

DISTRICT DEPARTMENT OF THE ENVIRONMENT

CONTRACT DRAWINGS FOR

ROCK CREEK TENNIS CENTER LID RETROFITS

30% DESIGN - AUGUST 2017

CLIENT

★ ★ ★

DEPARTMENT OF ENERGY & ENVIRONMENT

CECILIA LANE
 ENVIRONMENTAL PROTECTION SPECIALIST
 WATERSHED PROTECTION DIVISION
 DEPARTMENT OF ENERGY AND ENVIRONMENT
 GOVERNMENT OF THE DISTRICT OF COLUMBIA
 1200 FIRST STREET NE 5TH FLOOR
 WASHINGTON, DC 20002
 DESK: (202) 535-2247
 CELL: (202) 734-9527
 WEB: DOEE.DC.GOV

DATE:	ISSUES / REVISIONS



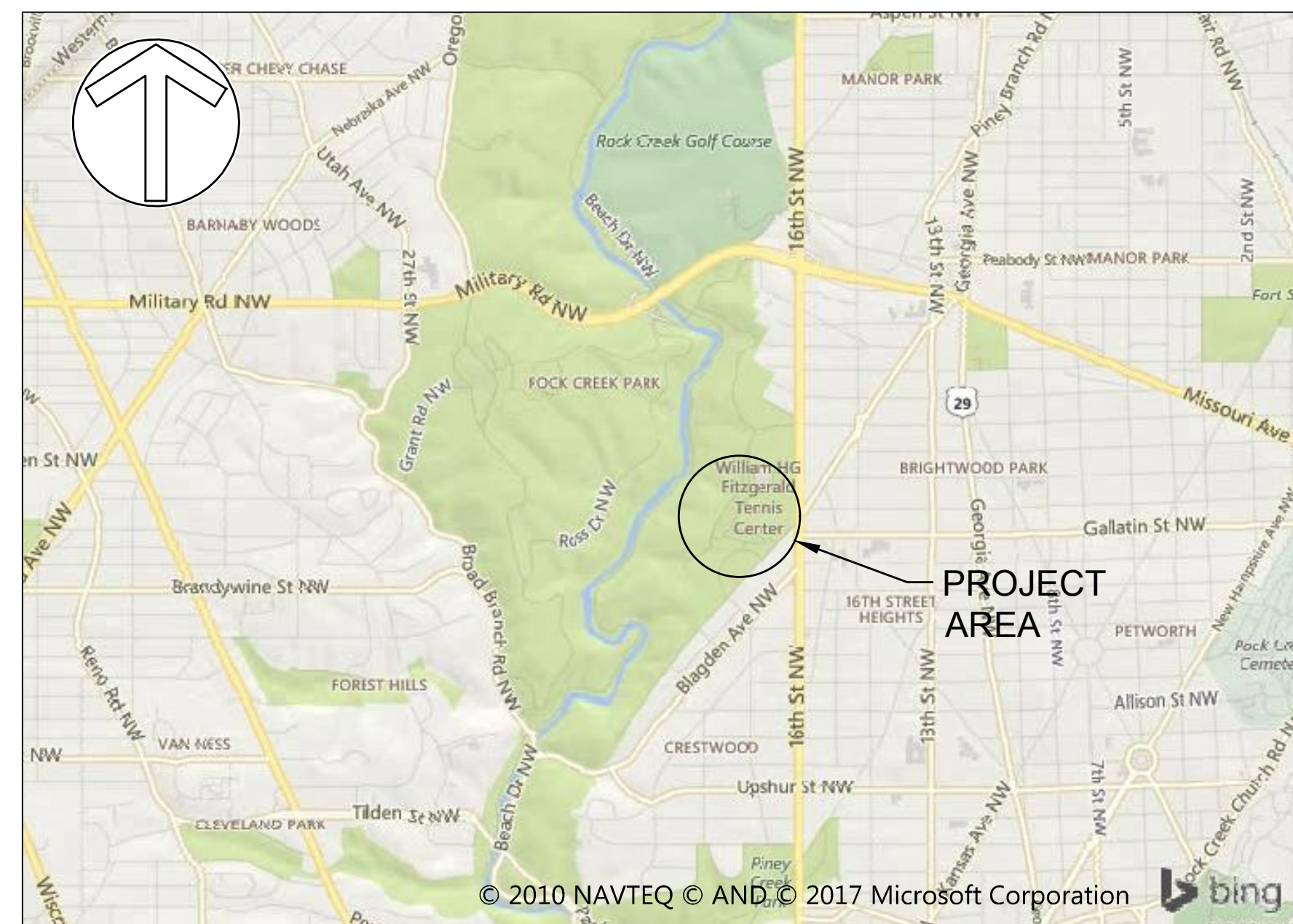
Biohabitats

The Stables Building 2081 Clipper Park Road
 Baltimore, MD 21211 / ph: 410.554.0156
 fx: 410.554.0168 / www.biohabitats.com
Restore the Earth & Inspire Ecological Stewardship

**ROCK CREEK
 TENNIS CENTER
 LID RETROFITS**

30% DESIGN

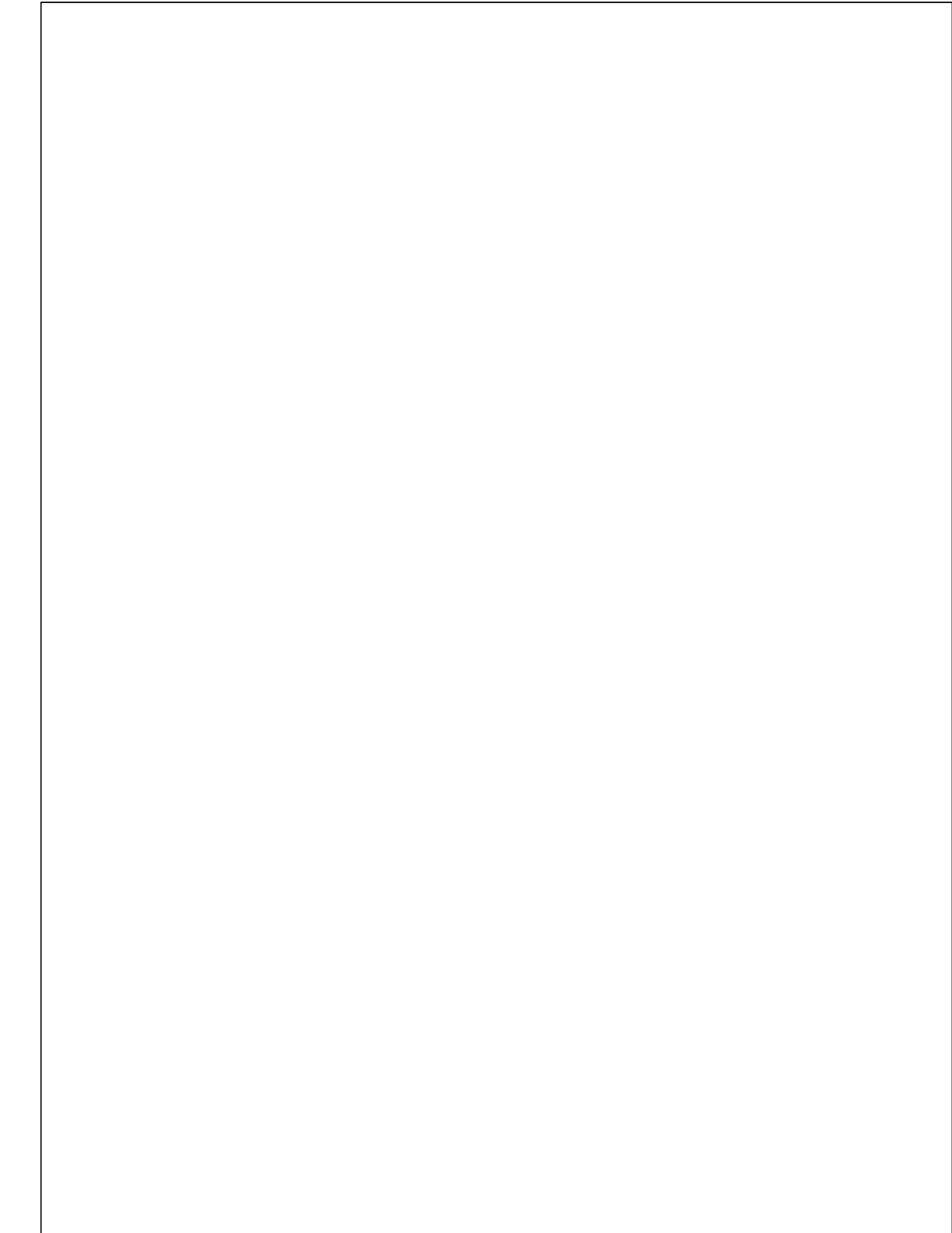
TITLE SHEET	
PROJECT NO.: 17010.01	SCALE: AS SHOWN
SEAL:	BY: GB CHECK: BA
DWG. NO.: 1 OF 8	



1" = 2000' IMAGE CREDIT: BING MAPS

Sheet List Table

Sheet Number	Sheet Title
1	TITLE SHEET
2	LEGEND AND GENERAL NOTES
3	DRAINAGE AREA MAP
4	PLAN SHEET LAYOUT
5	STORMWATER MANAGEMENT PLAN
6	STORMWATER MANAGEMENT PLAN
7	STORMWATER MANAGEMENT PLAN
8	DETAILS



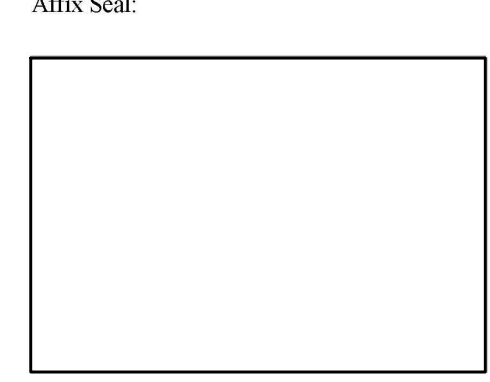
STATEMENT BY PROFESSIONAL ENGINEER REGISTERED IN THE DISTRICT OF COLUMBIA

This is to certify that the engineering features of all stormwater best management practices (BMPs), stormwater infrastructure, and land covers (collectively the "Facility") have been designed/examined by me and found to be in conformance with modern engineering principles applicable to the treatment and disposal of stormwater pollutants. I further certify that the Facility has been designed in accordance with the specification required under Chapter 5 of Title 21 of the District of Columbia Municipal Regulations. It is also stated that the undersigned has furnished the applicant with a set of instructions for the maintenance and operation of the site's Facility.

