

LEGEND	
EXISTING FEATURES	
2' CONTOUR	---
10' CONTOUR	---
SLOPES 15-25%	▨
SLOPES >25%	▨
SOIL DIVIDE	Fa LoB
FOREST STAND DIVIDE	---
TREE LINE	---
TREE	12" PINE
TREE STUMP	⊙
WATERS OF THE U.S.	WUS
WETLAND	W1
25' WETLAND BUFFER	WB
POND NORMAL POOL	---
100 YEAR FLOODPLAIN	FP
STREAM BUFFER	SS
PROPERTY LINE	---
ADJACENT PROPERTY LINE	---
EASEMENT LINE	---
STORM DRAIN PIPE	---
STORM DRAIN MANHOLE	⊙
STORM DRAIN INLET	⊙
FIBER OPTIC LINE	UGT
UNDERGROUND TELEPHONE LINE	TEL
TELECOMMUNICATIONS BOX	TEL BOX
CABLE TV LINE	CTV
CABLE TV BOX	CTV BOX
GAS LINE	GAS
GAS VALVE	⊙
UNDERGROUND ELECTRICAL LINE	UGE
UTILITY BOX	UTIL BOX
STREET LIGHT	---
TRAFFIC CONDUIT BOX	TRAF BOX
WATER LINE	W
CHAIN LINK FENCE	X-X-X
SIGN	△
TRAVERSE POINT	△



CLIENT:
 HOWARD COUNTY
 DEPARTMENT OF PUBLIC WORKS
 BUREAU OF ENVIRONMENTAL SERVICES
 6751 COLUMBIA GATEWAY DRIVE, SUITE 514
 COLUMBIA, MARYLAND 21046-3143
 PHONE: 410.313.6413

LAND OWNER:
 HOWARD COUNTY PUBLIC SCHOOL SYSTEM
 10910 CLARKSVILLE PIKE
 ELLICOTT CITY, MARYLAND 21042
 PHONE: 410.313.6600

REVISIONS		
NO.	DATE	DESCRIPTION

SITE INFORMATION

STREET ADDRESS:
 6101 OLD DOBBIN LANE
 COLUMBIA, MARYLAND 21045

VILLAGE OF LONG REACH
 SECTION: 3 AREA: 2
 PARCEL: 657 TAX MAP: 36
 ELECTION DISTRICT: 6
 ZONING: NEW TOWN
 PLAT NO.: 11270-11273

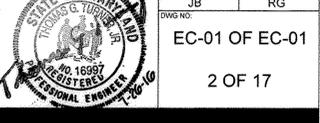
CENTURY
 ENGINEERING
 CONSULTING ENGINEERS - PLANNERS
 10710 SILROY ROAD
 HUNT VALLEY, MARYLAND 21031
 PHONE: (443) 589-2400 FAX: (443) 589-2401

**LONG REACH HIGH SCHOOL
 (DEEP EARTH LANE)
 WATER QUALITY POND
 RETROFIT**

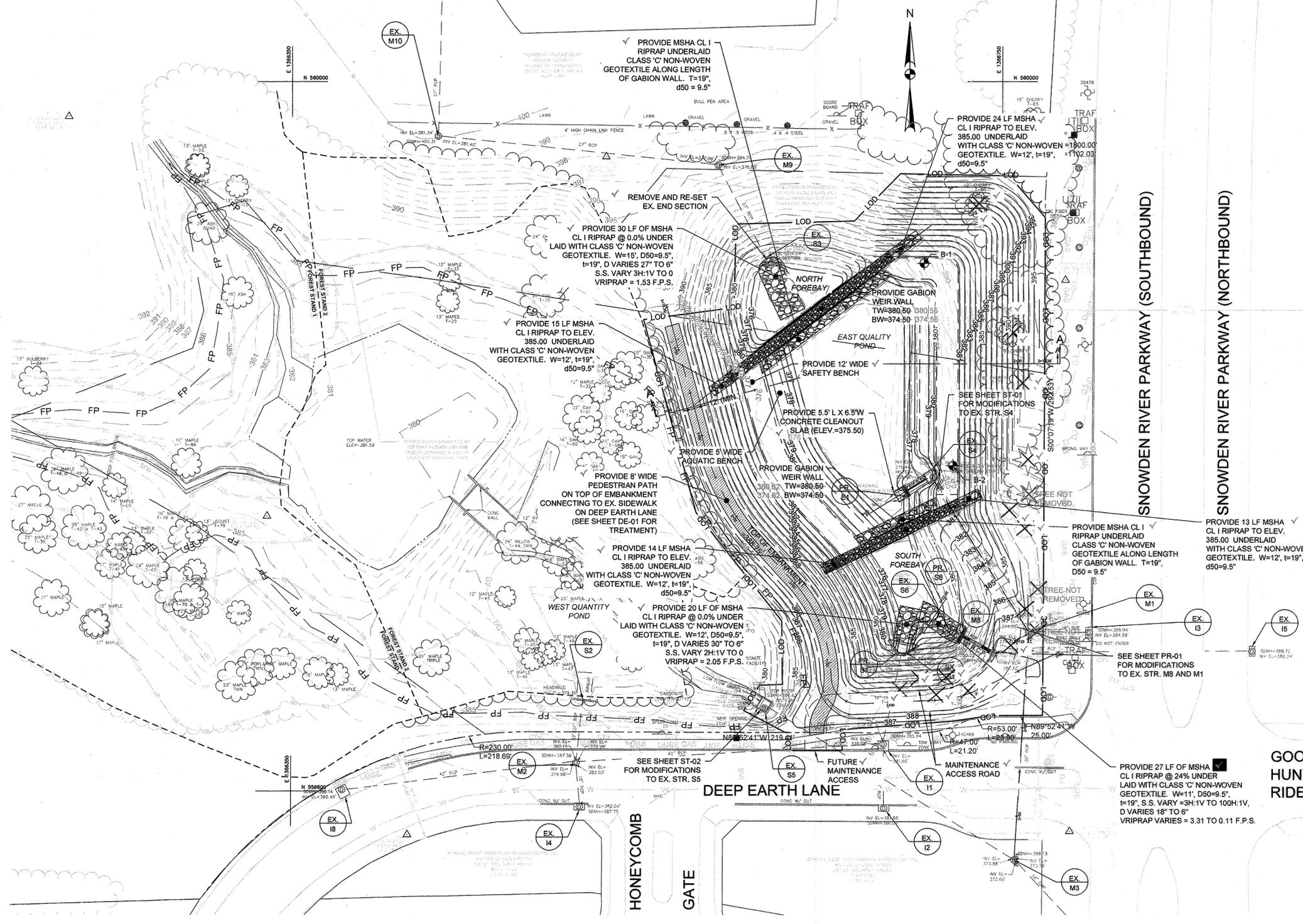
EXISTING CONDITIONS PLAN			
PROJECT NO.	SCALE	DATE	
SWM DB #1160	1"=30'	1.7.2016	
DESIGN	JB	CHECK	RG
DWG NO.	EC-01 OF EC-01		
2 OF 17			

DEPARTMENT OF PUBLIC WORKS, HOWARD COUNTY, MD

Mark Deane 7/27/16
 CHIEF, BUREAU OF ENVIRONMENTAL SERVICES DATE



LEGEND	
EXISTING FEATURES	
2' CONTOUR	380
10' CONTOUR	380
SLOPES 15-25%	
SLOPES >25%	
SOIL DIVIDE	Fa LoB
FOREST STAND DIVIDE	
TREE LINE	
TREE	12" PINE T-75
TREE STUMP	
WATERS OF THE U.S.	W.U.S.
WETLAND	W.L.
25' WETLAND BUFFER	W.B.
POND NORMAL POOL	
100 YEAR FLOOD PLAIN	FP
STREAM BUFFER	
PROPERTY LINE	
ADJACENT PROPERTY LINE	
EASEMENT LINE	
STORM DRAIN PIPE	27" R.C.P.
STORM DRAIN MANHOLE	
STORM DRAIN INLET	
FIBER OPTIC LINE	FO
UNDERGROUND TELEPHONE LINE	UGT
TELECOMMUNICATIONS BOX	
CABLE TV LINE	C.T.V.
CABLE TV BOX	CATV
GAS LINE	G.A.S.
GAS VALVE	
UNDERGROUND ELECTRICAL LINE	U.G.E.
UTILITY BOX	
STREET LIGHT	
TRAFFIC CONDUIT BOX	TRAF. BOX
WATER LINE	W.
CHAIN LINK FENCE	
SIGN	
TRAVERSE POINT	
PROPOSED FEATURES	
2' CONTOUR	381
10' CONTOUR	380
STORM DRAIN PIPE	
STORM DRAIN STRUCTURE LABEL	EX/PR SD#
GABION WALL	
TREE LINE	
EX. TREE TO BE REMOVED	12" PINE T-75
MAINTENANCE ACCESS ROAD	
LIMIT OF DISTURBANCE	LOD
SOIL BORING LOCATION	
RIPRAP CHANNEL	
PEDESTRIAN PATH (IMPERVIOUS AREA)	



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10910 CLARKSVILLE PIKE
ELICOTT CITY, MARYLAND 21042
PHONE: 410.313.6800

REVISIONS		
NO.	DATE	DESCRIPTION

SITE INFORMATION

STREET ADDRESS:
6101 OLD DOBBIN LANE
COLUMBIA, MARYLAND 21045

VILLAGE OF LONG REACH
SECTION: 3 AREA: 2
PARCEL: 657 TAX MAP: 36
ELECTION DISTRICT: 6
ZONING: NEW TOWN
PLAT NO.: 11270-11273

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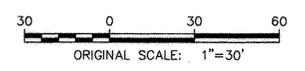
**LONG REACH HIGH SCHOOL
(DEEP EARTH LANE)
WATER QUALITY POND
RETROFIT**

GRADING PLAN

PROJECT NO. SWM DB #D-1160	SCALE 1"=30'	DATE 9.17.2015
DESIGN JB	CHECK RG	DWG NO. GP-01 OF GP-01
		3 OF 17

CATEGORY	SWM RETROFIT PERFORMANCE																	
	STORMWATER MANAGEMENT			SWM SYSTEM RELEASE RATES**				EAST QUALITY POND WSE'S				WEST QUANTITY POND WSE'S						
	PARAMETER	WQV	NORMAL POOL WSE*	CPV	1 YEAR	2 YEAR	10 YEAR	100 YEAR	1 YEAR	2 YEAR	10 YEAR	100 YEAR	FREEBOARD	1 YEAR	2 YEAR	10 YEAR	100 YEAR	FREEBOARD
UNITS	ACRE-FEET	FEET	ACRE-FEET	CFS	CFS	CFS	CFS	FEET	FEET	FEET	FEET	FEET	FEET	FEET	FEET	FEET	FEET	FEET
REQUIRED	1.707	N	3.390	1.67	20.19	49.45	93.67	N/A	N/A	N/A	N/A	2.00	N/A	N/A	N/A	N/A	2.00	
EXISTING CONDITIONS	0.275	N	0.000	17.53	20.19	49.45	93.67	381.57	382.39	383.74	386.17	-0.17	380.29	381.28	383.00	384.03	1.97	
PROPOSED CONDITIONS	1.922	379.42	3.171	11.09	57.84	114.30	382.47	382.47	383.23	384.62	386.39	2.16	381.20	382.09	383.30	384.15	2.60	
	-1.191	379.60	-3.907	-11.08	12.31	-66.87	-112.66	382.84	383.31	384.71	386.60	-2.25	381.20	382.09	383.36	384.21	-2.54	

*NORMAL POOL WSE IS FOR EAST QUALITY POND ONLY. WEST QUANTITY POND IS CURRENTLY AND WILL REMAIN DRY.
**REQUIRED RELEASE RATES FOR THE SYSTEM WERE DETERMINED AS THE EXISTING RELEASE RATES EXCEPT FOR THE 1 YEAR EVENT WHICH WAS DETERMINED TO BE THE RELEASE RATE REQUIRED FOR CHANNEL PROTECTION VOLUME.

