

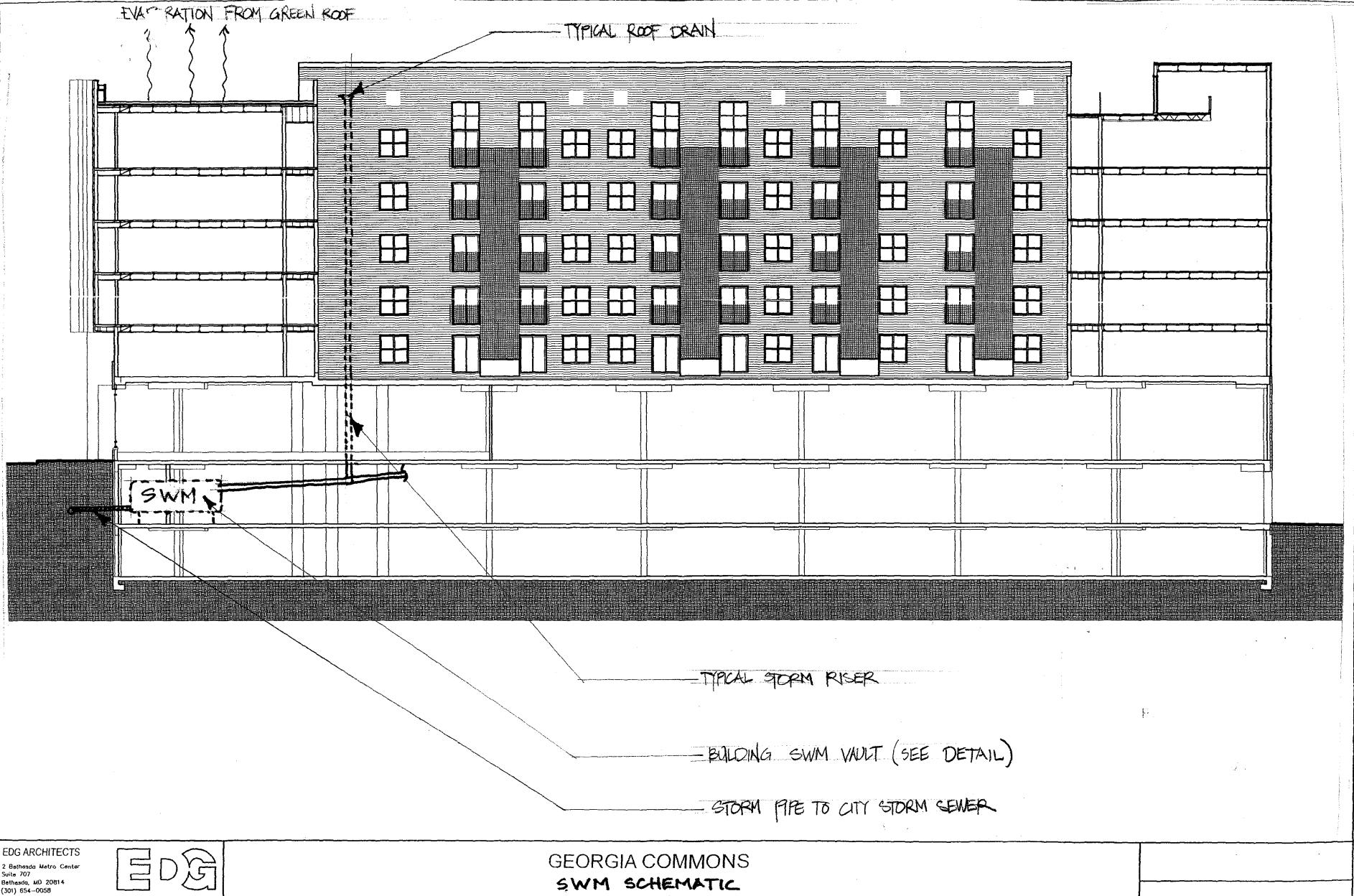
Stormwater Management Plans

ZONING COMMISSION
District of Columbia

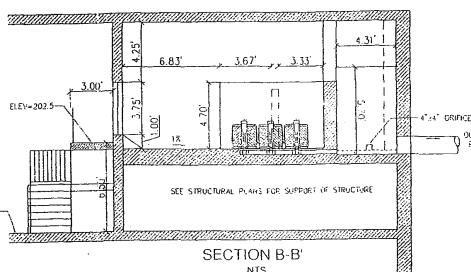
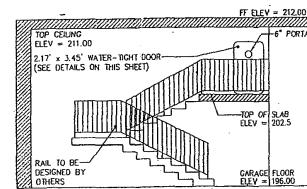
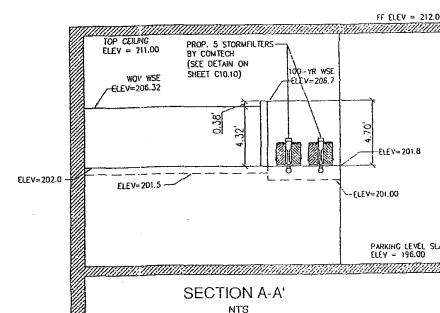
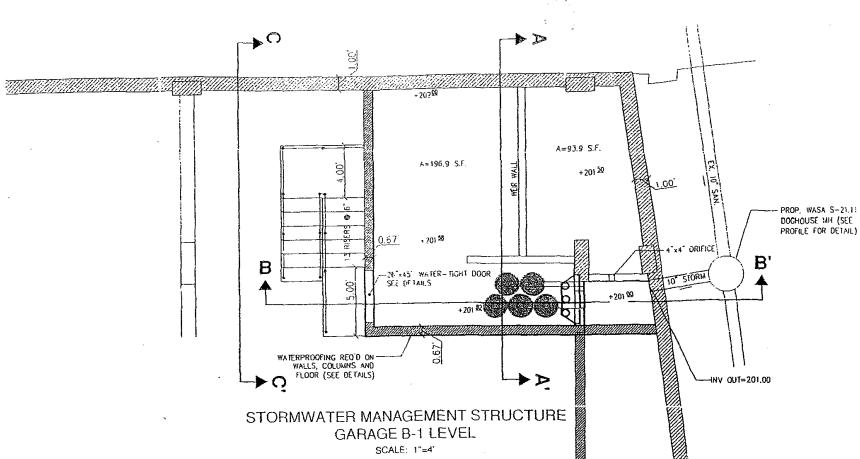
CASE NO. 08-08

EXHIBIT NO. 46

ZONING COMMISSION
District of Columbia
CASE NO.08-08
EXHIBIT NO.46



Computed Water Quality Volume		
	square feet	acres
Total Site Area	30,085	0.69
Permeous Area	0	0.00
Impenetrable Area (Vehicle related)	6,029	0.14
Impenetrable Area (all other)	24,056	0.55
WWQs (vehicle related) * Area = 0.5 inches	251	cubic feet
WWQs (all other impenetrable) * Area = 0.3 inches	601	cubic feet
Total	853	cubic feet
Computed Detention Volume		
O = CIA	1c = 5 minutes	
2-Year Runoff Pre-development		
Runoff C value (cty standard)	0.35	
2 year storm intensity (in/hr)	5.28	in/hr
Total Site Area (ac)	0.69	acres
2-year Runoff (Q ₂) = CIA	1.28	cfs
