District of Columbia General Retention Compliance Calculator Site Drainage Area 2

Indicate Post-Development Land Cover For SDA 2	Major Land Disturbing	Major Substantial Improvement
Cover Type	Area (square feet)	Area (square feet)
Natural Cover	3,424	0
Compacted Cover	16,324	0
Impervious Cover	34,710	0
Vehicular Access Areas*	11,626	0
BMP	3,300	0
Drainage Area Total	57,758	0
Med 100 1 1000 50 1 100	_	

	Major Land Disturbing	Major Substantial Improvement
Land Cover Summary		
% Natural Cover	6%	0%
% Compacted Cover	28%	0%
% Impervious Cover	66%	0%
Site Rv	0.70	0.00

*Vehicular Access areas should be included within the Impervious Cover Category

BMPs	Pervious Cove	r Draining to BMP	Impervious	Cover Draining to BMP	1.174-0-272-0-0-000000000000000000000000000	Access Area	Maximum			Maximum	.55.55 (655c)					227-28 (247-251) cm47		
	Area (square feet)	Type of Cover	Area (square feet)	Type of Cover	Drainin Area (square feet)	y to BMP Volume (cubic feet)	Retention Volume Received by BMP	Description of Retention Value	% Retention Value	from Upstream BMPs	Maximum Retention Volume To BMP (cubic feet)	Surface Area of BMP (square feet)	Storage Volume Provided by BMP (cubic feet)	Retention Value (cubic feet)	Potential Retention Volume Remaining (cubic feet)	Additional Treatment Volume (cubic feet)	Downstream BMP	Vehicular Access Volum Addressed?
		Natural Cover	0	Impervious Cover			(cubic feet)	Subtract 100% of the Sv - the volume		(cubic feet)								
G1-2 Green Roof		Compacted Cover	0	BMP	0	0	0	stored in the green roof filter media and	100%	0	0	N/A	0	0	0	N/A		N/A
		Natural Cover	U	W772223				Subtract 100% of the Sv - the available										
R1 Rainwater Harvesting		Compacted Cover		Impervious Cover BMP		0	0	storage in the cistern (based on cistern	100%	0	0	N/A		0	0	N/A		N/A
		Natural Cover		Impervious Cover				storage and reuse rate).										
O1 Simple Disconnection to a Pervious Area		Compacted Cover		BMP		0	0	Reduce volume conveyed to grass area by 2.0 cu, ft. per 100 sq. ft. of pervious area.	N/A	0	0		N/A	0	0	N/A		N/A
		Natural Cover		Impervious Cover				Reduce volume conveyed to conservation										
O2 Simple Disconnection to a Conservation Area		Compacted Cover		BMP		0	0	area by 6.0 cu. ft. per 100 sq. ft. of	N/A	0	0		N/A	0	0	N/A		N/A
		Natural Cover		Impervious Cover				conservation area.										
D3 Simple Disconnection to Amended Soils		Compacted Cover		BMP		0	0	Reduce volume conveyed to filter path by 4.0 cu. ft. per 100 sq. ft. of filter area.	N/A	0	0		N/A	0	0	N/A		N/A
		Natural Cover		Impervious Cover				Subtract 100% of the Sv - the volume										
P1-3 Permeable Pavement - Enhanced		Compacted Cover		BMP		0	0	stored in the permeable pavement	100%	0	0	N/A		0	0	0		N/A
	0	Natural Cover	0	Impervious Cover				reservoir layer. Reduce volume conveyed through										1
P1-3 Permeable Pavement - Standard	0	Compacted Cover	0	BMP	0	0	0	permeable pavement by 4.5 cu. ft. per 100	N/A	0	0	0	0	0	0	0		N/A
	0	Natural Cover	U	Impervious Cover				sq. ft. of permeable pavement.										
B1-5 Bioretention - Enhanced		Compacted Cover		BMP		0	0	Subtract 100% of the Sv - the calculated storage volume for the BMP.	100%	0	0	N/A		0	0	0		N/A