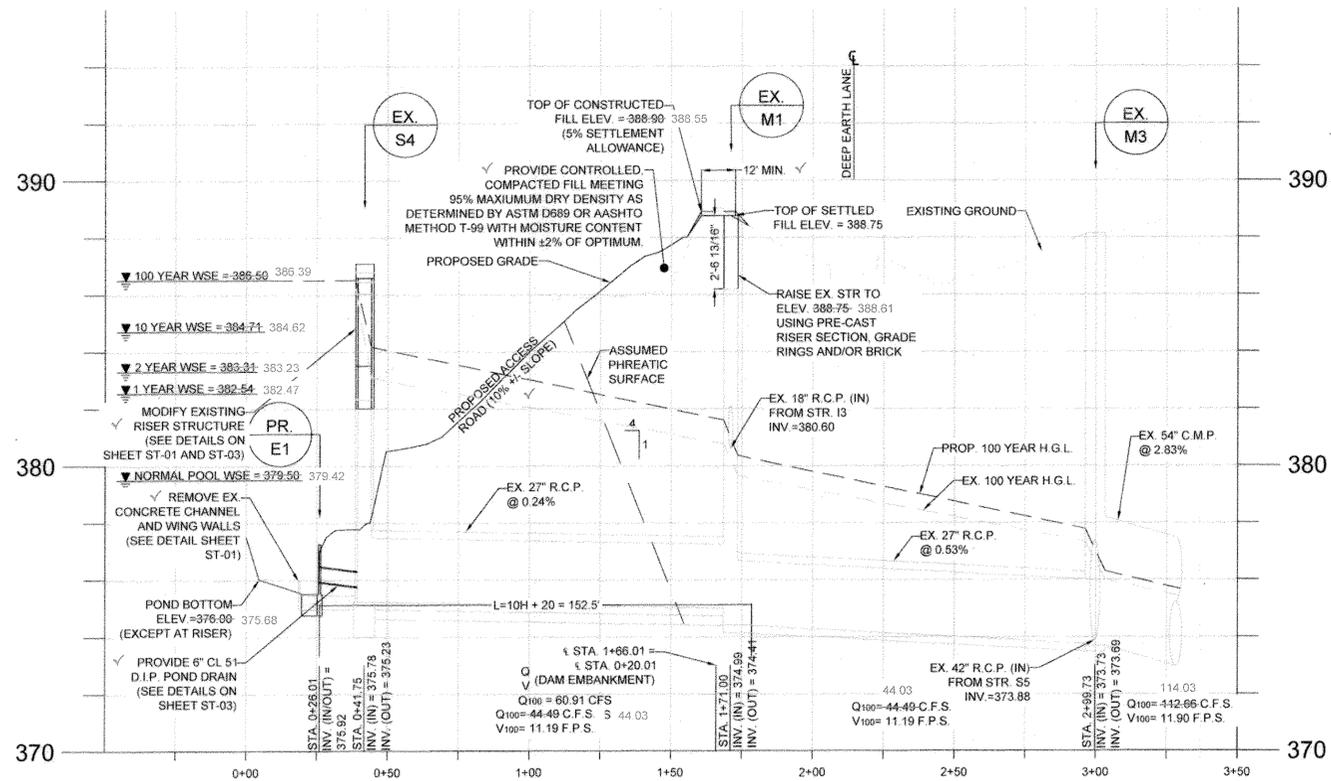


GRADING NOTES:
1. CONTRACTOR TO ASSUME REMOVAL OF UP TO TWO (2) FEET OF ACCUMULATED SEDIMENT IN BASIN.
2. IF CONTRACTOR ENCOUNTERS ROCK DURING GRADING OPERATIONS, CONTRACTOR SHALL CONTACT THE ENGINEER IMMEDIATELY TO DETERMINE COURSE OF ACTION.

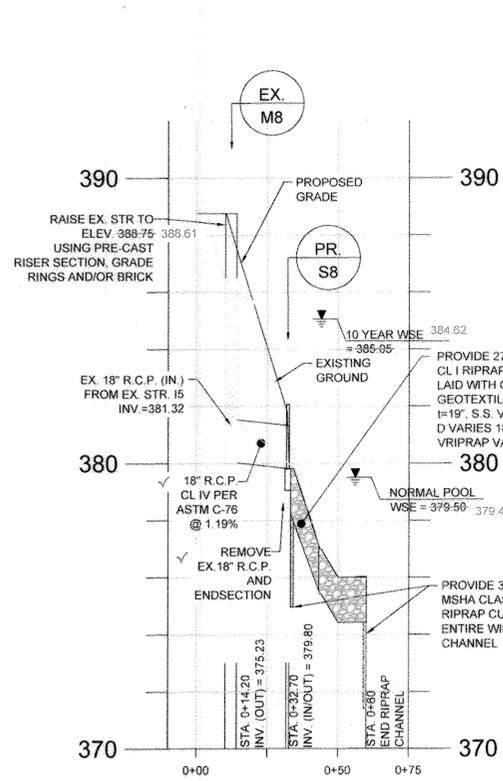
DEPARTMENT OF PUBLIC WORKS, HOWARD COUNTY, MD

CHIEF, BUREAU OF ENVIRONMENTAL SERVICES

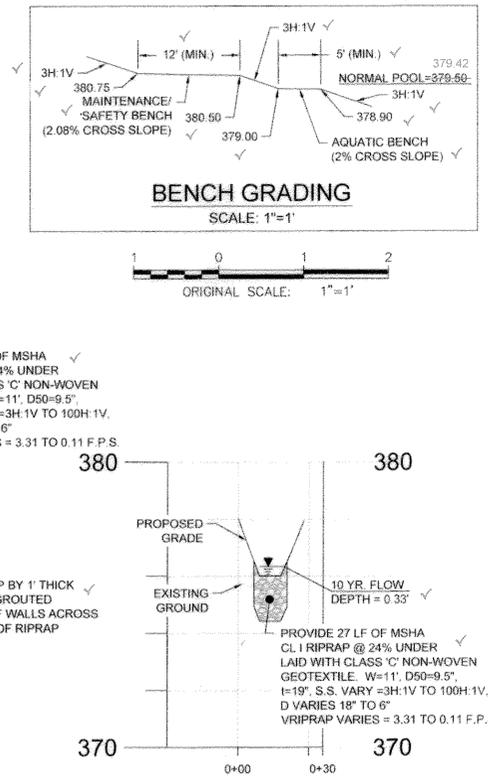
7/27/16
DATE



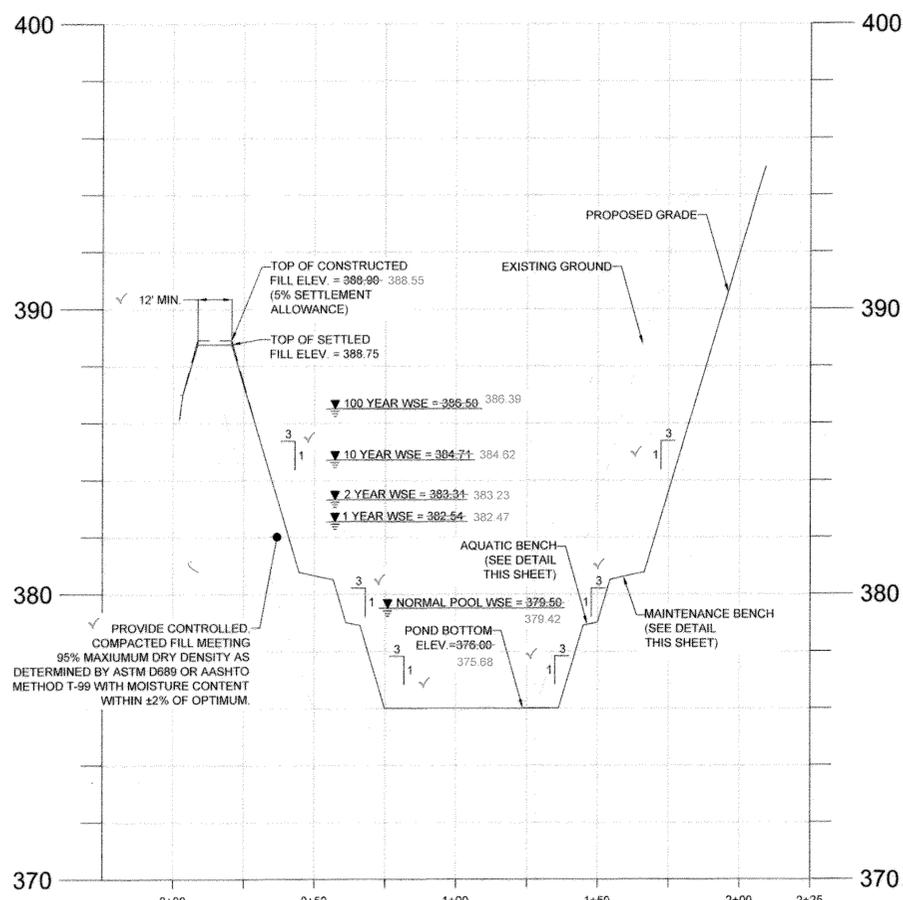
PRINCIPAL SPILLWAY CENTERLINE PROFILE
 HORIZONTAL SCALE: 1"=30'
 VERTICAL SCALE: 1"=3'



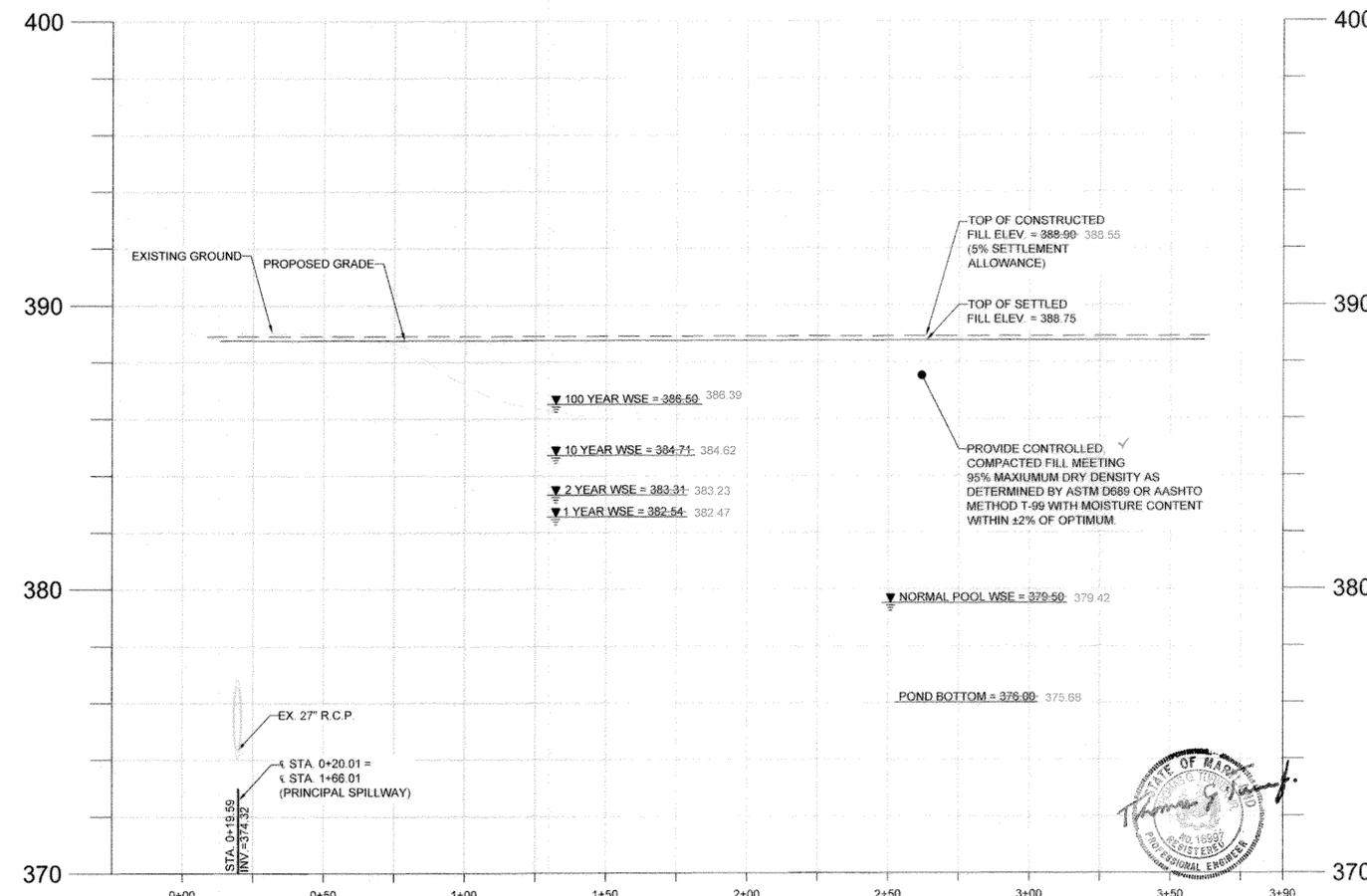
18" R.C.P. PROFILE (STR. M8 TO S8)
 HORIZONTAL SCALE: 1"=30'
 VERTICAL SCALE: 1"=3'



