

GENERAL NOTES

- 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 ANY WORK.
- THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
- THIS PROJECT IS IN CONFORMANCE WITH THE LATEST HOWARD COUNTY STANDARDS UNLESS WAIVERS HAVE BEEN APPROVED.
- THE SUBJECT PROPERTY IS ZONED R-SA-8 AND FOR PER THE 2-2-2004 COMPREHENSIVE ZONING PLAN AND THE "COMP LITE" ZONING AMENDMENTS EFFECTIVE 7-28-2006.
- COORDINATES BASED ON NAD '83, MARYLAND COORDINATE SYSTEM AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS 3511 AND 3512.
- TRACT BOUNDARY IS BASED ON A FIELD RUN BOUNDARY SURVEY PERFORMED BY SILL, ADCOCK AND ASSOCIATES, INC. IN MAY, 2007.
- THE EXISTING TOPOGRAPHY ON-SITE SHOWN WAS FIELD SURVEYED BY SILL, ADCOCK AND ASSOCIATES, INC. IN MAY, 2007. THE EXISTING TOPOGRAPHY FOR RAMP IMPROVEMENTS AND TURNAROUND ON GRACE DRIVE WAS FIELD SURVEYED BY BENCHMARK ENGINEERING, INC. IN APRIL, 2011 WITH 2-FOOT CONTOUR INTERVALS.
- A NOISE STUDY WAS PREPARED BY W.T. BALLARD, DATED MARCH, 2008 AND APPROVED ON JUNE 9, 2008. A REVISED STUDY WAS PREPARED BY MARS GROUP, INC. IN FEBRUARY, 2012 AND A REVISED STUDY FOR THE NOISE MITIGATION WAS PREPARED BY MARS GROUP, INC. IN MARCH, 2012. THE MARS GROUP, INC. REPORTS WERE APPROVED ON MARCH 28, 2012.
- AN AIR TRAFFIC STUDY WAS PREPARED BY LEE CUNNINGHAM & ASSOCIATES, INC. DATED FEBRUARY, 2008 AND APPROVED UNDER A-05-008. IT WAS AMENDED BY TRAFFIC CONCEPTS IN JUNE, 2007 AND THE TRAFFIC GROUP ON JUNE 6, 2008 AND APPROVED ON JULY 29, 2008. A REVISED TRAFFIC IMPACT STUDY WAS PREPARED BY THE TRAFFIC GROUP IN JANUARY, 2012 AND SUBMITTED WITH THIS SDP.
- THIS PROPERTY IS LOCATED WITHIN THE METROPOLITAN DISTRICT.
- WATER IS PUBLIC. THE CONTRACT NUMBER FOR PHASE 1 IS 34-4373-D. THE CONTRACT NUMBER FOR PHASE 2 IS 34-4739-D.
- SEWER IS PUBLIC. THE CONTRACT NUMBER FOR PHASE 1 IS 34-4373-D. THE CONTRACT NUMBER FOR PHASE 2 IS 34-4739-D.
- THIS SUBDIVISION IS SUBJECT TO SECTION 18.1228 OF THE HOWARD COUNTY CODE. PUBLIC WATER AND/OR SEWER SERVICE HAS BEEN GRANTED UNDER THE TERMS AND PROVISIONS, THEREOF, EFFECTIVE 6-14-2012, ON WHICH DATE DEVELOPER AGREEMENT #34-4373 & #34-4739 WAS FILED AND ACCEPTED.
- WETLAND AND FOREST STAND DELINEATIONS WERE CONDUCTED BY AB CONSULTANTS, INC. AND WERE SUBMITTED AND APPROVED UNDER S-05-008.
- THE 100YR FLOODPLAIN STUDY WAS PREPARED BY KIDDIE CONSULTANTS, INC. DATED JUNE 23, 1978 FOR HOWARD COUNTY, MARYLAND AND UPGRADED BY AB CONSULTANTS, INC. FOR SP-08-002 AND APPROVED ON JUNE 9, 2008.
- NO GRADING, REMOVAL OF VEGETATIVE COVER OR TREES, PAVING OR NEW STRUCTURES SHALL BE PERMITTED WITHIN THE REQUIRED WETLANDS, STREAM(S), THEIR BUFFERS, FOREST CONSERVATION EASEMENT AREAS OR 100YR FLOODPLAIN EXCEPT THAT ASSOCIATED WITH THE B' MACADAM PATHWAY. THE APPROVAL OF THE 100YR FLOODPLAIN STUDY IS A CONDITION OF THE SDP.
- TO THE BEST OF OUR KNOWLEDGE, THERE ARE NO CEMETERY LOCATIONS ON THESE LOTS.
- THERE ARE NO HISTORIC SITES/FEATURES LOCATED ON THESE LOTS.
- THE 65 DBA NOISE CONTOUR LINE DRAWN ON THIS DEVELOPMENT PLAN IS ADVISORY AS REQUIRED BY THE HOWARD COUNTY DESIGN MANUAL, CHAPTER 5, REVISED FEBRUARY, 1992, AND CANNOT BE CONSIDERED TO EXACTLY LOCATE THE 65 DBA NOISE EXPOSURE. THE 65 DBA NOISE LINE WAS ESTABLISHED BY HOWARD COUNTY TO ALERT DEVELOPERS, BUILDERS AND FUTURE RESIDENTS THAT AREAS BEYOND THIS THRESHOLD MAY EXCEED GENERALLY ACCEPTED NOISE LEVELS ESTABLISHED BY THE U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT.
- STORMWATER MANAGEMENT IS PROVIDED IN ACCORDANCE WITH THE STORMWATER MANAGEMENT ACT OF 2007. ENVIRONMENTAL SITE DESIGN (ESD) HAS BEEN IMPLICATED TO THE MAXIMUM EXTENT PRACTICAL (MCP) BY THE USE OF 3" (M-6) MICRO-BIORETENTION FACILITIES AND 2" (M-8) BIO-SWALES. ALL FACILITIES ARE PRIVATELY OWNED AND MAINTAINED BY THE H.O.A.
- FINANCIAL SURETY FOR THE REQUIRED PERIMETER LANDSCAPING HAS BEEN POSTED AS PART OF THE DPW DEVELOPER'S AGREEMENT IN THE AMOUNT OF \$120,300.00 (\$61,200.00 FOR 204 SHADE TREES; \$111,000.00 FOR 74 EVERGREENS AND \$48,000.00 FOR 180 PRIVATE STREET TREES).
- THE TOTAL FOREST CONSERVATION OBLIGATION HAS BEEN MET BY THE ON-SITE RETENTION OF 4.51 AC. OF NET TRACT AREA FOREST WITHIN A FOREST CONSERVATION EASEMENT AND THE OFF-SITE PLANTING OF 25.8 ACRES WITHIN THE FOREST MITIGATION BANK LOCATED WITHIN THE PRESERVE AT CLARKSVILLE SUBDIVISION (F-06-072). FINANCIAL SURETY FOR THE OFF-SITE PLANTING WAS POSTED AS PART OF THE DPW DEVELOPER'S AGREEMENT FOR F-06-072. NO SURETY WAS REQUIRED FOR THE ON-SITE RETENTION.
- DRIVEWAYS SHALL BE PROVIDED PRIOR TO ISSUANCE OF A USE AND OCCUPANCY PERMIT FOR ANY NEW DWELLINGS TO INSURE SAFE ACCESS FOR FIRE AND EMERGENCY VEHICLES PER THE FOLLOWING MINIMUM REQUIREMENTS:
 - WIDTH - 12' (16' SERVING MORE THAN ONE RESIDENCE).
 - SURFACE - 6" OF COMPACT CRUSHER RUN BASE WITH TAR AND CHIP COATING (1-1/2" MIN.).
 - GEOMETRY - MAXIMUM 15% GRADE, MAXIMUM 10% GRADE CHANGE AND MINIMUM 45' TURNING RADIUS.
 - STRUCTURES (CULVERTS/BRIDGES) - CAPABLE OF SUPPORTING 25 GROSS TONS (H25 LOADING).
 - DRAINAGE ELEMENTS - CAPABLE OF SAFELY PASSING 100 YEAR FLOODPLAIN WITH NO MORE THAN 1 FOOT DEPTH OVER DRIVEWAY.
 - STRUCTURE CLEARANCES - MINIMUM 12 FEET.
 - MAINTENANCE - SUFFICIENT TO INSURE ALL WEATHER USE.

- IN ACCORDANCE WITH SECTION 12B OF THE HOWARD COUNTY ZONING REGULATIONS, BAY WINDOWS, CHIMNEYS OR EXTERIOR STAIRWAYS NOT MORE THAN 16 FEET IN WIDTH MAY PROJECT NOT MORE THAN 4 FEET INTO ANY SETBACKS. PORCHES, OPEN OR ENCLOSED MAY PROJECT NOT MORE THAN 10 FEET INTO THE FRONT OR REAR YARD SETBACK.
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS IF APPLICABLE.
- THE PURPOSE OF LOT 152 IS FOR THE PROTECTION OF STREAM, 100 YR FLOODPLAIN, WETLAND AND OTHER ENVIRONMENTALLY SENSITIVE AREAS. THIS LOT SHALL BE OWNED BY HOWARD COUNTY, MARYLAND.
- THE PURPOSE OF OPEN SPACE LOT 151 IS FOR PRIVATE ACCESS TO THE LOTS, FOR PRIVATE STORMWATER MANAGEMENT ESD PRACTICES, FOR RECREATIONAL OPEN SPACE AND FOR THE PROTECTION OF EXISTING TREES. THIS LOT IS PRIVATELY OWNED AND MAINTAINED BY THE HOMEOWNERS ASSOCIATION.
- THE DEVELOPER SHALL PROVIDE AN 8 FOOT WIDE MACADAM PATHWAY THAT EXTENDS FROM THE END OF GREEN MILL WAY ALONG THE MIDDLE PATUXENT RIVER AND INTO THE EXISTING BRIDGE AT HARRIET TUBMAN LANE AND CONTINUE UNDER THE CEDAR LANE BRIDGE TO CONNECT TO THE ROBINSON NATURE CENTER.
- WP-12-029, A REQUEST TO WAIVE SECTION 16.120(C)(4), TO NOT BE REQUIRED TO PROVIDE ANY OF THE REQUIRED MINIMUM "SINGLE FAMILY ATTACHED" LOT FRONTAGE OF 15 FEET ON AN APPROVED PUBLIC ROAD AND, TO BE PERMITTED TO HAVE THE "SINGLE FAMILY ATTACHED" LOTS FRONT ON A PRIVATE ROAD EXCEEDING A LENGTH OF 200 FEET MEASURED FROM THE EDGE OF A PUBLIC ROAD RIGHT-OF-WAY WAS APPROVED ON OCTOBER 6, 2011 WITH THE FOLLOWING CONDITIONS:
 - A HOMEOWNERS ASSOCIATION SHALL BE CREATED FOR THIS DEVELOPMENT IN ACCORDANCE WITH SUBDIVISION SECTION 16.120(C)(4).
 - THE PRIVATE ROADS SHALL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH THE REQUIREMENTS OF THE DED, DPW AND DRFS.
 - THE PRIVATE ROADS SHALL BE MAINTAINED BY THE HOA AND THE OWNERS OF BUILDABLE BULK PARCEL 'A'.
 - SIDEWALKS SHALL BE PROVIDED ALONG BOTH SIDES OF ALL PRIVATE STREETS, AND ALONG CEDAR LANE, IN ACCORDANCE WITH THE REQUIREMENTS OF SUBDIVISION SECTION 16.134.
 - STREET TREES SHALL BE PROVIDED ALONG BOTH SIDES OF ALL PRIVATE ROADS, AND CEDAR LANE, IN ACCORDANCE WITH THE REQUIREMENTS OF SUBDIVISION SECTION 16.124 AND THE LANDSCAPE MANUAL.
 - SUBJECT TO THE RECORDATION OF F-12-025.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

[Signature] 10/15/12 DATE
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

[Signature] 10/10/12 DATE
 CHIEF, DIVISION OF LAND DEVELOPMENT

[Signature] 10/10/12 DATE
 DIRECTOR

RESIDENTIAL SITE DEVELOPMENT PLAN

SIMPSON MILL

PHASE 1 - LOTS 1 thru 18 & 139 thru 150

PHASE 2 - LOTS 19 thru 138

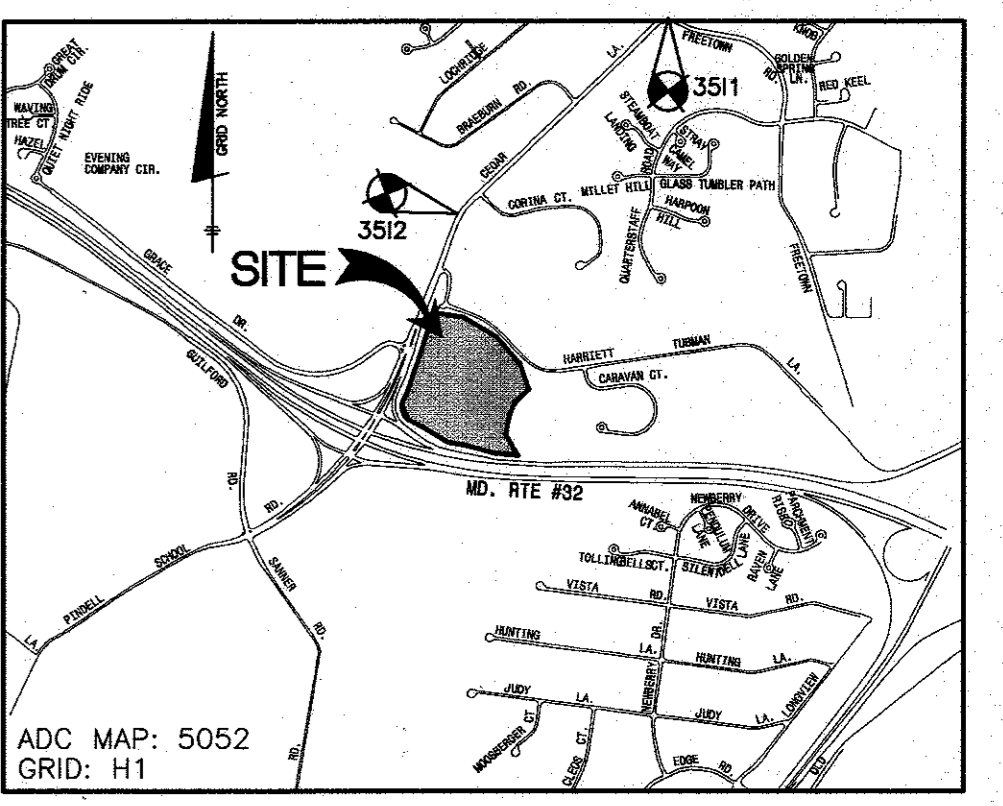
OPEN SPACE LOTS 151 & 152 AND PARCEL 'A'



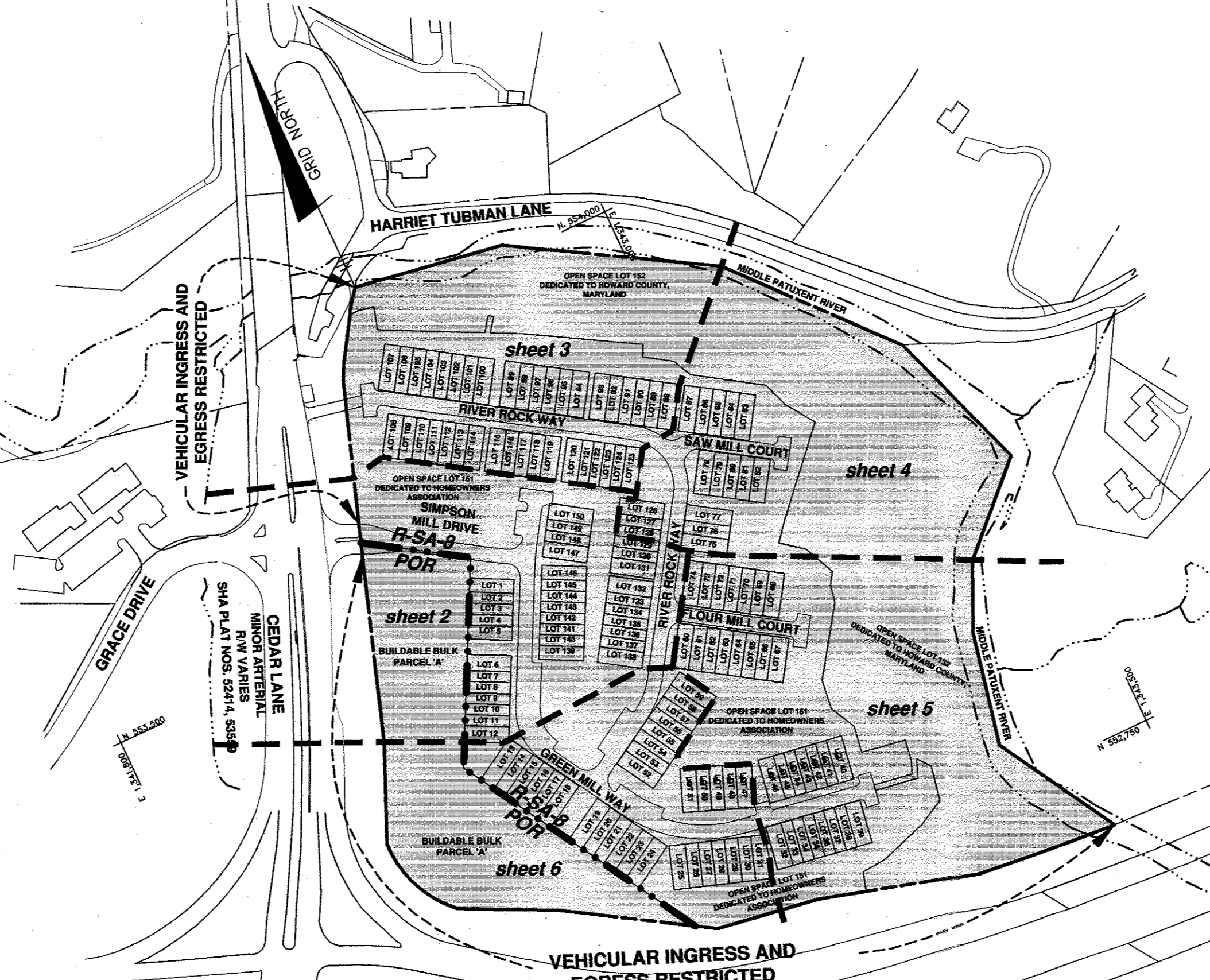
BENCHMARK NAD'83

HO. CO. #3511
 STAMPED DISC SET ON TOP OF A 3" DEEP COLUMN OF CONCRETE 2" BELOW SURFACE.
 N 557110.3963' E 1344893.6204'
 ELEV. 400.034'

HO. CO. #3512
 STAMPED DISC SET ON TOP OF A 3" DEEP COLUMN OF CONCRETE 2" BELOW SURFACE.
 N 555100.7743' E 1342732.9971'
 ELEV. 329.719'



- TRAFFIC CONTROL DEVICES, MARKINGS AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF ANY ASPHALT.
- STREET LIGHT PLACEMENT AND THE TYPE OF FIXTURE AND POLE SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME III (1993) AND AS MODIFIED BY "GUIDELINES FOR STREET LIGHTS IN RESIDENTIAL DEVELOPMENTS (JUNE 1993)". A MINIMUM SPACING OF 20' SHALL BE MAINTAINED BETWEEN AND STREET LIGHT AND ANY TREE.
- ALL PLAN DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.
- WP-12-020, A REQUEST TO WAIVE SECTIONS 16.155(o)(2)(i), 16.1202(o)(3) AND 16.1202(o)(7) TO PROCESS AND USE AN APPROVED GRADING PLAN INSTEAD OF A SITE DEVELOPMENT PLAN FOR THE MASS GRADING OF THE SITE, TO TEMPORARILY DEFER COMPLIANCE WITH THE REQUIREMENTS OF THE FOREST CONSERVATION ACT UNTIL THE SITE DEVELOPMENT PLAN STAGE, AND TO GRANT PERMISSION FOR THE REMOVAL OF 13 EXISTING SPECIMEN TREES WAS APPROVED ON SEPTEMBER 14, 2011 WITH THE FOLLOWING CONDITIONS:
 - COMPLIANCE WITH THE REQUIREMENT OF THE FOREST CONSERVATION ACT OF HOWARD COUNTY FOR THIS PROJECT SHALL BE DEFERRED TEMPORARILY TO THE FUTURE SITE DEVELOPMENT PLAN FOR THIS SITE.
 - COMPLIANCE WITH THE MSHA COMMENTS INCLUDED WITH THE DED COMMENTS DATED 08/26/2011.
 - COMPLIANCE WITH THE DRP COMMENTS DATED 09/09/2011.
 - THE SUBMISSION AND ISSUANCE OF ALL APPLICABLE PERMITS REQUIRED BY THE D.I.L.P.
- PER ZONING, 10% OF ALL UNITS MUST BE MODERATE INCOME HOUSING UNITS (M.I.H.U.). THIS AMOUNTS TO 15 UNITS (10% OF 150). PER SECTION 13.402A(c) OF THE HOWARD COUNTY CODE, LOW INCOME HOUSING UNITS (L.I.H.U.) SHALL BE PROVIDED IN-LIEU-OF MIHUS' AT A RATIO OF 1:3 AS APPROVED BY THE HOWARD COUNTY HOUSING COMMISSION. THE LIHUS SHALL BE LOCATED ON LOTS 2, 4, 9, 129 & 141.
- THE TWO DRIVEWAY PARKING SPACES PER UNIT SHALL ONLY BE USED FOR THE PARKING OF MOTOR VEHICLES ON A TRANSIENT BASIS PER ZONING REGULATIONS SECTIONS 103.A.145 AND 133.2.c.
- TRASH COLLECTION: TRASH COLLECTION FOR THIS SUBDIVISION SHALL BECOME PUBLIC TRASH COLLECTION AFTER ALL CONSTRUCTION IS COMPLETE. UNTIL SUCH TIME, THE COLLECTION WILL BE PRIVATE.
- A REQUEST FOR RECONSIDERATION OF WP-12-029, A REQUEST TO WAIVE SECTION 16.115(C)(2), TO BE PERMITTED TO CONSTRUCT A PAVED PATHWAY WITHIN THE ON-SITE FLOODPLAIN, AND 16.116(C)(2)(I), TO BE PERMITTED TO CONSTRUCT A PAVED PATHWAY WITHIN THE ON-SITE 75' STREAM BUFFER, AND 16.120(C)(1), TO NOT BE REQUIRED TO PROVIDE ANY OF THE REQUIRED MINIMUM LOT FRONTAGE OF 60 FEET ON AN APPROVED PUBLIC ROAD WHICH PROVIDES ACCESS TO THE PROPERTY FOR THE PROPOSED BULK PARCEL 'A' (ZONED "POR" WITH FRONTAGE ON TWO EXISTING VEHICULAR ACCESS RESTRICTED PUBLIC ROADS, CEDAR LANE AND MARYLAND ROUTE 32, AND A PRIVATE ROAD THAT IS INTERNAL TO THE SUBDIVISION), AND 16.134(C)(1), TO NOT BE REQUIRED TO CONSTRUCT SIDEWALKS ON BOTH SIDES OF ALL STREETS IN THE PROJECT AND ALONG THE PROJECT FRONTAGE WAS APPROVED ON DECEMBER 1, 2011 WITH THE FOLLOWING CONDITIONS:
 - THE PRIVATE ROADS SHALL BE MAINTAINED BY THE HOA AND THE OWNERS OF BUILDABLE BULK PARCEL 'A'.
 - THE SECTION OF PROPOSED PATHWAY SHOWN OUTSIDE OF THE EXISTING RIGHT-OF-WAY FOR INTERCEPTOR SEWER 1132/129' TO THE SOUTH OF THE "EX. ROCK TO BE UTILIZED FOR PROPOSED PATHWAY" ON THE EXHIBIT/PLAN SUBMITTED ON 11/04/2011 FOR THIS WAIVER PETITION RECONSIDERATION SHALL BE RELOCATED SOUTHWARD TO THE NON-FORSTED AREA OF THE EXISTING RIGHT-OF-WAY FOR INTERCEPTOR SEWER 1132/129'.
 - SIDEWALKS SHALL BE PROVIDED ALONG THE PRIVATE ROADS AS SHOWN ON THE EXHIBIT/PLAN SUBMITTED ON 11/04/2011 FOR THIS WAIVER PETITION RECONSIDERATION, WITH THE FOLLOWING ADDITIONAL CONDITIONS:
 - THE PROPOSED SIDEWALK ALONG SOUTH SIDE OF VEHICULAR ACCESS RESTRICTED PUBLIC ROAD SHALL BE EXTENDED TO CONNECT WITH THE PROPOSED PATHWAY AT THE WEST END OF THE STREET.
 - THE PROPOSED SIDEWALK ALONG NORTH SIDE OF GREEN MILL WAY SHALL BE EXTENDED TO CONNECT WITH THE PROPOSED PATHWAY AT THE EAST END OF THE STREET.
 - THE PROPOSED PATHWAY FROM THE PROPOSED SIDEWALK ALONG THE NORTH SIDE OF PROPOSED SIMPSON MILL ROAD TO THE EXISTING ASPHALT AREA TO THE SOUTH OF HARRIET TUBMAN LANE BRIDGE SHALL BE PROVIDED AS SHOWN ON THE EXHIBIT/PLAN SUBMITTED ON 11/04/2011 FOR THIS WAIVER PETITION RECONSIDERATION.
 - ADD A DETAILED NOTE TO THE GENERAL NOTES ON SHEETS 1 OF F-12-025 AND SDP-12-015 THAT INDICATES THIS WAIVER PETITION FILE NUMBER, THE SECTIONS OF THE REGULATIONS, REQUESTS, ACTION, CONDITIONS OF APPROVAL, AND THE APPROVAL DATE.
- EMERGENCY ACCESS ROAD AND SIGNS MUST MEET DRFS REQUIREMENTS. PAVERS USED FOR ACCESS MUST MEET FD WEIGHT REQUIREMENTS.
- THE DEVELOPMENT OF BUILDABLE BULK PARCEL 'A' WILL RESULT IN A FINANCIAL SURETY OBLIGATION FOR LANDSCAPING PROPOSED BY THAT PLAN. THAT SURETY SHALL INCLUDE THE OBLIGATION FOR PER METER 2 FOR (28 SHADE TREES AND 21 EVERGREEN TREES)



ADDRESS CHART

Lot	Number	Road	Lot	Number	Road
1	6718	Green Mill Way	76	7844	River Rock Way
2	6720	Green Mill Way	77	7846	River Rock Way
3	6722	Green Mill Way	78	6704	Saw Mill Court
4	6724	Green Mill Way	79	6706	Saw Mill Court
5	6726	Green Mill Way	80	6708	Saw Mill Court
6	6732	Green Mill Way	81	6710	Saw Mill Court
7	6734	Green Mill Way	82	6712	Saw Mill Court
8	6736	Green Mill Way	83	6709	Saw Mill Court
9	6738	Green Mill Way	84	6707	Saw Mill Court
10	6740	Green Mill Way	85	6705	Saw Mill Court
11	6742	Green Mill Way	86	6703	Saw Mill Court
12	6744	Green Mill Way	87	6701	Saw Mill Court
13	6748	Green Mill Way	88	7850	River Rock Way
14	6750	Green Mill Way	89	7852	River Rock Way
15	6752	Green Mill Way	90	7854	River Rock Way
16	6754	Green Mill Way	91	7856	River Rock Way
17	6756	Green Mill Way	92	7858	River Rock Way
18	6758	Green Mill Way	93	7860	River Rock Way
19	6762	Green Mill Way	94	7864	River Rock Way
20	6764	Green Mill Way	95	7866	River Rock Way
21	6766	Green Mill Way	96	7868	River Rock Way
22	6768	Green Mill Way	97	7870	River Rock Way
23	6770	Green Mill Way	98	7872	River Rock Way
24	6772	Green Mill Way	99	7874	River Rock Way
25	6776	Green Mill Way	100	7878	River Rock Way
26	6778	Green Mill Way	101	7880	River Rock Way
27	6780	Green Mill Way	102	7882	River Rock Way
28	6782	Green Mill Way	103	7884	River Rock Way
29	6784	Green Mill Way	104	7886	River Rock Way
30	6786	Green Mill Way	105	7888	River Rock Way
31	6788	Green Mill Way	106	7890	River Rock Way
32	6792	Green Mill Way	107	7892	River Rock Way
33	6794	Green Mill Way	108	7894	River Rock Way
34	6796	Green Mill Way	109	7898	River Rock Way
35	6798	Green Mill Way	110	7887	River Rock Way
36	6800	Green Mill Way	111	7885	River Rock Way
37	6802	Green Mill Way	112	7883	River Rock Way
38	6804	Green Mill Way	113	7881	River Rock Way
39	6806	Green Mill Way	114	7879	River Rock Way
40	6808	Green Mill Way	115	7875	River Rock Way
41	6805	Green Mill Way	116	7873	River Rock Way
42	6801	Green Mill Way	117	7871	River Rock Way
43	6799	Green Mill Way	118	7869	River Rock Way
44	6797	Green Mill Way	119	7867	River Rock Way
45	6795	Green Mill Way	120	7863	River Rock Way
46	6793	Green Mill Way	121	7861	River Rock Way
47	6789	Green Mill Way	122	7859	River Rock Way
48	6787	Green Mill Way	123	7857	River Rock Way
49	6785	Green Mill Way	124	7855	River Rock Way
50	6783	Green Mill Way	125	7853	River Rock Way
51	6781	Green Mill Way	126	7847	River Rock Way
52	7802	River Rock Way	127	7845	River Rock Way
53	7804	River Rock Way	128	7843	River Rock Way
54	7806	River Rock Way	129	7841	River Rock Way
55	7808	River Rock Way	130	7839	River Rock Way
56	7810	River Rock Way	131	7837	River Rock Way
57	7812	River Rock Way	132	7833	River Rock Way
58	7814	River Rock Way	133	7831	River Rock Way
59	7816	River Rock Way	134	7829	River Rock Way
60	6802	Flour Mill Court	135	7827	River Rock Way
61	6804	Flour Mill Court	136	7825	River Rock Way
62	6806	Flour Mill Court	137	7823	River Rock Way
63	6808	Flour Mill Court	138	7821	River Rock Way
64	6810	Flour Mill Court	139	6729	Green Mill Way
65	6812	Flour Mill Court	140	6727	Green Mill Way
66	6814	Flour Mill Court	141	6725	Green Mill Way
67	6816	Flour Mill Court	142	6723	Green Mill Way
68	6815	Flour Mill Court	143	6721	Green Mill Way
69	6813	Flour Mill Court	144	6719	Green Mill Way
70	6811	Flour Mill Court	145	6717	Green Mill Way
71	6809	Flour Mill Court	146	6715	Green Mill Way
72	6807	Flour Mill Court	147	6711	Green Mill Way
73	6805	Flour Mill Court	148	6709	Green Mill Way
74	6803	Flour Mill Court	149	6707	Green Mill Way
75	7842	River Rock Way	150	6705	Green Mill Way

Site Analysis Data Sheet

Area of R-SA-8 zoned land	25.90 ac
Area of POR zoned land	3.42 ac
Total Project Area	29.32 ac
Limit of Disturbed Area	20.04 ac
Present Zoning Designation	R-SA-8 & POR
Proposed uses for site	Residential SFA homes
Total Number of Units Allowed	150
Total Number of Units Proposed	150
MHU Required (10% of total units)	15
MHU Provided	(see General Note 34)
Number of Parking Spaces Required (150 x 2.3 = 345)	345
Number of Parking Spaces Provided	345
Garages (2-car units): 106 x 2 = 212	
Garages (1-car units): 44 x 1 = 44	(driveways spaces for 2-car units not included in spaces provided)
Driveway (1-car units): 44 x 1 = 44	
Overflow Street Parking Spaces: 45	
R-SA-8 Open Space Required: (25%)	6.47 ac
R-SA-8 Open Space Provided: (73.4%)	19.01 ac
POR Open Space Required:	N/A or 20% if ARAD*
POR Open Space Provided:	deferred until development
Recreational Open Space Required: (400 sf/unit)	60,000 sf
Recreational Open Space Provided:	
Includes 63,072sf credit for pathway (21,028sf x 3 per 11-8-1994 DPZ memo)	102,053 sf
Applicable DPZ File References:	S-05-008, P-06-116, SP-08-002, WP-07-022, E-11-098, WP-12-020, WP-12-029, F-12-025, F-12-059

* Age Restricted Adult Development (ARAD)

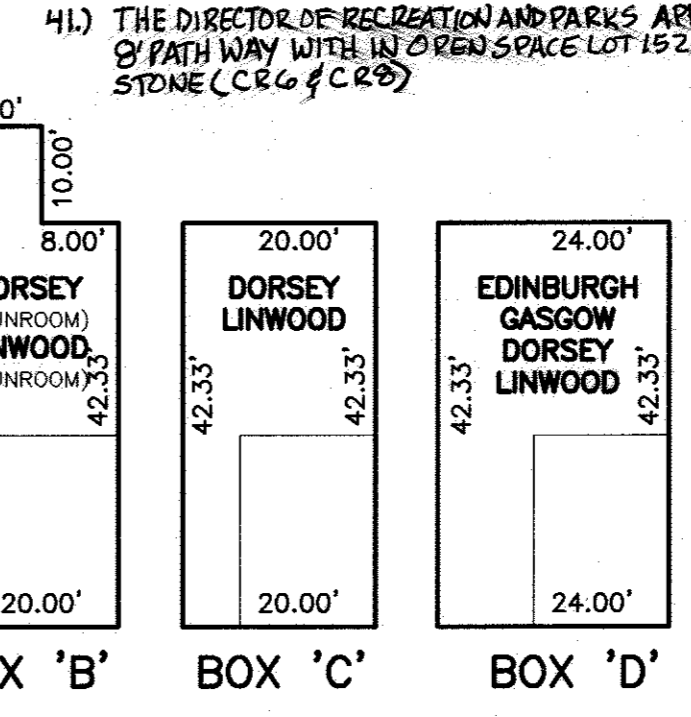
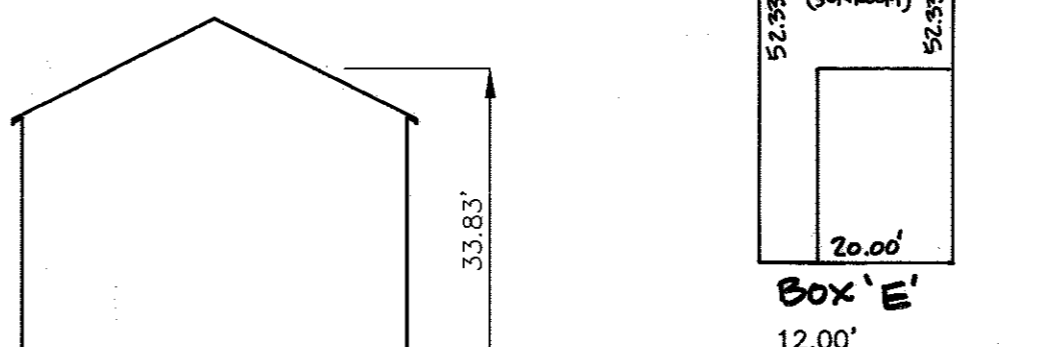
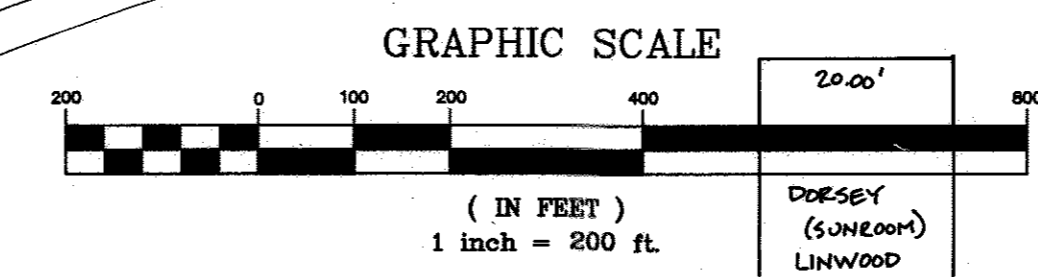
SHEET INDEX

SHEET	TITLE SHEET
1	TITLE SHEET
2-6	SITE DEVELOPMENT PLAN
7-8	ROAD PROFILES AND DETAILS
9-13	GRADING, SEDIMENT & EROSION CONTROL PLAN
14	SEDIMENT & EROSION CONTROL NOTES AND DETAILS
15-16	STORM DRAIN DRAINAGE AREA MAP
17-19	STORM DRAIN PROFILES
20-21	STORMWATER MANAGEMENT DETAILS
22-23	LANDSCAPE PLAN
24-25	FOREST CONSERVATION PLAN
26-27	SOILS BORING LOGS
29	RETAINING WALL DETAILS

GENERAL NOTES (CONTINUED):

40) WP-13-036, A REQUEST TO WAIVE SECTION 16.104(A) TO EXTEND THE MILESTONE DATE FOR THE PAYMENT OF FEES AND POSTING OF FINANCIAL SURETY FOR THE DEVELOPER'S AGREEMENT AND SECTION 16.144(G) TO EXTEND THE MILESTONE DATE FOR SUBMISSION OF ORIGINAL SUBDIVISION PLAN WAS APPROVED ON SEPTEMBER 24, 2012 SUBJECT TO THE FOLLOWING CONDITIONS:

- THE DEVELOPER'S AGREEMENT MUST BE COMPLETED AND THE PLAN ORIGINAL MUST BE SUBMITTED ON OR BEFORE NOVEMBER 3, 2012 FOR F-12-025.
- COMPLIANCE WITH ALL SUBDIVISION REVIEW COMMITTEE COMMENTS.
- PROVIDE THIS NOTE ON F-12-025 AND SDP-12-015.

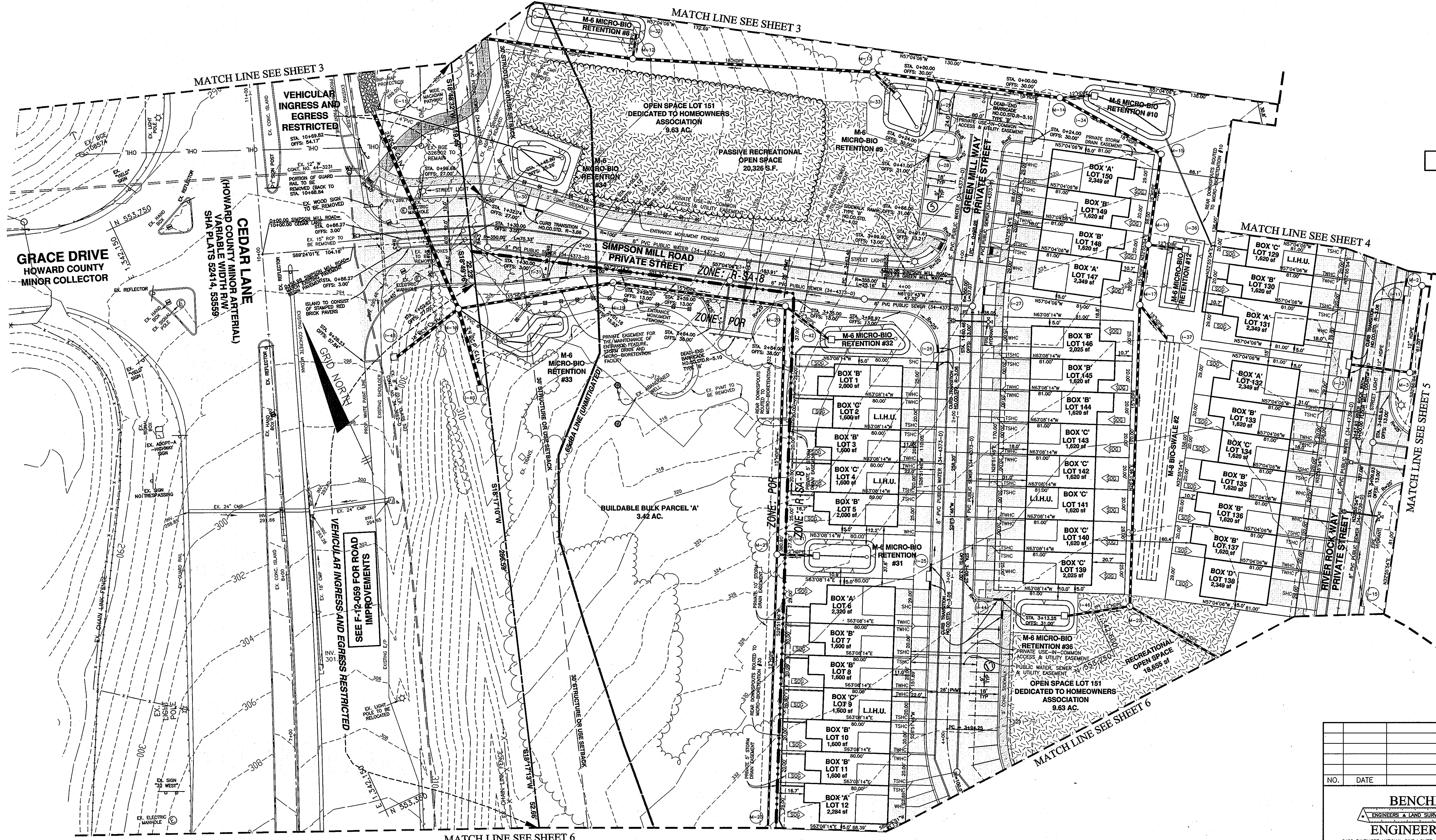


SWM SUMMARY TABLE

D.A.	MODE Type	Total DA	Impervious Area	Qe	Required			Provided			75% ESDv	Rev'd	
					Required	Provided	% DA	Depth	Required	Provided		Required	Provided
1	(M-6)	14,637	10,656	1.27	293	800	PASS	4.0	1548	1440	PASS	0	640
2	(M-8)	11,485	4,992	0.79	230	680	PASS	4.0	780	1360	PASS	0	0
3	(M-6)	12,912	7,956	1.09	258	605	PASS	4.0	1171	1089	PASS	0	484
4	(M-6)	8,153	3,120	0.71	163	292	PASS	4.0	482	526	PASS	0	234
5	(M-6)	20,627	11,021	0.96	413	700	PASS	4.0	1643	1260	PASS	0	560
6	(M-6)	14,701	11,034	1.31	294	836	PASS	4.0	1600	1505	PASS	0	669
7	(M-6)	12,132	8,207	1.19	243	692	PASS	4.0	1198	1246	PASS	0	654
8	(M-6)	16,147	11,057	1.20	323	711	PASS	4.0	1614	1280	PASS	0	569

LEGEND

- PROJECT BOUNDARY
- EXISTING CONTOURS
- EXISTING TREELINE
- PROPOSED TREELINE
- PAVEMENT (P-3 FOR SIMPSON MILL ROAD, P-2 FOR ALL OTHER ROADS, P-1 FOR DRIVES)
- MODIFIED CURB & GUTTER (EXCEPT WHERE INDICATED AS STD.)
- CURB TRANSITION
- 5' CONCRETE SIDEWALK
- STORM DRAIN PIPE
- B' PATHWAY (MACADAM)
- RECREATION OPEN SPACE
- TYPICAL HOUSE BOX
- SHC SEWER HOUSE CONNECTION
- WHC WATER HOUSE CONNECTION
- ZONING LINE

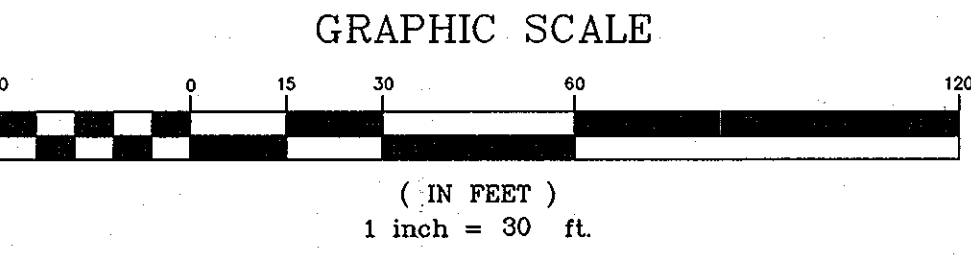


APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

[Signature] 05/12
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

[Signature] 10/10/12
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

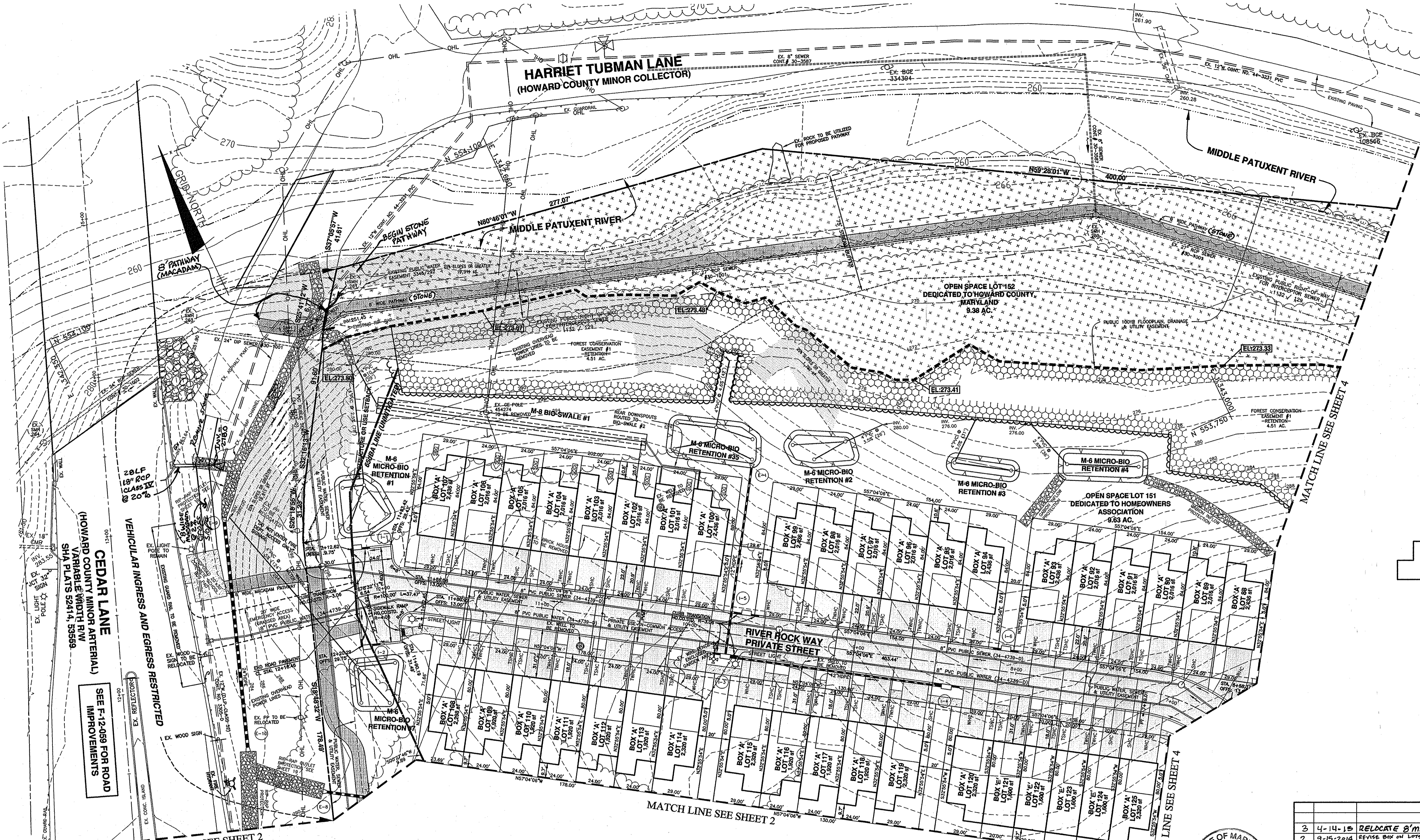
[Signature] 10/10/12
 DIRECTOR DATE



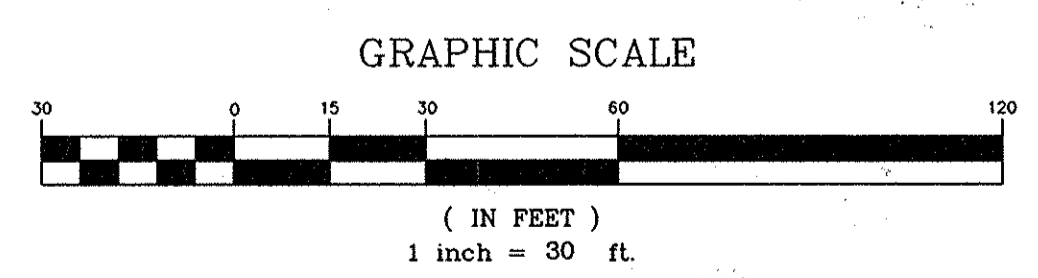
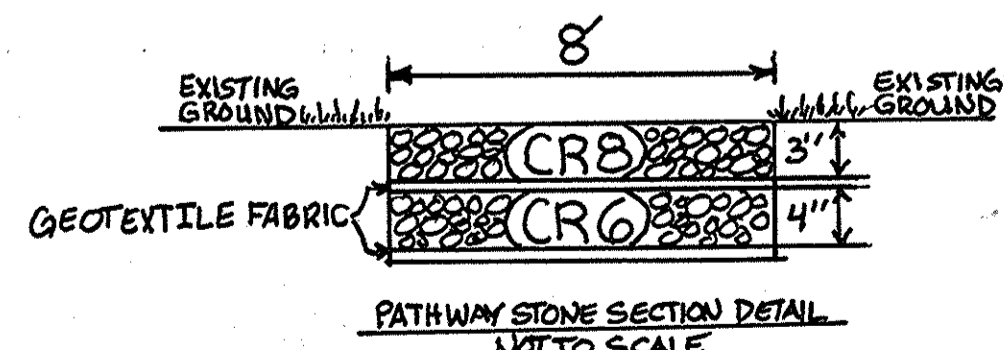
NO.	DATE	REVISION

BENCHMARK
 ENGINEERS & LAND SURVEYORS & PLANNERS
ENGINEERING, INC.
 8450 BALTIMORE NATIONAL PIKE & SUITE 418 ELLICOTT CITY, MARYLAND 21043
 (P) 410-465-6100 (F) 410-465-6644
 60 THOMAS JOHNSON DRIVE & FREDERICK, MARYLAND 21702
 (P) 301-371-3505 (F) 301-371-3506
 WWW.BEI-CVLENGINEERING.COM

OWNER: SIMPSON MILL, LLC P.O. BOX 417 ELICOTT CITY, MARYLAND 21041 410-465-4244	<p align="center">SIMPSON MILL PHASE 1 - LOTS 1 thru 18 & 139 thru 150 PHASE 2 - LOTS 19 thru 138 OPEN SPACE LOTS 151 & 152 AND PARCEL 'A'</p> <p>TAX MAP: 35 GRID: 23 PARCEL: 116 ZONED: R-SA-8 TAX MAP: 35 GRID: 23 PARCEL: 258, 476 ZONED: POR ELECTION DISTRICT NO. 5 HOWARD COUNTY, MARYLAND</p>
DEVELOPER: SIMPSON MILL, LLC P.O. BOX 417 ELICOTT CITY, MARYLAND 21041 410-465-4244	SITE DEVELOPMENT PLAN
DATE: AUGUST, 2012	BEI PROJECT NO: 2189
DESIGN: DBT/JMC	DRAWN: DBT/JMC
SCALE: AS SHOWN	SHEET 2 OF 29



- LEGEND**
- PROJECT BOUNDARY
 - - - EXISTING CONTOURS
 - - - EXISTING STREAM BANK
 - - - EXISTING TREELINE
 - - - PROPOSED TREELINE
 - ▨ PAVEMENT (P-3 FOR SIMPSON MILL ROAD) (P-2 FOR ALL OTHER ROADS) (P-1 FOR DRIVES)
 - ▨ MODIFIED CURB & GUTTER (EXCEPT WHERE INDICATED AS STD.) CURB TRANSITION
 - ▨ CONCRETE SIDEWALK
 - ▨ STORM DRAIN PIPE
 - ▨ 100YR FLOODPLAIN
 - ▨ FOREST CONSERVATION EASEMENT
 - ▨ EXISTING SLOPES 25% OR GREATER
 - ▨ 8' PATHWAY (MACADAM)
 - ▭ TYPICAL HOUSE BOX
 - SHC SEWER HOUSE CONNECTION
 - WHC WATER HOUSE CONNECTION



NOTE: STONE IS TO BE COMPACTED AFTER EACH LAYER OF STONE IS INSTALLED.

NOTE: THIS PATHWAY WAS APPROVED BY THE DIRECTOR OF RECREATION AND PARKS DATED JULY, 2014.

