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

SHEET INDEX

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

ROADWAY INFORMATION CHART

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

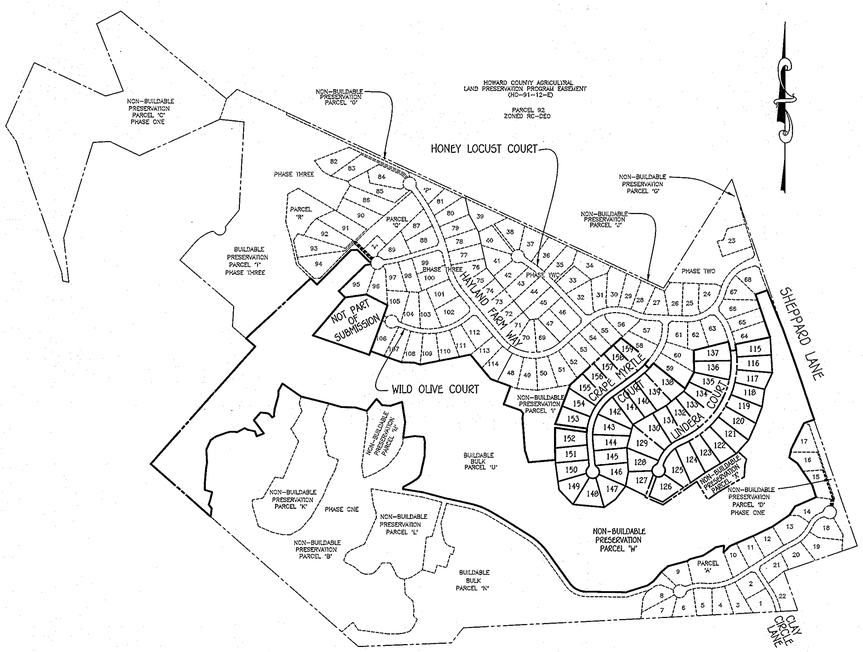
APPROVED: DEPARTMENT OF PUBLIC WORKS

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



PLAN VIEW

SCALE: 1" = 600'

ADC MAP No. 4933, J2

VICINITY MAP

SCALE: 1" = 2000'

LEGEND

SYMBOL	DESCRIPTION
	EXISTING CONTOUR 2' INTERVAL
	EXISTING CONTOUR 10' INTERVAL
—102—	PROPOSED CONTOUR 2' INTERVAL
—100—	PROPOSED CONTOUR 10' INTERVAL
-SF-SF-	SILT FENCE
-SSF-SSF-	SUPER-SILT FENCE
L.O.D.	LIMIT OF DISTURBANCE
	EARTH DIKE
	WETLANDS BUFFER
	WETLANDS LIMITS
	STORM DRAIN
B-3	PROPOSED BORING LOCATION
	EROSION CONTROL MATTING
2" LPS	LOW PRESSURE SEWER
	PROPOSED STREET TREE
	EXISTING TREELINE
	PROPOSED TREELINE
12"	PROPOSED DRIVEWAY CULVERT

FIFTH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

GENERAL NOTES

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS IF APPLICABLE.

2. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS / BUREAU OF ENGINEERING / CONSTRUCTION INSPECTION DIVISION AT (410) 313-1880 AT LEAST (5) WORKING DAYS PRIOR TO THE START OF WORK.

3. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.

4. TRAFFIC CONTROL DEVICES, MARKINGS AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).

5. 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 572,456.565 E 1,328,957.66	ELEV. = 348.296
HOWARD COUNTY MONUMENT NO. 28FB	N 570,710.839 E 1,329,524.63	ELEV. = 385.804

6. 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.

7. 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: 38.291 AC±
J. AREA OF NON-BUILDABLE PRESERVATION PARCELS: 100.195 AC.±
K. TOTAL AREA OF ROADWAY TO BE DEDICATED: 3.028 AC.±
L. PREVIOUS FILE NOS.: SP-06-007 APPROVAL DATE: 5/31/06, BA-85-52E, BA-98-33E, BA-93-49E & WP-08-007 (SEE NOTE No. 10 BELOW), F-07-076 (Phase One), F-08-081 (Phase Two), F-13-026 (Phase Three)
M. ONE CEMETERY EXISTS WITHIN THIS SUBDIVISION (Non-Buildable Preservation Parcel 'V', Phase Three). "CLARK FAMILY CEMETERY" - HO. CO. ID #28-2.
THE PLANNING BOARD APPROVED THE CEMETERY ACCOMMODATION AND BOUNDARY DOCUMENTATION PLAN ON MARCH 30, 2006 SUBJECT TO THE FOLLOWING CONDITIONS:
1. THE DEVELOPER AND/OR THE WALNUT CREEK H.O.A. SHALL UPGRADE THE EXISTING SPLIT RAIL FENCE TO FURTHER PROTECT THE EXISTING CEMETERY SITE.
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 AASHTO T-180.

10. THE FOREST CONSERVATION REQUIREMENTS PER SECTION 16.1200 OF THE HOWARD COUNTY CODE AND THE FOREST CONSERVATION MANUAL FOR THE ENTIRE SUBDIVISION WILL BE FULFILLED BY PROVIDING 57.32 ACRES OF ON-SITE FOREST RETENTION AND 36.16 ACRES OF ON-SITE FOREST AFFORESTATION FOR A TOTAL OF 93.48 ACRES. THERE IS NO SURETY REQUIRED FOR ONSITE 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 ONSITE RETENTION OF 14.50 ACRES OF FOREST AND 13.41 ACRES OF ONSITE AFFORESTATION ARE PROPOSED WITH THIS PHASE FOUR SUBMISSION.
A SURETY FOR ON-SITE AFFORESTATION @ $0.50/SF FOR 584,140 SF. = $292,070.00 IS REQUIRED. THE FOREST CONSERVATION SURETY IN THE AMOUNT OF $292,070.00 IS TO BE PAID AS PART OF THE DPW DEVELOPER'S AGREEMENT.

THIS FOREST CONSERVATION PROPOSAL IS SUBJECT TO WP-08-007, APPROVED ON AUGUST 21, 2007 TO THE FOLLOWING CONDITIONS:
1. THE WAIVER PETITION APPROVAL APPLIES ONLY TO THE TEMPORARY DEFERRAL FOR ESTABLISHING THE FOREST CONSERVATION EASEMENTS FOR THIS SUBDIVISION BASED ON THE APFO 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 APFO PHASING SCHEDULE.

11. STORMWATER MANAGEMENT FACILITIES: D.H.P. NO. 2 (P-1)
PRIVATELY OWNED BY THE HOMEOWNER'S ASSOCIATION AND
JOINTLY MAINTAINED BY THE HOMEOWNER'S ASSOCIATION AND HOWARD COUNTY, MARYLAND

(1) WET EXTENDED DETENTION FACILITY FOR WQV & CPV
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-POOL (EXTENDED DETENTION) POND. OVERBANK FLOOD PROTECTION VOLUME AND EXTREME FLOOD VOLUME ARE NOT REQUIRED FOR THIS SITE.

(2) ON NOVEMBER 2, 2012, AN ADMINISTRATIVE WAIVER 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 CONSERVATION CREDIT, DISCONNECTION CREDITS AND WHEREVER THESE CREDITS CANNOT BE OBTAINED, A SHEET FLOW 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 HARFORD 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 D-102BA. 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 16.116(b)(15) OF THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS. TOTAL AREA OF 25% OR GREATER SLOPES = 8.9 AC.±

21. AS PER SECTION 104.F.4.b OF THE ZONING REGULATIONS, ONLY ONE EASEMENT HOLDER IS REQUIRED FOR PRESERVATION PARCELS DESIGNED SOLELY FOR SWM FACILITIES OR COMMUNITY SEWERAGE DISPOSAL SYSTEMS.

A. NON-BUILDABLE PRESERVATION PARCEL 'W'
OWNED: 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 65 SHADE AND 51 EVERGREEN TREES IN THE AMOUNT OF $27,450.00 FOR PERIMETER LANDSCAPE REQUIREMENTS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND LANDSCAPE MANUAL WILL BE POSTED WITH THE DEVELOPER'S AGREEMENT FOR THIS SUBDIVISION. FINANCIAL SURETY FOR THE REQUIRED 119 STREET TREES WILL BE POSTED AS PART OF THE DEVELOPER'S AGREEMENT IN THE AMOUNT OF $35,700.00.

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. 75-2003 AND THE CORP LITE ZONING REGULATION AMENDMENTS EFFECTIVE 7/28/06. 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 'B' (F-07-076), WALNUT CREEK, PHASE ONE.

27. SIGN POSTS: ALL SIGN POST USED FOR TRAFFIC CONTROL SIGNS INSTALLED IN THE COUNTY RIGHT-OF-WAY SHALL BE MOUNTED ON A 2" GALVANIZED STEEL, PERFORATED, SQUARE TUBE POST (14 GAUGE) INSERTED INTO A 2-1/2" GALVANIZED STEEL, PERFORATED, SQUARE TUBE SLEEVE (12 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-DP-3538 AND IS EFFECTIVE FROM AUGUST 1, 2006 UNTIL AUGUST 1, 2011 WHEN IT EXPIRES. THE SHARED SEPTIC SYSTEM CONTRACT No. 15 50-4441-D AND THE COLLECTION SYSTEM CONTRACT No. 15 50-4773-D.

29. THIS PLAN IS SUBJECT TO WAIVER PETITION WP-13-146. ON APRIL 8, 2013 THE PLANNING DIRECTOR APPROVED A WAIVER FROM SECTION 16.144(p)-REQUIRING PAYMENT OF FEES AND POSTING OF FINANCIAL GUARANTEES, AND SECTION 16.144(q)-REQUIRING SUBMISSION OF THE FINAL SUBDIVISION PLAT FOR RECORDING.

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

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

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

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

STATE OF MARYLAND — ALDO MICHAEL VITUCCI — No. 20748 — PROFESSIONAL ENGINEER

ALDO M. VITUCCI, P.E. — DATE 3/20/13

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
DATE: MARCH 20, 2013
SHEET 1 OF 23

F-13-034

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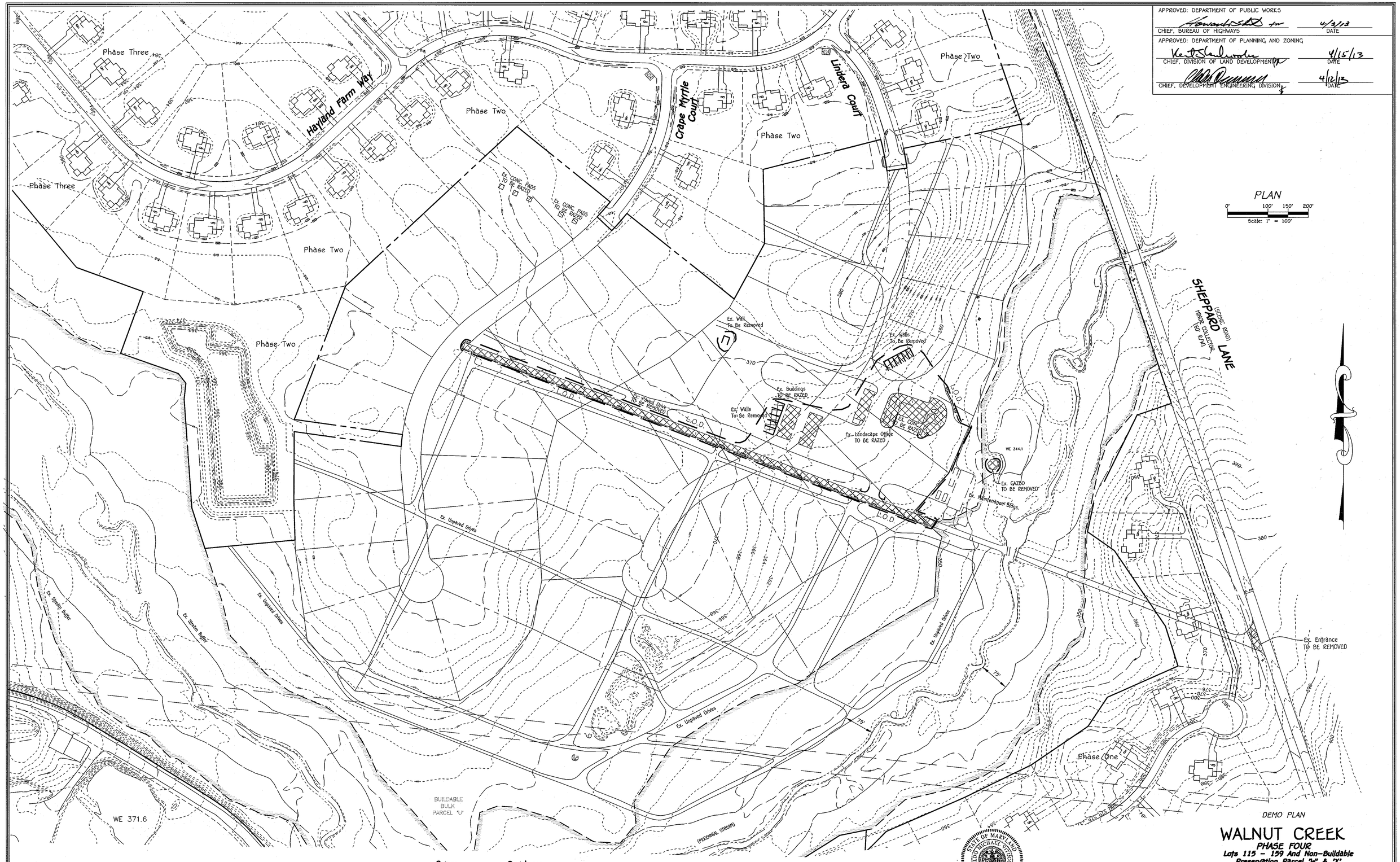
APPROVED: DEPARTMENT OF PUBLIC WORKS

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



FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

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

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ALDO M. VITUCCI, P.E. — DATE 3/20/13

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

DATE: MARCH 20, 2013

SHEET 2 OF 23

F-13-034

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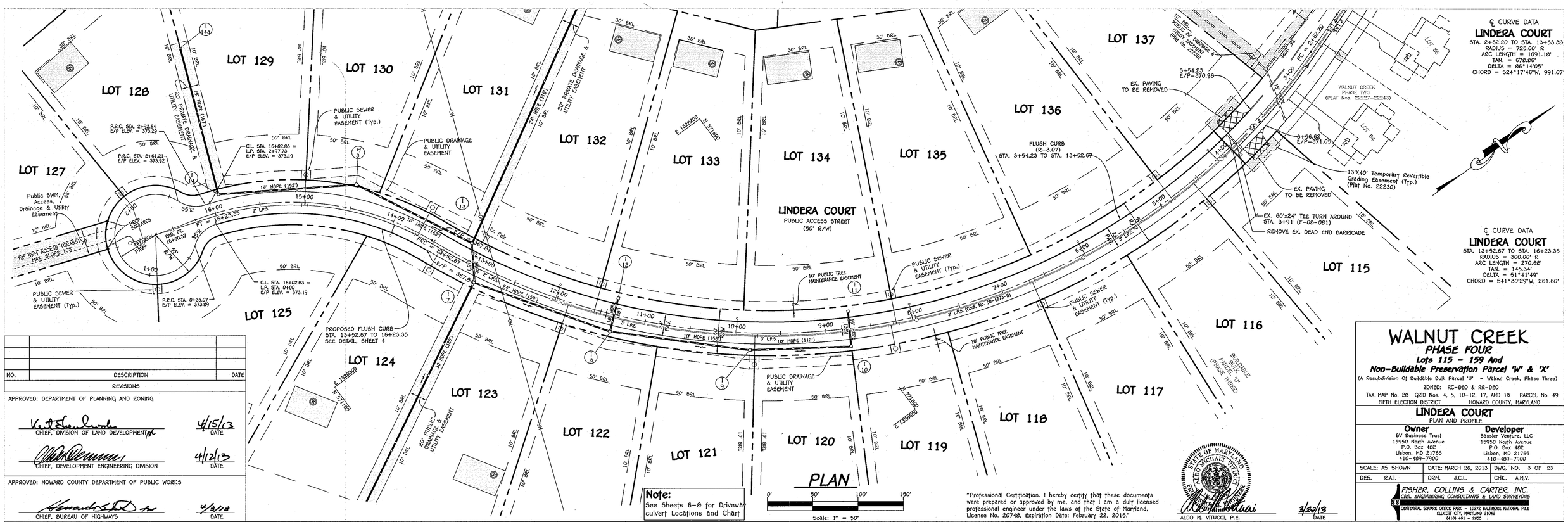

℄ CURVE DATA
LINDERA COURT
STA. 2+62.20 TO STA. 13+53.38
RADIUS = 725.00' R
ARC LENGTH = 1091.18'
TAN. = 678.86'
DELTA = 86°14'05"
CHORD = S24°17'46"W, 991.07'

℄ CURVE DATA
LINDERA COURT
STA. 13+52.67 TO STA. 16+23.35
RADIUS = 300.00' R
ARC LENGTH = 270.68'
TAN. = 145.34'
DELTA = 51°41'49"
CHORD = S41°30'29"W, 261.60'

NO.	DESCRIPTION	DATE

REVISIONS

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 4/15/13

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

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

CHIEF, BUREAU OF HIGHWAYS — DATE 4/3/13

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

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STATE OF MARYLAND — ALDO MICHAEL VITUCCI — No. 20748

ALDO M. VITUCCI, P.E. — DATE 3/20/13

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

ZONED: RC-DEO & RR-DEO

TAX MAP No. 20 GRID Nos. 4, 5, 10-12, 17, AND 18 PARCEL No. 49

FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

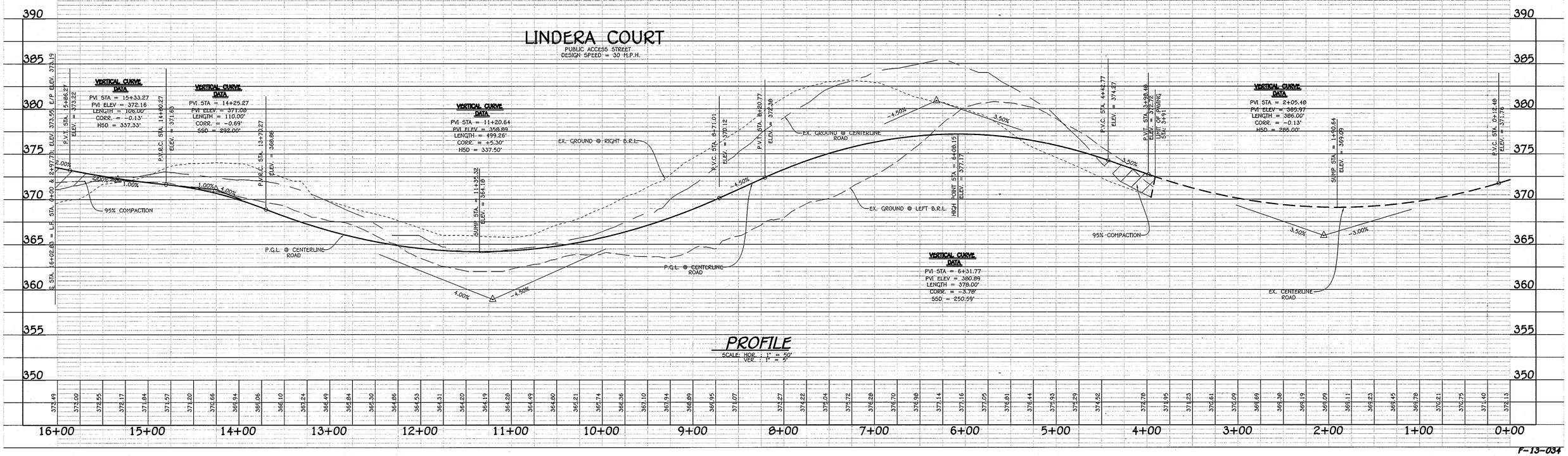
LINDERA COURT
PLAN AND PROFILE

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

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

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
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855



F-13-034

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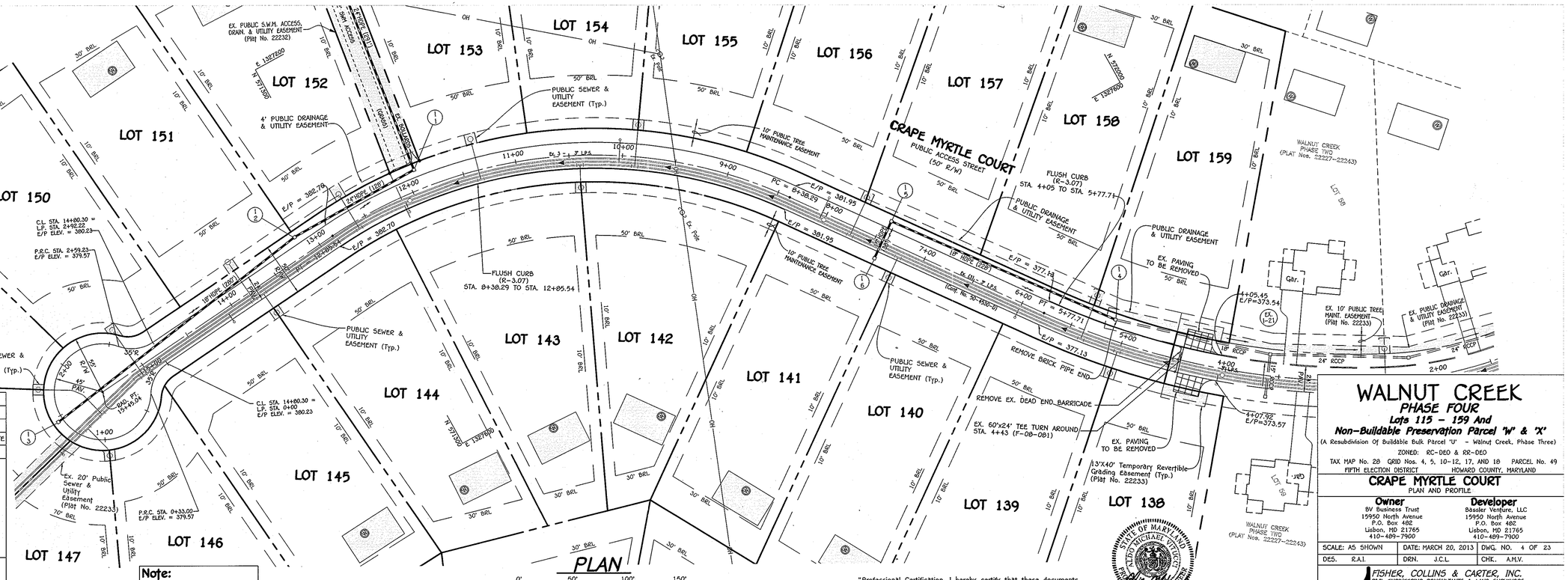
℄ CURVE DATA
CRAPE MYRTLE COURT
STA. 2+50.12 TO STA. 5+77.71
RADIUS = 700.00' R
ARC LENGTH = 327.59'
TAN. = 166.85'
DELTA = 26°48'49"
CHORD = S40°06'25"W, 324.61'