15-Year Runoff Post-development		
Runoff C value (cty standard)	0.90	~
15-year storm intensity (in/hr)	7.56	in/hr
Total Site Area (ac)	0.69	acres
15-year Runoff (Q ₁₅) = CIA	4.70	cfs
Detention Volume Required		
Vd = 300(Q ₁₅ - Q ₂) * 1.25	1,284	cubic feet
Computed Storage Volume Required		
Vd (cft)	WWQ (cft)	
Vs = Greater of	1,284	853
Allowable Release Rate		
allowable = Q ₂ / Q ₁₅ * 1.25	1.28	cfs
release rate of cartridges	15	gall/min
Total release rate of cartridges	0.17	cfs
Remaining release rate for orifice	1.11	cfs
Orifice Equation Q _{orifice} = CA (2gh) ^{1/2}		
H =	2.7	ft
A = C _{orifice} (D ² pi) ^{1/2}	0.14	square feet
orifice size =	0.37	ft =
USE A 5" DIAMETER ORIFICE OPENING		
Filter System Design		
Pre-treatment Efficiency	30	percent
EMC of TSS	67	mg/l
Average Annual Mass Load	358	lbs
Mass Removed by Pre-treatment	107	lbs
Mass Load sent to Filter	250	lbs
Mass Load removed by Filter	178	lbs
Efficiency of Filter	100	percent



