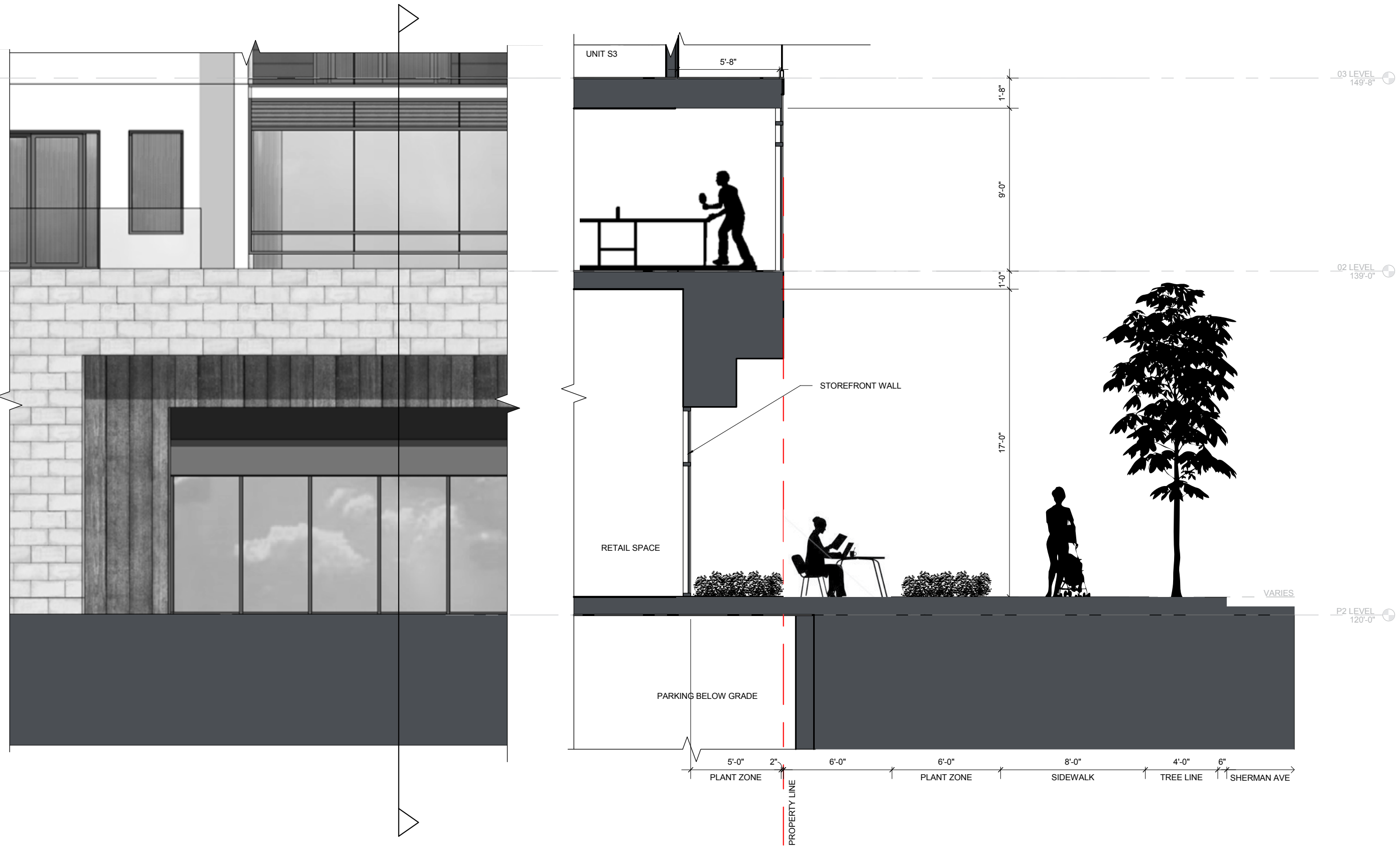


















NOTE: STOREFRONT RETAIL SIGNAGE DESIGNS ARE ILLUSTRATIVE AND WILL VARY BASED ON ACTUAL RETAIL DESIGNS. UTILITY POLES AND LINES NOT SHOWN FOR GRAPHIC PURPOSES



