

ESD NARRATIVE

1. NO DISTURBANCE TO THE ON-SITE 100-YEAR FLOODPLAIN, STREAMS, OR STREAM BUFFERS IS PROPOSED AS PART OF THIS PROJECT. DISTURBANCE TO THE ON-SITE WETLAND AND WETLAND BUFFER WILL BE ONLY NECESSARY FOR THE CONSTRUCTION OF THE PUBLIC ROAD AND WILL OCCUR AT THE POINT OF THE SMALLEST EXTENT OF WETLANDS AND BUFFERS. EXISTING FOREST IS BEING PROTECTED WHERE PRACTICAL BY WAY OF CONSTRUCTING THE PROPOSED ROADWAYS PREDOMINANTLY IN AREAS WHERE THERE IS NO FOREST STAND PRESENT OR AT THE EDGES OF THE EXISTING FOREST. EXISTING FOREST IS ALSO BEING PROTECTED BY WAY OF THE DEVELOPMENT BEING A SINGLE-FAMILY SEMI-DETACHED DESIGN, WHICH WILL DISTURB LESS FOREST THAN A STANDARD SINGLE-FAMILY DETACHED DEVELOPMENT WOULD TO CONSTRUCT THE SAME NUMBER OF DWELLINGS. THERE IS CURRENTLY A GRAVEL ACCESS ROAD THROUGH THE PROPERTY THAT DOES NOT HAVE ANY STORMWATER MANAGEMENT TREATMENT. THE PROPOSED DRY WELLS AND MICRO-BIORETENTION FACILITIES WILL PROVIDE STORMWATER QUALITY TREATMENT FOR THE NEW DEVELOPMENT, WHICH WILL BE AN IMPROVEMENT OVER EXISTING CONDITIONS.

2. THE IMPROVEMENTS AND DEVELOPED AREA WILL MAINTAIN THE EXISTING DRAINAGE PATTERNS AS CLOSELY AS POSSIBLE. NO IMPACT IS PROPOSED THAT WOULD ALTER ANY NATURAL FLOW PATTERNS.

3. THE USE OF NON-STRUCTURAL PRACTICES (ROOFTOP AND NON-ROOFTOP DISCONNECTION) WAS EXPLORED. DUE TO THE STEEPNESS OF THE EXISTING TOPOGRAPHY AND THE SMALL SIZE OF THE LOTS, ROOFTOP DISCONNECTION (N-1) IS NOT FEASIBLE. DUE TO THE SHORT LENGTH OF THE DRIVEWAYS, THEIR STEEPNESS AND THE REQUIREMENT OF CURBS FOR THE PUBLIC ROADS, NON-ROOFTOP DISCONNECTION (N-2) IS ALSO NOT FEASIBLE FOR THIS PROJECT. ALTHOUGH NOT ACCOUNTED FOR IN THE CALCULATIONS, SOME ADDITIONAL TREATMENT BY WAY OF SHEET FLOW TO CONSERVATION (N-3) WILL BE ACHIEVED BY THIS PROJECT.

4. THE REQUIRED EROSION AND SEDIMENT CONTROL MEASURES WILL BE IN ACCORDANCE WITH THE LATEST STATE STANDARDS AND SPECIFICATIONS UTILIZING SILT FENCES AND SUPER SILT FENCES. AREAS OF CONCENTRATED FLOW WILL BE MITIGATED THROUGH THE USE OF CHECK DAMS (TEMPORARY).

5. TABLE 5.2, SUMMARY OF SITE DEVELOPMENT STRATEGIES WAS UTILIZED TO THE EXTENT ALLOWABLE BY THE CURRENT HOWARD COUNTY ZONING AND LAND DEVELOPMENT REGULATIONS BY UTILIZING NON-STRUCTURAL PRACTICES WHERE REASONABLE AND MINIMIZING DISTURBANCE TO EXISTING FOREST, WETLANDS AND THEIR BUFFERS AND HAVING NO DISTURBANCE IN THE STREAM, FLOODPLAIN, OR THEIR ASSOCIATED BUFFERS.

6. IN DESIGNING THIS PROJECT, AND AFTER WE PLANNED THE PROJECT TO MINIMIZE IMPERVIOUS AREAS, WE UTILIZED ESD MEASURES IN THE FOLLOWING ORDER OF PREFERENCE:

A. MICRO-SCALE PRACTICES (M-5, M-6)

SITE ANALYSIS DATA:

- AREA OF THE SITE = 17.26 Ac ±
LIMIT OF DISTURBANCE (LOD) = 6.43 Ac ±
- AREA OF WETLANDS (ON-SITE) = 8.84 Ac ±
AREA OF WETLAND BUFFERS (ON-SITE) = 1.66 Ac ±
- AREA OF FLOODPLAIN (ON-SITE) = 5.59 Ac ±
- AREA OF STREAM BANK (ON-SITE) = 0.05 Ac ±
AREA OF STREAM BUFFER (ON-SITE) = 6.21 Ac ±
- AREA OF STEEP SLOPES (15% OR GREATER WITHIN LOD FOR A VERTICAL DISTANCE OF 10 FEET OR MORE) = 0
- AREA OF FOREST (ON-SITE) = 15.45 Ac ±
AREA OF FOREST (ON-SITE, NOT INCL. FLOODPLAIN) = 10.7 Ac ±
- TOTAL ENVIRONMENTAL SENSITIVE AREA (ON-SITE) = 15.74 Ac ±
(TAKING OVERLAPPING OF AREAS INTO ACCOUNT FOR ITEMS 2-6)
- THIS SITE CONTAINS GLENVILLE SILT LOAM AND GLENVILLE-BAILE SILT LOAM WHICH ARE HIGHLY ERODIBLE SOILS. GLENVILLE-BAILE SILT LOAM IS A HYDRIC SOIL.
- TWENTY-TWO (22) SEMI-DETACHED SINGLE-FAMILY RESIDENTIAL UNITS ARE PROPOSED.
- TOTAL IMPERVIOUS AREA: 3.24 Ac / 141,248 SF
BUILDINGS AND ASSUMED DECKS: 1.24 Ac / 54,168 SF
DRIVEWAYS (IUC AND LOT): 0.46 Ac / 19,912 SF
PUBLIC ROADS: 1.25 Ac / 54,658 SF
SIDEWALKS AND PATHWAYS: 0.29 Ac / 12,510 SF
- AREA OF POST-DEVELOPMENT GREEN OPEN SPACE = 14.02 Ac ±