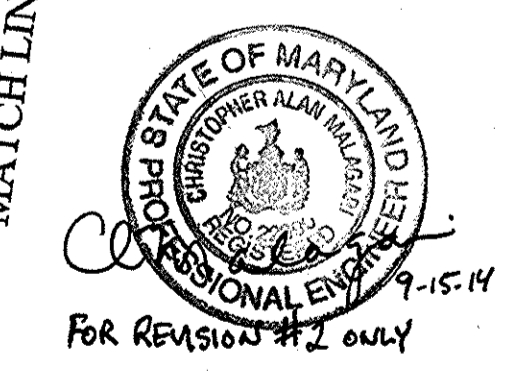
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION
 10/5/12 DATE

CHIEF, DIVISION OF LAND DEVELOPMENT
 10/10/12 DATE

DIRECTOR
 10/10/12 DATE

NO.	DATE	REVISION
3	4-14-15	RELOCATE 8' MACADAM PATHWAY, REVISE DRAIN 28L6 18" RCP CLASS IV
2	9-15-2014	REVISE BOX ON LOTS 121-124 TO BE BOX 1E
1	9-5-2014	REVISE 8' PATHWAY WITHIN OPEN SPACE LOT 152 FROM MACADAM TO STONE CR6 & CR8



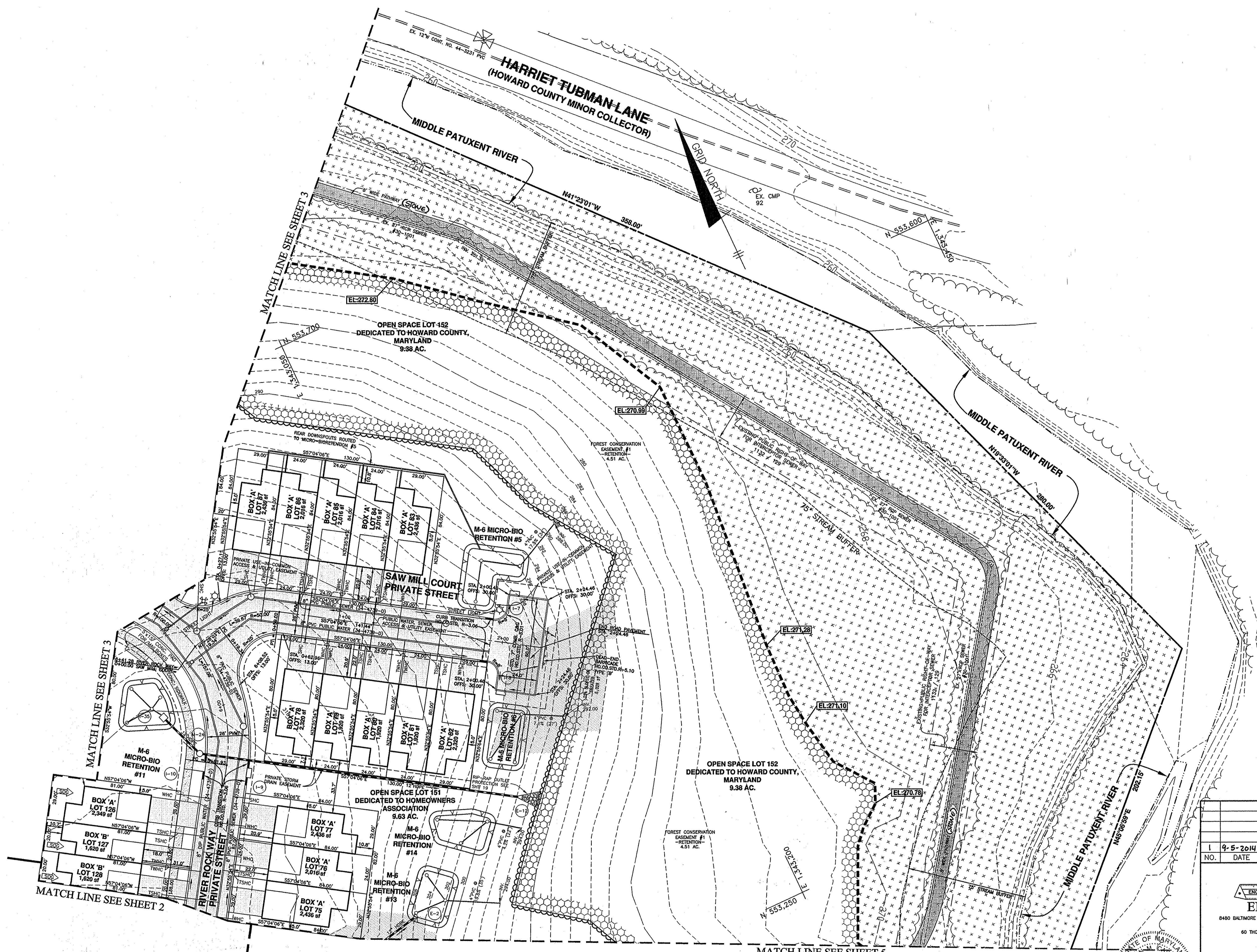
Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.
 License No. 45577 Expiration Date: 08/09/16

BENCHMARK ENGINEERING, INC.
 ENGINEERS & LAND SURVEYORS & PLANNERS
 8400 BALTIMORE NATIONAL PIKE SUITE 418 ELLICOTT CITY, MARYLAND 21043
 (P) 410-465-6105 (F) 410-465-6644
 60 THOMAS JOHNSON DRIVE FREDERICK, MARYLAND 21702
 (P) 301-371-3605 (F) 301-371-3606
 WWW.BE-CMLENDENGINEERING.COM

OWNER:	SIMPSON MILL, LLC P.O. BOX 417 ELLICOTT CITY, MARYLAND 21041 410-465-4244	DEVELOPER:	SIMPSON MILL, LLC P.O. BOX 417 ELLICOTT CITY, MARYLAND 21041 410-465-4244
SIMPSON MILL PHASE 1 - LOTS 1 thru 18 & 139 thru 150 PHASE 2 - LOTS 19 thru 138 OPEN SPACE LOTS 151 & 152 AND PARCEL 'A'		TAX MAP: 35 GRID: 23 PARCEL: 116 ZONED: R-SA-B TAX MAP: 35 GRID: 23 PARCEL: 258, 476 ZONED: POR ELECTION DISTRICT NO. 5 HOWARD COUNTY, MARYLAND	
DATE: AUGUST, 2012		BEI PROJECT NO: 2189	
DESIGN: DBT/JMC		DRAWN: DBT/JMC	
SCALE: AS SHOWN		SHEET 3 OF 29	

LEGEND

- PROJECT BOUNDARY
- EXISTING CONTOURS
- EXISTING STREAM BANK
- EXISTING TREELINE
- PROPOSED TREELINE
- PAVEMENT (P-3 FOR SIMPSON MILL ROAD, P-2 FOR ALL OTHER ROADS, P-1 FOR DRIVES)
- MODIFIED CURB & GUTTER (EXCEPT WHERE INDICATED AS STD.)
- CURB TRANSITION
- CONCRETE SIDEWALK
- STORM DRAIN PIPE
- 100YR FLOODPLAIN
- FOREST CONSERVATION EASEMENT
- EXISTING SLOPES 25% OR GREATER
- 8' PATHWAY (MACADAM)
- TYPICAL HOUSE BOX
- SHC SEWER HOUSE CONNECTION
- WHC WATER HOUSE CONNECTION

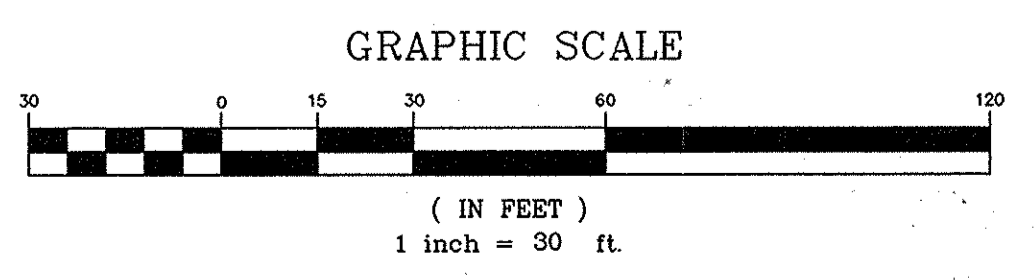


APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

[Signature] 10/5/12
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

[Signature] 10/10/12
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

[Signature] 10/10/12
 DIRECTOR DATE

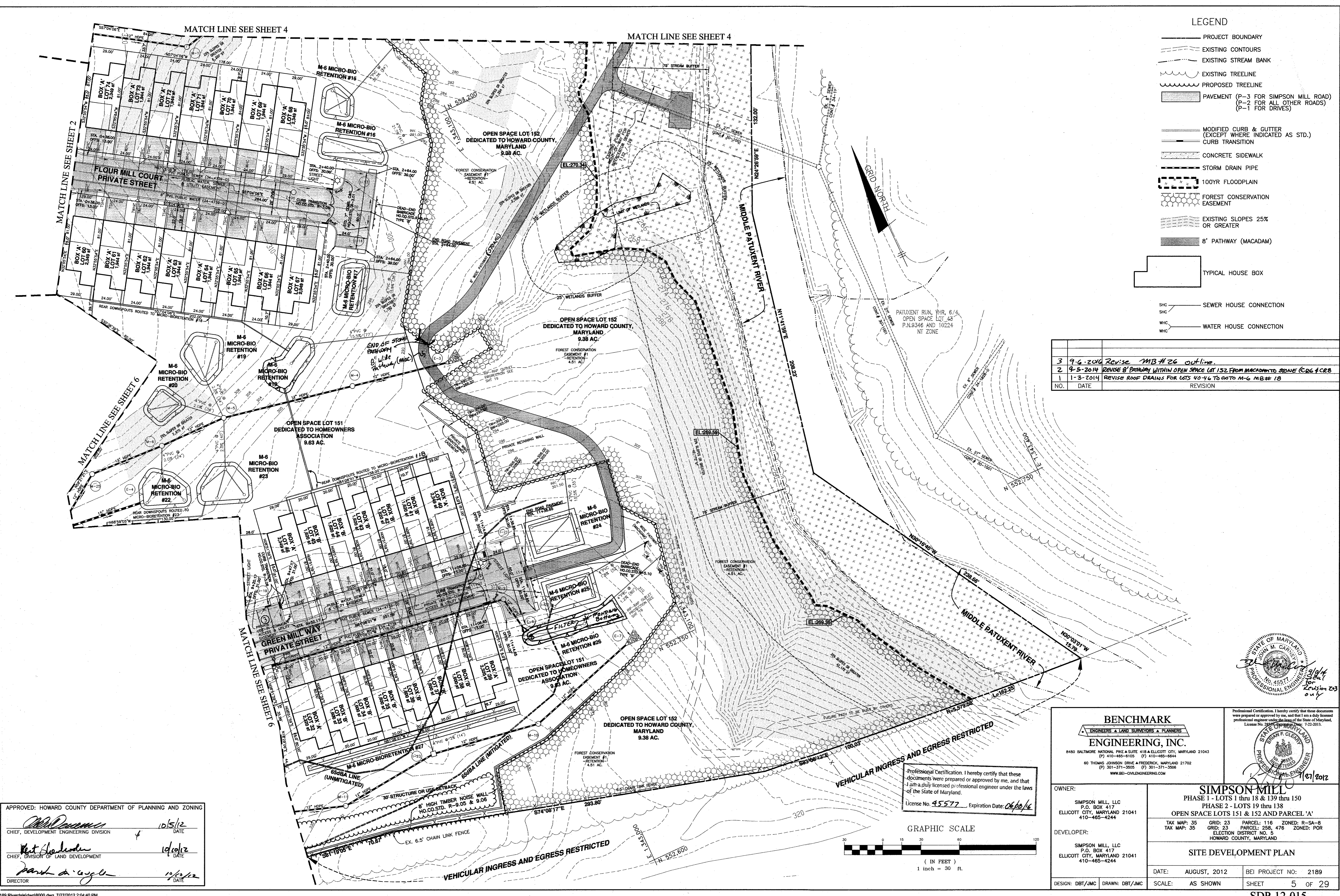


Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.

License No. 45577, Expiration Date: 06/09/16

NO.	DATE	REVISION
1	9-5-2014	REVISE 8' PATHWAY WITHIN OPEN SPACE LOT 152 FROM MACADAM TO STONE (CR6 & CR8)

BENCHMARK ENGINEERS & LAND SURVEYORS & PLANNERS ENGINEERING, INC. 8450 BALTIMORE NATIONAL PIKE & SUITE 418 & ELLICOTT CITY, MARYLAND 21043 (P) 410-465-8105 (F) 410-465-6844 60 THOMAS JOHNSON DRIVE & FREDERICK, MARYLAND 21702 (P) 301-371-3505 (F) 301-371-3508 WWW.BE-CHELLENGINEERING.COM		PROFESSIONAL ENGINEER STATE OF MARYLAND License No. 45577
OWNER:	SIMPSON MILL, LLC P.O. BOX 417 ELLICOTT CITY, MARYLAND 21041 410-465-4244	
DEVELOPER:	SIMPSON MILL, LLC P.O. BOX 417 ELLICOTT CITY, MARYLAND 21041 410-465-4244	
SIMPSON MILL PHASE 1 - LOTS 1 thru 18 & 139 thru 150 PHASE 2 - LOTS 19 thru 138 OPEN SPACE LOTS 151 & 152 AND PARCEL 'A' TAX MAP: 35 GRID: 23 PARCEL: 116 ZONED: R-SA-8 TAX MAP: 35 GRID: 23 PARCEL: 258, 476 ZONED: POR ELECTION DISTRICT NO. 5 HOWARD COUNTY, MARYLAND		
DATE: AUGUST, 2012 BEI PROJECT NO: 2189 SCALE: AS SHOWN SHEET 4 OF 29		



LEGEND

- PROJECT BOUNDARY
- EXISTING CONTOURS
- EXISTING STREAM BANK
- EXISTING TREELINE
- PROPOSED TREELINE
- PAVEMENT (P-3 FOR SIMPSON MILL ROAD)
(P-2 FOR ALL OTHER ROADS)
(P-1 FOR DRIVES)
- MODIFIED CURB & GUTTER
(EXCEPT WHERE INDICATED AS STD.)
- CURB TRANSITION
- CONCRETE SIDEWALK
- STORM DRAIN PIPE
- 100YR FLOODPLAIN
- FOREST CONSERVATION EASEMENT
- EXISTING SLOPES 25% OR GREATER
- 8' PATHWAY (MACADAM)
- TYPICAL HOUSE BOX
- SHC SEWER HOUSE CONNECTION
- WHC WATER HOUSE CONNECTION

NO.	DATE	REVISION
3	9-6-2014	Revise MIB #26 outline
2	9-5-2014	REVISE 8' PATHWAY WITHIN OPEN SPACE LOT 152 FROM MACADAM TO STONE CURB & CRB
1	1-3-2014	REVISE ROOF DRAINS FOR LOTS 40-46 TO GO TO M-6 MIB #18

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

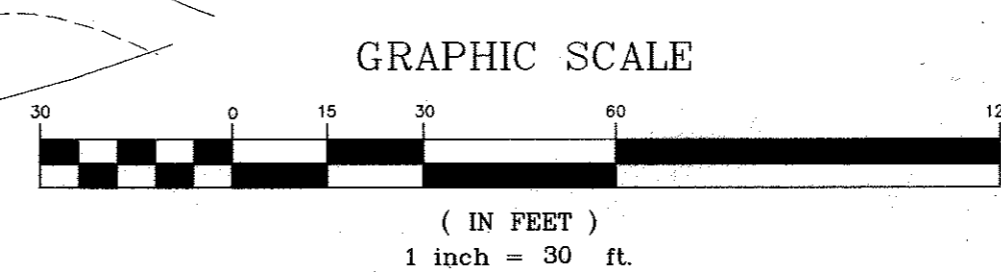
Robert D. ... 10/5/12 DATE
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

Keith ... 10/10/12 DATE
 CHIEF, DIVISION OF LAND DEVELOPMENT

David ... 10/10/12 DATE
 DIRECTOR

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. 45577 Expiration Date: 06/30/16



BENCHMARK ENGINEERING, INC.
 ENGINEERS & LAND SURVEYORS & PLANNERS
 8450 BALTIMORE NATIONAL PIKE SUITE 418 ELICOTT CITY, MARYLAND 21043
 (P) 410-465-6105 (F) 410-465-6644
 60 THOMAS JOHNSON DRIVE A FREDERICK, MARYLAND 21702
 (P) 301-371-3505 (F) 301-371-3506
 WWW.BEI-CIVILENGINEERING.COM

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. 28898

SIMPSON MILL
 PHASE 1 - LOTS 1 thru 18 & 139 thru 150
 PHASE 2 - LOTS 19 thru 138
 OPEN SPACE LOTS 151 & 152 AND PARCEL 'A'

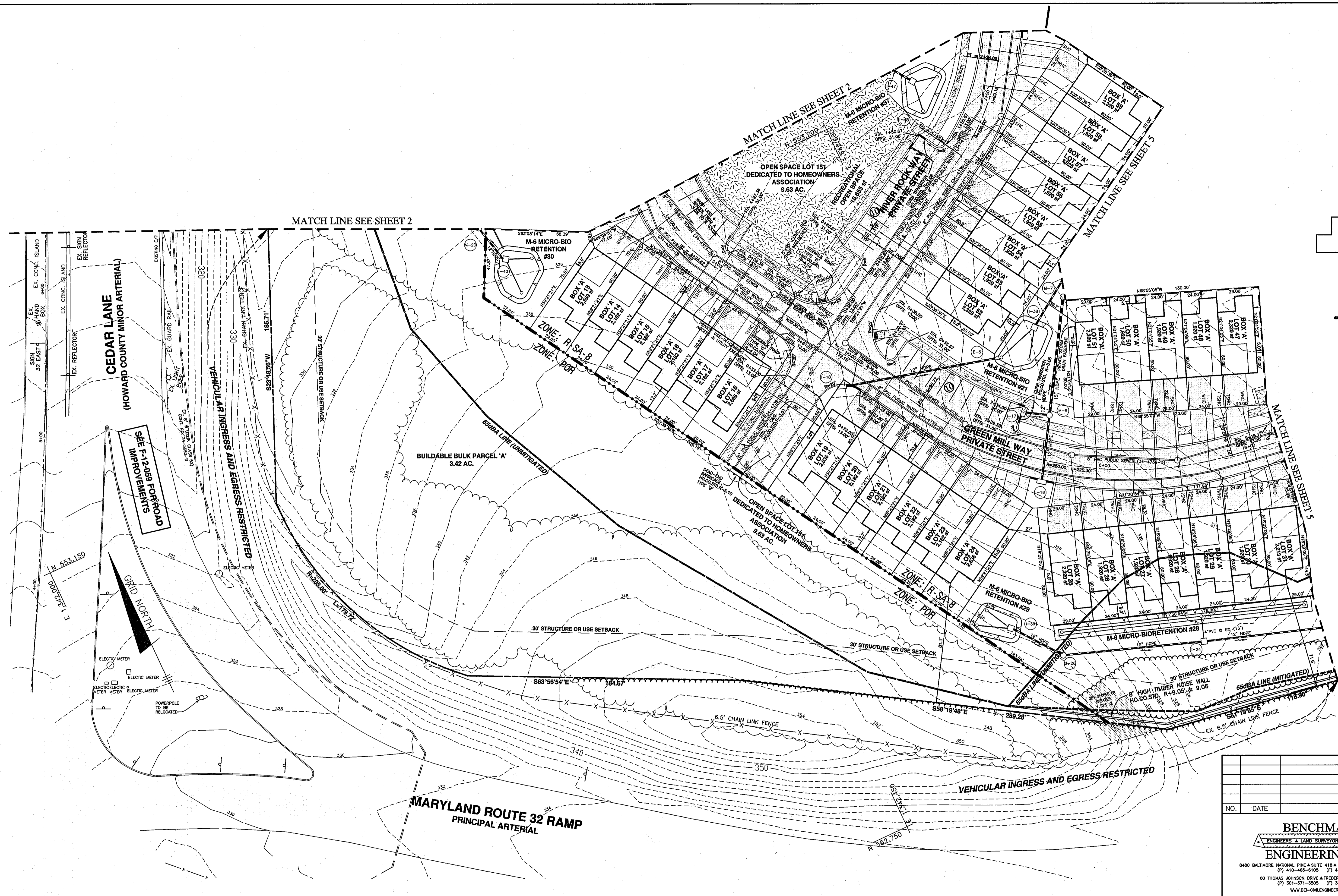
TAX MAP: 35 GRID: 23 PARCEL: 116 ZONED: R-SA-8
 TAX MAP: 35 GRID: 23 PARCEL: 258, 476 ZONED: POR
 ELECTION DISTRICT NO. 5
 HOWARD COUNTY, MARYLAND

SITE DEVELOPMENT PLAN

OWNER: SIMPSON MILL, LLC P.O. BOX 417 ELICOTT CITY, MARYLAND 21043 410-465-4244

DEVELOPER: SIMPSON MILL, LLC P.O. BOX 417 ELICOTT CITY, MARYLAND 21043 410-465-4244

DATE: AUGUST, 2012 BEI PROJECT NO: 2189
 SCALE: AS SHOWN SHEET 5 OF 29



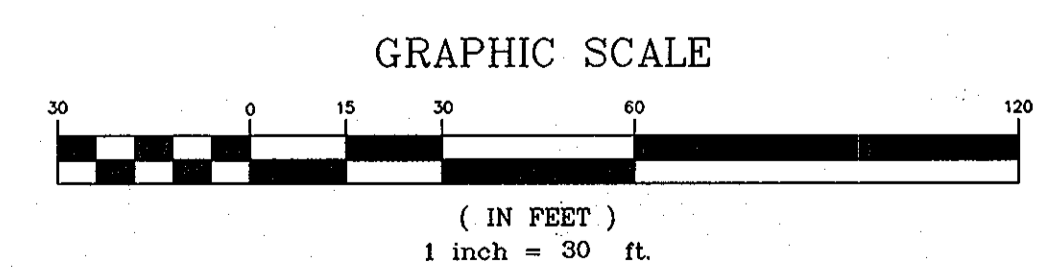
- LEGEND**
- PROJECT BOUNDARY
 - - - EXISTING CONTOURS
 - ~ EXISTING TREELINE
 - ~ PROPOSED TREELINE
 - ▨ PAVEMENT (P-3 FOR SIMPSON MILL ROAD (P-2 FOR ALL OTHER ROADS) (P-1 FOR DRIVES))
 - MODIFIED CURB & GUTTER (EXCEPT WHERE INDICATED AS STD.)
 - CURB TRANSITION
 - ▨ 5' CONCRETE SIDEWALK
 - STORM DRAIN PIPE
 - ▨ 8' PATHWAY (MACADAM)
 - ▨ RECREATION OPEN SPACE
 - ▭ TYPICAL HOUSE BOX
 - SHC SEWER HOUSE CONNECTION
 - WHC WATER HOUSE CONNECTION
 - ZONING LINE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

[Signature] 10/5/12
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

[Signature] 10/10/12
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

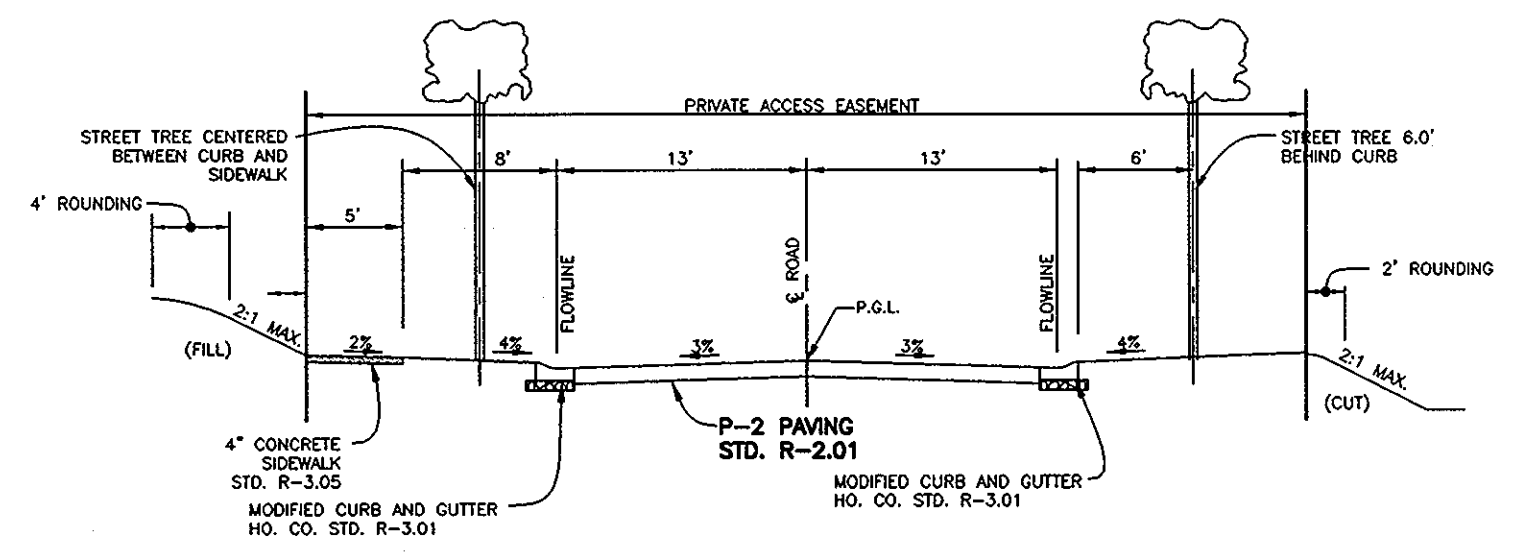
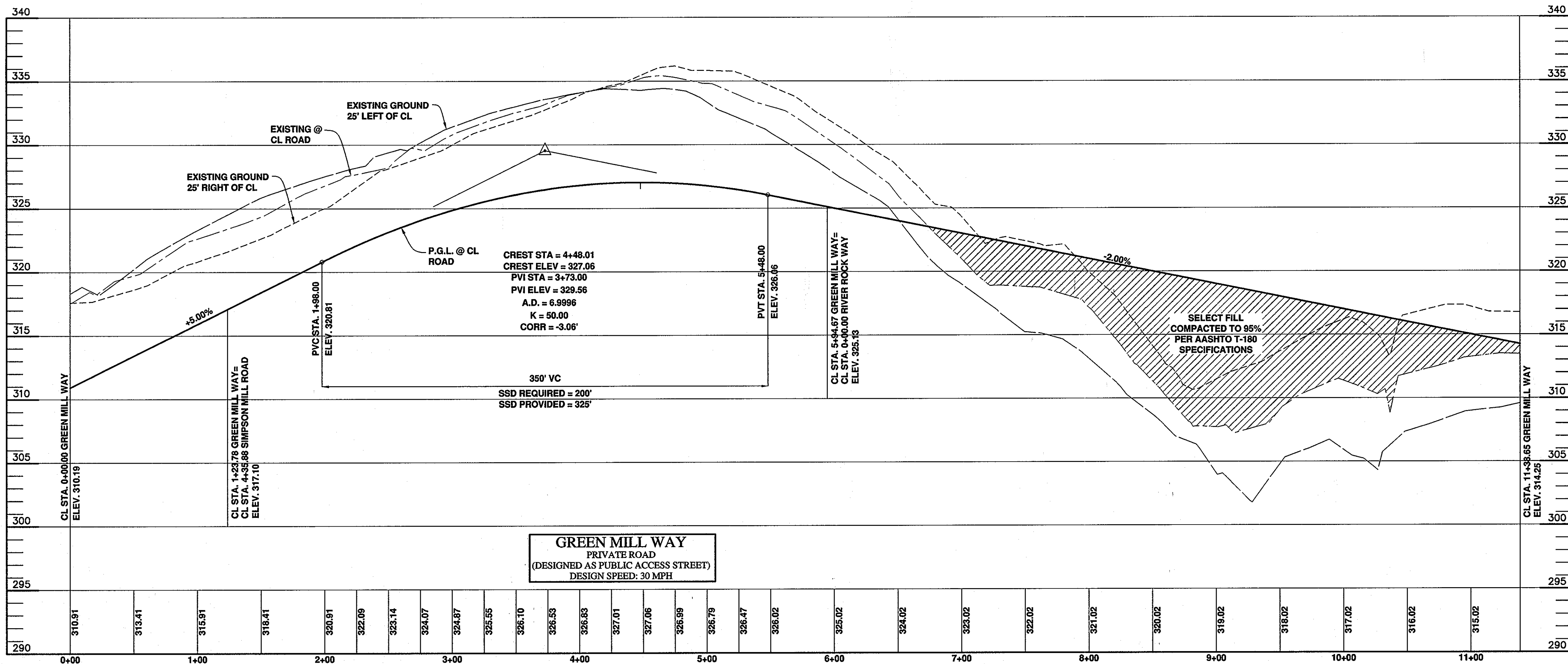
[Signature] 10/10/12
 DIRECTOR DATE



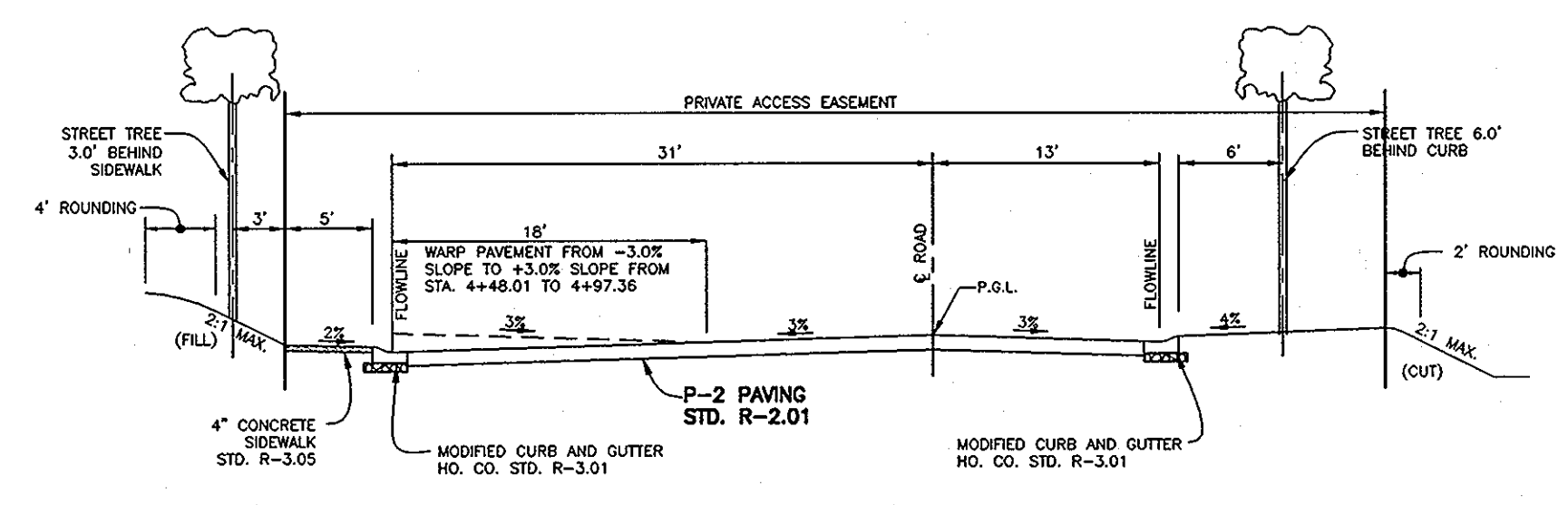
NO.	DATE	REVISION

BENCHMARK
ENGINEERS & LAND SURVEYORS & PLANNERS
ENGINEERING, INC.
 8480 BALTIMORE NATIONAL PIKE & SUITE 119.4 ELLICOTT CITY, MARYLAND 21043
 (P) 410-465-6105 (F) 410-465-6644
 60 THOMAS JOHNSON DRIVE & FREDERICK, MARYLAND 21702
 (P) 301-371-3505 (F) 301-371-3506
 WWW.BEI-CIVILENGINEERING.COM

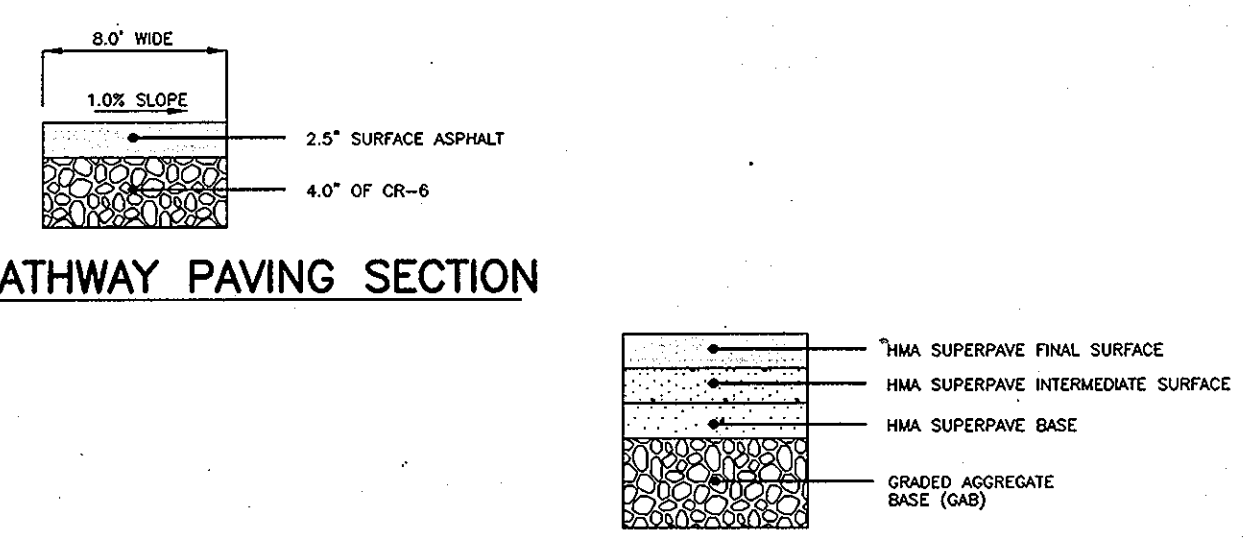
OWNER:	SIMPSON MILL PHASE 1 - LOTS 1 thru 18 & 139 thru 150 PHASE 2 - LOTS 19 thru 138 OPEN SPACE LOTS 151 & 152 AND PARCEL 'A'		
DEVELOPER:	SIMPSON MILL LLC P.O. BOX 417 ELLICOTT CITY, MARYLAND 21041 410-465-4244		
DATE:	AUGUST, 2012		
SCALE:	AS SHOWN		
DESIGN:	DBT/JMC		
DRAWN:	DBT/JMC		
TAX MAP: 35	GRID: 23	PARCEL: 116	ZONED: R-SA-8
TAX MAP: 35	GRID: 23	PARCEL: 258, 476	ZONED: POR
ELECTION DISTRICT NO. 5 HOWARD COUNTY, MARYLAND			
SITE DEVELOPMENT PLAN			
BEI PROJECT NO: 2189		SHEET 6 OF 29	



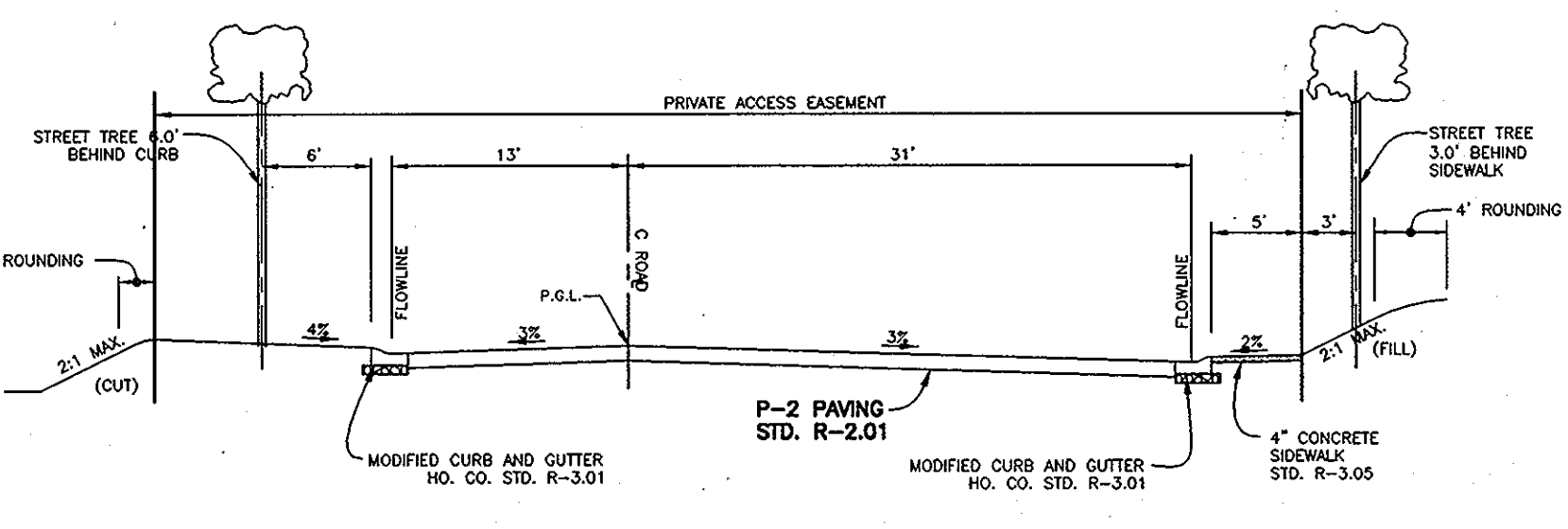
TYPICAL ROADWAY SECTION
(DESIGNED AS A PUBLIC ACCESS STREET)
DESIGN SPEED: 30 MPH
SCALE: 1"=10'
GREEN MILL WAY
STA. 1+60.46 TO 3+08.25
STA. 5+02.36 TO 5+56.67
STA. 7+39.39 TO 9+15.17
STA. 9+52.17 TO 11+06.65



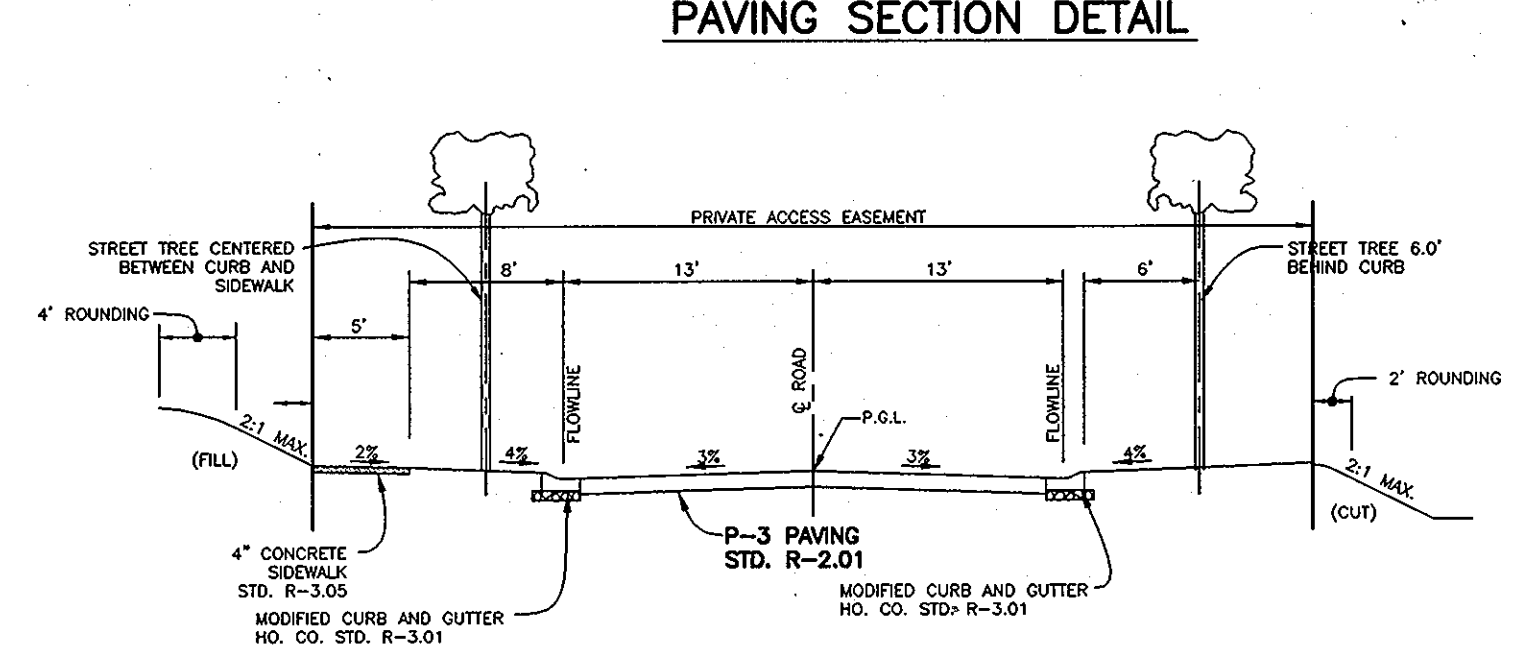
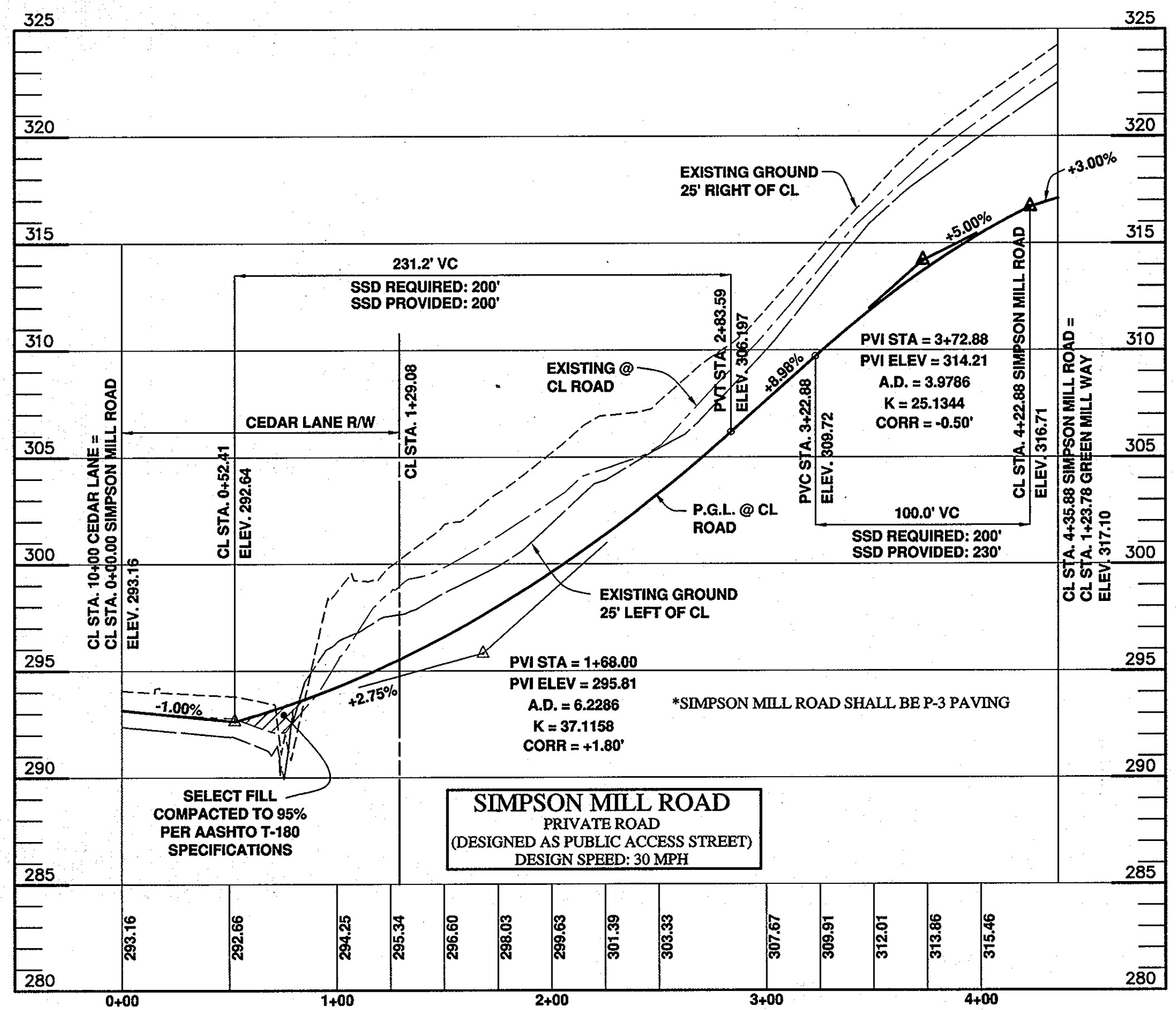
TYPICAL ROADWAY SECTION
(DESIGNED AS A PUBLIC ACCESS STREET)
DESIGN SPEED: 30 MPH
SCALE: 1"=10'
GREEN MILL WAY
STA. 3+13.25 TO 4+97.36
STA. 6+35.67 TO 7+34.00
STA. 9+20.17 TO 9+47.17



SECTION NUMBER	ROAD AND STREET CLASSIFICATION	CALIFORNIA BEARING RATIO (CBR)		PAVEMENT MATERIAL (INCHES)		
		3 TO <5	5 TO <7	MIN HMA WITH GAB	HMA WITH CONSTANT GAB	HMA WITH CONSTANT GAB
P-3	PARKING DRIVE ASLES: RESIDENTIAL AND NON-RESIDENTIAL WITH NO MORE THAN 10 HEAVY TRUCKS PER DAY LOCAL ROADS: ACCESS PLACE, ACCESS STREET CUL-DE-SACS: NON-RESIDENTIAL MINOR COLLECTORS: RESIDENTIAL	HMA SUPERPAVE FINAL SURFACE	1.5	1.5	1.5	1.5
		9.5 MM PG 64-22, LEVEL 1 (LOW ESAL)	1.0	1.0	1.0	1.0
		HMA SUPERPAVE INTERMEDIATE SURFACE	3.0	3.0	3.0	3.0
		9.5 MM PG 64-22, LEVEL 1 (LOW ESAL)	10.0	6.0	3.0	6.0
P-2	PARKING DRIVE ASLES: RESIDENTIAL AND NON-RESIDENTIAL WITH NO MORE THAN 10 HEAVY TRUCKS PER DAY LOCAL ROADS: ACCESS PLACE, ACCESS STREET CUL-DE-SACS: RESIDENTIAL	HMA SUPERPAVE FINAL SURFACE	1.5	1.5	1.5	1.5
		9.5 MM PG 64-22, LEVEL 1 (LOW ESAL)	1.0	1.0	1.0	1.0
		HMA SUPERPAVE INTERMEDIATE SURFACE	2.0	2.0	2.0	3.5
		9.5 MM PG 64-22, LEVEL 1 (LOW ESAL)	8.0	4.0	3.0	4.0



TYPICAL ROADWAY SECTION
(DESIGNED AS A PUBLIC ACCESS STREET)
DESIGN SPEED: 30 MPH
SCALE: 1"=10'
SIMPSON MILL WAY
STA. 0+41.00 TO 0+86.00



TYPICAL ROADWAY SECTION
(DESIGNED AS A PUBLIC ACCESS STREET)
DESIGN SPEED: 30 MPH
SCALE: 1"=10'
SIMPSON MILL ROAD
STA. 2+25.20 TO 3+98.97

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 CHIEF, DIVISION OF LAND DEVELOPMENT
 DIRECTOR

10/5/12
 10/10/12
 10/10/12

NO.	DATE	REVISION

BENCHMARK ENGINEERS & LAND SURVEYORS & PLANNERS
 8450 BALTIMORE NATIONAL PIKE SUITE 418 ELLICOTT CITY, MARYLAND 21043
 (P) 410-465-6105 (F) 410-465-6644
 60 THOMAS JOHNSON DRIVE FREDERICK, MARYLAND 21702
 (P) 301-371-3505 (F) 301-371-3506
 WWW.BE-CIVILENGINEERING.COM

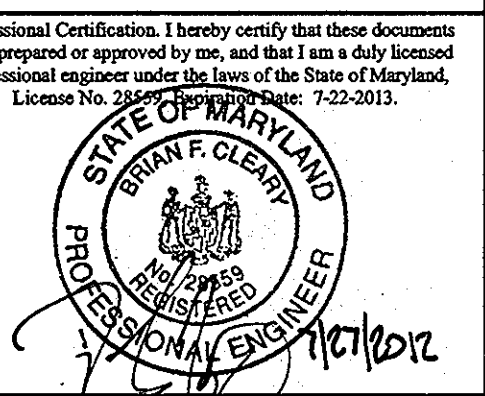
SIMPSON MILL
 PHASE 1 - LOTS 1 thru 18 & 139 thru 150
 PHASE 2 - LOTS 19 thru 138
 OPEN SPACE LOTS 151 & 152 AND PARCEL 'A'

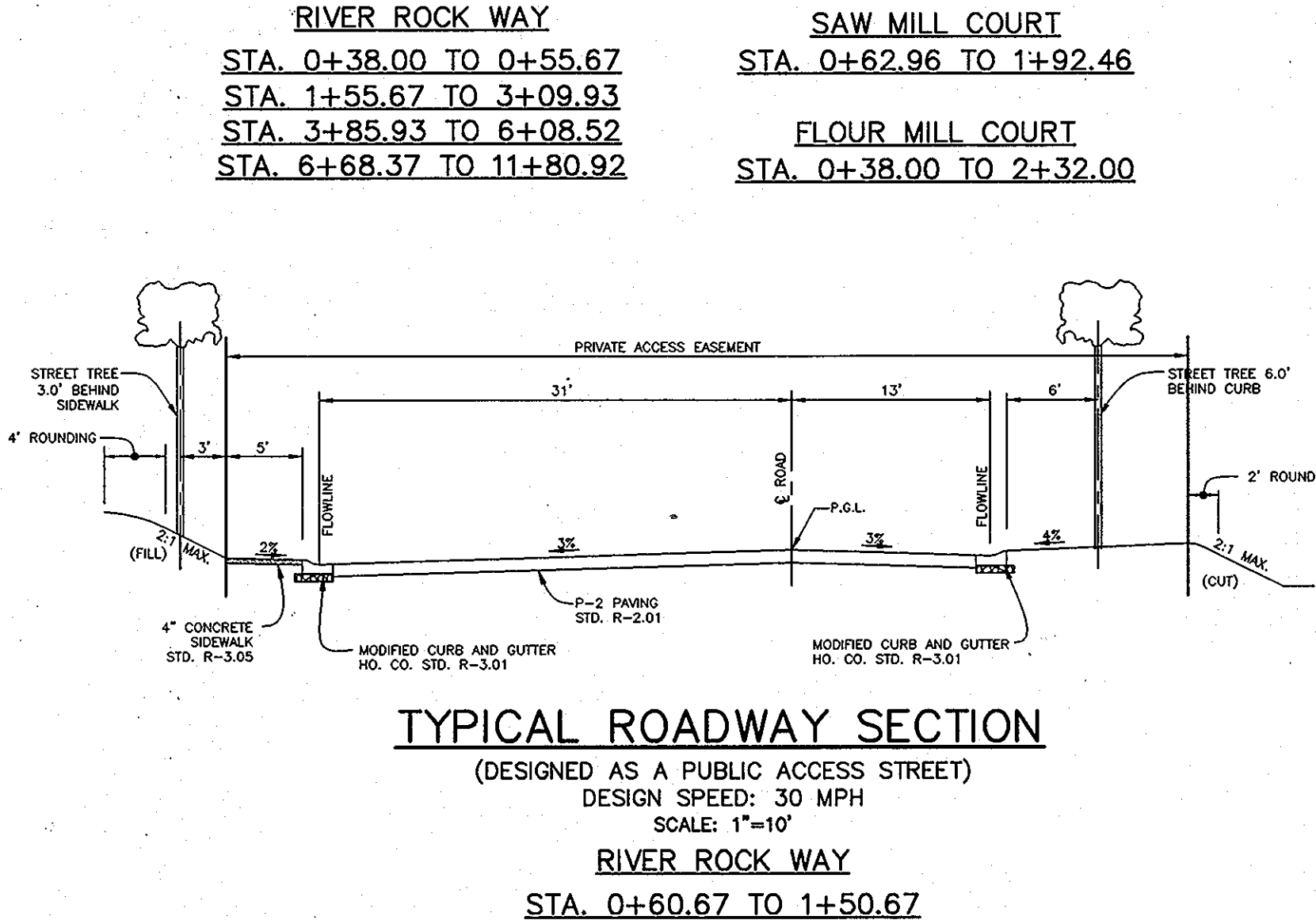
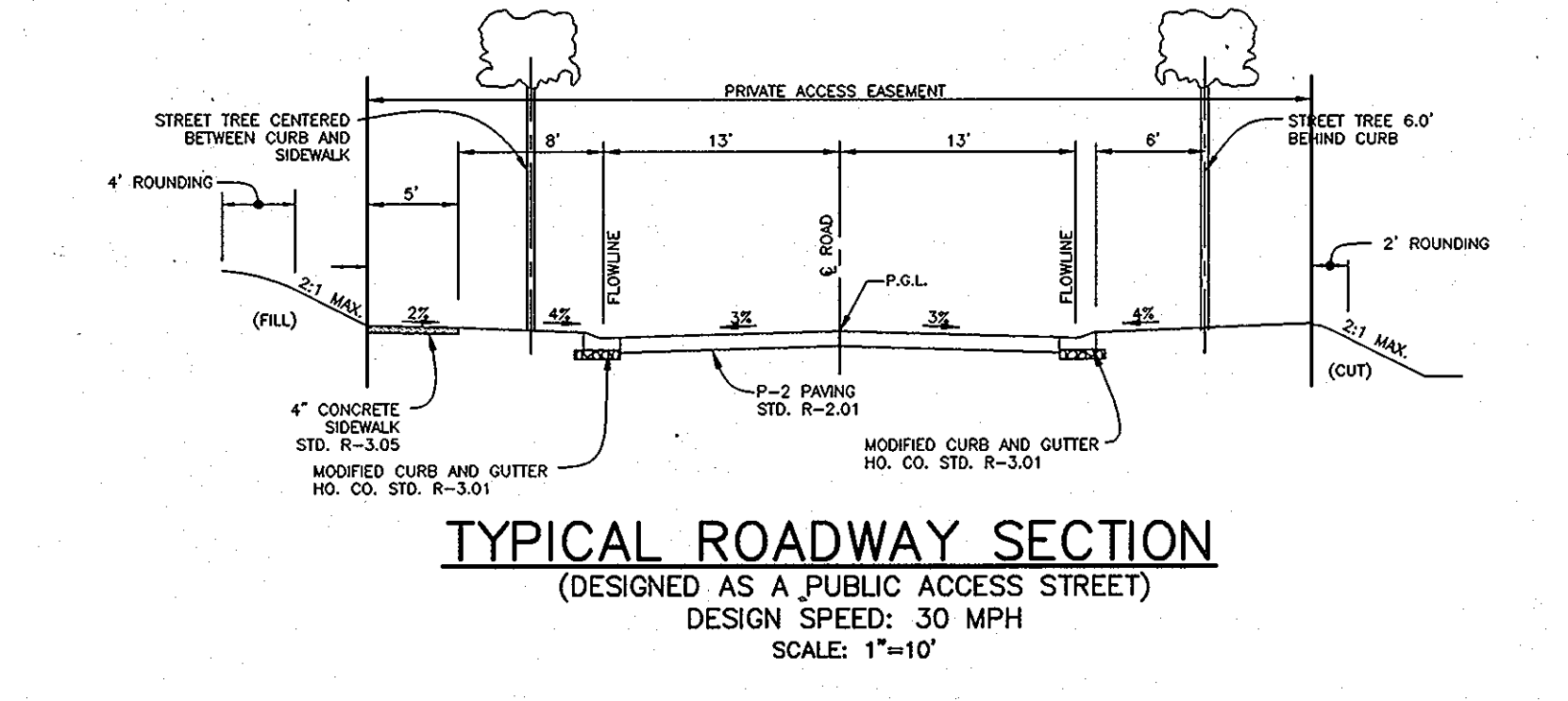
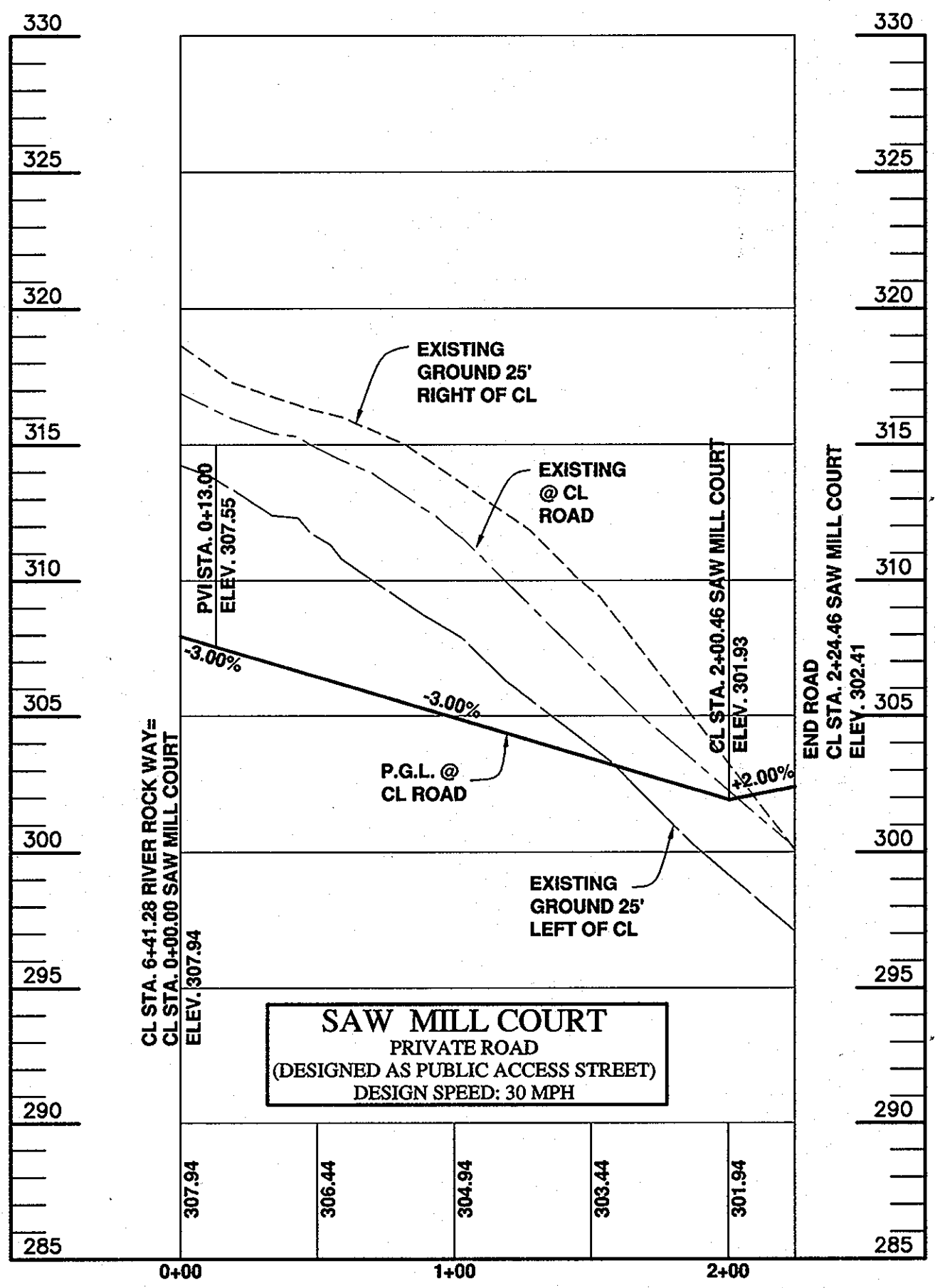
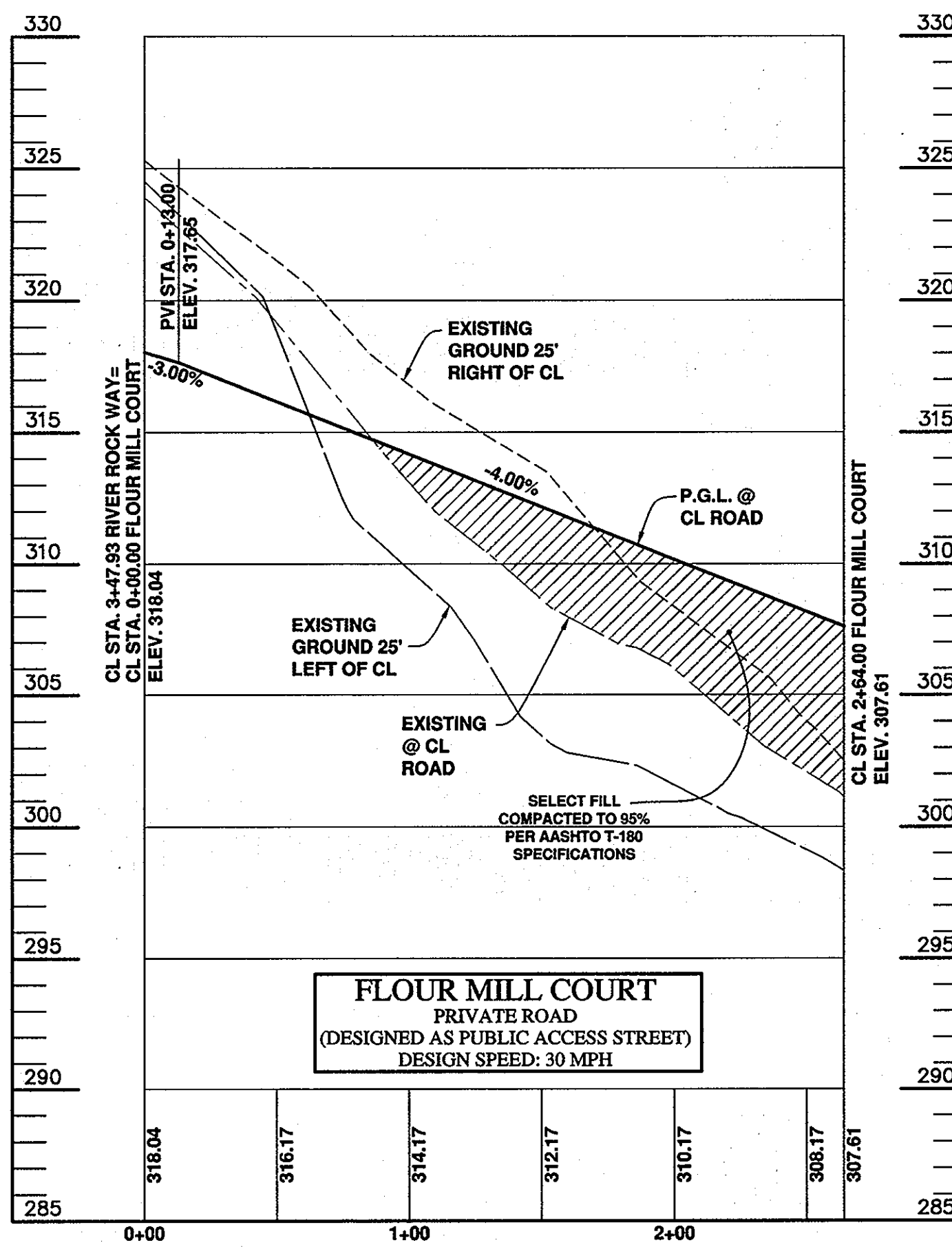
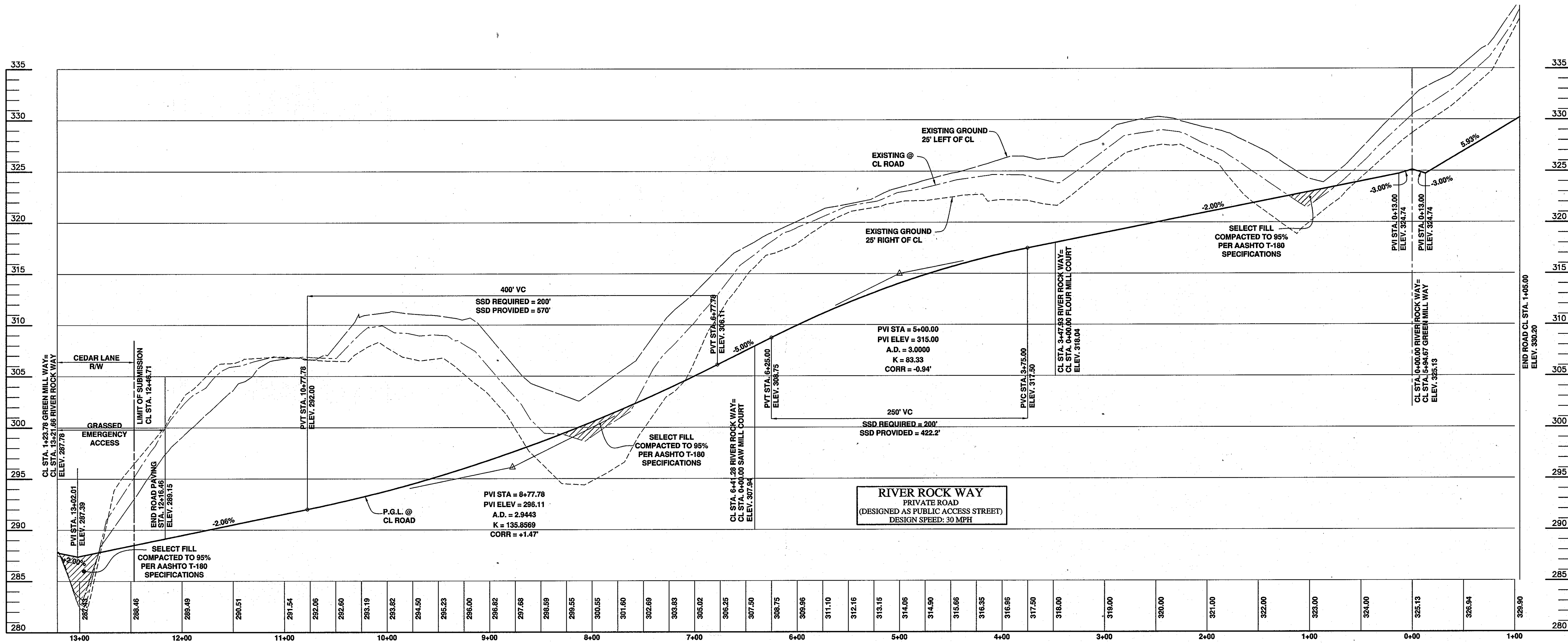
OWNER: SIMPSON MILL LLC
 P.O. BOX 417
 ELLICOTT CITY, MARYLAND 21041
 410-465-4244