	3,424		34,710				1											
B1-5 Bioretention - Standard		Natural Cover		Impervious Cover BMP	11,626	552	5,694	Subtract 60% of the Sv - the calculated storage volume for the BMP.	60%	0	5,694	N/A	7,558	4,535	1,159	1159		N/A
	16,324	Compacted Cover	3,300					clorage volume for the Birm.										
F1-4 Stormwater Filtering Systems		Natural Cover		Impervious Cover BMP		0	0	No retention credit.	0%	0	0	N/A		0	0	0		N/A
		Compacted Cover		20000														4
1-2 Stormwater Infiltration		Natural Cover		Impervious Cover BMP		0	0	Subtract 100% of the Sv - the calculated storage volume for the BMP.	100%	0	0	N/A		0	0	N/A		N/A
		Compacted Cover						clorage voiding for the Bivin.							-			
S1-3 Storage	<u>1</u> 10	Natural Cover		Impervious Cover		0	0	No retention credit.	0%	0	0	N/A		0	0	N/A		N/A
- 486		Compacted Cover		BMP														1
P1-3 Stormwater Ponds		Natural Cover		Impervious Cover BMP		0	0	Subtract 10% of the Sv - the calculated storage volume for the practice.	10%	0	0	N/A		0	0	0		N/A
		Compacted Cover										1				100		
W1-2 Wetlands		Natural Cover		Impervious Cover		0	0	Subtract 10% of the Sv - the calculated storage volume for the BMP.	10%	0	Ö	N/A		0	0	0		N/A
		Compacted Cover		BMP														4
O1 Grass Channel	4	Natural Cover		Impervious Cover		0	0	Reduce volume (Sv) conveyed through grass channel by 10%.	10%	0	0	N/A		0	0	N/A		N/A
		Compacted Cover		BMP														
O1 Grass Channel with Amended Soils	0	Natural Cover		Impervious Cover		0	0	Reduce volume (Sv) conveyed through grass channel by 30%.	30%	0	0	N/A		0	0	N/A		N/A
		Compacted Cover		BMP														
O2 Dry Swale		Natural Cover		Impervious Cover		0	0	Subtract 60% of the Sv - the calculated storage volume for the BMP.	60%	0	0	N/A		0	0	0		N/A
		Compacted Cover		BMP				-								1		
O3 Wet Swale	E.	Natural Cover		Impervious Cover		0	0	Subtract 10% of the Sv - the calculated storage volume for the BMP.	10%	0	0	N/A		0	0	0		N/A
		Compacted Cover		BMP														
PP1 Proprietary Practice		Natural Cover		Impervious Cover		0	0	Subtract a variable % of the Sv depending on the BMP.	0%	0	0	N/A		0	0	0		N/A
59 VIII		Compacted Cover		BMP														
TP1 Tree Preservation	0		<i>N</i>	lumber of Trees Preserved			N/A	20 cf credit per tree	N/A	N/A	N/A	N/A	N/A	0	N/A	N/A	N/A	N/A
TP2 Tree Planting	5		į	Number of Trees Planted			N/A	10 of credit per tree	N/A	N/A	N/A	N/A	N/A	50	N/A	N/A	N/A	N/A
Totals	19,753		38,010		11,626		5,694				I	Volume Retainer	d On Site (cubic feet)	4,585		Volume Tr	eated (cubic feet)	1,159

Volume Retained On Site (cubic feet)	4,585	Volume Tr	eated (cubic feet)	1,159
Retention Volume Remaining (cubic feet)	0		Volume Remaining to Treat 50% of the SWRv (cubic feet)	0
Retention Volume Remaining (gallons)	0	Congratulations!! You have exceeded the required SWRv by 4230 gallons which may be able to be used to generate SRCs.	Volume Remaining to Treat 50% of the SWRv (gallons)	o
50% of SWRv Retained?	Yes		Volume Remaining to Treat WQTv (cubic feet)	N/A
Runoff from Vehicular Access Areas Sufficiently Retained or Treated?	N/A		Volume Remaining to Treat WQTv (gallons)	N/A
Treatment Required?	No			•