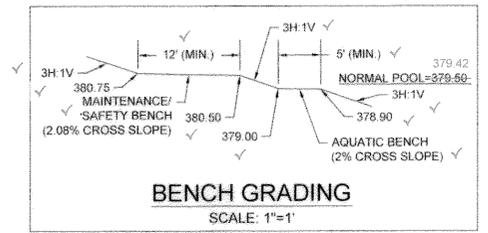
STR. S-8 OUTFALL TYPICAL SECTION
 HORIZONTAL SCALE: 1"=30'
 VERTICAL SCALE: 1"=3'



EAST QUALITY POND CROSS SECTION (SECTION A-A)
 HORIZONTAL SCALE: 1"=30'
 VERTICAL SCALE: 1"=3'



EAST QUALITY/WEST QUANTITY INTERNAL BERM PROFILE
 HORIZONTAL SCALE: 1"=30'
 VERTICAL SCALE: 1"=3'



BENCH GRADING
 SCALE: 1"=1'

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REVISIONS		
NO.	DATE	DESCRIPTION

SITE INFORMATION
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 COLUMBIA, MARYLAND 21045

VILLAGE OF LONG REACH
 SECTION 3 AREA 2
 PARCEL: 657 TAX MAP: 36
 ELECTION DISTRICT: 6
 ZONING: NEW TOWN
 PLAT NO.: 11270-11273

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**LONG REACH HIGH SCHOOL
 (DEEP EARTH LANE)
 WATER QUALITY POND
 RETROFIT**

POND PROFILES

PROJECT NO. SWM DB ID: 1160	SCALE H 1"=30' V 1"=3'	DATE DEC 21 2016
DESIGN JB	CHECK RG	
PR-01 OF PR-01		

DEPARTMENT OF PUBLIC WORKS, HOWARD COUNTY, MD

Mark DeLuca
 CHIEF, BUREAU OF ENVIRONMENTAL SERVICES

12/16
 DATE



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REVISIONS		
NO.	DATE	DESCRIPTION

SITE INFORMATION

STREET ADDRESS:
6101 OLD DOBBIN LANE
COLUMBIA, MARYLAND 21045

VILLAGE OF LONG REACH
SECTION 3 AREA: 2
PARCEL: 657 TAX MAP: 36
ELECTION DISTRICT: 6
ZONING: NEW TOWN
PLAT NO.: 11270-11273

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**LONG REACH HIGH SCHOOL
(DEEP EARTH LANE)
WATER QUALITY POND
RETROFIT**

**GABION WALL AND PATH
DETAILS**

PROJECT NO:
SWM DB #D-1160

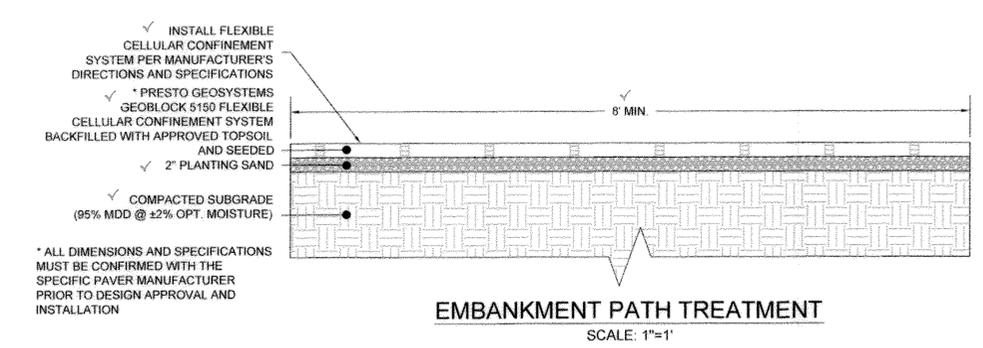
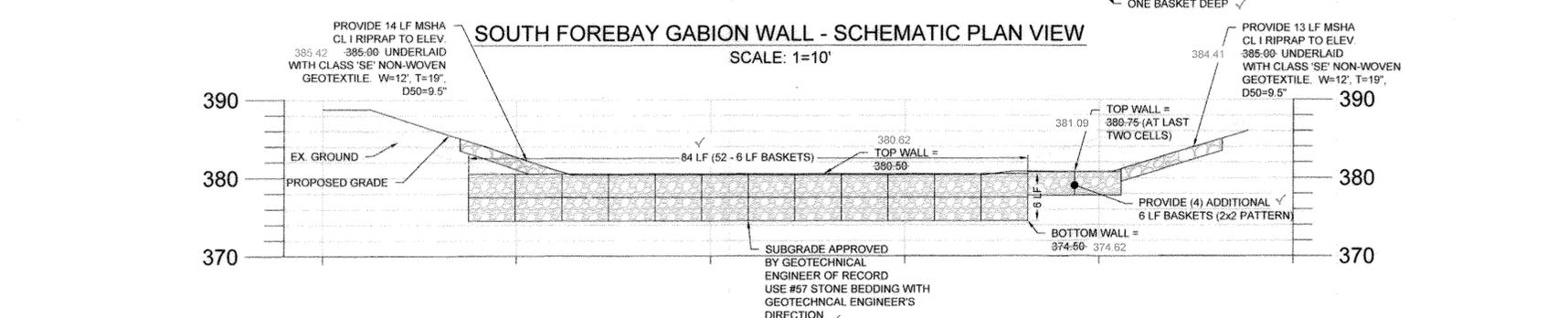
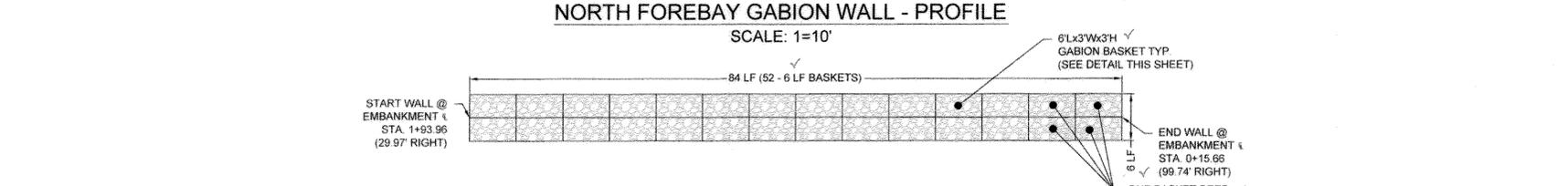
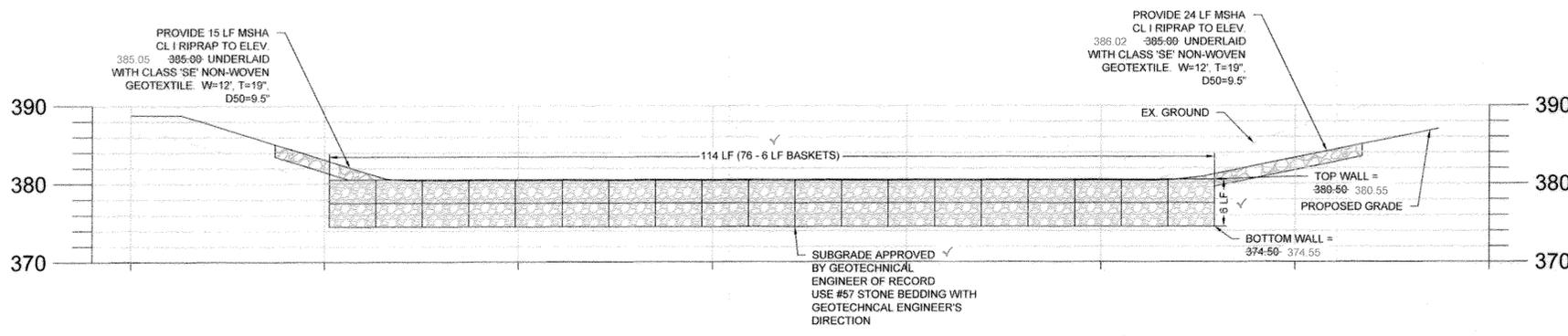
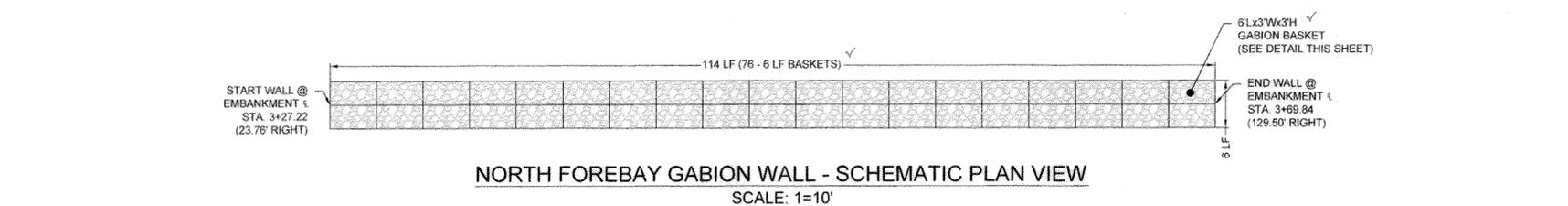
SCALE: 1"=20'

DATE: DEC 21 2016

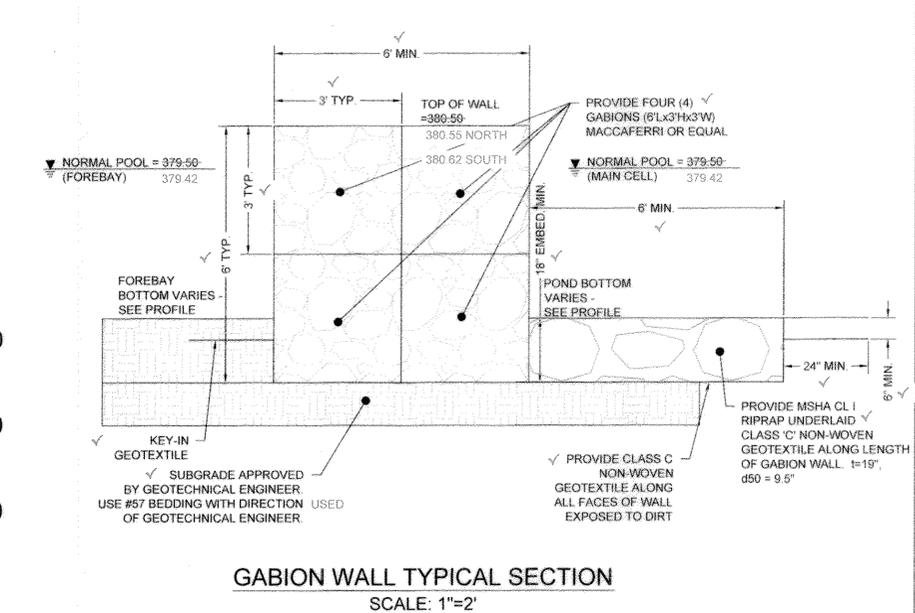
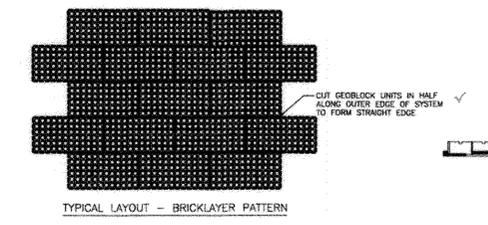
DESIGN: JB CHECK: RG

DWG NO: DE-01 OF DE-01

5 OF 17



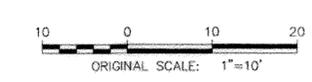
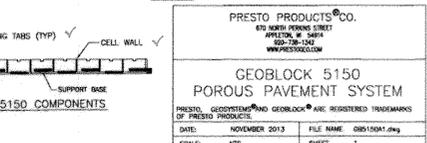
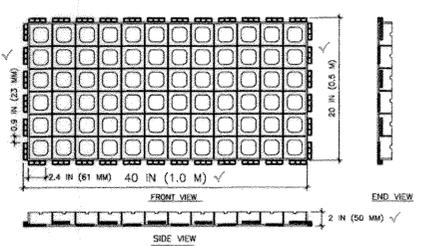
GEOBLOCK 5150 MATERIAL SPECIFICATION	
MATERIAL	UP TO 97% RECYCLED POLYETHYLENE
COLOR	RANGES DARK SHADES GRA ✓ BLACK
CHEMICAL RESISTANCE	SUPERIOR ✓
CARBON BLACK FOR UV STABILIZATION, %	1.3 TO 2.08 ✓
UNIT MIN CRUSH STRENGTH - EMPTY @ 70F (21C)	420 PSI (2,900 KPa) ✓
UNIT MIN CRUSH STRENGTH - SAND FILLED @ 70F (21C)	7,058 PSI (48,734 KPa) ✓
FLEXURAL MODULUS @ 73F (21C)	35,000 PSI (240,000 KPa) ✓
NOMINAL DIMENSIONS - WIDTH X LENGTH	20 X 40 IN (0.5 X 1.0 M) ✓
NOMINAL UNIT DEPTH	2 IN (50 MM) ✓
NOMINAL AREA	5.3 SQFT (0.5 SQMTR) ✓
CELLS PER UNIT	72 ✓
CELL SIZE	3.1 X 3.2 IN (79 X 81 MM) ✓
TOP OPEN AREA PER UNIT	87% ✓
BOTTOM OPEN AREA PER UNIT	41% ✓
INTERLOCKING OFFSET SHEAR TRANSFER PINS	12 TABS PER 40 IN (PER 1 M) ✓
NOMINAL WEIGHT PER UNIT	8.7 LBS (4.0 KG) ✓
RUNOFF COEFFICIENT @ 2.5 IN/HR (64 MM) RAIN	0.15 ✓
UNITS PER PALLET	50 ✓



