Soil tests are not required for Temporary Seeding.
 - When stabilization is required outside of a seeding season, apply seed and mulch or straw mulch alone as prescribed in Section B-4-4.1.B and maintain until the next seeding season.

Temporary Seeding Summary			
Hardness Zone (from Figure B.3):	Gb	Fertilizer Rate (10-20-20)	Lime Rate
Seed Mixture (from Table B.1):			
Species	Application Rate (lb/acre)	Seeding Dates	Seeding Depths
BARLEY	96	3/1 - 5/15	1"
OATS	72	8/15 - 10/15	1"
RYE	112		1"

NO.	REVISION	DATE
1	UPDATE SEEDING NOTES AND MOVE SEQUENCE OF CONSTRUCTION, REPLACE SODRETENTION DETAILS WITH DRYWELL DETAILS.	06/30/2015



PERMANENT SEEDING NOTES (B-4-5)

- A. Seed Mixtures**
- General Use
 - Select one or more of the species or mixtures listed in Table B.3 for the appropriate Plant Hardness Zone (from Figure B.3) and based on the site condition or purpose. Enter selected mixture(s), application rates, and seeding dates in the Permanent Seeding Summary. The Summary is to be placed on the plan.
 - Additional planting specifications for exceptional sites such as shorelines, stream banks, or dunes or for special purposes such as wildlife or aesthetic treatment may be found in USDA-NRCS Technical Field Office Guide, Section 342 - Critical Area Plantings.
 - For sites having disturbed area over 5 acres, use and show the rates recommended by the soil testing agency. For areas receiving low maintenance, apply seed from fertilizer (40-0-0) 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.
 - Turfgrass Mixtures
 - Areas where turfgrass 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 mixture(s), 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 Rye: 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 mixture includes: Certified Tall Fescue Cultivars at 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 area. 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.
- B. Sod: To provide quick cover on disturbed areas (2:1 grade or flatter).**
- General Specifications
 - Class of turfgrass sod must be Maryland State Certified. Sod labels must be made available to the job foreman and inspector.
 - Sod must be machine cut at a uniform soil thickness of 3/4 inch, plus or minus 1/8 inch, at the time of cutting. Measurement for thickness must exclude top growth and thatch. Broken pads and torn or uneven ends will not be acceptable.
 - Standard size sections of sod must be strong enough to support their own weight and retain their size and shape when suspended vertically with a firm grasp on the upper 10 percent of the section.
 - Sod must not be harvested or transported when moisture content (excessively dry or wet) may adversely affect its survival.
 - Sod must be harvested, delivered, and installed within a period of 36 hours. Sod not transported within this period must be approved by an agronomist or soil scientist prior to its installation.
 - Sod Installation
 - During periods of excessively high temperature or in areas having dry subsoil, lightly irrigate the subsoil immediately prior to laying the sod.
 - Lay the first row of sod in a straight line with subsequent rows placed parallel to it and tightly wedged against each other. Stagger lateral joints to promote more uniform growth and strength. Ensure that sod is not stretched or overlapped and that all joints are butted tight in order to prevent voids which would cause air drying of the roots.
 - Wherever possible, lay sod with the long edges parallel to the contour and with staggering joints. Roll and tamp, peg or otherwise secure the sod to prevent slippage on slopes. Ensure solid contact exists between sod roots and the underlying soil surface.
 - Water the sod immediately following rolling and tamping until the underside of the new sod pad and soil surface below the sod are thoroughly wet. Complete the operations of laying, tamping, and irrigating for any piece of sod within eight hours.
 - Sod Maintenance
 - In the absence of adequate rainfall, water daily during the first week or as often and sufficiently as necessary to maintain moist soil to a depth of 4 inches. Water sod during the heat of the day to prevent wilting.
 - After the first week, sod watering is required as necessary to maintain adequate moisture content.
 - Do not mow until the sod has established. The sod should be mowed by hand or removed by the initial cutting or subsequent cuttings. Maintain a grass height of at least 3 inches unless otherwise specified.

