

4131 CHAIN BRIDGE ROAD
DAVIES PROPERTY
REZONING
CONCEPT DEVELOPMENT PLAN & GENERAL DEVELOPMENT PLAN
CITY OF FAIRFAX, VIRGINIA

SEPTEMBER 3RD - 2024 - REVISED

PROPERTY OWNER / APPLICANT

THE HILL, A DAVIES FAMILY LLC
C/O DAVIES & DAVIES
5531 LEE HWY
SUITE 206
ARLINGTON, VA 22207

DEVELOPER

PARADIGM DEVELOPMENT COMPANY
1415 NORTH COURTHOUSE ROAD SUITE 600
ARLINGTON, VA 22201-2909
PH. 703-527-7500
CONTACT: MICHELINE CASTAN-SMITH

LEGAL COUNSEL

BEAN KINNEY & KORMAN
2311 WILSON BLVD SUITE 500
ARLINGTON, VA 22201
PH. 703-525-4000
CONTACT: DAVID HOUSTON

ARCHITECT/PLANNER

LESSARD DESIGN
8521 LEESBURG PIKE, SUITE 700
VIENNA, VA 22182
PH. 571-830-1869
CONTACT: ULISES MONTES DE OCA

ENGINEER

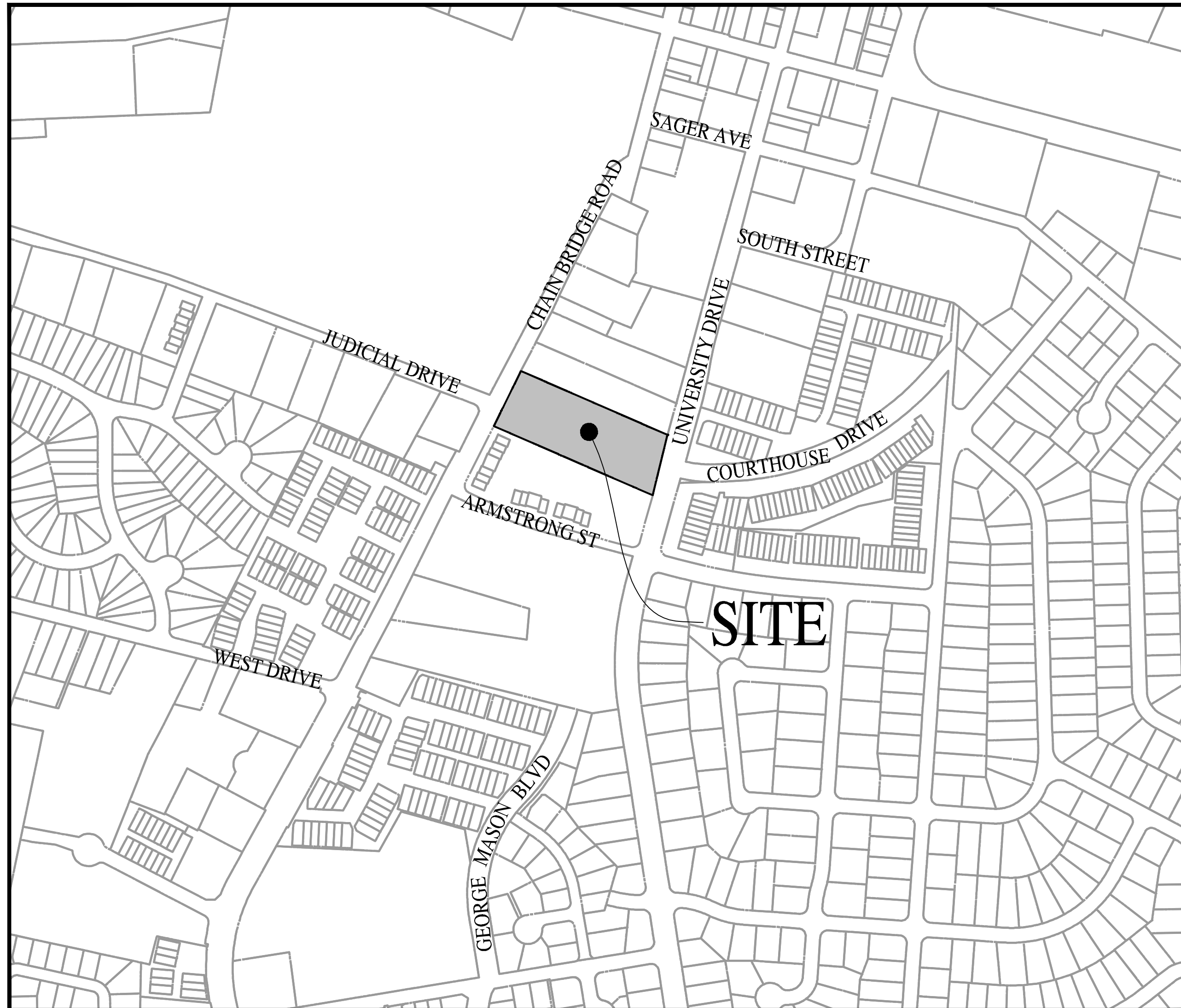
URBAN, LTD.
4200 D TECHNOLOGY COURT
CHANTILLY, VA 20151
PH. 703-642-2306
CONTACT: CLAYTON TOCK

LANDSCAPE ARCHITECT

URBAN, LTD.
7712 LITTLE RIVER TURNPIKE
ANNANDALE, VA 22003
PH. 703-642-8080
CONTACT: JOHN LIGHTLE

TRAFFIC ENGINEER

GOROVE SLADE ASSOCIATES
15125 WASHINGTON STREET SUITE 316
HAYMARKET, VA 20169
PH. 571-248-0992
CONTACT: SASHA REDMON



VICINITY MAP
SCALE: 1"=300'

CIVIL SHEET INDEX

SHEET #	SHEET TITLE
01	COVER SHEET
02	GENERAL NOTES & DETAILS
03	EXISTING CONDITIONS PLAN
04	CONCEPTUAL DEVELOPMENT PLAN
05	UTILITY PLAN
06	PEDESTRIAN CIRCULATION PLAN
07	OPEN SPACE PLAN
08	STORMWATER MANAGEMENT PRE-DEVELOPMENT
09	PRE-DEVELOPMENT COMPUTATIONS
10	SWM POST-DEVELOPMENT PLAN
11	SWM POST-DEVELOPMENT COMPS
12	SWM POST-DEVELOPMENT DETAILS
13	BMP POST-DEVELOPMENT COMPS
14	BMP POST-DEVELOPMENT DETAILS
15	OUTFALL ANALYSIS
16-17	SIGHT DISTANCE PROFILES
18-19	TREE INVENTORY
20	FIRETRUCK AUTOTURN ANALYSIS
21	BOX TRUCK AUTOTURN ANALYSIS
22	FRONT LOAD GARBAGE TRUCK
23	PASSENGER VEHICLE AUTOTURN ANALYSIS
24-25	LANDSCAPE PLAN
26	CERTIFIED PLAT
26 TOTAL SHEETS	

ARCHITECTURE SHEET INDEX

SHEET #	SHEET TITLE
A.01	ILLUSTRATIVE SITE PLAN
A.02	B3 BASEMENT PLAN
A.03	B2 BASEMENT PLAN
A.04	B1-R1 FLOOR PLAN
A.05	R1-R2 FLOOR PLAN
A.06	R2-R3 FLOOR PLAN
A.07	TYPICAL 1 - TYPICAL 2 FLOOR PLAN
A.08	ROOF PLAN
A.09	BUILDING BEFORE VS. AFTER
A.10	SETBACK DIAGRAM
A.11	SIGHT DISTANCE DIAGRAM
A.12	BUILDING SECTIONS
A.13	BUILDING-1 ELEVATIONS
A.14	BUILDING-2 ELEVATIONS
A.15	SITE ELEVATIONS
A.16	BUILDING ELEVATION BEFORE VS AFTER
A.17	BUILDING ELEVATION BEFORE VS AFTER
A.18	MATERIAL BOARD

Urban, Ltd.
4200 D TECHNOLOGY CT.
CHANTILLY, VA, 20151
TEL. 703.642.2306
FAX. 703.642.2308
www.urban-llc.com

urban[™]
Planners+Engineers+Landscape Architects+Land Services



COVER SHEET
4131 CHAIN BRIDGE ROAD
REZONING CDP-GDP
CITY OF FAIRFAX, VIRGINIA

SCALE: AS NOTED
DATE: APRIL, 2016
C.I.= N/A

SHEET
01
OF
26

FILE No.
RZ-12787

PLAN DATE	No.	DATE	DESCRIPTION
05-04-2016			
07-12-2016			
08-12-2016			
09-11-2024			
09-03-2024			

Urban, Ltd. - J:\085\1131 Chain Bridge Rd\Rezoning\12787-02-Crookes.dwg [ENOTES] September 03, 2024 - 1:27pm sorensberg

BUILDING DATA

BUILDING DATA			
RESIDENTIAL-1 Chain Bridge Rd.		RESIDENTIAL-2 University Dr.	
Gross Area	117,455 SF	Gross Area	169,976 SF
Amenities		Amenities	
Gross Area	7,320 SF	Gross Area	6,724 SF
GARAGE			
Gross Area			172,271 SF

EX. CHAIN BRIDGE ROAD
VIOLATES WITH ROOT OF WAY

PARKING GARAGE
BELOW

RESIDENTIAL-1

RESIDENTIAL-2

EX. UNIVERSITY DRIVE
VIOLATES WITH ROOT OF WAY

ZONING STANDARDS

SEC. 110-671: PROPOSED ZONING BULK AND LOT AREA REQUIREMENTS PER CU DISTRICT

MIN. LOT AREA (AC)		30,000 SF
BLDG. HEIGHT (FT)	REQUIRED PROVIDED	60' OR 5 STORIES 60'-0" OR 5 STORIES
PARKING. HEIGHT (FT)	PROVIDED	24'-0"
REQUIRED YARDS	FRONT/SIDE STREET SIDE (ADJ. TO RES.) SIDE (NOT ADJ. TO RES.) REAR (ADJ. TO RES.) REAR (NOT ADJ. TO RES.)	15' MAX / 0' MIN 25' 0' 25' 0'
OPEN SPACE:	EXISTING PROVIDED	2.52 AC. 0.840 AC
BUILDING AREA COVERAGE:	ALLOWED PROVIDED	80% MAX ± 52.33%
LOT AREA COVERAGE:	ALLOWED PROVIDED	100% ± 74.43%
DENSITY:	MAXIMUM PROVIDED	20 (GENERAL) / 24 (AFFORDABLE DWELLING UNIT) 102.68 UNITS/GROSS ACRE (276 UNITS TOTAL)
FLOOR AREA RATIO:	REQUIRED PROVIDED	N/A 0.526
FLOODPLAIN AREA:		0.00 SF

SEC. 110-1046: ZONING BULK AND LOT AREA REQUIREMENTS PER OLD TOWN TRANSITION OVERLAY DISTRICT

MIN. LOT AREA (AC)	NONE	
MIN. LOT WIDTH (FT)	NONE	
BLDG. HEIGHT (FT)	REQUIRED PROVIDED	48' 60'-0"
MIN. YARD REQUIREMENTS:	FRONT SIDE REAR	10' NONE NONE
LOT COVERAGE:	MAXIMUM PROVIDED	90% 73.43%
BUILDING COVERAGE:	MAXIMUM PROVIDED	80% 52.33%

SEC. 110-155, 156: OFF-STREET PARKING AND LOADING (ENTIRE SITE)

4131 CHAIN BRIDGE ROAD PARKING TABULATIONS

PARKING							
276 UNITS							
RESIDENTIAL PARKING REQUIRED							
UNIT TYPE	MIX%	# UNITS	PS RATIO	PS	CU REDUCTION (10%)	TOD REDUCTION (50% EXCEPT FOR 1.5 MINIMUM PER DU	PS AFTER REDUCTION
STUDIO	11	30	1.25	38	34	N/A	34
1 BR	58	157	1.5	236	212	N/A	212
2 BR	9	89	2	178	160	133.5	134
		276					380
COMMERCIAL PARKING REQUIRED							
RETAIL 1 PS/ 200 SF		6,319		32	28.8	16	16
OFFICE 1 PS/ 300 SF		4,188		14	12.6	7	7
							23
TOTAL PARKING REQUIRED							
403							
RESIDENTIAL PARKING PROVIDED							
380							
COMMERCIAL PARKING PROVIDED							
23							
TOTAL PARKING PROVIDED							
426							

GENERAL NOTES

1. THE PROPERTY DELINEATED HEREON IS LOCATED IN THE CITY OF FAIRFAX TAX MAP #57-4-02-040, WITHIN THE OLD TOWN HISTORIC TRANSITION DISTRICT.

2. THE PROPERTY IS CURRENTLY ZONED R-M (RESIDENTIAL). IT IS ALSO SUBJECT TO THE OLD TOWN TRANSITION DISTRICT REGULATION.

3. BOUNDARY AND TOPOGRAPHIC INFORMATION PROVIDED BY URBAN, LTD.

4. THE SITE IS PRESENTLY SERVED BY CITY OF FAIRFAX PUBLIC WATER AND SEWER.

5. THE PROPOSED IMPROVEMENTS RESULT IN AN INCREASE OF IMPERVIOUS AREA IN THE SUBJECT PROPERTY – PER THE VIRGINIA RUNOFF REDUCTION METHOD (VRRM) REDEVELOPMENT REQUIREMENTS A COMBINATION OF PROPOSED BMP REQUIREMENTS SHALL PROVIDE A MINIMUM OF 20% REDUCTION IN TOTAL PHOSPHOROUS RUNOFF.

6. UNDERGROUND PRIVATE UTILITY LOCATIONS ARE APPROXIMATE AND THOSE SHOWN HAVE NOT BEEN SURVEYED. EASEMENTS CONTAINED WITHIN OWNERS TITLE REPORT HAVE BEEN PLOTTED ON THE SURVEY BASE.

7. INDIVIDUAL UTILITY PLANS AND PROFILES WILL BE SUBMITTED WITH THE FINAL SITE PLAN.

8. THERE ARE NO KNOWN HAZARDOUS OR TOXIC SUBSTANCES ON THIS SITE. IF ANY SUBSTANCES ARE FOUND, THE METHODS FOR DISPOSAL SHALL ADHERE TO CITY, COUNTY, STATE, AND FEDERAL LAW.

9. THERE ARE NO KNOWN BURIAL SITES OR ARCHEOLOGICAL FEATURES ON THIS SITE.

10. EXISTING STRUCTURES TO REMAIN ARE SHOWN SHADED ON THE REZONING & CONCEPTUAL DEVELOPMENT PLAN.

11. THERE IS NO CITY, COUNTY, OR FEMA FLOODPLAIN ON THE PROPERTY.

12. THE SUBJECT PROPERTY LIES IN ZONE "X" PER FIRM MAP COMMUNITY PANEL NUMBER 515524005D.

13. DIMENSIONS AND SIZES AS SCALED ARE APPROXIMATE AND MAY VARY DEPENDING ON THE FINAL USE AND ARCHITECTURAL/ENGINEERING DESIGN. THE FINAL DESIGN SHALL BE IN SUBSTANTIAL CONFORMANCE WITH THE CONCEPTUAL DEVELOPMENT PLAN.

14. THIS APPLICATION PROPOSES REZONING OF THE PROPERTY TO THE "COMMERCIAL URBAN" DISTRICT AND THE REDEVELOPMENT OF THE SUBJECT SITE PER THE "OLD TOWN FAIRFAX REDEVELOPMENT OPTION" AS ESTABLISHED IN SECTIONS 3.7 & 3.8 OF THE ZONING ORDINANCE.

THIS APPLICATION REQUIRES THE FOLLOWING ZONING MODIFICATIONS FROM THE CITY COUNCIL:

110-225,258,259 SEE LANDSCAPE SHEET FOR MODIFICATION REQUESTS FOR LANDSCAPE AND SCREENING.

FIRE MARSHALL NARRATIVE

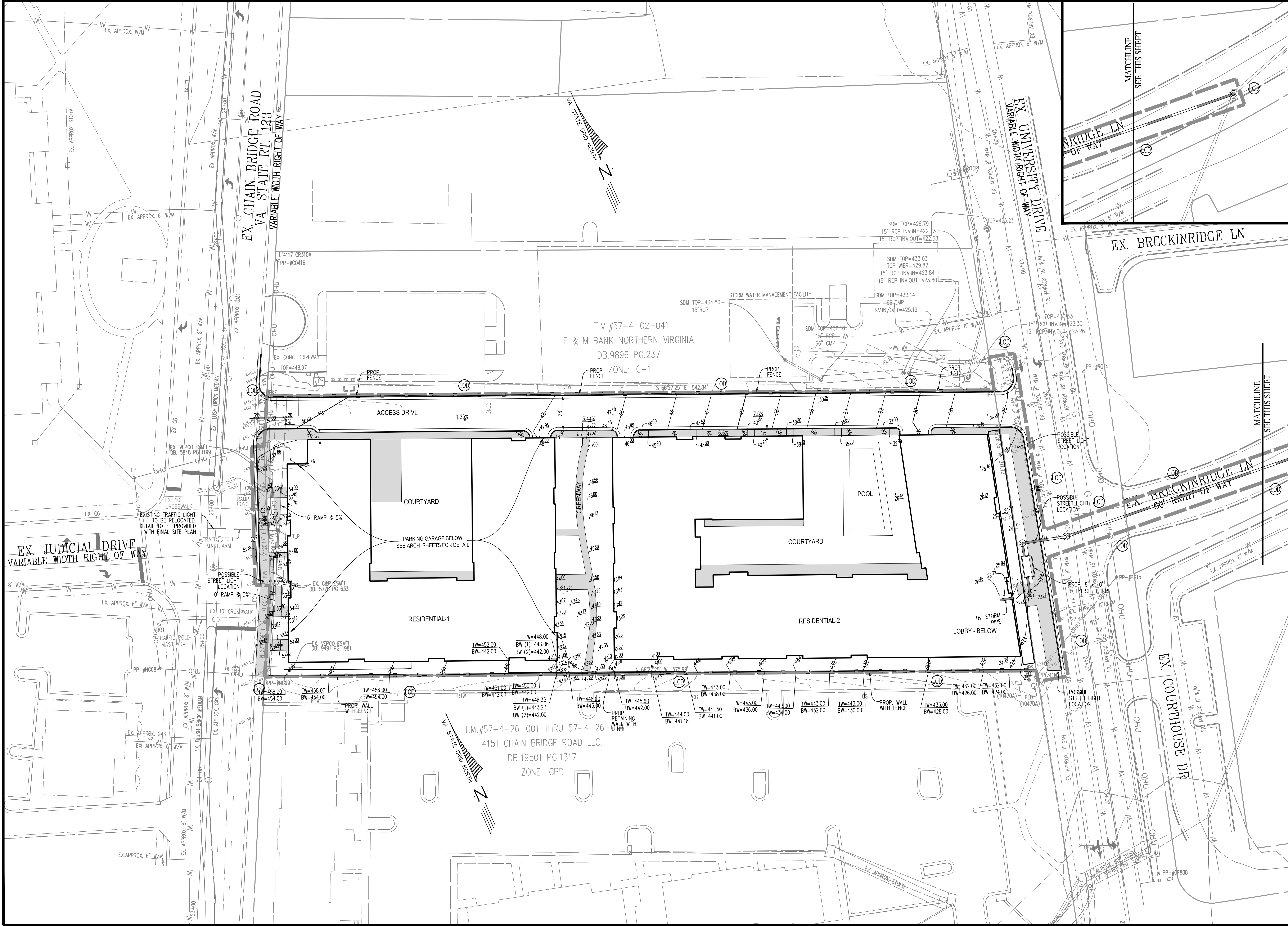
THE PROPOSED BUILDING SHALL BE 5 STORIES. CONSTRUCTION TYPE FOR THE RESIDENTIAL PORTION FROM 2ND TO 5TH FLOOR SHALL BE 3A AND THE RESIDENTIAL 1ST FLOOR SHALL BE 1A. CONSTRUCTION TYPE FOR THE GARAGE SHALL BE 1A. THE EXTERIOR FINISH OF THE BUILDING SHALL BE CONSTRUCTED OF NON-COMBUSTIBLE MATERIALS. THE SPRINKLER SYSTEM FOR THE PROPOSED BUILDING SHALL BE NFPA-13.

VICINITY MAP

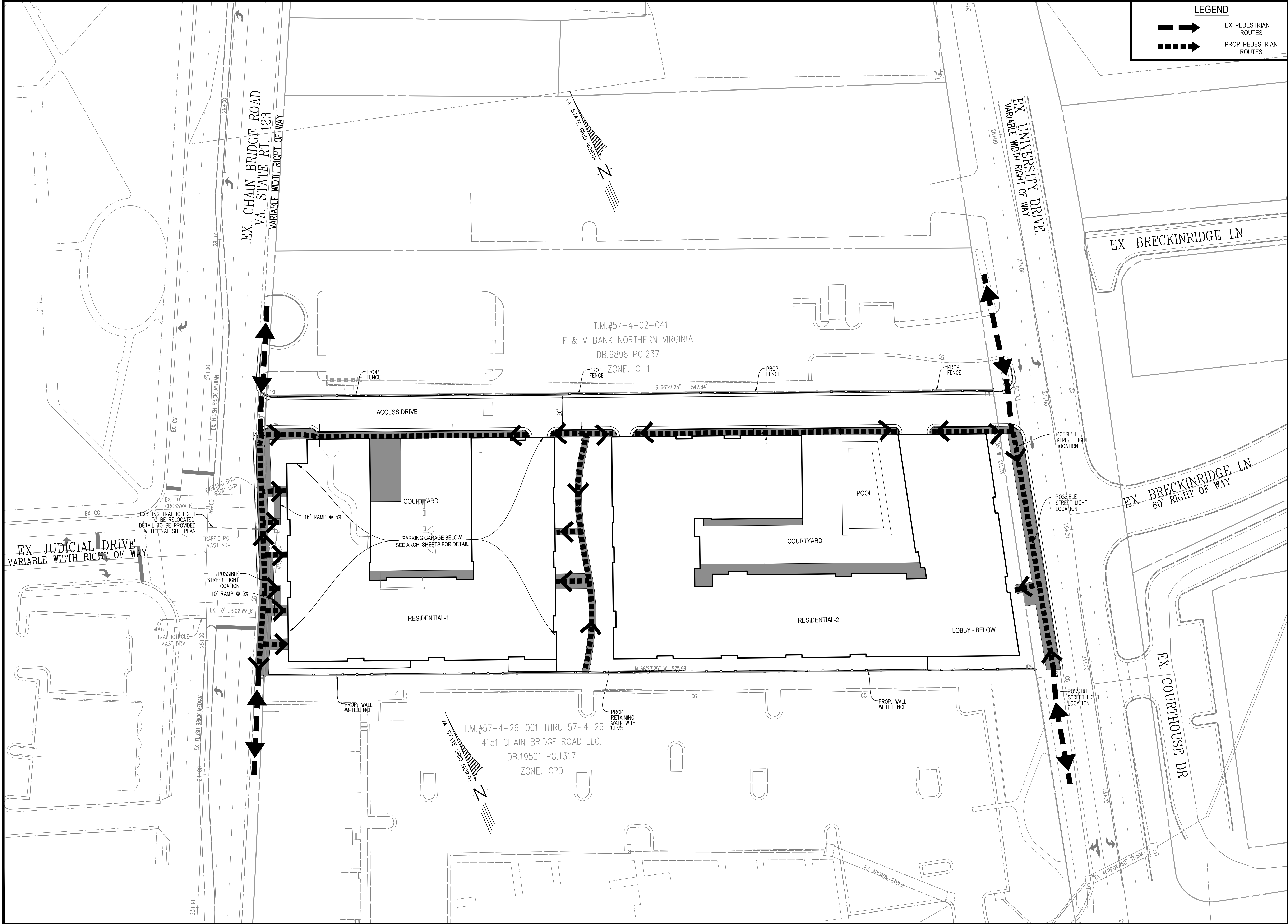
SCALE: 1" = 1000'

SOILS MAP

Urban, Ltd. - J:\085\131 Chain Bridge Rd\Rezoning\12787-07-SUP.dwg [SUP] September 03, 2024 - 1:27pm carnsberg



CONCEPTUAL DEVELOPMENT PLAN											
4131 CHAIN BRIDGE ROAD											
REZONING CDP-GDP											
CITY OF FAIRFAX, VIRGINIA											
SCALE: 1"=30'	C.I.= 2'										
SHEET 04 OF 26	DATE: APRIL, 2016										
FILE No. RZ-12787											
Urban, Ltd. 4200 D TECHNOLOGY CT. CHANTILLY, VA, 20151 TEL: 703.642.2306 FAX: 703.642.2308 www.urban-llc.com Planners-Engineers-Landscape Architects-Land Services <table border="1"><thead><tr><th>PLAN DATE</th><th>DESCRIPTION</th></tr></thead><tbody><tr><td>05-04-2016</td><td></td></tr><tr><td>06-11-2016</td><td></td></tr><tr><td>06-11-2024</td><td></td></tr><tr><td>09-03-2024</td><td></td></tr></tbody></table>		PLAN DATE	DESCRIPTION	05-04-2016		06-11-2016		06-11-2024		09-03-2024	
PLAN DATE	DESCRIPTION										
05-04-2016											
06-11-2016											
06-11-2024											
09-03-2024											



LEGEND

EX. PEDESTRIAN ROUTES

PROP. PEDESTRIAN ROUTES

PEDESTRIAN CIRCULATION PLAN

4131 CHAIN BRIDGE ROAD

REZONING CDP-GDP

CITY OF FAIRFAX, VIRGINIA

DATE: APRIL, 2016

C.I.= N/A

SCALE: 1"=30'

FILE No.

RZ-12787

Urban, Ltd.

4200 D TECHNOLOGY CT.

CHANTILLY, VA. 20151

TEL. 703.642.2306

FAX. 703.642.2308

www.urban-llc.com

Planetary Engineers + Landscape Architects + Land Services

urban

PLAN DATE

05-04-2016

06-02-2016

06-02-2016

06-11-2024

09-03-2024

No.

DATE

DESCRIPTION

REVISIONS

01

05-04-2016

Initial Design

02

06-02-2016

Final Design

03

06-02-2016

Final Design

04

06-11-2024

Final Design

05

09-03-2024

Final Design

Urban, Ltd. - J:\085\4131 Chain Bridge Rd\Rezoning\12787-33-PED CIRC.dwg [PED CIRC] September 03, 2024 - 1:27pm arensberg



Urban, Ltd. - J:\085\4131 Chain Bridge Rd\Rezoning\12787-10-Open Space.dwg [OPEN SPACE PLAN] September 03, 2024 - 1:28pm orensberg

OPEN SPACE CALCULATION

ADJUSTED SITE AREA = ± 2.69 AC.

- ONSITE OPEN SPACE =± 0.844 AC. OR 31.38%

PLAN DATE

05-04-2016			
06-02-2019			
06-11-2024			
09-03-2024			

Urban, Ltd.