Name and Title (please type) _____

Address _____

Date _____ Phone No: _____



LEGEND

EXISTING	PROPOSED
MAJOR CONTOUR	MAJOR CONTOUR
MINOR CONTOUR	MINOR CONTOUR
PROPERTY LINE	BASELINE
SANITARY SEWER	WATER SURFACE
STORM DRAIN	PROPOSED 100 YEAR FLOODPLAIN
WATER SUPPLY	LIMIT OF DISTURBANCE
ELECTRIC	LIMIT OF PLANTING
GAS	SILT FENCE
COMMUNICATIONS	SUPER SILT FENCE
CRITICAL AREA BOUNDARY	TRENCHLESS SILT FENCE
CRITICAL AREA BUFFER	TRENCHLESS SUPER SILT FENCE
SOIL TYPE BOUNDARY	REINFORCED SILT FENCE
EXISTING 100 YEAR FLOODPLAIN	TREE PROTECTION FENCE
WETLAND LIMIT	FILTER LOG
WETLAND BUFFER	12 INCH FILTER LOG
WATER OF THE US	18 INCH FILTER LOG
TREELINE	BLAZE ORANGE FENCE
TREE	BOULDER RIFFLE
TRAVERSE POINT	COBBLE RIFFLE
TRAFFIC POLE	BOULDER GRADE CONTROL
ELECTRIC JUNCTION BOX	LOG SILL
STORMDRAIN MANHOLE	LARGE WOODY DEBRIS
GAS METER	BOULDER TOE PROTECTION
GAS VALVE	BOULDER HEAD WALL
WATER METER	TREE REMOVAL
WATER VALVE	TREE PLANKING
FIRE HYDRANT	STAGING AND STOCKPILING AREA
SEWER MANHOLE	MULCH ACCESS ROAD
SEWER CLEAN OUT	HARDWOOD MATTING
TELCO MANHOLE	CRITICAL ROOT ZONE
TELCO RISER	STABILIZED CONSTRUCTION ENTRANCE
SIGN	BASEFLOW DIVERSION PIPE
LIGHT POLE	PUMP AROUND LOCATION
UTILITY POLE	FLOW DIVERSION PIPE
GUY WIRE	SAND BAG DIKES
ELECTRIC MANHOLE	FILTER BAG
TRANSFORMER	DE-WATERING BAG
CONCRETE SIDEWALK	
ASPHALT WALK/PATH	
PARKING COUNT	

CLIENT



DEPARTMENT OF ENERGY & ENVIRONMENT

CECILIA LANE
 ENVIRONMENTAL PROTECTION SPECIALIST
 WATERSHED PROTECTION DIVISION
 DEPARTMENT OF ENERGY AND ENVIRONMENT
 GOVERNMENT OF THE DISTRICT OF COLUMBIA
 1200 FIRST STREET NE 5TH FLOOR
 WASHINGTON, DC 20002
 DESK: (202) 535-2247
 CELL: (202) 734-9527
 WEB: DOEE.DC.GOV

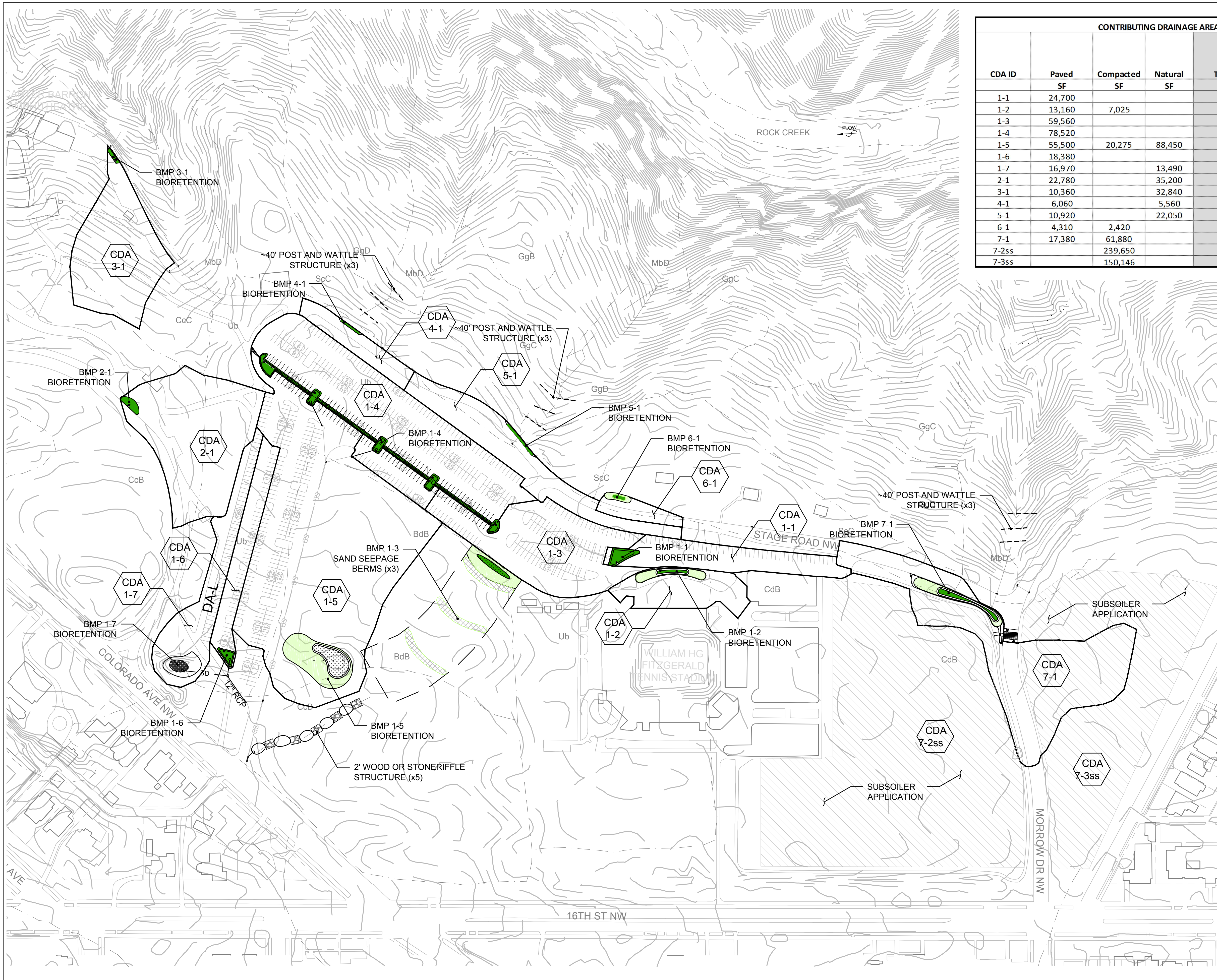
DATE: ISSUES / REVISIONS



**ROCK CREEK
 TENNIS CENTER
 LID RETROFITS**
 30% DESIGN

LEGEND AND GENERAL NOTES

PROJECT NO.:	17010.01	SCALE:	N/A
SEAL:	BY: GB	CHECK:	BA
		DWG. NO.:	



CONTRIBUTING DRAINAGE AREA (CDA)						Stormwater Retention Volume (SWRv)	
CDA ID	Paved	Compacted	Natural	Total	P IN	CF	
	SF	SF	SF	SF			
1-1	24,700			24,700	1.2	2,347	
1-2	13,160	7,025		20,185	1.2	1,426	
1-3	59,560			59,560	1.2	5,658	
1-4	78,520			78,520	1.2	7,459	
1-5	55,500	20,275	88,450	164,225	1.2	5,779	
1-6	18,380			18,380	1.2	1,746	
1-7	16,970		13,490	30,460	1.2	1,612	
2-1	22,780		35,200	57,980	1.2	2,164	
3-1	10,360		32,840	43,200	1.2	984	
4-1	6,060		5,560	11,620	1.2	576	
5-1	10,920		22,050	32,970	1.2	1,037	
6-1	4,310	2,420		6,730	1.2	470	
7-1	17,380	61,880		79,260	1.2	3,198	
7-2ss		239,650		239,650	1.2	5,991	
7-3ss		150,146		150,146	1.2	3,754	

CLIENT

★ ★ ★

DEPARTMENT OF ENERGY & ENVIRONMENT

CECILIA LANE
 ENVIRONMENTAL PROTECTION SPECIALIST
 WATERSHED PROTECTION DIVISION
 DEPARTMENT OF ENERGY AND ENVIRONMENT
 GOVERNMENT OF THE DISTRICT OF COLUMBIA
 1200 FIRST STREET NE 5TH FLOOR
 WASHINGTON, DC 20002
 DESK: (202) 535-2247
 CELL: (202) 734-9527
 WEB: DOEE.DC.GOV

DATE: ISSUES / REVISIONS

★ ★ ★

WE ARE WASHINGTON DC

DC.gov

MAYOR MURIEL BOWSER

Biohabitats

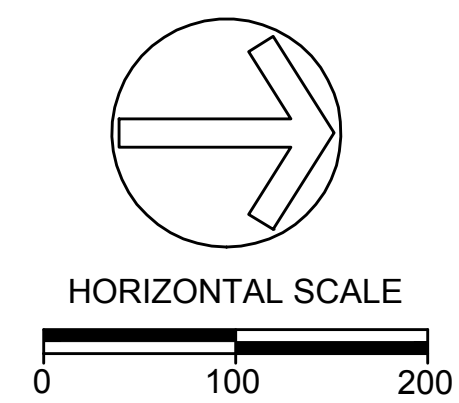
The Stables Building 2081 Clipper Park Road
 Baltimore, MD 21211 / ph: 410.554.0156
 fx: 410.554.0168 / www.biohabitats.com
Restore the Earth & Inspire Ecological Stewardship