DEVELOPER: SIMPSON MILL LLC
 P.O. BOX 417
 ELLICOTT CITY, MARYLAND 21041
 410-465-4244

ROAD PROFILE AND DETAILS
 SIMPSON MILL ROAD & GREEN MILL WAY

DATE: AUGUST, 2012 BEI PROJECT NO: 2189
 SCALE: AS SHOWN SHEET 7 OF 29





APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division: *[Signature]* 10/5/12 DATE

Chief, Division of Land Development: *[Signature]* 10/10/12 DATE

Director: *[Signature]* 10/10/12 DATE

NO.	DATE	REVISION

BENCHMARK ENGINEERING, INC.
 840 BALTIMORE NATIONAL PIKE SUITE 418 ELLICOTT CITY, MARYLAND 21043
 (P) 410-465-8105 (F) 410-465-6644
 60 THOMAS JOHNSON DRIVE FREDERICK, MARYLAND 21702
 (P) 301-371-3505 (F) 301-371-3506
 WWW.BEI-CIVILENGINEERING.COM

SIMPSON MILL
 PHASE 1 - LOTS 1 thru 18 & 139 thru 150
 PHASE 2 - LOTS 19 thru 138
 OPEN SPACE LOTS 151 & 152 AND PARCEL 'A'

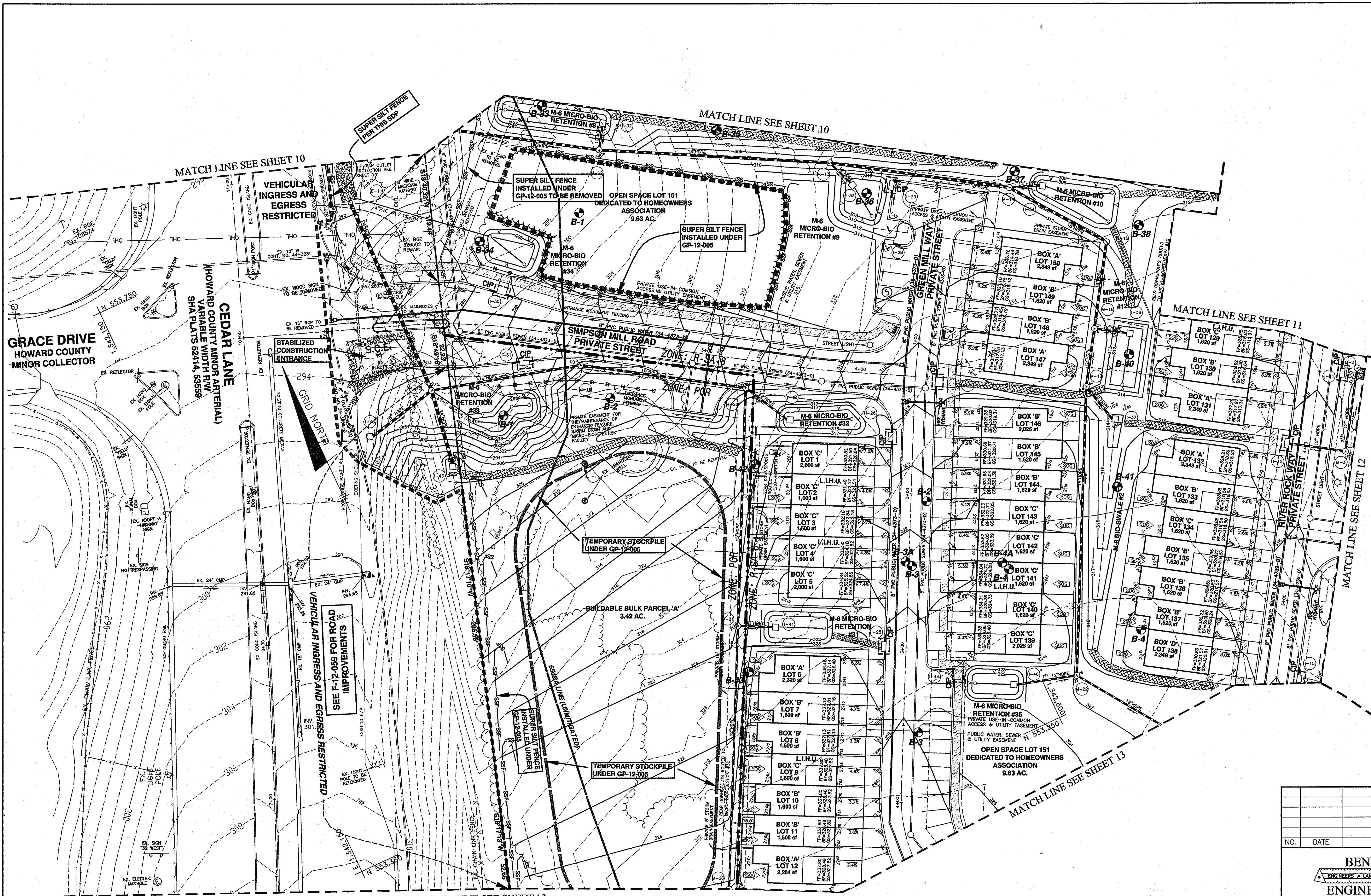
OWNER: SIMPSON MILL LLC, P.O. BOX 417, ELLICOTT CITY, MARYLAND 21041, 410-465-4244

DEVELOPER: SIMPSON MILL LLC, P.O. BOX 417, ELLICOTT CITY, MARYLAND 21041, 410-465-4244

ROAD PROFILE AND DETAILS
 RIVER ROCK WAY, FLOUR MILL COURT AND SAW MILL COURT

DATE: AUGUST, 2012 BEI PROJECT NO: 2189

DESIGN: DBT DRAWN: DBT SCALE: AS SHOWN SHEET 8 OF 29



LEGEND

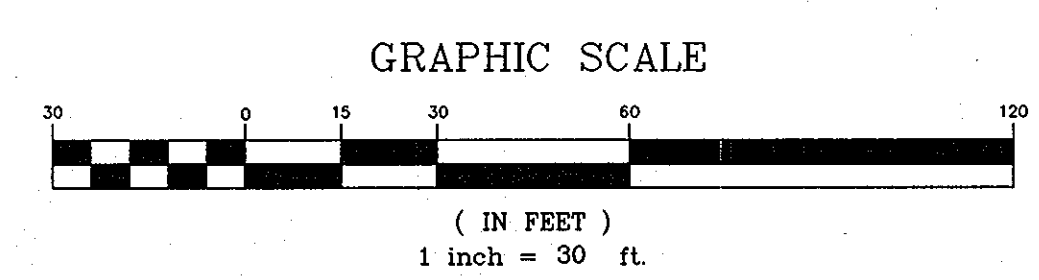
- PROJECT BOUNDARY
- - - EXISTING CONTOURS
- PROPOSED CONTOURS
- EXISTING TREELINE
- PROPOSED TREELINE
- FF=302.38
BF=283.04
GS=283.04
- FIRST FLOOR ELEV.
- BASEMENT FLOOR ELEV.
- GARAGE SLAB ELEV.
- CONCRETE SIDEWALK
- STORM DRAIN PIPE
- LIMIT OF DISTURBANCE
- SUPER SILT FENCE
- EROSION CONTROL MATTING
- B-24 SOILS BORING LOCATION
- SLAB ON GRADE UNIT
- WALK OUT BASEMENT UNIT
- CIP CURB INLET PROTECTION

ENGINEER'S CERTIFICATE
 I CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.
 ENGINEER: *[Signature]* DATE: 7/27/2012

DEVELOPER'S CERTIFICATE
 I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.
 DEVELOPER: *[Signatures]* DATE: 7/27/12

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
 HOWARD SOIL CONSERVATION DISTRICT DATE: 10/2/12

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE: 10/5/12
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE: 10/10/12
 DIRECTOR DATE: 10/10/12



NO.	DATE	REVISION

BENCHMARK ENGINEERING, INC.
 8400 BALTIMORE NATIONAL PIKE SUITE 418 ELLICOTT CITY, MARYLAND 21043
 (P) 410-465-6105 (F) 410-465-6844
 60 THOMAS JOHNSON DRIVE A FREDERICK, MARYLAND 21702
 (P) 301-371-3505 (F) 301-371-3506
 WWW.BE-CMENGINEERING.COM

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. 12127-012.

OWNER: SIMPSON MILL, LLC P.O. BOX 417 ELLICOTT CITY, MARYLAND 21041 410-465-4244	SIMPSON MILL PHASE 1 - LOTS 1 thru 18 & 139 thru 150 PHASE 2 - LOTS 19 thru 138 OPEN SPACE LOTS 151 & 152 AND PARCEL 'A'
DEVELOPER: SIMPSON MILL, LLC P.O. BOX 417 ELLICOTT CITY, MARYLAND 21041 410-465-4244	TAX MAP: 35 GRID: 23 PARCEL: 116 ZONED: R-SA-8 TAX MAP: 35 GRID: 23 PARCEL: 258, 476 ZONED: POR ELECTION DISTRICT NO. 5 HOWARD COUNTY, MARYLAND
DESIGN: DBT/JMC DRAWN: DBT/JMC	GRADING, SEDIMENT & EROSION CONTROL PLAN DATE: AUGUST, 2012 BEI PROJECT NO: 2189 SCALE: AS SHOWN SHEET 9 OF 29

LEGEND

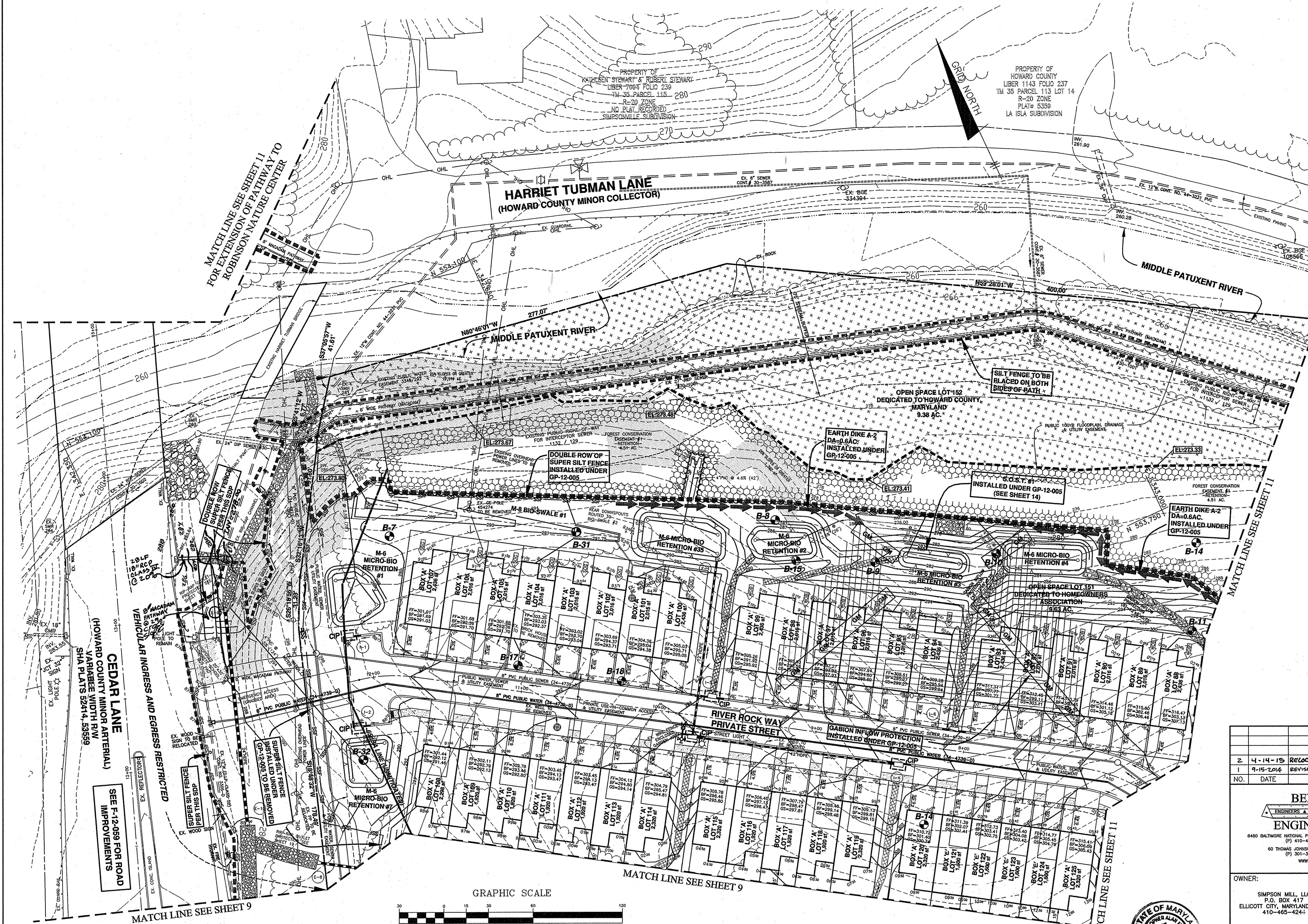
- PROJECT BOUNDARY
- - - EXISTING CONTOURS
- - - PROPOSED CONTOURS
- ~ ~ ~ EXISTING TREELINE
- ~ ~ ~ PROPOSED TREELINE
- FF-302.38 — FIRST FLOOR ELEV.
- BF-289.04 — BASEMENT FLOOR ELEV.
- GS-293.04 — GARAGE SLAB ELEV.
- 100YR FLOODPLAIN
- FOREST CONSERVATION EASEMENT
- EXISTING STREAM BANK
- CONCRETE SIDEWALK
- STORM DRAIN PIPE
- LIMIT OF DISTURBANCE
- SSF — SUPER SILT FENCE
- EROSION CONTROL MATTING
- B-24 SOILS BORING LOCATION
- SLAB ON GRADE UNIT
- WALK OUT BASEMENT UNIT
- CIP CURB INLET PROTECTION

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. 45577 Expiration Date: 06-08-16



For Revision 2 (4/14/15) only

ENGINEER'S CERTIFICATE	
I CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.	
<i>J.R. Moxley, III</i>	7/27/2012
ENGINEER	DATE
DEVELOPER'S CERTIFICATE	
I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.	
<i>James R. Moxley, III</i>	7/27/12
DEVELOPER	DATE
THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.	
<i>John R. Robertson</i>	10/2/12
HOWARD SOIL CONSERVATION DISTRICT	DATE
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING	
<i>John D. ...</i>	10/5/12
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE
<i>Jeff ...</i>	10/10/12
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE
<i>David ...</i>	10/10/12
DIRECTOR	DATE



NO.	DATE	REVISION
2	4-14-15	RELOCATE 8" MACADAM PATHWAY, REVISE DRAIN TO 20LF 18" RCP CLASS 2
1	9-15-2014	REVISE LOTS 121-124 TO BE GENERIC BOX 'A'

BENCHMARK ENGINEERING, INC.
 ENGINEERS & LAND SURVEYORS & PLANNERS
 8480 BALTIMORE NATIONAL PIKE SUITE 418 ELLICOTT CITY, MARYLAND 21043
 (P) 410-465-8105 (F) 410-465-6644
 60 THOMAS JOHNSON DRIVE A FREDERICK, MARYLAND 21702
 (F) 301-371-3008 (F) 301-371-3006
 WWW.BE-CIVILENGINEERING.COM

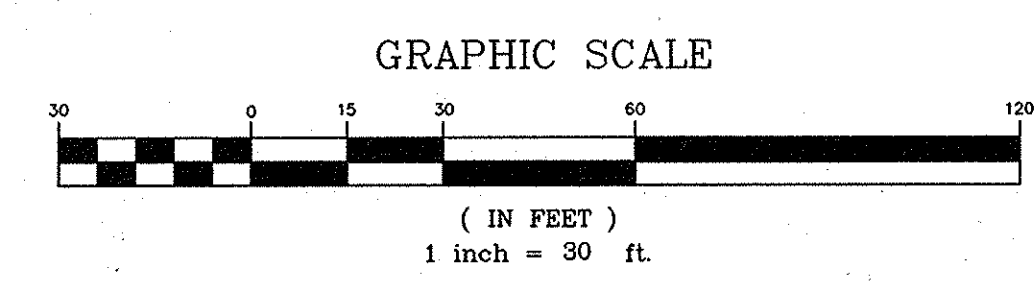
Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 91514.

James R. Moxley, III 7/27/2012
 PROFESSIONAL ENGINEER

OWNER: SIMPSON MILE, LLC P.O. BOX 417 ELLCOTT CITY, MARYLAND 21041 410-465-4244	DEVELOPER: SIMPSON MILE, LLC P.O. BOX 417 ELLCOTT CITY, MARYLAND 21041 410-465-4244	SIMPSON MILE PHASE 1 - LOTS 1 thru 18 & 139 thru 150 PHASE 2 - LOTS 19 thru 138 OPEN SPACE LOTS 151 & 152 AND PARCEL 'A'	TAX MAP: 35 GRID: 23 PARCEL: 116 ZONED: R-SA-8 TAX MAP: 35 GRID: 23 PARCEL: 268, 476 ZONED: POR ELECTION DISTRICT NO. 5 HOWARD COUNTY, MARYLAND
DATE: AUGUST, 2012		BEI PROJECT NO: 2189	
DESIGN: DBT/JMC		DRAWN: DBT/JMC	
SCALE: AS SHOWN		SHEET 10 OF 29	

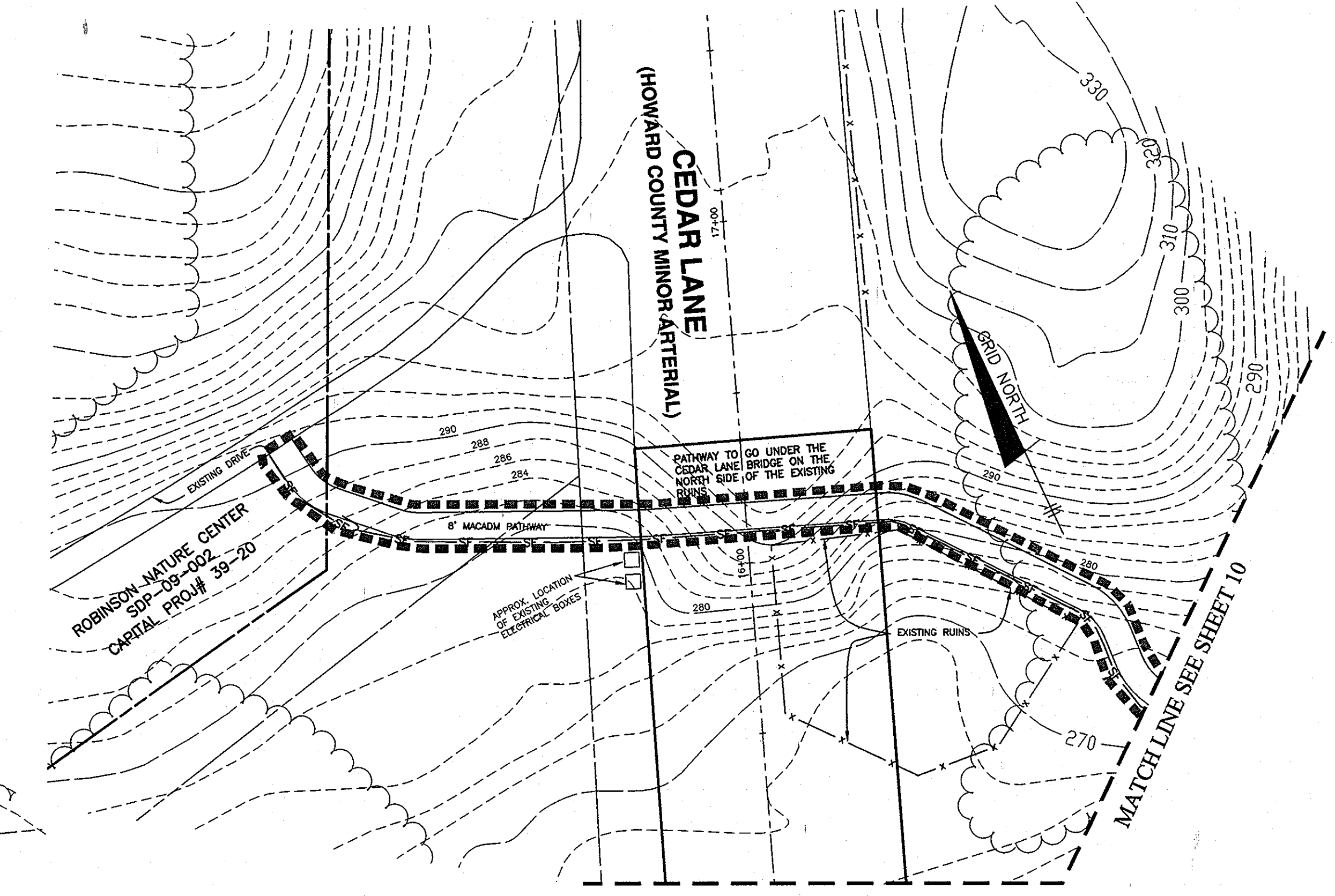
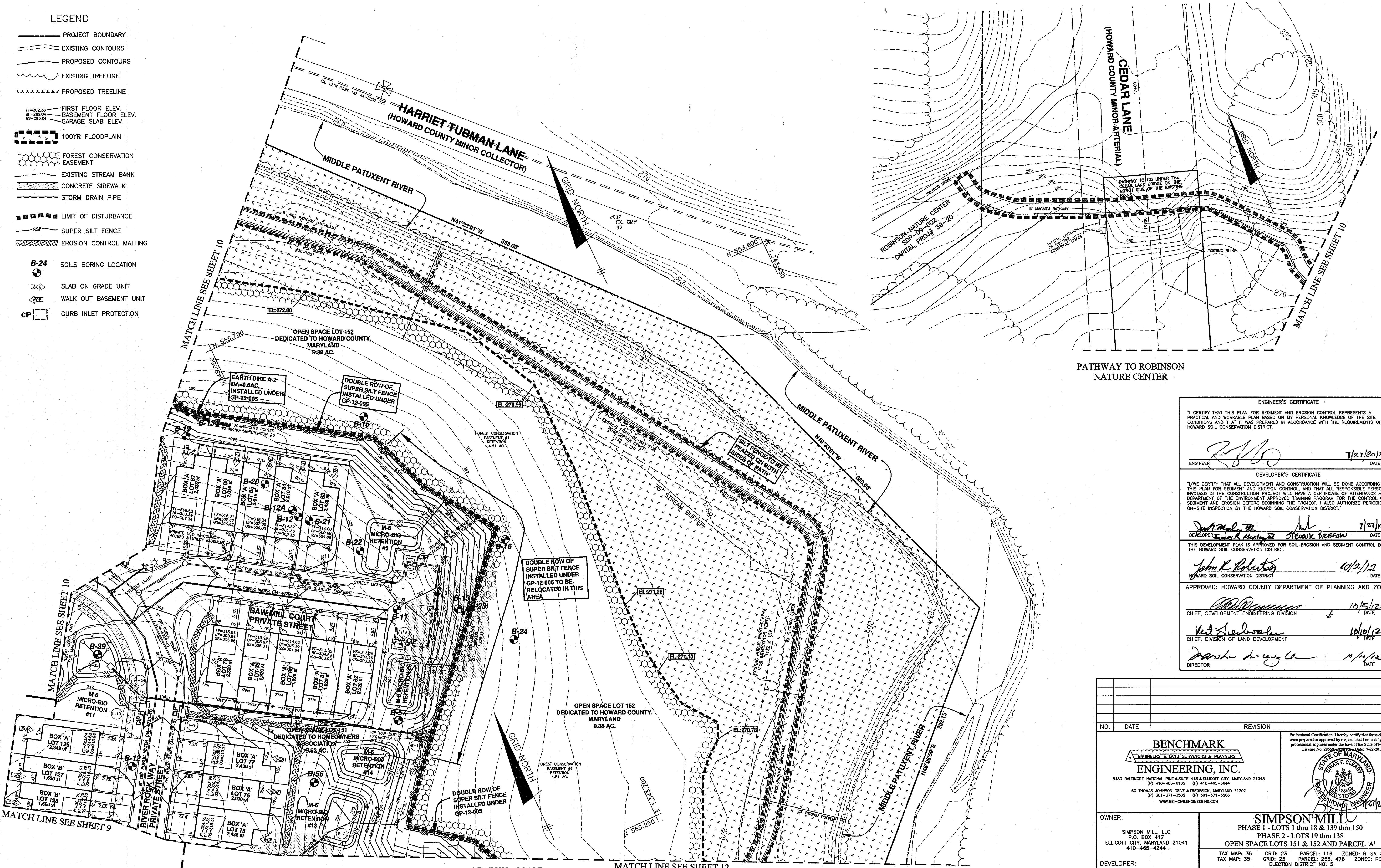
SEDIMENT CONTROLS DAMAGED BY ANY CONSTRUCTION ACTIVITY SHALL BE REPAIRED IMMEDIATELY.

CONSTRUCTION OF HOMES ON LOTS 88 thru 99 SHALL BE DELAYED UNTIL APPROVAL FROM INSPECTOR IS OBTAINED TO REMOVE SEDIMENT TRAP (SEE S.O.C. SHEET 14)



LEGEND

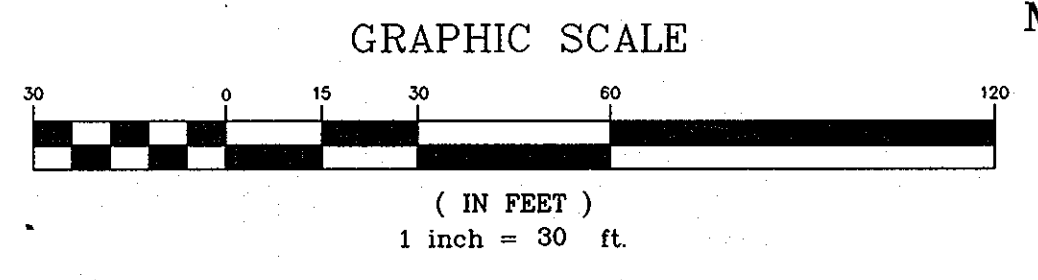
- PROJECT BOUNDARY
- EXISTING CONTOURS
- PROPOSED CONTOURS
- EXISTING TREELINE
- PROPOSED TREELINE
- FIRST FLOOR ELEV.
Elevations: FF=302.36, BF=289.04, GS=293.04
- 100YR FLOODPLAIN
- FOREST CONSERVATION EASEMENT
- EXISTING STREAM BANK
- CONCRETE SIDEWALK
- STORM DRAIN PIPE
- LIMIT OF DISTURBANCE
- SUPER SILT FENCE
- EROSION CONTROL MATTING
- B-24 SOILS BORING LOCATION
- SLAB ON GRADE UNIT
- WALK OUT BASEMENT UNIT
- CURB INLET PROTECTION



PATHWAY TO ROBINSON NATURE CENTER

ENGINEER'S CERTIFICATE	
I CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.	
	7/27/2012 DATE
DEVELOPER'S CERTIFICATE	
I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.	
	7/27/12 DATE
THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.	
	10/2/12 DATE
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING	
	10/5/12 DATE
	10/10/12 DATE
	10/10/12 DATE

<p>NO. DATE REVISION</p>	<p style="text-align: center;">BENCHMARK ENGINEERING, INC.</p> <p style="font-size: small;">8450 BALTIMORE NATIONAL PIKE SUITE 418 ELLICOTT CITY, MARYLAND 21043 (P) 410-465-6105 (F) 410-465-6644 60 THOMAS JOHNSON DRIVE A/FREDERICK, MARYLAND 21702 (P) 301-371-3505 (F) 301-371-3506 WWW.BE-CALLENENGINEERING.COM</p>
<p>OWNER: SIMPSON MILL, LLC P.O. BOX 417 ELLICOTT CITY, MARYLAND 21041 410-465-4244</p>	<p style="text-align: center;">SIMPSON-MILL PHASE 1 - LOTS 1 thru 18 & 139 thru 150 PHASE 2 - LOTS 19 thru 138 OPEN SPACE LOTS 151 & 152 AND PARCEL 'A'</p> <p style="font-size: small;">TAX MAP: 35 GRID: 23 PARCEL: 116 ZONED: R-SA-8 TAX MAP: 35 GRID: 23 PARCEL: 258, 476 ZONED: POR ELECTION DISTRICT NO. 5 HOWARD COUNTY, MARYLAND</p>
<p>DEVELOPER: SIMPSON MILL, LLC P.O. BOX 417 ELLICOTT CITY, MARYLAND 21041 410-465-4244</p>	<p style="text-align: center;">GRADING, SEDIMENT & EROSION CONTROL PLAN</p> <p>DATE: AUGUST, 2012 BEI PROJECT NO: 2189 SCALE: AS SHOWN SHEET 11 OF 29</p>



LEGEND

- PROJECT BOUNDARY
- EXISTING CONTOURS
- PROPOSED CONTOURS
- EXISTING TREELINE
- PROPOSED TREELINE
- FF=302.58
BF=289.04
GS=293.04
- FIRST FLOOR ELEV.
BASEMENT FLOOR ELEV.
GARAGE SLAB ELEV.
- 100YR FLOODPLAIN
- FOREST CONSERVATION EASEMENT
- EXISTING STREAM BANK
- CONCRETE SIDEWALK
- STORM DRAIN PIPE
- LIMIT OF DISTURBANCE
- SSF SUPER SILT FENCE
- EROSION CONTROL MATTING
- B-24 SOILS BORING LOCATION
- SLAB ON GRADE UNIT
- WALK OUT BASEMENT UNIT
- CIP CURB INLET PROTECTION

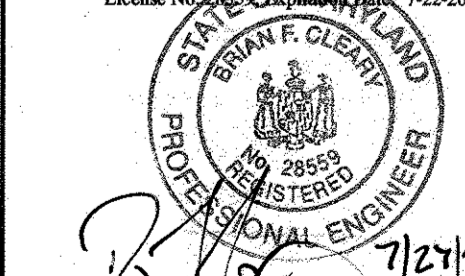
NO.	DATE	REVISION
3	9-29-16	Revise MB #26 Grading
2	7-8-2014	REVISE GRADES PER AS-BUILT CONDITIONS ON LOTS 60-67
1	1-3-2014	REVISE ROOF DRAIN FOR LOTS 40-46 TO GO TO M-6 MB #18

CONSTRUCTION OF HOMES ON LOTS 40 thru 51 SHALL BE DELAYED UNTIL APPROVAL FROM INSPECTOR TO REMOVE SEDIMENT BASIN (SEE S.O.C. SHEET 14)



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. 21443, Expiration Date: 12-21-14

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. 45577, Expiration Date: 6-08-18



BENCHMARK ENGINEERING, INC.
ENGINEERS & LAND SURVEYORS & PLANNERS
8480 BALTIMORE NATIONAL PIKE & SUITE 415 & ELLICOTT CITY, MARYLAND 21043
(P) 410-465-6100 (F) 410-465-6844
60 THOMAS JOHNSON DRIVE AFRICKERICK, MARYLAND 21702
(P) 301-371-3505 (F) 301-371-3508
WWW.BEI-CVLENGINEERING.COM

OWNER:
SIMPSON MILL, LLC
P.O. BOX 417
ELLICOTT CITY, MARYLAND 21041
410-465-4244

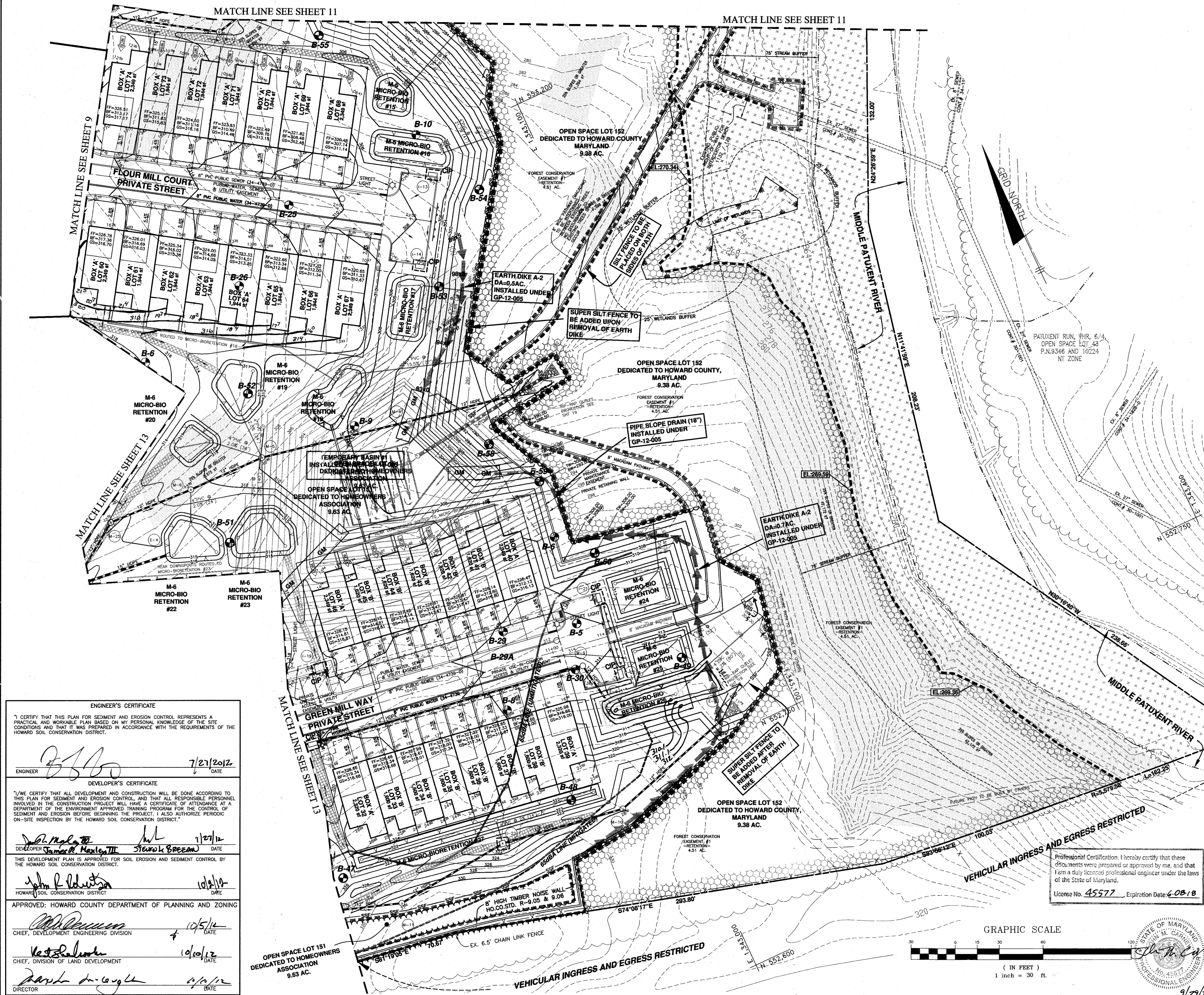
DEVELOPER:
SIMPSON MILL, LLC
P.O. BOX 417
ELLICOTT CITY, MARYLAND 21041
410-465-4244

SIMPSON MILL
PHASE 1 - LOTS 1 thru 18 & 139 thru 150
PHASE 2 - LOTS 19 thru 138
OPEN SPACE LOTS 151 & 152 AND PARCEL 'A'

TAX MAP: 35 GRID: 23 PARCEL: 116 ZONED: R-SA-B
TAX MAP: 35 GRID: 23 PARCEL: 258, 476 ZONED: FOR
ELECTION DISTRICT NO. 5 HOWARD COUNTY, MARYLAND

GRADING, SEDIMENT & EROSION CONTROL PLAN

DATE: AUGUST, 2012 BEI PROJECT NO: 2189
SCALE: AS SHOWN SHEET 12 OF 29



ENGINEER'S CERTIFICATE
I CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.
ENGINEER: [Signature] DATE: 7/27/2012

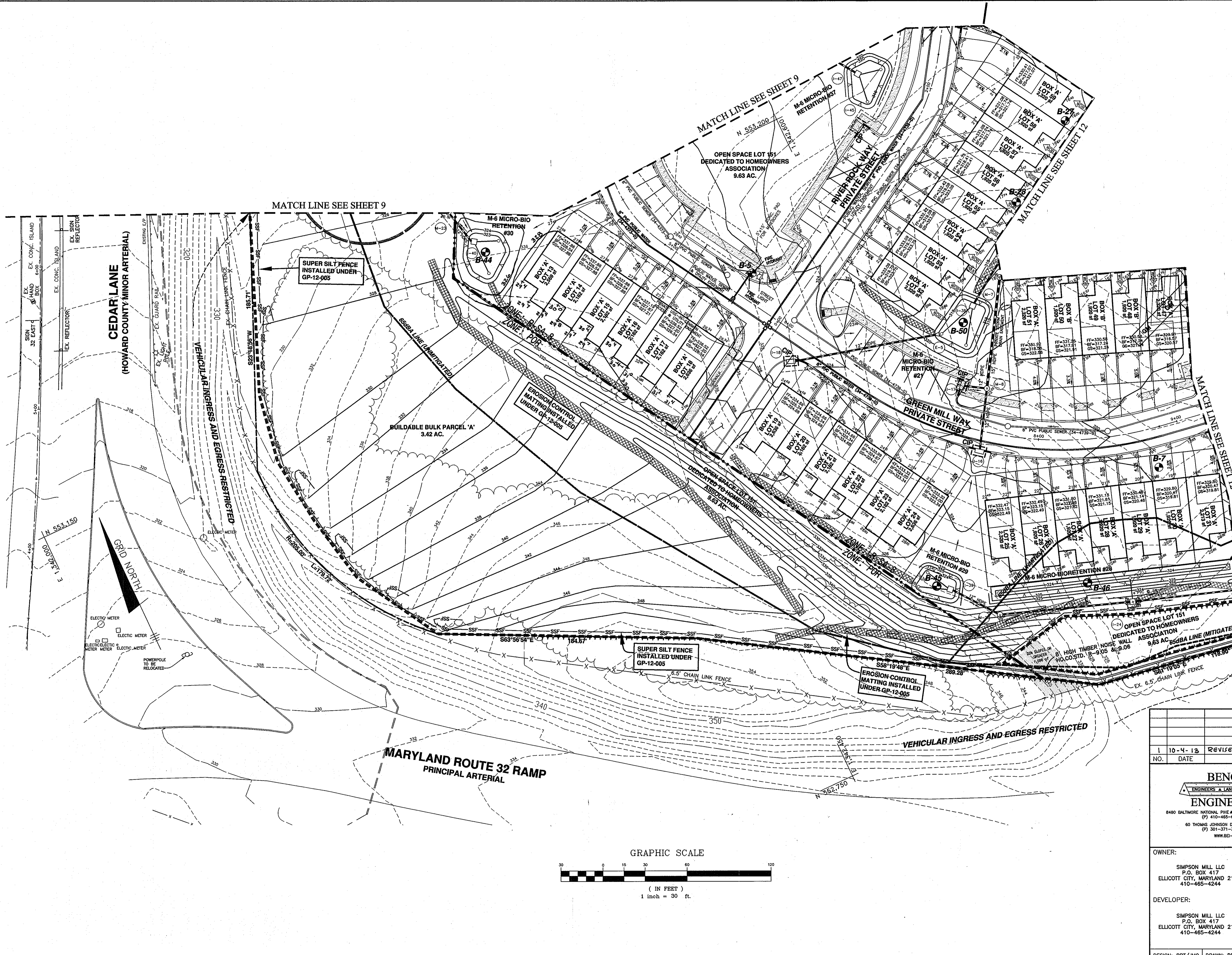
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DEVELOPER: [Signatures] DATE: 7/27/12

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
HOWARD SOIL CONSERVATION DISTRICT: [Signature] DATE: 10/2/12

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
CHIEF, DEVELOPMENT ENGINEERING DIVISION: [Signature] DATE: 10/5/12
CHIEF, DIVISION OF LAND DEVELOPMENT: [Signature] DATE: 10/10/12
DIRECTOR: [Signature] DATE: 10/12/12

GRAPHIC SCALE
(IN FEET)
1 inch = 30 ft.

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. 45577, Expiration Date: 6-08-18



ENGINEER'S CERTIFICATE	
I CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.	
ENGINEER <i>J. J. [Signature]</i>	DATE 7/27/2012
DEVELOPER'S CERTIFICATE	
I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.	
DEVELOPER <i>James R. Manley, Jr. & Steven K. Robinson</i>	DATE 7/27/12
THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.	
HOWARD SOIL CONSERVATION DISTRICT <i>John P. Roberts</i>	DATE 10/12/12
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING	
CHIEF, DEVELOPMENT ENGINEERING DIVISION <i>John D. [Signature]</i>	DATE 10/5/12
CHIEF, DIVISION OF LAND DEVELOPMENT <i>Kevin [Signature]</i>	DATE 10/10/12
DIRECTOR <i>Harold [Signature]</i>	DATE 10/10/12

LEGEND

- PROJECT BOUNDARY
- - - EXISTING CONTOURS
- PROPOSED CONTOURS
- EXISTING TREELINE
- PROPOSED TREELINE
- FF=302.38 FIRST FLOOR ELEV.
- BF=288.04 BASEMENT FLOOR ELEV.
- GS=293.04 GARAGE SLAB ELEV.
- CONCRETE SIDEWALK
- STORM DRAIN PIPE
- LIMIT OF DISTURBANCE
- SSF SUPER SILT FENCE
- EROSION CONTROL MATTING
- B-24 SOILS BORING LOCATION
- SLAB ON GRADE UNIT
- WALK OUT BASEMENT UNIT
- CIP CURB INLET PROTECTION

NO.	DATE	REVISION
1	10-4-13	REVISE SPOT ELEV. & GRADES AROUND LOTS 13-18 PER AS-BUILT CONDITIONS

BENCHMARK
ENGINEERS & LAND SURVEYORS & PLANNERS

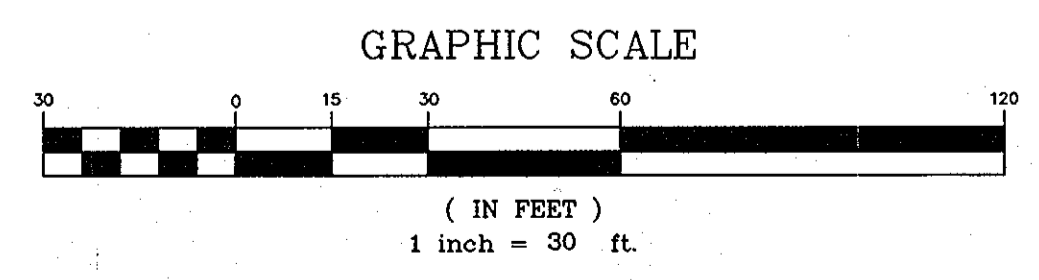
ENGINEERING, INC.

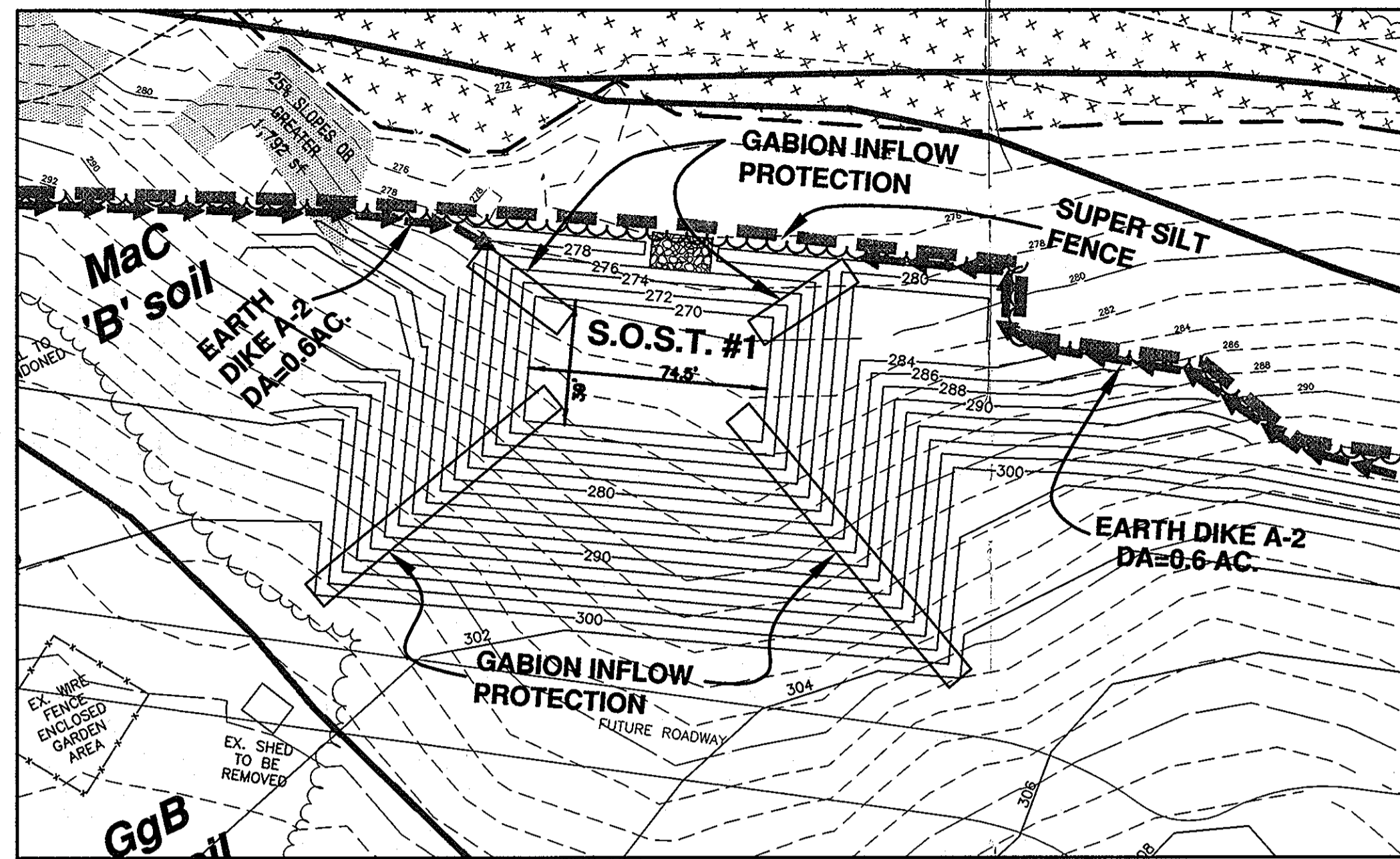
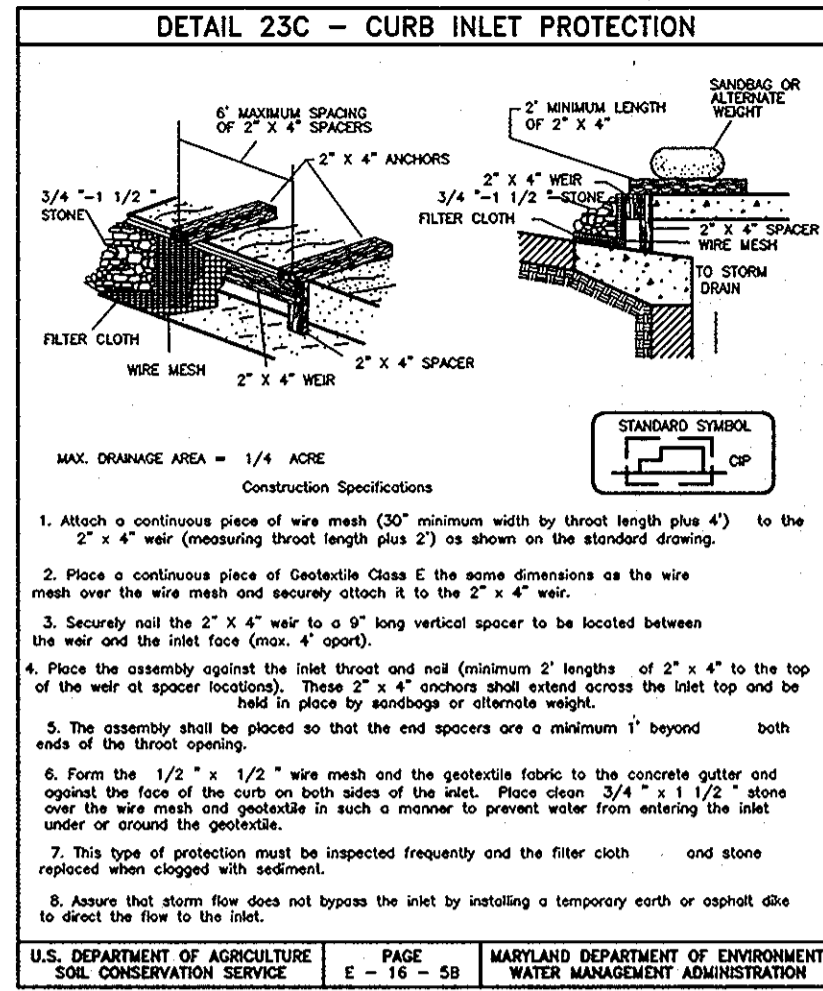
8480 BALTIMORE NATIONAL PIKE & SUITE 418 A ELLICOTT CITY, MARYLAND 21043
(P) 410-465-6105 (F) 410-465-6644
60 THOMAS JOHNSON DRIVE A FREDERICK, MARYLAND 21702
(P) 301-371-3505 (F) 301-371-3508
WWW.BED-CIVLENGINEERING.COM

Professional Certification: I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer in the State of Maryland, License No. 17-25-2013.

