

HOWARD COUNTY

Capital Project #D-1159

PEBBLE BEACH DRIVE

SWM RETROFIT PROJECT

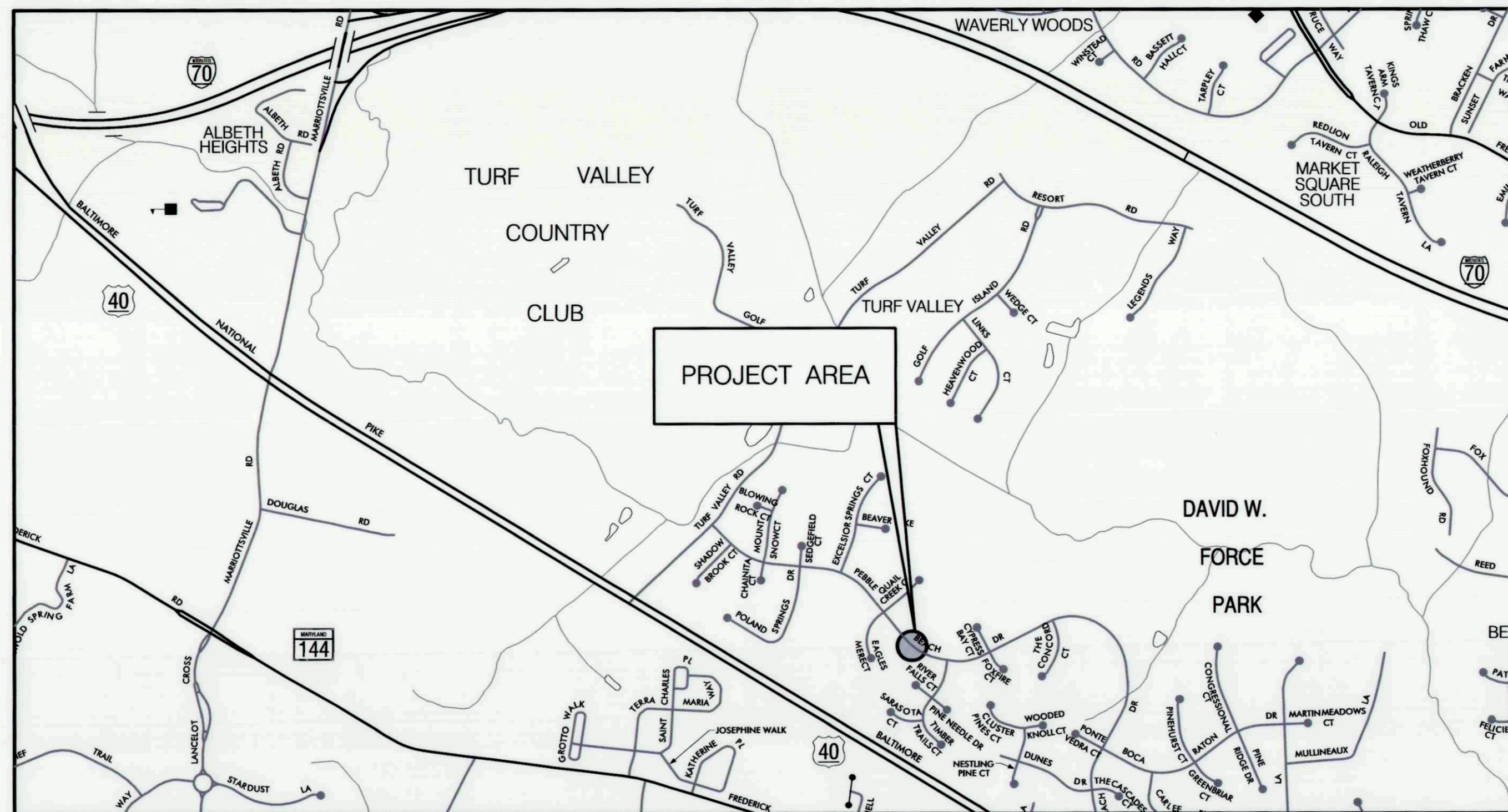
Storm Water Management Division
Bureau Of Environmental Services

GENERAL NOTES

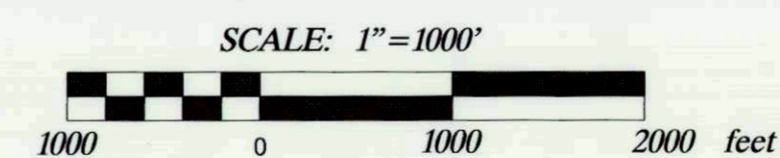
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MDSA STANDARDS AND SPECIFICATIONS IF APPLICABLE.
- THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST FIVE (5) WORKING DAYS PRIOR TO ANY WORK BEING DONE.
- THIS PLAN IS PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL.
- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS /BUREAU OF ENGINEERING CONSTRUCTION INSPECTION DIVISION AT (410) 313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
- SURVEY OF THIS SITE WAS PERFORMED BY AB CONSULTANTS, INC-MARCH 2011.
- THE COORDINATES SHOWN HEREON ARE BASED ON HOWARD COUNTY GEODETIC CONTROL, WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM. BENCHMARKS SHOWN HEREON WERE PROVIDED BY AB CONSULTANTS INC.
- WATERS OF THE US WERE DELINEATED BY McCORMICK TAYLOR FEBRUARY 2011.
- OBSTRUCTIONS SHOWN ON THIS DRAWING ARE FOR THE CONVENIENCE OF THE CONTRACTOR ONLY AND McCORMICK TAYLOR DOES NOT WARRANT OR GUARANTEE THE CORRECTNESS OR COMPLETENESS OF THE INFORMATION GIVEN. THE CONTRACTOR MUST VERIFY SUCH INFORMATION TO HIS OWN SATISFACTION.
- THE EXISTING INFORMATION SHOWN ON THESE PLANS WAS TAKEN FROM THE BEST AVAILABLE SOURCES AND SHALL BE VERIFIED BEFORE STARTING CONSTRUCTION. HOWARD COUNTY DOES NOT GUARANTEE THE COMPLETENESS OR THE CORRECTNESS OF THE SHOWN INFORMATION.
- THE CONTRACTORS SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED DUE TO THE CONTRACTOR'S OPERATION SHALL BE REPAIRED IMMEDIATELY. ALL UTILITIES SHALL HAVE A CLEARANCE BY A MINIMUM OF 6 INCHES VERTICALLY AND A MINIMUM OF 5 FEET HORIZONTALLY.
- SHOULD THE CONTRACTOR DISCOVER DISCREPANCIES BETWEEN THE PLANS AND FIELD CONDITIONS, THE CONTRACTOR SHALL NOTIFY McCORMICK TAYLOR IMMEDIATELY TO RESOLVE THE SITUATION.
- ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS.
- THE CONTRACTOR IS SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES, AND SAFETY PRECAUTIONS AND PROGRAMS.
- SITE DEVELOPMENT DETAILS ARE REFERENCED FROM THE AS-BUILT PLANS FOR TURF VALLEY OVERLOOK SECTION 2 AREA 1 (F-88-033).
- A JOINT PERMIT APPLICATION HAS BEEN SUBMITTED TO THE MARYLAND DEPARTMENT OF THE ENVIRONMENT FOR THIS PROJECT. PERMIT NUMBER IS 201460683.
- PROJECT IMPACTS INCLUDE WORK IN A USE 1-P STREAM. IN-STREAM WORK MAY NOT BE CONDUCTED DURING THE PERIOD BETWEEN MARCH 1 THROUGH JUNE 1.
- PLANS HAVE BEEN SUBMITTED TO HOWARD SCD FOR EROSION AND SEDIMENT CONTROL REQUIREMENTS BUT NOT MD-378 DESIGN REQUIREMENTS.

INDEX OF SHEETS	
SHEET NO.	TITLE
1	TITLE SHEET
2	SITE PLAN
3	POND PROFILE AND DETAILS
4	EROSION AND SEDIMENT CONTROL PLAN SHEET
5	EROSION AND SEDIMENT CONTROL NOTES SHEET
6	EROSION AND SEDIMENT CONTROL DETAILS SHEET
7	LANDSCAPING PLAN

LEGEND	
PROPOSED MEDIAN BARRIER	
ELECTRICAL HAND BOX - SIGNALS	
FLOW LINE	
STATE, COUNTY OR CITY LINES	
PROPOSED TRAFFIC BARRIER	
EXISTING TRAFFIC BARRIER	
PROPOSED FENCE LINE	
EXISTING FENCE LINE	
RIGHT OF WAY LINE	
EXISTING ROADWAY	
BASE OR SURVEY LINE	
TRAVERSE POINT	
APPROXIMATE LIMITS OF CUT AND/OR FILL	
PROPOSED MAJOR CONTOUR	
PROPOSED MINOR CONTOUR	
LIMIT OF DISTURBANCE	
EXISTING MAJOR CONTOURS	
EXISTING MINOR CONTOURS	
EXISTING PIPE/CULVERT	
EXISTING DROP INLET	
WETLAND	
HEDGE /TREE LINE	
BUSH /TREE	
CONIFEROUS TREE	
LIGHT POLE	



HORIZONTAL DATUM	NAD 83 /91
VERTICAL DATUM	NAVD 88



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. 32013, EXPIRATION DATE: 7/5/2015

AS-BUILT CERTIFICATION

I CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE "AS-BUILT" PLANS AND MEETS THE APPROVED PLANS AND SPECIFICATIONS.

DESIGN CERTIFICATION

I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION AND 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.

OWNER'S/DEVELOPER'S CERTIFICATION

I/WE HEREBY 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.

REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.

THESE PLANS FOR SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

John B. Reuter
HOWARD SOIL CONSERVATION DISTRICT
DATE: 7/22/14

EP-14-027

DATE: 6-25-14
DESIGNER'S SIGNATURE: *Amy L. Hribar*
MARYLAND REGISTRATION NUMBER: 32013
PRINTED NAME: AMY L. HRIBAR

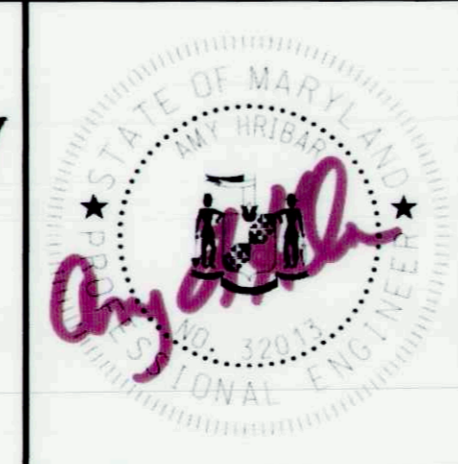
DATE: 7/10/14
OWNER / DEVELOPER SIGNATURE: *Mark S. Richmond*
PRINTED NAME AND TITLE: Mark S. Richmond, Chief SWM Division



DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
DATE: 7/15/14
DATE: 7/10/14
CHIEF, BUREAU OF ENVIRONMENTAL SERVICES
CHIEF, STORMWATER MANAGEMENT DIVISION

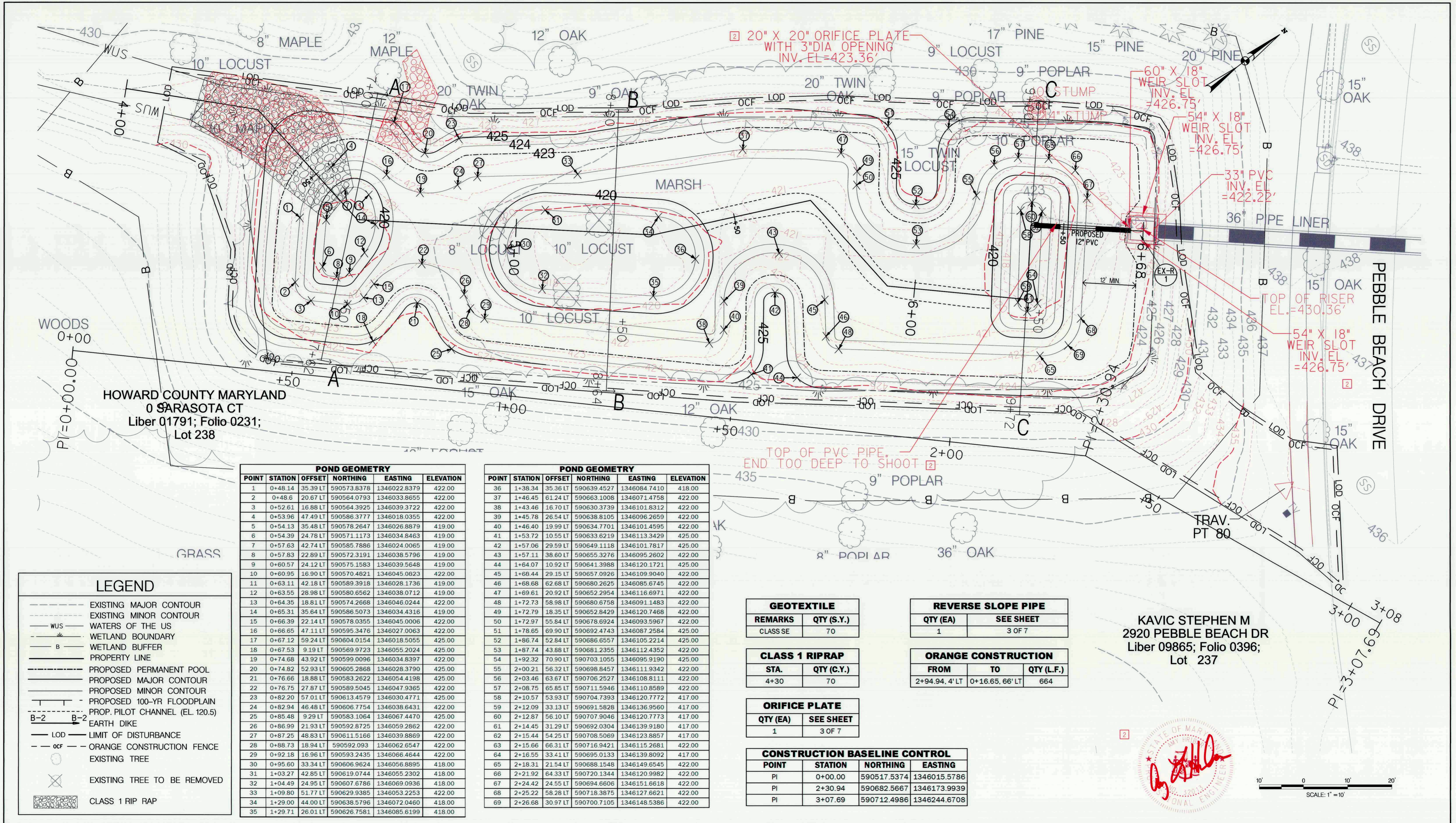
McCormick Taylor
Engineers & Planners Since 1946
509 South Exeter Street
4th Floor
Baltimore, Maryland 21202
(410) 662-7400

