

MASTER DEVELOPMENT PLAN/ SPECIAL USE PERMIT PLAT FOR CITY CENTRE WEST CITY OF FAIRFAX, VIRGINIA

APPLICANT
OX HILL REALTY

10523 MAIN STREET
SUITE 200
FAIRFAX, VA 22030
(703)946-5590
CONTACT: CHRISTOPHER SMITH
CSMITH@OXHILLCO.COM

ATTORNEY

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SUITE 1800
ARLINGTON, VA 22201
(703) 528-4700
CONTACT: ROBERT BRANT
RBRANT@THELANDLAWYERS.COM

ARCHITECT
DCS DESIGN

8614 WESTWOOD CENTER DR
SUITE 800
TYSONS, VA 22182
(703) 556-9275
CONTACT: THOMAS DINNEY
TDINNEY@DCSDESIGN.COM

CIVIL ENGINEER
URBAN, LTD.

4200 D TECHNOLOGY CT.
CHANTILLY, VA 20151
(703) 642-2306
CONTACT: CLAYTON TOCK, P.E.
CTOCK@URBAN-LTD.COM

LANDSCAPE ARCHITECT
URBAN, LTD.

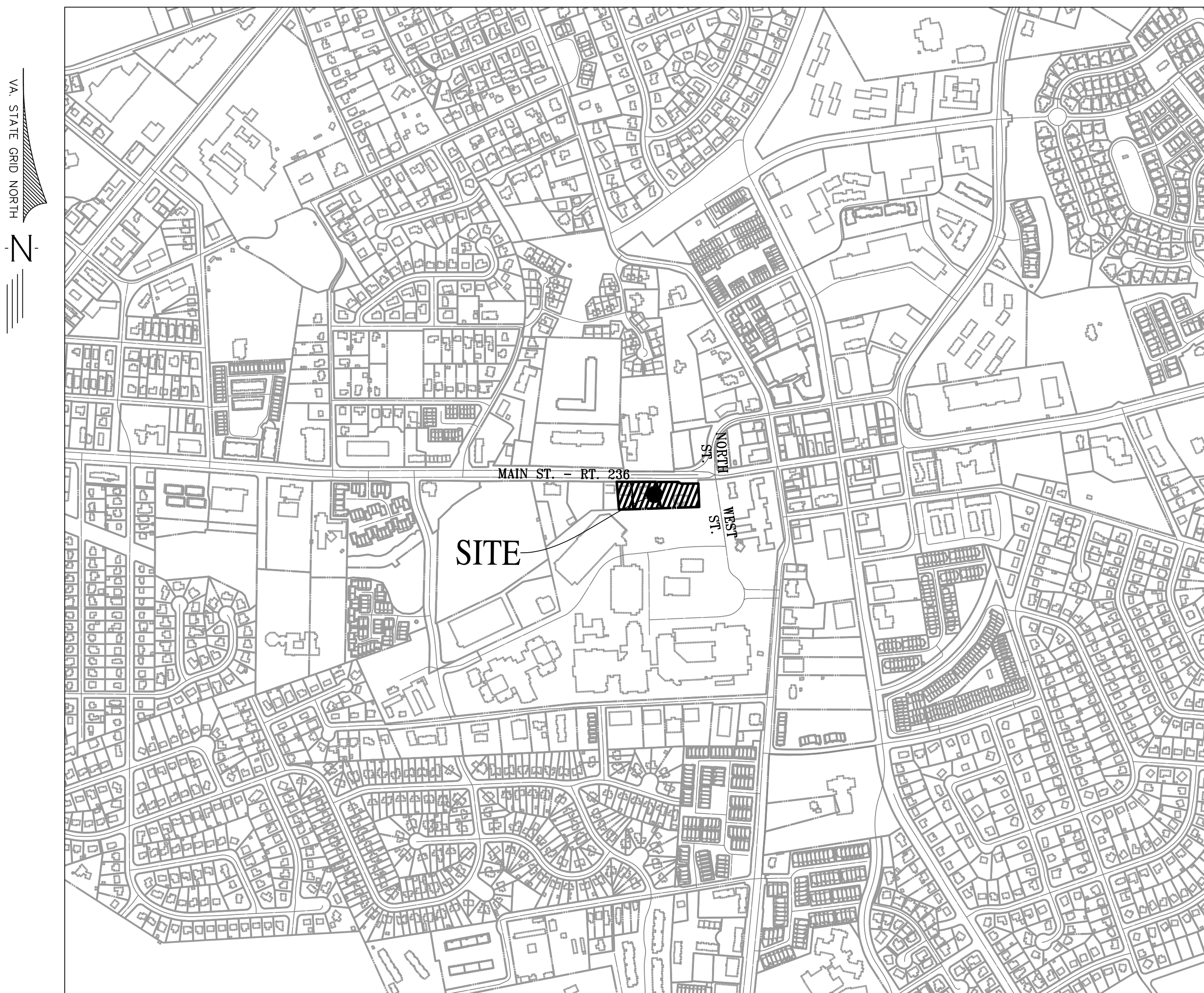
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CHANTILLY, VA 20151
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CONTACT: JOHN LIGHTLE
JLIGHTLE@URBAN-LTD.COM

TRAFFIC ENGINEER

GOROVE-SLADE ASSOCIATES INC

3914 CENTREVILLE RD.
SUITE 300
CHANTILLY, VA 20151
(703) 787-9915
CONTACT: MARIA LASHINGER
MARIA.LASHINGER@GOROVESLADE.COM

VICINITY MAP
SCALE: 1" = 500'

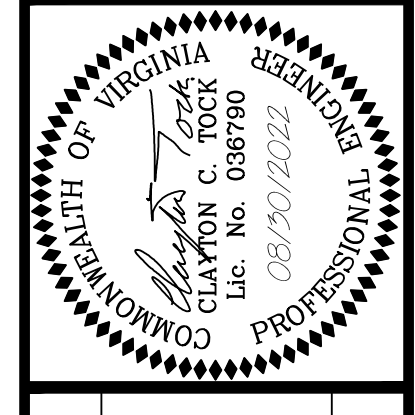
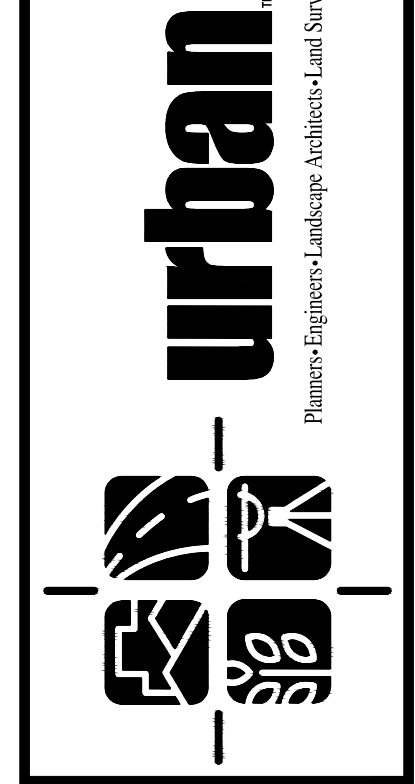


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NOTE: TOTAL 26 SHEETS

PLAN DATE	No.	DATE	DESCRIPTION
01-18-22			
08-30-22			

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COVER SHEET
CITY CENTRE WEST
MASTER DEVELOPMENT PLAN
SPECIAL USE PERMIT PLAT
CITY OF FAIRFAX, VIRGINIA
SCALE: AS NOTED
DATE: JAN., 2022
C.I. = N/A

SHEET
01
OF
26
FILE No.
RZ-13007

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GENERAL NOTES

1. THE PROPERTY DELINEATED HEREON IS LOCATED IN THE CITY OF FAIRFAX TAX MAP #57-04-02-071, #57-04-02-072, #57-04-02076
2. THE PROPERTY IS CURRENTLY ZONED CR (COMMERCIAL RETAIL) & CG (COMMERCIAL GENERAL). IT IS ALSO SUBJECT TO THE TRANSITION OVERLAY DISTRICT REGULATION.
3. THIS APPLICATION PROPOSES A REZONING OF THE PROPERTY TO THE COMMERCIAL GENERAL DISTRICT.
4. PORTION OF IMPROVEMENTS ON THIS APPLICATION ARE ON PROPERTY OWNED BY FAIRFAX COUNTY (TAX MAP#57-04-01-014). ALL OFFSITE IMPROVEMENTS ARE SUBJECT TO ISSUANCE OF ALL NECESSARY APPROVALS, PERMISSIONS, EASEMENTS, AND AGREEMENTS BY FAIRFAX COUNTY.
5. BOUNDARY AND TOPOGRAPHIC INFORMATION PROVIDED BY URBAN, LTD.
6. THE SITE IS PRESENTLY SERVED BY CITY OF FAIRFAX PUBLIC WATER AND SEWER.
7. THE PROPOSED IMPROVEMENTS RESULT IN AN INCREASED OF IMPERVIOUS AREA IN THE SUBJECT PROPERTY.
8. 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.
9. INDIVIDUAL UTILITY PLANS AND PROFILES WILL BE SUBMITTED WITH THE FINAL SITE PLAN.
10. 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.
11. THERE ARE NO KNOWN BURIAL SITES OR ARCHEOLOGICAL FEATURES ON THIS SITE.
12. EXISTING OFF-SITE STRUCTURES TO REMAIN ARE SHOWN SHADED ON THE REZONING & MASTER DEVELOPMENT PLAN.
13. THERE IS NO CITY, COUNTY, OR FEMA FLOODPLAIN ON THE PROPERTY.
14. 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 MASTER DEVELOPMENT PLAN.
15. THE PROPOSED BUILDING FOOTPRINTS SHOWN ON THIS MDP/SUP PLAT ARE PRELIMINARY IN NATURE AND SUBJECT TO CHANGE BASED ON FINAL ENGINEERING AT THE TIME OF SITE PLAN PROVIDED THAT SUCH MODIFICATIONS ARE SUBSTANTIALLY CONSISTENT WITH THE APPROVED MDP/SUP PLAT.
16. THE CITY STANDARD STREET LIGHTS ARE SUBJECT TO APPROVAL BY THE DEPARTMENT OF PUBLIC WORKS.
17. SITE LIGHTING IS TO BE DETERMINED AT THE TIME OF SITE PLAN AND WILL BE IN CONFORMANCE WITH SECTION 4.8 OF THE ZONING ORDINANCE AND THE PUBLIC FACILITIES MANUAL.

REQUESTED SPECIAL USE PERMITS, SPECIAL EXCEPTIONS, WAIVERS AND MODIFICATIONS

REQUIREMENT	WAIVER/MODIFICATION
SPECIAL EXCEPTION	SE OF ZONING ORDINANCE SECTION 3.7.3.C.2 TO ALLOW INCREASE IN 48' MAX. BLDG HEIGHT IN TO DISTRICT
SPECIAL EXCEPTION	SE OF ZONING ORDINANCE SECTION 4.3.3 TO ALLOW A WAIVER OF THE REQUIREMENT TO PROVIDE VEHICULAR ACCESS TO TAX MAP 57-04-02-070
SPECIAL EXCEPTION	SE OF ZONING ORDINANCE SECTION 3.7.3.C.3 TO ALLOW A MODIFICATION FOR REQUIRED YARDS IN THE TO DISTRICT
SPECIAL EXCEPTION	SE OF ZONING ORDINANCE SECTION 4.5.6.B TO ALLOW A MODIFICATION TO THE STREET TREE SPACING REQUIREMENTS
SPECIAL EXCEPTION	SE OF ZONING ORDINANCE SECTION 4.5.6 TO ALLOW A MODIFICATION OF THE TREE CANOPY REQUIREMENT
SPECIAL EXCEPTION	SE OF ZONING ORDINANCE SECTION 3.6.2 TO ALLOW A MODIFICATION OF THE MAXIMUM PERMITTED DENSITY
SPECIAL USE PERMIT	SUP OF ZONING ORDINANCE SECTION 3.3.1.B TO ALLOW A DRIVE-THROUGH FINANCIAL INSTITUTION

POSSIBLE GREEN ROOF AMENITIES

GREEN ROOF AMENITY AREAS DELINEATED ON LEVELS 3 AND 7 MAY INCLUDE USEABLE AMENITY SPACE WITH HARDSCAPES, OUTDOOR FURNITURE, SHADE STRUCTURES, MOVEABLE PLANTERS, AND SIMILAR ENTITIES. THESE SPACES MAY ALSO CONTAIN VEGETATED AREAS WITH VARIOUS SOIL DEPTHS FOR EXTENSIVE, INTENSIVE, SEMI-INTENSIVE, OR A COMBINATION OF THESE VEGETATED AREA TYPES. ADDITIONALLY, THE ROOF ON LEVEL 7 MAY CONTAIN EXTENSIVE VEGETATED AREAS WITH SHALLOW SOIL SYSTEMS (I.E. SEDUM TRAYS).

ALL VEGETATED AREAS ON ANY LEVEL MAY BE USED TO TREAT STORMWATER, BUT SHALL NOT BE A REQUIRED COMPONENT OF THE STORMWATER MANAGEMENT SYSTEM AT TIME OF FINAL ENGINEERING.

THE GREEN ROOF AMENITY AREAS SHALL BE GENERALLY PROVIDED AS SHOW HEREON, BUT LOCATIONS AND MINOR ADJUSTMENTS TO SIZES MAY BE REVISED AT TIME OF FINAL ENGINEERING.

LEGAL DESCRIPTION



Overall Description of The Properties of Infinite Equity, LLC
 Deed Book 23432 at Page 1808
 George and Georgia Volkas, Trustees
 Deed Book 20986 at Page 1676
 And
 Dana Ellen Smith, Trustee
 Deed Book 25158 at Page 906
 City of Fairfax, Virginia

Beginning at an iron pipe set on the southernmost corner of the land of 10533 Main Street LLC, as recorded in Deed Book 19552 at Page 485 among the land records of Fairfax County, Virginia. Said point also being in the line of the land of Fairfax County Board of Supervisors, as recorded in Deed Book 1631 at Page 196 among the land records of Fairfax County, Virginia; Thence departing the land of said Fairfax County Board of Supervisors and running with the land of said 10533 Main Street LLC;

North 18°29'39" East a distance of 170.49 feet to a drill hole set in the southerly right-of-way line of Main Street, Virginia State Route 236, a variable width right-of-way. Thence departing the land of said 10533 Main Street LLC and running with the southerly right-of-way line of said Main Street;

South 65°57'21" East a distance of 86.99 feet to an iron pipe set;

North 18°25'39" East a distance of 0.49 feet to a drill hole set;

123.36 feet along the arc of a curve to the right having a radius of 22875.00 feet and subtended by a chord bearing South 66°38'37" East a distance of 123.36 feet to a drill hole set;

South 66°29'21" East a distance of 31.35 feet to a drill hole set;

South 13°37'09" West a distance of 1.22 feet to an iron pipe set;

South 66°48'21" East a distance of 131.62 feet to an iron pipe set;

South 33°52'38" East a distance of 18.41 feet to an iron pipe found;

South 66°48'21" East a distance of 107.00 feet to an iron pipe found on a line of the land of the aforementioned Fairfax County Board of Supervisors; Thence departing the



southerly right-of-way line of said Main Street and running with the land of said Fairfax County Board of Supervisors;
 South 21°21'39" West a distance of 141.88 feet to an iron pipe found;
 North 68°30'21" West a distance of 486.74 feet to the point of beginning and containing an area of 77,683 square feet or 1.7833 acres, more or less.

ZONING STANDARDS

SITE DATA

ZONING:	EXISTING..... CR & CG, TO DISTRICT PROPOSED..... COMMERCIAL GENERAL (CG), TO DISTRICT
USE:	EXISTING..... OFFICE RETAIL, RESTAURANT PROPOSED..... UPPER STORY RESIDENTIAL/ MIXED USE, RETAIL, RESTAURANT, OFFICE GENERAL, OFFICE MEDICAL
SITE AREA:	77,683 SF (1.78 ACRES)
ROW DEDICATION:	2,998 SF (0.068 ACRES)
TOTAL SITE AREA:	74,685 SF (1.71 ACRES)

SEC. 3.6.2 AND 3.7.3: BULK AND LOT AREA REQUIREMENTS PER CG AND TO DISTRICT REGULATIONS

	REQUIRED		PROVIDED
	COMMERCIAL GENERAL (SEC. 3.6.2)	TRANSITION OVERLAY (SEC. 3.7.3)	
MIN. LOT AREA (SF)	22,000	NONE	77,683
**REQUIRED YARDS (FT.)			
FRONT AND SIDE (STREET)	20' MIN	10' MAX	±17
SIDE (INTERIOR)	25' MIN	N/A	±5
REAR	25' MIN	N/A	±17
BUILD-TO LINE, (PERCENT)	N/A	50	
LOT WIDTH (FT.)	150	N/A	491
HEIGHT, MAX. (STORIES/FEET)	5 STORIES/60	48 FT*	9 STORIES/92.83'
BUILDING COVERAGE, MAX. (%)	N/A	80	68
LOT COVERAGE, MAX. (%)	N/A	90	89
DENSITY, MAX	24 UNITS/ACRE	N/A	49.4 UNITS/ACRE*

*SEE THIS SHEET FOR ZONING MODIFICATION REQUESTS
 **PROPERTY IS NOT ADJACENT TO A RESIDENTIAL DISTRICT OUTSIDE THE TRANSITION OVERLAY DISTRICT BOUNDARIES

DEVELOPMENT PROGRAM

LEVELS	MIXED USE BUILDING AREAS (SF)										
	BUILDING + GARAGE	BUILDING AREA/LEVEL	RETAIL RESTAURANT	BANK	OFFICE GENERAL	OFFICE MEDICAL	SHARED AREAS	MULTIFAMILY	MULTIFAMILY UNITS	MULTIFAMILY USES	% OF RESIDENTIAL USE OF GROUND LEVELS
P4-390	43,147	0									
P3-399	52,641	0									
P2-408	52,641	1,625				1,625					
P1-418	50,496	11,498			3,328		5,849			2,321	4.60%
L1-427	49,301	49,301	7,324		13,199	5,023	12,649			959	1.95%
L2-443	50,683	50,683			50,683						
L3-456	40,433	40,433						40,433	22		
L4-466-8	40,433	40,433						40,433	22		
L5-477-4	40,433	40,433						40,433	22		
L6-488	38,282	38,282						38,282	18		
ROOFTOP-500-4	11,355	11,355						7,026	Loft*	4,329	
SUBTOTALS	469,845	284,043	7,324	16,527	55,706	12,649	17,621	166,607	84	7,609	
TOTALS			7,324	16,527	55,706	12,649		191,837	84		

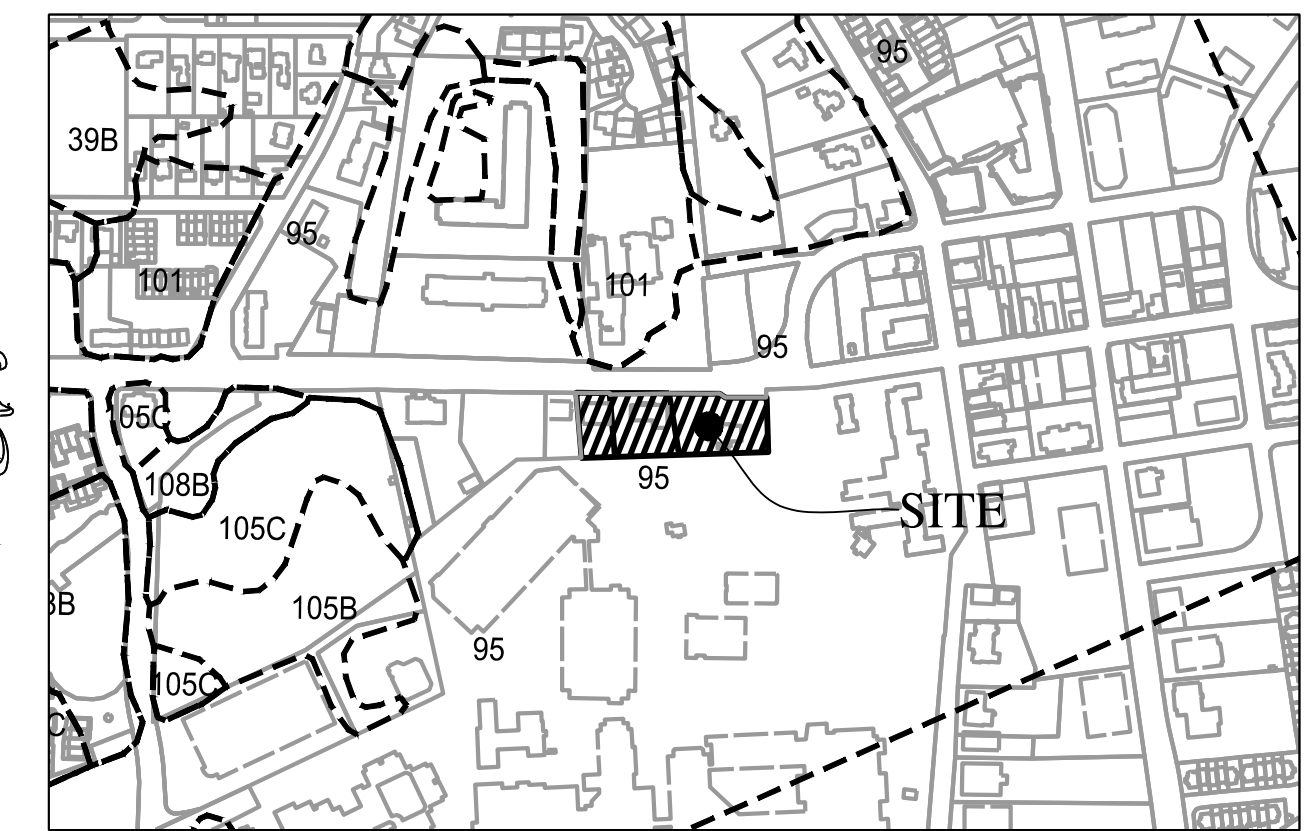
*LOFT SPACES ARE ATTACHED TO AND PART OF THE UNITS AT THE 6TH FLOOR LEVEL.

