

**BOHLER ENGINEERING**

CORPORATE OFFICE:  
WARREN, NJ

CIVIL & CONSULTING ENGINEERS  
SURVEYORS  
PROJECT MANAGERS  
ENVIRONMENTAL CONSULTANTS  
LANDSCAPE ARCHITECTS

OFFICES:  
BOULDER, CO  
ALBANY, NY  
DALLAS, TX  
DENVER, CO  
FORT LAUDERDALE, FL  
HARTFORD, CT  
PHILADELPHIA, PA

REVISIONS

REV	DATE	COMMENT	BY

THE FOLLOWING STATES REQUIRE NOTIFICATION BY SIGNATORY DESIGN PROFESSIONALS ON ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN THE STATE OF MARYLAND, MARYLAND, THE DISTRICT OF COLUMBIA, AND DELAWARE CALL: 811

1-800-346-3466 (PA: 1-301-242-1778) (DC: 1-800-307-7777) (VA: 1-800-545-7001) (MD: 1-800-251-7777) (DE: 1-800-292-9529)

NOT APPROVED FOR CONSTRUCTION

PROJECT No: MD152015  
DRAWN BY: AVG  
CHECKED BY: JIA  
DATE: 05/18/17  
SCALE: AS NOTED  
CAD I.D.: EC3

PROJECT:  
**ENVIRONMENTAL CONCEPT PLAN**

FOR  
**REDD & SIPES PROPERTIES**  
LOTS 1-42 &  
OPEN SPACE LOTS 43 & 44

LOCATION OF SITE  
5920 FLOREY ROAD  
ELK RIDGE, MD  
1ST ELECTION DISTRICT  
TAX MAP 38, GRID 9  
PARCELS 756 & 340  
HOWARD COUNTY

**BOHLER ENGINEERING**

801 DULANEY VALLEY ROAD,  
SUITE 801  
TOWSON, MARYLAND 21284  
Phone: (410) 821-7900  
Fax: (410) 821-7987  
www.BohlerEngineering.com

**B.R. ROWE**

PROFESSIONAL ENGINEER  
LICENSE NO. 40988  
EXPIRES 12/31/2017

SHEET TITLE:  
**SITE PLAN**

SHEET NUMBER:  
**3 OF 5**

**REDD & SIPES PROPERTIES**  
42 SINGLE FAMILY DETACHED UNITS

**LEGEND**

- STEEP SLOPES 15%-24.99%
- STEEP SLOPES 25%+
- SPECIMEN TREE (PROPOSED TO BE REMOVED)
- CRITICAL ROOT ZONE
- FOREST CONSERVATION EASEMENT
- RECREATION OPEN SPACE

**NOTES**

- ALL UNDERGROUND ROOF LEADERS WILL BE 6" PVC PIPE.
- ALL BIO-RETENTION FACILITIES LEADING TO THEIR OWN OUTFALL POINT WILL HAVE OUTFALL PIPES SIZED TO HANDLE THE 10-YR STORM EVENT.
- STORMWATER QUALITY MANAGEMENT WILL BE PROVIDED BY BIO-RETENTION FACILITIES, 9 MICRO-BIORETENTION FACILITIES, 1 JELLYFISH INLET, AND MID-370 EXTENDED DETENTION POND.
- ALL SLOPES GREATER THAN 3 TO 1 SHALL RECEIVE SOIL STABILIZATION MATING, TOPSOIL, SEED, & MULCH.

**OWNERS:**  
RHONDA REDD  
322 W. 52nd STREET  
#891  
NEW YORK, NY 10101  
PHONE: (917) 825-2761

**DEVELOPER:**  
ELM STREET DEVELOPMENT  
5074 DORSEY HALL ROAD, SUITE 205  
COLUMBIA, MD 21042  
CONTACT: JASON VAN KIRK  
PHONE: (410) 729-3021

**FREDERICK SIPES, JR.**  
JOHNNY SIPES  
DAVID SIPES  
850 MARRIOTTSVILLE RD  
MARRIOTTSVILLE, MD 21104  
PHONE: (410) 596-6765