DENSITY CALCULATIONS:

GROSS AREA OF THE SITE = 17.26 Ac
AREA OF FLOODPLAIN (ON-SITE) = 5.59 Ac
NET AREA OF THE SITE = 11.67 Ac (FOR DENSITY)
ALLOWABLE DEVELOPABLE LOTS = 2 LOTS / NET ACRE
2 x 11.67 = 23.34 = 23 LOTS
PROPOSED DEVELOPABLE LOTS = 22 LOTS

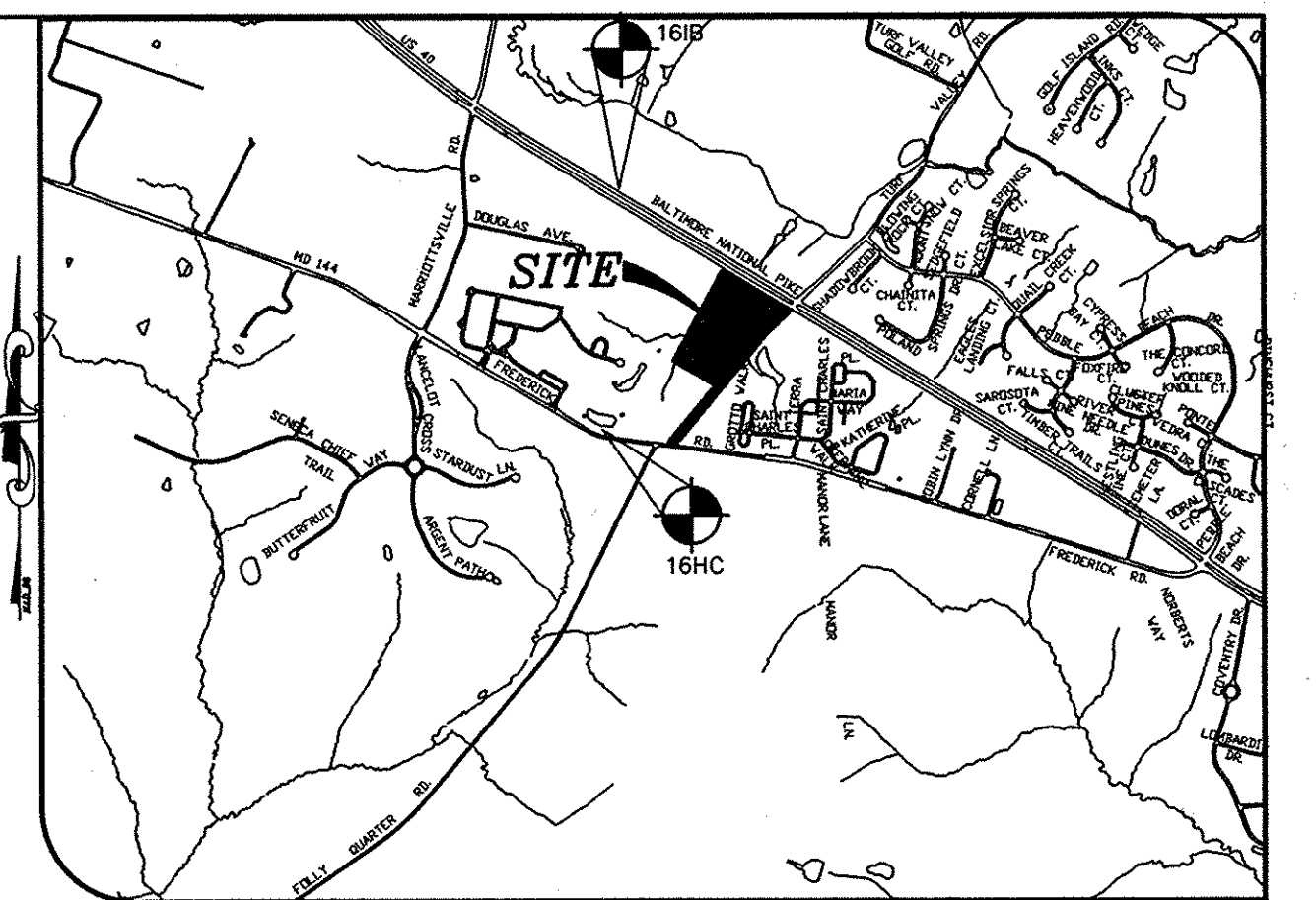
SOILS DESCRIPTION

SYMBOL	HYDROLOGICAL DESCRIPTION GROUP	Kw	Kf	MAP INDEX	HYDRIC
GbC	B (GLADSTONE LOAM, 8-15 PERCENT SLOPES)	0.20	0.24	1/2	NO
GmB	C (GLENVILLE SILT LOAM, 0-3 PERCENT SLOPES)	0.37	0.43	1/2	NO
GmB	C (GLENVILLE SILT LOAM, 0-3 PERCENT SLOPES)	0.37	0.43	1/2	NO
GmB	C (GLENVILLE-BAILE SILT LOAMS, 0-8 PERCENT SLOPES)	0.37	0.43	1/2	YES