4200 D TECHNOLOGY CT.

CHANTILLY, VA. 20151

TEL. 703.642.2306

FAX. 703.678.1888

www.urban-llc.com

urban

Planners+Engineers+Landscape Architects+Land Services

COMMONWEALTH OF VIRGINIA

CLAYTON C. TOCK

Lic. No. 036790

09/03/2024

PROFESSIONAL ENGINEER

OPEN SPACE PLAN

4131 CHAIN BRIDGE ROAD

REZONING CDP-GDP

CITY OF FAIRFAX, VIRGINIA

SCALE: 1"=30'

DATE: APRIL, 2016

C.I.= N/A

SHEET

07

OF

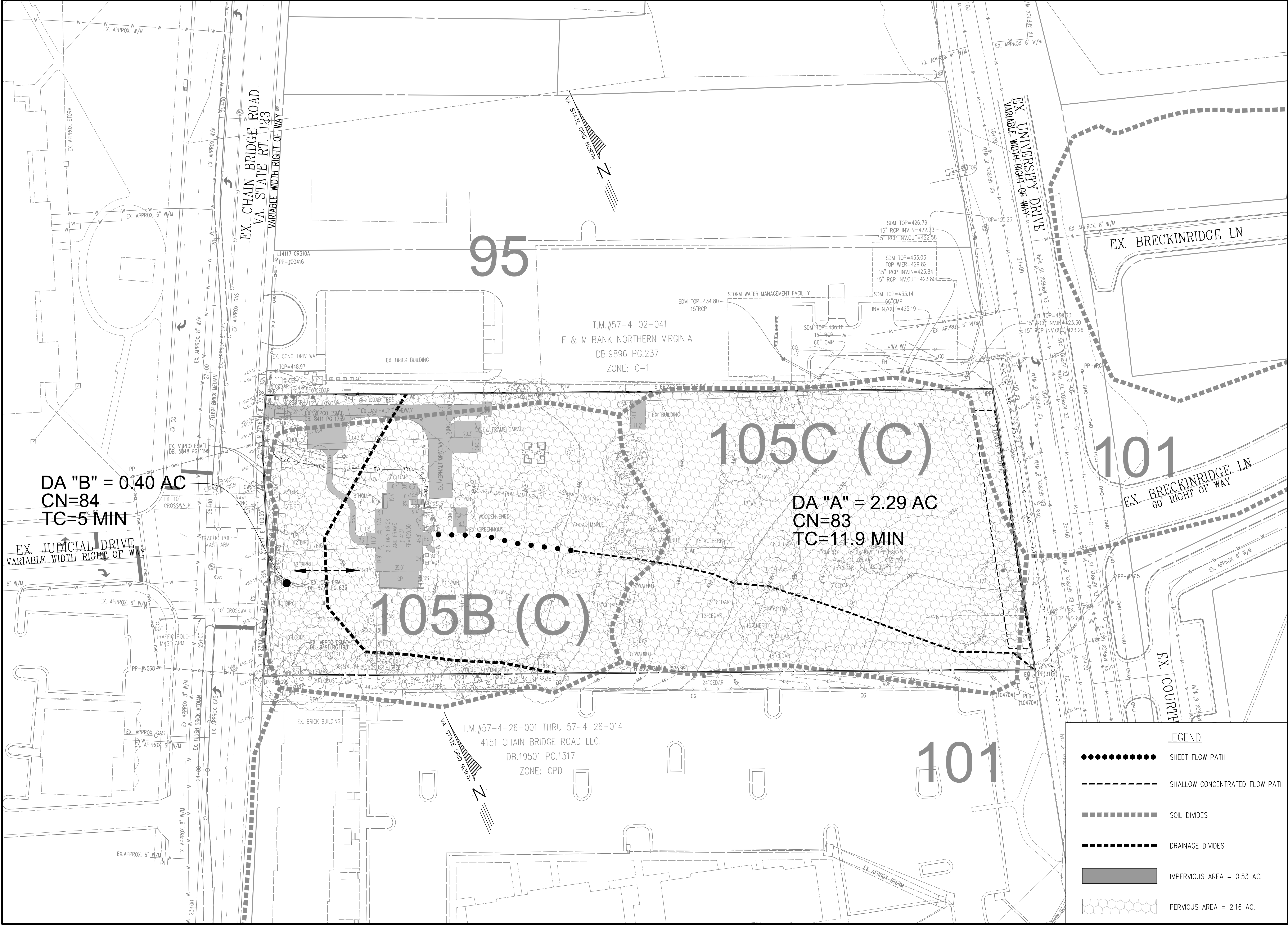
26

FILE No.

RZ-12787

REVISIONS

No.	DATE	DESCRIPTION



DA "B" = 0.40 AC
CN=84
TC=5 MIN

DA "A" = 2.29 AC
CN=83
TC=11.9 MIN

LEGEND

- SHEET FLOW PATH
- SHALLOW CONCENTRATED FLOW PATH
- SOIL DIVIDES
- DRAINAGE DIVIDES
- IMPERVIOUS AREA = 0.53 AC.
- PERVIOUS AREA = 2.16 AC.

STORMWATER MANAGEMENT PRE-DEVELOPMENT
4131 CHAIN BRIDGE ROAD
REZONING CDP-GDP

DATE: APRIL, 2016

SCALE: 1"=30'

CITY OF FAIRFAX, VIRGINIA

SHEET 08 OF 26

FILE No. RZ-12787

urban

Planners+Engineers+Landscapes+Architects+Land Services

Urban, Ltd.
4200 D TECHNOLOGY CT.
CHANTILLY, VA, 20151
TEL: 703.642.2306
FAX: 703.642.2308
www.urban-llc.com

PLANNING ENGINEER

COMMONWEALTH OF VIRGINIA
CLAYTON C. YORK
Lic. No. 036790
09/03/2024
PROFESSIONAL

PLN DATE	DATE	DESCRIPTION
05-04-2016		
04-28-2019		
06-11-2024		
09-03-2024		

Urban, Ltd. - J:\085\131 Chain Bridge Rd\Rezoning\12787-21-sw-m-brp-PRE.dwg [1] September 03, 2024 - 1:28pm arensberg

DRAINAGE AREA A

Curve Number Calculations

Area (ac)	CN	Description
1.824	79	50-75% Grass cover, Fair, HSG C
0.370	98	Paved HSG C
0.043	84	50-75% Grass cover, Fair, HSG D
0.053	98	Paved HSG D
2.290	83	Weighted Average
1.867		81.53% Pervious Area
0.423		18.47% Impervious Area

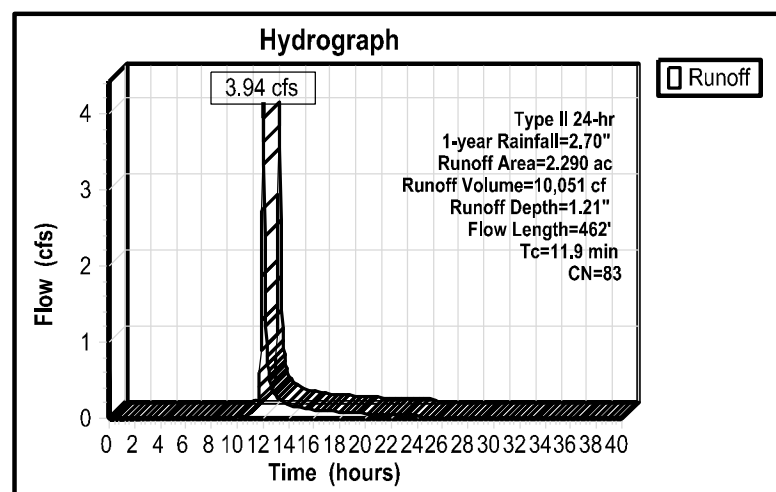
Time of Concentration Calculations

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.0	100	0.0667	0.18		Sheet Flow, Grass Dense n= 0.240 P2= 3.05"
2.9	362	0.0888	2.09		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
11.9	462	Total			

1 Year Flow Calculations

Runoff = 3.94 cfs @ 12.04 hrs , Volume= 10,051 cf , Depth= 1.21"

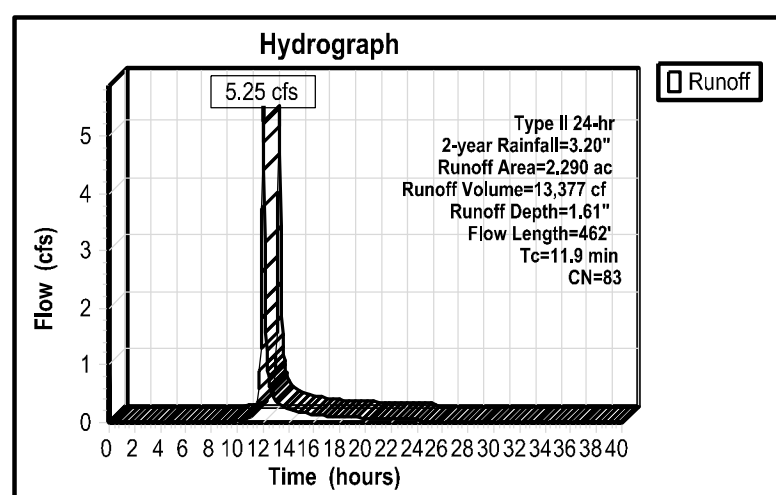
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-40.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-year Rainfall=2.70"



2 Year Flow Calculations

Runoff = 5.25 cfs @ 12.04 hrs , Volume= 13,377 cf , Depth= 1.61'

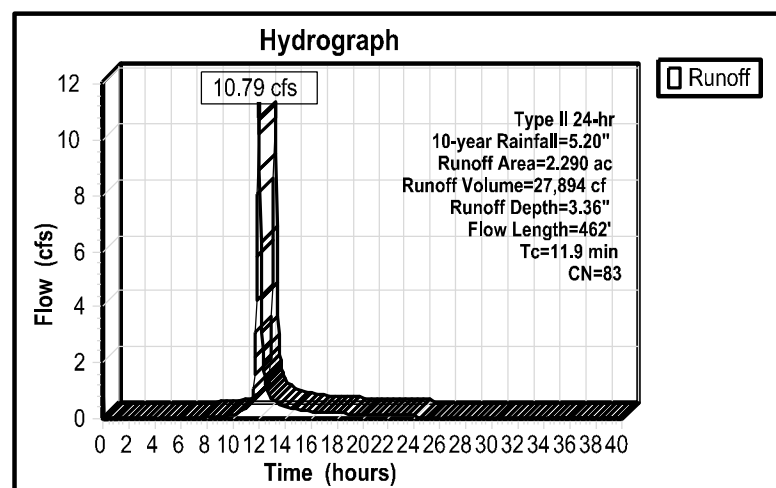
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-40.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-year Rainfall=3.20"



10 Year Flow Calculations

Runoff = 10.79 cfs @ 12.04 hrs , Volume= 27,894 cf , Depth= 3.36"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-40.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-year Rainfall=5.20"



DRAINAGE AREA B

Curve Number Calculations

	Area (ac)	CN	Description
*	0.256	79	50-75% Grass cover, Fair, HSG C
	0.070	98	Paved HSG C
	0.041	84	50-75% Grass cover, Fair, HSG D
*	0.033	98	Paved HSG D
	0.400	84	Weighted Average
	0.297		74.25% Pervious Area
	0.103		25.75% Impervious Area

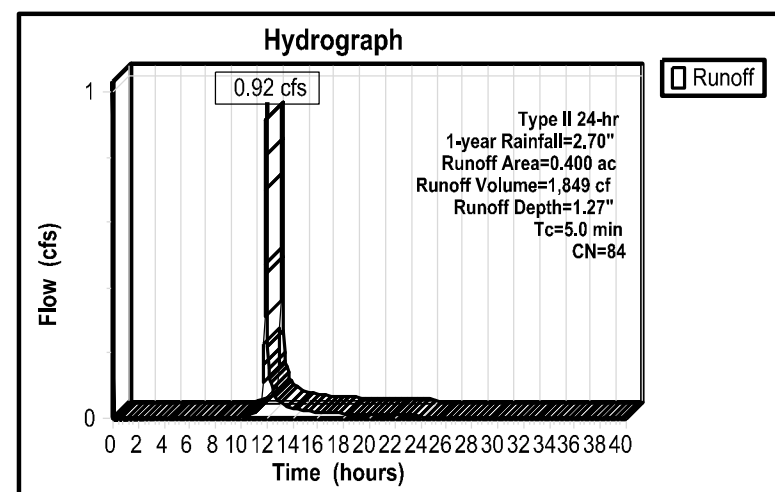
Time of Concentration Calculations

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

1 Year Flow Calculations

Runoff = 0.92 cfs @ 11.96 hrs , Volume= 1,849 cf , Depth= 1.27'

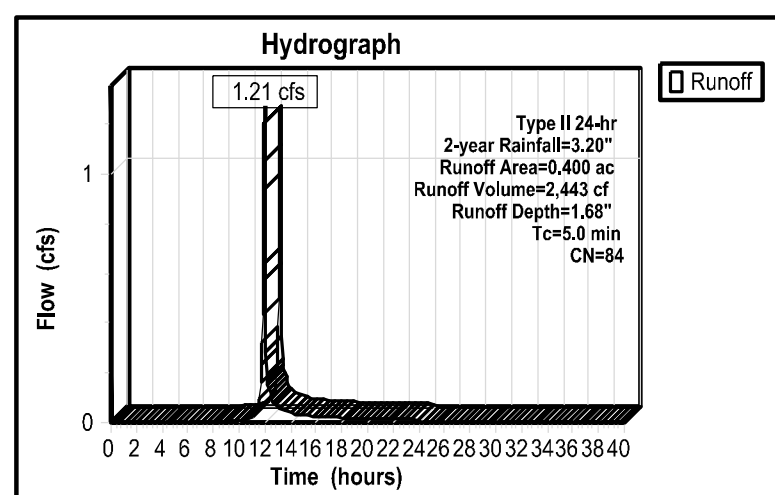
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-40.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-year Rainfall=2.70"



2 Year Flow Calculations

Runoff = 1.21 cfs @ 11.96 hrs , Volume= 2,443 cf , Depth= 1.68'

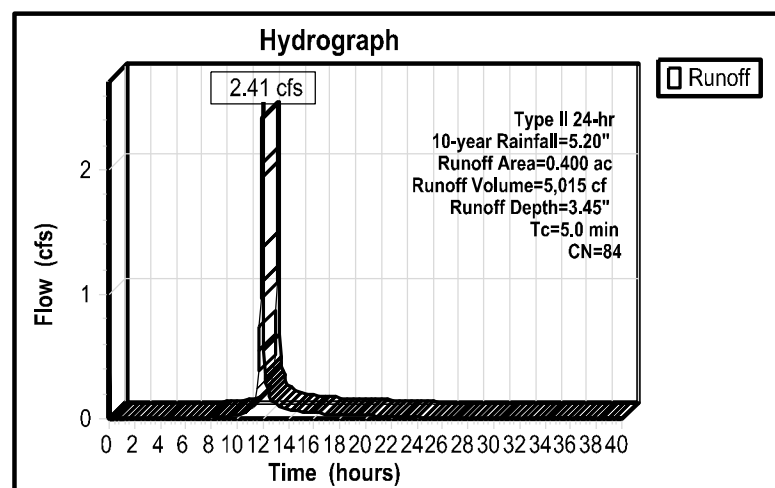
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-40.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-year Rainfall=3.20"



10 Year Flow Calculations

Runoff = 2.41 cfs @ 11.95 hrs , Volume= 5,015 cf , Depth= 3.45'

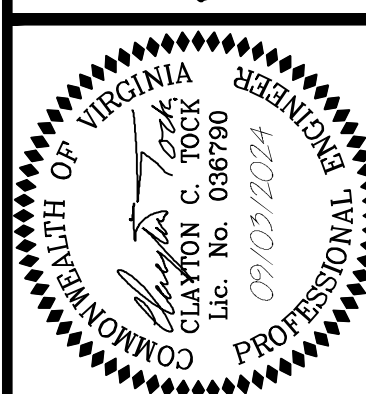
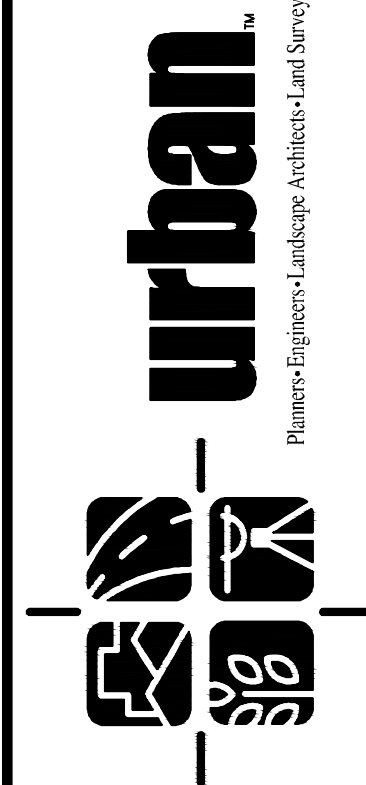
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-40.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-year Rainfall=5.20"

[illegible]

PLAN DATE
05-04-2016
10-18-2016
04-22-2024
06-11-2024
09-03-2024
-
-
-
-

Urban, Ltd.
4200 D TECHNOLOGY CT.
CHANTILLY, VA. 20151
TEL. 703.642.2306
FAX. 703.378.7888
www.urban-ltd.com

Planners • Engineers • Landscape Architects • Land Surveyors



PRE-DEVELOPMENT COMPUTATIONS
4131 CHAIN BRIDGE ROAD
REZONING CDP-GDP
CITY OF FAIRFAX, VIRGINIA
C.I.# N/A
DATE: A

DATE: APRIL, 2016

C.I.=N/A

SCALE: N/A

SHEET
09
OF
26

FILE No.
RZ-12787

STORMWATER MANAGEMENT NARRATIVE:

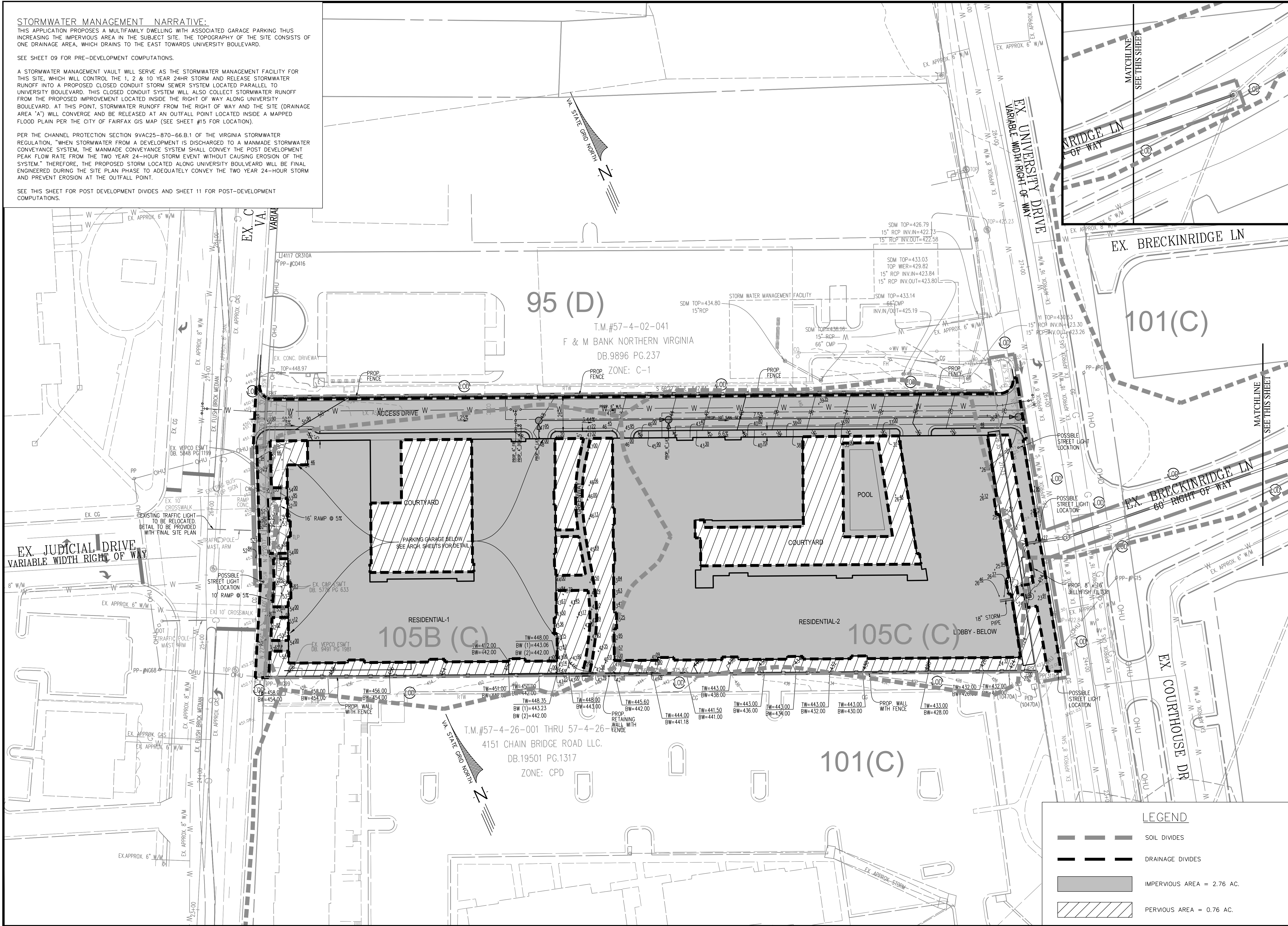
THIS APPLICATION PROPOSES A MULTIFAMILY DWELLING WITH ASSOCIATED GARAGE PARKING THUS INCREASING THE IMPERVIOUS AREA IN THE SUBJECT SITE. THE TOPOGRAPHY OF THE SITE CONSISTS OF ONE DRAINAGE AREA, WHICH DRAINS TO THE EAST TOWARDS UNIVERSITY BOULEVARD.

SEE SHEET 09 FOR PRE-DEVELOPMENT COMPUTATIONS.

A STORMWATER MANAGEMENT VAULT WILL SERVE AS THE STORMWATER MANAGEMENT FACILITY FOR THIS SITE, WHICH WILL CONTROL THE 1, 2 & 10 YEAR 24HR STORM AND RELEASE STORMWATER RUNOFF INTO A PROPOSED CLOSED CONDUIT STORM SEWER SYSTEM LOCATED PARALLEL TO UNIVERSITY BOULEVARD. THIS CLOSED CONDUIT SYSTEM WILL ALSO COLLECT STORMWATER RUNOFF FROM THE PROPOSED IMPROVEMENT LOCATED INSIDE THE RIGHT OF WAY ALONG UNIVERSITY BOULEVARD. AT THIS POINT, STORMWATER RUNOFF FROM THE RIGHT OF WAY AND THE SITE (DRAINAGE AREA 'A') WILL CONVERGE AND BE RELEASED AT AN OUTFALL POINT LOCATED INSIDE A MAPPED FLOOD PLAIN PER THE CITY OF FAIRFAX GIS MAP (SEE SHEET #15 FOR LOCATION).

PER THE CHANNEL PROTECTION SECTION 9VAC25-870-66.B.1 OF THE VIRGINIA STORMWATER REGULATION, "WHEN STORMWATER FROM A DEVELOPMENT IS DISCHARGED TO A MANMADE STORMWATER CONVEYANCE SYSTEM, THE MANMADE CONVEYANCE SYSTEM SHALL CONVEY THE POST DEVELOPMENT PEAK FLOW RATE FROM THE TWO YEAR 24-HOUR STORM EVENT WITHOUT CAUSING EROSION OF THE SYSTEM." THEREFORE, THE PROPOSED STORM LOCATED ALONG UNIVERSITY BOULEVARD WILL BE FINAL ENGINEERED DURING THE SITE PLAN PHASE TO ADEQUATELY CONVEY THE TWO YEAR 24-HOUR STORM AND PREVENT EROSION AT THE OUTFALL POINT.

SEE THIS SHEET FOR POST DEVELOPMENT DIVIDES AND SHEET 11 FOR POST-DEVELOPMENT COMPUTATIONS.



LEGEND

- SOIL DIVIDES
- DRAINAGE DIVIDES
- IMPERVIOUS AREA = 2.76 AC.
- PERVIOUS AREA = 0.76 AC.

