

# CONCEPTUAL DEVELOPMENT PLAN/ FINAL DEVELOPMENT PLAN/ PARTIAL PROFFER CONDITION AMENDMENT FOR ONE UNIVERSITY BRADDOCK DISTRICT FAIRFAX COUNTY, VIRGINIA

**OWNERS**  
REDEVELOPMENT AND HOUSING AUTHORITY  
3700 PENDER DRIVE  
SUITE 300  
FAIRFAX, VA 22030

**ATTORNEY**  
MCGUIRE WOODS, LLP  
1750 TYSONS BOULEVARD  
SUITE 1800  
(703) 712-5000  
CONTACT: GREGORY A. RIEGLE

**PLANNER**  
NILES BOLTON ASSOCIATES  
3060 PEACHTREE ROAD, N.W.  
SUITE 600  
ATLANTA, GA 30305  
(404) 365-7600  
CONTACT: CHRIS FORTNER

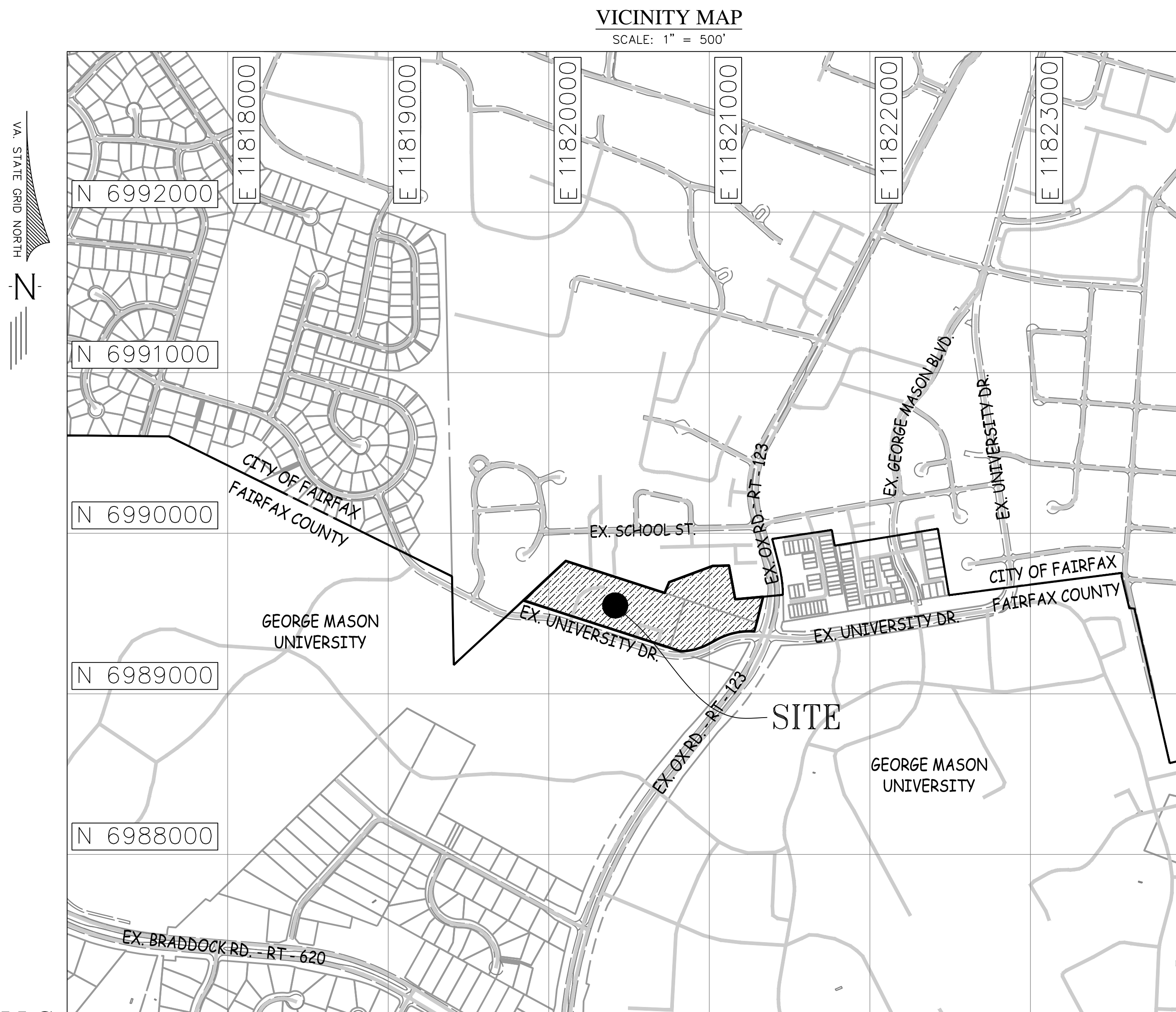
**ARCHITECT**  
NILES BOLTON ASSOCIATES  
3060 PEACHTREE ROAD, N.W.  
SUITE 600  
ATLANTA, GA 30305  
(404) 365-7600  
CONTACT: DALE McCLAIN

**CIVIL ENGINEER**  
URBAN, LTD.  
4200 D TECHNOLOGY CT.  
CHANTILLY, VA 20151  
(703) 642-2306  
CONTACT: CLAYTON TOCK, P.E.

**LANDSCAPE ARCHITECT**  
URBAN, LTD.  
4200 D TECHNOLOGY CT.  
CHANTILLY, VA 20151  
(703) 642-2306  
CONTACT: ADAM STEINER

**TRAFFIC ENGINEER**  
WELLS & ASSOCIATES  
1420 SPRING HILL ROAD  
SUITE 610  
TYSONS, VA 22102  
(703) 676-3615  
CONTACT: JOHN SCHICK

**APPLICANT**  
ONE UNIVERSITY DEVELOPMENT PARTNERS, LLC  
8245 BONNE BLVD  
SUITE 640  
VIENNA, VA 22182  
(703) 942-6610  
ATTN: STEPHANIE MARCUS

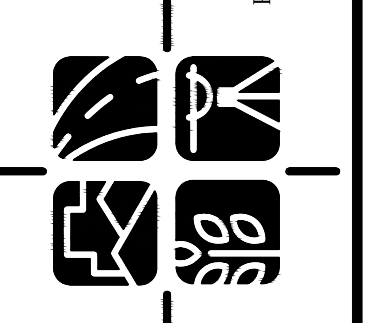


SHEET INDEX	
SHEET #	SHEET TITLE
01	COVER SHEET
02-03A	GENERAL NOTES & DETAILS
04	OVERVIEW PLAN
05-06	EXISTING CONDITIONS PLAN
07-08	CONCEPTUAL AND FINAL DEVELOPMENT PLAN
09	GARAGE PLAN
10	PEDESTRIAN CIRCULATION PLAN
10A	PHASING PLAN
11	OPEN SPACE PLAN
12	SWM-PRE-DEVELOPMENT PLAN
13	SWM-POST DEVELOPMENT PLAN
14-15	SWM COMPUTATIONS
16-17	SWM DETAILS
18	BMP PRE-DEVELOPMENT CONDITIONS
19	BMP POST-DEVELOPMENT CONDITIONS
20	BMP MAP & NARRATIVE
21	BMP COMPUTATIONS
22	BMP GENERAL DETAILS
23-24	ADEQUATE OUTFALL ANALYSIS
25	SIGHT DISTANCE
26	PHOTOMETRIC PLAN
27	EXISTING VEGETATION MAP
28	LANDSCAPE OVERVIEW
30-29	LANDSCAPE PLAN
31	LANDSCAPE COMPUTATIONS
32	AMENITIES
33	RENDERED SITE PLAN
34-35	SITE SECTIONS
36	SUN STUDY PLAN
37-38	ARCHITECTURAL ELEVATIONS

NOTE: TOTAL 40 SHEETS

PLANDATE	No.	DATE	DESCRIPTION
11-15-18			
02-19-19			
04-05-19			

Urban, Ltd.  
4200 D TECHNOLOGY CT.  
CHANTILLY, VA 20151  
TEL: 703.642.2306  
FAX: 703.376.7888  
www.urban-llc.com



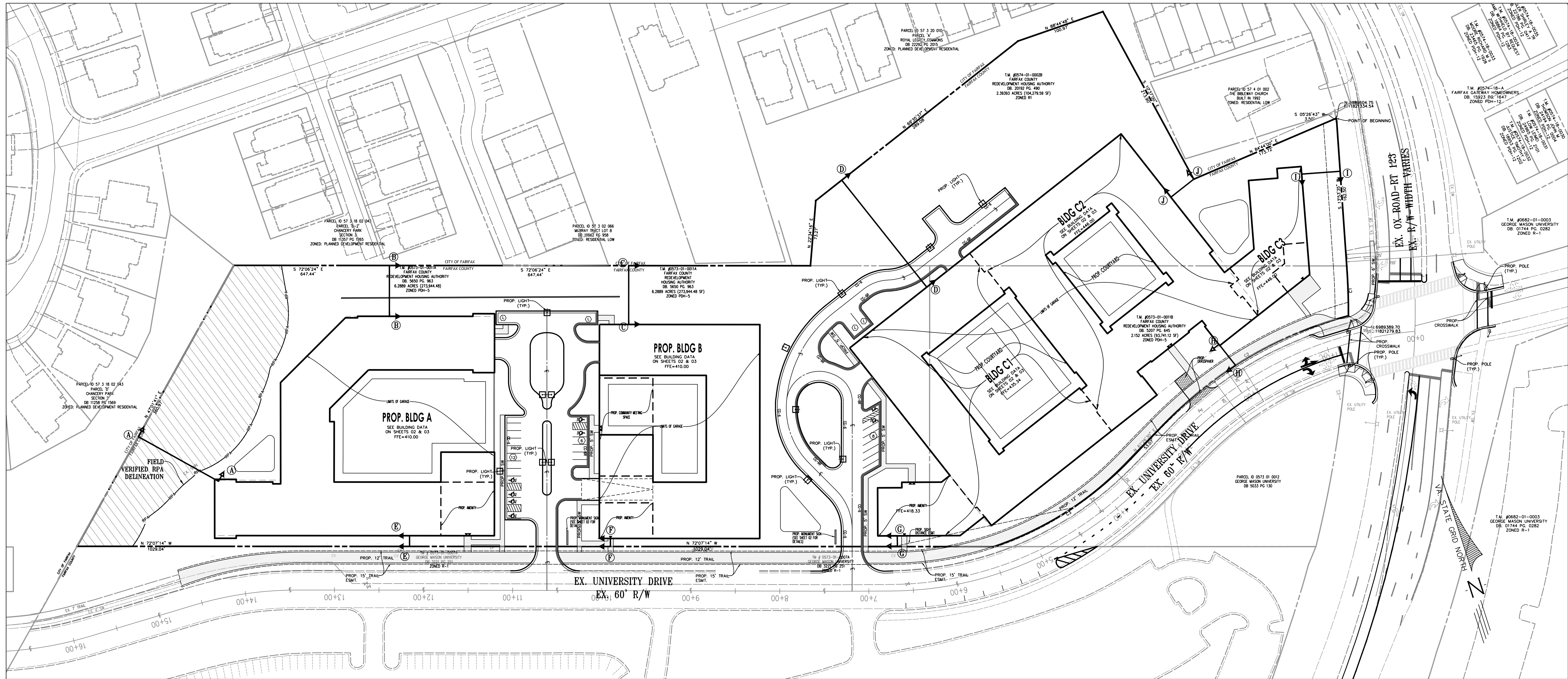
COVER SHEET  
ONE UNIVERSITY  
CDP/FDPP/PARTIAL PCA  
BRADDOCK DISTRICT  
FAIRFAX COUNTY, VIRGINIA  
SCALE: AS SHOWN  
C.I.= N/A

DATE: OCT., 2018

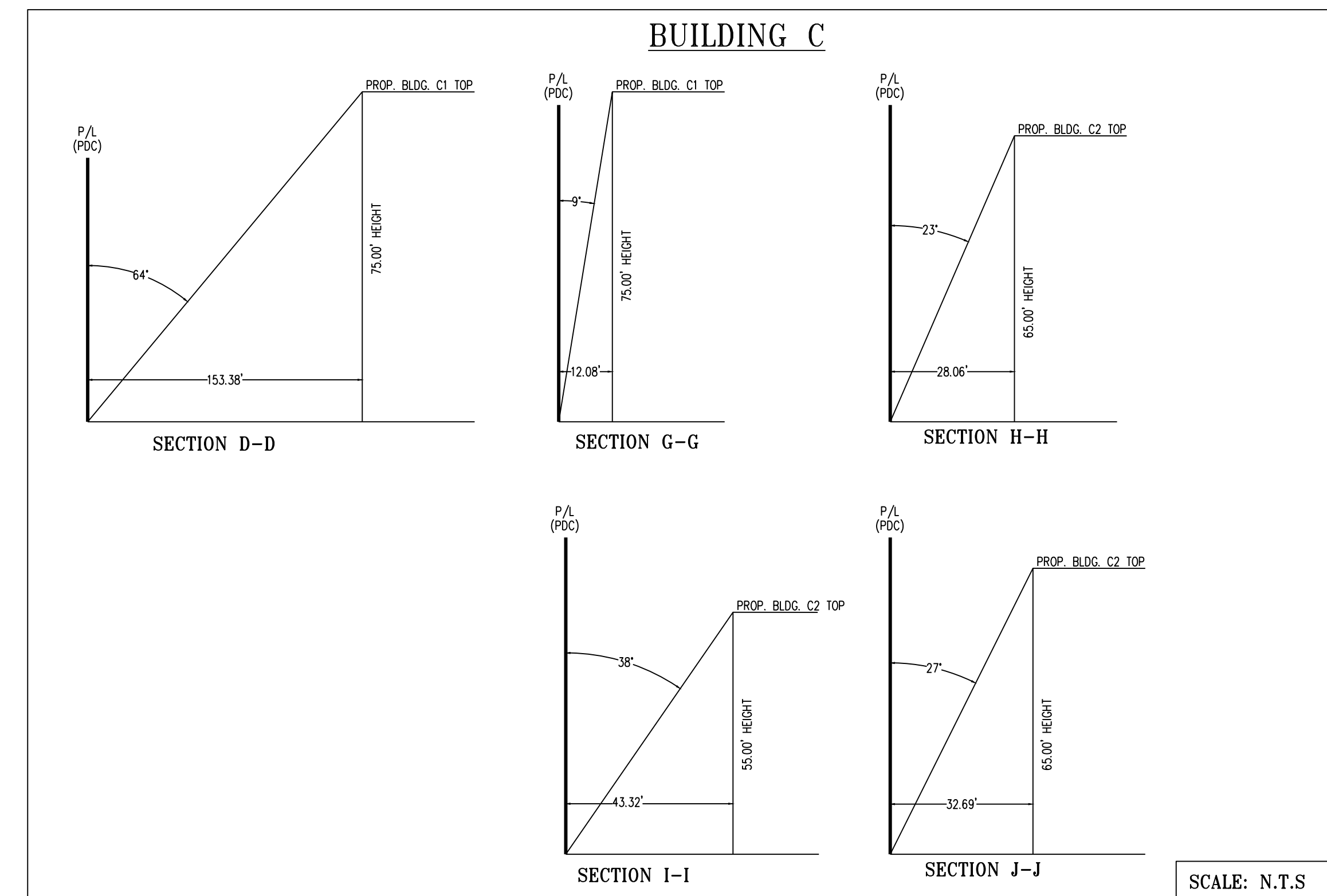
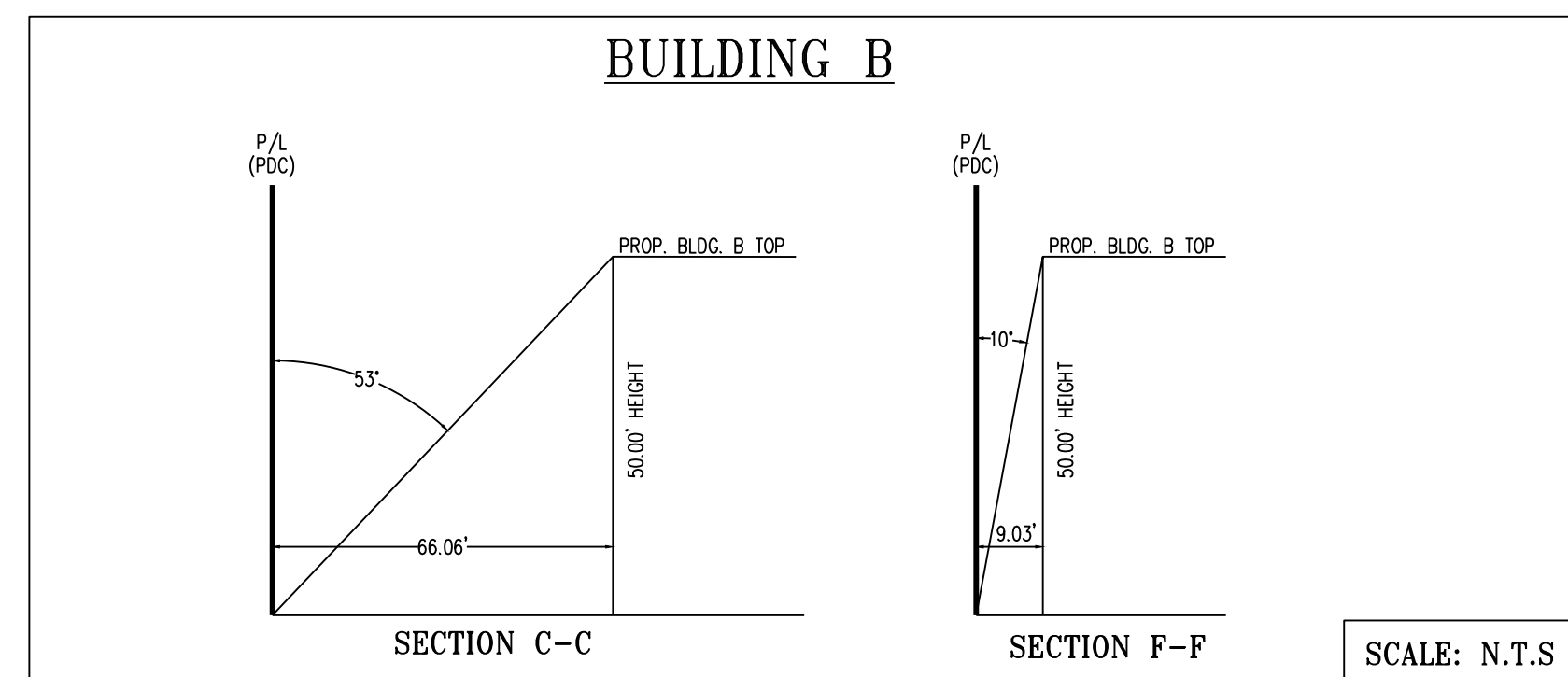
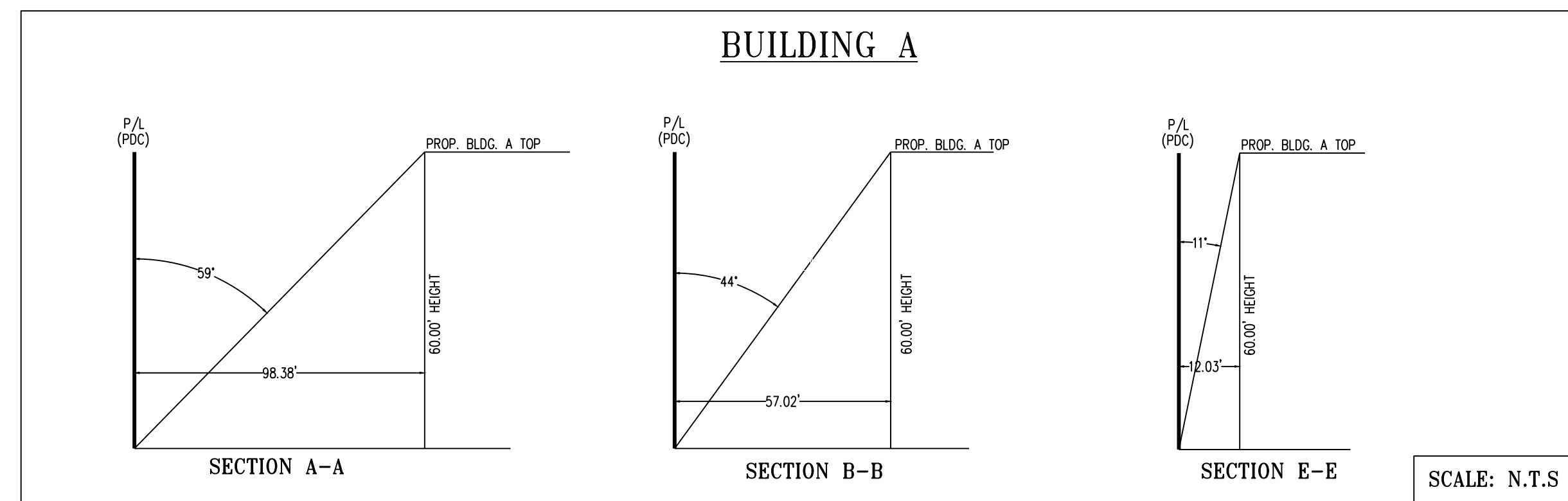
SHEET  
01  
OF  
38  
FILE No.  
RZ-12964







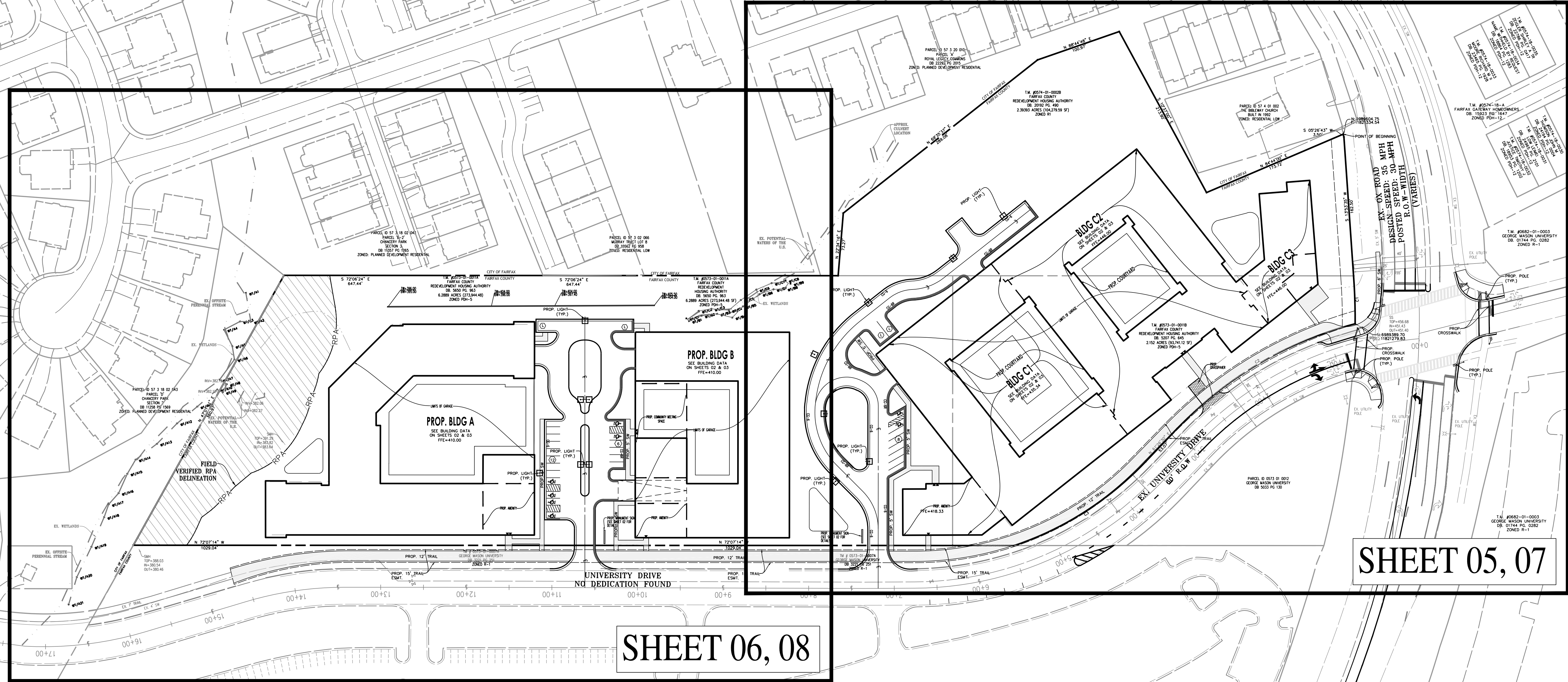
TYPICAL BULK PLANE SECTION KEY MAP  
SCALE: 1"=60'



Urban, Ltd. - J:\JOBS\OneUniversity\B-Engineering\Entitlement\CDP-FDP-SPEX\12964-41-BULK PLANE.dwg [BULK PLANE] April 05, 2019 - 10:54am yetosri

<p>Urban, Ltd. 2000 TECHNOLOGY CT CHANTILLY, VA 20151 TEL: 703.642.2366 FAX: 703.376.7888 www.urban-lltd.com</p> <p style="text-align: center;"><b>urban</b> Planners-Engineers-Landscape Architects-Join Survectors</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;">No.</th> <th style="width: 10%;">DATE</th> <th style="width: 80%;">DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	No.	DATE	DESCRIPTION						
No.	DATE	DESCRIPTION								
<p>PLANDATE: 11-15-18 02-19-19 04-05-19</p>										
<p>COMMONWEALTH OF VIRGINIA Professional Engineer C. J. YETOSRI Lic. No. 048790 04/05/2019</p>										
<p>GENERAL NOTES &amp; DETAILS <b>ONE UNIVERSITY CDP/FDP/PARTIAL PCA</b> BRADDOCK DISTRICT FAIRFAX COUNTY, VIRGINIA</p>										
<p>SCALE: AS SHOWN DATE: OCT., 2018 C.I.= N/A</p>										
<p>SHEET 03A OF 38</p>										
<p>FILE NO. RZ-12964</p>										

Urban, Ltd. - J:\\_JOBS\OneUniversity\B-Engineering\Entitlement\CDP-FDP-SPEX\12963-03-OVERVIEW.dwg [OVERVIEW] April 05, 2019 - 10:55am yelosi

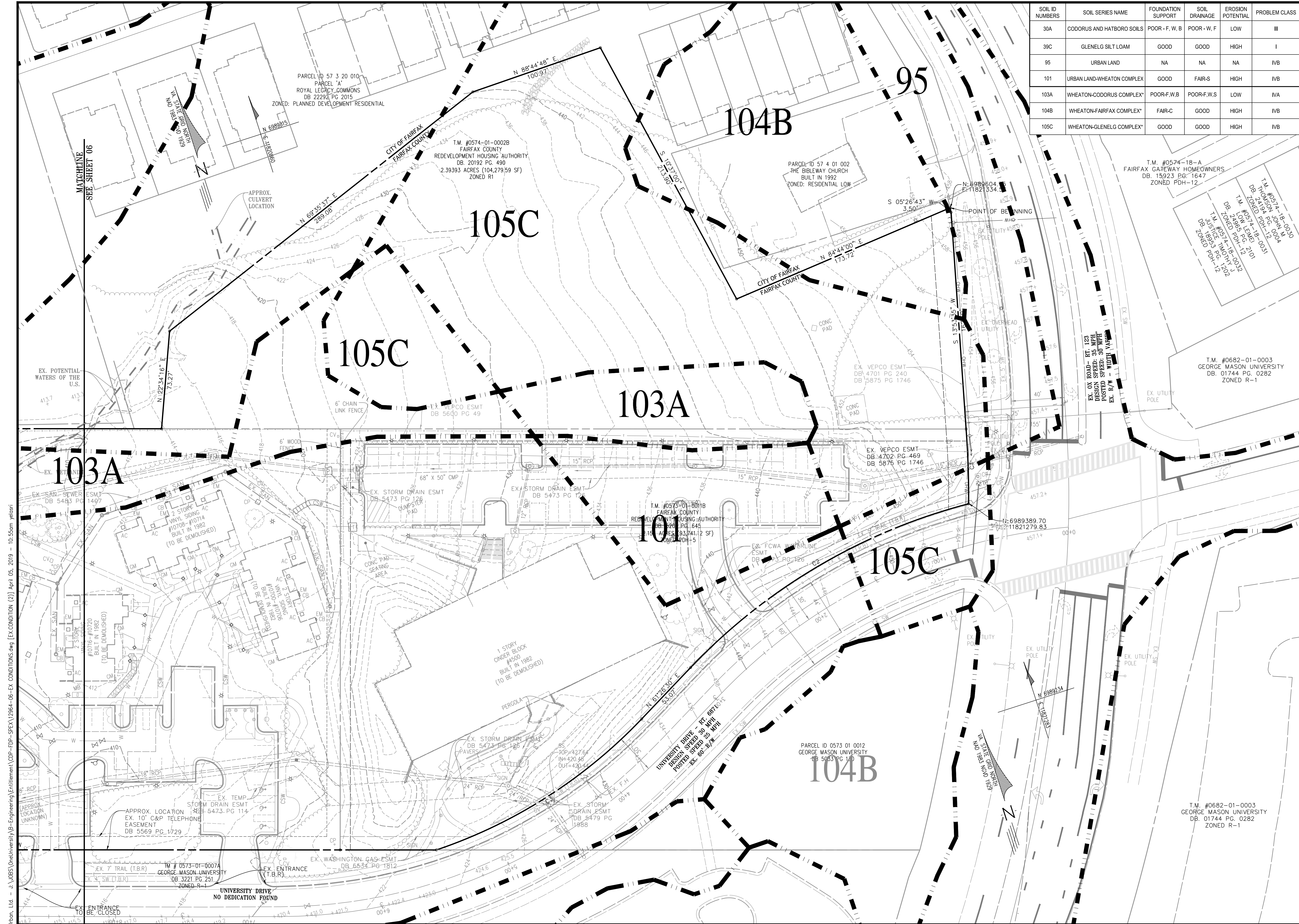


SHEET 06, 08

SHEET 05, 07

THIS SHEET IS FOR OVERVIEW PURPOSES ONLY

<p>OVERVIEW PLAN  <b>ONE UNIVERSITY          CDP/FDP/PARTIAL PCA</b>          BRADDOCK DISTRICT          FAIRFAX COUNTY, VIRGINIA</p>		<p>DATE: OCT., 2018          SCALE: 1"=60'</p>						
<p>FILE No.  <b>RZ-12964</b></p>		<p>SHEET          04          OF          38</p>						
<p>Urban, Ltd.          2000 TECHNOLOGY CT          CHANTILLY, VA 20151          TEL: 703.642.2366          FAX: 703.376.7888          www.urban-lltd.com</p>		<p>PLANDATE          11-15-18          02-19-19          04-05-19</p>						
<p>Professional Engineer          License No. 048790          Date: 04/05/2019</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						