LEGEND

- AREA TREATED BY M-5, DRY WELLS
- AREA TREATED BY M-6, MICRO-BIORETENTION
- M-5, DRY WELL
- M-6, MICRO-BIORETENTION FACILITY I.D.
- D.A. MB-X, DRAINAGE AREA TO M-6, MICRO-BIORETENTION
- AREA OF 100-YEAR FLOODPLAIN
- 100.00 100-YEAR FLOODPLAIN ELEVATION
- AREA OF WETLAND
- LOD LIMIT OF DISTURBANCE (LOD)
- RC-DEO ZONING DIVISION LINE
- R-ED ZONING DIVISION LINE
- GbC(B) SOIL TYPE DIVISION LINE
- GmB(C) SOIL TYPE DIVISION LINE
- SCE STABILIZED CONSTRUCTION ENTRANCE
- A-2 EARTH DIKE (A-2)
- SSF SUPER SILT FENCE
- EXISTING CONTOURS
- 100 PROPOSED CONTOURS
- X100.0 EXISTING SPOT ELEVATION
- 00x00 PROPOSED SPOT ELEVATION
- EXISTING TREELINE
- PROPOSED TREELINE
- RD ROOF DRAIN LEADER
- 5,000 SF (G) LOT AREA (INCLUDING PIPESTEM AREA)
- 5,000 SF (N) LOT AREA (NOT INCLUDING PIPESTEM AREA)

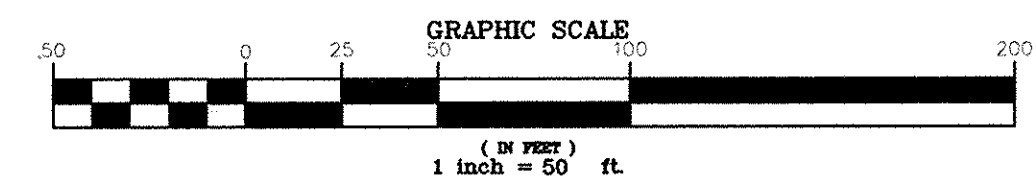
MATCHLINE - SHEET 2 OF 2



VICINITY MAP

SCALE: 1"=2000'
ADC MAP: 19 GRID: D5

- NOTES:**
- SITE ANALYSIS DATA:
LOCATION: TAX MAP: 16 GRID: 23 PARCEL: 248
ELECTION DISTRICT: THIRD
ZONING: R-ED, RC-DEO
TOTAL AREA: 17.26 AC ± (16.36 AC ± R-ED, 0.90 AC ± RC-DEO)
LIMIT OF DISTURBED AREA: 6.43 AC ± (INCLUDING OFFSITE)
PROPOSED USE FOR SITE: RESIDENTIAL
TOTAL NUMBER OF UNITS: 22
TYPE OF PROPOSED UNIT: SINGLE FAMILY SEMI-DETACHED
DEED REFERENCE: L 11592, F 327
PREVIOUS DPZ NUMBERS: NONE
 - HORIZONTAL AND VERTICAL DATUMS ARE RELATED TO THE MARYLAND STATE PLANE COORDINATE SYSTEM AS PROJECTED FROM HOWARD COUNTY CONTROL STATIONS NO. 16HC & 16IB
STA. No. 16HC N 589,780.950 E 1,341,530.091 EL. 448.65
STA. No. 16IB N 590,475.297 E 1,344,753.928 EL. 469.84
 - THIS PLAN IS SUBJECT TO THE AMENDED FIFTH EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS (COUNCIL BILL 45-2003). DEVELOPMENT OR CONSTRUCTION OF THESE LOTS MUST COMPLY WITH SETBACK AND BUFFER REGULATIONS IN EFFECT AT THE TIME OF SUBMISSION OF THE SITE DEVELOPMENT PLAN, WAIVER PETITION OR BUILDING/GRADING PERMIT.
 - SITE DEVELOPMENT PLAN APPROVAL BY THE DEPARTMENT OF PLANNING AND ZONING IS REQUIRED PRIOR TO BUILDING PERMITS BEING ISSUED FOR THE CONSTRUCTION OF RESIDENTIAL DWELLINGS ON THESE LOTS.
 - BOUNDARY SHOWN HEREON IS BASED ON FIELD RUN SURVEY BY MILDENBERG, BOENDER AND ASSOC. IN DECEMBER, 2009.
 - ON-SITE TOPOGRAPHY SHOWN HEREON IS BASED ON FIELD RUN SURVEY BY MILDENBERG, BOENDER AND ASSOC. IN DECEMBER, 2009. OFFSITE TOPOGRAPHY BASED ON HOWARD COUNTY GIS.
 - FOREST STAND AND WETLAND DELINEATIONS ARE BASED ON A STUDY PERFORMED BY ECO-SCIENCE PROFESSIONALS IN NOVEMBER, 2009.
 - 100-YEAR FLOODPLAIN DELINEATION BASED ON A STUDY PREPARED BY MILDENBERG, BOENDER, AND ASSOCIATES, INC. IN JUNE, 2012.
 - FOREST CONSERVATION OBLIGATIONS IN ACCORDANCE WITH SECTION 16.1200 OF THE HOWARD COUNTY CODE AND FOREST CONSERVATION ACT FOR THIS SUBDIVISION WILL BE FULFILLED BY ON-SITE FOREST CONSERVATION (RETENTION).
 - THIS SITE IS NOT LOCATED IN A HISTORIC DISTRICT.
 - APPROVAL OF THIS ECP DOES NOT CONSTITUTE ANY APPROVAL OF SUBSEQUENT AND ASSOCIATED SUBDIVISION PLAN / PLAT AND / OR SITE DEVELOPMENT PLAN AND / OR RED-LINE REVISION PLAN. REVIEW OF THIS PROJECT FOR COMPLIANCE WITH THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS SHALL OCCUR AT THE SUBDIVISION PLAN / PLAT AND / OR SITE DEVELOPMENT PLAN STAGES AND / OR RED-LINE REVISION PROCESS. THE APPLICANT AND CONSULTANT SHOULD EXPECT ADDITIONAL AND MORE DETAILED REVIEW COMMENTS (INCLUDING COMMENTS THAT MAY ALTER THE OVERALL SITE DESIGN) AS THIS PROCESS PROGRESSES THROUGH THE PLAN REVIEW PROCESS.
 - A WAIVER TO SECTION 16.116(a)(1) OF THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS WILL BE REQUESTED TO ALLOW DISTURBANCE WITHIN THE WETLANDS AND BUFFER FOR THE CONSTRUCTION OF A PUBLIC ROAD.
 - AN ADMINISTRATIVE ADJUSTMENT (AA) WILL BE APPLIED FOR TO CORRECT THE ZONING OF THE "PIPE-STEM" AREA OF THE PROPERTY FROM RC-DEO TO R-ED.