PLAN DATE		REVISIONS	
No.	DATE	No.	DATE
05-04-2016			
06-11-2024			
09-03-2024			

Urban Ltd.
4200 D TECHNOLOGY CT.
CHANTILLY, VA. 20151
TEL. 703.642.2306
FAX. 703.642.2308
www.urban-llc.com

Planners-Engineers-Landscape Architects-Land Services

urban

COMMONWEALTH OF VIRGINIA
CLAYTON C. ROCK
Lic. No. 068790
09/03/2024
PROFESSIONAL ENGINEER

SWM POST-DEVELOPMENT PLAN
4131 CHAIN BRIDGE ROAD
REZONING CDP-GDP
CITY OF FAIRFAX, VIRGINIA
SCALE: 1"=30'

SHEET
10
OF
26
FILE No.
RZ-12787

DATE: APRIL, 2016
C.I.= 2'

Urban, Ltd. - J:\085\4131 Chain Bridge Rd\Rezoning\12787-21-swmm bmp POST.dwg [post dev swm bmp] September 03, 2024 - 1:28pm arensberg

Summary for 1-Year Post-Development Area

[49] Hint: Tc<2dt may require smaller dt

Runoff = 9.30 cfs@ 11.95 hrs , Volume= 19,720 cf , Depth=1.97"
Routed to Pond 28P : Vault A

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-40.00 hrs, dt= 0.05 hrs
Type II 24-hr 1-year Rainfall=2.70"

Area (ac)	CN	Description
0.750	79	50-75% Grass cover, Fair, HSG C
2.010	98	Paved parking, HSG C
2.760	93	Weighted Average
0.750		27.17% Pervious Area
2.010		72.83% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Summary for 2-Year Post-Development Area

[49] Hint: Tc<2dt may require smaller dt

Runoff = 11.40 cfs@ 11.95 hrs , Volume= 24,504 cf , Depth=2.45"
Routed to Pond 28P : Vault A

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-40.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-year Rainfall=3.20"

Area (ac)	CN	Description
0.750	79	50-75% Grass cover, Fair, HSG C
2.010	98	Paved parking, HSG C
2.760	93	Weighted Average
0.750		27.17% Pervious Area
2.010		72.83% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Summary for 10-Year Post-Development Area

[49] Hint: Tc<2dt may require smaller dt

Runoff = 19.71 cfs @ 11.95 hrs , Volume= 44,027 cf , Depth=4.39"
Routed to Pond 28P : Vault A

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-40.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-year Rainfall=5.20"

Area (ac)	CN	Description
0.750	79	50-75% Grass cover, Fair, HSG C
2.010	98	Paved parking, HSG C
2.760	93	Weighted Average
0.750		27.17% Pervious Area
2.010		72.83% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					Direct Entry,

Summary for 1-Year Outflow to Vault

Inflow Area = 120,226 sf, 72.83%Impervious Inflow Depth =1.97" for 1-year event
Inflow = 9.30 cfs@ 11.95 hrs, Volume= 19,720 cf
Outflow = 1.00 cfs@ 12.32 hrs, Volume= 19,720 cf, Atten= 89%, Lag= 22.2 min
Primary = 1.00 cfs@ 12.32 hrs, Volume= 19,720 cf
Routed to Link 5L : Outfall A

Routing by Stor-Ind method, Time Span= 0.00-40.00 hrs, dt= 0.05 hrs
Peak Elev= 5.72' @ 12.32 hrs Surf.Area= 1,684 sf Storage= 9,640 cf

Plug-Flow detention time=198.2 min calculated for 19,720 cf (100% of inflow)
Center-of-Mass det. time=198.0 min (992.6 - 794.6)

Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	16,840 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
0.00	1,684	0	0
10.00	1,684	16,840	16,840

Device	Routing	Invert	Outlet Devices
#1	Primary	0.00'	3.0" Vert. Orifice/GrateC= 0.600 Limited to weir flow at low heads
#2	Primary	5.56'	24.0" W x 6.0" H Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.98 cfs @ 12.32 hrs HW=5.72' (Free Discharge)
1=Orifice/Grate (Orifice Controls 0.56 cfs @ 11.39 fps)
2=Orifice/Grate (Orifice Controls 0.42 cfs @ 1.30 fps)

Summary for 2-Year Outflow to Vault

Inflow Area = 120,226 sf, 72.83%Impervious, Inflow Depth =2.45" for 2-year event
Inflow = 11.40 cfs@ 11.95 hrs Volume= 24,504 cf
Outflow = 4.32 cfs@ 12.07 hrs Volume= 24,503 cf Atten= 62%Lag= 7.3 min
Primary = 4.32 cfs@ 12.07 hrs Volume= 24,503 cf
Routed to Link 5L : Outfall A

Routing by Stor-Ind method, Time Span= 0.00-40.00 hrs, dt= 0.05 hrs
Peak Elev= 6.39' @ 12.07 hrs Surf.Area= 1,684 sf Storage= 10,754 cf

Plug-Flow detention time=177.0 min calculated for 24,472 cf (100% of inflow)
Center-of-Mass det. time=177.5 min (966.0 - 788.5)

Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	16,840 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
0.00	1,684	0	0
10.00	1,684	16,840	16,840

Device	Routing	Invert	Outlet Devices
#1	Primary	0.00'	3.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#2	Primary	5.56'	24.0" W x 6.0" H Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=4.00 cfs @ 12.07 hrs HW=6.32' (Free Discharge)
1=Orifice/Grate (Orifice Controls 0.59 cfs @ 11.99 fps)
2=Orifice/Grate (Orifice Controls 3.41 cfs @ 3.41 fps)

Summary for 10-Year Outflow to Vault

Inflow Area = 120,226 sf, 72.83%Impervious, Inflow Depth =4.39" for 10-year event
Inflow = 19.71 cfs @ 11.95 hrs , Volume= 44,027 cf
Outflow = 9.96 cfs @ 12.05 hrs , Volume= 44,025 cf , Atten= 49%, Lag= 5.9 min
Primary = 9.96 cfs @ 12.05 hrs , Volume= 44,025 cf
Routed to Link 5L : Outfall A

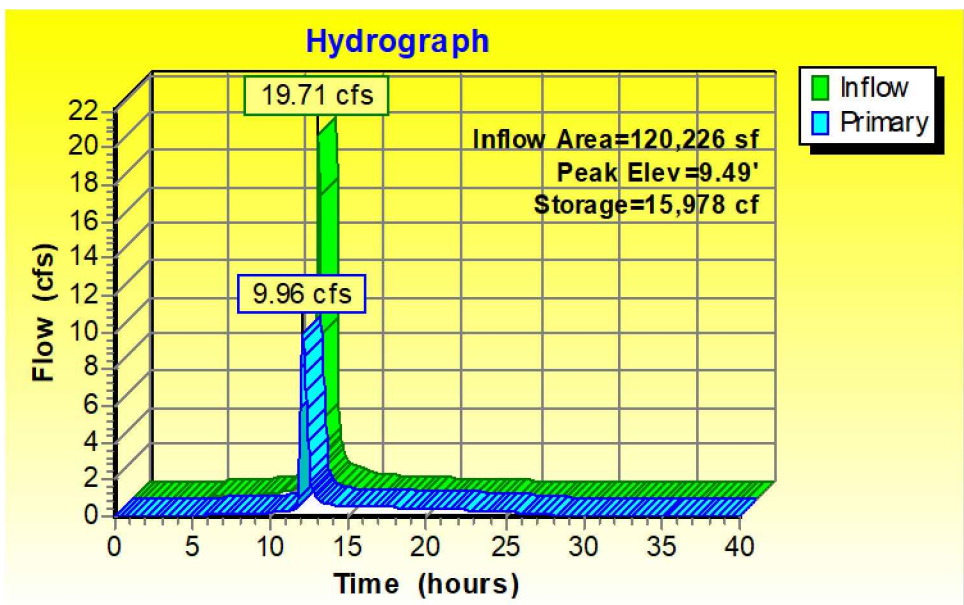
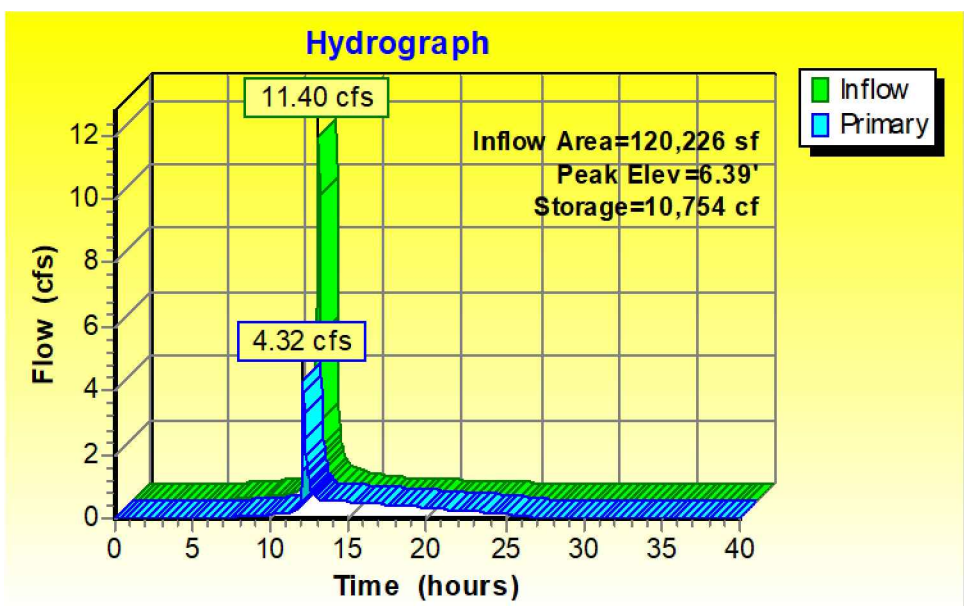
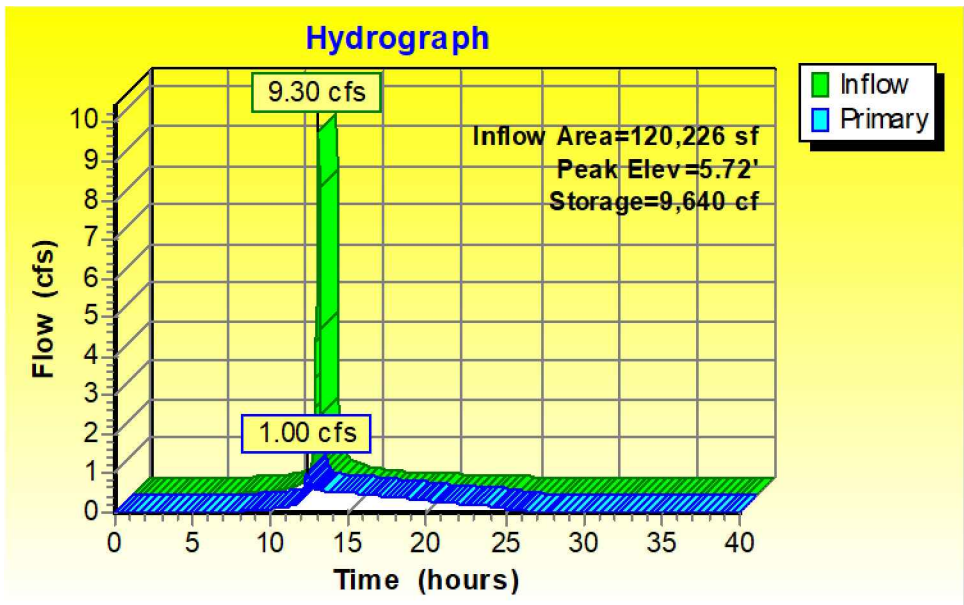
Routing by Stor-Ind method, Time Span= 0.00-40.00 hrs, dt= 0.05 hrs
Peak Elev= 9.49' @ 12.05 hrs Surf.Area= 1,684 sf Storage= 15,978 cf

Plug-Flow detention time=137.3 min calculated for 43,970 cf (100% of inflow)
Center-of-Mass det. time=137.8 min (910.6 - 772.7)

Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	16,840 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
0.00	1,684	0	0
10.00	1,684	16,840	16,840

Device	Routing	Invert	Outlet Devices
#1	Primary	0.00'	3.0" Vert. Orifice/GrateC= 0.600 Limited to weir flow at low heads
#2	Primary	5.56'	24.0" W x 6.0" H Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads

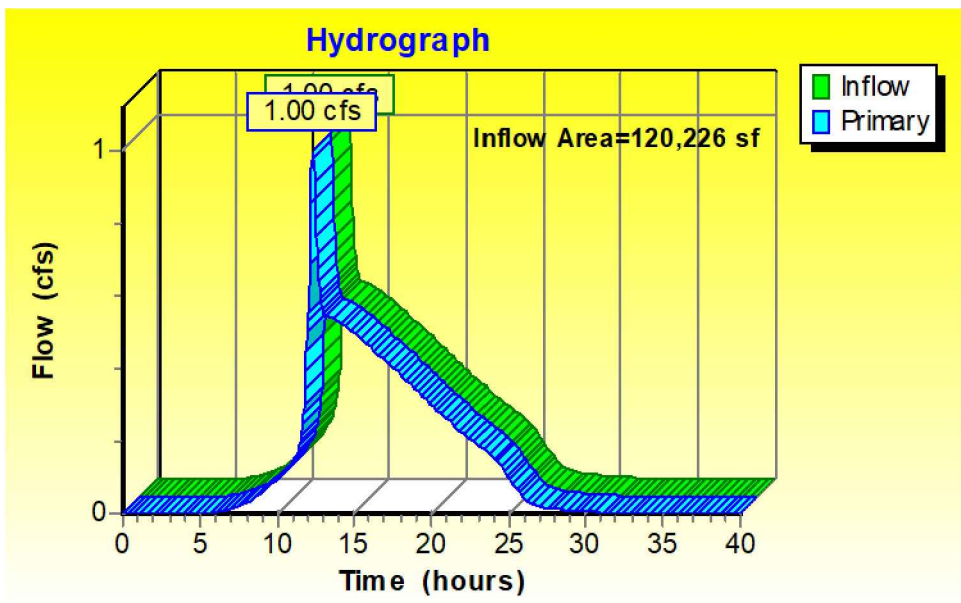
Primary OutFlow Max=9.95 cfs @ 12.05 hrs HW=9.48' (Free Discharge)
1=Orifice/Grate (Orifice Controls 0.72 cfs @ 14.73 fps)
2=Orifice/Grate (Orifice Controls 9.21 cfs @ 9.22 fps)



1-Year Study Point Summary

Inflow Area = 120,226 sf, 74.13%Impervious, Inflow Depth =1.97" for 1-year event
Inflow = 1.00 cfs@ 12.32 hrs Volume= 19,720 cf
Primary = 1.00 cfs@ 12.32 hrs Volume= 19,720 cf, Atten= 0%, Lag= 0.0 min

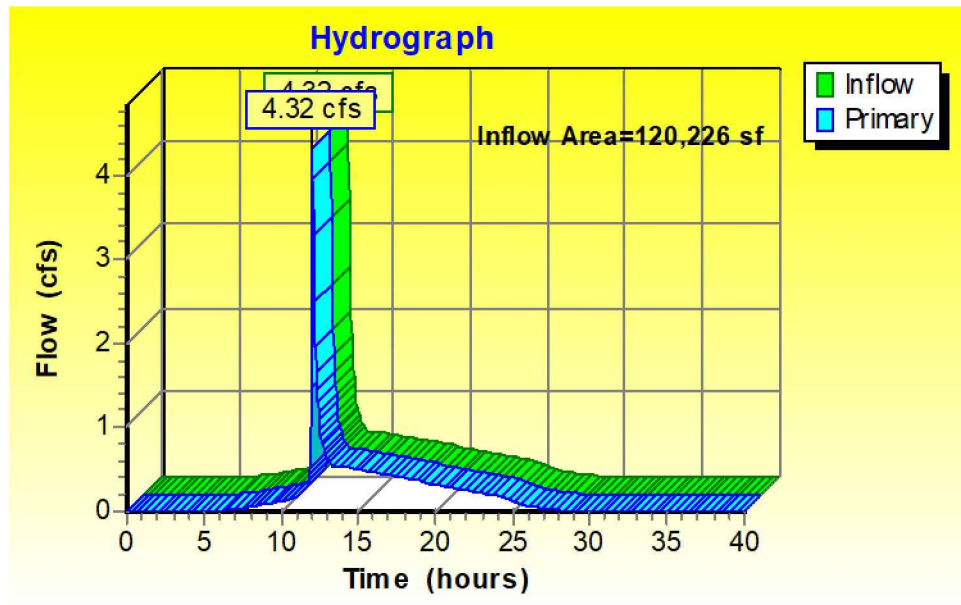
Primary outflow = Inflow, Time Span= 0.00-40.00 hrs, dt= 0.05 hrs



2-Year Study Point Summary

Inflow Area = 120,226 sf, 72.83%Impervious, Inflow Depth =2.45" for 2-year event
Inflow = 4.32 cfs@ 12.07 hrs, Volume= 24,503 cf
Primary = 4.32 cfs@ 12.07 hrs, Volume= 24,503 cf, Atten= 0%, Lag= 0.0 min

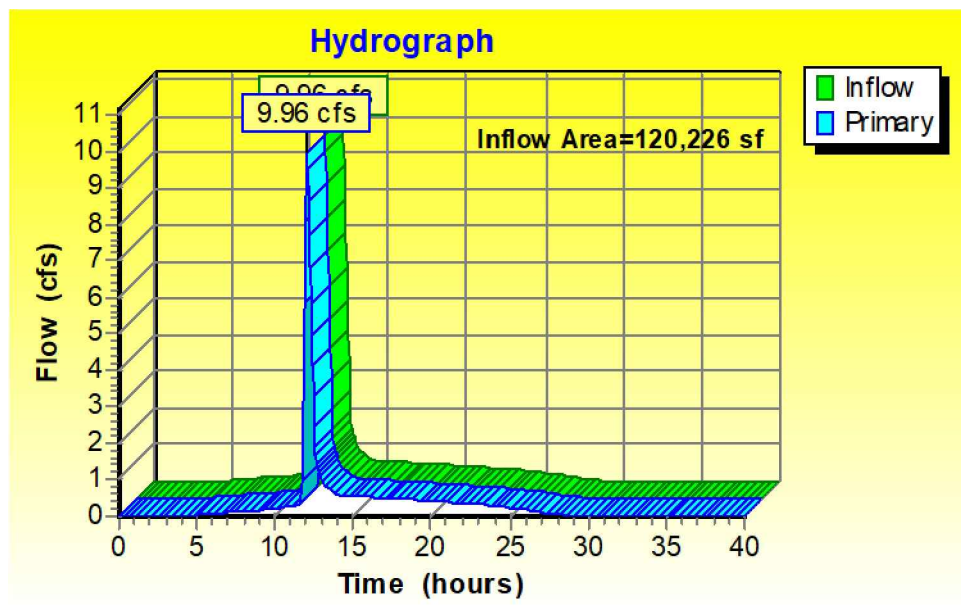
Primary outflow = Inflow, Time Span= 0.00-40.00 hrs, dt= 0.05 hrs



10-Year Study Point Summary

Inflow Area = 120,226 sf, 72.83%Impervious, Inflow Depth =4.39" for 10-year event
Inflow = 9.96 cfs @ 12.05 hrs , Volume= 44,025 cf
Primary = 9.96 cfs @ 12.05 hrs , Volume= 44,025 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-40.00 hrs, dt= 0.05 hrs



SWM POST-DEVELOPMENT COMPS

4131 CHAIN BRIDGE ROAD
REZONING CDP-GDP

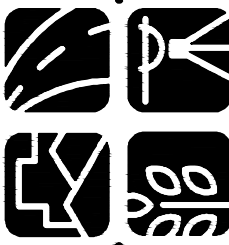
CITY OF FAIRFAX, VIRGINIA

SCALE: N/A

DATE: APRIL, 2016

SHEET
11
OF
26

FILE No.
RZ-12787



urban[™]

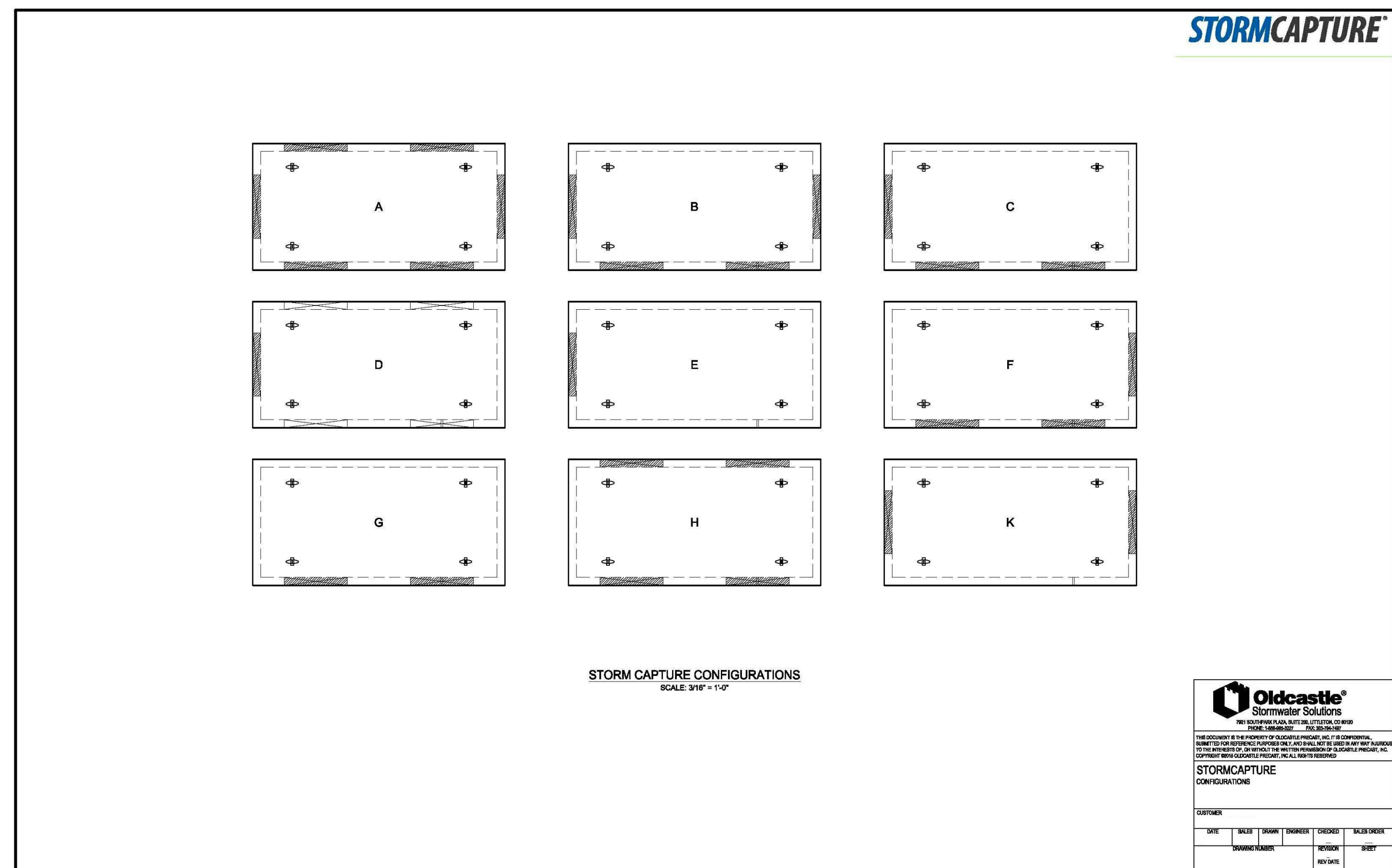
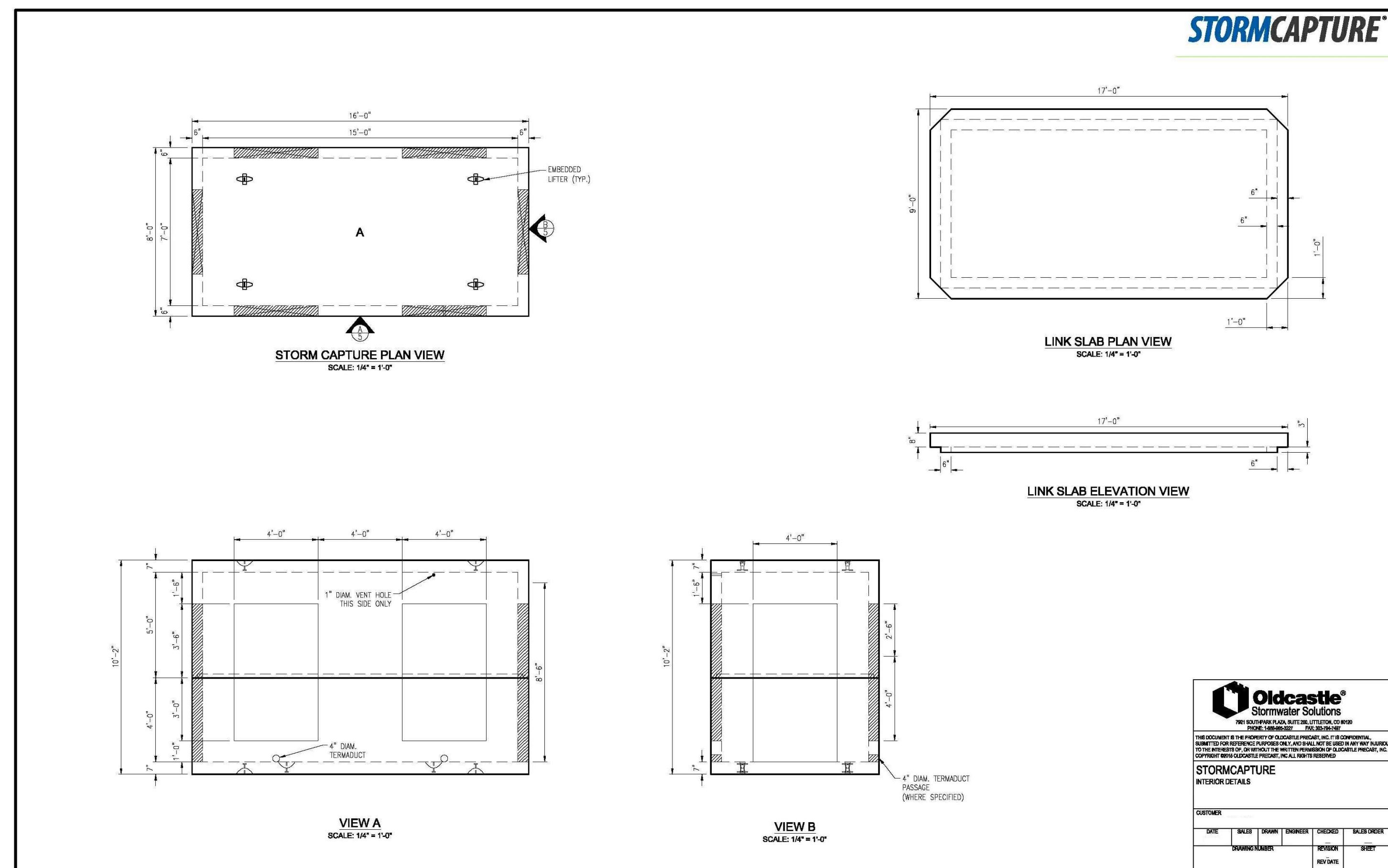
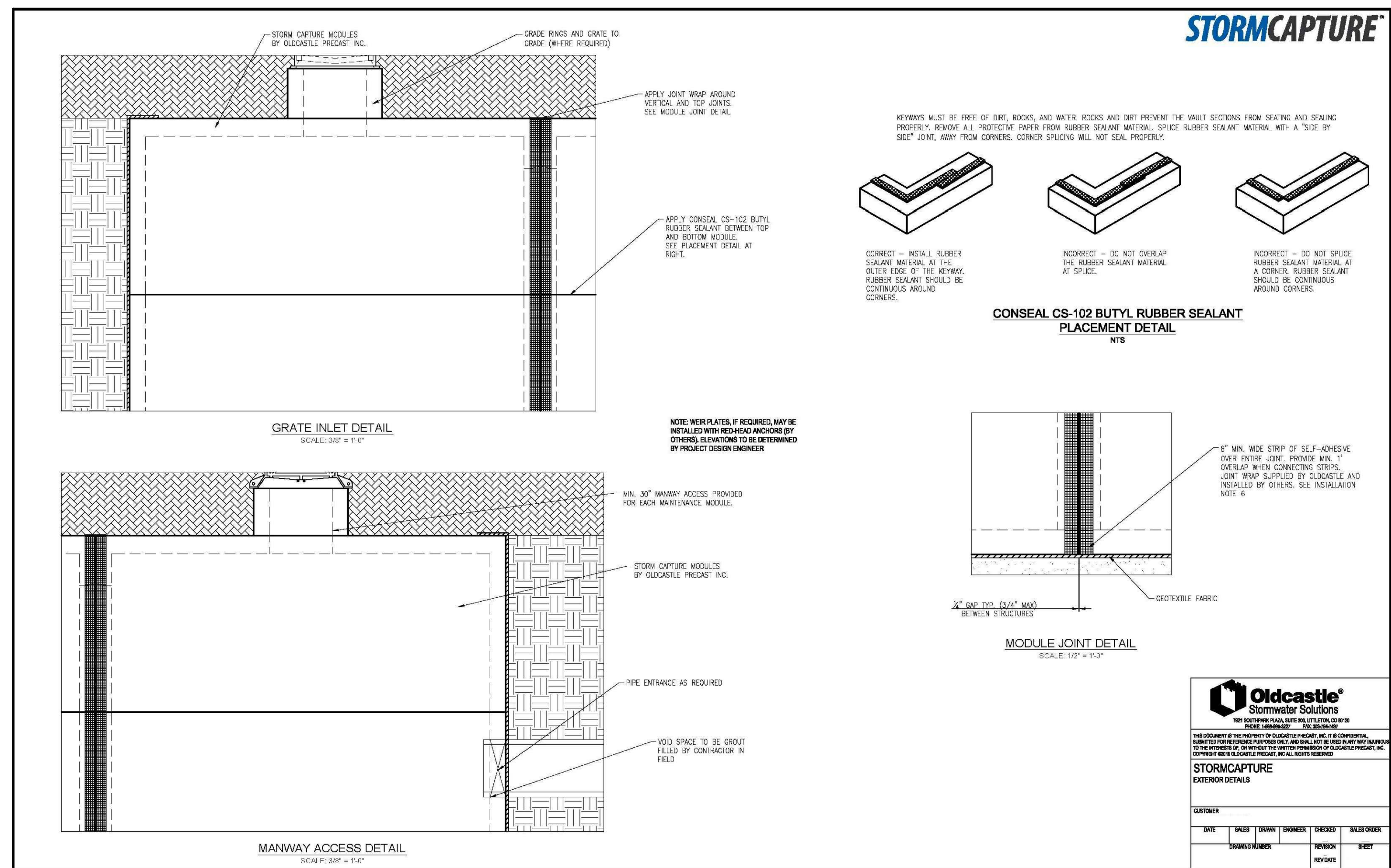
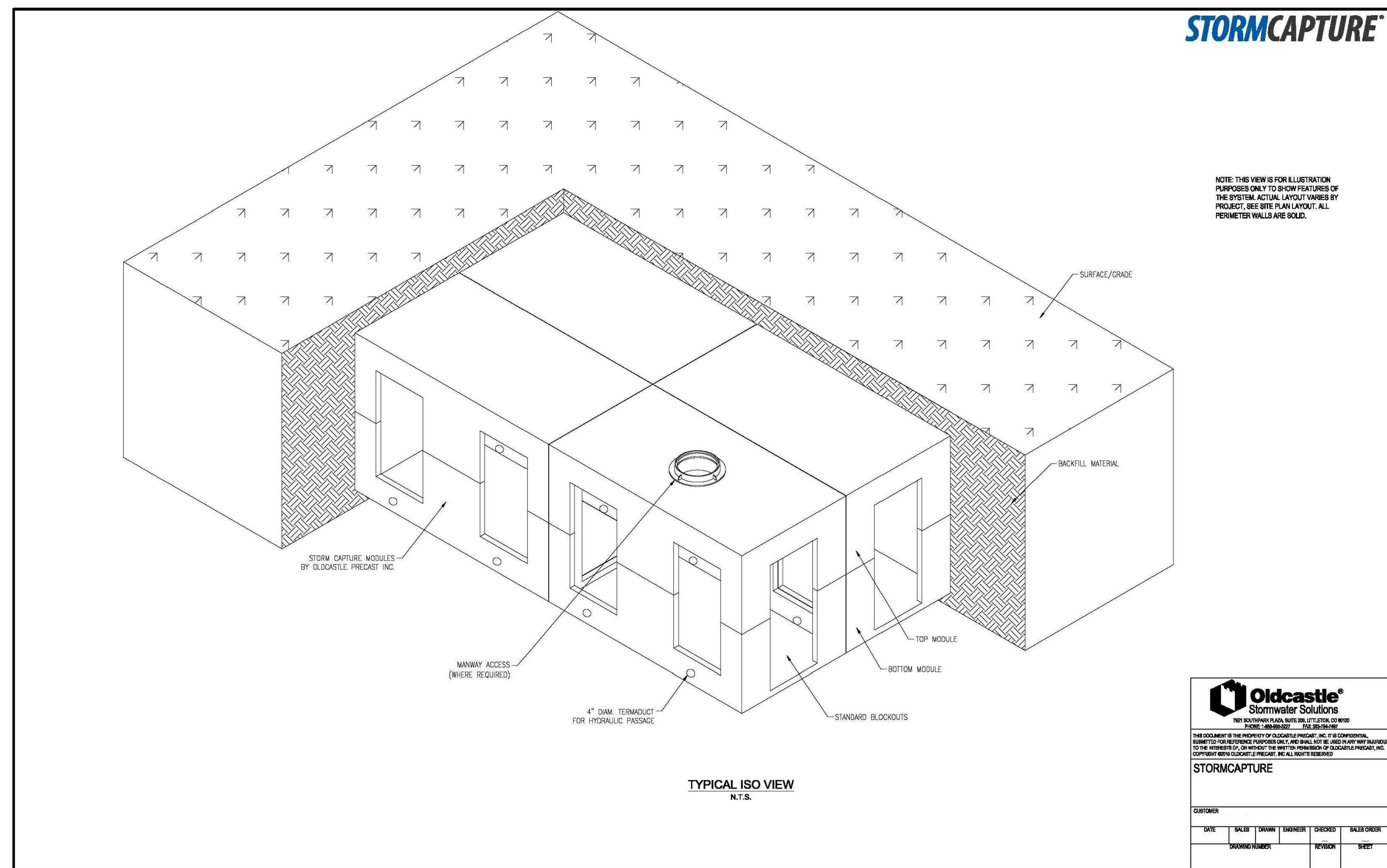
Planners+Engineers+Landscape Architects+Land Services