Permanent Seeding Summary

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

- STANDARD SEDIMENT CONTROL NOTES**
- A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS, SEEDMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION (410-313-1855).
 - ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE MOST CURRENT MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL AND REVISIONS THEREOF.
 - FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN 3 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DICES, PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3:1.
 - ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL. TEMPORARY SEEDING (SEC. B-4-5), TEMPORARY STABILIZATION WITH MULCH ALONG WITH MULCH SEEDING (SEC. B-4-4) AND MULCHING (SEC. B-4-3), TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
 - ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMITSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
 - SITE ANALYSIS:

AREA OF SITE	0.63 ACRES
AREA DISTURBED	0.30 ACRES
AREA TO BE SOOPE OR PAVED	0.00 ACRES
AREA TO BE VEGETATIVELY STABILIZED	0.22 ACRES
TOTAL CUT	350 CU.YDS.
TOTAL FILL	510 CU.YDS.
 - OFFSITE WASTE/BOORROW AREA LOCATION: N/A.
 - ANY SEDIMENT CONTROL PRACTICE THAT IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
 - ADDITIONAL SEDIMENT CONTROL MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
 - ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.
 - ANY CHANGES OR REVISIONS TO THE SEQUENCE OF CONSTRUCTION MUST BE REVIEWED AND APPROVED BY THE PLAN APPROVAL AUTHORITY PRIOR TO CONSTRUCTION.
 - A PROJECT IS TO BE SEQUENCED SO THAT GRADING ACTIVITIES BEGIN ON ONE GRADING UNIT (MAXIMUM AVERAGE OF 30 ACRES PER GRADING UNIT) AT A TIME, WORK PROCEEDS TO A SUBSEQUENT GRADING UNIT, AND AT LEAST 50 PERCENT OF THE DISTURBED AREA IN THE PRECEDING GRADING UNIT HAS BEEN STABILIZED AND APPROVED BY THE ENFORCEMENT AUTHORITY, UNLESS OTHERWISE SPECIFIED AND APPROVED BY THE APPROVAL AUTHORITY, NO MORE THAN 30 ACRES CUMULATIVELY MAY BE DISTURBED AT A GIVEN TIME.

ENGINEER'S CERTIFICATE

"I certify that this plan for erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District."

John R. Robertson 7/23/15
 Signature of Engineer Date

BUILDER/DEVELOPER'S CERTIFICATE

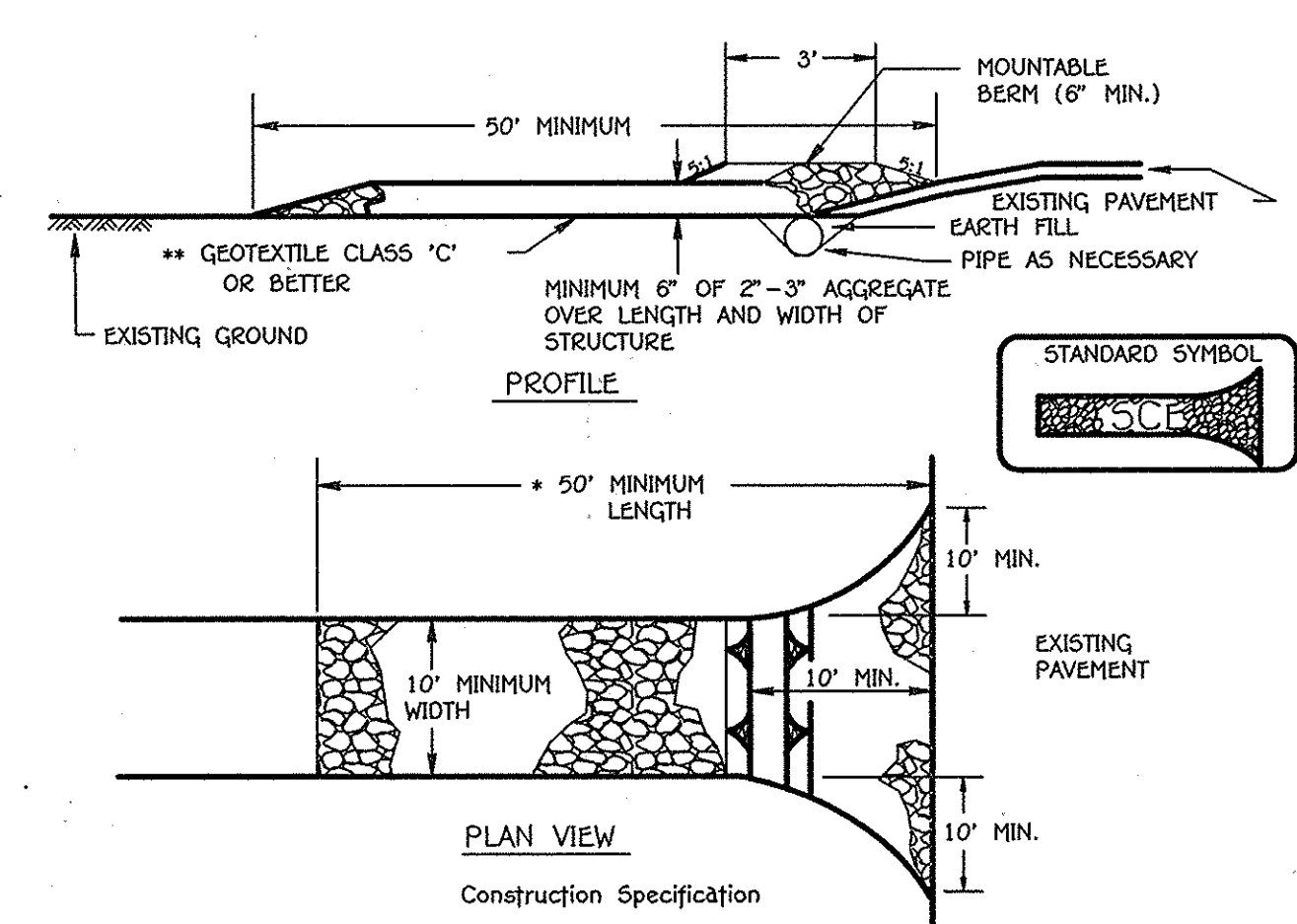
"I/We certify that all development and construction will be done according to this plan, for sediment and erosion control and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District."