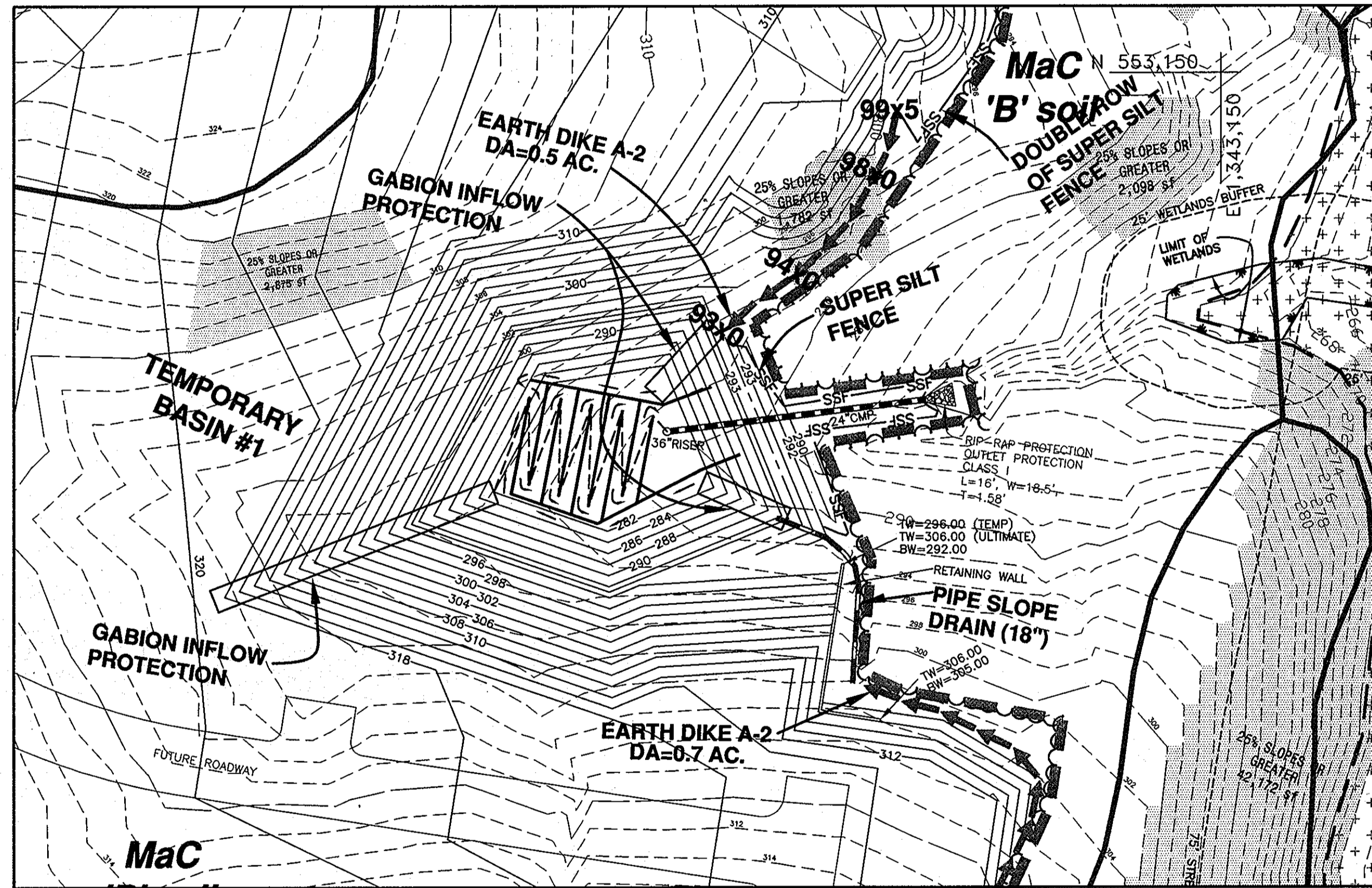
J. J. [Signature] 7/27/2012

OWNER: SIMPSON MILL LLC P.O. BOX 417 ELLICOTT CITY, MARYLAND 21041 410-465-4244	DEVELOPER: SIMPSON MILL LLC P.O. BOX 417 ELLICOTT CITY, MARYLAND 21041 410-465-4244	SIMPSON MILL PHASE 1 - LOTS 1 thru 18 & 139 thru 150 PHASE 2 - LOTS 19 thru 138 OPEN SPACE LOTS 151 & 152 AND PARCEL 'A'	TAX MAP: 35 GRID: 23 PARCEL: 116 ZONED: R-SA-8
DATE: AUGUST, 2012		BEI PROJECT NO: 2189	
DESIGN: DBT/JMC		DRAWN: DBT/JMC	
SCALE: AS SHOWN		SHEET 13 OF 29	





SEDIMENT TRAP #1
INSTALLED UNDER GP-12-005
SCALE: 1" = 40'



TEMPORARY BASIN #1
INSTALLED UNDER GP-12-005
SCALE: 1" = 40'

SEDIMENT CONTROL NOTES

- A MINIMUM OF 24 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTION, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION. (313-1850).
- ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND TO BE IN CONFORMANCE WITH THE MOST CURRENT MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL. REVISIONS THERETO.
- FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN A 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, Dikes, PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3:1. BY 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
- 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.
- 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 SEEDINGS (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.
- 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	29.32	ACRES
AREA DISTURBED	20.59	ACRES
AREA TO BE ROOFED OR PAVED	7.62	ACRES
AREA TO BE VEGETATIVELY STABILIZED	12.97	ACRES
TOTAL CUT	149,939	CY
TOTAL FILL	54,952	CY
OFFSITE WASTE AREA LOCATION	A SITE WITH AN ACTIVE GRADING PERMIT	
- 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 LIMITED APPROVAL BY THE INSPECTION AGENCY IS MADE.
- TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH CAN BE BACK FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.

TEMPORARY SEEDBED PREPARATIONS

APPLY TO GRADED OR CLEARED AREAS LIKELY TO BE REDISTURBED WHERE A SHORT-TERM VEGETATIVE COVER IS NEEDED.

SEEDBED PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY LOOSENED.

SOIL AMENDMENTS: APPLY 600 LBS PER ACRE 10-10-10 FERTILIZER (14 LBS/1000 SQ FT).

SEEDING: FOR PERIOD MARCH 1 THROUGH APRIL 30 AND FROM AUGUST 15 THROUGH NOVEMBER 15, SEED WITH 2-1/2 BUSHELS PER ACRE OF ANNUAL RYE (3.2 LBS/1000 SQ FT). FOR THE PERIOD MAY 1 THROUGH AUGUST 14, SEED WITH 3 LBS PER ACRE OF WEEPING LOVEGRASS (.07 LBS/1000 SQ FT). FOR THE PERIOD NOVEMBER 16 THROUGH FEBRUARY 28, PROTECT SITE BY APPLYING 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING, OR USE SOD.

MULCHING: APPLY 1-1/2 TO 2 TONS PER ACRE (70 TO 90 LBS/1000 SQ FT) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GALLONS PER ACRE (5 GAL/1000 SQ FT) OF EMULSIFIED ASPHALT ON FLAT AREAS, ON SLOPES 3 FEET OR HIGHER, USE 348 GALLONS PER ACRE (8 GAL/1000 SQ FT) FOR ANCHORING.

REFER TO THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR RATE AND METHODS NOT COVERED.

PERMANENT SEEDBED PREPARATIONS

SEEDBED PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY LOOSENED.

SOIL AMENDMENTS: IN LIEU OF SOIL TEST RECOMMENDATIONS, USE ON OF THE FOLLOWING SCHEDULES:

- PREFERRED - APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS/1000 SQ FT) AND 600 LBS PER ACRE 10-10-10 FERTILIZER (14 LBS/1000 SQ FT) BEFORE SEEDING. HARROW OR DISC INTO UPPER THREE INCHES OF SOIL. AT TIME OF SEEDING, APPLY 400 LBS PER ACRE 30-0-0-0 UREAFORM FERTILIZER (9 LBS/1000 SQ FT).
- ACCEPTABLE - APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS/1000 SQ FT) AND 1000 LBS PER ACRE 10-10-10 FERTILIZER (23 LBS/1000 SQ FT) BEFORE SEEDING. HARROW OR DISC INTO UPPER THREE INCHES OF SOIL.

SEEDING: FOR THE PERIODS MARCH 1 THROUGH APRIL 30 AND AUGUST 1 THROUGH OCTOBER 15, SEED WITH 60 LBS PER ACRE (1.4 LBS/1000 SQ FT) OF KENTUCKY 31 TALL FESCUE AND 2 LBS PER ACRE (.05 LBS/1000 SQ FT) OF WEEPING LOVEGRASS. DURING THE PERIOD OF OCTOBER 16 THROUGH FEBRUARY 28, PROTECT SITE BY: OPTION (1) 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING, OPTION (2) USE SOD, OPTION (3) SEED WITH 60 LBS PER ACRE OF KENTUCKY 31 TALL FESCUE AND MULCH WITH 2 TONS PER ACRE OF WELL ANCHORED STRAW.

MULCHING: APPLY 1-1/2 TO 2 TONS PER ACRE (70 TO 90 LBS/1000 SQ FT) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GALLONS PER ACRE (5 GAL/1000 SQ FT) OF EMULSIFIED ASPHALT ON FLAT AREAS, ON SLOPES 3 FEET OR HIGHER, USE 348 GALLONS PER ACRE (8 GAL/1000 SQ FT) FOR ANCHORING.

MAINTENANCE: INSPECT ALL SEEDED AREAS AND MAKE NEEDED REPAIRS, REPLACEMENTS AND RESEEDINGS.

TOPSOIL SPECIFICATIONS

- Topsoil salvaged from the existing site may be used provided that it meets the standards 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-SCS in cooperation with Maryland Agricultural Experiment Station.
- Topsoil Specifications - Soil to be used as topsoil must meet the following:
 - Topsoil shall be a loam, sandy loam, clay loam, silt loam, sandy clay loam, loamy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Regardless, topsoil shall be a mixture of contrasting texture subsoils and shall contain less than 5% by volume of stones, rocks, roots, twigs, sticks, rocks, trash, or other materials larger than 1-1/2" in diameter.
 - Topsoil must be free of plants or plant parts such as Bermuda grass, quack grass, john grass, nutgrass, poison ivy, kudzu, or others as specified on the plans.
 - Where the subsoil is either highly acidic or composed of heavy clays, ground limestone shall be spread at the rate of 4-8 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement of topsoil. Lime shall be distributed uniformly over designated areas and worked into the soil in conjunction with tillage operations as described in the following procedures.
- For sites having disturbed areas under 5 acres:
 - Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section 1 - Vegetative Stabilization Methods and Materials.
- For sites having disturbed areas over 5 acres:
 - On soil meeting Topsoil specifications, obtain test results dictating fertilizer and lime amendments required to bring the soil into compliance with the following:
 - pH for topsoil shall be between 6.0 and 7.5. If the tested soil demonstrates a pH of less than 6.0, sufficient lime shall be prescribed to raise the pH to 6.5 or higher.
 - Organic content or topsoil shall be not less than 1.5 percent by weight.
 - Topsoil having suitable soil content greater than 500 parts per million shall not be used.
 - No sod or seed shall 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 phytotoxic materials.
 - 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.
 - Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section 1 - Vegetative Stabilization Methods and Materials.
- Topsoil Application
 - When topsoiling, maintain needed erosion and sediment control practices such as diversive grass structure, earth dikes, slope silt fence and sediment traps and basins.
 - Grades on the areas to be topsoiled, which have been previously established, shall be maintained, elevated 4" - 6" higher in elevation.
 - Topsoil shall be uniformly distributed in a 4" - 6" layer and lightly compacted to a minimum thickness of 4". Spreading shall be performed in such a manner that sodding or seeding can proceed with a minimum of soil preparation and tillage. Any irregularities in the surface resulting from topsoiling or other operations shall be corrected in order to prevent the formation of depressions or water pockets.
 - Topsoil shall not be placed while 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.
- Alternative for Permanent Seeding - Instead of applying the full amounts of lime and commercial fertilizer, composted sludge and amendments may be applied as specified below:
 - Composted Sludge Material for use as a soil conditioner for sites having disturbed areas over 5 acres shall be tested to determine the following requirements:
 - Composted sludge shall be applied by, or originate from, a person or persons that are permitted (at the time of acquisition of the compost) by the Maryland Department of the Environment under COMAR 26.04.06.
 - Composted sludge shall contain at least 1 percent nitrogen, 1.5 percent phosphorus, and 0.2 percent potassium and have a pH of 7.0 to 8.0. If compost does not meet these requirements, the appropriate constituents must be added to meet the requirements prior to use.
 - Composted sludge shall be applied at a rate of 1 ton/1,000 square feet.
 - Composted sludge shall be amended with a potassium fertilizer applied at the rate of 1/2 lb/1,000 square feet, and 1/2 lb the normal rate application of the nitrogen.

SEQUENCE OF CONSTRUCTION

- NOTIFY SEDIMENT CONTROL DIVISION 48 HOURS PRIOR TO START OF WORK
- PHASE 1
- Obtain grading permit. (day 1)
 - Install stabilized construction entrance. Utilize sediment control features installed under GP-12-005. Remove and replace areas of SSF where indicated on the plans (i.e. along Cedar Lane ROW and the end of Saw Mill Court) (day 2-7)
 - Upon approval of the Howard County Sediment Control Inspector, bring road beds to subgrade and commence mass grading. Stabilize slopes in accordance with the TEMPORARY seedbed notes. Utilize dust control methods. (day 8-60)
 - Install storm drains and water and sewer mains. Do NOT install storm drain from E-3 to M-7 at this time. Install curb inlet protection on all inlets within the roadway and for Inlet 23. Wrap Inlet 24 and 43 with SSF. (day 61-100)
 - Install curb & gutter and base paving. (day 101-120)
 - Stabilize all areas in accordance with the temporary seedbed notes. (day 121-125)
 - Construct Micro-Bioretention facilities 1-2, 5-7, 9, 11-17, 24-26, and 31-37 complete with outfall pipes. (day 126-155)
 - Once all areas have been stabilized with the PERMANENT seedbed notes and upon approval from the Howard County Sediment Control Inspector, remove Sediment Trap #1 and the related earth dikes and replace with super silt fence. Install Micro-Bioretention facilities 3 and 4. (day 156-165)
 - Once all areas have been stabilized with the PERMANENT seedbed notes and upon approval from the Howard County Sediment Control Inspector, remove Temporary Basin #1 and the related earth dikes and pipe slope drain and replace with super silt fence. Install Micro-Bioretention facilities 18-23 and their outfall (i.e. storm drain from E-3 to M-7). Install remaining portion of the retaining wall not constructed under GP-12-005. (day 166-185)
 - Upon Approval of the Howard County Sediment Control Inspector, remove all remaining sediment control devices and stabilize any remaining areas in accordance with the PERMANENT seedbed notes. (day 186)
- PHASE 2 - (HOUSE CONSTRUCTION)*
- Install super silt fences around lot stick. (day 1)
 - Excavate for foundation, rough grade and stabilize in accordance with the temporary seedbed notes. (day 2-5)
 - Construct houses, backfill and construct driveways. (day 6-90)
 - Final grade lot stick and stabilize in accordance with the PERMANENT seedbed notes. (day 91-95)
 - Upon approval from the Howard County Sediment Control Inspector, remove sediment control devices and stabilize any remaining disturbed areas. (day 96-100)
- *House construction shall be performed for an entire stick at one time.

30.0 DUST CONTROL

Definition
Controlling dust blowing and movement on construction sites and roads.

Purpose
To prevent blowing and movement of dust from exposed soil surfaces, reduce on and off-site damage, health hazards, and improve traffic safety.

Conditions Where Practice Applies
This practice is applicable to areas subject to dust blowing and movement where on and off-site damage is likely without treatment.

Specifications

Temporary Methods

- Mulches - See standards for vegetative stabilization with mulches only. Mulch should be compacted or tamped to prevent blowing.
- Vegetative Cover - See standards for temporary vegetative cover.
- Tarping - To roughen surface and bring clods to the surface. This is an emergency measure which should be used before soil blowing starts. Begin placing on windward side of site. Cheat-type plows spaced about 12' apart, spring-toothed harrows, and similar plows are examples of equipment which may produce the desired effect.
- Irrigation - This is generally done as an emergency treatment. Site is irrigated with water until the surface is moist. Repeat as needed. At no time should the site be irrigated to the point that runoff begins to flow.
- Barriers - Solid board fences, silt fences, snow fences, straw bales, straw holes, and similar material can be used to control off currents and soil blowing. Barriers placed at right angles to prevailing currents at intervals of about 10 times their height are effective in controlling soil blowing.
- Calcium Chloride - Apply at rates that will keep surface moist. May need retreatment.

Permanent Methods

- Permanent Vegetation - See standards for permanent vegetative cover, and permanent stabilization with sod. Existing trees or large shrubs may afford valuable protection if left in place.
- Topsoiling - Covering with less erosive soil materials. See standards for topsoiling.
- Stone - Cover surface with crushed stone or coarse gravel.

References

- Agriculture Handbook 346. Wind Erosion Forces in the United States and Their Use in Predicting Soil Loss.
- Agriculture Information Bulletin 354. How to Control Wind Erosion, USDA-ARS.

ENGINEER'S CERTIFICATE

I, CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

ENGINEER: *[Signature]* DATE: 7/27/2012

DEVELOPER'S CERTIFICATE

I, WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.

DEVELOPER: *[Signatures]* DATE: 7/27/12

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

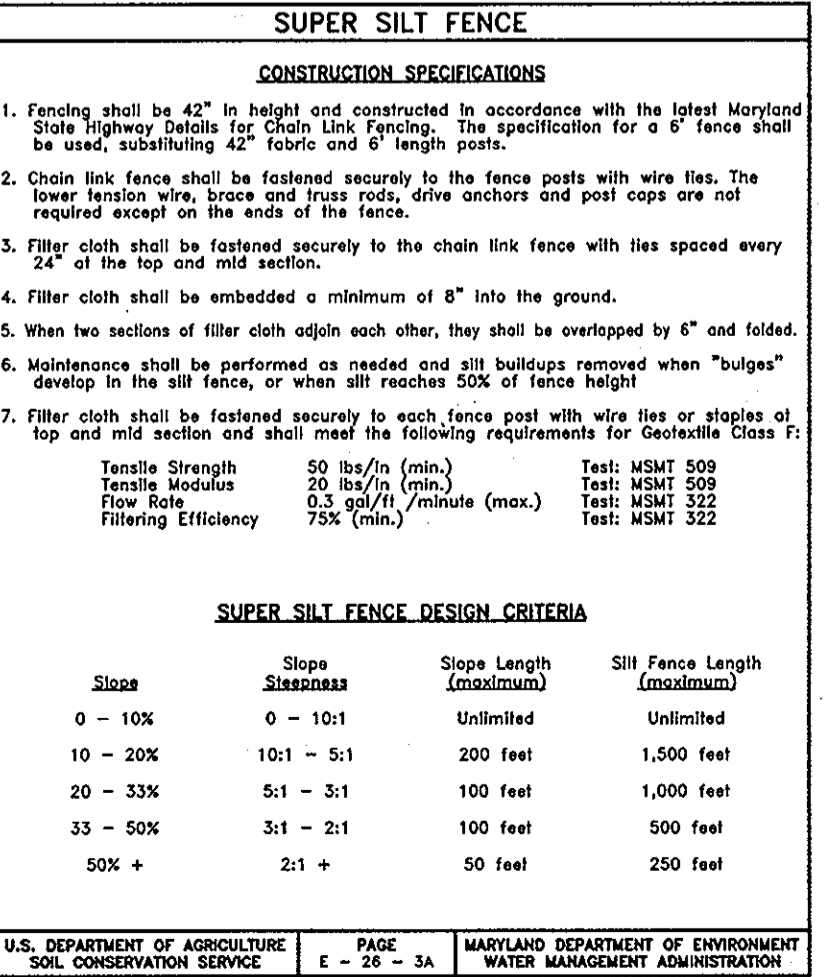
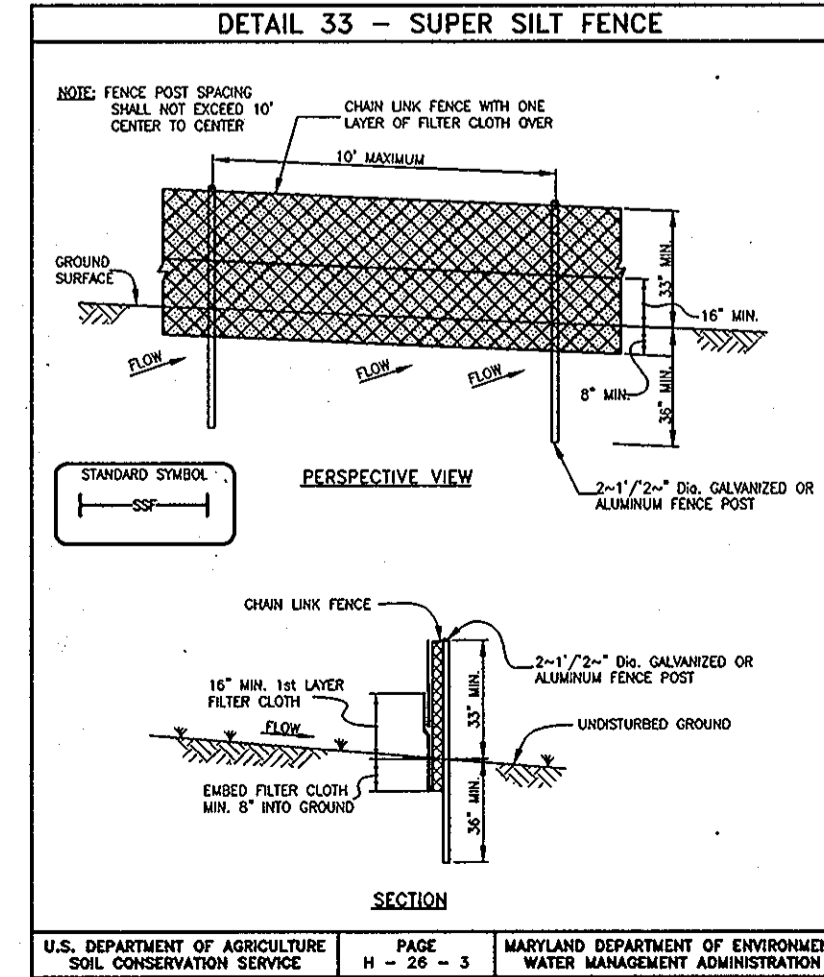
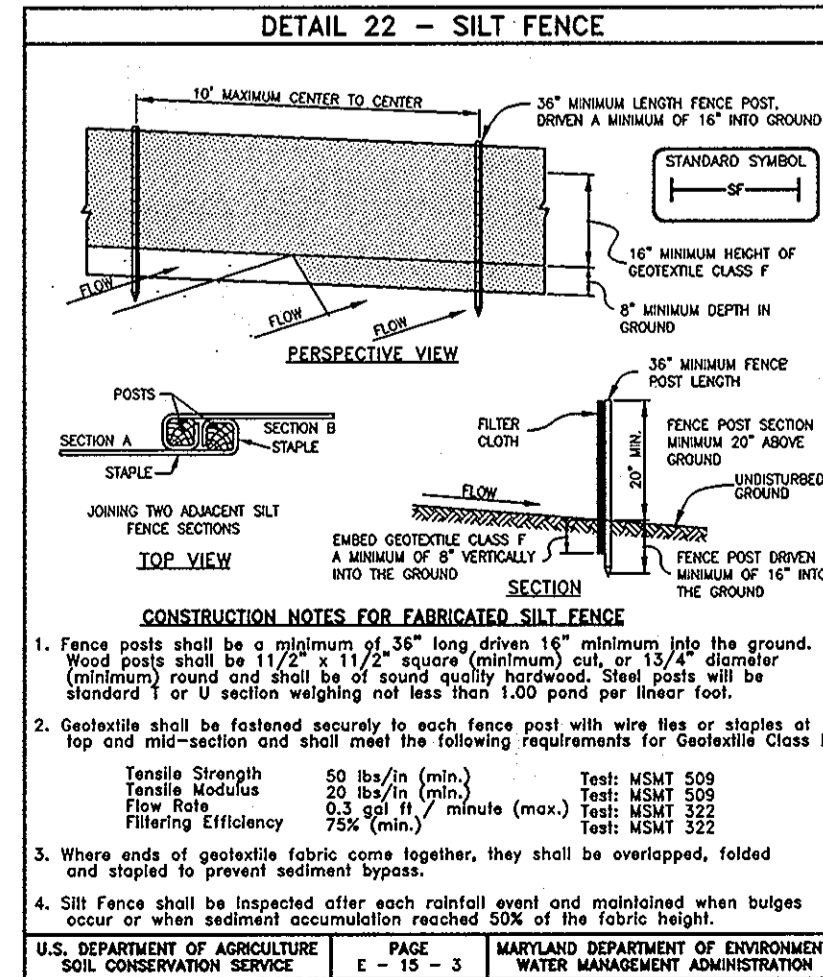
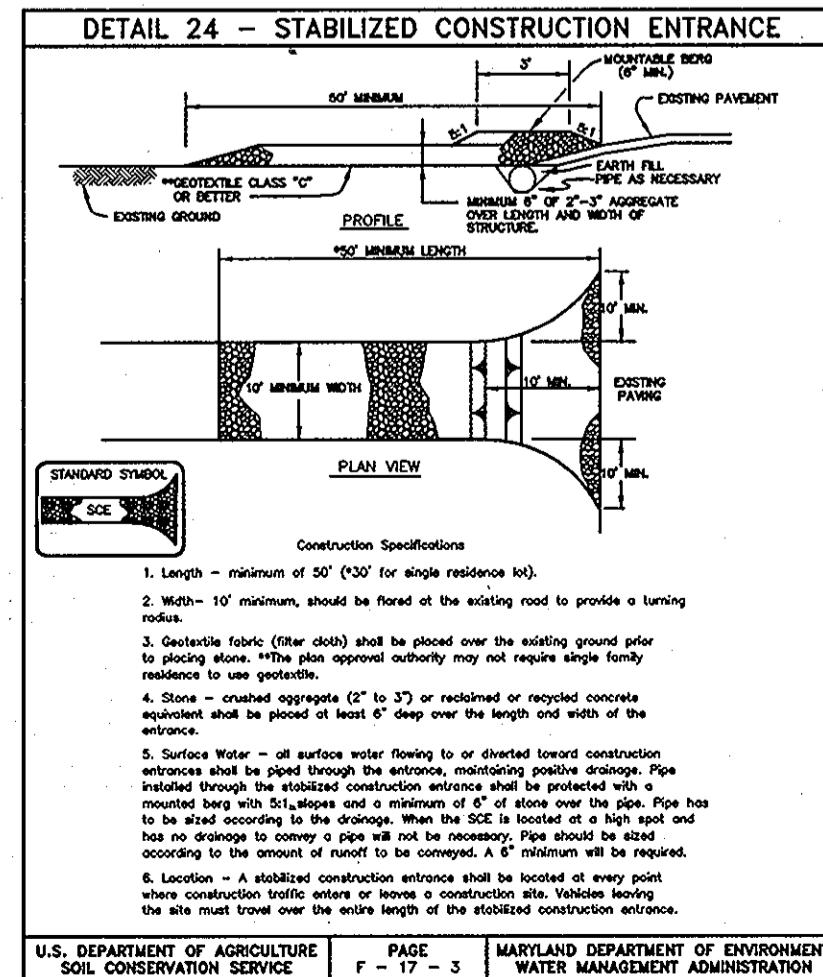
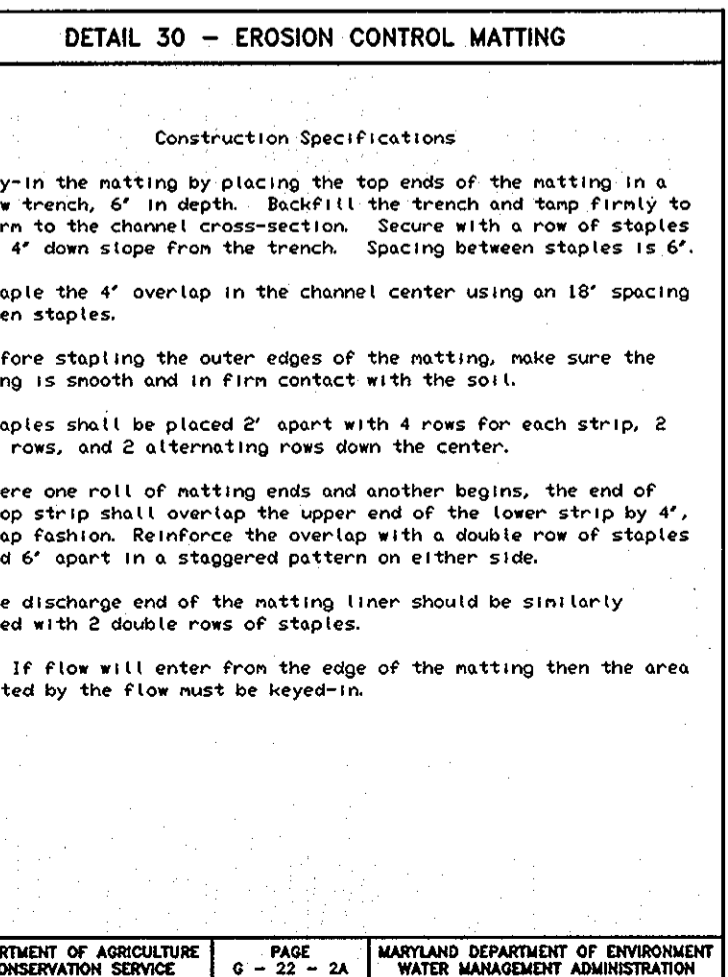
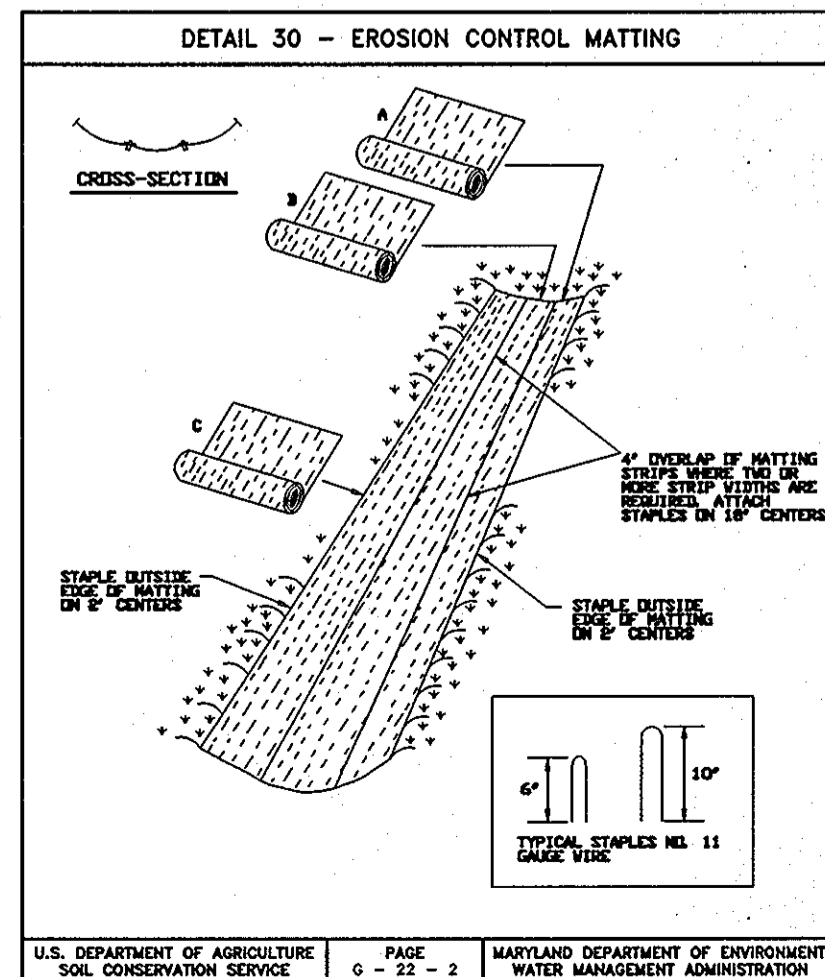
HOWARD SOIL CONSERVATION DISTRICT

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHEF, DEVELOPMENT ENGINEERING DIVISION DATE: 10/5/12

CHEF, DIVISION OF LAND DEVELOPMENT DATE: 10/10/12

DIRECTOR DATE: 10/10/12



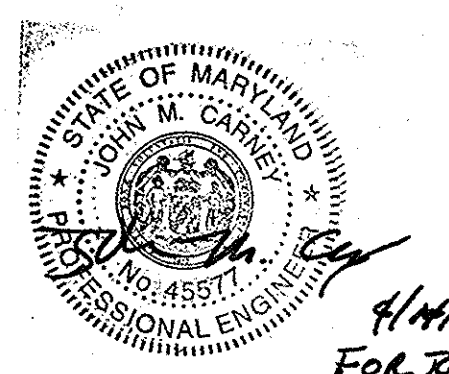
AREA AND "C" FACTOR TABULATION

PHASE	INLET #	ZONING (Z)	SUBAREA (B)	AREA (Ac) (A)	"C" FACTOR (C)<25	% IMPERVIOUS (P)>25
I-1	R-SA-8			0.28	0.48	76.3
I-2	R-SA-8			0.33	0.45	74.5
I-3	R-SA-8			0.25	0.41	72.0
I-4	R-SA-8			0.29	0.47	75.9
I-5	R-SA-8			0.19	0.45	74.2
I-6	R-SA-8			0.19	0.45	74.2
I-7	R-SA-8			0.22	0.55	80.9
I-8	R-SA-8			0.27	0.53	79.3
I-9	R-SA-8			0.11	0.45	74.5
I-10	R-SA-8			0.21	0.43	73.3
I-11	R-SA-8			0.02	0.86	100.0
I-12	R-SA-8			0.28	0.46	75.0
I-13	R-SA-8			0.28	0.52	78.8
I-14	R-SA-8			0.34	0.50	77.4
I-15	R-SA-8			0.31	0.46	75.2
I-16	R-SA-8			0.27	0.40	71.5
I-17	R-SA-8			0.09	0.86	100.0
I-18	R-SA-8			0.32	0.39	70.5
I-19	R-SA-8			0.26	0.46	75.0
I-20	R-SA-8			0.26	0.43	73.1
I-21	R-SA-8			0.25	0.46	74.8
I-22	R-SA-8			0.25	0.48	76.2
I-23	R-SA-8			0.22	0.16	0.0
I-24	R-SA-8			0.52	0.16	0.0
I-25	R-SA-8			0.24	0.42	72.3
I-26	R-SA-8			0.15	0.45	74.3
I-27	R-SA-8			0.25	0.43	73.4
I-28	R-SA-8			0.04	0.66	100.0
I-29	R-SA-8			0.19	0.54	79.7
I-30	R-SA-8			0.17	0.60	83.5
I-31	R-SA-8			0.22	0.53	79.3
I-32	R-SA-8			0.45	0.30	65.0
I-33	R-SA-8			0.30	0.52	79.0
I-34	R-SA-8			0.45	0.30	65.0
I-35	R-SA-8			0.30	0.39	70.8
I-36	R-SA-8			0.14	0.30	65.0
I-37	R-SA-8			0.69	0.30	65.0
I-38	R-SA-8			0.46	0.36	68.8
I-39	R-SA-8			0.38	0.32	70.1
I-40	R-SA-8			0.45	0.30	65.0
I-41	R-SA-8			0.29	0.40	71.0
I-42	R-SA-8			0.22	0.40	71.4
I-43	R-SA-8			3.43	0.72	85.0
I-44	R-SA-8			0.11	0.66	100.0
I-45	R-SA-8			0.20	0.86	100.0
I-46	R-SA-8			0.16	0.69	89.1
I-47	R-SA-8			0.43	0.56	81.3
E-10	R-SA-8			0.75	0.16	0.0
I-48	R-SA-8			0.11	0.43	45.0



MATCH LINE SEE SHEET 16

MATCH LINE SEE SHEET 16



Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.
 License No. 15577, Expiration Date: 06/28/16



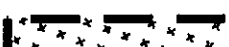




APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 [Signature] 10/5/12 DATE
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 [Signature] 10/10/12 DATE
 CHIEF, DIVISION OF LAND DEVELOPMENT
 [Signature] 10/10/12 DATE
 DIRECTOR

Symbol	Soils Group	Map Unit Name
Co	C	Codorus and Hatboro silt loams, 0 to 3 percent slopes
GgB	B	Glenelig loam, 3 to 8 percent slopes
GoB	C	Glenville-Codorus silt loams, 0 to 8 percent slopes
MaC	B	Manor loam, 8 to 15 percent slopes
MkF	B	Manor-Brinklow complex, 25 to 65 percent slopes, very rocky

- LEGEND**
- [Solid Line] PROPOSED ROAD
 - [Dotted Pattern] FOREST CONSERVATION EASEMENT
 - [Dashed Line] 100YR FLOODPLAIN
 - [Dotted Pattern] SOILS DIVISION LINE
 - [Diagonal Lines] SOILS TYPE
 - [Dashed Line] DRAINAGE DIVIDE
 - [Circle with Number] DRAINAGE AREA DESIGNATION

4-14-15 RELOCATE 8" MACADAM PATHWAY, REVISE DRAIN TO 2BLP 18" RCP CLASS IV	
NO.	REVISION
BENCHMARK ENGINEERS & LAND SURVEYORS & PLANNERS ENGINEERING, INC. 6480 BALTIMORE NATIONAL PIKE SUITE 418 A ELLICOTT CITY, MARYLAND 21043 (P) 410-465-6105 (F) 410-465-6644 60 THOMAS JOHNSON DRIVE A FREDERICK, MARYLAND 21702 (P) 301-371-3508 (F) 301-371-3506 WWW.BE-CVLENGINEERING.COM	
OWNER:	SIMPSON MILL, LLC P.O. BOX 417 ELLICOTT CITY, MARYLAND 21041 410-465-4244
DEVELOPER:	SIMPSON MILL, LLC P.O. BOX 417 ELLICOTT CITY, MARYLAND 21041 410-465-4244
SIMPSON MILL PHASE 1 - LOTS 1 thru 18 & 139 thru 150 PHASE 2 - LOTS 19 thru 138 OPEN SPACE LOTS 151 & 152 AND PARCEL 'A' TAX MAP: 35 GRID: 23 PARCEL: 116 ZONED: R-SA-8 TAX MAP: 35 GRID: 23 PARCEL: 258, 476 ZONED: POR ELECTION DISTRICT NO. 5 HOWARD COUNTY, MARYLAND	
STORM DRAIN DRAINAGE AREA MAP	
DATE:	AUGUST, 2012
DESIGN:	DBT/JMC
DRAWN:	DBT/JMC
SCALE:	1" = 50'
BEI PROJECT NO:	2189
SHEET	15 OF 29

LEGEND

-  PROPOSED ROAD
-  FOREST CONSERVATION EASEMENT
-  100YR FLOODPLAIN
-  SOILS DIVISION LINE
-  SOILS TYPE
-  DRAINAGE DIVIDE
-  DRAINAGE AREA DESIGNATION

MATCH LINE SEE SHEET 15

MATCH LINE SEE SHEET 15

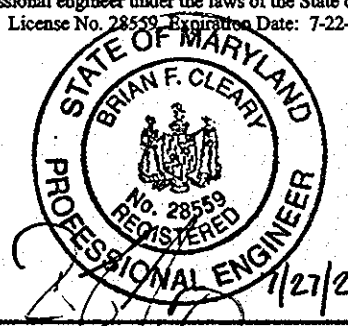


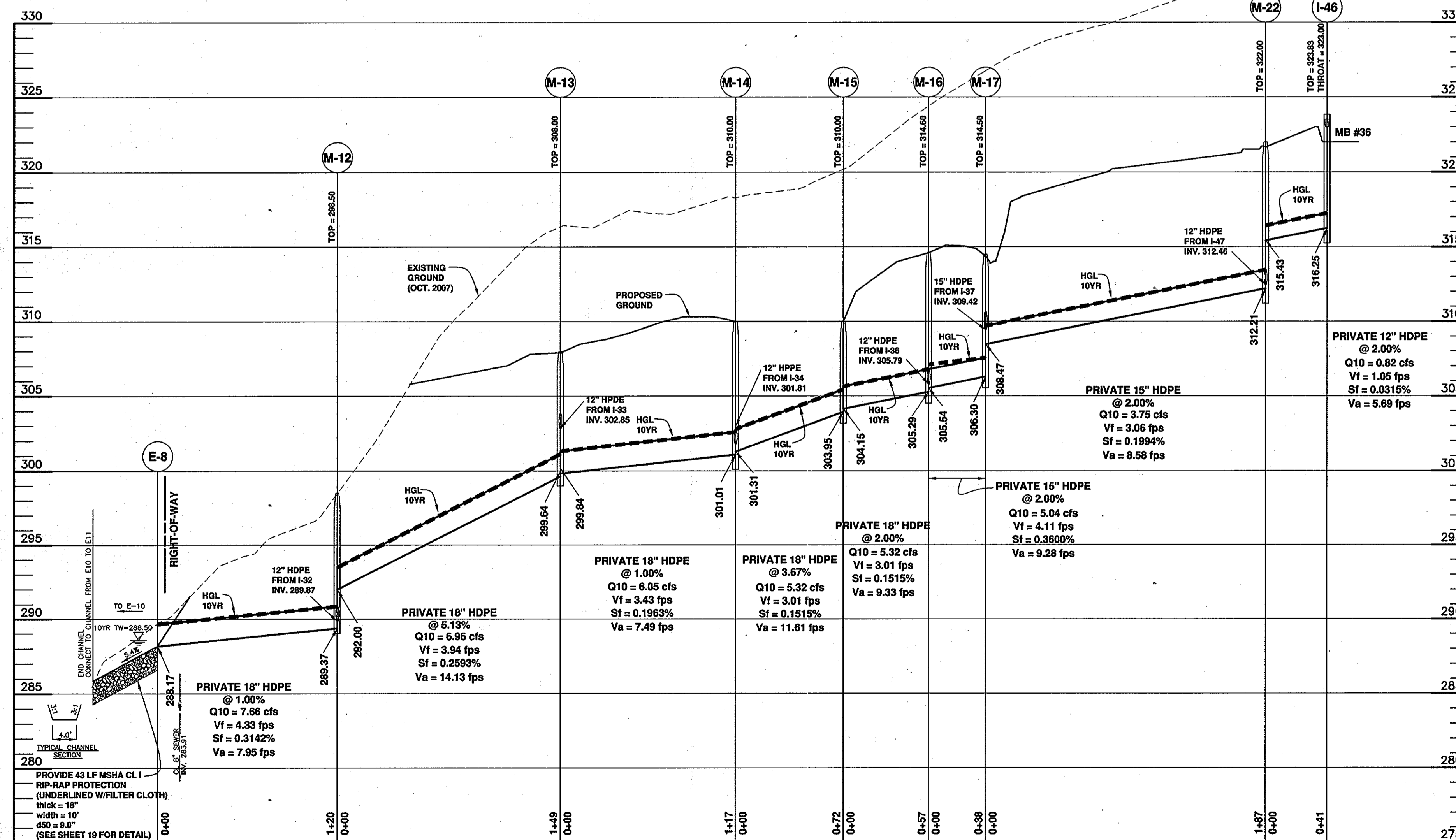
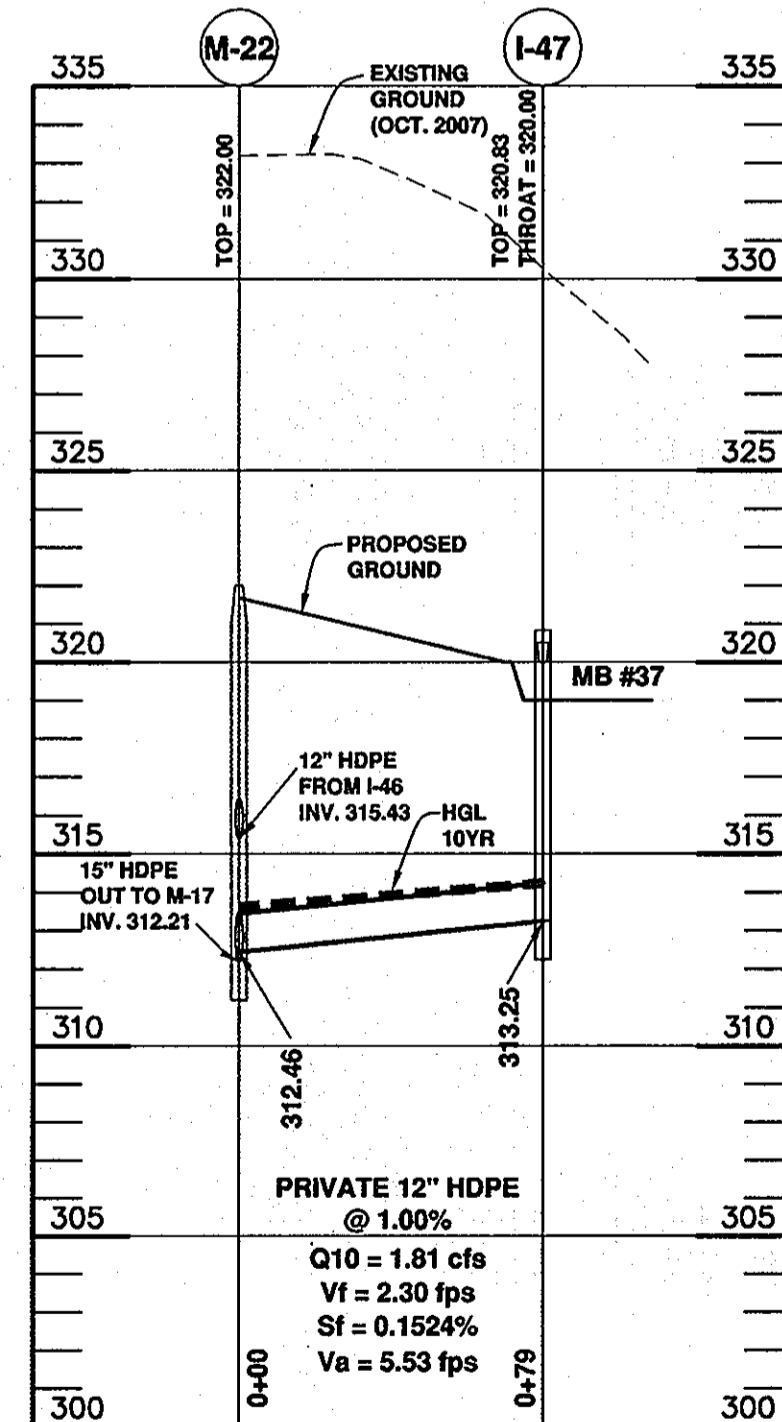
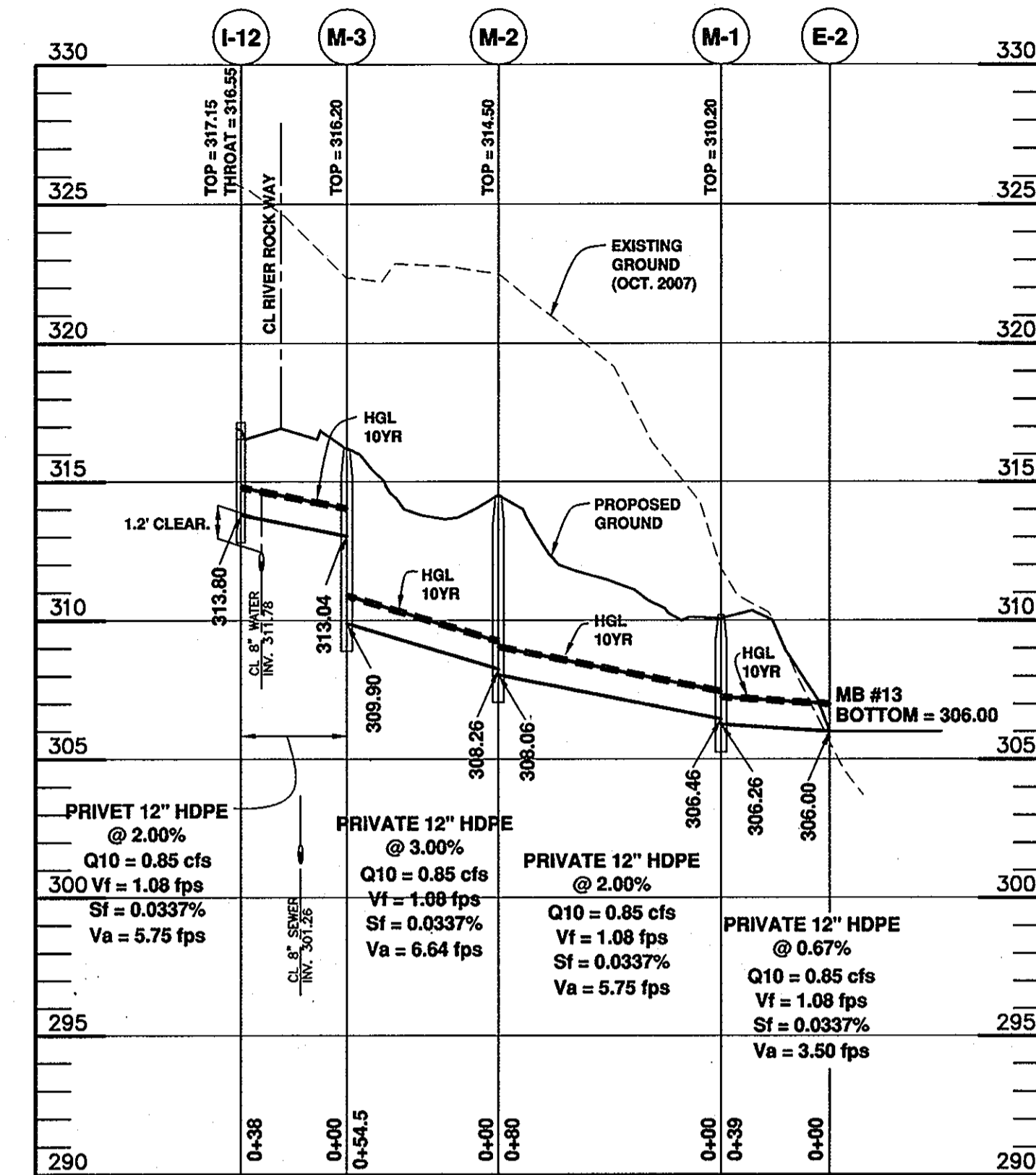
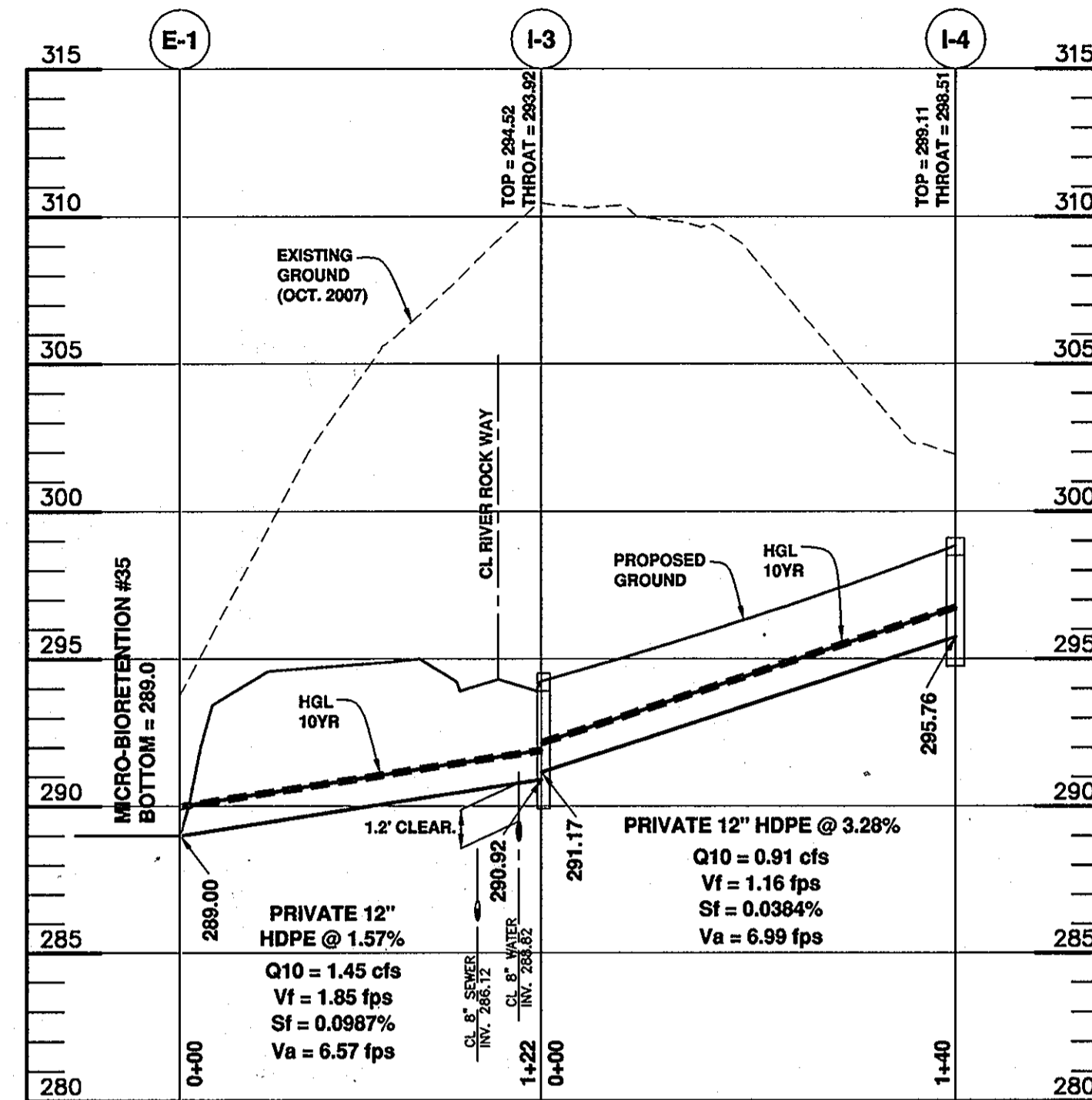
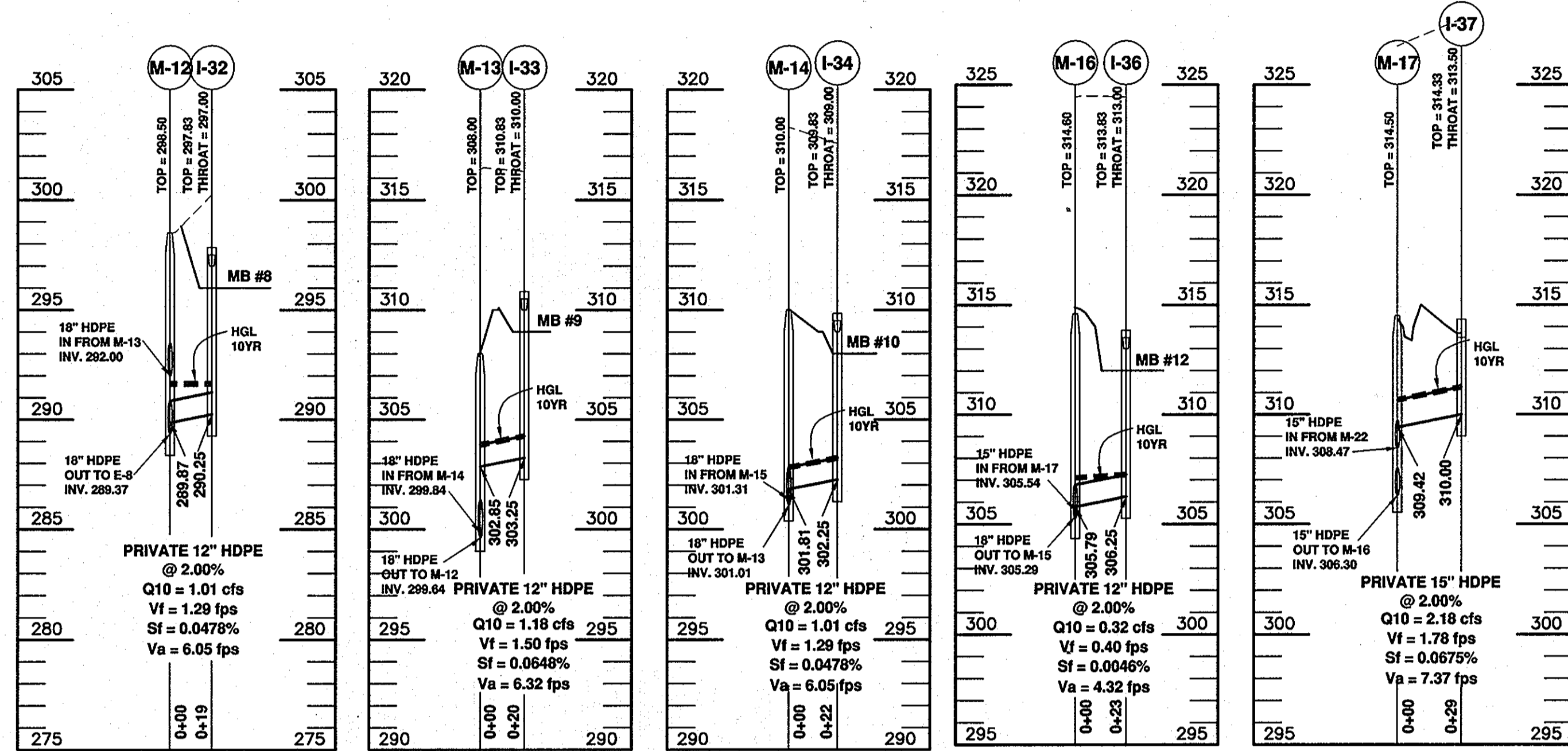
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

[Signature] 10/5/12
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

[Signature] 10/10/12
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

[Signature] 11/10/12
 DIRECTOR DATE

NO.		DATE		REVISION	
BENCHMARK ENGINEERING, INC. 8480 BALTIMORE NATIONAL PIKE SUITE 418 BELLCOTT CITY, MARYLAND 21043 (P) 410-465-6105 (F) 410-465-6644 60 THOMAS JOHNSON DRIVE A FREDERICK, MARYLAND 21702 (P) 301-371-3508 (F) 301-371-3508 WWW.BEI-ENGINEERING.COM					
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. 36939, Expiration Date: 7-22-2013.					
					