Urban, Ltd.
4300 D TECHNOLOGY CT.
CHANTILLY, VA, 20151
TEL: 703.642.2306
FAX: 703.642.2308
www.urban-llc.com

PLAN DATE	DESCRIPTION
05-04-2016	
01-22-2019	
06-11-2024	
09-03-2024	

No.	DATE	DESCRIPTION	REVISIONS

POSSIBLE SWM VAULT STANDARD DETAILS (OR APPROVED EQUAL)



NOTE:
ALL STORMWATER MANAGEMENT FACILITIES SHALL BE SELECTED & FINAL ENGINEERED AT TIME OF FINAL SITE PLAN. APPLICANT RESERVES THE RIGHT TO SELECT ALTERNATE FACILITY TYPES EQUIVALENT TO THE DETAILS PROVIDED ON THIS SHEET.

NOTE:
FINAL DETAILS OF VAULT GEOMETRY, SIZE
AND CONTROL STRUCTURES SHALL BE
DETERMINED AT THE TIME OF SITE PLAN.

[illegible]

Urban, Ltd. - J:\085\4131 Chain Bridge Rd\Rezoning\12787-21-swmm-bmp-POST.dwg [post bmp comps and details] September 03, 2024 -- 1:28pm caronsberg

Project Name:

4131 Chain Bridge Road

Date:

Apr-24

Linear Development Project?

No

CLEAR ALL
(Ctrl+Shift+R)

data input cells

constant values

calculation cells

final results

Site Information

Post-Development Project (Treatment Volume and Loads)

Enter Total Disturbed Area (acres) → 2.73

Maximum reduction required:	20%
The site's net increase in impervious cover (acres) is:	1.47
Post-Development TP Load Reduction for Site (lb/yr):	2.89

Check:

BMP Design Specifications List: 2011 Stds & Specs

Linear project? No

Land cover areas entered correctly? ✓

Total disturbed area entered? ✓

Pre-ReDevelopment Land Cover (acres)	A Soils	B Soils	C Soils	D Soils	Totals
Forest/Open Space (acres) -- undisturbed, protected forest/open space or reforested	0.00	0.00	0.00	0.00	0.00
Managed Turf (acres) -- disturbed, graded for yards or other turf to be	0.00	0.00	2.11	0.11	2.22
Impervious Cover (acres)	0.00	0.00	0.45	0.09	0.54
					2.76

Post-Development Land Cover (acres)	A Soils	B Soils	C Soils	D Soils	Totals
Forest/Open Space (acres) -- undisturbed, protected forest/open space or reforested	0.00	0.00	0.00	0.00	0.00
Managed Turf (acres) -- disturbed, graded for yards or other turf to be	0.00	0.00	0.69	0.06	0.75
Impervious Cover (acres)	0.00	0.00	1.87	0.14	2.01
Area Check	OK.	OK.	OK.	OK.	2.76

Constants	
Annual Rainfall (inches)	43
Target Rainfall Event (inches)	1.00
Total Phosphorus (TP) EMC (mg/L)	0.26
Total Nitrogen (TN) EMC (mg/L)	1.86
Target TP Load (lb/acre/yr)	0.41
Pj (unitless correction factor)	0.90

Runoff Coefficients (Rv)	A Soils	B Soils	C Soils	D Soils
Forest/Open Space	0.02	0.03	0.04	0.05
Managed Turf	0.15	0.20	0.22	0.25
Impervious Cover	0.95	0.95	0.95	0.95

LAND COVER SUMMARY -- PRE-REDEVELOPMENT		
Land Cover Summary-Pre		
Pre-ReDevelopment	Listed	Adjusted ¹
Forest/Open Space Cover (acres)	0.00	0.00
Weighted Rv(forest)	0.00	0.00
% Forest	0%	0%
Managed Turf Cover (acres)	2.22	0.75
Weighted Rv(turf)	0.22	0.22
% Managed Turf	80%	58%
Impervious Cover (acres)	0.54	0.54
Rv(impervious)	0.95	0.95
% Impervious	20%	42%
Total Site Area (acres)	2.76	1.29
Site Rv	0.36	0.53

Treatment Volume and Nutrient Load		
Pre-ReDevelopment Treatment Volume (acre-ft)	0.0837	0.0567
Pre-ReDevelopment Treatment Volume (cubic feet)	3,647	2,468
Pre-ReDevelopment TP Load (lb/yr)	2.29	1.55
Pre-ReDevelopment TP Load per acre (lb/acre/yr)	0.83	1.20
Baseline TP Load (lb/yr) (0.41 lbs/acre/yr applied to pre-redevelopment area excluding pervious land proposed for new impervious cover)		0.53

LAND COVER SUMMARY -- POST DEVELOPMENT			
Land Cover Summary-Post (Final)		Land Cover Summary-Post	
Post ReDev. & New Impervious		Post-ReDevelopment	
Forest/Open Space Cover (acres)	0.00	Forest/Open Space Cover (acres)	0.00
Weighted Rv(forest)	0.00	Weighted Rv(forest)	0.00
% Forest	0%	% Forest	0%
Managed Turf Cover (acres)	0.75	Managed Turf Cover (acres)	0.75
Weighted Rv (turf)	0.22	Weighted Rv (turf)	0.22
% Managed Turf	27%	% Managed Turf	58%
Impervious Cover (acres)	2.01	ReDev. Impervious Cover (acres)	0.54
Rv(impervious)	0.95	Rv(impervious)	0.95
% Impervious	73%	% Impervious	42%
Final Site Area (acres)	2.76	Total ReDev. Site Area (acres)	1.29
Final Post Dev Site Rv	0.75	ReDev Site Rv	0.53

Treatment Volume and Nutrient Load			
Final Post-Development Treatment Volume (acre-ft)	0.1730	Post-ReDevelopment Treatment Volume (acre-ft)	0.0567
Final Post-Development Treatment Volume (cubic feet)	7,537	Post-ReDevelopment Treatment Volume (cubic feet)	2,468
Final Post-Development TP Load (lb/yr)	4.74	Post-ReDevelopment Load (TP) (lb/yr)*	1.55
Final Post-Development TP Load per acre (lb/acre/yr)	1.72	Post-ReDevelopment TP Load per acre (lb/acre/yr)	1.20
		Max. Reduction Required (Below Pre-ReDevelopment Load)	20%

TP Load Reduction Required for Redeveloped Area (lb/yr)	0.31	TP Load Reduction Required for New Impervious Area (lb/yr)	2.58
---	------	--	------

¹ Adjusted Land Cover Summary:
Pre ReDevelopment land cover minus pervious land cover (forest/open space or managed turf) acreage proposed for new impervious cover.

Adjusted total acreage is consistent with Post-ReDevelopment acreage (minus acreage of new impervious cover).

Column I shows load reduction requirement for new impervious cover (based on new development load limit, 0.41 lbs/acre/year).

Post-Development Requirement for Site Area	
TP Load Reduction Required (lb/yr)	2.89
Nitrogen Loads (Informational Purposes Only)	
Pre-ReDevelopment TN Load (lb/yr)	16.39
Final Post-Development TN Load (Post-ReDevelopment & New Impervious) (lb/yr)	33.88

Drainage Area A

Drainage Area A Land Cover (acres)					
	A Soils	B Soils	C Soils	D Soils	Totals
Forest/Open Space (acres)	0.00	0.00	0.00	0.00	0.00
Managed Turf (acres)	0.00	0.00	0.69	0.06	0.75
Impervious Cover (acres)	0.00	0.00	1.87	0.14	2.01
Total					2.76

CLEAR BMP AREAS

Total Phosphorus Available for Removal in D.A. A (lb/yr)	4.74
Post Development Treatment Volume in D.A. A (ft ³)	7,537

Stormwater Best Management Practices (RR = Runoff Reduction)

--Select from dropdown lists-

Practice	Runoff Reduction Credit (%)	Managed Turf Credit Area (acres)	Impervious Cover Credit Area (acres)	Volume from Upstream Practice (ft ³)	Runoff Reduction (ft ³)	Remaining Runoff Volume (ft ³)	Total BMP Treatment Volume (ft ³)	Phosphorus Removal Efficiency (%)	Phosphorus Load from Upstream Practices (lb)	Untreated Phosphorus Load to Practice (lb)	Phosphorus Removed by Practice (lb)	Remaining Phosphorus Load (lb)	Downstream Practice to be Employed
14. Manufactured Treatment Devices (no RR)													
14.a. Manufactured Treatment Device- Hydrodynamic	0	0.75	2.01	0	0	7,537	7,537	40	0.00	4.73	1.89	2.84	14.b. MTD - Filtering

TOTAL IMPERVIOUS COVER TREATED (ac) 2.01 AREA CHECK: OK.
TOTAL MANAGED TURF AREA TREATED (ac) 0.75 AREA CHECK: OK.

TOTAL PHOSPHORUS REMOVAL REQUIRED ON SITE (lb/yr) 2.89

TOTAL PHOSPHORUS AVAILABLE FOR REMOVAL IN D.A. A (lb/yr) 4.74
TOTAL PHOSPHORUS REMOVED WITHOUT RUNOFF REDUCTION PRACTICES IN D.A. A (lb/yr) 3.03
TOTAL PHOSPHORUS REMOVED WITH RUNOFF REDUCTION PRACTICES IN D.A. A (lb/yr) 0.00
TOTAL PHOSPHORUS LOAD REDUCTION ACHIEVED IN D.A. A (lb/yr) 3.03
TOTAL PHOSPHORUS REMAINING AFTER APPLYING BMP LOAD REDUCTIONS IN D.A. A (lb/yr) 1.71

SEE WATER QUALITY COMPLIANCE TAB FOR SITE COMPLIANCE CALCULATIONS

NITROGEN REMOVED WITH RUNOFF REDUCTION PRACTICES IN D.A. A (lb/yr) 0.00
NITROGEN REMOVED WITHOUT RUNOFF REDUCTION PRACTICES IN D.A. A (lb/yr) 0.00
TOTAL NITROGEN REMOVED IN D.A. A (lb/yr) 0.00

Site Results (Water Quality Compliance)

Area Checks	D.A. A	D.A. B	D.A. C	D.A. D	D.A. E	AREA CHECK
FOREST/OPEN SPACE (ac)	0.00	0.00	0.00	0.00	0.00	OK.
IMPERVIOUS COVER (ac)	2.01	0.00	0.00	0.00	0.00	OK.
IMPERVIOUS COVER TREATED (ac)	2.01	0.00	0.00	0.00	0.00	OK.
MANAGED TURF AREA (ac)	0.75	0.00	0.00	0.00	0.00	OK.
MANAGED TURF AREA TREATED (ac)	0.75	0.00	0.00	0.00	0.00	OK.
AREA CHECK	OK.	OK.	OK.	OK.	OK.	

Site Treatment Volume (ft³) 7,537

Runoff Reduction Volume and TP By Drainage Area

	D.A. A	D.A. B	D.A. C	D.A. D	D.A. E	TOTAL
RUNOFF REDUCTION VOLUME ACHIEVED (ft ³)	0	0	0	0	0	0
TP LOAD AVAILABLE FOR REMOVAL (lb/yr)	4.74	0.00	0.00	0.00	0.00	4.74
TP LOAD REDUCTION ACHIEVED (lb/yr)	3.03	0.00	0.00	0.00	0.00	3.03
TP LOAD REMAINING (lb/yr)	1.71	0.00	0.00	0.00	0.00	1.71
NITROGEN LOAD REDUCTION ACHIEVED (lb/yr)	0.00	0.00	0.00	0.00	0.00	0.00

Total Phosphorus
FINAL POST-DEVELOPMENT TP LOAD (lb/yr) 4.74
TP LOAD REDUCTION REQUIRED (lb/yr) 2.89
TP LOAD REDUCTION ACHIEVED (lb/yr) 3.03
TP LOAD REMAINING (lb/yr) 1.71
REMAINING TP LOAD REDUCTION REQUIRED (lb/yr): 0.00 **
** TARGET TP REDUCTION EXCEEDED BY 0.13 LB/YEAR **

Total Nitrogen (For Information Purposes)
POST-DEVELOPMENT LOAD (lb/yr) 33.88
NITROGEN LOAD REDUCTION ACHIEVED (lb/yr) 0.00
REMAINING POST-DEVELOPMENT NITROGEN LOAD (lb/yr) 33.88

NOTE:
ALL STORMWATER MANAGEMENT FACILITIES SHALL BE SELECTED & FINAL ENGINEERED AT TIME OF FINAL SITE PLAN. APPLICANT RESERVES THE RIGHT TO SELECT ALTERNATE FACILITY TYPES EQUIVALENT TO THE DETAILS PROVIDED ON THIS SHEET.

NOTE:
FINAL DETAILS OF VAULT GEOMETRY, SIZE AND CONTROL STRUCTURES SHALL BE DETERMINED AT THE TIME OF SITE PLAN.

BMP NARRATIVE:
THIS PLAN PROPOSES A MULTIFAMILY DWELLING WITH AN ASSOCIATED GARAGE PARKING. THE RESULT OF THE IMPROVEMENTS IS AN INCREASE OF APPROXIMATELY 1.52 AC OF IMPERVIOUS AREA WITHIN THE SUBJECT PROPERTY. PER THE VIRGINIA RUNOFF REDUCTION METHOD (VRRM) REDEVELOPMENT REQUIREMENTS, A COMBINATION OF PROPOSED BMP FACILITIES SHALL PROVIDE A MINIMUM OF 20% REDUCTION IN TOTAL PHOSPHOROUS RUNOFF.

BMP REQUIREMENTS FOR THIS SITE MAY INCLUDE BUT ARE NOT LIMITED TO: BELOW GRADE STORM FILTERS AND JELLYFISH FILTERS. PLEASE SEE THIS SHEET FOR THE PRELIMINARY COMPUTATIONS WHICH SHOW THAT, BY TREATING ± 2.05 ACRES OF IMPERVIOUS AREA WITH VARIOUS TREATMENT METHODS, THE REQUIRED PHOSPHORUS REMOVAL CAN BE ACHIEVED.

THE PROPOSED BMP FACILITIES SHALL BE PRIVATELY MAINTAINED BY THE PROPERTY OWNER. VIRGINIA'S STORMWATER MANAGEMENT REGULATIONS REQUIRE INSPECTIONS TWICE A YEAR, AND AFTER ANY STORM EVENT THAT EXCEEDS THE CAPACITY OF THE FACILITY TO ENSURE THAT THE FACILITIES REMAIN OPERATIONAL. A DETAILED INSPECTION SHALL BE PERFORMED ANNUALLY BY A QUALIFIED PROFESSIONAL IN ORDER TO ENSURE THAT THE FACILITIES ARE OPERATIONAL AS DESIGNED, AND TO PROVIDE AN OPPORTUNITY TO SCHEDULE ANY MAINTENANCE THAT THE FACILITIES MAY REQUIRE.

PLAN DATE
05-04-2016
09-03-2024
09-03-2024
09-03-2024

Urban, Ltd.
4200 D TECHNOLOGY CT.
CHANTILLY, VA, 20151
TEL: 703.642.2366
FAX: 703.642.1888
www.urban-llc.com

Planners-Engineers-Landscape Architects-Land Services

BMP POST-DEVELOPMENT COMPS
4131 CHAIN BRIDGE ROAD
REZONING CDP-GDP
CITY OF FAIRFAX, VIRGINIA
SCALE: N/A

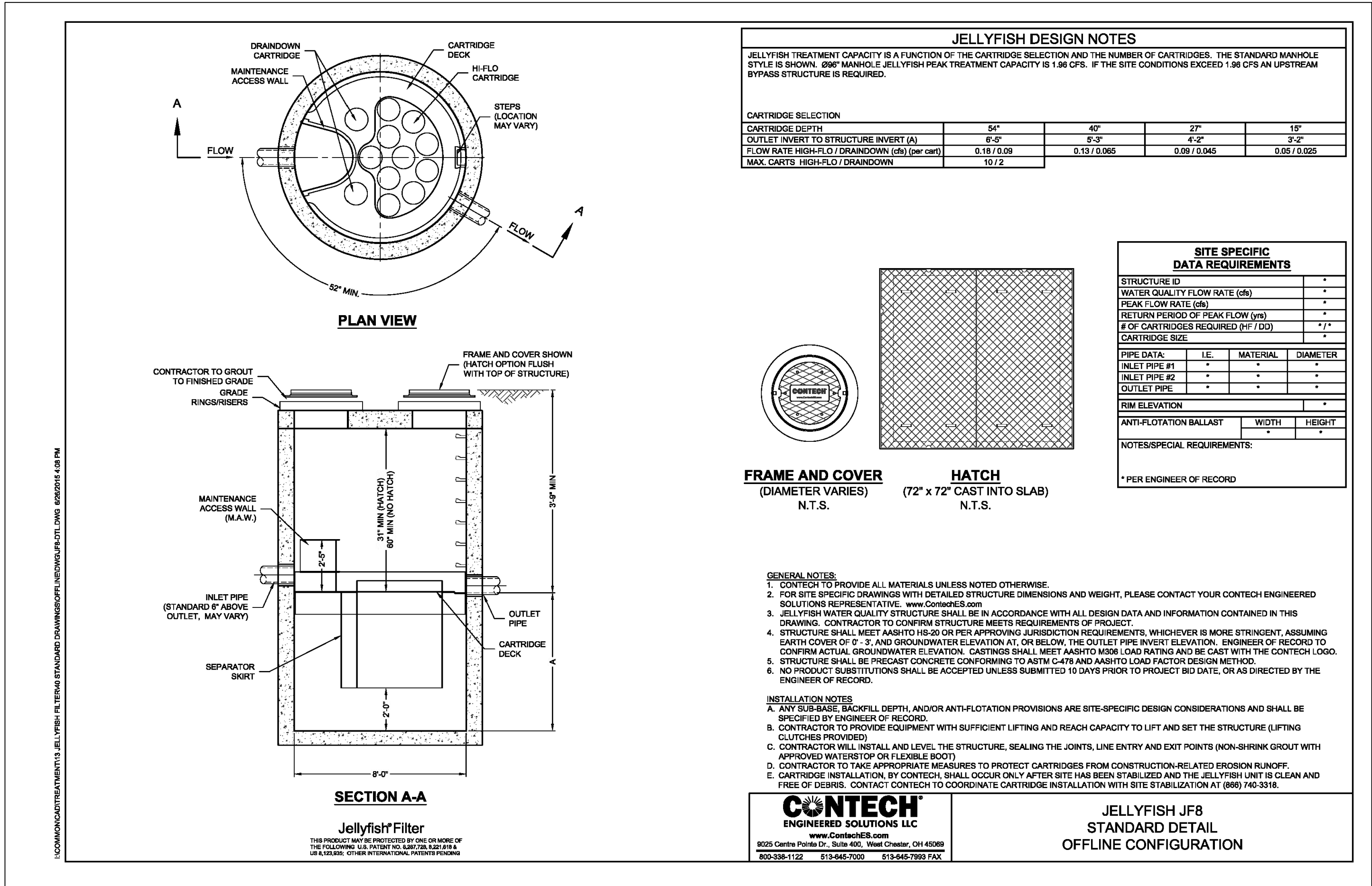
SHEET
13
OF
26
FILE No.
RZ-12787

DATE: APRIL, 2016
C.I.= N/A

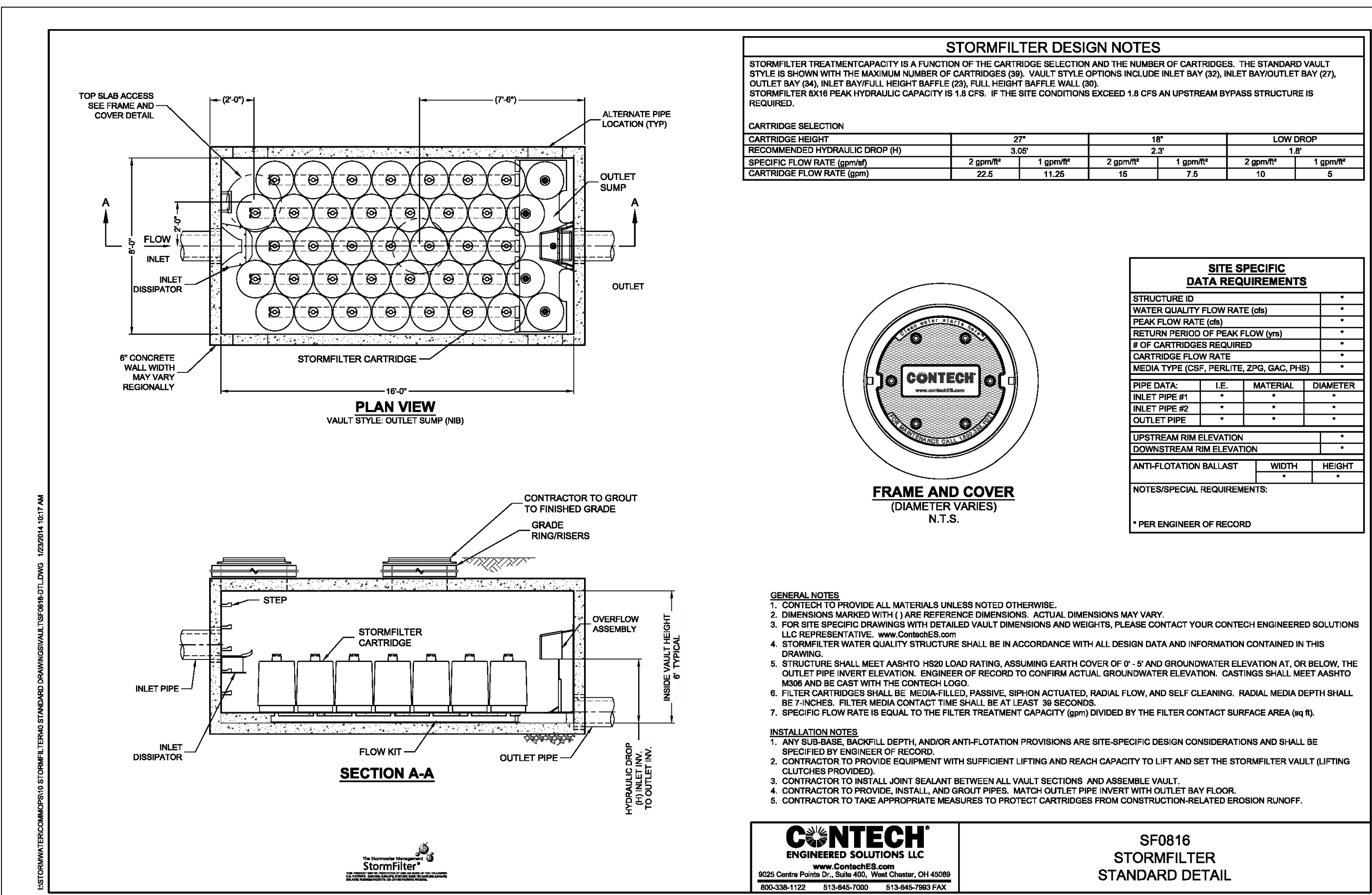
REVISIONS
No. DATE DESCRIPTION

Urban, Ltd. - J:\085\1131 Chain Bridge Rd\Rezoning\12787-21-swmm-bmp-POST.dwg [post bmp comps and details 2] September 03, 2024 - 1:28pm carnsberg

POSSIBLE JELLYFISH FILTER STANDARD DETAIL (OR APPROVED EQUAL)



POSSIBLE STORM FILTER STANDARD DETAIL (OR APPROVED EQUAL)



NOTE:

ALL STORMWATER MANAGEMENT FACILITIES SHALL BE SELECTED & FINAL ENGINEERED AT TIME OF FINAL SITE PLAN. APPLICANT RESERVES THE RIGHT TO SELECT ALTERNATE FACILITY TYPES EQUIVALENT TO THE DETAILS PROVIDED ON THIS SHEET.