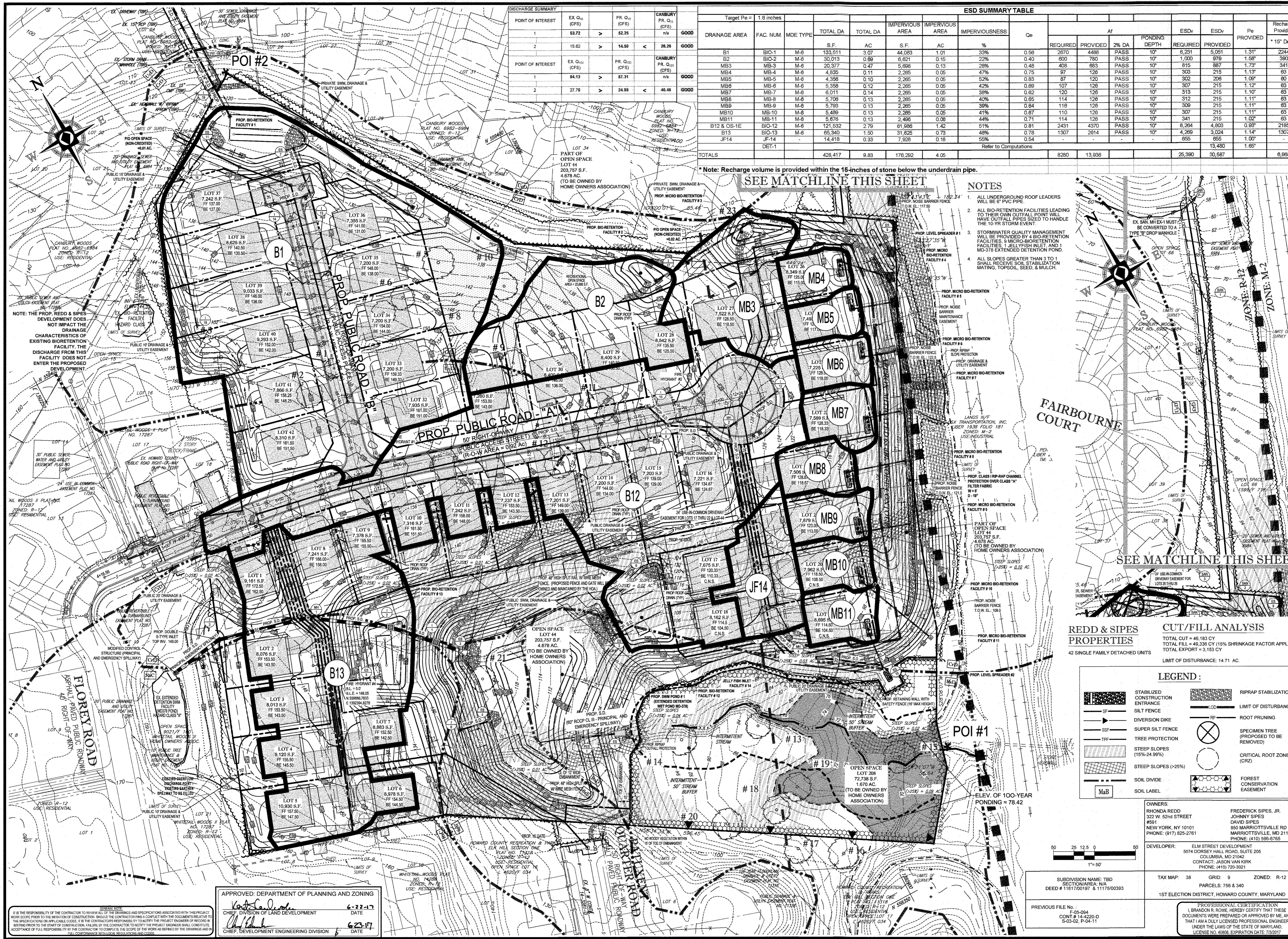
**APPROVED: DEPARTMENT OF PLANNING AND ZONING**  
DATE: 6-22-17  
DATE: 6-23-17

PREVIOUS FILE No.: 05-05-04  
CONT # 14-4220-D  
S-03-02, P-04-11

TAX MAP: 38 GRID: 9 ZONED: R-12  
PARCELS: 756 & 340  
1ST ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

PROFESSIONAL CERTIFICATION  
I, BRANDON R. ROWE, 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. 40988, EXPIRATION DATE: 7/31/2017