℄ CURVE DATA
CRAPE MYRTLE COURT
STA. 8+38.29 TO STA. 12+85.54
RADIUS = 435.00' R
ARC LENGTH = 447.25'
TAN. = 245.55'
DELTA = 58°54'32"
CHORD = S24°03'33"W, 427.81'



NO.	DESCRIPTION	DATE
	REVISIONS	

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 4/15/13

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

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

CHIEF, BUREAU OF HIGHWAYS — DATE 4/3/13

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

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

STATE OF MARYLAND — ALDO MICHAEL VITUCCI — No. 20748 — PROFESSIONAL ENGINEER

ALDO M. VITUCCI, P.E. — DATE 3/20/13

WALNUT CREEK
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ZONED: RC-DEO & RR-DEO
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FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

CRAPE MYRTLE COURT
PLAN AND PROFILE

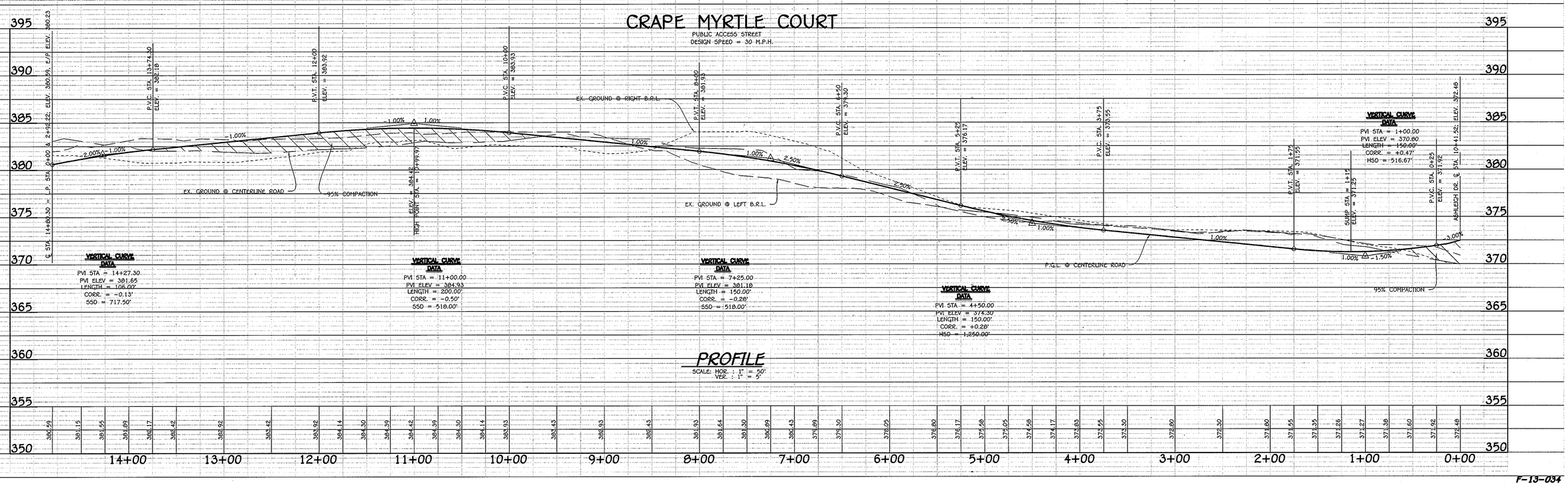
Owner
BV Business Trust
15950 North Avenue
P.O. Box 482
Lisbon, MD 21765
410-489-7900

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

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

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

CRAPE MYRTLE COURT
PUBLIC ACCESS STREET
DESIGN SPEED = 30 M.P.H.



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

F-13-034

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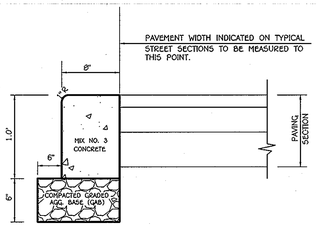
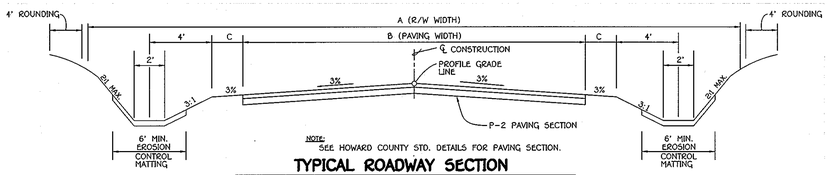


FLUSH CURB (R-3.07)

NO SCALE



NOTE:
SEE HOWARD COUNTY STD. DETAILS FOR PAVING SECTION.

TYPICAL ROADWAY SECTION

NO SCALE

ROADWAY INFORMATION CHART

ROAD NAME	CLASSIFICATION	DESIGN SPEED	ZONING	A	B	C	℄ STATION LIMITS	PAVING SECTION
LINDERA COURT	PUBLIC ACCESS STREET	30 M.P.H.	RC-DEO	50'	24'	3'	3+91 TO 16+70.37	P-2
CRAPE MYRTLE COURT	PUBLIC ACCESS STREET	30 M.P.H.	RC-DEO	50'	24'	3'	4+43 TO 15+45.04	P-2

NO.	DESCRIPTION	DATE

REVISIONS

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 4/15/13

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

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

CHIEF, BUREAU OF HIGHWAYS — DATE 4/3/13

0' 50' 100' 150'

Scale: 1" = 50'

"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."

STATE OF MARYLAND — ALDO MICHAEL VITUCCI — No. 20748 — PROFESSIONAL ENGINEER

ALDO M. VITUCCI, P.E. — DATE 3/29/13

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

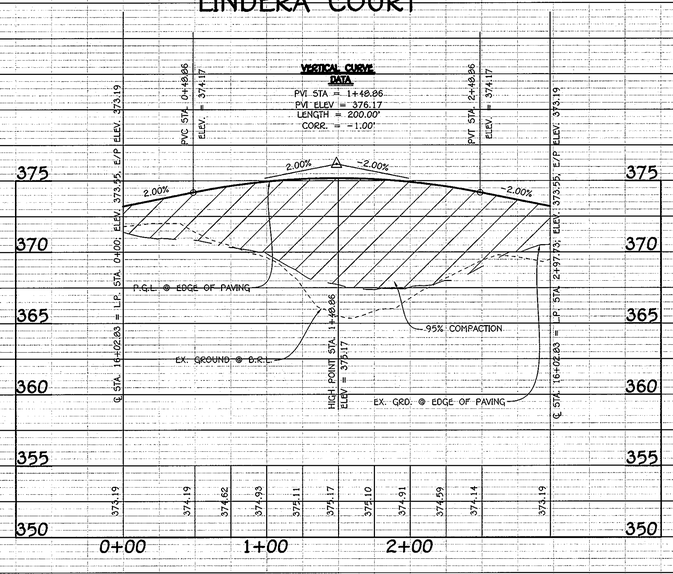
Owner
BV Business Trust
15950 North Avenue
P.O. Box 482
Lisbon, MD 21765
410-489-7900

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

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 - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

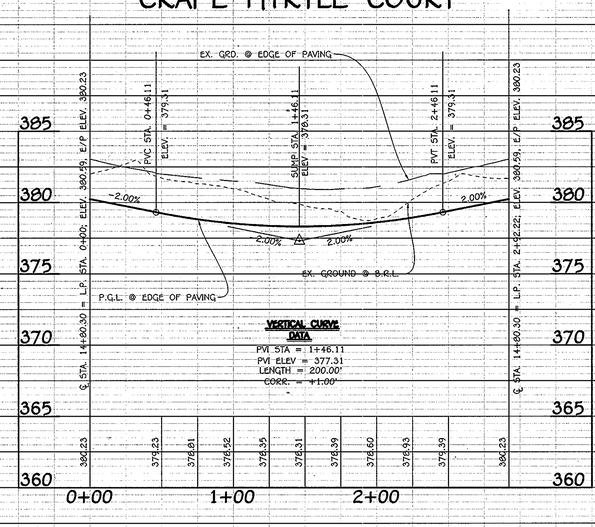
LINDERA COURT



LINEAR PROFILE

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

CRAPE MYRTLE COURT

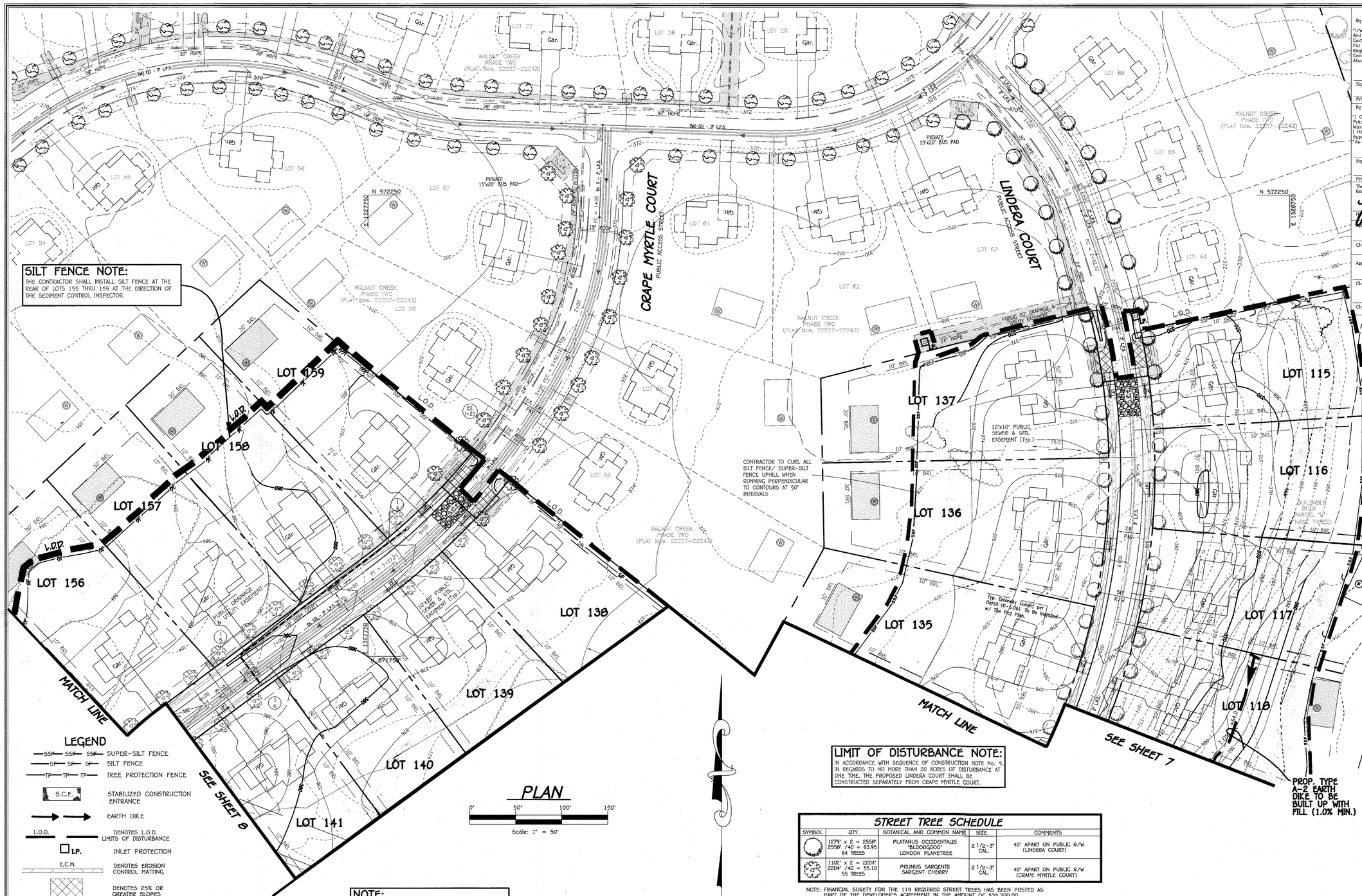


LINEAR PROFILE

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

I:\2004\04001\dwg\PHASE FOUR FINALS\C-03_F-13-034 road plan.dwg, SHEET 5, 3/20/2013 7:18:50 AM, 1:1

F-13-034



SILT FENCE NOTE:

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

LEGEND

- SSF — SUPER-SILT FENCE
- SF — SILT FENCE
- TP — TREE PROTECTION FENCE
- S.C.E. — STABILIZED CONSTRUCTION ENTRANCE
- EARTH DIKE
- L.O.D. — DENOTES L.O.D. LIMITS OF DISTURBANCE
- I.P. — 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

PLAN

0' 50' 100' 150'

Scale: 1" = 50'

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.

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 LINDERA COURT SHALL BE CONSTRUCTED SEPARATELY FROM CRAPE MYRTLE COURT.

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 (LINDERA 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:

"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 — Date: 3/20/13

Timothy W Feaga
Printed Name Of Developer

By The Engineer:

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

Signature Of Engineer — Date: 3/20/13

ALDO M. VITUCCI
Printed Name Of Professional Engineer

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

Howard Soil Conservation District — Date: 3/28/13

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

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	5-9-16
2	REVISE L.O.D. TO MATCH BUILDER'S GRAD	1/6/17

Walnut Creek - Phase 4

Driveway Culverts

Lot	Slope (%)	Q10 (cfs)	DW Pipe Size
115	3.33	2.4	15" CMP
116	2.86	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	1.2	15" CMP
121	2.08	0.6	STANDARD
122	1.44	1.9	15" CMP
123	2.80	3.3	15" CMP
124	4.00	5.0	15" CMP
125	1.70	2.5	15" CMP
126	TOVC	0.8	NO PIPE
127	TOVC	0.4	NO PIPE
128	2.50	1.3	STANDARD
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	1.90	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	1.2	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	15" CMP
151	1.70	1.2	STANDARD
152	1.70	1.3	STANDARD
153	TOVC	0.1	NO PIPE
154	TOVC	0.3	NO PIPE
155	1.00	1.8	STANDARD
156	1.00	2.3	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

FISHER, COLLINS & CARTER, INC.
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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."

STATE OF MARYLAND — ALDO MARIO VITUCCI — No. 20748

ALDO M. VITUCCI, P.E. — DATE: 3/20/13

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

F-13-034

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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 — Date: 3/20/13

Printed Name Of Developer: Timothy W Feenya

By The Engineer:

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

Signature Of Engineer — Date: 3/20/13

Printed Name Of Engineer: Aldo M. Vitucci

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

Howard Soil Conservation District — Date: 3/25/13

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

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	5-9-16
2	REVISE LOD TO MATCH BUILDERS UPD	1/6/17

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
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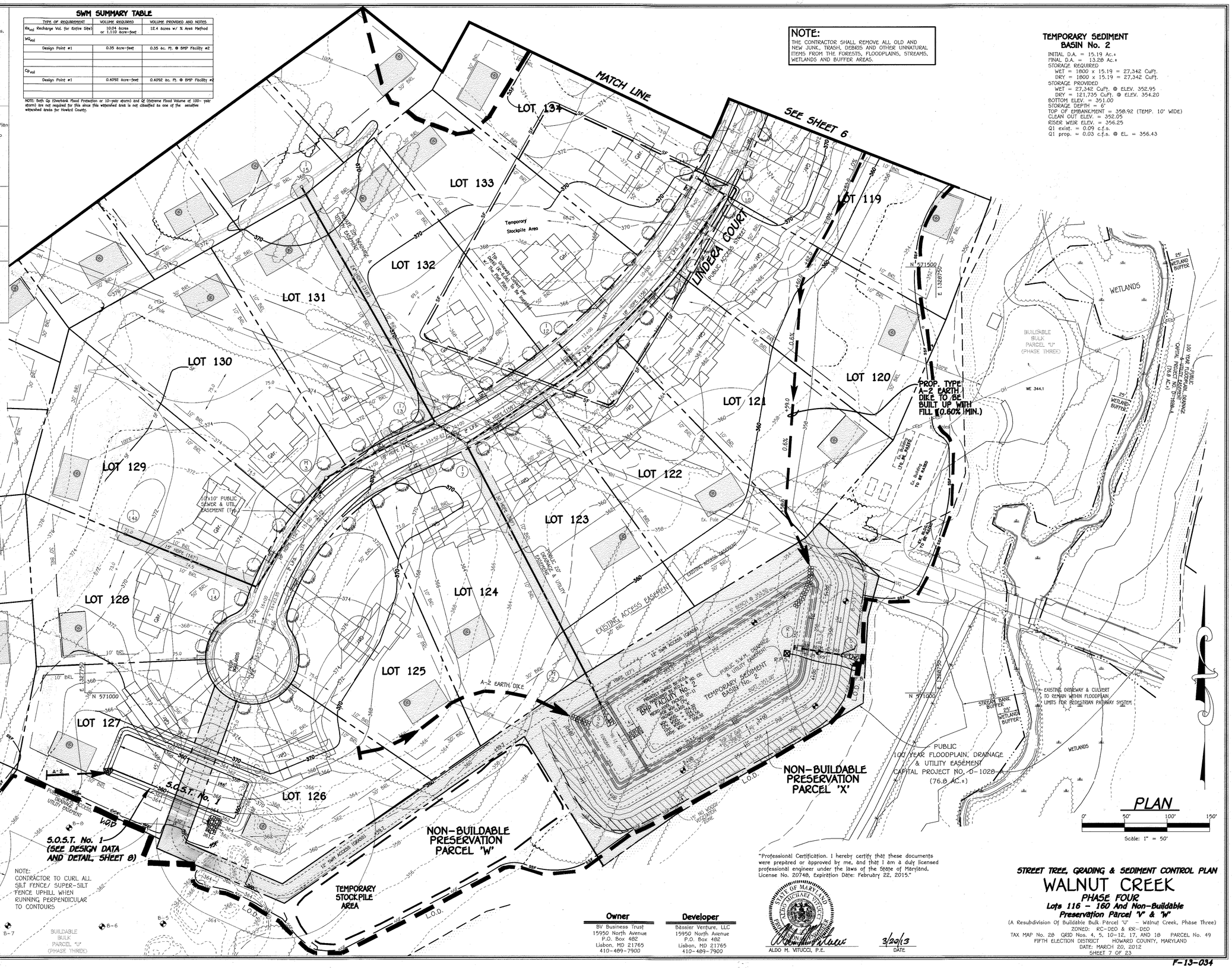
- DENOTES 15% - 24.99% SLOPES
- 2" L.P.S. — DENOTES LOW PRESSURE SEWER BY OTHERS W/ GRINDER PUMPS
- R.I.P. — RIP-RAP INFLOW PROTECTION
- R.P.S. — REMOVABLE PUMPING STATION
- F.B. — FILTER BAG
- 100 YEAR FLOODPLAIN
- WETLANDS
- WETLAND BUFFER
- STREAM BANK BUFFER

SWM SUMMARY TABLE

TYPE OF REQUIREMENT	VOLUME REQUIRED	VOLUME PROVIDED AND NOTES
Re_{vol} (Recharge Vol. for Entire Site)	10.04 acres or 1.119 acre-feet	12.4 acres w/ % Area Method
WQ_{vol}		
Design Point #1	0.35 acre-feet	0.35 ac. ft. @ BMP Facility #2
Cp_{vol}		
Design Point #1	0.4092 acre-feet	0.4092 ac. ft. @ BMP Facility #2

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



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

TEMPORARY SEDIMENT BASIN No. 2

INITIAL D.A. = 15.19 Ac.±
FINAL D.A. = 13.28 Ac.±
STORAGE REQUIRED
WET = 1800 x 15.19 = 27,342 CuFt.
DRY = 1800 x 15.19 = 27,342 CuFt.
STORAGE PROVIDED
WET = 27,342 CuFt. @ ELEV. 352.95
DRY = 121,735 CuFt. @ ELEV. 354.20
BOTTOM ELEV. = 351.00
STORAGE DEPTH = 6'
TOP OF EMBANKMENT = 358.92 (TEMP. 10' WIDE)
CLEAN OUT ELEV. = 352.05
RISER WEIR ELEV. = 356.25
Q1 exist. = 0.09 c.f.s.
Q1 prop. = 0.03 c.f.s. @ EL. = 356.43

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

PLAN

Scale: 1" = 50'

"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: 3/20/13

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

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CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
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(410) 461 - 2855

STREET TREE, GRADING & SEDIMENT CONTROL PLAN

WALNUT CREEK

PHASE FOUR

Lots 116 - 160 And Non-Buildable Preservation Parcel 'V' & 'W'

(A Resubdivision Of Buildable Bulk Parcel 'U' - Walnut Creek, Phase Three)
ZONED: RC-DEO & RR-DEO
TAX MAP No. 28 GRID Nos. 4, 5, 10-12, 17, AND 18 PARCEL No. 49
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F-13-034

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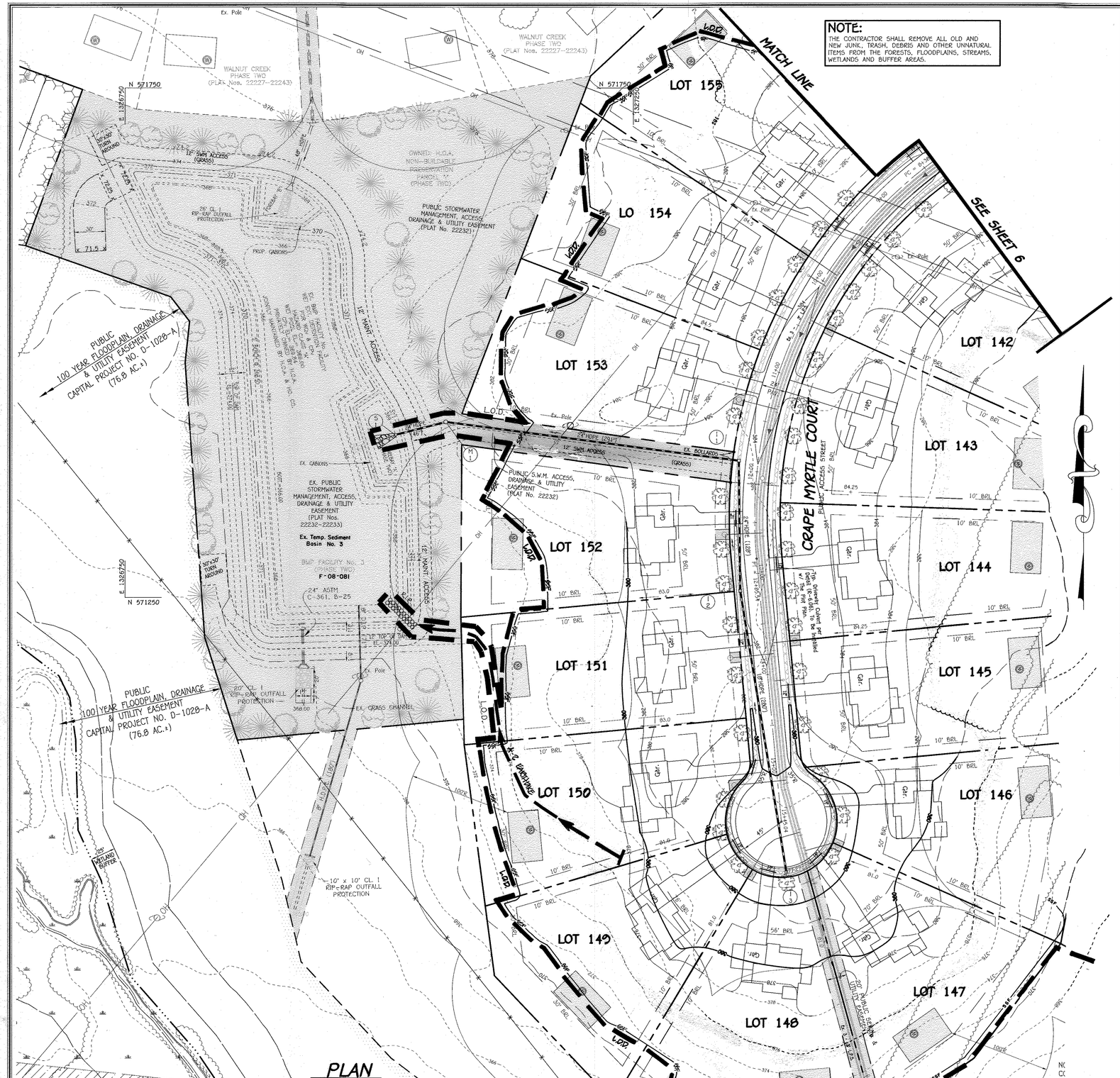