OWNER:			SIMPSON MILE PHASE 1 - LOTS 1 thru 18 & 139 thru 150 PHASE 2 - LOTS 19 thru 138 OPEN SPACE LOTS 151 & 152 AND PARCEL 'A'		
DEVELOPER:			SIMPSON MILE, LLC P.O. BOX 417 ELLICOTT CITY, MARYLAND 21041 410-465-4244		
DESIGN: DBT/JMC			DRAWN: DBT/JMC		
DATE: AUGUST, 2012		BEI PROJECT NO: 2189			
SCALE: 1" = 50'		SHEET 16 OF 29			



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 DATE: 10/5/12

DATE: 10/10/12
 CHIEF, DIVISION OF LAND DEVELOPMENT

DATE: 10/10/12
 DIRECTOR

NO.	DATE	REVISION

BENCHMARK ENGINEERING, INC.
 ENGINEERS & LAND SURVEYORS & PLANNERS
 6480 BALTIMORE NATIONAL PIKE SUITE 418 ELLICOTT CITY, MARYLAND 21043
 (P) 410-465-6105 (F) 410-465-6644
 60 THOMAS JOHNSON DRIVE A FREDERICK, MARYLAND 21702
 (P) 301-371-3506 (F) 301-371-3506
 WWW.BEE-ENGINEERING.COM

STATE OF MARYLAND
 PROFESSIONAL ENGINEER
 12/1/2012

OWNER: SIMPSON MILL, LLC
 P.O. BOX 417
 ELLICOTT CITY, MARYLAND 21041
 410-465-4244

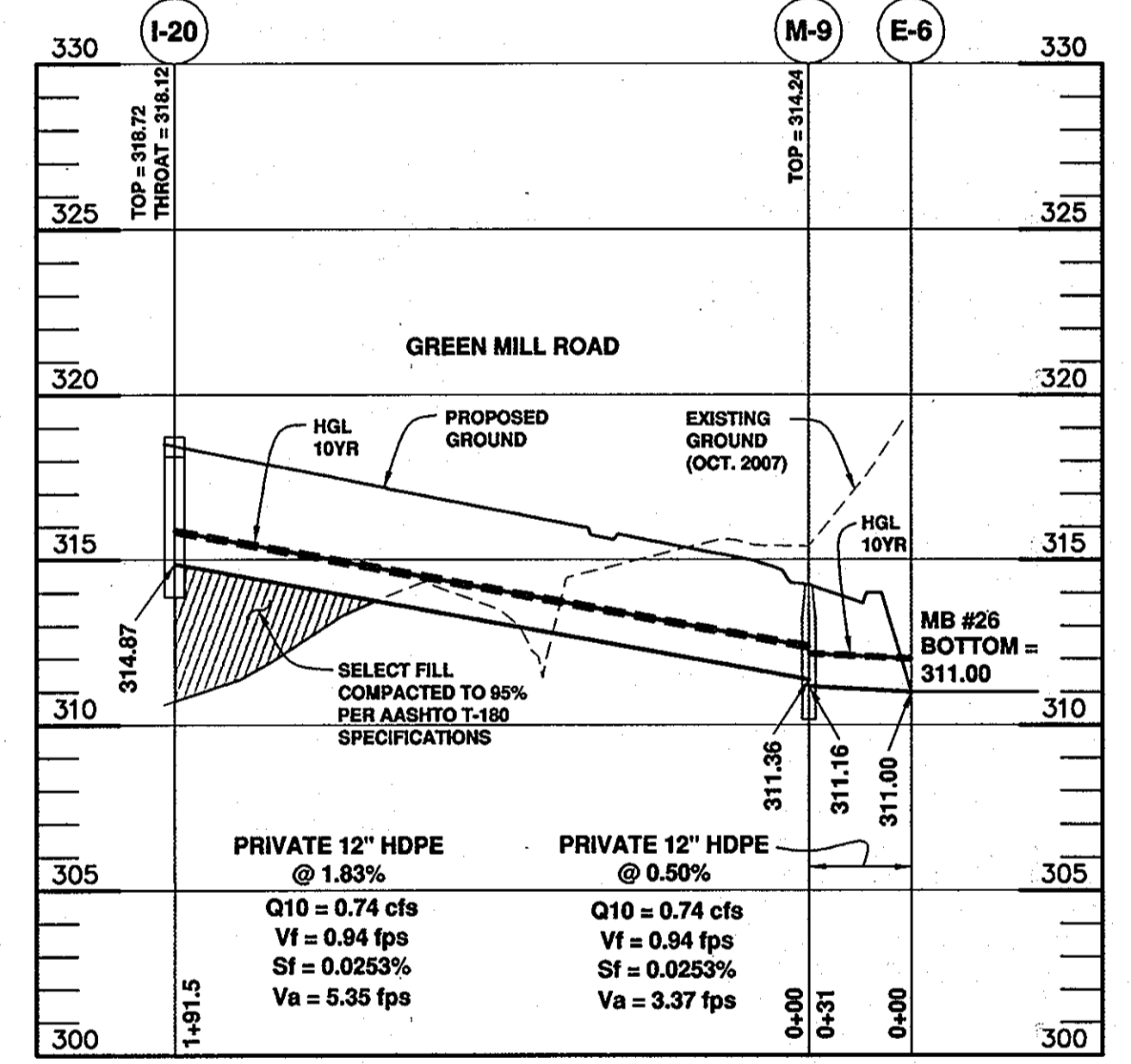
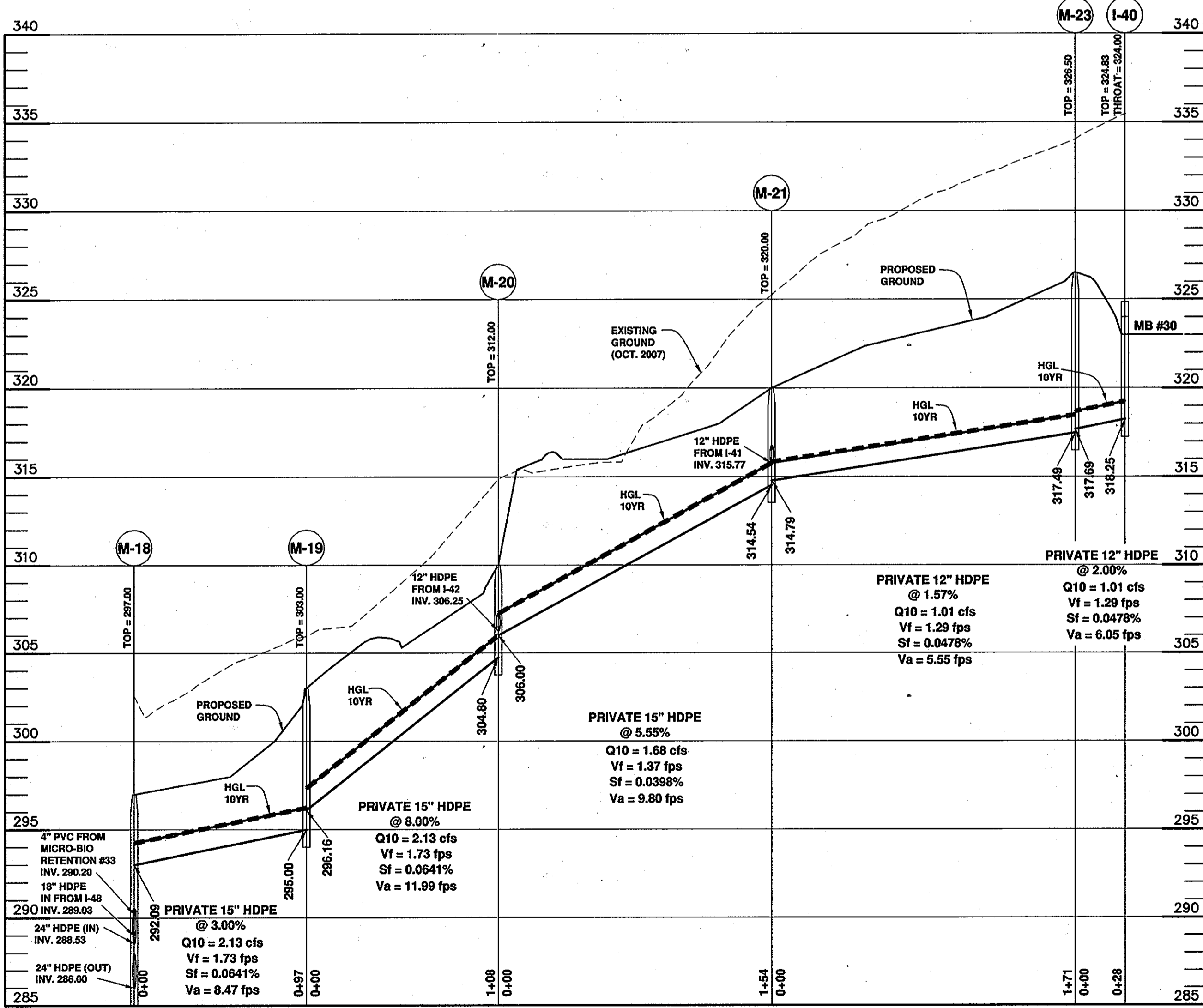
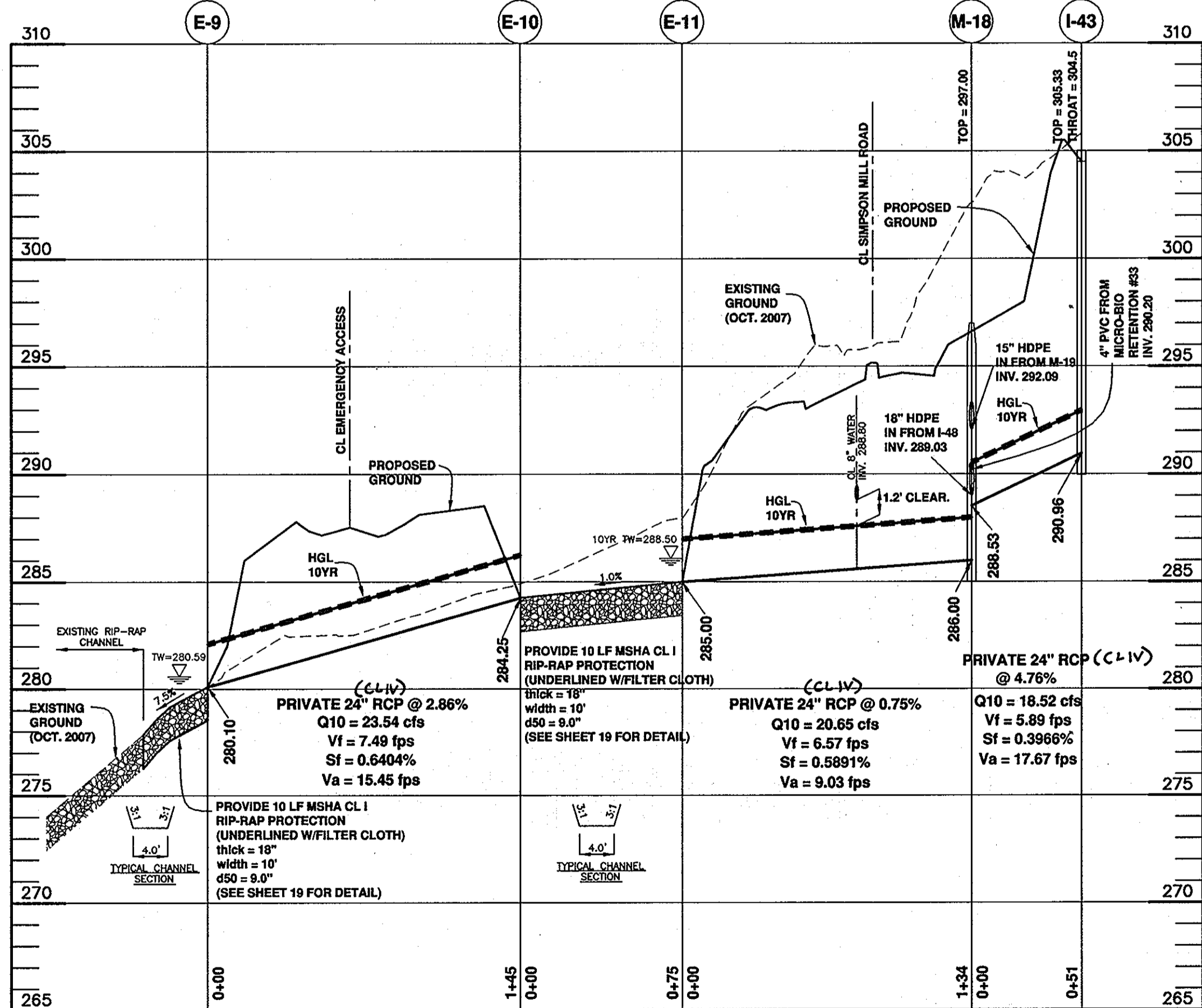
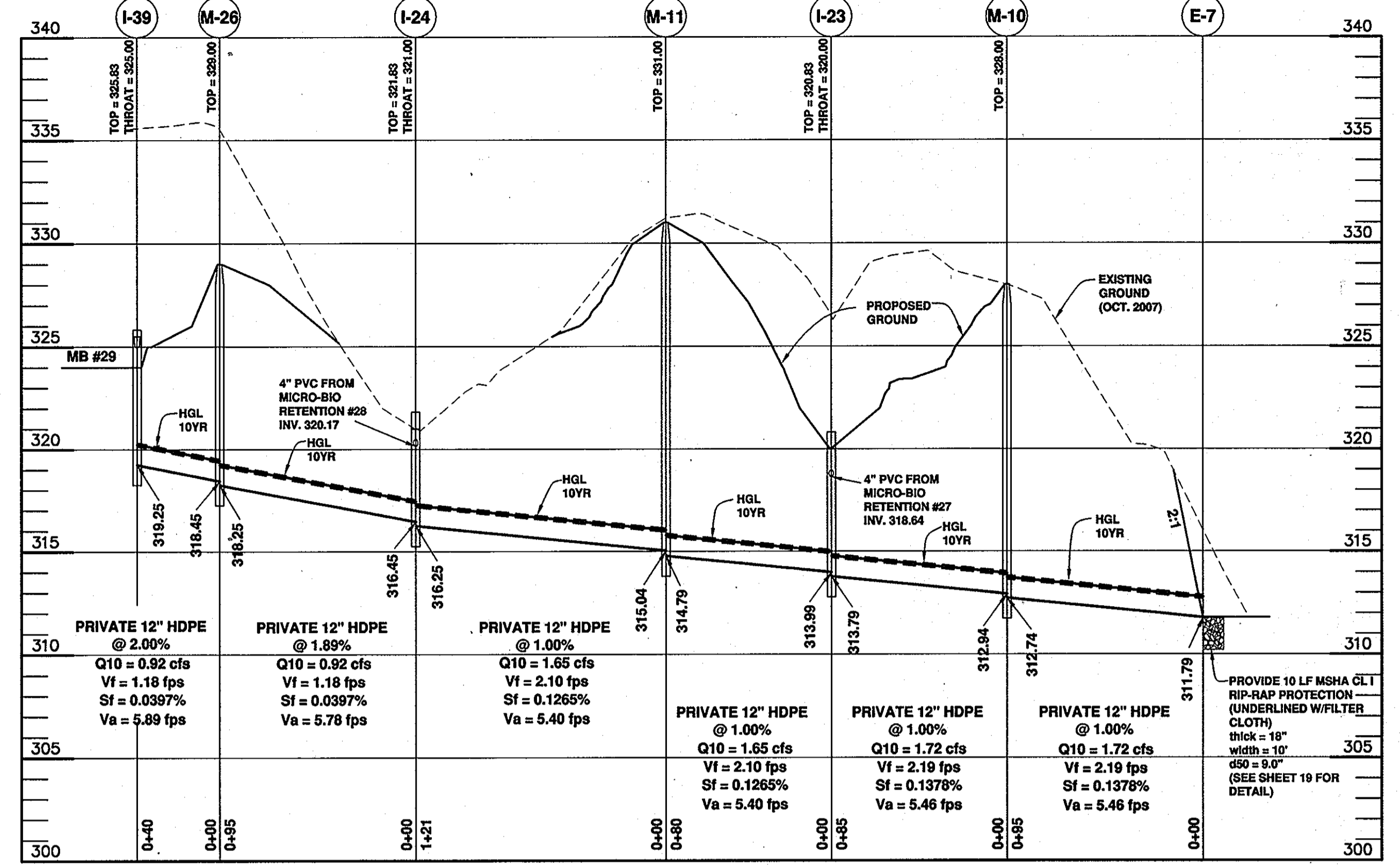
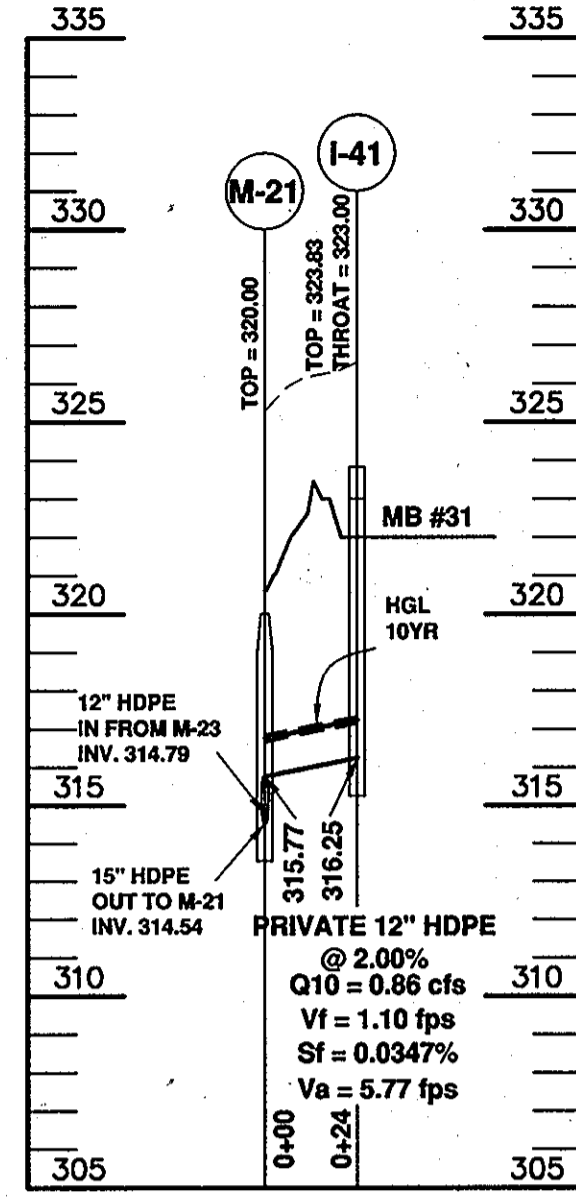
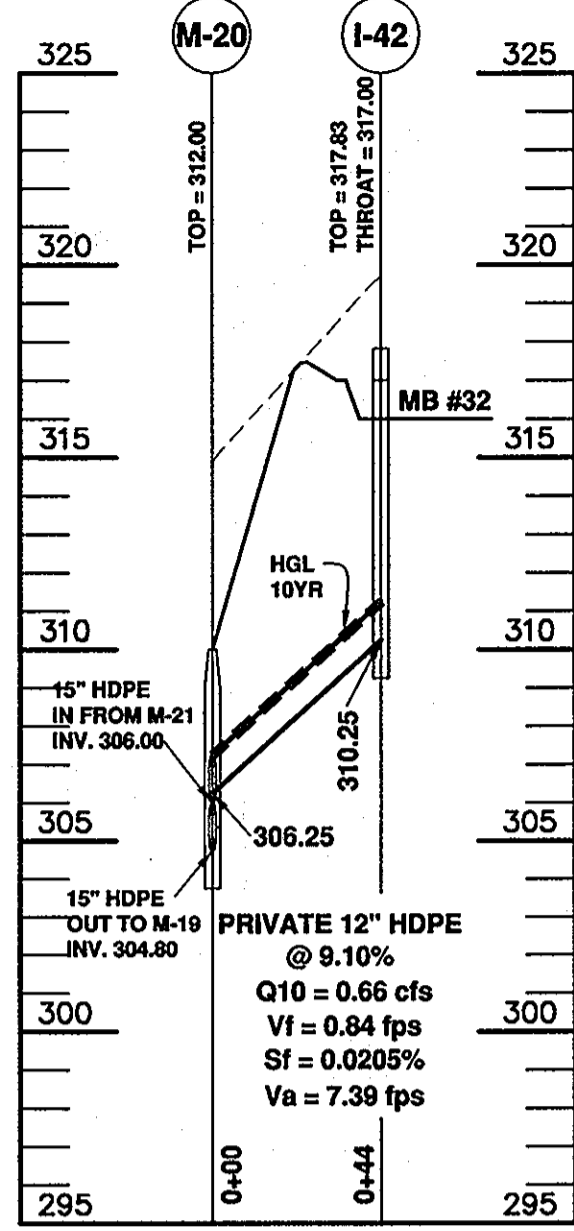
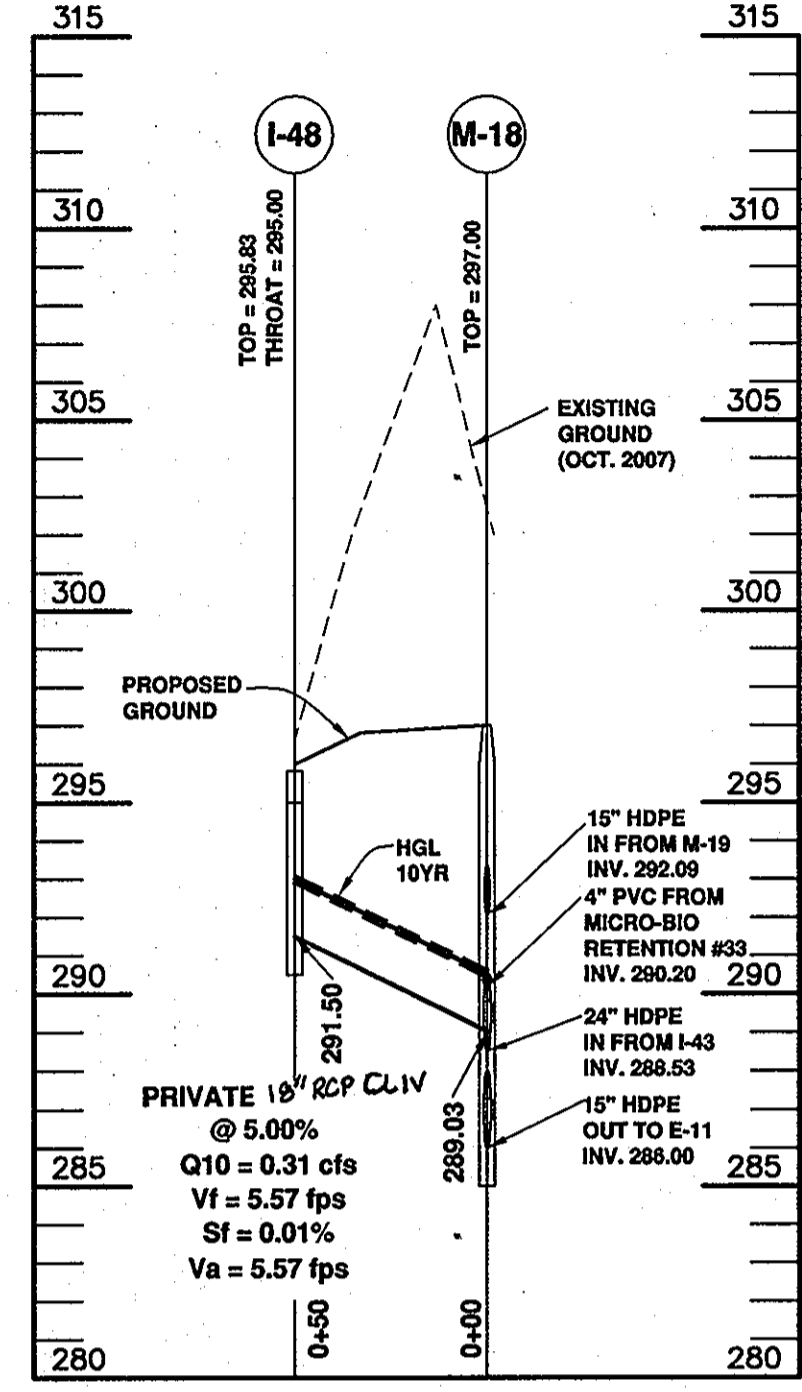
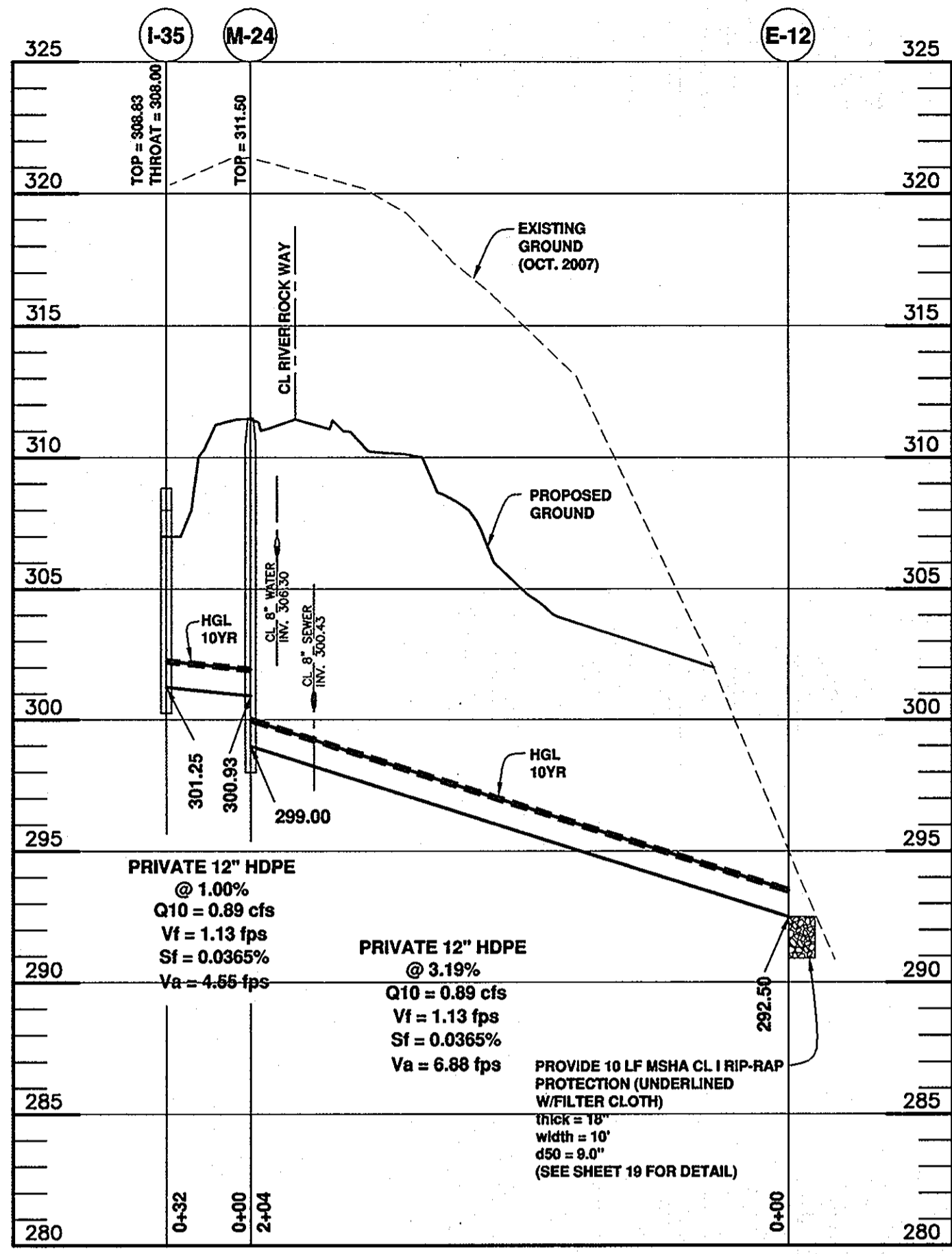
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 410-465-4244

SIMPSON MILL
 PHASE 1 - LOTS 1 thru 18 & 139 thru 150
 PHASE 2 - LOTS 19 thru 138
 OPEN SPACE LOTS 151 & 152 AND PARCEL 'A'

TAX MAP: 35 GRID: 23 PARCEL: 116 ZONED: R-SA-8
 TAX MAP: 35 GRID: 23 PARCEL: 258, 476 ZONED: POR
 ELECTION DISTRICT NO. 5
 HOWARD COUNTY, MARYLAND

STORM DRAIN PROFILES

DATE: AUGUST, 2012 BEI PROJECT NO: 2189
 SCALE: AS SHOWN SHEET 17 OF 29



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

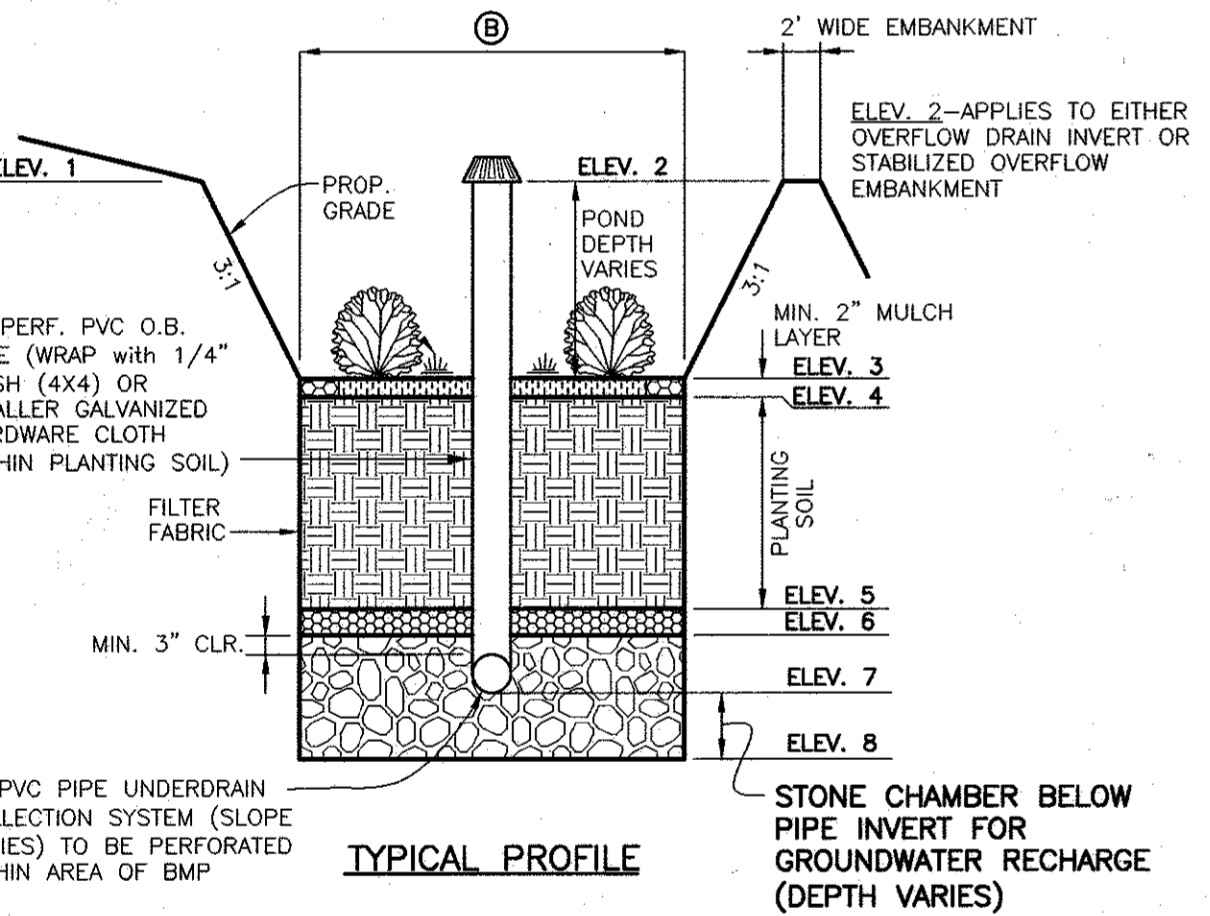
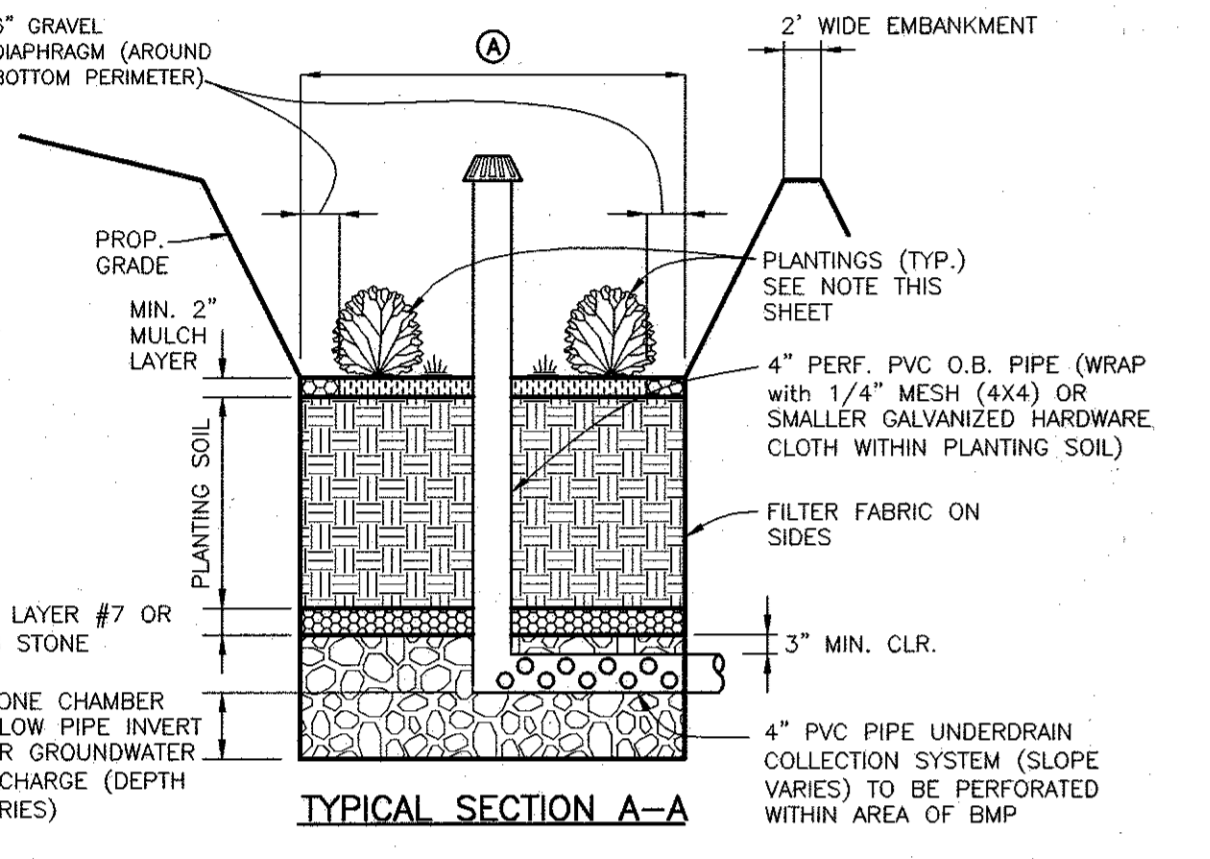
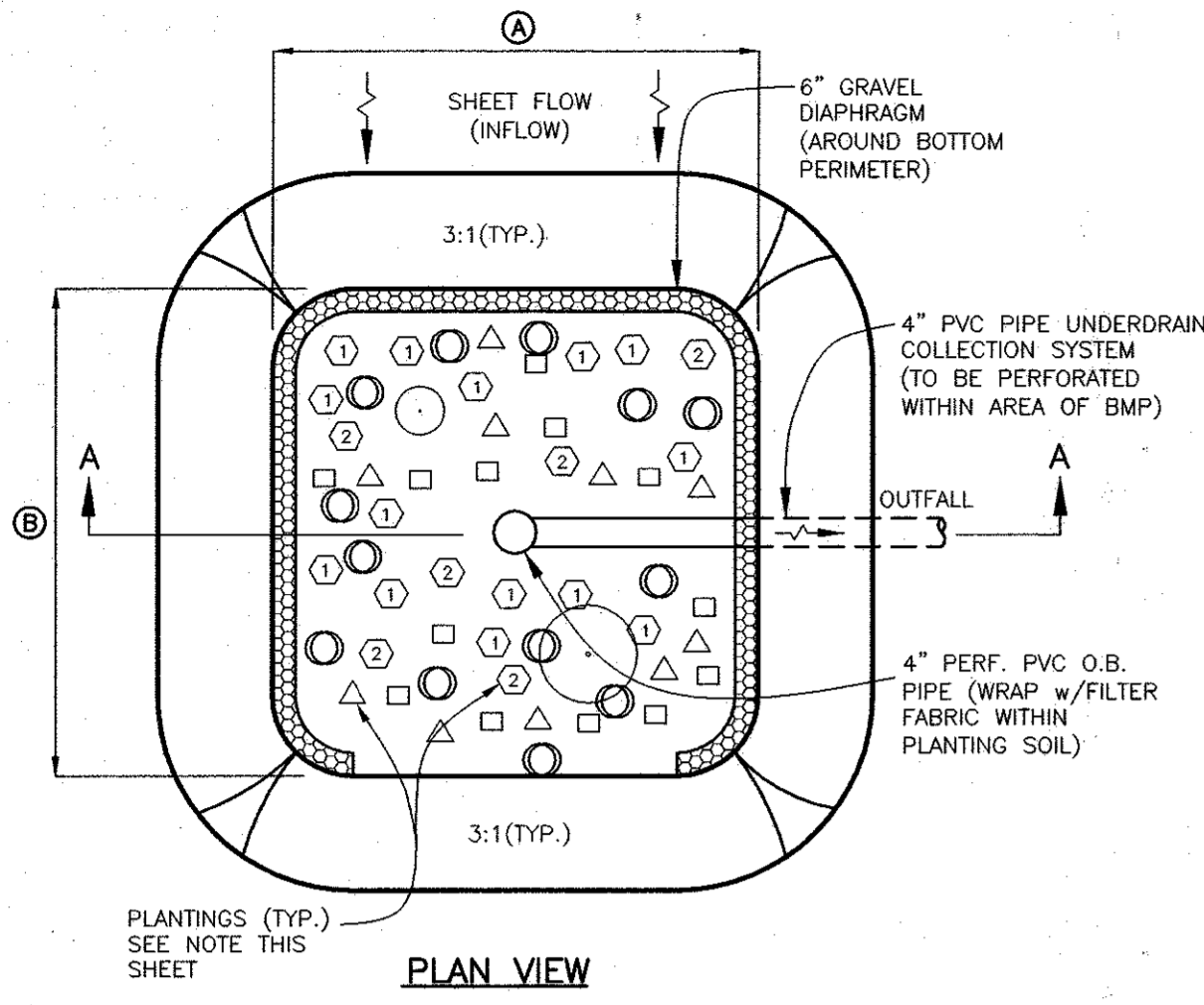
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 DATE

10/10/12
 DATE

10/6/12
 DATE

NO. DATE REVISION		
BENCHMARK ENGINEERS & LAND SURVEYORS & PLANNERS ENGINEERING, INC. 8400 BALTIMORE NATIONAL PIKE & SUITE 418 ELLICOTT CITY, MARYLAND 21043 (P) 410-465-6105 (F) 410-465-6644 60 THOMAS JOHNSON DRIVE & FREDERICK, MARYLAND 21702 (P) 301-371-3505 (F) 301-371-3506 WWW.BEJ-CVLENGINEERING.COM		
OWNER: SIMPSON MILL, LLC P.O. BOX 417 ELLICOTT CITY, MARYLAND 21041 410-465-4244		
DEVELOPER: SIMPSON MILL, LLC P.O. BOX 417 ELLICOTT CITY, MARYLAND 21041 410-465-4244		
SIMPSON MILL PHASE 1 - LOTS 1 thru 18 & 139 thru 150 PHASE 2 - LOTS 19 thru 138 OPEN SPACE LOTS 151 & 152 AND PARCEL 'A' TAX MAP: 35 GRID: 23 PARCEL: 116 ZONED: R-SA-8 TAX MAP: 35 GRID: 23 PARCEL: 258, 476 ZONED: POR ELECTION DISTRICT NO. 5 HOWARD COUNTY, MARYLAND		
STORM DRAIN PROFILES		
DATE: AUGUST, 2012	BEI PROJECT NO: 2189	
DESIGN: DBT/JMC	DRAWN: DBT/JMC	SHEET 18 OF 29

MICRO-BIORETENTION DESIGN TABLES (* - INDICATES FACILITIES WITH 'D' TYPE INLET)

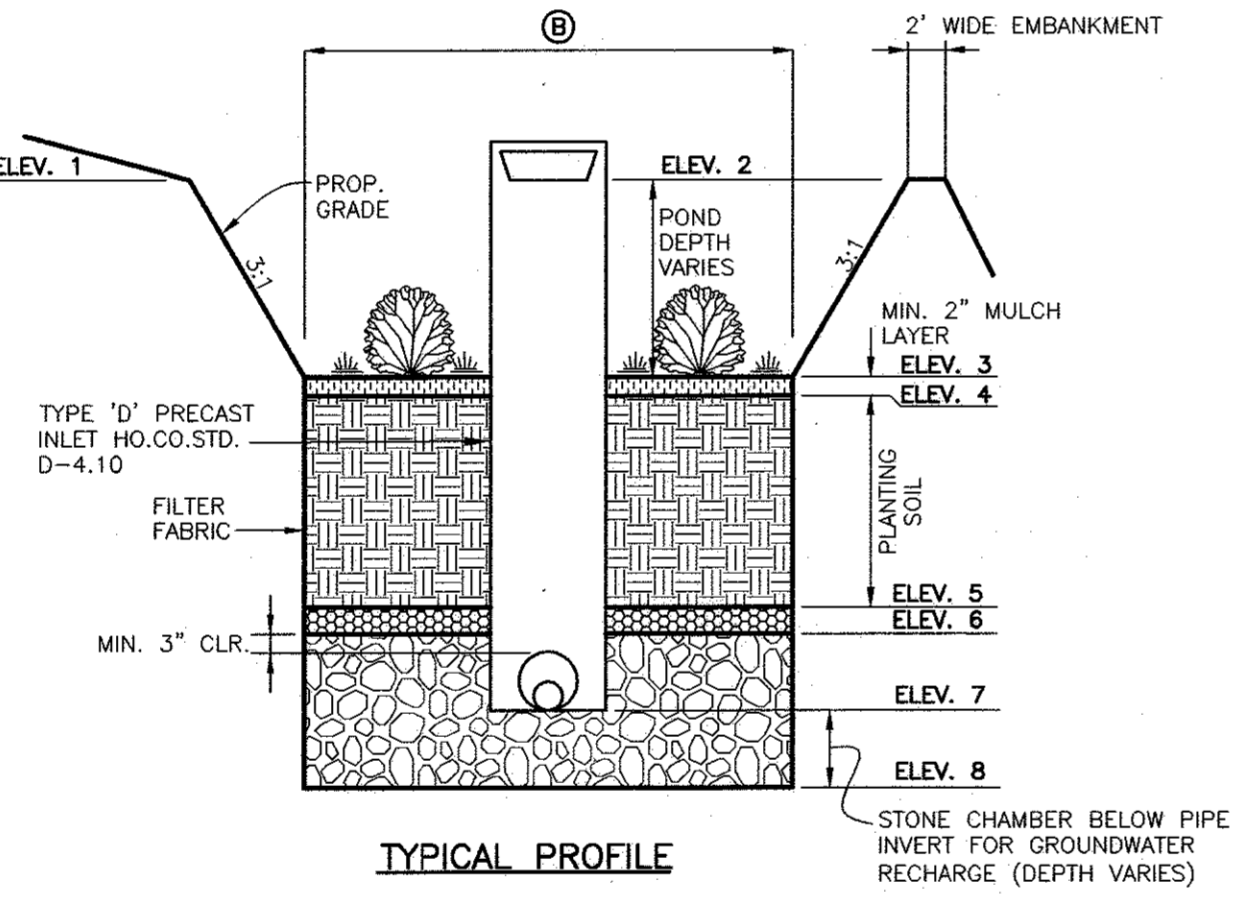
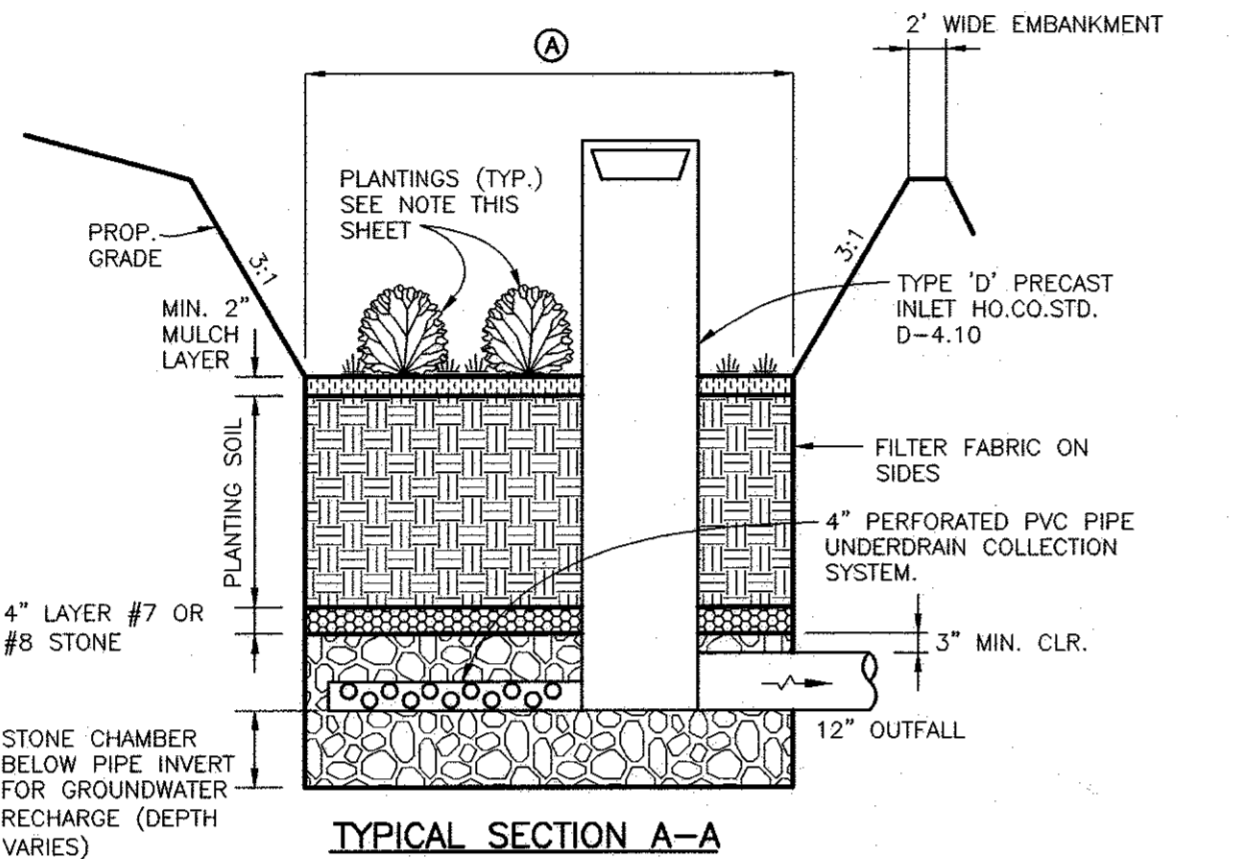
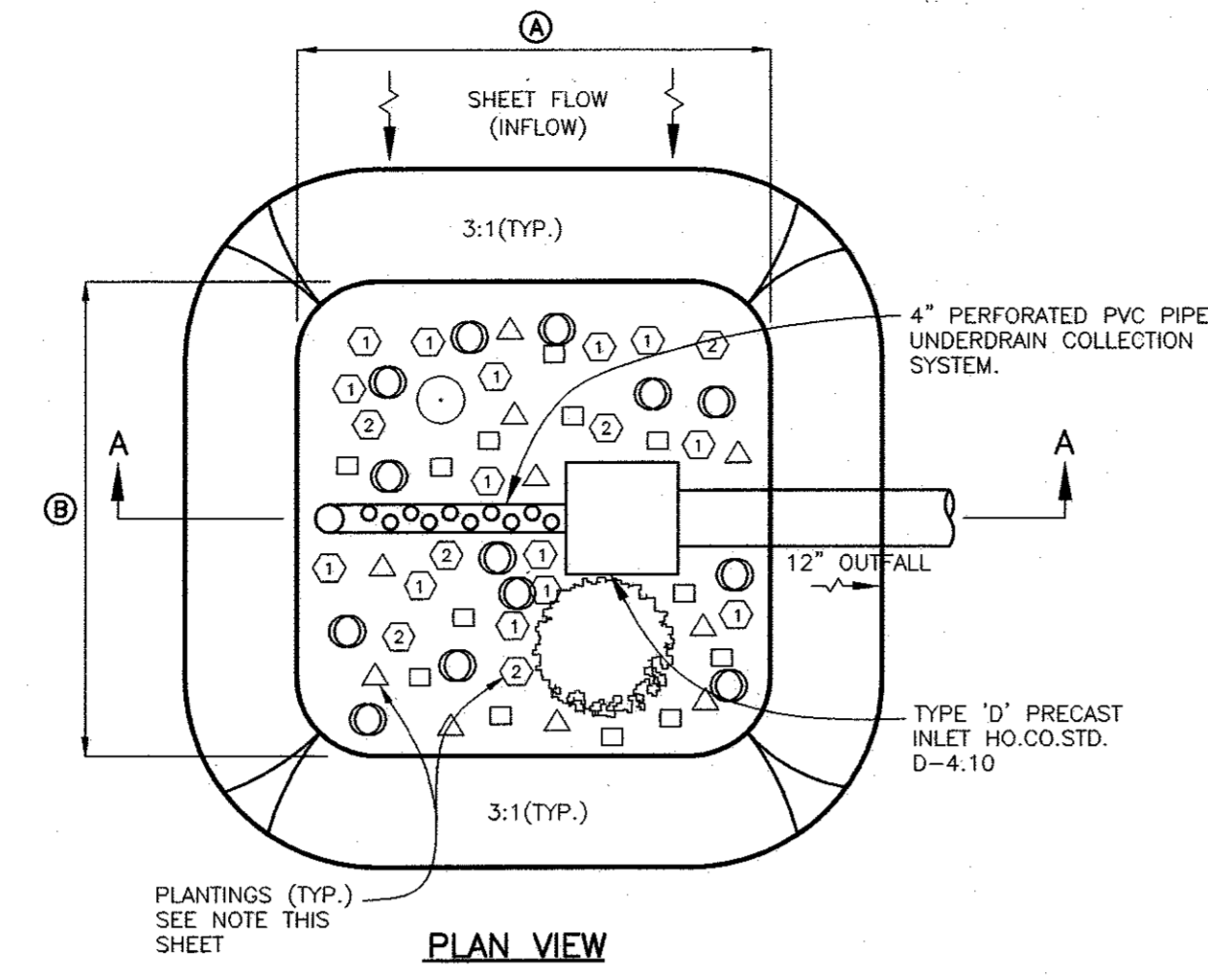


TYPICAL MICRO-BIORETENTION DETAILS NOT TO SCALE

UNDERDRAIN, OVERFLOW AND OUTFALL NOTES

1. THE LAST CLEAN-OUT LOCATION WITHIN EACH MICRO-BIORETENTION FACILITY SHALL BE FITTED WITH A NON-CLOGGING SURFACE DRAIN (EXAMPLE: 4" ABS ROOF DRAIN W/CAST ALUMINUM DOME) AT THE POND SURFACE ELEVATION INDICATED IN THE CORRESPONDING TABLE ELEV. 2.
2. THE PVC WITHIN THE FACILITY SHALL BE PERFORATED.
3. THE UNDER-DRAIN AND PIPE TO OUTFALL SHALL BE INSTALLED TO A MINIMUM DEPTH OF 2' BELOW FINISHED GRADE AND SHALL MAINTAIN A MINIMUM 1% SLOPE AND MAINTAIN A MINIMUM OF 1' OF SEPARATION AT ALL CROSSINGS.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 [Signatures and Dates]



TYPICAL MICRO-BIORETENTION DETAILS WITH TYPE 'D' INLET NOT TO SCALE

MICRO-BIORETENTION PLANTING LEGEND	
SYMBOL	NAME
①	AJUCA REPTANS (CREEPING BUGLEWEED)
②	IRIS VERSICOLOR (IRIS)
□	CLETHRA (COMMON PERWINKLE)
△	ELYMUS VIRGINICUS (VIRGINIA WILD RYE)
○	VACCINIUM ATROCCUUM (Highbush Blueberry)
●	BETULA NIGRA (RIVER BIRCH)

#1	#2	#3	#4	#5	#6	#7	#8 *	#9 *	#10 *
ELEV. 1 288.00 ELEV. 2 288.00 ELEV. 3 287.00 ELEV. 4 286.83 ELEV. 5 282.83 ELEV. 6 282.50 ELEV. 7 281.92 ELEV. 8 279.92	ELEV. 1 287.00 ELEV. 2 287.00 ELEV. 3 286.00 ELEV. 4 285.83 ELEV. 5 281.83 ELEV. 6 281.50 ELEV. 7 280.92 ELEV. 8 278.92	ELEV. 1 283.00 ELEV. 2 283.00 ELEV. 3 282.00 ELEV. 4 281.83 ELEV. 5 277.83 ELEV. 6 277.50 ELEV. 7 276.92 ELEV. 8 274.92	ELEV. 1 283.00 ELEV. 2 283.00 ELEV. 3 282.00 ELEV. 4 281.83 ELEV. 5 277.83 ELEV. 6 277.50 ELEV. 7 276.92 ELEV. 8 274.29	ELEV. 1 300.00 ELEV. 2 300.00 ELEV. 3 299.00 ELEV. 4 298.83 ELEV. 5 294.83 ELEV. 6 294.50 ELEV. 7 293.92 ELEV. 8 291.92	ELEV. 1 300.00 ELEV. 2 300.00 ELEV. 3 299.00 ELEV. 4 298.83 ELEV. 5 294.83 ELEV. 6 294.50 ELEV. 7 293.92 ELEV. 8 291.92	ELEV. 1 288.00 ELEV. 2 288.00 ELEV. 3 287.00 ELEV. 4 286.83 ELEV. 5 282.83 ELEV. 6 282.50 ELEV. 7 281.92 ELEV. 8 279.92	ELEV. 1 297.00 ELEV. 2 297.00 ELEV. 3 296.00 ELEV. 4 295.83 ELEV. 5 291.83 ELEV. 6 291.50 ELEV. 7 290.25 ELEV. 8 288.25	ELEV. 1 310.00 ELEV. 2 310.00 ELEV. 3 309.00 ELEV. 4 308.83 ELEV. 5 304.83 ELEV. 6 304.50 ELEV. 7 303.25 ELEV. 8 303.00	ELEV. 1 309.00 ELEV. 2 309.00 ELEV. 3 308.00 ELEV. 4 307.83 ELEV. 5 303.83 ELEV. 6 303.50 ELEV. 7 302.25 ELEV. 8 302.00
DIMENSIONS 'A' varies 'B' varies	DIMENSIONS 'A' varies 'B' varies	DIMENSIONS 'A' 40'± 'B' 7.5'±	DIMENSIONS 'A' 50'± 'B' 14'±	DIMENSIONS 'A' varies 'B' varies	DIMENSIONS 'A' 35'± 'B' 20'±	DIMENSIONS 'A' 28'± 'B' 23'±	DIMENSIONS 'A' 67'± 'B' 11'±	DIMENSIONS 'A' 23'± 'B' 23'±	DIMENSIONS 'A' varies 'B' varies
TOTAL SF 800	TOTAL SF 670	TOTAL SF 292	TOTAL SF 700	TOTAL SF 836	TOTAL SF 692	TOTAL SF 711	TOTAL SF 734	TOTAL SF 552	TOTAL SF 850
OUTFALL PIPE SIZE 4" LENGTH 78' SLOPE 2.5%	OUTFALL PIPE SIZE 4" LENGTH 26' SLOPE 3.5%	OUTFALL PIPE SIZE 4" LENGTH 31' SLOPE 3.0%	OUTFALL PIPE SIZE 4" LENGTH 36' SLOPE 2.6%	OUTFALL PIPE SIZE 4" LENGTH 34 SLOPE 17.5%	OUTFALL PIPE SIZE 4" LENGTH 27' SLOPE 7.1%	OUTFALL PIPE SIZE 12" LENGTH NA SLOPE NA	OUTFALL PIPE SIZE 12" LENGTH NA SLOPE NA	OUTFALL PIPE SIZE 12" LENGTH NA SLOPE NA	OUTFALL PIPE SIZE 12" LENGTH NA SLOPE NA