NOTE:

FINAL DETAILS OF VAULT GEOMETRY, SIZE AND CONTROL STRUCTURES SHALL BE DETERMINED AT THE TIME OF SITE PLAN.

NOTE:

FINAL SIZING OF BMP STRUCTURES SHALL BE DETERMINED AT THE TIME OF SITE PLAN.

BMP POST-DEVELOPMENT DETAILS

4131 CHAIN BRIDGE ROAD
REZONING CDP-GDP

CITY OF FAIRFAX, VIRGINIA

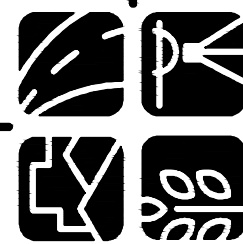
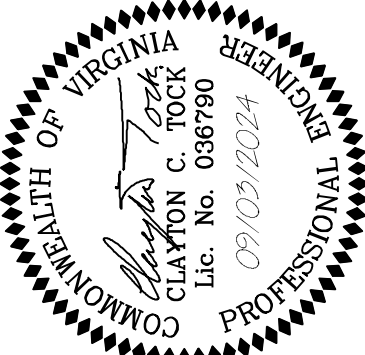
SCALE: AS NOTED

DATE: APRIL, 2016

C.I.= N/A

SHEET
14
OF
26

FILE No.
RZ-12787



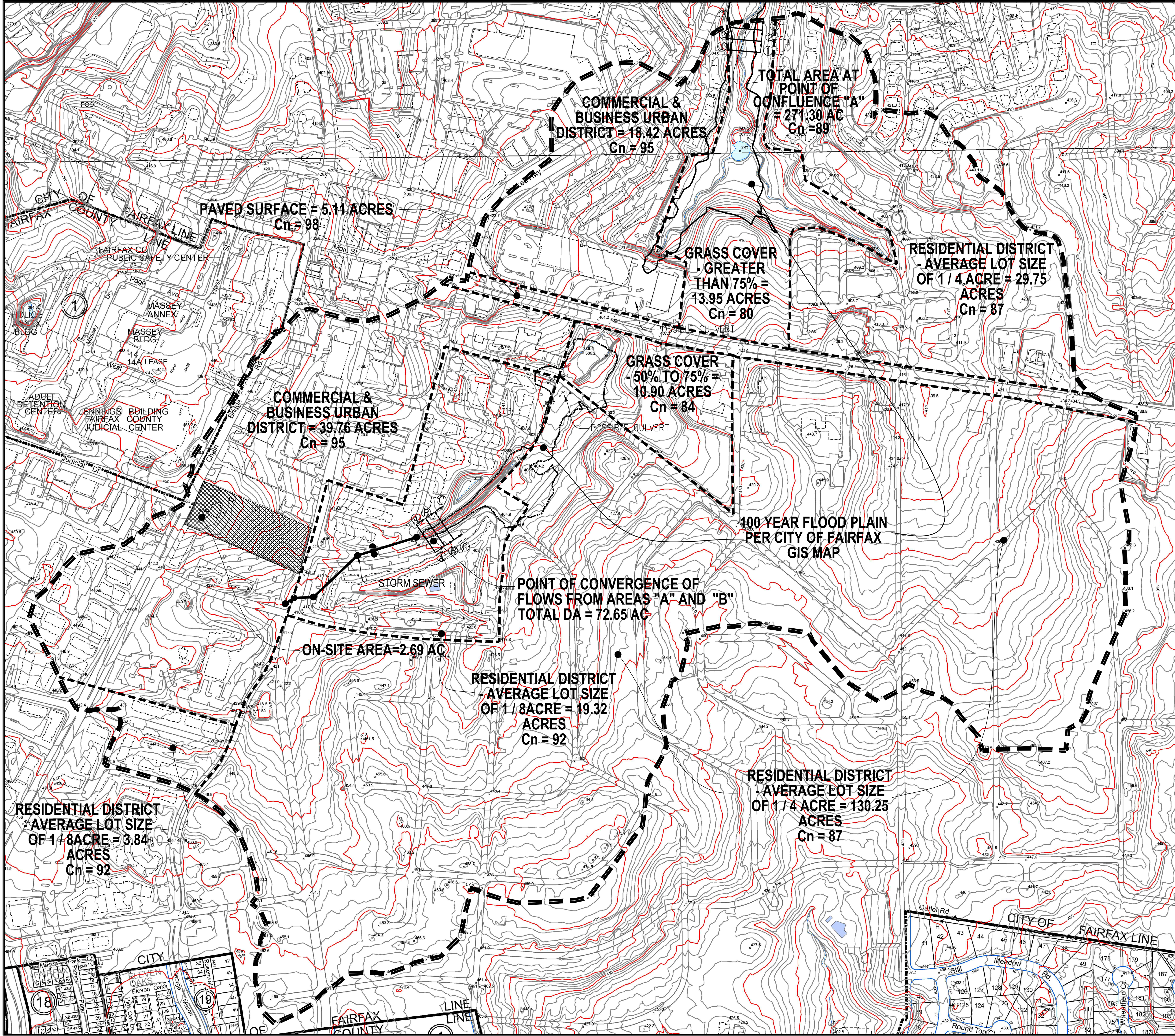
Urban, Ltd.
4300 D TECHNOLOGY CT.
CHANTILLY, VA, 20151
TEL: 703.642.2306
FAX: 703.642.2308
www.urban-llc.com

PLAN DATE

05-04-2016
03-22-2016
03-22-2016
06-11-2024
09-03-2024

DESCRIPTION
REVISIONS

No. DATE



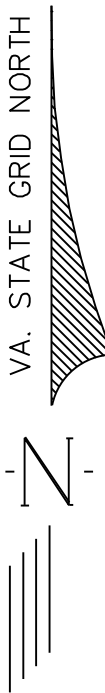
ADEQUATE OUTFALL ANALYSIS NARRATIVE:
THE SUBJECT SITE IS LOCATED BETWEEN CHAIN BRIDGE ROAD AND UNIVERSITY BOULEVARD. THE TOPOGRAPHY OF THE SITE CONSISTS OF ONE DRAINAGE AREA, WHICH DRAINS TO THE EAST TOWARDS UNIVERSITY BOULEVARD. STORMWATER RUNOFF IS COLLECTED BY STORM SEWER INLETS AND CONVEYED VIA AN UNDERGROUND STORM SEWER SYSTEM TO THE POINT OF CONVERGENCE, WHICH IS LOCATED INSIDE A 100 YEAR FLOOD PLAIN PER THE CITY OF FAIRFAX GIS MAP(SEE THIS SHEET FOR LOCATION).

AS SHOWN ON THE SWM ANALYSIS SHEETS, THE SITE HAS BEEN ENGINEERED TO REDUCE THE POST-DEVELOPMENT PEAK FLOWS FOR THE 1 YR , 2YR AND 10 YR 24-HR STORM FOR BOTH DRAINAGE AREAS. IN ACCORDANCE WITH SECTION 9VAC25-870-66.B.4o OF THE STORMWATER REGULATIONS "STORM CONVEYANCE SYSTEM SHALL BE ANALYZED FOR COMPLIANCE WITH CHANNEL PROTECTION CRITERIA TO A POINT WHERE BASED ON LAND AREA, THE SITE'S CONTRIBUTING DRAINAGE AREA IS LESS THAN OR EQUAL TO 1.0% OF THE TOTAL WATERSHED AREA". POINT OF CONFLUENCE "A" HAS BEEN DETERMINED TO SHOW COMPLIANCE WITH THIS SECTION SINCE THIS POINT RECEIVES A TOTAL OF 271.01 AC OF STORMWATER RUNOFF. THREE CROSS SECTIONS HAVE BEEN PROVIDED AT EVERY 50 FEET ON THIS SHEET AND VERIFIED THAT EXISTING CHANNEL WILL ADEQUATELY CONVEYED THE 2-YEAR VELOCITY AT THE POINT OF CONFLUENCE.

FURTHERMORE COMPLIANCE WITH FLOOD PROTECTION IS BASED ON SECTION 9VAC25-870-66.C WHERE "THE DOWNSTREAM LIMITS OF ANALYSIS SHALL BE ANALYZED TO A POINT WHERE STORMWATER CONVEYANCE SYSTEM ENTERS A MAPPED FLOODPLAIN OR OTHER FLOOD PRONE AREA, ADOPTED BY ORDINANCE, OF ANY LOCALITY". POINT OF CONFLUENCE "A" IS LOCATED INSIDE A MAPPED FLOOD PLAIN PER THE CITY OF FAIRFAX GIS MAP. THE THREE CROSS SECTIONS PROVIDED AT THIS POINT VERIFY THAT THE 10 YEAR WATER SURFACE ELEVATION WILL OVERTOP THE EMBANKMENT.

AS A PROFESSIONAL ENGINEER, IT IS THE OPINION OF URBAN ENGINEERING & ASSOCIATES, INC THAT AN ADEQUATE OUTFALL EXISTS FOR THIS SITE:

Clayton C. Tock
URBAN ENGINEERING & ASSOCIATES, INC. 09/03/2024
CLAYTON C. TOCK, P.E., SR. ASSOCIATE DATE



LEGEND

- 100 YEAR FLOOD PLAIN
- DIVIDE BETWEEN DISTRICTS
- DRAINAGE DIVIDE TO POINT OF CONFLUENCE
- SITE = 2.69AC

OUTFALL ANALYSIS

4131 CHAIN BRIDGE ROAD
REZONING CDP-GDP

CITY OF FAIRFAX, VIRGINIA

DATE: APRIL, 2016

SCALE: 1"=200'

C.I.= 2'

PLAN DATE

05-04-2016	06-11-2024
06-11-2024	09-03-2024

Urban Ltd.
4200 D TECHNOLOGY CT.
CHANTILLY, VA. 20151
TEL: 703.642.2306
FAX: 703.642.2308
www.urban-llc.com

Planners-Engineers-Landscape Architects-Land Surveyors

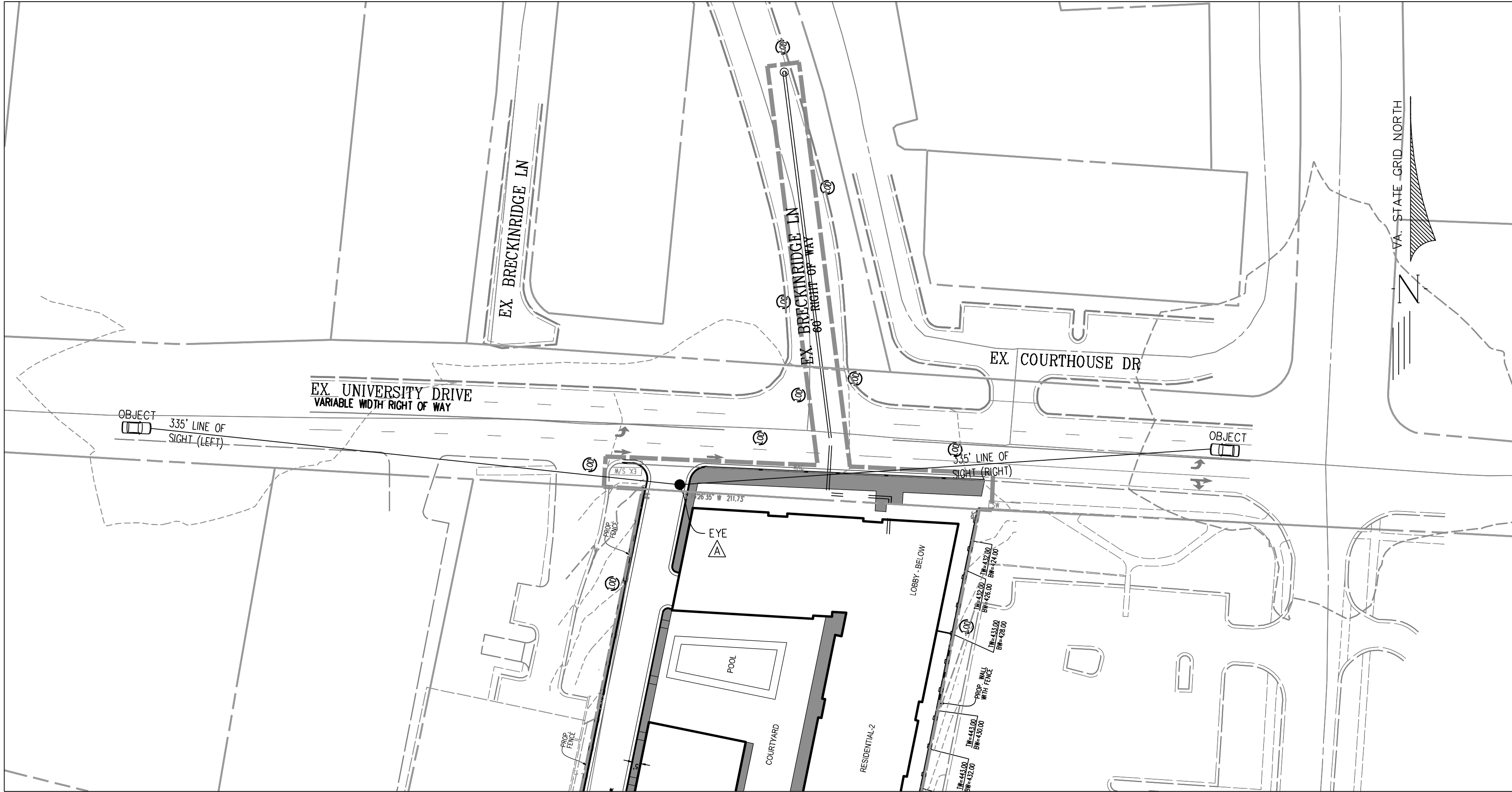
REVISIONS

No.	DATE	DESCRIPTION

SHEET
15
OF
26

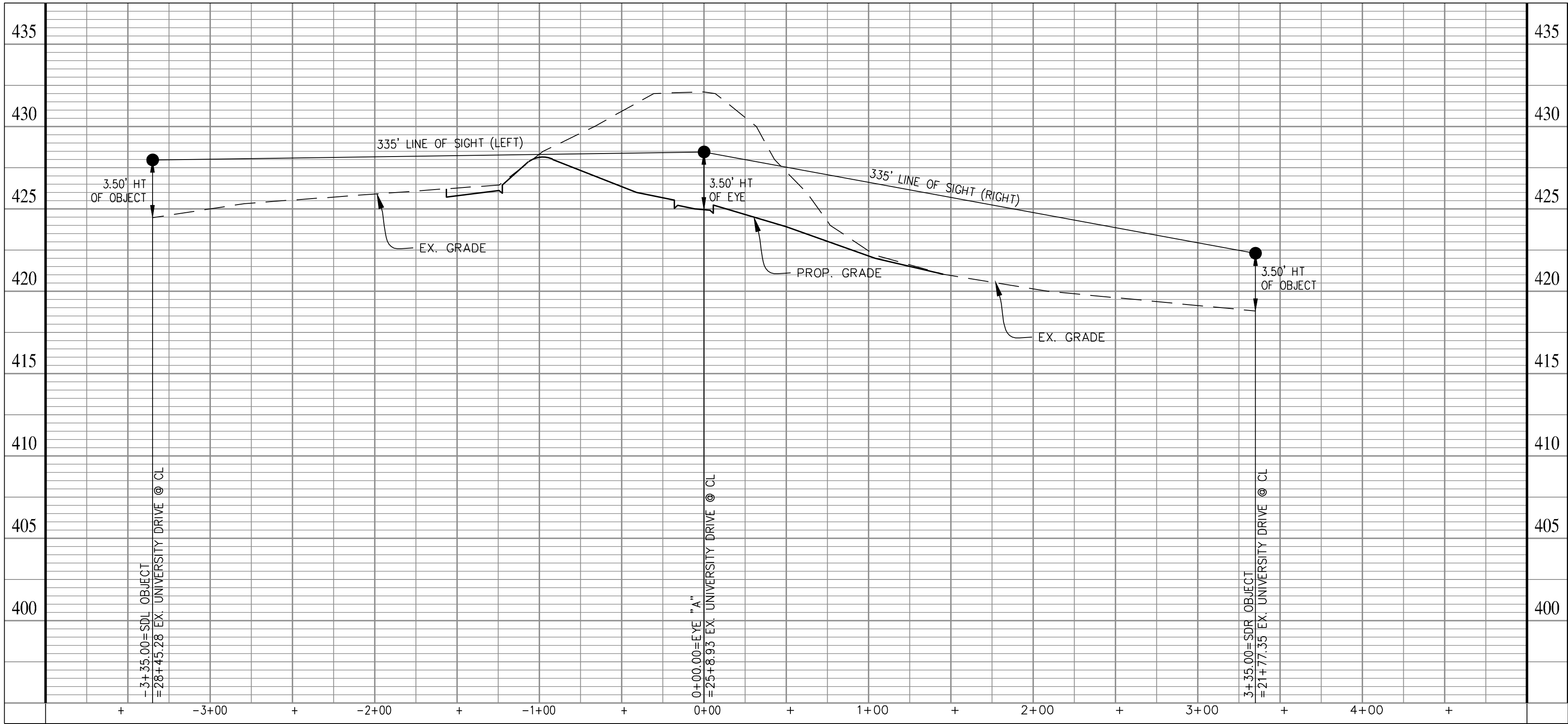
FILE No.
RZ-12787

Urban, Ltd. - J:\085\4131 Chain Bridge Rd\Rezoning\12787-31-SIGHT Dwg [SIGHT D-B &C] September 03, 2024 - 1:29pm aaronberg



SIGHT DISTANCE PROFILE
MAIN ENTRANCE ON UNIVERSITY DRIVE

EYE "A"
POSTED SPEED = 25 MPH
DESIGN SPEED = 30 MPH

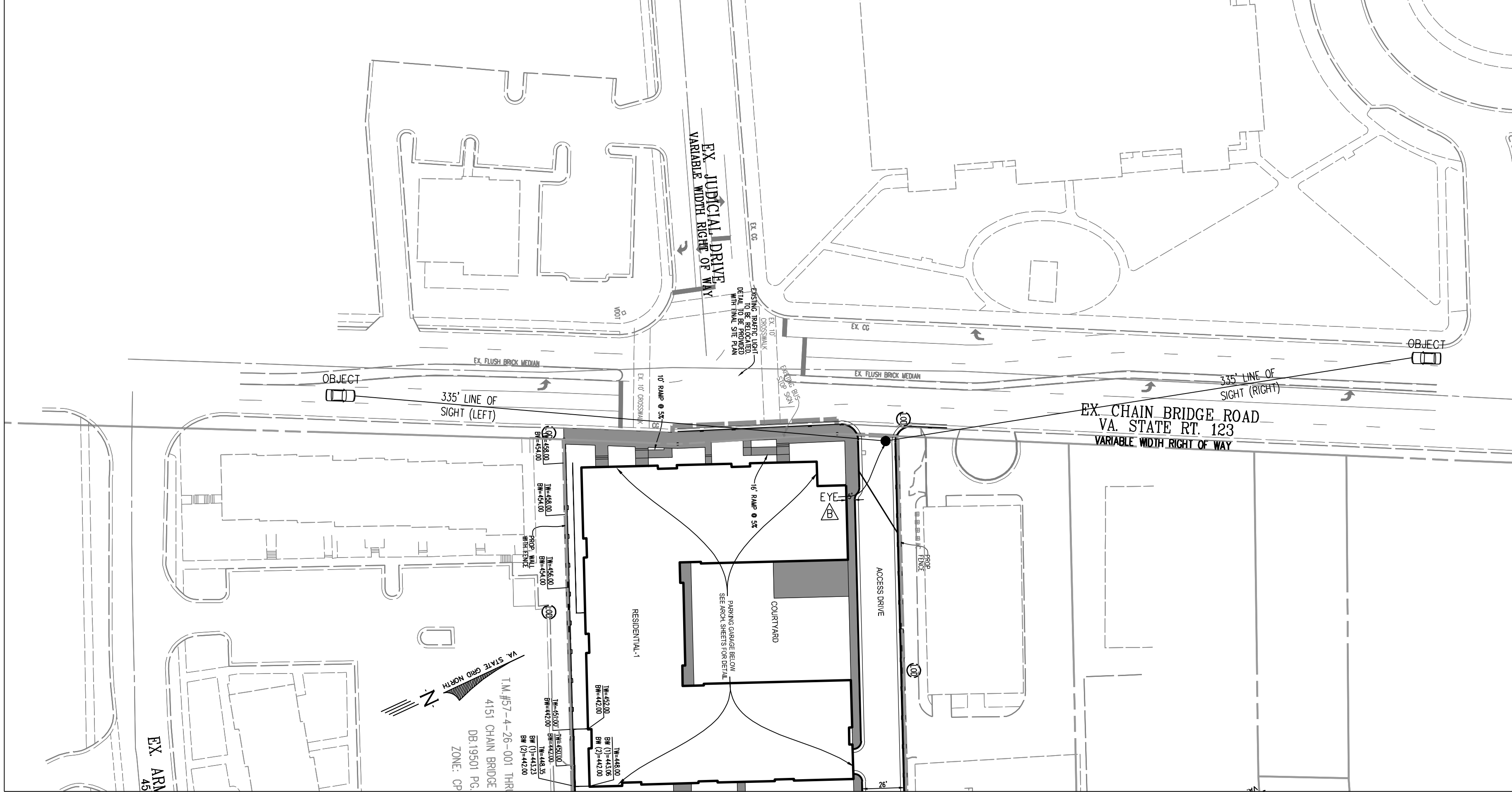


SHEET 16 OF 26		FILE No. RZ-12787	
4131 CHAIN BRIDGE ROAD REZONING CDP-GDP		CITY OF FAIRFAX, VIRGINIA	
SIGHT DISTANCE PROFILES		DATE: APRIL, 2016	
SCALE: 1"=50' (H); 1"=50' (V) C.I.= 2'		CITY OF FAIRFAX, VIRGINIA	
Urban, Ltd. 4200 D TECHNOLOGY CT. CHANTILLY, VA. 20151 TEL. 703.642.2306 FAX. 703.638.1888 www.urban-llc.com		Planners • Engineers • Landscape Architects • Land Services	
PLAN DATE 05-04-2016 06-11-2024 09-03-2024		REVISIONS	
No.		DATE	
DESCRIPTION		REVISIONS	

urban

Planners • Engineers • Landscape Architects • Land Services

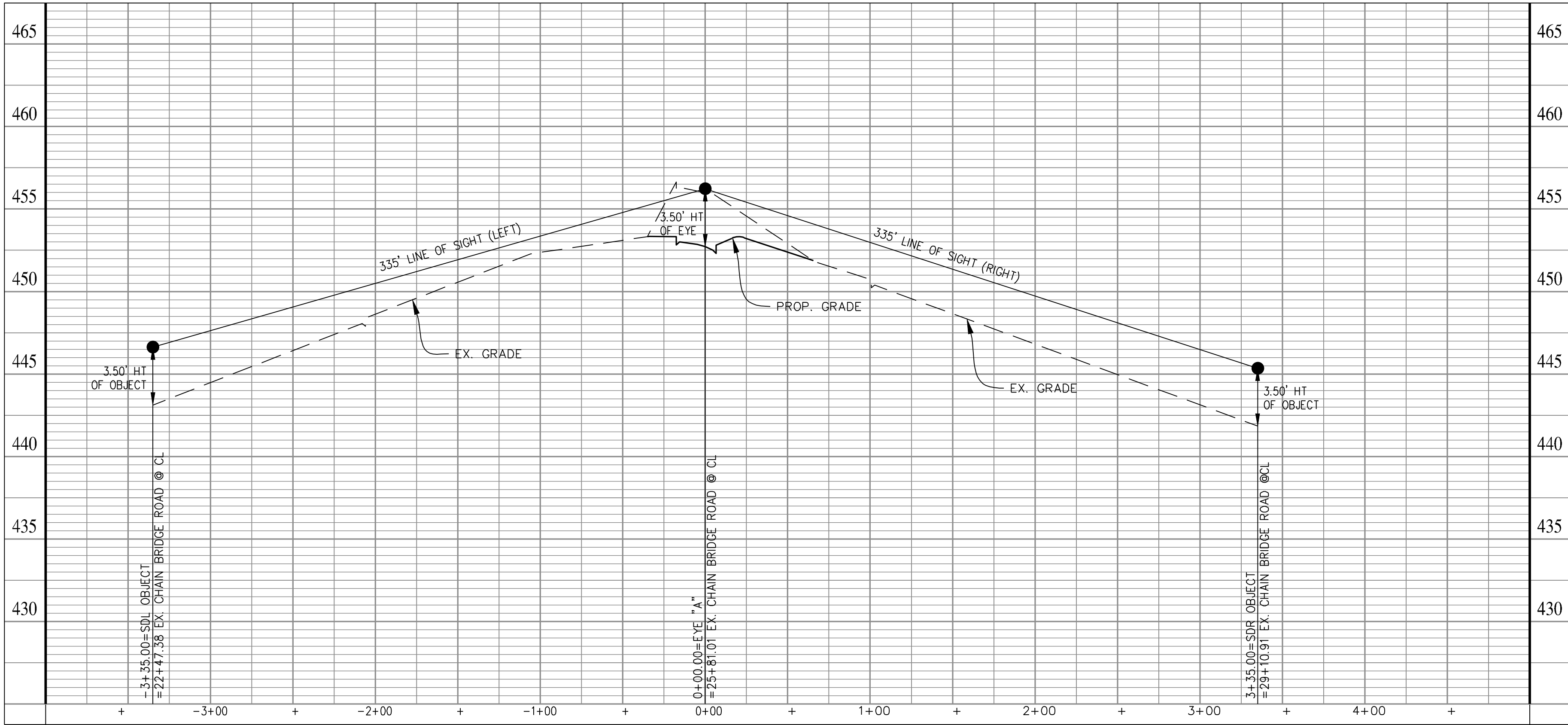
Urban, Ltd. - J:\085\4131 Chain Bridge Rd\Rezoning\12787-31-SIGHT D.dwg [SIGHT D CHAIN BRIDGE RD] September 03, 2024 - 1:29pm arensberg



PLAN VIEW
SCALE: 1"=50'

SIGHT DISTANCE PROFILE
MAIN ENTRANCE ON CHAIN BRIDGE ROAD

EYE "B"
POSTED SPEED = 25 MPH
DESIGN SPEED = 30 MPH



SIGHT DISTANCE PROFILES

4131 CHAIN BRIDGE ROAD
REZONING CDP-GDP

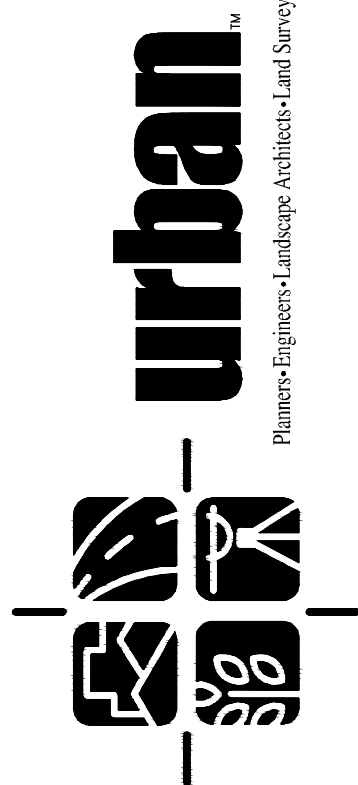
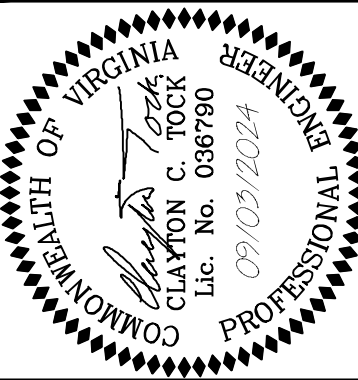
CITY OF FAIRFAX, VIRGINIA

SCALE: 1"=50' (H); 1"=50' (V) C.I.= 2'

DATE: APRIL, 2016

FILE No.
RZ-12787

SHEET
17
OF
26



Urban, Ltd.
4200 D TECHNOLOGY CT.
CHANTILLY, VA. 20151
TEL. 703.642.2306
FAX. 703.642.2308
www.urban-lltd.com

PLAN DATE	No.	DATE	DESCRIPTION
05-04-2016			
06-02-2016			
06-11-2024			
09-03-2024			



PLAN DATE

05-04-2016
06-11-2024
09-03-2024

DESCRIPTION

REVISIONS

Urban Ltd.
4200 D TECHNOLOGY CT.
CHANTILLY, VA. 20151
TEL. 703.642.2306
FAX. 703.642.1888
www.urban-llc.com

Planners+Engineers+Landscape Architects+Land Services

TREE INVENTORY PLAN

4131 CHAIN BRIDGE ROAD

REZONING CDP-GDP

CITY OF FAIRFAX, VIRGINIA

SCALE: 1"=20'

C.I.= 2"

DATE: APRIL, 2016

SHEET

18

OF

26

FILE No.