SOIL ID NUMBERS	SOIL SERIES NAME	FOUNDATION SUPPORT	SOIL DRAINAGE	EROSION POTENTIAL	PROBLEM CLASS
30A	CODORUS AND HATBORO SOILS	POOR - F, W, B	POOR - W, F	LOW	III
39C	GLENELG SILT LOAM	GOOD	GOOD	HIGH	I
95	URBAN LAND	NA	NA	NA	IVB
101	URBAN LAND-WHEATON COMPLEX	GOOD	FAIR-S	HIGH	IVB
103A	WHEATON-CODORUS COMPLEX*	POOR-F,W,B	POOR-F,W,S	LOW	IVA
104B	WHEATON-FAIRFAX COMPLEX*	FAIR-C	GOOD	HIGH	IVB
105C	WHEATON-GLENELG COMPLEX*	GOOD	GOOD	HIGH	IVB

PLANDATE	NO.	DATE	DESCRIPTION
11-15-18			
02-19-19			
04-05-19			

Urban, Ltd.  
 2000 TECHNOLOGY CT  
 CHANTILLY, VA 20151  
 TEL: 703.642.2366  
 FAX: 703.376.7888  
 www.urban-lltd.com

**urban**  
 Planners-Engineers-Landscape-Architects-Join Surveyors

COMMONWEALTH OF VIRGINIA  
 PROFESSIONAL ENGINEER  
 BRADDOCK DISTRICT  
 FAIRFAX COUNTY, VIRGINIA  
 License No. 068790  
 04/05/2019

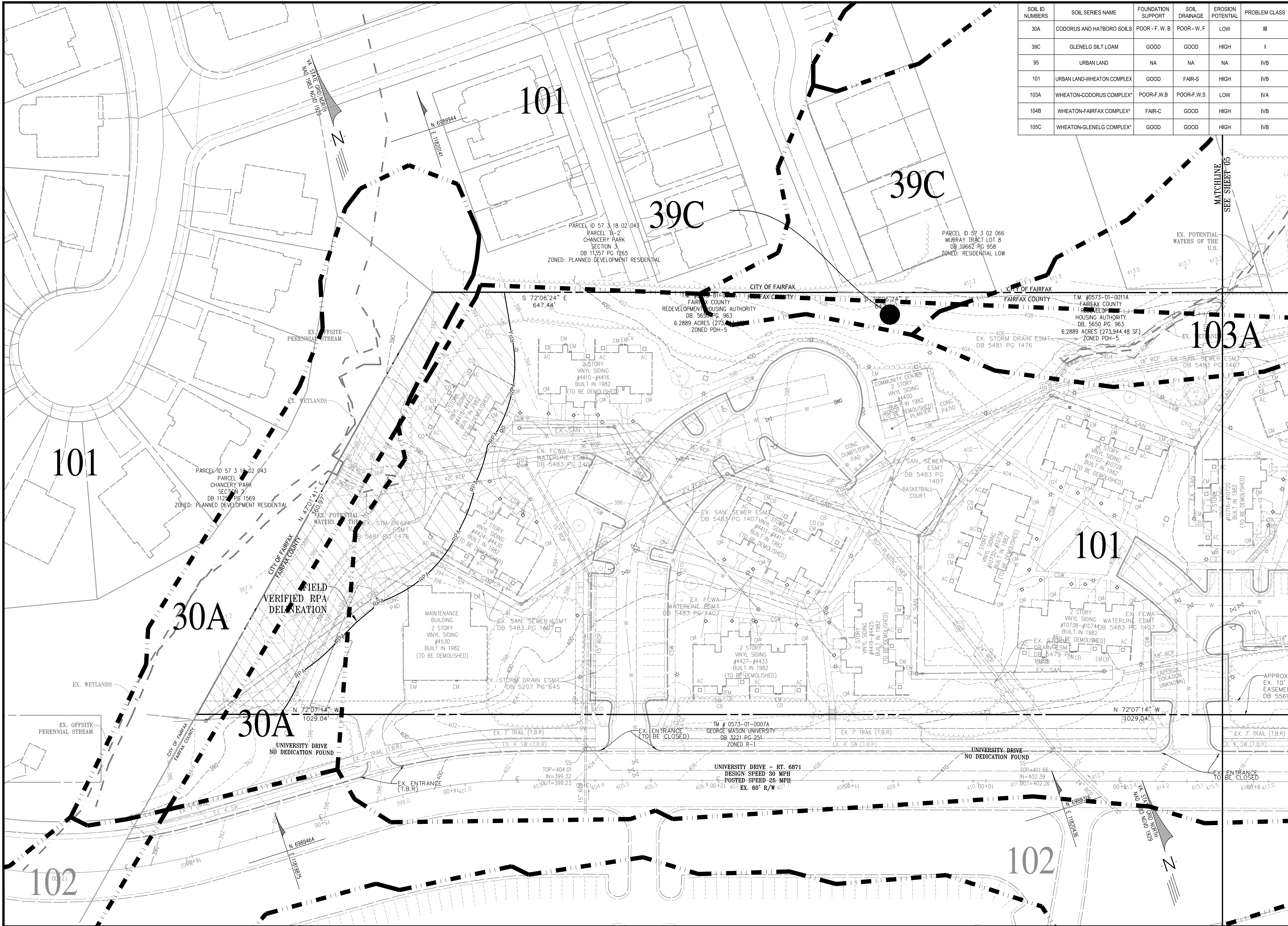
EXISTING CONDITIONS PLAN  
**ONE UNIVERSITY CDP/FDPP/PARTIAL PCA**  
 BRADDOCK DISTRICT  
 FAIRFAX COUNTY, VIRGINIA

DATE: OCT., 2018  
 SCALE: 1"=30'  
 SHEET 05 OF 38  
 FILE No. RZ-12964

Urban, Ltd. - J:\085\OneUniversity\B-Engineering\Entitlement\CDP-FDP-SPEX\12964-06-EX-CONDITIONS.dwg [EX-CONDITION (2)] April 05, 2019 - 10:55am yeldsi

Urban, Ltd. - J:\085\OneUniversity\B-Engineering\Entitlement\CDP-FDP-SPEX\12964-06-EX-CONDITIONS.dwg [EX-CONDITION] April 05, 2019 - 10:55am\_yelarsi

SOIL ID NUMBERS	SOIL SERIES NAME	FOUNDATION SUPPORT	SOIL DRAINAGE	EROSION POTENTIAL	PROBLEM CLASS
30A	CODORUS AND HATBORO SOILS	POOR - F, W, B	POOR - W, F	LOW	III
39C	GLENELG SILT LOAM	GOOD	GOOD	HIGH	I
95	URBAN LAND	NA	NA	NA	IVB
101	URBAN LAND-WHEATON COMPLEX	GOOD	FAIR-S	HIGH	IVB
103A	WHEATON-CODORUS COMPLEX*	POOR-F,W,B	POOR-F,W,S	LOW	IVA
104B	WHEATON-FAIRFAX COMPLEX*	FAIR-C	GOOD	HIGH	IVB
105C	WHEATON-GLENELG COMPLEX*	GOOD	GOOD	HIGH	IVB



PLANDATE	NO.	DATE	DESCRIPTION
11-15-18			
02-19-19			
04-05-19			

Urban, Ltd.  
 2000 TECHNOLOGY CT  
 CHANTILLY, VA 20151  
 TEL: 703.642.2366  
 FAX: 703.376.7888  
 www.urban-lltd.com

**urban**  
 Planners • Engineers • Landscape Architects • Land Surveyors

COMMONWEALTH OF VIRGINIA  
 PROFESSIONAL ENGINEER  
 GEORGE C. YOUNG  
 Lic. No. 068790  
 04/05/2019

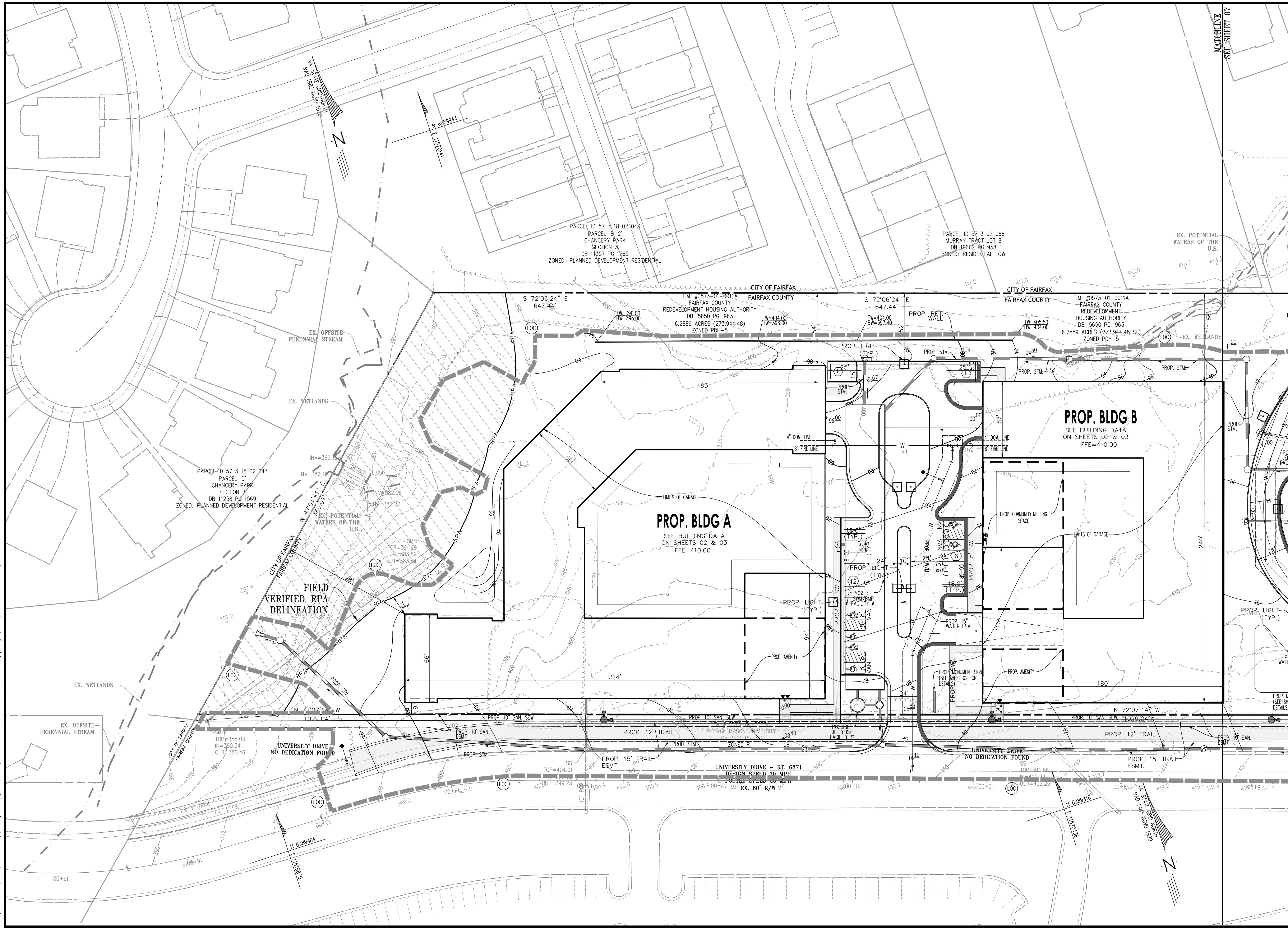
EXISTING CONDITIONS PLAN  
**ONE UNIVERSITY  
 CDP/FDP/PARTIAL PCA**  
 BRADDOCK DISTRICT  
 FAIRFAX COUNTY, VIRGINIA

DATE: OCT. 2018  
 SCALE: 1"=30'  
 SHEET 06 OF 38  
 FILE NO. RZ-12964



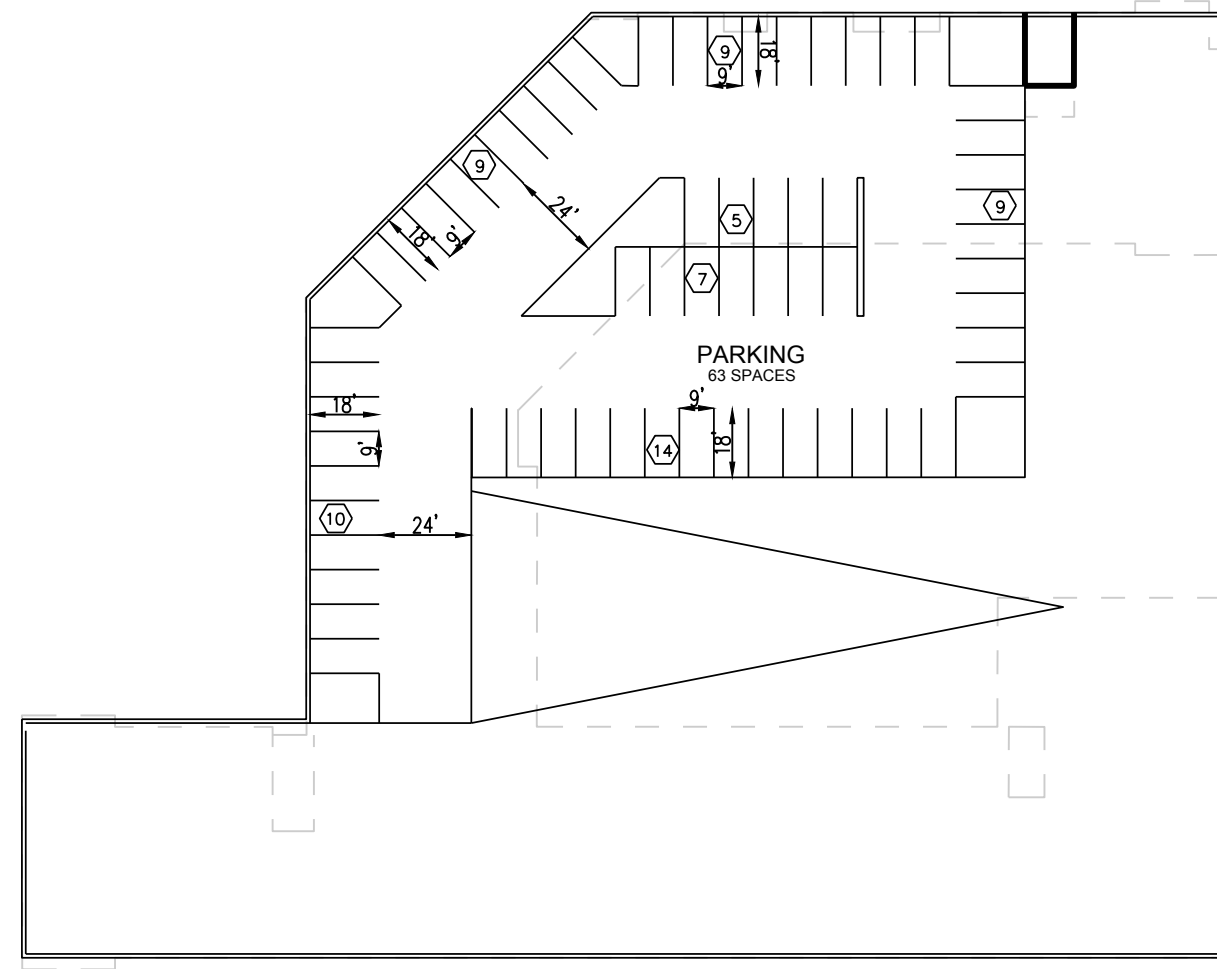


Urban, Ltd. - J:\\_JOBS\OneUniversity\B-Engineering\Entitlement\CDP-FDP-SPEX\12964-08-GEOMETRY.dwg [C] April 05, 2019 - 10:55am yelsri

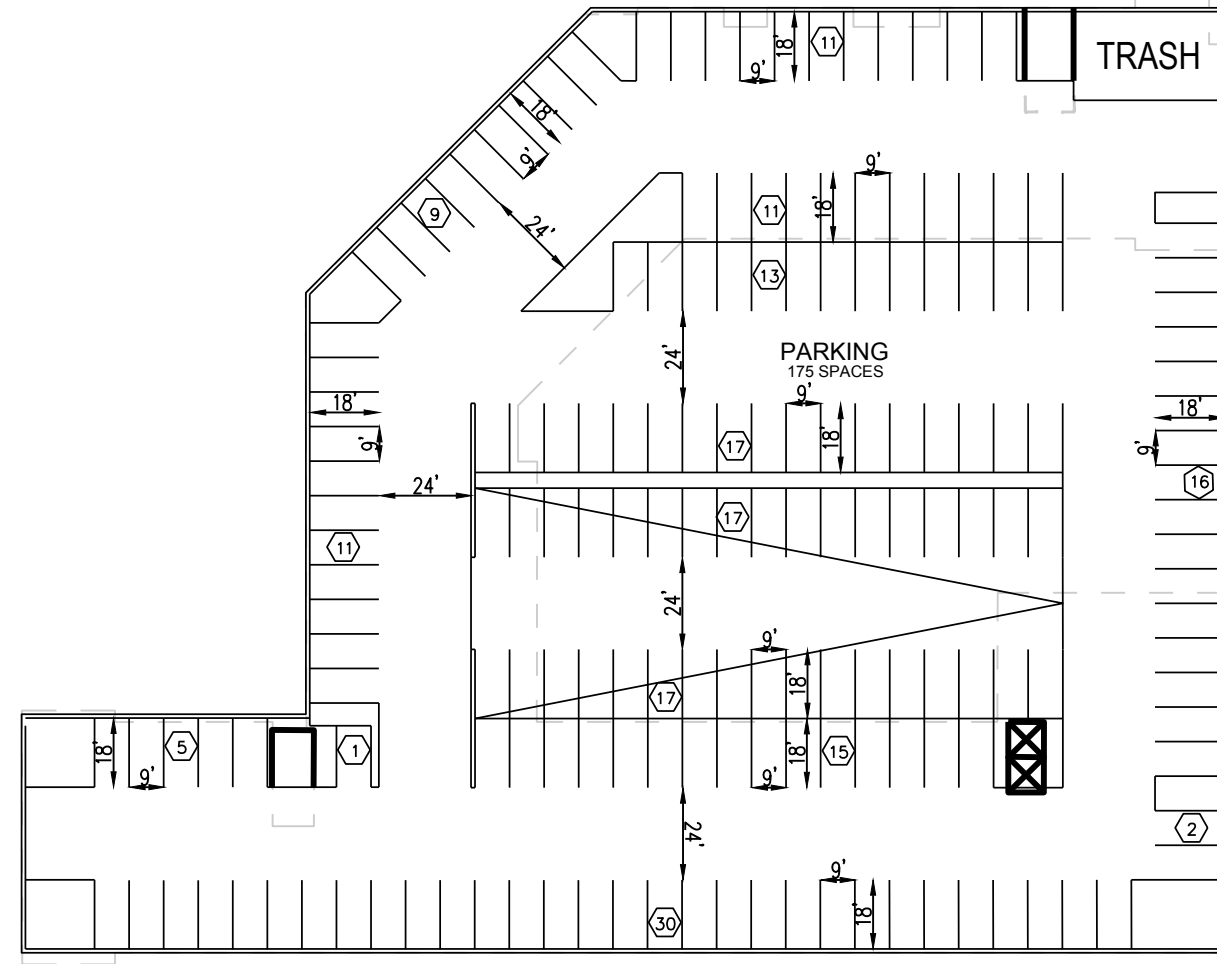


PLANDATE	11-15-18 02-19-19 04-05-19	REVISIONS	
Urban, Ltd. 200D TECHNOLOGY CT CHANTILLY, VA 20151 TEL: 703.642.2366 FAX: 703.376.7888 www.urban-lltd.com			
<b>urban</b> Planners-Engineers-Landscape-Architects-Land Surveyors			
COMMONWEALTH OF VIRGINIA COURT REPORTER Lic. No. 068790 04/05/2019 PROFESSIONAL ENGINEER			
CONCEPTUAL AND FINAL DEVELOPMENT PLAN		DATE:	OCT., 2018
ONE UNIVERSITY CDP/FDP/PARTIAL PCA BRADDOCK DISTRICT FAIRFAX COUNTY, VIRGINIA		C.I. =	2'
SHEET	08	OF	38
FILE No.	RZ-12964		