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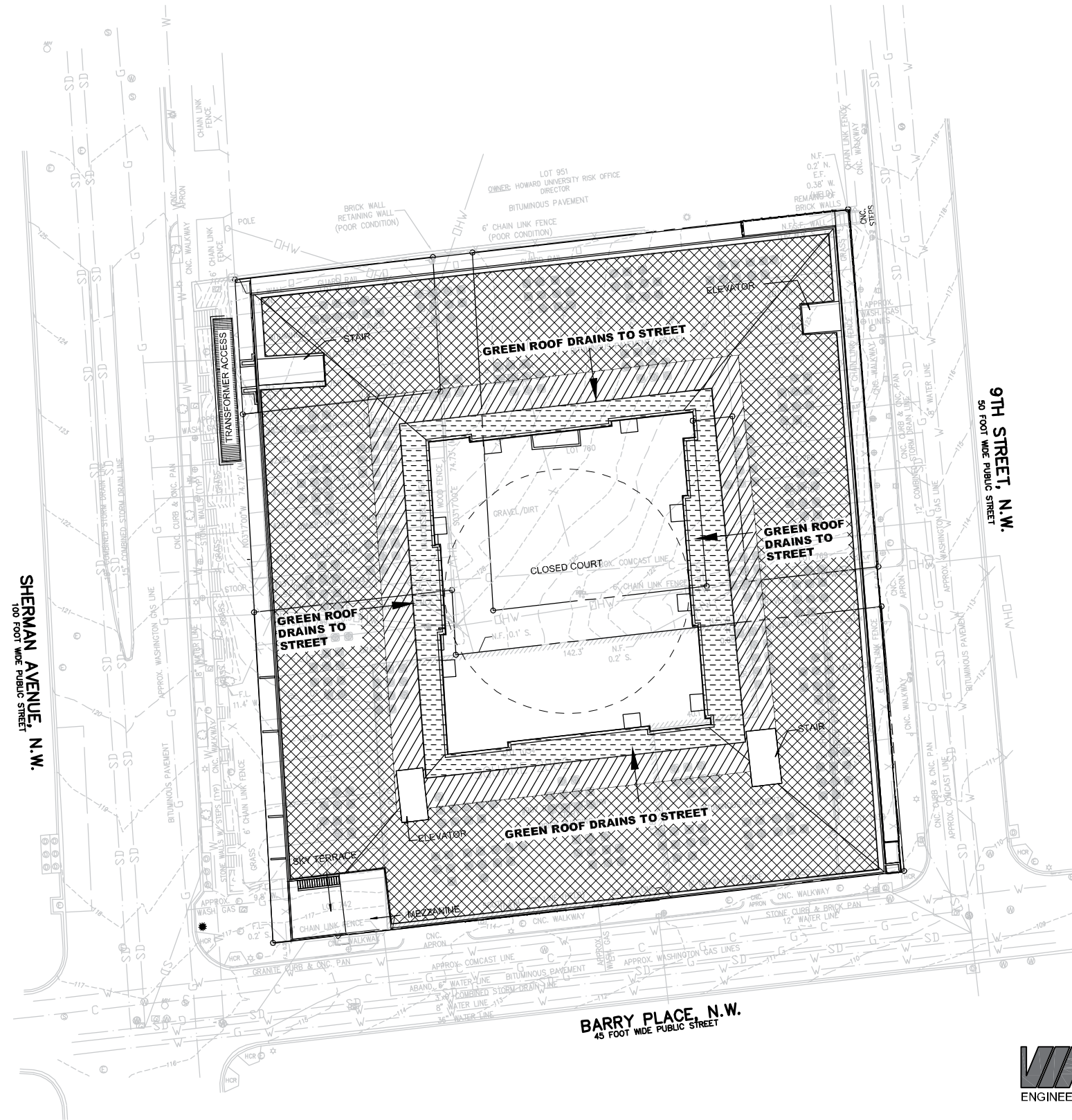
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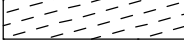
ALTA/ACSM LAND TITLE AND TOPOGRAPHIC SURVEY

ADDL INFO. APRIL 18, 2014
REVISED PER COMMENTS MAY 9, 2014
REVISED PER COMMENTS MAY 20, 2014
UPGRADE WITH VERTICAL JULY 31, 2014

DATE: APRIL 18, 2014	
DES. MCH	DWN. AFQ
SCALE: 1"=20'	
PROJECT/FILE NO. DVV7697A	
SHEET NO.	