DISCHARGE SUMMARY

POINT OF INTEREST	EX Q <sub>10</sub> (CFS)	PR Q <sub>10</sub> (CFS)	CANBURY PR. Q <sub>10</sub> (CFS)	
1	53.72	> 52.25	n/a	GOOD
2	15.62	> 14.99	< 26.26	GOOD

POINT OF INTEREST	EX Q <sub>100</sub> (CFS)	PR Q <sub>100</sub> (CFS)	CANBURY PR. Q <sub>100</sub> (CFS)	
1	84.13	> 87.31	n/a	GOOD
2	27.79	> 24.88	< 40.46	GOOD

ESD SUMMARY TABLE

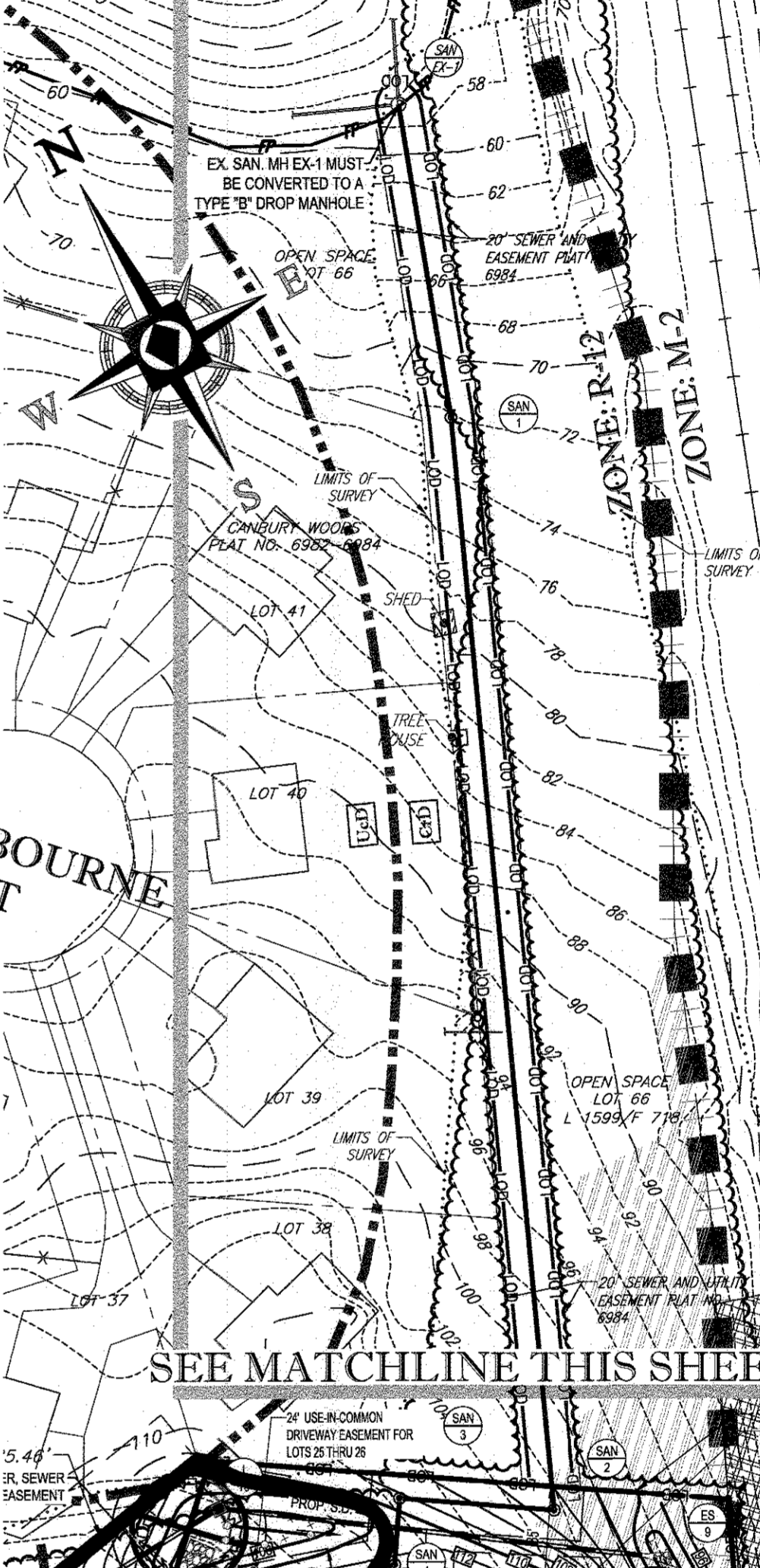
DRAINAGE AREA	FAC. NUM.	MODE TYPE	TOTAL DA	TOTAL DA	IMPERVIOUS AREA	IMPERVIOUS AREA	IMPERVIOUSNESS	Q <sub>e</sub>	A <sub>f</sub>		ESD <sub>v</sub>		Pe	Recharge Provided	
									REQUIRED	PROVIDED	REQUIRED	PROVIDED			
B1	BIO-1	M-6	133,511	3.07	44,083	1.01	33%	0.56	2670	4488	10"	6,231	5,051	1.31"	2244
B2	BIO-2	M-6	30,013	0.69	6,621	0.15	22%	0.40	600	780	PASS	1,030	979	1.56"	390
MB3	MB-3	M-6	20,377	0.47	5,068	0.13	24%	0.48	408	653	PASS	815	587	1.73"	241
MB4	MB-4	M-6	4,338	0.11	2,265	0.05	52%	0.75	97	126	PASS	303	215	1.13"	83
MB5	MB-5	M-6	4,356	0.10	2,265	0.05	52%	0.83	87	120	PASS	302	206	1.09"	80
MB6	MB-6	M-6	5,358	0.12	2,265	0.05	42%	0.69	107	126	PASS	307	215	1.12"	85
MB7	MB-7	M-6	6,011	0.14	2,265	0.05	38%	0.62	120	126	PASS	313	215	1.10"	83
MB8	MB-8	M-6	5,708	0.13	2,265	0.05	40%	0.85	114	126	PASS	312	215	1.11"	83
MB9	MB-9	M-6	5,793	0.13	2,265	0.05	39%	0.84	116	126	PASS	309	215	1.11"	83
MB10	MB-10	M-6	5,489	0.13	2,265	0.05	41%	0.67	110	126	PASS	307	215	1.11"	83
MB11	MB-11	M-6	5,878	0.13	2,496	0.06	44%	0.71	114	126	PASS	341	215	1.02"	85
B12 & OS-1E	BIO-12	M-6	121,532	2.79	61,899	1.42	51%	0.81	2431	4370	PASS	8,294	4,803	0.98"	2185
B13	BIO-13	M-6	65,340	1.50	31,625	0.73	48%	0.78	1307	2614	PASS	4,299	3,024	1.14"	1307
JF14	JF-14		14,418	0.33	7,928	0.18	55%	0.54	-	-	-	655	655	1.00"	-
TOTALS	DET-1		428,417	9.83	176,292	4.05			8280	13,936		25,390	30,587		6,988