**BUILDING A**  
238 SPACES TOTAL - 1.5 LEVELS

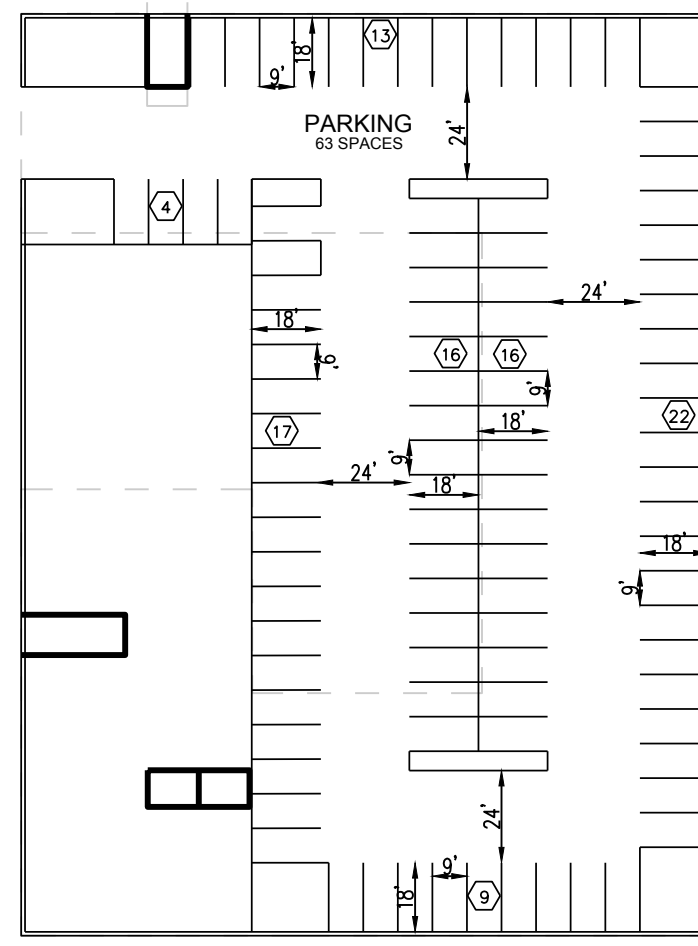


P1 SUMMARY	
90 DEGREE STALL	63 SPACES
HANDICAP	0 SPACES
TOTAL	63 SPACES

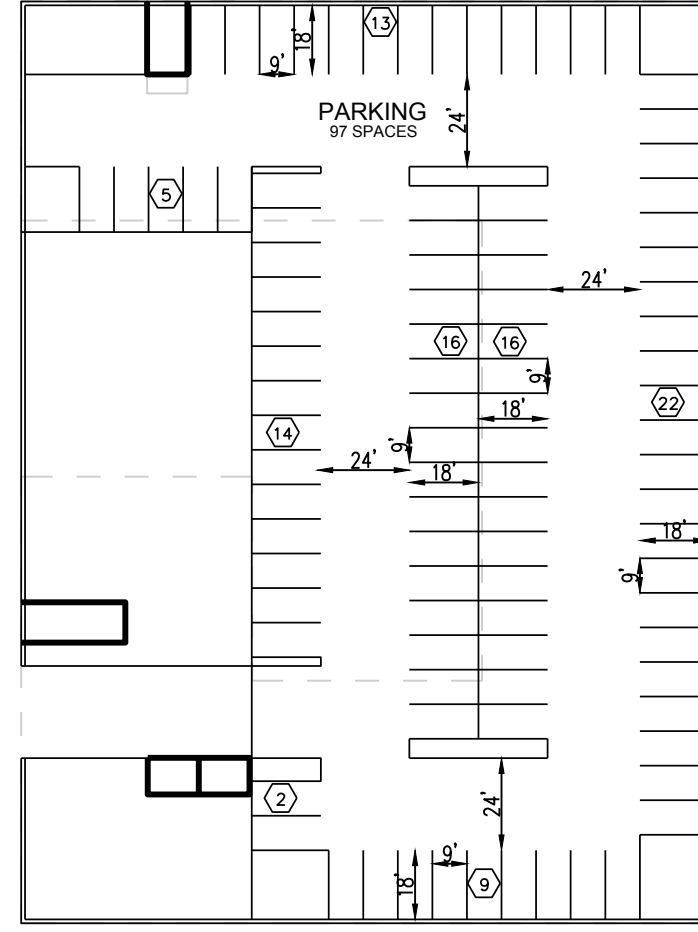


P2 SUMMARY	
90 DEGREE STALL	175 SPACES
HANDICAP	3 SPACES
TOTAL	175 SPACES

**BUILDING B**  
160 SPACES TOTAL - 2 LEVELS

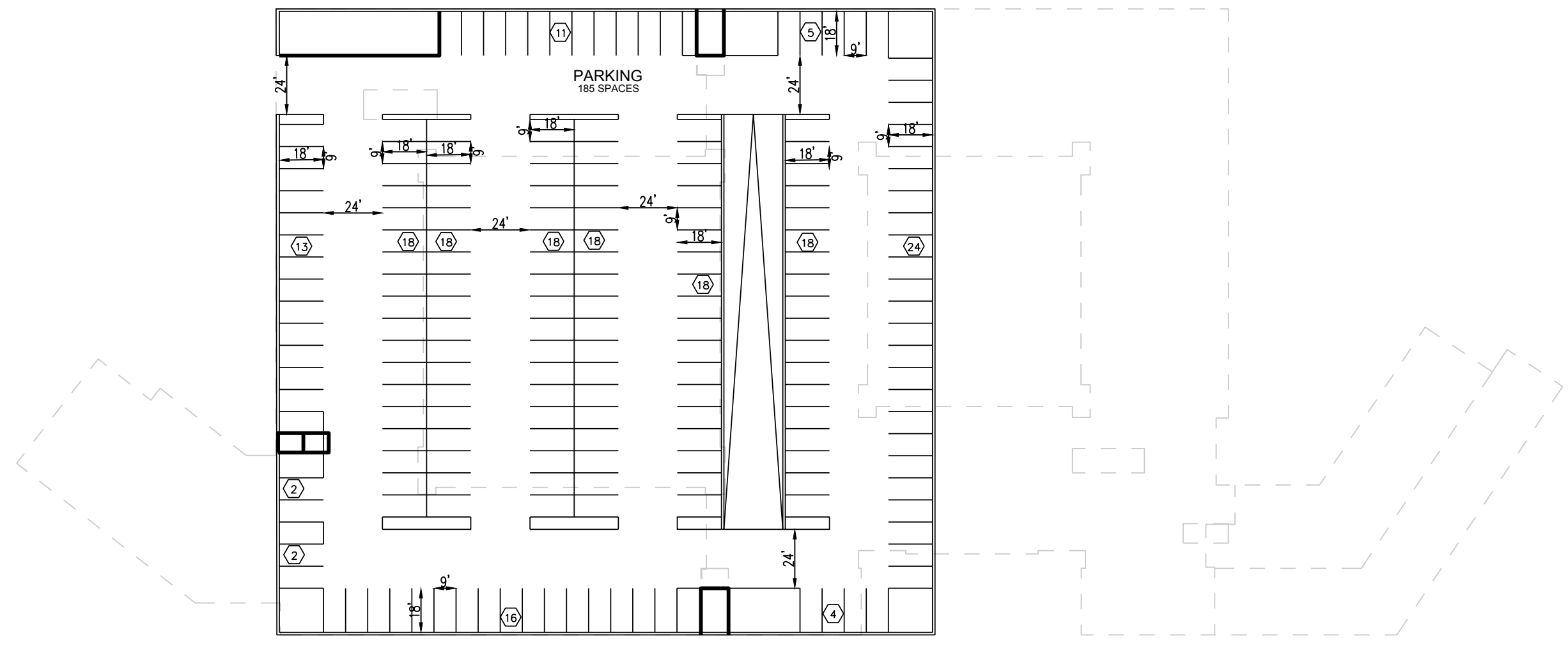


P1 SUMMARY	
90 DEGREE STALL	63 SPACES
HANDICAP	2 SPACES
MTG	35 SPACES
TOTAL	63 SPACES

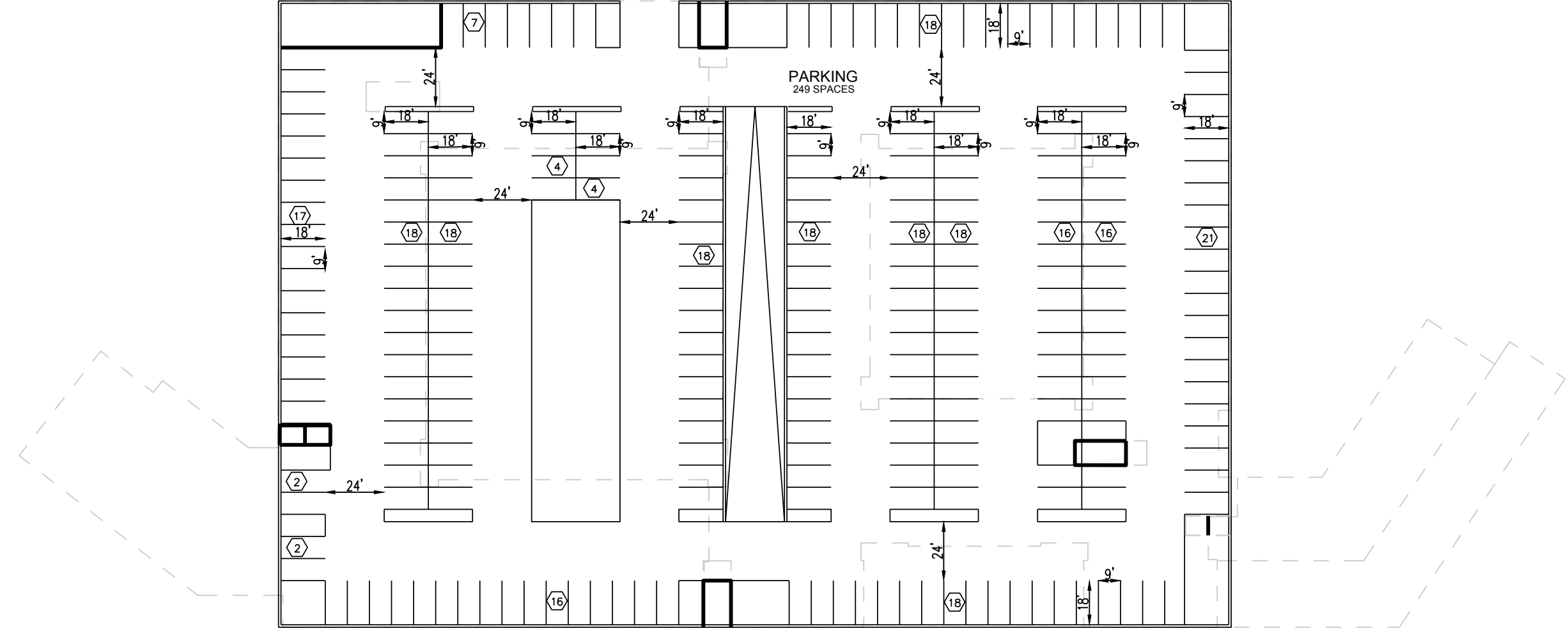


P2 SUMMARY	
90 DEGREE STALL	97 SPACES
HANDICAP	2 SPACES
TOTAL	97 SPACES

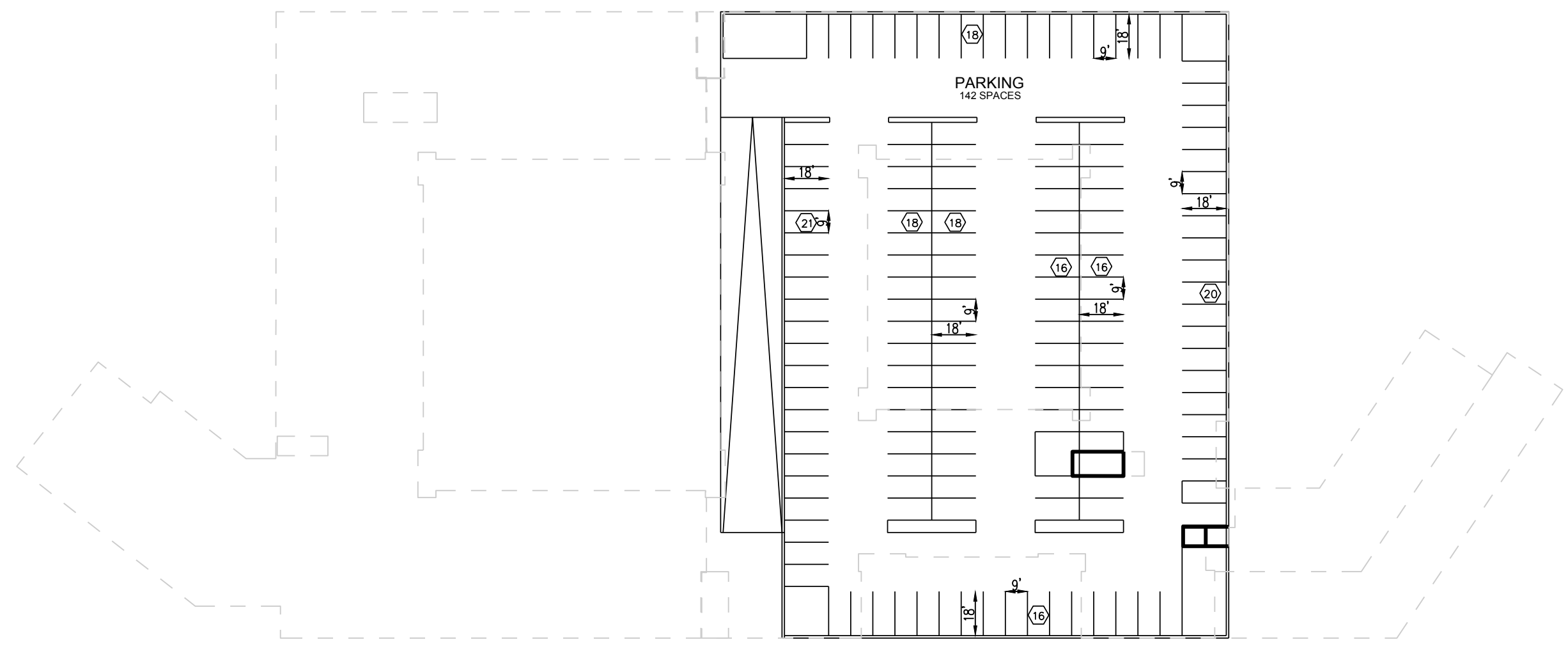
**BUILDING C**  
576 SPACES TOTAL - 3 LEVELS



P1 SUMMARY	
90 DEGREE STALL	185 SPACES
HANDICAP	3 SPACES
TOTAL	185 SPACES



P2 SUMMARY	
90 DEGREE STALL	249 SPACES
HANDICAP	4 SPACES
TOTAL	249 SPACES



P3 SUMMARY	
90 DEGREE STALL	142 SPACES
HANDICAP	3 SPACES
TOTAL	142 SPACES

Urban, Ltd. - J:\G055\OneUniversity\B-Engineering\Entitlement\CDP-FDP-SPEX\12964-07-Garage Plan.dwg [GARAGE PLAN] April 05, 2018 - 10:55am yelsri

PLANDATE	No.	DATE	DESCRIPTION
11-15-18			
02-19-19			
04-05-19			

Urban, Ltd. 2200 TECHNOLOGY CT CHANTILLY, VA, 20151 TEL: 703.642.2366 FAX: 703.376.7888 www.urban-lltd.com
---

**urban**  
Planners • Engineers • Landscape Architects • Joint Services

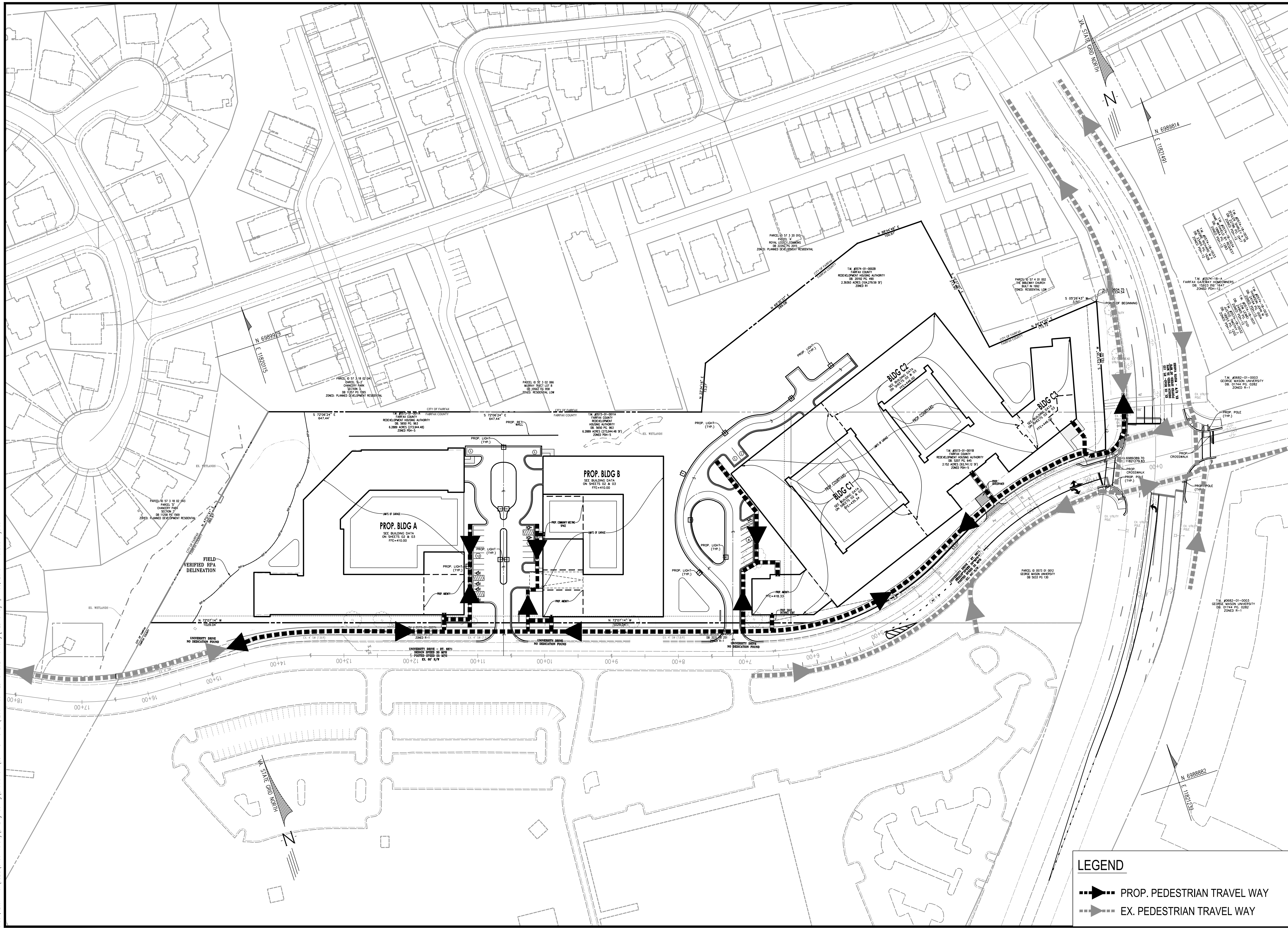
COMMONWEALTH OF VIRGINIA  
David C. Puck  
Lic. No. 068790  
04/05/2019  
PROFESSIONAL ENGINEER

GARAGE PLAN	DATE: OCT., 2018
ONE UNIVERSITY CDP/FDP/PARTIAL PCA BRADDOCK DISTRICT FAIRFAX COUNTY, VIRGINIA	C.I.= N/A

SHEET 09 OF 38
FILE No. RZ-12964

SCALE: 1"=50'
---------------

Urban, Ltd. - J:\\_L085\OneUniversity\B-Engineering\Entitlement\CDP-FDP-SPEX\12964-09-PED-CIRCULATION.dwg [PED CIRC] April 05, 2019 - 10:56am yelbsr

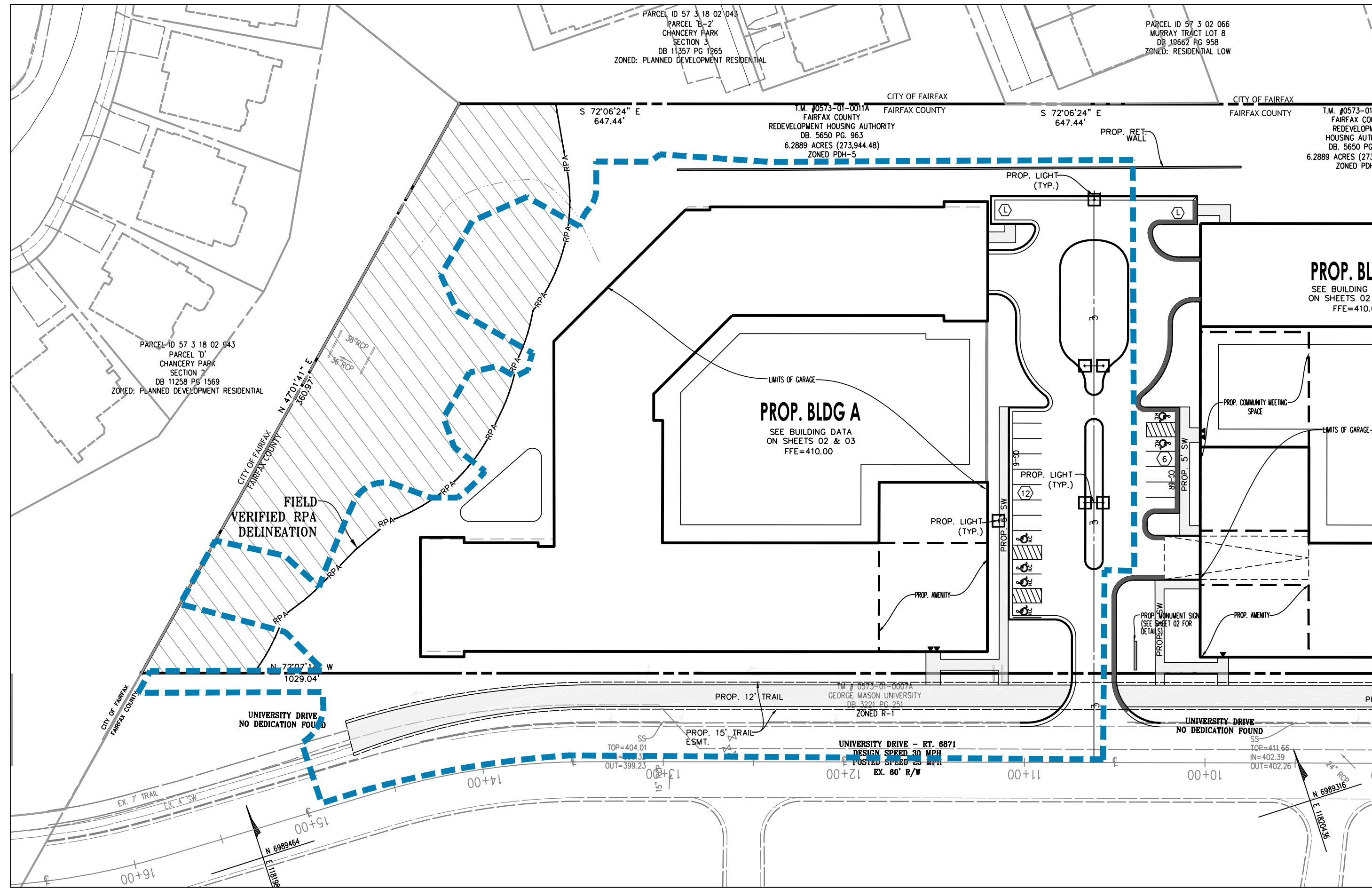


**LEGEND**

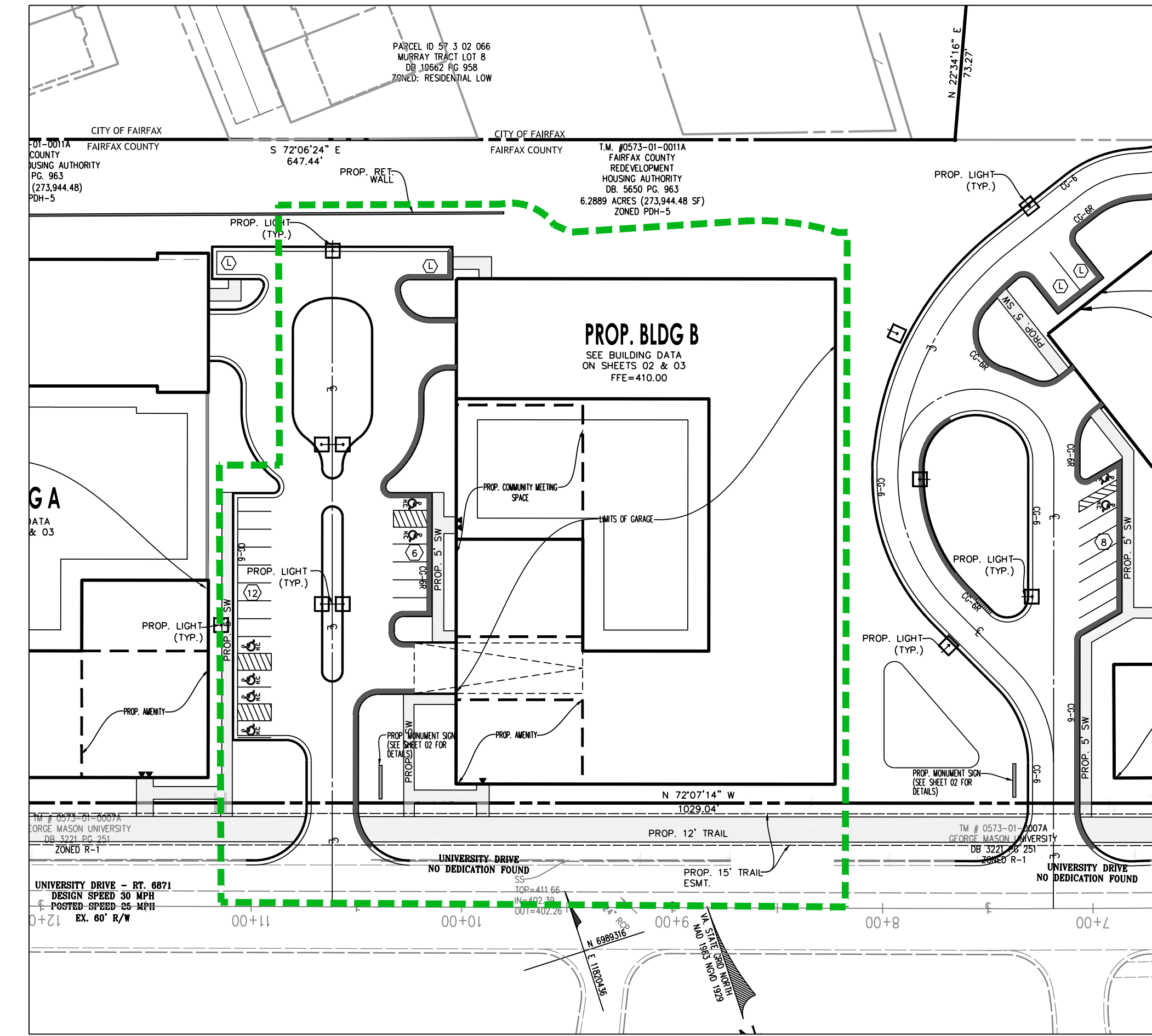
- PROP. PEDESTRIAN TRAVEL WAY
- EX. PEDESTRIAN TRAVEL WAY

<p>PEDESTRIAN CIRCULATION PLAN</p> <p><b>ONE UNIVERSITY CDP/FDP/PARTIAL PCA</b></p> <p>BRADDOCK DISTRICT FAIRFAX COUNTY, VIRGINIA</p> <p>SCALE: 1"=60'</p>	<p>DATE: OCT., 2018</p> <p>C.I.= N/A</p> <p>SHEET 10 OF 38</p> <p>FILE No. RZ-12964</p>						
<p>Urban, Ltd. 2000 TECHNOLOGY CT CHANTILLY, VA 20151 TEL: 703.642.2366 FAX: 703.376.7888 www.urban-lltd.com</p>							
<p>PLANDATE</p> <p>11-15-18 02-19-19 04-05-19</p>	<p>REVISIONS</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <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					

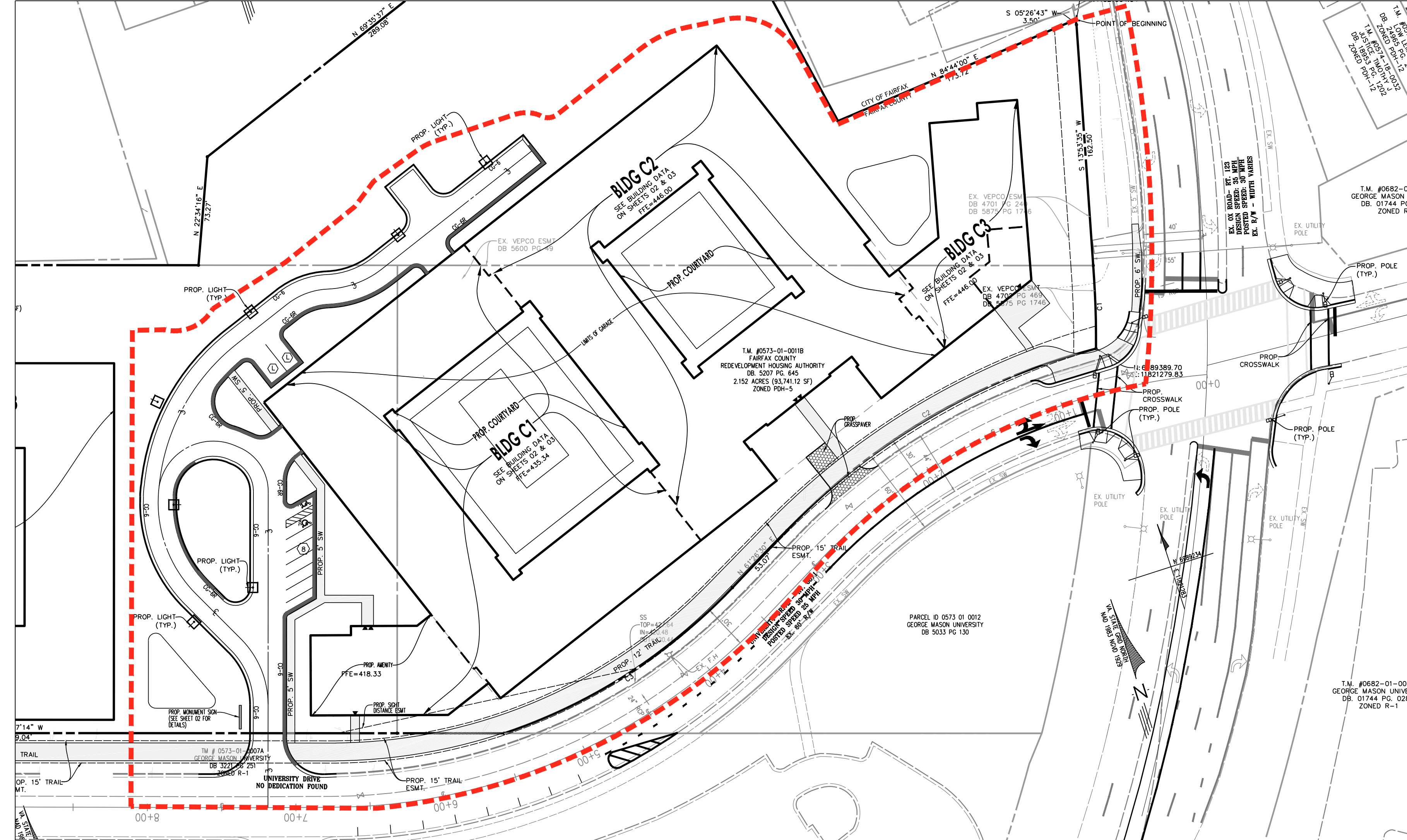
# BUILDING A



# BUILDING B



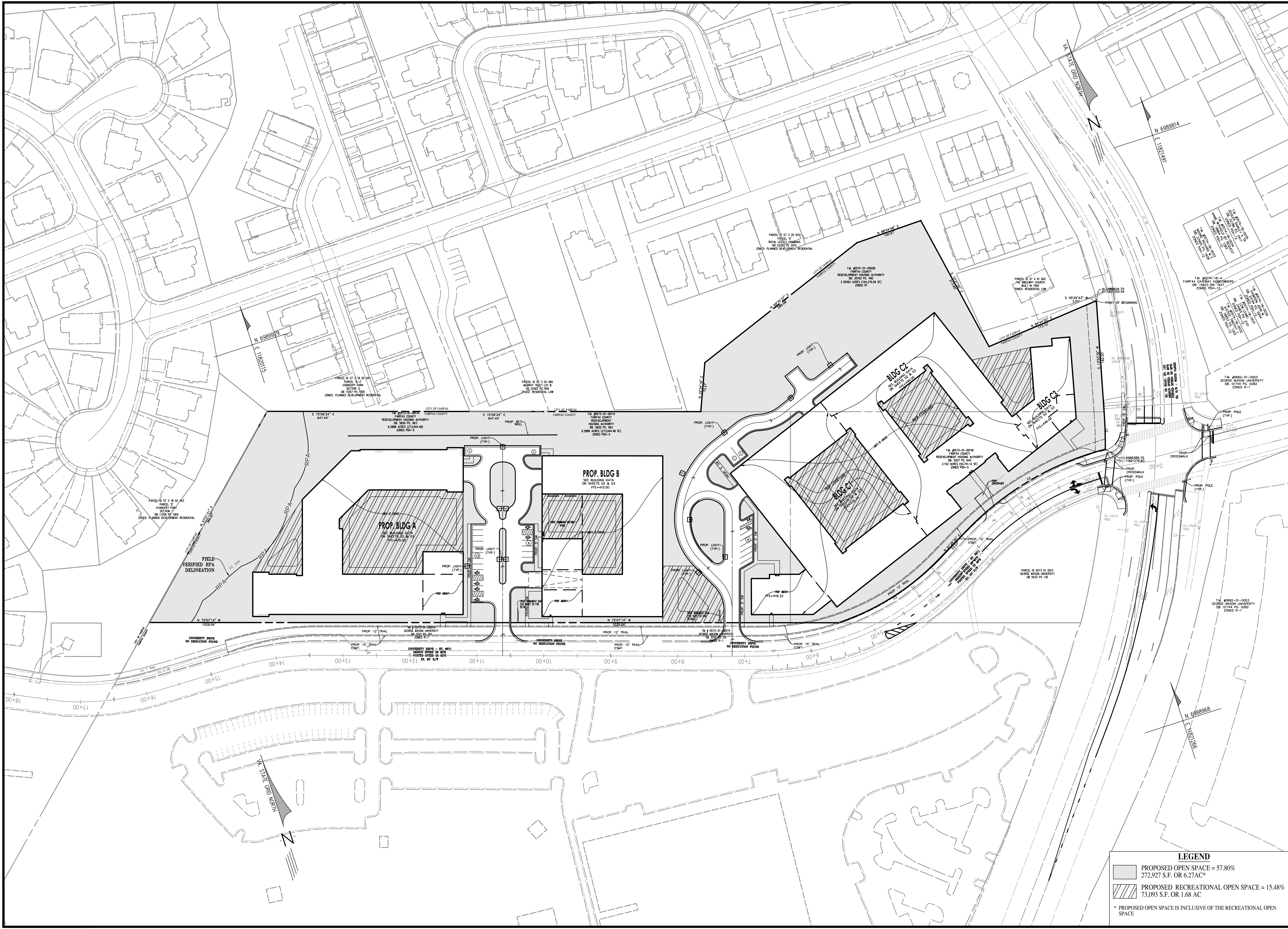
# BUILDING C



Urban, Ltd. - J:\JOBS\OneUniversity\B-Engineering\Entitlement\CDP-FDP-SPEX\12964-08-PHASING PLAN.dwg [PHASING PLAN] April 05, 2019 - 10:56am yeldsri

PHASING PLAN		DATE: OCT., 2018
ONE UNIVERSITY CDP/FDP/PARTIAL PCA BRADDOCK DISTRICT FAIRFAX COUNTY, VIRGINIA		SCALE: 1"=50'
SHEET 10A OF 38		FILE No. RZ-12964
		 Urban, Ltd. 2000 TECHNOLOGY CT CHANTILLY, VA 20151 TEL: 703.642.2366 FAX: 703.376.7888 www.urban-llc.com Planners-Engineers-Landscape Architects-Joist Surveyors
PLANDATE	11-15-18 02-19-19 04-05-19	REVISIONS
No.	DATE	DESCRIPTION

Urban, Ltd. - J:\JOBS\OneUniversity\B-Engineering\Entitlement\CDP-FDP-SPEX\12964-10-OPEN SPACE.dwg [OPEN SPACE] April 05, 2019 - 10:56am yalossi



**LEGEND**

- PROPOSED OPEN SPACE = 57.80%  
272,927 S.F. OR 6.27AC\*
- PROPOSED RECREATIONAL OPEN SPACE = 15.48%  
73,093 S.F. OR 1.68 AC

\* PROPOSED OPEN SPACE IS INCLUSIVE OF THE RECREATIONAL OPEN SPACE

**OPEN SPACE PLAN**

**ONE UNIVERSITY  
CDP/FDP/PARTIAL PCA**  
BRADDOCK DISTRICT  
FAIRFAX COUNTY, VIRGINIA

DATE: OCT., 2018  
SCALE: 1"=60'  
C.I.= N/A

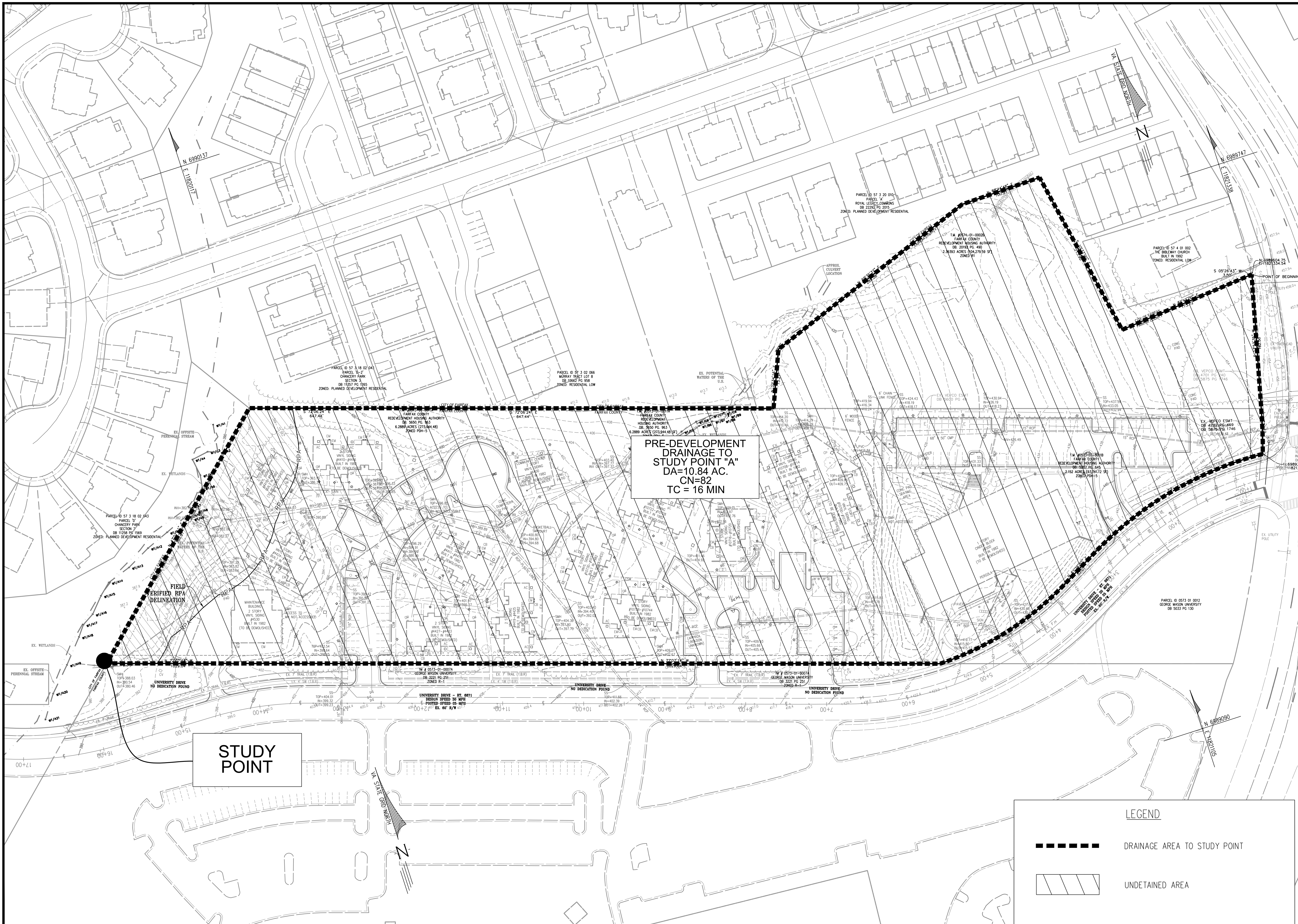
**urban**  
Planners-Engineers-Landscape Architects-Join Surveyors