SEC. 4.2.3E: OFF-STREET PARKING AND LOADING (ENTIRE SITE)

OFF-STREET PARKING AND LOADING REQUIREMENTS PER CITY OF FAIRFAX ZONING ORDINANCE (SEC. 4.2.3E)				
PARKING	USE	RATE	REQUIRED	REQUIRED AFTER REDUCTIONS
RETAIL/RESTAURANT	1 SPACE/200 SF	37	19	19
	1 SPACE/300 SF	54	27	27
	2 SPACE/300 SF	182	91	91
	1 SPACE/200 SF	61	31	31
	UPPER STORY RESIDENTIAL/MIXED USE			
LOADING	1 BEDROOM 1.5 SPACES/UNIT	12	-	12
	2 BEDROOM 2 SPACES/UNIT	120	-	120
	3 BEDROOM 2 SPACES/UNIT	40	-	40
			TOTAL PARKING REQUIRED	340
LOADING				
UPPER STORY RESIDENTIAL/MIXED USE (4+ STORIES)	50+ UNITS	1		
			TOTAL LOADING SPACES REQUIRED	1

OFF-STREET PARKING AND LOADING PROVIDED		
PARKING	GARAGE PARKING	
	LEVEL P4	123
	LEVEL P3	146
	LEVEL P2	115
	LEVEL P1	76
TOTAL GARAGE PARKING		460
SURFACE PARKING		7
TOTAL PARKING PROVIDED		467
LOADING SPACES PROVIDED		1

SOILS MAP



SCALE: 1" = 500'

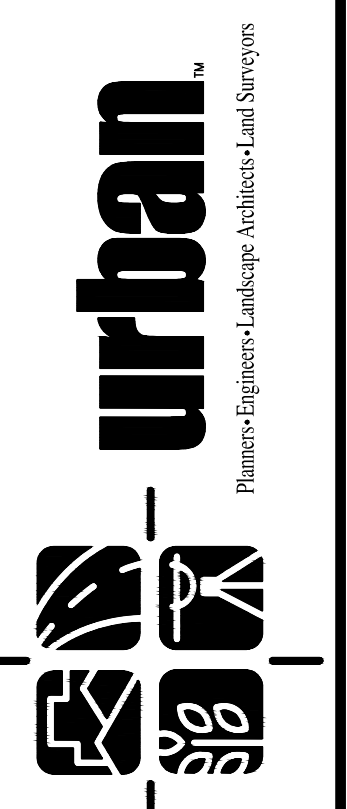
SOIL ID NUMBERS	SOIL SERIES NAME	FOUNDATION SUPPORT	SOIL DRAINAGE	EROSION POTENTIAL	HYDROLOGIC SOIL GROUP
105B	WHEATON GLENELG COMPLEX 2-7% SLOPES	GOOD	GOOD	HIGH	D
105C	WHEATON GLENELG COMPLEX 7-15% SLOPES	GOOD	GOOD	HIGH	D
101	URBAN LAND - GLENELG COMPLEX 2-7%	GOOD	FAIR	HIGH	D
95	URBAN LAND	N/A	N/A	N/A	NA

LEGEND:

- EXISTING STORM DRAIN STRUCTURE
- PROPOSED STORM DRAIN STRUCTURE
- EXISTING CONTOUR
- PROPOSED CONTOUR
- EXISTING SANITARY SEWER
- PROPOSED SANITARY SEWER
- EXISTING WATER LINE
- PROPOSED WATER LINE
- EXISTING TREE LINE
- EXISTING PROPERTY LINE
- PROPOSED PROPERTY LINE
- EXISTING PROPERTY LINE PIPES
- PROPOSED PROPERTY LINE PIPES
- PROPOSED CURB & GUTTER
- EXISTING CURB & GUTTER
- EXISTING TRAFFIC POLE
- EXISTING SPOT ELEVATION
- PROP. SPOT ELEVATION
- EXISTING FENCE
- EXISTING LIGHTING
- PROPOSED LIGHTING
- EXISTING TREE
- PROPOSED TREE
- PROJECTED TRAFFIC COUNT (BASED ON 6TH ED. OF ITE TRIP GENERATION BOOK)
- EXISTING OVERHEAD WIRE
- PROP. FENCE

PLAN DATE	DESCRIPTION
01-18-22	
08-30-22	

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GENERAL NOTES & DETAILS
 CITY CENTRE WEST
 MASTER DEVELOPMENT PLAN
 SPECIAL USE PERMIT PLAT
 CITY OF FAIRFAX, VIRGINIA

DATE: JAN., 2022
 SCALE: AS SHOWN
 C.I. = N/A

SHEET 02 OF 26
 FILE No. RZ-13007

Urban, Ltd. - \\mors-101\DRIVE\JOBS\10523 main street\engineering\entitlement\cop-fdp-spex\13007-02-GNOTES.dwg (NOTES) August 30, 2022 - 12:46pm mboalwin

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APPLICATION AREA WITHIN CITY OF FAIRFAX
 EX. MAIN ST. - RT. 236
 POSTED SPEED - 25 MPH

EX. PL TO BE CONSOLIDATED

LEGEND:
 LIMITS OF CONSOLIDATED LOT

PARCEL AREA SUMMARY:

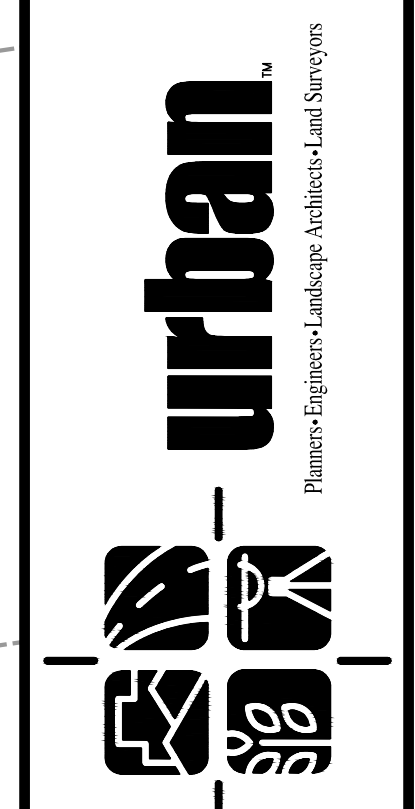
057-4-02-071 (CITY OF FAIRFAX)
 14,601 SQ.FT 0.34 ACRES

057-4-02-072 (CITY OF FAIRFAX)
 26,416 SQ.FT (OR 0.60 ACRES)

057-4-02-072 (CITY OF FAIRFAX)
 36,666 SQ.FT (OR 0.84 ACRES)

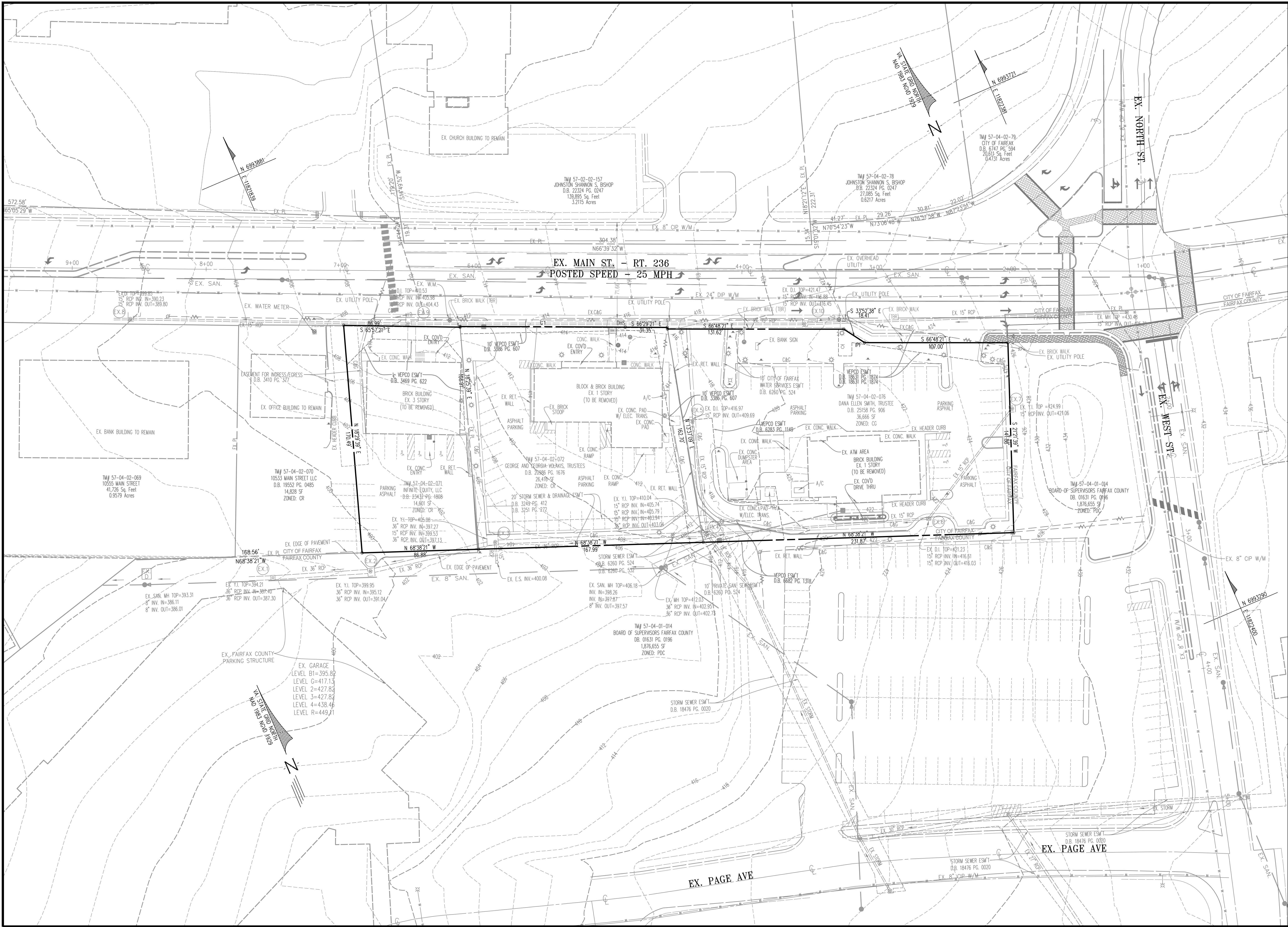
PROPERTY EXHIBIT CITY CENTRE WEST MASTER DEVELOPMENT PLAN SPECIAL USE PERMIT PLAT CITY OF FAIRFAX, VIRGINIA	
SHEET 03 OF 26	DATE: JAN., 2022
FILE No. RZ-13007	SCALE: 1"=30' C.I.= N/A
PLAN DATE 01-18-22 08-30-22	
No.	DATE
	DESCRIPTION
	REVISIONS

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COMMONWEALTH OF VIRGINIA
 CLAYTON C. LOCK
 Lic. No. 086790
 08/20/2022
 PROFESSIONAL ENGINEER

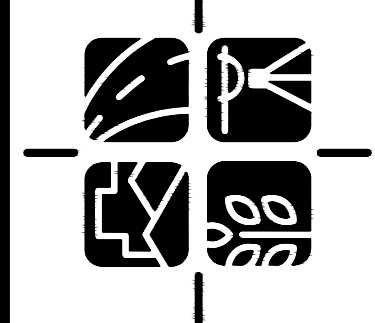
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No.	DATE	DESCRIPTION

PLAN DATE
01-18-22
08-30-22

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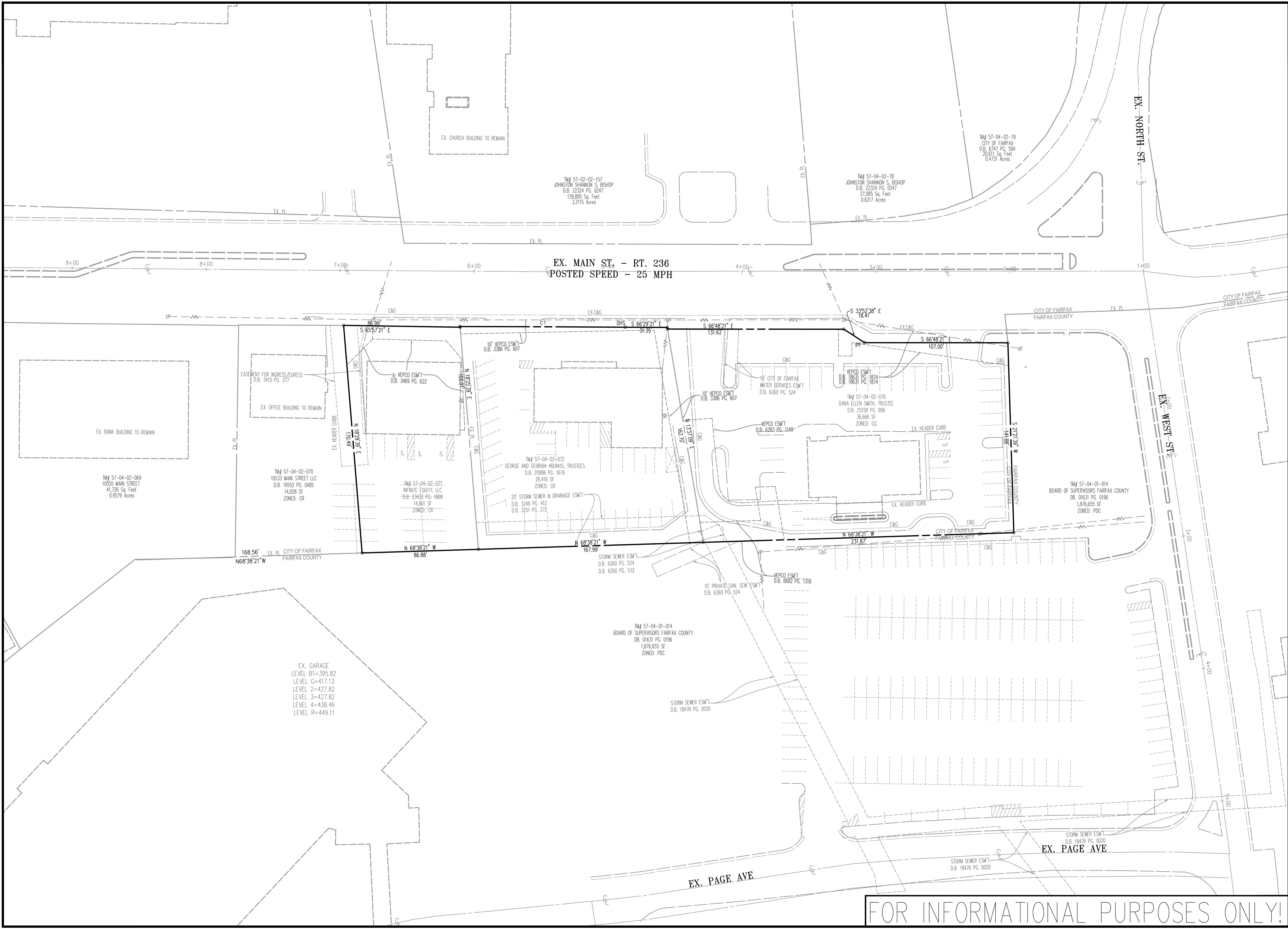


EXISTING CONDITIONS
CITY CENTRE WEST
MASTER DEVELOPMENT PLAN
SPECIAL USE PERMIT PLAN
CITY OF FAIRFAX, VIRGINIA

DATE: JAN., 2022
SCALE: 1"=30'
C.I.=2'

SHEET
04
OF
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FILE No.
RZ-13007

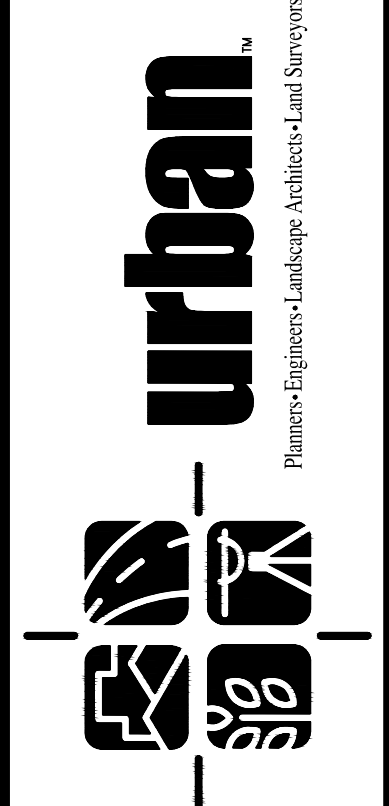
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No.	DATE	DESCRIPTION