SHEET INDEX

SHEET	TITLE
1	ENVIRONMENTAL CONCEPT PLAN
2	ENVIRONMENTAL CONCEPT PLAN
3	ENVIRONMENTAL CONCEPT DETAILS

SEE SHEET 2 FOR ENVIRONMENTAL SITE DESIGN (ESD) SUMMARY.

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. 40091, EXP DATE 2/13/15.

JEFFREY SLOMAN, P.E. 11/15/14 DATE

OWNER / DEVELOPER

CADOGAN PROPERTY, LLC
7350-B GRACE DRIVE
COLUMBIA, MARYLAND 21044
(410)997-0296

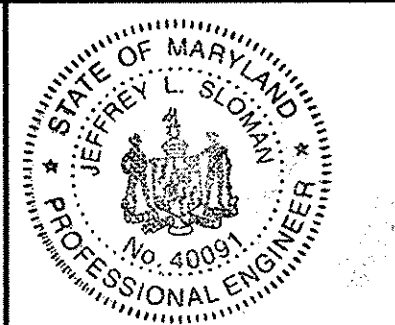
APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION

CHIEF, DIVISION OF LAND DEVELOPMENT

11/6/14 DATE

11/18/14 DATE



Project	NOV 2014	date	NOV 2014
Illustration	09-004	illustration	09-004
Scale	1/8" = 1' = 50'	scale	1/8" = 1' = 50'
Approval	JLS	approval	JLS
Revisions		revisions	

ST. CHARLES WOODS, LOTS 1 THRU 22 AND OPEN SPACE LOT 23
10611 BALTIMORE NATIONAL PIKE, ELLICOTT CITY, MD 21042
THIRD ELECTION DISTRICT - PARCEL 248 - GRID 23
HOWARD COUNTY, MARYLAND
ENVIRONMENTAL CONCEPT PLAN

MILDENBERG, BOENDER & ASSOC., INC.
Engineers Planners Surveyors
7350-B Grace Drive, Columbia, Maryland 21044
(410) 997-0296 Tel. (410) 997-0298 Fax.

SWM PRACTICES SCHEDULE

AREA	ESD METHOD	TREATED AREA TYPE	ESDv (REQ)	(PROVIDED)	Pe (REQUIRED)	Pe (PROVIDED)		
LOT 1	DRY WELLS (M-5) - 3 UNITS, 8' x 7' x 3'	BUILDINGS, ASSUMED DECK / PATIO		504				
LOT 2	DRY WELLS (M-5) - 3 UNITS, 8' x 5' x 3'	BUILDINGS, ASSUMED DECK / PATIO		360				
LOT 3	DRY WELLS (M-5) - 3 UNITS, 8' x 5' x 3'	BUILDINGS, ASSUMED DECK / PATIO		360				
LOT 4	DRY WELLS (M-5) - 3 UNITS, 8' x 7' x 3'	BUILDINGS, ASSUMED DECK / PATIO		504				
LOT 5	DRY WELLS (M-5) - 3 UNITS, 8' x 7' x 3'	BUILDINGS, ASSUMED DECK / PATIO		504				
LOT 6	DRY WELLS (M-5) - 3 UNITS, 8' x 7' x 3'	BUILDINGS, ASSUMED DECK / PATIO		504				
LOT 7	DRY WELLS (M-5) - 3 UNITS, 8' x 7' x 3'	BUILDINGS, ASSUMED DECK / PATIO		504				
LOT 8	DRY WELLS (M-5) - 3 UNITS, 8' x 7' x 3'	BUILDINGS, ASSUMED DECK / PATIO		504				
LOT 9	DRY WELLS (M-5) - 3 UNITS, 8' x 7' x 3'	BUILDINGS, ASSUMED DECK / PATIO		504				
LOT 10	DRY WELLS (M-5) - 3 UNITS, 8' x 7' x 3'	BUILDINGS, ASSUMED DECK / PATIO		504				
LOT 11	DRY WELLS (M-5) - 3 UNITS, 8' x 7' x 3'	BUILDINGS, ASSUMED DECK / PATIO		504				
LOT 12	DRY WELLS (M-5) - 3 UNITS, 8' x 7' x 3'	BUILDINGS, ASSUMED DECK / PATIO		504				
LOT 13	DRY WELLS (M-5) - 3 UNITS, 8' x 7' x 3'	BUILDINGS, ASSUMED DECK / PATIO		504				
LOT 14	DRY WELLS (M-5) - 3 UNITS, 8' x 7' x 3'	BUILDINGS, ASSUMED DECK / PATIO		504				
LOT 15	DRY WELLS (M-5) - 3 UNITS, 8' x 7' x 3'	BUILDINGS, ASSUMED DECK / PATIO		504				
LOT 16	DRY WELLS (M-5) - 3 UNITS, 8' x 7' x 3'	BUILDINGS, ASSUMED DECK / PATIO		504				
LOT 17	DRY WELLS (M-5) - 3 UNITS, 8' x 7' x 3'	BUILDINGS, ASSUMED DECK / PATIO		504				
LOT 18	DRY WELLS (M-5) - 3 UNITS, 8' x 5' x 3'	BUILDINGS, ASSUMED DECK / PATIO		360				
LOT 19	DRY WELLS (M-5) - 3 UNITS, 8' x 5' x 3'	BUILDINGS, ASSUMED DECK / PATIO		360				
LOT 20	DRY WELLS (M-5) - 3 UNITS, 8' x 5' x 3'	BUILDINGS, ASSUMED DECK / PATIO		360				
LOT 21	DRY WELLS (M-5) - 3 UNITS, 8' x 5' x 3'	BUILDINGS, ASSUMED DECK / PATIO		360				
LOT 22	DRY WELLS (M-5) - 3 UNITS, 8' x 5' x 3'	BUILDINGS, ASSUMED DECK / PATIO		360				
ROAD A & S/W (STA 0+00 - 8+46), ROAD B, LOTS 15-22 DRIVEWAYS			MICRO-BIORETENTION FACILITY MB-1 (M-6)	IMPERVIOUS ROADWAY, DRIVEWAYS		4,207		
ROAD A & S/W (STA 8+46 - 12+04), LOTS 13-14 DRIVEWAYS			MICRO-BIORETENTION FACILITY MB-2 (M-6)	IMPERVIOUS ROADWAY, DRIVEWAYS		2,964		
ROAD A & S/W (STA 12+04 - 15+83), LOTS 1-12 DRIVEWAYS, LOTS 1-2 BUILDINGS & ROAD A CUL-DE-SAC			MICRO-BIORETENTION FACILITY MB-3 (M-6)	IMPERVIOUS ROADWAY, DRIVEWAYS, BUILDINGS		3,619		
TOTAL					20,639 CF	20,869 CF	1.80"	1.82"