#11 *	#12 *	#13	#14	#15	#16	#17	#18	#19	#20
ELEV. 1 308.00 ELEV. 2 308.00 ELEV. 3 307.00 ELEV. 4 306.83 ELEV. 5 302.83 ELEV. 6 302.50 ELEV. 7 301.25 ELEV. 8 301.00	ELEV. 1 313.00 ELEV. 2 313.00 ELEV. 3 312.00 ELEV. 4 311.83 ELEV. 5 307.83 ELEV. 6 307.50 ELEV. 7 306.25 ELEV. 8 306.00	ELEV. 1 307.00 ELEV. 2 307.00 ELEV. 3 306.00 ELEV. 4 305.83 ELEV. 5 301.83 ELEV. 6 301.50 ELEV. 7 300.92 ELEV. 8 298.92	ELEV. 1 301.00 ELEV. 2 301.00 ELEV. 3 300.00 ELEV. 4 299.83 ELEV. 5 295.83 ELEV. 6 295.50 ELEV. 7 294.92 ELEV. 8 292.92	ELEV. 1 305.00 ELEV. 2 305.00 ELEV. 3 304.00 ELEV. 4 303.83 ELEV. 5 299.83 ELEV. 6 299.50 ELEV. 7 298.92 ELEV. 8 296.92	ELEV. 1 306.00 ELEV. 2 306.00 ELEV. 3 305.00 ELEV. 4 304.83 ELEV. 5 300.83 ELEV. 6 300.50 ELEV. 7 299.92 ELEV. 8 299.92	ELEV. 1 306.00 ELEV. 2 306.00 ELEV. 3 305.00 ELEV. 4 304.83 ELEV. 5 300.83 ELEV. 6 300.50 ELEV. 7 299.92 ELEV. 8 299.92	ELEV. 1 308.00 ELEV. 2 308.00 ELEV. 3 307.00 ELEV. 4 306.83 ELEV. 5 302.83 ELEV. 6 302.50 ELEV. 7 301.92 ELEV. 8 301.67	ELEV. 1 312.00 ELEV. 2 312.00 ELEV. 3 311.00 ELEV. 4 310.83 ELEV. 5 306.83 ELEV. 6 306.50 ELEV. 7 305.92 ELEV. 8 303.92	ELEV. 1 312.00 ELEV. 2 312.00 ELEV. 3 311.00 ELEV. 4 310.83 ELEV. 5 306.83 ELEV. 6 307.50 ELEV. 7 306.92 ELEV. 8 306.67
DIMENSIONS 'A' varies 'B' varies	DIMENSIONS 'A' 38.5'± 'B' 13'±	DIMENSIONS 'A' 20'± 'B' 30'±	DIMENSIONS 'A' varies 'B' varies	DIMENSIONS 'A' varies 'B' varies	DIMENSIONS 'A' 49'± 'B' 15'±	DIMENSIONS 'A' 38'± 'B' 19'±	DIMENSIONS 'A' 40'± 'B' 15'±	DIMENSIONS 'A' varies 'B' varies	DIMENSIONS 'A' varies 'B' varies
TOTAL SF 640	TOTAL SF 670	TOTAL SF 600	TOTAL SF 621	TOTAL SF 370	TOTAL SF 706'	TOTAL SF 720	TOTAL SF 682	TOTAL SF 700	TOTAL SF 395
OUTFALL PIPE SIZE 12" LENGTH NA SLOPE NA	OUTFALL PIPE SIZE 12" LENGTH NA SLOPE NA	OUTFALL PIPE SIZE 4" LENGTH 35' SLOPE 19.8%	OUTFALL PIPE SIZE 4" LENGTH 22' SLOPE 4.2%	OUTFALL PIPE SIZE 4" LENGTH 54' SLOPE 31.3%	OUTFALL PIPE SIZE 4" LENGTH 41' SLOPE 21.7%	OUTFALL PIPE SIZE 4" LENGTH 38' SLOPE 15.6%	OUTFALL PIPE SIZE 4" LENGTH 77' SLOPE 15.5%	OUTFALL PIPE SIZE 4" LENGTH 34' SLOPE 2.0%	OUTFALL PIPE SIZE 4" LENGTH 36' SLOPE 2.0%

#21 *	#22	#23	#24	#25	#26	#27	#28	#29 *	#30 *
ELEV. 1 319.00 ELEV. 2 319.00 ELEV. 3 318.00 ELEV. 4 317.83 ELEV. 5 313.83 ELEV. 6 313.50 ELEV. 7 312.25 ELEV. 8 312.00	ELEV. 1 316.00 ELEV. 2 316.00 ELEV. 3 315.00 ELEV. 4 314.83 ELEV. 5 310.83 ELEV. 6 310.50 ELEV. 7 309.92 ELEV. 8 309.67	ELEV. 1 315.00 ELEV. 2 315.00 ELEV. 3 314.00 ELEV. 4 313.83 ELEV. 5 309.83 ELEV. 6 309.50 ELEV. 7 308.92 ELEV. 8 306.92	ELEV. 1 313.00 ELEV. 2 313.00 ELEV. 3 312.00 ELEV. 4 311.83 ELEV. 5 307.83 ELEV. 6 307.50 ELEV. 7 306.92 ELEV. 8 304.92	ELEV. 1 312.00 ELEV. 2 312.00 ELEV. 3 311.00 ELEV. 4 310.83 ELEV. 5 306.83 ELEV. 6 306.50 ELEV. 7 305.92 ELEV. 8 303.92	ELEV. 1 311.1 ELEV. 2 311.1 ELEV. 3 310.1 ELEV. 4 309.93 ELEV. 5 305.93 ELEV. 6 305.60 ELEV. 7 305.0 ELEV. 8 303.0	ELEV. 1 323.00 ELEV. 2 323.00 ELEV. 3 322.00 ELEV. 4 321.83 ELEV. 5 319.83 ELEV. 6 319.50 ELEV. 7 318.92 ELEV. 8 318.67	ELEV. 1 325.00 ELEV. 2 325.00 ELEV. 3 324.00 ELEV. 4 323.83 ELEV. 5 321.83 ELEV. 6 321.50 ELEV. 7 320.92 ELEV. 8 320.67	ELEV. 1 325.00 ELEV. 2 325.00 ELEV. 3 324.00 ELEV. 4 323.83 ELEV. 5 320.83 ELEV. 6 320.50 ELEV. 7 319.25 ELEV. 8 319.00	ELEV. 1 324.00 ELEV. 2 324.00 ELEV. 3 323.00 ELEV. 4 322.83 ELEV. 5 319.83 ELEV. 6 319.50 ELEV. 7 318.25 ELEV. 8 318.00
DIMENSIONS 'A' varies 'B' varies	DIMENSIONS 'A' varies 'B' varies	DIMENSIONS 'A' varies 'B' varies	DIMENSIONS 'A' 35'± 'B' 23'±	DIMENSIONS 'A' 35'± 'B' 20'±	DIMENSIONS 'A' 48'± 'B' 9.5'±	DIMENSIONS 'A' 168'± 'B' 4'±	DIMENSIONS 'A' 168'± 'B' 4'±	DIMENSIONS 'A' 26.5'± 'B' 15.5'±	DIMENSIONS 'A' varies 'B' varies
TOTAL SF 692	TOTAL SF 700	TOTAL SF 810	TOTAL SF 815	TOTAL SF 700	TOTAL SF 445	TOTAL SF 672	TOTAL SF 672	TOTAL SF 400	TOTAL SF 674
OUTFALL PIPE SIZE 12" LENGTH NA SLOPE NA	OUTFALL PIPE SIZE 4" LENGTH 24' SLOPE 2.0%	OUTFALL PIPE SIZE 4" LENGTH 40' SLOPE 2.0%	OUTFALL PIPE SIZE 4" LENGTH 35' SLOPE 15.5%	OUTFALL PIPE SIZE 4" LENGTH 60' SLOPE 1.5%	OUTFALL PIPE SIZE 4" LENGTH 80' SLOPE 1.3%	OUTFALL PIPE SIZE 4" LENGTH 15' SLOPE 2.0%	OUTFALL PIPE SIZE 4" LENGTH 15' SLOPE 2.0%	OUTFALL PIPE SIZE 12" LENGTH NA SLOPE NA	OUTFALL PIPE SIZE 12" LENGTH NA SLOPE NA

#31 *	#32 *	#33	#34	#35	#36 *	#37 *
ELEV. 1 323.00 ELEV. 2 323.00 ELEV. 3 322.00 ELEV. 4 321.83 ELEV. 5 317.83 ELEV. 6 317.50 ELEV. 7 316.25 ELEV. 8 316.00	ELEV. 1 317.00 ELEV. 2 317.00 ELEV. 3 316.00 ELEV. 4 315.83 ELEV. 5 311.83 ELEV. 6 311.50 ELEV. 7 310.25 ELEV. 8 310.00	ELEV. 1 297.00 ELEV. 2 297.00 ELEV. 3 296.00 ELEV. 4 295.83 ELEV. 5 291.83 ELEV. 6 291.50 ELEV. 7 290.92 ELEV. 8 290.67	ELEV. 1 296.00 ELEV. 2 296.00 ELEV. 3 295.00 ELEV. 4 294.83 ELEV. 5 290.83 ELEV. 6 290.50 ELEV. 7 289.92 ELEV. 8 287.92	ELEV. 1 290.00 ELEV. 2 290.00 ELEV. 3 289.00 ELEV. 4 288.83 ELEV. 5 284.83 ELEV. 6 284.50 ELEV. 7 283.92 ELEV. 8 281.92	ELEV. 1 323.00 ELEV. 2 323.00 ELEV. 3 322.00 ELEV. 4 321.83 ELEV. 5 317.83 ELEV. 6 317.50 ELEV. 7 316.25 ELEV. 8 316.00	ELEV. 1 320.00 ELEV. 2 320.00 ELEV. 3 319.00 ELEV. 4 318.83 ELEV. 5 314.83 ELEV. 6 314.50 ELEV. 7 313.25 ELEV. 8 313.00
DIMENSIONS 'A' 38'± 'B' 14.5'±	DIMENSIONS 'A' 11'± 'B' 44'±	DIMENSIONS 'A' varies 'B' varies	DIMENSIONS 'A' 29'± 'B' 18'±	DIMENSIONS 'A' varies 'B' varies	DIMENSIONS 'A' 30'± 'B' 13'±	DIMENSIONS 'A' varies 'B' varies
TOTAL SF 540	TOTAL SF 523	TOTAL SF 390	TOTAL SF 494	TOTAL SF 1,100	TOTAL SF 283'	TOTAL SF 529
OUTFALL PIPE SIZE 12" LENGTH NA SLOPE NA	OUTFALL PIPE SIZE 12" LENGTH NA SLOPE NA	OUTFALL PIPE SIZE 4" LENGTH 36' SLOPE 2.0%	OUTFALL PIPE SIZE 4" LENGTH 91' SLOPE 2.1%	OUTFALL PIPE SIZE 4" LENGTH 42' SLOPE 4.6%	OUTFALL PIPE SIZE 12" LENGTH NA SLOPE NA	OUTFALL PIPE SIZE 12" LENGTH NA SLOPE NA

* Total BHA area = 755 SF
 * Bottom Dimensions Vary

NO.	DATE	REVISION
2	9.6.2016	Revise MB #26 & #25 Chart based on As-built Conditions
1	1-3-2014	REVISE MICRO-BIO DESIGN TABLE # 18

BENCHMARK ENGINEERS & LAND SURVEYORS & PLANNERS
 8480 BALTIMORE NATIONAL PIKE & SUITE 418 & ELLICOTT CITY, MARYLAND 21043
 (P) 410-465-6105 (F) 410-465-6644
 60 THOMAS JOHNSON DRIVE & FREDERICK, MARYLAND 21702
 (P) 301-371-3505 (F) 301-371-3506
 WWW.BE-CVLENDENGINEERING.COM

SIMPSON MILL
 PHASE 1 - LOTS 1 thru 18 & 139 thru 150
 PHASE 2 - LOTS 19 thru 138
 OPEN SPACE LOTS 151 & 152 AND PARCEL 'A'

TAX MAP: 35 GRID: 23 PARCEL: 116 ZONED: R-SA-B
 TAX MAP: 35 GRID: 23 PARCEL: 258, 476 ZONED: POR
 ELECTION DISTRICT NO. 5
 HOWARD COUNTY, MARYLAND

STORMWATER MANAGEMENT DETAILS

OWNER: SIMPSON MILL LLC
 P.O. BOX 417
 ELLICOTT CITY, MARYLAND 21041
 410-465-4244

DEVELOPER: SIMPSON MILL LLC
 P.O. BOX 417
 ELLICOTT CITY, MARYLAND 21041
 410-465-4244

DATE: AUGUST, 2012 BEI PROJECT NO: 2189
 SCALE: AS SHOWN SHEET 20 OF 29

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. 45572 Expiration Date: 6.08.18
 [Signature]

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 stumped to 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 material. 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 9 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 achieved 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 tire 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 ± 2% of the optimum. Each layer of fill shall be compacted as necessary to obtain that density, and is to be certified by the Engineer at the time of construction. All compaction is to be determined by AASHTO Method T-99 (Standard Proctor).

Cut Off Trench - The cutoff trench shall be excavated into impervious material along or parallel to the centerline of the embankment as shown on the plans. The bottom width of the trench shall be covered 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 pipes. At no time during the backfilling operation shall any part of the structure be exposed 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 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 flooding 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 any part of a structure be exposed 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 that specified for the core of the embankment or other embankment.

Pipe Conduits

All pipes shall be circular in cross section

Corrugated Metal Pipes - 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 (0.1 mil) on both sides of the pipe. This pipe and its appurtenances shall conform to the requirements of AASHTO Specifications M-245 & M-246 with watertight coupling bands or flanges.

Materials - (Aluminum Coated Steel Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-274 with watertight coupling bands or flanges. Aluminum Coated Steel Pipe, when used with flowable fill or when soil and/or water conditions warrant the need for increased durability, shall be fully bituminous coated per requirements of AASHTO Specification M-190 Type A. Any aluminum coating damaged or otherwise removed shall be replaced with cold applied bituminous coating compound. Aluminum surfaces that are to be in contact with concrete shall be primed 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 bands or flanges. Aluminum Pipe, when used with flowable fill or when soil and/or water conditions warrant for increased durability, shall be fully bituminous coated per requirements of AASHTO Specification M-190 Type A. Aluminum surfaces that are to be in contact with concrete shall be primed 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

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. Dipole bonds are not considered to be watertight.

Appendix B.4. Construction Specifications for Environmental Site Design Practices

Material	Specification	Notes
Plantings	see Appendix A Table A.4	plantings are site-specific
Planting soil	loamy sand (60-65%) & compost (35-40%) or sandy loam (30%) coarse sand (30%) & compost (40%)	USDA soil types loamy sand or sandy loam; clay content < 5%
Organic content	Min. 10% by dry weight (ASTM D 2974)	
Mulch	shredded hardwood	aged 6 months, minimum no pine or wood chips
Pre gravel diaphragm	see ASTM-D-448	NO. 8 OR NO. 9 (1/8" TO 3/8")
Drainage drain	ornamental stone: washed cobbles	stone: 2" to 5"
Geotextile	AASHTO M-43	PE Type I nonwoven
Gravel (underdrains and infiltration berms)	NO. 57 OR NO. 6 AGGREGATE (3/8" to 3/4")	
Underdrain piping	F 758, Type PS 28 or AASHTO M-278	4" to 6" rigid schedule 40 PVC or SDR35
Power in place concrete (if required)	MSHA Mix No. 3; f' = 3500 psi @ 28 days, normal weight, all-entrained, reinforcing to meet ASTM-A15-00	Slotted or perforated pipe; 3/8" perf. @ 6" on center, 4 holes per row; minimum of 3" of gravel over pipe; not necessary; underdrain pipes. Perforated pipe shall be wrapped with 1/4-inch galvanized hardware cloth. on-site testing of in-place concrete required: 28 day strength and slump test; all concrete design (cast-in-place or pre-cast) not using previously approved State or local standards requires design drawings sealed and approved by a professional structural engineer licensed in the State of Maryland - design to include meeting ACI Code 330.8(R9); vertical loading (R-10 or R-20); allowable horizontal loading (based on soil pressures); and analysis of potential cracking.
Sand	AASHTO-M-6 or ASTM-C-33	0.02" to 0.04"

Supp. 1

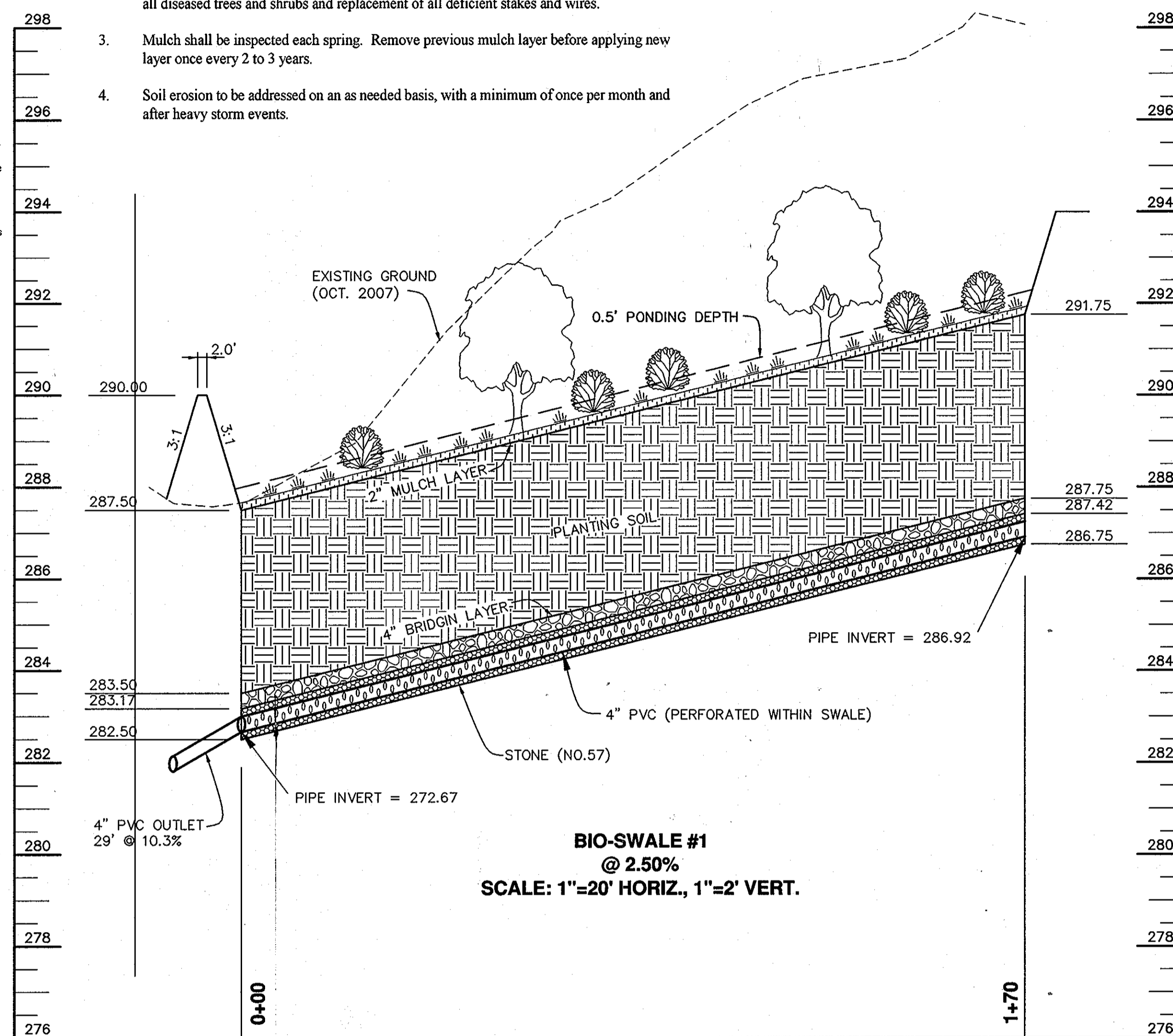
OPERATION AND MAINTENANCE SCHEDULE FOR LANDSCAPE INFILTRATION (M-3) MICRO-BIORETENTION (M-6), RAIN GARDENS (M-7), BIORETENTION SWALE (M-8), ENHANCED FILTERS (M-9)

1. Annual maintenance of plant material, mulch layer and soil layer is required. Maintenance of mulch and soil is limited to correcting areas of erosion or wash out. Any mulch replacement shall be done in the spring. Plant material shall be checked for disease and insect infestation and maintenance will address dead material and pruning. Acceptable replacement plant material is limited to the following: 2000 Maryland Stormwater Design Manual Volume II, Table A.4.1 and 2.

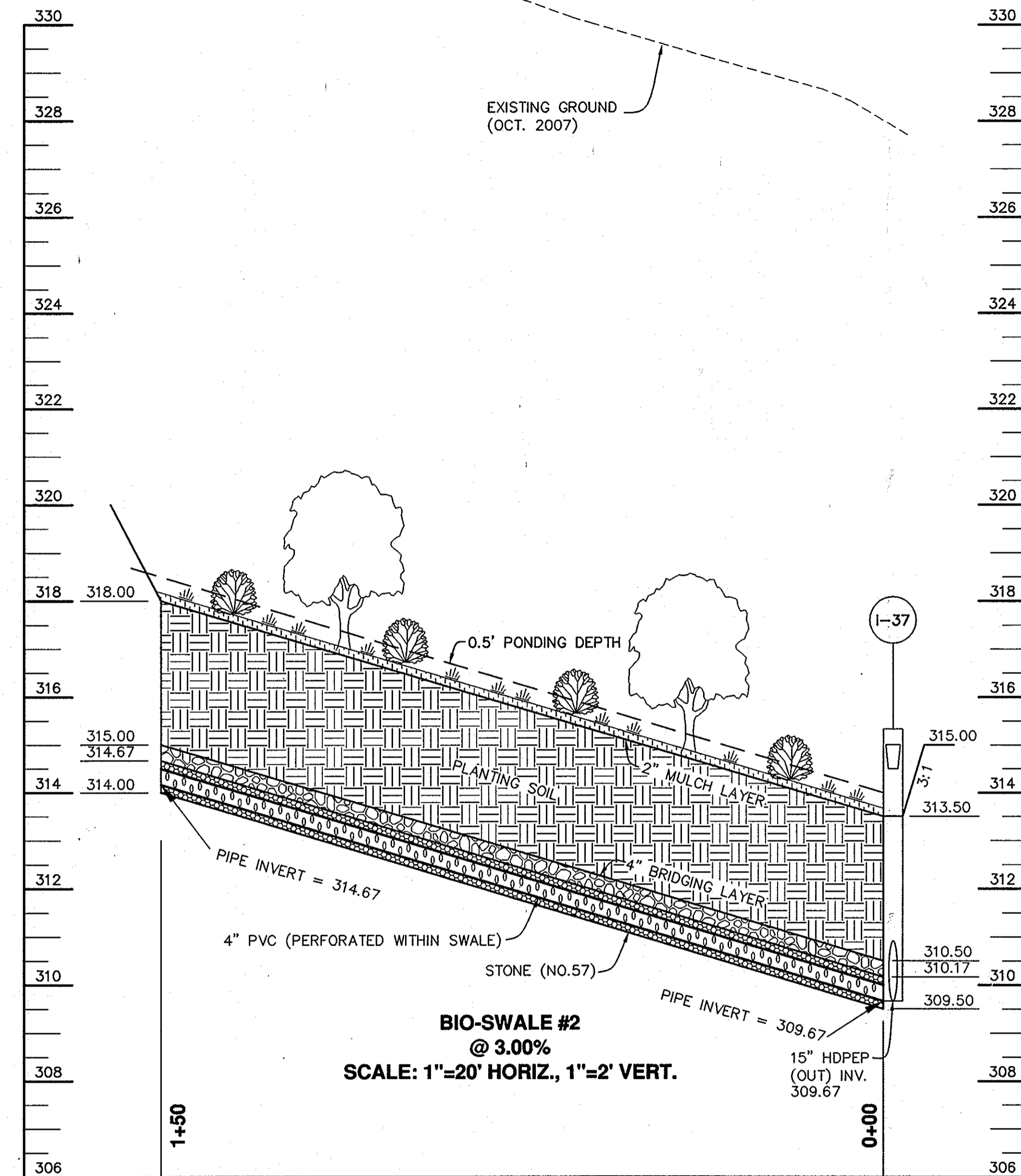
2. Schedule of plant inspection will be twice a year in spring and fall. This inspection will include removal of dead and diseased vegetation considered beyond treatment, treatment of all diseased trees and shrubs and replacement of all deficient stakes and wires.

3. Mulch shall be inspected each spring. Remove previous mulch layer before applying new layer once every 2 to 3 years.

4. Soil erosion to be addressed on an as needed basis, with a minimum of once per month and after heavy storm events.



BIO-SWALE #1 @ 2.50% SCALE: 1"=20' HORIZ., 1"=2' VERT.



BIO-SWALE #2 @ 3.00% SCALE: 1"=20' HORIZ., 1"=2' VERT.

BIO-SWALE DESIGN TABLES

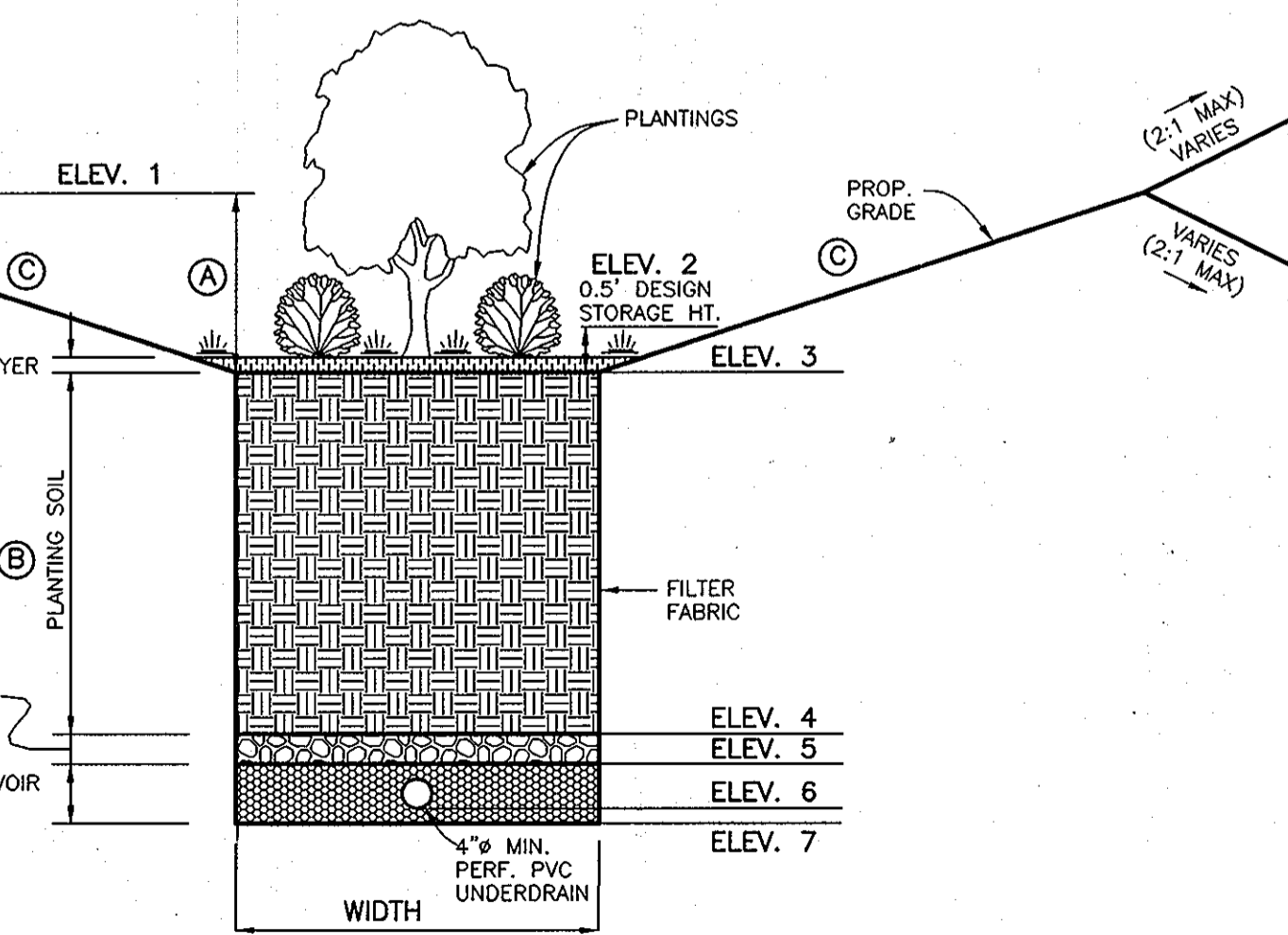
NOTE: ELEVATIONS LISTED IN CHART ARE ELEVATIONS AT BOTTOM OF THE SWALE.

SWALE #1	
A	1.0'
B	4.0'
C	3:1
SLOPE	2.5%
ELEV. 1	290.00
ELEV. 2	289.50
ELEV. 3	287.50
ELEV. 4	283.50
ELEV. 5	283.17
ELEV. 6	282.67
ELEV. 7	282.50
BOTTOM DIMS	
LENGTH	170'
WIDTH	4.0'
TOTAL SF	680

STORM Q (RUNOFF) VELOCITY	
1YR	0.30 CFS 0.69 FPS
10YR	1.01 CFS 1.69 FPS
100YR	1.73 CFS 1.33 FPS

SWALE #2	
A	1.0'
B	3.0'
C	3:1
SLOPE	3.0%
ELEV. 1	314.50
ELEV. 2	314.00
ELEV. 3	313.50
ELEV. 4	310.50
ELEV. 5	310.17
ELEV. 6	309.67
ELEV. 7	309.50
BOTTOM DIMS	
LENGTH	150'
WIDTH	6.0'
TOTAL SF	900

STORM Q (RUNOFF) VELOCITY	
1YR	0.57 CFS 0.80 FPS
10YR	2.35 CFS 1.39 FPS
100YR	4.07 CFS 1.70 FPS



BIO-SWALE TYPICAL SECTION DETAIL NOT TO SCALE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

10/5/12
10/10/12
10/10/12

BENCHMARK ENGINEERS & LAND SURVEYORS & PLANNERS
ENGINEERING, INC.
 8480 BALTIMORE NATIONAL PIKE A SUITE 418 & ELLICOTT CITY, MARYLAND 21043
 (P) 410-465-6105 (F) 410-465-6644
 60 THOMAS JOHNSON DRIVE A FREDERICK, MARYLAND 21702
 (P) 301-371-3505 (F) 301-371-3506
 WWW.BEI-CMDENGINEERING.COM

SIMPSON MILL
 PHASE 1 - LOTS 1 thru 18 & 139 thru 150
 PHASE 2 - LOTS 19 thru 138
 OPEN SPACE LOTS 151 & 152 AND PARCEL 'A'

STORMWATER MANAGEMENT DETAILS

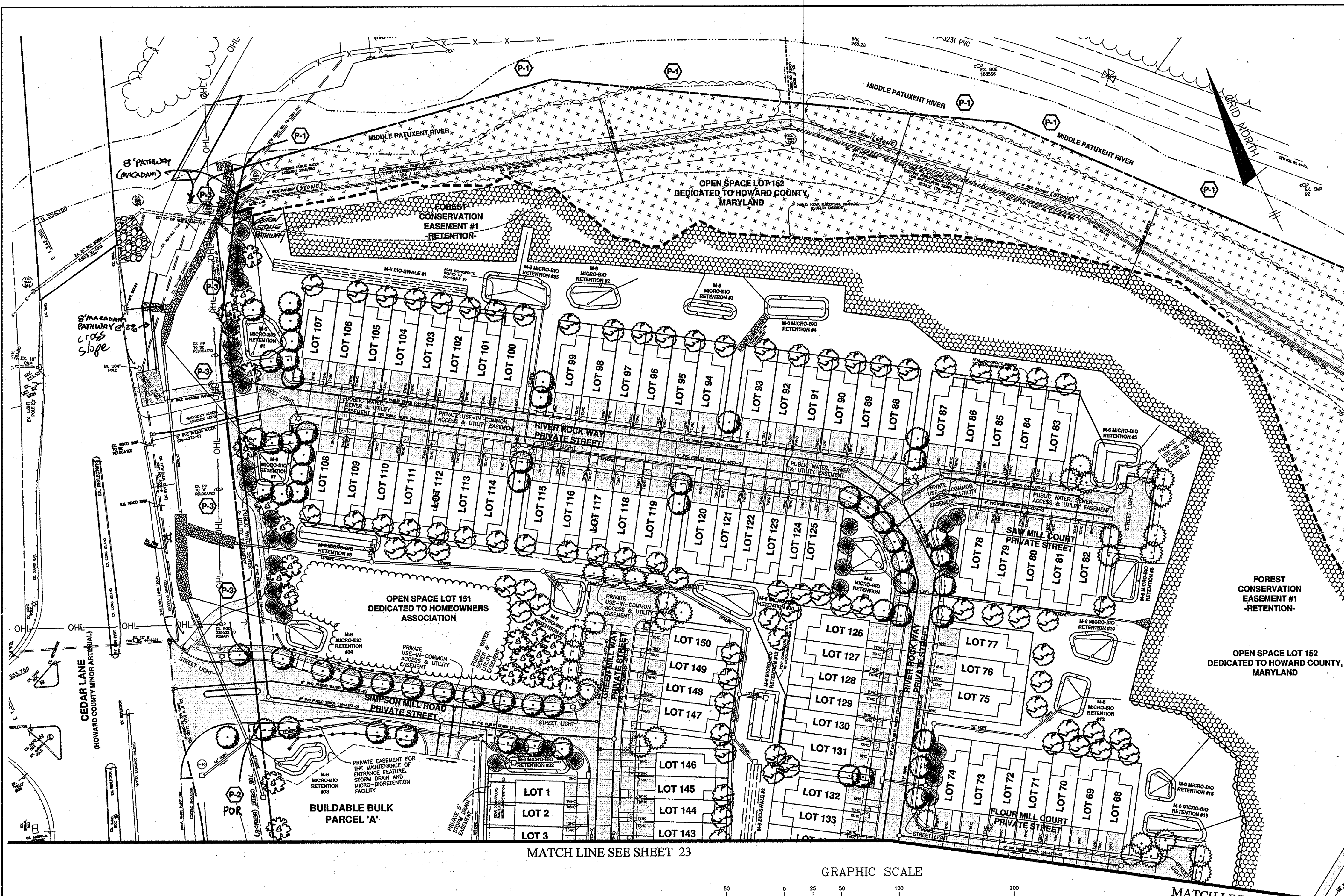
OWNER: SIMPSON MILL LLC
 P.O. BOX 417
 ELLICOTT CITY, MARYLAND 21041
 410-465-4244

DEVELOPER: SIMPSON MILL LLC
 P.O. BOX 417
 ELLICOTT CITY, MARYLAND 21041
 410-465-4244

DATE: AUGUST, 2012
 SCALE: AS SHOWN

BEI PROJECT NO: 2189
 SHEET 21 OF 29

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. 24876.



SCHEDULE A PERIMETER LANDSCAPE EDGE											
ADJACENT TO ROAD (P-1)	ADJACENT TO PERIM. PROPERTY (1)	ADJACENT TO ROADS (2)	ADJACENT TO ROADS (3)	ADJACENT TO ROAD (LOT 1) (4)	ADJACENT TO ROAD (LOT 18) (5)	ADJACENT TO ROAD (LOT 19) (6)	ADJACENT TO ROAD (LOT 52) (7)	ADJACENT TO ROAD (LOT 60) (8)	ADJACENT TO ROAD (LOT 74) (9)	ADJACENT TO ROAD (LOT 78) (10)	ADJACENT TO ROAD (LOT 125) (11)
LANDSCAPE TYPE	A	C	C	C	C	C	C	C	C	C	C
1:40 SHADE 1:20 EVERGREEN	1:60 shade	1:40 shade 1:20 evergreen	1:40 shade 1:20 evergreen	1:40 shade 1:20 evergreen	1:40 shade 1:20 evergreen	1:40 shade 1:20 evergreen	1:40 shade 1:20 evergreen	1:40 shade 1:20 evergreen	1:40 shade 1:20 evergreen	1:40 shade 1:20 evergreen	1:40 shade 1:20 evergreen
LINEAR FEET OF ROADWAY FRONTAGE/PERIMETER	2112 LF	814 LF	434 LF	80 LF	91 LF	91 LF	80 LF	81 LF	81 LF	80 LF	80 LF
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	YES*	YES*	YES*	NO	NO	NO	NO	NO	NO	NO	NO
CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
NUMBER OF PLANTS REQUIRED	0 LF	0	382 LF	80 LF	91 LF	91 LF	80 LF	81 LF	81 LF	80 LF	80 LF
SHADE TREES	0	0	19	2	2	2	2	2	2	2	2
EVERGREEN TREES	0	0	19	4	5	5	4	4	4	4	4
OTHER TREES (2:1 SUBSTITUTE)	0	0	0	0	0	0	0	0	0	0	0
SHRUBS	0	0	0	0	0	0	0	0	0	0	0
NUMBER OF PLANTS PROVIDED	0	0	10	2	2	2	2	2	2	2	2
SHADE TREES	0	0	19	4	5	5	4	4	4	4	4
EVERGREEN TREES	0	0	0	0	0	0	0	0	0	0	0
OTHER TREES (2:1 SUBSTITUTE)	0	0	0	0	0	0	0	0	0	0	0
SHRUBS (10:1 SUBSTITUTE)	0	0	0	0	0	0	0	0	0	0	0
TOTALS											

PERIMETER LANDSCAPE PLANTING LIST				
SYMBOL	QUANTITY	NAME	REMARKS	DESCRIPTION
	150	ACER RUBRUM 'OCTOBER GLORY' (OCTOBER GLORY) (RED MAPLE)	2.5' - 3" col.	SHADE TREES FOR INTERNAL LANDSCAPING REQUIREMENT TO BE PROVIDED BY THE BUILDER
	20*	FAGUS GRANDIFOLIA (American Beech)	2 1/2" - 3" col.	SHADE TREES ALONG PERIMETER EDGES TO BE PROVIDED BY THE DEVELOPER
	53	ILEX OPACA (American Holly)	5' - 6' ht.	EVERGREEN TREES ALONG PERIMETER EDGES TO BE PROVIDED BY THE DEVELOPER

SCHEDULE C RESIDENTIAL DEVELOPMENT INTERNAL LANDSCAPING	
NUMBER OF DWELLING UNITS	150
NUMBER OF TREES REQUIRED (1:DU SFA: 1:3 DU APTS)	150
NUMBER OF TREES PROVIDED	150
SHADE TREES OTHER (2:1 RATIO)	0

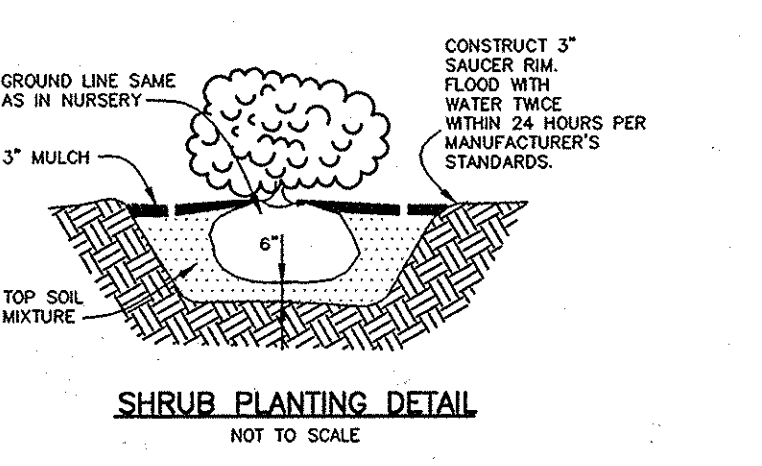
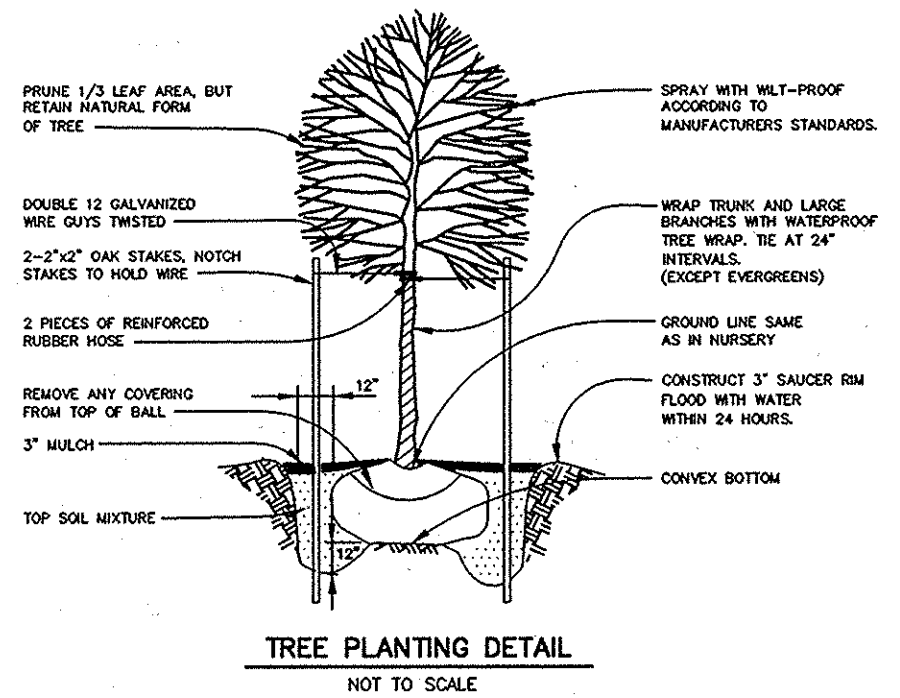
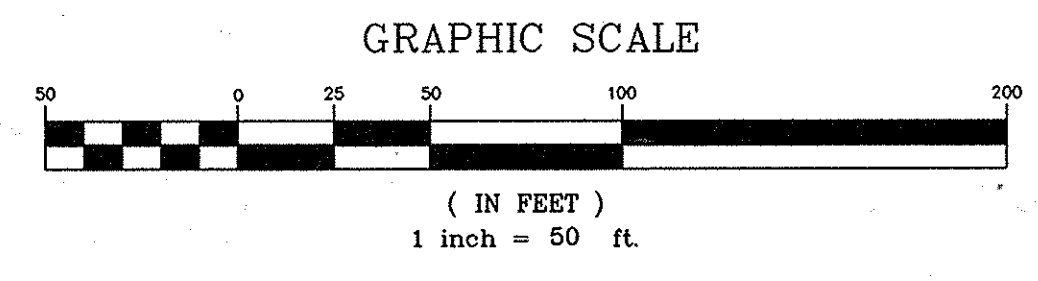
Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.
 License No. 45577 Expiration Date: 06/01/14

LEGEND

- LIMIT OF SUBMISSION
- PROPOSED PAVEMENT
- FOREST CONSERVATION EASEMENT
- 100YR FLOODPLAIN
- PROPOSED HOUSE
- PROPOSED TREELINE
- PERIMETER EDGE

PRIVATE STREET TREE SCHEDULE						
	SIMPSON MILL ROAD	GREEN MILL WAY	RIVER ROCK WAY	FLOUR MILL WAY	SAW MILL WAY	TOTAL
LINEAR FEET OF RIGHT-OF-WAY	742'	2278'	2432'	528'	400'	
LINEAR FEET OF CREDIT	0'	0'	0'	0'	0'	
LINEAR FEET OF REQUIRED PLANTING	742'	2278'	2432'	528'	400'	
TREE SIZE	LARGE 1:40 LF	LARGE 1:40 LF	LARGE 1:40 LF	LARGE 1:40 LF	LARGE 1:40 LF	
TREES REQUIRED	19	57	61	13	10	160

PRIVATE STREET TREE PLANTING LIST				
SYMBOL	QUANTITY	NAME	REMARKS	DESCRIPTION
	80	TILIA CORDATA 'GREENSPIRE' (Greenspire Littleleaf Linden)	2.5' - 3" col.	TO BE PLANTED ALONG SIMPSON MILL ROAD AND RIVER ROCK WAY (PROVIDED BY THE DEVELOPER)
	80	ACER RUBRUM 'RED SUNSET' (Red Sunset Red Maple)	2.5' - 3" col.	TO BE PLANTED ALONG GREEN MILL WAY, FLOUR MILL COURT AND SAW MILL COURT (PROVIDED BY THE DEVELOPER)



LANDSCAPE NOTES:

- STREET TREES TO BE PLANTED 3 FEET BEHIND SIDEWALK IF THE DISTANCE BETWEEN SIDEWALK AND CURB IS LESS THAN 6 FEET. STREET TREES TO BE PLANTED 6 FEET BEHIND BACK OF CURB WHERE THERE IS NO SIDEWALK. TREES MAY NOT BE PLANTED WITHIN 5 FEET OF A DRAIN INLET, 5 FEET OF AN OPEN SPACE ACCESS STRIP, OR 10 FEET OF A DRIVEWAY.
- THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE HOWARD COUNTY LANDSCAPE MANUAL.
- AT THE TIME OF INSTALLMENT, ALL SHRUBS AND OTHER PLANTINGS HEREWITH LISTED AND APPROVED FOR THIS SITE, SHALL BE OF THE PROPER HEIGHT REQUIREMENTS IN ACCORDANCE WITH THE HOWARD COUNTY LANDSCAPE MANUAL. IN ADDITION, NO SUBSTITUTIONS OR RELOCATION OF REQUIRED PLANTINGS MAY BE MADE WITHOUT PRIOR REVIEW AND APPROVAL FROM THE DEPARTMENT OF PLANNING AND ZONING. ANY DEVIATION FROM THIS APPROVED LANDSCAPE PLAN MAY RESULT IN DENIAL OR DELAY IN RELEASE OF LANDSCAPE SURETY UNTIL SUCH TIME AS ALL REQUIRED MATERIALS ARE PLANTED AND/OR REVISIONS ARE MADE TO APPLICABLE PLANS AND CERTIFICATIONS.
- THE OWNER, TENANTS AND/OR THEIR AGENTS SHALL BE RESPONSIBLE FOR MAINTENANCE OF THE REQUIRED LANDSCAPING INCLUDING BOTH PLANT MATERIALS AND BERMS, FENCES AND WALLS. 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 OTHER REQUIRED LANDSCAPING SHALL BE PERMANENTLY MAINTAINED IN GOOD CONDITION, AND WHEN NECESSARY, REPAIRED OR REPLACED.
- FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING SHALL BE POSTED AS PART OF THE DPW DEVELOPER'S AGREEMENT IN THE AMOUNT OF \$120,300.00 (\$61,200.00 FOR 204 SHADE TREES, \$11,100.00 FOR 74 EVERGREENS AND \$48,000.00 FOR 160 PRIVATE STREET TREES).
- THE REQUIRED SHADE TREES (8 TOTAL) FOR LOTS 1, 74, 78, & 125 FOR THE SIDE YARD ADJACENT TO ROADWAY ARE PROPOSED TO BE PLANTED ON OPEN SPACE LOT 151 AT THE NORTHERN CORNER OF INTERSECTION OF SIMPSON MILL ROAD AND GREEN MILL WAY. THE REQUIRED SHADE TREES (8 TOTAL) FOR LOTS 18, 19, 52 & 60 FOR THE SIDE YARD ADJACENT TO ROADWAY ARE PROPOSED TO BE PLANTED ON OPEN SPACE LOT 151 BEHIND LOTS 43-46. THE REQUIRED EVERGREEN TREES (10 TOTAL) FOR LOTS 18 AND 19 FOR THE SIDE YARD ADJACENT TO ROADWAY ARE PROPOSED TO BE PLANTED ON OPEN SPACE LOT 151 SOUTH-EAST OF LOT 67. THE PURPOSE OF THIS CHANGE IS TO HELP ALLEVIATE OVERCROWDING OF TREES ALONG THE PERIMETER AS DISCUSSED IN MEETING WITH DPZ.
- THE DEVELOPMENT OF BUILDABLE BULK PARCEL 'A' WILL RESULT IN A FINANCIAL SURETY OBLIGATION FOR LANDSCAPING PROPOSED UNDER THAT PLAN. THAT SURETY SHALL INCLUDE THE OBLIGATION OF PERIMETER 2 POR (28 SHADE TREES AND 21 EVERGREEN TREES).

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 [Signature] 10/5/12
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 [Signature] 10/6/12
 CHIEF, DIVISION OF LAND DEVELOPMENT
 [Signature] 10/10/12
 DIRECTOR

DEVELOPER'S/BUILDER'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 SUBDIVISION AND LAND DEVELOPMENT REGULATIONS AND LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION OF 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.
 [Signature] 7/27/12
 DEVELOPER James R. Hoxley, III
 [Signature] DATE

5	4-14-15	RELOCATE B' MACADAM PATHWAY, REVISE DRAIN TO 20LF 18" RCP CLASS IV
4	11-19-14	ESTABLISH PERIMETER 2 POR FOR BUILDABLE BULK PARCEL 'A'
3	9-5-2014	REVISE B' PATHWAY WITHIN OPEN SPACE LOT 152 FROM MACADAM TO STONE CURB & CRB
2	1-3-2014	CHANGE YELLOWWOOD TO RED MAPLE IN PERIMETER LANDSCAPE PLANTING LIST
1	10-16-13	REMOVE MAIL BOX PAD NEAR LOT 125

BENCHMARK ENGINEERING, INC.
 8490 BALTIMORE NATIONAL PIKE SUITE 418 ELLICOTT CITY, MARYLAND 21043
 (P) 410-465-8105 (F) 410-465-6644
 60 THOMAS JOHNSON DRIVE AFTERSIDE, MARYLAND 21702
 (P) 301-371-3505 (F) 301-371-3506
 WWW.BE2-ENGINEERING.COM

OWNER: SIMPSON MILL, LLC
 P.O. BOX 417
 ELLICOTT CITY, MARYLAND 21041
 410-465-4244

DEVELOPER: SIMPSON MILL, LLC
 P.O. BOX 417
 ELLICOTT CITY, MARYLAND 21041
 410-465-4244

SIMPSON MILL
 PHASE 1 - LOTS 1 thru 18 & 139 thru 150
 PHASE 2 - LOTS 19 thru 138
 OPEN SPACE LOTS 151 & 152 AND PARCEL 'A'

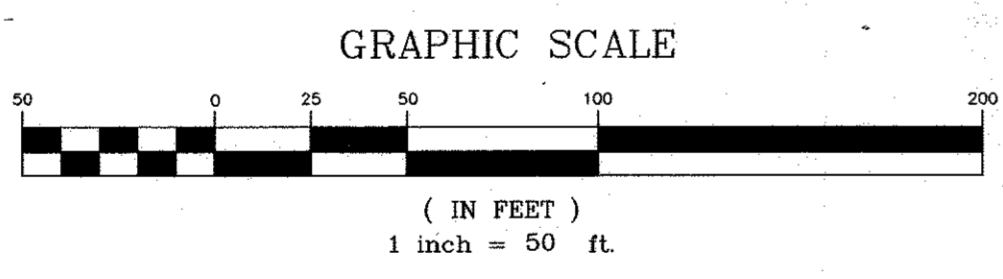
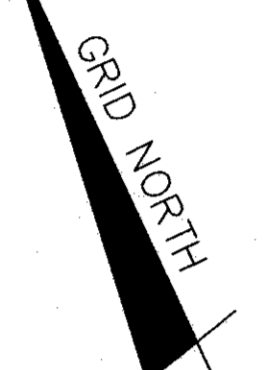
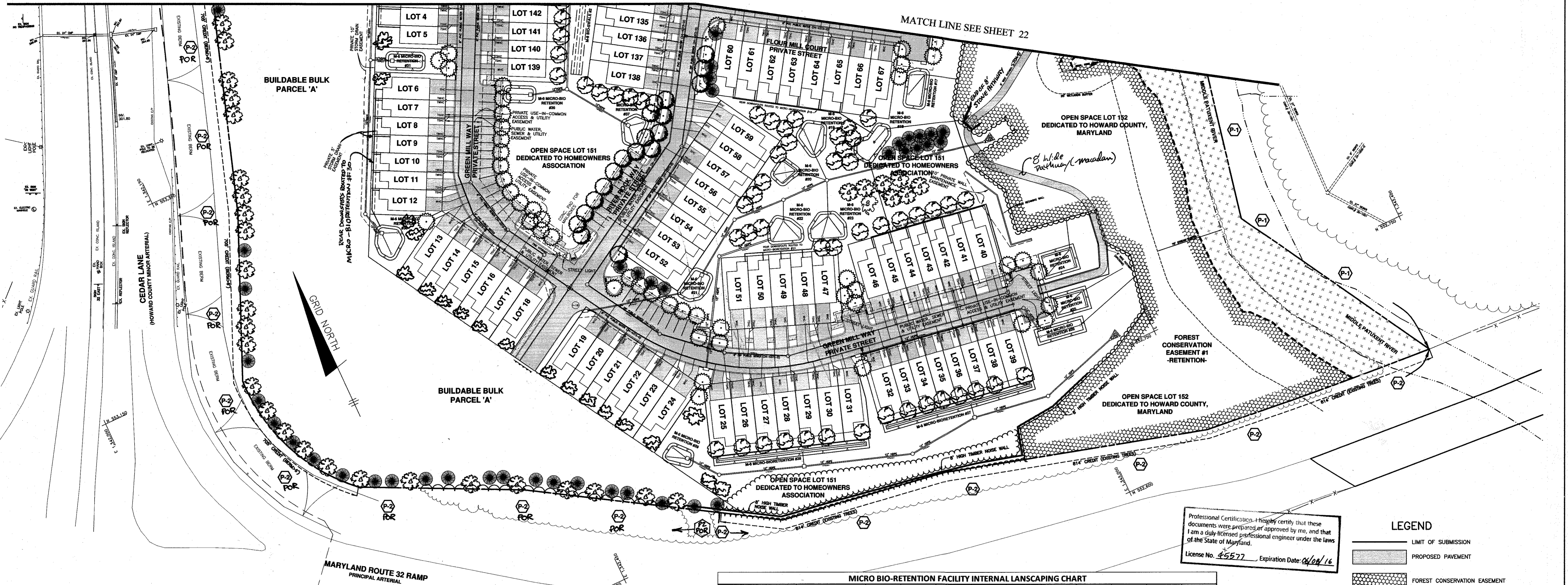
TAX MAP: 35 GRID: 23 PARCEL: 116 ZONED: R-SA-8
 TAX MAP: 35 GRID: 23 PARCEL: 258, 476 ZONED: POR
 ELECTION DISTRICT NO. 5
 HOWARD COUNTY, MARYLAND

PERIMETER LANDSCAPE & STREET TREE PLAN

DATE: AUGUST, 2012 BEI PROJECT NO: 2189
 SCALE: AS SHOWN SHEET 22 OF 29

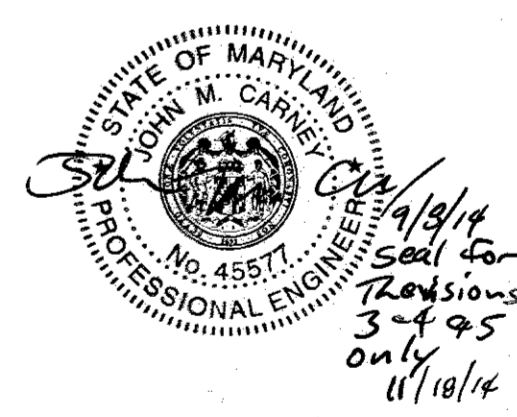
MATCH LINE SEE SHEET 22

MATCH LINE SEE SHEET 22



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. 45577 Expiration Date: 04/04/16

- LEGEND**
- LIMIT OF SUBMISSION
 - ▨ PROPOSED PAVEMENT
 - ▨ FOREST CONSERVATION EASEMENT
 - ▨ 100YR FLOODPLAIN
 - ▨ PROPOSED HOUSE
 - ▨ PROPOSED TREELINE
 - (P-1) PERIMETER EDGE



NO.	DATE	REVISION
5	9-6-2016	Revise Landscaping Quantities for MB #26.
4	11-10-14	ESTABLISH PERIMETER 2 FOR BUILDABLE BULK PARCEL 'A'
3	9-5-2014	REVISE 8' PATHWAY WITHIN OPENSAPCE LOT 152 FROM MACROBIO TO STONE (CRG) & CRB
2	1-3-2014	REVISE ROOF DRAINS FOR LOTS 40-46 TO 60 TO 6" MB #18. RELOCATE TREES AS NECESSARY. REVISE RAINTING CHART FOR MB #18.
1	10-16-13	RELOCATE 19 TREES

MICRO BIO-RETENTION FACILITY INTERNAL LANDSCAPING CHART

Facility square footage	MB #1	MB #2	MB #3	MB #4	MB #5	MB #6	MB #7	MB #8	MB #9	MB #10
800	670	292	700	836	692	711	734	552	850	
PLANT NAME	COMMON NAME	QUANTITY	QUANTITY	QUANTITY	QUANTITY	QUANTITY	QUANTITY	QUANTITY	QUANTITY	QUANTITY
Betula nigra	RIVER BIRCH	1	1	1	1	1	1	1	1	1
Clethra	COMMON PERIWINKLE	8	7	3	7	9	8	8	6	9
Ajuga reptans	CREeping BUGLEWEED	24	21	9	21	26	22	23	17	26
Iris versicolor	IRIS	24	21	9	21	26	22	23	17	26
Elymus virginicus	VIRGINIA WILD RYE	8	7	3	7	9	8	8	6	9
Vaccinium atrococcum	HIGHBUSH BLUEBERRY	8	7	3	7	9	8	8	6	9

MICRO BIO-RETENTION FACILITY INTERNAL LANDSCAPING CHART

Facility square footage	MB #11	MB #12	MB #13	MB #14	MB #15	MB #16	MB #17	MB #18	MB #19	MB #20
640	670	600	621	370	706	720	682	700	395	
PLANT NAME	COMMON NAME	QUANTITY	QUANTITY	QUANTITY	QUANTITY	QUANTITY	QUANTITY	QUANTITY	QUANTITY	QUANTITY
Betula nigra	RIVER BIRCH	1	1	1	1	1	1	1	1	1
Clethra	COMMON PERIWINKLE	7	7	6	7	4	8	8	7	4
Ajuga reptans	CREeping BUGLEWEED	20	21	18	19	12	22	20	21	12
Iris versicolor	IRIS	20	21	18	19	12	22	20	21	12
Elymus virginicus	VIRGINIA WILD RYE	7	7	6	7	4	8	8	7	4
Vaccinium atrococcum	HIGHBUSH BLUEBERRY	7	7	6	7	4	8	8	7	4

MICRO BIO-RETENTION FACILITY INTERNAL LANDSCAPING CHART

Facility square footage	MB #21	MB #22	MB #23	MB #24	MB #25	MB #26	MB #27	MB #28	MB #29	MB #30
692	700	810	815	700	600	672	672	400	674	
PLANT NAME	COMMON NAME	QUANTITY	QUANTITY	QUANTITY	QUANTITY	QUANTITY	QUANTITY	QUANTITY	QUANTITY	QUANTITY
Betula nigra	RIVER BIRCH	1	1	1	1	1	1	1	1	1
Clethra	COMMON PERIWINKLE	7	7	9	9	7	5	7	4	7
Ajuga reptans	CREeping BUGLEWEED	21	21	25	25	21	14	21	12	21
Iris versicolor	IRIS	21	21	25	25	21	14	21	12	21
Elymus virginicus	VIRGINIA WILD RYE	7	7	9	9	7	5	7	4	7
Vaccinium atrococcum	HIGHBUSH BLUEBERRY	7	7	9	9	7	5	7	4	7

MICRO BIO-RETENTION FACILITY INTERNAL LANDSCAPING CHART

Facility square footage	MB #31	MB #32	MB #33	MB #34	MB #35	MB #36	MB #37
540	523	390	494	1100	283	529	
PLANT NAME	COMMON NAME	QUANTITY	QUANTITY	QUANTITY	QUANTITY	QUANTITY	QUANTITY
Betula nigra	RIVER BIRCH	1	1	1	1	1	
Clethra	COMMON PERIWINKLE	6	6	4	5	11	3
Ajuga reptans	CREeping BUGLEWEED	17	16	12	15	33	9
Iris versicolor	IRIS	17	16	12	15	33	9
Elymus virginicus	VIRGINIA WILD RYE	6	6	4	5	11	3
Vaccinium atrococcum	HIGHBUSH BLUEBERRY	6	6	4	5	11	3

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division: *[Signature]* 10/5/12 DATE

Chief, Division of Land Development: *[Signature]* 10/10/12 DATE

Director: *[Signature]* 10/16/12 DATE

DEVELOPER'S/BUILDER'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 SUBDIVISION AND LAND DEVELOPMENT REGULATIONS AND LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION OF 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.