PLAN DATE
01-18-22
08-30-22

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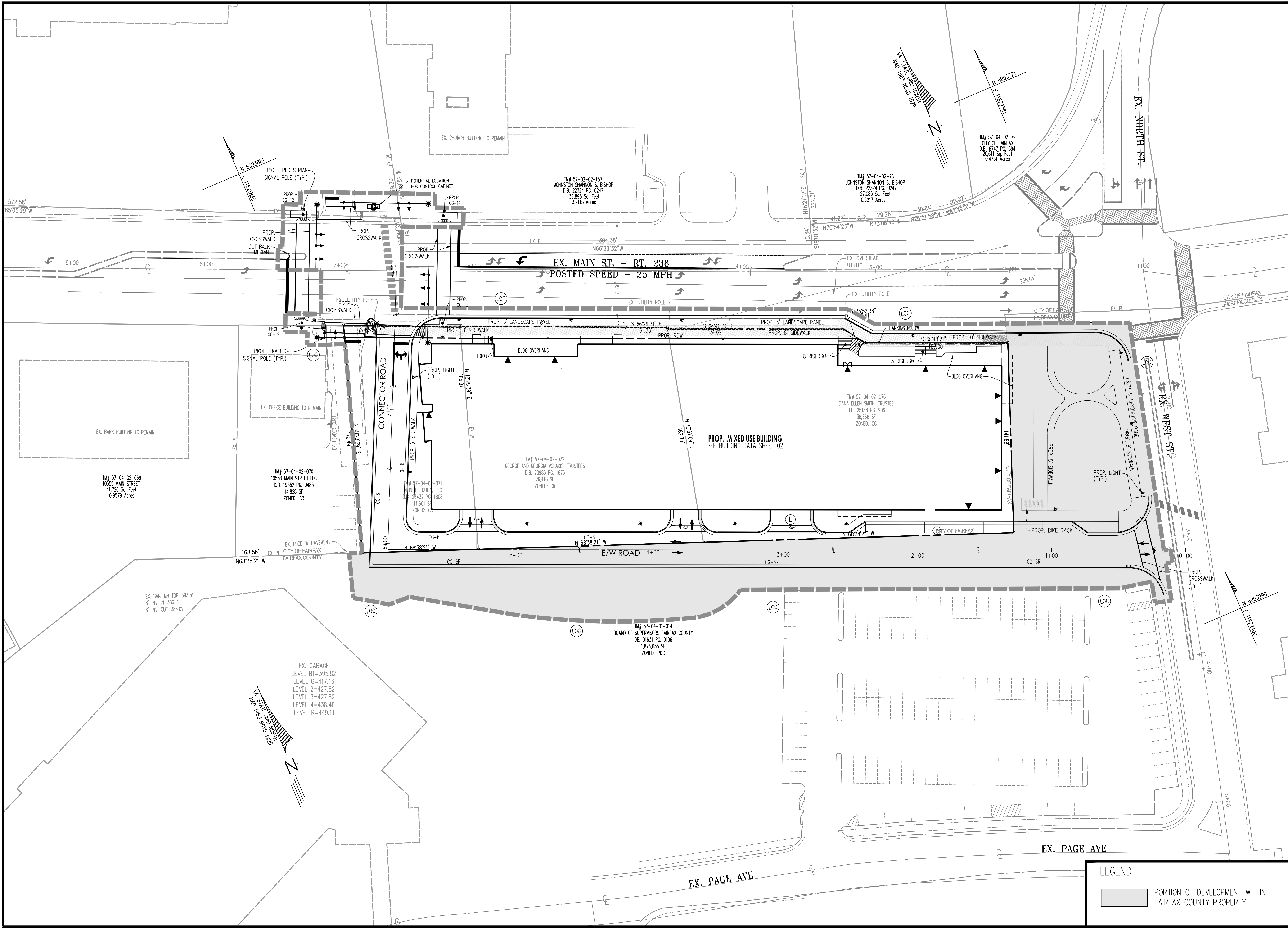
EXISTING CONDITIONS
CITY CENTRE WEST
MASTER DEVELOPMENT PLAN
SPECIAL USE PERMIT PLAT
CITY OF FAIRFAX, VIRGINIA
C.I. = N/A

DATE: JAN., 2022
SCALE: 1"=30'

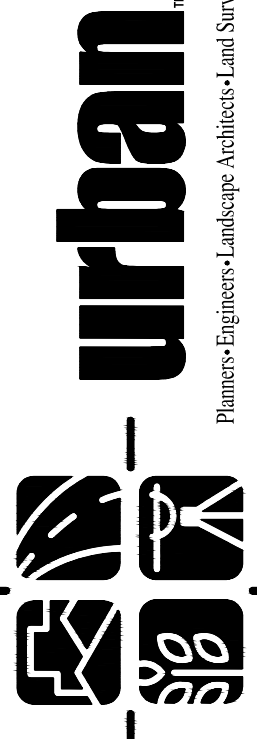
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FILE No.
RZ-13007

FOR INFORMATIONAL PURPOSES ONLY!

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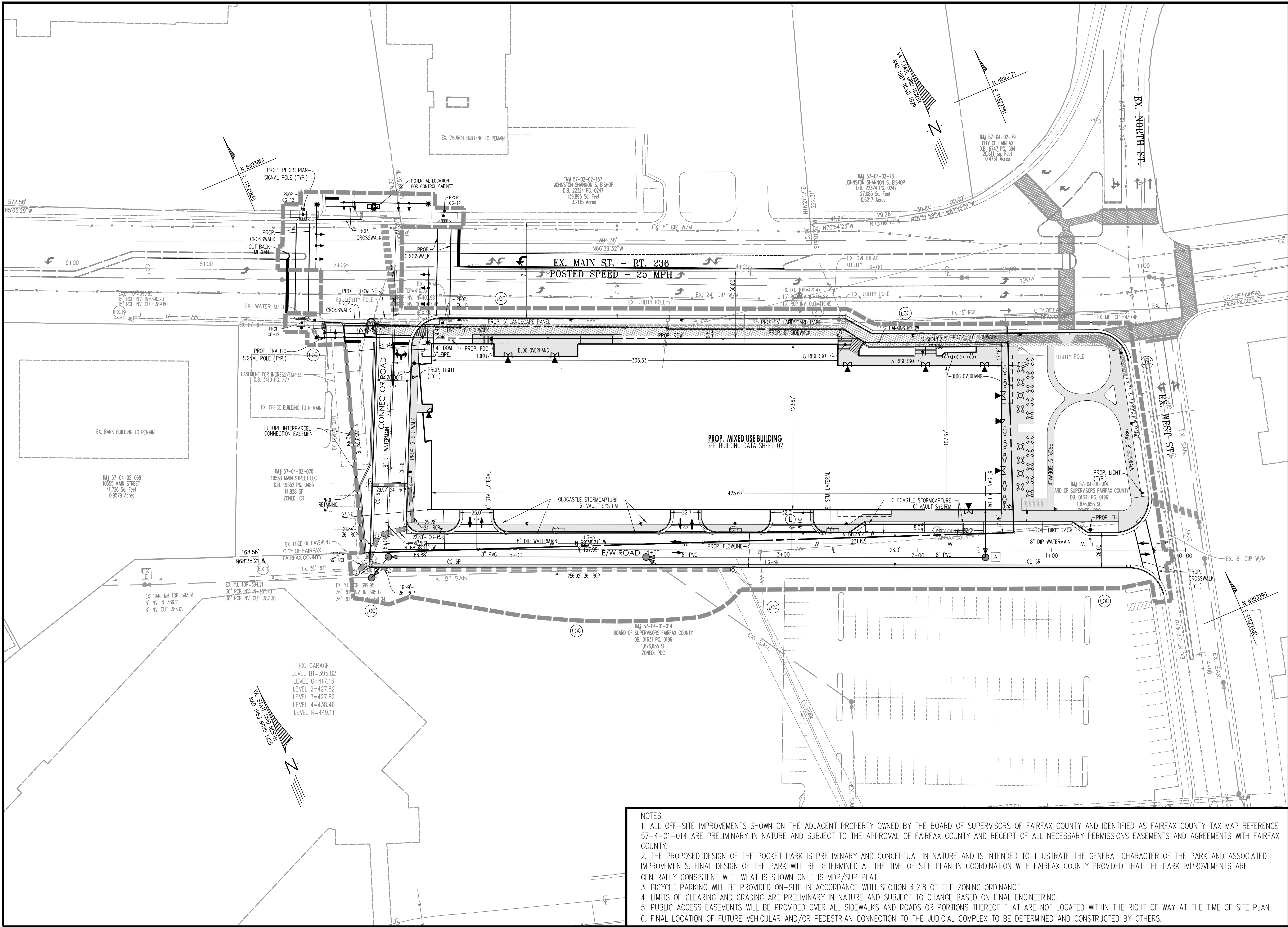
<p>Urban, Ltd. 4900 D TECHNOLOGY CT. CHANTILLY, VA, 20151 TEL: 703.528.8800 FAX: 703.528.8888 www.urban-lltd.com</p>	
<p>PLAN DATE 01-18-22 08-30-22</p>	<p>DESCRIPTION REVISIONS</p>
<p>APPLICATION BOUNDARY EXHIBIT CITY CENTRE WEST MASTER DEVELOPMENT PLAN SPECIAL USE PERMIT PLAT CITY OF FAIRFAX, VIRGINIA</p>	
<p>DATE: JAN., 2022</p>	<p>DATE: JAN., 2022</p>
<p>SCALE: 1"=30'</p>	<p>C.I.=N/A</p>
<p>SHEET 05 OF 26</p>	<p>FILE No. RZ-13007</p>



LEGEND

■ PORTION OF DEVELOPMENT WITHIN FAIRFAX COUNTY PROPERTY

Urban, Ltd. - \\mors-101\DRIVE\0055\0523 main street\engineering\entitlement\cop-fdp-spex\13007-03-GEOMETRY.dwg [Layout] August 30, 2022 - 12:46pm mboldwin

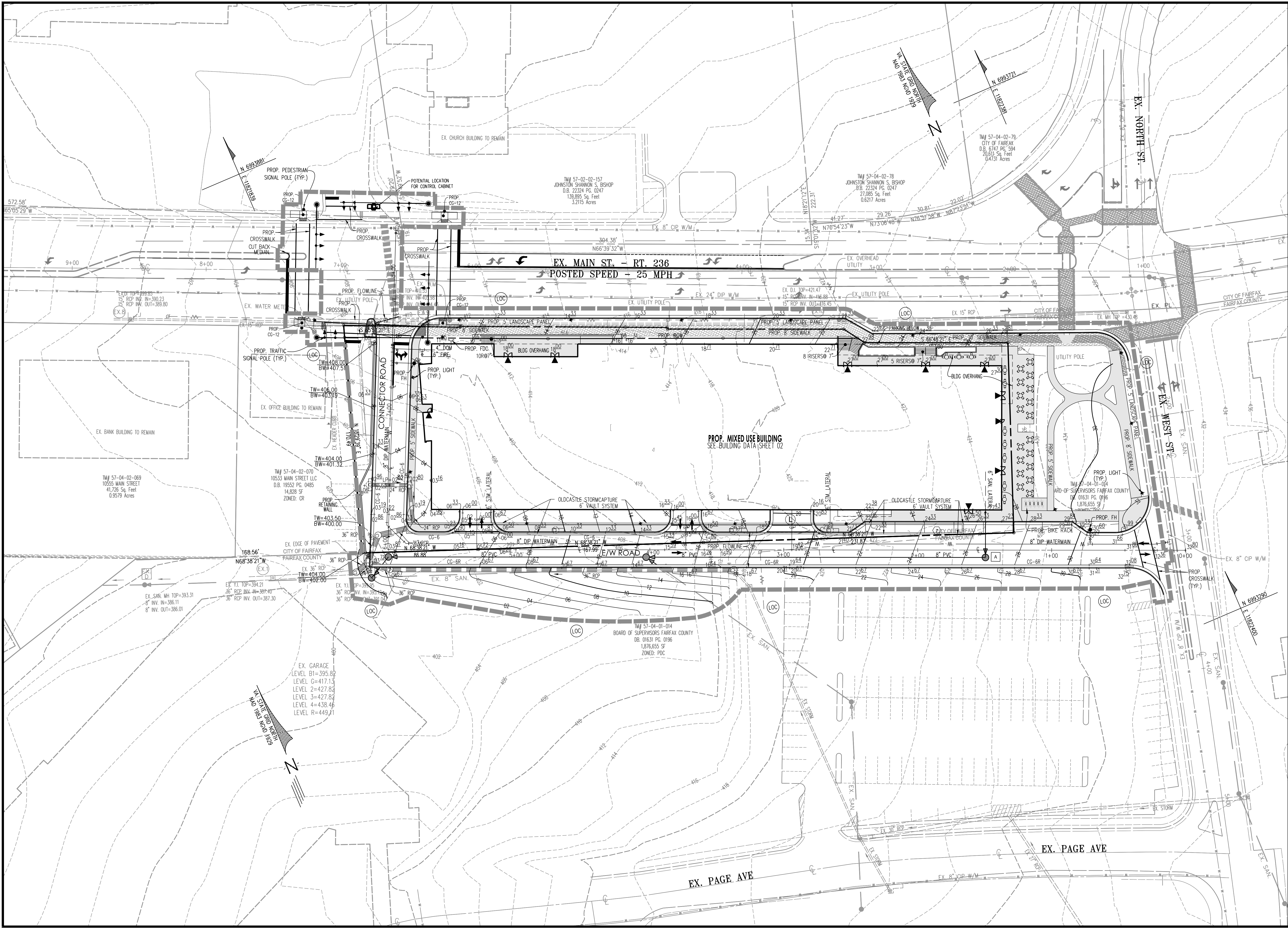


NOTES:

1. ALL OFF-SITE IMPROVEMENTS SHOWN ON THE ADJACENT PROPERTY OWNED BY THE BOARD OF SUPERVISORS OF FAIRFAX COUNTY AND IDENTIFIED AS FAIRFAX COUNTY TAX MAP REFERENCE 57-4-01-014 ARE PRELIMINARY IN NATURE AND SUBJECT TO THE APPROVAL OF FAIRFAX COUNTY AND RECEIPT OF ALL NECESSARY PERMISSIONS EASEMENTS AND AGREEMENTS WITH FAIRFAX COUNTY.
2. THE PROPOSED DESIGN OF THE POCKET PARK IS PRELIMINARY AND CONCEPTUAL IN NATURE AND IS INTENDED TO ILLUSTRATE THE GENERAL CHARACTER OF THE PARK AND ASSOCIATED IMPROVEMENTS. FINAL DESIGN OF THE PARK WILL BE DETERMINED AT THE TIME OF SITE PLAN IN COORDINATION WITH FAIRFAX COUNTY PROVIDED THAT THE PARK IMPROVEMENTS ARE GENERALLY CONSISTENT WITH WHAT IS SHOWN ON THIS MDP/SUP PLAT.
3. BICYCLE PARKING WILL BE PROVIDED ON-SITE IN ACCORDANCE WITH SECTION 4.2.8 OF THE ZONING ORDINANCE.
4. LIMITS OF CLEARING AND GRADING ARE PRELIMINARY IN NATURE AND SUBJECT TO CHANGE BASED ON FINAL ENGINEERING.
5. PUBLIC ACCESS EASEMENTS WILL BE PROVIDED OVER ALL SIDEWALKS AND ROADS OR PORTIONS THEREOF THAT ARE NOT LOCATED WITHIN THE RIGHT OF WAY AT THE TIME OF SITE PLAN.
6. FINAL LOCATION OF FUTURE VEHICULAR AND/OR PEDESTRIAN CONNECTION TO THE JUDICIAL COMPLEX TO BE DETERMINED AND CONSTRUCTED BY OTHERS.

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<p>urban Planners • Engineers • Landscape Architects • Land Surveyors</p>							
<p>COMMONWEALTH OF VIRGINIA CLAYTON C. ROCK Lic. No. 086790 08/20/2022 PROFESSIONAL ENGINEER</p>							
<p>MASTER DEVELOPMENT PLAN - SUP PLAT CITY CENTRE WEST MASTER DEVELOPMENT PLAN SPECIAL USE PERMIT PLAT CITY OF FAIRFAX, VIRGINIA</p>	<p>DATE: JAN., 2022 SCALE: 1"=30' C.I.=N/A</p>						
<p>PLAN DATE 01-18-22 08-30-22</p>	<p>REVISIONS</p> <table border="1"> <tr> <th>No.</th> <th>DATE</th> <th>DESCRIPTION</th> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </table>	No.	DATE	DESCRIPTION			
No.	DATE	DESCRIPTION					
<p>SHEET 06 OF 26</p>	<p>FILE No. RZ-13007</p>						

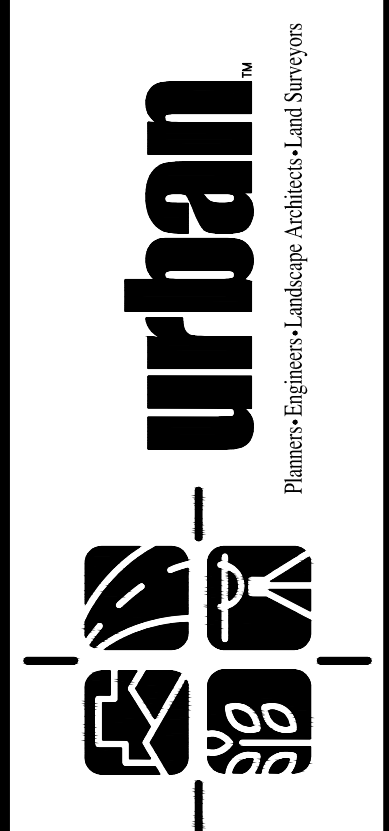
Urban, Ltd. - \\mors-101\DRIVE\0053\0523 main street\engineering\entitlement\cop-fdp-spex\13007-03-GRADING.dwg [Layout] August 30, 2022 - 12:48pm mtdowd



No.	DATE	DESCRIPTION
01-18-22		
08-30-22		

PLAN DATE
01-18-22
08-30-22

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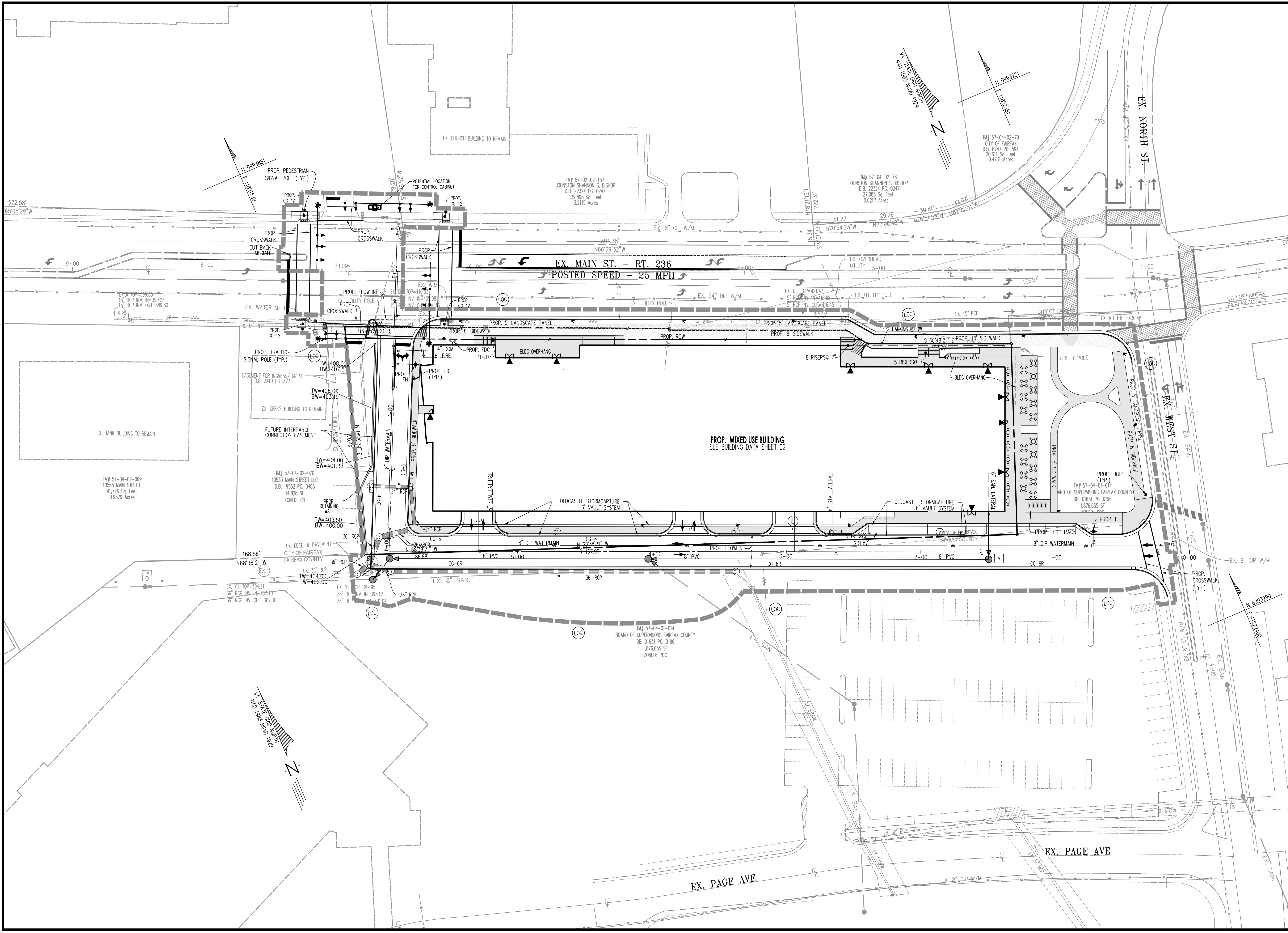