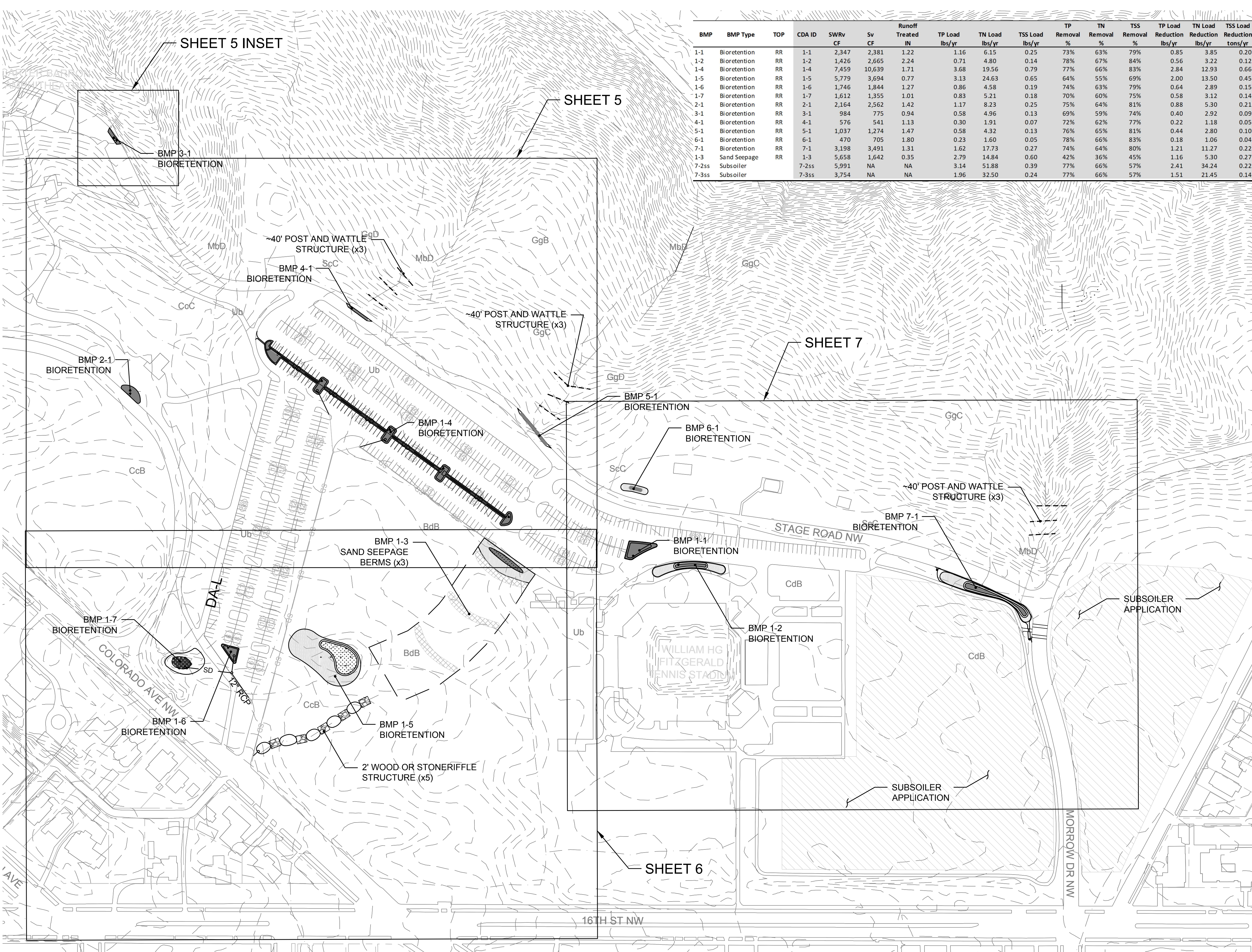
ROCK CREEK TENNIS CENTER LID RETROFITS

30% DESIGN

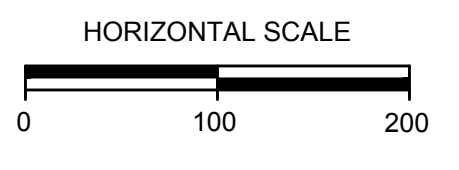
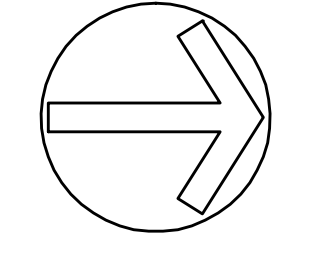
TITLE: DRAINAGE AREA MAP

PROJECT NO.: 17010.01 SCALE: 1:100
 SEAL: BY: GB CHECK: BA
 DWG. NO.:





BMP	BMP Type	TOP	COA ID	SWRv CF	Sv CF	Runoff Treated IN	TP Load lbs/yr	TN Load lbs/yr	TSS Load lbs/yr	TP Removal %	TN Removal %	TSS Removal %	TP Load Reduction lbs/yr	TN Load Reduction lbs/yr	TSS Load Reduction tons/yr
1-1	Bioretention	RR	1-1	2,347	2,381	1.22	1.16	6.15	0.25	73%	63%	79%	0.85	3.85	0.20
1-2	Bioretention	RR	1-2	1,426	2,665	2.24	0.71	4.80	0.14	78%	67%	84%	0.56	3.22	0.12
1-4	Bioretention	RR	1-4	7,459	10,639	1.71	3.68	19.56	0.79	77%	66%	83%	2.84	12.93	0.66
1-5	Bioretention	RR	1-5	5,779	3,694	0.77	3.13	24.63	0.65	64%	55%	69%	2.00	13.50	0.45
1-6	Bioretention	RR	1-6	1,746	1,844	1.27	0.86	4.58	0.19	74%	63%	79%	0.64	2.89	0.15
1-7	Bioretention	RR	1-7	1,612	1,355	1.01	0.83	5.21	0.18	70%	60%	75%	0.58	3.12	0.14
2-1	Bioretention	RR	2-1	2,164	2,562	1.42	1.17	8.23	0.25	75%	64%	81%	0.88	5.30	0.21
3-1	Bioretention	RR	3-1	984	775	0.94	0.58	4.96	0.13	69%	59%	74%	0.40	2.92	0.09
4-1	Bioretention	RR	4-1	576	541	1.13	0.30	1.91	0.07	72%	62%	77%	0.22	1.18	0.05
5-1	Bioretention	RR	5-1	1,037	1,274	1.47	0.58	4.32	0.13	76%	65%	81%	0.44	2.80	0.10
6-1	Bioretention	RR	6-1	470	705	1.80	0.23	1.60	0.05	78%	66%	83%	0.18	1.06	0.04
7-1	Bioretention	RR	7-1	3,198	3,491	1.31	1.62	17.73	0.27	74%	64%	80%	1.21	11.27	0.22
1-3	Sand Seepage	RR	1-3	5,658	1,642	0.35	2.79	14.84	0.60	42%	36%	45%	1.16	5.30	0.27
7-2ss	Subsoiler	RR	7-2ss	5,991	NA	NA	3.14	51.88	0.39	77%	66%	57%	2.41	34.24	0.22
7-3ss	Subsoiler	RR	7-3ss	3,754	NA	NA	1.96	32.50	0.24	77%	66%	57%	1.51	21.45	0.14



LEGEND

- PLANTED BIORETENTION
- SOD SHELF
- SAND BERM
- POST & WATTLE GULLY REPAIR
- SUBSOILER APPLICATION

PARKING COUNT	
Existing	735
Proposed	730*
* Proposed count can increase to 738 if compace spaces are narrowed to 8' width	
PARKING LOSS PER BMP	
ID	CHANGE
BMP 1-1	-3
BMP 1-6	-2

- NOTES:**
1. COMPACT" SPACES WILL REQUIRE RESTRIPING OF PARKING STALLS
 2. SEEPAGE BERMS ARE SHOWN IN APPROXIMATE FOOTPRINT, PENDING TREE SURVEY OF FORESTED AREA.

CLIENT

★ ★ ★

DEPARTMENT OF ENERGY & ENVIRONMENT

CECILIA LANE
 ENVIRONMENTAL PROTECTION SPECIALIST
 WATERSHED PROTECTION DIVISION
 DEPARTMENT OF ENERGY AND ENVIRONMENT
 GOVERNMENT OF THE DISTRICT OF COLUMBIA
 1200 FIRST STREET NE 5TH FLOOR
 WASHINGTON, DC 20002
 DESK: (202) 535-2247
 CELL: (202) 734-9527
 WEB: DOEE.DC.GOV

DATE:	ISSUES / REVISIONS

★ ★ ★

WE ARE WASHINGTON DC

DC.gov

MAYOR MURIEL BOWSER

Biohabitats

The Stables Building 2081 Clipper Park Road
 Baltimore, MD 21211 / ph: 410.554.0156
 fx: 410.554.0168 / www.biohabitats.com
Restore the Earth & Inspire Ecological Stewardship