* BY DESIGNING ESD MEASURES FOR "WOODS IN GOOD CONDITION", C₀ REQUIREMENTS ARE MET
 ** STORMWATER MANAGEMENT QUANTITY CONTROL FOR THE 10- AND 100-YEAR (Q_p, Q_f) STORM EVENTS IS NOT REQUIRED.

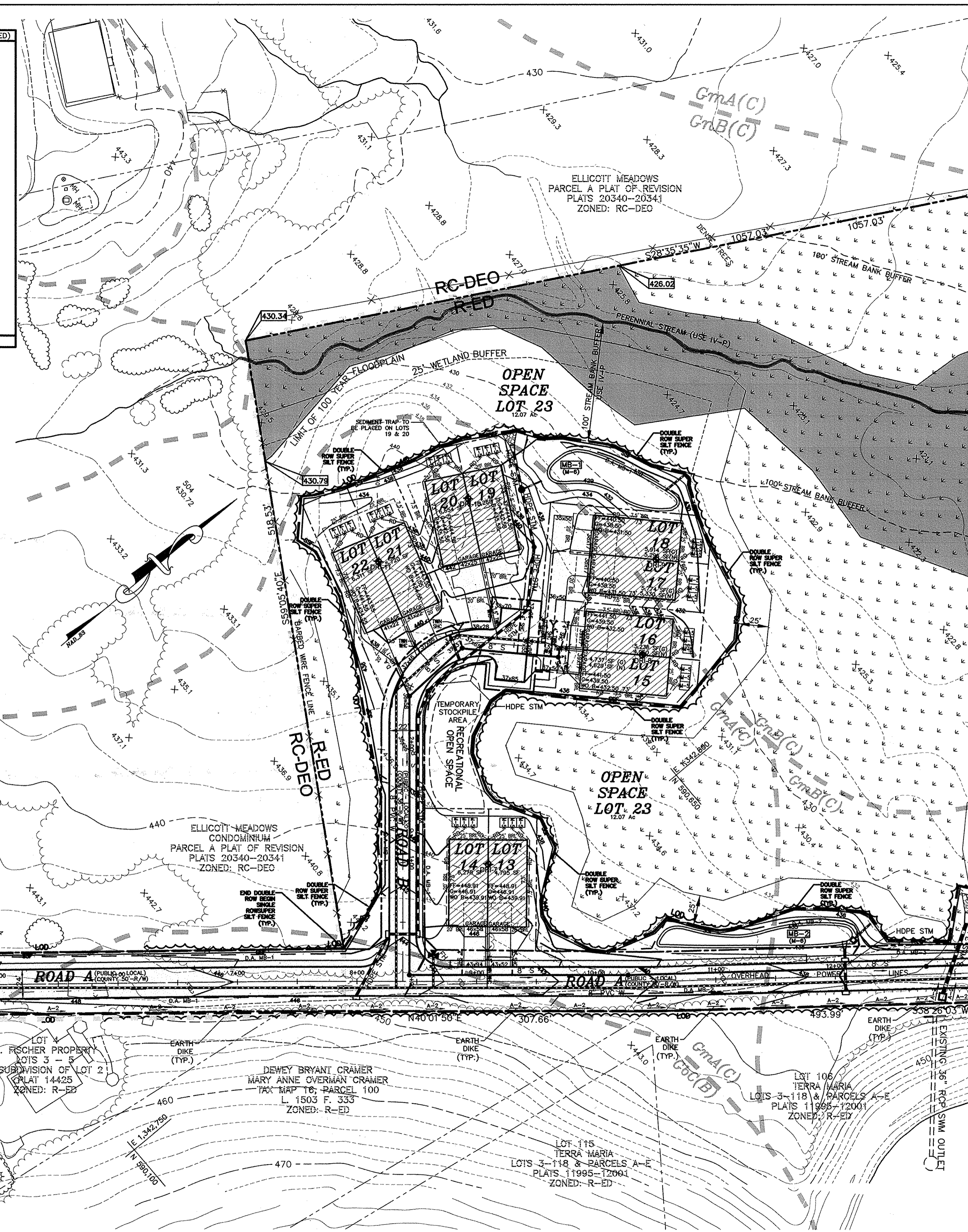
LEGEND

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RC-DEO ZONING DIVISION LINE

- A-2 EARTH DIKE (A-2)
- SSF SUPER SILT FENCE
- 100 EXISTING CONTOURS
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- X100.0 EXISTING SPOT ELEVATION
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- EXISTING TREELINE
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- ROOF DRAIN LEADER
- 5,000 SF (G) LOT AREA (INCLUDING PIPESTEM AREA)
- 5,000 SF (N) LOT AREA (NOT INCLUDING PIPESTEM AREA)

GRAPHIC SCALE
 1 inch = 50 ft.