RZ-12787

LEGEND

591

TREE NUMBER

TRUNK LOCATION

DRIPLINE

Urban, Ltd. - J:\005\4131 Chain Bridge Rd\Rezoning\12787-34- Tree Inventory.dwg [TREE INVENTORY PLAN 2] September 03, 2024 - 1:29pm corenberg

TREE NO.	BOTANICAL NAME	COMMON NAME	SIZE	CANOPY	CRZ	CONDITION RATING	POOR CONDITION?	STATUS	COMMENTS
			(in)	R (ft.)	R (ft.)	%		(Remove or Preserve)	
72	Zelkova serrata	Japanese Zelkova	10"	10'	10'	87.50		Remove	
73	Zelkova serrata	Japanese Zelkova	12"	12'	12'	87.50		Remove	
74	Zelkova serrata	Japanese Zelkova	12"	12'	12'	87.50		Remove	
75	Zelkova serrata	Japanese Zelkova	15"	15'	15'	87.50		Remove	
76	Zelkova serrata	Japanese Zelkova	12"	12'	12'	87.50		Remove	
588	Quercus falcata	Southern Red Oak	12"	15'	12'	18.75	Yes	Remove	Leader removed
589	Juniperus virginiana	Eastern Redcedar	8"	8'	8'	37.50	Yes	Remove	
590	Juniperus virginiana	Eastern Redcedar	23"	12'	23'	37.50	Yes	Remove	Multi-stem
591	Acer rubrum	Red Maple	24"	12'	24'	50.00		Remove*	Ivy
592	Quercus phellos	Willow Oak	15"	8'	15'	65.63		Remove	
593	Juniperus virginiana	Eastern Redcedar	10"	10'	10'	37.50	Yes	Remove	Ivy
594	Ilex opaca	American Holly	9"	7'	9'	18.75	Yes	Remove	Ivy; dying
595	Ilex opaca	American Holly	9"	7'	9'	78.13		Remove	
596	Quercus falcata	Southern Red Oak	10"	13'	10'	59.38		Remove	Ivy
597	Lagerstroemia indica	Crape Myrtle	8"	6'	8'	81.25		Remove	
598	Ulmus americana	American Elm	25"	25'	25'	56.25		Remove	Ivy
599	Juglans nigra	Black Walnut	9"	8'	9'	15.63	Yes	Remove	Ivy; dying
642	Ilex opaca	American Holly	8"	6'	8'	53.13		Remove	
668	Thuja occidentalis	Arborvitae	6"	4'	6'	68.75		Remove	Multi-stem
669	Prunus subhirtella	Weeping Cherry	8"	8'	8'	68.75		Remove	
670	Ilex opaca	American Holly	9"	6'	9'	75.00		Remove	
671	Ilex opaca	American Holly	7"	6'	7'	65.63		Remove	
672	Ulmus americana	American Elm	7"	7'	7'	56.25		Remove	Co-dominant
673	Juglans nigra	Black Walnut	11"	10'	11'	68.75		Remove	
674	Juglans nigra	Black Walnut	15"	8'	15'	71.88		Remove	
675	Unknown	Unknown	11"	10'	11'	0.00	Yes	Remove*	Dead
699	Unknown	Unknown	6"	6'	6'	18.75	Yes	Remove	Dying
700	Unknown	Unknown	7"	5'	7'	0.00	Yes	Remove*	Dead
704	Unknown	Unknown	7"	5'	7'	0.00	Yes	Remove*	Dead
705	Acer rubrum	Red Maple	9"	5'	9'	0.00	Yes	Remove*	Dead
706	Ulmus americana	American Elm	17"	12'	17'	71.88		Remove	
779	Robinia pseudoacacia	Black Locust	11"	10'	11'	0.00	Yes	Remove	Dead
780	Juglans nigra	Black Walnut	9"	8'	9'	25.00	Yes	Remove*	Dying
781	Juniperus virginiana	Eastern Redcedar	8"	8'	8'	75.00		Remove	
782	Juglans nigra	Black Walnut	17"	23'	17'	62.50		Remove	Co-dominant
783	Acer platanoides	Norway Maple	20"	12'	20'	68.75		Remove	Multi-stem
784	Carya glabra	Pignut Hickory	6"	6'	6'	59.38		Remove	
785	Juniperus virginiana	Easter Redcedar	9"	8'	9'	43.75		Remove	Ivy
786	Juglans nigra	Black Walnut	12"	10'	12'	53.13		Remove	
787	Ulmus americana	American Elm	6"	6'	6'	34.38	Yes	Remove	
788	Morus rubra	Mulberry	17"	15'	17'	37.50	Yes	Remove	Trunk decay
789	Celtis Occidentalis	Hackberry	9"	8'	9'	46.88		Remove	Ivy
790	Celtis Occidentalis	Hackberry	6"	6'	6'	62.50		Remove	
791	Juniperus virginiana	Eastern Redcedar	22"	18'	22'	43.75		Remove	Co-dominant; ivy
792	Juniperus virginiana	Eastern Redcedar	14"	14'	14'	46.88		Remove	Ivy
793	Morus rubra	Mulberry	7"	6'	7'	18.75	Yes	Remove	Diseased
794	Morus rubra	Mulberry	12"	10'	12'	12.50	Yes	Remove	Dying
797	Juglans nigra	Black Walnut	16"	16'	16'	62.50		Remove	
798	Morus rubra	Mulberry	10"	12'	10'	37.50	Yes	Remove	Co-dominant; trunk wound
799	Morus rubra	Mulberry	16"	14'	16'	40.63		Remove	Co-dominant; leaning
800	Unknown	Unknown	7"	6'	7"	0.00	Yes	Remove	Dead
854	Prunus serotina	Black Cherry	13"	12'	13'	53.13		Remove	
855	Ulmus americana	American Elm	14"	13'	14'	62.50		Remove	Co-dominant
856	Juniperus virginiana	Eastern Redcedar	28"	18'	28'	68.75		Remove	Co-dominant
857	Juglans nigra	Black Walnut	18"	16'	18'	53.13		Remove	Co-dominant
858	Juniperus virginiana	Eastern Redcedar	18"	16'	18'	46.88		Remove	Co-dominant; ivy
859	Juniperus virginiana	Eastern Redcedar	18"	18'	18'	43.75		Remove	Ivy
860	Juglans nigra	Black Walnut	18"	18'	18'	0.00	Yes	Remove	Dead
861	Juniperus virginiana	Eastern Redcedar	18"	18'	18'	40.63		Remove	Co-dominant
862	Juniperus virginiana	Eastern Redcedar	18"	16'	18'	43.75		Remove	Ivy
863	Juniperus virginiana	Eastern Redcedar	18"	16'	18'	34.38	Yes	Remove	Co-dominant; 1 broken
864	Prunus serotina	Black Cherry	15"	12'	15'	56.25		Remove	Multi-leader
865	Juniperus virginiana	Eastern Redcedar	15"	12'	15'	37.50	Yes	Remove	Ivy; broken branches
866	Juniperus virginiana	Eastern Redcedar	15"	13'	15'	37.50	Yes	Remove	Ivy; broken branches
867	Prunus serotina	Black Cherry	4"	6'	4'	46.88		Remove	Multi-leader
868	Prunus serotina	Black Cherry	9"	9'	9'	53.13		Remove	Multi-leader; ivy
869	Juniperus virginiana	Eastern Redcedar	10"	10'	10'	56.25		Remove	
870	Juniperus virginiana	Eastern Redcedar	10"	8'	10'	53.13		Remove	
871	Juniperus virginiana	Eastern Redcedar	10"	8'	10'	46.88		Remove	
872	Juniperus virginiana	Eastern Redcedar	12"	12'	12'	53.13		Remove	Co-dominant
873	Juniperus virginiana	Eastern Redcedar	10"	13'	10'	71.88		Remove	
874	Juniperus virginiana	Eastern Redcedar	12"	18'	12'	68.75		Remove	Co-dominant
875	Juniperus virginiana	Eastern Redcedar	18"	14'	18'	65.63		Remove	
876	Juniperus virginiana	Eastern Redcedar	12"	12'	12'	68.75		Remove	
877	Juniperus virginiana	Eastern Redcedar	13"	12'	13'	68.75		Remove	
878	Morus rubra	Mulberry	15"	14'	15'	46.88		Remove	
879	Gleditsia triacanthos var. inermis	Thornless Honeylocust	18"	16'	18'	53.13		Remove	Tristed Leader
880	Juglans nigra	Black Walnut	12"	12'	12'	46.88		Remove	Curved
881	Juglans nigra	Black Walnut	15"	10'	15'	56.25		Remove	Multi-leader
882	Juglans nigra	Black Walnut	18"	16'	18'	75.00		Remove	
883	Celtis Occidentalis	Hackberry	8"	7'	8'	65.63		Remove	
884	Juglans nigra	Black Walnut	15"	16'	15'	53.13		Remove	
885	Juniperus virginiana	Eastern Redcedar	15"	12'	15'	65.63		Remove	
886	Ulmus americana	American Elm	18"	15'	18'	78.13		Remove	
887	Juniperus virginiana	Eastern Redcedar	36"	20'	36'	53.13		Remove	
888	Juniperus virginiana	Eastern Redcedar	15"	12'	15'	46.88		Remove	Ivy
889	Juglans nigra	Black Walnut	18"	16'	18'	59.38		Remove	
890	Quercus palustris	Pin Oak	8"	9'	8'	81.25		Remove	
891	Acer platanoides	Norway Maple	15"	12'	15'	68.75		Remove	
892	Juglans nigra	Black Walnut	36"	18'	36'	37.50	Yes	Remove*	Ivy
893	Juglans nigra	Black Walnut	6"	10'	6'	34.38	Yes	Remove	Ivy; co-dominant
894	Juglans nigra	Black Walnut	12"	10'	12'	37.50	Yes	Remove*	Ivy
895	Morus rubra	Mulberry	12"	10'	12'	28.13	Yes	Remove	Leaning; trunk wound
896	Prunus serotina	Black Cherry	15"	12'	15'	53.13		Remove*	Co-dominant
1057	Robinia pseudoacacia	Black Locust	12"	12'	12'	37.50	Yes	Remove*	Co-dominant; Ivy
1058	Robinia pseudoacacia	Black Locust	12"	12'	12'	37.50	Yes	Remove*	Ivy
1059	Tilia americana	American Linden	42"	28'	42'	68.75		Remove	
1060	Ulmus americana	American Elm	10"	6'	10'	0.00	Yes	Remove	Dead
1076	Acer rubrum	Red Maple	36"	15'	36'	43.75		Remove	Leader broken off
1077	Ilex opaca	American Holly	12"	6'	12'	62.50		Remove	
1080	Quercus palustris	Pin Oak	15"	10'	15'	84.38		Remove	
1083	Robinia pseudoacacia	Black Locust	10"	6'	10'	56.25		Remove	
1084	Prunus serotina	Black Cherry	12"	12'	12'	56.25		Preserve	Curved trunk
1100	Robinia pseudoacacia	Black Locust	15"	6'	15'	53.13		Preserve	Multi-leader
1185	Robinia pseudoacacia	Black Locust	24"	16'	24'	37.50	Yes	Remove*	Ivy

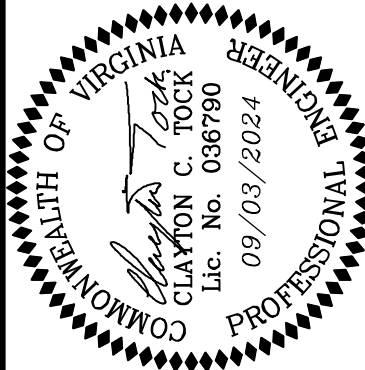
TREE NO.	BOTANICAL NAME	COMMON NAME	SIZE	CANOPY	CRZ	CONDITION RATING	POOR CONDITION?	STATUS	COMMENTS
			(in)	R (ft.)	R (ft.)	%		(Remove or Preserve)	
1186	Cornus florida	Flowering Dogwood	8"	8'	8'	65.63		Remove	
1295	Cornus florida	Flowering Dogwood	6"	6'	6'	68.75		Remove	
1296	Robinia pseudoacacia	Black Locust	30"	20'	30'	59.38		Remove	Ivy; large trunk wound
1296	Cornus florida	Flowering Dogwood	4"	6'	4'	75.00		Remove	Multi-stem
1298	Ligustrum ovalifolium	Privet	9"	6'	9'	46.88		Remove	Co-dominant; 1 dying
1299	Prunus serotina	Black Cherry	15"	12'	15'	59.38		Remove	Trunk decay
1300	Betula papyrifera	Paper Birch	10"	8'	10'	43.75		Remove	Co-dominant
1399	Cornus florida	Flowering Dogwood	12"	6'	12'	68.75		Remove	
1875	Robinia pseudoacacia	Black Locust	12"	15'	12'	43.75		Preserve	Co-dominant; ivy
1876	Robinia pseudoacacia	Black Locust	30"	16'	30'	46.88		Remove	Ivy
1877	Robinia pseudoacacia	Black Locust	10"	8'	10'	62.50		Remove	
1878	Robinia pseudoacacia	Black Locust	30"	6'	30'	12.50	Yes	Remove	Broken in half
1879	Tsuga canadensis	Canadian Hemlock	7"	8'	7'	71.88		Remove	
1880	Robinia pseudoacacia	Black Locust	30"	18'	30'	46.88		Remove	Ivy
1881	Acer platanoides	Norway Maple	15"	12'	15'	68.75		Remove	Multi-stem
1882	Robinia pseudoacacia	Black Locust	30"	22"	30'	46.88		Remove*	Ivy
1883	Robinia pseudoacacia	Black Locust	24"	18'	24'	31.25	Yes	Remove*	Open trunk wound
1884	Morus rubra	Mulberry	12"	12'	12'	53.13		Preserve	

PLAN DATE

10-15-2016
04-22-2024
06-11-2024
09-03-2024

Urban, Ltd.
4200 D TECHNOLOGY CT.
CHANTILLY, VA. 20151
TEL. 703.642.2306
FAX. 703.878.1888
www.urban-ld.com


Planners-Engineers-Landscape Architects-Land Services



TREE INVENTORY PLAN

4131 CHAIN BRIDGE ROAD
REZONING CDP-GDP

CITY OF FAIRFAX, VIRGINIA

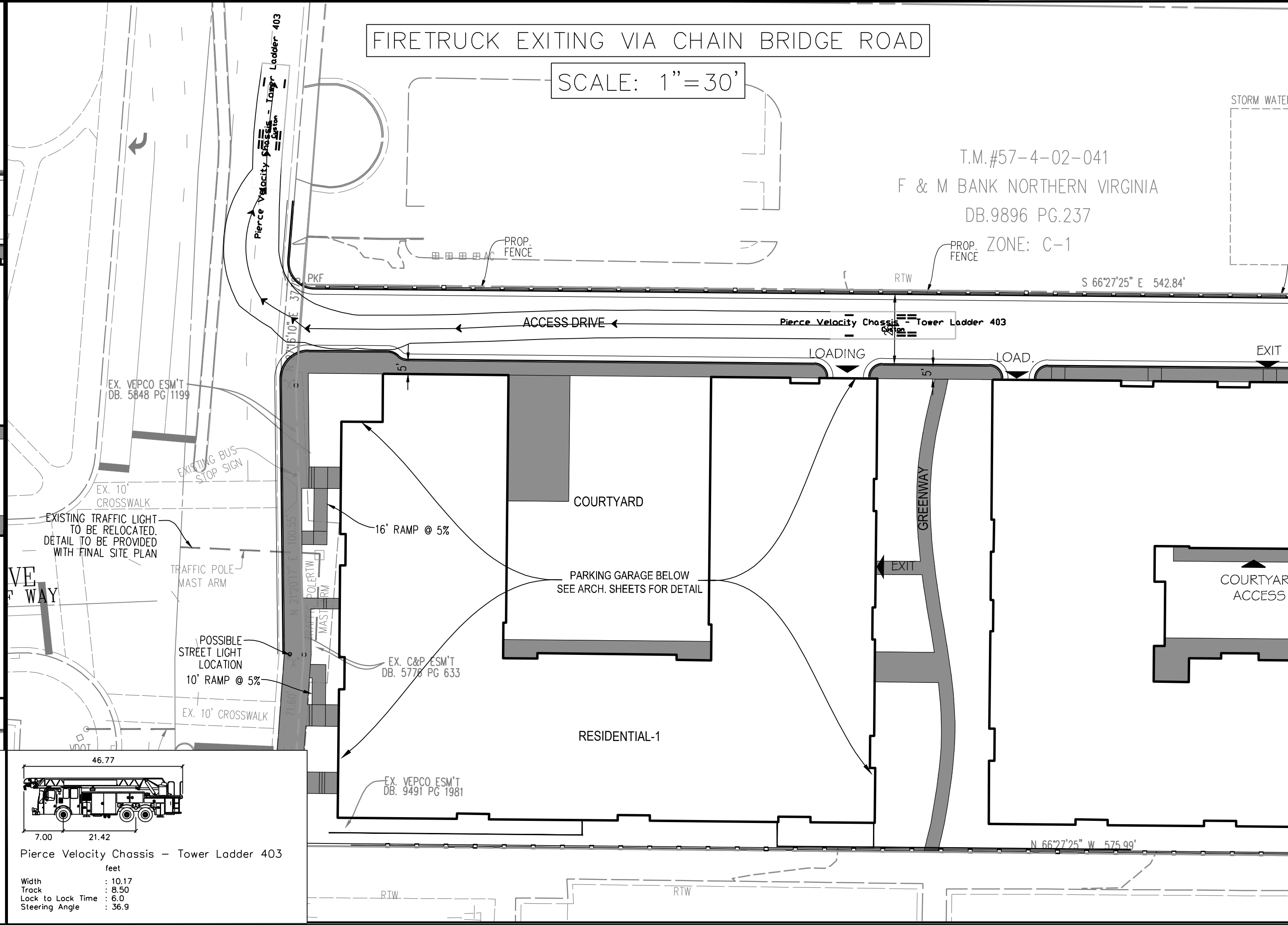
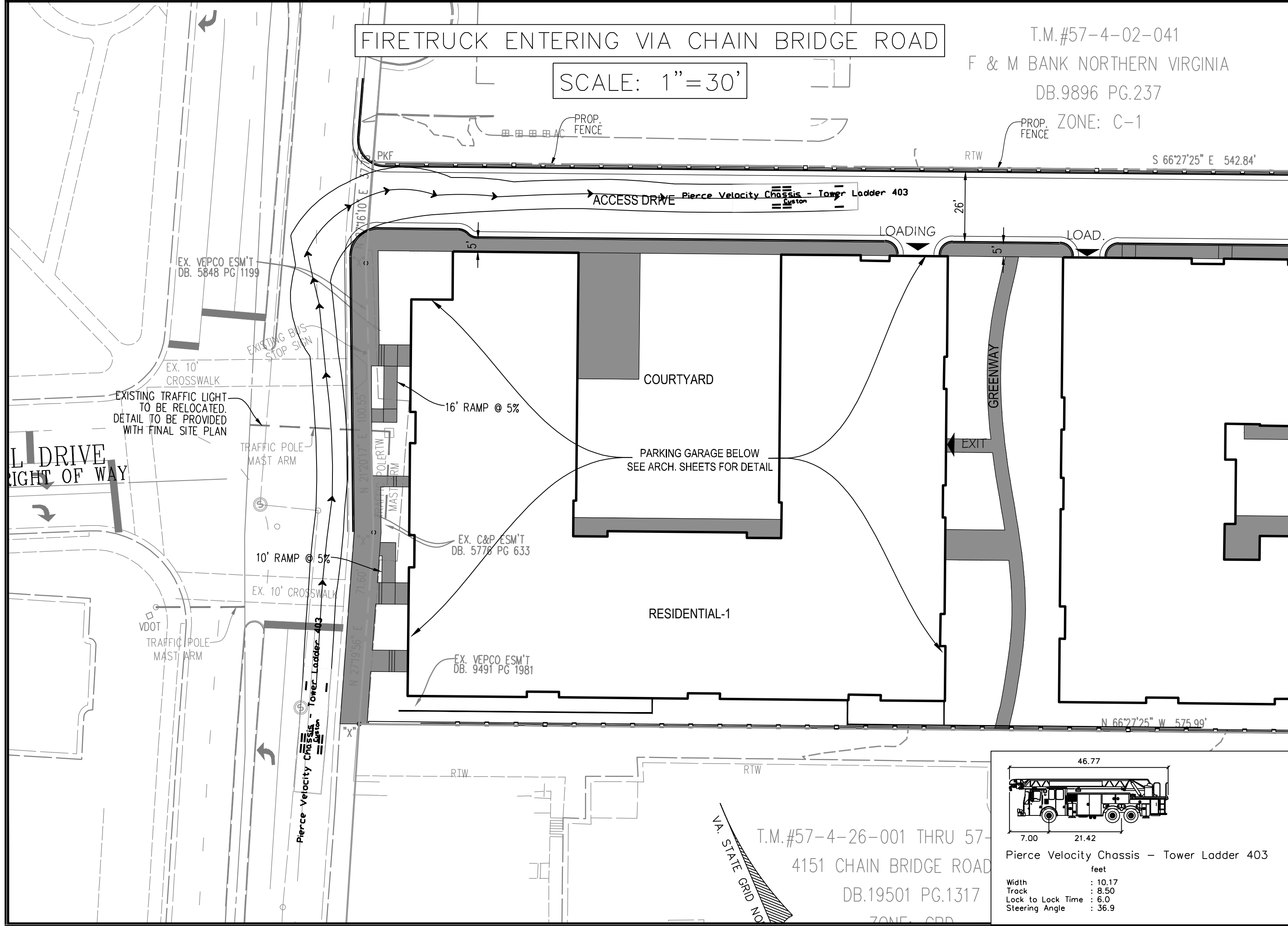
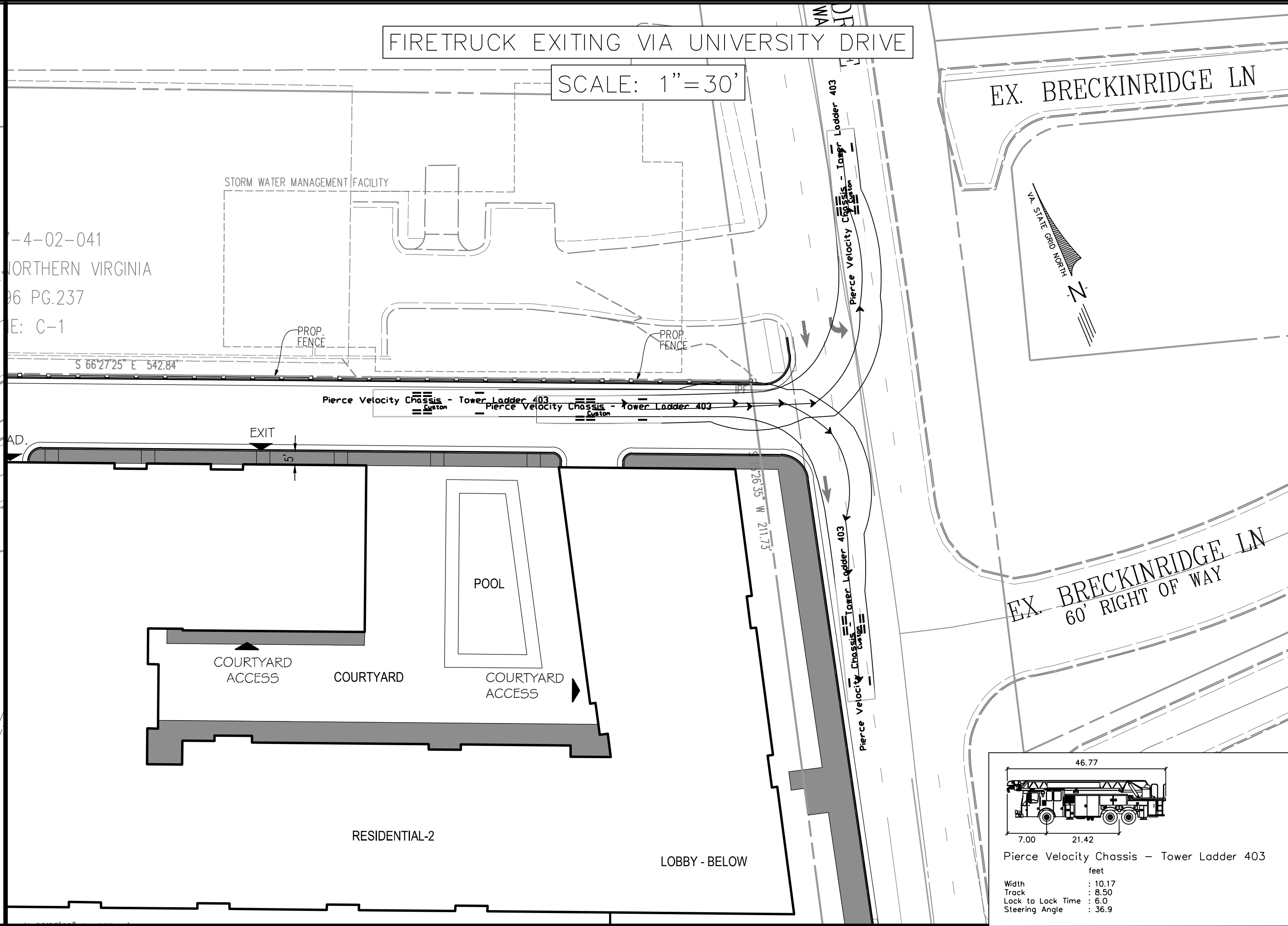
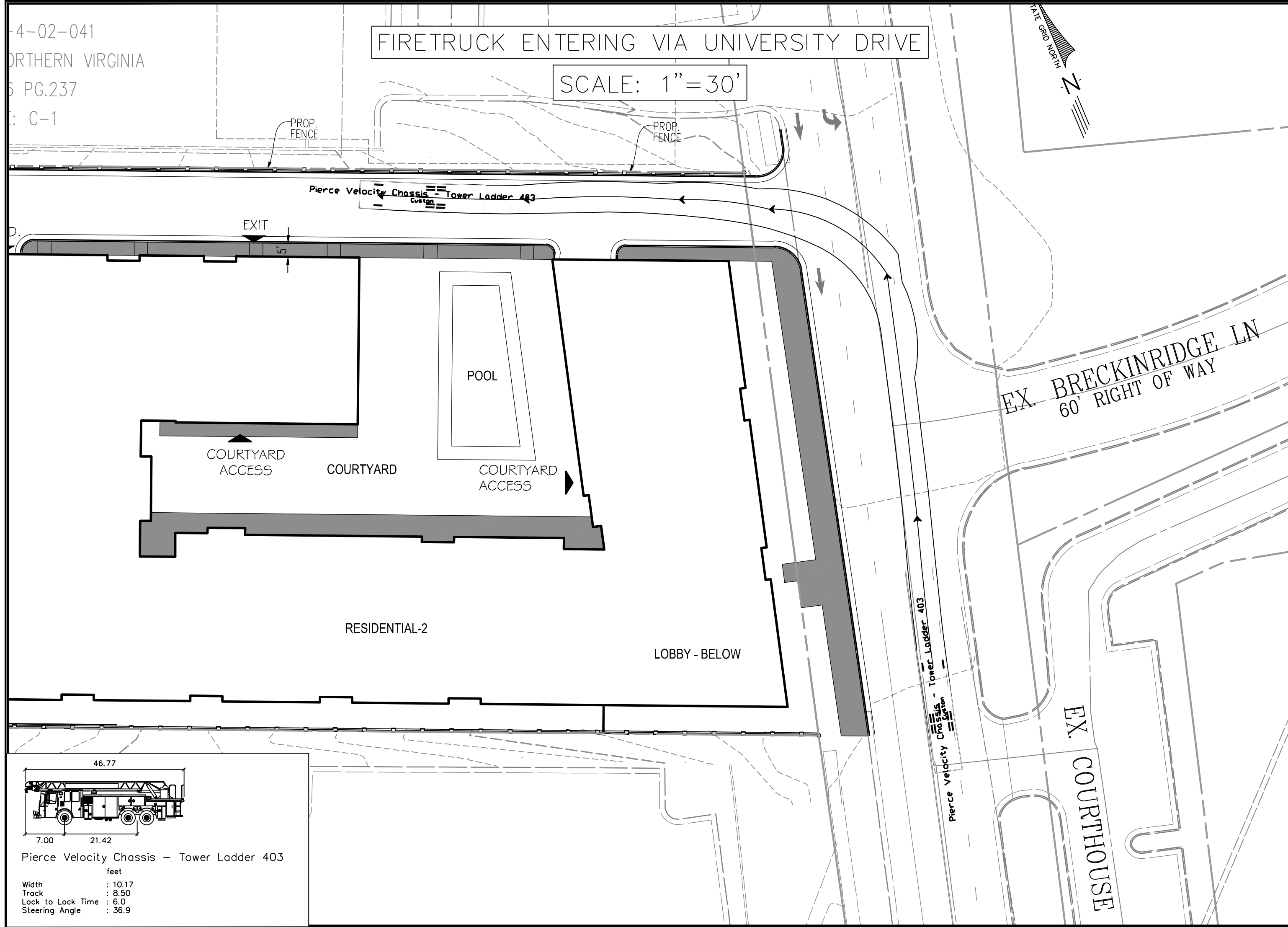
SCALE: N/A