Note: Recharge volume is provided within the 15-inches of stone below the underdrain pipe.

SEE MATCHLINE THIS SHEET

NOTES

- ALL UNDERGROUND ROOF LEADERS WILL BE 6" PVC PIPE.
- ALL BIO-RETENTION FACILITIES LEADING TO THEIR OWN OUTFALL POINT WILL HAVE OUTFALL PIPES SIZED TO HANDLE THE 10-YR STORM EVENT.
- STORMWATER QUALITY MANAGEMENT WILL BE PROVIDED BY 4 BIO-RETENTION FACILITIES, 9 MICRO-BIORETENTION FACILITIES, 1 JELLYFISH INLET AND 1 MD-378 EXTENDED DETENTION POND.
- ALL SLOPES GREATER THAN 3 TO 1 SHALL RECEIVE SOIL STABILIZATION MATING, TOPSOIL, SEED, & MULCH.



REDD & SIPES PROPERTIES  
 42 SINGLE FAMILY DETACHED UNITS

CUT FILL ANALYSIS  
 TOTAL CUT = 46,183 CY  
 TOTAL FILL = 49,336 CY (15% SHRINKAGE FACTOR APPLIED)  
 TOTAL EXPORT = 3,153 CY  
 LIMIT OF DISTURBANCE: 14.71 AC.