Urban, Ltd.  
2000 TECHNOLOGY CT  
CHANTILLY, VA 20151  
TEL: 703.642.2366  
FAX: 703.376.7888  
www.urban-lltd.com

PLANDATE	NO.	DATE	DESCRIPTION
11-15-18			
02-19-19			
04-05-19			

FILE NO.  
RZ-12964

Urban, Ltd. - J:\\_JOBS\OneUniversity\B-Engineering\Entitlement\CDP-FDP-SPEX\12964-21-SWM-PRC.dwg [SWM-PRC] April 05, 2019 - 10:57am yelosri



STUDY POINT

PRE-DEVELOPMENT DRAINAGE TO STUDY POINT "A"  
DA=10.84 AC.  
CN=82  
TC = 16 MIN

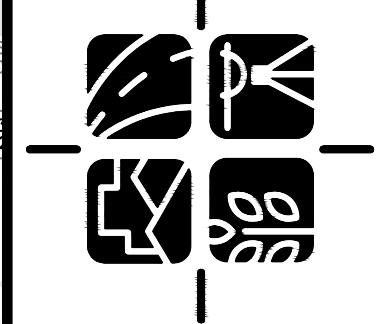
**LEGEND**

----- DRAINAGE AREA TO STUDY POINT

▨ UNDETAINED AREA

PLANDATE	NO.	DATE	DESCRIPTION
11-15-18			
02-19-19			
04-05-19			

Urban, Ltd.  
2000 TECHNOLOGY CT  
CHANTILLY, VA 20151  
TEL: 703.642.2366  
FAX: 703.576.7888  
www.urban-lltd.com



**SWM-PRE-DEVELOPMENT PLAN**  
**ONE UNIVERSITY**  
**CDP/FDP/PARTIAL PCA**  
BRADDOCK DISTRICT  
FAIRFAX COUNTY, VIRGINIA

DATE: OCT., 2018  
SCALE: 1"=50'  
C.I.= 2'

SHEET 12 OF 38  
FILE No. RZ-12964

**SWM NARRATIVE**

THIS APPLICATION PROPOSES TO REZONE THE EXISTING PDH-5 AND R-1 PARCELS TO A PRM DISTRICT TO ALLOW FOR MULTI-FAMILY RESIDENTIAL AND STUDENT/SENIOR HOUSING. THE EXISTING SITE CURRENTLY COMPRISES OF APPROXIMATELY 3.35 ACRES OF IMPERVIOUS AREA WHICH CONSISTS OF TOWNHOMES AND OFFICE BUILDING. THE RESULT OF THE IMPROVEMENTS SHALL PROVIDE AN INCREASE IN IMPERVIOUS AREA OF APPROXIMATELY 3.83 ACRES TOTALING 7.18 ACRES OF IMPERVIOUS POST DEVELOPMENT. THE TR-20 METHOD WAS USED TO DEVELOP THE HYDROLOGY OF THE POND DESIGN.

THE EXISTING SITE CONTAINS A MIX OF B, AND D TYPE SOILS. THE EXISTING SOILS HAVE BEEN REPRESENTED AND GRAPHICALLY DEPICTED ON SHEETS 05-06. THE PRE-DEVELOPMENT CONDITIONS OF THE SITE CONSISTS OF TOWNHOMES AND OFFICE BUILDING, A COMBINATION OF WOODS/GRASS, AND AN EXISTING DRY POND FACILITY. THE ENTIRETY OF THE SITE PRIMARILY DRAINS THROUGH A CLOSED CONDUIT SYSTEM AND OUTFALLS INTO AN EXISTING CREEK DIRECTLY WEST OF THE SITE.

THE SITE SHALL BE SERVED BY TWO DETENTION FACILITIES IN THE FORM OF UNDERGROUND CHAMBER SYSTEMS BY ADS. THE FACILITIES SHALL PROVIDE DETENTION FOR THE ENTIRETY OF THE SITE WHILE MAINTAINING PEAK FLOWS, NOT TO EXCEED PRE-DEVELOPMENT CONDITIONS, FOR THE 1, 2, AND 10 YEAR STORM EVENTS. IN ADDITION THE 1-YEAR DESIGN PEAK FLOW SHALL NOT EXCEED THE ALLOWABLE RATE GIVEN BY THE 1-YEAR ENERGY BALANCE EQUATION TO FURTHER REDUCE THE IMPACT OF INCREASED IMPERVIOUSNESS AND RUNOFF VOLUMES. SEE SHEETS 14-15 FOR COMPUTATIONS. THIS SHALL MAINTAIN COMPLIANCE WITH STORMWATER MANAGEMENT REGULATIONS PER VA CODE SECTION 124-4-4.3.C.

REGARDLESS, CRITICAL VELOCITIES SHALL NOT BE CAUSED TO DOWNSTREAM CHANNELS AND THE POST DEVELOPMENT 10-YEAR 24 HOUR STORM EVENT IS FULLY CONVEYED WITHIN THE CHANNELS. SEE SHEETS 23-24 FOR OUTFALL ANALYSIS. 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. AS SUCH, THE APPLICANT RESERVES THE RIGHT TO CHANGE AND/OR MODIFY THE PROPOSED WATER QUANTITY DEVICES AT THE TIME OF FINAL SITE PLAN TO MEET WATER QUANTITY REQUIREMENTS.

SIGNATURE: *Clayton Tock* DATE: 04/09/18  
 CLAYTON TOCK, P.E.  
 PRINCIPAL

**ENERGY BALANCE METHOD TO STUDY POINT "A"**

Q(Developed)=	7.22 cfs
Q(Pre-Developed)=	15.39 cfs
RV(Pre-Developed)=	45016.00 cf
RV(Developed)=	74112.00 cf
I.F. =	(0.8 for sites greater than one acre) (0.9 for sites less than or equal to one acre)

<b>Q Developed</b>	≤	<b>I.F x (Q Pre-Developed x RV Pre-Developed) / RV Developed</b>
7.22	≤	7.48

\*Under no condition should :

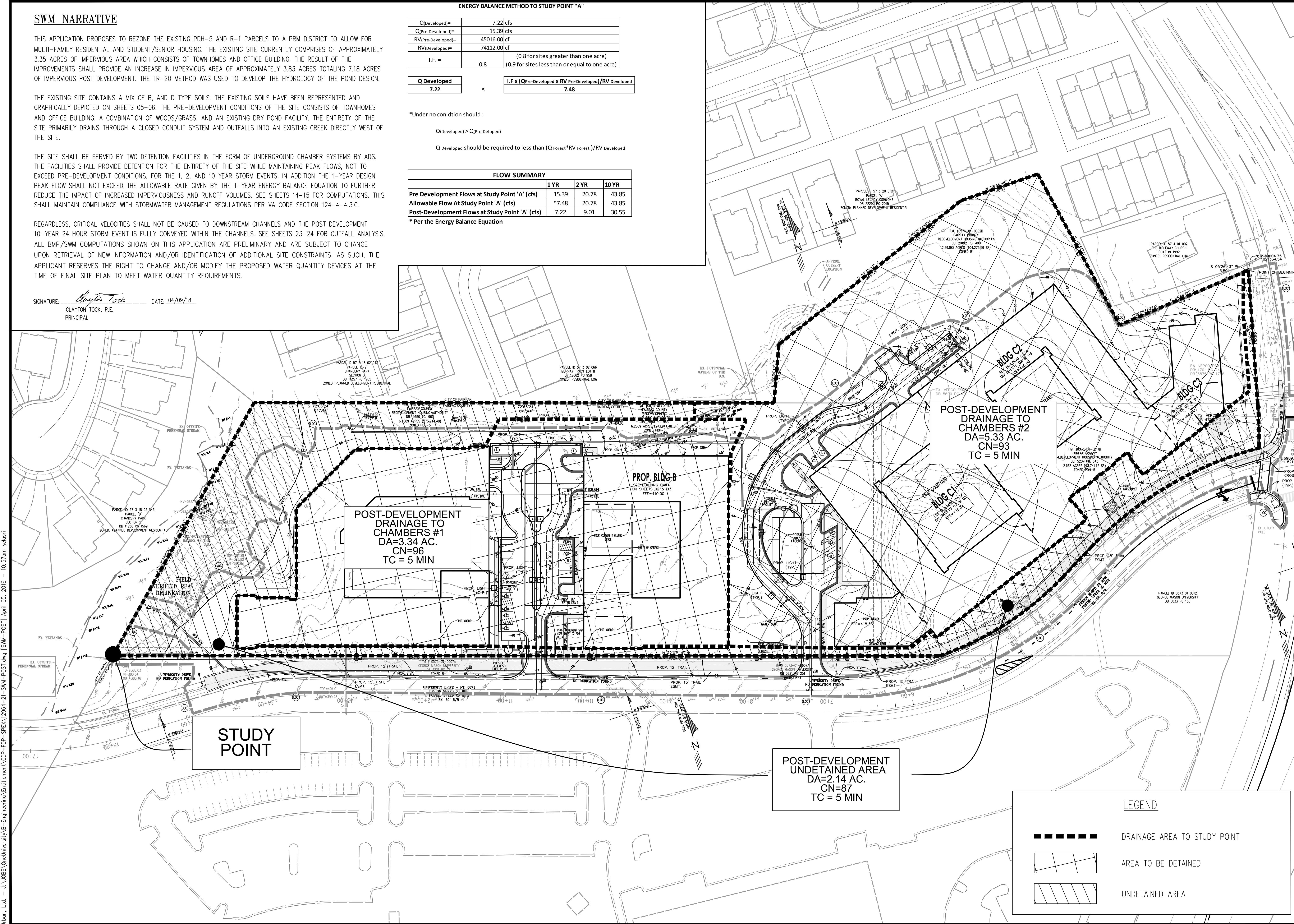
Q(Developed) > Q(Pre-Developed)

Q developed should be required to less than (Q forest \* RV Forest) / RV Developed

**FLOW SUMMARY**

	1 YR	2 YR	10 YR
Pre Development Flows at Study Point 'A' (cfs)	15.39	20.78	43.85
Allowable Flow At Study Point 'A' (cfs)	*7.48	20.78	43.85
Post-Development Flows at Study Point 'A' (cfs)	7.22	9.01	30.55

\* Per the Energy Balance Equation



PLAN DATE	11-15-18 02-19-19 04-05-19
PLANNED BY	Urban, Ltd. 2000 TECHNOLOGY CT CHANTILLY, VA 20151 TEL: 703.642.2366 FAX: 703.576.7888 www.urban-lltd.com
DESIGNER	urban
ENGINEER	COMMONWEALTH OF VIRGINIA CLAYTON C. TOCK Lic. No. 068790 04/05/2019 PROFESSIONAL ENGINEER
PROJECT	SWM-POST DEVELOPMENT PLAN ONE UNIVERSITY CDP/FD/PP/PARTIAL PCA BRADDOCK DISTRICT FAIRFAX COUNTY, VIRGINIA
DATE	OCT., 2018
SCALE	1"=50'
SHEET	13 OF 38
FILE No.	RZ-12964
REVISIONS	No. DATE DESCRIPTION

Urban, Ltd. - J:\\_085\OneUniversity\B-Engineering\Entitlement\CDP-FD-PP-SPEX\12964-21-SWM-POST.dwg [SWM-POST] April 05, 2019 - 10:57am yellow

**PRE-DEVELOPMENT CURVE NUMBERS & TIME OF CONCENTRATION COMPUTATIONS**

**PRE AREA ONSITE**

Area (ac)	CN	Description
10.710	82	Woods/grass comb., Fair, HSG D
0.100	65	Woods/grass comb., Fair, HSG B
10.810	82	Weighted Average
10.810		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.3	100	0.0850	0.14		Sheet Flow, Woods: Light underbrush n= 0.400 P2= 3.05"
3.7	280	0.0650	1.27		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
16.0	380				Total

**PRE-DEVELOPMENT PEAK FLOW SUMMARY**

**PEAK FLOW SUMMARY FOR 1-YEAR STORM EVENT**

Inflow Area = 470,884 sf 0.00% Impervious Inflow Depth = 1.15" for 1-year event  
 Inflow = 15.39 cfs@ 12.09 hrs Volume= 45,016 cf  
 Primary = 15.39 cfs@ 12.09 hrs Volume= 45,016 cf Atten= 0% Lag= 0.0 min  
 Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.03 hrs

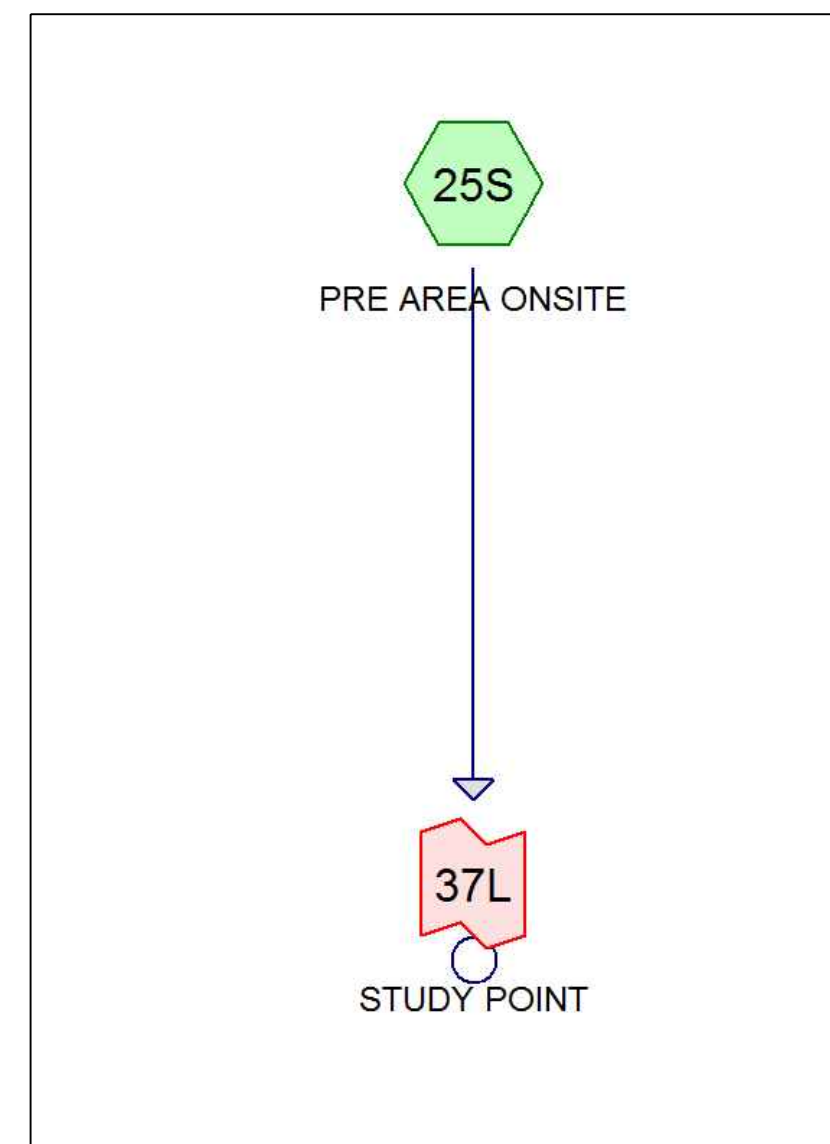
**PEAK FLOW SUMMARY FOR 2-YEAR STORM EVENT**

Inflow Area = 470,884 sf 0.00% Impervious Inflow Depth = 1.54" for 2-year event  
 Inflow = 20.78 cfs@ 12.08 hrs Volume= 60,356 cf  
 Primary = 20.78 cfs@ 12.08 hrs Volume= 60,356 cf Atten= 0% Lag= 0.0 min  
 Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.03 hrs

**PEAK FLOW SUMMARY FOR 10-YEAR STORM EVENT**

Inflow Area = 470,884 sf 0.00% Impervious Inflow Depth = 3.26" for 10-year event  
 Inflow = 43.85 cfs@ 12.08 hrs Volume= 127,867 cf  
 Primary = 43.85 cfs@ 12.08 hrs Volume= 127,867 cf Atten= 0% Lag= 0.0 min  
 Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.03 hrs

**PRE-DEVELOPMENT HYDROCAD NODES**



**POST-DEVELOPMENT CURVE NUMBERS & TIME OF CONCENTRATION COMPUTATIONS**

**POST AREA ONSITE DETAINED TO CHAMBERS #1**

Area (ac)	CN	Description
2.880	98	Paved parking, HSG D
0.460	84	50-75% Grass cover, Fair, HSG D
3.340	96	Weighted Average
0.460		13.77% Pervious Area
2.880		86.23% Impervious Area

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

**POST AREA ONSITE DETAINED TO CHAMBERS #2**

Area (ac)	CN	Description
3.170	98	Paved parking, HSG D
2.160	84	50-75% Grass cover, Fair, HSG D
5.330	92	Weighted Average
2.160		40.53% Pervious Area
3.170		59.47% Impervious Area

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

**POST AREA ONSITE UNDETAINED**

Area (ac)	CN	Description
1.850	84	50-75% Grass cover, Fair, HSG D
0.202	98	Paved parking, HSG D
0.086	69	50-75% Grass cover, Fair, HSG B
2.138	85	Weighted Average
1.936		90.55% Pervious Area
0.202		9.45% Impervious Area

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

**CHAMBER #1 VOLUME COMPUTATIONS**

Volume	Invert	Avail. Storage	Storage Description
#1A	384.00'	13,941 cf	44.25'W x 227.97'L x 5.50'H Field A 55,482 cf Overall 20,630 cf Embedded = 34,852 cfx 40.0% Voids
#2A	384.75'	20,630 cf	ADS_StormTech MC-3500 d +Cap x 186 Inside #1 Effective Size= 70.4"W x 45.0"H => 15.33 sf x 7.17'L = 110.0 cf Overall Size= 77.0"W x 45.0"H x 7.50'L with 0.33' Overlap 6 Rows of 31 Chambers Cap Storage= +14.9 cf x 2 x 6 rows = 178.8 cf
			34,571 cf Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	384.00'	8.0" Vert. Orifice/GrateC= 0.600
#2	Primary	386.00'	24.0" Vert. Orifice/GrateC= 0.600

Primary OutFlow Max=3.35 cfs @ 12.69 hrs HW=386.40' (Free Discharge)  
 1=Orifice/Grate (Orifice Controls 2.41 cfs @ 6.91 fps)  
 2=Orifice/Grate (Orifice Controls 0.94 cfs @ 2.14 fps)

**CHAMBER #2 VOLUME COMPUTATIONS**

Volume	Invert	Avail. Storage	Storage Description
#1A	406.00'	9,174 cf	64.83'W x 87.62'L x 6.75'H Field A 38,343 cf Overall 15,408 cf Embedded = 22,935 cfx 40.0% Voids
#2A	406.75'	15,408 cf	ADS_StormTech MC-4500 +Cap x 140 Inside #1 Effective Size= 90.4"W x 60.0"H => 26.46 sf x 4.03'L = 106.5 cf Overall Size= 100.0"W x 60.0"H x 4.33'L with 0.31' Overlap 7 Rows of 20 Chambers Cap Storage= +35.7 cf x 2 x 7 rows = 499.8 cf
			24,582 cf Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	406.00'	8.0" Vert. Orifice/GrateC= 0.600
#2	Primary	409.75'	24.0" Vert. Orifice/GrateC= 0.600