DATE: APRIL, 2016

SHEET
19
OF
26

FILE No.
RZ-12787

DESCRIPTION
REVISIONS
No. DATE



PLANNING		REVISIONS	
No.	DATE	No.	DATE
05-04-2016			
06-03-2016			
06-11-2024			
09-03-2024			

PLAN DATE

Urban Ltd.
4200 D TECHNOLOGY CT.
CHANTILLY, VA. 20151
TEL. 703.642.2306
FAX. 703.781.8888
www.urban-llc.com

Planners+Engineers+Landscape Architects+Land Surveyors

urban

COMMONWEALTH OF VIRGINIA
CLAYTON C. TOOK
Lic. No. 036790
09/03/2024
PROFESSIONAL ENGINEER

FIRETRUCK AUTOTURN ANALYSIS
4131 CHAIN BRIDGE ROAD
REZONING CDP-GDP
CITY OF FAIRFAX, VIRGINIA

SCALE: AS NOTED

DATE: APRIL, 2016

C.I.= N/A

SHEET
20
OF
26

FILE No.
RZ-12787



PLAN DATE

05-04-2016
04-22-2019
06-11-2024
09-03-2024

DESCRIPTION

REVISIONS

No.

DATE

Urban Ltd.

4200 D TECHNOLOGY CT.
CHANTILLY, VA. 20151
TEL. 703.642.2306
FAX. 703.642.2388
www.urban-llc.com

urban

Planners+Engineers+Landscape Architects+Land Services

COMMONWEALTH OF VIRGINIA

CLAYTON C. ROCK

Lic. No. 036790

09/03/2024

ENGINEER

PROFESSIONAL

FRONT LOAD GARBAGE TRUCK

4131 CHAIN BRIDGE ROAD

REZONING CDP-GDP

CITY OF FAIRFAX, VIRGINIA

SCALE: AS NOTED

DATE: APRIL, 2016

SHEET

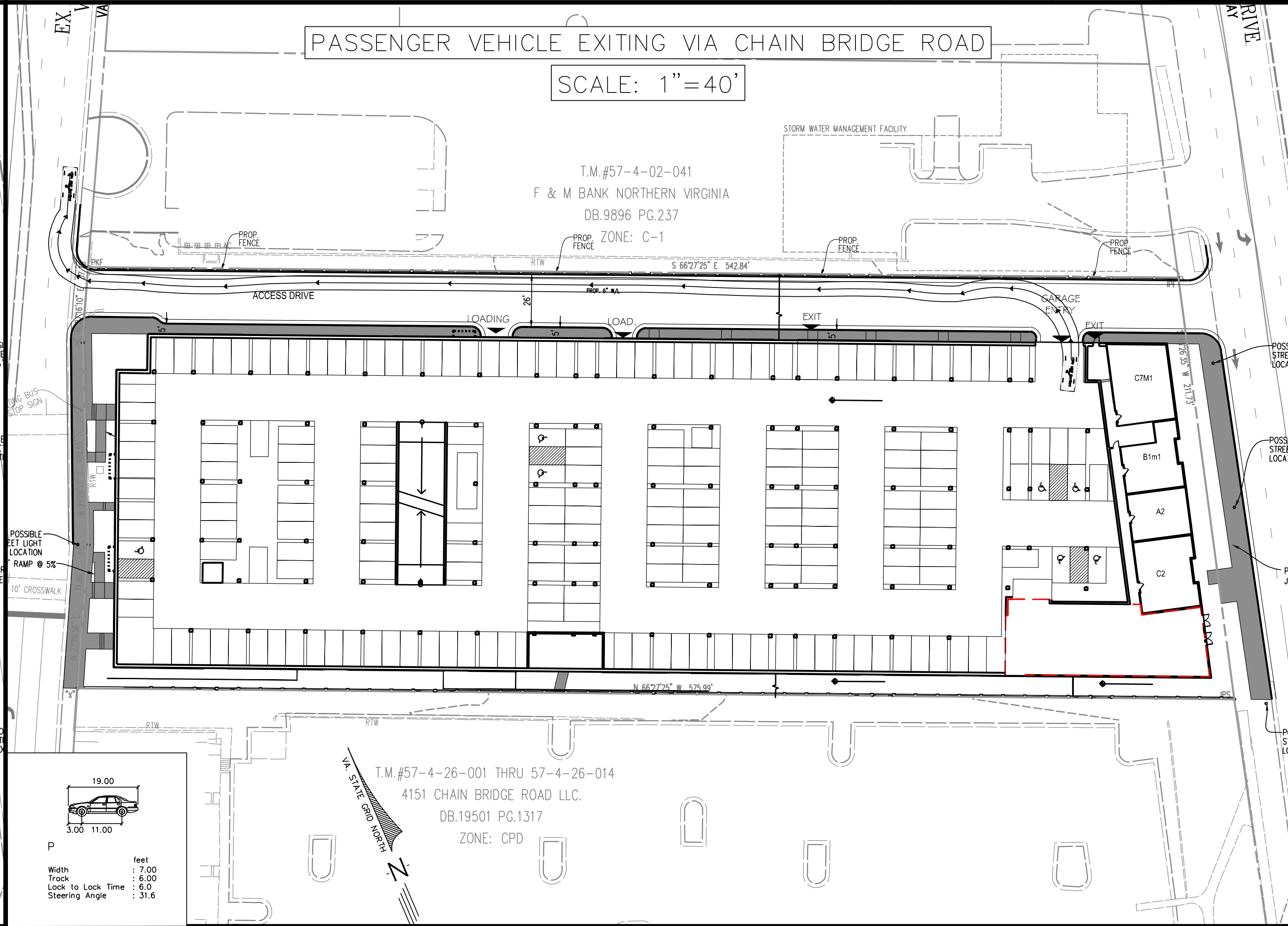
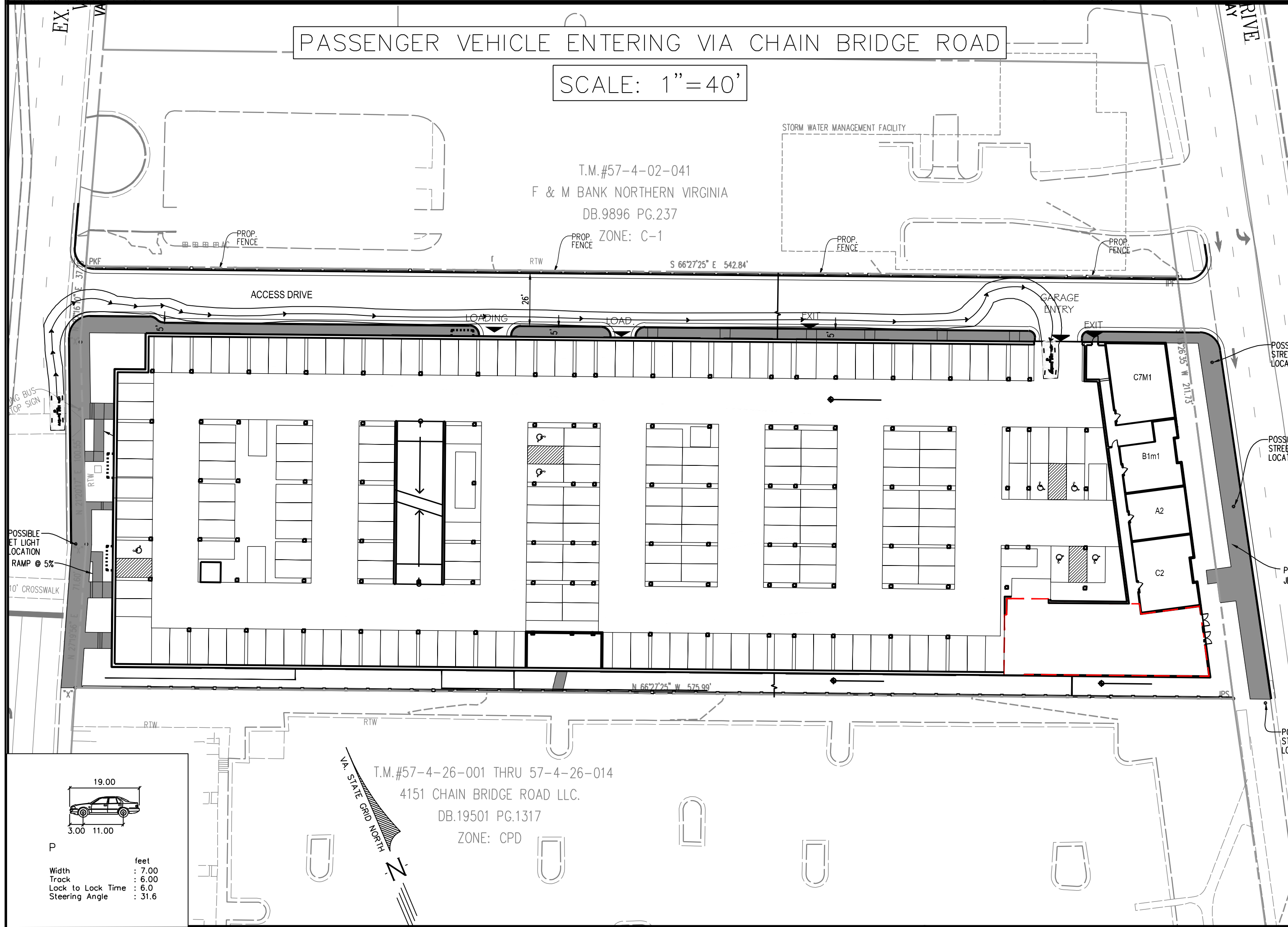
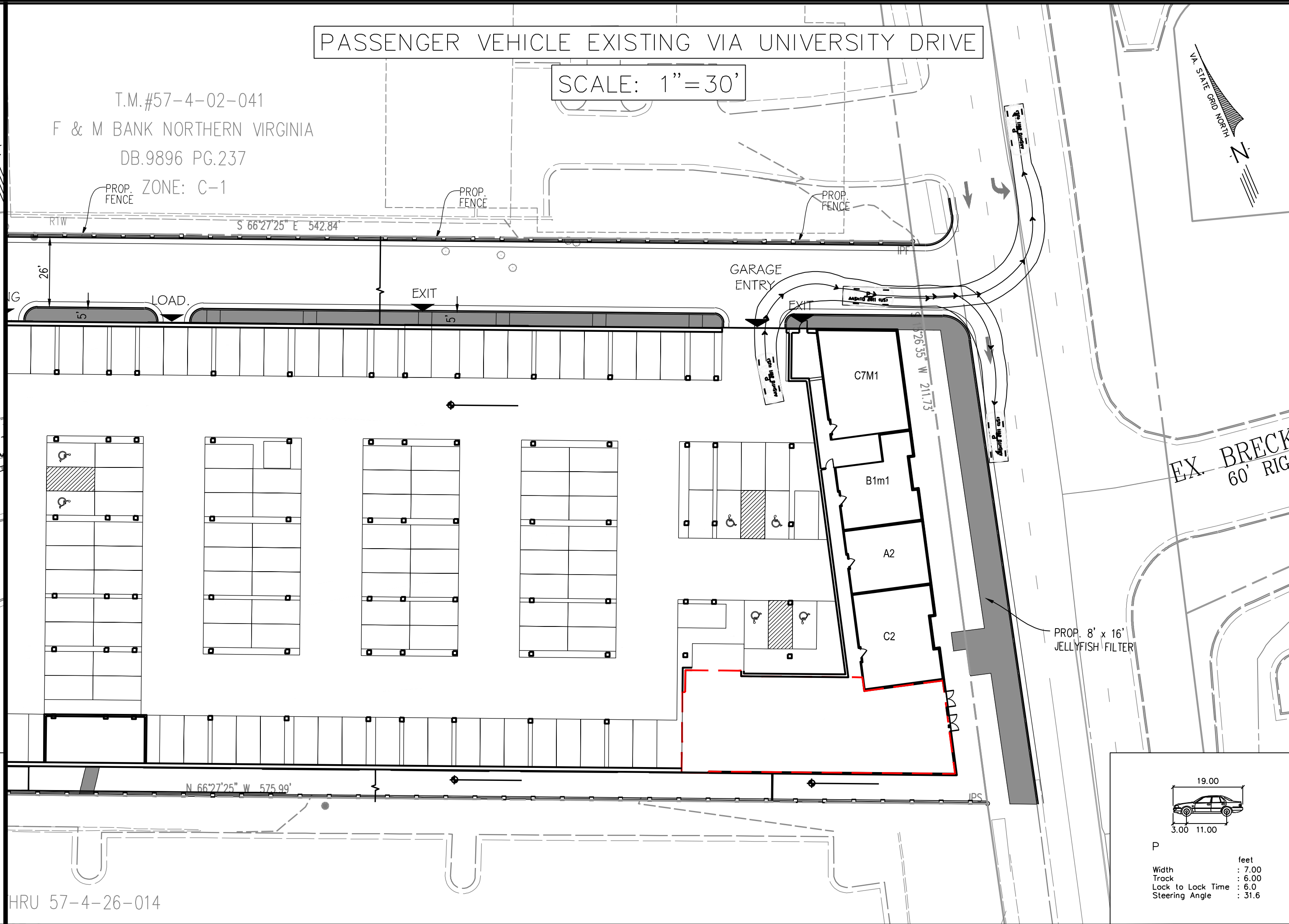
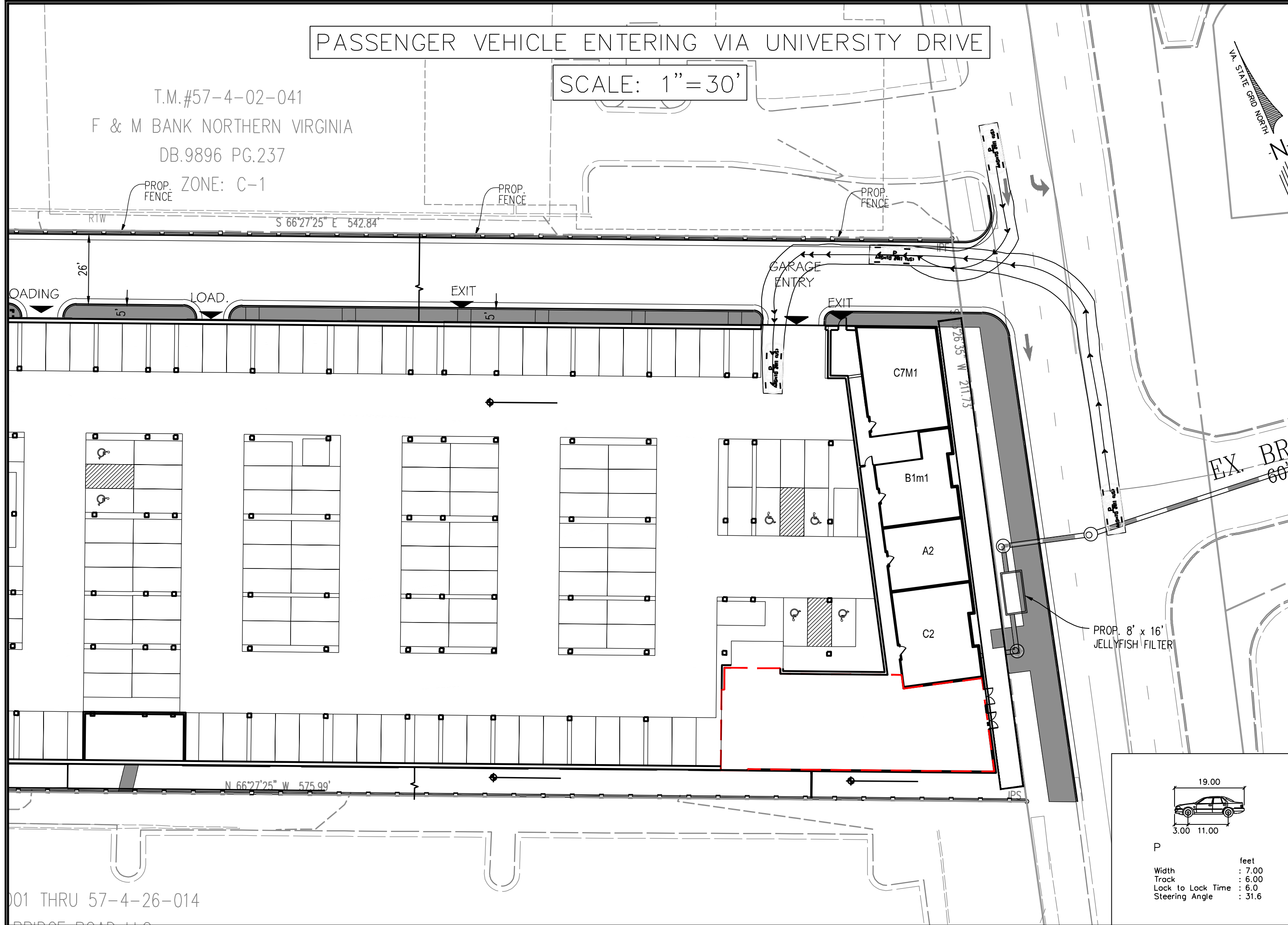
22

OF

26

FILE No.

RZ-12787



Urban, Ltd. - J:\085\4131 Chain Bridge Rd\Rezoning\12787-33-Auto Turn Exhibit.dwg [Passenger Vehicle Autoturn] September 03, 2024 - 1:30pm arensberg

PLAN DATE		DESCRIPTION	
No.	DATE	No.	DATE
05-04-2016	05-04-2016	05-04-2016	05-04-2016
06-11-2024	06-11-2024	06-11-2024	06-11-2024
09-03-2024	09-03-2024	09-03-2024	09-03-2024

Urban, Ltd.
4200 D TECHNOLOGY CT.
CHANTILLY, VA. 20151
TEL. 703.642.2306
FAX. 703.642.2388
www.urban-llc.com

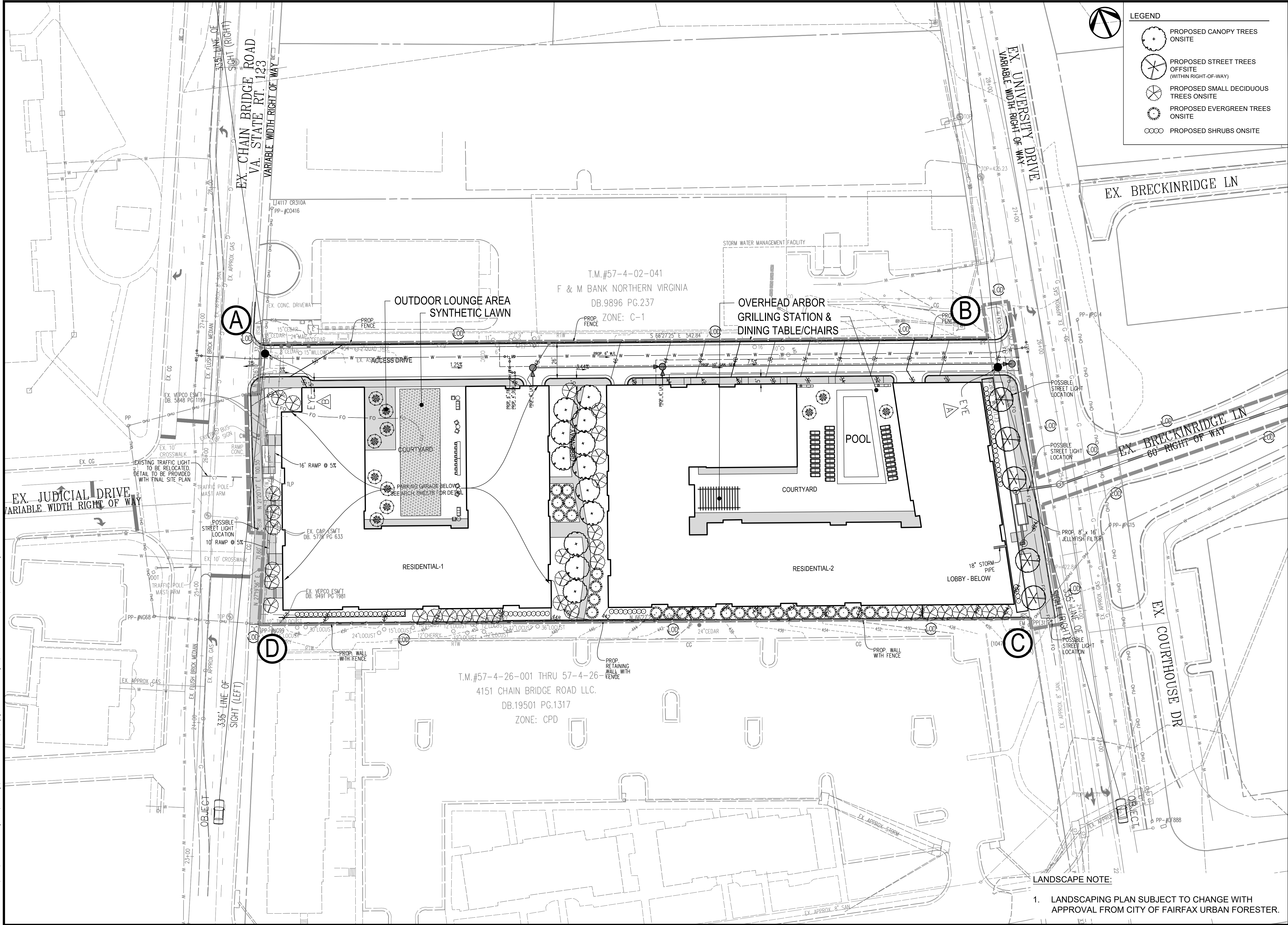
urban
Planners-Engineers-Landscape Architects-Land Services

COMMONWEALTH OF VIRGINIA
CLAYTON C. TOCK
Lic. No. 036790
09/03/2024
PROFESSIONAL ENGINEER

PASSENGER VEHICLE AUTOTURN ANALYSIS
4131 CHAIN BRIDGE ROAD
REZONING CDP-GDP
CITY OF FAIRFAX, VIRGINIA
SCALE: AS NOTED
DATE: APRIL, 2016
C.I.= N/A

SHEET
23
OF
26

FILE No.
RZ-12787



LANDSCAPE NOTE:
1. LANDSCAPING PLAN SUBJECT TO CHANGE WITH APPROVAL FROM CITY OF FAIRFAX URBAN FORESTER.