GRADING PLAN
CITY CENTRE WEST
MASTER DEVELOPMENT PLAN
SPECIAL USE PERMIT PLAN
CITY OF FAIRFAX, VIRGINIA

DATE: JAN., 2022
SCALE: 1"=30'
C.I.=2'

SHEET
07
OF
26
FILE No.
RZ-13007

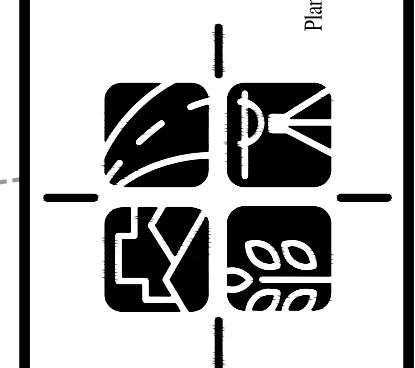
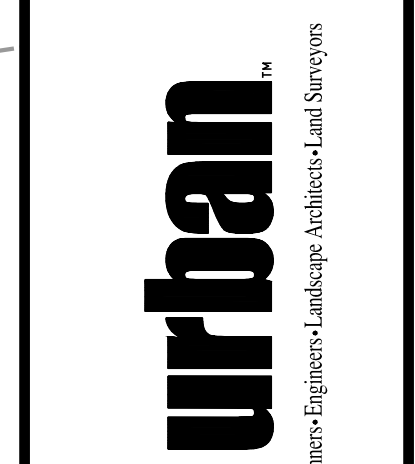
Urban, Ltd. - \\mors-101\DRIVE\0523 main street\engineering\entitlement\cop-fdp-spex\13007-08-UTILITY.dwg [UTILITY] August 30, 2022 - 12:49pm mbaldwin



No.	DATE	DESCRIPTION
01-18-22		
08-30-22		

PLAN DATE
01-18-22
08-30-22

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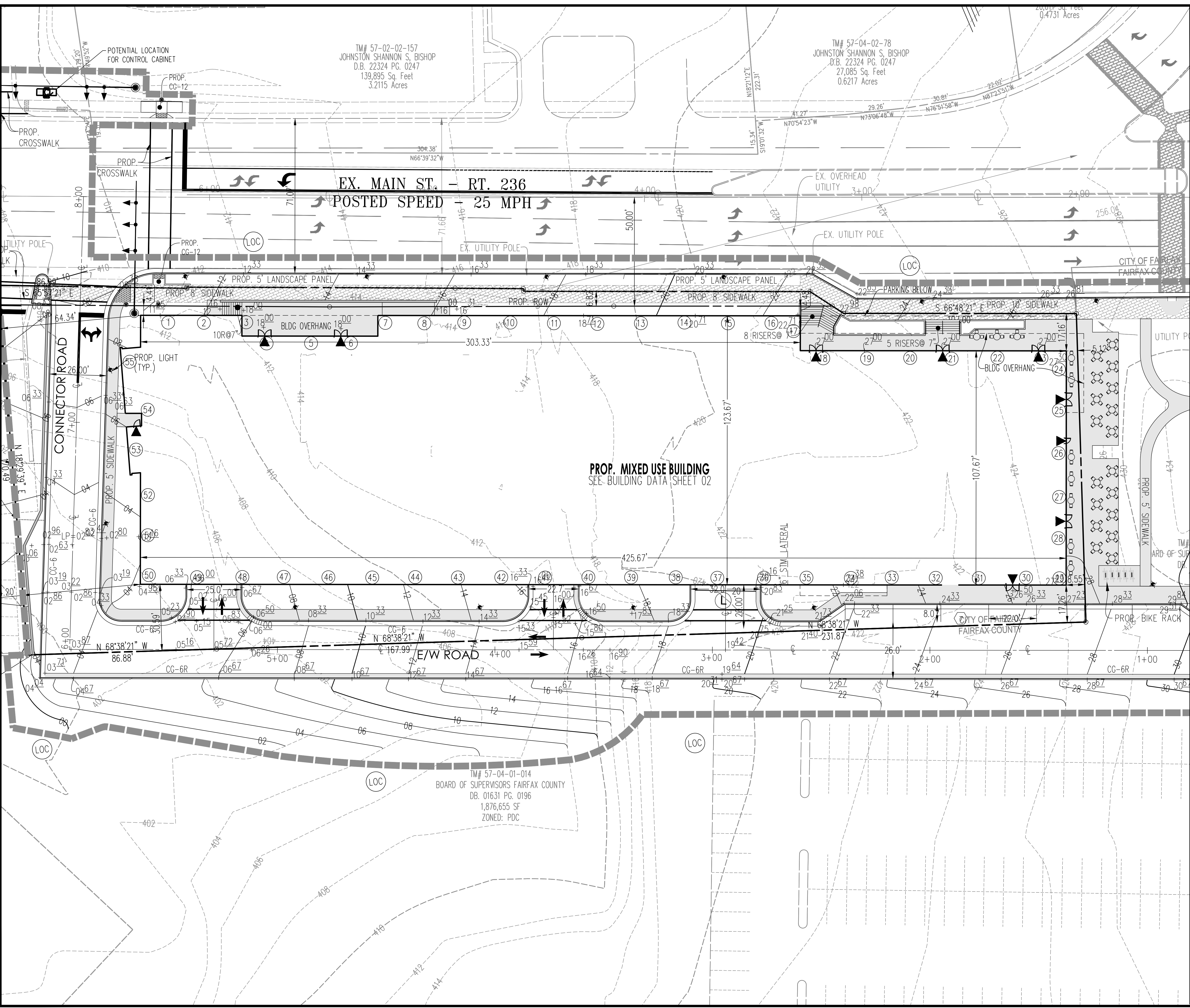
CONCEPTUAL UTILITY PLAN
CITY CENTRE WEST
MASTER DEVELOPMENT PLAN
SPECIAL USE PERMIT PLAT
CITY OF FAIRFAX, VIRGINIA

DATE: JAN., 2022

SCALE: 1"=30'

SHEET
08
OF
26
FILE No.
RZ-13007

Urban, Ltd. - \\mars-101\J_DRIVE\08510523_main_street\p-engineering\ventilation\csp-fp-spx-13007-42-AVERAGE GRADE.dwg [Average Exhibit] August 30, 2022 - 12:49pm mtdowd



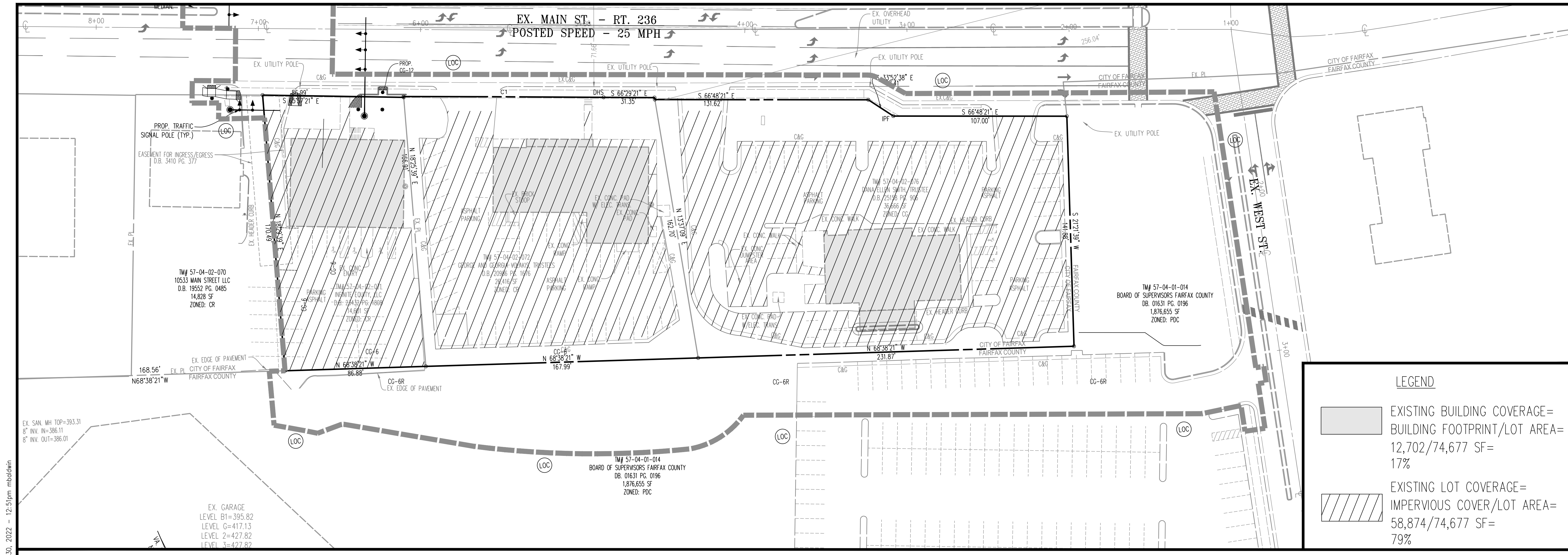
AVERAGE GRADE CALCULATION

SPOT #	City Center West	
	Existing ELEVATION (ft)	Proposed ELEVATION (ft)
1	412.00	411.25
2	412.00	412.00
3	412.36	418.00
4	412.51	418.00
5	413.04	418.00
6	413.53	418.00
7	413.61	418.00
8	414.00	416.00
9	414.00	416.31
10	414.00	417.35
11	418.00	418.18
12	419.13	418.71
13	420.00	419.88
14	420.82	420.71
15	421.56	421.33
16	422.00	422.15
17	422.68	427.00
18	422.00	427.00
19	423.17	427.00
20	423.60	427.00
21	423.76	427.00
22	425.11	427.00
23	425.02	427.00
24	425.35	427.30
25	425.27	427.53
26	425.17	427.67
27	425.00	427.80
28	425.48	427.94
29	424.81	427.43
30	424.00	426.49
31	422.00	425.41
32	422.00	424.38
33	422.00	423.34
34	422.00	422.39
35	422.00	421.55
36	422.00	420.16
37	419.97	420.00
38	419.00	419.67
39	418.45	417.85
40	418.00	416.67
41	412.00	416.00
42	411.57	415.54
43	410.71	414.00
44	410.00	412.41
45	409.14	410.90
46	408.00	409.30
47	407.23	407.83
48	406.00	406.67
49	403.29	406.00
50	402.20	404.95
51	402.99	403.16
52	403.22	404.86
53	404.00	405.53
54	406.83	406.00
55	410.23	408.00
AVERAGE	416.51	418.32

NOTE: AVERAGE GRADE TAKEN EVERY 20 FEET AROUND THE BUILDING STARTING AT POINT ①.

PLAN DATE 01-18-22 08-10-22	DESCRIPTION REVISIONS
No.	DATE
urban Planners-Engineers-Landscape Architects-Lead Surveyors	
AVERAGE GRADE EXHIBIT CITY CENTRE WEST MASTER DEVELOPMENT PLAN SPECIAL USE PERMIT PLAN CITY OF FAIRFAX, VIRGINIA	
SCALE: 1"=20'	DATE: JAN., 2022
SHEET 08A OF 26	C.I.=2
FILE No. RZ-13007	

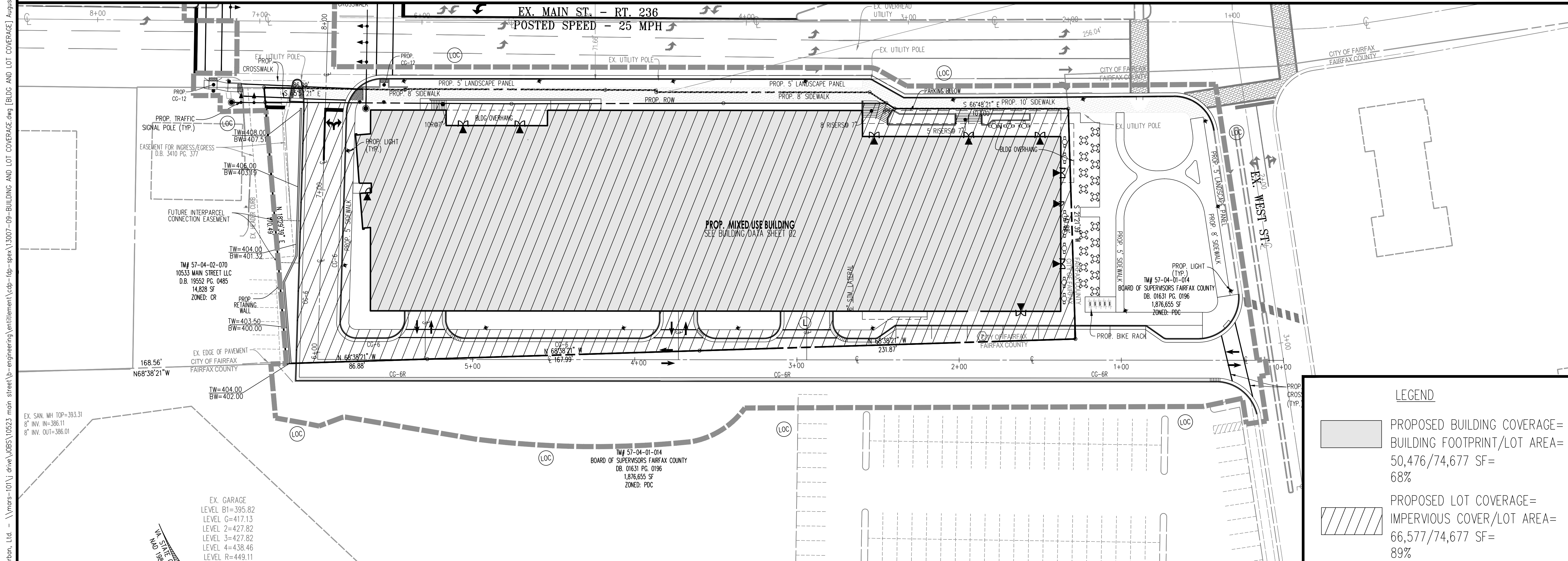
Urban, Ltd. - \\moss-101\drive\JOBS\10523 main street\engineering\entitlement\csp-fip-spx\13007-09-BUILDING AND LOT COVERAGE.dwg [BLDG AND LOT COVERAGE] August 30, 2022 - 12:51pm mbaldwin



LEGEND

EXISTING BUILDING COVERAGE=
BUILDING FOOTPRINT/LOT AREA=
12,702/74,677 SF=
17%

EXISTING LOT COVERAGE=
IMPERVIOUS COVER/LOT AREA=
58,874/74,677 SF=
79%



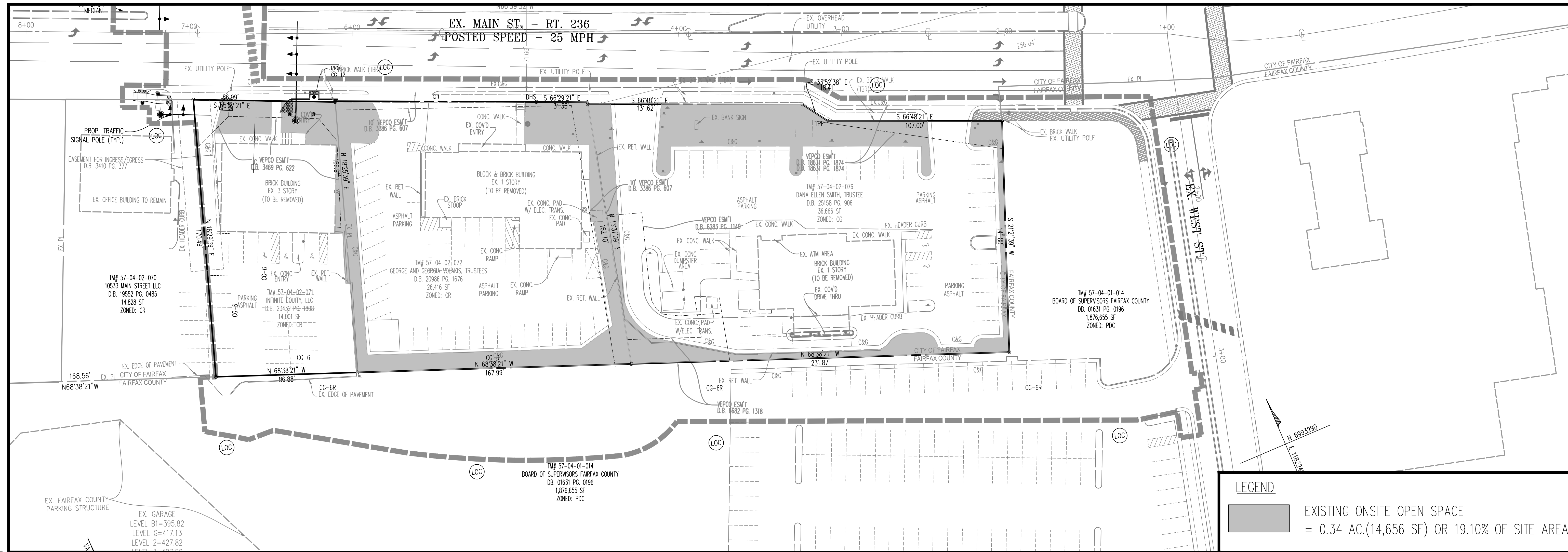
LEGEND

PROPOSED BUILDING COVERAGE=
BUILDING FOOTPRINT/LOT AREA=
50,476/74,677 SF=
68%

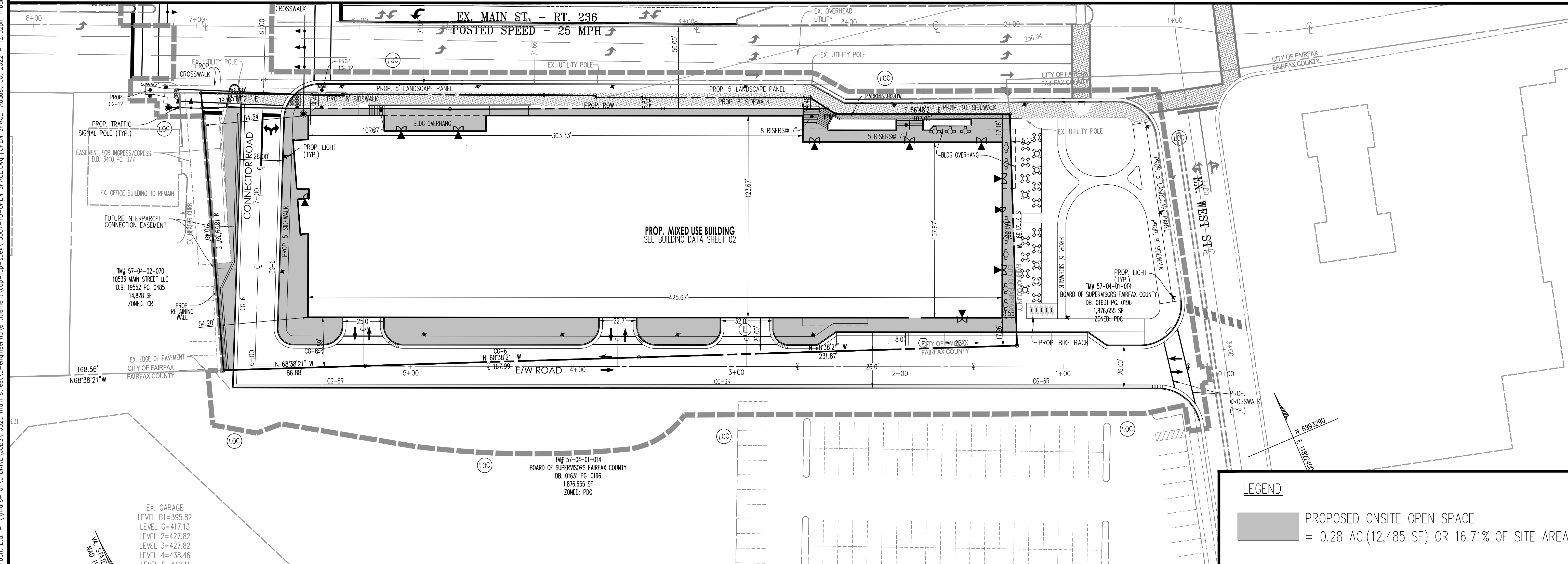
PROPOSED LOT COVERAGE=
IMPERVIOUS COVER/LOT AREA=
66,577/74,677 SF=
89%