Rajesh & Vibha Pubbi 7/19/13
 Signature of Engineer Date

RAJESH & VIBHA PUBBI

OPERATION & MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED DISCONNECTION OF ROOFTOP RUNOFF (N-1)

- MAINTENANCE OF AREAS RECEIVING DISCONNECTION RUNOFF IS GENERALLY NO DIFFERENT THAN THAT REQUIRED FOR OTHER LAWN OR LANDSCAPED AREAS.
- AREAS RECEIVING RUNOFF SHOULD BE PROTECTED FROM FUTURE COMPACTON OR DEVELOPMENT OF IMPERVIOUS AREA. IN COMMERCIAL AREAS, FOOT TRAFFIC SHOULD BE DISCOURAGED AS WELL.



OPERATION & MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED DRY WELLS (M-5)

- THE OWNER SHALL INSPECT THE MONITORING WELLS AND STRUCTURES ON A QUARTERLY BASIS AND AFTER EVERY HEAVY STORM EVENT.
- THE OWNER SHALL RECORD THE WATER LEVELS AND SEDIMENT BUILD UP IN THE MONITORING WELLS OVER A PERIOD OF SEVERAL DAYS TO ENSURE TRENCH DRAINAGE.
- THE OWNER SHALL MAINTAIN A LOG BOOK TO DETERMINE THE RATE AT WHICH THE FACILITY DRAINS.
- WHEN THE FACILITY BECOMES CLOGGED SO THAT IT DOES NOT DRAIN DOWN WITHIN A SEVENTY-TWO (72) HOUR TIME PERIOD, CORRECTIVE ACTION SHALL BE TAKEN.
- THE MAINTENANCE LOG BOOK SHALL BE AVAILABLE TO HOWARD COUNTY FOR INSPECTION TO INSURE COMPLIANCE WITH OPERATION AND MAINTENANCE CRITERIA.
- ONCE THE PERFORMANCE CHARACTERISTICS OF THE INFILTRATION FACILITY HAVE BEEN VERIFIED, THE MONITORING SCHEDULE CAN BE REDUCED TO AN ANNUAL BASIS UNLESS THE PERFORMANCE DATA INDICATES THAT A MORE FREQUENT SCHEDULE IS REQUIRED.