LEGEND

- PROPOSED CANOPY TREES ONSITE
- PROPOSED STREET TREES OFFSITE (WITHIN RIGHT-OF-WAY)
- PROPOSED SMALL DECIDUOUS TREES ONSITE
- PROPOSED EVERGREEN TREES ONSITE
- PROPOSED SHRUBS ONSITE

LANDSCAPE PLAN
4131 CHAIN BRIDGE ROAD
REZONING CDP-GDP
CITY OF FAIRFAX, VIRGINIA

DATE: APRIL, 2016
CL-1=2

SCALE: 1"=30'

Urban, Ltd.
4300 D TECHNOLOGY CT.
CHANTILLY, VA, 20151
TEL: 703.642.2306
FAX: 703.378.7888
www.urban-llc.com

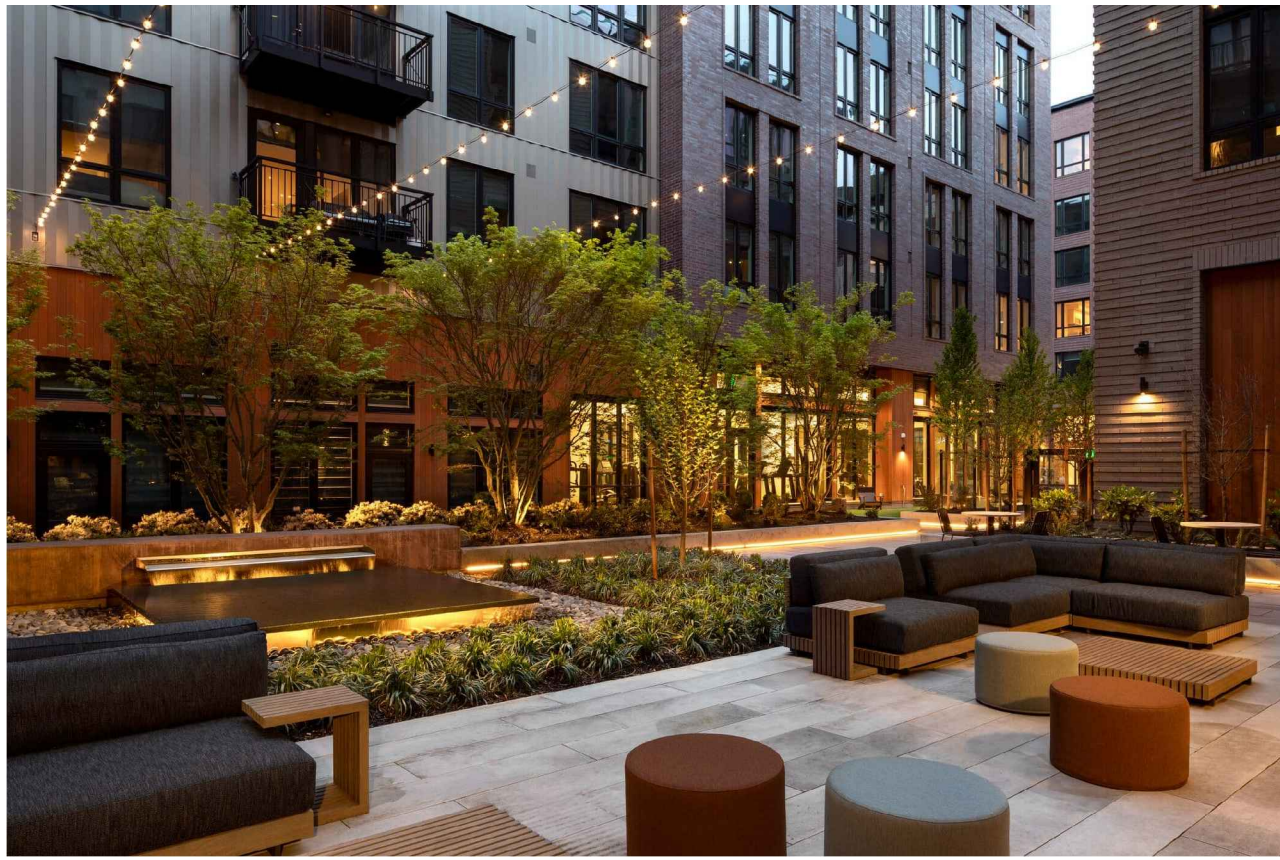
PLANNING ENGINEERS, LANDSCAPE ARCHITECTS AND SURVEYORS

COMMONWEALTH OF VIRGINIA
John Lightle
Lic. No. 1957
LANDSCAPE ARCHITECT

SHEET
24
OF
26
FILE No.
RZ-12787

REVISIONS	
No.	DATE
05-04-2016	
05-09-2016	
05-11-2016	
06-11-2024	
09-03-2024	

FOR ILLUSTRATIVE PURPOSES ONLY



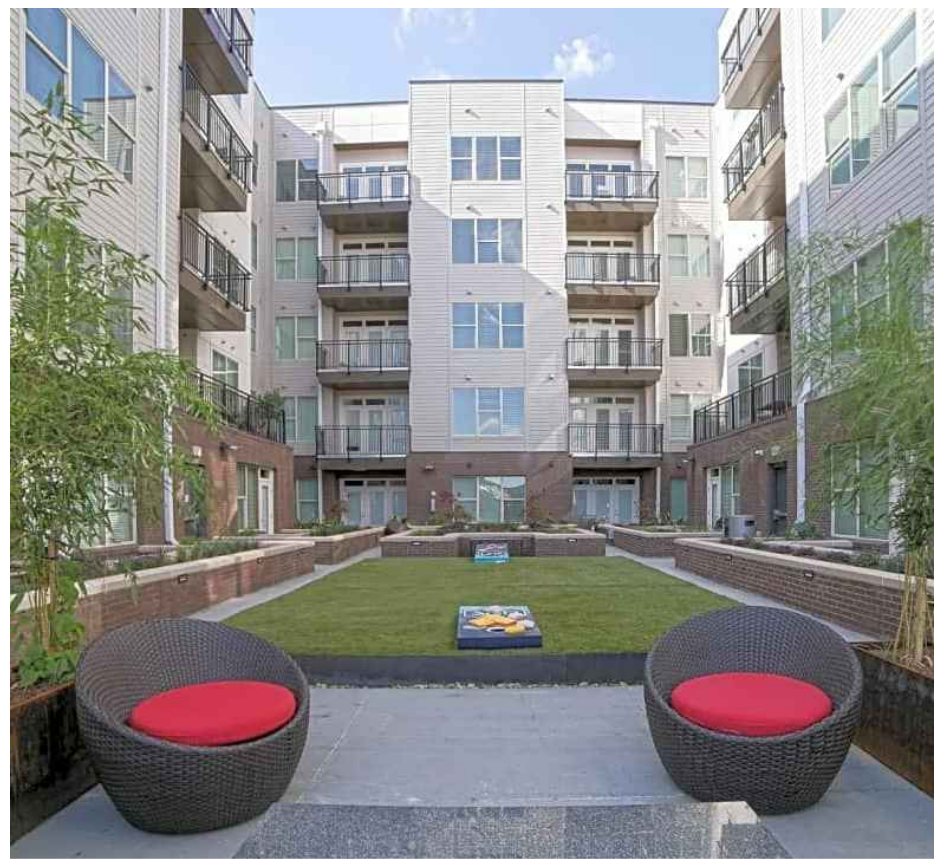
OUTDOOR LOUNGE AREA



POOL



OVERHEAD ARBOR



SYNTHETIC LAWN



GRILLING STATIONS & DINING TABLES / CHAIRS

NOTE: THIS PLAN REFLECTS THE GENERAL CHARACTER AND INTENT OF THE PROPOSED DEVELOPMENT BASED ON PRELIMINARY ENGINEERING, ARCHITECTURAL, AND LANDSCAPE ARCHITECTURAL DESIGN. MINOR VARIATIONS IN PLANT SELECTIONS, TREE QUANTITIES, USE OF BONUS MULTIPLIERS AS ALLOWED BY THE PUBLIC FACILITIES MANUAL FOR CANOPY COVERAGE CREDIT SUCH AS FOR WILDLIFE BENEFITS, NATIVE TREES, AND IMPROVED CULTIVARS MULTIPLIERS, AND VARIATION IN INSTALLED SIZES OF TREES TO INCLUDE MINIMUM 2" CALIPER DECIDUOUS TREES AND MINIMUM 8' HEIGHT EVERGREEN TREES. PLANTS TO IMPROVE SURVIVABILITY, MAY OCCUR WITH THE FINAL BUILDING DESIGN AND SUBDIVISION PLAN. THE GENERAL DENSITY OF TREES SHOWN AND MINIMUM CANOPY COVERAGE REQUIREMENTS SPECIFIED IN THE PUBLIC FACILITIES MANUAL WILL BE PROVIDED.

10-YEAR TREE CANOPY REQUIREMENT CALCULATIONS			
Net Site Area (s.f.)			117,082
Zone: [PD-R]		Use: [Multifamily]	
Tree Canopy Required (s.f.)	10%		11,708
10-YEAR TREE CANOPY PROVIDED			
Total Canopy Area Provided Through Tree Preservation (s.f.)			0
Total Proposed Canopy Area Provided (s.f.)			9,750
DEDUCTION: Canopy Area Provided in Right-Of-Way			-1,250
Total Tree Canopy Provided (s.f.)	7.26%		8,500

TRANSITIONAL YARD CALCULATIONS										
Onsite Zoning District: PD-R (Multifamily)	Adjacent Zoning District	REQUIRED					PROVIDED			
		Transitional Yard	Width (l.f.)	Total Length (l.f.)	Net Length (l.f.)	CANOPY	UNDERSTORY	Minimum Fence or Wall	Width (l.f.)	TREES
Buffer A-B: CO. COMMERCIAL OFFICE	TY2	Minimum Fence or Wall	10	543	543	16	16	6' Fence	0	0 Large Deciduous Trees 0 Small Deciduous Trees
		6' Fence or Wall								
Buffer B-C: UNIVERSITY DRIVE	None per Z.O. 3.7.3.E		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A Large Deciduous Trees N/A Small Deciduous Trees
Buffer C-D: PD-C: PLANNED DEVELOPMENT COMMERCIAL	TY2	Minimum Fence or Wall	10	576	576	17	17	6' Fence	0	0 Large Deciduous Trees 14 Small Deciduous Trees 18 Evergreen Trees 42 Shrubs
		6' Fence or Wall								
Buffer D-A: CHAIN BRIDGE ROAD	None per Z.O. 3.7.3.E		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A Large Deciduous Trees N/A Small Deciduous Trees

SAMPLE PLANT SCHEDULE							
QTY	Symbol	Botanical Name	Common Name	Size	Type	Remarks	Total Canopy Coverage (SF)
Canopy Trees							
12		Carpinus caroliniana	American Hornbeam	3" Cal.	B & B	Uniform branching pattern	3,000
		Nyssa sylvatica	Black Gum	3" Cal.	B & B	Uniform branching pattern	
		Oxydendrum arboreum	Sourwood	3" Cal.	B & B	Uniform branching pattern	
Canopy Trees (Offsite: in R.O.W.) See Note 1							
5		Platanus acerifolia	London Planetree	2" Cal.	B & B	Uniform branching pattern	1,250
		Ulmus americana 'Valley Forge'	Valley Forge Elm	2" Cal.	B & B	Uniform branching pattern	
		Quercus phellos	Willow Oak	2" Cal.	B & B	Uniform branching pattern	
Small Deciduous Trees							
34		Cercis canadensis	Eastern Redbud	2" Cal.	B & B	Uniform branching pattern	3,400
		Cornus florida	Flowering Dogwood	2" Cal.	B & B	Uniform branching pattern	
		Magnolia virginiana	Sweetbay Magnolia	2" Cal.	B & B	Uniform branching pattern	
Evergreen Trees							
28		Ilex x attenuata 'Fosteri'	Foster's Holly	6' Ht.	B & B	Uniform branching pattern	2,100
		Ilex opaca	American Holly	6' Ht.	B & B	Uniform branching pattern	
		Juniperus virginiana	Eastern Red Cedar	6' Ht.	B & B	Uniform branching pattern	
Shrubs							
67		Clethra alnifolia	Summersweet	24" Ht.	As Shown	Cont.	0
		Ilex verticillata	Winterberry	24" Ht.	As Shown	Cont.	
		Itea virginica	Virginia Sweetspire	24" Ht.	As Shown	Cont.	
		Fothergilla gardenii	Dwarf Fothergilla	24" Ht.	As Shown	Cont.	
TOTAL:							9,750

Note:

1. Tree Canopy Provided in R.O.W. is NOT counted towards 10-Year Tree Canopy Requirement.

Note:
1. Tree Canopy Provided in R.O.W. is NOT counted towards 10-Year Tree Canopy Requirement.

LANDSCAPE NOTES:

- THIS PLAN IS SCHEMATIC AND REFLECTS THE GENERAL CHARACTER AND INTENT OF THE PROPOSED DEVELOPMENT BASED ON PRELIMINARY ENGINEERING, ARCHITECTURE, AND LANDSCAPE ARCHITECTURE DESIGN. MODIFICATIONS AND VARIATIONS MAY OCCUR WITH FINAL BUILDING DESIGN AND SITE PLAN.
- TREE LOCATION, TREE QUANTITY, AND TREE SPECIES ARE SUBJECT TO CHANGE BASED ON CHANGES THAT MAY OCCUR WITH FINAL BUILDING DESIGN AND SITE PLAN. SPECIES DIVERSITY SHALL BE MET AND DEMONSTRATED AS SUCH AT TIME OF SITE PLAN. MODIFICATIONS TO THE LANDSCAPE PLAN ARE SUBJECT TO APPROVAL OF THE CITY'S URBAN FORESTER.
- LANDSCAPING PLAN SUBJECT TO CHANGE WITH APPROVAL FROM CITY OF FAIRFAX URBAN FORESTER.

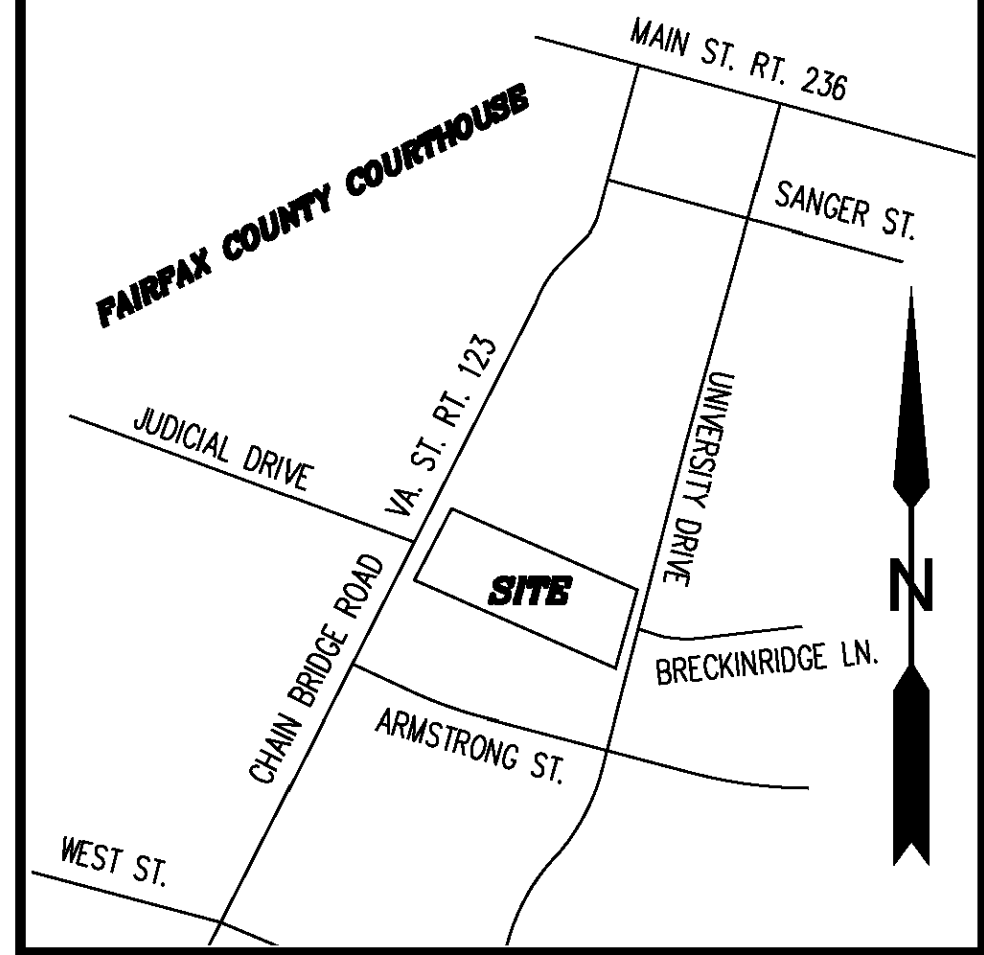
MODIFICATIONS/WAIVERS REQUESTED
● A MODIFICATION TO OVERALL CANOPY COVERAGE REQUIRED (Z.O. SECTION 4.5.6) IS HEREBY REQUESTED TO BE REVISED FROM 20% TO 7.26%.
● A MODIFICATION TO TRANSITIONAL YARD REQUIRED (Z.O. SECTION 4.5.5) FOR BUFFER A-B AND C-D IS HEREBY REQUESTED TO BE REVISED AS INDICATED IN THE "TRANSITIONAL YARD CALCULATIONS" TABLE ABOVE.

NOTES

1. THE PROPERTY SHOWN HEREON IS LOCATED IN THE CITY OF FAIRFAX, VIRGINIA AND HAS MAP NUMBER 57-0-02-0401
2. NO SUBSURFACE INVESTIGATION HAS BEEN PERFORMED.
3. NO OBSERVABLE EVIDENCE OF CEMETERIES WAS NOTED ON THE SUBJECT PROPERTY.
4. THE SUBJECT PROPERTY HAS DIRECT ACCESS TO CHAIN BRIDGE ROAD VA. RTE 123 A PUBLICLY DEDICATED RIGHT-OF-WAY.
5. NO ATTEMPT HAS BEEN MADE AS A PART OF THIS SURVEY TO OBTAIN OR SHOW DATA CONCERNING EXISTENCE, SIZE DEPTH, CONDITION, CAPACITY OR LOCATION OF ANY UTILITIES OR MUNICIPAL/PUBLIC SERVICE FACILITY. FOR INFORMATION REGARDING THESE UTILITIES OR FACILITIES CONTACT "MISS UTILITY" 1 (800) 257 -7777.
6. SUBJECT PROPERTY LIES IN ZONE "X" PER FIRM MAP COMMUNITY PANEL NUMBER 515524005D, DATED JUNE 06, 2006.
7. THE SUBJECT PROPERTY IS ZONED R-2
8. THE PROPERTY IS IN THE NAME OF THE HILL, A DAVES FAMILY LLC.

LEGEND

PKF PK NAIL FOUND
IPF IRON PIPE FOUND
IPS IRON PIPE SET
"X" X MARK SET



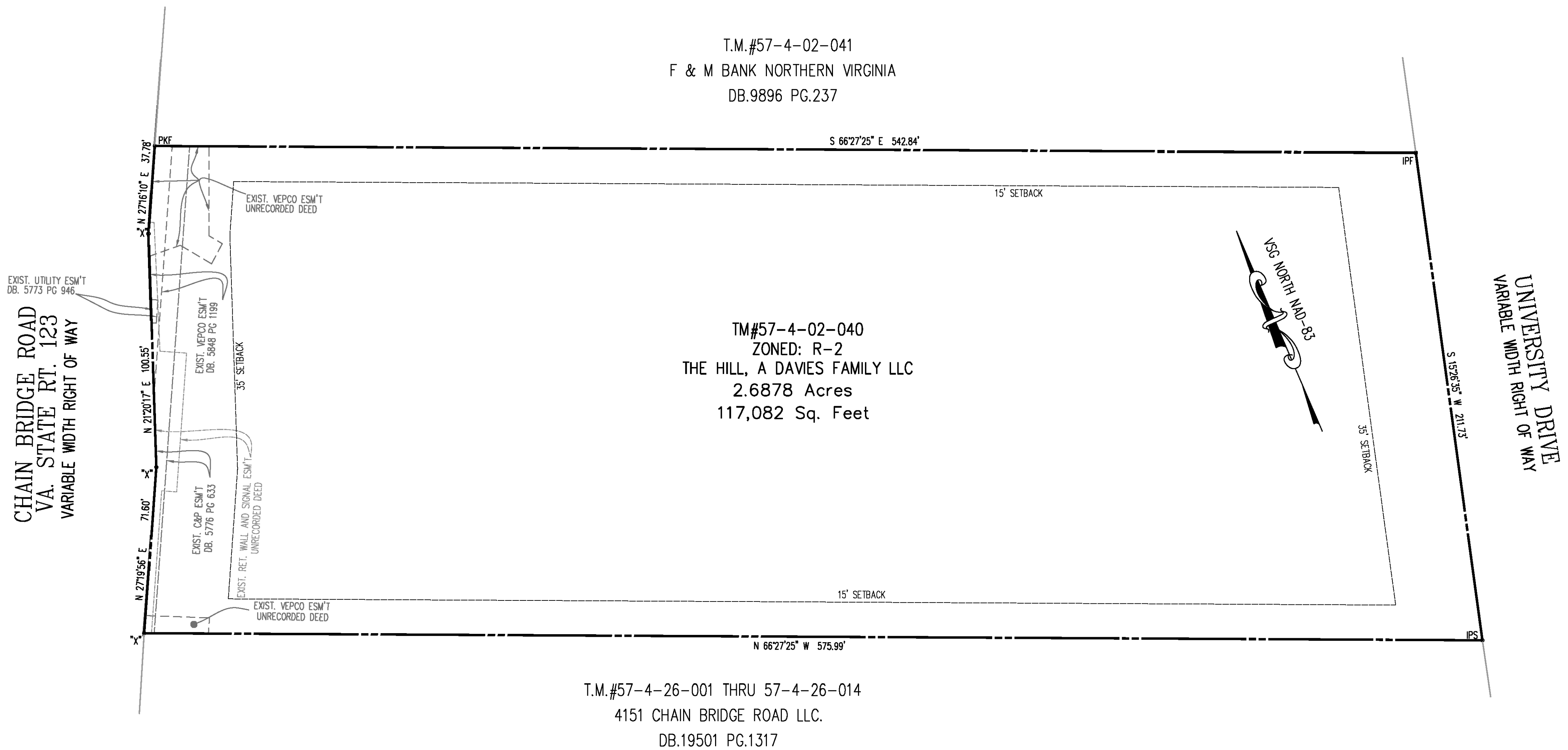
VICINITY MAP

SCALE 1"=500'

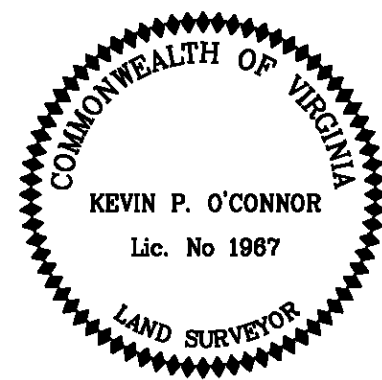
METES AND BOUNDS DESCRIPTION

BEGINNING AT A BEGINNING AT A POINT ON THE EASTERLY RIGHT OF WAY LINE OF CHAIN BRIDGE ROAD, VIRGINIA ROUTE 123; SAID POINT ALSO BEING THE SOUTH WEST CORNER OF THE LAND OF F&M BANK NORTHERN VIRGINIA AS RECORDED IN DEED 9896 AT PAGE 237 AMONG THE LAND RECORDS OF FAIRFAX COUNTY, VIRGINIA; THENCE DEPARTING THE EASTERLY RIGHT OF WAY LINE OF SAID CHAIN BRIDGE ROAD RUNNING WITH THE SOUTHERLY LINE OF SAID F&M BANK NORTHERN VIRGINIA S 66°27'25" E A DISTANCE OF 542.84 FEET TO A POINT; SAID POINT BEING ON THE WESTERLY RIGHT OF WAY LINE OF UNIVERSITY DRIVE, THENCE RUNNING WITH THE WESTERLY RIGHT OF WAY LINE OF SAID UNIVERSITY DRIVE S 15°26'35" W A DISTANCE OF 211.73 FEET TO POINT; SAID POINT ALSO BEING THE NORTH EAST CORNER TO THE LAND OF 4151 CHAIN BRIDGE ROAD, LLC AS RECORDED IN DEED BOOK 19501 AT PAGE 1317 AMONG THE LAND RECORDS OF FAIRFAX COUNTY, VIRGINIA; THENCE RUNNING WITH THE NORTHERLY LINE OF SAID 4151 CHAIN BRIDGE ROAD, LLC N 66°27'25" W A DISTANCE OF 575.99 FEET TO A POINT; SAID POINT BEING ON THE AFOREMENTIONED EASTERLY RIGHT OF WAY LINE OF CHAIN BRIDGE ROAD; THENCE RUNNING WITH EASTERLY RIGHT OF WAY LINE OF SAID CHAIN BRIDGE ROAD THE FOLLOWING COURSES AND DISTANCES:
N 27°19'56" E A DISTANCE OF 71.60 FEET TO POINT;
N 27°20'17" E A DISTANCE OF 100.55 FEET TO A POINT;
N 27°16'10" E A DISTANCE OF 37.78 TO THE POINT OF BEGINNING, HAVING AN AREA OF 117,082 SQUARE FEET, OR 2.6878 ACRES MORE OR LESS.

BEING THE SAME PROPERTY DESCRIBED IN THAT CERTAIN DEED DATED AUGUST 9, 2015, MADE BY HOPE DAVIES HUNTINGTON, VERA DAVIES LICHTENSTEIN AND BANKHEAD THORTON DAVES, GRANTORS, TO THE HILL, A DAVIES FAMILY LLC, GRANTEE, AS RECORDED IN THE LAND RECORDS OF FAIRFAX COUNTY, VIRGINIA ON SEPTEMBER 3, 2015, IN DEED BOOK 24278 PAGE 1095.



CERTIFIED PLAT
OF THE PROPERTY OF
THE HILL, A DAVIES FAMILY LLC
DB. 24278 PG. 1095
CITY OF FAIRFAX
FAIRFAX COUNTY, VIRGINIA
SCALE: 1" = 30' DATE: MARCH 25, 2016



Urban, Ltd.
4200 D Technology Court
Chantilly, Virginia 20151
Tel. 703.642.2306
www.urban-ld.com
Planners - Engineers - Landscape Architects - Land Surveyors