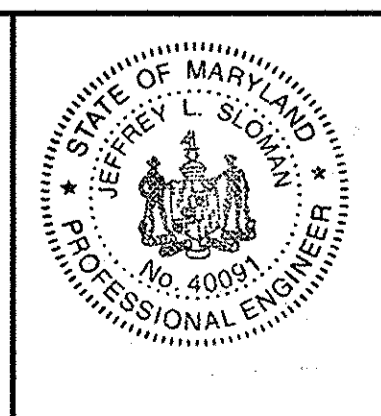


MATCHLINE - SHEET 1 OF 2

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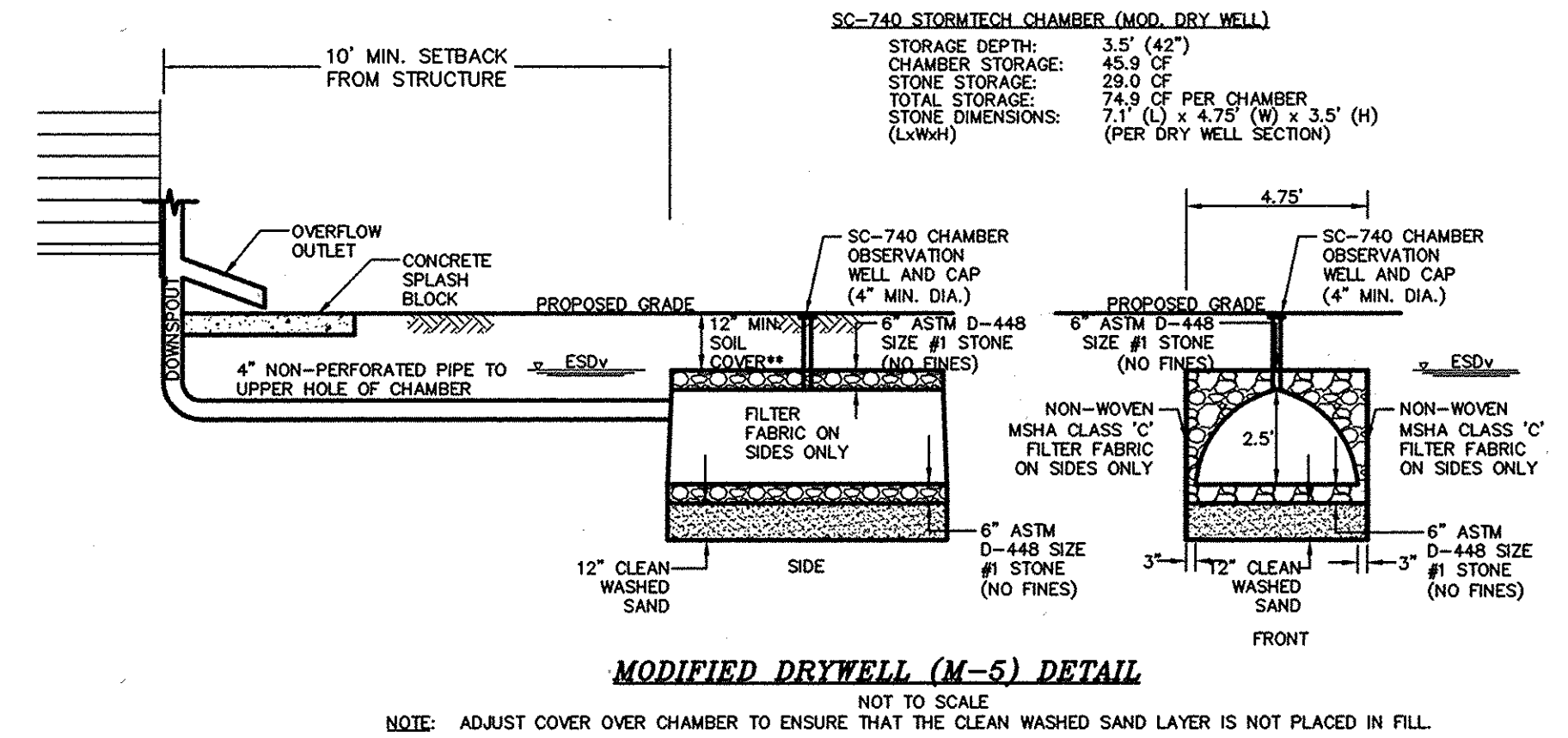
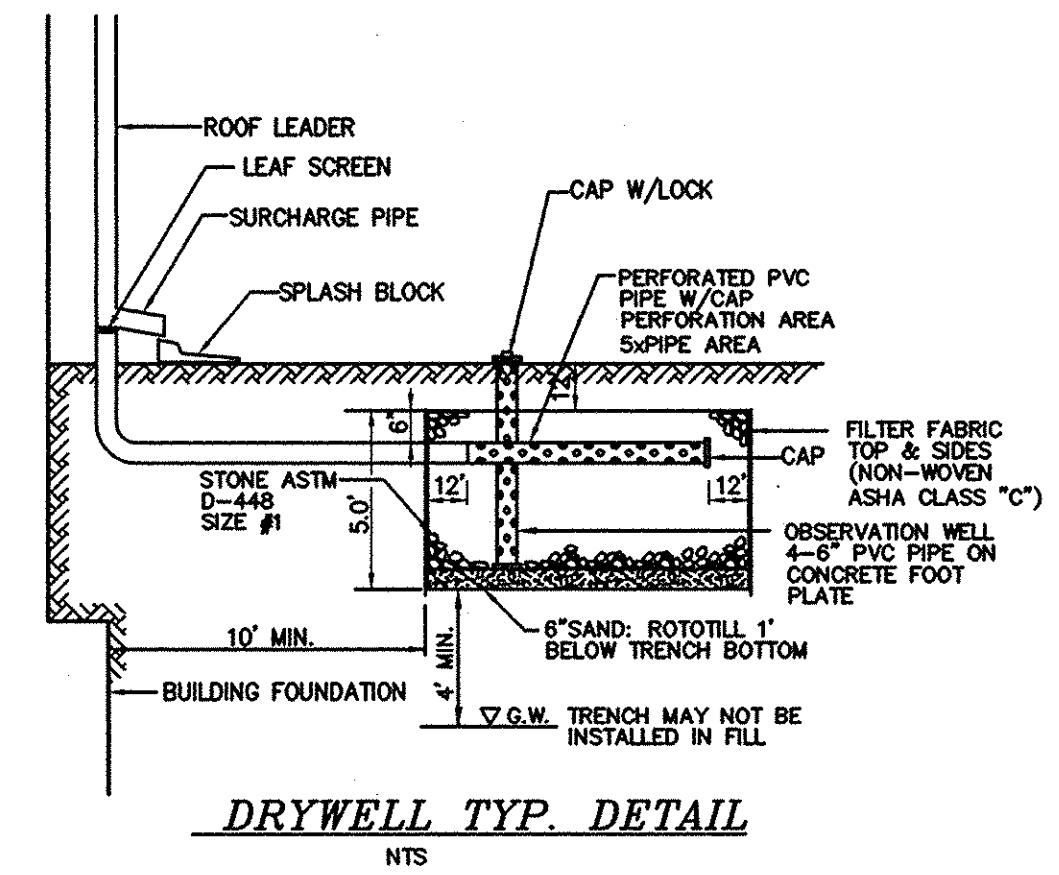