SWM COMPUTATIONS

Channel and Flood Protection Calculations					
		0	45	100	
Toward Deinfell French (in)		2-year storm	15-year storm	100-year storm	+
Target Rainfall Event (in)		3.20	5.20	8.37	
SDA 1 (square feet)	0				0.
Storage Volume Provided By BMPs (cf)	0				
Storage Volume Provided By BMPs (gallons)	0				
SDA 2 (square feet)	57,758				
Storage Volume Provided By BMPs (cf)	7,608				
Storage Volume Provided By BMPs (gallons)	56,904				

	SDA 2			
Land Area		Soils		
Natural Cover	Area (sf)	3424.0		
Natural Cover	CN	70		
Commented Cover	Area (sf)	16324.0		
Compacted Cover	CN	74		
Instrumentation of October and DMDs	Area (sf)	38010.0	Weighted CN	S
Impervious Cover and BMPs	CN	98	90	1.17
		2-year storm	15-year storm	100-year storn
R\	/ _{Developed} (in) with no BMPs	2.13	4.02	7.12
	RV _{Developed} (in) with BMPs	0.55	2.44	5.54
	Adjusted CN	64	73	76

Natural Cover (square feet)	3,424
Compacted Cover (square feet)	16,324
Impervious Cover (square feet)	34,710
BMP (square feet)	3,300
Total Area (square feet)	57,758
Volume Retained (cubic feet)	4,585
Retention Volume Remaining (cubic feet)	0
Retention Volume Remaining (gallons)	0
At least 50% of SWRv Retained?	Yes
Vehicular Access Areas Volume Addressed?	N/A
Treatment Required?	No
Volume Treated (cubic feet)	1,159
Volume Remaining to Treat 50% of the SWRv (cubic feet)	0
Values Demaining to Treat 500/ of the CM/Dy (gallene)	0
Volume Remaining to Treat 50% of the SWRv (gallons)	_
Volume Remaining to Treat 90% of the SVVRV (gallons) Volume Remaining to Treat WQTV (cubic feet)	N/A

SWRv (cubic feet) 4,019
WQTv (cubic feet) NA

Yes 0
0
0
0
1,159
0
0

Required Off-Site Retention Volume (Offv) (gallons)*

*Offv must be achieved on an ongoing basis through use of in lieu fee or Stormwater Retention Credits (SRCs)