Howard County
MARYLAND
Storm Water Management Division
Bureau of Environmental Services
6751 Columbia Gateway Drive, Suite 514
Columbia, Maryland 21046-3143
(410) 313-6444



DES: CL				
DRN: MR				
CHK: AH				
DATE: 6/25/14	KO	2	ASBUILT	9/25/18
BY	NO.		REVISION	DATE

PEBBLE BEACH DRIVE
SWM RETROFIT PROJECT
CAPITAL PROJECT #D-1159
HOWARD COUNTY
TITLE SHEET
SCALE AS SHOWN
SHEET 1 OF 7



HOWARD COUNTY MARYLAND
 0 SARASOTA CT
 Liber 01791; Folio 0231;
 Lot 238

POINT	STATION	OFFSET	NORTHING	EASTING	ELEVATION
1	0+48.14	35.39 LT	590573.8378	1346022.8379	422.00
2	0+48.6	20.67 LT	590564.0793	1346033.8655	422.00
3	0+52.61	16.88 LT	590564.3925	1346039.3722	422.00
4	0+53.96	47.49 LT	590586.3777	1346018.0355	422.00
5	0+54.13	35.48 LT	590578.2647	1346026.8879	419.00
6	0+54.39	24.78 LT	590571.1173	1346034.8463	419.00
7	0+57.63	42.74 LT	590585.7886	1346024.0065	419.00
8	0+57.83	22.89 LT	590572.3191	1346038.5796	419.00
9	0+60.57	24.12 LT	590575.1583	1346039.5648	419.00
10	0+60.95	16.90 LT	590570.4821	1346045.0823	422.00
11	0+63.11	42.18 LT	590589.3918	1346028.1736	419.00
12	0+63.55	28.98 LT	590580.6562	1346038.0712	419.00
13	0+64.35	18.81 LT	590574.2668	1346046.0244	422.00
14	0+65.31	35.64 LT	590586.5073	1346034.4316	419.00
15	0+66.39	22.14 LT	590578.0355	1346045.0006	422.00
16	0+66.65	47.11 LT	590595.3476	1346027.0063	422.00
17	0+67.12	59.24 LT	590604.0154	1346018.5055	425.00
18	0+67.53	9.19 LT	590569.9723	1346055.2024	425.00
19	0+74.68	43.92 LT	590599.0096	1346034.8397	422.00
20	0+74.82	52.93 LT	590605.2868	1346028.3790	425.00
21	0+76.66	18.88 LT	590583.2622	1346054.4198	425.00
22	0+76.75	27.87 LT	590589.5045	1346047.9365	422.00
23	0+82.20	57.01 LT	590613.4579	1346030.4771	425.00
24	0+82.94	46.48 LT	590606.7754	1346038.6431	422.00
25	0+85.48	9.29 LT	590583.1064	1346067.4470	425.00
26	0+86.99	21.93 LT	590592.8725	1346059.2862	422.00
27	0+87.25	48.83 LT	590611.5166	1346039.8869	422.00
28	0+88.73	18.94 LT	590592.093	1346062.6547	422.00
29	0+92.18	16.96 LT	590593.2435	1346066.4644	422.00
30	0+95.60	33.34 LT	590606.9624	1346056.8895	418.00
31	1+03.27	42.85 LT	590619.0744	1346055.2302	418.00
32	1+04.49	24.95 LT	590607.6786	1346069.0936	418.00
33	1+09.80	51.77 LT	590629.9385	1346053.2253	422.00
34	1+29.00	44.00 LT	590638.5796	1346072.0460	418.00
35	1+29.71	26.01 LT	590626.7581	1346085.6199	418.00

POINT	STATION	OFFSET	NORTHING	EASTING	ELEVATION
36	1+38.34	35.36 LT	590639.4527	1346084.7410	418.00
37	1+46.45	61.24 LT	590663.1008	1346071.4758	422.00
38	1+43.46	16.70 LT	590630.3739	1346101.8312	422.00
39	1+45.78	26.54 LT	590638.8105	1346096.2659	422.00
40	1+46.40	19.99 LT	590634.7701	1346101.4595	422.00
41	1+53.72	10.55 LT	590633.6219	1346113.3429	425.00
42	1+57.06	29.59 LT	590649.1118	1346101.7817	425.00
43	1+57.11	38.60 LT	590655.3276	1346095.2602	422.00
44	1+64.07	10.92 LT	590641.3988	1346120.1721	425.00
45	1+68.44	29.15 LT	590657.0926	1346109.9040	422.00
46	1+68.68	62.68 LT	590680.2625	1346085.6745	422.00
47	1+69.61	20.92 LT	590652.2954	1346116.6971	422.00
48	1+72.73	58.98 LT	590680.6758	1346091.1483	422.00
49	1+72.79	18.35 LT	590652.8429	1346120.7468	422.00
50	1+72.97	55.84 LT	590678.6924	1346093.5967	422.00
51	1+78.65	69.90 LT	590692.4743	1346087.2584	425.00
52	1+86.74	52.84 LT	590686.6557	1346105.2214	425.00
53	1+87.74	43.88 LT	590681.2355	1346112.4352	422.00
54	1+92.32	70.90 LT	590703.1055	1346095.9190	425.00
55	2+00.21	56.32 LT	590698.8457	1346111.9342	422.00
56	2+03.46	63.67 LT	590706.2527	1346108.8111	422.00
57	2+08.75	65.85 LT	590711.5946	1346110.8589	422.00
58	2+10.57	53.93 LT	590704.7393	1346120.7772	417.00
59	2+12.09	33.13 LT	590691.5828	1346136.9560	417.00
60	2+12.87	56.10 LT	590707.9046	1346120.7773	417.00
61	2+14.45	31.29 LT	590692.0304	1346139.9180	417.00
62	2+15.44	54.25 LT	590708.5069	1346123.8857	417.00
63	2+15.66	66.31 LT	590716.9421	1346115.2681	422.00
64	2+16.55	33.41 LT	590695.0133	1346139.8092	417.00
65	2+18.31	21.54 LT	590688.1548	1346149.6545	422.00
66	2+21.92	64.33 LT	590720.1344	1346120.9982	422.00
67	2+24.42	24.55 LT	590694.6806	1346151.6618	422.00
68	2+25.22	58.28 LT	590718.3875	1346127.8621	422.00
69	2+26.68	30.97 LT	590700.7105	1346148.5386	422.00

GEOTEXTILE	
REMARKS	QTY (S.Y.)
CLASS SE	70

REVERSE SLOPE PIPE	
QTY (EA)	SEE SHEET
1	3 OF 7

CLASS 1 RIPRAP	
STA.	QTY (C.Y.)
4+30	70

ORANGE CONSTRUCTION		
FROM	TO	QTY (L.F.)
2+94.94, 4' LT	0+16.65, 66' LT	664

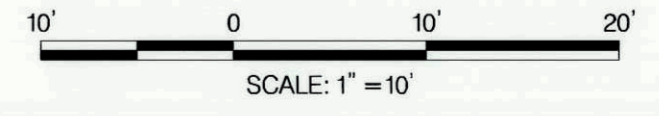
ORIFICE PLATE	
QTY (EA)	SEE SHEET
1	3 OF 7

CONSTRUCTION BASELINE CONTROL			
POINT	STATION	NORTHING	EASTING
PI	0+00.00	590517.5374	1346015.5786
PI	2+30.94	590682.5667	1346173.9939
PI	3+07.69	590712.4986	1346244.6708

LEGEND

- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- WUS - WATERS OF THE US
- WETLAND BOUNDARY
- WETLAND BUFFER
- PROPERTY LINE
- PROPOSED PERMANENT POOL
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- PROPOSED 100-YR FLOODPLAIN
- PROP. PILOT CHANNEL (EL. 120.5)
- EARTH DIKE
- LOD - LIMIT OF DISTURBANCE
- OCF - ORANGE CONSTRUCTION FENCE
- EXISTING TREE
- EXISTING TREE TO BE REMOVED
- CLASS 1 RIP RAP

KAVIC STEPHEN M
 2920 PEBBLE BEACH DR
 Liber 09865; Folio 0396;
 Lot 237



DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

Mark D. Lucia
 CHIEF, BUREAU OF ENVIRONMENTAL SERVICES
 DATE: 7/15/14

McCormick Taylor
 Engineers & Planners
 Since 1946

509 South Exeter Street
 4th Floor
 Baltimore, Maryland 21202
 (410) 662-7400

Howard County
 MARYLAND

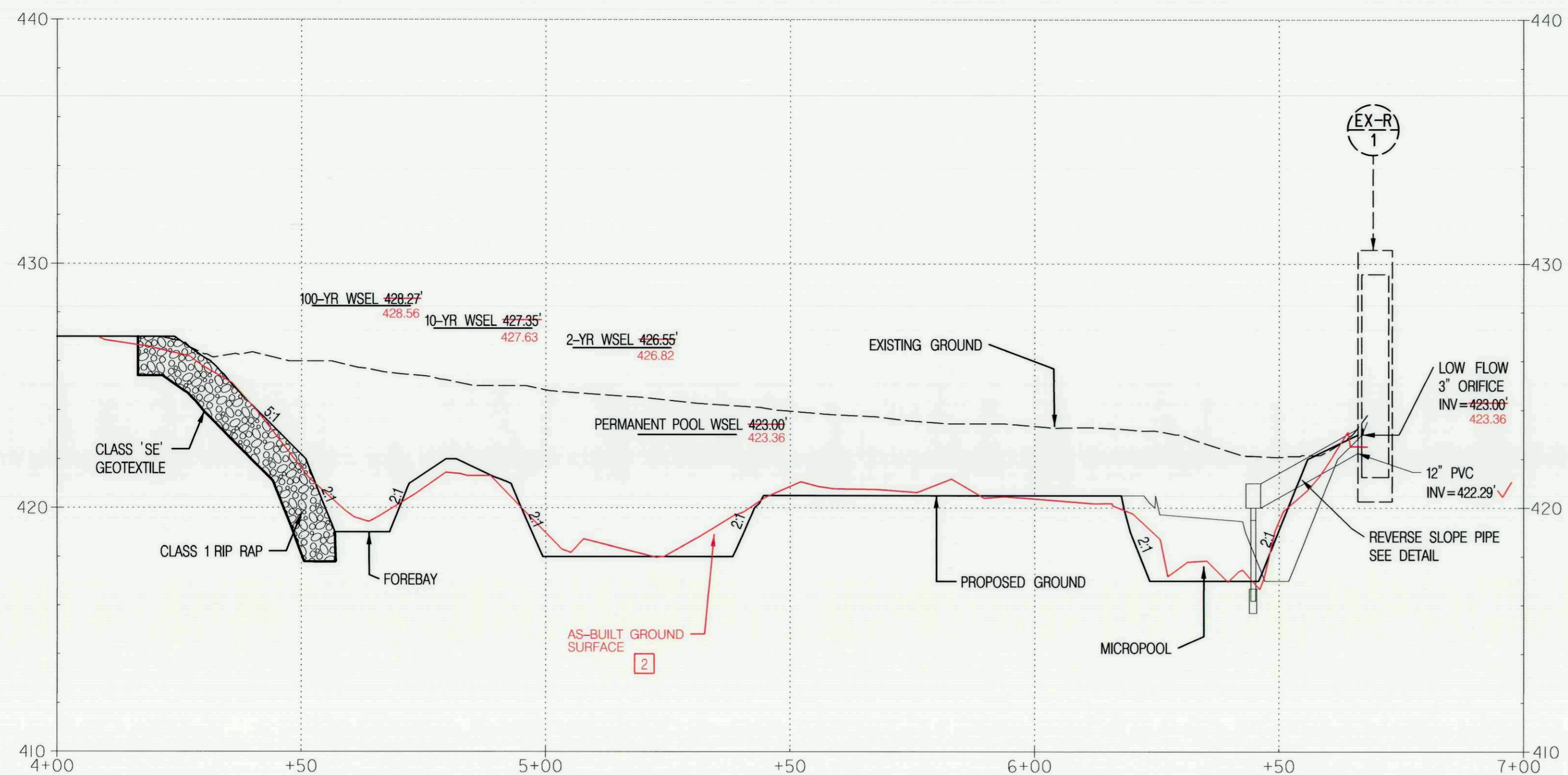
Storm Water Management Division
 Bureau of Environmental Services
 6751 Columbia Gateway Drive, Suite 514
 Columbia, Maryland 21046-3143
 (410) 313-6444