ROCK CREEK TENNIS CENTER LID RETROFITS

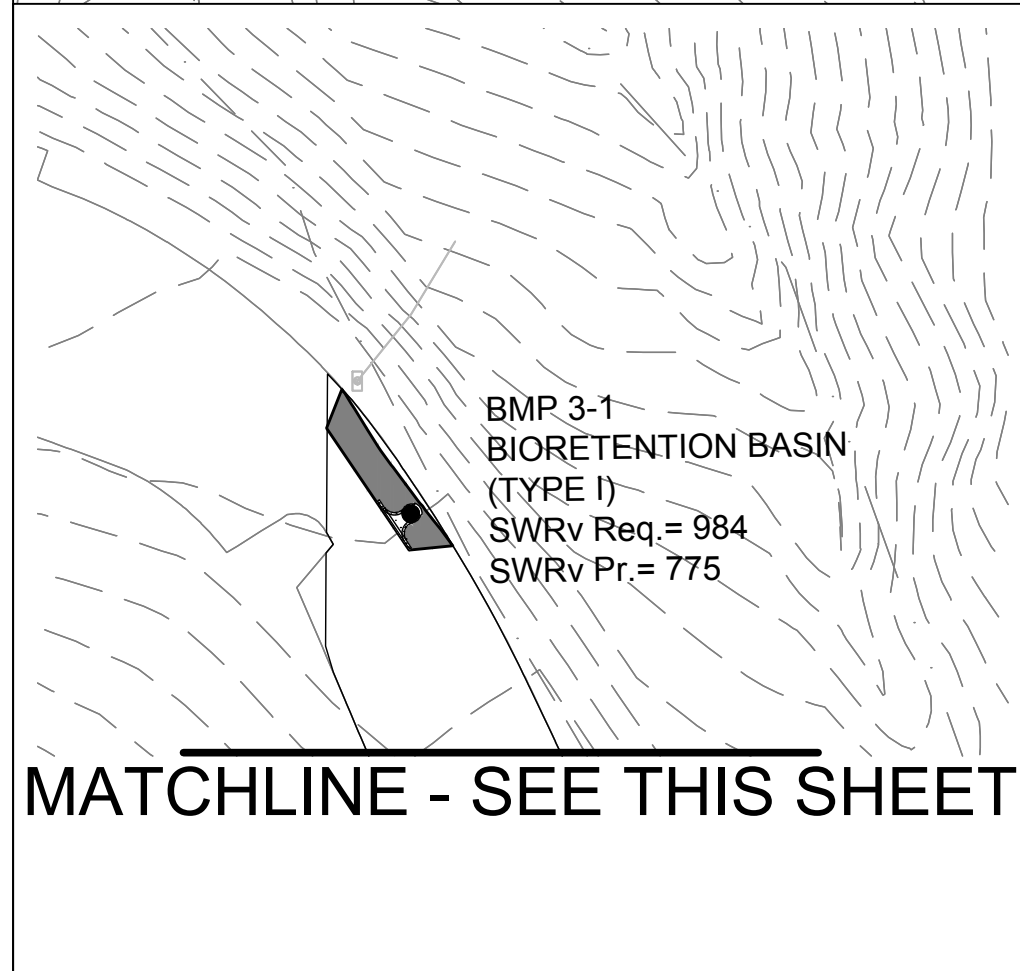
30% DESIGN

TITLE:

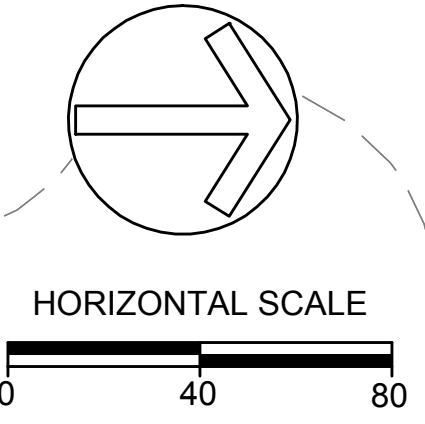
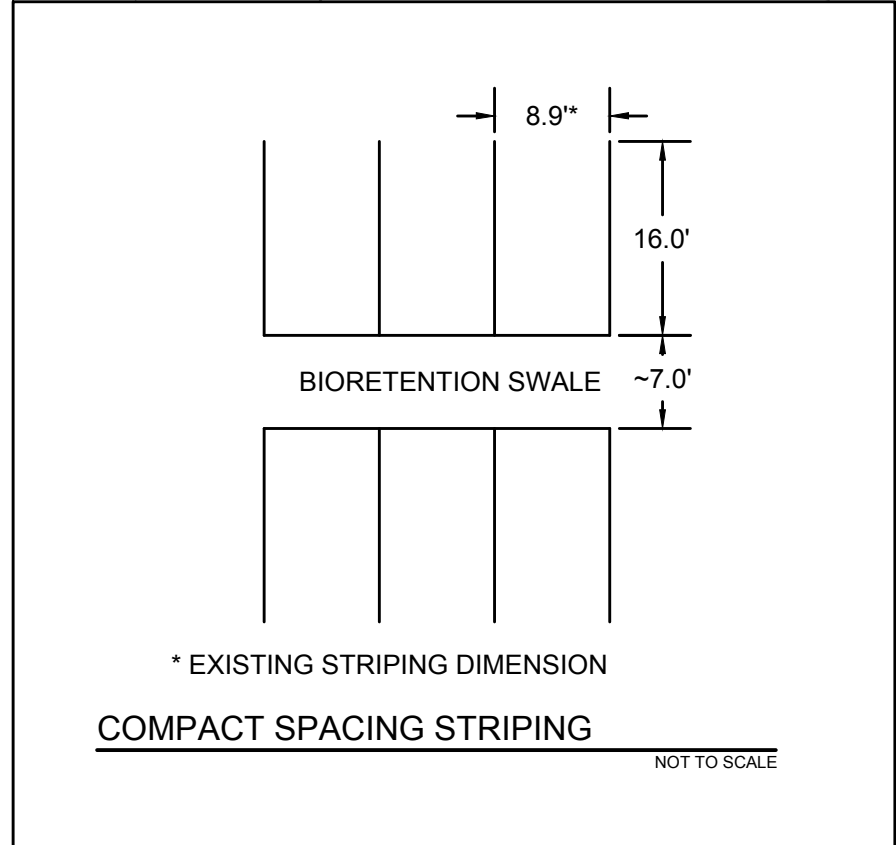
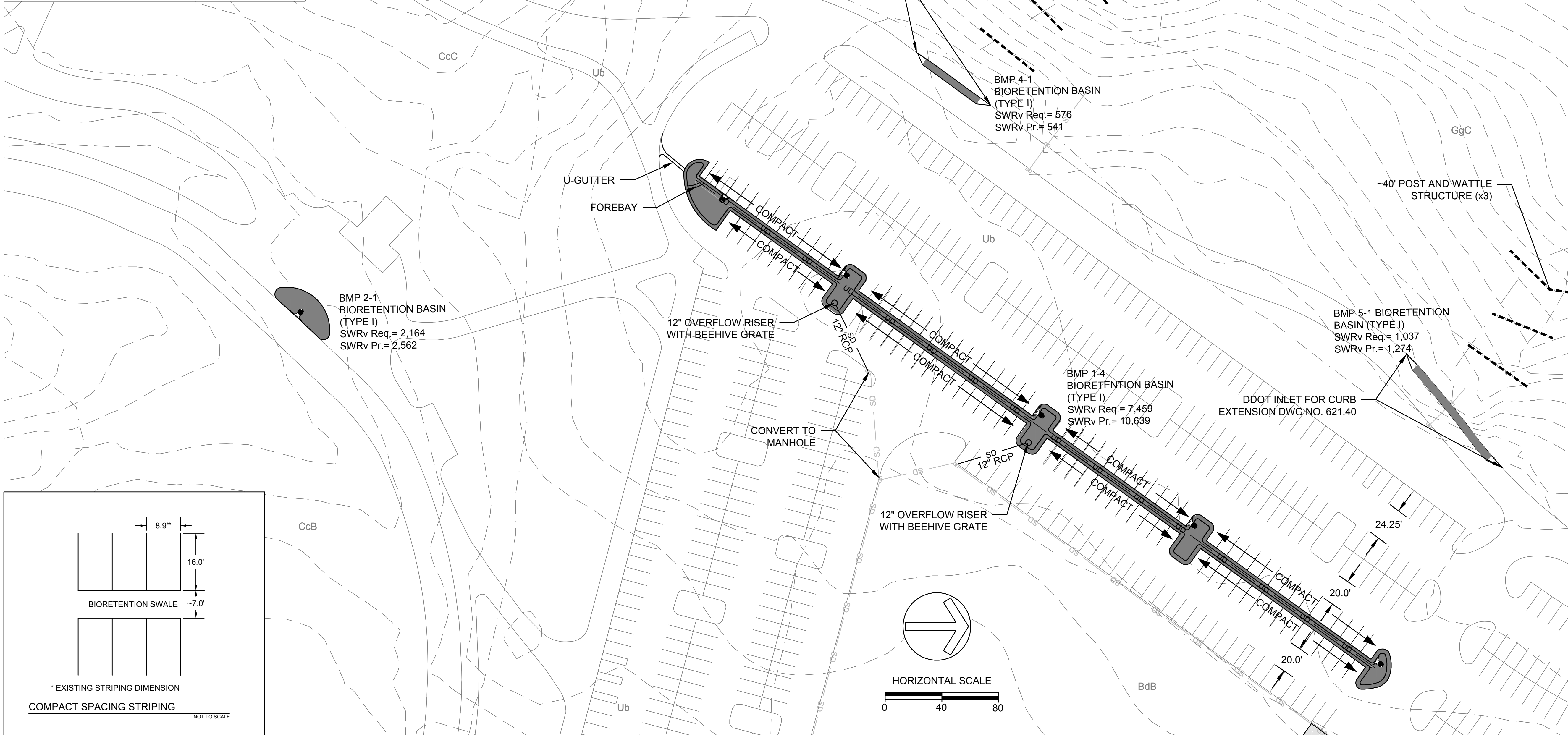
PLAN SHEET LAYOUT

PROJECT NO.:	17010.01	SCALE:	1"= 100'
SEAL:	BY: GB	CHECK:	BA
DWG. NO.:			

MATCHLINE - SEE INSET THIS SHEET



MATCHLINE - SEE THIS SHEET



MATCHLINE SEE SHEET 7

MATCHLINE SEE SHEET 6

CLIENT

DEPARTMENT
OF ENERGY &
ENVIRONMENT
CECILIA LANE
ENVIRONMENTAL PROTECTION SPECIALIST
WATERSHED PROTECTION DIVISION
DEPARTMENT OF ENERGY AND ENVIRONMENT
GOVERNMENT OF THE DISTRICT OF COLUMBIA
1200 FIRST STREET NE 5TH FLOOR
WASHINGTON, DC 20002
DESK: (202) 535-2247
CELL: (202) 734-9527
WEB: DOEE.DC.GOV