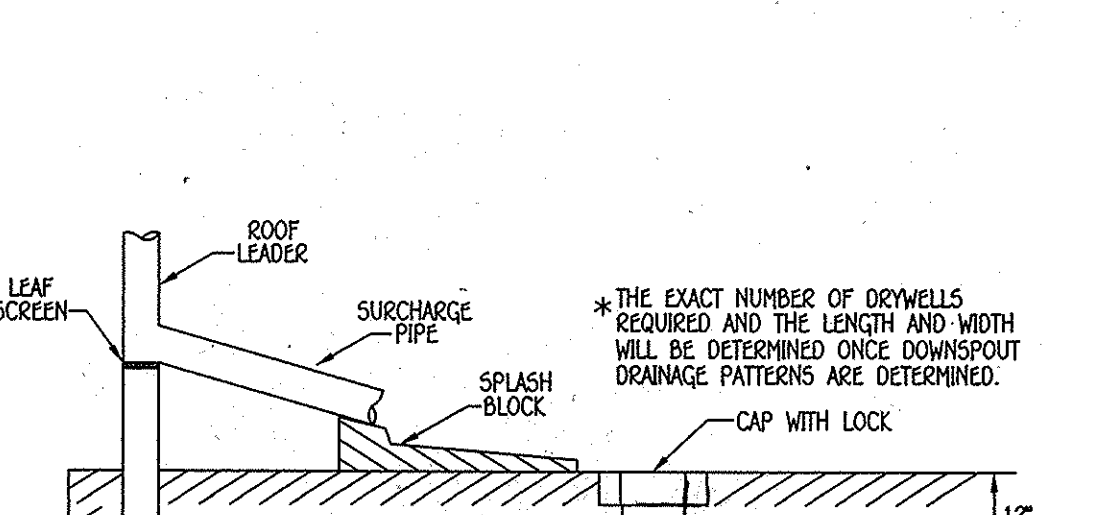
- Length - minimum of 50' (+30' for single residence lot).
- Width - 10' minimum, should be flared at the existing road to provide a turning radius.
- Geotextile fabric (filter cloth) shall be placed over the existing ground prior to placing stone. **the plan approval authority may not require single family residences to use geotextile.
- Stone - crushed aggregate (2" to 3") or reclaimed or recycled concrete equivalent shall be placed at least 6" deep over the length and width of the entrance.
- Surface Water - all surface water flowing to or diverted toward construction entrances shall be piped through the entrance, maintaining positive drainage. Pipe installed through the stabilized construction entrance shall be protected with a mountable berm with 5:1 slopes and a minimum of 6" of stone over the pipe. Pipe has to be sized according to the drainage. When the SCE is located at a high spot and has no drainage to convey a pipe will not be necessary. Pipe should be sized according to the amount of runoff to be conveyed. A 6" minimum will be required.
- Location - A stabilized construction entrance shall be located at every point where construction traffic enters or leaves a construction site. Vehicles leaving the site must travel over the entire length of the stabilized construction entrance.