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<p>PLAN DATE 01-18-22 08-30-22</p>	<p>DESCRIPTION REVISIONS</p>
<p>COMMONWEALTH OF VIRGINIA CLAYTON C. LOCK Lic. No. 026790 08/20/2022 PROFESSIONAL ENGINEER</p>	
<p>BUILDING AND LOT COVERAGE EXHIBIT</p> <p>CITY CENTRE WEST</p> <p>MASTER DEVELOPMENT PLAN</p> <p>SPECIAL USE PERMIT PLAT</p> <p>CITY OF FAIRFAX, VIRGINIA</p>	
<p>DATE: JAN., 2022</p>	<p>C.I.= N/A</p>
<p>SHEET 09 OF 26</p>	<p>SCALE: 1"=30'</p>
<p>FILE No. RZ-13007</p>	

Urban, Ltd. - \\mors-101\DRIVE\0053\main street\10-OPEN SPACE.dwg [OPEN SPACE] August 30, 2022 - 12:52pm mloadwin



LEGEND
 [Shaded Area] EXISTING ONSITE OPEN SPACE
 = 0.34 AC.(14,656 SF) OR 19.10% OF SITE AREA

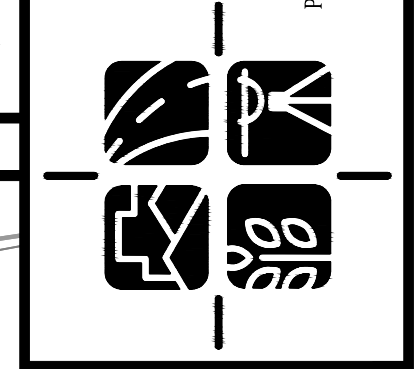


LEGEND
 [Shaded Area] PROPOSED ONSITE OPEN SPACE
 = 0.28 AC.(12,485 SF) OR 16.71% OF SITE AREA

No.	DATE	DESCRIPTION
01-18-22	08-30-22	

PLAN DATE
 01-18-22
 08-30-22

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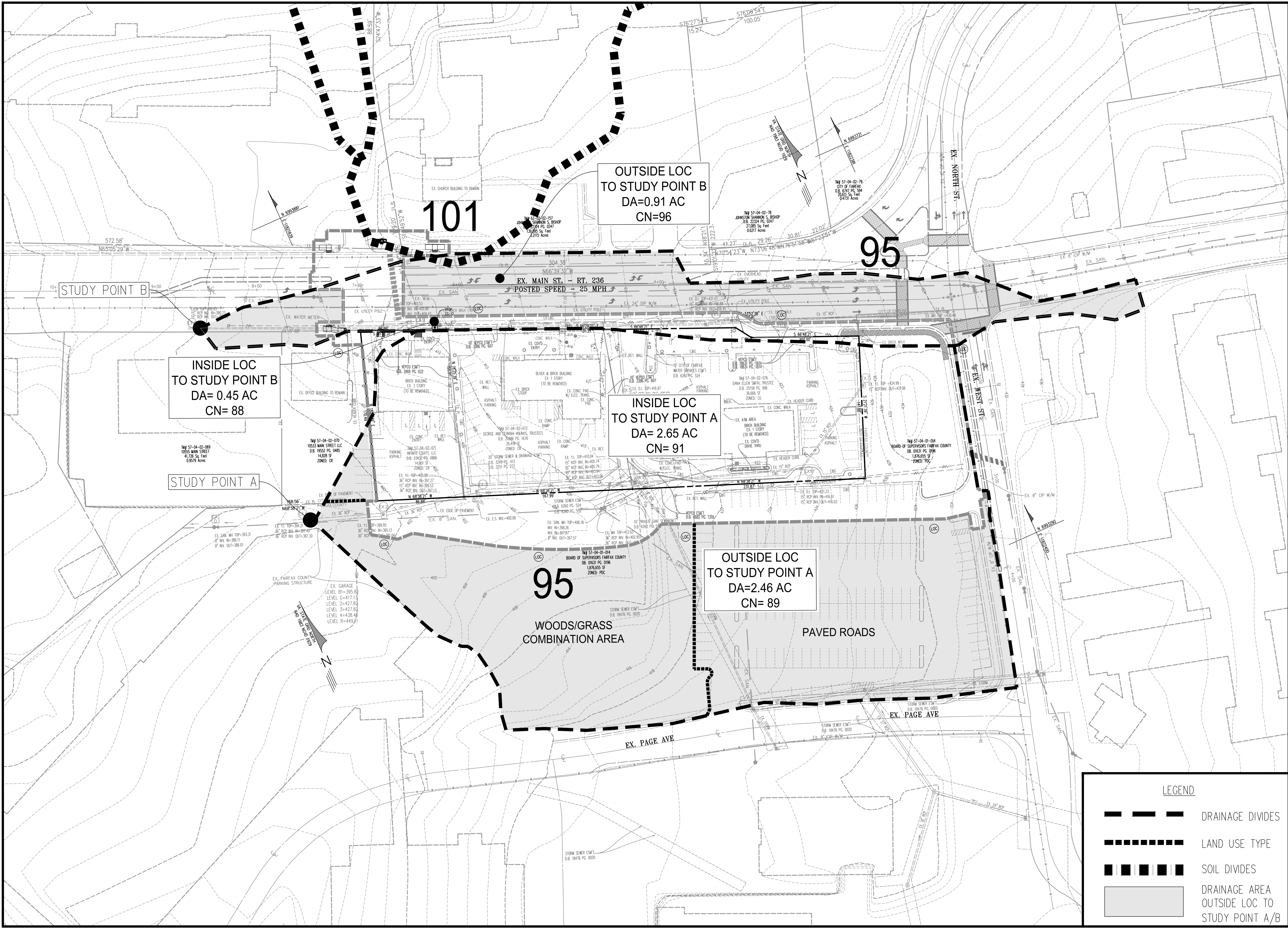


COMMONWEALTH OF VIRGINIA
 CLAYTON C. ROCK
 Lic. No. 086790
 08/20/2022
 PROFESSIONAL ENGINEER

OPEN SPACE PLAN
 CITY CENTRE WEST
 MASTER DEVELOPMENT PLAN
 SPECIAL USE PERMIT PLAT
 CITY OF FAIRFAX, VIRGINIA
 DATE: JAN., 2022
 SCALE: 1"=30'
 C.I.=N/A

SHEET
 09A
 OF
 26
 FILE No.
 RZ-13007

Urban, Ltd. - \\mors-101\DRIVE\0523 main street\engineering\entitlement\cop-fdp-spex\13007-04-SWM-PRE.dwg [SWM PRE] August 30, 2022 - 12:52pm mbaldwin



OUTSIDE LOC
TO STUDY POINT B
DA=0.91 AC
CN=96

INSIDE LOC
TO STUDY POINT B
DA= 0.45 AC
CN= 88

INSIDE LOC
TO STUDY POINT A
DA= 2.65 AC
CN= 91

OUTSIDE LOC
TO STUDY POINT A
DA=2.46 AC
CN= 89

101





95

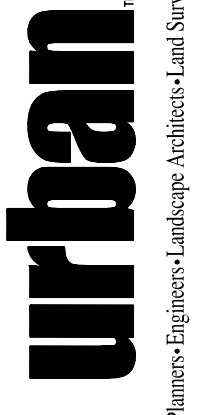

95

WOODS/GRASS
COMBINATION AREA

PAVED ROADS

LEGEND

-  DRAINAGE DIVIDES
-  LAND USE TYPE
-  SOIL DIVIDES
-  DRAINAGE AREA
OUTSIDE LOC TO
STUDY POINT A/B

PLAN DATE 01-18-22 08-30-22	
Urban, Ltd. 4900 D TECHNOLOGY CT. CHANTILLY, VA 20151 PHONE: 703.528.8800 FAX: 703.528.8888 www.urban-lltd.com	DESCRIPTION REVISIONS
 Planners • Engineers • Landscape Architects • Land Surveyors	
	
SWM PRE-DEVELOPMENT CITY CENTRE WEST MASTER DEVELOPMENT PLAN SPECIAL USE PERMIT PLAT CITY OF FAIRFAX, VIRGINIA	
DATE: JAN., 2022	SCALE: 1"=40'
SHEET 10 OF 26	FILE No. RZ-13007

STUDY POINT A

PRE DEVELOPMENT WITHIN LOC CURVE NUMBERS

Area (ac)	CN	Description
1.600	98	Paved parking, HSG D
1.050	80	>75% Grass cover, Good, HSG D
2.650	91	Weighted Average
1.050		39.62% Pervious Area
1.600		60.38% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	522	0.2700	49.03	346.58	Pipe Channel, PIPE FLOW 36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.013 Concrete pipe, bends & connections
0.7	100	0.0950	2.55		Sheet Flow, Sheet Flow Smooth surfaces n= 0.011 P2= 3.15"
2.7	600	0.0330	3.69		Shallow Concentrated Flow, Shallow Concentrated Flow Paved Kv= 20.3 fps
3.6	1,222	Total			

PRE DEVELOPMENT OUTSIDE LOC CURVE NUMBERS

Area (ac)	CN	Description
1.300	98	Paved parking, HSG D
1.160	79	Woods/grass comb., Good, HSG D
2.460	89	Weighted Average
1.160		47.15% Pervious Area
1.300		52.85% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0100	1.03		Sheet Flow, Sheet Flow Smooth surfaces n= 0.011 P2= 3.15"
4.5	551	0.0100	2.03		Shallow Concentrated Flow, Shallow Concentrated Flow Paved Kv= 20.3 fps
6.1	651	Total			

PRE DEVELOPMENT PEAK FLOW SUMMARIES TO STUDY POINT A

1-YEAR FLOW SUMMARY

Inflow Area = 222,592 sf, 56.75% Impervious, Inflow Depth = 1.62" for 1-Year event
 Inflow = 10.61 cfs @ 12.11 hrs, Volume= 29,976 cf
 Primary = 10.61 cfs @ 12.11 hrs, Volume= 29,976 cf, Atten= 0%, Lag= 0.0 min
 Primary outflow = Inflow, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs

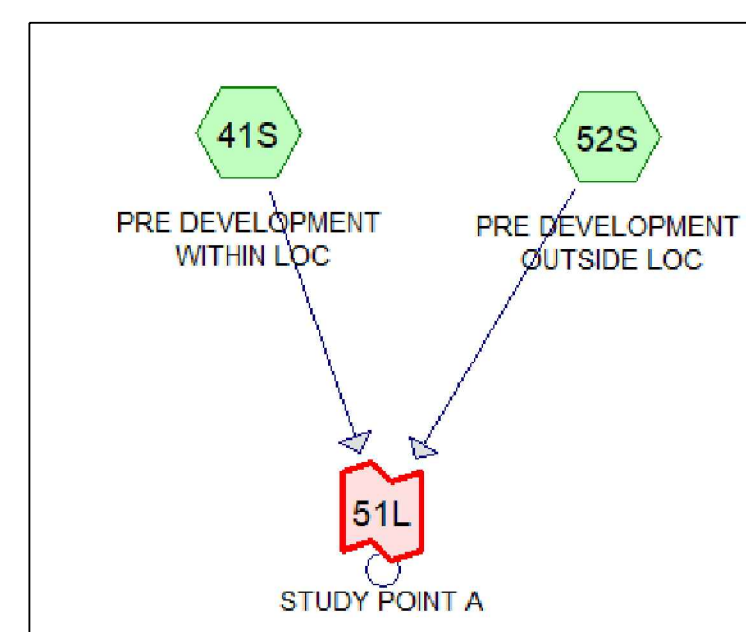
2-YEAR FLOW SUMMARY

Inflow Area = 222,592 sf, 56.75% Impervious, Inflow Depth = 2.11" for 2-Year event
 Inflow = 13.70 cfs @ 12.11 hrs, Volume= 39,110 cf
 Primary = 13.70 cfs @ 12.11 hrs, Volume= 39,110 cf, Atten= 0%, Lag= 0.0 min
 Primary outflow = Inflow, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs

10-YEAR FLOW SUMMARY

Inflow Area = 222,592 sf, 56.75% Impervious, Inflow Depth = 3.70" for 10-Year event
 Inflow = 23.32 cfs @ 12.11 hrs, Volume= 68,594 cf
 Primary = 23.32 cfs @ 12.11 hrs, Volume= 68,594 cf, Atten= 0%, Lag= 0.0 min
 Primary outflow = Inflow, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs

PRE DEVELOPMENT HYDROCAD NODES



STUDY POINT B

PRE DEVELOPMENT WITHIN LOC CURVE NUMBERS

Area (ac)	CN	Description
0.210	98	Paved parking, HSG D
0.240	80	>75% Grass cover, Good, HSG D
0.450	88	Weighted Average
0.240		53.33% Pervious Area
0.210		46.67% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	100	0.0400	1.80		Sheet Flow, Sheet Flow Smooth surfaces n= 0.011 P2= 3.15"
2.5	617	0.0400	4.06		Shallow Concentrated Flow, Shallow Concentrated Flow Paved Kv= 20.3 fps
3.4	717	Total			

PRE DEVELOPMENT OUTSIDE LOC CURVE NUMBERS

Area (ac)	CN	Description
0.100	80	>75% Grass cover, Good, HSG D
0.810	98	Paved parking, HSG D
0.910	96	Weighted Average
0.100		10.99% Pervious Area
0.810		89.01% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	100	0.0400	1.80		Sheet Flow, Sheet Flow Smooth surfaces n= 0.011 P2= 3.15"
3.8	934	0.0400	4.06		Shallow Concentrated Flow, Shallow Concentrated Flow Paved Kv= 20.3 fps
4.7	1,034	Total			

PRE DEVELOPMENT PEAK FLOW SUMMARIES TO STUDY POINT B

1-YEAR FLOW SUMMARY

Inflow Area = 59,242 sf, 75.00% Impervious, Inflow Depth = 1.92" for 1-Year event
 Inflow = 3.31 cfs @ 12.10 hrs, Volume= 9,483 cf
 Primary = 3.31 cfs @ 12.10 hrs, Volume= 9,483 cf, Atten= 0%, Lag= 0.0 min
 Primary outflow = Inflow, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs

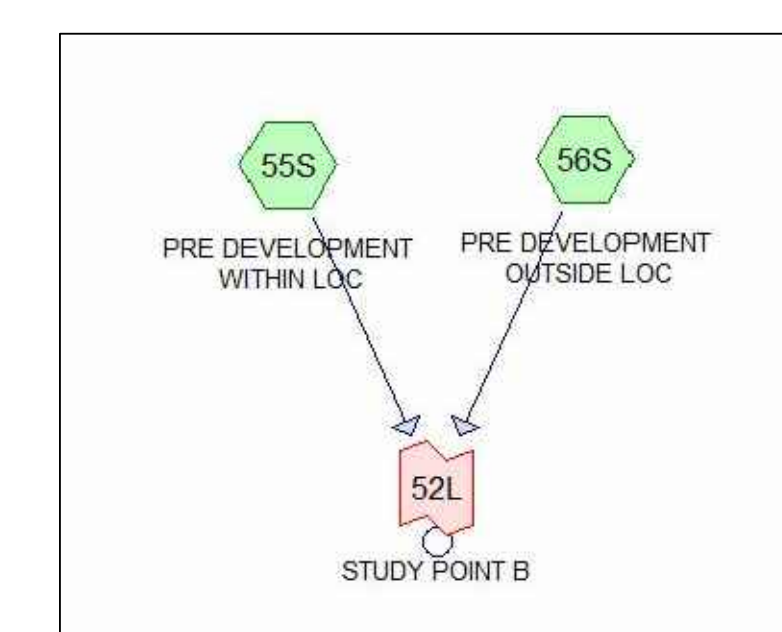
2-YEAR FLOW SUMMARY

Inflow Area = 59,242 sf, 75.00% Impervious, Inflow Depth = 2.43" for 2-Year event
 Inflow = 4.15 cfs @ 12.10 hrs, Volume= 12,013 cf
 Primary = 4.15 cfs @ 12.10 hrs, Volume= 12,013 cf, Atten= 0%, Lag= 0.0 min
 Primary outflow = Inflow, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs

10-YEAR FLOW SUMMARY

Inflow Area = 59,242 sf, 75.00% Impervious, Inflow Depth = 4.06" for 10-Year event
 Inflow = 6.74 cfs @ 12.10 hrs, Volume= 20,048 cf
 Primary = 6.74 cfs @ 12.10 hrs, Volume= 20,048 cf, Atten= 0%, Lag= 0.0 min
 Primary outflow = Inflow, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs

PRE DEVELOPMENT HYDROCAD NODES

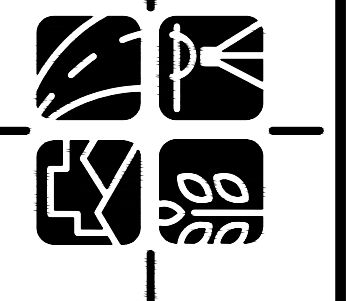


Urban, Ltd. - \\mors-107\J_DRIVE\JOBS\0523 main street\B-engineering\entitlement\csp-fdp-spex\13007-04-SWM-PRE.dwg [SWM_COMPS] August 30, 2022 - 12:52pm mboldwin

No.	DATE	DESCRIPTION

PLAN DATE
01-18-22
08-30-22

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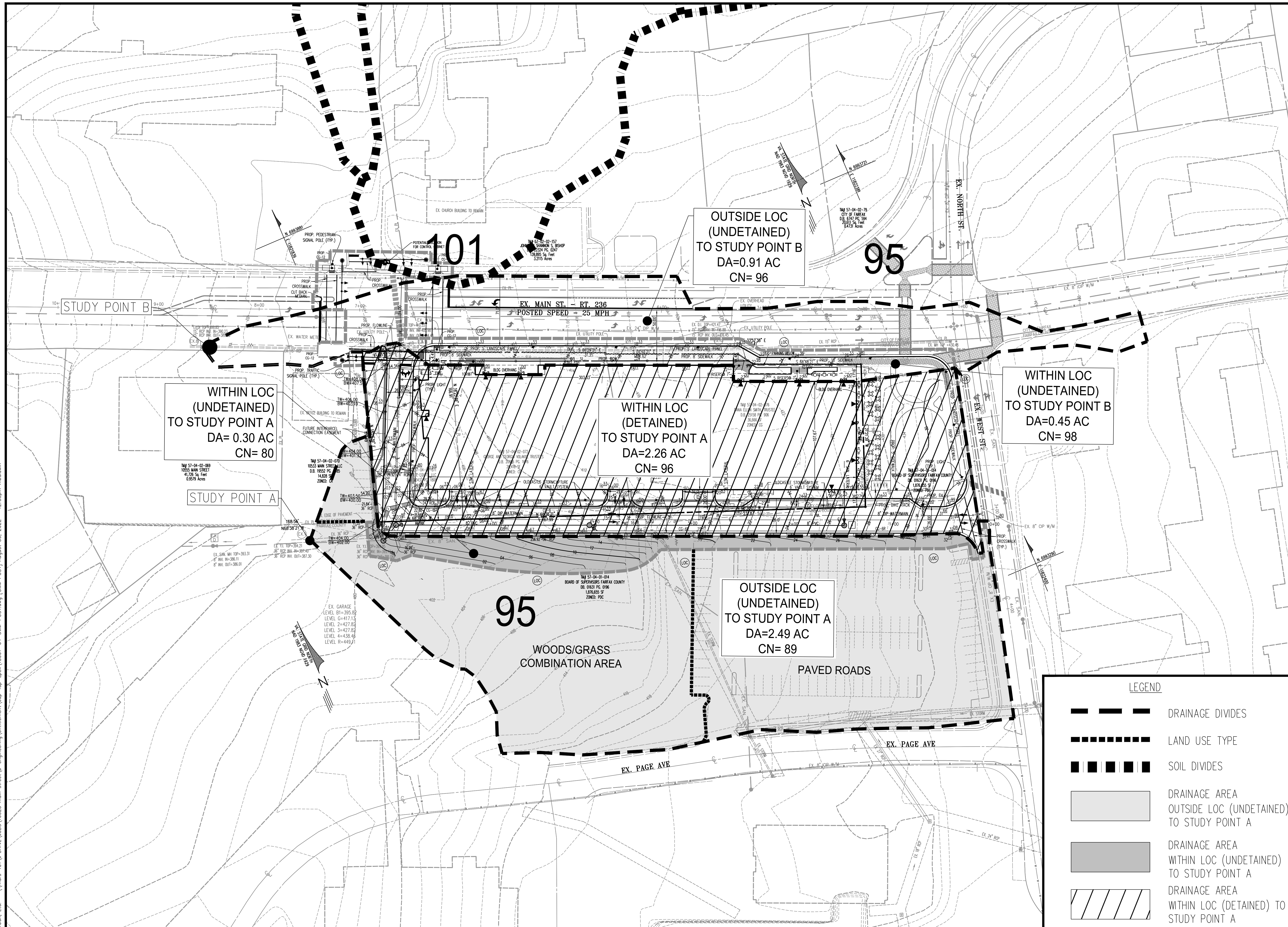