- GABION WALL CONSTRUCTION NOTES**
- GABIONS ARE BASKETS MANUFACTURED FROM 8X10 DOUBLE TWISTED HEXAGONAL WOVEN STEEL WIRE MESH PER ASTM A975-11. GABIONS ARE FILLED WITH STONE AT THE PROJECT SITE TO FORM FLEXIBLE PERMEABLE MONOLITHIC STRUCTURES SUCH AS RETAINING WALLS, CHANNEL LININGS, AND WEIRS FOR EROSION CONTROL PROJECTS.
 - WIRE MESH
 - USE GALVANIZED, PVC COATED 8X10 HEXAGONAL DOUBLE TWIST WIRE MESH TYPE PER ASTM A975-11
 - MINIMUM DIAMETER OF 0.108 IN (INTERNAL), 0.146 IN (EXTERNAL)
 - MINIMUM OPENING WIDTH OF 3.25 IN.
 - LACING WIRE
 - MINIMUM DIAMETER OF 0.087 IN (INTERNAL), 0.127 IN (EXTERNAL)
 - MAXIMUM TENSILE STRENGTH OF 75 KSI PER ASTM A641/A641M
 - ELONGATION SHALL NOT BE LESS THAN 12% PER ASTM A370.
 - SHALL HAVE MINIMUM QUANTITIES OF ZINC COATING PER ASTM A641/A641M.
 - SHALL BE COATED WITH P.V.C. COATED (NOMINAL - 0.02 IN., MINIMUM - 0.015 IN.)
 - STONE
 - USE CRUSHED ANGULAR STONE MEETING THE FOLLOWING GRADATION PER ASTM D422.
 - D100 = 8"
 - D5 = 4"
 - SUBMITTALS
 - PRIOR TO FABRICATION AND INSTALLATION, THE FOLLOWING SUBMITTALS MUST BE SUBMITTED AND APPROVED BY THE OWNER'S ENGINEER:
 - GABION MANUFACTURER
 - GABION WIRE MESH
 - GABION LACING WIRE
 - GABION STONE
 - FOUNDATION PREPARATION
 - EXCAVATE TO SUBGRADE ELEVATION AS SHOWN ON PLAN. SUBGRADE SHALL BE LEVEL, SMOOTH AND FREE OF IRREGULARITIES, LOOSE MATERIAL, AND VEGETATION. OBTAIN GEOTECHNICAL ENGINEER'S APPROVAL OF SUBGRADE PRIOR TO INSTALLING GABIONS. WITH GEOTECHNICAL ENGINEER'S RECOMMENDATION, SPECIFICATION AND DIRECTION, A BEDDING OF #57 STONE MAY BE USED.
 - INSTALL CLASS C NON-WOVEN GEOTEXTILE AROUND SIDES AND BOTTOM OF GABIONS THAT WILL CONTACT SOIL. KEY-IN GEOTEXTILE A MINIMUM OF 24 INCHES WITH SIX INCHES OF COVER.
 - INSTALLATION
 - ASSEMBLE AND INSTALL GABIONS PER PLAN FOR LOCATION, ELEVATION, AND ORIENTATION AND PER MANUFACTURER'S DIRECTION AND SPECIFICATION.
 - DO NOT TRACK CONSTRUCTION EQUIPMENT DIRECTLY ON GABION WALL.

STRUCTURE SCHEDULE						
ID	TYPE	STATION	OFFSET	ELEV.	STANDARD	COMMENT
PR/S-7	TYPE 'A' ENDWALL	0+92.06	27.46' R	INV. = 375.63	376.05 W D-5.11	INSTALLATION ON EX. 42" R.C.P.
PR/S-8	TYPE 'C' ENDWALL	0+45.31	31.94' R	INV. = 379.80	HCDPW D-5.21	INSTALLATION ON PR. 18" R.C.P.
PR/E-1	TYPE 'C' ENDWALL	0+40.16	118.73' R	(INV. = 375.92)	HCDPW D-5.21	USE D = 12" AND MODIFY FOR 6" D.I.P.
EX/M-1	MANHOLE	0+10.52	17.62' R	TOP = 386.18	UNKNOWN	EXISTING - RAISE 2.57 FEET
EX/M-8	MANHOLE	0+33.43	15.44' R	TOP = 386.49	UNKNOWN	EXISTING - RAISE 2.26 FEET
EX/S-4	RISER	0+23.67	120.48' R	TOP = 386.78	N	SEE SHEETS ST-01, ST-03, AND ST-05
EX/S-5	RISER	1+37.68	39.36' L	TOP = 386.63	N	SEE SHEETS ST-02, ST-04, AND ST-05
EX/S-3	END SECTION	0+46.74	270.20' R	INV. = 375.92	HCDPW D-5.51	EXISTING - REMOVE AND RE-SET

PIPE SCHEDULE					
STRUCTURE		PIPE			
FROM	TO	LENGTH	SIZE	MATERIAL	CLASS
PR/E-1	EX/S-4	14 LF	6"	D.I.P.	51 ✓
EX/M-8	PR/S-8	19 LF	18"	R.C.P.	IV ✓



DEPARTMENT OF PUBLIC WORKS, HOWARD COUNTY, MD

Mark D. Lee 7/27/16
DATE

CHIEF, BUREAU OF ENVIRONMENTAL SERVICES

PRESTO PRODUCTS CO.
670 NORTH HENNING STREET
APRISTON, MD 21770-1204
WWW.PRESTO.CO.COM

GEOBLOCK 5150
POROUS PAVEMENT SYSTEM

PRESTO, GEOSTEERING AND GEOBLOCK ARE REGISTERED TRADEMARKS OF PRESTO PRODUCTS.

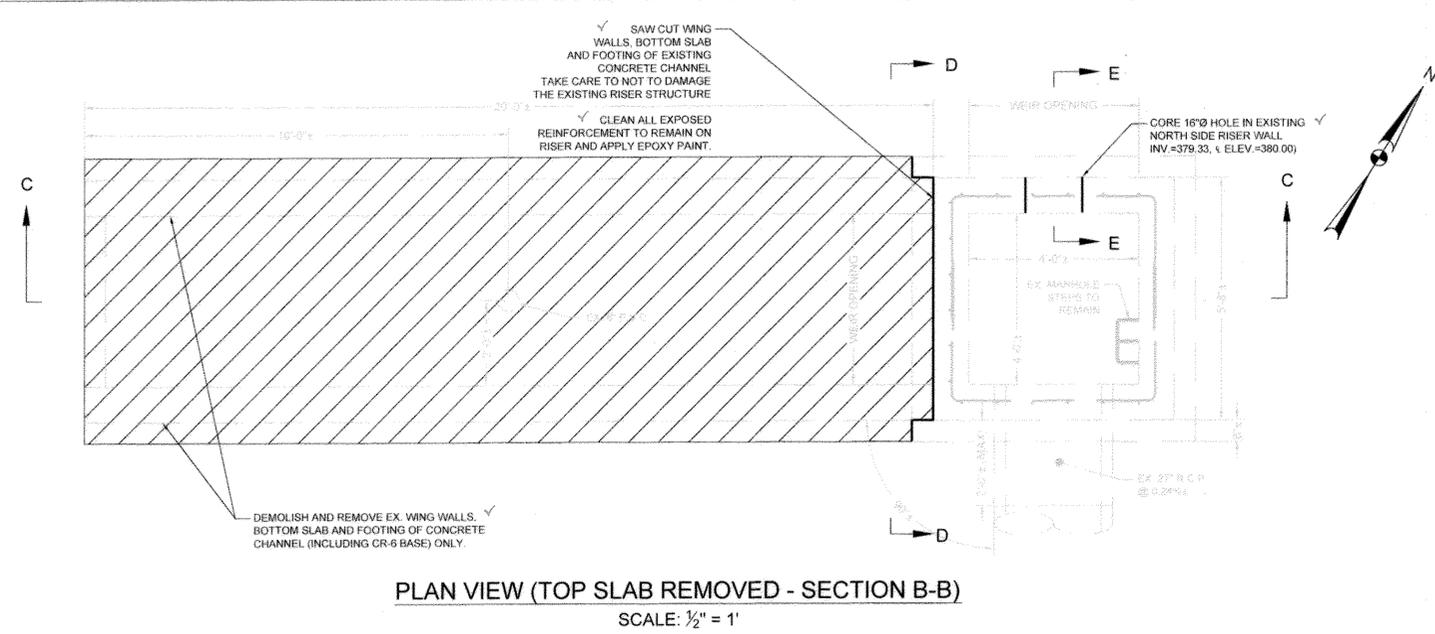
DATE: NOVEMBER 2013 FILE NAME: 02B150M1.dwg
SCALE: NTS SHEET: 1

STATE OF MARYLAND
Professional Engineer
THOMAS J. BROWN
DEC 21 2016

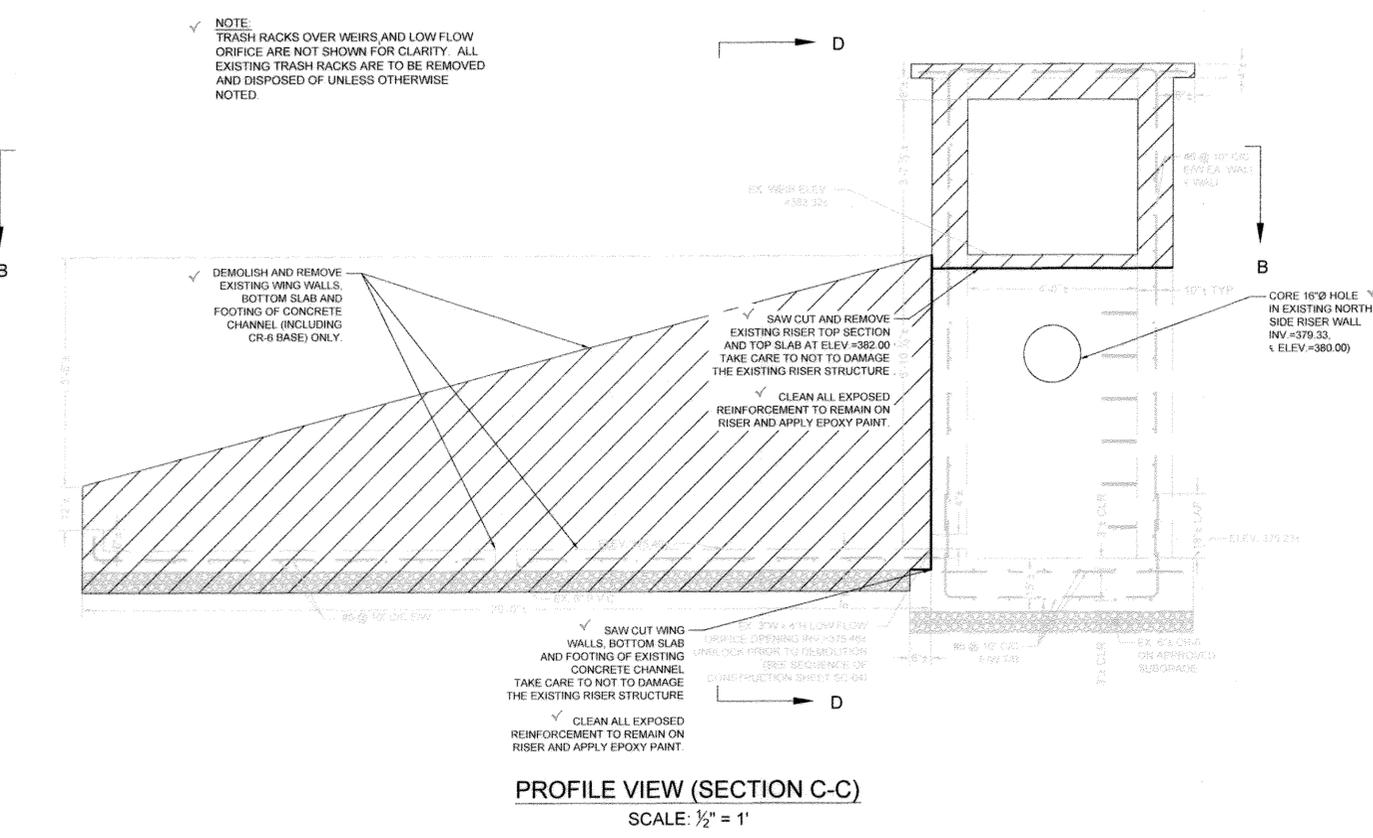
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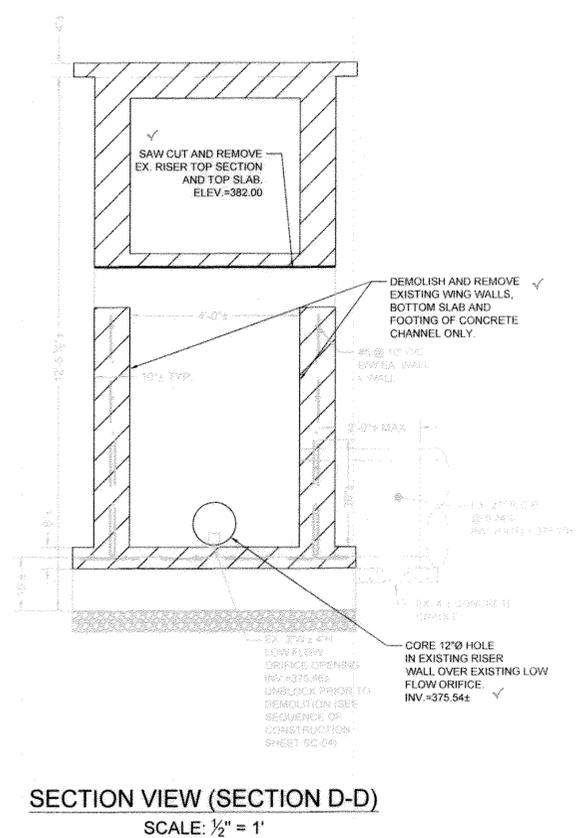
REVISIONS		
NO.	DATE	DESCRIPTION