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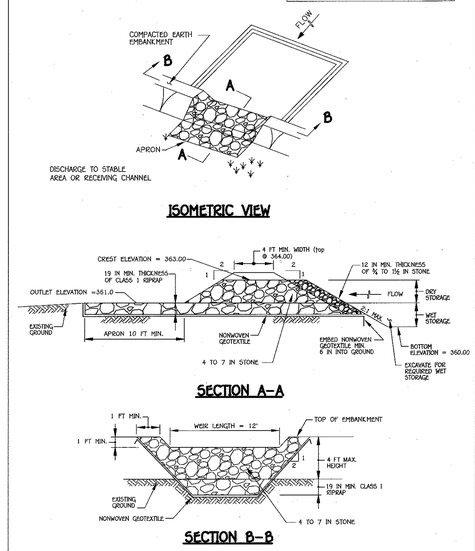
DETAIL G-1-2 STONE/RIPRAP OUTLET SEDIMENT TRAP ST-II

STANDARD SYMBOL ST-II

MAXIMUM DRAINAGE AREA = 10 ACRES



CONSTRUCTION SPECIFICATIONS

1. CONSTRUCT TRAP IN SUCH A MANNER THAT EROSION AND WATER POLLUTION ARE AVOIDED.
2. CLEAR, GRUB, AND STRIP ANY VEGETATION AND ROOT MAT FROM THE AREA UNDER THE EMBANKMENT AND TRAP BOTTOM.
3. USE FILL MATERIAL FREE OF ROOTS, WOODY VEGETATION, OVERSIZED STONES, ROCKS, ORGANIC MATERIAL, OR OTHER OBJECTIONABLE MATERIAL FOR THE EMBANKMENT.
4. CONSTRUCT TOP OF EMBANKMENT 1 FOOT MINIMUM ABOVE WEIR CREST. COMPACT THE EMBANKMENT BY TRAVERSING WITH EQUIPMENT WHILE IT IS BEING CONSTRUCTED.
5. MAKE ALL CUT AND FILL SLOPES 2:1 OR FLATTER.
6. 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 NEAREST TO THE TRAP PLACED ON TOP. EMBED GEOTEXTILE AT LEAST 6 INCHES INTO EXISTING GROUND AT ENTRANCE OF OUTLET CHANNEL.
7. 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.
8. PLACE 1 FOOT OF CLEAN ¾ TO 1½ INCH STONE OR EQUIVALENT RECYCLED CONCRETE ON THE UPSTREAM FACE OF THE WEIR.
9. CONSTRUCT AND MAINTAIN THE OUTLET ACCORDING TO APPROVED PLAN, AND IN SUCH A MANNER THAT EROSION AT OR BELOW THE OUTLET DOES NOT OCCUR.
10. STABILIZE THE EMBANKMENT AND INTERIOR SLOPES WITH SEED AND MULCH. STABILIZE POINTS OF CONCENTRATED INFLOW AS SHOWN ON APPROVED PLAN.
11. REMOVE SEDIMENT AND RESTORE TRAP TO ORIGINAL DIMENSIONS WHEN SEDIMENT HAS ACCUMULATED TO CLEANOUT ELEVATION (50% OF WET 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.
12. WHEN DEWATERING TRAP, PASS REMOVED WATER THROUGH AN APPROVED SEDIMENT CONTROL PRACTICE.
13. UPON REMOVAL, GRADE AND STABILIZE THE AREA OCCUPIED BY TRAP.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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

STONE/RIPRAP OUTLET SEDIMENT TRAP ST-II, TRAP NO. 1

DRAINAGE AREA - INITIAL	2.9	ACRES
DRAINAGE AREA - INTERIM	--	ACRES
DRAINAGE AREA - FINAL	4.1	ACRES
TOTAL STORAGE REQUIRED	14,760	CF
TOTAL STORAGE PROVIDED	16,520	CF
WET STORAGE REQUIRED	7,380	CF
WET STORAGE PROVIDED	7,988	CF
DRY STORAGE REQUIRED	7,380	CF
DRY STORAGE PROVIDED	8,532	CF
EXISTING GROUND ELEVATION AT OUTLET (WET STORAGE ELEVATION)	361.00	FT
TRAP BOTTOM ELEVATION	360.00	FT
TRAP BOTTOM DIMENSIONS	120' x 45'	FT x FT
WEIR LENGTH	12'	FT
WEIR CREST (DRY STORAGE) ELEVATION	363.00	FT
CLEANOUT ELEVATION	360.5	FT
TOP OF EMBANKMENT ELEVATION	364.00	FT
SIDE SLOPE	2:1	H:V RATIO
EMBANKMENT TOP WIDTH	6'	FT
OUTLET PROTECTION - LENGTH	10'	FT
OUTLET PROTECTION - DEPTH	18"	IN

By The Developer:

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Signature Of Developer — Date: 3/20/13

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Signature Of Professional Engineer — Date: 3/20/13

ALDO M. VITUCCI

Printed Name

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Howard Soil Conservation District — Date: 3/28/13

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

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REVISIONS

NO.	DESCRIPTION	DATE
1	Expanded L.O.D. For Earthwork.	5-9-16
2	REVISED LOD TO MATCH BUILDERS DATA	1/6/17

LEGEND

- SUPER-SILT FENCE (SSF)
- SILT FENCE (SF)
- TREE PROTECTION FENCE (TP)
- 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
- 2" L.P.S. — DENOTES LOW PRESSURE SEWER BY OTHERS W/ GRINDER PUMPS
- R.I.P. — RIP-RAP INFLOW PROTECTION
- 100 YEAR FLOODPLAIN
- WETLANDS
- WETLAND BUFFER
- STREAM BANK BUFFER

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

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

Developer
Bässler 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."

STATE OF MARYLAND — ALDO MICHAEL VITUCCI — No. 20748 — PROFESSIONAL ENGINEER

ALDO M. VITUCCI, P.E. — DATE: 3/20/13

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 8 OF 23

F-13-034

I:\2004\04001\dwg\PHASE FOUR FINALS\C-06_F-13-034 Grading Sediment Plan.dwg, sheet 8, 3/20/2013 8:29:05 AM, 1:1

Approved: Department Of Public Works

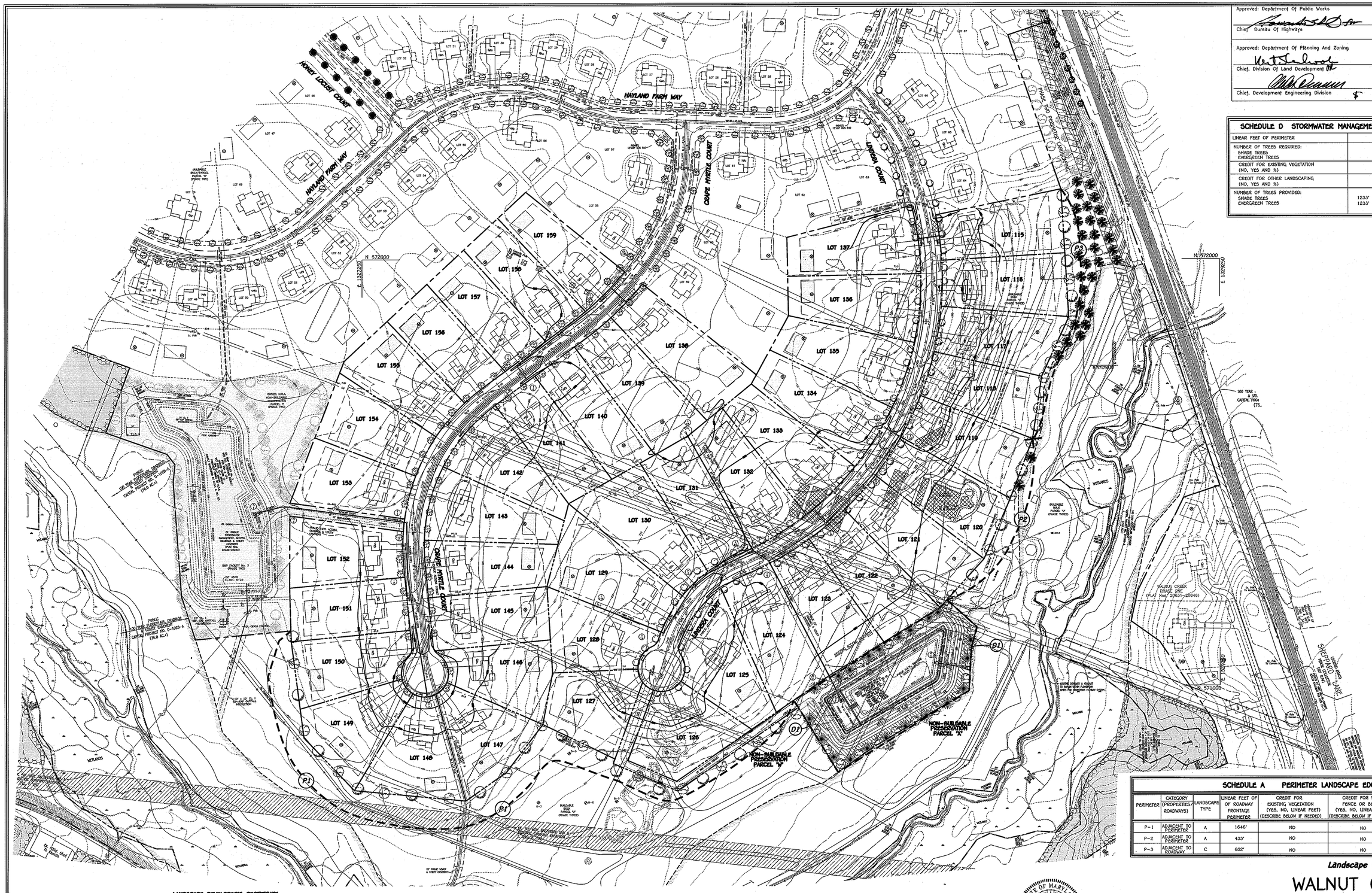
Chief, Bureau Of Highways — Date: 4/3/13

Approved: Department Of Planning And Zoning

Chief, Division Of Land Development — Date: 4/15/13

Chief, Development Engineering Division — Date: 4/12/13

SCHEDULE D STORMWATER MANAGEMENT AREA LANDSCAPING	
LINEAR FEET OF PERIMETER	D-1 : 1233'
NUMBER OF TREES REQUIRED: SHADE TREES EVERGREEN TREES	 25 31
CREDIT FOR EXISTING VEGETATION (NO, YES AND %)	YES (395')
CREDIT FOR OTHER LANDSCAPING (NO, YES AND %)	NO
NUMBER OF TREES PROVIDED: SHADE TREES EVERGREEN TREES	 1233' - 395' = 838'/50 = 17 TREES 1233' - 395' = 838'/40 = 21 TREES



SCHEDULE A PERIMETER LANDSCAPE EDGE								
PERIMETER	CATEGORY (PROPERTIES/ROADWAYS)	LANDSCAPE TYPE	LINEAR FEET OF OF ROADWAY FRONTAGE PERIMETER	CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NUMBER OF PLANTS REQUIRED & 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.

Name — Date: 3/20/13

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

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

PLAN

0' 100' 150' 200'

Scale: 1" = 100'

"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."

STATE OF MARYLAND — ALDO M. VITUCCI — No. 20748

ALDO M. VITUCCI, P.E. — DATE: 3/20/13

Landscape Plan

WALNUT CREEK

PHASE FOUR

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

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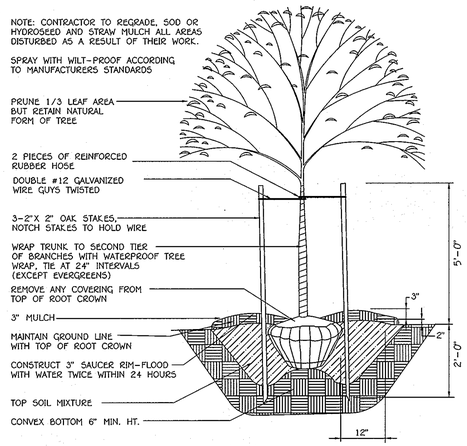
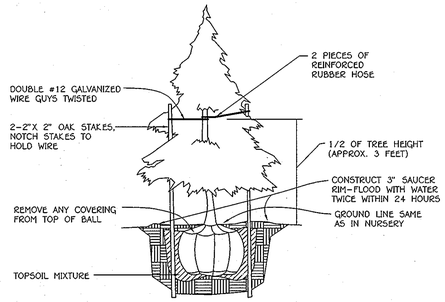
I:\2004\04001\dwg\PHASE FOUR FINALS\C-09_F-13-034 landscaping plan.dwg, sheet9, 3/20/2013 7:27:50 AM, 1:1



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 subtitutions 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 maintenace 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".

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

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

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

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

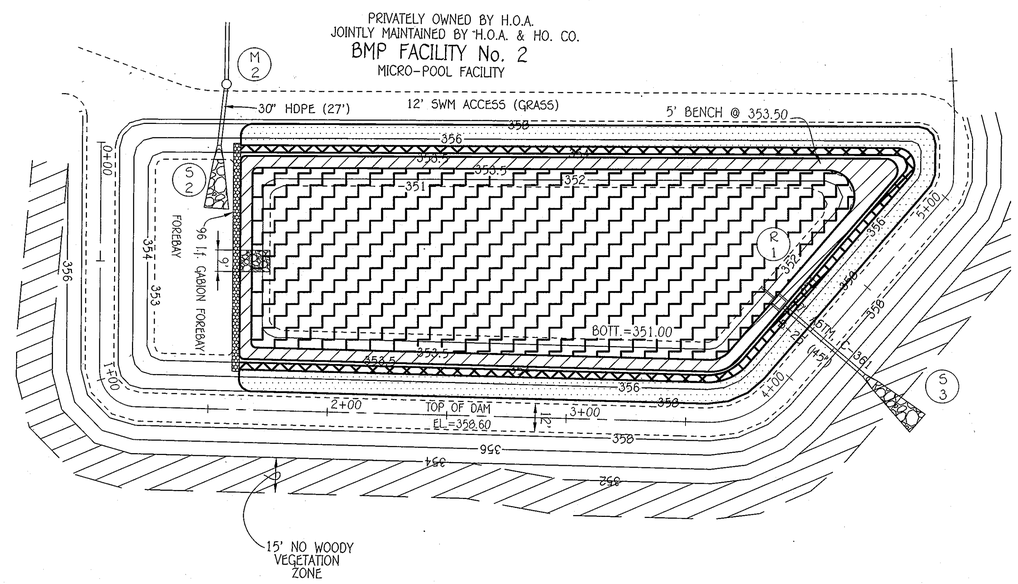
Positive drainage shall be maintained in planting beds 2 percent slope).

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

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

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

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



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 BENCH AREA w/ THE FOLLWING: INKBERRY, WITCHHAZEL & WINTERBERRY
QUANTITY - 16 EACH SPACING - 12' MAX.

ZONE 2
SHALLOW WATER BENCH
0' - 12" ELEVATION BELOW NORMAL POOL ELEVATION - PLANT AREA w/ BULRUSH, RIVER
QUANTITY - N/A SPACING - N/A

ZONE 1
DEEPWATER POOL
1' - 3' ELEVATION BELOW NORMAL POOL ELEVATION - PLANT AREA w/ WOOLGRH-GRASS
QUANTITY - N/A SPACING - N/A

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Name — Date 3/20/13

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

FISHER, COLLINS & CARTER, INC.
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CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
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STATE OF MARYLAND — ALDO MICHAEL VITUCCI — No. 20748 — PROFESSIONAL ENGINEER

ALDO M. VITUCCI, P.E. — DATE 3/20/13

Landscape Plan Notes

WALNUT CREEK

PHASE FOUR

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

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DATE: MARCH 20, 2013
SHEET 10 OF 23

F-13-034

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STRUCTURE SCHEDULE

STRUCTURE NO.	TOP ELEVATION	INV.IN	INV.OUT	LOCATION	ROAD STA./ COORDINATE	OFFSET	TYPE AND WIDTH	REMARKS
I-1	* 382.53	370.98 (24")	370.88 (24")	CRAPE MYRTLE COURT	11+91	19' RT	'D' INLET - 3.0'	D - 4.10
I-2	* 381.32	372.12 (18")	371.62 (24")	CRAPE MYRTLE COURT	13+16	19' RT	'D' INLET - 3.0'	D - 4.10
I-3	* 377.27	-----	373.97 (18")	CRAPE MYRTLE COURT	L.P. 1+46.11	5' BEHIND PAVING	'D' INLET - 2.5'	D - 4.10
I-4	* 374.43	369.60 (18")	369.35 (18")	CRAPE MYRTLE COURT	5+13	19' RT	'D' INLET - 2.5'	D - 4.10
I-5	* 379.74	376.12 (15")	375.87 (18")	CRAPE MYRTLE COURT	7+43	19' RT	'D' INLET - 2.5'	D - 4.10
I-6	* 379.74	-----	376.50 (15")	CRAPE MYRTLE COURT	7+43	19' LT	'D' INLET - 2.5'	D - 4.10
I-7	* 364.61	357.30 (24"), 357.30 (24")	356.80 (30")	LINDERA COURT	12+91	19' LT	'D' INLET - 3.5'	D - 4.10
I-8	* 362.38	359.00 (18"), 359.00 (18")	358.50 (24")	LINDERA COURT	11+35	19' LT	'D' INLET - 3.0'	D - 4.10
I-9	* 364.43	361.15 (18")	360.90 (18")	LINDERA COURT	9+83	19' LT	'D' INLET - 2.5'	D - 4.10
I-10	* 368.54	364.87 (15")	364.62 (18")	LINDERA COURT	8+74	19' LT	'D' INLET - 2.5'	D - 4.10
I-11	* 368.54	-----	365.25 (15")	LINDERA COURT	8+74	19' RT	'D' INLET - 2.5'	D - 4.10
I-12	* 362.38	-----	359.38 (18")	LINDERA COURT	11+35	19' LT	'D' INLET - 2.5'	D - 4.10
I-13	* 365.27	360.22 (24"), 358.55 (18")	358.05 (24")	LINDERA COURT	13+12	19' RT	'D' INLET - 3.0'	D - 4.10
I-14	* 371.87	365.25 (15")	365.00 (18")	LINDERA COURT	16+17	36' RT	'D' INLET - 2.5'	D - 4.10
(PRIVATE) I-14a	* 371.00	-----	367.75 (15")			-	'D' INLET - 2.5'	D - 4.10
(PRIVATE) I-15	* 367.00	-----	363.40 (24")	LINDERA COURT	N 571993.86 E 1328004.5	-	'D' INLET - 3.0'	D - 4.10
M-1	378.00	369.42 (24")	369.32 (24")	CRAPE MYRTLE COURT	N 571422.32 E 1327065.38	-	4' DIA. MANHOLE	G - 5.12
M-2	359.00	353.92 (30")	353.67 (30")	-	N 571038.79 E 1328345.64	-	5' DIA. MANHOLE	G - 5.13
M-3	373.30	362.27 (15")	362.02 (18")	LINDERA COURT	14+49	27.2' R	4' DIA. MANHOLE	G - 5.12
S-1	371.05	369.05 (24")	-	EX. BMP FACILITY NO. 3	N 571409.66 E 1327016.16	-	24" FLARED END SECTION	**
S-2	355.52	353.02 (30")	-	FACILITY NO. 2	N 570985.11 E 1328356.50	-	30" FLARED END SECTION	**
S-3	352.90	350.40 (30")	-	FACILITY NO. 2	N 571044.78 E 1328637.08	-	30" CONC. END SECT.	D - 5.51
R-1	357.50	351.00 (6")	350.90 (30")	FACILITY NO. 2	N 571052.59 E 1328589.57	-	CONC. RISER	

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

PIPE SCHEDULE (PUBLIC)

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

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

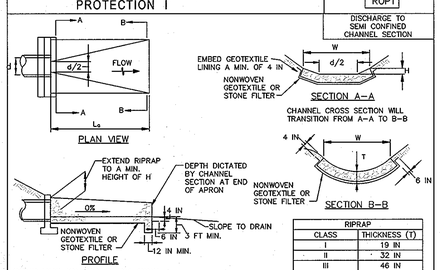
PIPE SCHEDULE (PRIVATE)

SIZE	CLASS	LENGTH
15"	HDPE	485 L.F.