8521 LEESBURG PIKE, SUITE 700 | VIENNA, VA 22182

4910 MASSACHUSETTS AVE. NW, SUITE 214 ©2014 LESSARD DESIGN INC EXPRESSLY RESERVES ITS COMMONLAW COPYRIGHT

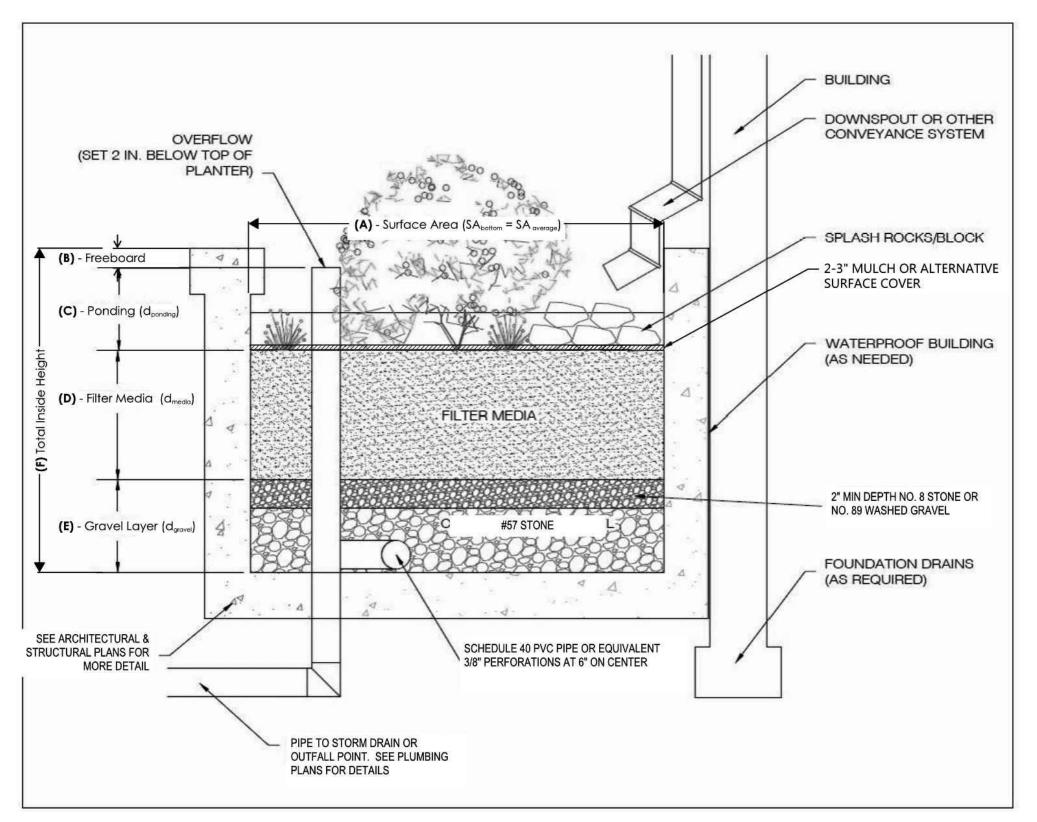


WASHINGTON, DC 20016 202.244.4140