PLAN VIEW (TOP SLAB REMOVED - SECTION B-B)
 SCALE: 1/2" = 1'

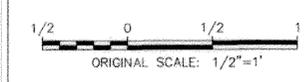


PROFILE VIEW (SECTION C-C)
 SCALE: 1/2" = 1'



SECTION VIEW (SECTION D-D)
 SCALE: 1/2" = 1'

DEMOLITION LEGEND	
EXISTING STRUCTURE	
EXISTING STRUCTURE TO BE REMOVED	
SAW CUT LINE	



DEPARTMENT OF PUBLIC WORKS, HOWARD COUNTY, MD

Mark A. Lucas 2/22/16
 CHIEF, BUREAU OF ENVIRONMENTAL SERVICES DATE

SITE INFORMATION

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LONG REACH HIGH SCHOOL
 (DEEP EARTH LANE)
 WATER QUALITY POND
 RETROFIT

RISER DEMOLITION (S-4)

PROJECT NO: SWM DB #D-1160 SCALE: 1/2" = 1' DATE: 12/21/16

DESIGNER: JB CHECKER: RG

ST-01 OF ST-05

6 OF 17

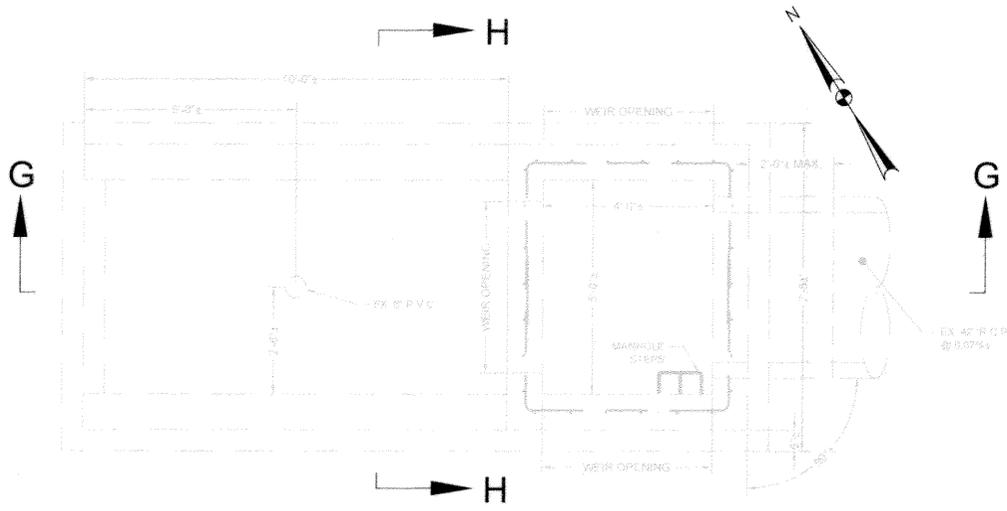
DEC 21 2016

Thomas J. Pugh
 PROFESSIONAL ENGINEER

CLIENT:
 HOWARD COUNTY
 DEPARTMENT OF PUBLIC WORKS
 BUREAU OF ENVIRONMENTAL SERVICES
 6751 COLUMBIA GATEWAY DRIVE, SUITE 514
 COLUMBIA, MARYLAND 21046-3143
 PHONE: 410.313.6413

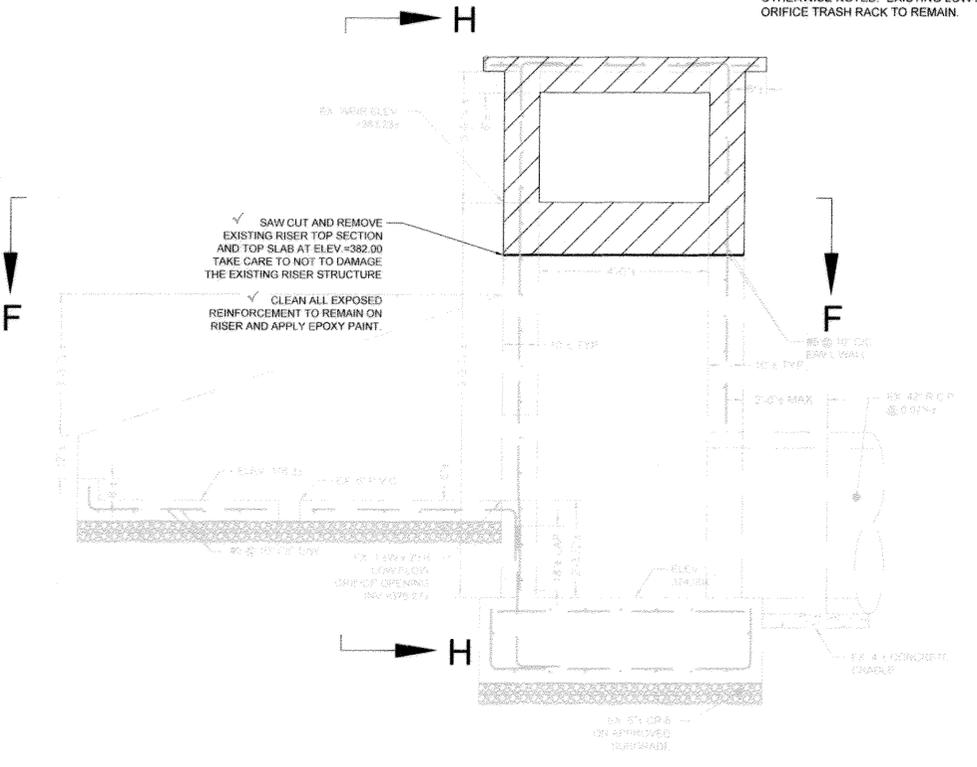
LAND OWNER:
 HOWARD COUNTY PUBLIC SCHOOL SYSTEM
 10910 CLARKSVILLE PIKE
 ELLIGOTT CITY, MARYLAND 21042
 PHONE: 410.313.6600

REVISIONS		
NO.	DATE	DESCRIPTION

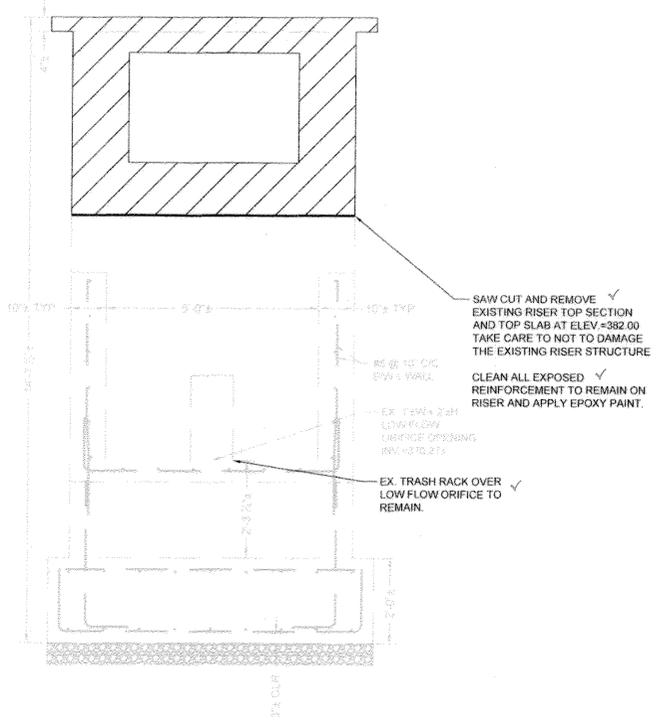


PLAN VIEW (TOP SLAB REMOVED - SECTION F-F)
 SCALE: 1/2" = 1'

NOTE:
 TRASH RACKS OVER WEIRS AND LOW FLOW ORIFICE ARE NOT SHOWN FOR CLARITY. ALL EXISTING WEIR TRASH RACKS ARE TO BE REMOVED AND DISPOSED OF UNLESS OTHERWISE NOTED. EXISTING LOW FLOW ORIFICE TRASH RACK TO REMAIN.



PROFILE VIEW (SECTION G-G)
 SCALE: 1/2" = 1'



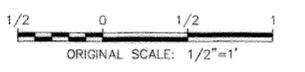
SECTION VIEW (SECTION H-H)
 SCALE: 1/2" = 1'

SITE INFORMATION
 STREET ADDRESS:
 6101 OLD DOBBIN LANE
 COLUMBIA, MARYLAND 21046
 VILLAGE OF LONG REACH
 SECTION 3 AREA 2
 PARCEL 657 TAX MAP: 36
 ELECTION DISTRICT 6
 ZONING: NEW TOWN
 PLAT NO. 11270-11273

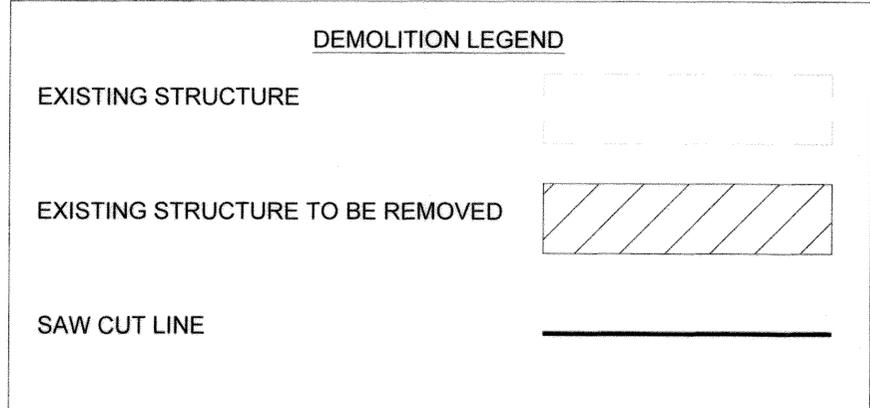
CENTURY ENGINEERING
 CONSULTING ENGINEERS - PLANNERS
 10710 GILROY ROAD
 HUNT VALLEY, MARYLAND 21031
 PHONE: (443) 589-2400 FAX: (443) 589-2401

LONG REACH HIGH SCHOOL (DEEP EARTH LANE) WATER QUALITY POND RETROFIT

RISER DEMOLITION (S-5)



DEPARTMENT OF PUBLIC WORKS, HOWARD COUNTY, MD
Handwritten signature
 2/27/16
 CHIEF, BUREAU OF ENVIRONMENTAL SERVICES DATE