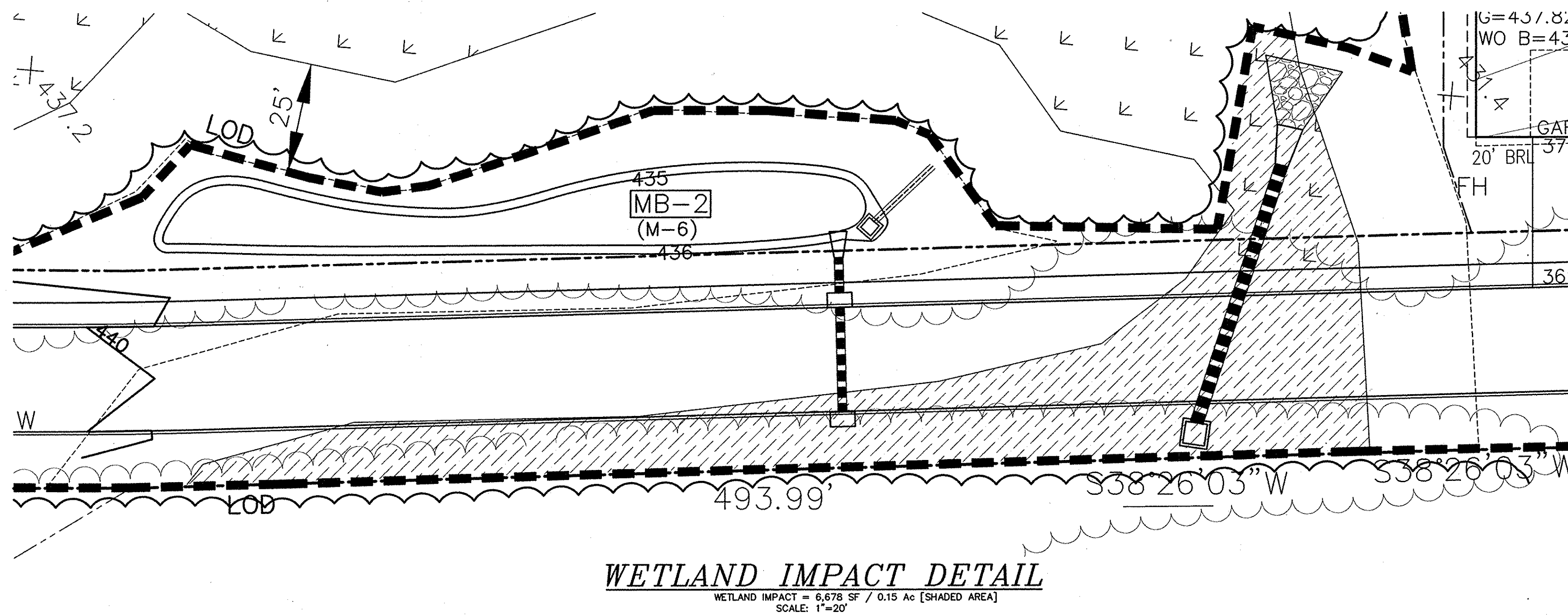
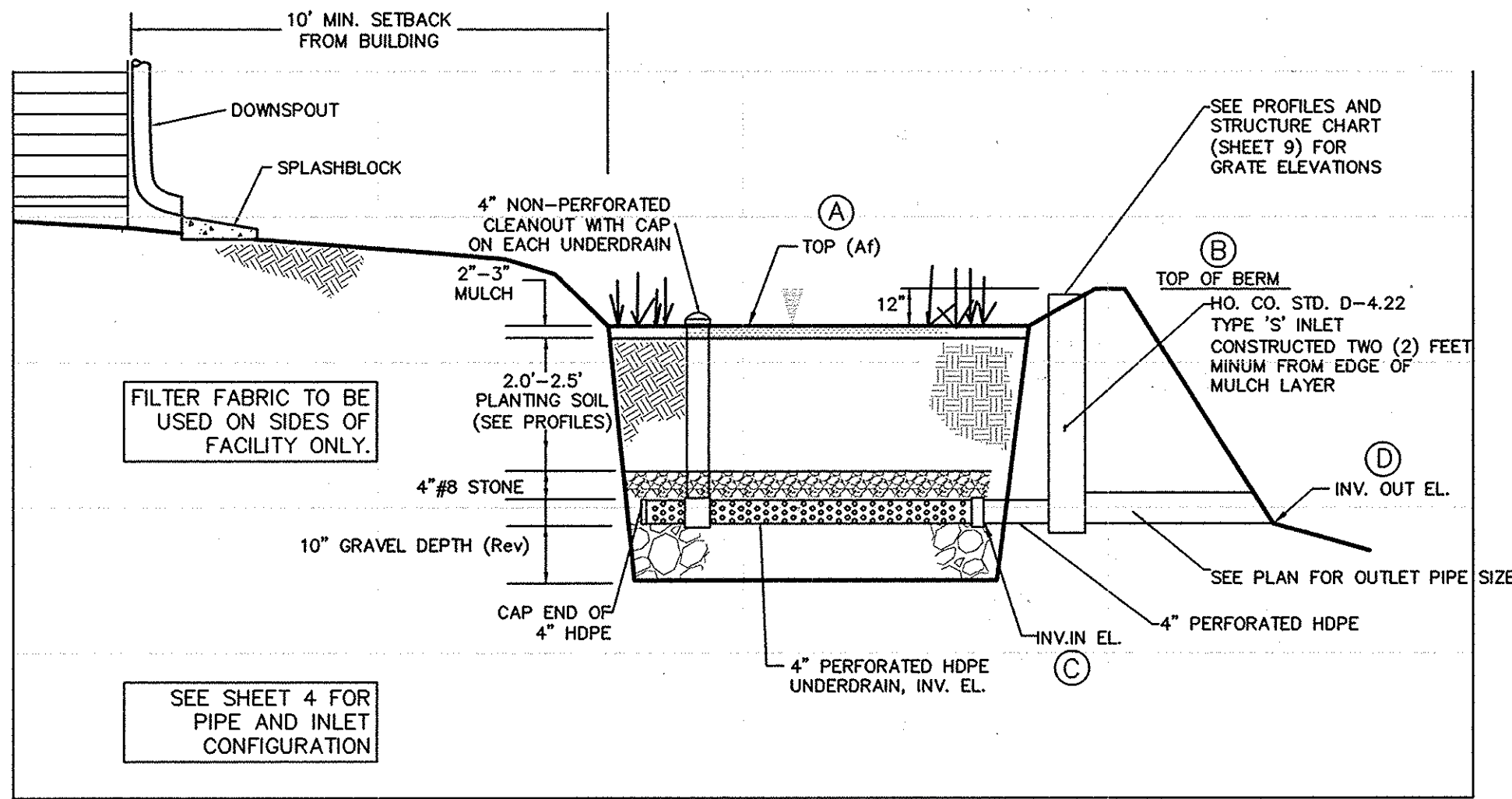
OWNER / DEVELOPER
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 COLUMBIA, MARYLAND 21044
 (410)997-0296