DES:	CL				
DRN:	MR				
CHK:	AH				
DATE:	6/25/14	KO	2	ASBUILT	9/25/18
BY:	NO.			REVISION	DATE

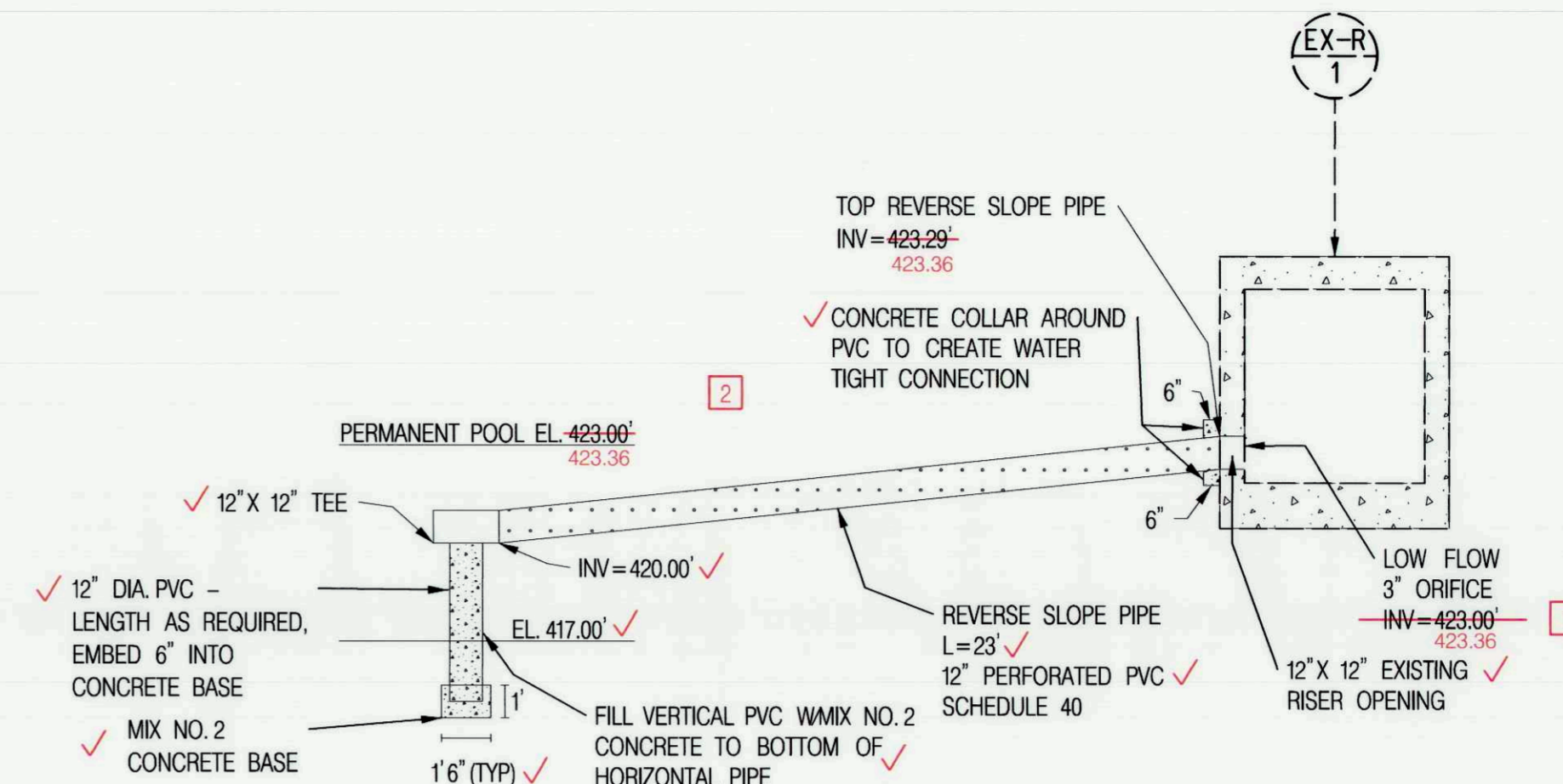
PEBBLE BEACH DRIVE
 SWM RETROFIT PROJECT
 CAPITAL PROJECT D 1159
 HOWARD COUNTY

SITE PLAN

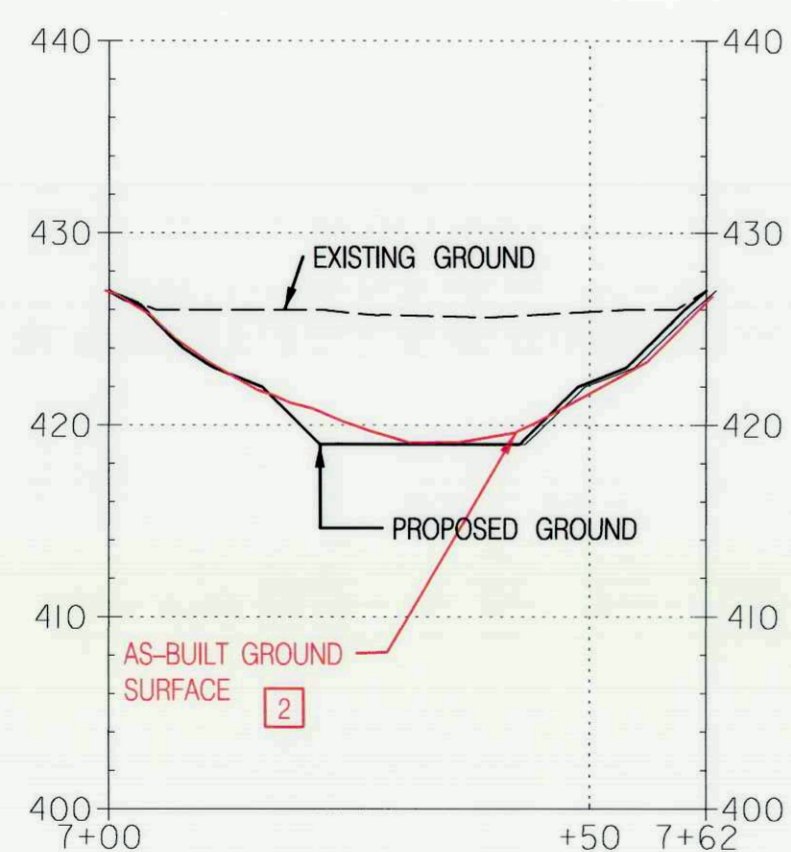
SCALE: 1" = 10'
 SHEET: 2 OF 2



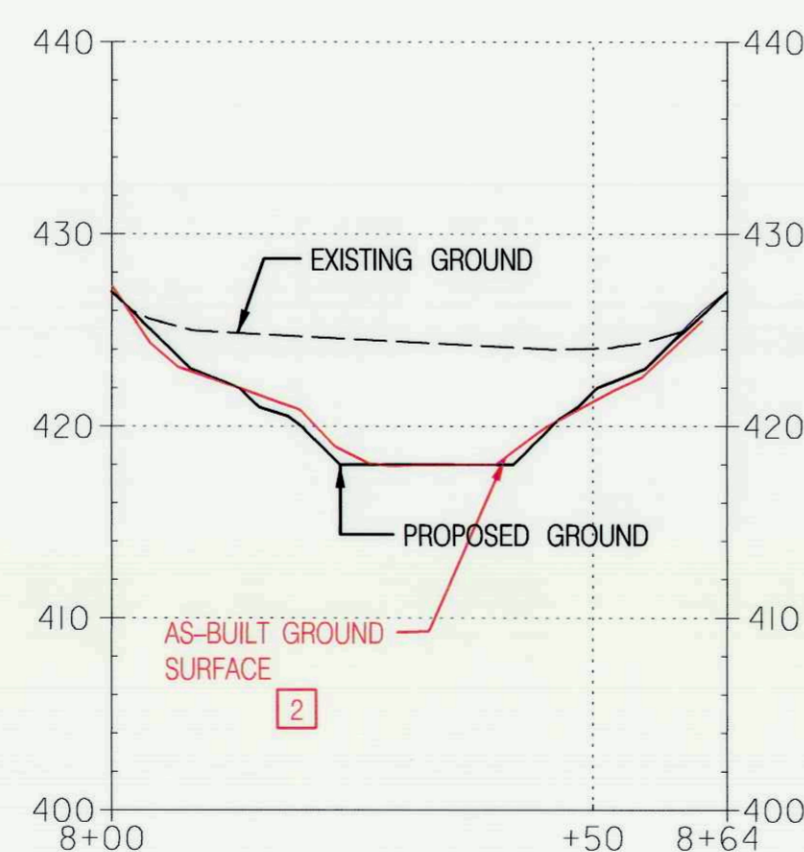
POND PROFILE
 HORIZONTAL SCALE: 1" = 20'
 VERTICAL SCALE: 1" = 4'



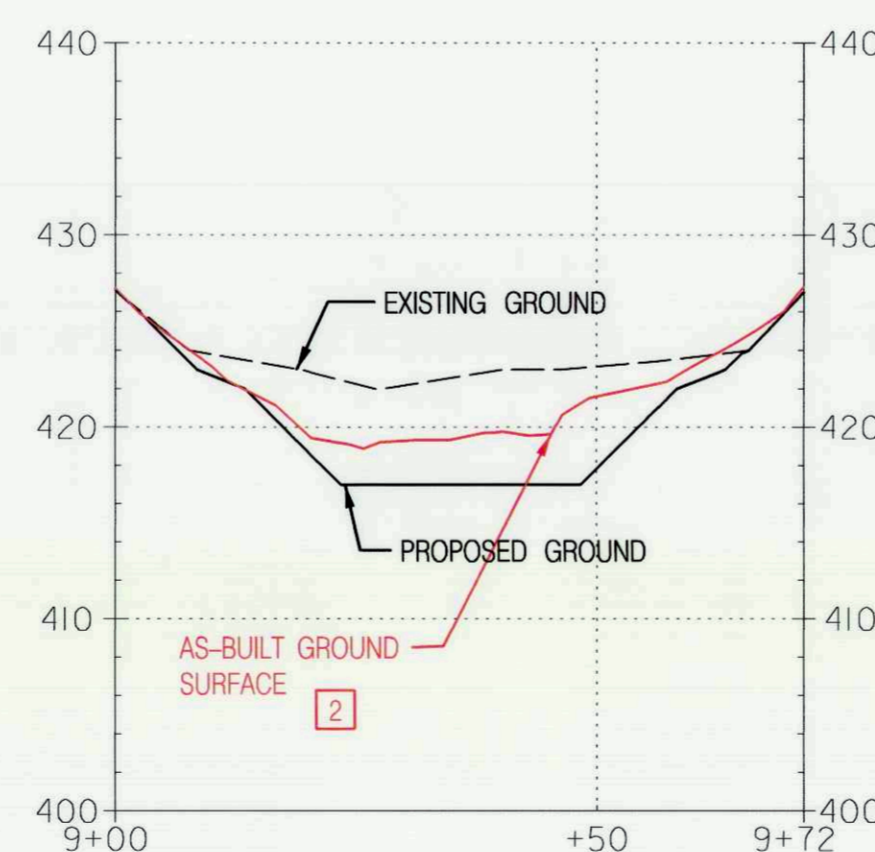
REVERSE SLOPE PIPE DETAIL
 NOT TO SCALE



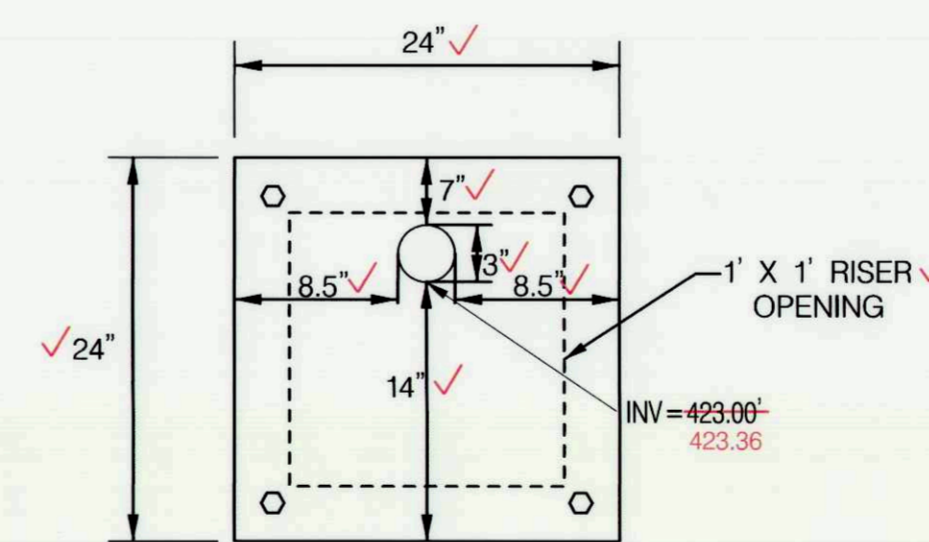
CROSS SECTION A-A
 FOREBAY
 HORIZONTAL SCALE: 1" = 20'
 VERTICAL SCALE: 1" = 10'



CROSS SECTION B-B
 MICROPOOL
 HORIZONTAL SCALE: 1" = 20'
 VERTICAL SCALE: 1" = 10'



CROSS SECTION C-C
 MICROPOOL
 HORIZONTAL SCALE: 1" = 20'
 VERTICAL SCALE: 1" = 10'



- ORIFICE PLATE NOTES:**
- 24" X 24" X 12" GALVANIZED STEEL ORIFICE PLATE.
 - 3.0" DIA. ORIFICE PLATE TO BE BOLTED TO THE INSIDE DOWN STREAM FACE OF CONCRETE RISER USING 1/2" STAINLESS STEEL CONCRETE ANCHORS.