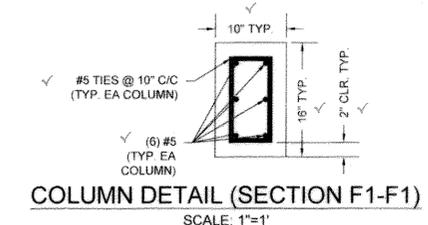
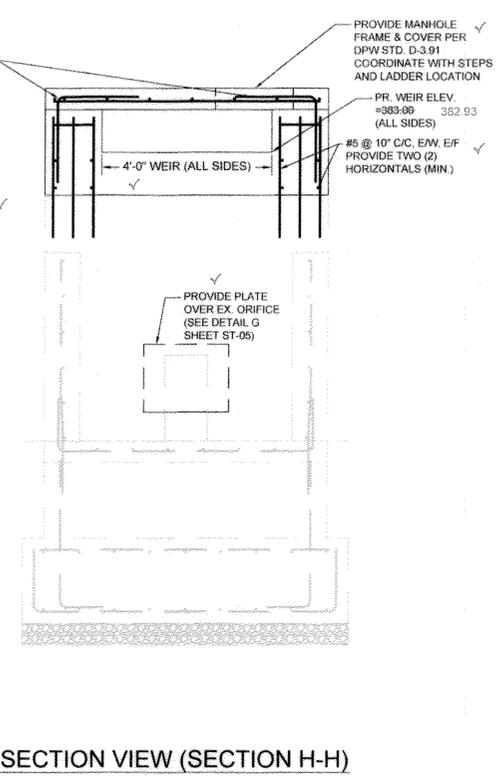
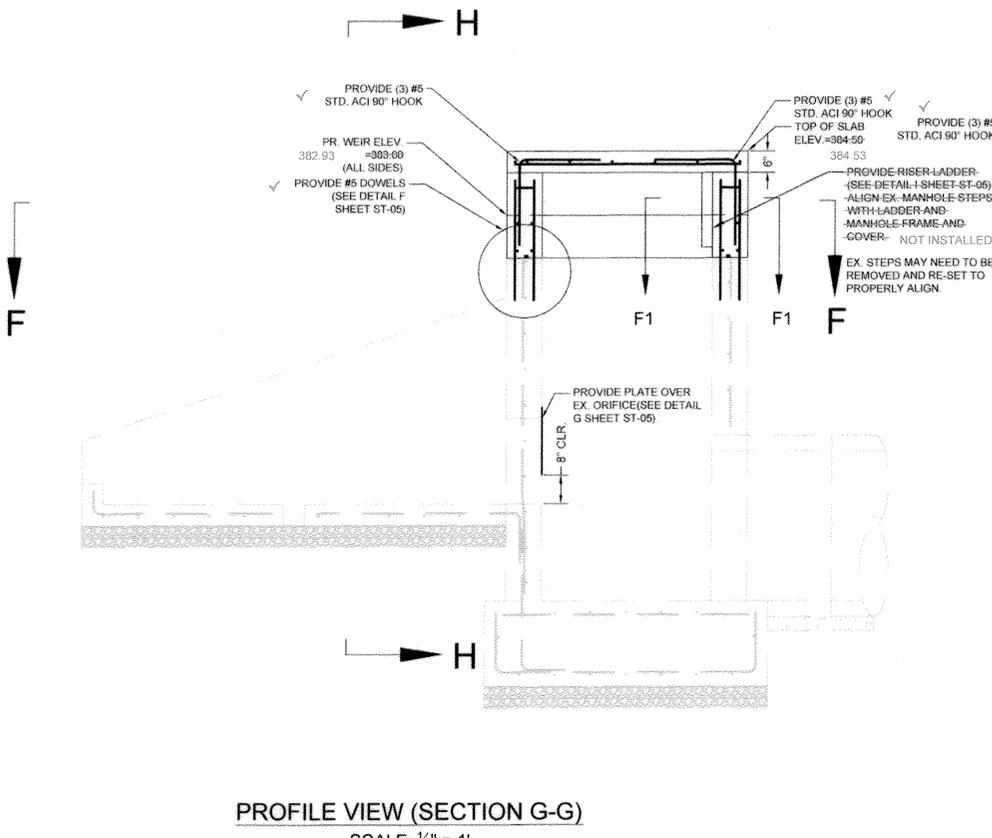
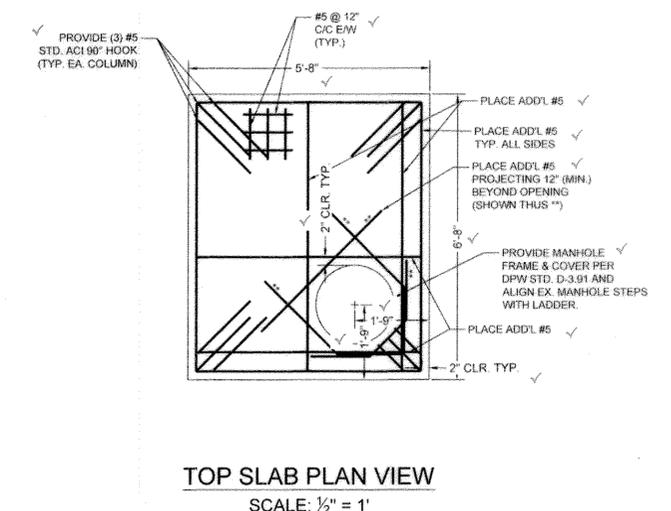
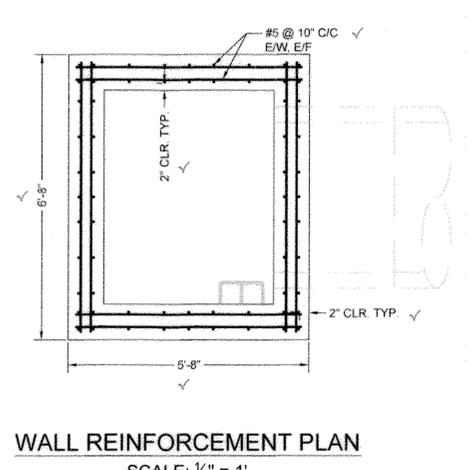
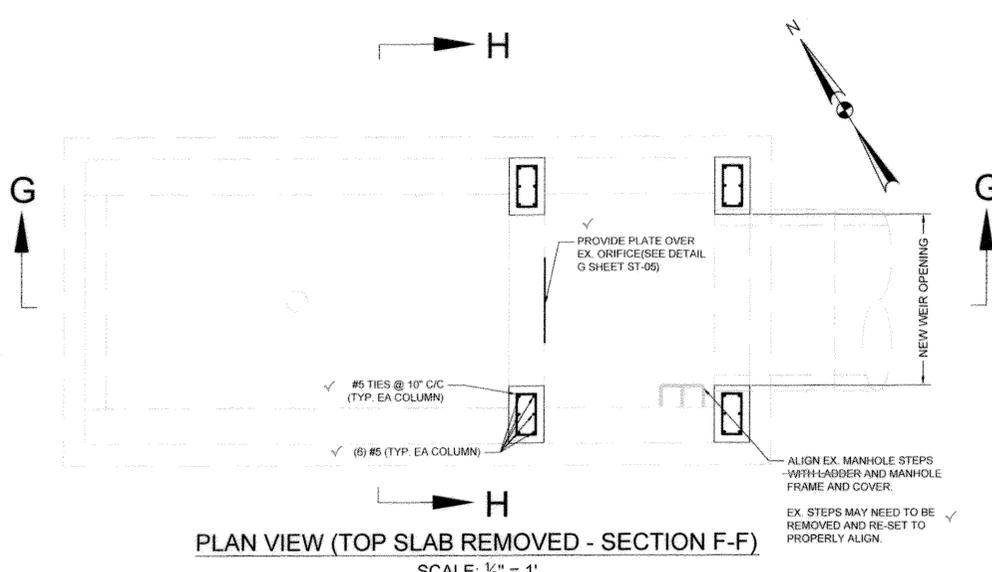
Professional Engineer Seal
 STATE OF MARYLAND
 THOMAS J. [Signature]
 NO. 15997
 PROFESSIONAL ENGINEER
 DEC 21 2016

PROJECT NO: SWM DB #D-1160	SCALE: 1/2" = 1'	DATE:
DESIGN: JB	CHECK: RG	
DRAWING NO: ST-02 OF ST-05		
7 OF 17		

CLIENT:
 HOWARD COUNTY
 DEPARTMENT OF PUBLIC WORKS
 BUREAU OF ENVIRONMENTAL SERVICES
 6751 COLUMBIA GATEWAY DRIVE, SUITE 514
 COLUMBIA, MARYLAND 21046-3143
 PHONE: 410.313.6413

LAND OWNER:
 HOWARD COUNTY PUBLIC SCHOOL SYSTEM
 10910 CLARKSVILLE PIKE
 ELLICOTT CITY, MARYLAND 21042
 PHONE: 410.313.6600

REVISIONS		
NO.	DATE	DESCRIPTION



SITE INFORMATION
 STREET ADDRESS:
 6101 OLD DOBBIN LANE
 COLUMBIA, MARYLAND 21045

VILLAGE OF LONG REACH
 SECTION 3 AREA 2
 PARCEL 657 TAX MAP: 36
 ELECTION DISTRICT: 6
 ZONING: NEW TOWN
 PLAT NO.: 11270-11273

CENTURY
 ENGINEERING
 CONSULTING ENGINEERS - PLANNERS
 10710 GILROY ROAD
 HUNT VALLEY, MARYLAND 21031
 PHONE: (443) 589-2400 FAX: (443) 589-2401

LONG REACH HIGH SCHOOL
 (DEEP EARTH LANE)
 WATER QUALITY POND
 RETROFIT

RISER MODIFICATION (S-5)