DATE:	ISSUES / REVISIONS
-------	--------------------



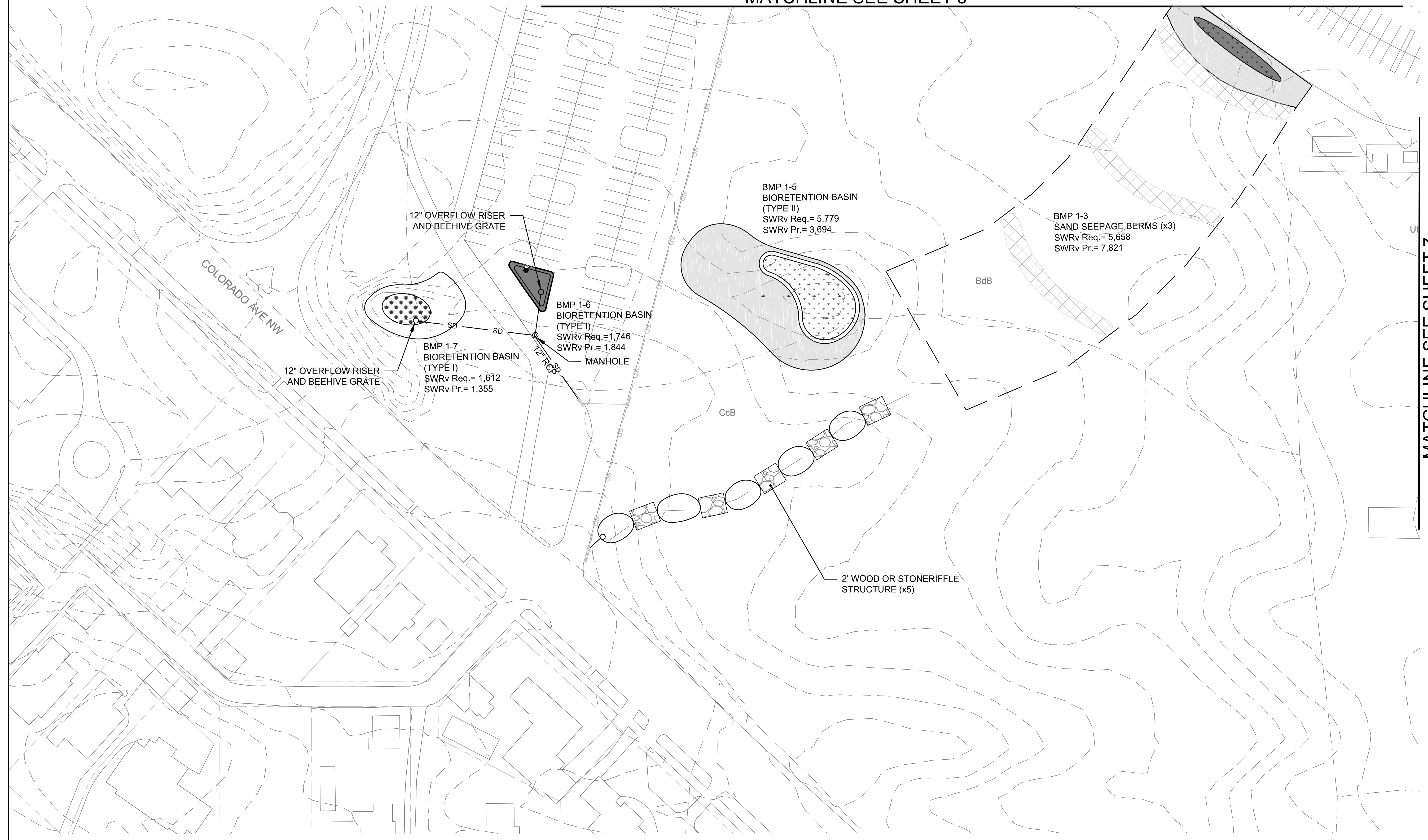
Biohabitats
The Stables Building 2081 Clipper Park Road
Baltimore, MD 21211 / ph: 410.554.0156
fx: 410.554.0168 / www.biohabitats.com
Restore the Earth & Inspire Ecological Stewardship

ROCK CREEK
TENNIS CENTER
LID RETROFITS
30% DESIGN

TITLE:
STORMWATER
MANAGEMENT
PLAN

PROJECT NO.:	17010.01	SCALE:	1" = 40'
SEAL:	BY: GB	CHECK:	BA
	DWG. NO.:		

MATCHLINE SEE SHEET 5



MATCHLINE SEE SHEET 7

CLIENT

★ ★ ★

DEPARTMENT OF ENERGY & ENVIRONMENT

CECILIA LANE
 ENVIRONMENTAL PROTECTION SPECIALIST
 WATERSHED PROTECTION DIVISION
 DEPARTMENT OF ENERGY AND ENVIRONMENT
 GOVERNMENT OF THE DISTRICT OF COLUMBIA
 1200 FIRST STREET NE 5TH FLOOR
 WASHINGTON, DC 20002
 DESK: (202) 535-2247
 CELL: (202) 734-9527
 WEB: DOEE.DC.GOV

DATE:	ISSUES / REVISIONS



Biohabitats

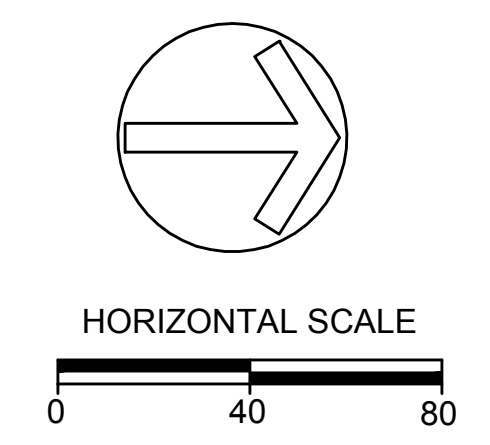
The Stables Building 2081 Clipper Park Road
 Baltimore, MD 21211 / ph: 410.554.0156
 fx: 410.554.0168 / www.biohabitats.com
Restore the Earth & Inspire Ecological Stewardship

ROCK CREEK TENNIS CENTER LID RETROFITS

30% DESIGN

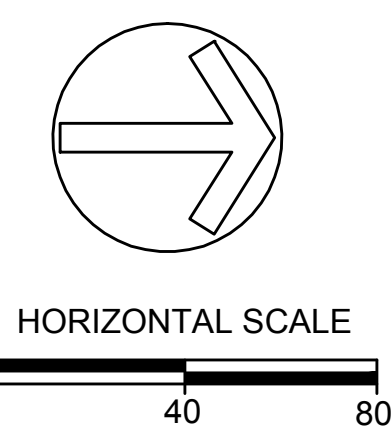
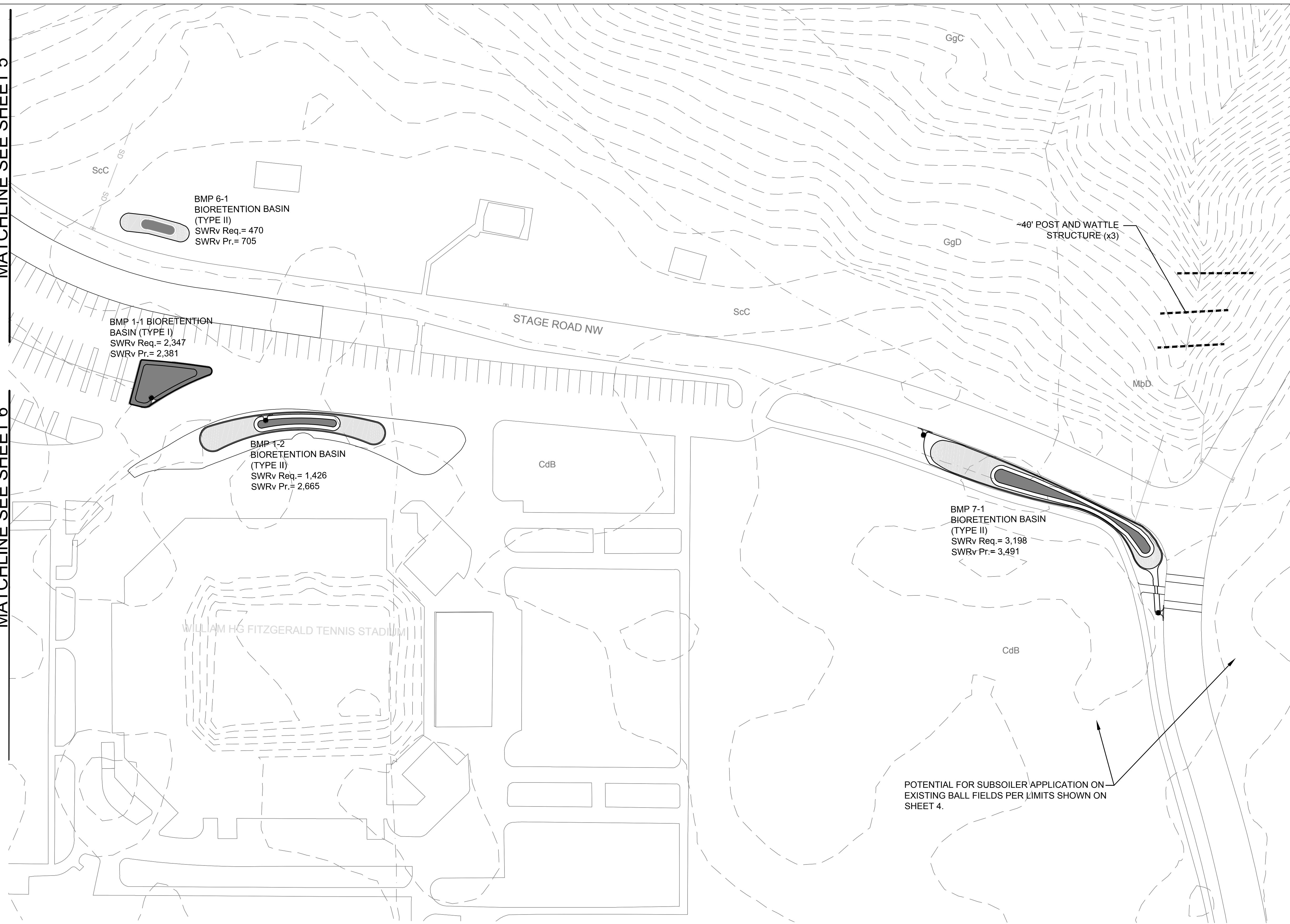
TITLE: **STORMWATER MANAGEMENT PLAN**

PROJECT NO.:	17010.01	SCALE:	1" = 40'
SEAL:	BY: GB	CHECK:	BA
		DWG. NO.:	