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

DETAIL D-4-1-A ROCK OUTLET PROTECTION I

STANDARD SYMBOL: ROP1
DISCHARGE TO SEMI CONFINED CHANNEL SECTION



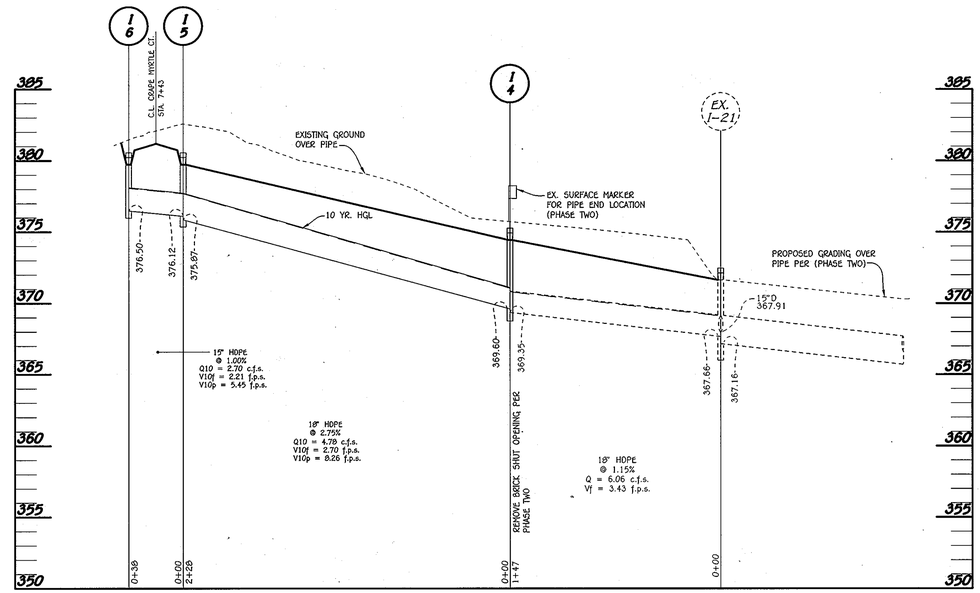
RIPRAP	
CLASS	THICKNESS (T)
I	19 IN
II	32 IN
III	46 IN

CONSTRUCTION SPECIFICATIONS

1. RIPRAP AND STONE MUST CONFORM TO THE SPECIFIED CLASS.
2. USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS, AND PROTECT FROM PUNCTURING, CUTTING, OR TEARING. REPAIR ANY DAMAGE OTHER THAN AN OCCASIONAL SMALL HOLE BY PLACING ANOTHER PIECE OF GEOTEXTILE OVER THE DAMAGED PART OR BY COMPLETELY REPLACING THE GEOTEXTILE. PROVIDE A MINIMUM OF ONE FOOT OVERLAP FOR ALL REPAIRS AND FOR JOINING TWO PIECES OF GEOTEXTILE TOGETHER.
3. PREPARE THE SUBGRADE FOR GEOTEXTILE OR STONE FILTER (⅜ TO 1½ INCH STONE FOR 6 INCH MINIMUM DEPTH) AND RIPRAP TO THE REQUIRED LINES AND GRADES. COMPACT ANY FILL REQUIRED IN THE SUBGRADE TO A DENSITY OF APPROXIMATELY THAT OF THE SURROUNDING UNDISTURBED MATERIAL.
4. EXTEND GEOTEXTILE AT LEAST 6 INCHES BEYOND EDGES OF RIPRAP AND EMBED AT LEAST 4 INCHES AT SIDES OF THE RIPRAP.
5. CONSTRUCT RIPRAP OUTLET TO FULL COURSE THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO AVOID DISPLACEMENT OF UNDERLYING MATERIALS. PLACE STONE FOR RIPRAP OUTLET IN A MANNER THAT WILL ENSURE THAT IT IS REASONABLY HOMOGENOUS WITH THE SMALLER STONES AND SPALLS FILLING THE VOIDS BETWEEN THE LARGER STONES. PLACE RIPRAP IN A MANNER TO PREVENT DAMAGE TO THE STONE FILTER BLANKET OR GEOTEXTILE. HAND PLACE TO THE EXTENT NECESSARY.
6. WHERE NO ENDWALL IS USED, CONSTRUCT THE UPSTREAM END OF THE APRON SO THAT THE WIDTH IS TWO TIMES THE DIAMETER OF THE OUTLET PIPE, AND EXTEND THE STONE UNDER THE OUTLET BY A MINIMUM OF 18 INCHES.
7. CONSTRUCT APRON WITH 0% SLOPE ALONG ITS LENGTH AND WITHOUT OBSTRUCTIONS. PLACE STONE SO THAT IT BLENDS IN WITH EXISTING GROUND.
8. MAINTAIN LINE, GRADE, AND CROSS SECTION. KEEP OUTLET FREE OF EROSION. REMOVE ACCUMULATED SEDIMENT AND DEBRIS. AFTER HIGH FLOWS INSPECT FOR SCOUR AND DISLODGED RIPRAP. MAKE NECESSARY REPAIRS IMMEDIATELY.

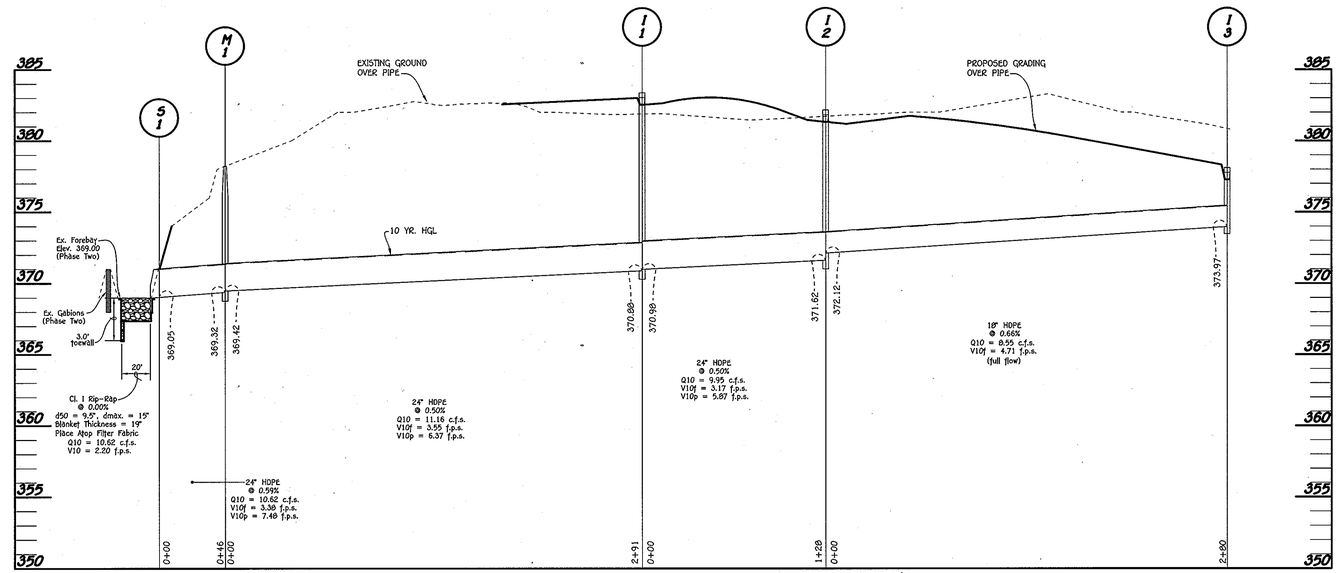
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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



PROFILE

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



PROFILE

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

ROCK OUTLET PROTECTION DESIGN DATA

STRUCTURE	AREA (S.F.)	WETTED PERIMETER	R	R 2/3	S	S 1/2	W	d	n	V (f.p.s.)	Q10 (c.f.s.)	RIP-RAP SIZE D50	RIP-RAP SIZE DMAX	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"	24"	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"	30"	20'

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

REVISIONS		
NO.	DESCRIPTION	DATE

FISHER, COLLINS & CARTER, INC.
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0' 50' 100' 150'
Scale: 1" = 50'

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ALDO M. VITUCCI, P.E. — DATE 3/20/13

STORM DRAIN PROFILES

WALNUT CREEK

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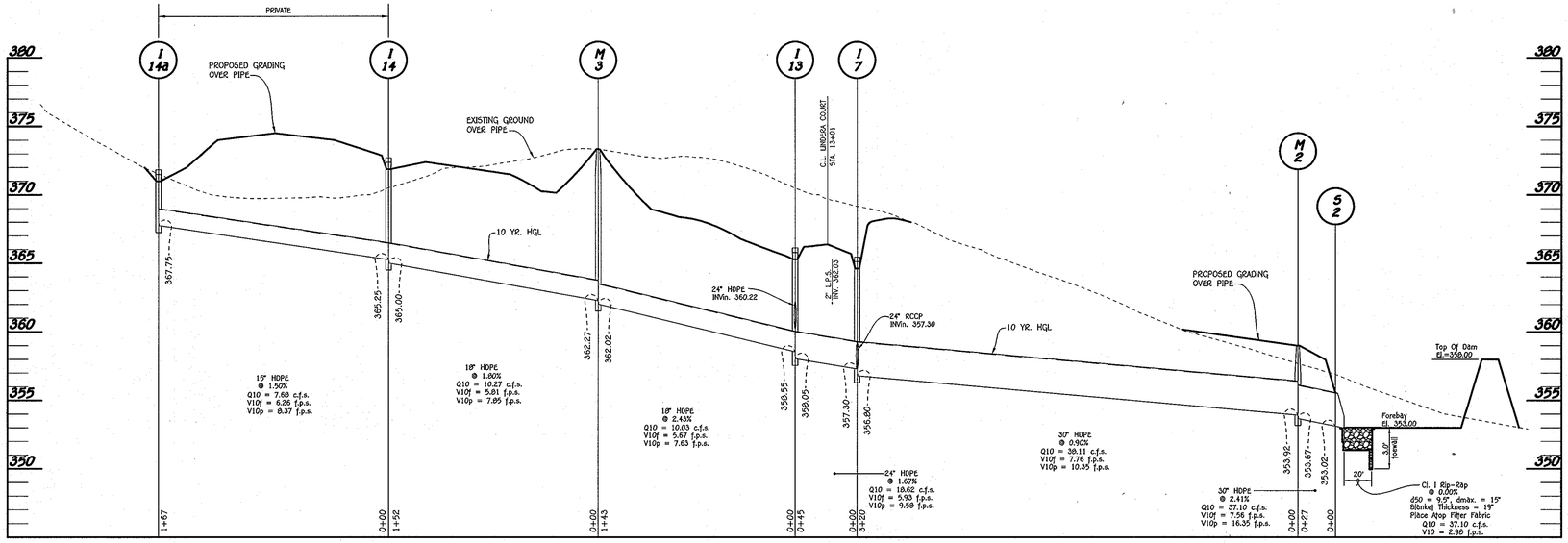
I:\2004\04001\dwg\PHASE FOUR FINALS\C-11_F-13-034 storm drain profiles.dwg, sheet 11, 3/20/2013 7:34:27 AM, 1:1

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

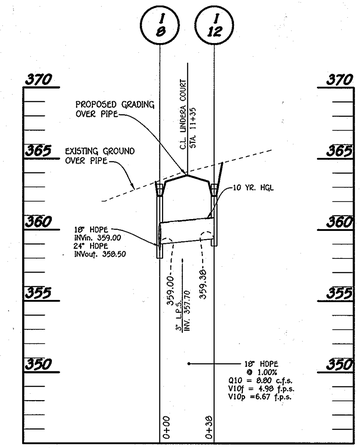
REVISIONS

NO.	DESCRIPTION	DATE



PROFILE

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



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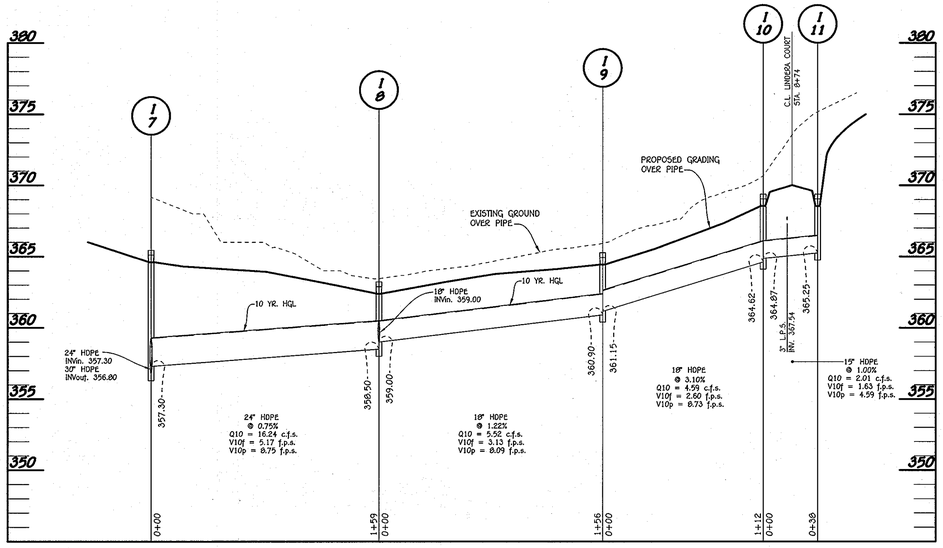
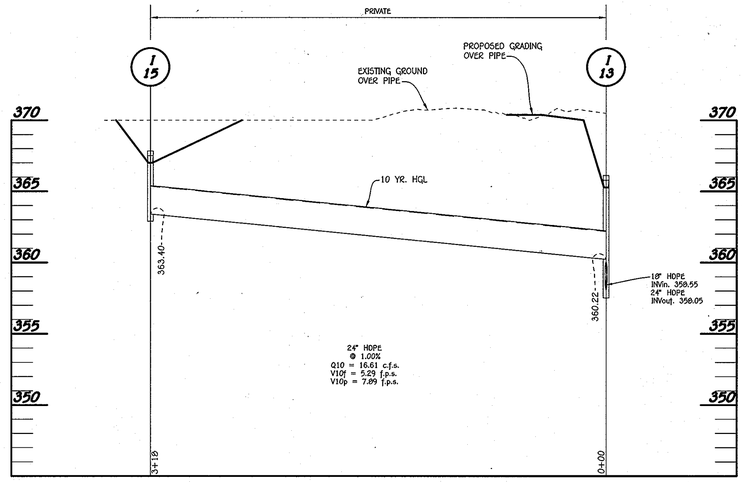


PROFILE

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



PROFILE

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

0' 50' 100' 150'

Scale: 1" = 50'

STORM DRAIN PROFILES

WALNUT CREEK

PHASE FOUR

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

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

F-13-034

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK – 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 – 2855

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

STATE OF MARYLAND ALDO MICHAEL VITUCCI No. 20748

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

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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

DRAINAGE AREA DATA					
STRUCTURE NO.	DRAINAGE AREA	AREA (Acres)	'C'	ZONED	% IMP.
EX. I-25	A	0.89	0.48	RC-DEO	33
I-1	B	0.51	0.49	RC-DEO	34
I-2	C	0.51	0.46	RC-DEO	30
I-3	D	2.21	0.52	RC-DEO	38
I-4	E	0.49	0.52	RC-DEO	38
I-5	F	0.87	0.47	RC-DEO	31
I-6	G	0.68	0.47	RC-DEO	31
I-7	H	0.85	0.67	RC-DEO	60
I-8	I	0.69	0.55	RC-DEO	43
I-9	J	0.24	0.60	RC-DEO	50
I-10	K	0.50	0.62	RC-DEO	53
I-11	L	0.38	0.47	RC-DEO	32
I-12	M	3.44	0.34	RC-DEO	13
I-13	N	0.60	0.51	RC-DEO	37
I-14	O	0.50	0.53	RC-DEO	40
I-14a	P	2.46	0.32	RC-DEO	10
I-15	Q	4.35	0.26	RC-DEO	2

FISHER, COLLINS & CARTER, INC.
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CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

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

PLAN

0' 100' 150' 200'

Scale: 1" = 100'

"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."

STATE OF MARYLAND — ALDO M. VITUCCI — No. 20748 — PROFESSIONAL ENGINEER

ALDO M. VITUCCI, P.E. — DATE 3/20/13

Storm Drain Drainage Area Map

WALNUT CREEK

PHASE FOUR

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

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

ZONED: RC-DEO & RR-DEO

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

FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

DATE: MARCH 20, 2013

SHEET 13 OF 23

F-13-034

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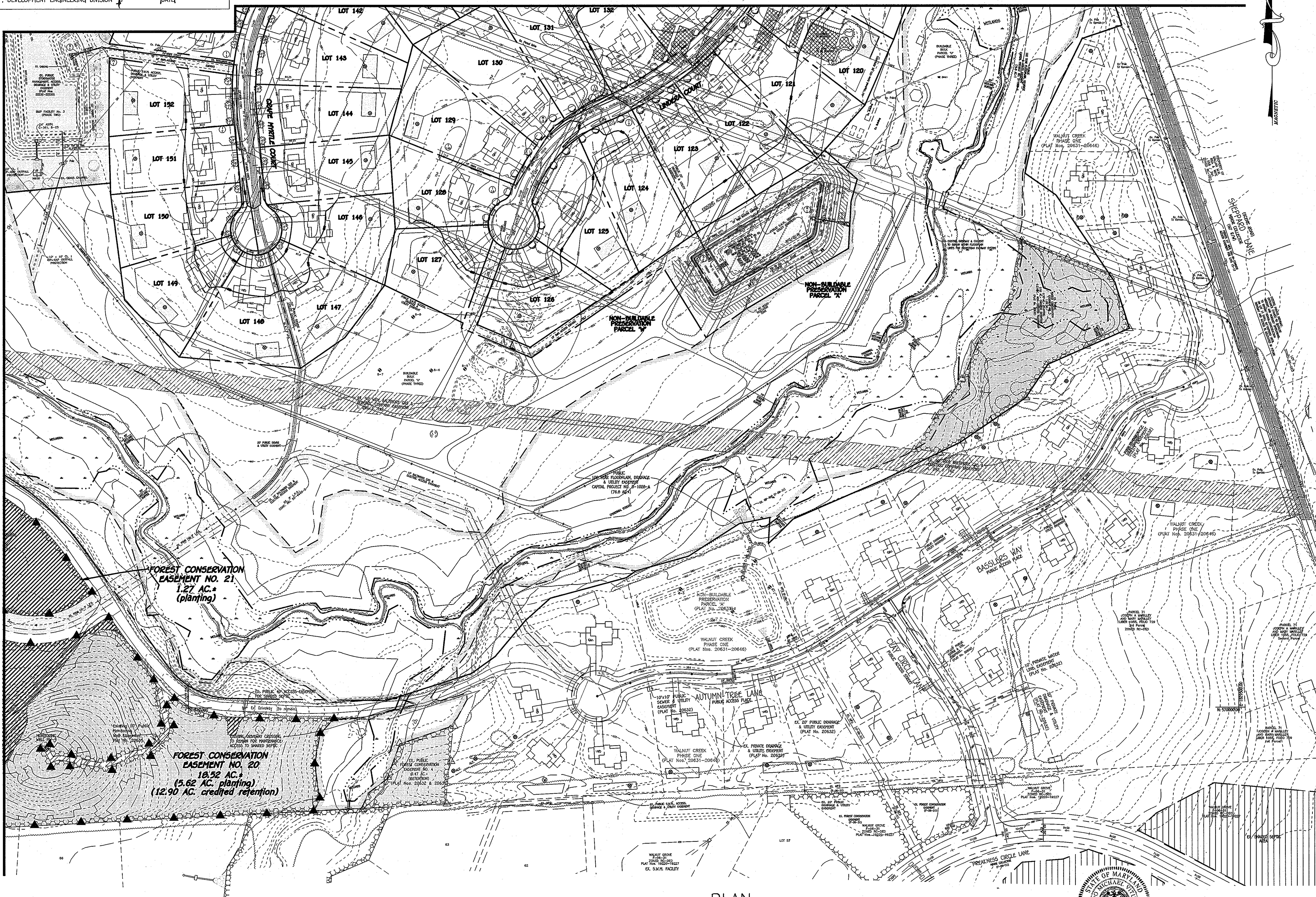
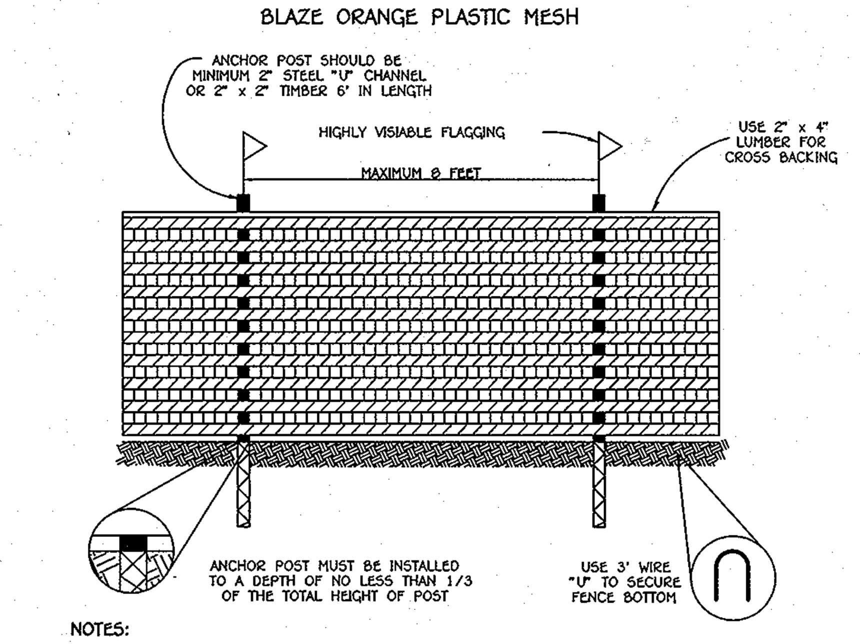
APPROVED: DEPARTMENT OF PUBLIC WORKS		
CHIEF, BUREAU OF HIGHWAYS	4/3/13	DATE
APPROVED: DEPARTMENT OF PLANNING AND ZONING		
CHIEF, DIVISION OF LAND DEVELOPMENT	4/15/13	DATE
CHIEF, DEVELOPMENT ENGINEERING DIVISION	4/12/13	DATE

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.



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



NOTES:
1. FOREST PROTECTION DEVICE ONLY.
2. RETENTION AREA WILL BE SET AS PART OF THE REVIEW PROCESS.
3. BOUNDARIES OF RETENTION AREA SHOULD BE STAKED AND FLAGGED PRIOR TO INSTALLING DEVICE.
4. ROOT DAMAGE SHOULD BE AVOIDED.
5. PROTECTIVE SIGNAGE MAY ALSO BE USED.
6. DEVICE SHOULD BE MAINTAINED THROUGHOUT CONSTRUCTION.

TREE PROTECTION DETAIL

NOT TO SCALE

FCP NOTES

1. 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.

2. Forested areas occurring outside of the FCE shall not be considered part of the FCE and shall not be subject to protective land covenants.

3. Limits of disturbance shall be restricted to areas outside the limit of temporary fencing or the FCE boundary, whichever is greater.

4. There shall be no clearing, grading, construction or disturbance of vegetation in the Forest Conservation Easement, except as permitted by Howard County DPZ.

5. No stockpiles, parking areas, equipment cleaning areas, etc. shall occur within areas designated as Forest Conservation Easements.

6. 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.

7. Permanent signage shall be placed 50-100' apart along the boundaries of all areas included in Forest Conservation Easements.