**NILES BOLTON ASSOCIATES**



-  GREEN ROOF AREA =29,000 SF
-  IMPERVIOUS AREA DRAINING TO GREEN ROOF =6,250 SF
-  IMPERVIOUS AREA DRAINING TO BIO RETENTION FACILITY =5,000 SF

SITE NARRATIVE:
THE SITE WILL MEET THE CURRENT DEPARTMENT OF THE ENVIRONMENT STORMWATER MANAGEMENT REGULATIONS WITH A COMBINATION OF GREEN ROOF AND BIORETENTION AREAS.

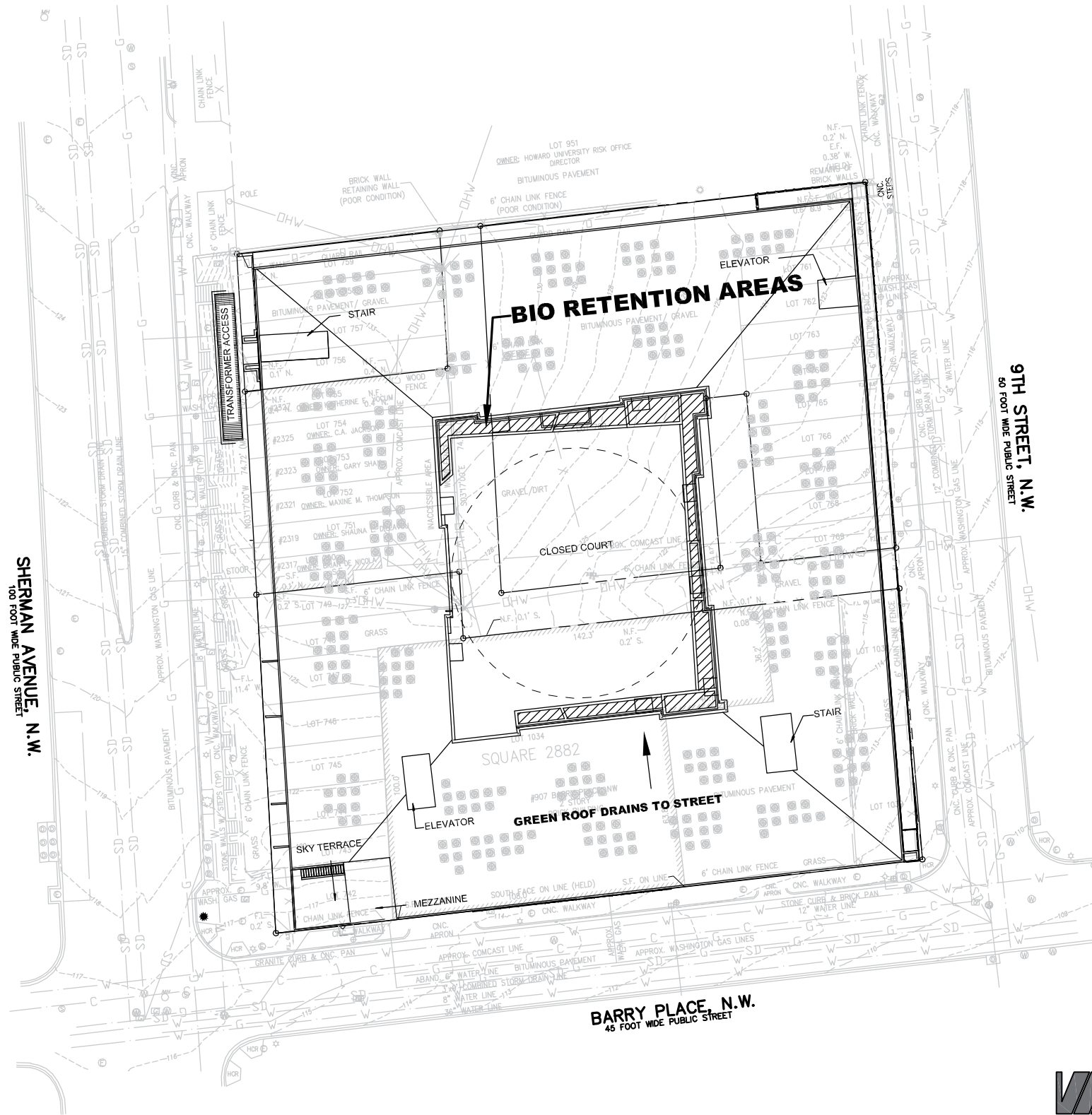
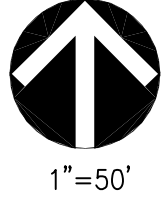
SHEET NO. C-1

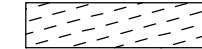
PROJECT COORDINATOR: Kyle Oliver
E-MAIL: oliver@vikacapitol.com