LEGEND:

[Symbol]	STABILIZED CONSTRUCTION ENTRANCE	[Symbol]	RIPRAP STABILIZATION
[Symbol]	SILT FENCE	[Symbol]	LIMIT OF DISTURBANCE
[Symbol]	DIVERSION DIKE	[Symbol]	ROOT PRUNING
[Symbol]	SUPER SILT FENCE	[Symbol]	SPECIMEN TREE (PROPOSED TO BE REMOVED)
[Symbol]	TREE PROTECTION	[Symbol]	CRITICAL ROOT ZONE (CRZ)
[Symbol]	STEEP SLOPES (15%-24.99%)	[Symbol]	FOREST CONSERVATION EASEMENT
[Symbol]	STEEP SLOPES (>25%)	[Symbol]	SOIL LABEL
[Symbol]	SOIL DIVIDE		

OWNERS:  
 RHONDA REDD  
 322 W. 52nd STREET  
 #591  
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 DAVID SIPES  
 850 MARRIOTTSVILLE RD  
 MARRIOTTSVILLE, MD 21104  
 PHONE: (410) 596-6765

DEVELOPER:  
 ELM STREET DEVELOPMENT  
 6074 DORSEY HALL ROAD, SUITE 205  
 COLUMBIA, MD 21042  
 CONTACT: JASON VAN KIRK  
 PHONE: (410) 720-3021

SUBDIVISION NAME: TBD  
 SECTION/AREA: N/A  
 DEED #: 1161700197 & 1117600393

TAX MAP: 38 GRID: 9 ZONED: R-12  
 PARCELS: 756 & 340  
 1ST ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

PREVIOUS FILE No.: 1-05-094  
 CONT # 14-4220-D  
 S-03-02, P-04-11

PROFESSIONAL CERTIFICATION  
 I, BRANDON R. ROWE, 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. 40808, EXPIRATION DATE 7/30/27

**BOHLER ENGINEERING**

CORPORATE OFFICE:  
 WAREHOLD, NJ

PROJECT MANAGERS:  
 BOHLE, MD  
 TOWNSEND, MD  
 WAREHOLD, NJ

ENVIRONMENTAL CONSULTANTS:  
 BOHLE, MD  
 TOWNSEND, MD  
 WAREHOLD, NJ

LANDSCAPE ARCHITECTS:  
 BOHLE, MD  
 TOWNSEND, MD  
 WAREHOLD, NJ

CIVIL & CONSULTING ENGINEERS  
 SURVEYORS  
 ENVIRONMENTAL CONSULTANTS  
 LANDSCAPE ARCHITECTS

REVISIONS

REV	DATE	COMMENT	BY

THE FOLLOWING STATES REQUIRE NOTIFICATION BY EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN THE STATE OF VIRGINIA, MARYLAND, THE DISTRICT OF COLUMBIA, AND DELAWARE CALL: 811  
 WV 1-800-646-6867 (PA 1-800-242-7776) (DC 1-800-357-7777) (MD 1-800-552-7001) (VA 1-800-557-7777) (DC 1-800-552-8559)

NOT APPROVED FOR CONSTRUCTION

PROJECT No. MD152015  
 DRAWN BY: AVG  
 CHECKED BY: JA  
 DATE: 05/16/17  
 SCALE: AS NOTED  
 CAD I.D.: EC3

ENVIRONMENTAL CONCEPT PLAN

FOR  
**REDD & SIPES PROPERTIES**  
 LOTS 14-2 & OPEN SPACE LOTS 43 & 44

LOCATION OF SITE  
 5920 FLOREY ROAD  
 ELK RIDGE, MD  
 1ST ELECTION DISTRICT  
 TAX MAP 38, GRID 9  
 PARCELS 756 & 340  
 HOWARD COUNTY

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**B.R. ROWE**

PROFESSIONAL ENGINEER  
 LICENSE NO. 40808  
 EXPIRATION DATE 7/30/27

ENVIRONMENTAL CONCEPT PLAN

SHEET NUMBER:  
**4 OF 5**

GENERAL NOTE  
 IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REVIEW ALL OF THE DRAWINGS AND SPECIFICATIONS ASSOCIATED WITH THIS PROJECT WORK. WORK SHALL BE IN ACCORDANCE WITH THE DRAWINGS AND SPECIFICATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING THE PROJECT ENGINEER OF ANY DISCREPANCIES OR OMISSIONS PRIOR TO THE START OF CONSTRUCTION. FAILURE BY THE CONTRACTOR TO NOTIFY THE PROJECT ENGINEER SHALL CONSTITUTE ACCEPTANCE OF FULL RESPONSIBILITY BY THE CONTRACTOR TO COMPLETE THE SCOPE OF THE WORK AS SHOWN BY THE DRAWINGS AND ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE DRAWINGS AND SPECIFICATIONS.