8. 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.

9. The forest conservation requirements per section 16.1200 of the howard county code And the forest conservation manual for the entire subdivision will be fulfilled by providing 57.32 acres of on-site forest retention and 36.16 acres of on-site 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. = $787,565.00 is required.

CREDITED ONSITE RETENTION OF 14.50 ACRES OF FOREST AND 13.41 ACRES OF ONSITE AFFORESTATION IS PROPOSED WITH THIS PHASE FOUR SUBMISSION.
A SURETY FOR ON-SITE AFFORESTATION @ $0.50/Sq.Ft. FOR 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

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

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ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

Eco-Science Professionals, Inc.
CONSULTING ECOLOGISTS

MD DNR Qualified Professional
USACOE Wetland Delineator
Certification # WDCP93MD0610044B
03/20/13
JOHN P. CANOLES

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

Developer
Bassler Venture, LLC
15950 North Avenue
P.O. Box 482
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STATE OF MARYLAND ALDO MICHAEL VITUCCI PROFESSIONAL ENGINEER

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

FOREST CONSERVATION PLAN

WALNUT CREEK

PHASE FOUR
Lots 115 - 159 And Non-Buildable Preservation Parcel 'W' & 'X'
(A Resubdivision Of Buildable Bulk Parcel 'U' - Walnut Creek, Phase Three)
ZONED: RC-DEO & RR-DEO
TAX MAP No. 28 GRID Nos. 4, 5, 10-12, 17, AND 18 PARCEL No. 49
FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DATE: MARCH 20, 2013
SHEET 14 OF 23

F-13-034

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APPROVED: DEPARTMENT OF PUBLIC WORKS

[signature] for 4/3/13

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

PATTERN SPACING DIAGRAM

* * * * * * * * * * *
* * * * * * * * * * *
* * * * * * * * * * *
# # # # # # # #
# # # # # # # #

* – whip w/shelter 11' on center spacing
# – 1" caliper tree 15' on center spacing
Species shall be randomly interspersed, rows should be planting along contours

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 seeding 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 size.

** – 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

Multiflora 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

1. Installation of bareroot plant stock shall take place between March 15 – April 20; b&b/container stock March 15 –May 30 or September 15 – November 15. Fall planting of B&B stock is not recommended.
2. 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.
3. Bareroot plants shall be installed so that the top of root mass is level with the top of existing grade. Roots shall be dipped in an anti-desiccant gel prior to planting. Backfill in the planting pits shall consist of 3 parts existing soil to 1 part pine fines or equivalent.
4. 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 8-6-12.
5. Plant material shall be transported to the site in a tarped or covered truck. Plants shall be kept moist prior to planting.
6. All non-organic debris associated with the planting operation shall be removed from the site by the contractor.

Sequence of Construction

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

Maintenance of Plantings

1. Maintenance of plantings shall last for a period of 2 years.
2. 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.
3. 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.
4. 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.
5. Dead branches will be pruned from plantings.

Guarantee Requirements

1. 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

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

Planting Notes

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

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

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

Construction Period Protection Program

A. Forest Protection Techniques

1. Soil Protection Area (Critical Root Zone)

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

The limit of disturbance (LOD) line depicted on the plan shows the proposed extent of construction activities. Eco-Science Professionals, or another qualified professional designated by the developer, will assist in the field flagging of the LOD to ensure that the Critical Root Zone for the Forest Retention Area is determined in accordance with the in-Field Edge Determination Guidelines in Appendix B. Eco-Science Professionals, or another qualified professional, will also assess the condition of the new forest edge to determine if selective thinning or pruning is needed 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 placed along all LOD lines that occur within 35 feet of existing treelines. Signage will be placed along the edge of the FCE every 100 feet. Fencing will consist of blaze orange mesh fence or super silt fence. See Forest Conservation Plan for standard specifications.

B. Pre-Construction Meeting

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

C. Storage Facilities/Equipment Cleaning

All equipment storage, parking, sanitary facilities, material stockpiling, etc. associated with construction of the project will be restricted to those areas shown within the limit of disturbance. Washing of equipment will be prohibited from all forest retention areas. Wastewater resulting from equipment cleaning will be controlled to 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 formalized. The actual project start date is predicated on the issuance of all necessary permits and approvals for the project. The items outlined in the Forest Conservation Plan will be enacted upon commencement of the project.

Below find a sequence of construction.

1. Install all tree protection signage, fencing, and sediment control devices.
2. Hold pre-construction meeting between developer, contractor and County inspector.
3. Grade site and construct improvements. Stabilize all disturbed areas in accordance with grading plan.
4. Remove sediment control. Replace any forest retention signage in poor condition.
5. Hold post-construction meeting with County inspectors to assure compliance with FCP.

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 intrusions have been made into 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:

1. 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 arrange for a post-construction meeting to review the project site. The meeting will allow the County inspector to verify that all Forest Conservation Easement areas have been properly retained and that all post construction protection measures (permanent signage) have been installed.

Post-Construction Management Plan

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

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

A. Signage

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

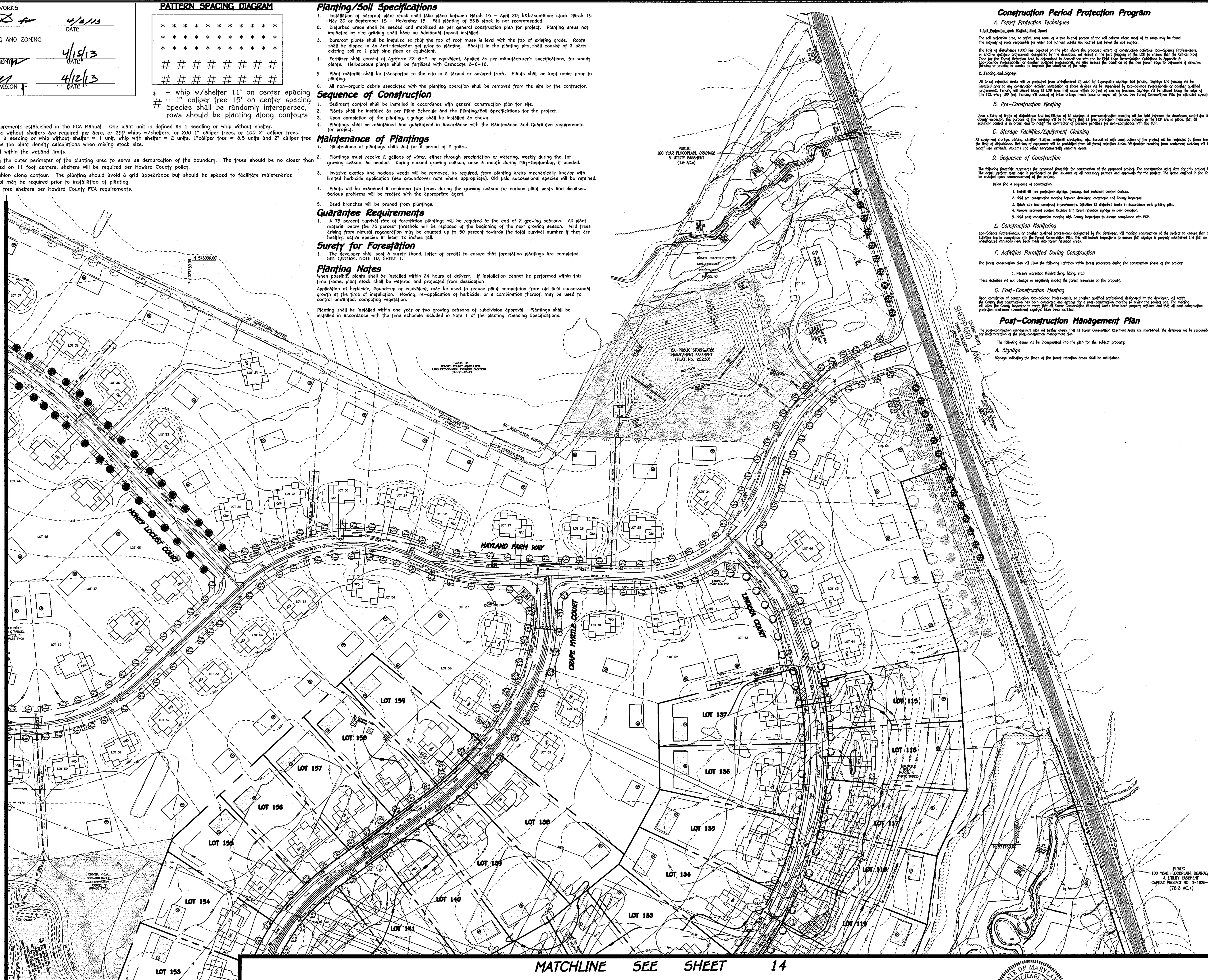
FOREST CONSERVATION DATA (Phase Four)

EASEMENT NO.	CREDITED RETENTION AREA	PLANTING AREA	NON-CREDITED 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 (CRITICAL AREA, AREA RESTRICTED BY LOCAL OR PROGRAM) (78.6 AC. FLOODPLAIN & 15.1 AC. UTILITY TRANSMISSION LINE EASEMENTS)	93.7
C. NET TRACT AREA – NET TRACT AREA = TOTAL TRACT (A) – DEDUCTIONS (B)	342.1
LAND USE CATEGORY: MEDIUM DENSITY RESIDENTIAL	
D. AFFORESTATION THRESHOLD (NET TRACT AREA [C] x 20%)	68.4
E. CONSERVATION THRESHOLD (NET TRACT AREA [C] x 25%)	85.5
EXISTING FOREST COVER	
F. EXISTING FOREST COVER WITHIN THE NET TRACT AREA	75.4
G. AREA OF FOREST ABOVE CONSERVATION TRESHOLD	0
IF THE EXISTING FOREST COVER (F) IS GREATER THAN THE CONSERVATION TRESHOLD (E), THEN	
G = F – E; OTHERWISE G = 0.	
BREAKEVEN POINT	
H. BREAKEVEN POINT (AMOUNT OF FOREST THAT MUST BE RETAINED SO THAT NO MITIGATION IS REQUIRED)	n/a
(1) IF THE AREA OF FOREST ABOVE CONSERVATION TRESHOLD (G) IS GREATER THAN 0, THEN	
H = (0.2 x THE AREA OF FOREST ABOVE CONSERVATION TRESHOLD (G) + THE CONSERVATION TRESHOLD (E);	
(2) IF THE AREA OF FOREST ABOVE CONSERVATION TRESHOLD (G) IS EQUAL TO 0, THEN	
H = EXISTING FOREST COVER (F)	
I. FOREST CLEARING PERMITTED WITHOUT MITIGATION	0
I = EXISTING FOREST COVER (F) – BREAKEVEN POINT (H)	
PROPOSED FOREST CLEARING	
J. TOTAL AREA OF FOREST TO BE CLEARED	~~15.83~~ 18.08
K. TOTAL AREA OF FOREST TO BE RETAINED	~~59.57~~ 57.32
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 BREAKEVEN 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 TRESHOLD	0
(1) IF THE TOTAL AREA OF FOREST TO BE RETAINED (K) IS GREATER THAN THE CONSERVATION TRESHOLD (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 TRESHOLD (E), THEN L = AREA OF FOREST ABOVE CONSERVATION TRESHOLD (G) x 0.25	
M. REFORESTATION FOR CLEARING BELOW THE CONSERVATION TRESHOLD	~~31.66~~ 36.16
(1) IF EXISTING FOREST COVER (F) IS GREATER THAN THE CONSERVATION TRESHOLD (E) AND THE FOREST TO BE RETAINED (K) IS LESS THAN OR EQUAL TO THE CONSERVATION TRESHOLD (E),	
THEN M = 2.0 x (CONSERVATION TRESHOLD (E) – FOREST TO BE RETAINED (K)	
(2) IF EXISTING FOREST COVER (F) IS LESS THAN OR EQUAL TO THE CONSERVATION TRESHOLD (E),	
THEN M = 2.0 x FOREST TO BE CLEARED (J)	
N. CREDIT FOR RETENTION ABOVE THE CONSERVATION TRESHOLD	0
IF THE AREA OF FOREST TO BE RETAINED (K) IS GREATER THAN THE CONSERVATION TRESHOLD (E),	
THEN N = K – E; OTHERWISE N = 0	
P. TOTAL REFORESTATION REQUIRED P = L + M – N	~~31.66~~ 36.16
Q. TOTAL AFFORESTATION REQUIRED	
IF EXISTING FOREST COVER (F) IS LESS THAN THE AFFORESTATION TRESHOLD (D), THEN	
Q = AFFORESTATION TRESHOLD (D) – EXISTING FOREST COVER (F)	0
R. TOTAL PLANTING REQUIREMENT R = P + Q	~~31.66~~ 36.16

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



PLAN

0' 100' 150' 200'

Scale: 1" = 100'

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CENTENNIAL SQUARE OFFICE PARK ~ 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 – 2855

Eco-Science Professionals, Inc.
CONSULTING ECOLOGISTS

MD DNR Qualified Professional
USACOE Wetland Delineator
Certification # WDCP93MD0610044B
[signature] 03/20/13
JOHN P. CANOLES

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

Developer
Bassler Venture, LLC
15950 North Avenue
P.O. Box 482
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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."

STATE OF MARYLAND — ALDO MICHAEL VITUCCI — PROFESSIONAL ENGINEER

[signature] 3/20/13

ALDO M. VITUCCI, P.E. — DATE

FOREST CONSERVATION PLAN

WALNUT CREEK

PHASE FOUR

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

(A Resubdivision Of Buildable Bulk Parcel 'U' – Walnut Creek, Phase Three)
ZONED: RC-DEO & RR-DEO
TAX MAP No. 28 GRID Nos. 4, 5, 10-12, 17, AND 18 PARCEL No. 49
FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DATE: MARCH 20, 2013
SHEET 15 OF 23

F-13-034

I:\2004\04001\dwg\PHASE FOUR FINALS\C-14_F-13-034 forest conservation.dwg, SHEET 15, 3/20/2013 7:55:04 AM, 1:1

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

MATCHLINE SEE SHEET 14

FCE Planting Area # 18 – 2.68 acres

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

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

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

FCE Planting Area # 19 – 1.92 acres

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

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

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

FCE Planting Area # 20 – 5.62 acres

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

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

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

FCE Planting Area # 21 – 1.27 acres

Planting units required: 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

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

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
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FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DATE: MARCH 20, 2013
SHEET 16 OF 23

F-13-034

FISHER, COLLINS & CARTER, INC.
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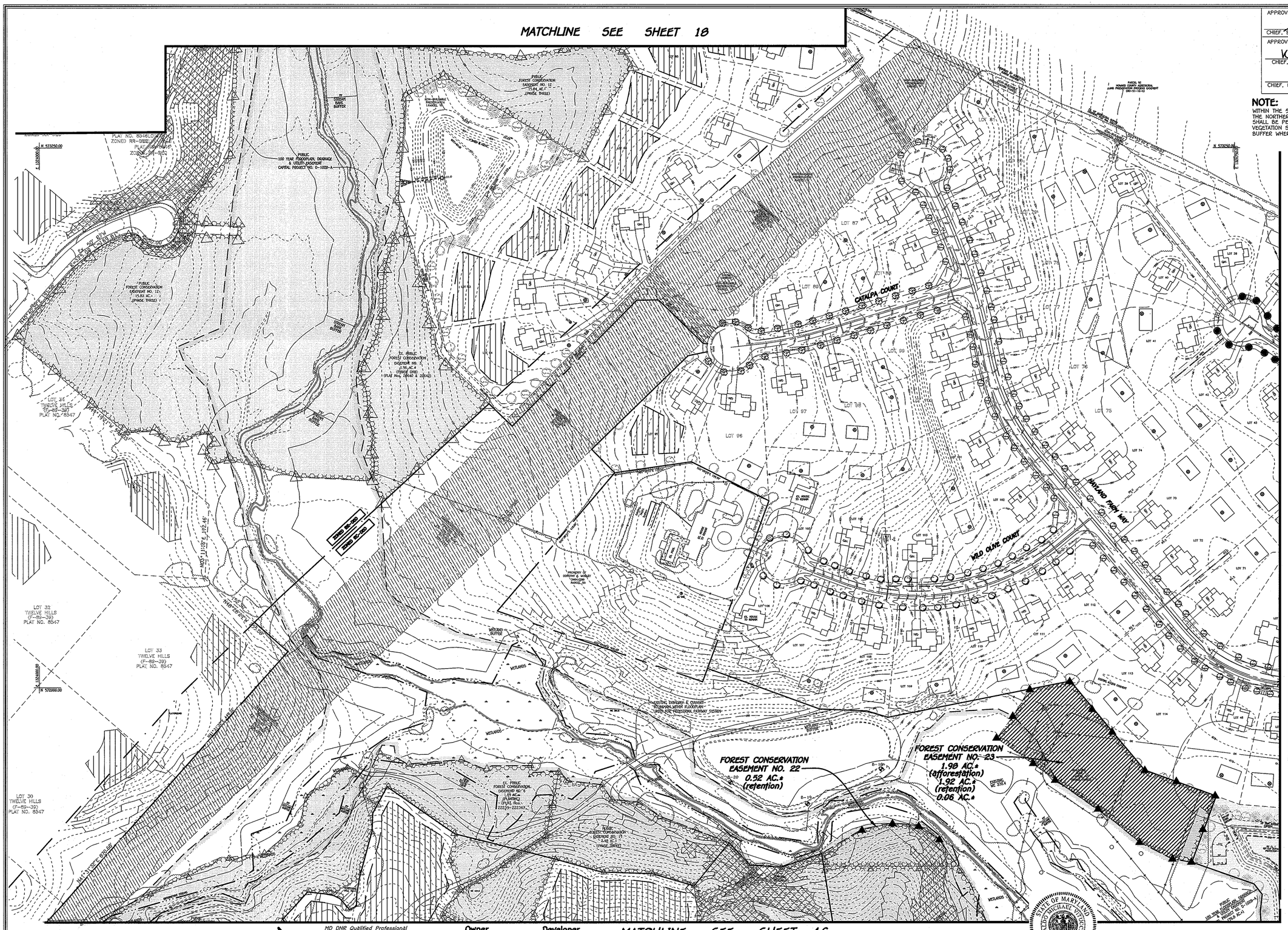
STATE OF MARYLAND — ALDO MICHAEL VITUCCI

ALDO M. VITUCCI, P.E. — DATE 3/20/13

I:\2004\04001\dwg\PHASE FOUR FINALS\C-14_F-13-034 forest conservation.dwg, SHEET 16, 3/20/2013 7:57:37 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 4/2/13

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.



FCE Planting Area # 23 – 1.92 acres

Planting units required: 1344 (672 whips)
Planting units provided: 1345 (585 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	Prunus serotina – Black cherry	2-3' whip	11' o.c.	
50	Robinia pseudo-acacia – Black locust	2-3' whip	11' o.c.	
50	Quercus alba – White oak	2-3' whip	11' o.c.	
75	Viburnum prunifolium – Blackhaw	2-3' whip	11' o.c.	
585 Total whip plantings (2 planting units per tree) =			1170 Total FCA unit credit	
Total Unit Credit			(175 + 1170)	1345

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

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

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 17 OF 23

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STATE OF MARYLAND ALDO MICHAEL VITUCCI No. 20748 PROFESSIONAL ENGINEER

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

F-13-034

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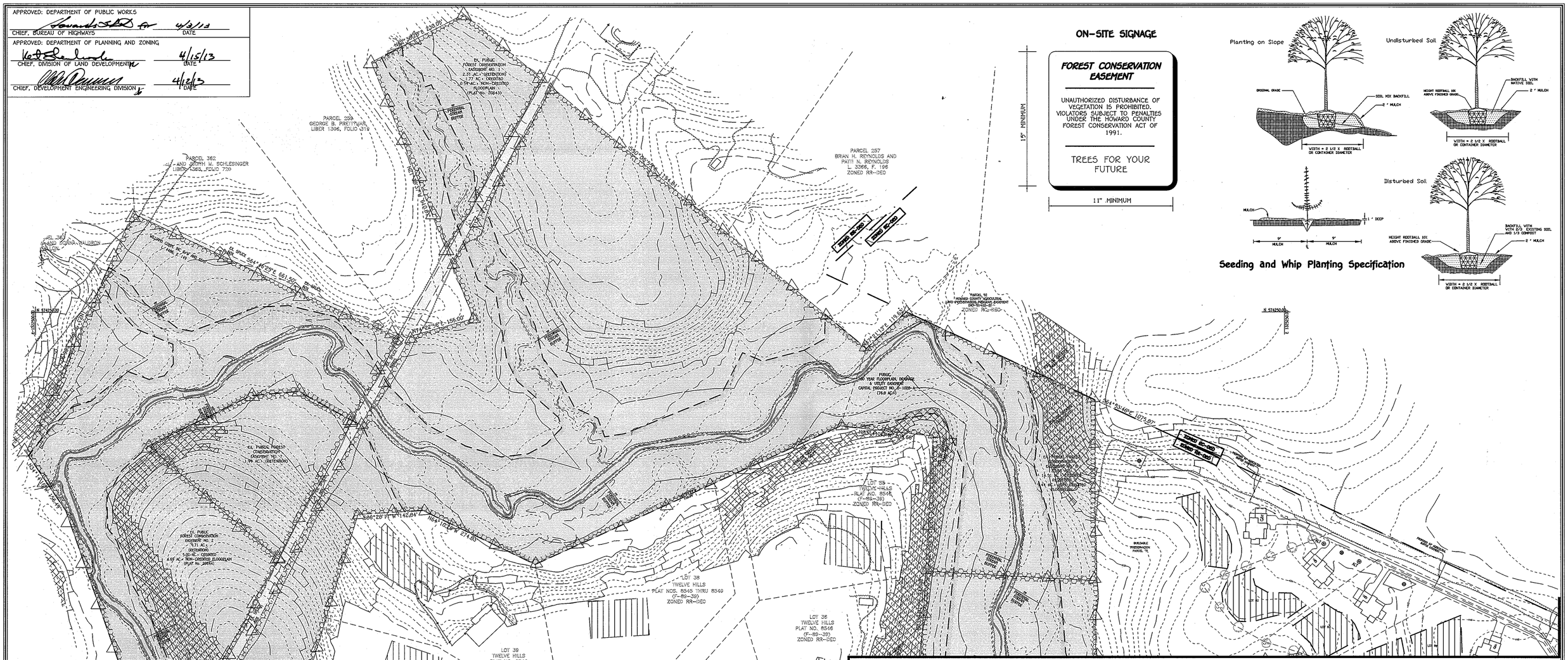
APPROVED: DEPARTMENT OF PUBLIC WORKS

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

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
- TP — Tree Protection Fence
- Limits Of Floodplain
- Proposed Treeline

PLAN

0' 100' 150' 200'

Scale: 1" = 100'

FOREST CONSERVATION DATA (entire project)				
PHASE	CREDITED RETENTION AREA	PLANTING AREA	NON-CREDITED 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.