MATCHLINE SEE SHEET 5

MATCHLINE SEE SHEET 6



CLIENT

★ ★ ★

DEPARTMENT OF ENERGY & ENVIRONMENT

CECILIA LANE
 ENVIRONMENTAL PROTECTION SPECIALIST
 WATERSHED PROTECTION DIVISION
 DEPARTMENT OF ENERGY AND ENVIRONMENT
 GOVERNMENT OF THE DISTRICT OF COLUMBIA
 1200 FIRST STREET NE 5TH FLOOR
 WASHINGTON, DC 20002
 DESK: (202) 535-2247
 CELL: (202) 734-9527
 WEB: DOEE.DC.GOV

DATE:	ISSUES / REVISIONS



Biohabitats

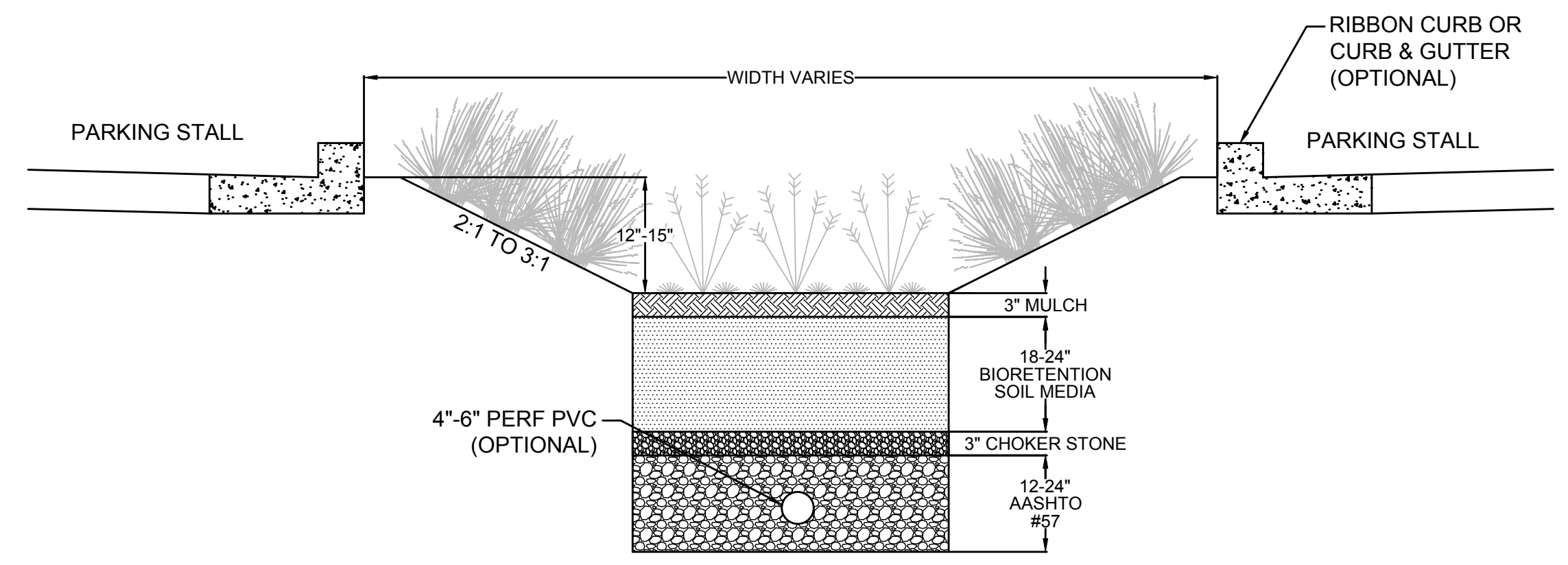
The Stables Building 2081 Clipper Park Road
 Baltimore, MD 21211 / ph: 410.554.0156
 fx: 410.554.0168 / www.biohabitats.com
Restore the Earth & Inspire Ecological Stewardship

ROCK CREEK TENNIS CENTER LID RETROFITS

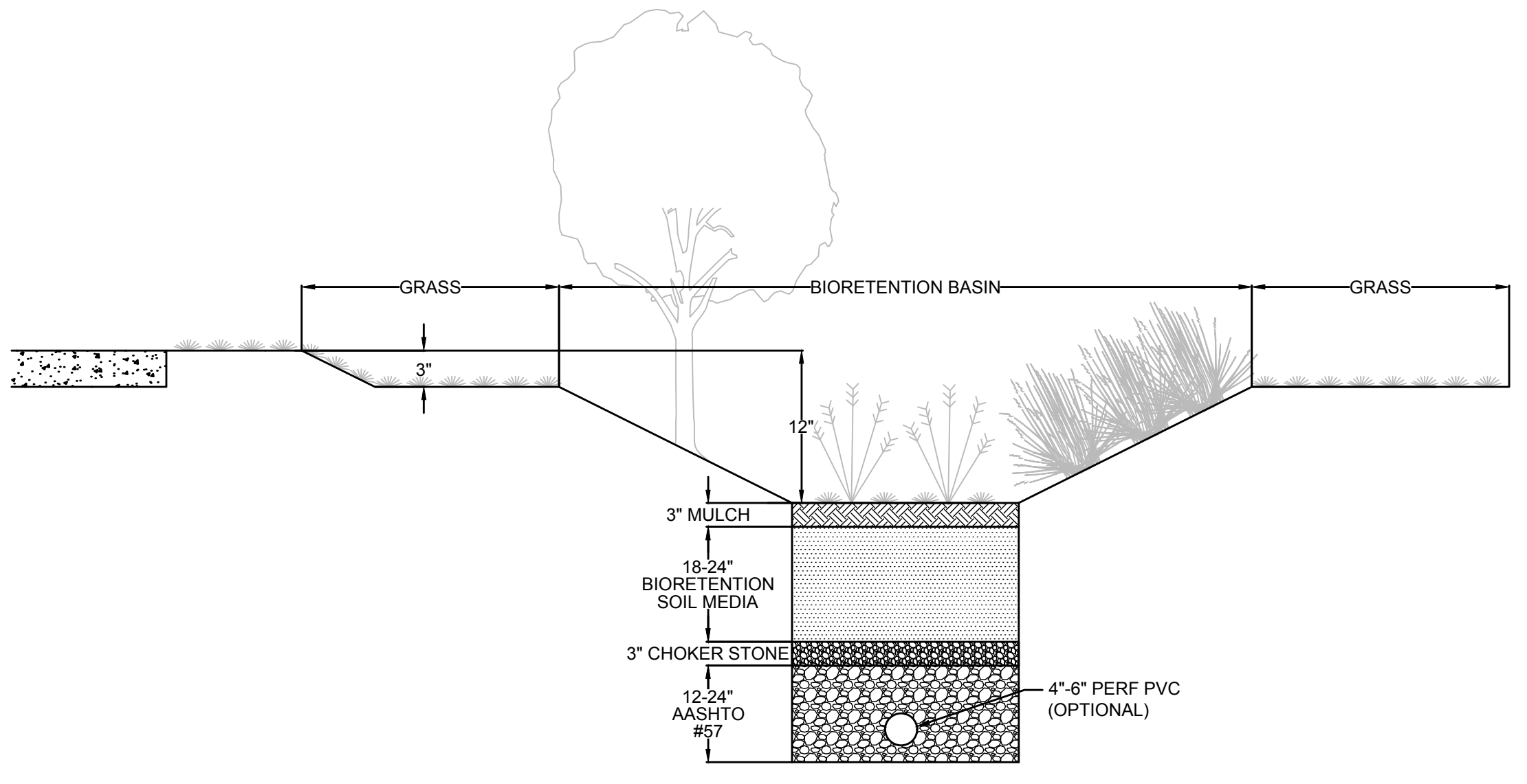
30% DESIGN

TITLE: STORMWATER MANAGEMENT PLAN

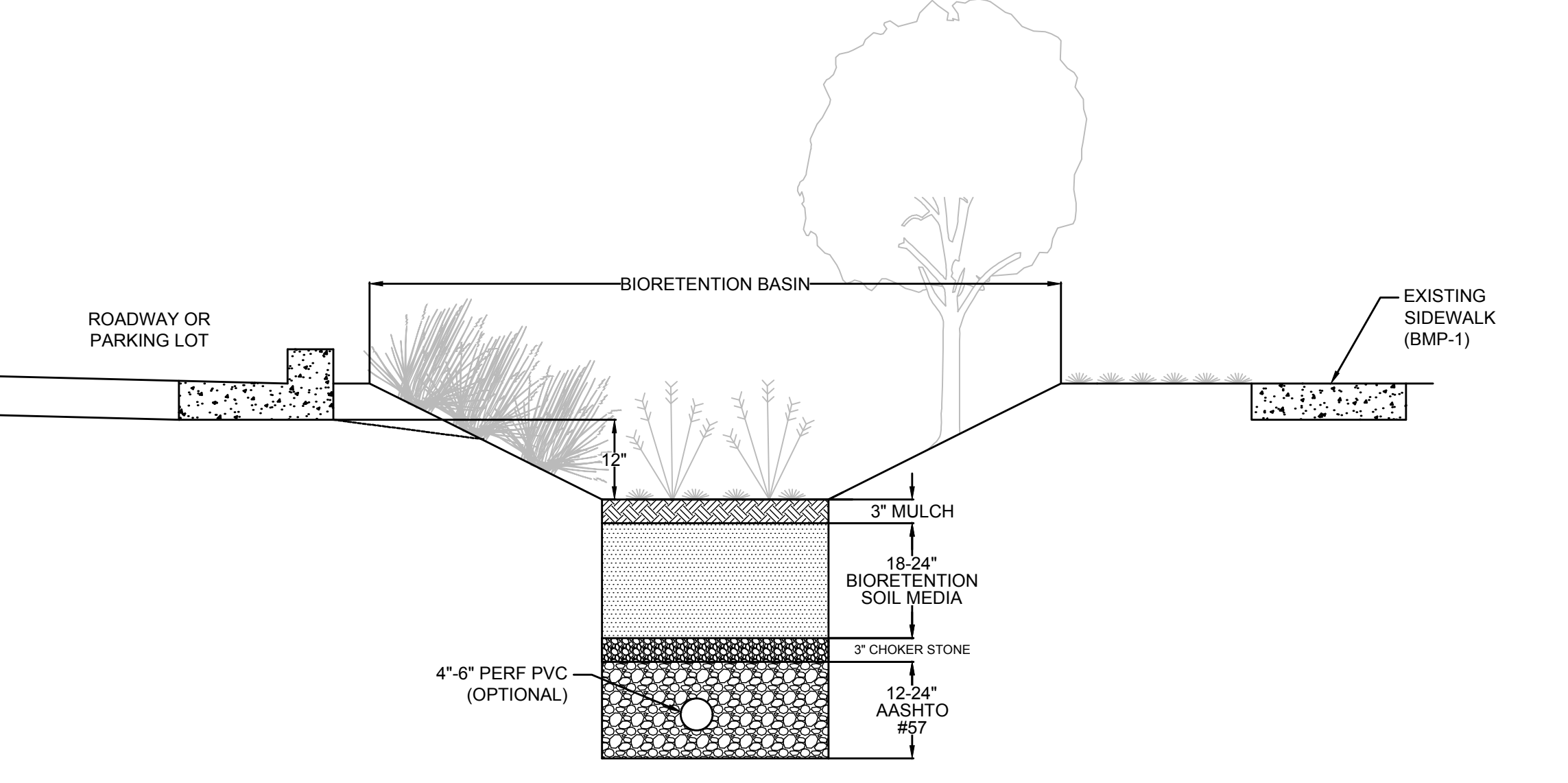
PROJECT NO.:	17010.01	SCALE:	1" = 40'
SEAL:	BY: GB	CHECK:	BA
DWG. NO.:		7 OF 8	