Developer: *[Signature]* 7/27/12 DATE

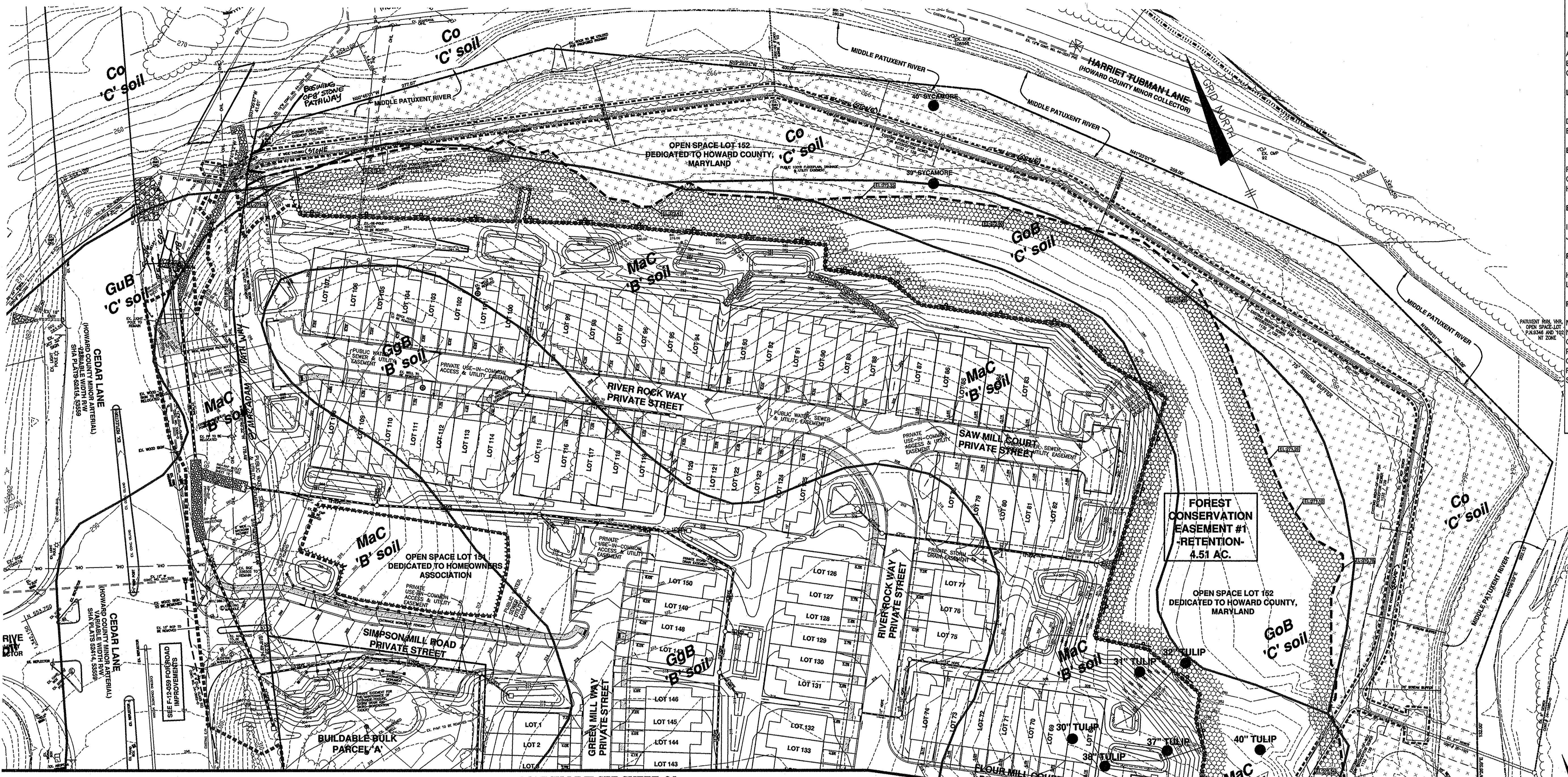
BENCHMARK ENGINEERING, INC.
 ENGINEERS & LAND SURVEYORS & PLANNERS
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SIMPSON MILL
 PHASE 1 - LOTS 1 thru 18 & 139 thru 150
 PHASE 2 - LOTS 19 thru 138
 OPEN SPACE LOTS 151 & 152 AND PARCEL 'A'

TAX MAP: 35 GRID: 23 PARCEL: 116 ZONED: R-SA-8
 TAX MAP: 35 GRID: 23 PARCEL: 258, 476 ZONED: POR
 HOWARD COUNTY, MARYLAND

PERIMETER LANDSCAPE & STREET TREE PLAN AND MICRO-BIORETENTION PLANTING CHART

DATE: AUGUST, 2012 BEI PROJECT NO: 2189
 DESIGN: DBT/JMC DRAWN: DBT/JMC SCALE: AS SHOWN SHEET 23 OF 29



FOREST CONSERVATION WORKSHEET

Simpson Mill
 Computations by: DBT BEI JOB No. 2189 Date: 1/23/2012

NET TRACT AREA:

A. Total tract area	29.32 ac.
B. Other deductions: (floodplain)	4.75 ac.
C. Net Tract Area	24.57 ac.

LAND USE CATEGORY:
 Select category (AR, MDR, ID, HDR, MPD, CI) HDR

D. Afforestation Threshold 15% x "F" = 3.69 ac.
 E. Conservation threshold 20% x "F" = 4.91 ac.

EXISTING FOREST COVER:

F. Existing forest cover	23.20 ac.
G. Area of forest above afforestation threshold	19.51 ac.
H. Area of forest above conservation threshold	18.29 ac.

BREAK EVEN POINT:

I. Forest retention above threshold with no mitigation	8.57 ac.
J. Clearing permitted without mitigation	14.63 ac.

PROPOSED FOREST CLEARING:

K. Total area of forest to be cleared	18.69 ac.
L. Total area of forest to be retained	4.51 ac.

PLANTING REQUIREMENTS:

M. Reforestation for clearing above conservation threshold	4.57 ac.
N. Reforestation for clearing below conservation threshold	0.81 ac.
O. Credit for retention above conservation threshold	0.00 ac.
P. Total reforestation required	5.38 ac.
Q. Total afforestation required	0.00 ac.
R. Credit for landscaping - may not exceed 20% of "S."	0.00 ac.
S. Total reforestation and afforestation required	5.38 ac.

The reforestation requirement on 5.38 acres has been met by the use of the forest mitigation bank on The Preserve at Clarksville, F-06-072

LEGEND

	FOREST CONSERVATION EASEMENT 4.51 ACRES (RETENTION)
	100YR FLOODPLAIN
	FOREST CONSERVATION SIGNAGE
	31" CHERRY SPECIMEN TREE
	SOILS DELINEATION LINE
	SOILS TYPE
	LIMIT OF DISTURBANCE

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. 45577 Expiration Date: 04/01/16

2-1/2" MATCH LINE SEE SHEET 25

GRAPHIC SCALE
 (IN FEET)
 1 inch = 50 ft.

FOREST CONSERVATION NOTES:

1. THE TOTAL FOREST CONSERVATION OBLIGATION HAS BEEN MET BY THE ON-SITE RETENTION OF 4.51 AC. OF NET TRACT AREA PLANTING WITHIN A FOREST CONSERVATION EASEMENT AND THE OFFSITE PLANTING OF 5.38 ACRES WITHIN THE FOREST MITIGATION BANK LOCATED WITHIN THE PRESERVE AT CLARKSVILLE SUBDIVISION (F-06-072). FINANCIAL SURETY FOR THE OFF-SITE PLANTING WAS POSTED AS PART OF THE DPW DEVELOPERS AGREEMENT FOR F-06-072. NO SURETY IS REQUIRED FOR THE ONSITE RETENTION FOREST CONSERVATION EASEMENT.
2. 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.
3. THE FOREST CONSERVATION EASEMENT HAS BEEN ESTABLISHED TO FULFILL THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE, FOREST CONSERVATION ACT. NO CLEARING, GRADING, OR CONSTRUCTION IS PERMITTED WITHIN THE FOREST CONSERVATION EASEMENT; HOWEVER, FOREST MANAGEMENT PRACTICES AS DEFINED IN THE DEED OF FOREST CONSERVATION EASEMENT ARE ALLOWED.
4. LIMITS OF DISTURBANCE SHALL BE RESTRICTED TO AREAS OUTSIDE THE LIMIT OF TEMPORARY FENCING OR THE FCE BOUNDARY, WHICHEVER IS GREATER.
5. THERE SHALL BE NO CLEARING, GRADING, CONSTRUCTION OR DISTURBANCE OF VEGETATION IN THE FOREST CONSERVATION EASEMENT, EXCEPT AS PERMITTED BY HOWARD COUNTY DPZ. NO STOCKPILES, PARKING AREAS, EQUIPMENT CLEANING AREA, ETC. SHALL OCCUR WITHIN THE FOREST CONSERVATION EASEMENT.
6. TEMPORARY FENCING SHALL BE USED TO PROTECT FOREST RESOURCES DURING CONSTRUCTION. THE FENCING SHALL BE PLACED ALONG ALL FCE RETENTION BOUNDARIES WHICH OCCUR WITHIN 50 FEET OF THE PROPOSED LIMITS OF DISTURBANCE THAT DOES NOT ALREADY HAVE A SUPER SILT FENCE PROPOSED.
7. PERMANENT SIGNAGE SHALL BE PLACED 50'-100' APART ALONG THE BOUNDARIES OF ALL FOREST CONSERVATION EASEMENTS. THIS SIGNAGE SHALL STAY IN PERPETUITY.
8. PORTIONS OF THE SITE OCCURRING WITHIN THE 100-YEAR FLOODPLAIN ARE NOT INCLUDED AS PART OF THE NET TRACT AREA OF THE SITE. AREAS OF FLOODPLAIN FOREST OCCURRING WITHIN THE LIMITS OF A FOREST CONSERVATION EASEMENT WILL BE PROTECTED BY THE EASEMENT RESTRICTIONS BUT HAVE NOT BEEN CREDITED TOWARD THE PROJECTS FCA OBLIGATIONS.
9. THE FOREST CONSERVATION WATERSHED FOR THIS PROJECT IS THE MIDDLE PATUXENT RIVER #2131106.
10. THERE ARE NO RARE, THREATENED OR ENDANGERED SPECIES LOCATED ON THIS SITE. TO THE BEST OF OUR KNOWLEDGE, THERE ARE NO HISTORIC STRUCTURES LOCATED ON THIS SITE. THERE ARE 21 SPECIMEN TREES LOCATED ON THIS SITE AS DESIGNATED ON THE FOREST STAND DELINEATION PLAN. 13 OF THEM ARE TO BE REMOVED.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION 1/15/12 DATE

CHIEF, DIVISION OF LAND DEVELOPMENT 1/16/12 DATE

DIRECTOR 1/16/12 DATE

DECAL SPECIFICATIONS

Metric: Number 3690 Scotchlok non-reflective substrate.

Color: Dark green text and border on beige background.

FCE CARSONITE MARKER NOT TO SCALE

MARKER - SECTION VIEW

MARKER DETAIL

REFLECTIVE SHEETING OR SPECIFIED DECAL

31" CHERRY SPECIMEN TREE

SOILS DELINEATION LINE

SOILS TYPE

LIMIT OF DISTURBANCE

MATCH LINE SEE SHEET 25

GRAPHIC SCALE
 (IN FEET)
 1 inch = 50 ft.

FOREST CONSERVATION NOTES:

1. THE TOTAL FOREST CONSERVATION OBLIGATION HAS BEEN MET BY THE ON-SITE RETENTION OF 4.51 AC. OF NET TRACT AREA PLANTING WITHIN A FOREST CONSERVATION EASEMENT AND THE OFFSITE PLANTING OF 5.38 ACRES WITHIN THE FOREST MITIGATION BANK LOCATED WITHIN THE PRESERVE AT CLARKSVILLE SUBDIVISION (F-06-072). FINANCIAL SURETY FOR THE OFF-SITE PLANTING WAS POSTED AS PART OF THE DPW DEVELOPERS AGREEMENT FOR F-06-072. NO SURETY IS REQUIRED FOR THE ONSITE RETENTION FOREST CONSERVATION EASEMENT.
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SITE DATA TABULATION

1. TOTAL AREA OF SITE.....	29.32± AC.
2. AREA OF 100 YEAR FLOODPLAIN.....	4.75± AC.
3. NET AREA OF SITE.....	24.57± AC.
4. TOTAL FOREST ON NET AREA.....	23.20± AC.

FOR BEARINGS AND DISTANCES OF FOREST CONSERVATION BOUNDARIES SEE RECORD PLAT

Eco-Science Professionals, Inc.
 CONSULTING ECOLOGISTS
 P.O. Box 5006 Glen Arm, MD 21057 (410) 592-6752

MD DNR Qualified Professional USACOE Wildlife Biologist Certification #111DCP33MD0610044D2
 John P. Canoles

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. 45577 Expiration Date: 04/01/16

Professional Engineer Seal for Brian M. Cleary, No. 45577, State of Maryland

RELOCATE B' MACADAM PATHWAY, REVISE DRAW TO 28 L.F. 18 RCP CLASS IV

REVISE B' PATHWAY IN OPEN SPACE LOT 152 FROM MACADAM TO STONE (CB & CQB)

NO. DATE REVISION

2 4-14-15

1 9-5-2014

BENCHMARK ENGINEERING, INC.
 8450 BALTIMORE NATIONAL PIKE & SUITE 418 & ELLICOTT CITY, MARYLAND 21043
 (P) 410-465-6105 (F) 410-465-6644
 60 THOMAS JOHNSON DRIVE A FREDERICK, MARYLAND 21702
 (P) 301-371-3505 (F) 301-371-3508
 WWW.BEI-ONLINEENGINEERING.COM

OWNER: SIMPSON MILL, LLC
 P.O. BOX 417
 ELLICOTT CITY, MARYLAND 21041
 410-465-4244

DEVELOPER: SIMPSON MILL, LLC
 P.O. BOX 417
 ELLICOTT CITY, MARYLAND 21041
 410-465-4244

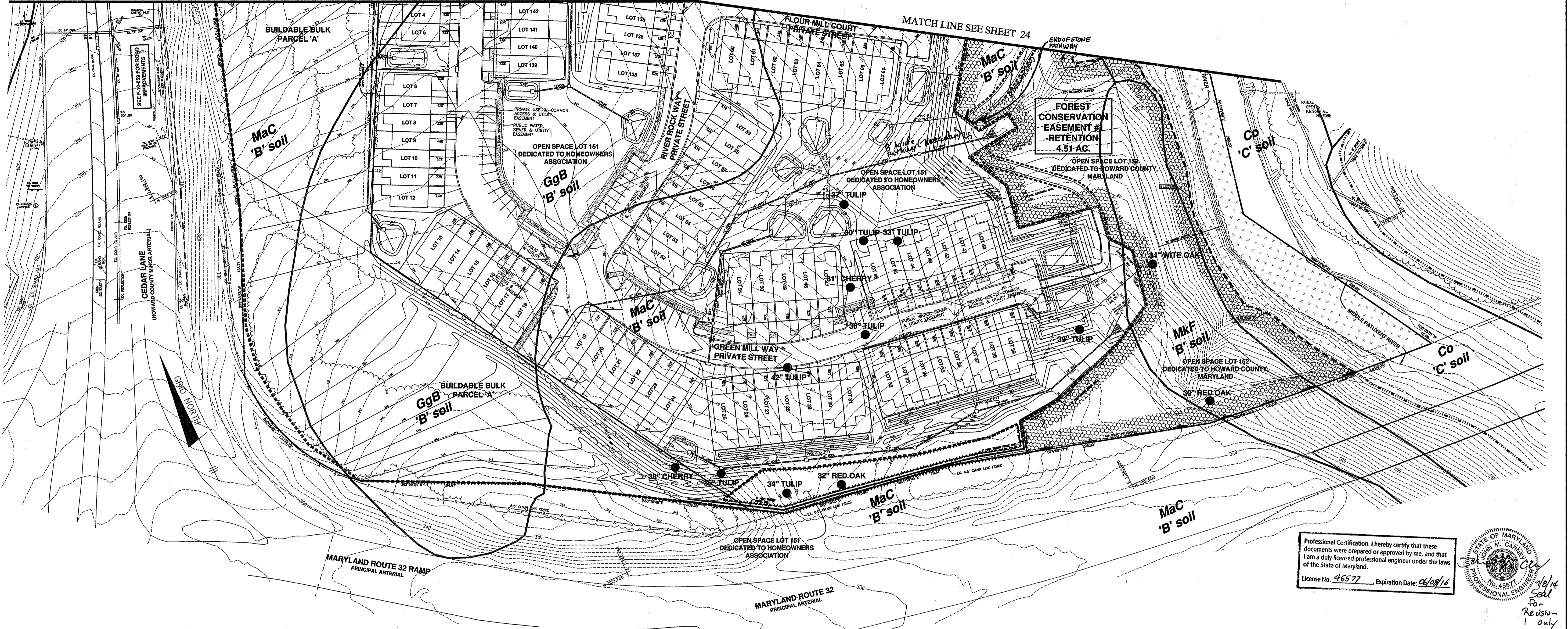
SIMPSON MILL
 PHASE 1 - LOTS 1 thru 18 & 139 thru 150
 PHASE 2 - LOTS 19 thru 138
 OPEN SPACE LOTS 151 & 152 AND PARCEL 'A'

TAX MAP: 35 GRID: 23 PARCEL: 116 ZONED: R-SA-B
 TAX MAP: 35 GRID: 23 PARCEL: 258, 476 ZONED: POR
 ELECTION DISTRICT NO. 5
 HOWARD COUNTY, MARYLAND

FOREST CONSERVATION PLAN

DATE: AUGUST, 2012 BEI PROJECT NO: 2189
 SCALE: AS SHOWN SHEET 24 OF 29

DESIGN: DBT/JMC DRAWN: DBT/JMC



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. Temporary fencing shall be placed around the critical root zone of the forest in areas where the forest limits occur within 25 feet of the limit of disturbance.

2. Fencing and Signage

Existing forest limits occurring within 25 feet of the limits of disturbance shall be protected using temporary protective fencing. Permanent signage shall be placed around the Afforestation area prior to plant installation, as shown on the plan.

B. Pre-Construction Meeting

Upon staking of limits of disturbance 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 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 outside of the proposed Forest Conservation Easement. Cleaning of equipment will be limited to area within the LOD of the proposed homesites. Wastewater resulting from equipment cleaning will be controlled to prevent runoff into environmentally sensitive areas.

D. Sequence of Construction

The following timetable represents the proposed timetable for development of the subject property. The items outlined in the Forest Conservation Plan will be enacted within two (2) years of subdivision approval.

Below find a proposed sequence of construction:

1. Install all signage and sediment control devices.
2. Hold pre-construction meeting between developer, contractor and county inspector.
3. Build roads, install water and sewer, and construct houses. Stabilize all disturbed areas accordingly.
4. Remove sediment control.
5. Hold post-construction meeting with county inspections to assure compliance with FCP. Submit Certification of Retention.

E. Construction Monitoring

Eco-Science Professionals, Inc. 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.

F. Post-Construction Meeting

Upon completion of construction, Eco-Science Professionals, Inc. 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 forest retention requirements have been met.

POST-CONSTRUCTION MANAGEMENT PLAN

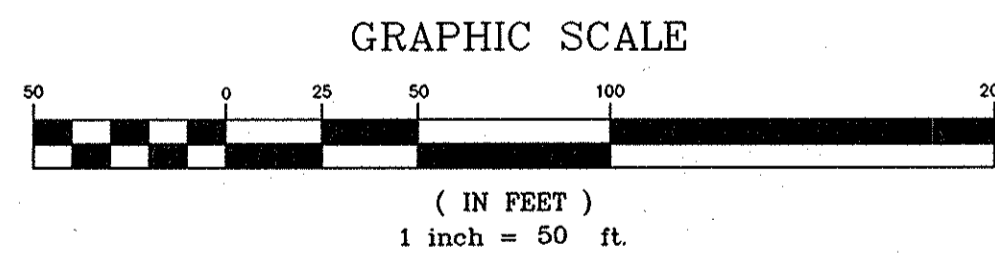
Howard County requires a two-year post-construction management plan be prepared as part of the Forest Conservation Plan. The plan goes into effect upon acceptance of the construction certification of completion by the County, Eco-Science Professionals, Inc., or another qualified professional designated by 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. Fencing and Signage: Permanent signage indicating the limits of the retention/planting area shall be maintained.
- B. General Site Inspections: Site inspections will be performed to insure that retention of the forest is met in accordance with this plan and that the forest edge remains healthy and stable.
- C. Education: The Developer will provide appropriate materials to property owners informing them of the location and purpose of the forest conservation easement. Materials may include site plans and information explaining the intent of the forest conservation law.
- D. Final Inspection: At the end of the two-year post-construction management period, Eco Science Professionals, Inc. or another qualified professional, will submit to the administrator of the Howard County Forest Conservation Program certification that all retention/planting requirements have been met. Upon acceptance of this certification, the County will release the Developer from all future obligations and release the Developer's bond.

FOREST CONSERVATION EASEMENTS

Easements are a legal means of providing permanent protection of forests, farmland and open space. In accordance with the criteria outlined in the Howard County Forest Conservation Manual, a forest conservation easement will be recorded for the retention areas of the subject property. Submission of the easements for recordation will occur prior to commencement of construction activities.



LEGEND

- FOREST CONSERVATION EASEMENT 4.51 ACRES (RETENTION)
- 100YR FLOODPLAIN
- FOREST CONSERVATION SIGNAGE
- 31" CHERRY SPECIMEN TREE
- SOILS DELINEATION LINE
- GoB 'C' soil SOILS TYPE
- LIMIT OF DISTURBANCE