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STATE OF MARYLAND — ALDO MICHAEL VITUCCI — No. 20748 — PROFESSIONAL ENGINEER

ALDO M. VITUCCI, P.E. — DATE 3/20/13

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 18 OF 23

F-13-034

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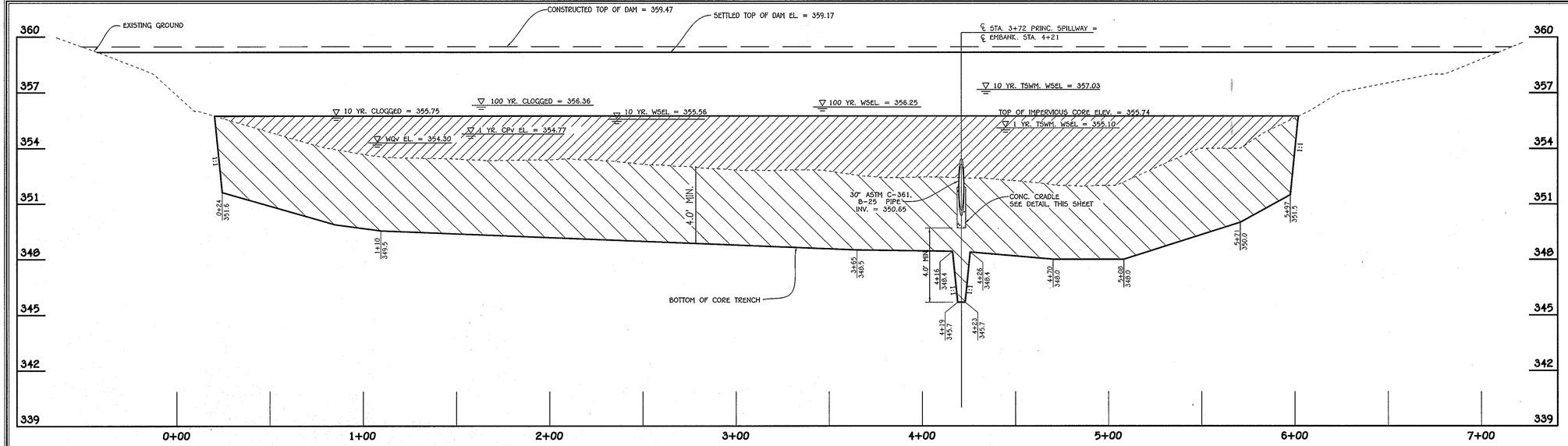


S.W.M. FACILITY B.M.P. NO. 2 (P-1)
PROFILE ALONG ℄ EMBANKMENT

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 — Date: 3/20/13

Timothy W. Fenga
Printed Name Of Developer

By The Engineer:

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

Signature Of Engineer — Date: 3/20/13

Aldo M. Vitucci
Printed Name Of Engineer

STATE OF MARYLAND ALDO MICHAEL VITUCCI No. 20748 PROFESSIONAL ENGINEER

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

Howard Soil Conservation District — Date: 3/28/13

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: 4/25/13

Chief, Development Engineering Division — Date: 4/12/13

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

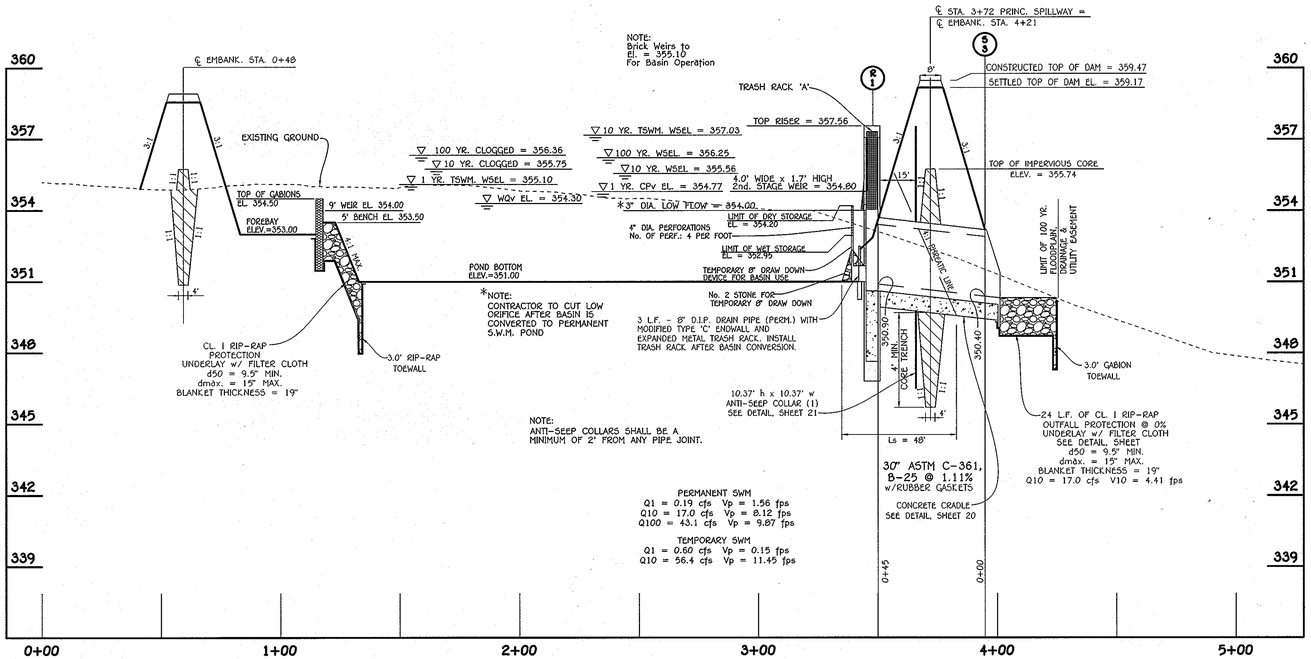
OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND JOINTLY MAINTAINED STORMWATER MANAGEMENT FACILITIES (P-1)

ROUTINE MAINTENANCE

1. Facility shall be inspected annually and after major storms. Inspections shall be preformed 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 repairer as soon as it is noticed.

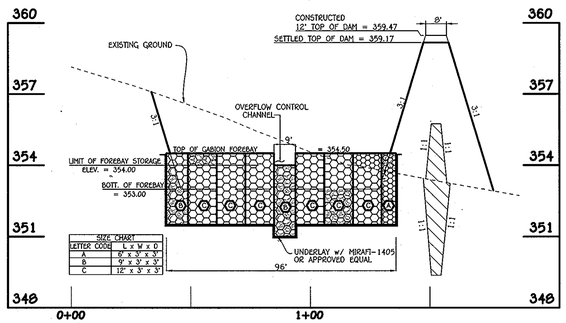
NON-ROUTINE MAINTENANCE

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.



PRINCIPLE SPILLWAY PROFILE

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



GABION FOREBAY PROFILE

SCALE: HORZ. 1" = 30'
VERT. 1" = 3'

0' 30' 60' 120'

SCALE: 1" = 30'

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)
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STORM WATER MANAGEMENT POND CONSTRUCTION SPECIFICATIONS

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

Site Preparation

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

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

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

EARTH FILL

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

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

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

When required by the reviewing agency the minimum required density shall not be less than 95% of maximum dry density with a moisture content within -02 of the optimum. Each layer of fill shall be compacted as necessary to obtain that density, and is to be certified by the engineer at the time of construction. All compaction is to be determined by AASHTO Method T-99 (Standard Proctor).

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

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

Structure Backfill

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

Structure backfill may be flowable fill meeting the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 313 as modified. The mixture shall have a 100-200 psi; 28 day unconfined compressive strength. The flowable fill shall have a minimum pH of 4.0 and a minimum resistivity of 2,000 ohm-cm. Material shall be placed such that a minimum of 6" (measured perpendicular to the outside of the pipe) of flowable fill shall be under (bedding), over and, on the sides of the pipe. It only needs to extend up to the spring line for rigid conduits. Average slump of the fill shall be 7" to assure flowability of the material. Adequate measures shall be taken (sand bags, etc.) to prevent 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 Stel Pipe, when used with flowable fill or when soil and/or water conditions warrant the need for increased durability, shall be fully bituminous coated per requirements of AASHTO Specification M-190 Type A. Any aluminum coating damaged or otherwise removed shall be replaced with cold applied bituminous coating compound. Aluminum surfaces that are to be in contact with concrete shall be painted with one coat of zinc chromate primer or two coats of asphalt.

Materials – (Aluminum Pipe) – This pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-196 or M-211 with watertight coupling banks 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, prepunched 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 gasket; and a 12-inch wide hugger type band with o-ring gaskets having a minimum diameter of 1/2-inch greater than the corrugation depth. Pipes 24-inches in diameter and larger shall be connected by a 24-inch long annular corrugated band using a minimum of 4 (four) rods and lugs, 2 on each connecting pipe end. A 24-inch wide by 3/8-inch thick closed cell circular neoprene gasket will be installed with 12-inches on the end of each pipe. Flanged joints with 3/8-inch closed cell gaskets the full width of the flange is also acceptable.

Helically corrugated pipe shall have either continuously welded seams or have lock seams with 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 least1/4of 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 "Stucture Backfill" section of this standard. Gravel bedding is not permitted.

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

4. Backfilling shall conform to "Structure Backfill".

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

Plastic Pipe

The following criteria shall apply for plastic pipe:

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

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

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

4. Backfilling shall conform to "Structure Backfill".

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

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

Concrete

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

Rock Riprap

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

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

Care of Water during Construction

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

Stabilization

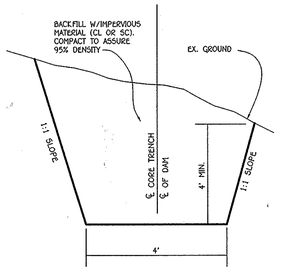
All borrow areas shall be graded to provide proper drainage and left in a sightly condition. All exposed surfaces of the embankment, spillway, spoil and borrow areas, and berms shall be stabilized by seeding, liming, fertilizing and mulching in accordance with the Natural Resources Conservation Service 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

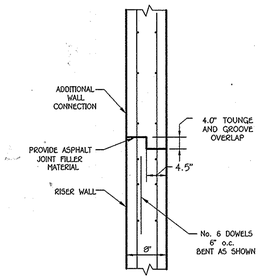
An operation and maintenance plan in accordance with Local or State Regulations will be prepared for all ponds. As a minimum, the dam inspection checklist located in Appendix A shall be included as part of the operation and maintenance plan and performed at least annually. Written records of maintenance 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.



NOTE: CORE SHALL BE KEPT PUMPED DRY DURING CONSTRUCTION.

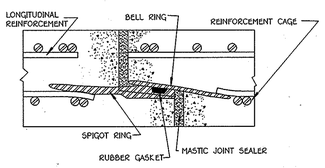
CORE TRENCH DETAIL

(NO SCALE)



KEYED JOINT DETAIL
WALL SECTION TO WALL SECTION

(NO SCALE)

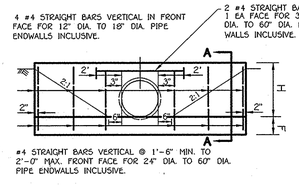


NOTE: PROVIDE MASTIC JOINT SEALER FROM OUTSIDE OF PIPE JOINTS PRIOR TO INSTALLING BARREL UNDERGROUND

ASTM DESIGNATION C361
DIAMETERS 12 THRU 168 INCH
PRESSURES TO 125 FEET OF HEAD

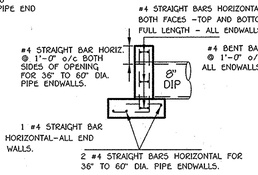
CONCRETE PIPE JOINT DETAIL

(NO SCALE)

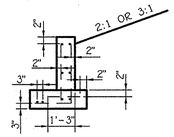


ELEVATION

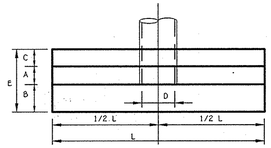
*5' DISTANCES FROM INSIDE SURFACE OF PIPE TO VERTICAL BARS IN FRONT AND REAR FACE.
4" FOR 12" DIA. TO 18" DIA. PIPES INCL.
6" FOR 24" DIA. TO 36" DIA. PIPES INCL.
8" FOR 42" DIA. TO 60" DIA. PIPES INCL.



SECTION A-A



DISPOSITION OF BARS – DETAIL



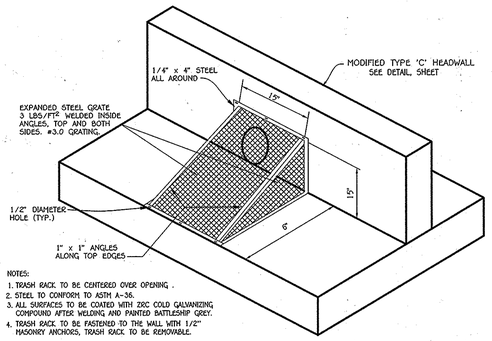
PLAN

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 IN.	AREA SQ.FT	A	B	C	E	F	H	L	CONC. C.Y.	LBS.
8"	0.79	9"	6"	6"	1'-9"	9"	1'-6"	5'-5"	0.61	30

MODIFIED
TYPE 'C' ENDWALL

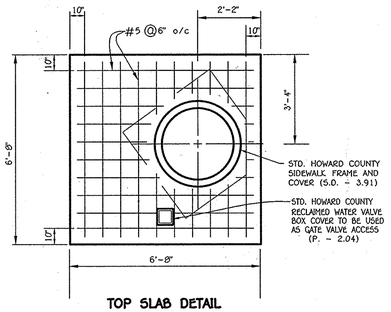
NO SCALE



NOTES:
1. TRASH RACK TO BE CENTERED OVER OPENING .
2. STEEL TO CONFORM TO ASTM A-36.
3. ALL SURFACES TO BE COATED WITH ZRC COLD 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.

LOW FLOW
EXPANDED METAL TRASH RACK

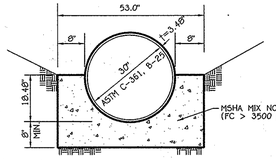
NOT TO SCALE



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. SCOFIELD 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.

TOP SLAB DETAIL

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.

SC5 TR-46 A2 CONCRETE CRADLE

NO SCALE

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 — Date: 3/20/13

Timothy W. Feaga
Printed Name Of Developer

By The Engineer:

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

Signature Of Engineer — Date: 3/20/13

Aldo M. Vitucci
Printed Name Of Engineer

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

Howard Soil Conservation District — Date: 3/26/13 3/28/13

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: 4/2/13

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 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

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK – 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 – 2855

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."

STATE OF MARYLAND — ALDO MICHAEL VITUCCI — No. 20748 — PROFESSIONAL ENGINEER

ALDO M. VITUCCI, P.E. — DATE: 3/20/13

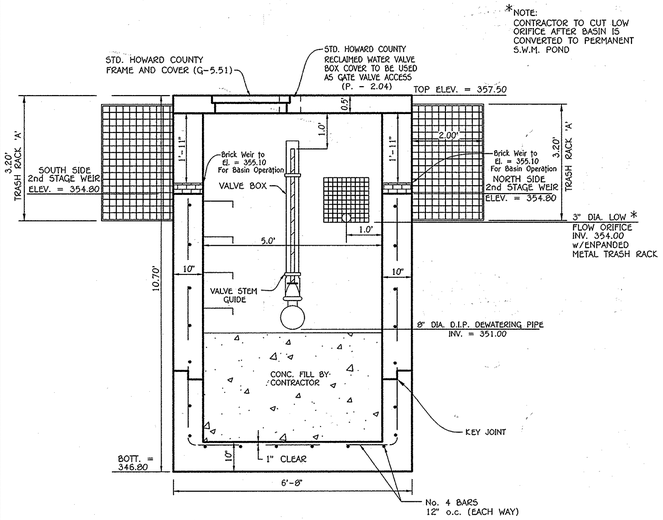
STORMWATER MANAGEMENT NOTES AND DETAILS
POND No. 2

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

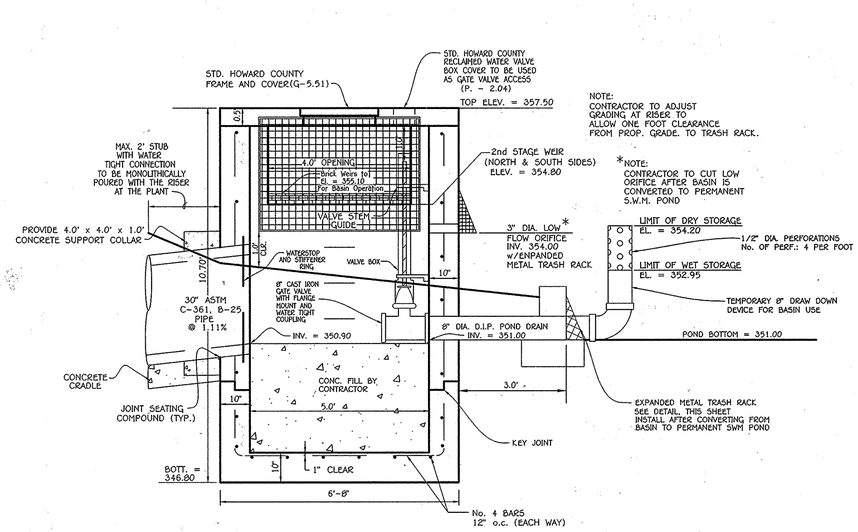
(A Resubdivision Of Buildable Bulk Parcel 'U' – Walnut Creek, Phase Three)
ZONED: RC-DEO & RR-DEO
TAX MAP No. 28 GRID Nos. 4, 5, 10-12, 17, AND 18 PARCEL No. 49
FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DATE: MARCH 20, 2013
SHEET 20 OF 23

F-13-034

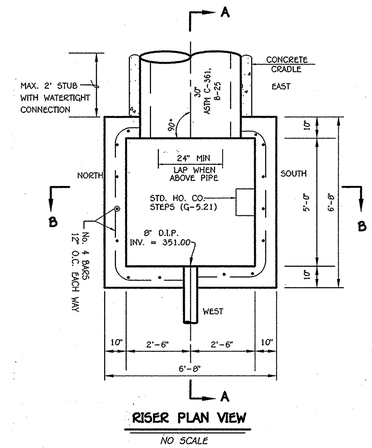
I:\2004\04001\dwg\PHASE FOUR FINALS\C-19_F-13-034 swm details.dwg, SHEET 20, 3/20/2013 8:11:27 AM, 1:1



R1 PROFILE VIEW B
CONCRETE RISER DETAIL
SCALE : 1" = 2'



R1 PROFILE VIEW A
CONCRETE RISER DETAIL
SCALE : 1" = 2'



RISER PLAN VIEW
NO SCALE

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 — Date: 3/20/13

Timothy W Feaga
Printed Name Of Developer

By The Engineer:

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

Signature — Date: 3/20/13

Aldo M. Vitucci
Printed Name Of Engineer

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Howard Soil Conservation District — Date: 3/20/13 3/28/13

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

AS-BUILT CERTIFICATION

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Signature — P.E. No.

Date:

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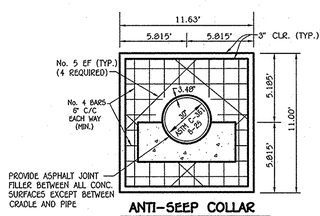
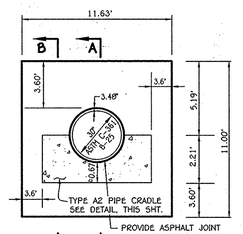
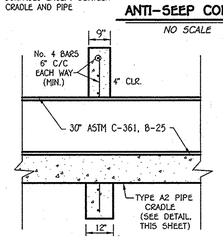
REVISIONS		
NO.	DESCRIPTION	DATE

0' 20' 40' 80'
SCALE: 1" = 20'



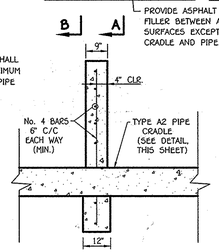
ANTI-SEEP COLLAR
NO SCALE





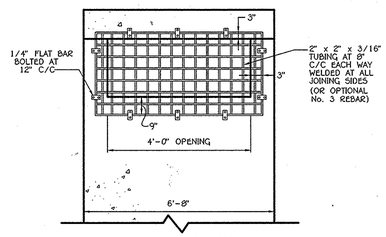
SECTION 'A-A'

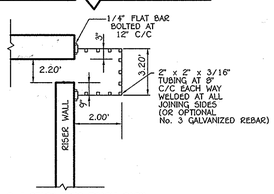
NOTE: COLLARS SHALL BE PLACED A MINIMUM OF 2'-0" FROM PIPE JOINTS.



SECTION 'B-B'

TYPICAL SECTION THROUGH BARREL, CRADLE AND ANTI-SEEP COLLAR
NO SCALE





2nd STAGE WEIR TRASH RACK

TRASH RACK 'A' DETAIL
(NO SCALE)

NOTES:
1. FIELD MEASURE THE STRUCTURE DIMENSIONS TO INSURE EXACT FIT OF TRASH RACK.
2. GALVANIZE ENTIRE TRASH RACK AFTER FABRICATION.
3. PAINT BATTLESHIP GRAY.

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CONTINENTAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

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

STATE OF MARYLAND — ALDO MICHAEL VITUCCI — No. 20748 — PROFESSIONAL ENGINEER

ALDO M. VITUCCI, P.E. — DATE: 3/20/13

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 21 OF 23

F-13-034

I:\2004\04001\dwg\PHASE FOUR FINALS\C-19_F-13-034 swm details.dwg, SHEET 21, 3/20/2013 8:14:39 AM, 1:1

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

A. Soil Preparation

1. Temporary Stabilization

a. Seedbed 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 is 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 means.

2. Permanent Stabilization

a. A soil test is required for any earth disturbance of 5 acres or more. The minimum soil conditions required for permanent vegetative 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 lovegrass 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.

b. Application of amendments or topsoil is required if on-site soils do not meet the above conditions.

c. 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.

d. Apply soil amendments as specified on the approved plan or as indicated by the results of a soil test.

e. Mix soil amendments into the top 3 to 5 inches of soil by disking or other suitable means. Rake lawn 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

1. 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.

2. 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.

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 vegetated contains material toxic to plant growth.

d. The soil is so acidic that treatment with limestone is not feasible.

4. Areas having slopes steeper than 2:1 require special consideration and design.

5. 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, 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 textured subsoils and must contain less than 5 percent by volume of cinders, stones, slag, coarse fragments, gravel, sticks, 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.

6. Topsoil Application

a. Erosion and sediment control practices must be maintained when applying topsoil.

b. 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.

c. 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 seedbed preparation.

C. Soil Amendments (Fertilizer and Lime Specifications)

1. Soil tests must be performed to determine the exact ratios and application rates for both lime and fertilizer on sites having disturbed areas 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. Manure 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.