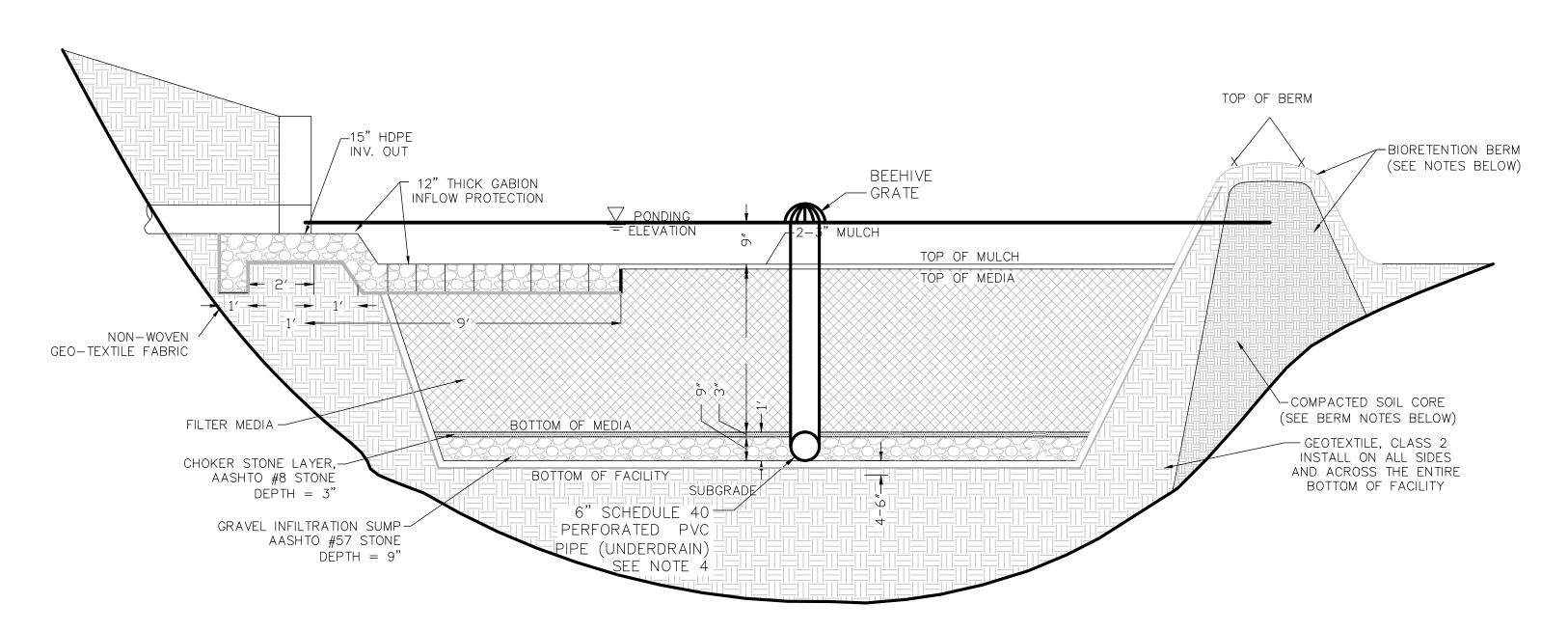
SWM COMPUTATIONS



ZONING COMMISSION
District of Columbia
CASE NO.15-02
EXHIBIT NO.42A3



BIORETENTION FACILITY DETAIL WITH CONCRETE WALLS

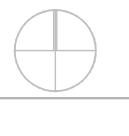


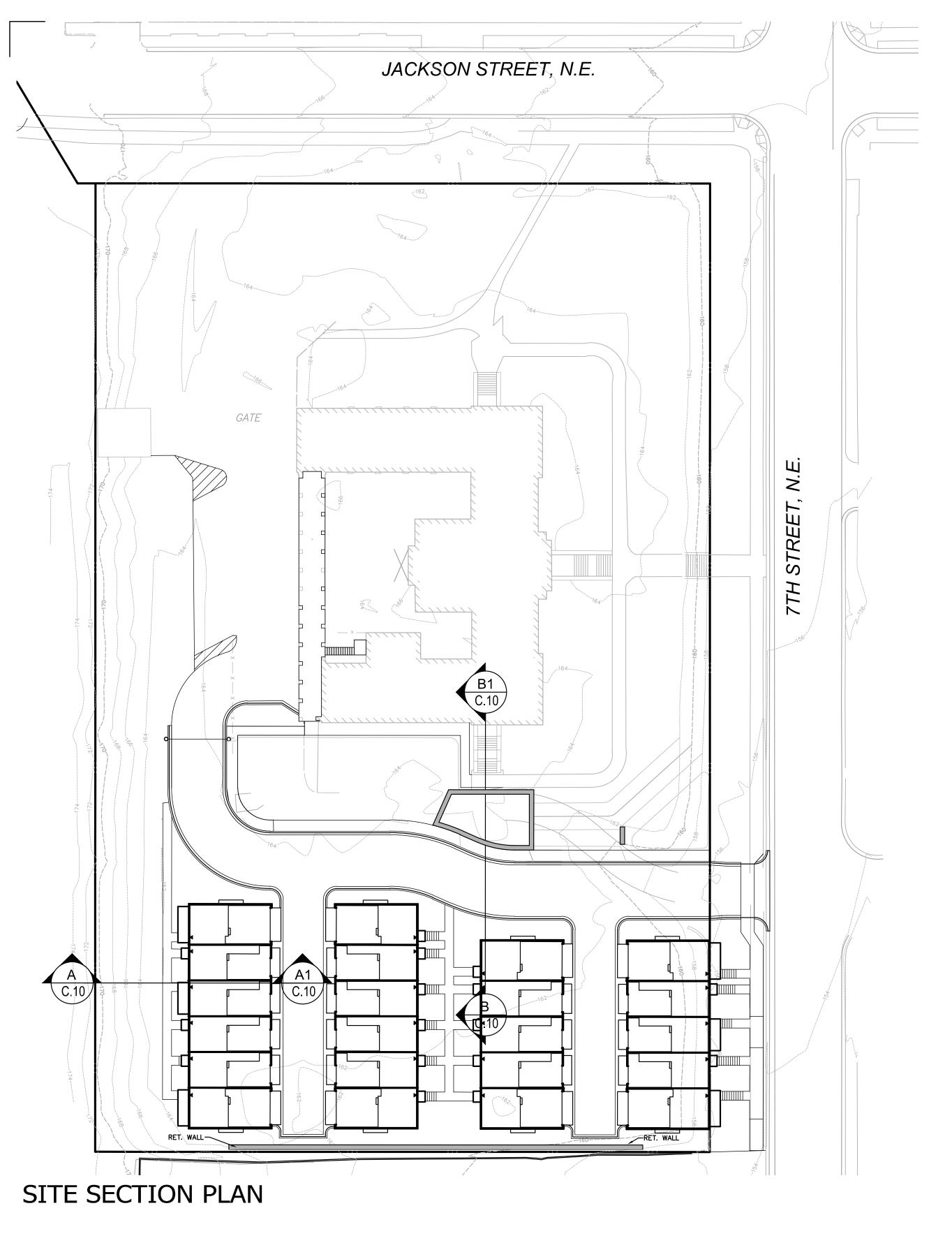