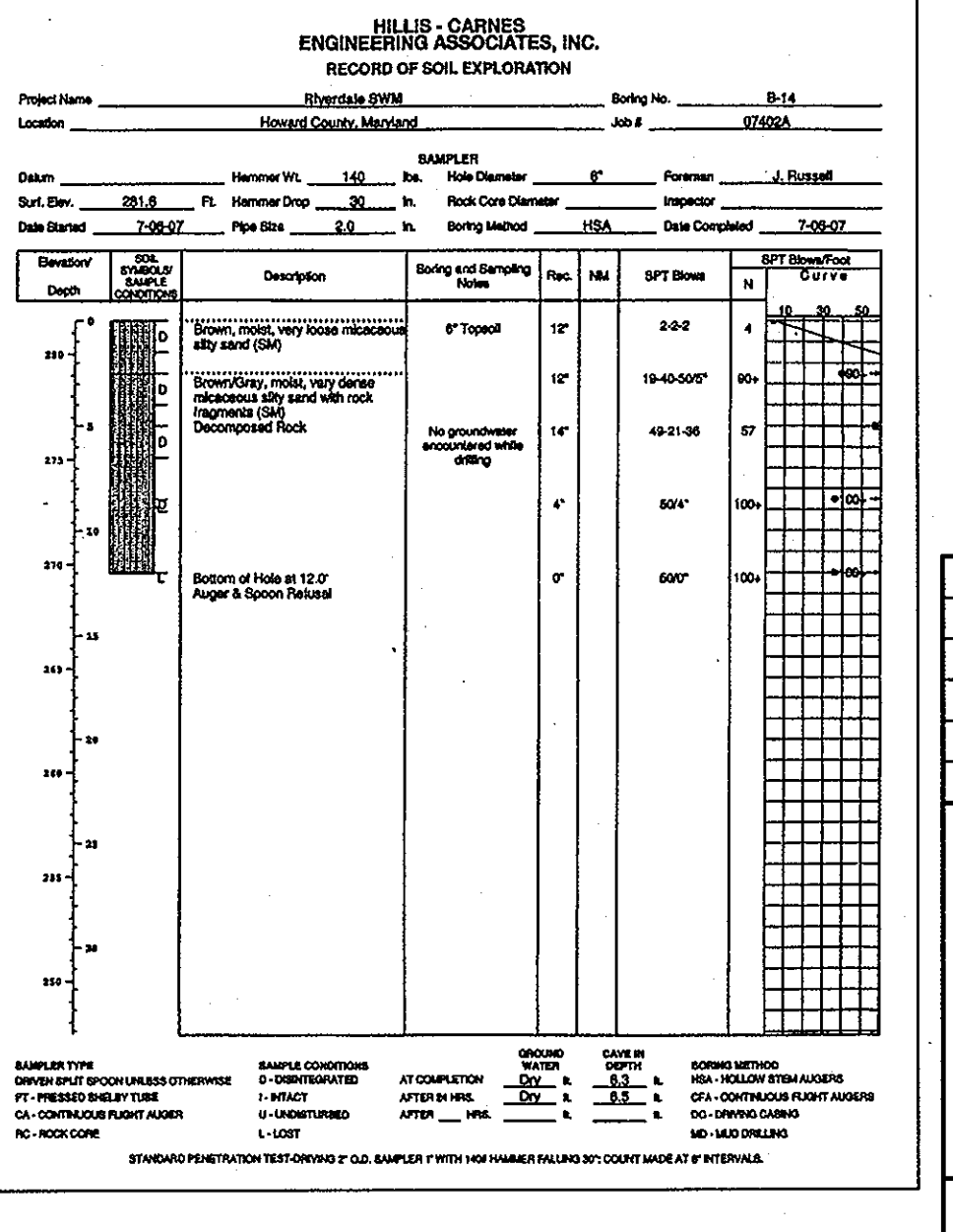
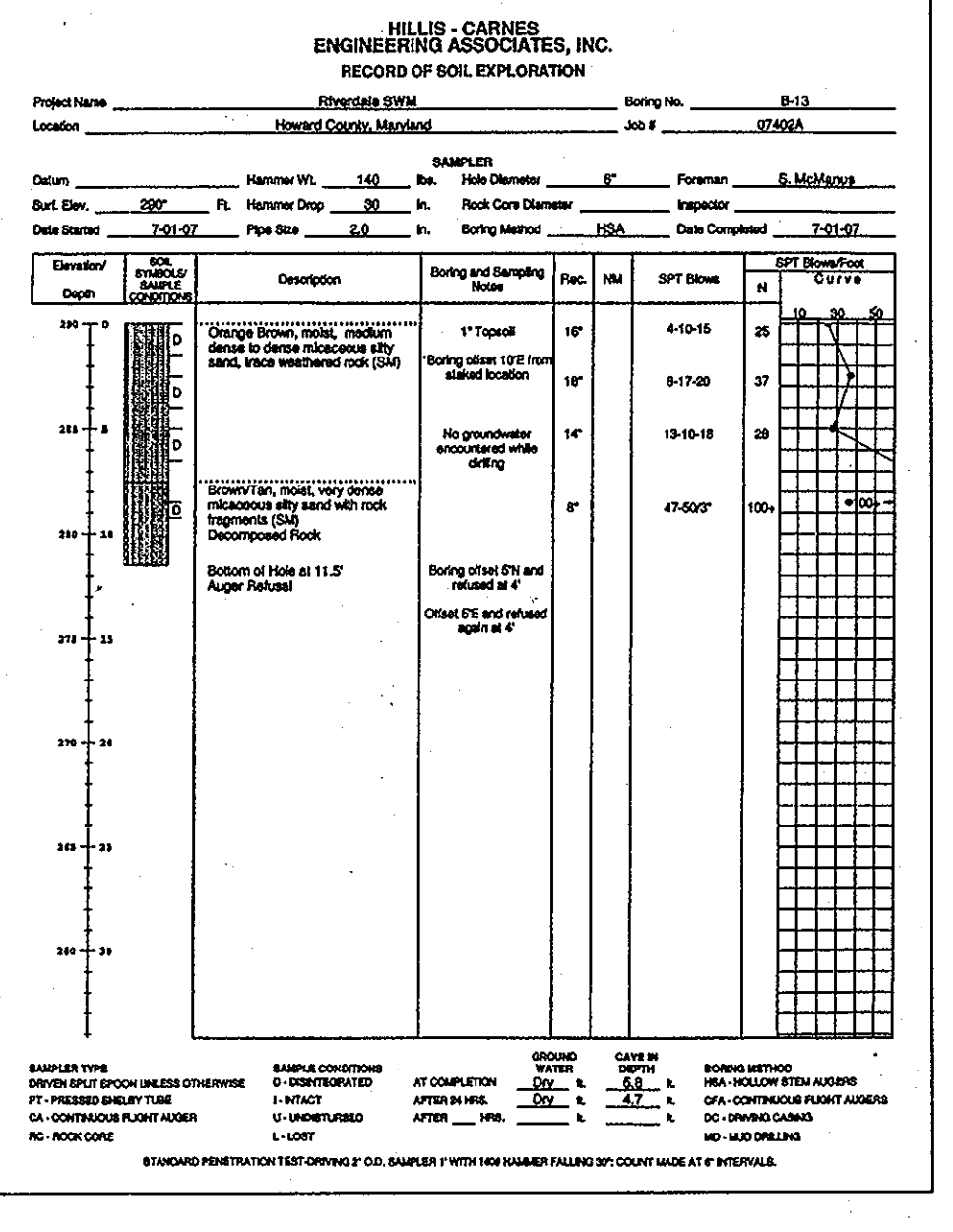
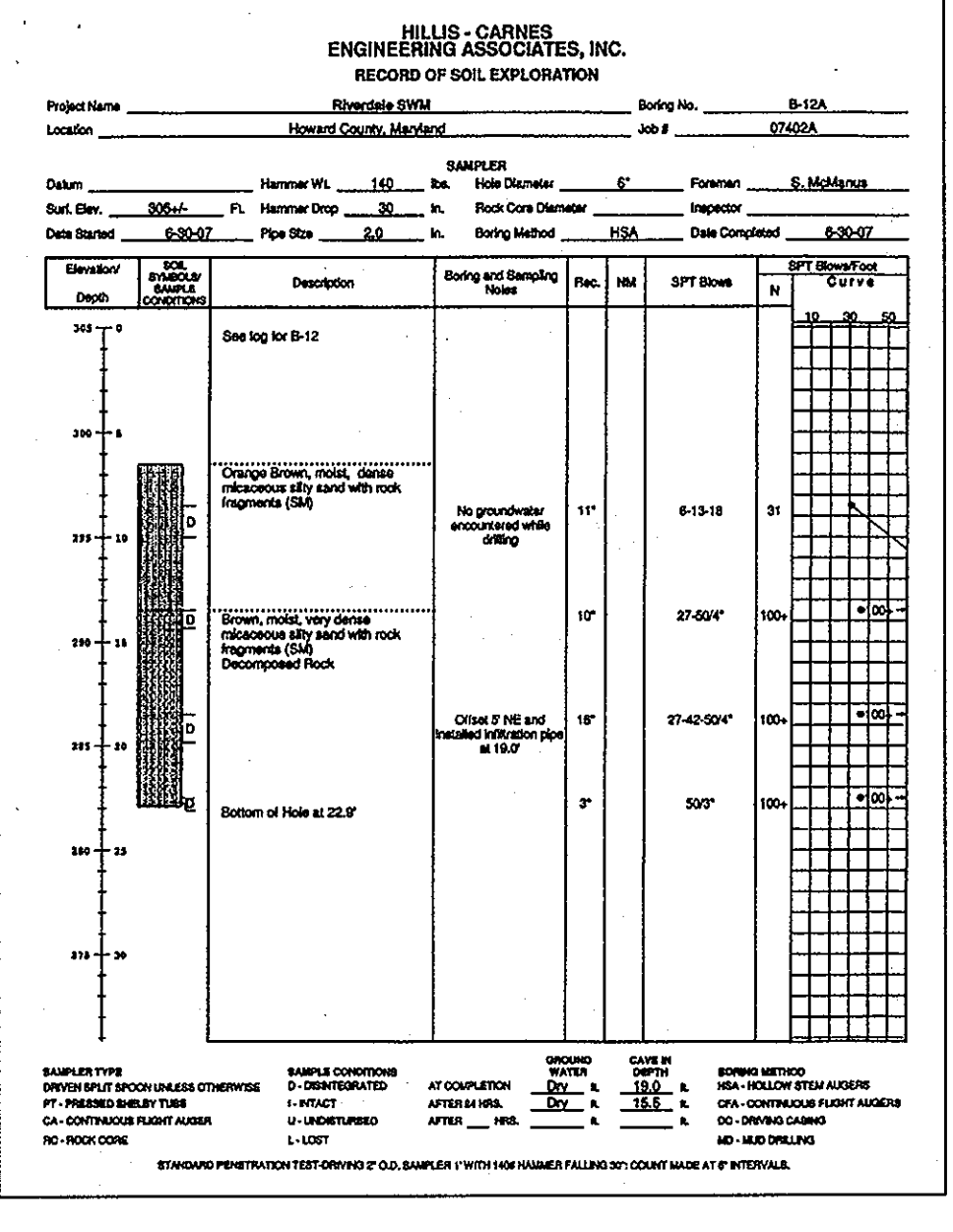
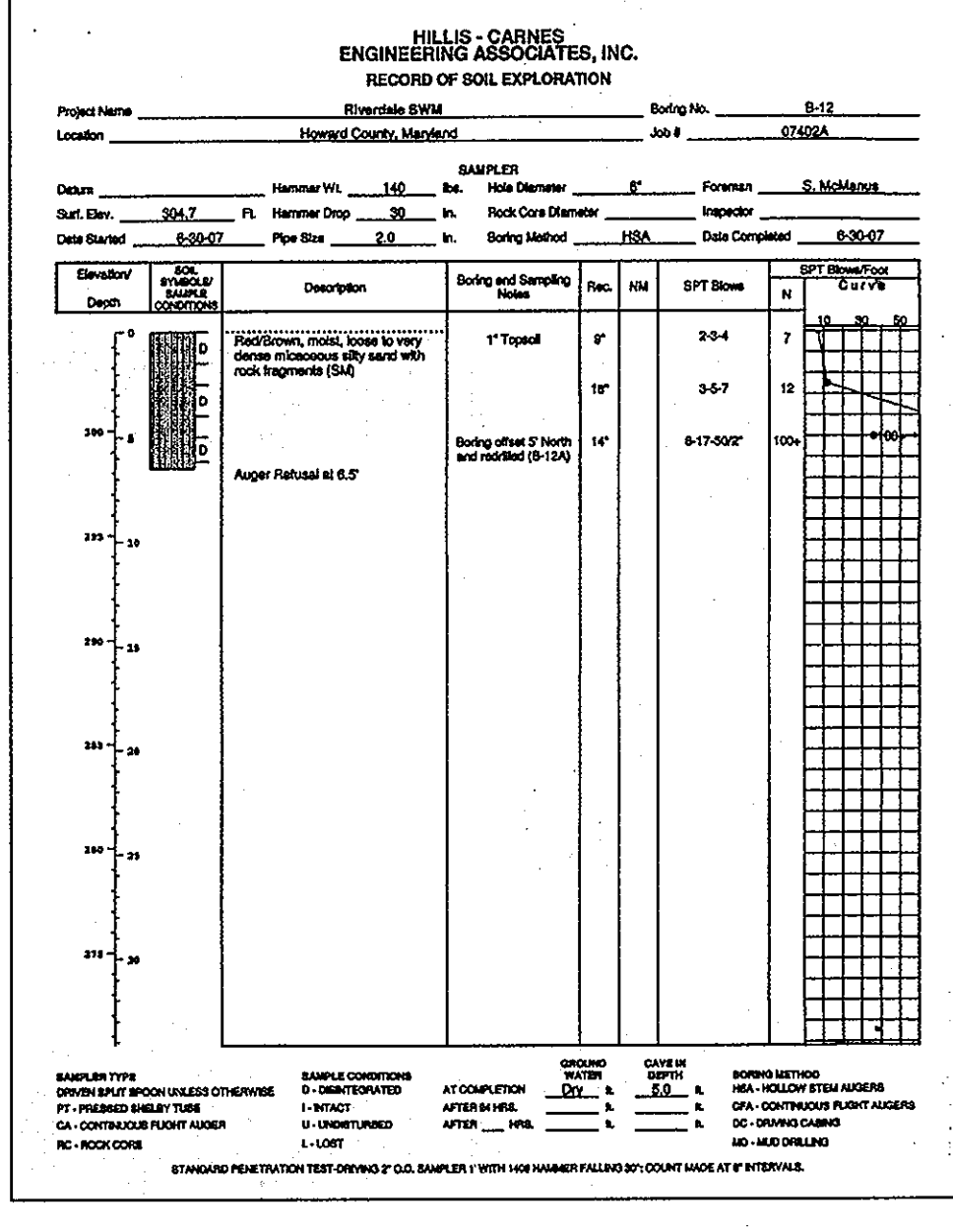
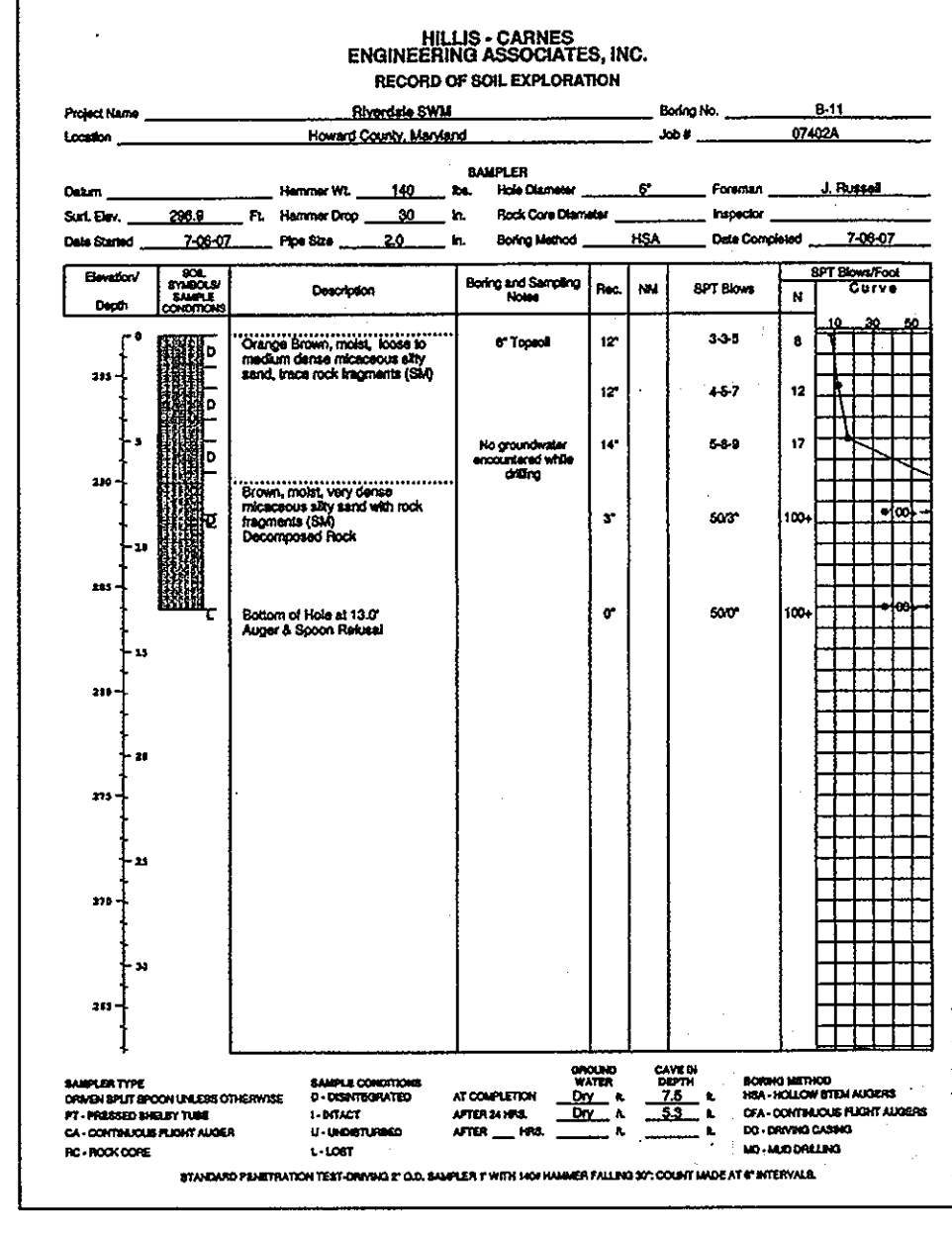
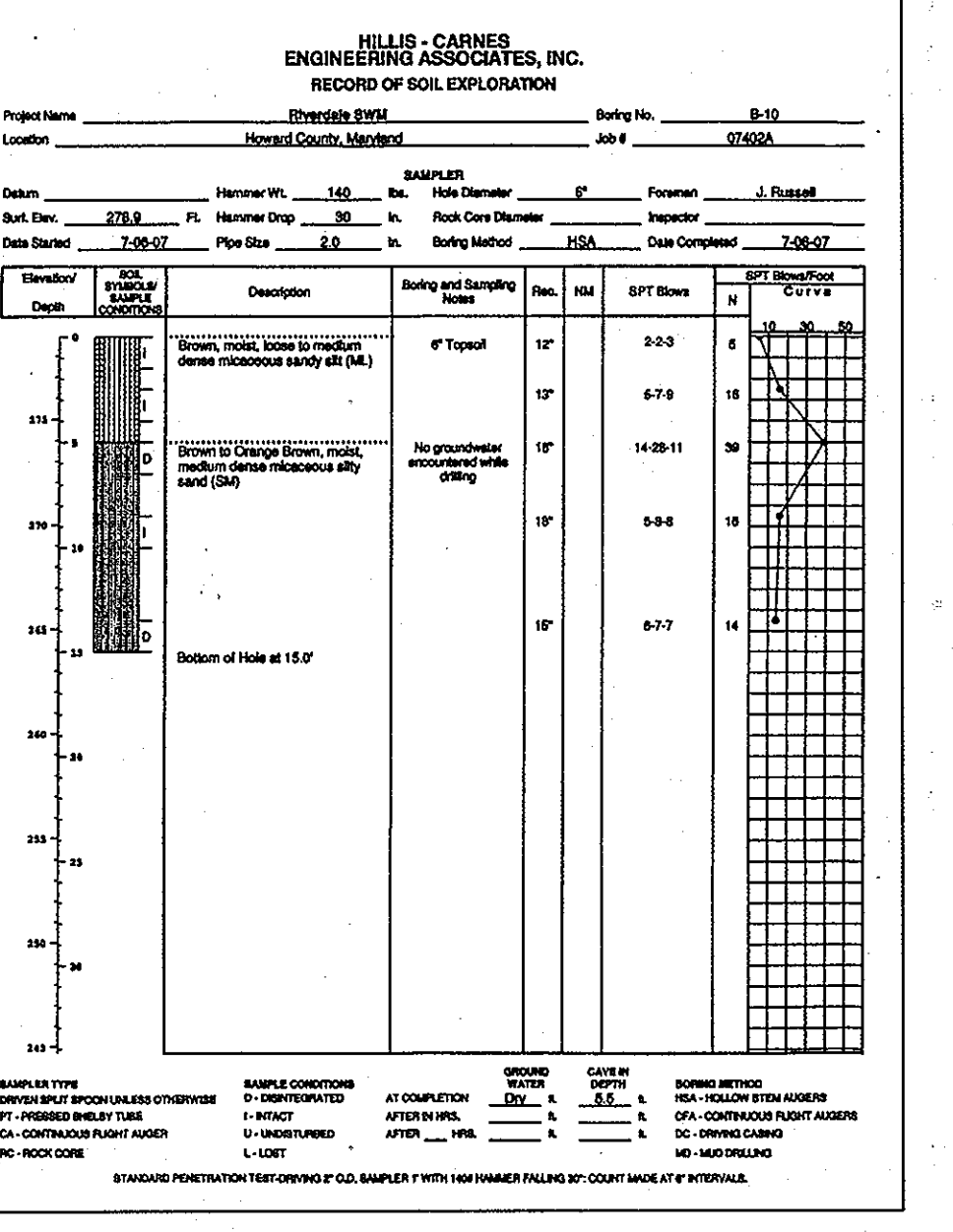
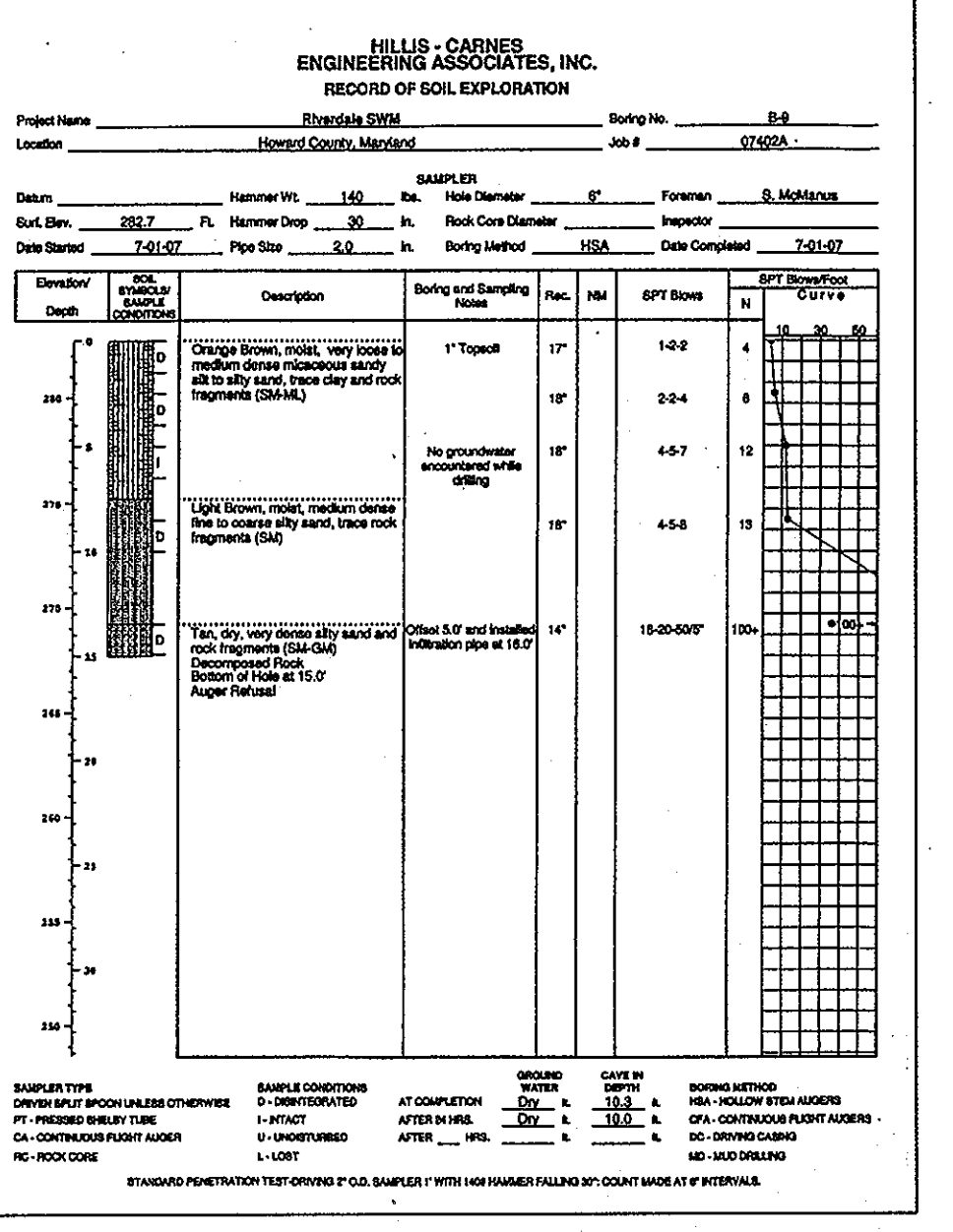
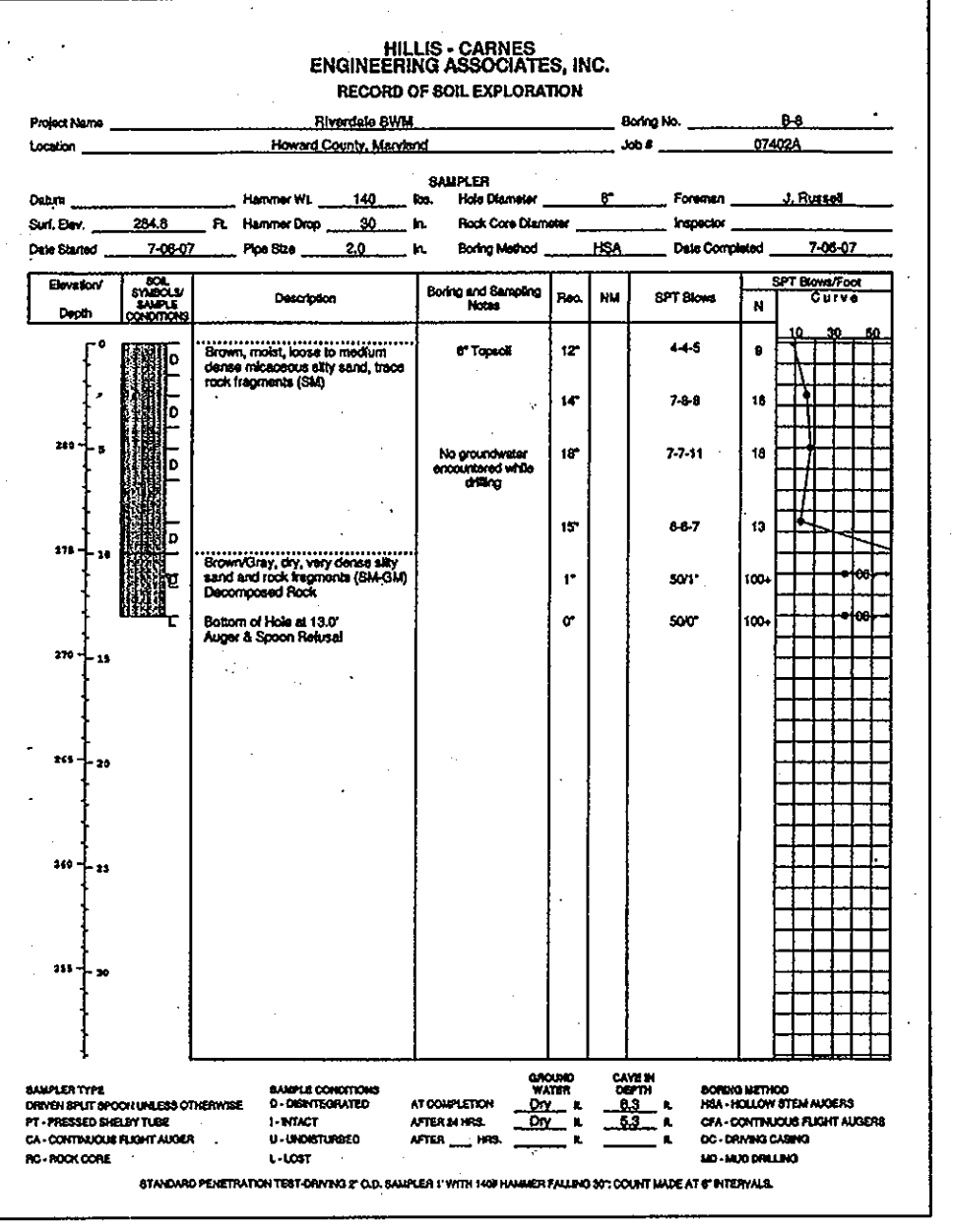
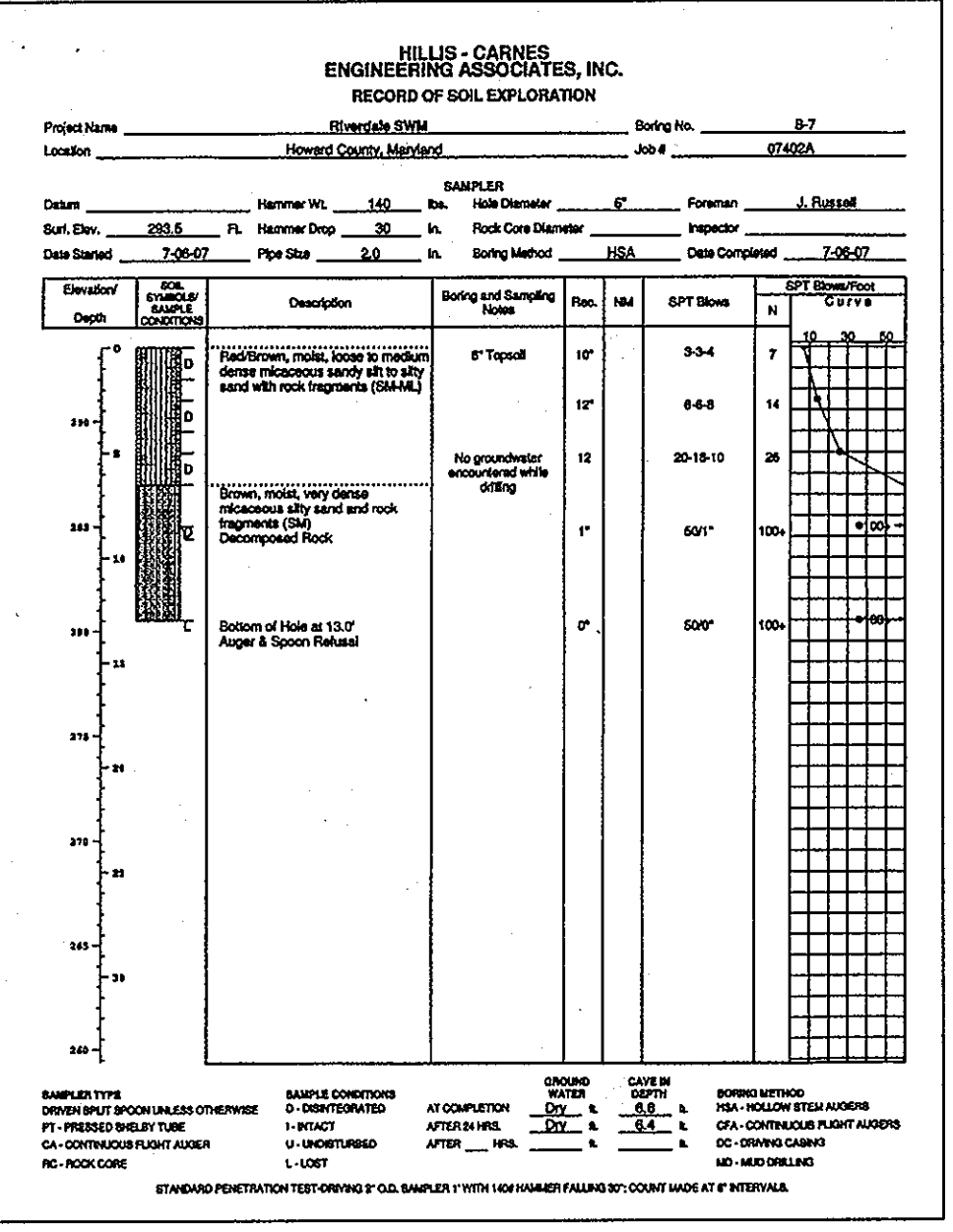
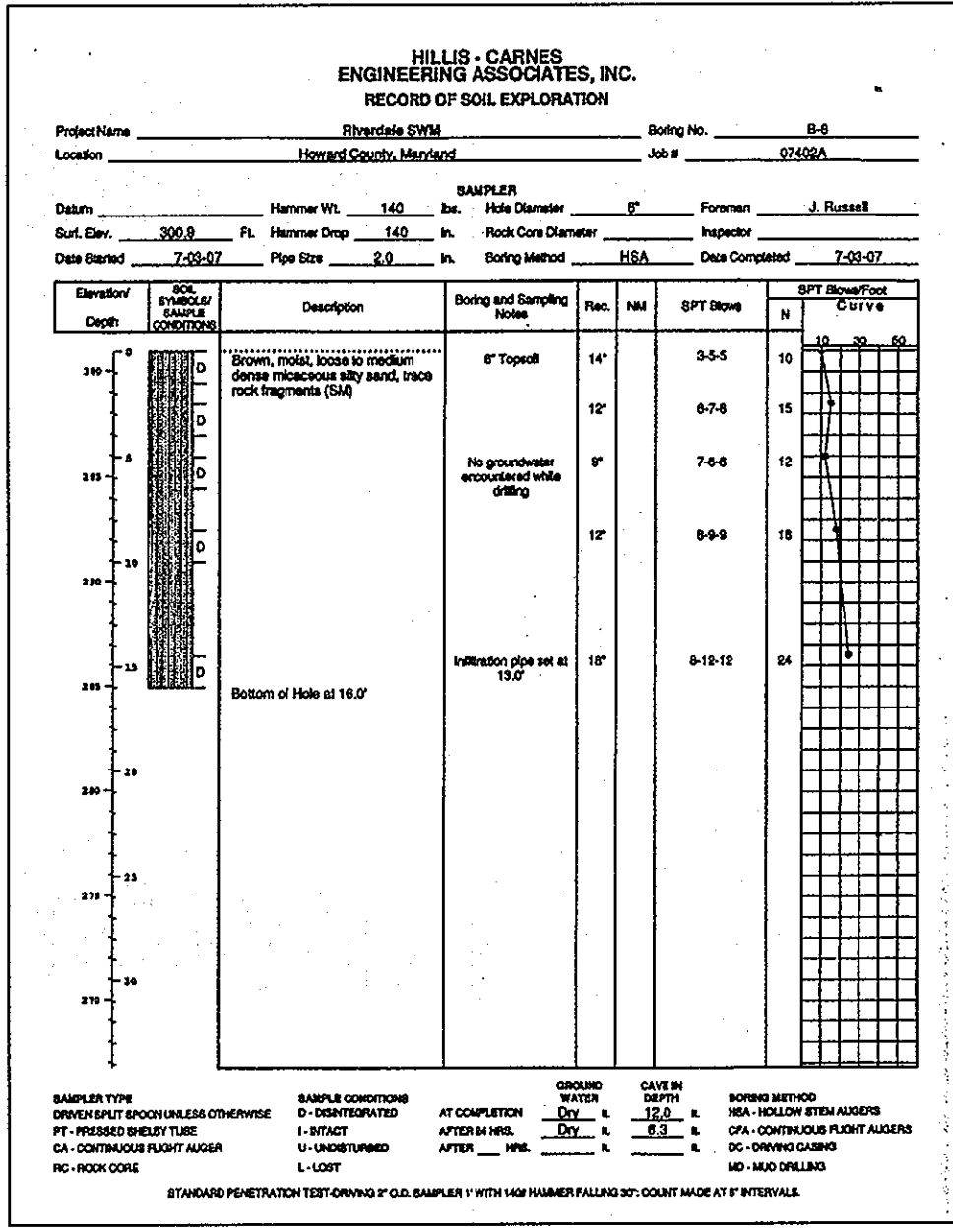
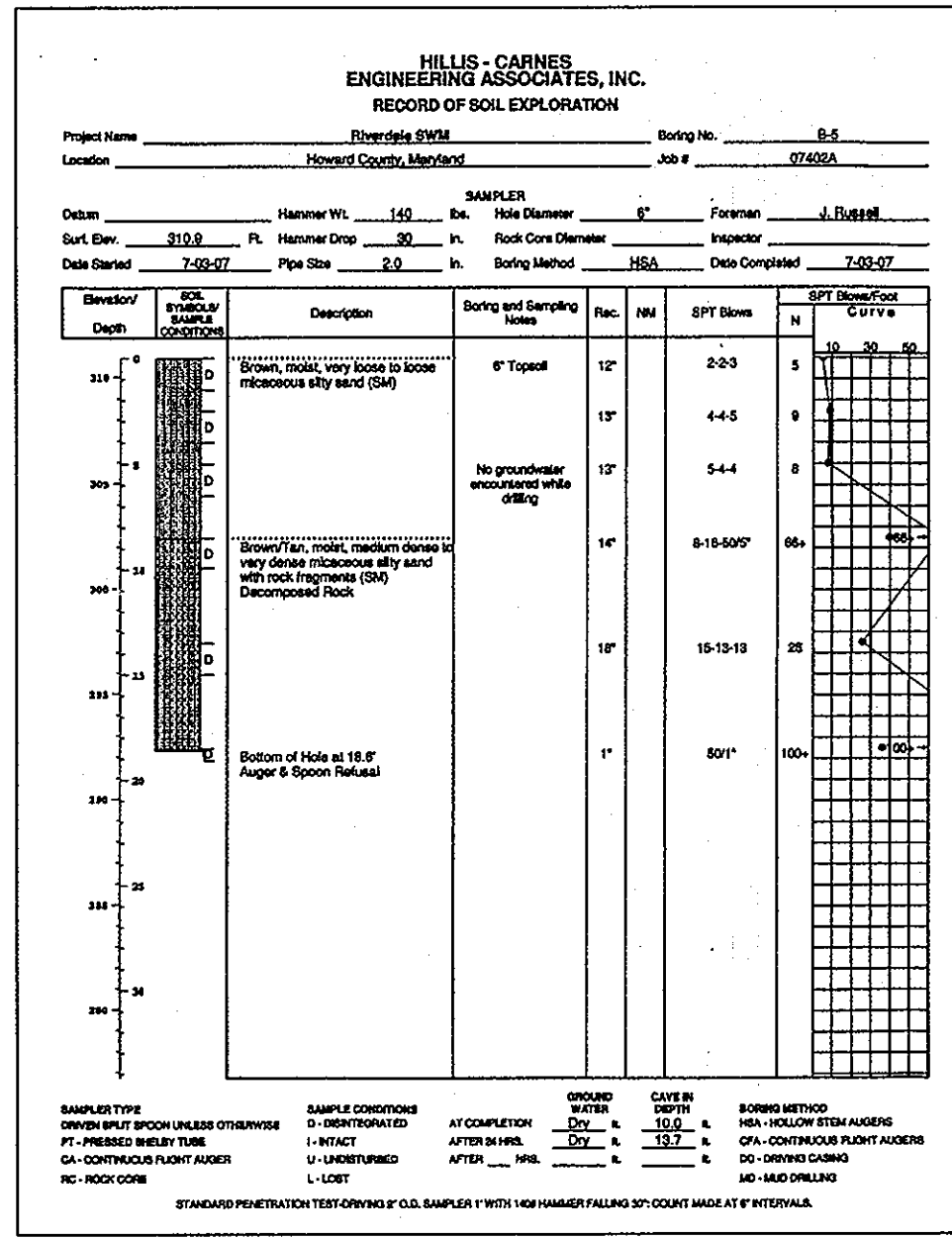
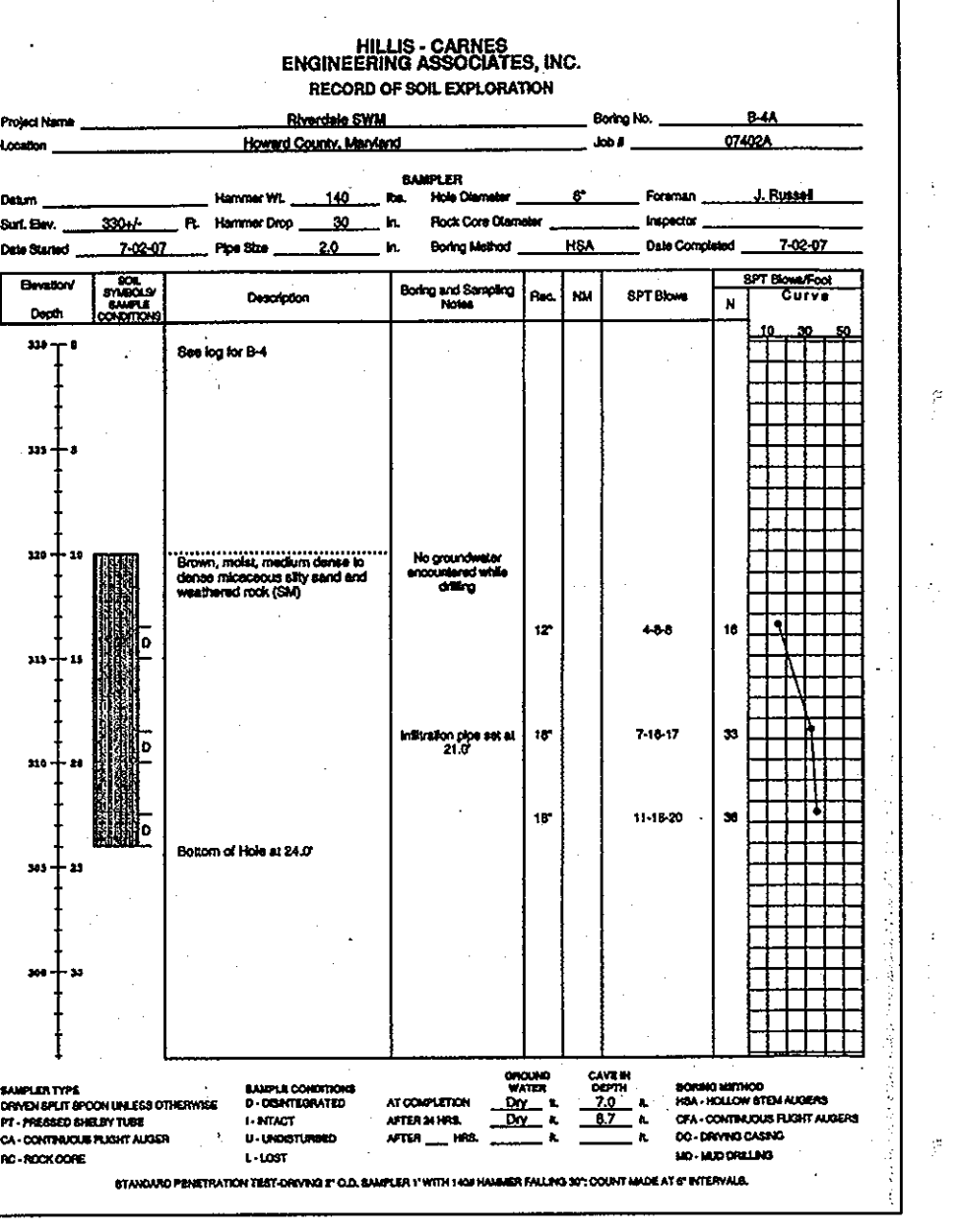
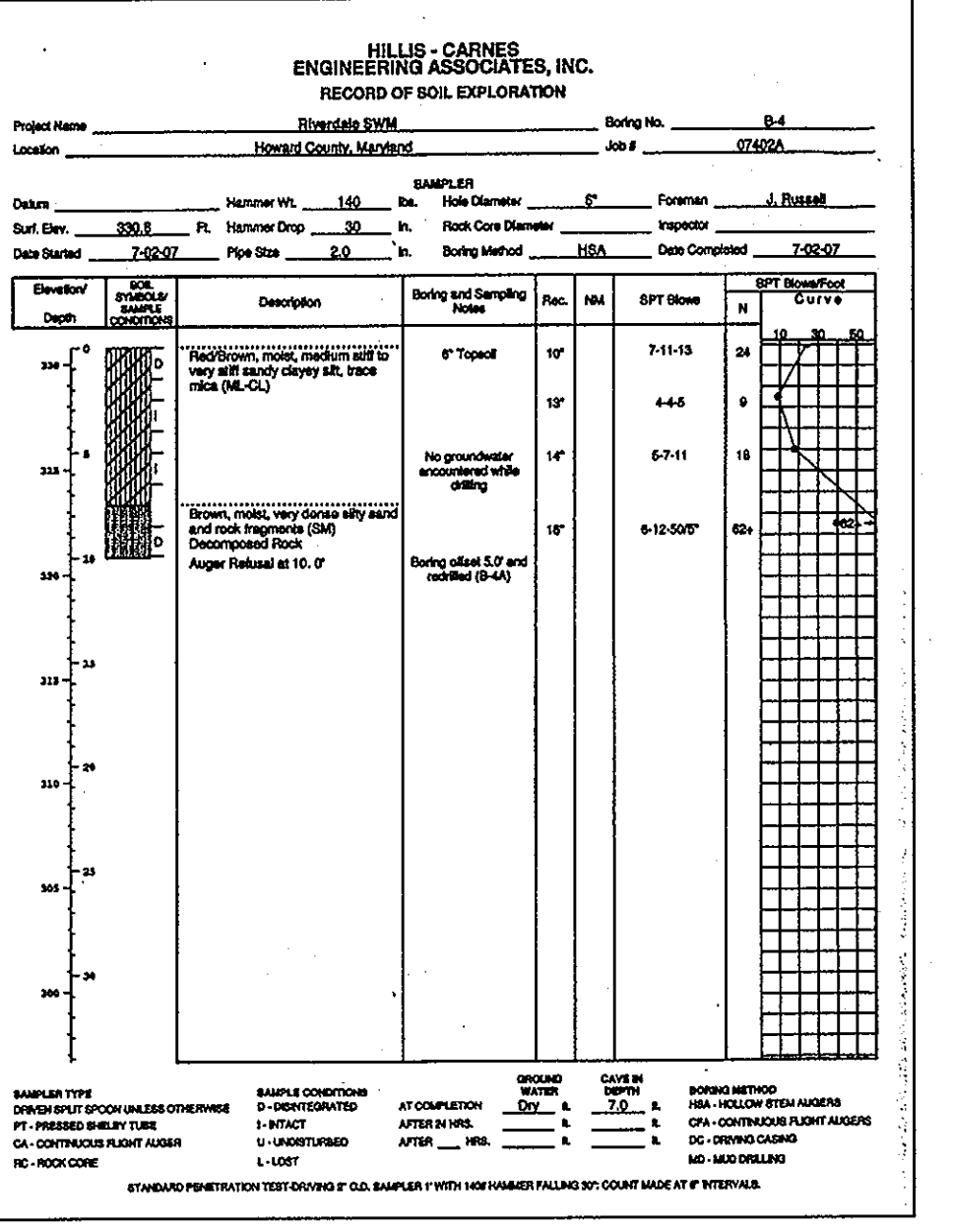
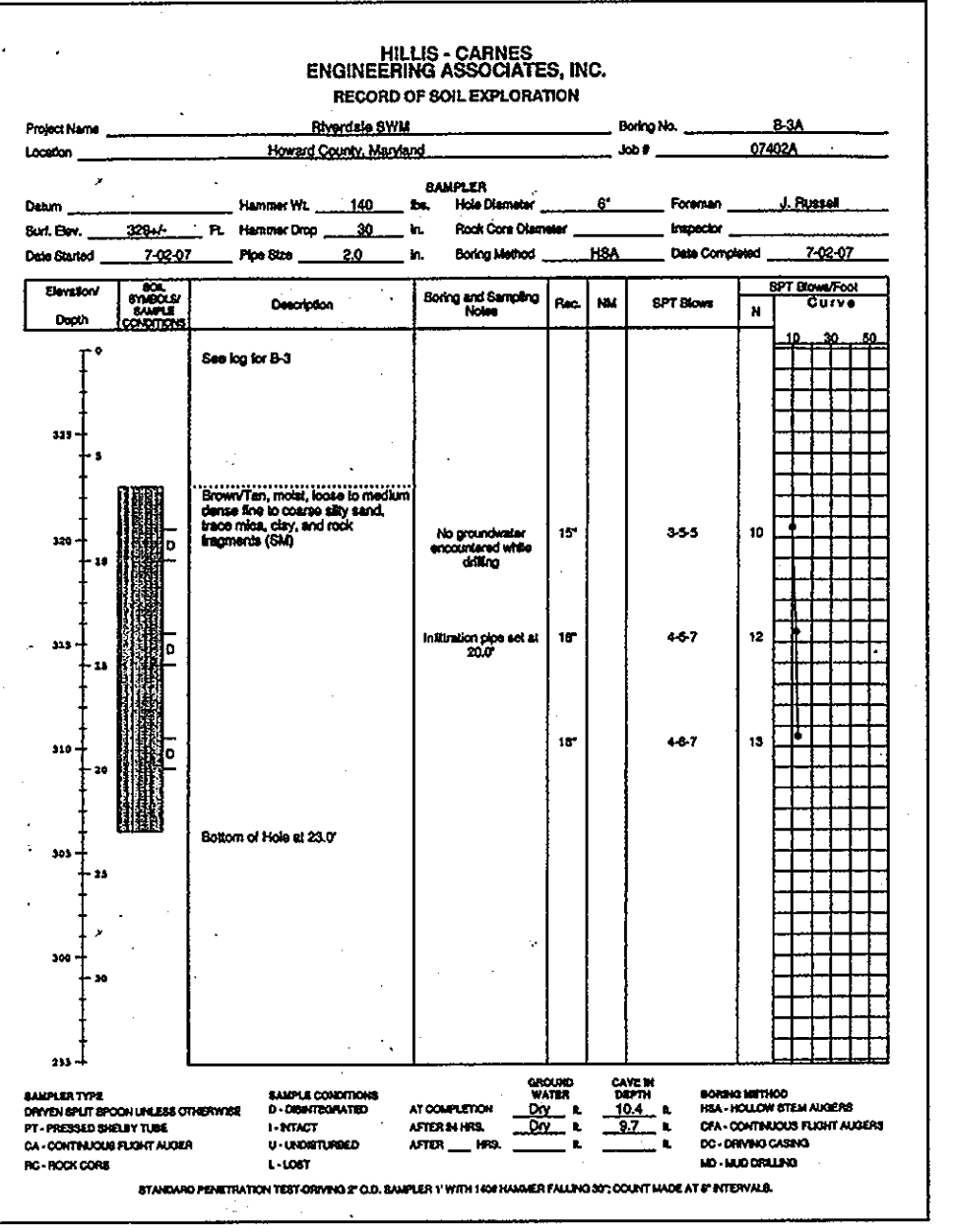
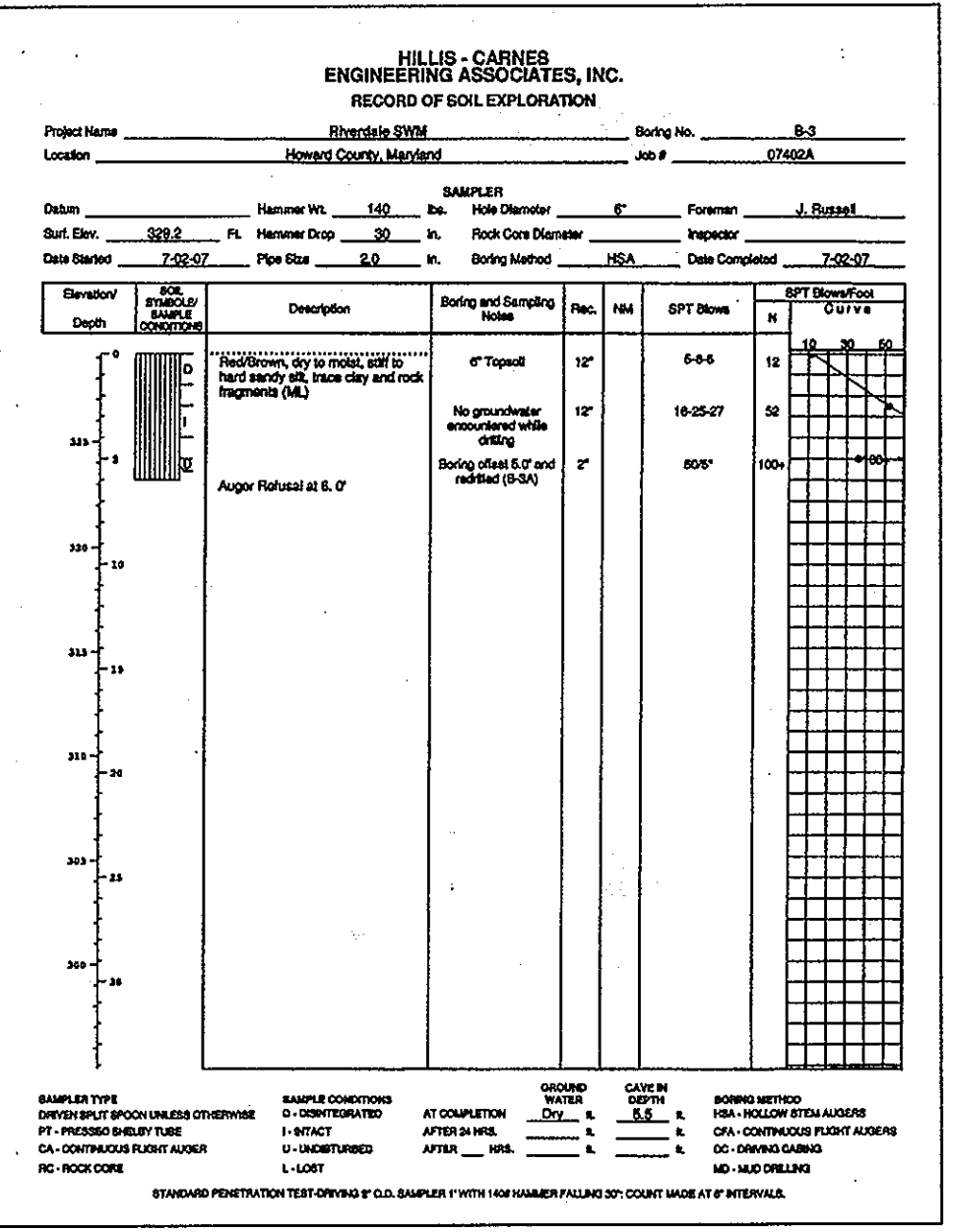
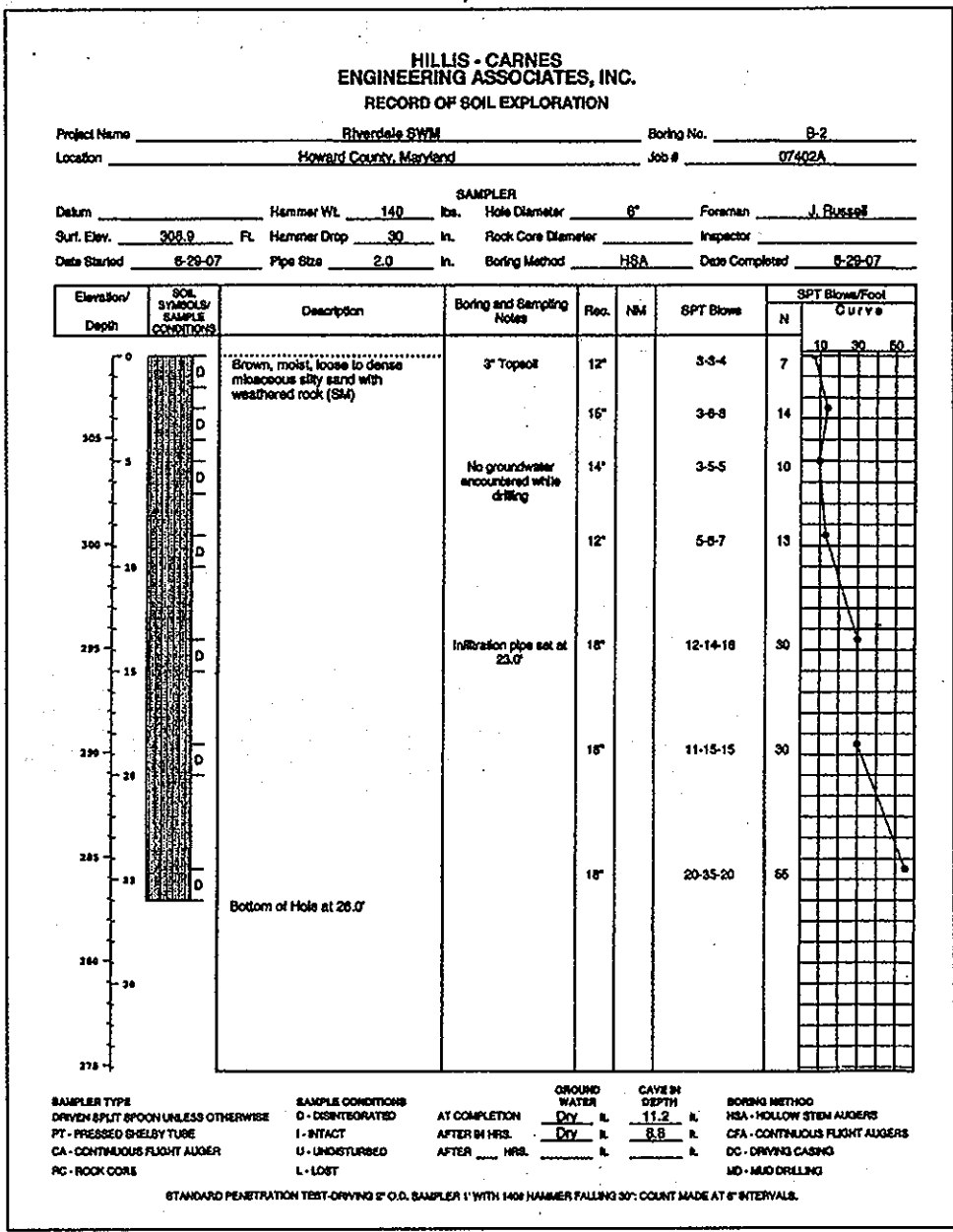
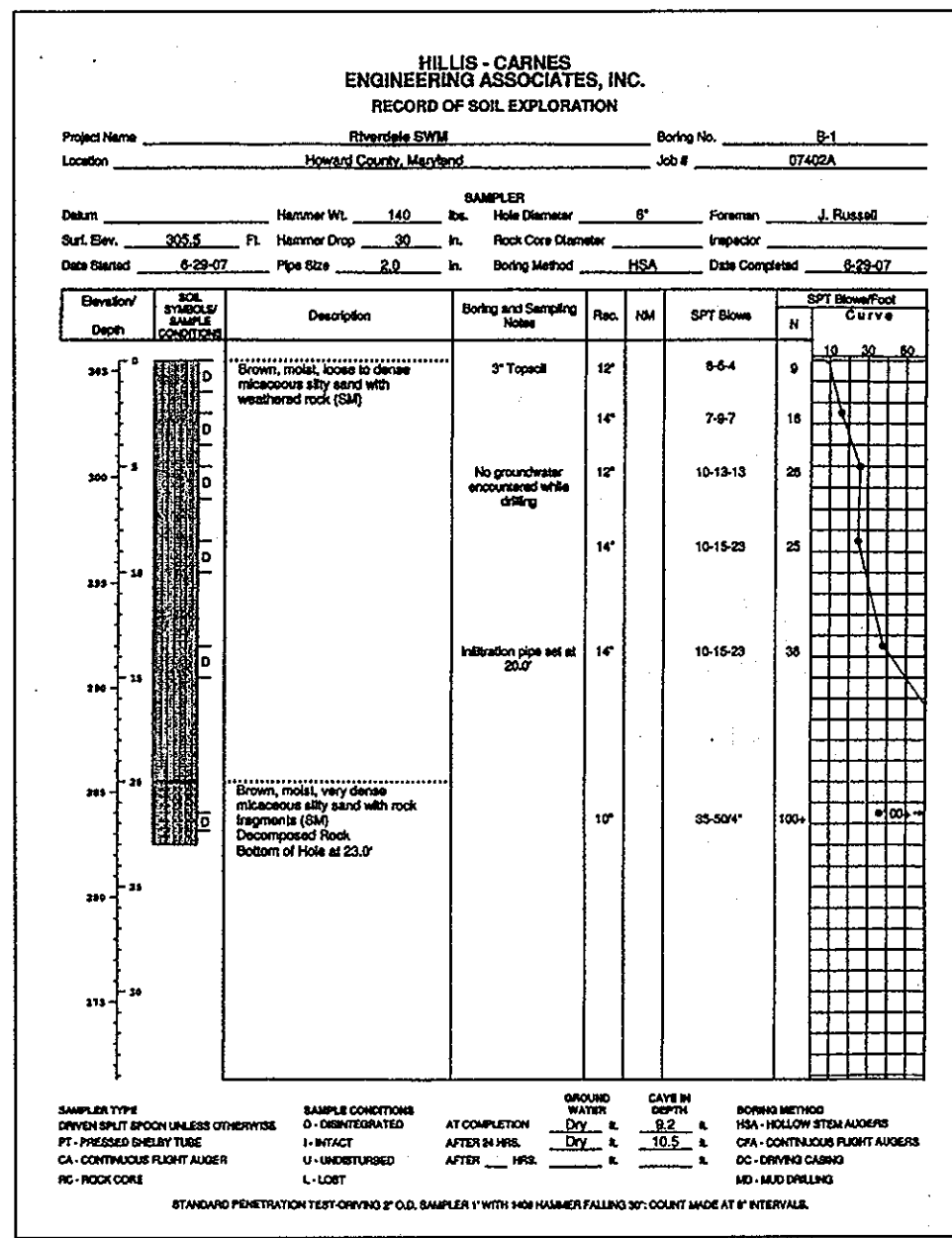
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 10/5/12 DATE
 10/10/12 DATE
 10/10/12 DATE

Eco-Science Professionals, Inc.
 CONSULTING ECOLOGISTS
 MD DNR Qualified Professional
 USACOE Wetland Delineator
 Certification # WDC06MD0610044B3
 John P. Canoles 7/8/12
 P.O. Box 5006 Glen Arm, MD 21057 (410) 592-6752

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. 46577 Expiration Date: 06/09/16

STATE OF MARYLAND
 JOHN M. CARROLL
 PROFESSIONAL ENGINEER
 License No. 46577
 10/10/12
 For Revision 1 only

NO. DATE REVISION		REVISION	
1 4-5-2014 REVISE B' PATHWAY W/ OPEN SPACE LOT 152 FROM MACDOWDY TO STONE CCR6 & CR8			
OWNER:		SIMPSON MILL	
SIMPSON MILL, LLC P.O. BOX 417 ELLCOTT CITY, MARYLAND 21041 410-465-4244		PHASE 1 - LOTS 1 thru 18 & 139 thru 150 PHASE 2 - LOTS 19 thru 138 OPEN SPACE LOTS 151 & 152 AND PARCEL 'A'	
DEVELOPER:		TAX MAP: 35 GRID: 23 PARCEL: 116 ZONED: R-SA-B TAX MAP: 35 GRID: 23 PARCEL: 258, 476 ZONED: POR ELECTION DISTRICT NO. 5 HOWARD COUNTY, MARYLAND	
FOREST CONSERVATION PLAN			
DATE: AUGUST, 2012	BEI PROJECT NO: 2189		
DESIGN: DBT/JMC	DRAWN: DBT/JMC	SCALE: AS SHOWN	SHEET 25 OF 29



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Keith Sheehan
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 DATE: 10/5/12

Keith Sheehan
 CHIEF, DIVISION OF LAND DEVELOPMENT
 DATE: 10/10/12

David H. Uggel
 DIRECTOR
 DATE: 10/11/12

NO. DATE REVISION

BENCHMARK ENGINEERING, INC.
 ENGINEERS & LAND SURVEYORS & PLANNERS
 6480 BALTIMORE NATIONAL PIKE & SUITE 418 A ELLICOTT CITY, MARYLAND 21043
 (P) 410-465-6105 (F) 410-465-6444
 60 THOMAS JOHNSON DRIVE & FREDERICK, MARYLAND 21702
 (P) 301-371-3505 (F) 301-371-3506
 WWW.BE-CVLENGINEERING.COM

OWNER:
 SIMPSON MILL, LLC
 P.O. BOX 417
 ELLICOTT CITY, MARYLAND 21041
 410-465-4244

DEVELOPER:
 SIMPSON MILL, LLC
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SIMPSON MILL
 PHASE 1 - LOTS 1 thru 18 & 139 thru 150
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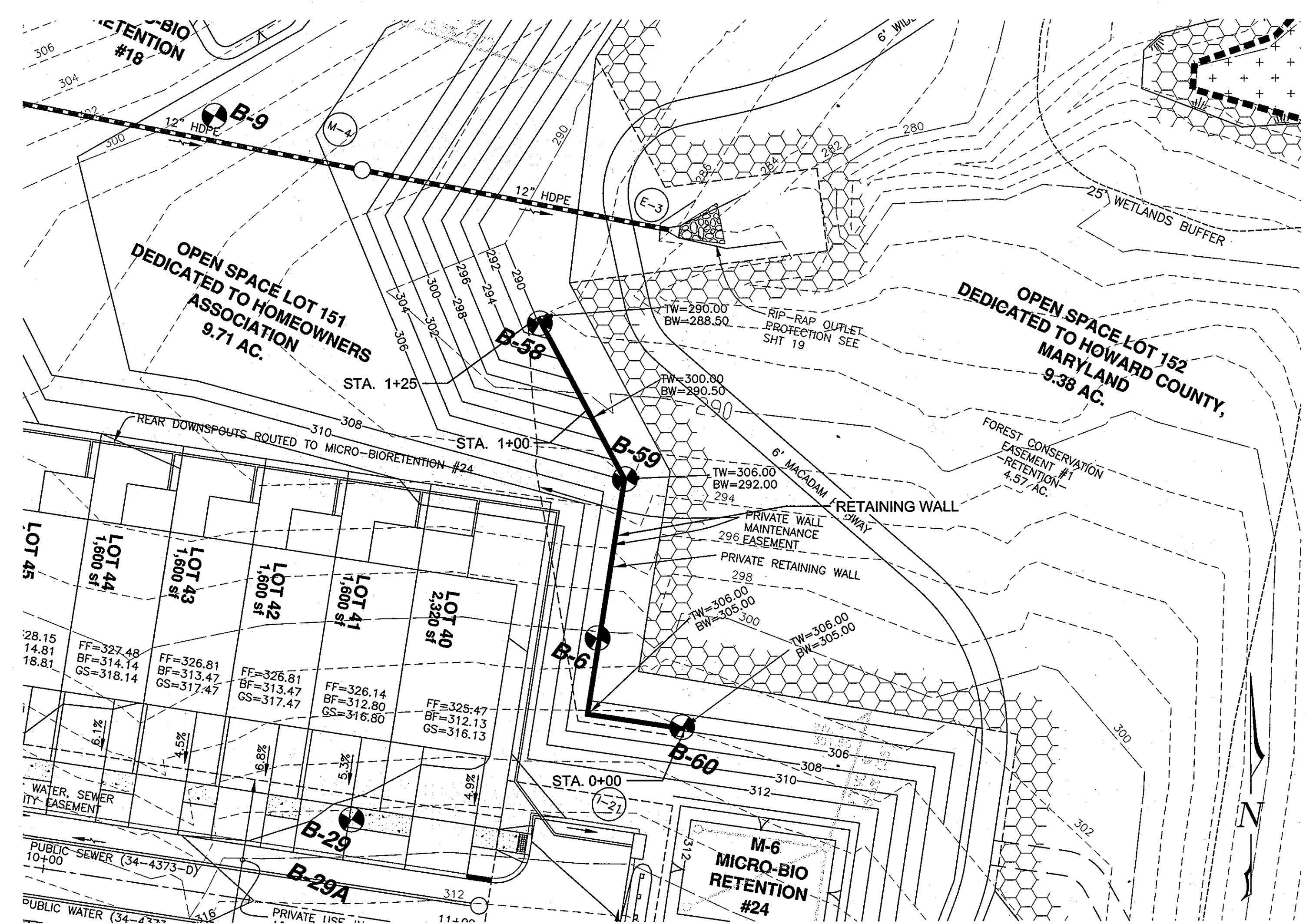
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 ELECTION DISTRICT NO. 5 HOWARD COUNTY, MARYLAND

SOIL BORING LOGS

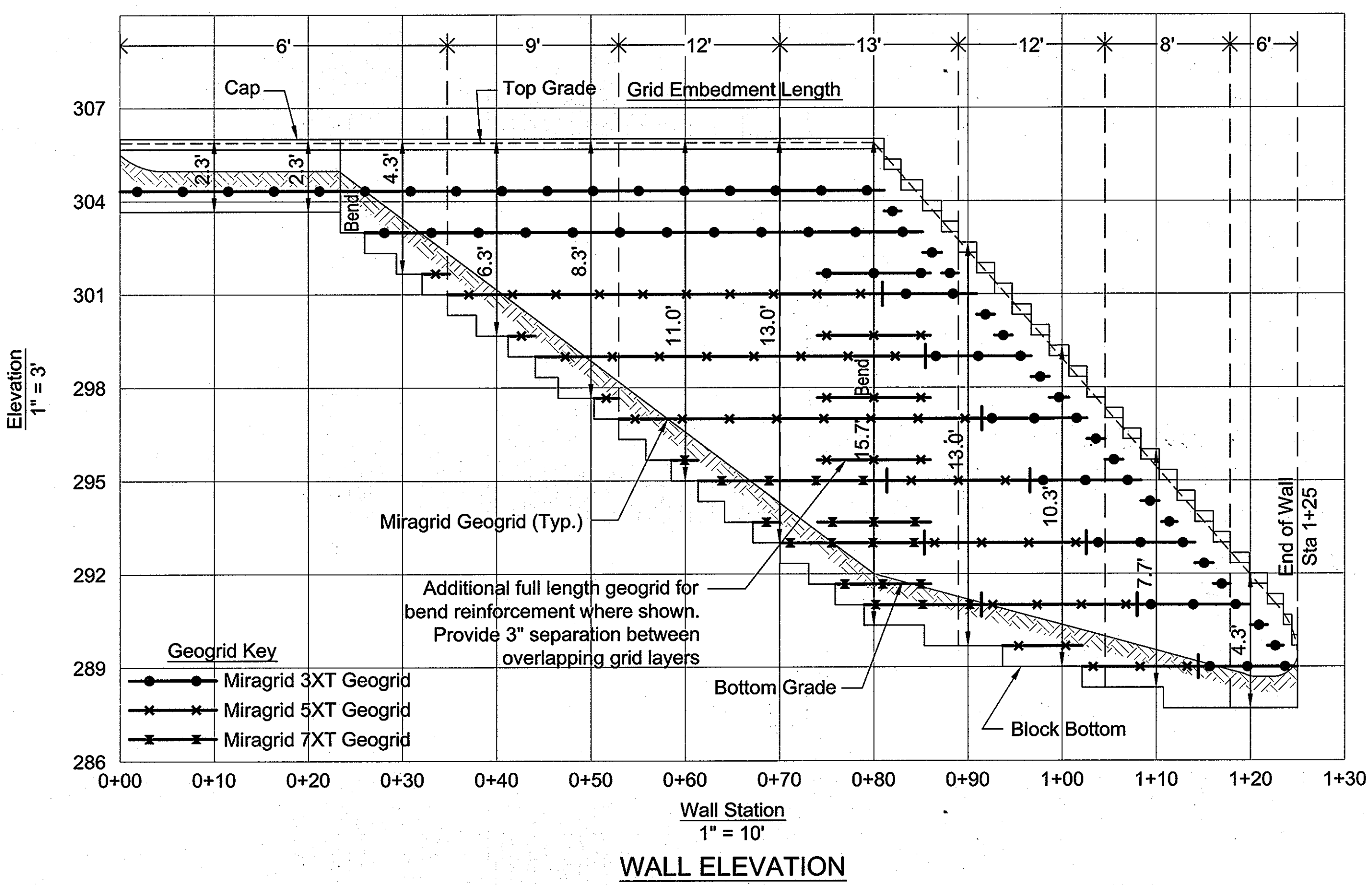
DATE: AUGUST, 2012 BEI PROJECT NO: 2189
 DESIGN: DBT DRAWN: DBT SCALE: AS SHOWN SHEET 26 OF 29

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer or professional land surveyor in the State of Maryland, License No. 17216012.

STEVE F. CLERRY
 PROFESSIONAL ENGINEER
 License No. 17216012



WALL LOCATION PLAN
1" = 20'



WALL ELEVATION
1" = 10'

SPECIFICATIONS
MODULAR CONCRETE BLOCK RETAINING WALL

PART 1: GENERAL

- 1.01 Description**
- A. Work shall consist of furnishing and construction of a Modular Retaining Wall System in accordance with these specifications and in reasonably close conformity with the lines, grades, design, and dimensions shown on the plans.
 - B. Work includes preparing foundation soil, furnishing and installing leveling pad, unit drainage fill and backfill to the lines and grades shown on the construction drawings.
 - C. Work includes furnishing and installing geogrid soil reinforcement of the type, size, location, and lengths designated on the construction drawings.

1.02 Delivery, Storage and Handling

- A. Contractor shall check all materials upon delivery to assure that the proper type, grade, color, and certification has been received.
- B. Contractor shall protect all materials from damage due to job site conditions and in accordance with manufacturer's recommendations. Damaged materials shall not be incorporated into the work.

PART 2: PRODUCTS

2.01 Modular Concrete Retaining Wall Units

- A. Modular concrete units shall conform to the following architectural requirements: face color - color may be specified by the Owner.
face finish - sculptured rock face in angular tri-planer or flat configuration. Other face finishes will not be allowed without written approval of Owner.
bond configuration - running with bonds nominally located at midpoint vertically adjacent units, in both straight and curved alignments.
exposed surfaces of units shall be free of chips, cracks or other imperfections when viewed from a distance of 10 feet under diffused lighting.
- B. Modular concrete materials shall conform to the requirements of ASTM C1372 - Standard Specifications for Segmental Retaining Wall Units.
compressive strength = 3000 psi minimum; absorption = 8% maximum (8% in northern states) for standard weight aggregates;
dimensional tolerances = ±1/8" from nominal unit dimensions not including rough split face, ±1/16"
unit height - top and bottom planes; unit size - 8" (H) x 18" (W) x 12" (D) minimum;
unit weight - 75 lbs/unit minimum for standard weight
- C. Modular concrete units shall conform to the following structural and geometric requirements measured in accordance with appropriate references:
compressive strength = 3000 psi minimum; absorption = 8% maximum (8% in northern states) for standard weight aggregates;
dimensional tolerances = ±1/8" from nominal unit dimensions not including rough split face, ±1/16"
unit height - top and bottom planes; unit size - 8" (H) x 18" (W) x 12" (D) minimum;
unit weight - 75 lbs/unit minimum for standard weight

- aggregates;
inter-unit shear strength - 1000 pif minimum at 2 psi normal pressure; at 2 psi normal force.
geogrid/unit peak connection strength - 1000 pif minimum
- D. Modular concrete units shall conform to the following constructability requirements: (if applicable)
vertical setback = 1/8"± per course (near vertical) or 1"± per course per the design;
alignment and grid positioning mechanism - fiberglass pins, two per unit minimum;
maximum horizontal gap between erected units shall be - 1/2 inch.

2.02 Shear Connectors (if applicable)

- A. Shear connectors shall be 1/2 inch diameter thermoset isophthalic polyester resin-protuded fiberglass reinforcement rods or equivalent to provide connection between vertically and horizontally adjacent units. Strength of shear connectors between vertical adjacent units shall be applicable over a design temperature of 10 degrees F to +100 degrees F. B. Shear connectors shall be capable of holding the geogrid in the proper design position during grid pre-tensioning and backfilling.

2.03 Base Leveling Pad Material

- A. Material shall consist of a compacted #57 crushed stone base as shown on the construction drawings.

2.04 Unit Drainage Fill

- A. Unit drainage fill shall consist of #57 crushed stone

2.05 Reinforced Backfill

- A. Reinforced backfill shall type SM, be free of debris and meet the following gradation tested in accordance with ASTM D-422 and meet other properties shown on the plan:

Sieve Size	Percent Passing
2 inch	100-75
3/4 inch	100-75
No. 40	0-60
No. 200	0-40
Plasticity Index (PI) <10 and Liquid Limit <35 per ASTM D-4318.	

- B. Material can be site excavated soils where the above requirements can be met. Unsuitable soils for backfill (high plastic clays or organic soils) shall not be used in the reinforced soil mass.

2.06 Geogrid Soil Reinforcement

- A. Geosynthetic reinforcement shall consist of geogrids manufactured specifically for soil reinforcement

- applications and shall be manufactured from high tenacity polyester yarn.
- 2.07 Drainage Pipe**
A. The drainage pipe shall be perforated corrugated HDPE pipe manufactured in accordance with ASTM D-1246.

PART 3 EXECUTION

3.01 Excavation

- A. Contractor shall excavate to the lines and grades shown on the construction drawings. Owner's representative shall be responsible for inspecting and approving the excavation prior to placement of leveling material or fill soils.

3.02 Base Leveling Pad

- A. Leveling pad material shall be placed to the lines and grades shown on the construction drawings, to a minimum thickness of 6 inches and extend laterally a minimum of 6" in front and behind the modular wall unit.
- B. Leveling pad shall be prepared to insure full contact to the base surface of the concrete units.

3.03 Modular Unit Installation

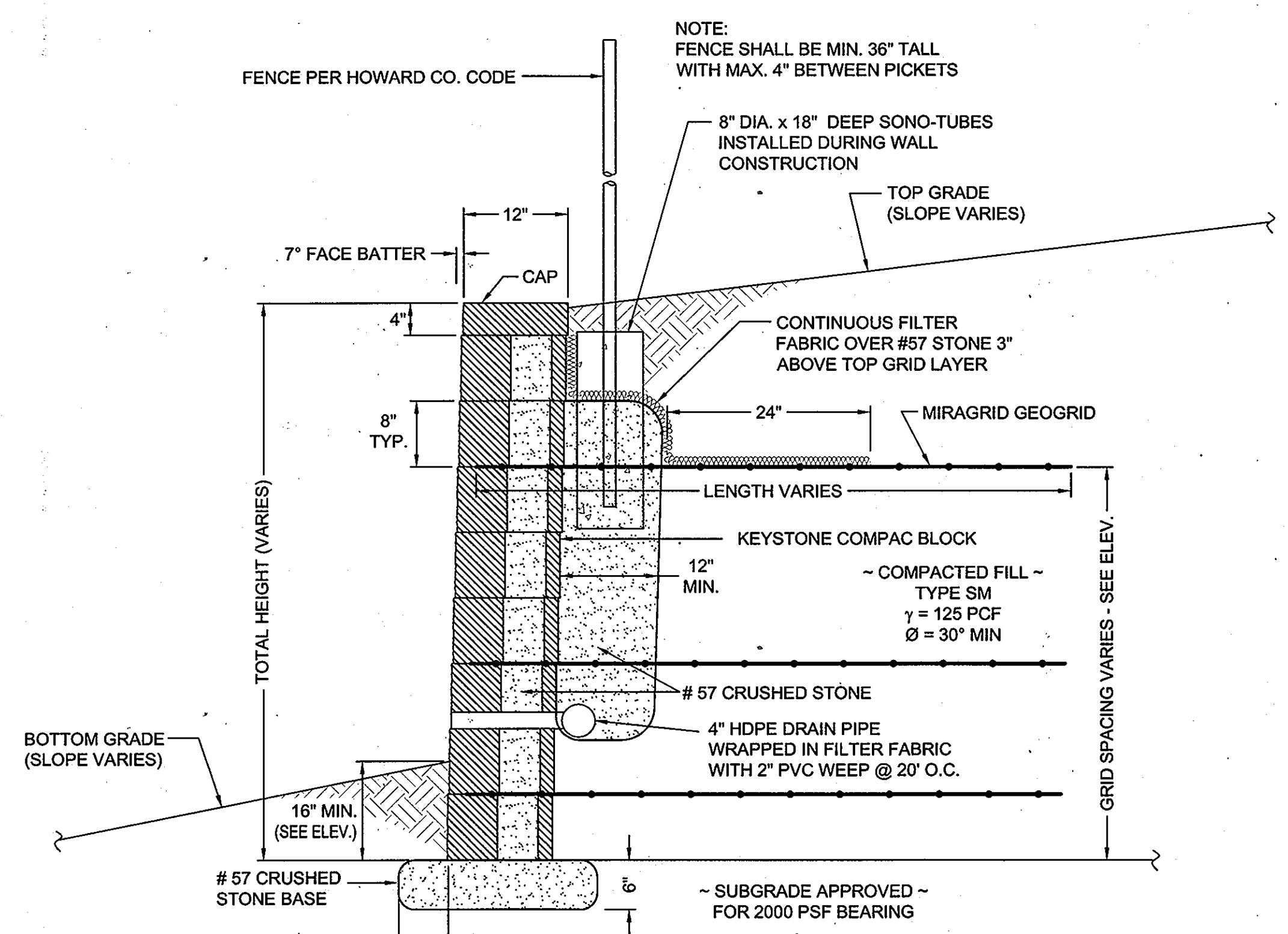
- A. First course of units shall be placed on the leveling pad at the appropriate line and grade. Alignment and level shall be checked in all directions and insure that all units are in full contact with the base and properly seated.
- B. Place the front of units side-by-side. Do not leave gaps between adjacent units. Layout of corners and curves shall be in accordance with manufacturer's recommendations.
- C. Install shear/connecting devices per manufacturer's recommendations.
- D. Place and compact drainage fill within and behind wall units. Place and compact backfill soil behind drainage fill. Follow wall erection and drainage fill closely with structure backfill.
- E. Maximum stacked vertical height of wall units, prior to unit drainage fill and backfill placement and compaction, shall not exceed three courses.

3.04 Structural Geogrid Installation

- A. Geogrid shall be oriented with the highest strength axis perpendicular to the wall alignment.
- B. Geogrid reinforcement shall be placed at the strengths, lengths, and elevations shown on the construction design drawings or as directed by the Engineer.
- C. The geogrid shall be laid horizontally on compacted backfill and attached to the modular wall units. Place the next course of modular concrete units over the geogrid. The geogrid shall be pulled taut, and anchored prior to backfill placement on the geogrid.

NOTES:

1. No trees shall be planted within 10 feet of the top of the retaining wall.
2. Retaining walls shall only be constructed under the observation of a registered professional engineer and a (NICET, WACEL, or equiv.) certified soils technician.
3. One soil boring shall be required every one hundred feet along the entire length of the wall. Copies of all boring reports shall be provided to the Howard County Inspector Prior to the start of construction.
4. The required bearing pressure beneath the wall system shall be verified in the field by a certified soils technician. Testing documentation must be provided to the Howard County Inspector prior to start of construction. The required bearing test shall be the Dynamic Cone Penetrometer test ASTM STP-399.
5. The suitability of fill material shall be confirmed by the on-site soils technician. Each 8" lift must be compacted to a minimum 95% standard proctor density and the testing report shall be made available to the Howard County Inspector upon completion of construction.
6. Walls shall not be constructed on uncertified fill materials.
7. Walls shall not be constructed within a Howard Co. right-of-way or easement.



TYPICAL WALL SECTION
N.T.S.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 Chief, Department of Engineering Division 10/5/12 DATE
 Chief, Division of Land Development 10/10/12 DATE
 Director 10/10/12 DATE

NO.	DATE	REVISION

HILLIS-CARNES
ENGINEERING ASSOCIATES
10975 Guilford Road, Suite A Annapolis Junction, MD
(410) 880-4788 Fax: (410) 880-4098

PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE PLANS 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. 14434, EXPIRATION DATE: 05/13/13.

OWNER: SIMPSON MILL, LLC
P.O. BOX 417
ELICOTT CITY, MARYLAND 21041
410-465-4244

DEVELOPER: SIMPSON MILL, LLC
P.O. BOX 417
ELICOTT CITY, MARYLAND 21041
410-465-4244

SIMPSON MILL
PHASE 1 - LOTS 1 THRU 18 & 139 THRU 150, PHASE 2 - LOTS 19 THRU 138, OPEN SPACE LOTS 151 & 152 AND PARCEL 'A'
TAX MAP: 35 GRID: 23 PARCEL: 116 ZONED: R-SA-8
TAX MAP: 35 GRID: 23 PARCEL: 258, 476 ZONED: POR
ELECTION DISTRICT NO. 5
HOWARD COUNTY, MARYLAND

RETAINING WALL CONSTRUCTION DETAILS

DATE: AUGUST, 2012 HCEA PROJECT NO: 11278-B
SCALE: AS SHOWN SHEET 29 OF 29