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 98 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 Hardiness 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.

3. When stabilization is required outside of a seeding season, apply seed and mulch or straw mulch alone as prescribed in Section B-4-3.A.1.b and maintain until the next seeding season.

Temporary Seeding Summary

Hardiness Zone (from Figure B.3): 6b Seed Mixture (from Table B.1):				Fertilizer Rate (10-20-20)	Lime Rate
Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depths		
BARLEY	96	3/1 - 5/15, 8/15 - 10/15	1"	436 lb/ac (10 lb/ 1000 sf)	2 tons/ac (90 lb/ 1000 sf)
OATS	72		1"		
RYE	112		1"		

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 Hardiness Zone (from Figure B.3) and based on the site condition or purpose found on Table B.2. Enter selected mixture(s), 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 342 - Critical Area Planting.

c. For sites having disturbed area over 5 acres, use and show the rates recommended by the soil testing agency. d. For areas receiving low maintenance, apply urea 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 mixture(s), application rates, and seeding dates in the Permanent Seeding Summary. The summary is to be placed on the plan.

i. 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: 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.

ii. 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 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 35 percent of the total mixture by weight.

iii. 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.

iv. 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.

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

c. Ideal Times of Seeding for Turf Grass Mixtures Western MD: March 15 to June 1, August 1 to October 1 (Hardiness Zones: 5b, 6a) Central MD: March 1 to May 15, August 15 to October 15 (Hardiness Zone: 6b) Southern MD, Eastern Shore: March 1 to May 15, August 15 to October 15 (Hardiness Zones: 7a, 7b)

d. Till areas to receive seed by disking or other approved methods to a depth of 2 to 4 inches, level and rake the areas to prepare a proper seedbed. Remove stones and debris over 1 1/2 inches in diameter. The resulting seedbed must be in such condition that future mowing of grasses will pose no difficulty.

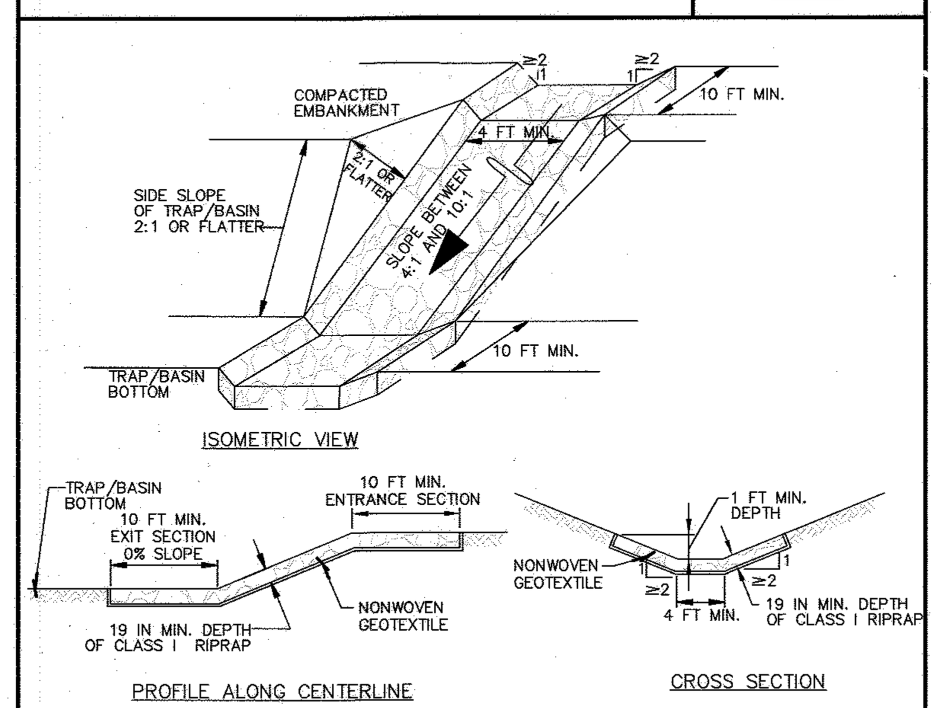
e. If soil moisture is deficient, supply new seedings with adequate water for plant growth (1/2 to 1 inch every 3 to 4 days depending on soil texture) until they are firmly established. This is especially true when seedings are made late in the planting season, in abnormally dry or hot seasons, or on adverse sites.

Permanent Seeding Summary

Hardiness Zone (from Figure B.3): 6b Seed Mixture (from Table B.3): 8					Fertilizer Rate (10-20-20)			Lime Rate
No.	Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depths	N	P_2O_5	K_2O	
8	TALL FESCUE	100	Mar. 1-May 15 Aug. 15-Oct. 15	1/4-1/2 in.	45 lbs. per acre (1.0 lb/ 1000 sf)	90 lb/ac (2 lb/ 1000 sf)	90 lb/ac (2 lb/ 1000 sf)	2 tons/ac (90 lb/ 1000 sf)

DETAIL D-3-1 RIPRAP INFLOW PROTECTION

STANDARD SYMBOL: RRP



CONSTRUCTION SPECIFICATIONS

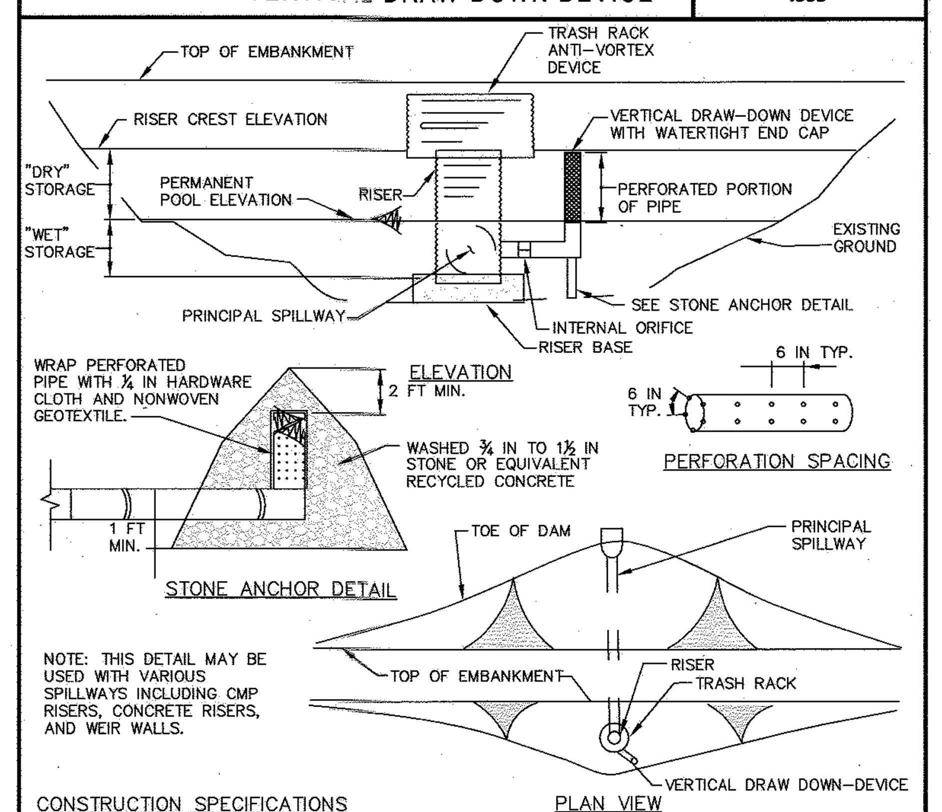
1. PROVIDE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS, UNDER THE BOTTOM AND ALONG SIDES OF ALL RIPRAP.
2. CONSTRUCT INFLOW CHANNEL WITH CLASS I RIPRAP OR EQUIVALENT RECYCLED CONCRETE LINING TO A MINIMUM DEPTH OF 19 INCHES (2 x D_{50}) AND A 1 FOOT DEEP FLOW CHANNEL. INFLOW RIPRAP PROTECTION 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

STANDARD SYMBOL: VDDD

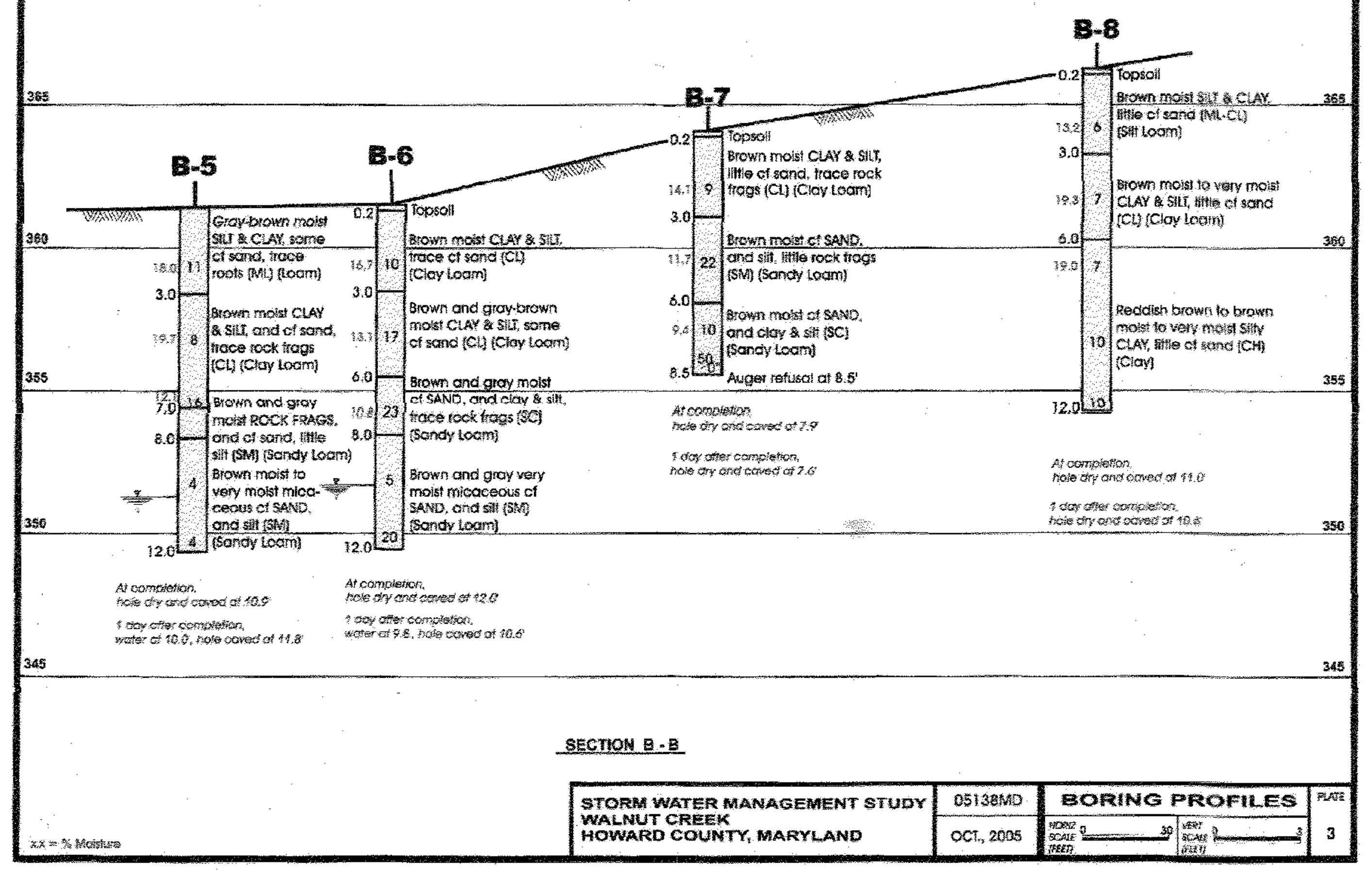


CONSTRUCTION SPECIFICATIONS

1. PERFORATE PIPE WITH 1 INCH DIAMETER PERFORATIONS SPACED 6 INCHES APART LONGITUDINALLY AND RADIALLY 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 ¼ 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 (50% OF THE WET STORAGE DEPTH). DEPOSIT REMOVED SEDIMENT IN AN APPROVED AREA IN A SUCH A MANNER THAT IT WILL NOT ERODE. MAINTAIN WATER TIGHT CONNECTIONS. REPLACE GEOTEXTILE AROUND PERFORATED RISER IF DRY STORAGE VOLUME DOES NOT DRAW DOWN WITHIN 10 HOURS.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

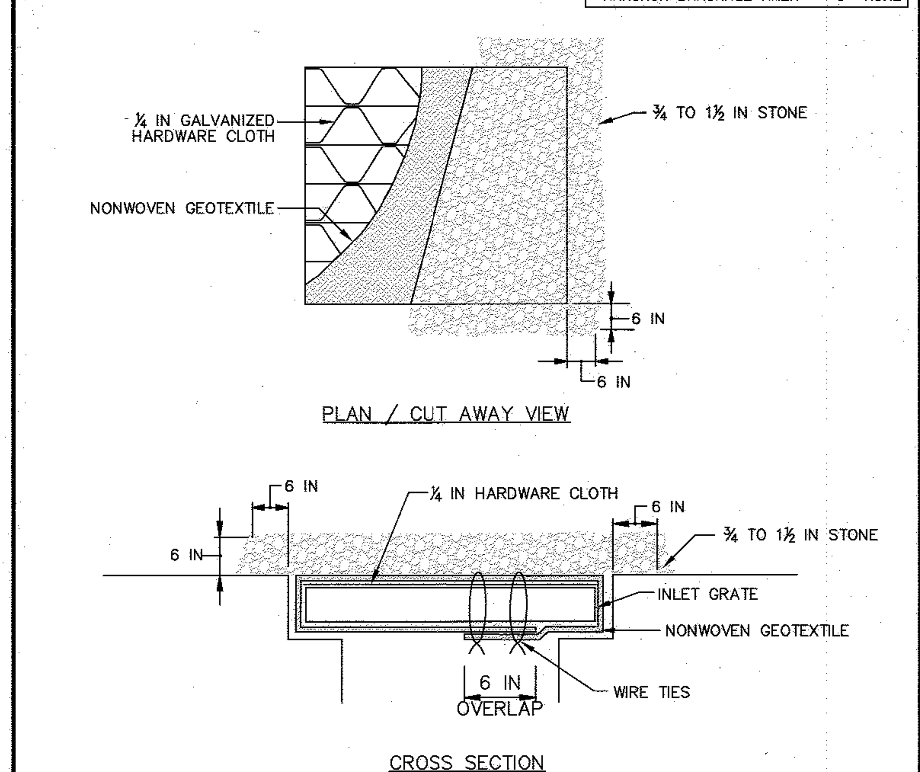
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION



DETAIL E-9-2 AT-GRADE INLET PROTECTION

STANDARD SYMBOL: AGIP

MAXIMUM DRAINAGE AREA = 1 ACRE



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 ¾ TO 1½ INCH STONE OR EQUIVALENT RECYCLED CONCRETE 6 INCHES THICK ON THE GRATE.
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

SEQUENCE OF CONSTRUCTION

1. OBTAIN A GRADING PERMIT. (2 WEEKS)
2. NOTIFY "MISS UTILITY" AT LEAST 48 HOURS BEFORE BEGINNING ANY WORK AT 1-800-257-7777. NOTIFY THE HOWARD COUNTY OFFICE OF CONSTRUCTION/INSPECTION AT 410-313-1330 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 DEWATERING DEVICES IN CONJUNCTION WITH CONSTRUCTION OF THE PROPOSED SEDIMENT BASIN/SWM PONDS AND DAM EMBANKMENT. NOTE THAT NO DISTURBANCE IS ALLOWED UNTIL ALL SWM/BASIN MATERIALS FOR THE PRINCIPAL SPILLWAYS ARE ON SITE AND PERMISSION FROM THE INSPECTOR IS GRANTED IN WRITING TO PROCEED. (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/SWM POND EMBANKMENT. WHERE NECESSARY, RIPPING AND JACK HAMMERING SHOULD BE UTILIZED IN THE EXCAVATION OF THE FACILITY.
6. UPON COMPLETION OF THE SWM PONDS/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 FOR 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 CONVEY SEDIMENT RUNOFF INTO THE TWO EXISTING SEDIMENT BASINS. (5 WEEKS)

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

NOTE: BMP No. 4 FROM PHASE TWO IS BEING UTILIZED TO PROVIDE SEDIMENT CONTROL FROM STATION 11+10± OF CRAPE MYRTLE 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 & 157-159. THIS FACILITY ALSO PROVIDES SEDIMENT CONTROL FOR THE FRONT PORTION OF LOTS 115-116 & LOTS 136-137. IN ADDITION, BMP No. 3 FROM PHASE TWO IS BEING UTILIZED TO PROVIDE SEDIMENT CONTROL FOR THE REMAINDER OF CRAPE MYRTLE COURT. THIS FACILITY WILL PROVIDE SEDIMENT CONTROL FOR THE FRONT PORTION OF LOTS 143-149, 150-152 & HALF OF LOT 153.

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

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

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 Of Developer — 3/20/13 Date

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 Notified The Developer That He/She Must Engage A Registered Professional Engineer To Supervise Pond Construction And Provide The Howard Soil Conservation District With An "As-Built" Plan Of The Pond Within 30 Days Of Completion."

Signature Of Engineer — 3/20/13 Date

Printed Name Of Engineer: Aldo M. Vitucci

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

Howard Soil Conservation District — 3/26/13, 3/28/13 Date

Approved: Department Of Public Works

Chief Bureau Of Highways — 4/3/13 Date

Approved: Department Of Planning And Zoning

Chief, Division Of Land Development — 4/15/13 Date

Chief, Development Engineering Division — 4/12/13 Date

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.

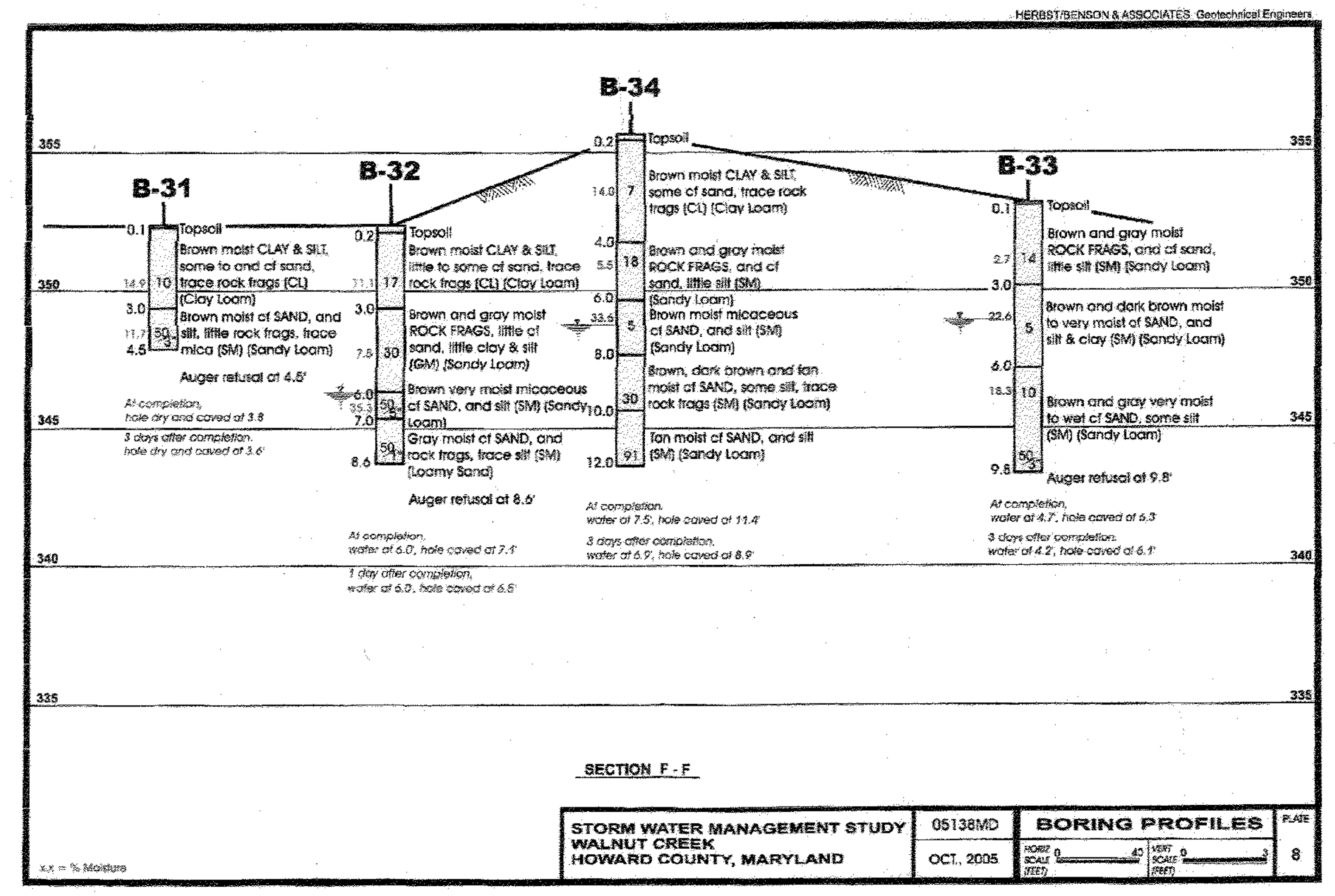
Signature — P.E. No.

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	5·9·16
2	REVISE L.O.D. TO MATCH BUILDERS GP'S	1/6/17



SEDIMENT CONTROL NOTES

1) A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LISCENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION (313-1855).
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 THERETO.
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 TRAPS/BASINS 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), SOD (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 ANALYSIS:

TOTAL AREA OF SITE	141.51	ACRES
AREA DISTURBED	36.44	ACRES
AREA TO BE ROOFED OR PAVED	1.56	ACRES
AREA TO BE VEGETATIVELY STABILIZED	34.07	ACRES
TOTAL CUT	30,000	CU.YDS.
TOTAL FILL	30,000	CU.YDS.
OFFSITE WASTE/BORROW AREA LOCATION	N/A	CU.YDS.

8) ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
9) ADDITIONAL SEDIMENT CONTROLS MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
10) ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.
11) TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGHTS OR THAT WHICH SHALL BE BACK-FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

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

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

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 & 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 22 OF 23

F-13-034

I:\2004\04001\dwg\PHASE FOUR FINALS\C-22_F-13-034 sediment notes.dwg, SHEET 22, 3/20/2013 8:18:26 AM, 1:1

ENGINEER'S CERTIFICATE

I Hereby Certify That This Plan For Erosion And Sediment Control Represents A Practical And Workable Plan Based On My Personal Knowledge Of The Site Conditions And That It Was Prepared In Accordance With The Criteria Of The Howard Soil Conservation District.