BIORETENTION FACILITY DETAIL



8521 LEESBURG PIKE, SUITE 700 | VIENNA, VA 22182 P: 571.830.1800 | F: 571.830.1801 | WWW.LESSARDDESIGN.COM

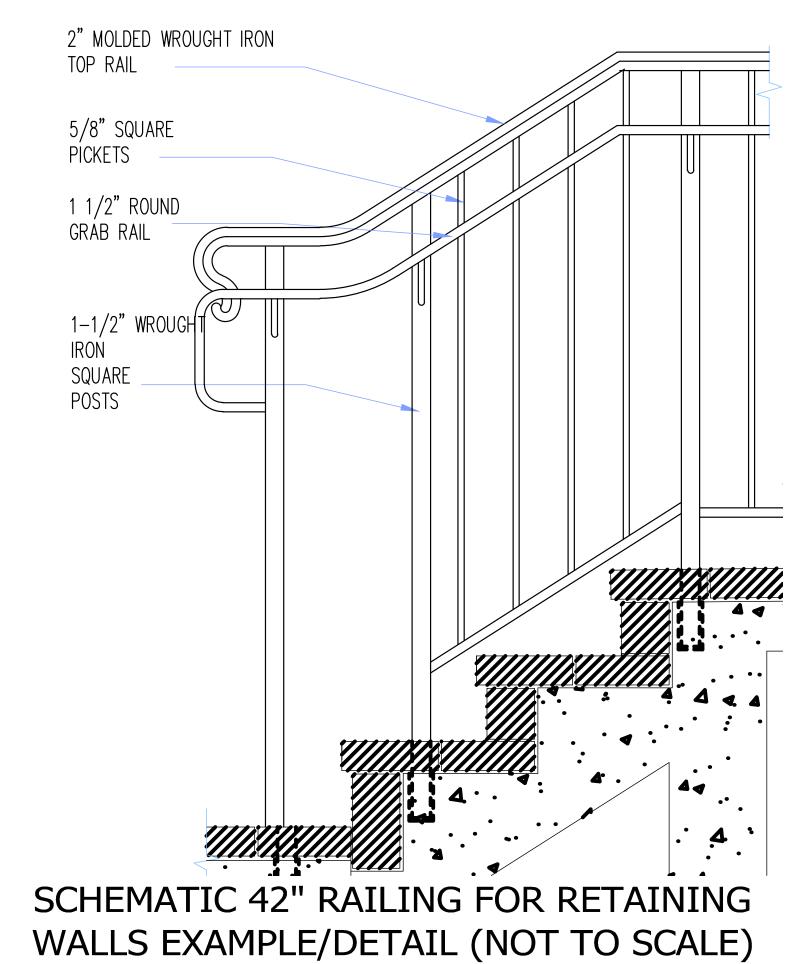
CAPITOL 4910 MASSACHUSETTS AVE. NW, SUITE 214 WASHINGTON, DC 20016 202.244.4140