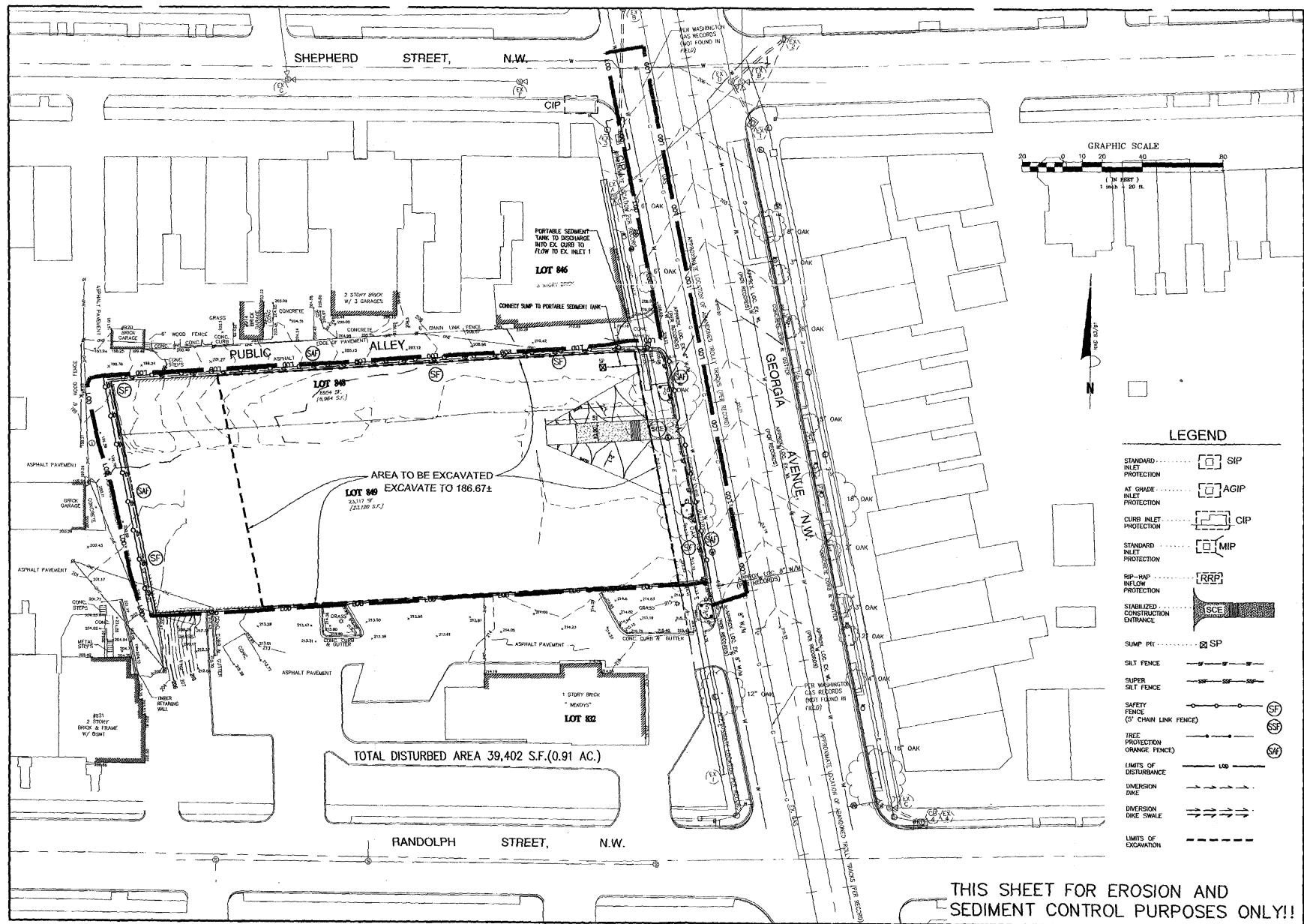
STORMWATER MANAGEMENT NARRATIVE

The proposed development for this site consists of a six (6) story mixed-use residential/retail building over two (2) levels of an underground parking garage. The parcel, which has a total area of 0.70 acres, is located in an area that it's served by a combined sewer along Georgia Avenue. Stormwater (SWM) detention and BMP measures are therefore required. As shown on this plan it is proposed to construct a facility to provide controls for both, quality and quantity.

The proposed SWM/BMP facility will be in the first level of the underground parking garage and will consist of a SWM detention area, that in combination with the water quality volume (WQV) will have a detention capacity of 1,284 cubic feet. The calculated water quality volume (WQV) for the entire site is 853 cubic feet. Also, it is shown in the calculation that the calculated allowable release rate for the site is 1.28 cfs.

It is intended that the facility will manufacture the WVQ by the use of five (5) manufacturers® cartridges, manufactured by Contech. As specified, the manufacturer will provide sufficient cartridges to support a release rate of 0.034 cfs for initial release from the WVQ chamber of 0.17 cfs. The second chamber will have an orifice that will allow a release rate of 1.11 cfs, for a combined allowable release rate (between the two chambers) of 1.28 cfs. The outfall of the facility is connected to the existing 10" combined sewer pipe at the front of the proposed building. Therefore, stormwater management and BMP are provided for the proposed development.