PROJECT NO: SWM DB #D-1160	SCALE: 1/2" = 1'	DATE: DEC 21 2016
DESIGN: JB	CHECK: RG	
ST-04 OF ST-05		
9 OF 17		

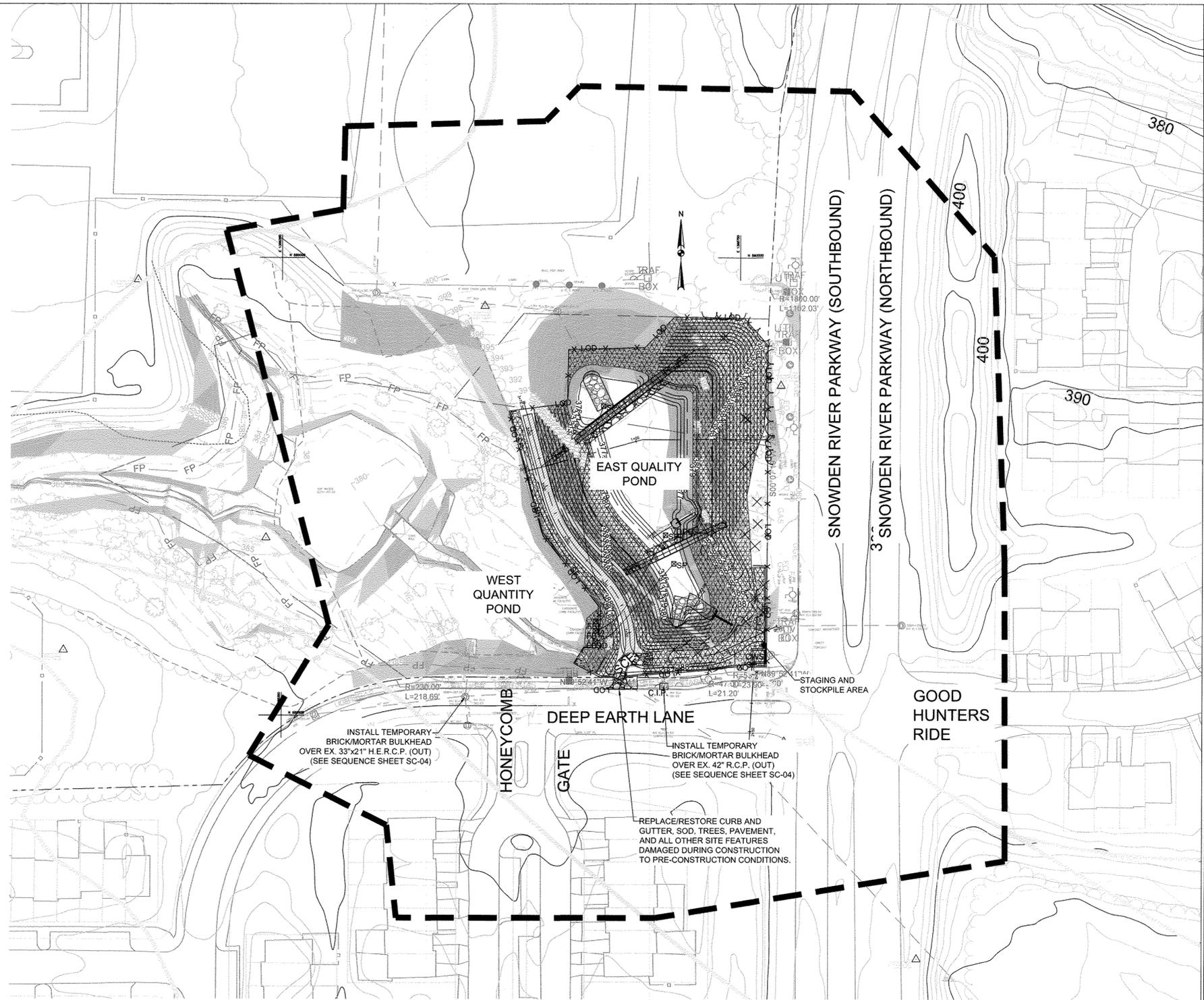


DEPARTMENT OF PUBLIC WORKS, HOWARD COUNTY, MD
 [Signature]
 CHIEF, BUREAU OF ENVIRONMENTAL SERVICES
 DATE: 1/27/16

STATE OF MARYLAND
 PROFESSIONAL ENGINEER
 [Signature]
 DEC 21 2016

LEGEND	
EXISTING FEATURES	
2' CONTOUR (SURVEY)	382
10' CONTOUR (SURVEY)	380
2' CONTOUR (GIS)	
10' CONTOUR (GIS)	380
SLOPES 15-25%	
SLOPES >25%	
SOIL DIVIDE	Fa LoB
FOREST STAND DIVIDE	
TREE LINE	
TREE	12" PINE T-75
TREE STUMP	
WATERS OF THE U.S.	W.U.S.
WETLAND	WL
25' WETLAND BUFFER	WB
POND NORMAL POOL	
100 YEAR FLOORPLAIN	FP
STREAM BUFFER	
PROPERTY LINE	
ADJACENT PROPERTY LINE	
EASEMENT LINE	
STORM DRAIN PIPE	
STORM DRAIN MANHOLE	
STORM DRAIN INLET	
FIBER OPTIC LINE	FO
UNDERGROUND TELEPHONE LINE	UTL
TELECOMMUNICATIONS BOX	TEL BOX
CABLE TV LINE	C.V.
CABLE TV BOX	CATV BOX
GAS LINE	GAS
GAS VALVE	
UNDERGROUND ELECTRICAL LINE	UGE
UTILITY BOX	UTIL BOX
STREET LIGHT	
TRAFFIC CONDUIT BOX	TRAF BOX
WATER LINE	W
CHAIN LINK FENCE	X - X - X
SIGN	
TRAVERSE POINT	△
PROPOSED FEATURES	
2' CONTOUR	381
10' CONTOUR	380
STORM DRAIN PIPE	
STORM DRAIN STRUCTURE LABEL	
GABION WALL	
TREE LINE	
EX. TREE TO BE REMOVED	12" PINE T-75
MAINTENANCE ACCESS ROAD	
LIMIT OF DISTURBANCE	LOD
RIPRAP CHANNEL	
PEDESTRIAN PATH (IMPERVIOUS AREA)	

SEDIMENT CONTROL FEATURES	
LIMITS OF REQUIRED DATA (200' OFFSET OF LOD)	
LIMIT OF DISTURBANCE	LOD
SILT FENCE	SF
BLAZE ORANGE FENCE	X - X
STABILIZED CONSTRUCTION ENTRANCE	
VERTICAL DRAW DOWN (DEWATERING) DEVICE	VDDD
CURB INLET PROTECTION	C.I.P.
SUMP PIT	SP
FILTER BAG	FB
CONCRETE WASH STATION	CWS
PERMANENT SOIL STABILIZATION MATTING	



- SEDIMENT CONTROL NOTES:**
- ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE MARYLAND STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL AND REVISIONS THERETO.
 - THE OWNER OR OWNER'S REPRESENTATIVE SHALL CONTACT THE HOWARD COUNTY C.I.D. SEDIMENT CONTROL INSPECTOR AT THE FOLLOWING STAGES OF THE PROJECT AND/OR IN ACCORDANCE WITH THE APPROVED SEDIMENT CONTROL PLAN AND GRADING PERMIT FOR INSPECTION:
 - PRIOR TO THE START OF EARTH DISTURBANCE;
 - UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING;
 - PRIOR TO REMOVAL OF THE SEDIMENT CONTROL PRACTICES.
 - ANY CHANGES OR REVISIONS TO THE SEQUENCE OF CONSTRUCTION MUST BE REVIEWED AND APPROVED BY THE PLAN APPROVAL AUTHORITY PRIOR TO PROCEEDING WITH CONSTRUCTION.
 - PROVIDE MAINTENANCE OF TRAFFIC PER MD SHA STANDARD NO. 104.02-10 AT CONSTRUCTION ENTRANCE DURING CONSTRUCTION AND PER MD SHA STANDARD NO. 104.02-02 (MAINTAIN 10 LF TRAVEL LANE IN EACH DIRECTION) FOR INSTALLATION AND REMOVAL OF CONSTRUCTION ENTRANCE AND RESTORATION OF CURB/GUTTER AND PAVEMENT AT CONSTRUCTION ENTRANCE FOOTPRINT.

CLIENT:
HOWARD COUNTY
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENVIRONMENTAL SERVICES
6751 COLUMBIA GATEWAY DRIVE, SUITE 514
COLUMBIA, MARYLAND 21046-3143
PHONE: 410.313.6413

LAND OWNER:
HOWARD COUNTY PUBLIC SCHOOL SYSTEM
10910 CLARKSVILLE PIKE
ELLCOTT CITY, MARYLAND 21042
PHONE: 410.313.6600

REVISIONS		
NO.	DATE	DESCRIPTION

SITE INFORMATION

STREET ADDRESS:
6101 OLD DOBBIN LANE
COLUMBIA, MARYLAND 21045

VILLAGE OF LONG REACH
SECTION: 3 AREA: 2
PARCEL: 657 TAX MAP: 36
ELECTION DISTRICT: 6
ZONING: NEW TOWN
PLAT NO.: 11270-11273

CENTURY ENGINEERING
CONSULTING ENGINEERS - PLANNERS
10710 GILROY ROAD
HUNT VALLEY, MARYLAND 21031
PHONE: (443) 589-2400 FAX: (443) 589-2401

LONG REACH HIGH SCHOOL (DEEP EARTH LANE) WATER QUALITY POND RETROFIT

EROSION AND SEDIMENT CONTROL OVERALL

PROJECT NO.: SWM DB #D-1160
SCALE: 1"=50'
DATE: 1/7/2016

DESIGN: JB
CHECK: RG

STATE OF MARYLAND PROFESSIONAL ENGINEER REG. NO. 4016597

SC-01 OF SC-04

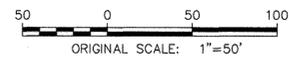
12 OF 17

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

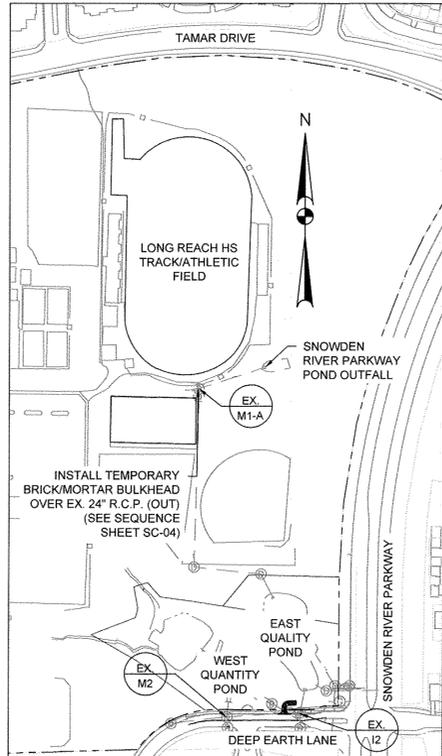
DEPARTMENT OF PUBLIC WORKS, HOWARD COUNTY, MD

John K. Roberts 8/4/16
HOWARD SOIL CONSERVATION DISTRICT DATE

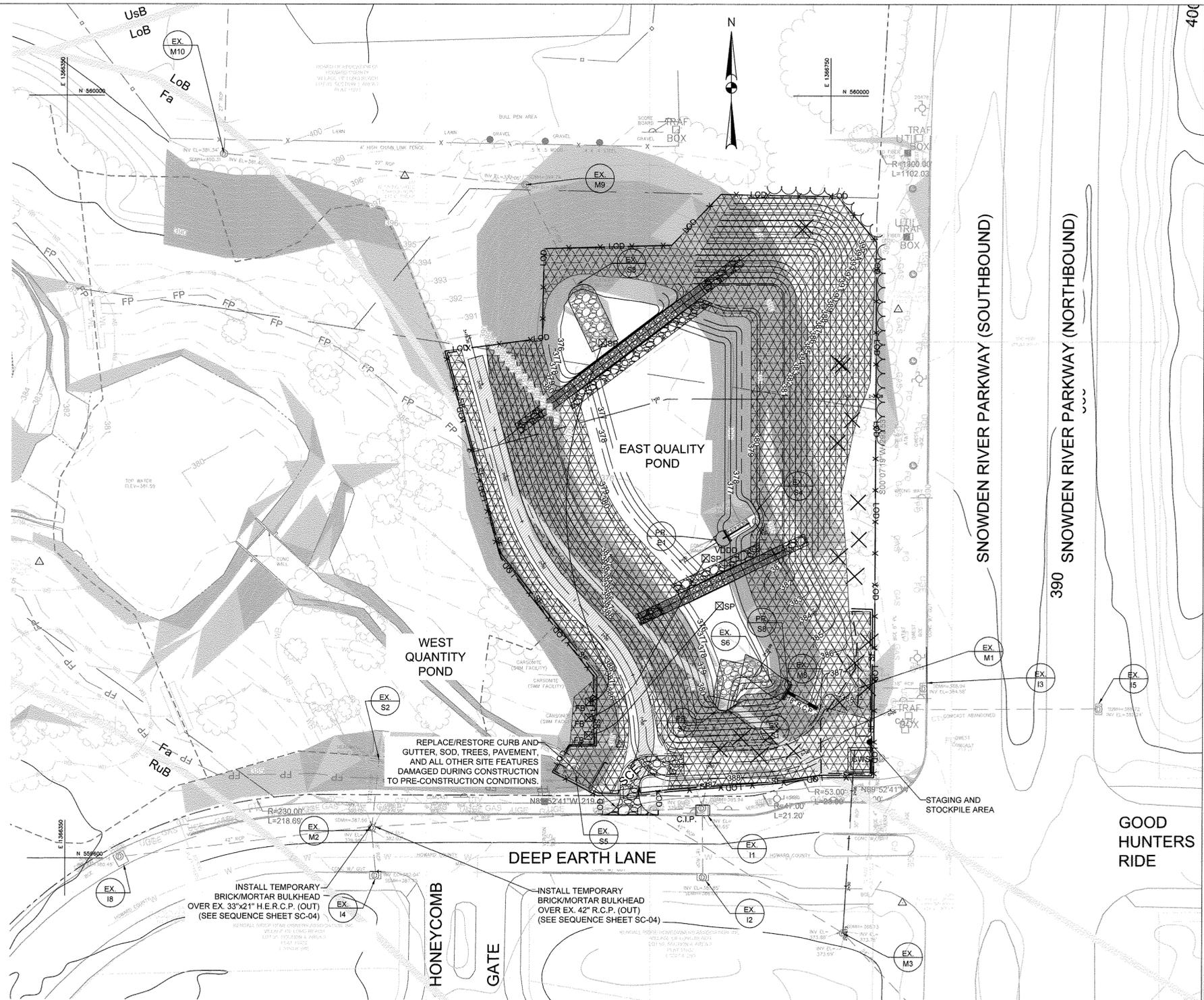
Mark D. Price 1/27/16
CHIEF, BUREAU OF ENVIRONMENTAL SERVICES DATE