DATE: JAN., 2022
C.I.= N/A

SWM COMPUTATIONS
CITY CENTRE WEST
MASTER DEVELOPMENT PLAN
SPECIAL USE PERMIT PLAN
CITY OF FAIRFAX, VIRGINIA
SCALE: N/A

SHEET 10A OF 26
FILE No. RZ-13007

Urban, Ltd. - \\mors-101\DRIVE\0523 main street\engineering\entitlement\cop-fdp-sw-POST.dwg [SWM POST] August 30, 2022 - 12:53pm mbdalwin



LEGEND	
	DRAINAGE DIVIDES
	LAND USE TYPE
	SOIL DIVIDES
	DRAINAGE AREA OUTSIDE LOC (UNDETAINED) TO STUDY POINT A
	DRAINAGE AREA WITHIN LOC (UNDETAINED) TO STUDY POINT A
	DRAINAGE AREA WITHIN LOC (DETAINED) TO STUDY POINT A

<p>Urban, Ltd. 4900 D TECHNOLOGY CT. CHANTILLY, VA, 20151 PHONE: 703.528.8800 FAX: 703.528.8888 www.urban-ld.com</p>							
<p>urban Planners-Engineers-Landscapers-Architects-Land Surveyors</p>							
<p>PROFESSIONAL SEAL CLAYTON C. LOCKE Lic. No. 016790 08/20/2022 COMMUNITY OF VIRGINIA</p>							
<p>CITY CENTRE WEST MASTER DEVELOPMENT PLAN SPECIAL USE PERMIT PLAT CITY OF FAIRFAX, VIRGINIA</p>							
<p>PLAN DATE 01-18-22 08-30-22</p>	<p>REVISIONS</p> <table border="1"> <thead> <tr> <th>No.</th> <th>DATE</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	No.	DATE	DESCRIPTION			
No.	DATE	DESCRIPTION					
<p>DATE: JAN., 2022</p>							
<p>SCALE: 1"=40'</p>							
<p>SHEET 11 OF 26</p>							
<p>FILE No. RZ-13007</p>							

STUDY POINT A

POST DEVELOPMENT WITHIN LOC DETAINED CURVE NUMBERS

Area (ac)	CN	Description
1.970	98	Paved parking, HSG D
0.290	80	>75% Grass cover, Good, HSG D
2.260	96	Weighted Average
0.290		12.83% Pervious Area
1.970		87.17% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	100	0.0488	1.95		Sheet Flow, Sheet Flow Smooth surfaces n= 0.011 P2= 3.15"
1.8	550	0.0050	5.09	16.00	Pipe Channel, RCP_Round 24" 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.013 Concrete pipe, straight & clean
2.7	650				Total

POST DEVELOPMENT WITHIN LOC UNDETAINED CURVE NUMBERS

Area (ac)	CN	Description
0.300	80	>75% Grass cover, Good, HSG D
0.300		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	100	0.0500	1.97		Sheet Flow, Sheet Flow Smooth surfaces n= 0.011 P2= 3.15"
1.8	540	0.2600	5.10		Shallow Concentrated Flow, Shallow Concentrated Flow Nearly Bare & Untilled Kv= 10.0 fps
2.6	640				Total

POST DEVELOPMENT OUTSIDE LOC UNDETAINED CURVE NUMBERS

Area (ac)	CN	Description
1.330	98	Paved parking, HSG D OUTSIDE LOC
1.160	79	Woods/grass comb., Good, HSG D
2.490	89	Weighted Average
1.160		46.59% Pervious Area
1.330		53.41% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.4	300	0.1200	3.48		Sheet Flow, Sheet Flow Smooth surfaces n= 0.011 P2= 3.15"
1.6	330	0.1200	3.46		Shallow Concentrated Flow, Shallow Concentrated Flow Nearly Bare & Untilled Kv= 10.0 fps
3.0	630				Total

VAULT COMPUTATIONS

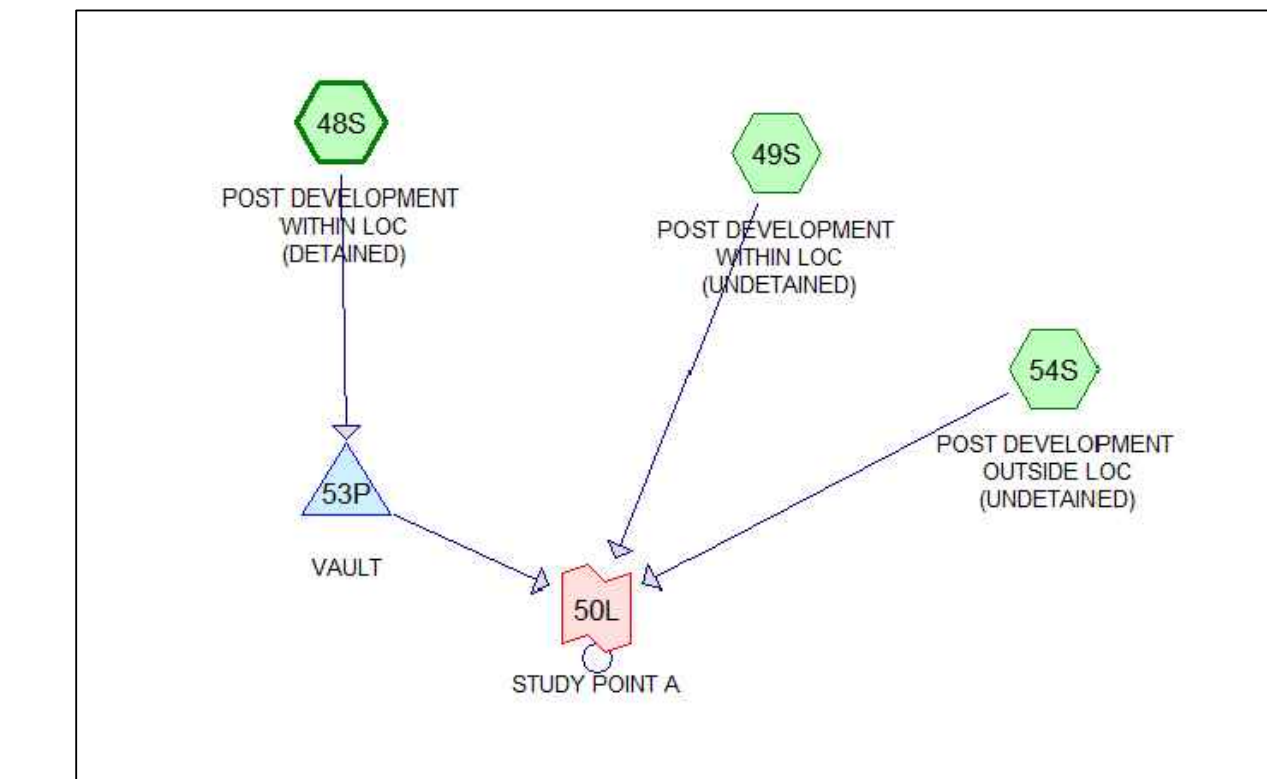
Volume	Invert	Avail. Storage	Storage Description
#1A	387.00'	0 cf	8.00"W x 416.00"L x 8.17'H Field A
#2A	387.00'	19,659 cf	27,179 cf Overall - 27,179 cf Embedded = 0 cf x 40.0% Voids Oldcastle Storm Capture SC2 7' x 26' Inside #1 Inside= 84.0"W x 84.0"H => 49.56 sf x 16.00'L = 793.0 cf Outside= 96.0"W x 98.0"H => 65.33 sf x 16.00'L = 1,045.3 cf 1 Rows adjusted for 958.9 cf of perimeter wall
		19,659 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	387.00'	36.0" Round Culvert L= 20.0' Ke= 0.700 Inlet / Outlet Invert= 387.00' / 386.00' S= 0.0500 ' Cc= 0.900 n= 0.013 Concrete pipe, straight & clean, Flow Area= 7.07 sf
#2	Device 1	387.50'	8.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#3	Device 1	393.00'	16.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads
#4	Device 1	395.00'	14.0" Vert. Orifice/Grate C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=3.05 cfs @ 12.31 hrs HW=391.12' (Free Discharge)
 1=Culvert (Passes 3.05 cfs of 48.63 cfs potential flow)
 2=Orifice/Grate (Orifice Controls 3.05 cfs @ 8.73 fps)
 3=Orifice/Grate (Controls 0.00 cfs)
 4=Orifice/Grate (Controls 0.00 cfs)

POST DEVELOPMENT HYDROCAD NODES



FLOW SUMMARY AND ENERGY BALANCE

	FLOW SUMMARY		
	1 YR	2 YR	10 YR
Pre Development Flows at Study Point 'A' (cfs)	10.61	13.70	23.32
Allowable Flow At Study Point 'A' (cfs)	7.82*	13.70	23.32
Post-Development Flows at Study Point 'A' (cfs)	7.61	9.68	16.07

* Per the Energy Balance Equation

ENERGY BALANCE METHOD TO STUDY POINT A

Q(Developed)=	7.61 cfs
Q(Pre-Developed)=	10.61 cfs
RV(Pre-Developed)=	29976.00 cf
RV(Developed)=	32533.00 cf
I.F. =	0.8 (0.8 for sites greater than one acre) (0.9 for sites less than or equal to one acre)

Q Developed	7.61	≤	I.F x (Q(Pre-Developed x RV(Pre-Developed)) / RV(Developed)	7.82
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*Under no condition must:

$$Q(\text{Developed}) > Q(\text{Pre-Developed})$$

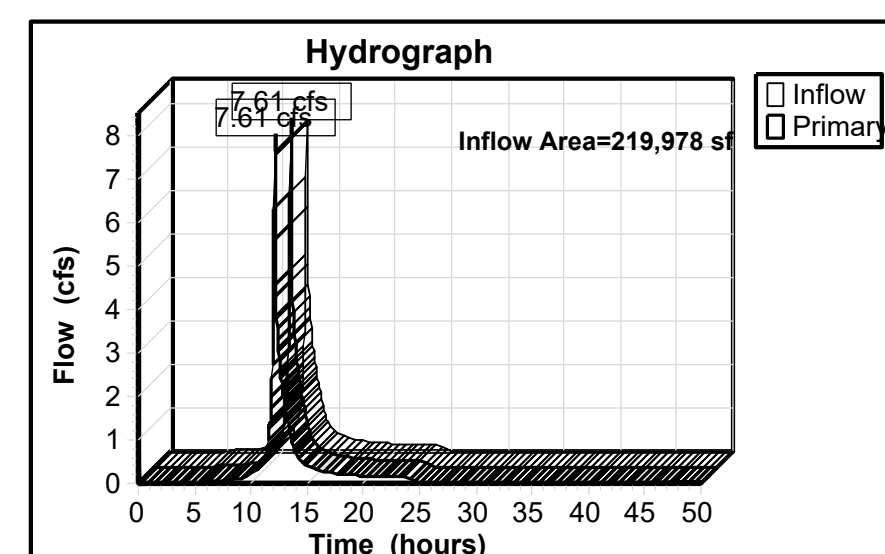
$$Q(\text{Developed}) \text{ must be required to less than } (Q(\text{Forest} * RV(\text{Forest})) / RV(\text{Developed}))$$

PEAK FLOW SUMMARY

1-YEAR STORM EVENT

Inflow Area = 219,978 sf, 65.35% Impervious, Inflow Depth = 1.77" for 1-Year event
 Inflow = 7.61 cfs @ 12.09 hrs, Volume= 32,533 cf
 Primary = 7.61 cfs @ 12.09 hrs, Volume= 32,533 cf, Atten= 0%, Lag= 0.0 min

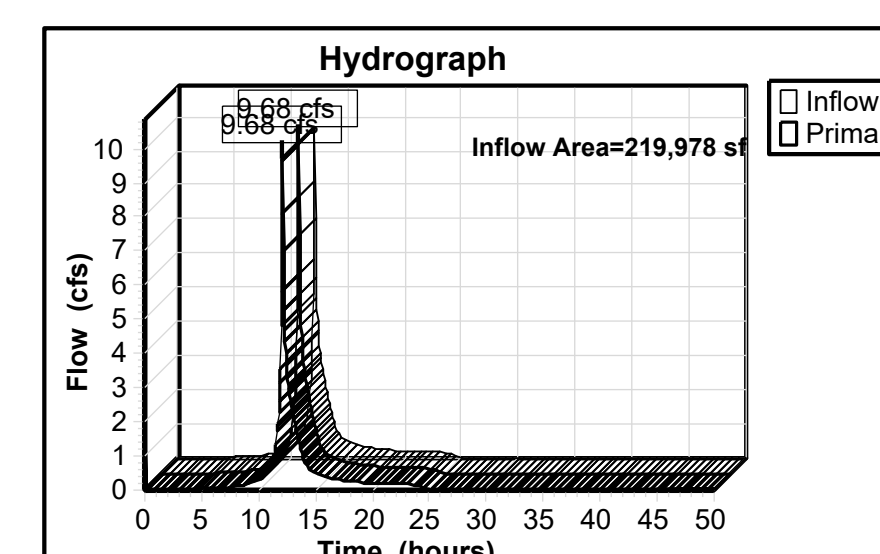
Primary outflow = Inflow, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs



2-YEAR STORM EVENT

Inflow Area = 219,978 sf, 65.35% Impervious, Inflow Depth = 2.27" for 2-Year event
 Inflow = 9.68 cfs @ 12.09 hrs, Volume= 41,693 cf
 Primary = 9.68 cfs @ 12.09 hrs, Volume= 41,693 cf, Atten= 0%, Lag= 0.0 min

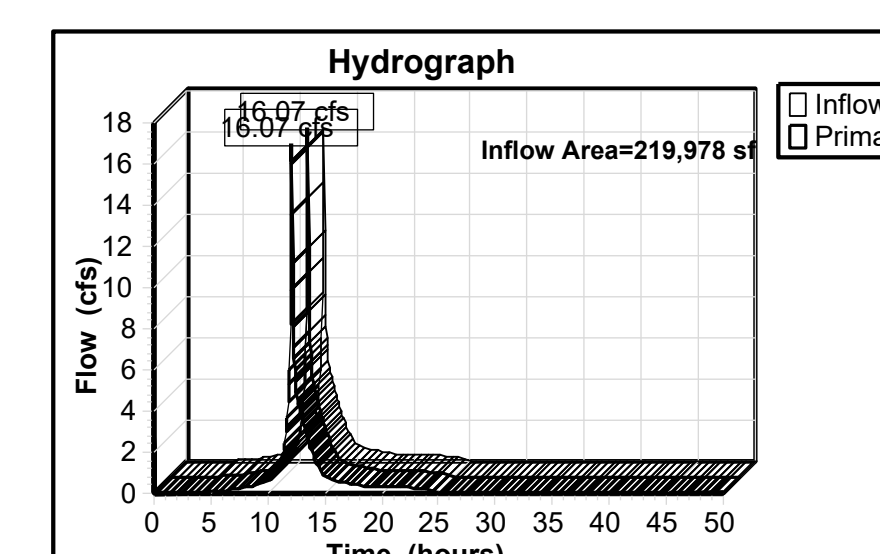
Primary outflow = Inflow, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs



10-YEAR STORM EVENT

Inflow Area = 219,978 sf, 65.35% Impervious, Inflow Depth = 3.88" for 10-Year event
 Inflow = 16.07 cfs @ 12.09 hrs, Volume= 71,059 cf
 Primary = 16.07 cfs @ 12.09 hrs, Volume= 71,059 cf, Atten= 0%, Lag= 0.0 min

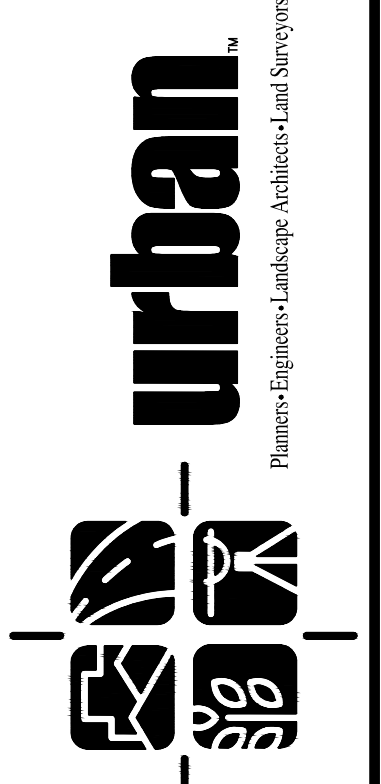
Primary outflow = Inflow, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs



No.	DATE	DESCRIPTION

PLAN DATE
01-18-22
08-30-22

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SWM POST-DEVELOPMENT COMPUTATIONS
 CITY CENTRE WEST
 MASTER DEVELOPMENT PLAN
 SPECIAL USE PERMIT PLAN
 CITY OF FAIRFAX, VIRGINIA
 DATE: JAN., 2022
 SCALE: 1"=40'
 C.I.= N/A

SHEET
12
OF
26
FILE No.
RZ-13007

STUDY POINT B

POST DEVELOPMENT WITHIN LOC UNDETAINED CURVE NUMBERS

Area (ac)	CN	Description
0.440	98	Paved parking, HSG D
0.010	80	>75% Grass cover, Good, HSG D
0.450	98	Weighted Average
0.010		2.22% Pervious Area
0.440		97.78% Impervious Area