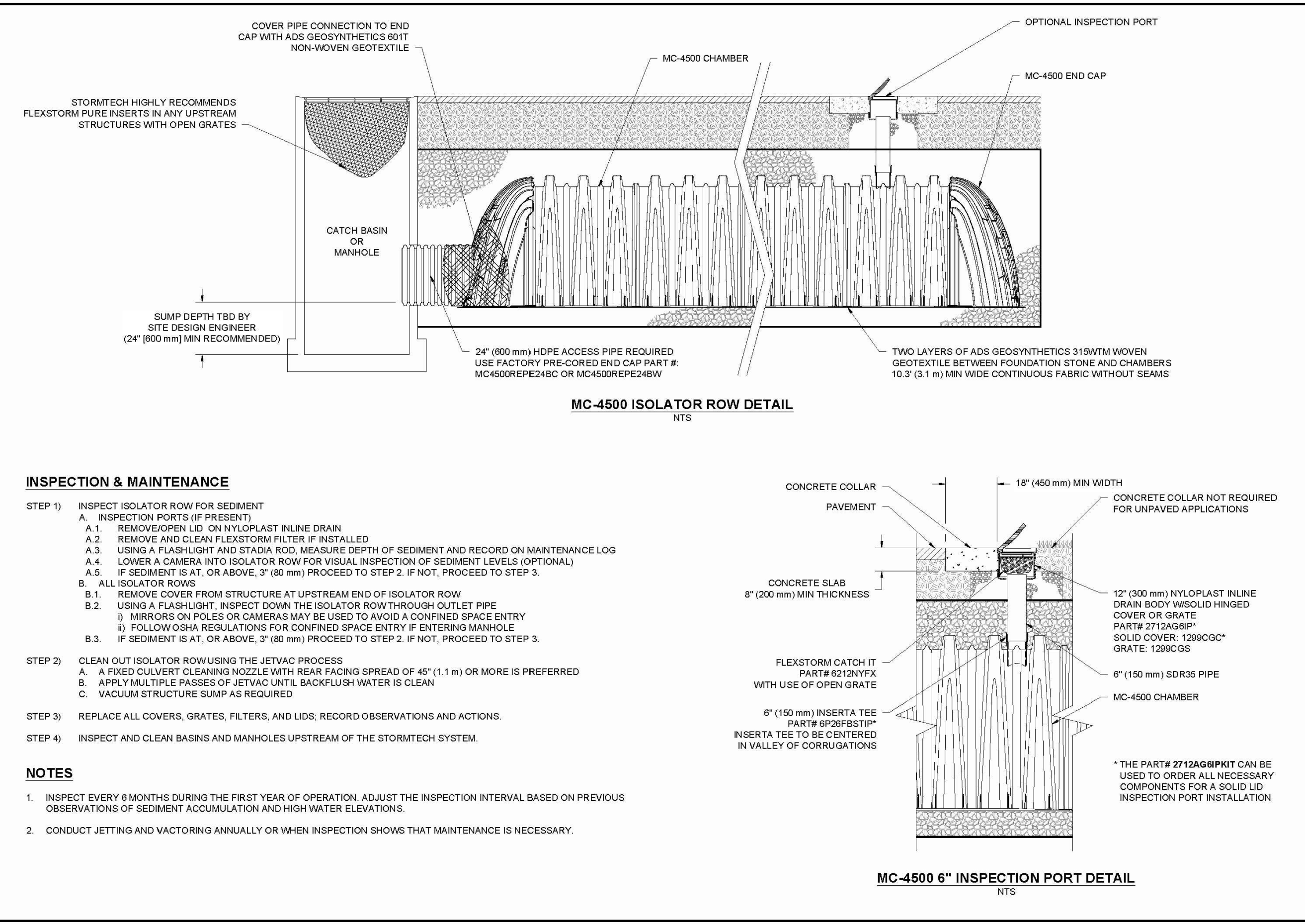
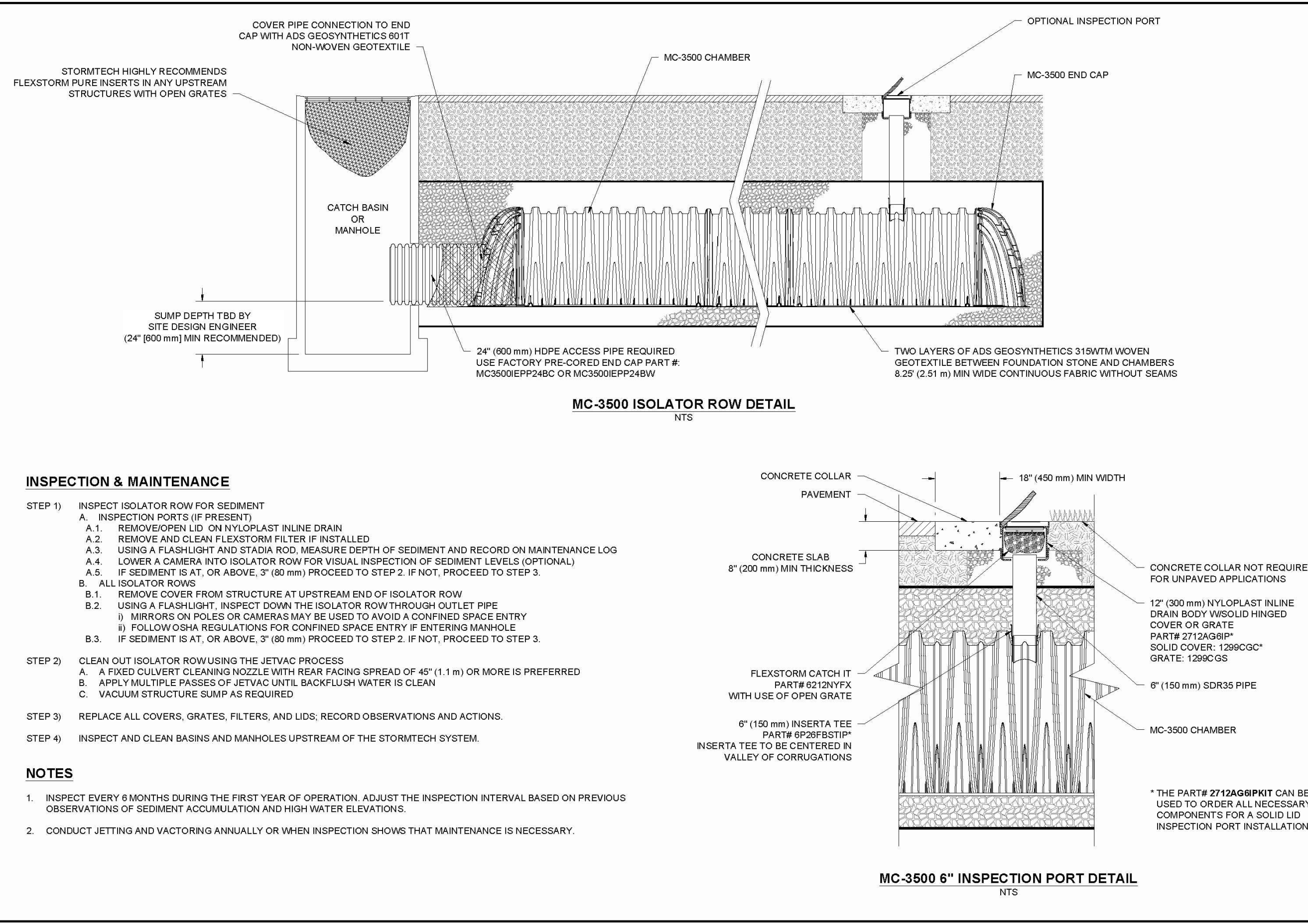
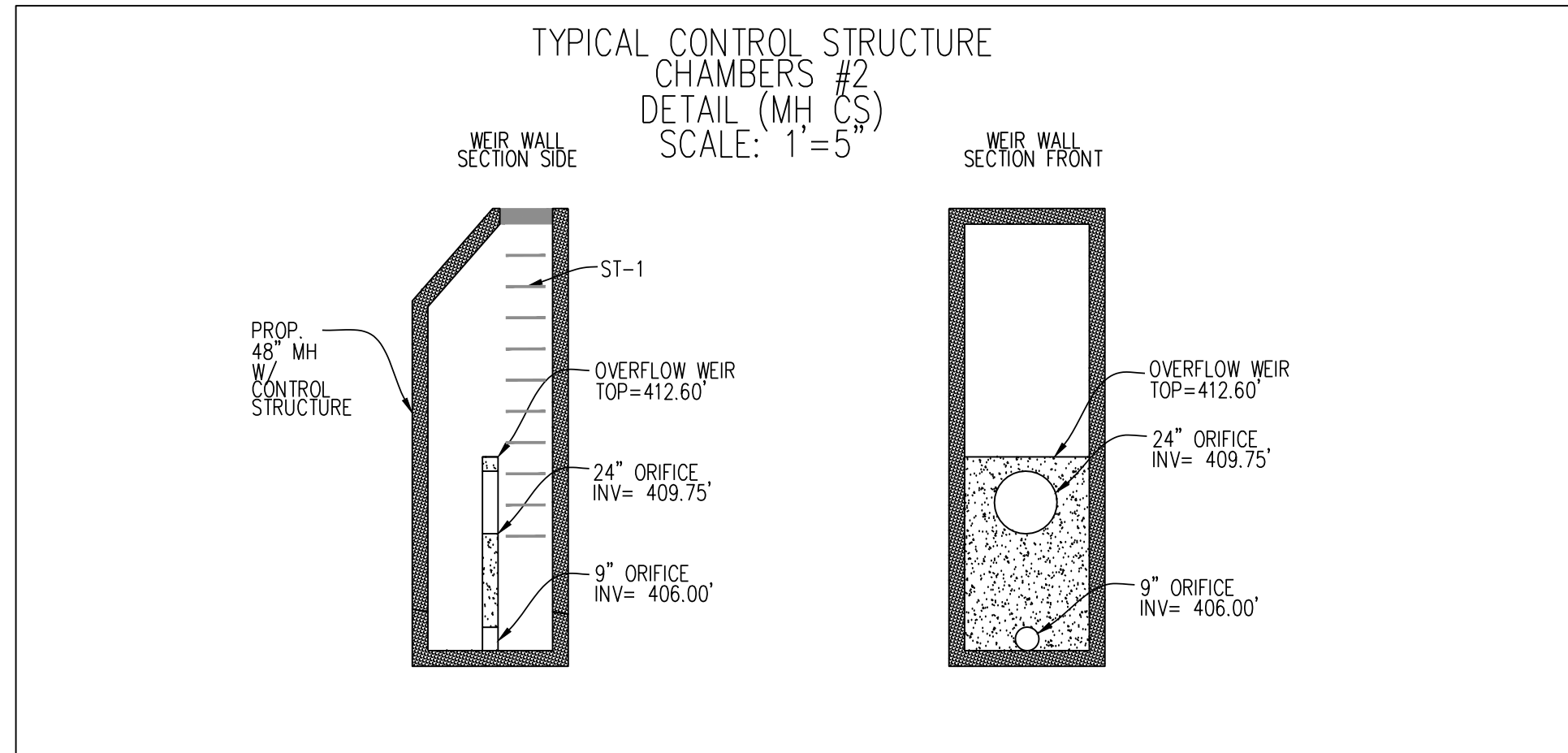
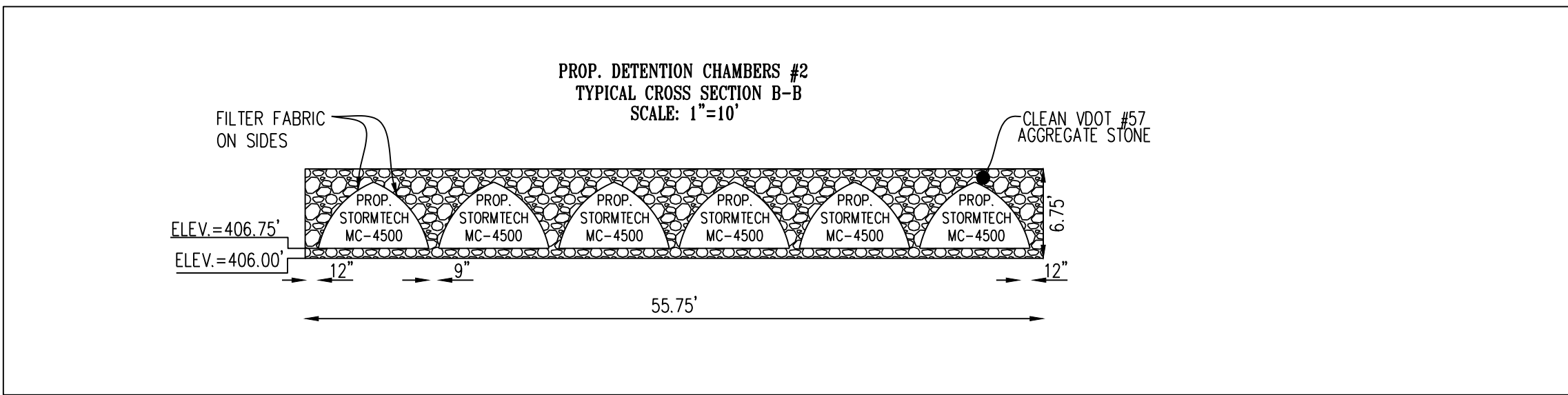
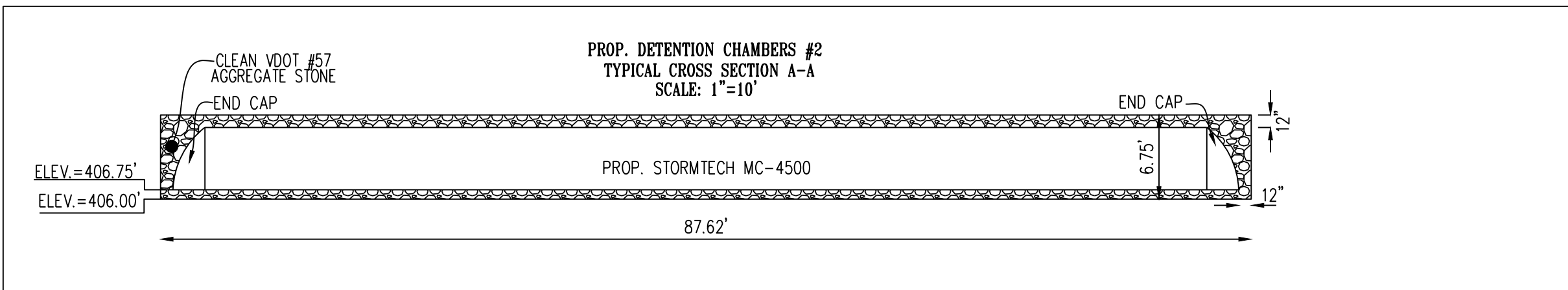
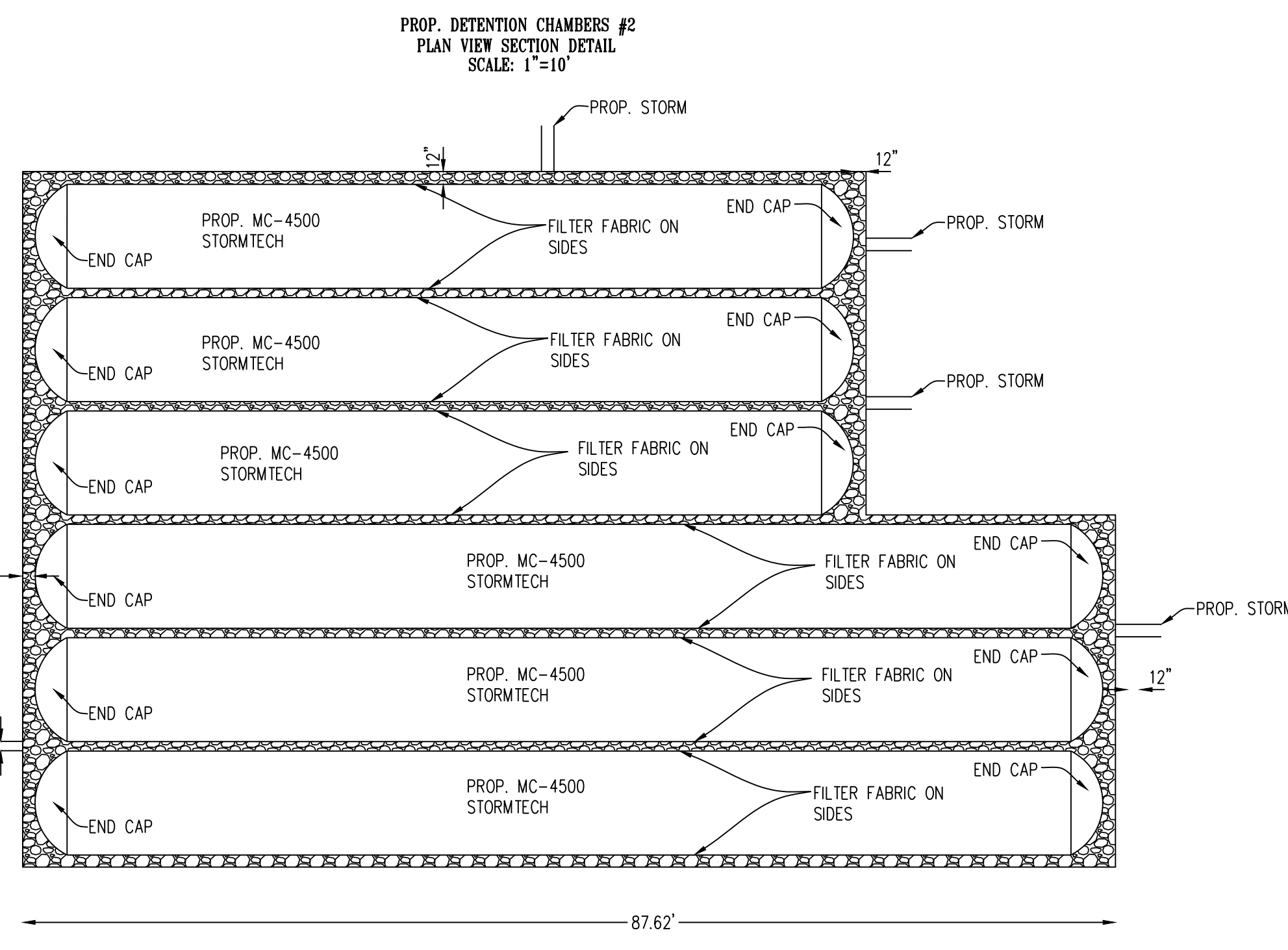
Primary OutFlow Max=2.90 cfs @ 12.13 hrs HW=409.31' (Free Discharge)  
 1=Orifice/Grate (Orifice Controls 2.90 cfs @ 8.31 fps)  
 2=Orifice/Grate (Controls 0.00 cfs)

PLAN DATE	11-15-18	Urban, Ltd. 4200 TECHNOLOGY CT CHANTILLY, VA, 20151 TEL: 703.642.2366 FAX: 703.376.7888 www.urban-lltd.com	REVISIONS No. DATE DESCRIPTION
	02-19-19		
	04-05-19		
		Planners-Engineers-Landscape-Architects-Join Surveyors	
		DATE: OCT., 2018 SCALE: N/A	
SWM COMPUTATIONS ONE UNIVERSITY CDP/FDP/PARTIAL PCA BRADDOCK DISTRICT FAIRFAX COUNTY, VIRGINIA		C.I.= N/A	
SHEET 14 OF 38		FILE No. RZ-12964	





Urban, Ltd. - J:\\_JOBS\OneUniversity\B-Engineering\Entitlement\CDP-FDP-SPEX\2964-21-SW-POST.dwg [DETAILS] April 05, 2019 - 10:57am yellowi



ISOLATOR ROW DETAILS	
REV	DESCRIPTION
000/017	MC-3500
DATE	03/08/17
PROJECT #	JLM
DRAWN	JLM
CHECKED	JLM

4640 TRUHAM BLVD  
FAIRFAX, VA 22031  
TEL: 703.642.2366  
FAX: 703.376.7888  
www.urban-llc.com

**Stormtech**

4640 TRUHAM BLVD  
FAIRFAX, VA 22031  
TEL: 703.642.2366  
FAX: 703.376.7888  
www.urban-llc.com

1 SHEET OF 1

ISOLATOR ROW DETAILS	
REV	DESCRIPTION
000/017	MC-4500
DATE	03/08/17
PROJECT #	JLM
DRAWN	JLM
CHECKED	JLM

4640 TRUHAM BLVD  
FAIRFAX, VA 22031  
TEL: 703.642.2366  
FAX: 703.376.7888  
www.urban-llc.com

**Stormtech**

4640 TRUHAM BLVD  
FAIRFAX, VA 22031  
TEL: 703.642.2366  
FAX: 703.376.7888  
www.urban-llc.com

1 SHEET OF 1

REVISIONS		
No.	DATE	DESCRIPTION

PLAN DATE: 11-15-18  
02-19-19  
04-05-19

Urban, Ltd.  
4640 TRUHAM BLVD  
FAIRFAX, VA 22031  
TEL: 703.642.2366  
FAX: 703.376.7888  
www.urban-llc.com

**urban**

Planners/Engineers/Landscape Architects/Juan Salvayon

COMMONWEALTH OF VIRGINIA  
David C. Pope  
Lic. No. 068790  
04/05/2019  
PROFESSIONAL ENGINEER

SHEET 16 OF 38

FILE No. RZ-12964

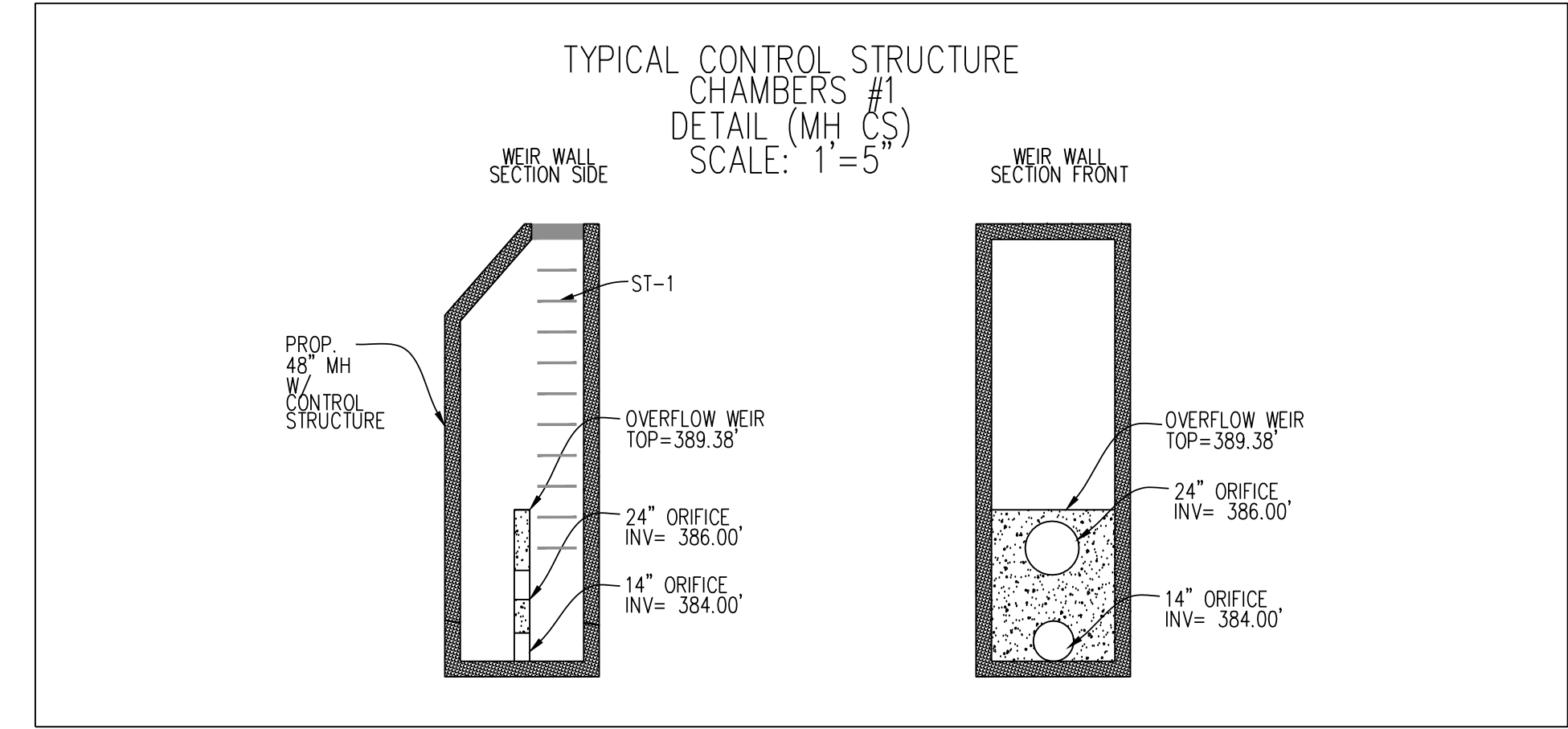
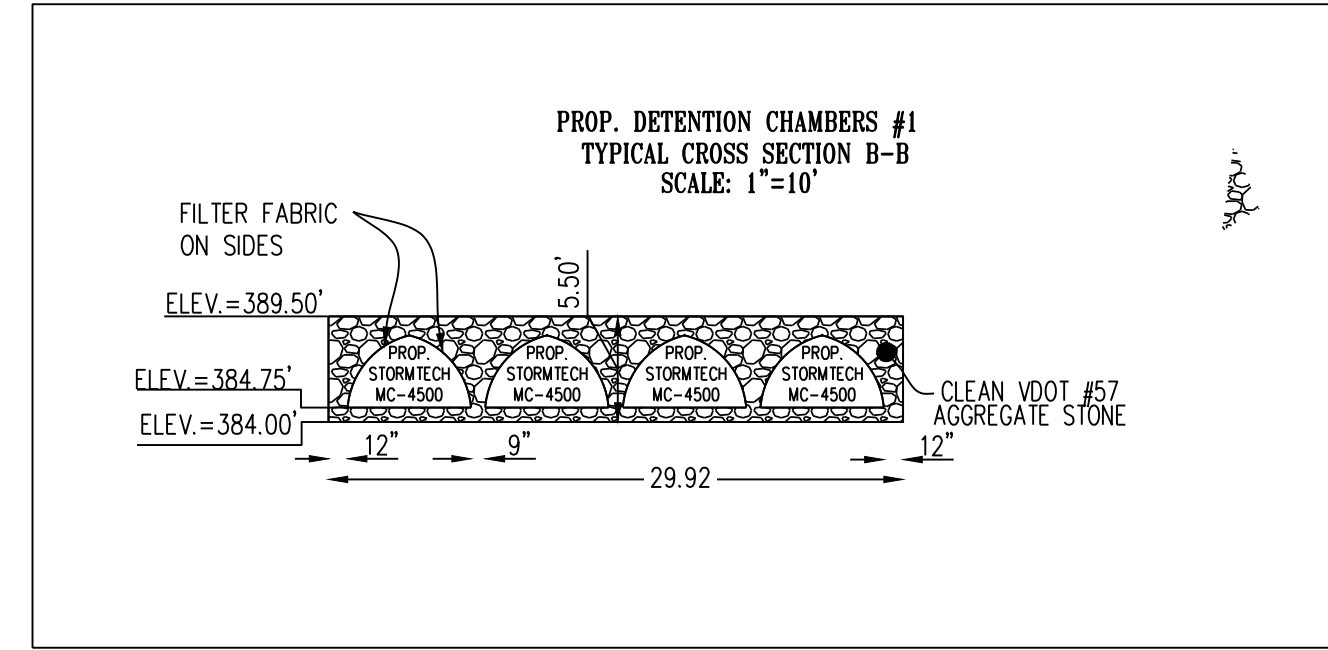
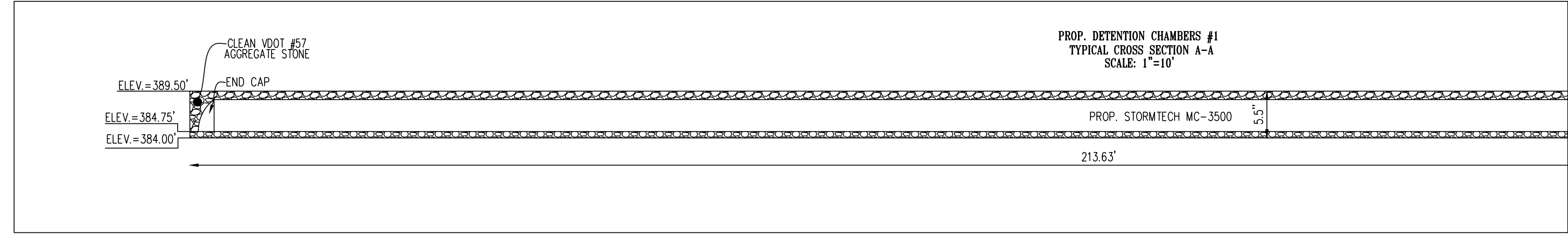
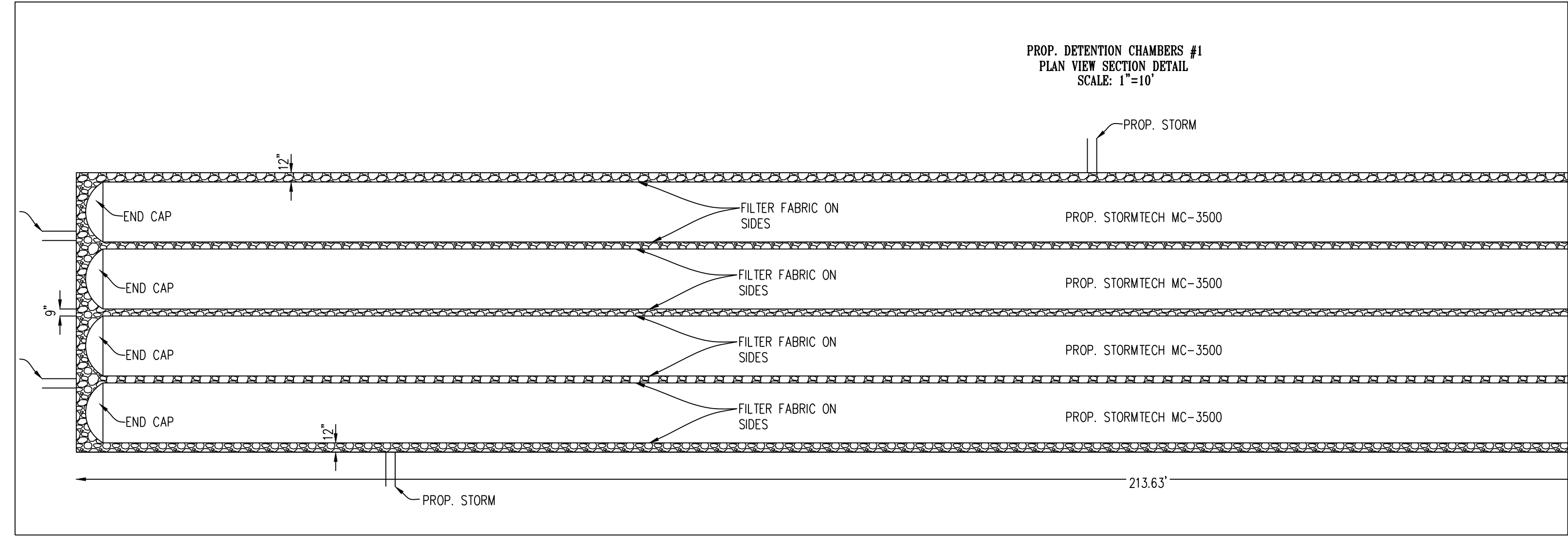
SCALE: AS NOTED

DATE: OCT., 2018

C.I. = N/A

SWM DETAILS

ONE UNIVERSITY  
CDP/FDP/PARTIAL PCA  
BRADDOCK DISTRICT  
FAIRFAX COUNTY, VIRGINIA

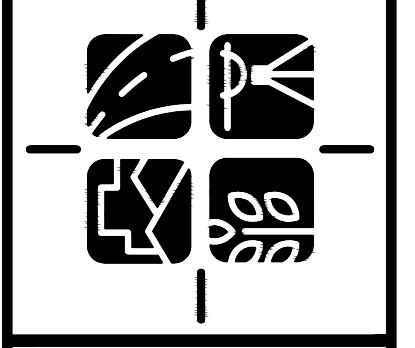


No.	DATE	DESCRIPTION

PLAN DATE	11-15-18
	02-19-19
	04-05-19

Urban, Ltd.  
 4200 TECHNOLOGY CT  
 CHANTILLY, VA, 20151  
 TEL: 703.642.2366  
 FAX: 703.376.7888  
 www.urban-llc.com

**urban**  
 Planners • Engineers • Landscape Architects • Joint Surveyors



**SWM DETAILS**

**ONE UNIVERSITY  
 CDP/FDP/PARTIAL PCA  
 BRADDOCK DISTRICT  
 FAIRFAX COUNTY, VIRGINIA**

SCALE: AS NOTED  
 C.I. = N/A

DATE: OCT., 2018

SHEET  
 17  
 OF  
 38

FILE No.  
 RZ-12964

Urban, Ltd. - J:\\_G055\OneUniversity\B-Engineering\Entitlement\CDP-FDP-SPEX\12964-22-BMP PRE PLAN.dwg [BMP-PRC] April 05, 2019 - 11:40am yelstsr



ONSITE IMPERVIOUS AREA = 4.47 AC (194,512 SF)  
 ONSITE MANAGED TURF AREA = 5.86 AC (255,329 SF)  
 TOTAL SITE AREA = 10.33 AC (449,841 SF)

**LEGEND**

- SOILS
- ONSITE IMPERVIOUS AREA
- ONSITE MANAGED TURF AREA

Pre-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	5.86	5.86
Impervious Cover (acres)	0.00	0.00	0.00	4.47	4.47
					10.33

**BMP PRE-DEVELOPMENT CONDITIONS**

**ONE UNIVERSITY CDP/FDP/PARTIAL PCA**  
 BRADDOCK DISTRICT  
 FAIRFAX COUNTY, VIRGINIA

DATE: OCT. 2018  
 SCALE: 1"=60'

**urban**  
 Planners-Engineers-Landscape Architects-Land Surveyors

Urban, Ltd.  
 2000 TECHNOLOGY CT  
 CHANTILLY, VA 20151  
 TEL: 703.642.2366  
 FAX: 703.376.7888  
 www.urban-lltd.com

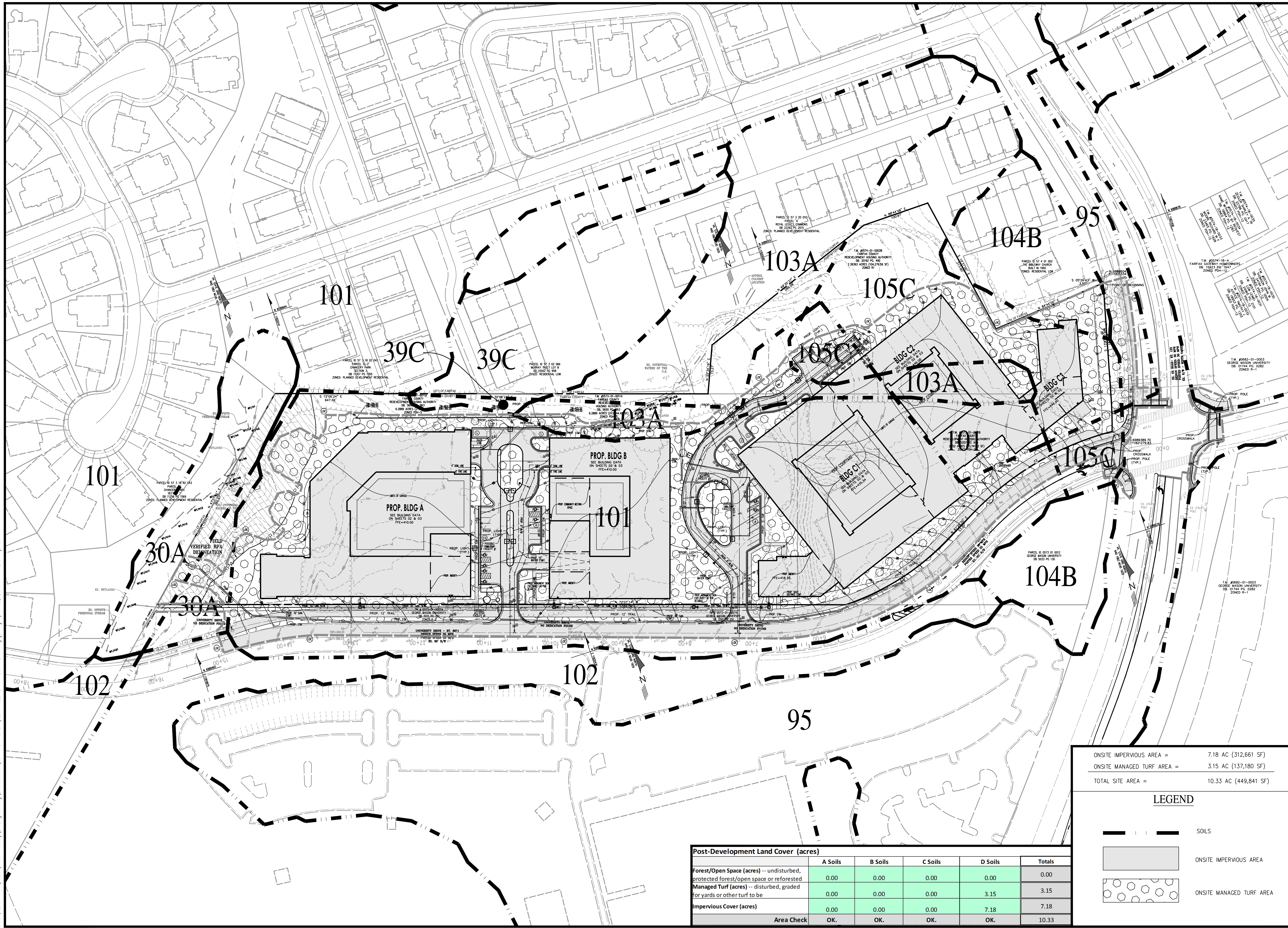
PLANDATE: 11-15-18  
 02-19-19  
 04-05-19

No.	DATE	DESCRIPTION

COMMONWEALTH OF VIRGINIA  
 PROFESSIONAL ENGINEER  
 License No. 068790  
 04/05/2019

SHEET 18 OF 38  
 FILE No. RZ-12964

Urban, Ltd. - J:\\_G055\OneUniversity\B-Engineering\Entitlement\CDP-FDP-SPEX\12964-22-BMP-POST PLAN.dwg [BMP] April 05, 2019 - 11:21am yelsrsi



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	3.15	3.15
Impervious Cover (acres)	0.00	0.00	0.00	7.18	7.18
<b>Area Check</b>	<b>OK.</b>	<b>OK.</b>	<b>OK.</b>	<b>OK.</b>	<b>10.33</b>