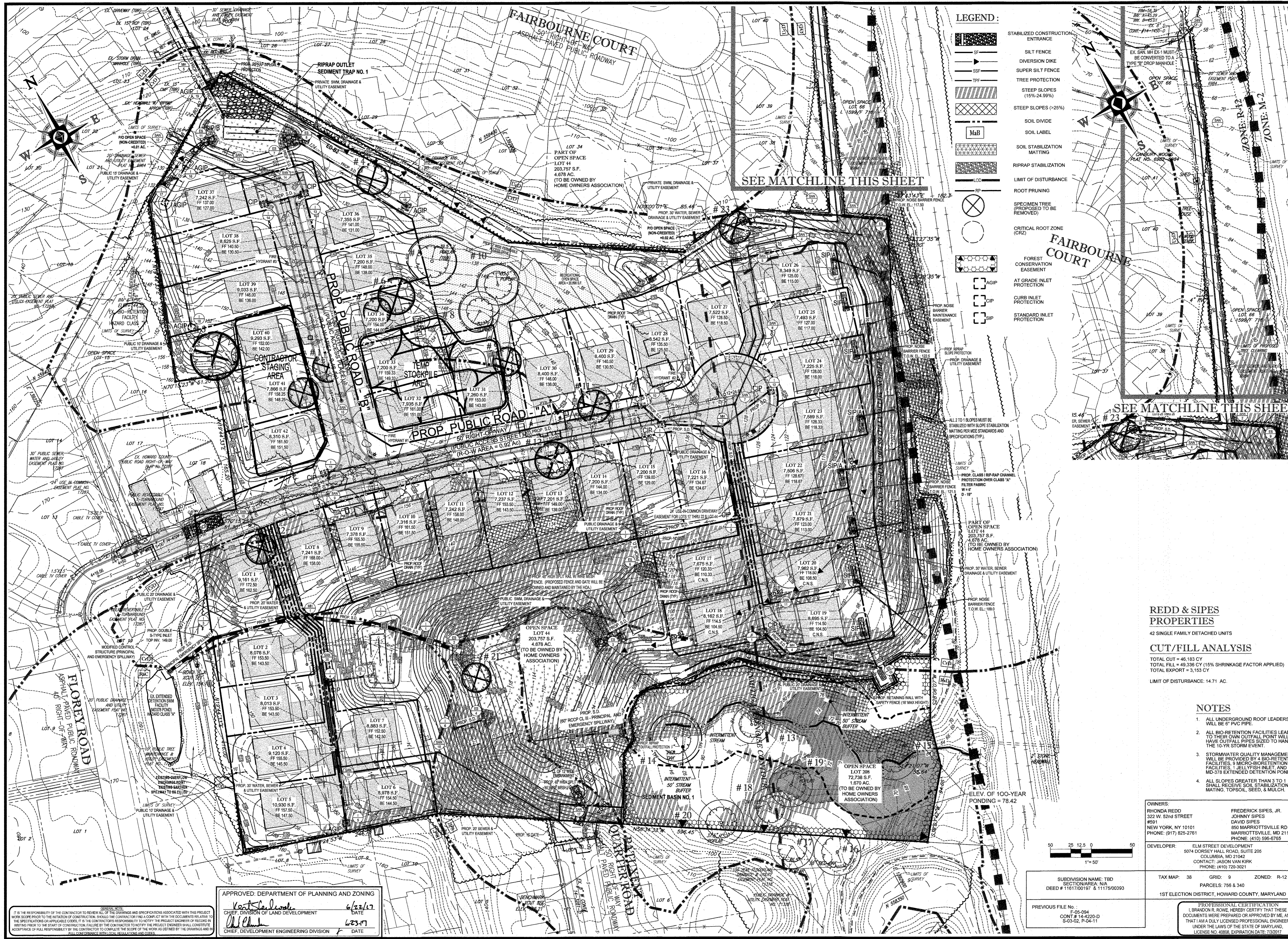
APPROVED: DEPARTMENT OF PLANNING AND ZONING