ORIFICE PLATE
 NOT TO SCALE



DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

[Signature]
 CHIEF, BUREAU OF ENVIRONMENTAL SERVICES
 DATE: 7/15/14

McCormick Taylor
 Engineers & Planners
 Since 1946

509 South Exeter Street
 4th Floor
 Baltimore, Maryland 21202
 (410) 662-7400

Howard County
 MARYLAND

Storm Water Management Division
 Bureau of Environmental Services
 6751 Columbia Gateway Drive, Suite 514
 Columbia, Maryland 21046-3143
 (410) 313-6444

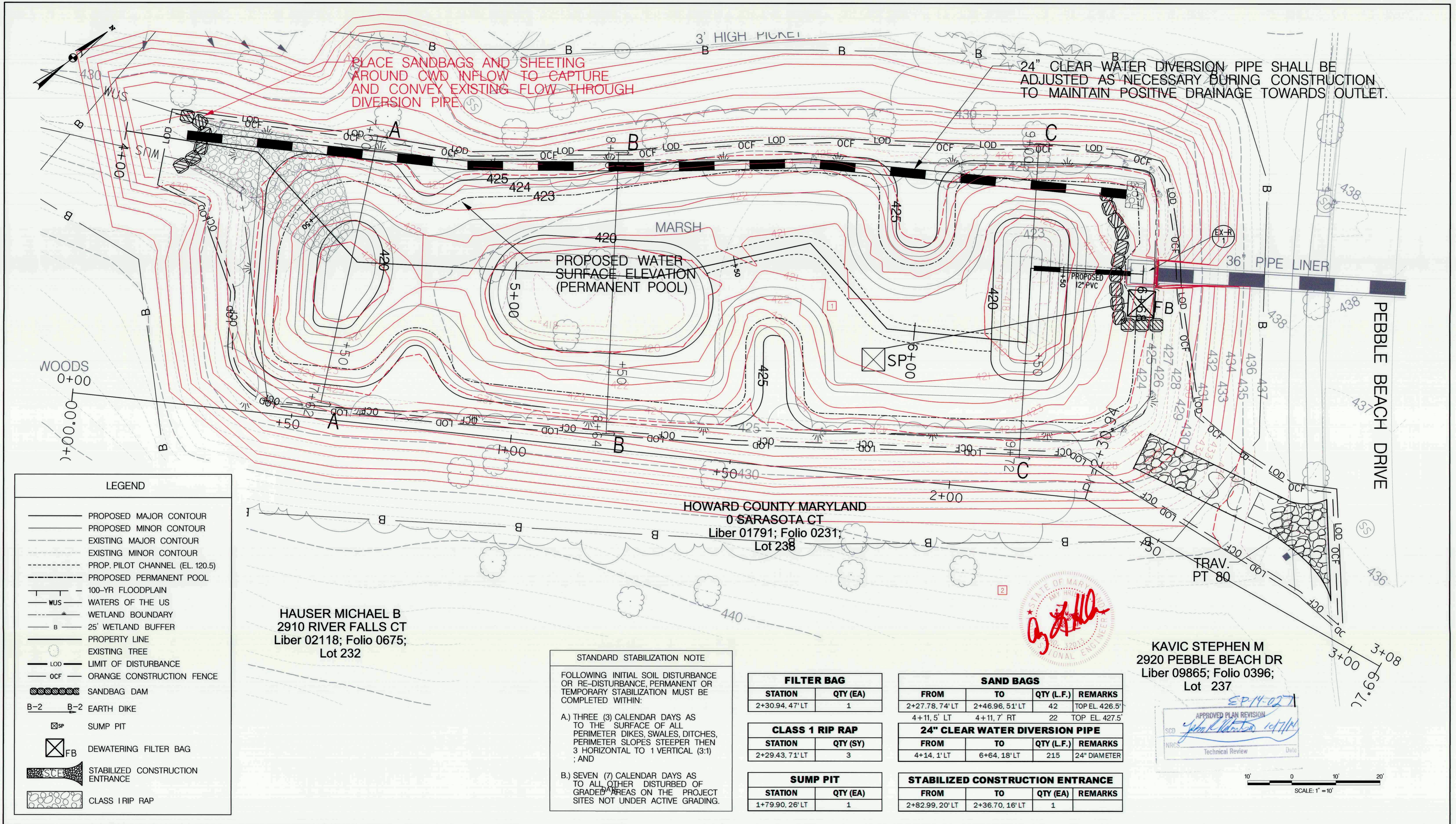


DES: CL				
DRN: MR				
CHK: AH				
DATE: 6/25/14	ADM	2	ASBUILT	9/25/18
	BY	NO.	REVISION	DATE

PEBBLE BEACH DRIVE
SWM RETROFIT PROJECT
CAPITAL PROJECT D 1159
HOWARD COUNTY

POND PROFILE AND DETAILS

SCALE: AS SHOWN
 SHEET: 3 OF 2



PLACE SANDBAGS AND SHEETING AROUND CWD INFLOW TO CAPTURE AND CONVEY EXISTING FLOW THROUGH DIVERSION PIPE.

24" CLEAR WATER DIVERSION PIPE SHALL BE ADJUSTED AS NECESSARY DURING CONSTRUCTION TO MAINTAIN POSITIVE DRAINAGE TOWARDS OUTLET.

LEGEND

- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- - - PROP. PILOT CHANNEL (EL. 120.5)
- - - PROPOSED PERMANENT POOL
- 100-YR FLOODPLAIN
- WUS WATERS OF THE US
- WETLAND BOUNDARY
- B 25' WETLAND BUFFER
- PROPERTY LINE
- EXISTING TREE
- LOD LIMIT OF DISTURBANCE
- OCF ORANGE CONSTRUCTION FENCE
- ▨ SANDBAG DAM
- B-2 B-2 EARTH DIKE
- ⊠ SP SUMP PIT
- ⊠ FB DEWATERING FILTER BAG
- ▨ STABILIZED CONSTRUCTION ENTRANCE
- CLASS 1 RIP RAP

HAUSER MICHAEL B
2910 RIVER FALLS CT
Liber 02118; Folio 0675;
Lot 232

HOWARD COUNTY MARYLAND
0 SARASOTA CT
Liber 01791; Folio 0231;
Lot 238

STANDARD STABILIZATION NOTE

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 THEN 3 HORIZONTAL TO 1 VERTICAL (3:1); AND

B) SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITES NOT UNDER ACTIVE GRADING.

FILTER BAG	
STATION	QTY (EA)
2+30.94, 47' LT	1

SAND BAGS			
FROM	TO	QTY (L.F.)	REMARKS
2+27.78, 74' LT	2+46.96, 51' LT	42	TOP EL. 426.5'
4+11, 5' LT	4+11, 7' RT	22	TOP EL. 427.5'

CLASS 1 RIP RAP	
STATION	QTY (SY)
2+29.43, 71' LT	3

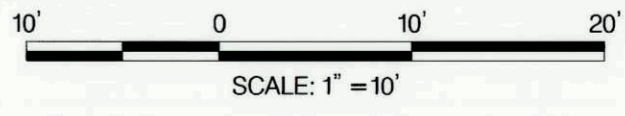
24" CLEAR WATER DIVERSION PIPE			
FROM	TO	QTY (L.F.)	REMARKS
4+14, 1' LT	6+64, 18' LT	215	24" DIAMETER

SUMP PIT	
STATION	QTY (EA)
1+79.90, 26' LT	1

STABILIZED CONSTRUCTION ENTRANCE			
FROM	TO	QTY (EA)	REMARKS
2+82.99, 20' LT	2+36.70, 16' LT	1	

KAVIC STEPHEN M
2920 PEBBLE BEACH DR
Liber 09865; Folio 0396;
Lot 237

APPROVED PLAN REVISION
SCD
NRCS
Technical Review
Date



DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Mark DeLuca
CHIEF, BUREAU OF ENVIRONMENTAL SERVICES
DATE: 7/15/14

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Since 1946

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Howard County
MARYLAND

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Bureau of Environmental Services
6751 Columbia Gateway Drive, Suite 514
Columbia, Maryland 21046-3143
(410) 313-6444



DES: CL				
DRN: MR				
CHK: AH	KO	2	ASBUILT	9/25/18
DATE: 6/25/14	AM	Δ	EARTH DIKE REPLACED WITH 24" PIPE DIVERSION	9/29/14
	BY	NO.	REVISION	DATE

PEBBLE BEACH DRIVE
SWM RETROFIT PROJECT
CAPITAL PROJECT D 1159
HOWARD COUNTY

**EROSION AND SEDIMENT CONTROL
PLAN SHEET**

SCALE
1" = 10'
SHEET
4 OF 7

SEQUENCE OF CONSTRUCTION

EROSION AND SEDIMENT CONTROL – GENERAL NOTES

- OBTAIN GRADING PERMIT AND MDE PERMIT (TRACKING NUMBER XXXXXX).
- THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST FIVE (5) DAYS PRIOR TO THE START OF WORK. THE CONTRACTOR SHALL NOTIFY THE HOWARD COUNTY CONSTRUCTION INSPECTION DIVISION (410) 313-1880 A MINIMUM OF 5 DAYS PRIOR TO THE START OF ANY CONSTRUCTION. THE CONTRACTOR SHALL ALSO NOTIFY THE MARYLAND DEPARTMENT OF ENVIRONMENT INSPECTOR AT(301) 665-2850, FIVE (5) DAYS BEFORE ANY LAND DISTURBING ACTIVITY.
- THE LOD SHALL BE STAKED OUT WHERE INDICATED ON THE PLANS. THIS SHALL BE COMPLETED BY AND INSPECTED AT THE PRECONSTRUCTION MEETING. (1 DAY)
- THE CONTRACTOR SHALL COORDINATE AN ON-SITE PRE-CONSTRUCTION MEETING WHICH SHALL INCLUDE, BUT NOT BE LIMITED TO, THE COUNTY PROJECT MANAGER, THE ENGINEER, AND A REPRESENTATIVE FROM HOWARD COUNTY CONSTRUCTION INSPECTION. TREES TO BE REMOVED SHALL BE MARKED AT THE PRE-CONSTRUCTION MEETING. (1 DAY)
- ORANGE CONSTRUCTION FENCE SHALL BE MANUALLY INSTALLED WHERE INDICATED ON THE PLANS. (1 DAY)
- CONSTRUCT THE FOLLOWING PERIMETER CONTROLS AS SHOWN ON THE PLAN: STABILIZED CONSTRUCTION ENTRANCE AND INSTALL EARTH DIKE FROM DOWNSTREAM TO UPSTREAM, CLEARING ONLY THE AREA NEEDED TO INSTALL THE E&S CONTROLS. (1 DAY)
- WITH PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, INSTALL THE SUMP PIT, SAND BAGS, FILTER BAG, TEMPORARY RIP RAP, AND PUMPS AND HOSES FOR THE POND DEWATERING. DEWATER ALL WORK AREAS AS NEEDED TO A FILTER BAG. (1 DAY)
- COMMENCE POND GRADING AS SHOWN ON PLANS. INSTALL CLASS 1 RIPRAP. STABILIZE WITH SEED AND MATTING. DEWATER FROM THE SUMP PIT TO THE FILTER BAG AS NEEDED. (5 DAYS)
- INSTALL REVERSE SLOPE PIPE AT RISER WITH WATER TIGHT CONNECTION. RETROFIT RISER. REMOVE EXISTING ORIFICE PLATE AND INSTALL NEW PLATE. (2 DAYS)
- REMOVE EARTH DIKE AND COMPLETE FINAL POND GRADING. PROVIDE PUMP AROUND FOR CHANNEL FLOW DURING REMOVAL OF EARTH DIKE. AND FINAL POND GRADING. STABILIZE ALL DISTURBED AREAS AT THE END OF EACH DAY.
- INSTALL LANDSCAPING PER PLAN. (1 DAY)
- STABILIZE TEMPORARY CONSTRUCTION ACCESS AND GRADE TO FINAL ELEVATIONS REMOVING ALL RUTS. (1 DAY)
- WHEN AREAS ARE FULLY STABILIZED, AND UPON PERMISSION FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR, REMOVE THE REMAINING SEDIMENT CONTROL DEVICES AND STABILIZE ANY DISTURBED AREAS. (1 DAY)

**HOWARD COUNTY CONSERVATION DISTRICT
STANDARD SEDIMENT CONTROL NOTES**

- A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION (313-1855).
- ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE MOST CURRENT MARYLAND STANDARDS AND SPECIFICATION FOR SOIL EROSION AND SEDIMENT CONTROL AND REVISIONS THERETO.
- FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN A) 3 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3:1. B) 7 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
- ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATION FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDING (SEC. B-4-5), TEMPORARY SEEDING (SEC. B-4-4) AND MULCHING (SEC. B-4-3). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
- ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- SITE ANALYSIS:

TOTAL AREA OF SITE	0.37 ACRES
AREA TO BE ROOFED OR PAVED	0.37 ACRES
AREA TO BE VEGETATIVELY STABILIZED	0 ACRES
TOTAL CUT	1285 CU. YDS.
TOTAL FILL	25 CU. YDS.
OFFSITE WASTE/BORROW AREA LOCATION	SEE NOTE 13 BELOW
- ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
- ADDITIONAL SEDIMENT CONTROL MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE 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.
- TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH SHALL BE BACK-FILLED AND STABILIZED BY THE END OF EACH WORK DAY, WHICHEVER IS SHORTER.
- ANY CHANGES OR REVISIONS TO THE SEQUENCE OF CONSTRUCTION MUST BE REVIEWED AND APPROVED BY THE PLAN APPROVAL AUTHORITY PRIOR TO PROCEEDING WITH CONSTRUCTION.
- A PROJECT IS TO BE SEQUENCED SO THAT GRADING ACTIVITIES BEGIN ON ONE GRADING UNIT (MAXIMUM ACREAGE OF 20 AC. PER GRADING UNIT) AT A TIME. WORK MAY PROCEED TO A SUBSEQUENT GRADING UNIT WHEN AT LEAST 50 PERCENT OF THE DISTURBED AREA IN THE PRECEDING GRADING UNIT HAS BEEN STABILIZED AND APPROVED BY THE ENFORCEMENT AUTHORITY, UNLESS OTHERWISE SPECIFIED AND APPROVED BY THE APPROVAL AUTHORITY, NO MORE THAN 30 ACRES CUMULATIVELY MAY BE DISTURBED AT A GIVEN TIME.
- OFFSITE WASTE / BORROW SITE SHALL HAVE AN APPROVED SEDIMENT CONTROL PLAN AND PERMIT.
- FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE PERMANENT OR TEMPORARY STABILIZATION MUST BE COMPLETED WITHIN:
 - THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1); AND
 - SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE NOT UNDER ACTIVE GRADING.