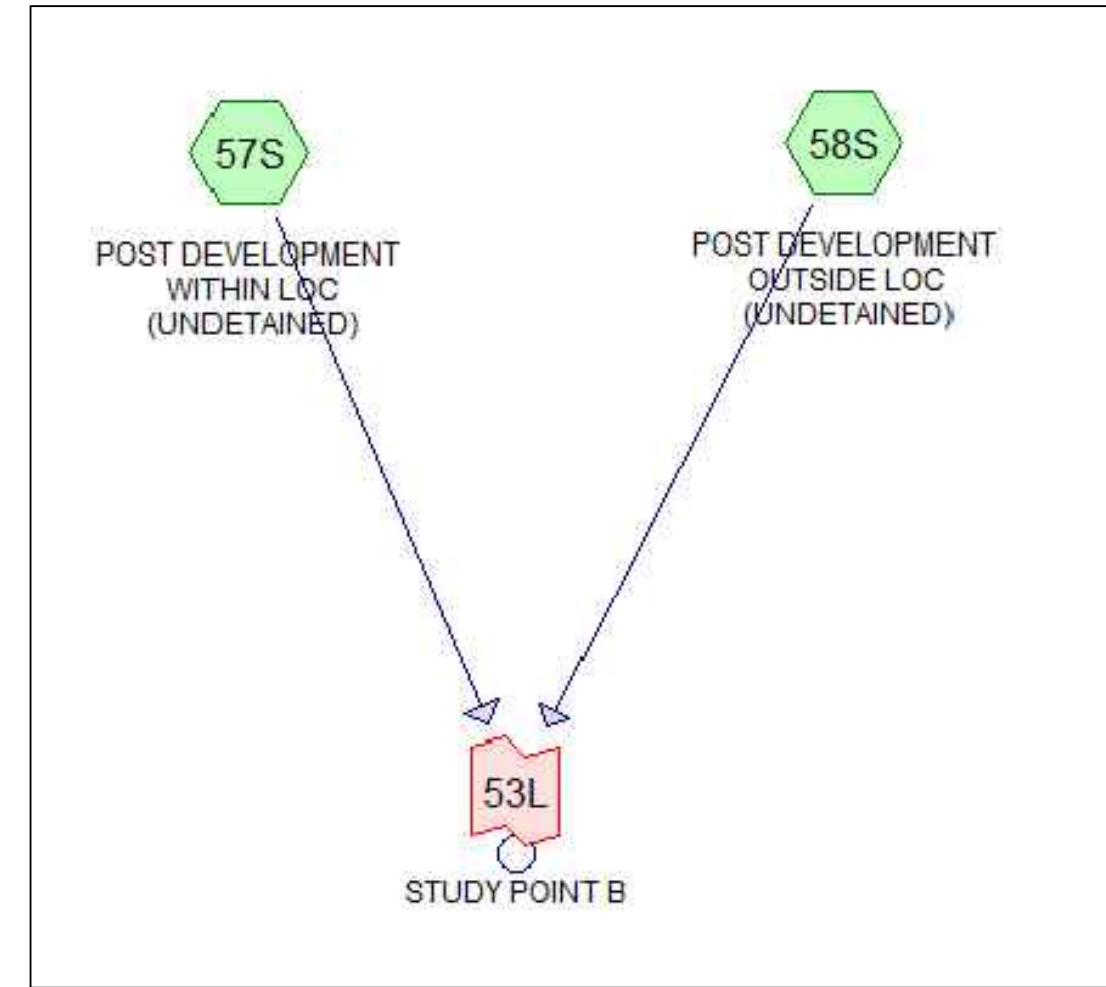
Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	100	0.0400	1.80		Sheet Flow, Sheet Flow
					Smooth surfaces n= 0.011 P2= 3.15"
0.9	540	0.0370	10.35	10.35	Channel Flow, Channel Flow
					Area= 1.0 sf Perim= 2.5' r= 0.40'
					n= 0.015 Concrete, trowel finish
1.8	640				Total

POST DEVELOPMENT OUTSIDE LOC UNDETAINED CURVE NUMBERS

Area (ac)	CN	Description
0.800	98	Paved parking, HSG D
0.110	80	>75% Grass cover, Good, HSG D
0.910	96	Weighted Average
0.110		12.09% Pervious Area
0.800		87.91% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	100	0.0440	1.87		Sheet Flow, Sheet Flow
					Smooth surfaces n= 0.011 P2= 3.15"
1.1	706	0.0400	10.76	10.76	Channel Flow, Channel Flow
					Area= 1.0 sf Perim= 2.5' r= 0.40'
					n= 0.015 Concrete, trowel finish
2.0	806				Total

POST DEVELOPMENT HYDROCAD NODES



STORM SEWER DESIGN COMPUTATIONS

Project: 10523 MAIN STREET

From Point	To Point	Drainage Area	C Factor	C x A		Inlet Time Min.	Rain Fall In/Hr	Runoff Q C.F.S.	Invert Elevation		Length FT	Slope %	Dia. IN.	Capacity Q C.F.S.	VEL. F.P.S.	Flow Time MIN.	Remarks
				Increment	Cumm.				Upper End	Lower End							
EX. 11	EX. 10	0.48	0.75	0.36	0.36	5.00	6.77	2.44	425.39	416.88	240.85	3.53%	15	12.18	7.74	0.52	
EX. 10	EX. 9	0.45	0.82	0.37	0.73	5.00	6.77	4.94	416.45	405.98	296.04	3.54%	15	12.18	9.40	0.53	
EX. 9	EX. 8	0.42	0.79	0.33	1.06	5.00	6.77	7.18	404.43	390.23	207.34	6.85%	15	16.95	13.24	0.26	

SWM NARRATIVE

THIS APPLICATION PROPOSES TO REZONE THE EXISTING COMMERCIAL RETAIL (CR) AND COMMERCIAL GENERAL (CG) PARCELS TO CONSOLIDATED COMMERCIAL URBAN (CU) PARCEL TO ALLOW FOR A MIXED USE BUILDING WITH RESIDENTIAL AND COMMERCIAL USES.

THE EXISTING SITE CURRENTLY DRAINS IN TWO DIRECTIONS. MAJORITY OF EXISTING SITE DRAINS SOUTHWEST THROUGH AN EXISTING STORM SYSTEM WHICH LEAVES THE SITE AT EXISTING STR. 1 AND CONTINUES DOWNSTREAM THROUGH A CLOSED CONDUIT SYSTEM. REST OF THE SITE DRAINS NORTH THROUGH AN EXISTING STORM SYSTEM WHICH LEAVES THE SITE AT EXISTING STR. 8. EXISTING STRUCTURES 1 AND 8 ARE ESTABLISHED AS STUDY POINT "A" AND "B", RESPECTIVELY FOR THE SWM ANALYSIS.

THIS SITE WILL BE SERVED BY ONE DETENTION FACILITY IN THE FORM OF AN UNDERGROUND STORMCAPTURE SC2 VAULT SYSTEM BY OLDCASTLE. THE FACILITY WILL PROVIDE DETENTION FOR MAJORITY OF THE SITE WHILE MAINTAINING PEAK FLOWS, NOT TO EXCEED PRE-DEVELOPMENT CONDITIONS FOR THE 1, 2, AND 10 YEAR STORM EVENTS AS COMPUTED ON SHEET 10A, 12, AND 12A. IN ADDITION, THE 1-YEAR DESIGN PEAK FLOW WILL NOT EXCEED THE ALLOWABLE RATE COMPUTED BY THE 1-YEAR ENERGY BALANCE EQUATION AS COMPUTED ON SHEET 12 FOR STUDY POINT A. THE FACILITY WILL OUTFALL INTO THE PROPOSED ONSITE STORM SYSTEM AND CONTINUE DOWNSTREAM WHERE THE RUNOFF LEAVES THE SITE AT EXISTING STRUCTURE 1.

FOR STUDY POINT B, EXISTING STORM SYSTEM CAPACITY WAS VERIFIED FOR THE PROPOSED IMPROVEMENTS BECAUSE OF THE EXPECTED POST-DEVELOPMENT FLOWS BEING GREATER THAN PRE-DEVELOPMENT FLOWS DUE TO THE UNDETAINED RUNOFF. SEE COMPUTATIONS ON THIS SHEET VERIFYING THAT EXISTING STORM SYSTEM REMAINS ADEQUATE FOR THE POST-DEVELOPMENT RUNOFF.

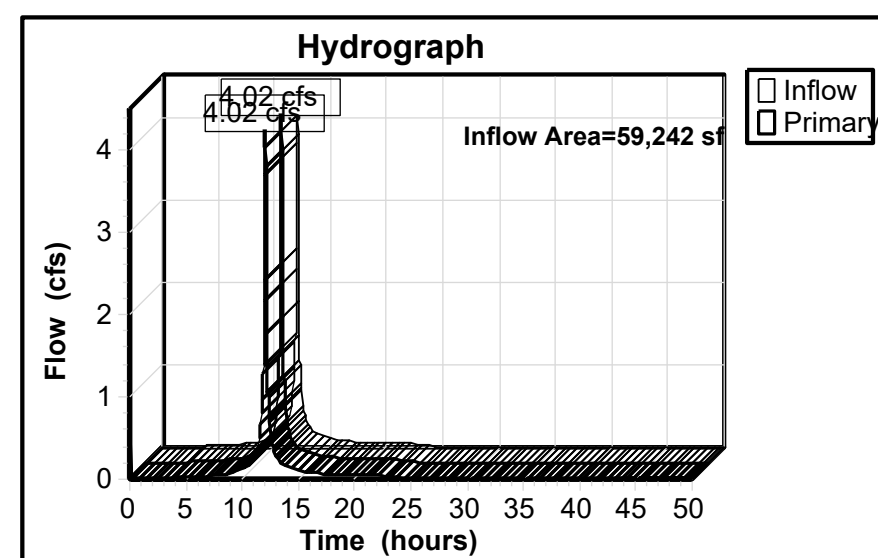
ALL BMP/SWM COMPUTATIONS SHOWN ON THIS APPLICATION ARE PRELIMINARY AND ARE SUBJECT TO CHANGE UPON RETRIEVAL OF NEW INFORMATION AND/OR IDENTIFICATION OF ADDITIONAL SITE CONSTRAINTS. THEREFORE, THE APPLICANT RESERVES THE RIGHT TO CHANGE AND/OR MODIFY THE PROPOSED BMP/SWM DEVICES AT THE TIME OF FINAL SITE PLAN TO MEET REQUIREMENTS.

PEAK FLOW SUMMARY

1-YEAR STORM EVENT

Inflow Area = 59,242 sf, 91.18% Impervious, Inflow Depth = 2.22" for 1-Year event
 Inflow = 4.02 cfs @ 12.08 hrs, Volume= 10,956 cf
 Primary = 4.02 cfs @ 12.08 hrs, Volume= 10,956 cf, Atten= 0%, Lag= 0.0 min

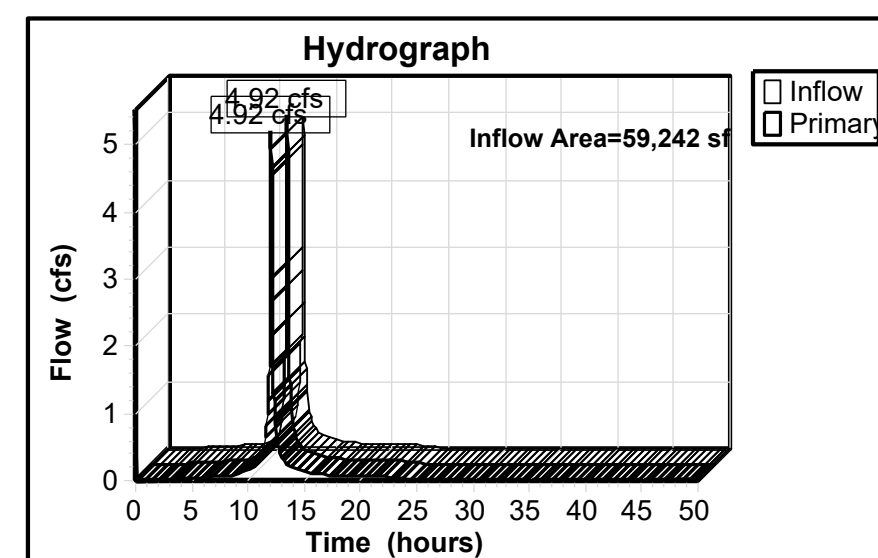
Primary outflow = Inflow, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs



2-YEAR STORM EVENT

Inflow Area = 59,242 sf, 91.18% Impervious, Inflow Depth = 2.75" for 2-Year event
 Inflow = 4.92 cfs @ 12.08 hrs, Volume= 13,587 cf
 Primary = 4.92 cfs @ 12.08 hrs, Volume= 13,587 cf, Atten= 0%, Lag= 0.0 min

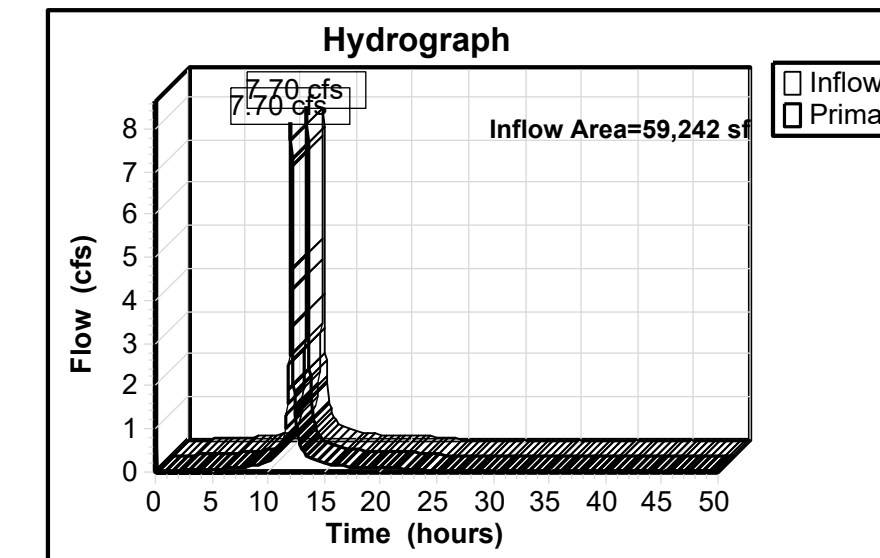
Primary outflow = Inflow, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs



10-YEAR STORM EVENT

Inflow Area = 59,242 sf, 91.18% Impervious, Inflow Depth = 4.42" for 10-Year event
 Inflow = 7.70 cfs @ 12.08 hrs, Volume= 21,819 cf
 Primary = 7.70 cfs @ 12.08 hrs, Volume= 21,819 cf, Atten= 0%, Lag= 0.0 min

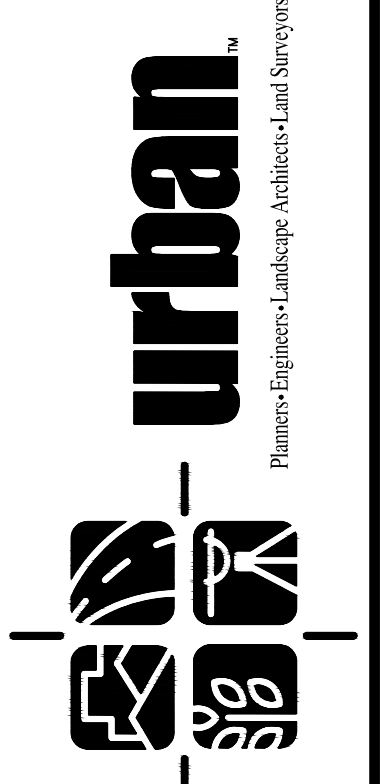
Primary outflow = Inflow, Time Span= 0.00-50.00 hrs, dt= 0.05 hrs



No.	DATE	DESCRIPTION

PLAN DATE: 01-18-22
 08-30-22

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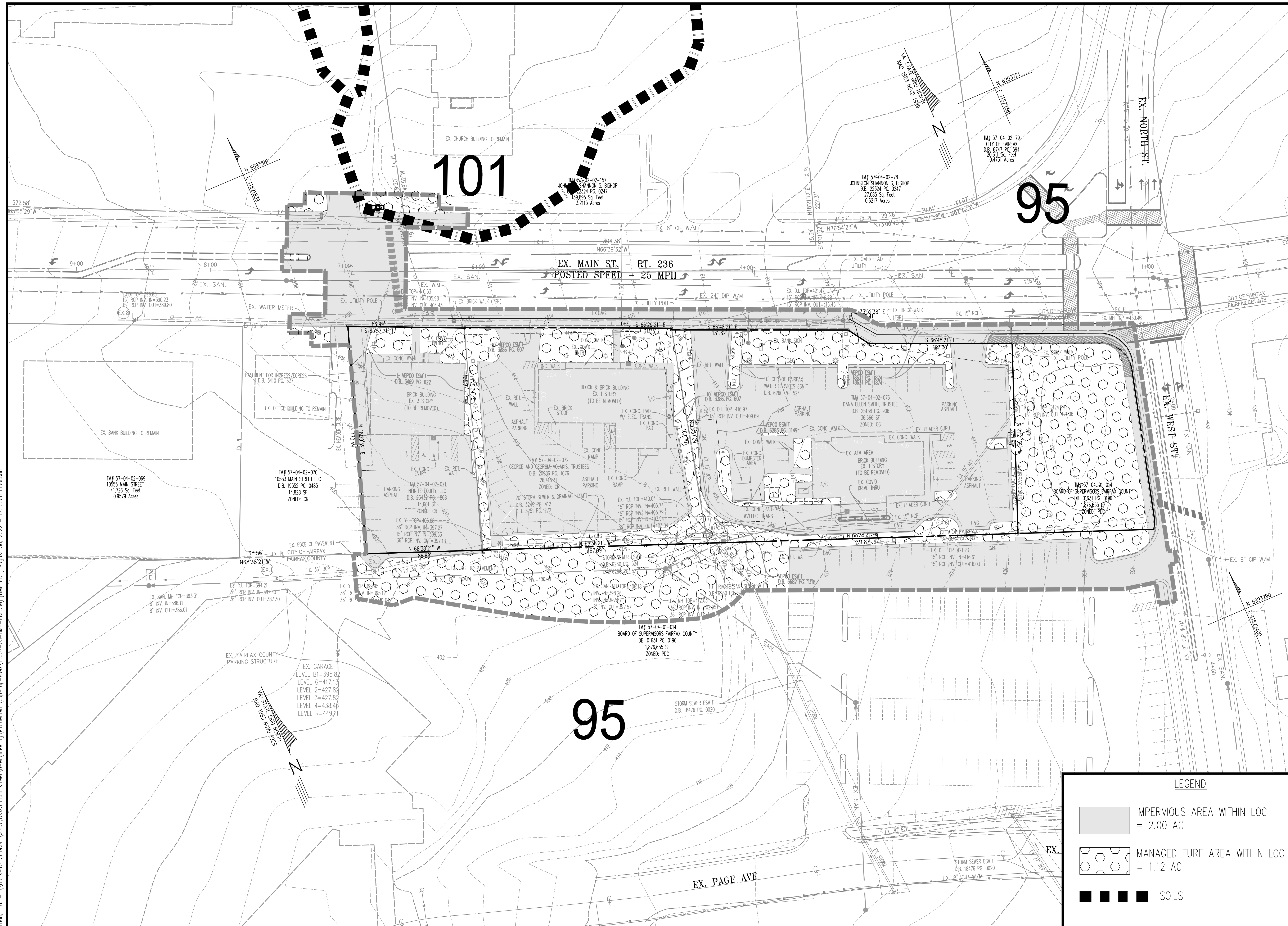


STATE OF VIRGINIA
 CLAYTON C. TOOK
 Lic. No. 018790
 08/20/2022
 PROFESSIONAL ENGINEER

SWM POST DEVELOPMENT COMPUTATIONS
 CITY CENTRE WEST
 MASTER DEVELOPMENT PLAN
 SPECIAL USE PERMIT PLAN
 CITY OF FAIRFAX, VIRGINIA
 DATE: JAN., 2022
 SCALE: 1"=40'
 C.I.=N/A