Signature — Date: 3/20/13

OWNER/DEVELOPER'S CERTIFICATE

"I/We Certify That All Development And Construction Will Be Done According To This Plan Of Development And Plan For Erosion And Sediment Control And That All Responsible Personnel Involved In The Construction Project Will Have A Certificate Of Attendance At A Department Of Natural Resources Approved Training Program For The Control Of Sediment And Erosion Before Beginning The Project. I Also Authorize Periodic On-Site Inspection By The Howard Soil Conservation District Or Their Authorized Agents. As Are Deemed Necessary."

Signature Of Developer — Date: 3/20/13

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

District Howard Soil Conservation Dist. — Date: 3/28/13

Approved: Department Of Planning And Zoning

Chief, Division Of Land Development — Date: 4/15/13

Chief, Development Engineering Division — Date: 4/12/13

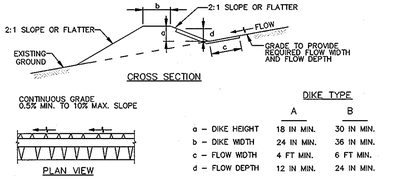
Approved: Howard County Department Of Public Works

Chief, Bureau Of Highways — Date: 4/2/13

DETAIL C-1 EARTH DIKE

STANDARD SYMBOL A-1

PLACE VEGETATION (SEE A-1) ON FLOW CHANNEL SIDE OF DIKE.



	DIKE TYPE A	DIKE TYPE B
a – DIKE HEIGHT	18 IN MIN.	30 IN MIN.
b – DIKE WIDTH	24 IN MIN.	36 IN MIN.
c – FLOW WIDTH	4 FT MIN.	6 FT MIN.
d – FLOW DEPTH	12 IN MIN.	24 IN MIN.

FLOW CHANNEL STABILIZATION

A-1 SEED WITH STRAW MULCH AND TACK. (NOT ALLOWED FOR CLEAR WATER DIVERSION.)

A-2/B-2 SEED WITH SOIL STABILIZATION MATTING OR LINE WITH SOD.

A-3/B-3 4 TO 7 INCH STONE OR EQUIVALENT RECYCLED CONCRETE PRESSED INTO SOIL A MINIMUM OF 7 INCHES AND FLUSH WITH GROUND.

CONSTRUCTION SPECIFICATIONS

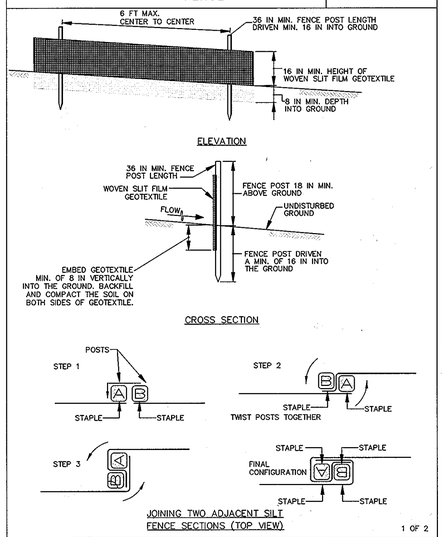
1. REMOVE AND DISPOSE OF ALL TREES, BRUSH, STUMPS, OBSTRUCTIONS, AND OTHER OBJECTIONABLE MATERIAL SO AS NOT TO INTERFERE WITH PROPER FUNCTION OF EARTHDIKE.
2. EXCAVATE OR SHAPE EARTH DIKE TO LINE, GRADE, AND CROSS SECTION AS SPECIFIED. BANK PROJECTIONS OR OTHER IRREGULARITIES ARE NOT ALLOWED.
3. COMPACT FILL.
4. CONSTRUCT FLOW CHANNEL ON AN UNINTERRUPTED, CONTINUOUS GRADE, ADJUSTING THE LOCATION DUE TO FIELD CONDITIONS AS NECESSARY TO MAINTAIN POSITIVE DRAINAGE.
5. PROVIDE OUTLET PROTECTION AS REQUIRED ON APPROVED PLAN.
6. STABILIZE EARTH DIKE WITHIN THREE DAYS OF INSTALLATION. STABILIZE FLOW CHANNEL FOR CLEAR WATER DIVERSION WITHIN 24 HOURS OF INSTALLATION.
7. MAINTAIN LINE, GRADE, AND CROSS SECTION. REMOVE ACCUMULATED SEDIMENT AND DEBRIS, AND MAINTAIN POSITIVE DRAINAGE. KEEP EARTH DIKE AND POINT OF DISCHARGE FREE OF EROSION, AND CONTINUOUSLY MEET REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION.
8. UPON REMOVAL OF EARTH DIKE, GRADE AREA FLUSH WITH EXISTING GROUND. WITHIN 24 HOURS OF REMOVAL STABILIZE DISTURBED AREA WITH TOPSOIL, SEED, AND MULCH, OR AS SPECIFIED ON APPROVED PLAN.

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 E-1 SILT FENCE

STANDARD SYMBOL —SF—



1 OF 2

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 E-1 SILT FENCE

STANDARD SYMBOL —SF—

CONSTRUCTION SPECIFICATIONS

1. USE WOOD POSTS 1¾ X 1¾ ± 1/16 INCH (MINIMUM) SQUARE CUT OF SOUND QUALITY HARDWOOD. AS AN ALTERNATIVE TO WOODEN POST USE STANDARD "T" OR "U" SECTION STEEL POSTS WEIGHING NOT LESS THAN 1 POUND PER LINEAR FOOT.
2. USE 36 INCH MINIMUM POSTS DRIVEN 16 INCH MINIMUM INTO GROUND NO MORE THAN 6 FEET APART.
3. USE WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS AND FASTEN GEOTEXTILE SECURELY TO UPSLOPE SIDE OF FENCE POSTS WITH WIRE TIES OR STAPLES AT TOP AND MID-SECTION.
4. PROVIDE MANUFACTURER CERTIFICATION TO THE AUTHORIZED REPRESENTATIVE OF THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT THE GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.
5. EMBED GEOTEXTILE A MINIMUM OF 8 INCHES VERTICALLY INTO THE GROUND. BACKFILL AND COMPACT THE SOIL ON BOTH SIDES OF FABRIC.
6. WHERE TWO SECTIONS OF GEOTEXTILE ADJOIN: OVERLAP, TWIST, AND STAPLE TO POST IN ACCORDANCE WITH THIS DETAIL.
7. EXTEND BOTH ENDS OF THE SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SILT FENCE.
8. REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN SILT FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL FENCE.

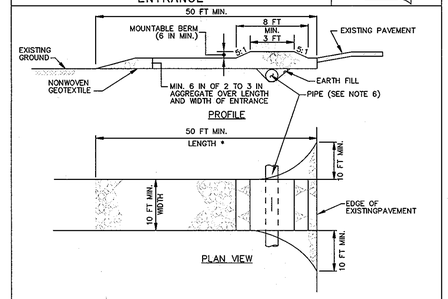
2 OF 2

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 B-1 STABILIZED CONSTRUCTION ENTRANCE

STANDARD SYMBOL SCE



CONSTRUCTION SPECIFICATIONS

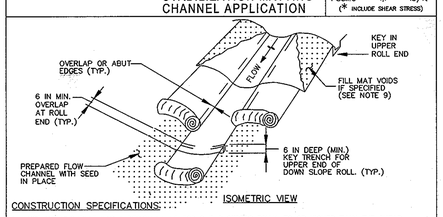
1. PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLES MUST TRAVEL OVER THE ENTIRE LENGTH OF THE SCE. USE MINIMUM LENGTH OF 50 FEET (*30 FEET FOR SINGLE RESIDENCE LOT). USE MINIMUM WIDTH OF 10 FEET. FLARE SCE 10 FEET MINIMUM AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.
2. PIPE ALL SURFACE WATER FLOWING TO OR DIVERTED TOWARD THE SCE UNDER THE ENTRANCE, MAINTAINING POSITIVE DRAINAGE. PROTECT PIPE INSTALLED THROUGH THE SCE WITH A MOUNTABLE BERM WITH 5:1 SLOPES AND A MINIMUM OF 12 INCHES OF STONE OVER THE PIPE. PROVIDE PIPE AS SPECIFIED ON APPROVED PLAN. WHEN THE SCE IS LOCATED AT A HIGH SPOT AND HAS NO DRAINAGE TO CONVEY, A PIPE IS NOT NECESSARY. A MOUNTABLE BERM IS REQUIRED WHEN SCE IS NOT LOCATED AT A HIGH SPOT.
3. PREPARE SUBGRADE AND PLACE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS.
4. PLACE CRUSHED AGGREGATE (2 TO 3 INCHES IN SIZE) OR EQUIVALENT RECYCLED CONCRETE (WITHOUT REBAR) AT LEAST 6 INCHES DEEP OVER THE LENGTH AND WIDTH OF THE SCE.
5. MAINTAIN ENTRANCE IN A CONDITION THAT MINIMIZES TRACKING OF SEDIMENT. ADD STONE OR MAKE OTHER REPAIRS AS CONDITIONS DEMAND TO MAINTAIN CLEAN SURFACE, MOUNTABLE BERM, AND SPECIFIED DIMENSIONS. IMMEDIATELY REMOVE STONE AND/OR SEDIMENT SPILLED, DROPPED, OR TRACKED ONTO ADJACENT ROADWAY BY VACUUMING, SCRAPING, AND/OR SWEEPING. WASHING ROADWAY TO REMOVE MUD TRACKED ONTO PAVEMENT IS NOT ACCEPTABLE UNLESS WASH WATER IS DIRECTED TO AN APPROVED SEDIMENT CONTROL PRACTICE.

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 B-4-6-C PERMANENT SOIL STABILIZATION MATTING CHANNEL APPLICATION

STANDARD SYMBOL PSSMC – * lb/ft² (* INCLUDE SHEAR STRESS)



CONSTRUCTION SPECIFICATIONS

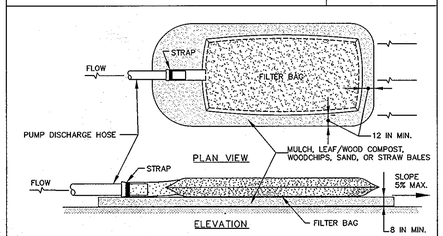
1. USE MATTING THAT HAS A DESIGN VALUE FOR SHEAR STRESS EQUAL TO OR HIGHER THAN THE SHEAR STRESS DESIGNATED ON APPROVED PLANS.
2. USE PERMANENT SOIL STABILIZATION MATTING MADE OF OPEN WEAVE SYNTHETIC, NON-DEGRADABLE FIBERS OR ELEMENTS OF UNIFORM THICKNESS AND DISTRIBUTION THROUGHOUT. CHEMICALS USED IN THE MAT MUST BE NON-LEACHING AND NON-TOXIC TO VEGETATION AND SEED GERMINATION AND NON-INJURIOUS TO THE SKIN. IF PRESENT, NETTING MUST BE EXTRUDED PLASTIC WITH A MAXIMUM MESH OPENING OF 2x2 INCHES AND SUFFICIENTLY BONDED OR SEWN ON 2 INCH CENTERS ALONG LONGITUDINAL AXIS OF THE MATERIAL TO PREVENT SEPARATION OF THE NET FROM THE PARENT MATERIAL.
3. SECURE MATTING USING STEEL STAPLES OR WOOD STAKES. STAPLES MUST BE "U" OR "T" SHAPED STEEL WIRE HAVING A MINIMUM GAUGE OF NO. 11 AND NO. 8 RESPECTIVELY. "U" SHAPED STAPLES MUST:A AVERAGE 1 TO 1 ½ INCHES WIDE AND BE A MINIMUM OF 6 INCHES LONG. "T" SHAPED STAPLES MUST HAVE A MINIMUM 8 INCH MAIN LEG, A MINIMUM 1 INCH SECONDARY LEG, AND MINIMUM 4 INCH HEAD. WOOD STAKES MUST BE ROUGH-SAWN HARDWOOD, 12 TO 24 INCHES IN LENGTH, 1x3 INCH IN CROSS SECTION, AND WEDGE SHAPE AT THE BOTTOM.
4. PERFORM FINAL GRADING, TOPSOIL APPLICATION, SEEDBED PREPARATION, AND PERMANENT SEEDING IN ACCORDANCE WITH SPECIFICATIONS. PLACE MATTING WITHIN 48 HOURS OF COMPLETING SEEDING OPERATIONS, UNLESS END OF WORKDAY STABILIZATION IS SPECIFIED ON THE APPROVED EROSION AND SEDIMENT CONTROL PLAN.
5. UNROLL MATTING IN DIRECTION OF WATER FLOW, CENTERING THE FIRST ROLL ON THE CHANNEL CENTER LINE. WORK FROM CENTER OF CHANNEL OUTWARD WHEN PLACING ROLLS. LAY MATTING SMOOTHLY AND FIRMLY UPON THE SEEDED SURFACE. AVOID STRETCHING THE MATTING.
6. OVERLAP OR ABUT EDGES OF MATTING ROLLS PER MANUFACTURER RECOMMENDATIONS. OVERLAP ROLL ENDS BY 6 INCHES (MINIMUM), WITH THE UPSTREAM MAT OVERLAPPING ON TOP OF THE NEXT DOWNSTREAM MAT.
7. KEY IN THE TOP OF SLOPE END OF MAT 6 INCHES (MINIMUM) BY DIGGING A TRENCH, PLACING THE MATTING ROLL END IN THE TRENCH, STAPLING THE MAT IN PLACE, REPLACING THE EXCAVATED MATERIAL, AND TAMPING TO SECURE THE MAT END IN THE KEY.
8. STAPLE/STAKE MAT IN A STAGGERED PATTERN ON 4 FOOT (MAXIMUM) CENTERS THROUGHOUT AND 2 FOOT (MAXIMUM) CENTERS ALONG SEAMS, JOINTS, AND ROLL ENDS.
9. IF SPECIFIED BY THE DESIGNER OR MANUFACTURER AND DEPENDING ON THE TYPE OF MAT BEING INSTALLED, ONCE THE MATTING IS KEYED AND STAPLED IN PLACE, FILL THE MAT VOIDS WITH TOP SOIL OR GRANULAR MATERIAL AND LIGHTLY COMPACT OR ROLL TO MAXIMIZE SOIL/MAT CONTACT WITHOUT CRUSHING MAT.
10. ESTABLISH AND MAINTAIN VEGETATION SO THAT REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT ARE CONTINUOUSLY MET IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION.

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 F-4 FILTER BAG

STANDARD SYMBOL ⊠FB



CONSTRUCTION SPECIFICATIONS

1. TIGHTLY SEAL SLEEVE AROUND THE PUMP DISCHARGE HOSE WITH A STRAP OR SIMILAR DEVICE.
2. PLACE FILTER BAG ON SUITABLE BASE (E.G., MULCH, LEAF/WOOD COMPOST, WOODCHIPS, SAND, OR STRAW BALES) LOCATED ON A LEVEL OR 5% MAXIMUM SLOPING SURFACE. DISCHARGE TO A STABILIZED AREA. EXTEND BASE A MINIMUM OF 12 INCHES FROM EDGES OF BAG.
3. CONTROL PUMPING RATE TO PREVENT EXCESSIVE PRESSURE WITHIN THE FILTER BAG IN ACCORDANCE WITH THE MANUFACTURER RECOMMENDATIONS. AS THE BAG FILLS WITH SEDIMENT, REDUCE PUMPING RATE.
4. REMOVE AND PROPERLY DISPOSE OF FILTER BAG UPON COMPLETION OF PUMPING OPERATIONS OR AFTER BAG HAS REACHED CAPACITY, WHICHEVER OCCURS FIRST. SPREAD THE DEWATERED SEDIMENT FROM THE BAG IN AN APPROVED UPLAND AREA AND STABILIZE WITH SEED AND MULCH BY THE END OF THE WORK DAY. RESTORE THE SURFACE AREA BENEATH THE BAG TO ORIGINAL CONDITION UPON REMOVAL OF THE DEVICE.
5. USE NONWOVEN GEOTEXTILE WITH DOUBLE STITCHED SEAMS USING HIGH STRENGTH THREAD. SIZE SLEEVE TO ACCOMMODATE A MAXIMUM 4 INCH DIAMETER PUMP DISCHARGE HOSE. THE BAG MUST BE MANUFACTURED FROM A NONWOVEN GEOTEXTILE THAT MEETS OR EXCEEDS MINIMUM AVERAGE ROLL VALUES (MARV) FOR THE FOLLOWING:

GRAB TENSILE	250 LB	ASTM D-4632
PUNCTURE	150 LB	ASTM D-4833
FLOW RATE	70 GAL/MIN/FT²	ASTM D-4491
PERMITTIVITY (SEC⁻¹)	1.2 SEC⁻¹	ASTM D-4491
UV RESISTANCE	70% STRENGTH @ 500 HOURS	ASTM D-4355
APPARENT OPENING SIZE (AOS)	0.15-0.18 MM	ASTM D-4751
SEAM STRENGTH	90%	ASTM D-4632

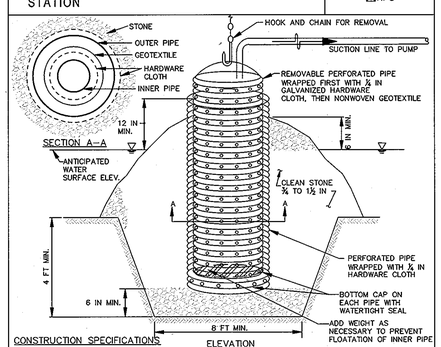
6. REPLACE FILTER BAG IF BAG CLOGS OR HAS RIPS, TEARS, OR PUNCTURES. DURING OPERATION KEEP CONNECTION BETWEEN PUMP HOSE AND FILTER BAG WATER TIGHT. REPLACE BEDDING IF IT BECOMES DISPLACED.

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 F-1 REMOVABLE PUMPING STATION

STANDARD SYMBOL ⊠RPS



CONSTRUCTION SPECIFICATIONS

1. USE CORRUGATED METAL OR PLASTIC PIPE WITH 1 INCH DIAMETER PERFORATIONS 6 INCHES ON CENTER.
2. USE A MINIMUM 12 INCH DIAMETER INNER PIPE WITH AN OUTER PIPE A MINIMUM 6 INCHES LARGER IN DIAMETER. BOTTOM OF EACH PIPE MUST BE CAPPED WITH WATERTIGHT SEAL.
3. WRAP EACH PIPE WITH ¼ INCH GALVANIZED HARDWARE CLOTH. ON INNER PIPE WRAP NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS, OVER THE HARDWARE CLOTH.
4. EXCAVATE 8 FEET X 8 FEET X 4 FEET DEEP PIT FOR PIPE PLACEMENT. PLACE CLEAN ¾ TO 1½ INCH STONE OR EQUIVALENT RECYCLED CONCRETE, 6 INCHES IN DEPTH PRIOR TO PIPE PLACEMENT.
5. SET TOP OF INNER AND OUTER PIPES MINIMUM 12 INCHES ABOVE ANTICIPATED WATER SURFACE ELEVATION (OR RISER CREST ELEVATION WHEN DEWATERING A BASIN).
6. BACKFILL PIT AROUND THE OUTER PIPE WITH ¾ TO 1½ INCH CLEAN STONE OR EQUIVALENT RECYCLED CONCRETE AND EXTEND STONE A MINIMUM OF 6 INCHES ABOVE ANTICIPATED WATER SURFACE ELEVATION.
7. DISCHARGE TO A STABLE AREA AT A NONEROSIVE RATE.
8. A REMOVABLE PUMPING STATION REQUIRES FREQUENT MAINTENANCE. IF SYSTEM CLOGS, PULL OUT INNER PIPE AND REPLACE GEOTEXTILE. KEEP POINT OF DISCHARGE FREE OF EROSION.

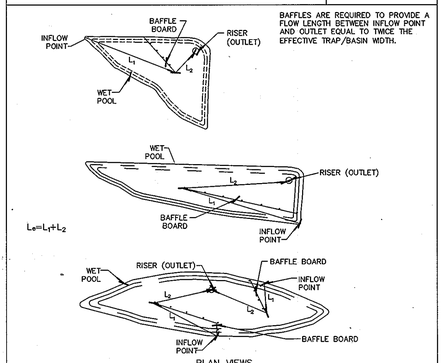
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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

DETAIL G-2-4 BAFFLE -BOARDS

STANDARD SYMBOL —BB—

BAFFLES ARE REQUIRED TO PROVIDE A FLOW LENGTH BETWEEN INFLOW POINT AND OUTLET EQUAL TO TWICE THE EFFECTIVE TRAP/BASIN WIDTH.

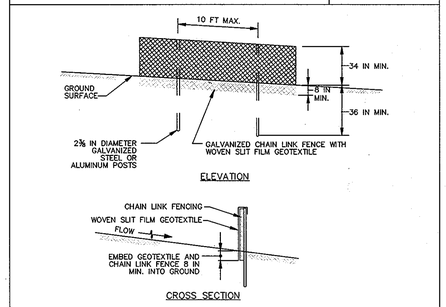


MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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

DETAIL E-3 SUPER SILT FENCE

STANDARD SYMBOL —SSF—



CONSTRUCTION SPECIFICATIONS

1. INSTALL 2⅜ INCH DIAMETER GALVANIZED STEEL POSTS OF 0.095 INCH WALL THICKNESS AND SIX FOOT LENGTH SPACED NO FURTHER THAN 10 FEET APART. DRIVE THE POSTS A MINIMUM OF 36 INCHES INTO THE GROUND.
2. FASTEN 9 GAUGE OR HEAVIER GALVANIZED CHAIN LINK FENCE (2⅜ INCH MAXIMUM OPENING) 42 INCHES IN HEIGHT SECURELY TO THE FENCE POSTS WITH WIRE TIES OR HUG RINGS.
3. FASTEN WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS, SECURELY TO THE UPSLOPE SIDE OF CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE AND CHAIN LINK FENCE A MINIMUM OF 8 INCHES INTO THE GROUND.
4. WHERE ENDS OF THE GEOTEXTILE COME TOGETHER, THE ENDS SHALL BE OVERLAPPED BY 6 INCHES, FOLDED, AND STAPLED TO PREVENT SEDIMENT BY PASS.
5. EXTEND BOTH ENDS OF THE SUPER SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SUPER SILT FENCE.
6. PROVIDE MANUFACTURER CERTIFICATION TO THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.
7. REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL CHAIN LINK FENCING AND GEOTEXTILE.

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

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK – 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 – 2855

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

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

"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. 20749, Expiration Date: February 22, 2015."

STATE OF MARYLAND — ALDO MICHAEL VITUCCI — No. 20749 — PROFESSIONAL ENGINEER

ALDO M. VITUCCI, P.E. — DATE: 3/20/13

SEDIMENT CONTROL NOTES AND DETAILS

WALNUT CREEK

PHASE FOUR

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

(A Resubdivision Of Buildable Bulk Parcel 'U' – Walnut Creek, Phase Three)
ZONED: RC-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 23 OF 23

F-13-034

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