B-4-8 STANDARDS AND SPECIFICATIONS FOR STOCKPILE AREA

DEFINITION: A MOUND OR PILE OF SOIL PROTECTED BY APPROPRIATELY DESIGNED EROSION AND SEDIMENT CONTROL MEASURES. PURPOSE: TO PROVIDE A DESIGNATED LOCATION FOR THE TEMPORARY STORAGE OF SOIL THAT CONTROLS THE POTENTIAL FOR EROSION, SEDIMENTATION, AND CHANGES TO DRAINAGE PATTERNS. CONDITIONS WHERE PRACTICE APPLIES: STOCKPILE AREAS ARE UTILIZED WHEN IT IS NECESSARY TO SALVAGE AND STORE SOIL FOR LATER USE.

- CRITERIA:**
- THE STOCKPILE LOCATION AND ALL RELATED SEDIMENT CONTROL PRACTICES MUST BE CLEARLY INDICATED ON THE EROSION AND SEDIMENT CONTROL PLAN.
 - THE FOOTPRINT OF THE STOCKPILE MUST BE SIZED TO ACCOMMODATE THE ANTICIPATED VOLUME OF MATERIAL AND BASED ON A SIDE SLOPE RATIO NO STEEPER THAN 2:1. BENCHING MUST BE PROVIDED IN ACCORDANCE WITH SECTION B-3 LAND GRADING.
 - RUNOFF FROM THE STOCKPILE AREA MUST DRAIN TO A SUITABLE SEDIMENT CONTROL PRACTICE.
 - ACCESS THE STOCKPILE AREA FROM THE UPGRADE SIDE.
 - CLEAR WATER RUNOFF INTO THE STOCKPILE AREA MUST BE MINIMIZED BY USE OF A DIVERSION DEVICE SUCH AS AN EARTH DIKE, TEMPORARY SWALE OR DIVERSION FENCE. PROVISIONS MUST BE MADE FOR DISCHARGING CONCENTRATED FLOW IN A NON-EROSIVE MANNER.
 - WHERE RUNOFF CONCENTRATES ALONG THE TOE OF THE STOCKPILE FILL, AN APPROPRIATE EROSION/SEDIMENT CONTROL PRACTICE MUST BE USED TO INTERCEPT THE DISCHARGE.
 - STOCKPILES MUST BE STABILIZED IN ACCORDANCE WITH THE 3/7 DAY STABILIZATION REQUIREMENT AS WELL AS STANDARD B-4-1 INCREMENTAL STABILIZATION AND STANDARD B-4-4 TEMPORARY STABILIZATION.
 - IF THE STOCKPILE IS LOCATED ON AN IMPERVIOUS SURFACE, A LINER SHOULD BE PROVIDED BELOW THE STOCKPILE TO FACILITATE CLEANUP. STOCKPILES CONTAINING CONTAMINATED MATERIAL MUST BE COVERED WITH IMPERMEABLE SHEETING.
- MAINTENANCE:**
- THE STOCKPILE AREA MUST CONTINUOUSLY MEET THE REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION. SIDE SLOPES MUST BE MAINTAINED AT NO STEEPER THAN A 2:1 RATIO. THE STOCKPILE AREA MUST BE KEPT FREE OF EROSION. IF THE VERTICAL HEIGHT OF A STOCKPILE EXCEEDS 20 FEET FOR 2:1 SLOPES, 30 FEET FOR 3:1 SLOPES, OR 40 FEET FOR 4:1 SLOPES, BENCHING MUST BE PROVIDED IN ACCORDANCE WITH SECTION B-3 LAND GRADING.

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

- A. SOIL PREPARATION**
- TEMPORARY STABILIZATION
 - 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 LOOSENEED, 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.
 - APPLY FERTILIZER AND LIME AS PRESCRIBED ON THE PLANS.
 - INCORPORATE LIME AND FERTILIZER INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS.
 - PERMANENT STABILIZATION
 - SOIL TESTS REQUIRED FOR ANY EARTH DISTURBANCE OF 5 ACRES OR MORE. THE MINIMUM SOIL CONDITIONS REQUIRED FOR PERMANENT VEGETATIVE ESTABLISHMENT ARE:
 - SOIL PH BETWEEN 6.0 AND 7.0.
 - SOLUBLE SALTS LESS THAN 500 PARTS PER MILLION (PPM).
 - SOIL CONTAINS LESS THAN 40 PERCENT CLAY BUT ENOUGH FINE GRAINED MATERIAL (GREATER THAN 30 PERCENT SILT PLUS CLAY) TO PROVIDE THE CAPACITY TO HOLD A MODERATE AMOUNT OF MOISTURE. AN EXCEPTION: IF LOVEGRASS WILL BE PLANTED, THEN A SANDY SOIL (LESS THAN 30 PERCENT SILT PLUS CLAY) WOULD BE ACCEPTABLE.
 - SOIL CONTAINS 1.5 PERCENT MINIMUM ORGANIC MATTER BY WEIGHT.
 - SOIL CONTAINS SUFFICIENT PORE SPACE TO PERMIT ADEQUATE ROOT PENETRATION.
 - APPLICATION OF AMENDMENTS OR TOPSOIL IS REQUIRED IF ON-SITE SOILS DO NOT MEET THE ABOVE CONDITIONS.
 - GRADED AREAS MUST BE MAINTAINED IN A TRUE AND EVEN GRADE AS SPECIFIED ON THE APPROVED PLAN, THEN SCARIFIED OR OTHERWISE LOOSENEED TO A DEPTH OF 3 TO 5 INCHES.
 - APPLY SOIL AMENDMENTS AS SPECIFIED ON THE APPROVED PLAN OR AS INDICATED BY THE RESULTS OF A SOIL TEST.
 - MIX SOIL AMENDMENTS INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS. RAKE 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**
- TOPSOIL IS PLACED OVER PREPARED SUBSOIL PRIOR TO ESTABLISHMENT OF PERMANENT VEGETATION. THE PURPOSE IS TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH. SOILS OF CONCERN HAVE LOW MOISTURE CONTENT, LOW NUTRIENT LEVELS, LOW PH, MATERIALS TOXIC TO PLANTS, AND/OR UNACCEPTABLE SOIL GRADATION.
 - TOPSOIL SALVAGED FROM AN EXISTING SITE MAY BE USED PROVIDED IT MEETS THE STANDARDS AS SET FORTH IN THESE SPECIFICATIONS. TYPICALLY, THE DEPTH OF TOPSOIL TO BE SALVAGED FOR A GIVEN SOIL TYPE CAN BE FOUND IN THE REPRESENTATIVE SOIL PROFILE SECTION IN THE SOIL SURVEY PUBLISHED BY USDA-NRCS.
 - TOPSOILING IS LIMITED TO AREAS HAVING 2:1 OR FLATTER SLOPES WHERE:
 - THE TEXTURE OF THE EXPOSED SUBSOIL/PARENT MATERIAL IS NOT ADEQUATE TO PRODUCE VEGETATIVE GROWTH.
 - THE SOIL MATERIAL IS SO SHALLOW THAT THE ROOTING ZONE IS NOT DEEP ENOUGH TO SUPPORT PLANTS OR FURNISH CONTINUING SUPPLIES OF MOISTURE AND PLANT NUTRIENTS.
 - THE ORIGINAL SOIL TO BE VEGETATED CONTAINS MATERIAL TOXIC TO PLANT GROWTH.
 - THE SOIL IS SO ACIDIC THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.
 - AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATION AND DESIGN.
 - TOPSOIL SPECIFICATIONS: SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING CRITERIA:
 - 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, COKE FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1 INCH IN DIAMETER.
 - TOPSOIL MUST BE FREE OF NOXIOUS PLANTS OR PLANT PARTS SUCH AS BERMUDA GRASS, QUACK GRASS, JOHNSON GRASS, NUT SEDGE, POISON IVY, THISTLE, OR OTHERS AS SPECIFIED.
 - TOPSOIL SUBSTITUTES OR AMENDMENTS, AS RECOMMENDED BY A QUALIFIED AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY, MAY BE USED IN LIEU OF NATURAL TOPSOIL.
 - TOPSOIL APPLICATION
 - EROSION AND SEDIMENT CONTROL PRACTICES MUST BE MAINTAINED WHEN APPLYING TOPSOIL.
 - UNIFORMLY DISTRIBUTE TOPSOIL IN A 5 TO 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.
 - 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)**
- SOIL TESTS MUST BE PERFORMED TO DETERMINE THE EXACT RATIOS AND APPLICATION RATES FOR BOTH LIME AND FERTILIZER ON SITES HAVING DISTURBED AREAS OF 5 ACRES OR MORE. SOIL ANALYSIS MAY BE PERFORMED BY A RECOGNIZED PRIVATE OR COMMERCIAL LABORATORY. SOIL SAMPLES TAKEN FOR ENGINEERING PURPOSES MAY ALSO BE USED FOR CHEMICAL ANALYSES.
 - FERTILIZERS MUST BE UNIFORM IN COMPOSITION, FREE FLOWING AND SUITABLE FOR ACCURATE APPLICATION BY APPROPRIATE EQUIPMENT. 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.
 - LIME MATERIALS MUST BE GROUND LIMESTONE (HYDRATED OR BURNT LIME MAY BE SUBSTITUTED EXCEPT WHEN HYDROSEEDING) WHICH CONTAINS AT LEAST 90 PERCENT TOTAL OF 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.
 - LIME AND FERTILIZER ARE TO BE EVENLY DISTRIBUTED AND INCORPORATED INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS.
 - WHERE THE SUBSOIL IS EITHER HIGHLY ACIDIC OR COMPOSED OF HEAVY CLAYS, SPREAD GROUND LIMESTONE AT THE RATE OF 4 TO 8 TONS/ACRE (200-400 POUNDS PER 1,000 SQUARE FEET) PRIOR TO THE PLACEMENT OF TOPSOIL.