ONSITE IMPERVIOUS AREA = 7.18 AC (312,661 SF)  
 ONSITE MANAGED TURF AREA = 3.15 AC (137,180 SF)  
 TOTAL SITE AREA = 10.33 AC (449,841 SF)

**LEGEND**

- SOILS
- ONSITE IMPERVIOUS AREA
- ONSITE MANAGED TURF AREA

**BMP POST-DEVELOPMENT CONDITIONS**

**ONE UNIVERSITY CDP/FDP/PARTIAL PCA**  
 BRADDOCK DISTRICT  
 FAIRFAX COUNTY, VIRGINIA

DATE: OCT., 2018  
 SCALE: 1"=60'

SHEET 19 OF 38  
 FILE No. RZ-12964

PLANDATE	NO.	DATE	DESCRIPTION
11-15-18			
02-19-19			
04-05-19			

Urban, Ltd.  
 2000 TECHNOLOGY CT  
 CHANTILLY, VA 20151  
 TEL: 703.642.2366  
 FAX: 703.376.7888  
 www.urban-lltd.com

T.M. #0524-18-A  
 FAIRFAX COUNTY SUPERVISORS  
 DB: 15623 PG: 1647  
 ZONED PDN-15

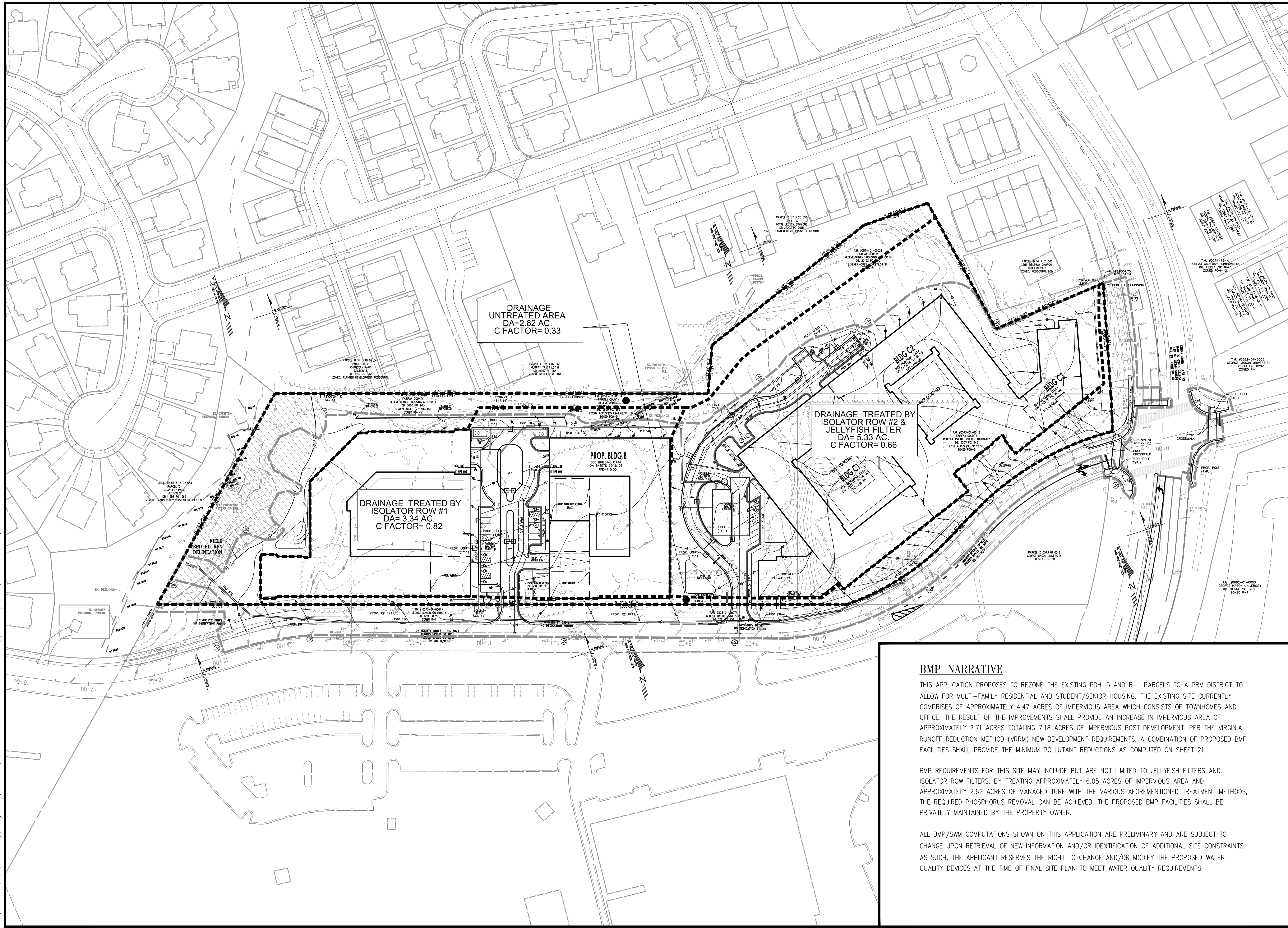
T.M. #0682-01-0003  
 GEORGE MASON UNIVERSITY  
 DB: 0744 PG: 0282  
 ZONED H-1

T.M. #0682-01-0003  
 GEORGE MASON UNIVERSITY  
 DB: 0744 PG: 0282  
 ZONED H-1

T.M. #0682-01-0003  
 GEORGE MASON UNIVERSITY  
 DB: 0744 PG: 0282  
 ZONED H-1

Professional Engineer  
 License No. 068790  
 Date: 04/05/2019  
 Commonwealth of Virginia

Urban, Ltd. - J:\\_LOBS\OneUniversity\B-Engineering\Entitlement\CDP-FDP-SPEX\12964-22-BMP-POST PLAN.dwg [BMP PLAN] April 05, 2019 - 10:58am yefstsr



### BMP NARRATIVE

THIS APPLICATION PROPOSES TO REZONE THE EXISTING PDH-5 AND R-1 PARCELS TO A PRM DISTRICT TO ALLOW FOR MULTI-FAMILY RESIDENTIAL AND STUDENT/SENIOR HOUSING. THE EXISTING SITE CURRENTLY COMPRISES OF APPROXIMATELY 4.47 ACRES OF IMPERVIOUS AREA WHICH CONSISTS OF TOWNHOMES AND OFFICE. THE RESULT OF THE IMPROVEMENTS SHALL PROVIDE AN INCREASE IN IMPERVIOUS AREA OF APPROXIMATELY 2.71 ACRES TOTALING 7.18 ACRES OF IMPERVIOUS POST DEVELOPMENT. PER THE VIRGINIA RUNOFF REDUCTION METHOD (VRRM) NEW DEVELOPMENT REQUIREMENTS, A COMBINATION OF PROPOSED BMP FACILITIES SHALL PROVIDE THE MINIMUM POLLUTANT REDUCTIONS AS COMPUTED ON SHEET 21.

BMP REQUIREMENTS FOR THIS SITE MAY INCLUDE BUT ARE NOT LIMITED TO JELLYFISH FILTERS AND ISOLATOR ROW FILTERS. BY TREATING APPROXIMATELY 6.05 ACRES OF IMPERVIOUS AREA AND APPROXIMATELY 2.62 ACRES OF MANAGED TURF WITH THE VARIOUS AFOREMENTIONED TREATMENT METHODS, THE REQUIRED PHOSPHORUS REMOVAL CAN BE ACHIEVED. 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. AS SUCH, THE APPLICANT RESERVES THE RIGHT TO CHANGE AND/OR MODIFY THE PROPOSED WATER QUALITY DEVICES AT THE TIME OF FINAL SITE PLAN TO MEET WATER QUALITY REQUIREMENTS.

Urban, Ltd. 2000 TECHNOLOGY CT CHANTILLY, VA 20151 TEL: 703.642.2366 FAX: 703.376.7888 www.urban-lltd.com	PLANDATE 11-15-18 02-19-19 04-05-19	No. DATE REVISIONS
	T.M. #0246-18-A FAIRFAX COUNTY REDEVELOPMENT HOUSING AUTHORITY DB: 15623 PG: 1647 ZONED PDH-5	
COMMONWEALTH OF VIRGINIA PROFESSIONAL ENGINEER License No. 068790 04/05/2019		
BMP MAP & NARRATIVE <b>ONE UNIVERSITY CDP/FDP/PARTIAL PCA</b> BRADDOCK DISTRICT FAIRFAX COUNTY, VIRGINIA		
SCALE: 1"=60'		DATE: OCT., 2018
SHEET 20 OF 38		FILE No. RZ-12964



### 1.0 The Isolator® Row

#### 1.1 INTRODUCTION

An important component of any Stormwater Pollution Prevention Plan is inspection and maintenance. The StormTech Isolator Row is a patented technique to inexpensively enhance Total Suspended Solids (TSS) removal and provide easy access for inspection and maintenance.



Looking down the Isolator Row from the manhole opening, woven geotextile is shown between the chamber and stone base.

#### 1.2 THE ISOLATOR ROW

The Isolator Row is a row of StormTech chambers, either SC-310, SC-310-3, SC-740, DC-760, MC-3500 or MC-4500 models, that is surrounded with filter fabric and connected to a closely located manhole for easy access. The fabric-wrapped chambers provide for settling and filtration of sediment as storm water rises in the Isolator Row and ultimately passes through the filter fabric. The open bottom chambers and perforated sidewalls (SC-310, SC-310-3 and SC-740 models) allow storm water to flow both vertically and horizontally out of the chambers. Sediments are captured in the Isolator Row protecting the storage areas of the adjacent stone and chambers from sediment accumulation.

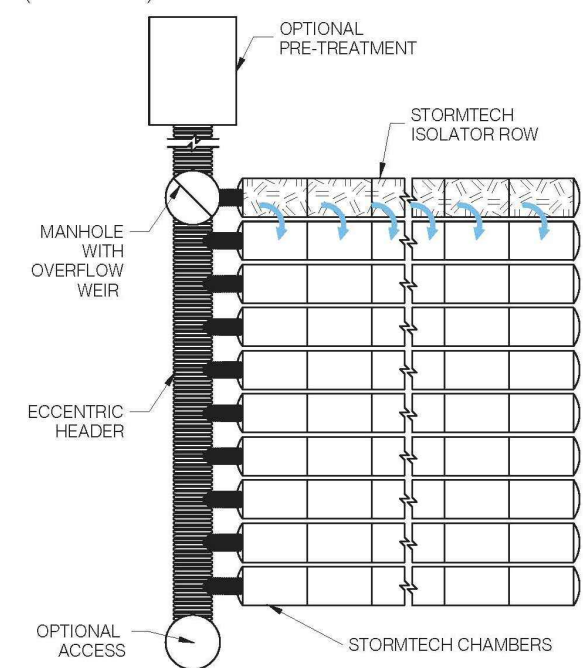
Two different fabrics are used for the Isolator Row. A woven geotextile fabric is placed between the stone and the Isolator Row chambers. The tough geotextile provides a media for storm water filtration and provides a durable surface for maintenance operations. It is also designed to prevent scour of the underlying stone and remain intact during high pressure jetting. A non-woven fabric is placed over the chambers to provide a filter media for flows passing through the perforations in the sidewall of the chamber. The non-woven fabric is not required over the DC-760, MC-3500 or MC-4500 models as these chambers do not have perforated side walls.

The Isolator Row is typically designed to capture the "first flush" and offers the versatility to be sized on a volume basis or flow rate basis. An upstream manhole not only provides access to the Isolator Row but typically includes a high flow weir such that storm water overflows or volumes that exceed the capacity of the Isolator Row overflow the over flow weir and discharge through a manifold to the other chambers.

The Isolator Row may also be part of a treatment train. By treating storm water prior to entry into the chamber system, the service life can be extended and pollutants such as hydrocarbons can be captured. Pre-treatment best management practices can be as simple as deep sump catch basins, oil-water separators or can be innovative storm water treatment devices. The design of the treatment train and selection of pretreatment devices by the design engineer is often driven by regulatory requirements. Whether pretreatment is used or not, the Isolator Row is recommended by StormTech as an effective means to minimize maintenance requirements and maintenance costs.

Note: See the StormTech Design Manual for detailed information on designing inlets for a StormTech system, including the Isolator Row.

#### StormTech Isolator Row with Overflow Spillway (not to scale)



2 Call StormTech at 888.892.2694 or visit our website at [www.stormtech.com](http://www.stormtech.com) for technical and product information.

### 2.0 Isolator Row Inspection/Maintenance



#### 2.1 INSPECTION

The frequency of Inspection and Maintenance varies by location. A routine inspection schedule needs to be established for each individual location based upon site specific variables. The type of land use (i.e. industrial, commercial, residential), anticipated pollutant load, percent imperviousness, climate, etc. all play a critical role in determining the actual frequency of inspection and maintenance practices.

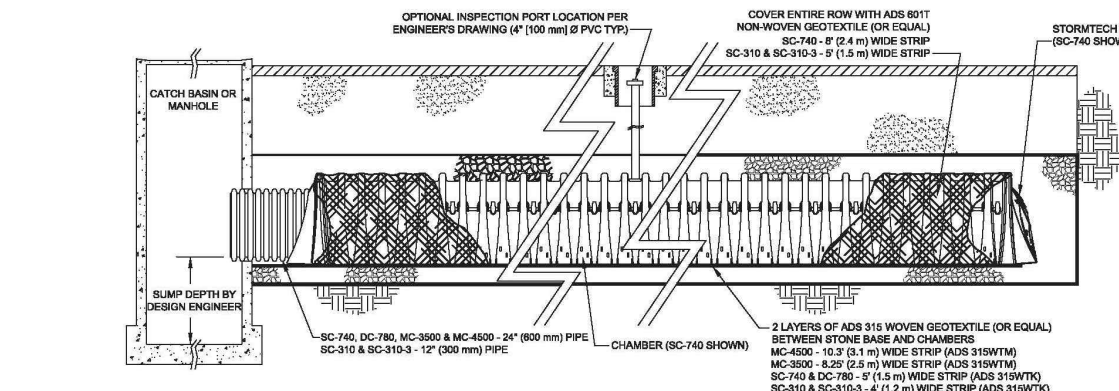
At a minimum, StormTech recommends annual inspections. Initially, the Isolator Row should be inspected every 6 months for the first year of operation. For subsequent years, the inspection should be adjusted based upon previous observation of sediment deposition.

The Isolator Row incorporates a combination of standard manholes and strategically located inspection ports (as needed). The inspection ports allow for easy access to the system from the surface, eliminating the need to perform a confined space entry for inspection purposes.

#### 2.2 MAINTENANCE

The Isolator Row was designed to reduce the cost of periodic maintenance. By "isolating" sediments to just one row, costs are dramatically reduced by eliminating the need to clean out each row of the entire storage bed. If inspection indicates the potential need for maintenance, access is provided via a manhole(s) located on the end(s) of the row for cleanout. If entry into the manhole is required, please follow local and OSHA rules for a confined space entries.

#### StormTech Isolator Row (not to scale)



NOTE: NON-WOVEN FABRIC IS ONLY REQUIRED OVER THE INLET PIPE CONNECTION INTO THE END CAP FOR DC-760, MC-3500 AND MC-4500 CHAMBER MODELS AND IS NOT REQUIRED OVER THE ENTIRE ISOLATOR ROW.

3 Call StormTech at 888.892.2694 or visit our website at [www.stormtech.com](http://www.stormtech.com) for technical and product information.

### 3.0 Isolator Row Step By Step Maintenance Procedures

#### Step 1) Inspect Isolator Row for sediment

- A) Inspection ports (if present)
  - i. Remove lid from floor box frame
  - ii. Remove cap from inspection riser
  - iii. Using a flashlight and stadia rod, measure depth of sediment and record results on maintenance log.
  - iv. If sediment is at, or above, 3 inch depth proceed to Step 2. If not proceed to step 3.

#### B) All Isolator Rows

- i. Remove cover from manhole at upstream end of Isolator Row
- ii. Using a flashlight, inspect down Isolator Row through outlet pipe
1. Mimors on poles or cameras may be used to avoid a confined space entry
2. Follow OSHA regulations for confined space entry if entering manhole
- iii. If sediment is at or above the lower row of sidewall hoses (approximately 3 inches) proceed to Step 2. If not proceed to Step 3.

#### Step 2) Clean out Isolator Row using the JetVac process

- A) A fixed culvert cleaning nozzle with rear facing nozzle spread of 45 inches or more is preferable
- B) Apply multiple passes of JetVac until backflush water is clean
- C) Vacuum manhole sump as required

#### Step 3) Replace all caps, lids and covers, record observations and actions

#### Step 4) Inspect & clean catch basins and manholes upstream of the StormTech system

#### Sample Maintenance Log

Date	Stadia Rod Readings Fixed point to chamber bottom (1)	Fixed point to top of sediment (2)	Sediment Depth (1) - (2)	Observations/Actions	Inspector
3/15/01	6.5 ft.	none	0 ft.	New installation. Fixed point is 0 ft frame at grade	djm
9/24/01	6.2	6.2	0 ft.	Some grit fall	sm
6/20/03	6.5	6.5	0.5 ft.	Mucky feel, debris visible in manhole and in Isolator row, maintenance due	rv
7/7/05	6.5 ft.	0	0	System jetted and vacuumed	djm



70 Inwood Road, Suite 3 | Rocky Hill | Connecticut | 06067  
860.529.8168 | 888.892.2694 | fax 866.326.9401 | [www.stormtech.com](http://www.stormtech.com)

ADS "Terms and Conditions of Sale" are available on the ADS website, [www.ads-pipe.com](http://www.ads-pipe.com). Advanced Drainage Systems, the ADS logo, and the green stripes are registered trademarks of Advanced Drainage Systems. StormTech® and the Isolator® Row are registered trademarks of StormTech, Inc. Green Building Council Member logo is a registered trademark of the U.S. Green Building Council.

© 2013 Advanced Drainage Systems, Inc. S090609 02/13

**PLAN VIEW**

**SECTION A-A**

**JELLYFISH DESIGN NOTES**

JELLYFISH TREATMENT CAPACITY IS A FUNCTION OF THE CARTRIDGE SELECTION AND THE NUMBER OF CARTRIDGES. THE STANDARD MANHOLE STYLE IS SHOWN. Ø120" MANHOLE JELLYFISH PEAK TREATMENT CAPACITY IS 3.75 CFS, AND MAXIMUM BYPASS CAPACITY IS 8.00 CFS. IF THE SITE CONDITIONS EXCEED TOTAL CAPACITY, AN UPSTREAM BYPASS STRUCTURE IS REQUIRED.

CARTRIDGE DEPTH	54"	40"	27"	19"
OUTLET INVERT TO STRUCTURE INVERT (A)	7'-2"	6'-2"	5'-2"	4'-2"
FLOW RATE HIGH-FLO DRAINDOWN (cfs) (per cart)	0.19 / 0.09	0.13 / 0.065	0.09 / 0.045	0.05 / 0.025
MAX. CAPS HIGH-FLO DRAINDOWN	19 / 4			
MAX. BYPASS (cfs)	8.00			
MAX. TREATMENT (cfs)	3.75	2.81	1.87	1.03
MAX. TREATMENT AND BYPASS (cfs) (TOTAL CAPACITY)	11.75	10.81	9.87	9.03

**FRAME AND COVER**  
(DIAMETER VARIES)  
N.T.S.

**HATCH**  
(84" x 102" WITH SLAB)  
N.T.S.

SITE SPECIFIC DATA REQUIREMENTS				
STRUCTURE ID				*
WATER QUALITY FLOW RATE (cfs)				*
BYPASS FLOW RATE (cfs)				*
PEAK FLOW RATE (cfs)				*
RETURN PERIOD OF PEAK FLOW (yr)				*
# OF CARTRIDGES REQUIRED (#F / DOD)				*P
CARTRIDGE SIZE				*

PIPE DATA	I.E.	MATL.	DIA.	SLOPE %	HGL.
INLET #1	*	*	*	*	*
INLET #2	*	*	*	*	*
OUTLET	*	*	*	*	*

SEE GENERAL NOTES 8-10 FOR INLET AND OUTLET HYDRAULIC AND SIZING REQUIREMENTS.

RIM ELEVATION	WIDTH	HEIGHT
*	*	*

NOTES/SPECIAL REQUIREMENTS:  
\* PER ENGINEER OF RECORD

**GENERAL NOTES:**

- CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE
- FOR SITE SPECIFIC DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHT, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS REPRESENTATIVE. [www.contechES.com](http://www.contechES.com)
- JELLYFISH WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
- STRUCTURE SHALL MEET AASHTO HS-20 OR PER APPROVING JURISDICTION REQUIREMENTS, WHICHEVER IS MORE STRINGENT. ASSUMING EARTH COVER OF 3', 3' AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M309 LOAD RATING AND BE CAST WITH THE CONTECH LOGO.
- STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO AASHTO AND AASHTO LOAD FACTOR DESIGN METHOD.
- INLET HGL NOT TO EXCEED 6" BELOW THE TOP OF THE M.A.W. DURING THE PEAK DESIGN STORM, OR 10-YEAR STORM (WHICHEVER IS GREATER).
- INLET PIPE INVERT ELEVATION VARIES FROM 0' TO 6" MAXIMUM ABOVE THE OUTLET PIPE INVERT.
- OUTLET PIPE INVERT IS EQUAL TO THE CARTRIDGE DECK ELEVATION
- THE OUTLET PIPE DIAMETER FOR NEW INSTALLATIONS IS TO BE ONE PIPE SIZE LARGER THAN THE INLET PIPE AT EQUAL OR GREATER SLOPE.
- THE DIFFERENCE IN THE INLET AND OUTLET PIPE ELEVATIONS FOR RETROFIT INSTALLATIONS TO EXISTING STORM DRAIN PIPES SHALL BE EQUAL TO THE SLOPE OVER THE DIAMETER NOT THE EXCEED 1" IN VERTICAL DIFFERENTIAL BETWEEN INLET AND OUTLET PIPES.
- NO PRODUCT SUBSTITUTIONS SHALL BE ACCEPTED UNLESS SUBMITTED 10 DAYS PRIOR TO PROJECT BID DATE, OR AS DIRECTED BY THE ENGINEER OF RECORD.

**INSTALLATION NOTES:**

- ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
- CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE STRUCTURE (LIFTING CLUTCHES PROVIDED).
- CONTRACTOR WILL INSTALL AND LEVEL THE STRUCTURE, SEALING THE JOINTS, LINE ENTRY AND EXIT POINTS (NON-SHRINK GROUT WITH APPROVED WATERSTOP OR FLEXIBLE BOOT)
- CONTRACTOR TO TAKE APPROPRIATE MEASURES TO PROTECT CARTRIDGES FROM CONSTRUCTION-RELATED EROSION RUNOFF.
- CARTRIDGE INSTALLATION, BY CONTECH, SHALL OCCUR ONLY AFTER SITE HAS BEEN STABILIZED AND THE JELLYFISH UNIT IS CLEAN AND FREE OF DEBRIS. CONTACT CONTECH TO COORDINATE CARTRIDGE INSTALLATION WITH SITE STABILIZATION AT (866) 740-3318.

**CONTECH**  
ENGINEERED SOLUTIONS LLC

[www.contechES.com](http://www.contechES.com)

8025 Centre Pointe Dr., Suite 400, West Chester, OH 45389  
800-338-1122 513-646-7000 513-646-7999 FAX

**JELLYFISH JF10**  
STANDARD DETAIL  
ONLINE CONFIGURATION

PLAN DATE	REVISIONS	DESCRIPTION
11-15-18		
02-19-19		
04-05-19		
	No.	DATE

Urban, Ltd.  
2000 TECHNOLOGY CT  
CHANTILLY, VA 20151  
TEL 703.642.2366  
FAX 703.376.7888  
[www.urban-lltd.com](http://www.urban-lltd.com)

Planners-Engineers-Landscape-Architects-Jeal Saravayya

COMMONWEALTH OF VIRGINIA  
Professional Engineer  
C. J. Saravayya  
Lic. No. 068790  
04/05/2019

BMP GENERAL DETAILS  
ONE UNIVERSITY  
CDD/FDD/PARTIAL PCA  
BRADDOCK DISTRICT  
FAIRFAX COUNTY, VIRGINIA

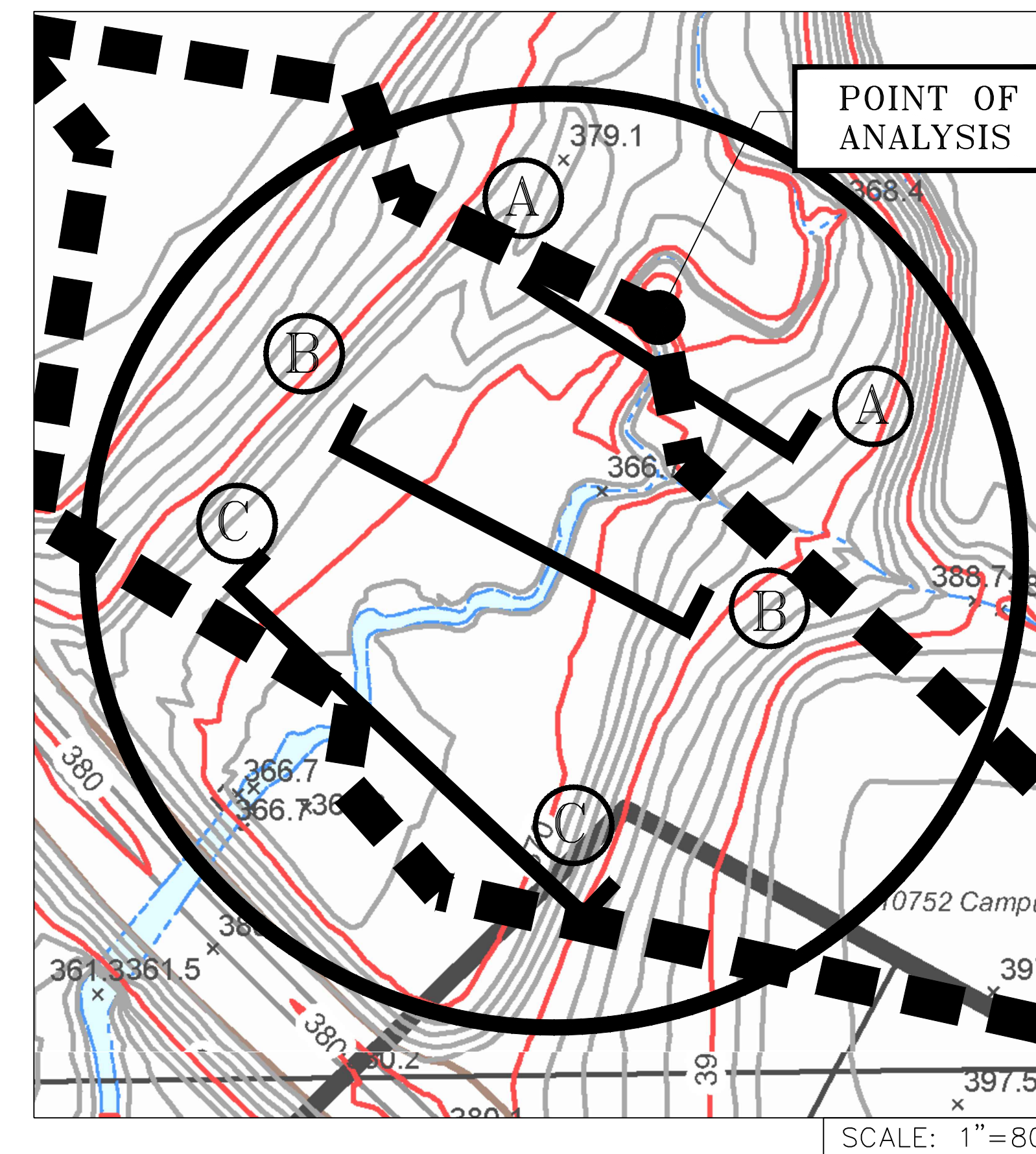
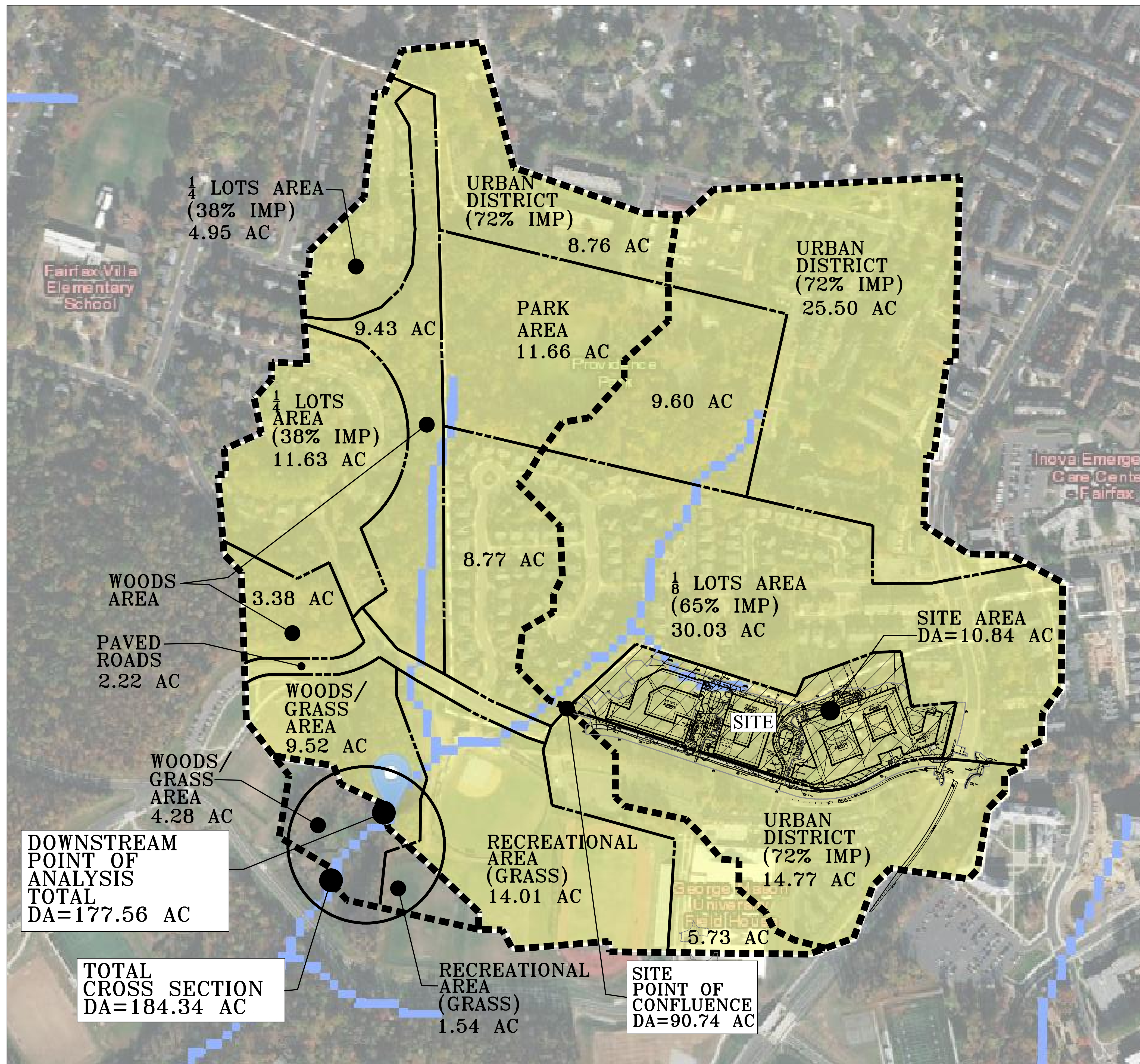
DATE: OCT., 2018  
SCALE: N/A

SHEET  
22  
OF  
38

FILE No.  
RZ-12964



OUTFALL DRAINAGE MAP  
SCALE: 1"=200'



OUTFALL ANALYSIS NARRATIVE:

THE SUBJECT SITE IS LOCATED WITHIN THE LOWER BULL RUN WATERSHED, WEST OF OX ROAD (ROUTE 123) SOUTH OF THE CITY OF FAIRFAX AND FAIRFAX COUNTY LINE. THE EXISTING TOPOGRAPHY OF THE SITE DRAINS SOUTH INTO AN EXISTING CREEK CHANNEL AND CONVERGES DOWNSTREAM WITH POPES HEAD CREEK.