*[Signature]* 6-22-17  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

*[Signature]* 6-23-17  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

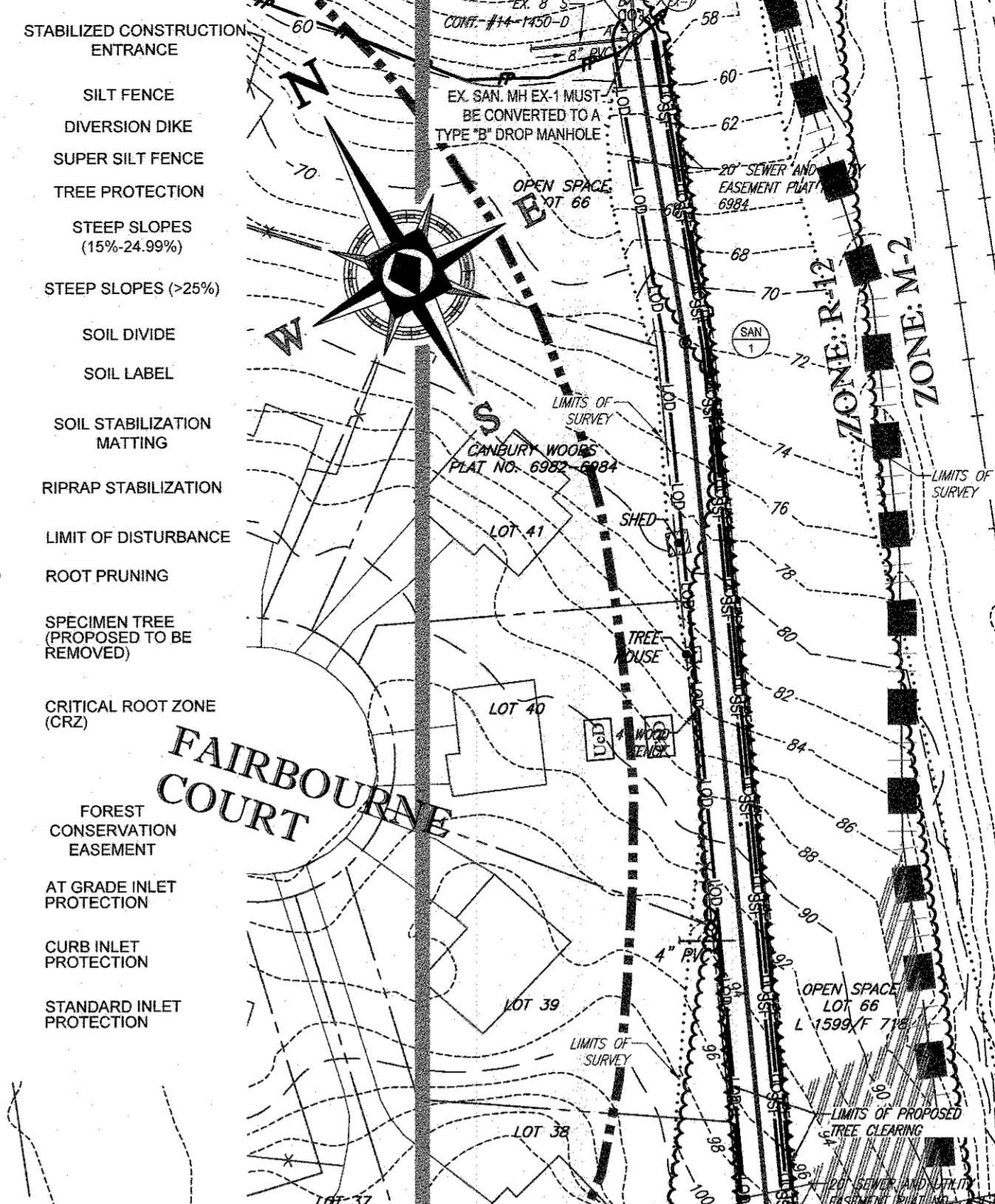
PROJECT: 20150520/20150520/ENVIRONMENTAL CONCEPT PLAN/SECTION: PARCELS 756 & 340, LOT 14-2 & 43 & 44, LOT 14-2 & 43 & 44