A. SEEDING

- SPECIFICATIONS
 - ALL SEED MUST MEET THE REQUIREMENTS OF THE MARYLAND STATE SEED LAW. ALL SEED MUST BE SUBJECT TO RE-TESTING BY A RECOGNIZED SEED LABORATORY. ALL SEED USED MUST HAVE BEEN TESTED WITHIN THE 6 MONTHS IMMEDIATELY PRECEDING THE DATE OF SOWING SUCH MATERIAL ON ANY PROJECT. REFER TO TABLE B.4 REGARDING THE QUALITY OF SEED. SEED TAGS MUST BE AVAILABLE UPON REQUEST TO THE INSPECTOR TO VERIFY TYPE OF SEED AND SEEDING RATE.
 - MULCH ALONE MAY BE APPLIED BETWEEN THE FALL AND SPRING SEEDING DATES ONLY IF THE GROUND IS FROZEN. THE APPROPRIATE SEEDING MIXTURE MUST BE APPLIED WHEN THE GROUND THAWS.
 - INOCULANTS: THE INOCULANT FOR TREATING LEGUME SEED IN THE SEED MIXTURES MUST BE A PURE CULTURE OF NITROGEN FIXING BACTERIA PREPARED SPECIFICALLY FOR THE SPECIES. INOCULANTS MUST NOT BE USED LATER THAN THE DATE INDICATED ON THE CONTAINER. ADD FRESH INOCULANTS AS DIRECTED ON THE PACKAGE. USE FOUR TIMES THE RECOMMENDED RATE WHEN HYDROSEEDING. NOTE: IT IS VERY IMPORTANT TO KEEP INOCULANT AS COOL AS POSSIBLE UNTIL USED. TEMPERATURES ABOVE 75 TO 80 DEGREES FAHRENHEIT CAN WEAKEN BACTERIA AND MAKE THE INOCULANT LESS EFFECTIVE.
 - SOD OR SEED MUST NOT BE PLACED ON SOIL WHICH HAS BEEN TREATED WITH SOIL STERILANTS OR CHEMICALS USED FOR WEED CONTROL UNTIL SUFFICIENT TIME HAS ELAPSED (14 DAYS MIN.) TO PERMIT DISSIPATION OF PHYTO-TOXIC MATERIALS.
- APPLICATION
 - DRY SEEDING: THIS INCLUDES USE OF CONVENTIONAL DROP OR BROADCAST SPREADERS.
 - INCORPORATE SEED INTO THE SUBSOIL AT THE RATES PRESCRIBED ON TEMPORARY SEEDING TABLE B.1, PERMANENT SEEDING TABLE B.3 OR SITE SPECIFIC SEEDING SUMMARIES.
 - APPLY SEED IN TWO DIRECTIONS, PERPENDICULAR TO EACH OTHER. APPLY HALF THE SEEDING RATE IN EACH DIRECTION. ROLL THE SEEDED AREA WITH A WEIGHTED ROLLER TO PROVIDE GOOD SEED TO SOIL CONTACT.
 - DRILL OR CULTIPACKER SEEDING: MECHANIZED SEEDERS THAT APPLY AND COVER SEED WITH SOIL.
 - CULTIPACKING SEEDERS ARE REQUIRED TO BURY THE SEED IN SUCH A FASHION AS TO PROVIDE AT LEAST 1/4 INCH OF SOIL COVERING. SEEDBED MUST BE FIRM AFTER PLANTING.
 - APPLY SEED IN TWO DIRECTIONS, PERPENDICULAR TO EACH OTHER. APPLY HALF THE SEEDING RATE IN EACH DIRECTION.
 - HYDROSEEDING: APPLY SEED UNIFORMLY WITH HYDROSEEDER (SLURRY INCLUDES SEED AND FERTILIZER).
 - IF FERTILIZER IS BEING APPLIED AT THE TIME OF SEEDING, THE APPLICATION RATES SHOULD NOT EXCEED THE FOLLOWING: NITROGEN, 100 POUNDS PER ACRE TOTAL OF SOLUBLE NITROGEN; P205 (PHOSPHOROUS), 200 POUNDS PER ACRE; K2O (POTASSIUM), 200 POUNDS PER ACRE.
 - LIME: USE ONLY GROUND AGRICULTURAL LIMESTONE (UP TO 3 TONS PER ACRE MAY BE APPLIED BY HYDROSEEDING). NORMALLY, NOT MORE THAN 2 TONS ARE APPLIED BY HYDROSEEDING AT ANY ONE TIME. DO NOT USE BURNT OR HYDRATED LIME WHEN HYDROSEEDING.
 - MIX SEED AND FERTILIZER ON SITE AND SEED IMMEDIATELY AND WITHOUT INTERRUPTION.
 - WHEN HYDROSEEDING DO NOT INCORPORATE SEED INTO THE SOIL.
- MULCHING
 - MULCH MATERIALS (IN ORDER OF PREFERENCE)
 - STRAW CONSISTING OF THOROUGHLY THRESHED WHEAT, RYE, OAT, OR BARLEY AND REASONABLY BRIGHT IN COLOR. STRAW IS TO BE FREE OF NOXIOUS WEED SEEDS AS SPECIFIED IN THE MARYLAND SEED LAW AND NOT MUSTY, MOLDY, CAKED, DECAYED, OR EXCESSIVELY DUSTY. NOTE: USE ONLY STERILE STRAW MULCH IN AREAS WHERE ONE SPECIES OF GRASS IS DESIRED.
 - WOOD CELLULOSE FIBER MULCH (WCFM) CONSISTING OF SPECIALLY PREPARED WOOD CELLULOSE PROCESSED INTO A UNIFORM FIBROUS PHYSICAL STATE.
 - WCFM IS TO BE DYED GREEN OR CONTAIN A GREEN DYE IN THE PACKAGE THAT WILL PROVIDE AN APPROPRIATE COLOR TO FACILITATE VISUAL INSPECTION OF THE UNIFORMLY SPREAD SLURRY.
 - WCFM, INCLUDING DYE, MUST CONTAIN NO GERMINATION OR GROWTH INHIBITING FACTORS.
 - WCFM MATERIALS ARE TO BE MANUFACTURED AND PROCESSED IN SUCH A MANNER THAT THE WOOD CELLULOSE FIBER MULCH WILL REMAIN IN UNIFORM SUSPENSION IN WATER UNDER AGITATION AND WILL BLEND WITH SEED, FERTILIZER AND OTHER ADDITIVES TO FORM A HOMOGENEOUS SLURRY. THE MULCH MATERIAL MUST FORM A BLOTTER-LIKE GROUND COVER ON APPLICATION, HAVING MOISTURE ABSORPTION AND PERCOLATION PROPERTIES AND MUST COVER AND HOLD GRASS SEED IN CONTACT WITH THE SOIL WITHOUT INHIBITING THE GROWTH OF THE GRASS SEEDLINGS.
 - WCFM MATERIAL MUST NOT CONTAIN ELEMENTS OR COMPOUNDS AT CONCENTRATION LEVELS THAT WILL BE PHYTO-TOXIC.
 - WCFM MUST CONFORM TO THE FOLLOWING PHYSICAL REQUIREMENTS: FIBER LENGTH OF APPROXIMATELY 10 MILLIMETERS, DIAMETER APPROXIMATELY 1 MILLIMETER, PH RANGE OF 4.0 TO 8.5, ASH CONTENT OF 1-6 PERCENT MAXIMUM AND WATER HOLDING CAPACITY OF 90 PERCENT MINIMUM.
 - APPLICATION
 - APPLY MULCH TO ALL SEEDED AREAS IMMEDIATELY AFTER SEEDING.
 - WHEN STRAW MULCH IS USED, SPREAD IT OVER ALL SEEDED AREAS AT THE RATE OF 2 TONS PER ACRE TO A UNIFORM LOOSE DEPTH OF 1 TO 2 INCHES. APPLY MULCH TO ACHIEVE A UNIFORM DISTRIBUTION AND DEPTH SO THAT THE SOIL SURFACE IS NOT EXPOSED. WHEN USING A MULCH ANCHORING TOOL, INCREASE THE APPLICATION RATE TO 2.5 TONS PER ACRE.
 - WOOD CELLULOSE FIBER USED AS MULCH MUST BE APPLIED AT A NET DRY WEIGHT OF 1500 POUNDS PER ACRE. MIX THE WOOD CELLULOSE FIBER WITH WATER TO ATTAIN A MIXTURE WITH A MAXIMUM OF 50 POUNDS OF WOOD CELLULOSE FIBER PER 100 GALLONS OF WATER.
 - ANCHORING
 - PERFORM MULCH ANCHORING IMMEDIATELY FOLLOWING APPLICATION OF MULCH TO MINIMIZE LOSS BY WIND OR WATER. THIS MAY BE DONE BY ONE OF THE FOLLOWING METHODS (LISTED BY PREFERENCE), DEPENDING UPON THE SIZE OF THE AREA AND EROSION HAZARD:
 - A MULCH ANCHORING TOOL IS A TRACTOR DRAWN IMPLEMENT DESIGNED TO PUNCH AND ANCHOR MULCH INTO THE SOIL SURFACE A MINIMUM OF 2 INCHES. THIS PRACTICE IS MOST EFFECTIVE ON LARGE AREAS, BUT IS LIMITED TO FLATTER SLOPES WHERE EQUIPMENT CAN OPERATE SAFELY. IF USED ON SLOPING LAND, THIS PRACTICE SHOULD FOLLOW THE CONTOUR.
 - WOOD CELLULOSE FIBER MAY BE USED FOR ANCHORING STRAW. APPLY THE FIBER BINDER AT A NET DRY WEIGHT OF 750 POUNDS PER ACRE. MIX THE WOOD CELLULOSE FIBER WITH WATER AT A MAXIMUM OF 50 POUNDS OF WOOD CELLULOSE FIBER PER 100 GALLONS OF WATER.
 - SYNTHETIC BINDERS SUCH AS ACRYLIC DLR (AGRO-TACK), DCA-70, PETROSET, TERRA TACK II, TERRA TACK AR OR OTHER APPROVED EQUAL MAY BE USED. FOLLOW APPLICATION RATES AS SPECIFIED BY THE MANUFACTURER. APPLICATION OF LIQUID BINDERS NEEDS TO BE HEAVIER AT THE EDGES WHERE WIND CATCHES MULCH, SUCH AS IN VALLEYS AND ON CRESTS OF BANKS. USE OF ASPHALT BINDERS IS STRICTLY PROHIBITED.
 - LIGHTWEIGHT PLASTIC NETTING MAY BE STAPLED OVER THE MULCH ACCORDING TO MANUFACTURER RECOMMENDATIONS. NETTING IS USUALLY AVAILABLE IN ROLLS 4 TO 15 FEET WIDE AND 300 TO 3,000 FEET LONG.

B-4-4 TEMPORARY STABILIZATION

NO.	SPECIES	APPLICATION RATE (LB/AC)	HARDINESS ZONE (FROM FIGURE B.3)		SEEDING DEPTHS	FERTILIZER RATE (10-20-20)	LIME RATE
			6B	SEE BELOW			
	ANNUAL RYEGRASS	40	MAR. 1 TO MAY 15	AUG. 1 TO OCT 15	0.5	436 LB/AC (10 LB/ 1000 SF)	2 TON/AC (90 LB/ 1000 SF)
	FOXTAIL MILLET	30	MAY 16 TO JULY 31		0.5		

B-4-5 PERMANENT STABILIZATION

NO.	SPECIES	APPLICATION RATE (LB/AC)	HARDINESS ZONE (FROM FIGURE B.3)		SEEDING DEPTHS	FERTILIZER RATE (10-20-20)			LIME RATE
			6B	1		N	P ₂ O ₅	K ₂ O	
	SWITCH GRASS	10	MAR. 1 TO MAY 15	MAY 16 TO JUNE 15	1/4-1/2 IN.	45 LB/AC (1.0 LB/ 1000 SF)	90 LB/AC (2.0 LB/ 1000 SF)	90 LB/AC (2.0 LB/ 1000 SF)	2 TON/AC (90 LB/ 1000 SF)
1	CREEPING RED FESCUE	15	MAR. 1 TO MAY 15	MAY 16 TO JUNE 15	1/4-1/2 IN.	45 LB/AC (1.0 LB/ 1000 SF)	90 LB/AC (2.0 LB/ 1000 SF)	90 LB/AC (2.0 LB/ 1000 SF)	2 TON/AC (90 LB/ 1000 SF)
	PARTRIDGE PEA	4	MAR. 1 TO MAY 15	MAY 16 TO JUNE 15	1/4-1/2 IN.				

NOTE: MAY 16 TO JUNE 15 ARE ADDITIONAL PLANTING DATES DURING WHICH SUPPLEMENTAL PLAN REVISION WATERING MAY BE NEEDED TO ENSURE PLANT ESTABLISHMENT