ONE STUDY POINT HAS BEEN ESTABLISHED AT THE EXISTING CREEK WHERE STORMWATER RUNOFF LEAVES THE SITE. THE AFOREMENTIONED STUDY POINT ALSO SERVES AS A POINT OF CONFLUENCE WHICH COLLECTS 10.84 ACRES OF STORMWATER FROM THE SITE AND AN ADDITIONAL DRAINAGE AREA OF 79.90 ACRES FROM UPSTREAM URBAN AND RESIDENTIAL AREAS TOTALING 90.74 ACRES.

APPROXIMATELY 855 FEET DOWNSTREAM, THE SITE'S POINT OF CONFLUENCE, THE STORMWATER CONVERGES WITH POPES HEAD CREEK AND IS JOINED WITH AN ADDITIONAL DRAINAGE AREA OF 86.82 ACRES OF FOREST, RESIDENTIAL LOTS, AND URBAN AREAS TOTALING 177.56 ACRES. THIS DOWNSTREAM CONVERGENCE SHALL ACT AS OUR OUTFALL POINT OF ANALYSIS SINCE THE SECONDARY DRAINAGE AREA EXCEEDS 90% OF THE INITIAL SITE'S POINT OF CONFLUENCE DRAINAGE. THIS SHALL SATISFY THE ALTERNATIVE LIMITS OF ANALYSIS AS DEFINED PER FAIRFAX COUNTY STORMWATER MANAGEMENT ORDINANCE SECTION 124-4-4.B.6.C.

THREE CROSS SECTIONS HAVE BEEN PROVIDED AT MINIMAL 100 FOOT INTERVALS DOWNSTREAM OF THE POINT OF ANALYSIS. AN ADDITIONAL 6.78 ACRES OF AREA ADJOINS WITH THE FURTHEST DOWNSTREAM CROSS SECTION LOCATION TOTALING 184.34 ACRES AND SHALL BE USED FOR THE ANALYSIS OF EACH CROSS SECTION AS A CONSERVATIVE MEASURE.

IT HAS BEEN VERIFIED THAT THE PROPOSED 10 YR STORM REMAINS CONFINED WITHIN THE CONVEYANCE SYSTEM AND THE 2 YR STORM VELOCITY DOES NOT EXCEED THE PERMISSIBLE VELOCITY TO CAUSE DAMAGING EROSION. PLEASE SEE COMPUTATIONS ON SHEET 24. THIS SHALL SATISFY THE CHANNEL AND FLOOD PROTECTION CRITERIA AS DEFINED PER FAIRFAX COUNTY STORMWATER MANAGEMENT ORDINANCE SECTION 124-4-4.B.3.C. AND 124-4-4.C.1. ALSO SEE SHEETS 13 FOR UTILIZATION OF THE ONE-YEAR ENERGY BALANCE EQUATION WITHIN THE SITES POINT OF CONFLUENCE.

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

SIGNATURE: *Clayton Tock* DATE: 04/05/2019  
CLAYTON TOCK, P.E.  
PRINCIPAL

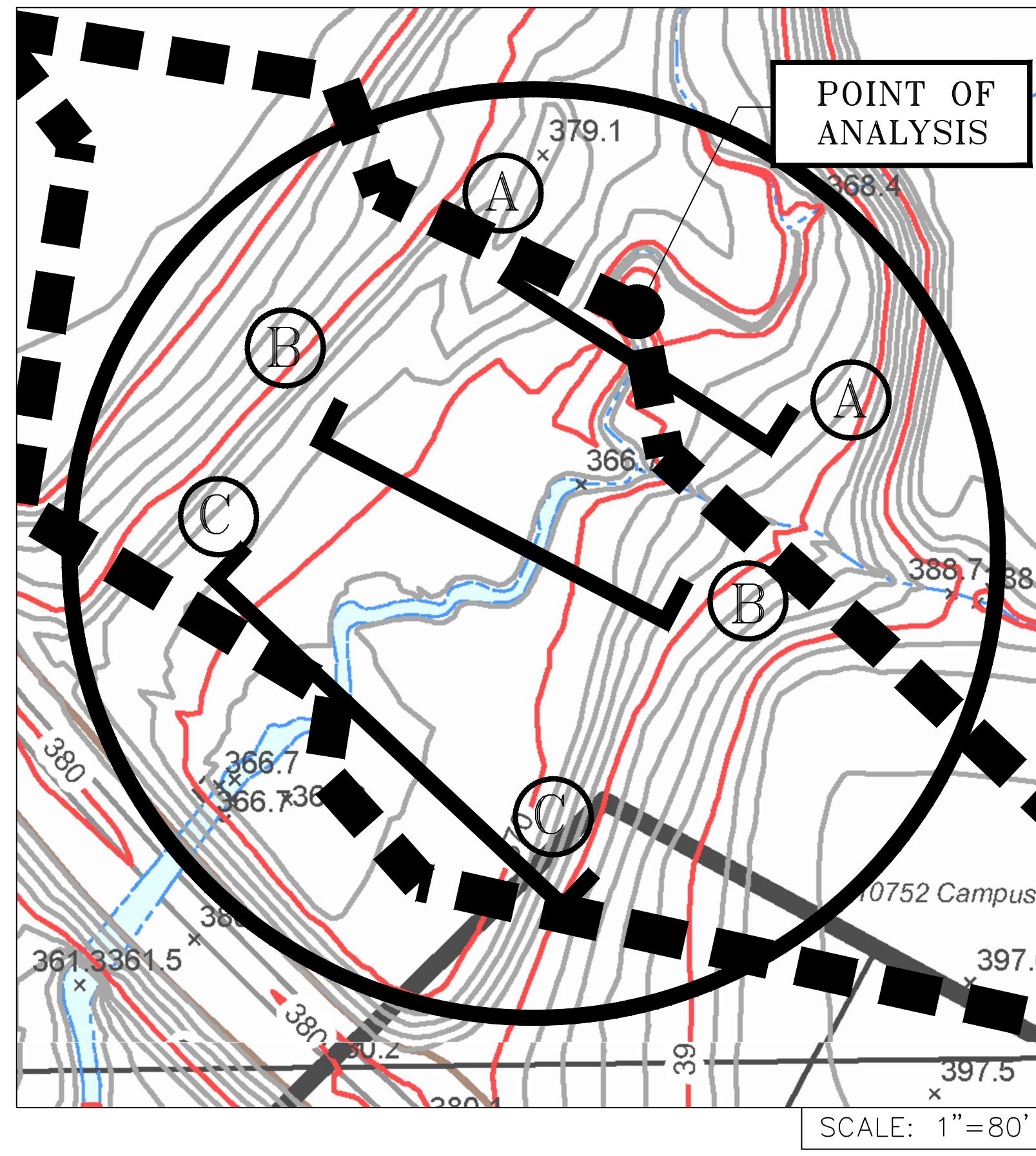
**LEGEND**

- DRAINAGE AREA TO STUDY POINT
- LAND USE DISTRICTS
- SITE=10.84 AC

Source Drainage Map generated from <https://streamstats.usgs.gov/>

Urban, Ltd. - J:\085\OneUniversity\B-Engineering\Entitlement\CDP-FDP-SPEX\12964-23-OUTFALL.dwg [OUTFALL] April 05, 2019 - 10:58am yelbri

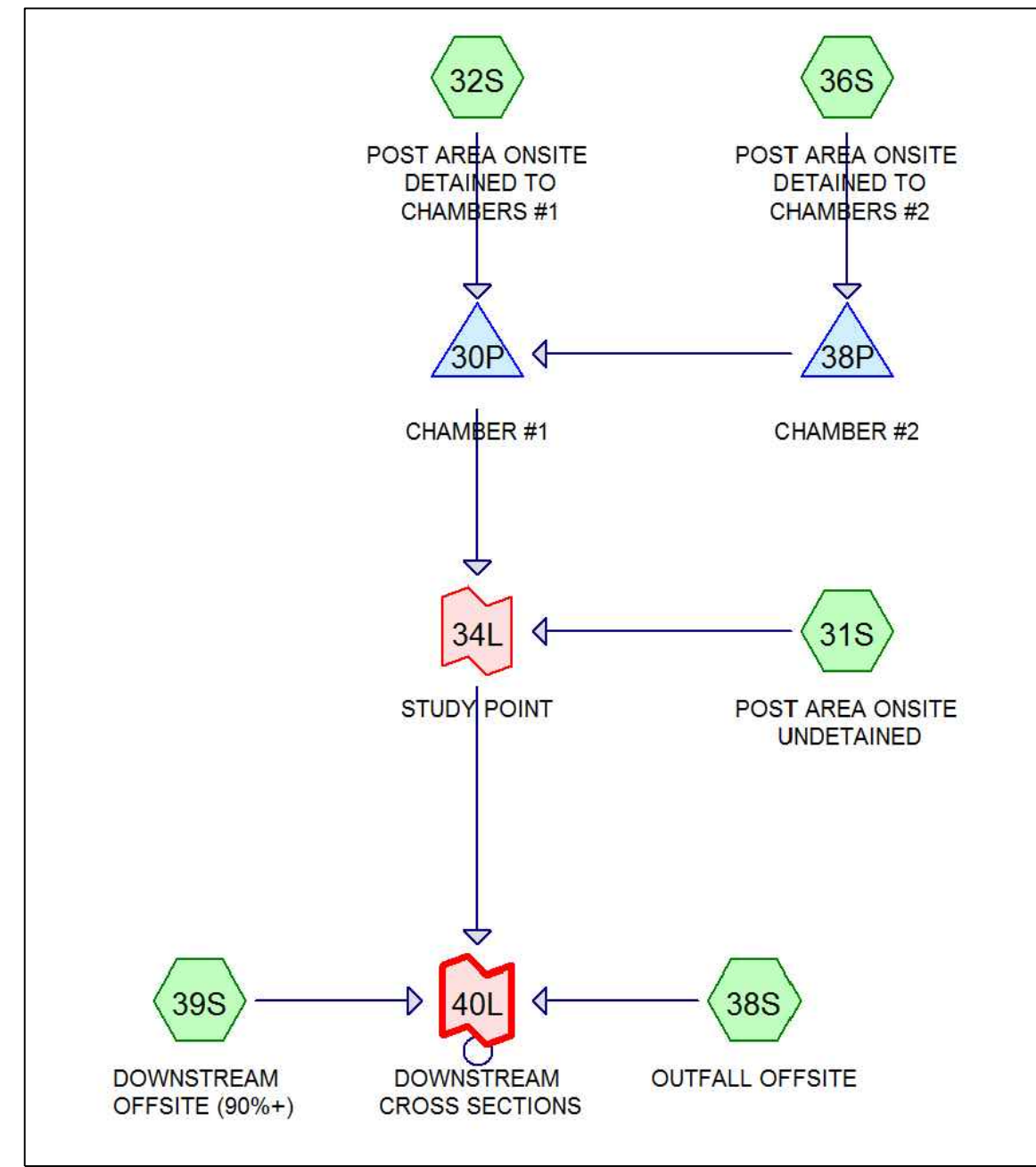
<p>PLAN DATE: 11-15-18 02-19-19 04-05-19</p>		<p>DESCRIPTION</p>
<p>Urban, Ltd. 2000 TECHNOLOGY CT CHANTILLY, VA 20151 TEL: 703.642.2366 FAX: 703.376.7888 www.urban-lltd.com</p>		<p>REVISIONS</p>
<p><b>urban</b> Planners-Engineers-Landscape-Architects-Land Surveyors</p>		<p>DATE: OCT., 2018</p>
<p>ADEQUATE OUTFALL ANALYSIS <b>ONE UNIVERSITY CDP/FDP/PARTIAL PCA</b> BRADDOCK DISTRICT FAIRFAX COUNTY, VIRGINIA</p>		<p>SCALE: AS NOTED</p>
<p>SHEET 23 OF 38</p>		<p>FILE No. RZ-12964</p>



SCALE: 1"=80'



**OUTFALL HYDROGRAPH NODES:**



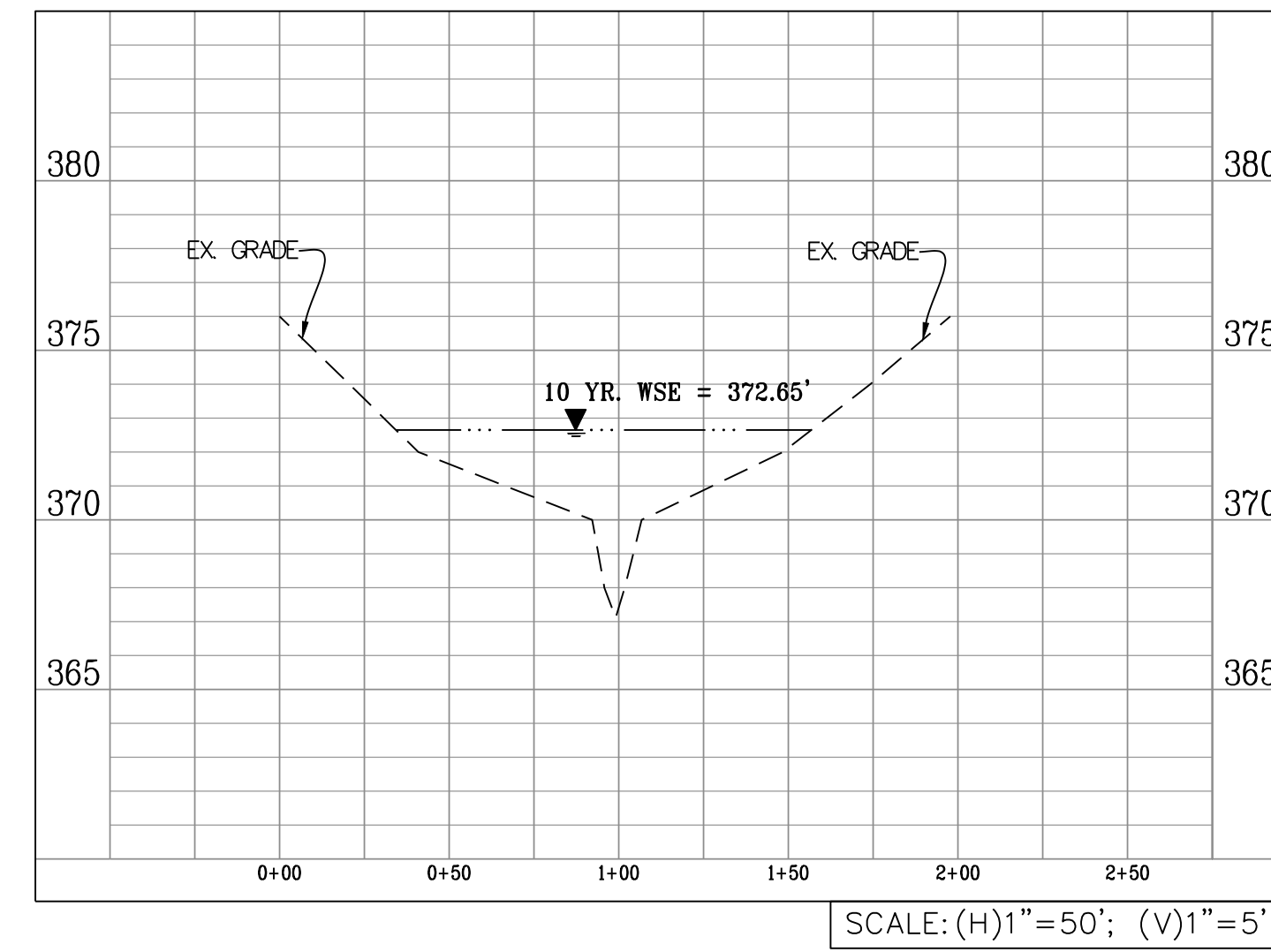
**2-YEAR PEAK FLOWS**

Inflow Area = 7,942,730 sf, 44.00% Impervious, Inflow Depth = 2.02" for 2-year event  
 Inflow = 313.42 cfs @ 12.21 hrs, Volume = 1,335,213 cf  
 Primary = 313.42 cfs @ 12.21 hrs, Volume = 1,335,213 cf, Atten= 0%, Lag= 0.0 min  
 Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.03 hrs

**10-YEAR PEAK FLOWS**

Inflow Area = 7,942,730 sf, 44.00% Impervious, Inflow Depth = 3.87" for 10-year event  
 Inflow = 604.08 cfs @ 12.20 hrs, Volume = 2,564,820 cf  
 Primary = 604.08 cfs @ 12.20 hrs, Volume = 2,564,820 cf, Atten= 0%, Lag= 0.0 min  
 Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.03 hrs

**PROFILE CROSS-SECTION A-A**



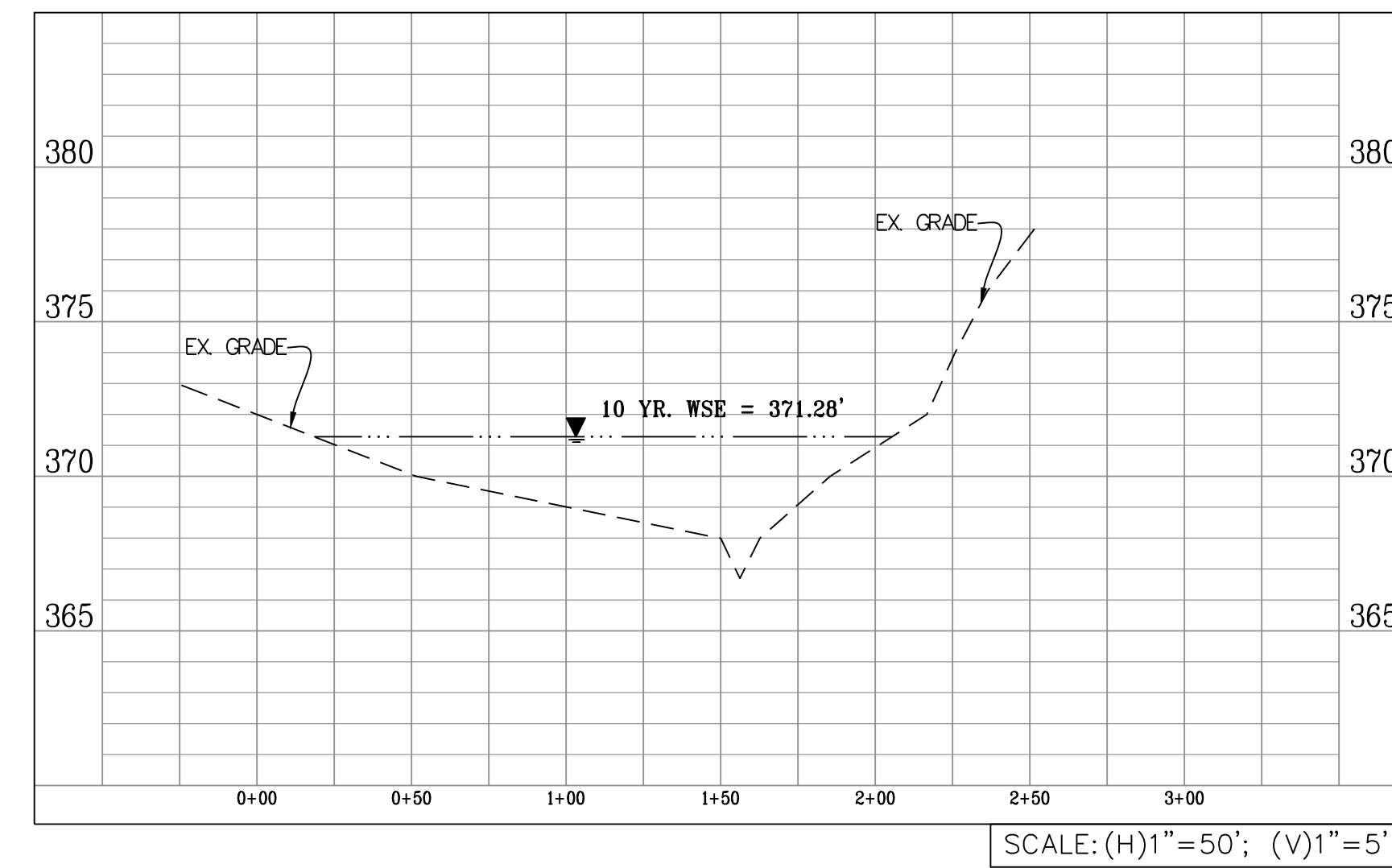
SCALE: (H)1"=50'; (V)1"=5'

**POST DEVELOPMENT CONDITIONS:**

CROSS SECTION A-A (SEE SHEET 23 FOR CHANNEL SECTION LOCATION)  
 DA = 184.34 AC.  
 Q2 = 313.42 CFS  
 Q10 = 604.08 CFS  
 CHANNEL SLOPE= 0.003  
 n = 0.0045 STREAM CHANNEL

V2= 2.20 FPS  
 D10= 5.53 FT.

**PROFILE CROSS-SECTION B-B**



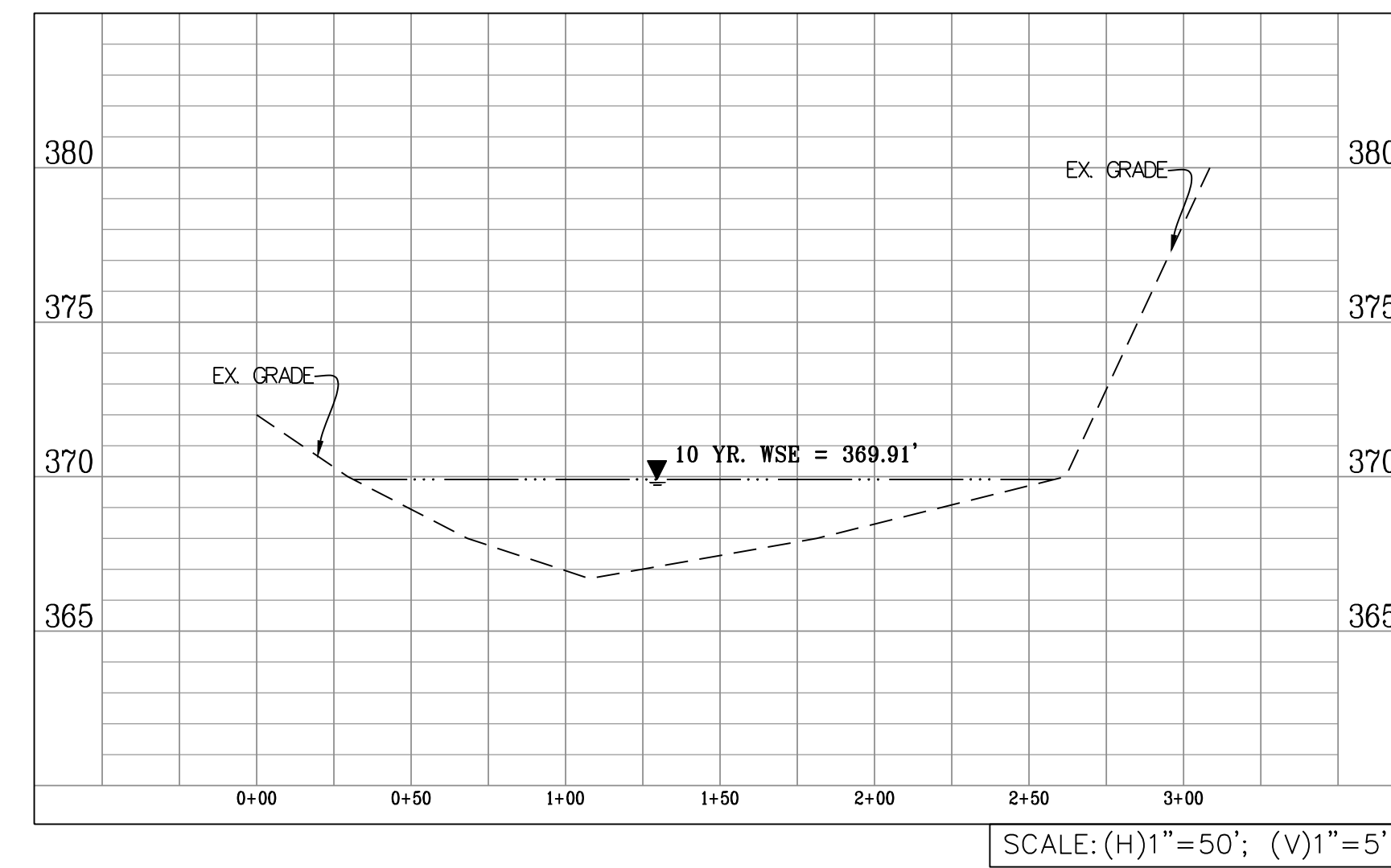
SCALE: (H)1"=50'; (V)1"=5'

**POST DEVELOPMENT CONDITIONS:**

CROSS SECTION B-B (SEE SHEET 23 FOR CHANNEL SECTION LOCATION)  
 DA = 184.34 AC.  
 Q2 = 313.42 CFS  
 Q10 = 604.08 CFS  
 CHANNEL SLOPE= 0.001  
 n = 0.0045 STREAM CHANNEL

V2= 1.37 FPS  
 D10= 4.58 FT.

**PROFILE CROSS-SECTION C-C**



SCALE: (H)1"=50'; (V)1"=5'

**POST DEVELOPMENT CONDITIONS:**

CROSS SECTION C-C (SEE SHEET 23 FOR CHANNEL SECTION LOCATION)  
 DA = 184.34 AC.  
 Q2 = 313.42 CFS  
 Q10 = 604.08 CFS  
 CHANNEL SLOPE= 0.001  
 n = 0.0045 STREAM CHANNEL

V2= 1.27 FPS  
 D10= 3.21 FT.