VIKA CAPITOL, LLC
★ 4910 MASSACHUSETTS AVENUE, NW SUITE 214 ★ WASHINGTON, DC 20016 ★
Phone: 202.244.4140 ★ Fax: 202.244.4196
★ WWW.VIKACAPITOL.COM ★

STORMWATER MANAGEMENT GREEN ROOF EXHIBIT



-  BIO RETENTION AREAS
-  IMPERVIOUS AREA DRAINING TO BIO RETENTION FACILITY = 5,000 SF

SHEET NO. C-2

PROJECT COORDINATOR: Kyle Oliver
E-MAIL: oliver@vikacapitol.com



ENGINEERS ★ PLANNERS ★ LANDSCAPE ARCHITECTS ★ SURVEYORS ★ SUSTAINABLE DESIGN



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STORMWATER MANAGEMENT BIORETENTION EXHIBIT

BIORETENTION

$Sv = SA_{bottom} \times [(d_{media} \times \eta_{media}) + (d_{gravel} \times \eta_{gravel})] + (SA_{average} \times d_{ponding})$			
Sv = Storgae Volume			
Bottom Surface Area (SA _{bottom})	1266	ft ²	
Depth of Filter Media (d _{media})	2	ft	
Filter Media Effective Porosity (η _{media})	0.25		
Depth of Gravel Layer (d _{gravel})	1	ft	
Gravel Layer Effective Porosity (η _{gravel})	0.4		
Average Surface Area (SA _{average})	1266	ft ²	1/2x(top area+bottom area)
Max. Ponding Depth (d _{ponding})	0.5	ft	
RV	1772.4	ft ³	
60% RV	Standard BR	Underdrain + < 24" filter media	
100% RV	Enhanced BR	Infiltrate in 72hr OR Underdrain + 24" filter media + Sump	
RV _{Standard}	1063.44	ft ³	Max. Rv eligible for discount is Rv1.2"
RV _{Enhanced}	1772.4	ft ³	
RV _{Standard}	7954.5312	gallons	
RV _{Enhanced}	13257.552	gallons	

STORMWATER MANAGEMENT NARRATIVE:

THE SITE’S STORMWATER REQUIREMENTS WILL BE MET WITH A COMBINATION OF 29,000 SF OF GREEN ROOF AND BIORETENTION AREAS TOTTALING APPROXIMATELY 1,300 SF. BASED ON THE DISTRICT’S GENERAL RETENTION COMPLIANCE CALCULATOR, THE ON–SITE RETENTION VOLUME CRITERIA IS BEING ACHIEVED BY THE AFOREMENTIONED BMP’S WITH A VOLUME TOTALING 5,587 CUBIC FEET. CONSEQUENTLY, THE SITE HAS EXCEEDED THE REQUIRED SWRV BY 12 GALLONS, WHICH MAY BE ABLE TO BE USED TO GENERATE STORMWATER MANAGEMENT RETENTION CREDITS (SRC’S).

GREEN AREA RATIO NARRATIVE:

THE SITE’S GREEN AREA RATIO (0.305) WILL BE ACHIEVED ON THE SITE VIA A COMBINATION OF THE GREEN ROOF AND THE BIORETENTION AREAS. THESE TOTAL APPROXIMATELY 31,000 SF.

GREEN ROOF

$Sv = SA \times [(d \times \eta_1) + (DL \times \eta_2)]/12$			
Sv = Storgae Volume			
Green Roof Area (SA)	29000	ft ²	
Media Depth (d)	3	in	
Drainage Layer Depth (DL)	3	in	
Media Volume of Voids (η ₁)	0.17		
Drainage Layer Volume of Voids (η ₂)	0.94		If unknown use 0.15
Green Roof Receive 100% Retention Value			
Rv =	8047.5	ft ³	Max. Rv eligible for discount is Rv1.2"
Rv =	60195.3	gallons	