STABILIZED CONSTRUCTION ENTRANCE

DRY WELL CHART

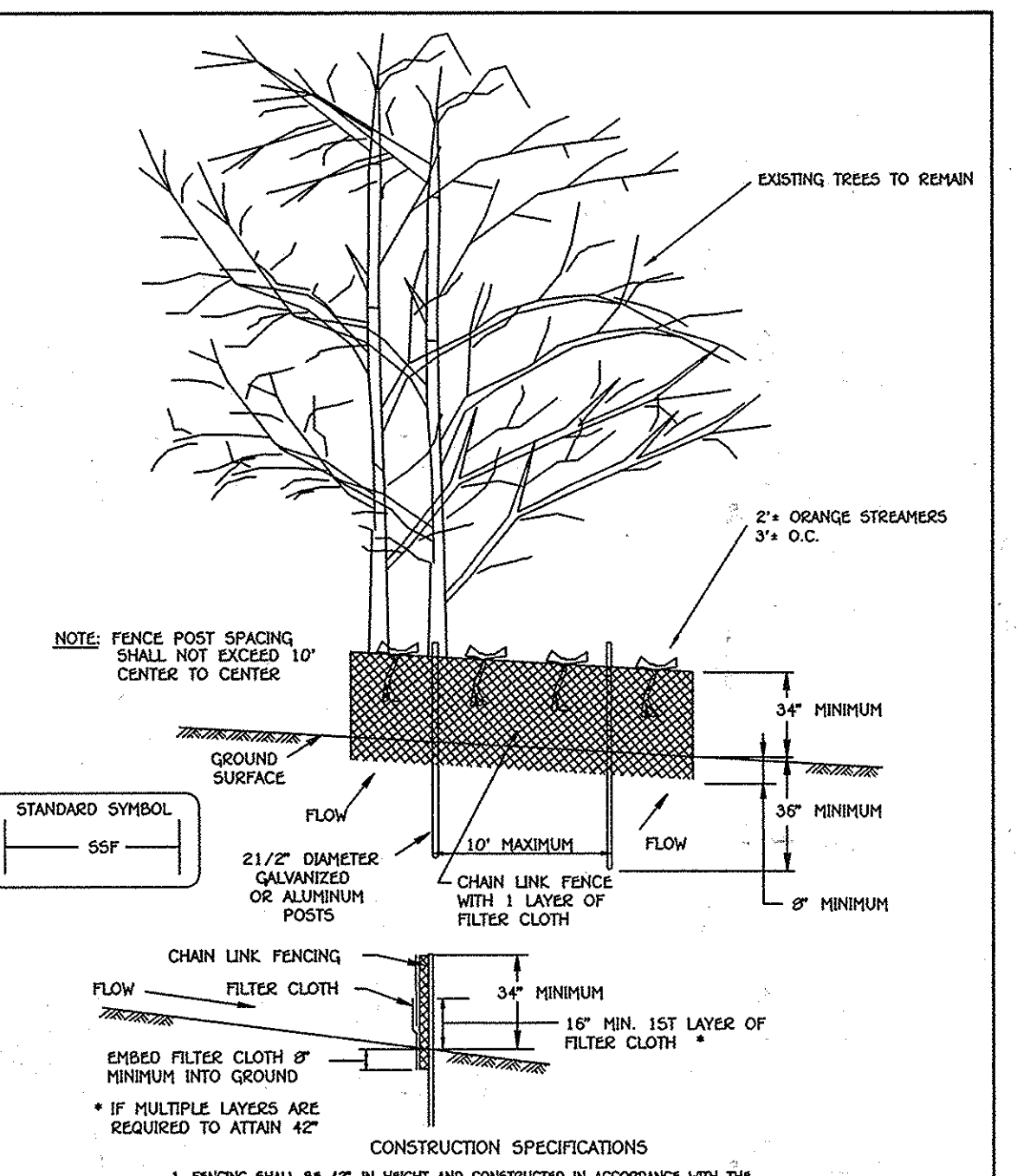
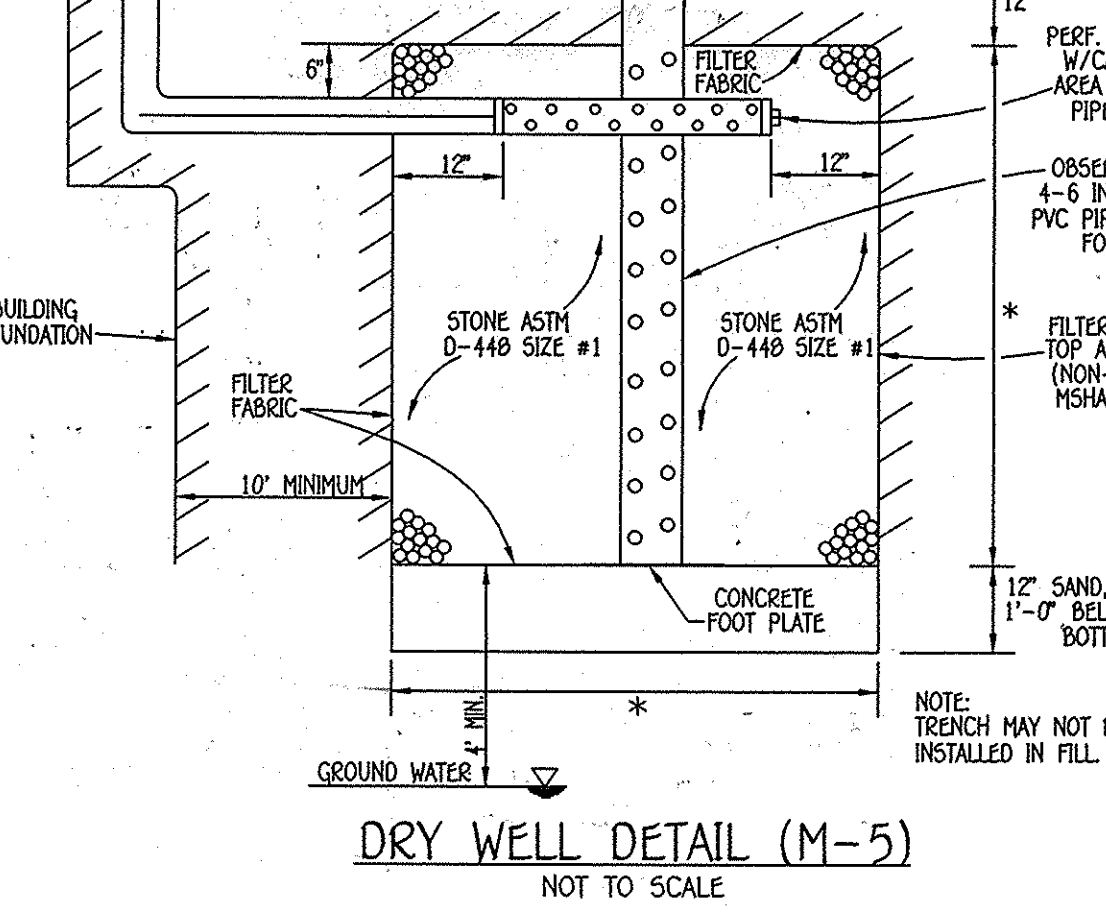
DRYWELL NO.	AREA OF ROOF PER DOWN SPOUT	VOLUME REQUIRED	VOLUME PROVIDED	AREA OF TREATMENT	L	W	D
GARAGE	351 SQ. FT.	29 C.F.	40 C.F.	100%*	5'	5'	4'
FRONT	853 SQ. FT.	68 C.F.	160 C.F.	100%*	10'	10'	4'
REAR	732 SQ. FT.	56 C.F.	160 C.F.	100%*	10'	10'	4'