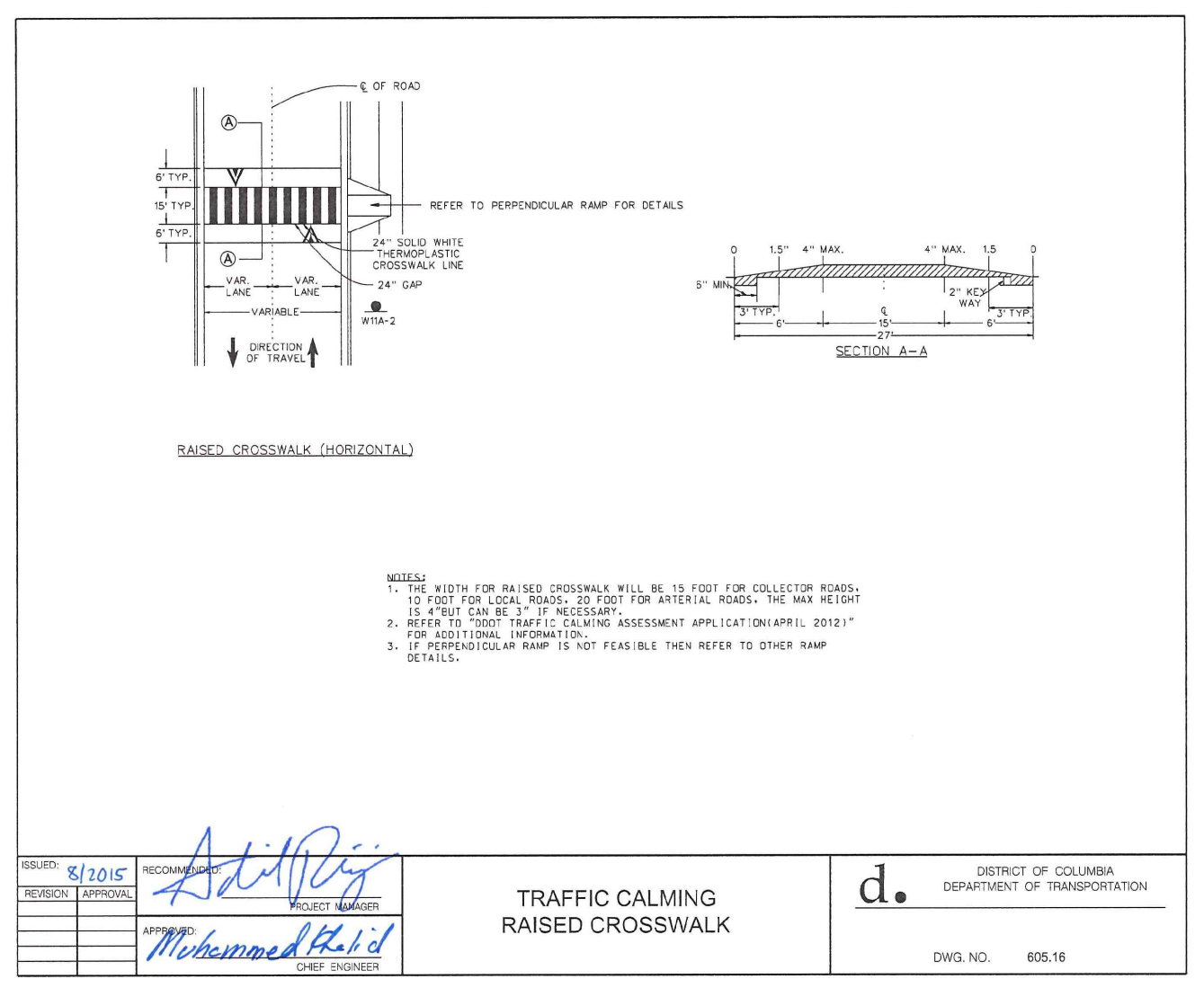
(A) BIORETENTION BASIN (TYPE I) NOT TO SCALE