SHEET NO. C–3

PROJECT COORDINATOR: Kyle Oliver
 E–MAIL: oliver@vikacapitol.com



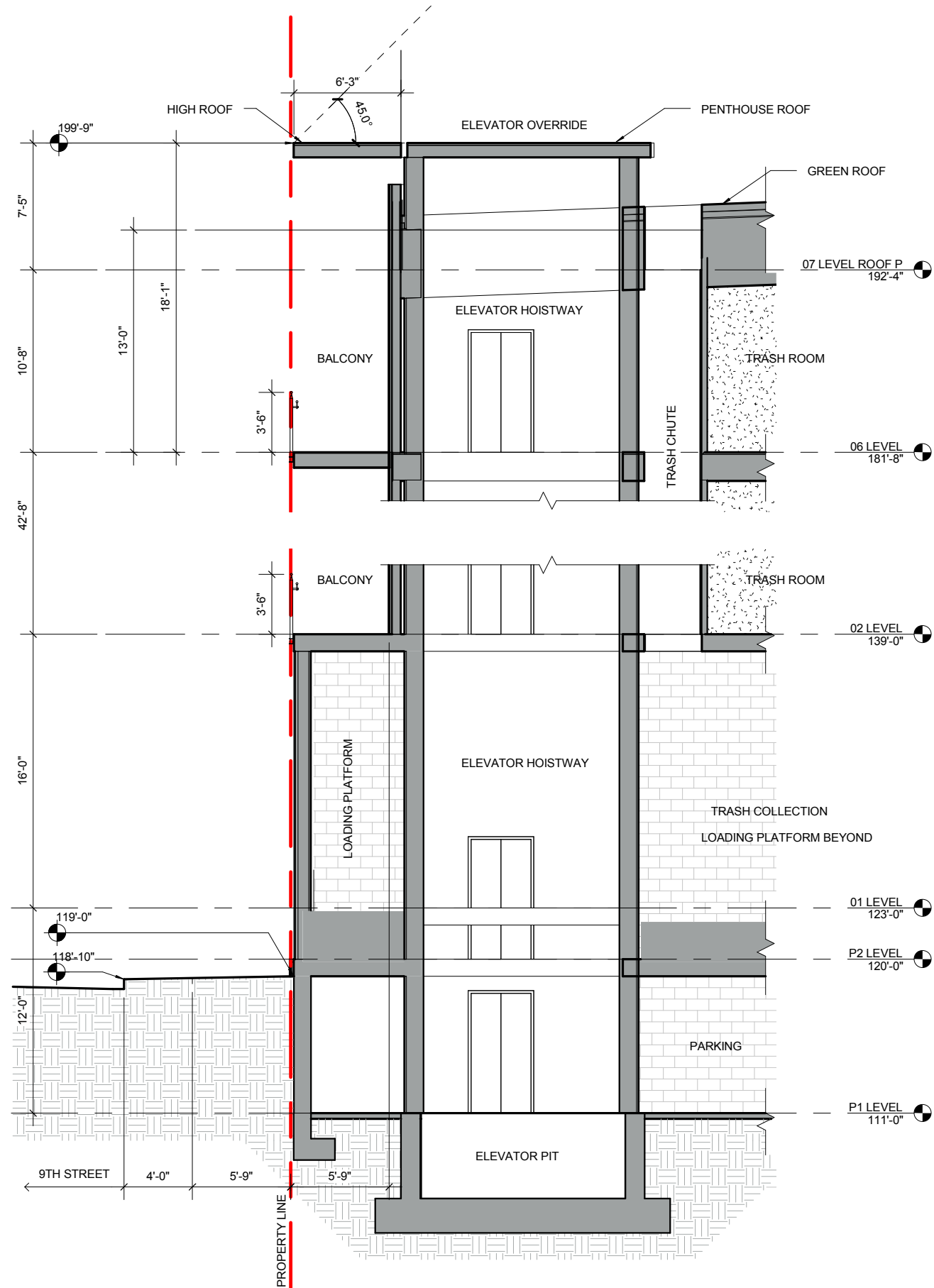
CAPITOL

ENGINEERS ★ PLANNERS ★ LANDSCAPE ARCHITECTS ★ SURVEYORS ★ SUSTAINABLE DESIGN

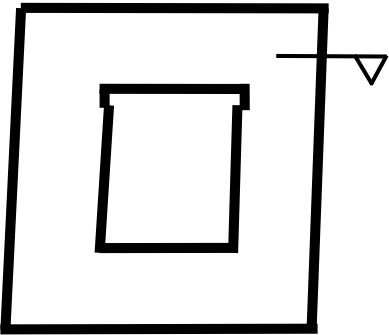


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STORMWATER MANAGEMENT AND GREEN AREA (GAR)
 DESIGN SUMMARY AND COMPUTATIONS



NOTE: ELEVATOR OVERRIDE HEIGHT BASED ON 4 MAJOR MACHINE ROOMLESS ELEVATOR MANUFACTURERS.



SECTION KEY



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