* AREA OF TREATMENT EXCEEDS THAT REQUIRED.



STORMWATER MANAGEMENT NOTES

- STORMWATER MANAGEMENT IS PROVIDED IN ACCORDANCE WITH CHAPTER 5, "ENVIRONMENTAL SITE DESIGN" OF THE 2007 MARYLAND STORMWATER MANAGEMENT DESIGN MANUAL, EFFECTIVE MAY 4, 2010.
- MAXIMUM CONTRIBUTING ROOF TOP AREA TO EACH DOWNSPOUT SHALL BE 1,000 SQ. FT. OR LESS.
- DRYWELLS SHALL BE PROVIDED AT LOCATIONS WHERE THE LENGTH OF DISCONNECTION IS LESS THAN 75' AT 5% SLOPE AND CONSTRUCTION OF THE DRYWELL SHALL BE IN ACCORDANCE WITH THE DETAIL SHOWN ON THIS SHEET.
- FINAL GRADING IS SHOWN ON THIS SITE DEVELOPMENT PLAN.



- FENCING SHALL BE 4" IN HEIGHT AND CONSTRUCTED IN ACCORDANCE WITH THE LATEST MARYLAND STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR A 6" FENCE SHALL BE USED, SUBSTITUTING 4" FABRIC AND 4" LUMBER POTS.
- CHAIN LINK FENCE SHALL BE FASTENED SECURELY TO THE FENCE POSTS WITH WIRE TIES. THE LOWER TENSION WIRE, BRACE AND TRUSS RODS, DRIVE ANCHORS AND POST CAPS ARE NOT REQUIRED EXCEPT ON THE ENDS OF THE FENCE.
- FILTER CLOTH SHALL BE FASTENED SECURELY TO THE CHAIN LINK FENCE WITH THIS SPACED EVERY 24" AT THE TOP AND MID SECTION.
- WHEN TWO SECTIONS OF FILTER CLOTH ARE JOINED EACH OTHER, THEY SHALL BE OVERLAPPED BY 6" AND FOLDED.
- MAINTENANCE SHALL BE PERFORMED AS NECESSARY AND SILT BUILDUPS REMOVED WHEN "BULGES" DEVELOP IN THE SALT FENCE, OR WHEN SALT REACHES 50% OF FENCE HEIGHT.
- FILTER CLOTH SHALL BE FASTENED SECURELY TO EACH FENCE POST WITH WIRE TIES OR STAPLES AT TOP AND MID SECTION AND SHALL MEET THE FOLLOWING REQUIREMENTS FOR GEOTEXTILE CLASS F:

TABLE STRENGTH	50 LBS/IN (FIB)	20 LBS/IN (FIB)	TEST HEIGHT 509
TENSILE MODULUS	20 LBS/IN (FIB)	20 LBS/IN (FIB)	TEST HEIGHT 509
FLOW RATE	0.3 GALT. (PRIVATE USE)	0.3 GALT. (PRIVATE USE)	TEST HEIGHT 322
FILTRATION EFFICIENCY	75% (N/A)	75% (N/A)	TEST HEIGHT 322

DESIGN CRITERIA

SLOPE	SLOPE STEEPNESS	SLOPE LENGTH (MINIMUM)	SILT FENCE LENGTH (MINIMUM)
0 - 10%	0 - 10%	UNLIMITED	UNLIMITED
10 - 20%	10 - 20%	100 FEET	1500 FEET
20 - 33%	20 - 33%	100 FEET	1000 FEET
33 - 50%	33 - 50%	100 FEET	500 FEET
50% +	2:1 +	50 FEET	250 FEET

SUPER SILT FENCE, TREE PROTECTION FENCE

SOIL BORING LOG FOR BIO-RETENTION FACILITIES

- SOIL BORING NUMBER 1- THE EXISTING ELEVATION IS APPROXIMATELY 401.5. THE PROPOSED SURFACE ELEVATION OF THE BIO-RETENTION FACILITY IS 403.0. THERE WAS NO REFUSAL OR SEASONAL HIGH GROUND WATER ENCOUNTERED DURING EXCAVATION. THE PROPOSED FACILITY IS APPROXIMATELY 3.5 FEET IN DEPTH. THE TOTAL DEPTH OF EXCAVATION WAS 10 FEET.
 - SOIL BORING NUMBER 2- THE EXISTING ELEVATION IS APPROXIMATELY 396.5. THE PROPOSED SURFACE ELEVATION OF THE BIO-RETENTION FACILITY IS 397.0. THERE WAS NO REFUSAL OR SEASONAL HIGH GROUND WATER ENCOUNTERED DURING EXCAVATION. THE PROPOSED FACILITY IS APPROXIMATELY 3.5 FEET IN DEPTH. THE TOTAL DEPTH OF EXCAVATION WAS 10 FEET.
- SEQUENCE OF CONSTRUCTION**
- OBTAIN GRADING PERMIT 7 DAYS
 - INSTALL SEDIMENT AND EROSION CONTROL DEVICES AS SHOWN ON PLAN 7 DAYS
 - CLEAR AND GRUB TO LIMITS OF DISTURBANCE 4 DAYS
 - INSTALL TEMPORARY SEEDING 2 DAYS
 - CONSTRUCT BUILDINGS AND DRYWELLS 90 DAYS
 - FINE GRADE SITE AND INSTALL SIDEWALKS, PERMANENT SEEDING AND LANDSCAPE 14 DAYS
 - REMOVE SEDIMENT CONTROL DEVICES AS UPLAND AREAS ARE STABILIZED AND PERMITSION IS GRANTED BY E/S CONTROL INSPECTOR. 7 DAYS

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Katrina Dewald 4/4/13
 Chief, Division of Land Development Date

John R. Robertson 4/6/13
 Chief, Development Engineering Division Date

John R. Robertson 4/6/13
 Director - Department of Planning and Zoning Date

OWNER/BUILDER

RAJESH & VIBHA PUBBI
 10830 HUNTING LANE
 COLUMBIA, MARYLAND 21044
 240-755-0099

SEDIMENT AND EROSION CONTROL NOTES & DETAILS

SINGLE FAMILY DETACHED
HOLIDAY HILLS
 SECTION 5, LOT 101
 PLAT No. 19775

TAX MAP NO.: 41 P/O PARCEL NO.: 273 GRID NO.: 5
 FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 SCALE: 1" = 30' DATE: MARCH 6, 2013

SHEET 2 OF 2 **SDP-13-034**