**LEGEND:**

- STABILIZED CONSTRUCTION ENTRANCE
- SILT FENCE
- DIVERSION DIKE
- SUPER SILT FENCE
- TREE PROTECTION
- STEEP SLOPES (15%-24.99%)
- STEEP SLOPES (>25%)
- SOIL DIVIDE
- SOIL LABEL
- SOIL STABILIZATION MATTING
- RIPRAP STABILIZATION
- LIMIT OF DISTURBANCE
- ROOT PRUNING
- SPECIMEN TREE (PROPOSED TO BE REMOVED)
- CRITICAL ROOT ZONE (CRZ)
- FOREST CONSERVATION EASEMENT
- AT GRADE INLET PROTECTION
- CURB INLET PROTECTION
- STANDARD INLET PROTECTION



SEE MATCHLINE THIS SHEET

SEE MATCHLINE THIS SHEET

**BOHLER ENGINEERING**

CORPORATE OFFICE: WARREN, NJ  
 OFFICES: BOZERSHOVEN, VA; TOWSON, MD; WASHINGTON, DC; WARRINGTON, VA; HAGERSTOWN, VA; FORT LAUDERDALE, FL; PHILADELPHIA, PA

CIVIL & CONSULTING ENGINEERS  
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 PROJECT MANAGERS  
 ENVIRONMENTAL CONSULTANTS  
 LANDSCAPE ARCHITECTS

**REVISIONS**

REV	DATE	COMMENT	BY

**NOT APPROVED FOR CONSTRUCTION**

PROJECT No: MD152015  
 DRAWN BY: AVG  
 CHECKED BY: JA  
 DATE: 05/19/17  
 SCALE: AS NOTED  
 CAD I.D.: EGS

**ENVIRONMENTAL CONCEPT PLAN**

FOR  
**REDD & SIPES PROPERTIES**  
 LOTS 1-42 & OPEN SPACE LOTS 43 & 44

LOCATION OF SITE  
 5920 FLOREY ROAD  
 ELK RIDGE, MD  
 1ST ELECTION DISTRICT  
 TAX MAP 38, GRID 9  
 PARCELS 756 & 340  
 HOWARD COUNTY

**REDD & SIPES PROPERTIES**  
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**CUT/FILL ANALYSIS**  
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 TOTAL EXPORT = 3,153 CY

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TAX MAP: 38 GRID: 9 ZONED: R-12  
 PARCELS: 756 & 340  
 1ST ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

PREVIOUS FILE No.: 6-05-04  
 CONT # 14-2220-D  
 S-03-02, P-04-11

PROFESSIONAL CERTIFICATION  
 I, BRANDON R. ROWE, HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A FULLY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 00808, EXPIRATION DATE 7/3/2017

APPROVED: DEPARTMENT OF PLANNING AND ZONING

*Brandon R. Rowe* 6/22/17  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

*Alvin* 6/23/17  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

GENERAL NOTE:  
 IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REVIEW THE DRAWINGS AND SPECIFICATIONS ASSOCIATED WITH THIS PROJECT WORK SCOPE PRIOR TO THE INCEPTION OF CONSTRUCTION. SHOULD THE CONTRACTOR FIND A DISCREPANCY WITH THE DOCUMENTS RELATIVE TO THE SPECIFICATIONS OR APPROPRIABLE CODES, IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE PROJECT ENGINEER IN WRITING PRIOR TO THE START OF CONSTRUCTION. FAILURE BY THE CONTRACTOR TO NOTIFY THE PROJECT ENGINEER SHALL CONSTITUTE ACCEPTANCE OF FULL RESPONSIBILITY BY THE CONTRACTOR TO COMPLETE THE SCOPE OF THE WORK AS DEFINED BY THE DRAWINGS AND ALL CONCERNING REGULATIONS, ORDINANCES, AND CODES.

**B.R. ROWE**  
 PROFESSIONAL ENGINEER  
 LICENSE NO. 00808, EXPIRATION DATE 7/3/2017

SHEET TITLE:  
**SEDIMENT CONTROL ENVIRONMENTAL CONCEPT PLAN**

SHEET NUMBER:  
**5 OF 5**