Project	date	NOV 2014	approval	RH
Illustration	scale	1"=50'	revisions	

no.	description	date

ST. CHARLES WOODS, LOTS 1 THRU 22 AND OPEN SPACE LOT 23
 10611 BALTIMORE NATIONAL PIKE, ELLICOTT CITY, MD 21042
 TAX MAP 16 - PARCEL 248 - GRID 23
 HOWARD COUNTY, MARYLAND
 ENVIRONMENTAL CONCEPT PLAN

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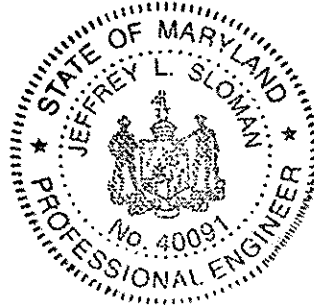
NOTE: DRYWELLS MAY BE REPLACED WITH MODIFIED DRY WELLS AS SHOWN IN THE TABLE BELOW.

DRYWELL EQUIVALENCY TABLE

LOT	NUMBER OF DRYWELLS	DRY WELL DIMENSIONS (LxWxH)	EQUIVALENT NUMBER OF MODIFIED DRY WELLS
1	3	8'x7'x3'	7
2	3	8'x5'x3'	5
3	3	8'x5'x3'	5
4	3	8'x7'x3'	7
5	3	8'x7'x3'	7
6	3	8'x7'x3'	7
7	3	8'x7'x3'	7
8	3	8'x7'x3'	7
9	3	8'x7'x3'	7
10	3	8'x7'x3'	7
11	3	8'x7'x3'	7
12	3	8'x7'x3'	7
13	3	8'x7'x3'	7
14	3	8'x7'x3'	7
15	3	8'x7'x3'	7
16	3	8'x7'x3'	7
17	3	8'x7'x3'	7
18	3	8'x5'x3'	5
19	3	8'x5'x3'	5
20	3	8'x5'x3'	5
21	3	8'x5'x3'	5
22	3	8'x5'x3'	5

APPROVED: DEPARTMENT OF PLANNING AND ZONING

11/27/14
DATE
11/21/14
DATE



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project	NOV 2014	approval	RJH
illustration	JLS	scale	1"=50'
engineering	JLS	description	
date		revisions	

no.		description	
		revisions	

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TAX MAP 16 - PARCEL 248 - GRID 23
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ENVIRONMENTAL CONCEPT PLAN DETAILS

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