LEGEND	
EXISTING FEATURES	
2' CONTOUR (SURVEY)	382
10' CONTOUR (SURVEY)	380
2' CONTOUR (GIS)	
10' CONTOUR (GIS)	380
SLOPES 15-25%	
SLOPES >25%	
SOIL DIVIDE	Fa LoB
FOREST STAND DIVIDE	
TREE LINE	
TREE	12" PINE T-75
TREE STUMP	
WATERS OF THE U.S.	WUS
WETLAND	WL
25' WETLAND BUFFER	WB
POND NORMAL POOL	
100 YEAR FLOODPLAIN	FP
STREAM BUFFER	
PROPERTY LINE	
ADJACENT PROPERTY LINE	
EASEMENT LINE	
STORM DRAIN PIPE	
STORM DRAIN MANHOLE	
STORM DRAIN INLET	
FIBER OPTIC LINE	FO
UNDERGROUND TELEPHONE LINE	UGT
TELECOMMUNICATIONS BOX	TEL
CABLE TV LINE	CIV
CABLE TV BOX	CATV
GAS LINE	GAS
GAS VALVE	
UNDERGROUND ELECTRICAL LINE	UGE
UTILITY BOX	UTIL
STREET LIGHT	
TRAFFIC CONDUIT BOX	TRAF
WATER LINE	W
CHAIN LINK FENCE	X-X-X
SIGN	
TRAVERSE POINT	△
PROPOSED FEATURES	
2' CONTOUR	381
10' CONTOUR	380
STORM DRAIN PIPE	
STORM DRAIN STRUCTURE LABEL	
GABION WALL	
TREE LINE	
EX. TREE TO BE REMOVED	12" PINE T-75
MAINTENANCE ACCESS ROAD	
LIMIT OF DISTURBANCE	LOD
RIPRAP CHANNEL	
PEDESTRIAN PATH (IMPERVIOUS AREA)	



SEDIMENT CONTROL FEATURES	
LIMIT OF DISTURBANCE	LOD
SILT FENCE	SF
BLAZE ORANGE FENCE	X-X-X
STABILIZED CONSTRUCTION ENTRANCE	
VERTICAL DRAW DOWN (DEWATERING) DEVICE	VDDD
CURB INLET PROTECTION	C.I.P.
SUMP PIT	SP
FILTER BAG	FB
CONCRETE WASH STATION	CWS
PERMANENT SOIL STABILIZATION MATTING	



- SEDIMENT CONTROL NOTES:**
- ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE MARYLAND STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL AND REVISIONS THERETO.
 - THE OWNER OR OWNER'S REPRESENTATIVE SHALL CONTACT THE HOWARD COUNTY C.I.D. SEDIMENT CONTROL INSPECTOR AT THE FOLLOWING STAGES OF THE PROJECT AND/OR IN ACCORDANCE WITH THE APPROVED SEDIMENT CONTROL PLAN AND GRADING PERMIT FOR INSPECTION.
 - PRIOR TO THE START OF EARTH DISTURBANCE.
 - UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING.
 - PRIOR TO REMOVAL OF THE SEDIMENT CONTROL PRACTICES.
 - ANY CHANGES OR REVISIONS TO THE SEQUENCE OF CONSTRUCTION MUST BE REVIEWED AND APPROVED BY THE PLAN APPROVAL AUTHORITY PRIOR TO PROCEEDING WITH CONSTRUCTION.
 - PROVIDE MAINTENANCE OF TRAFFIC PER MD SHA STANDARD NO. 104.02-10 AT CONSTRUCTION ENTRANCE DURING CONSTRUCTION AND PER MD SHA STANDARD NO. 104.02-02 (MAINTAIN 10 LF TRAVEL LANE IN EACH DIRECTION) FOR INSTALLATION AND REMOVAL OF CONSTRUCTION ENTRANCE AND RESTORATION OF CURB/GUTTER AND PAVEMENT AT CONSTRUCTION ENTRANCE FOOTPRINT.

CLIENT:
HOWARD COUNTY
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENVIRONMENTAL SERVICES
6751 COLUMBIA GATEWAY DRIVE, SUITE 514
COLUMBIA, MARYLAND 21046-3143
PHONE: 410.313.6413

LAND OWNER:
HOWARD COUNTY PUBLIC SCHOOL SYSTEM
10910 CLARKSVILLE PIKE
ELLCOTT CITY, MARYLAND 21042
PHONE: 410.313.6600

REVISIONS		
NO.	DATE	DESCRIPTION

SITE INFORMATION

STREET ADDRESS:
6101 OLD DOBBIN LANE
COLUMBIA, MARYLAND 21045

VILLAGE OF LONG REACH
SECTION: 3 AREA: 2
PARCEL: 657 TAX MAP: 36
ELECTION DISTRICT: 6
ZONING: NEW TOWN
PLAT NO.: 11270-11273

CENTURY ENGINEERING
CONSULTING ENGINEERS - PLANNERS
10710 GILROY ROAD
HUNT VALLEY, MARYLAND 21031
PHONE: (443) 589-2400 FAX: (443) 589-2401

LONG REACH HIGH SCHOOL (DEEP EARTH LANE) WATER QUALITY POND RETROFIT

EROSION AND SEDIMENT CONTROL PLAN

PROJECT NO: SWM DB 11-160	SCALE: 1"=30'	DATE: 1/7/2016
DESIGN: JB	CHECK: RG	
DWG NO: SC-02 OF SC-04		
13 OF 17		

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

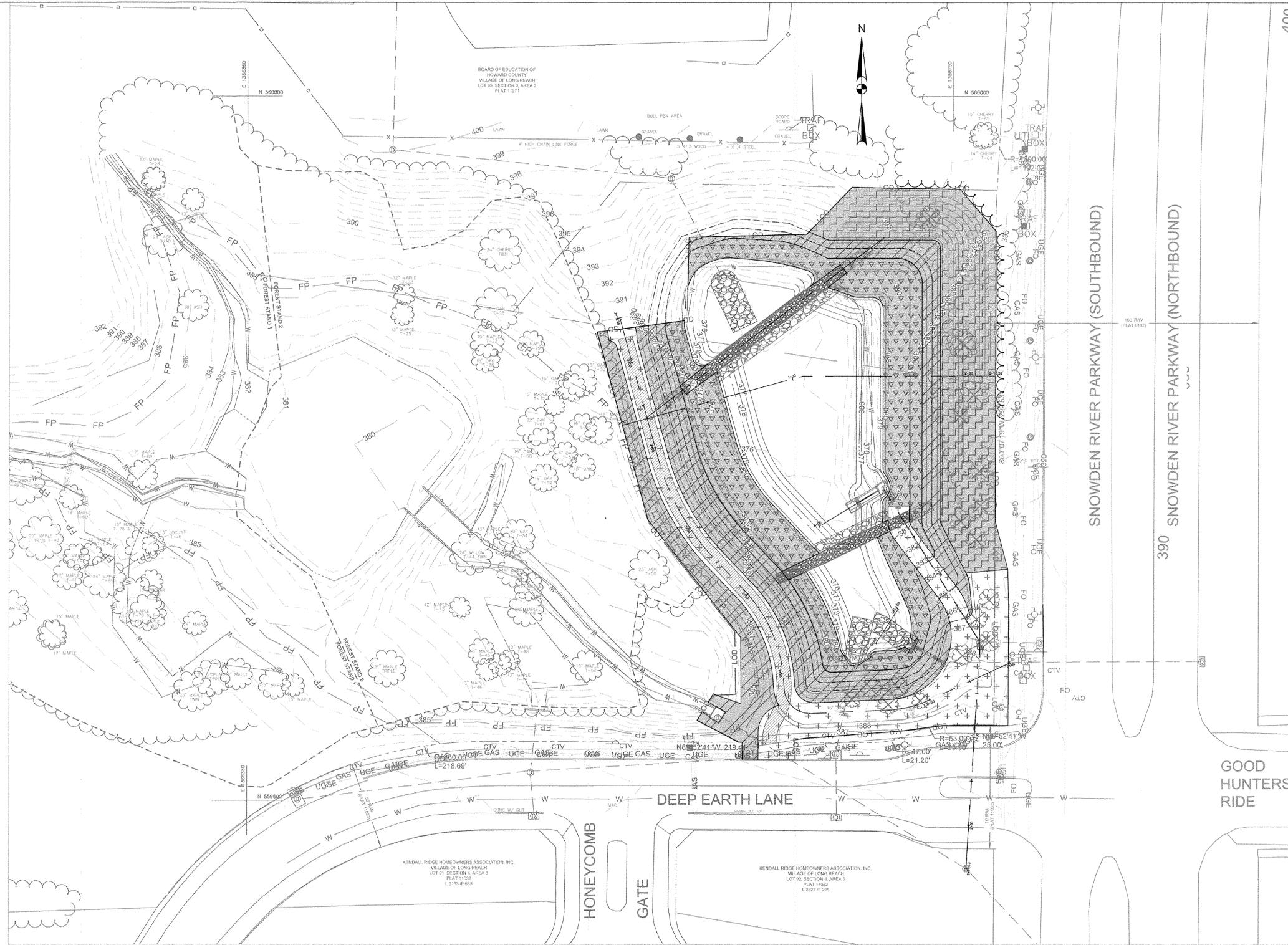
John R. Robertson 8/14/16
HOWARD SOIL CONSERVATION DISTRICT DATE

DEPARTMENT OF PUBLIC WORKS, HOWARD COUNTY, MD

Michael J. DeLuca 1/27/16
CHIEF, BUREAU OF ENVIRONMENTAL SERVICES DATE

30 0 30 60
ORIGINAL SCALE: 1"=30'

EXISTING FEATURES	
2' CONTOUR	
10' CONTOUR	
TREE LINE	
TREE	
TREE STUMP	
WATERS OF THE U.S.	
WETLAND	
25' WETLAND BUFFER	
POND NORMAL POOL	
STREAM BUFFER	
PROPERTY LINE	
ADJACENT PROPERTY LINE	
EASEMENT LINE	
STORM DRAIN PIPE	
STORM DRAIN MANHOLE	
STORM DRAIN INLET	
FIBER OPTIC LINE	
UNDERGROUND TELEPHONE LINE	
TELECOMMUNICATIONS BOX	
CABLE TV LINE	
CABLE TV BOX	
GAS LINE	
GAS VALVE	
UNDERGROUND ELECTRICAL LINE	
UTILITY BOX	
STREET LIGHT	
TRAFFIC CONDUIT BOX	
WATER LINE	
CHAIN LINK FENCE	
SIGN	
TRAVERSE POINT	
PROPOSED FEATURES	
2' CONTOUR	
10' CONTOUR	
STORM DRAIN PIPE	
STORM DRAIN STRUCTURE LABEL	
GABION WALL	
EX. TREE TO BE REMOVED	
MAINTENANCE ACCESS ROAD	
NO MOW ZONE	
NORMAL POOL = 379.50	
1 YEAR WSEL=383.14	
10 YEAR WSEL=385.05	
100 YEAR WSEL=386.57	
LANDSCAPE PLANTING ZONES	
ZONE 1 (8,348 SF / 0.192 AC)	
ZONE 2 (20,250 SF / 0.465 AC)	
ZONE 3 (9,531 SF / 0.219 AC)	
ZONE 4 (8,841 SF / 0.202 AC)	



CLIENT:
 HOWARD COUNTY
 DEPARTMENT OF PUBLIC WORKS
 BUREAU OF ENVIRONMENTAL SERVICES
 6751 COLUMBIA GATEWAY DRIVE, SUITE 514
 COLUMBIA, MARYLAND 21046-3143
 PHONE: 410.313.6413

LAND OWNER:
 HOWARD COUNTY PUBLIC SCHOOL SYSTEM
 10910 CLARKSVILLE PIKE
 ELLICOTT CITY, MARYLAND 21042
 PHONE: 410.313.6600

REVISIONS		
NO.	DATE	DESCRIPTION

SITE INFORMATION

STREET ADDRESS:
 6101 OLD DOBBIN LANE
 COLUMBIA, MARYLAND 21045

VILLAGE OF LONG REACH
 SECTION: 3 AREA: 2
 PARCEL: 657 TAX MAP: 36
 ELECTION DISTRICT: 6
 ZONING: NEW TOWN
 PLAT NO.: 11270-11273

CENTURY
 ENGINEERING
 CONSULTING ENGINEERS - PLANNERS
 10710 GILROY ROAD
 HUNT VALLEY, MARYLAND 21031
 PHONE: (443) 589-2400 FAX: (443) 589-2401

**LONG REACH HIGH SCHOOL
 (DEEP EARTH LANE)
 WATER QUALITY POND
 RETROFIT**

LANDSCAPE PLAN

PROJECT NO: SVMM DB RD-1160 SCALE: 1"=30' DATE: 1/7/2016

DESIGN: JIB CHECK: RG

DWG NO: LS-01 OF LS-02

16 OF 17

DEPARTMENT OF PUBLIC WORKS, HOWARD COUNTY, MD

[Signature] 7/27/16
 CHIEF, BUREAU OF ENVIRONMENTAL SERVICES DATE