Signature: *[Handwritten Signature]*
 Title: Technical Review
 Date: 7/15/14

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

[Signature]
CHIEF, BUREAU OF ENVIRONMENTAL SERVICES

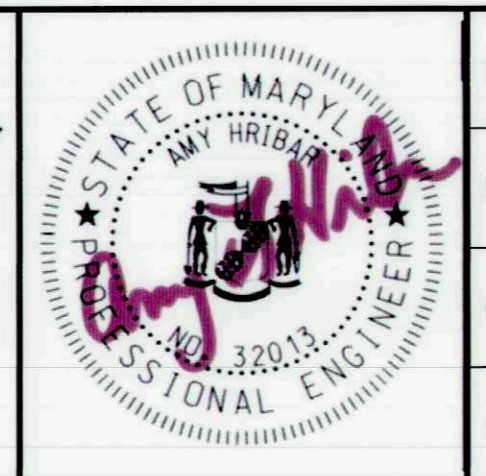
DATE: 7/15/14

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Columbia, Maryland 21046-3143
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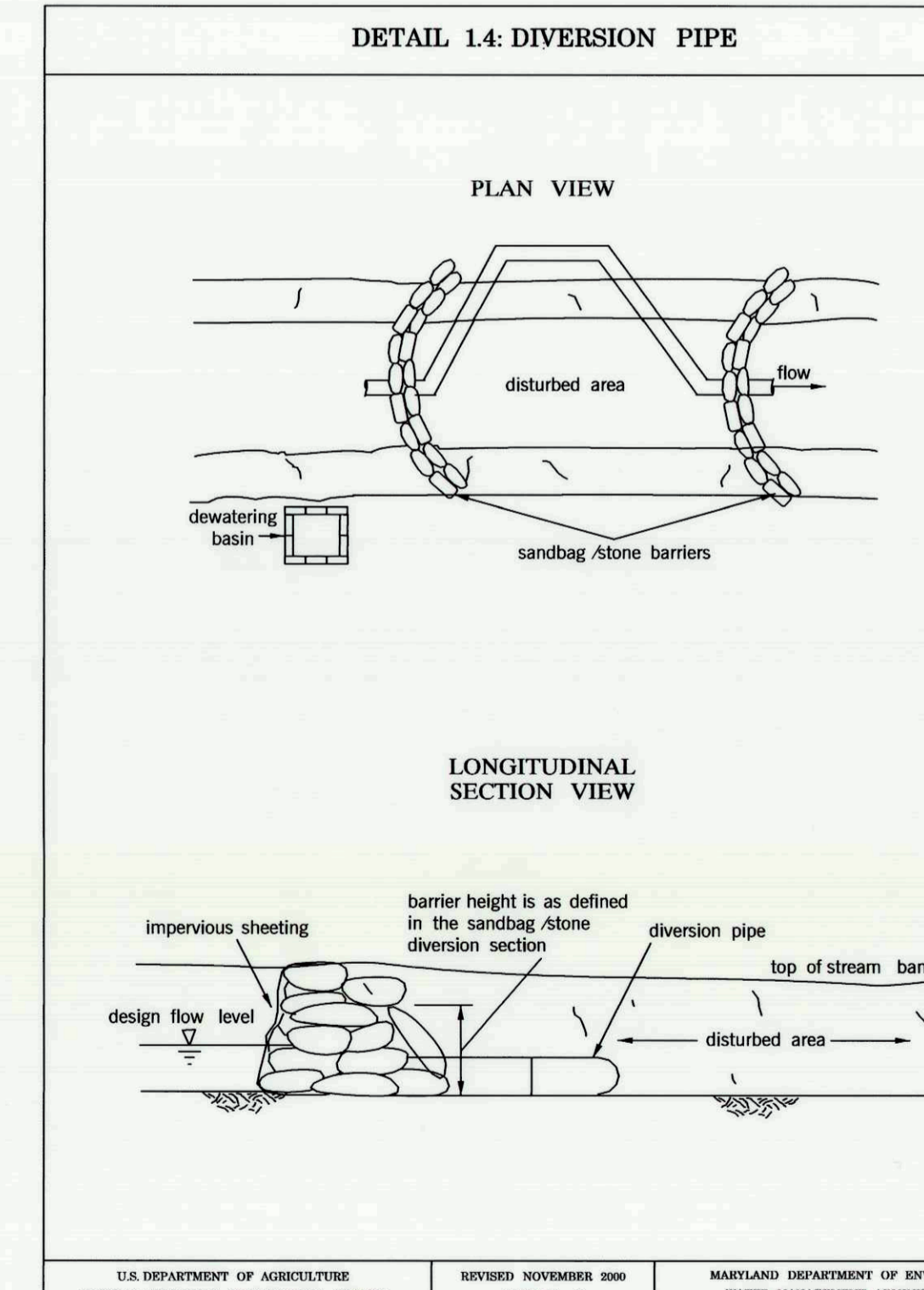
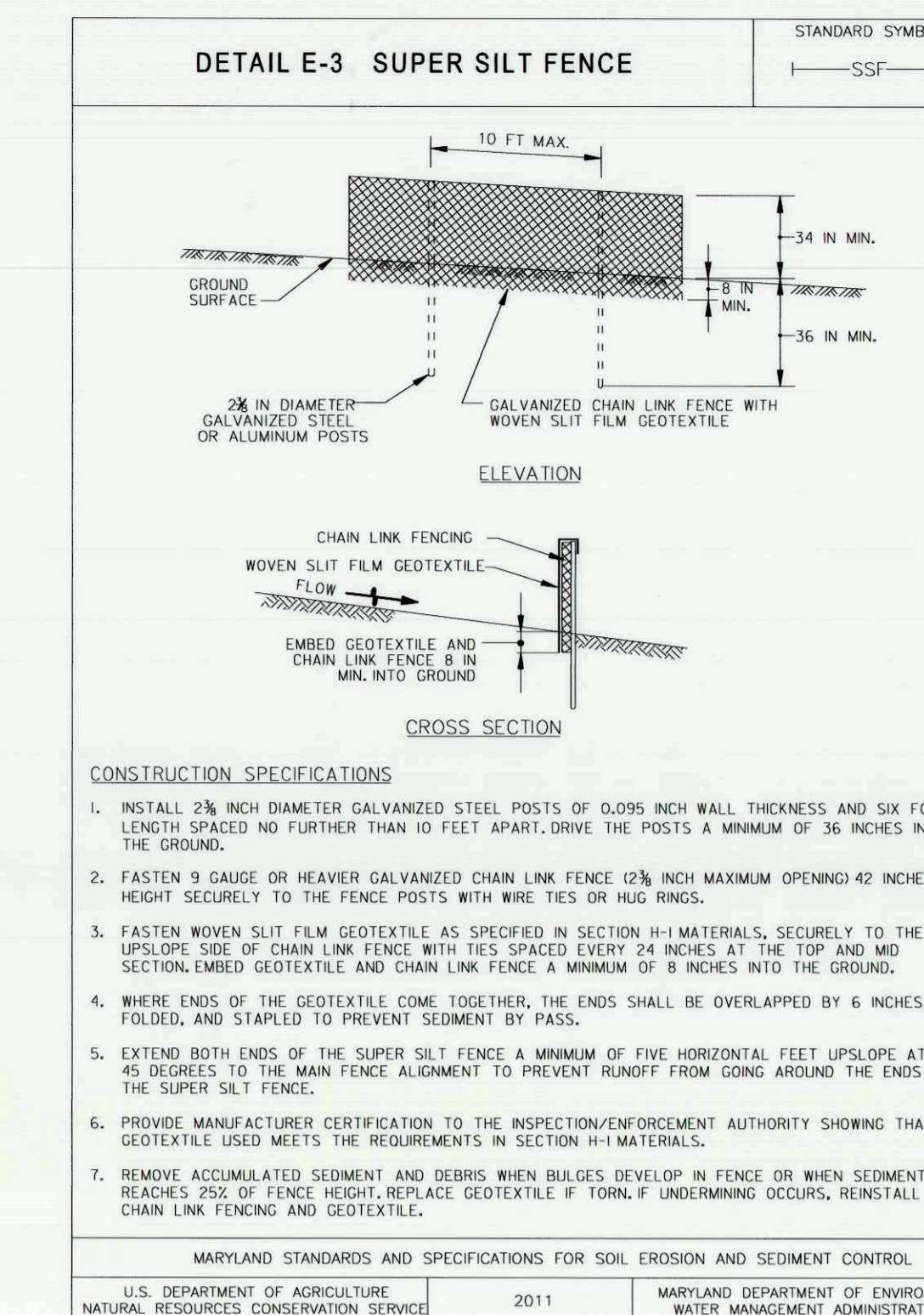
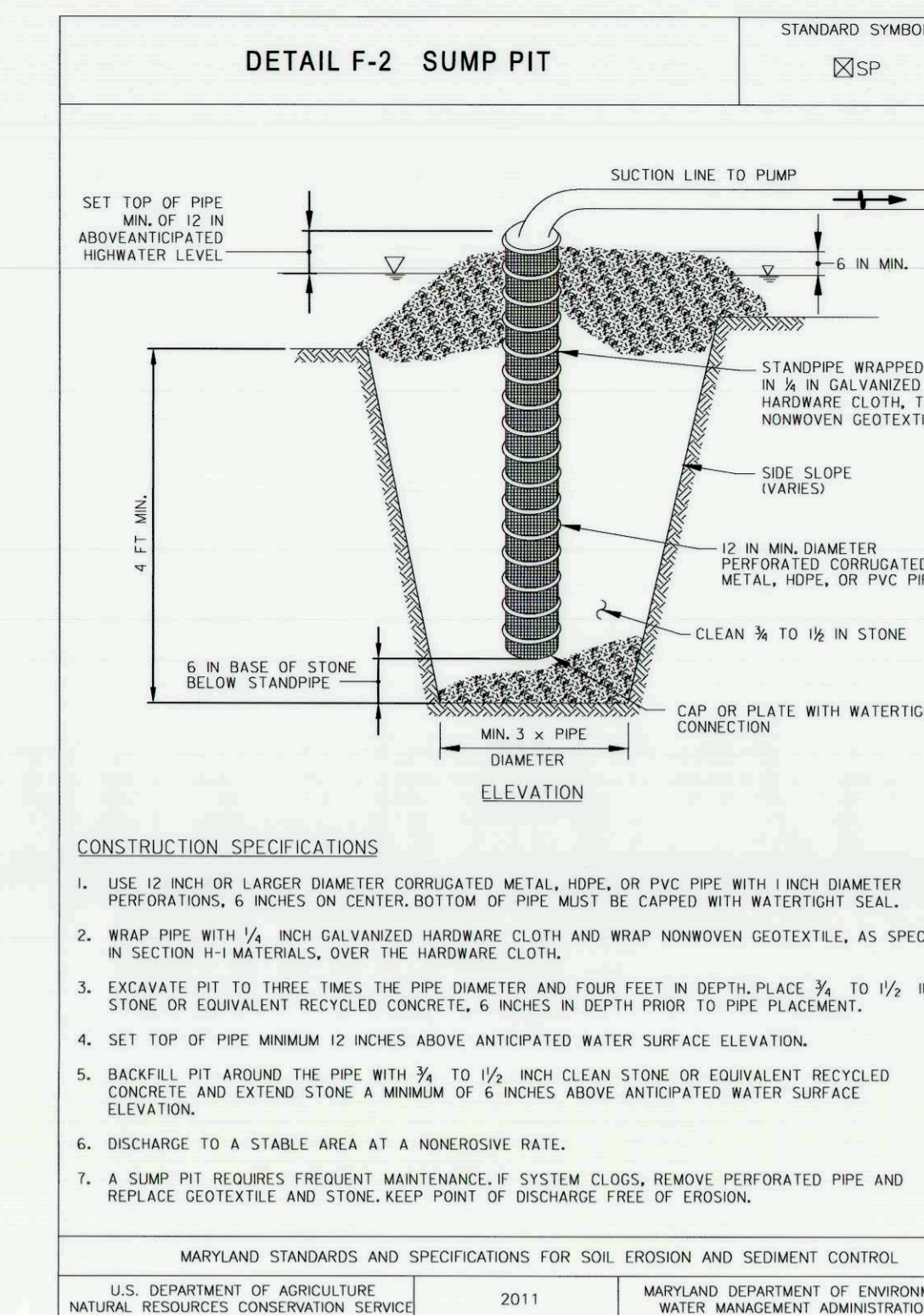
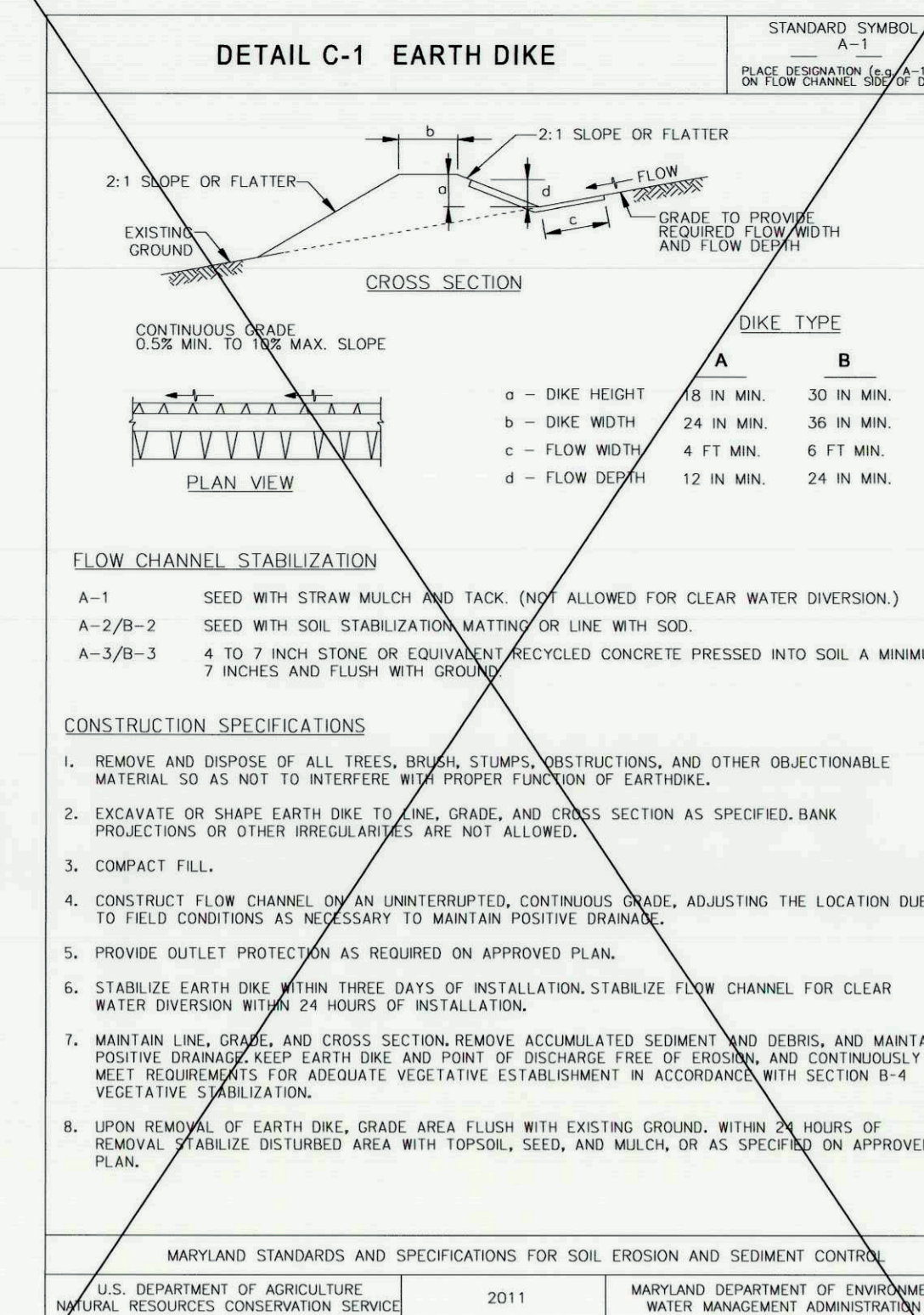
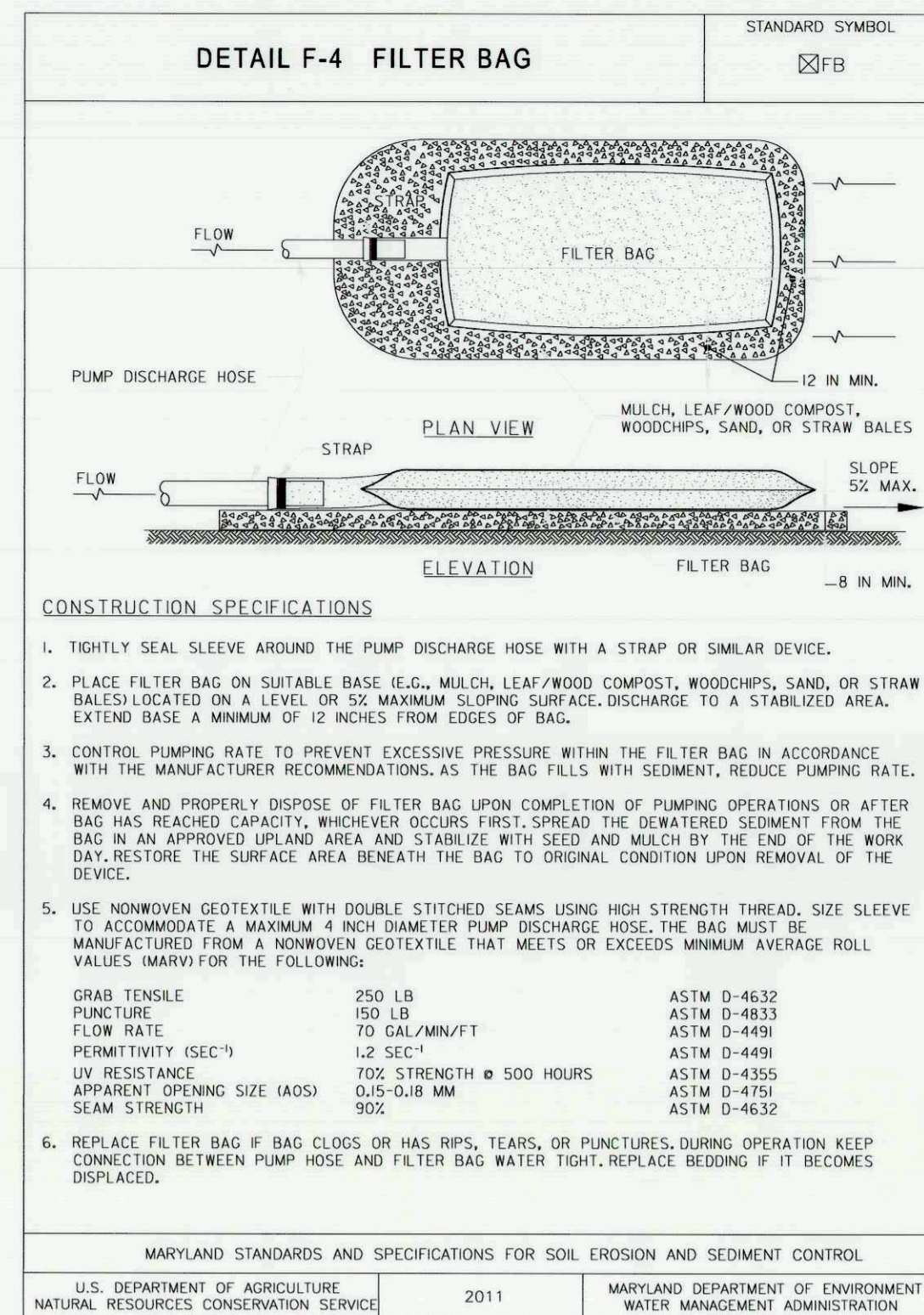
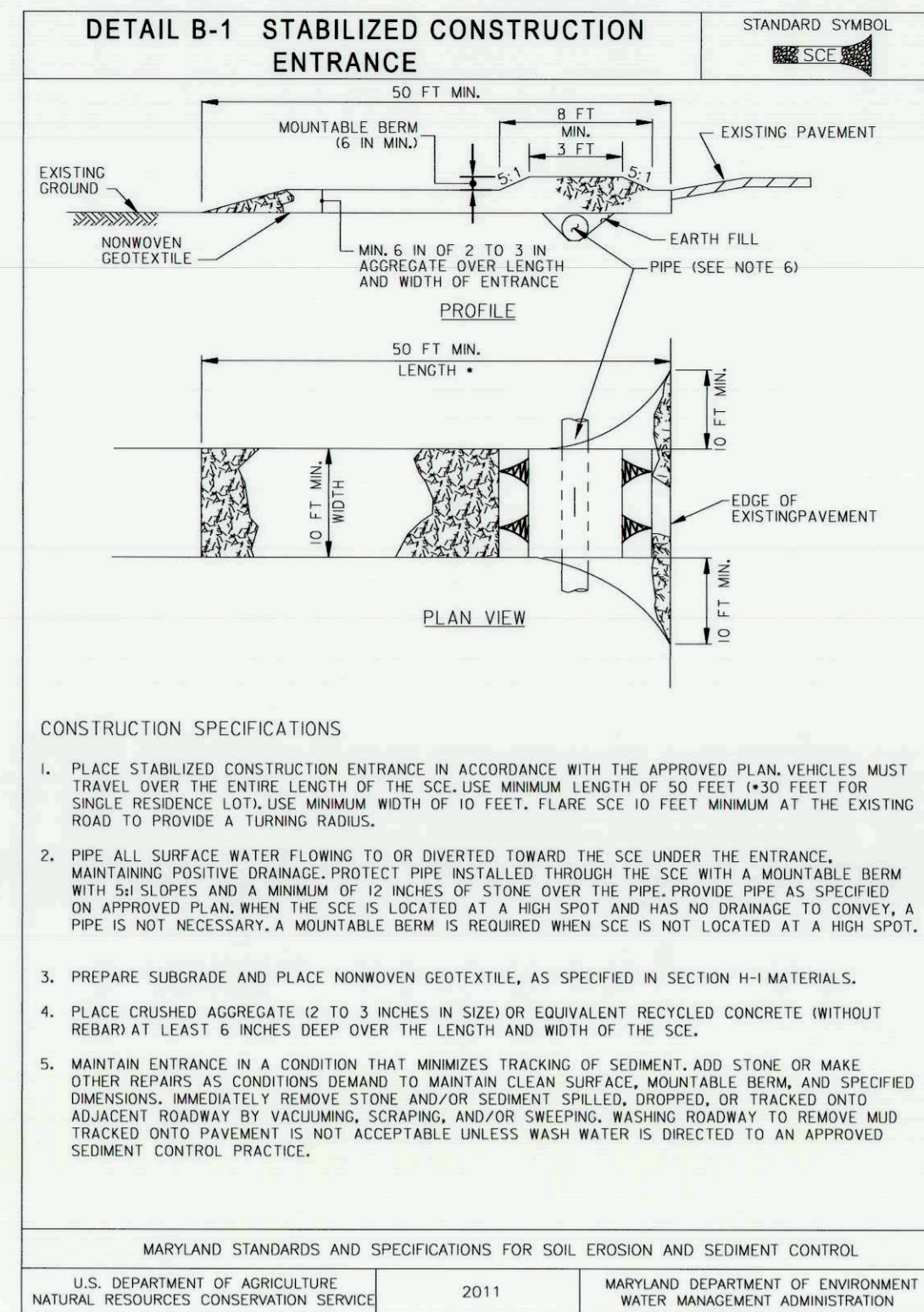