SHEET 12A OF 26
 FILE No. RZ-13007

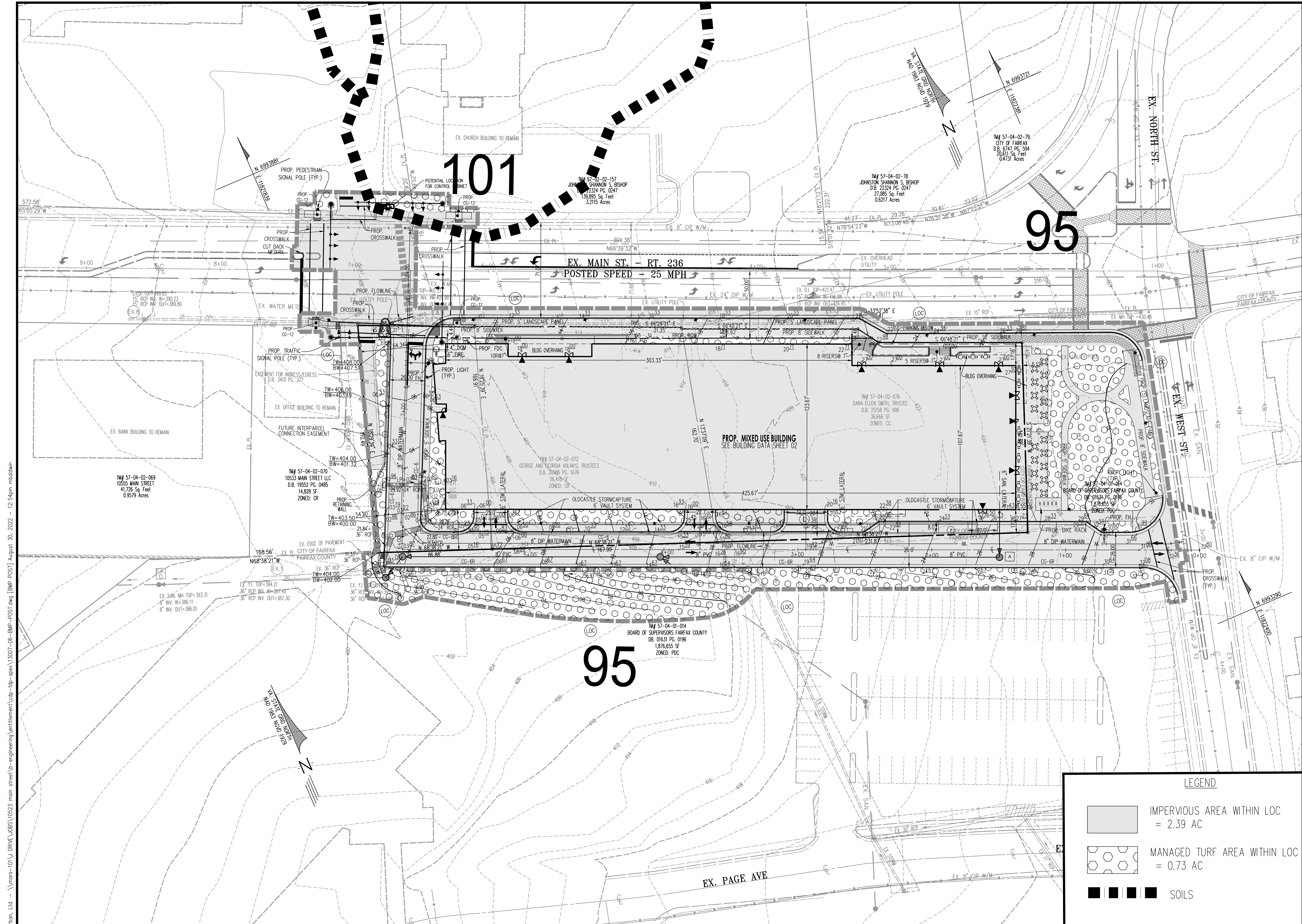
Urban, Ltd. - \\mors-101\DRIVE\0523 main street\engineering\entitlement\cop-fdp-spex\13007-05-BMP-PRE.dwg [BMP PRE] August 30, 2022 - 12:53pm mbaldwin



LEGEND

- IMPERVIOUS AREA WITHIN LOC = 2.00 AC
- MANAGED TURF AREA WITHIN LOC = 1.12 AC
- SOILS

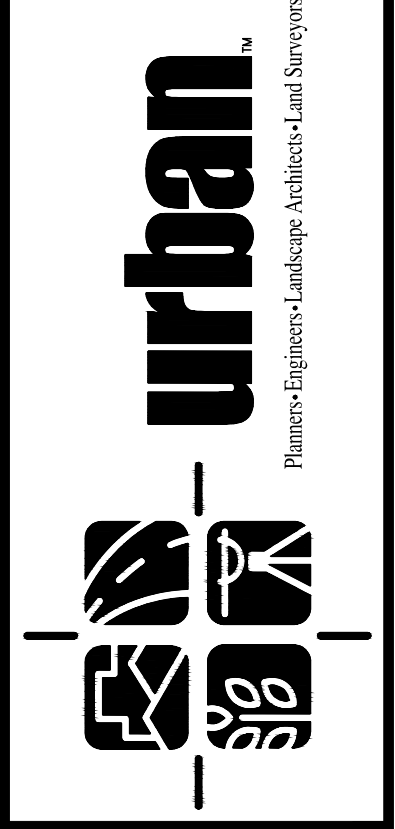
PLAN DATE 01-18-22 08-30-22							
Urban, Ltd. 4900 D TECHNOLOGY CT. CHANTILLY, VA 20151 TEL: 703.528.8800 FAX: 703.528.8888 www.urban-lltd.com	DESIGNER CITY OF FAIRFAX FAIRFAX COUNTY						
urban Planners-Engineers-Landscape Architects-Land Surveyors							
CITY CENTRE WEST MASTER DEVELOPMENT PLAN SPECIAL USE PERMIT PLAT CITY OF FAIRFAX, VIRGINIA							
DATE: JAN., 2022	SCALE: 1" = 30'						
SHEET 13 OF 26	FILE No. RZ-13007						
<table border="1"> <thead> <tr> <th>No.</th> <th>DATE</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>		No.	DATE	DESCRIPTION			
No.	DATE	DESCRIPTION					



No.	DATE	DESCRIPTION

PLAN DATE
01-18-22
08-30-22

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BMP POST-DEVELOPMENT
**CITY CENTRE WEST
MASTER DEVELOPMENT PLAN**
SPECIAL USE PERMIT PLAN
CITY OF FAIRFAX, VIRGINIA

DATE: JAN., 2022
SCALE: 1"=30'
C.I.=2'

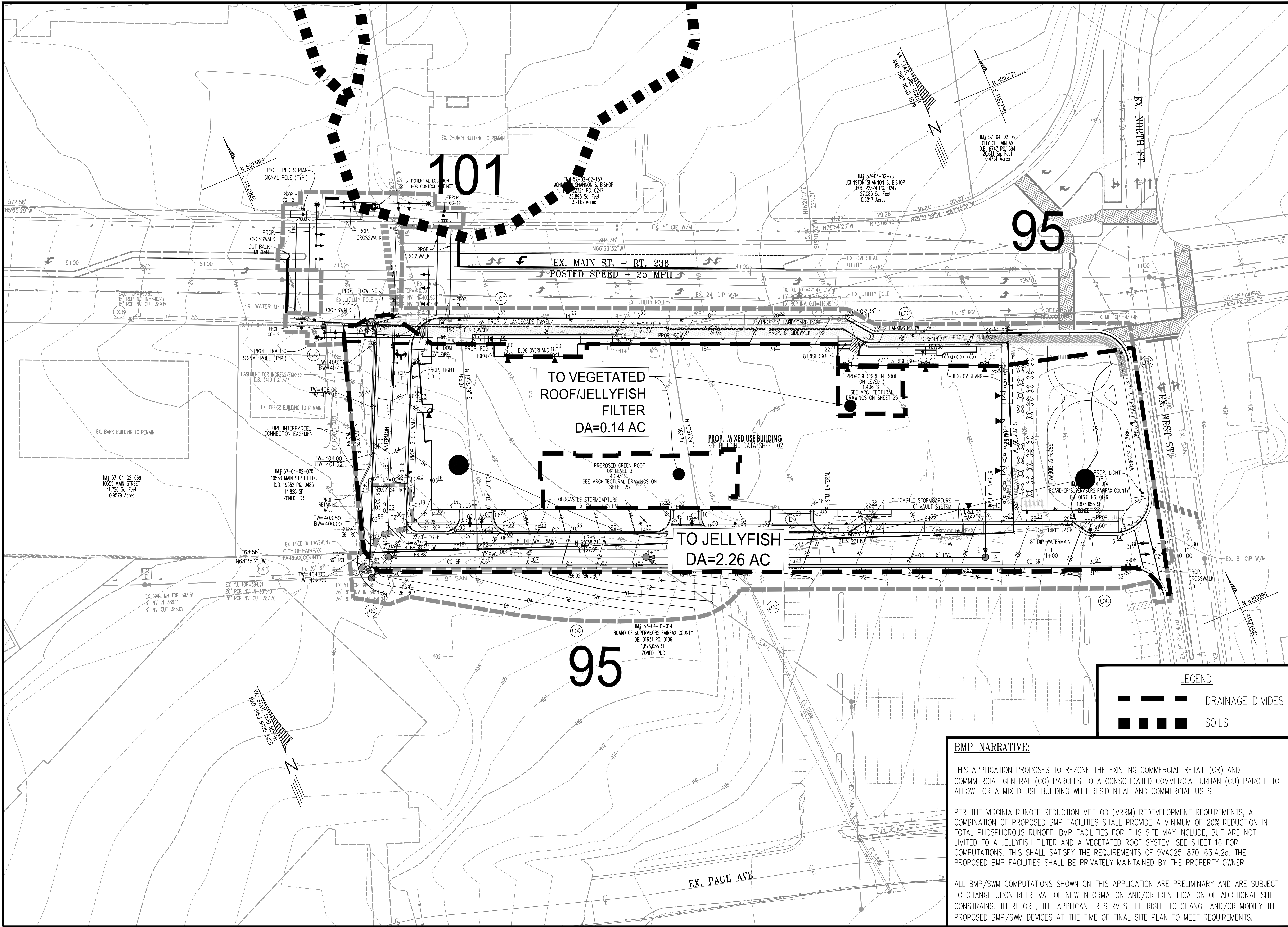
SHEET
14
OF
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RZ-13007

LEGEND

- IMPERVIOUS AREA WITHIN LOC = 2.39 AC
- MANAGED TURF AREA WITHIN LOC = 0.73 AC
- SOILS

Urban, Ltd. - \\moors-101\drive\wob5\0523 main street\b-engineering\entitlement\cop-fdp-spex\13007-06-BMP-POST.dwg [BMP POST] August 30, 2022 - 12:54pm mtdowd

Urban, Ltd. - \\mors-101\drive\0523 main street\engineering\entitlement\cop-fdp-spex\13007-06-BMP-POST.dwg (BMP POST) (2) August 30, 2022 - 12:54pm mboldwin



TO VEGETATED ROOF/JELLYFISH FILTER DA=0.14 AC

TO JELLYFISH DA=2.26 AC

LEGEND

	DRAINAGE DIVIDES
	SOILS

BMP NARRATIVE:

THIS APPLICATION PROPOSES TO REZONE THE EXISTING COMMERCIAL RETAIL (CR) AND COMMERCIAL GENERAL (CG) PARCELS TO A CONSOLIDATED COMMERCIAL URBAN (CU) PARCEL TO ALLOW FOR A MIXED USE BUILDING WITH RESIDENTIAL AND COMMERCIAL USES.

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 FACILITIES FOR THIS SITE MAY INCLUDE, BUT ARE NOT LIMITED TO A JELLYFISH FILTER AND A VEGETATED ROOF SYSTEM. SEE SHEET 16 FOR COMPUTATIONS. THIS SHALL SATISFY THE REQUIREMENTS OF 9VAC25-870-63.A.2a. THE PROPOSED BMP FACILITIES SHALL BE PRIVATELY MAINTAINED BY THE PROPERTY OWNER.

ALL BMP/SWM COMPUTATIONS SHOWN ON THIS APPLICATION ARE PRELIMINARY AND ARE SUBJECT TO CHANGE UPON RETRIEVAL OF NEW INFORMATION AND/OR IDENTIFICATION OF ADDITIONAL SITE CONSTRAINTS. THEREFORE, THE APPLICANT RESERVES THE RIGHT TO CHANGE AND/OR MODIFY THE PROPOSED BMP/SWM DEVICES AT THE TIME OF FINAL SITE PLAN TO MEET REQUIREMENTS.

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Planners-Engineers-Landscapers-Architects-Land Surveyors

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PLAN DATE: 01-18-22
08-30-22

DATE: JAN., 2022

SCALE: 1"=30'

**CITY CENTRE WEST
MASTER DEVELOPMENT PLAN
SPECIAL USE PERMIT PLAN
CITY OF FAIRFAX, VIRGINIA**

BMP POST-DEVELOPMENT

No.	DATE	DESCRIPTION
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SHEET 15 OF 26
FILE No. RZ-13007

Project Name: FAIRFAX CITY CENTER WEST
 Date: 7/27/2022
 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) → 3.12

Maximum reduction required: 20%
 The site's net increase in impervious cover (acres) is: 0.39
 Post-Development TP Load Reduction for Site (lb/yr): 1.64

Check:
 BMP Design Specifications List: 2013 Draft 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 forest/open space	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	0.00	1.12	1.12
Impervious Cover (acres)	0.00	0.00	0.00	2.00	2.00
					3.12

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	0.00	0.73	0.73
Impervious Cover (acres)	0.00	0.00	0.00	2.39	2.39
Area Check	OK	OK	OK	OK	3.12

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)	1.12	0.73
Weighted Rv(turf)	0.25	0.25
% Managed Turf	36%	27%
Impervious Cover (acres)	2.00	2.00
Rv(impervious)	0.95	0.95
% Impervious	64%	73%
Total Site Area (acres)	3.12	2.73
Site Rv	0.70	0.76

LAND COVER SUMMARY -- POST DEVELOPMENT

Land Cover Summary-Post (Final)		Land Cover Summary-Post		Land Cover Summary-Post	
Post ReDev. & New Impervious	Post-ReDevelopment	Post-ReDevelopment	Post-ReDevelopment	Post-Development New Impervious	Post-Development New Impervious
Forest/Open Space Cover (acres)	0.00	0.00	0.00		
Weighted Rv(forest)	0.00	0.00	0.00		
% Forest	0%	0%	0%		
Managed Turf Cover (acres)	0.73	0.73	0.73		
Weighted Rv (turf)	0.25	0.25	0.25		
% Managed Turf	23%	27%	27%		
Impervious Cover (acres)	2.39	2.00	2.00	New Impervious Cover (acres)	0.39
Rv(impervious)	0.95	0.95	0.95	Rv(impervious)	0.95
% Impervious	77%	73%	73%		
Total ReDev. Site Area (acres)	3.12	2.73			
Final Site Area (acres)	3.12				
Final Post Dev Site Rv	0.79				
		ReDev Site Rv	0.76		

Treatment Volume and Nutrient Load

	Pre-ReDevelopment	Post-Development
Pre-ReDevelopment Treatment Volume (acre-ft)	0.1817	0.1735
Pre-ReDevelopment Treatment Volume (cubic feet)	7,913	7,559
Pre-ReDevelopment TP Load (lb/yr)	4.97	4.75
Pre-ReDevelopment TP Load per acre (lb/acre/yr)	1.59	1.74
Baseline TP Load (lb/yr) (0.41 lb/acre/yr applied to pre-redevelopment area excluding pervious land proposed for new impervious cover)		1.12

Treatment Volume and Nutrient Load

	Final Post-Development	Post-ReDevelopment	Post-Development
Final Post-Development Treatment Volume (acre-ft)	0.2044	0.1735	0.0309
Final Post-Development Treatment Volume (cubic feet)	8,904	7,559	1,345
Final Post-Development TP Load (lb/yr)	5.59	4.75	0.85
Final Post-Development TP Load per acre (lb/acre/yr)	1.79	1.74	
Max. Reduction Required (Below Pre-ReDevelopment Load)		20%	

¹Adjusted 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 1 shows load reduction requirement for new impervious cover (based on new development load limit, 0.41 lb/acre/year).

Post-Development Requirement for Site Area

TP Load Reduction Required (lb/yr)	1.64
------------------------------------	------

Nitrogen Loads (Informational Purposes Only)

Pre-ReDevelopment TN Load (lb/yr)	35.57	Final Post-Development TN Load (Post-ReDevelopment & New Impervious) (lb/yr)	40.02
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Drainage Area A

Drainage Area A Land Cover (acres)

	A Soils	B Soils	C Soils	D Soils	Totals	Land Cover Rv
Forest/Open Space (acres)	0.00	0.00	0.00	0.00	0.00	0.00
Managed Turf (acres)	0.00	0.00	0.00	0.29	0.29	0.25
Impervious Cover (acres)	0.00	0.00	0.00	1.97	1.97	0.95
Total					2.26	

CLEAR BMP AREAS

Total Phosphorus Available for Removal in D.A. A (lb/yr) 4.43
 Post Development Treatment Volume in D.A. A (ft³) 7,057

Stormwater Best Management Practices (RR = Runoff Reduction)

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
1. Vegetated Roof (RR)													
1.a. Vegetated Roof #1 (Spec #5)	45		0.14		217	266	483	0		0.30	0.14	0.17	14.b. MTD - Filtering
14. Manufactured Treatment Devices (no RR)													
14.a. Manufactured Treatment Device-Hydrodynamic	0			0	0	0	0	0	0.00	0.00	0.00	0.00	
14.b. Manufactured Treatment Device-Filtering	0	0.29	1.83	266	0	6,839	6,839	50	0.17	4.13	2.15	2.15	
14.c. Manufactured Treatment Device-Generic	0			0	0	0	0	0	0.00	0.00	0.00	0.00	

TOTAL IMPERVIOUS COVER TREATED (ac) 1.97 AREA CHECK: OK
 TOTAL MANAGED TURF AREA TREATED (ac) 0.29 AREA CHECK: OK

TOTAL PHOSPHORUS REMOVAL REQUIRED ON SITE (lb/yr) 1.64

TOTAL PHOSPHORUS AVAILABLE FOR REMOVAL IN D.A. A (lb/yr) 4.43
 TOTAL PHOSPHORUS REMOVED WITHOUT RUNOFF REDUCTION PRACTICES IN D.A. A (lb/yr) 2.15
 TOTAL PHOSPHORUS REMOVED WITH RUNOFF REDUCTION PRACTICES IN D.A. A (lb/yr) 0.14
 TOTAL PHOSPHORUS LOAD REDUCTION ACHIEVED IN D.A. A (lb/yr) 2.28
 TOTAL PHOSPHORUS REMAINING AFTER APPLYING BMP LOAD REDUCTIONS IN D.A. A (lb/yr) 2.15

SEE WATER QUALITY COMPLIANCE TAB FOR SITE COMPLIANCE CALCULATIONS

NITROGEN REMOVED WITH RUNOFF REDUCTION PRACTICES IN D.A. A (lb/yr) 0.98
 NITROGEN REMOVED WITHOUT RUNOFF REDUCTION PRACTICES IN D.A. A (lb/yr) 0.00
 TOTAL NITROGEN REMOVED IN D.A. A (lb/yr) 0.98

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)	1.97	0.00	0.00	0.00	0.00	OK.
IMPERVIOUS COVER TREATED (ac)	1.97	0.00	0.00	0.00	0.00	OK.
MANAGED TURF AREA (ac)	0.29	0.00	0.00	0.00	0.00	OK.
MANAGED TURF AREA TREATED (ac)	0.29	0.00	0.00	0.00	0.00	OK.
AREA CHECK	OK.	OK.	OK.	OK.	OK.	

Site Treatment Volume (ft³) 8,904

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)	217	0	0	0	0	217
TP LOAD AVAILABLE FOR REMOVAL (lb/yr)	4.43	0.00	0.00	0.00	0.00	4.43
TP LOAD REDUCTION ACHIEVED (lb/yr)	2.28	0.00	0.00	0.00	0.00	2.28
TP LOAD REMAINING (lb/yr)	2.15	0.00	0.00	0.00	0.00	2.15
NITROGEN LOAD REDUCTION ACHIEVED (lb/yr)	0.98	0.00	0.00	0.00	0.00	0.98

Total Phosphorus

POST-DEVELOPMENT TP LOAD (lb/yr)	5.59
TP LOAD REDUCTION REQUIRED (lb/yr)	1.64
TP LOAD REDUCTION ACHIEVED (lb/yr)	2.28
TP LOAD REMAINING (lb/yr)	3.31
REMAINING TP LOAD REDUCTION REQUIRED (lb/yr):	0.00 **

** TARGET TP REDUCTION EXCEEDED BY 0.65 LB/YEAR **

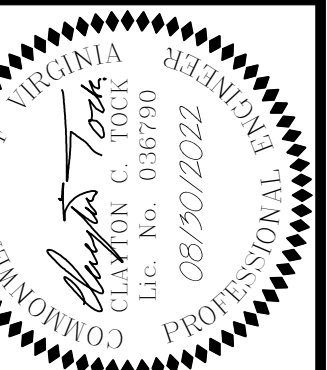
Total Nitrogen (For Informational Purposes)

POST-DEVELOPMENT LOAD (lb/yr)	40.02
NITROGEN LOAD REDUCTION ACHIEVED (lb/yr)	0.98
REMAINING POST-DEVELOPMENT NITROGEN LOAD (lb/yr)	39.05

No.	DATE	DESCRIPTION	REVISIONS

PLAN DATE
 01-18-22
 08-30-22

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BMP POST-DEVELOPMENT COMPUTATIONS
 CITY CENTRE WEST
 MASTER DEVELOPMENT PLAN
 SPECIAL USE PERMIT PLAN
 CITY OF FAIRFAX, VIRGINIA
 DATE: JAN., 2022
 SCALE: N/A
 C.I.= N/A