GEORGIA COMMONS
S.W.M. DETAIL



THIS SHEET FOR EROSION AND
SEDIMENT CONTROL PURPOSES ONLY!!

C5.00

Bowman
CONSULTING

3910 GEORGIA AVENUE NW - EROSION AND SEDIMENT CONTROL PLAN - PHASE I

3910 GEORGIA AVENUE NW
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DISTRICT OF COLUMBIA

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LOT 848 & 849

SQUARE 2806

3910 GEORGIA AVENUE NW - EROSION AND SEDIMENT CONTROL PLAN - PHASE I

3910 GEORGIA AVENUE NW

WASHINGTON

DISTRICT OF COLUMBIA

PLAN STATUS
10/12/07 TST WASA SUBMISSION
10/17/07 HUP APPLICATION

3910 Georgia Avenue NW - Erosion and Sediment Control Plan - Phase I - C5.00

LEGEND

- STANDARD INLET PROTECTION
- AT GRADE INLET PROTECTION
- CURB INLET PROTECTION
- STANDARD INLET PROTECTION
- RIP-RAP INFLOW PROTECTION
- STABILIZED CONSTRUCTION ENTRANCE
- SUMP PIT
- SILT FENCE
- SUPER SILT FENCE
- SAFETY FENCE (3' CHAIN LINK FENCE)
- TREE PROTECTION (ORANGE FENCE)
- LIMITS OF DISTURBANCE
- DIVERSION DIKE
- DIVERSION DIKE SWALE
- LIMITS OF EXCAVATION

PLAN STATUS
10/12/07 TST WASA SUBMISSION
10/17/07 HUP APPLICATION

3910 Georgia Avenue NW - Erosion and Sediment Control Plan - Phase I - C5.00

DATE DESCRIPTION

HD DMR MSD

DESIGN DRAWN CIRD

SCALE 1:20

JOB NO. 6146-01-001

DATE : OCTOBER 10, 2007

FILE NO. 6146-D-CP-001