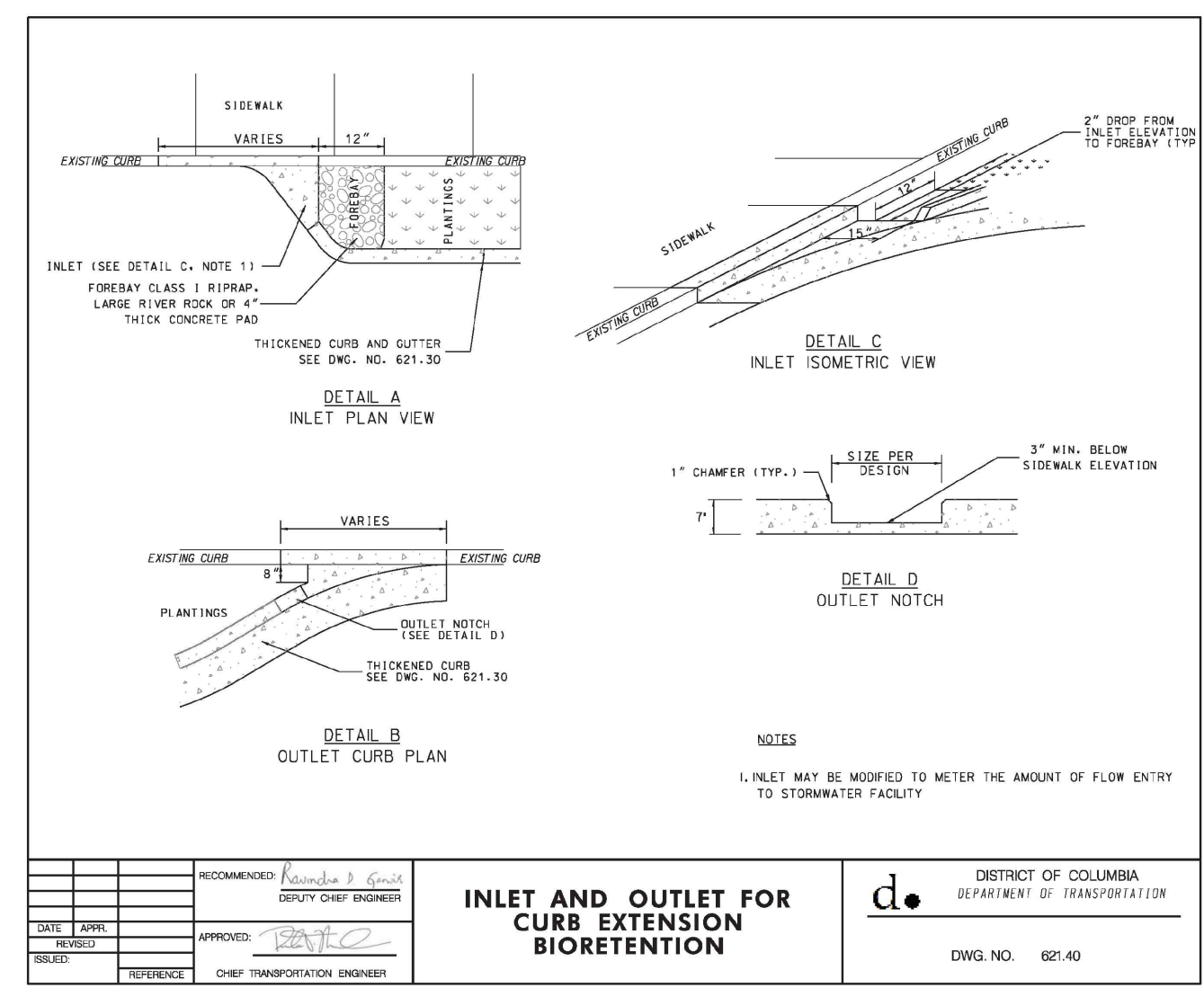
SECTION 1 NOT TO SCALE



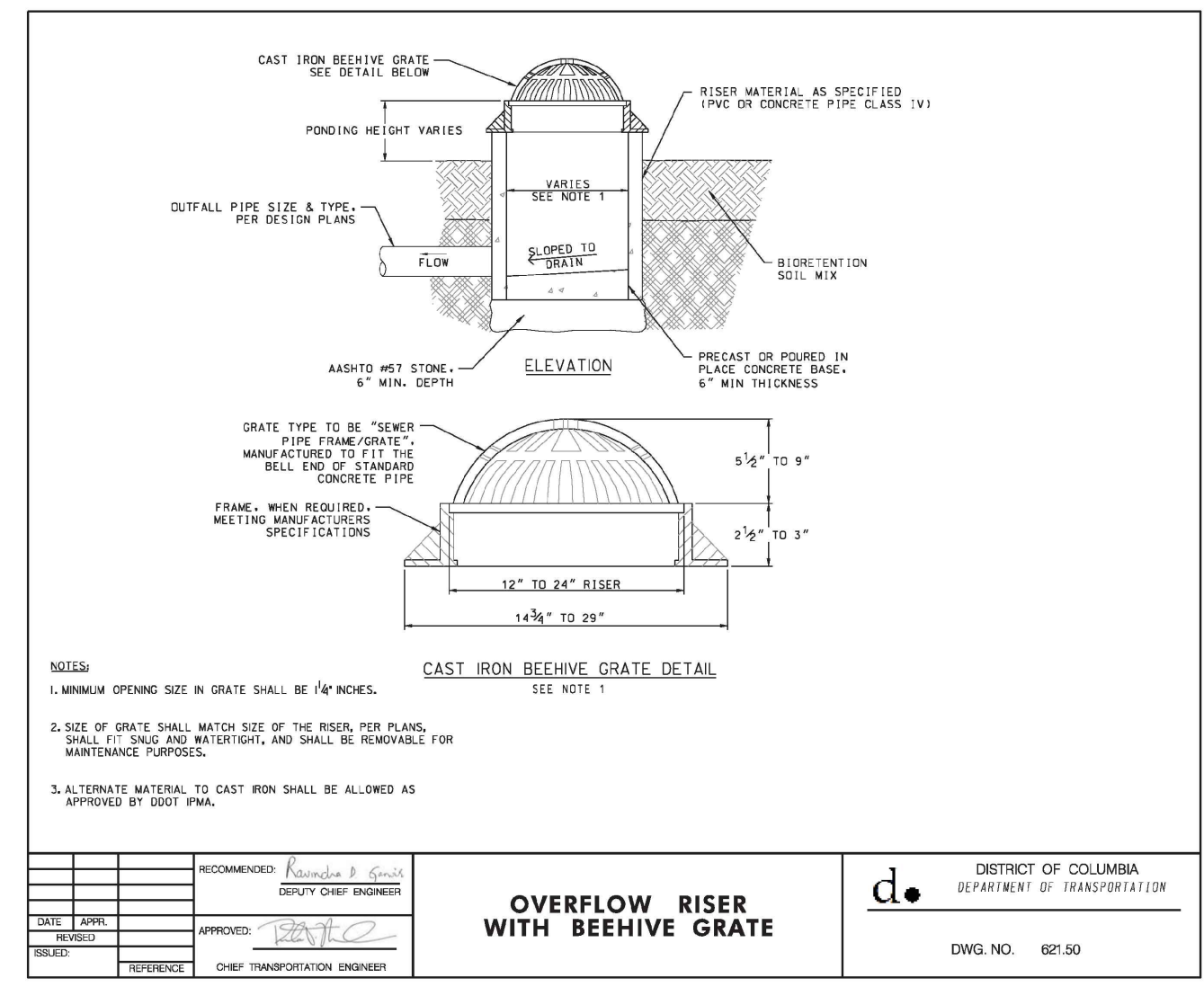
(B) BIORETENTION BASIN (TYPE II) SECTION 2 NOT TO SCALE



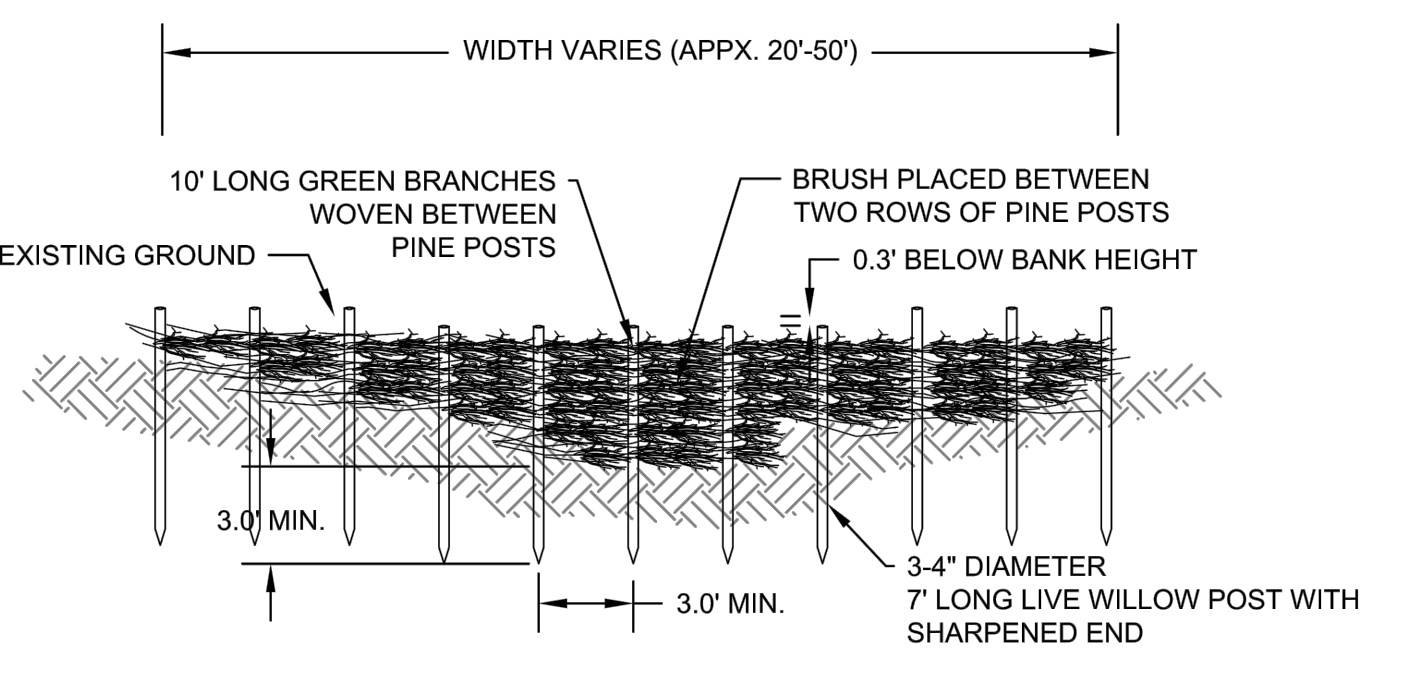
TRAFFIC CALMING RAISED CROSSWALK
 DWG. NO. 605.16
 DISTRICT OF COLUMBIA DEPARTMENT OF TRANSPORTATION



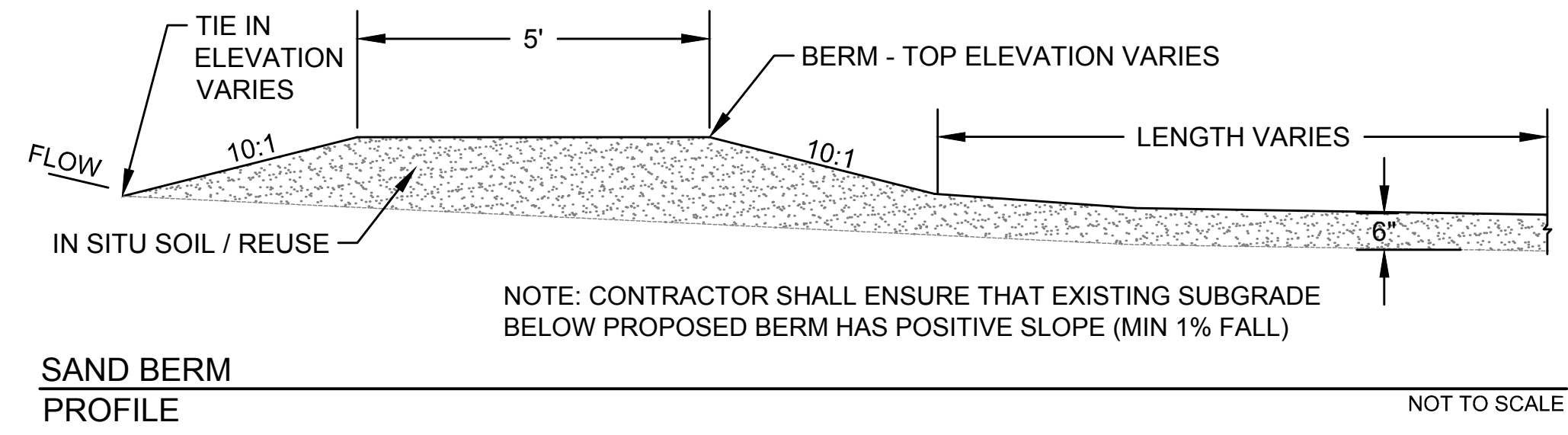
INLET AND OUTLET FOR CURB EXTENSION BIORETENTION
 DWG. NO. 601.40
 DISTRICT OF COLUMBIA DEPARTMENT OF TRANSPORTATION



OVERFLOW RISER WITH BEEHIVE GRATE
 DWG. NO. 601.50
 DISTRICT OF COLUMBIA DEPARTMENT OF TRANSPORTATION



POST AND WATTLE STRUCTURE SECTION A-A' NOT TO SCALE



SAND BERM PROFILE NOT TO SCALE

CLIENT
 ★ ★ ★
DEPARTMENT OF ENERGY & ENVIRONMENT
 CECILIA LANE
 ENVIRONMENTAL PROTECTION SPECIALIST
 WATERSHED PROTECTION DIVISION
 DEPARTMENT OF ENERGY AND ENVIRONMENT
 GOVERNMENT OF THE DISTRICT OF COLUMBIA
 1200 FIRST STREET NE 5TH FLOOR
 WASHINGTON, DC 20002
 DESK: (202) 535-2247
 CELL: (202) 734-9527
 WEB: DOEE.DC.GOV



Biohabitats
 The Stables Building 2081 Clipper Park Road
 Baltimore, MD 21211 / ph: 410.554.0156
 fx: 410.554.0168 / www.biohabitats.com
 Restore the Earth & Inspire Ecological Stewardship

ROCK CREEK TENNIS CENTER LID RETROFITS
 30% DESIGN

TITLE:		DETAILS	
PROJECT NO.:	17010.01	SCALE:	N.T.S.
SEAL:		BY:	GB
		CHECK:	BA
		DWG. NO.:	
8 OF 8			