DES: CL					
DRN: MR					
CHK: AH					
DATE: 6/25/14	AM	△	EARTH DIKE REPLACED WITH 24" PIPE DIVERSION	92914	
	BY	NO.	REVISION		DATE

PEBBLE BEACH DRIVE
SWM RETROFIT PROJECT
CAPITAL PROJECT D 1159
HOWARD COUNTY

**EROSION AND SEDIMENT CONTROL
NOTES SHEET**

SCALE
NOT TO SCALE
SHEET 5 OF 7



APPROVED PLAN REVISION
SCD [Signature] 10/27/14
NRC [Signature] Technical Review Date: 10/27/14

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

[Signature]
CHIEF, BUREAU OF ENVIRONMENTAL SERVICES

7/15/14 DATE

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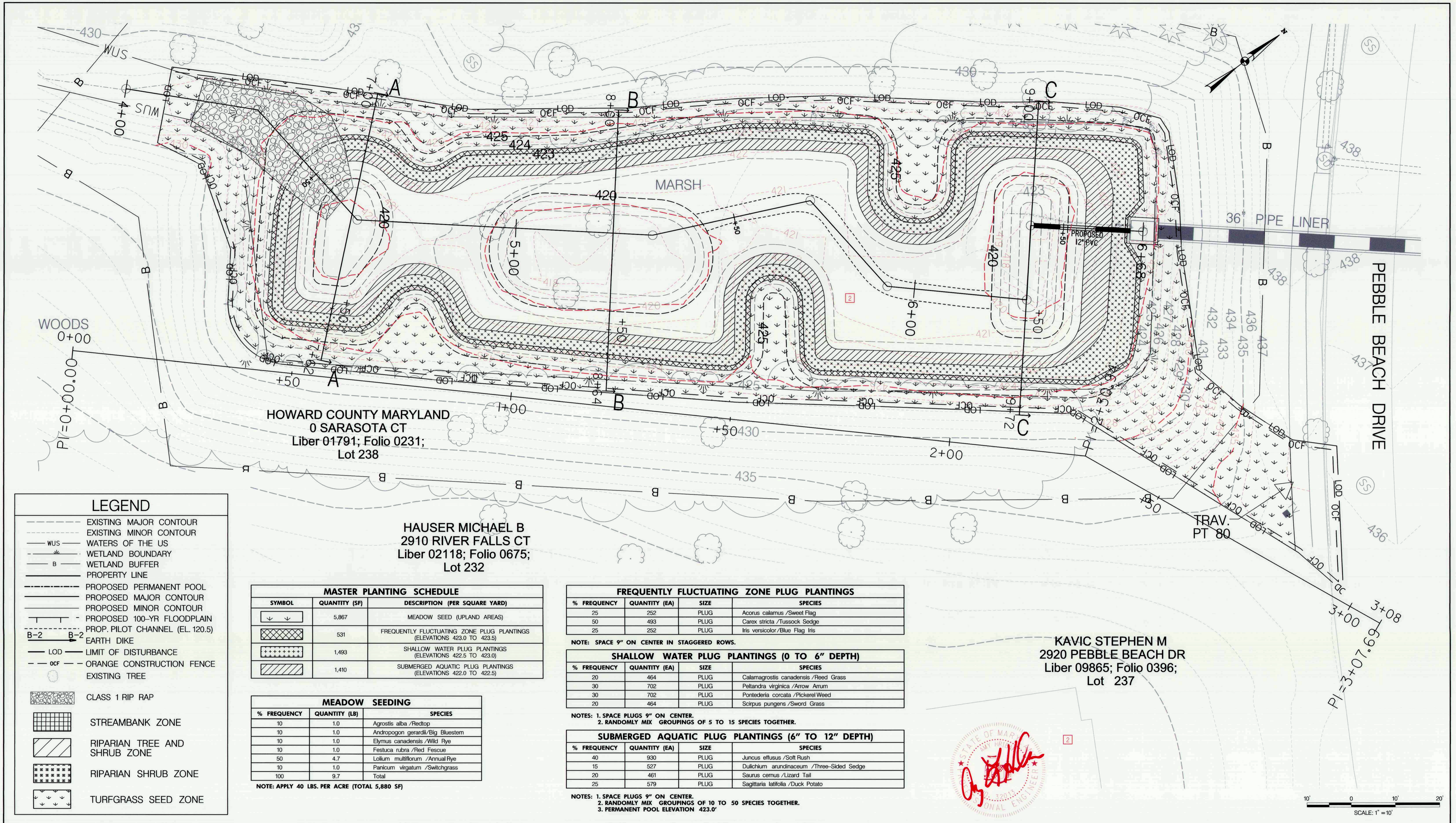
DES:	CL				
DRN:	MR				
CHK:	AH				
DATE:	6/25/14	AM	△	EARTH DIKE REPLACED WITH 24" PIPE DIVERSION	9/29/14
		BY	NO.	REVISION	DATE

PEBBLE BEACH DRIVE
SWM RETROFIT PROJECT
CAPITAL PROJECT D 1159
HOWARD COUNTY

EROSION AND SEDIMENT CONTROL
DETAIL SHEET

SCALE
NOT TO SCALE

SHEET
6 OF 7



LEGEND

- - - - - EXISTING MAJOR CONTOUR
- - - - - EXISTING MINOR CONTOUR
- WUS - WATERS OF THE US
- - - - - WETLAND BOUNDARY
- B - WETLAND BUFFER
- - - - - PROPERTY LINE
- - - - - PROPOSED PERMANENT POOL
- - - - - PROPOSED MAJOR CONTOUR
- - - - - PROPOSED MINOR CONTOUR
- - - - - PROPOSED 100-YR FLOODPLAIN
- - - - - PROP. PILOT CHANNEL (EL. 120.5)
- B-2 - EARTH DIKE
- LOD - LIMIT OF DISTURBANCE
- - - - - ORANGE CONSTRUCTION FENCE
- - EXISTING TREE
- ▨ - CLASS 1 RIP RAP
- ▩ - STREAMBANK ZONE
- ▧ - RIPARIAN TREE AND SHRUB ZONE
- ▦ - RIPARIAN SHRUB ZONE
- ▤ - TURFGRASS SEED ZONE

MASTER PLANTING SCHEDULE

SYMBOL	QUANTITY (SF)	DESCRIPTION (PER SQUARE YARD)
↓ ↓	5,867	MEADOW SEED (UPLAND AREAS)
▨	531	FREQUENTLY FLUCTUATING ZONE PLUG PLANTINGS (ELEVATIONS 423.0 TO 423.5)
▤	1,493	SHALLOW WATER PLUG PLANTINGS (ELEVATIONS 422.5 TO 423.0)
▦	1,410	SUBMERGED AQUATIC PLUG PLANTINGS (ELEVATIONS 422.0 TO 422.5)

MEADOW SEEDING

% FREQUENCY	QUANTITY (LB)	SPECIES
10	1.0	Agrostis alba /Reedtop
10	1.0	Andropogon gerardii/Big Bluestem
10	1.0	Elymus canadensis/Wild Rye
10	1.0	Festuca rubra /Red Fescue
50	4.7	Lolium multiflorum /Annual Rye
10	1.0	Panicum virgatum /Switchgrass
100	9.7	Total

NOTE: APPLY 40 LBS. PER ACRE (TOTAL 5,880 SF)

FREQUENTLY FLUCTUATING ZONE PLUG PLANTINGS

% FREQUENCY	QUANTITY (EA)	SIZE	SPECIES
25	252	PLUG	Acorus calamus /Sweet Flag
50	493	PLUG	Carex stricta /Tussock Sedge
25	252	PLUG	Iris versicolor/Blue Flag Iris

NOTE: SPACE 9" ON CENTER IN STAGGERED ROWS.

SHALLOW WATER PLUG PLANTINGS (0 TO 6" DEPTH)

% FREQUENCY	QUANTITY (EA)	SIZE	SPECIES
20	464	PLUG	Calamagrostis canadensis /Reed Grass
30	702	PLUG	Peltandra virginica /Arrow Arum
30	702	PLUG	Pontederia corcata /Pickerel Weed
20	464	PLUG	Scirpus pungens /Sword Grass

NOTES: 1. SPACE PLUGS 9" ON CENTER.
2. RANDOMLY MIX GROUPINGS OF 5 TO 15 SPECIES TOGETHER.

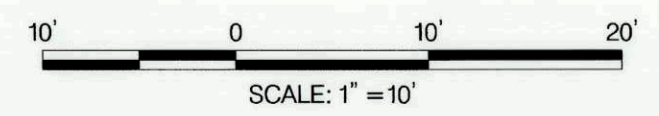
SUBMERGED AQUATIC PLUG PLANTINGS (6" TO 12" DEPTH)

% FREQUENCY	QUANTITY (EA)	SIZE	SPECIES
40	930	PLUG	Juncus effusus /Soft Rush
15	527	PLUG	Dulichium arundinaceum /Three-Sided Sedge
20	461	PLUG	Saurus cernuus /Lizard Tail
25	579	PLUG	Sagittaria latifolia /Duck Potato

NOTES: 1. SPACE PLUGS 9" ON CENTER.
2. RANDOMLY MIX GROUPINGS OF 10 TO 50 SPECIES TOGETHER.
3. PERMANENT POOL ELEVATION 423.0'



KAVIC STEPHEN M
2920 PEBBLE BEACH DR
Liber 09865; Folio 0396;
Lot 237



DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Mark D. Lucas
CHIEF, BUREAU OF ENVIRONMENTAL SERVICES
DATE: 7/15/14

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DES:	CL				
DRN:	MR				
CHK:	AH				
DATE:	6/25/14	KO	2	ASBUILT	9/25/18
BY:		NO.		REVISION	DATE

PEBBLE BEACH DRIVE
SWM RETROFIT PROJECT
CAPITAL PROJECT D 1159
HOWARD COUNTY

LANDSCAPING PLAN

SCALE: 1" = 10'
SHEET: 2 OF 2