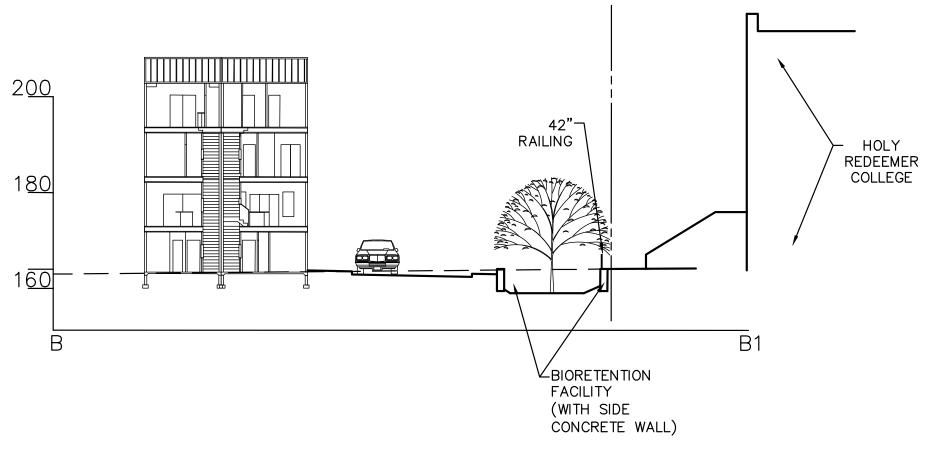






STONE VENEER EXAMPLE







SITE SECTIONS



8521 LEESBURG PIKE, SUITE 700 | VIENNA, VA 22182

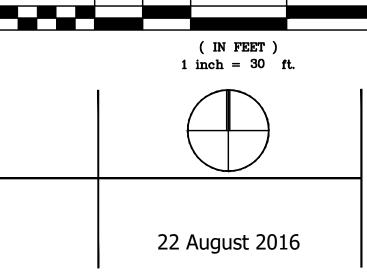
P: 571.830.1800 | F: 571.830.1801 | WWW.LESSARDDESIGN.COM

©2014 LESSARD DESIGN INC EXPRESSLY RESERVES ITS COMMONLAW COPYRIGHT AND OTHER PROPERTY RIGHTS IN THESE PLANS. THESE PLANS ARE NOT TO BE REPRODUCED CHANGED OR COPIED IN ANY FORM OR MATTER WHATSOEVER, NOR ARE THEY TO BE ASSIGNED TO ANY THIRD PARTY, WITHOUT FIRST OBTAINING THE EXPRESS WRITTEN PERMISSION AND CONSENT OF LESSARD DESIGN INC.



4910 MASSACHUSETTS AVE. NW, SUITE 214 WASHINGTON, DC 20016 202.244.4140

SITE SECTIONS



GRAPHIC SCALE

C.08







8521 LEESBURG PIKE, SUITE 700 | VIENNA, VA 22182

P: 571.830.1800 | F: 571.830.1801 | WWW.LESSARDDESIGN.COM



4910 MASSACHUSETTS AVE. NW, SUITE 214 WASHINGTON, DC 20016 202.244.4140