**Summary for Subcatchment 39S: DOWNSTREAM OFFSITE (90%+)**

Area (ac)	CN	Description
8.760	93	72% imp, HSG D
16.580	87	1/4 acre lots, 38% imp, HSG D
21.180	82	Woods/grass comb., Fair, HSG D
12.810	79	Woods, Fair, HSG D
2.220	98	Paved roads w/curbs & sewers, HSG D
8.770	92	1/8 acre lots, 65% imp, HSG D
15.350	80	>75% Grass cover, Good, HSG D
5.730	93	72% imp, HSG D
91.600	85	Weighted Average
66.946		73.09% Pervious Area
24.654		26.91% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.8	100	0.0055	0.10		Sheet Flow, Grass: Short n= 0.150 P2= 3.05"
6.0	528	0.0440	1.47		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
3.0	2,083	0.0240	11.57	460.45	Channel Flow, Area= 39.8 sf Perim= 21.5' r= 1.85' n= 0.030 Stream, clean & straight
25.8	2,711			Total	

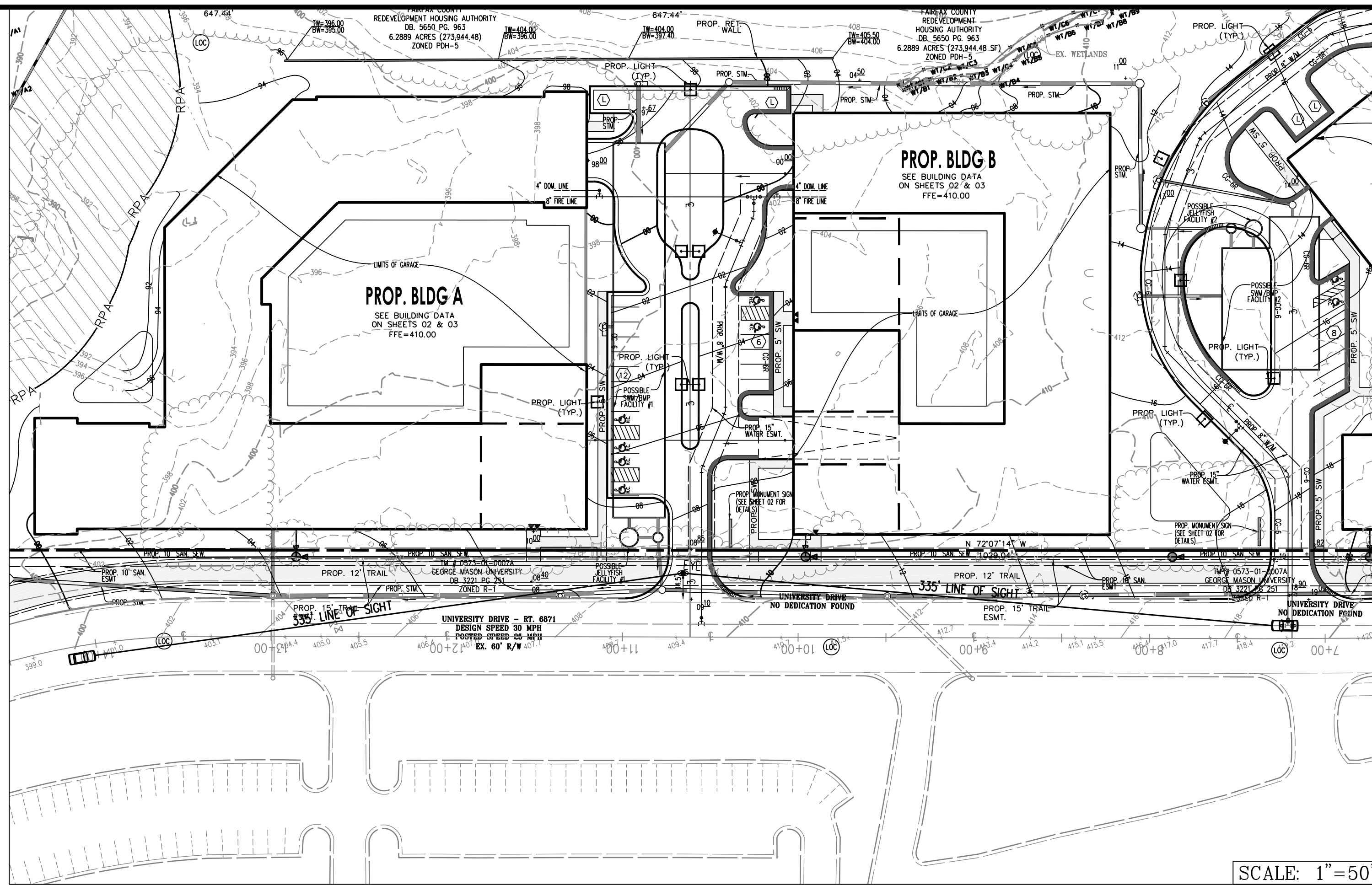
**Summary for Subcatchment 38S: OUTFALL OFFSITE**

Area (ac)	CN	Description
25.500	93	72% imp, HSG D
9.500	82	Woods/grass comb., Fair, HSG D
30.030	92	1/8 acre lots, 65% imp, HSG D
14.770	93	72% imp, HSG D
79.900	91	Weighted Average
31.386		39.28% Pervious Area
48.514		60.72% Impervious Area

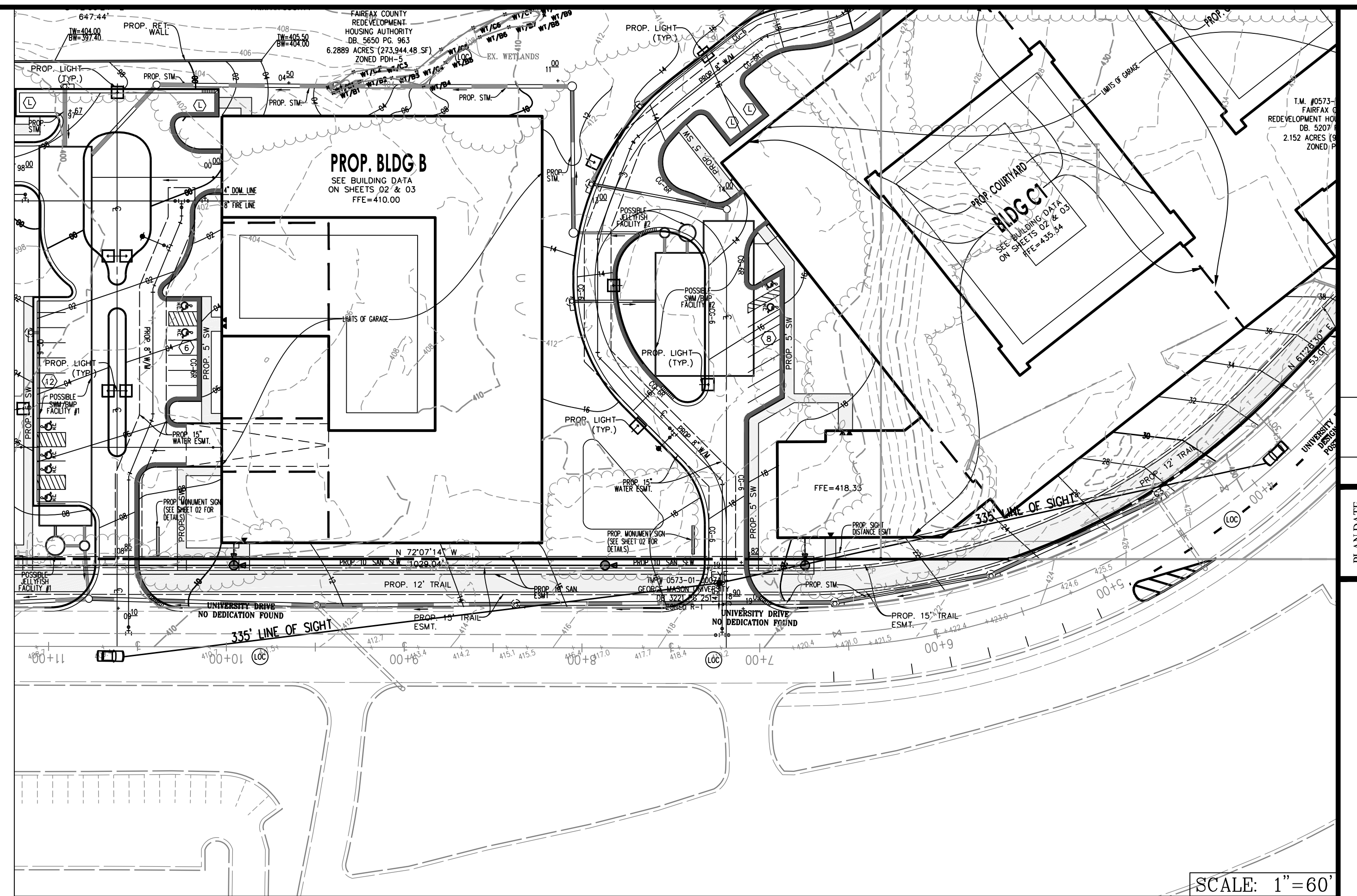
Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.6	100	0.0075	0.08		Sheet Flow, Grass: Dense n= 0.240 P2= 3.05"
5.6	317	0.0350	0.94		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
3.4	2,448	0.0260	12.04	479.25	Channel Flow, Area= 39.8 sf Perim= 21.5' r= 1.85' n= 0.030
30.6	2,865			Total	

PLANDATE	11-15-18 02-19-19 04-05-19	DESCRIPTION	
NO.		DATE	
Urban, Ltd. 2000 TECHNOLOGY CT CHANTILLY, VA 20151 TEL: 703.642.2366 FAX: 703.376.7888 www.urban-llc.com			
<b>ADEQUATE OUTFALL ANALYSIS</b> <b>ONE UNIVERSITY</b> <b>CDP/FDP/PARTIAL PCA</b> <b>BRADDOCK DISTRICT</b> <b>FAIRFAX COUNTY, VIRGINIA</b>			
SCALE: AS NOTED			DATE: OCT., 2018
SHEET 24 OF 38			C.I.= 2'
FILE No. RZ-12964			



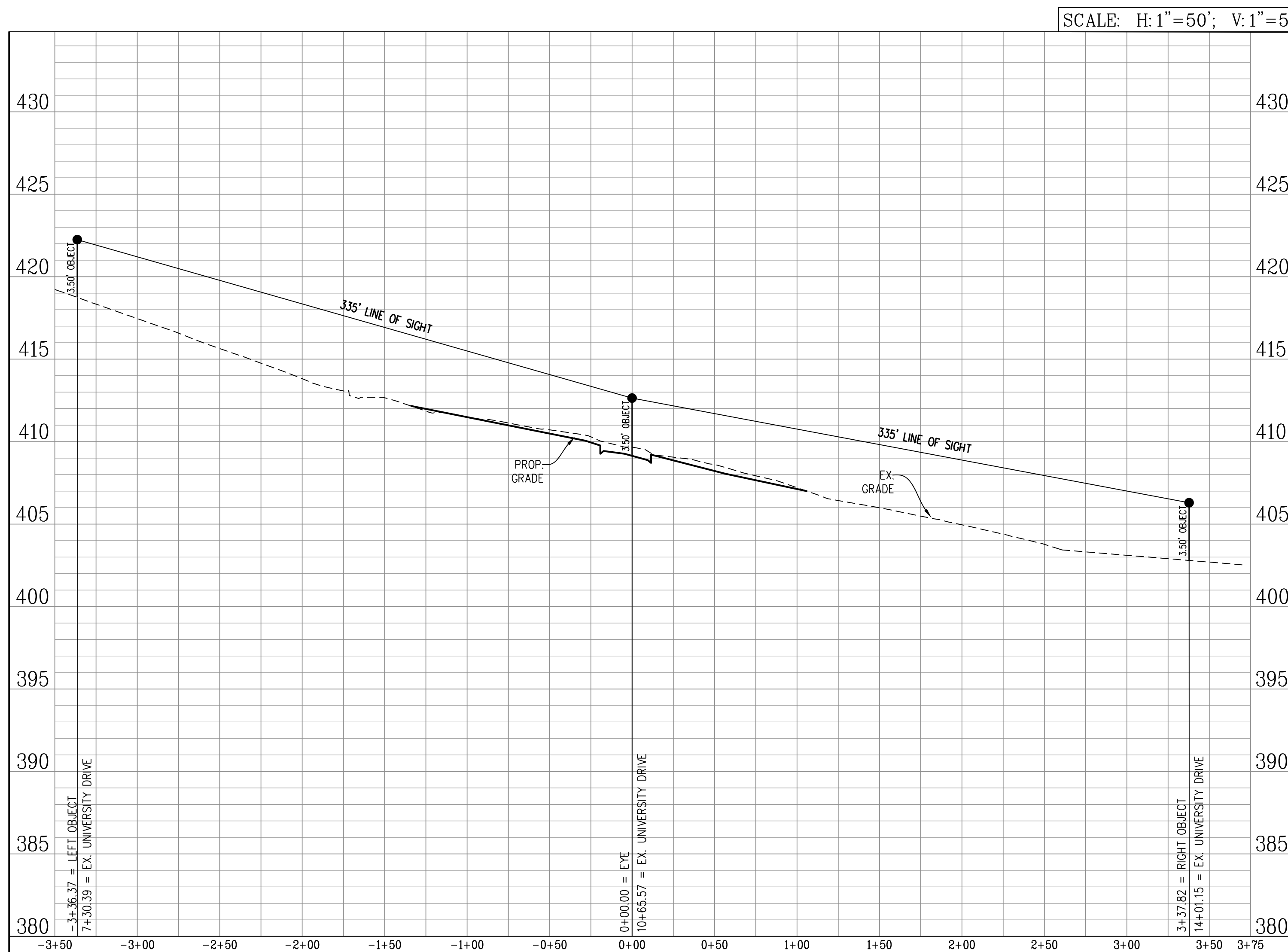
INTERSECTION OF PROP. ROAD A AND EX. UNIVERSITY DRIVE  
RT. 6871  
DESIGN SPEED-30 MPH  
POSTED SPEED-25 MPH

SCALE: 1"=50'

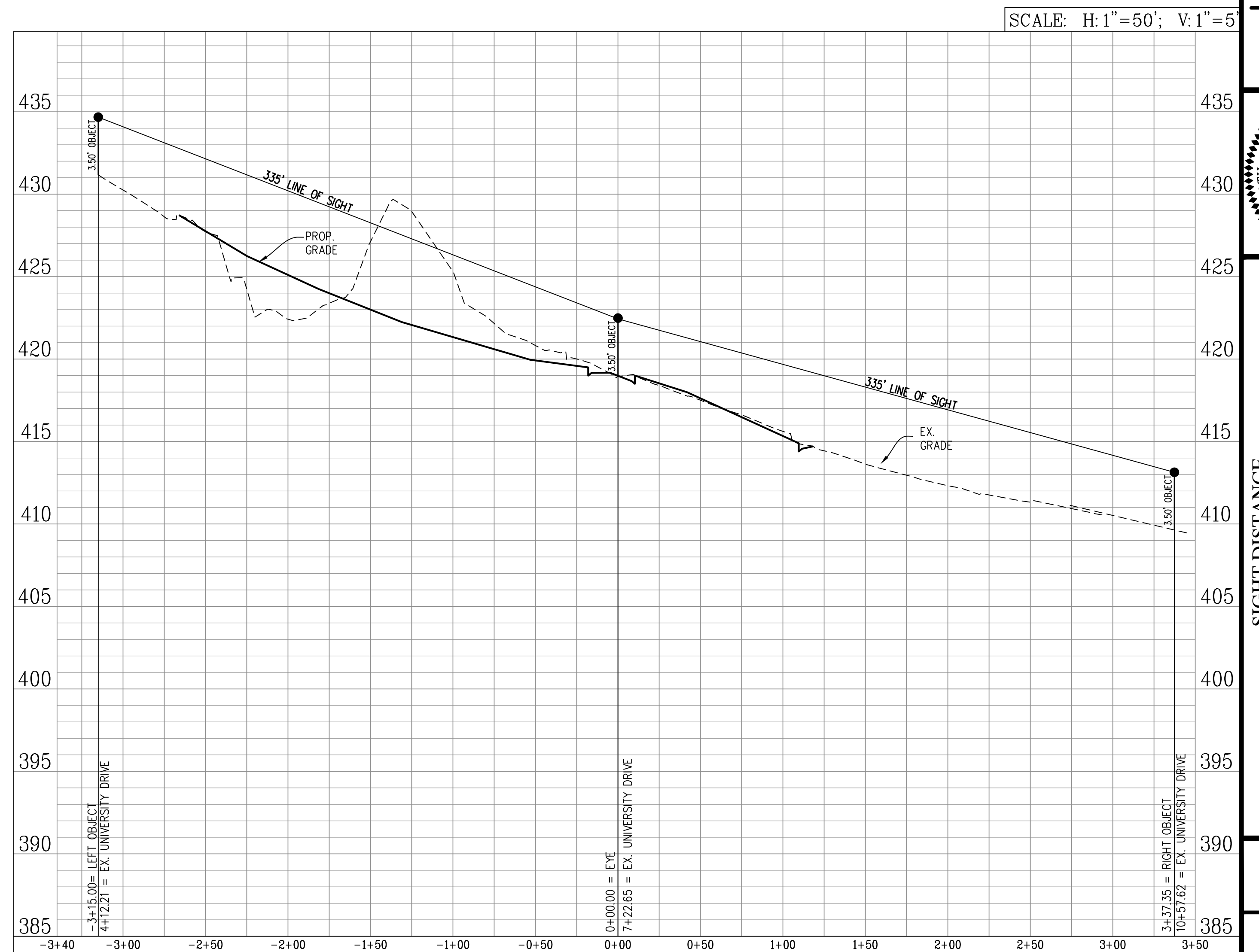


INTERSECTION OF PROP. ROAD A AND EX. UNIVERSITY DRIVE  
RT. 6871  
DESIGN SPEED-30 MPH  
POSTED SPEED-25 MPH

SCALE: 1"=60'



SCALE: H:1"=50'; V:1"=5'



SCALE: H:1"=50'; V:1"=5'

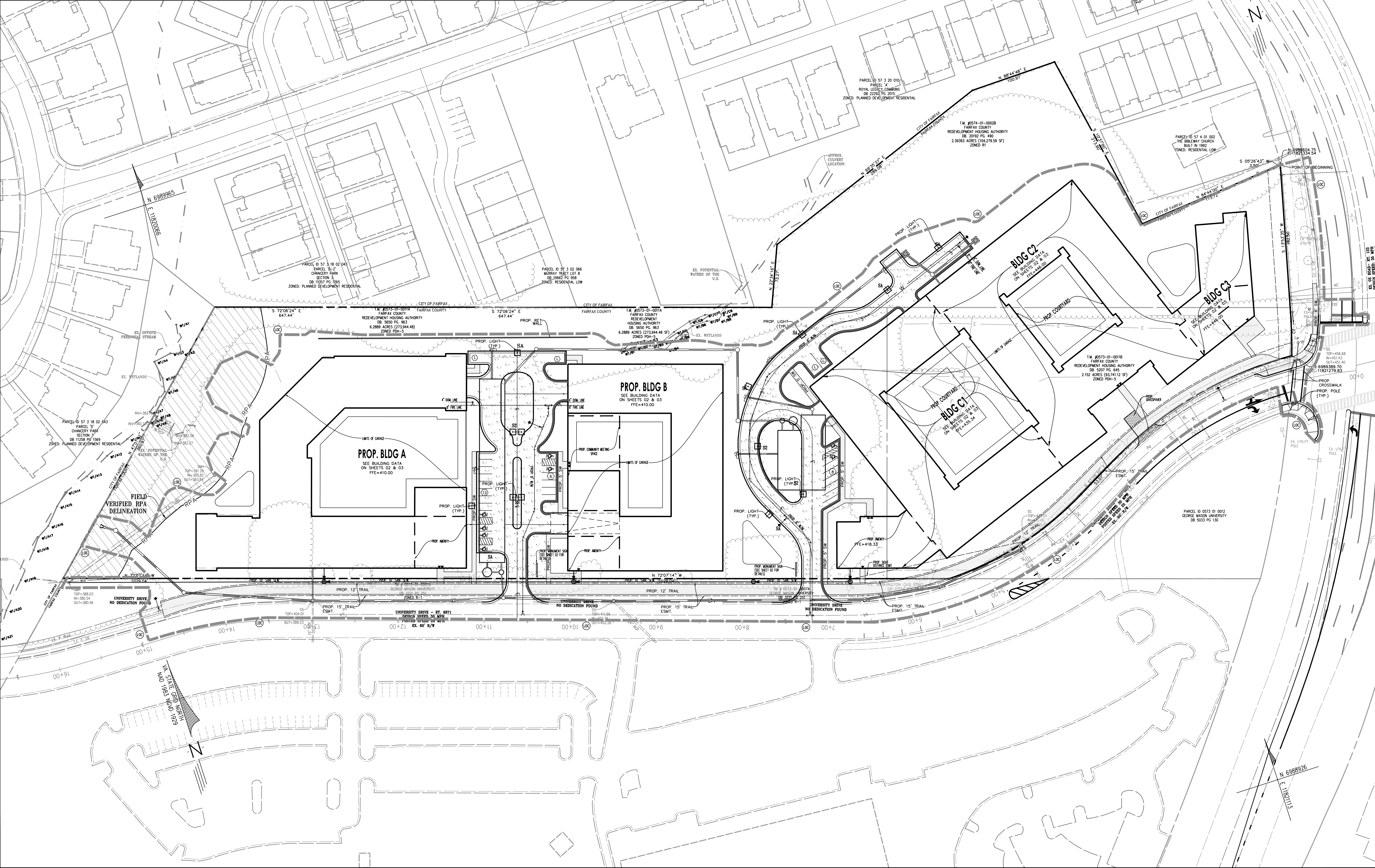
Urban, Ltd. - J:\085\OneUniversity\B-Engineering\Entitlement\CDP-FDP-SPEX\12964-31-SIGHT DIST.DWG [SIGHT DIST] April 05, 2019 - 10:59am yellow

PLAN DATE 11-15-18 02-19-19 04-05-19	No. DATE REVISIONS
SIGHT DISTANCE <b>ONE UNIVERSITY</b> <b>CDP/FDP/PARTIAL PCA</b> BRADDOCK DISTRICT FAIRFAX COUNTY, VIRGINIA	
SCALE: AS NOTED SHEET 25 OF 38 FILE No. RZ-12964	
DATE: OCT., 2018 C.I.= 2'	

Symbol	Qty	Label	Arrangement	Total Lamp Lumens	LLF	Description
[Symbol]	1	S	SINGLE	N.A.	0.900	LSI 1/XGBM-FT-LED-SS-NW-HSS, RTPB5-S11G-20-S-F-20SRTBC, 22.5' AFG
[Symbol]	3	S2	D180	N.A.	0.900	LSI 2/XGBM-5-LED-SS-NW, RTPB5-S11G-20-D180-F-20SRTBC, 22.5' AFG
[Symbol]	5	SA	SINGLE	N.A.	0.900	LSI 1/XGBM-3-LED-SS-NW-HSS, RTPB5-S11G-20-S-F-20SRTBC, 22.5' AFG
[Symbol]	1	SS	D180	N.A.	0.900	LSI 2/XGBM-FT-LED-SS-NW-HSS, RTPB5-S11G-20-S-F-20SRTBC, 22.5' AFG

Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
PARKING LOT AT BLDG C1, C2, C3	Illuminance	Fc	2.78	6.6	0.0	N.A.	N.A.
PARKING LOT BETWEEN BLDG A AND B	Illuminance	Fc	2.54	6.2	0.5	5.08	12.40
PROPERTY LINE	Illuminance	Fc	0.00	0.1	0.0	N.A.	N.A.
PARKING BY BLDG C1	Illuminance	Fc	1.21	2.6	0.6	2.02	4.33



Urban, Ltd. - J:\JOBS\OneUniversity\B-Engineering\Entitlement\CDP-FDP-SPEX\12964-42-PHOTOMETRIC.dwg [PHOTOMETRIC] April 05, 2019 - 10:59am yelosi

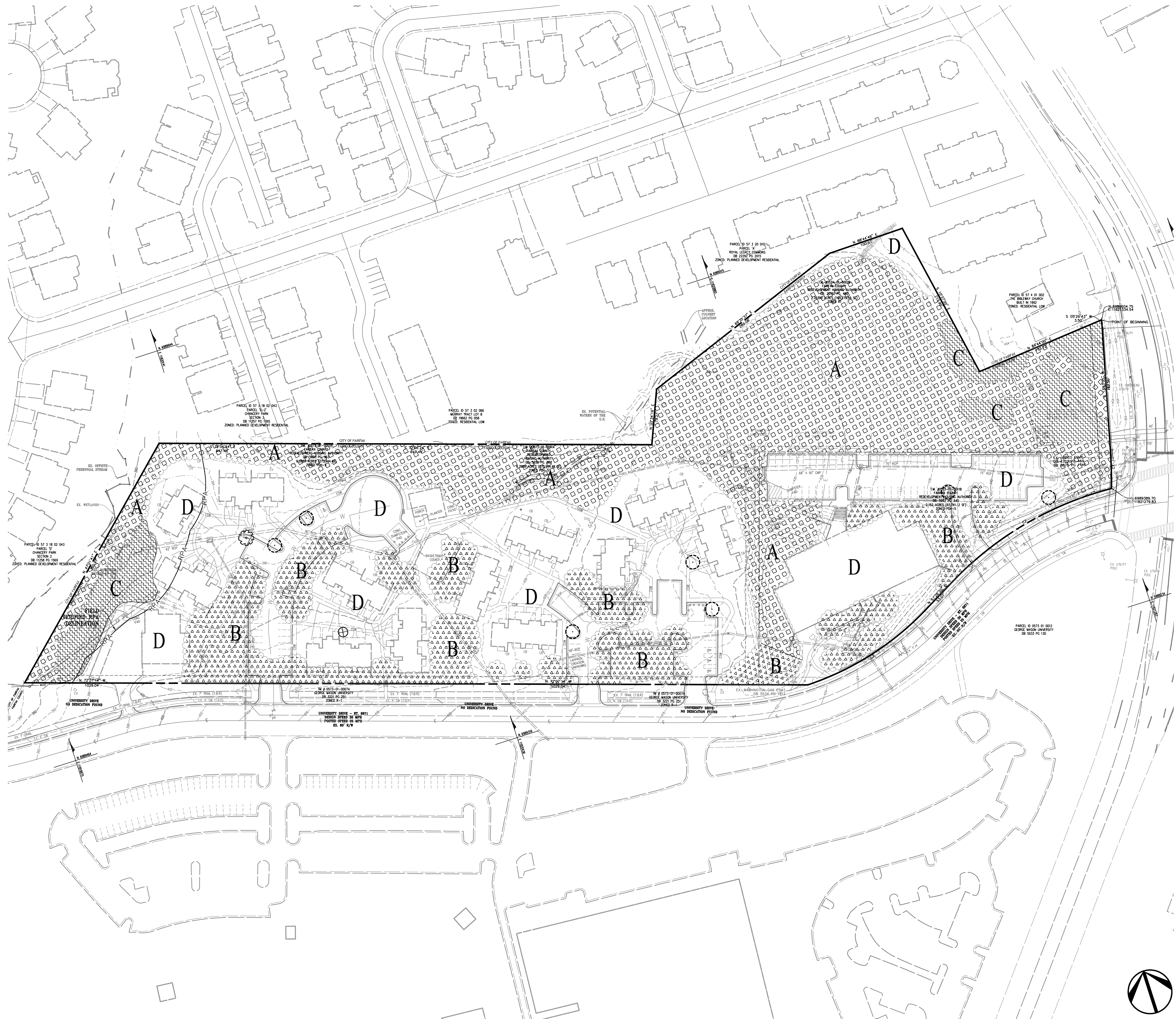
<p>Urban, Ltd. 200D TECHNOLOGY CT CHANTILLY, VA 20151 TEL: 703.642.2366 FAX: 703.376.7888 www.urban-lltd.com</p> <p><b>urban</b> Planners-Engineers-Landscape Architects-Joist Surveyors</p> <p>COMMONWEALTH OF VIRGINIA Professional Engineer George C. Yelosi Lic. No. 068790 04/05/2019</p>	<p>PHOTOMETRIC PLAN <b>ONE UNIVERSITY CDP/FDP/PARTIAL PCA</b> BRADDOCK DISTRICT FAIRFAX COUNTY, VIRGINIA</p> <p>DATE: OCT., 2018 SCALE: 1"=30' C.I.= 2'</p> <p>SHEET 26 OF 38</p> <p>FILE No. RZ-12964</p>
<p>PLANDATE 11-15-18 02-19-19 04-05-19</p> <p>No. DATE</p> <p>REVISIONS</p>	

Urban, Ltd. - J:\\_JOBS\OneUniversity\B-Engineering\Entitlement\CDP-FDP-SPEX\12964-31-EW.dwg [E:\M] April 05, 2019 - 10:58am yebstri

EXISTING VEGETATION SUMMARY							
FORESTED AREAS							
Cover Type	Primary Species	Successional Stage	Condition	Acreage	Cover Type Description		
A	Upland Forest	Overstory: Tulip Poplar ( <i>Liriodendron tulipifera</i> ), Red Maple ( <i>Acer rubrum</i> ), Red Oak ( <i>Quercus rubra</i> ), White Oak ( <i>Quercus alba</i> ) Understory: Black Gum ( <i>Nyssa sylvatica</i> ), Black Cherry ( <i>Prunus serotina</i> ), American Beech ( <i>Fagus grandifolia</i> ), American Holly ( <i>Ilex opaca</i> ), Black Locust ( <i>Robinia pseudacacia</i> )	sub-climax	fair	3,309 ac. or 144,154 sf	This cover type consists of a diverse upland hardwood overstory species ranging in size from 5" to 30" dbh and understory species ranging in size from 2" to 12" dbh. The forest floor consists primarily of native Greenbrier ( <i>Smilax sp.</i> ) mixed with invasive Multiflora Rose ( <i>Rosa multiflora</i> ) and Wineberry ( <i>Rubus phoenicostictus</i> ).	
	B	Landscape Tree Canopy	Red Oak, Red Maple, White Pine ( <i>Pinus strobus</i> ), Norway Spruce ( <i>Picea abies</i> ), Willow Oak ( <i>Quercus phellos</i> ), American Holly ( <i>Ilex opaca</i> ), Flowering Dogwood ( <i>Cornus florida</i> )	n.a.	fair-good	1,405 ac. or 61,207 sf	This cover type consists of a maintained landscape areas with overstory species ranging in size from 3" to 24" dbh and understory species ranging in size from 1" to 10" dbh. The groundcover within this cover type consists primarily of maintained deciduous and evergreen shrubs, annuals, and perennials that are maintained year-round.
				total forested area (ac):	4,714 ac.		
				total forested area (sf):	205,361 sf		
DEVELOPED & MISCELLANEOUS AREAS							
C	Miscellaneous	Various grasses, Greenbrier ( <i>Smilax sp.</i> ), Multiflora Rose ( <i>Rosa multiflora</i> ), Wineberry ( <i>Rubus phoenicostictus</i> )	Pioneer	poor	0,638 ac. or 27,771 sf	This cover type consists of open areas without tree cover and covered primarily with pioneer species such as grasses, briars, and vines. This cover type includes an existing stormwater pond primarily covered with Black Locust ( <i>Robinia pseudacacia</i> ) saplings, grasses, invasive briars and vines.	
D	Developed Land	n.a.	n.a.	n.a.	5,488 ac. or 239,055 sf	This cover type consists of surfaces such as buildings, parking lots and sidewalks as well as maintained turf without tree canopy.	
INDIVIDUAL TREES							
NOTE: INDIVIDUAL TREES ARE LOCATED WITHIN COVER TYPE 'D'. HOWEVER, TO ESTABLISH EXISTING TREE CANOPY AREA, INDIVIDUAL TREE ACREAGE AND DEVELOPED LAND ACREAGE ARE CALCULATED SEPARATELY.							
Cat. IV Deciduous Trees; Landscaped Tree Canopy	Willow oak	n.a.	good	0,040 ac. or 1,750 sf (7 trees @ 250 sf)			
Cat. II Deciduous Trees; Landscaped Tree Canopy	Flowering Dogwood	n.a.	good	0,002 ac. or 100 sf (1 tree @ 100 sf)			
Cat. IV Evergreen Trees; Landscaped Tree Canopy	Norway Spruce	n.a.	good	0,005 ac. or 200 sf (1 tree @ 200 sf)			
				total individual tree area (ac):	0,047 ac.		
				total individual tree area (sf):	2,050 sf		
				total Pre-Development Area of existing tree canopy (ac):	4,762 ac.		
				total Pre-Development Area of existing tree canopy (sf):	207,411 sf		
				total site area (ac):	10,840 ac.		
				total site area (sf):	472,187 sf		

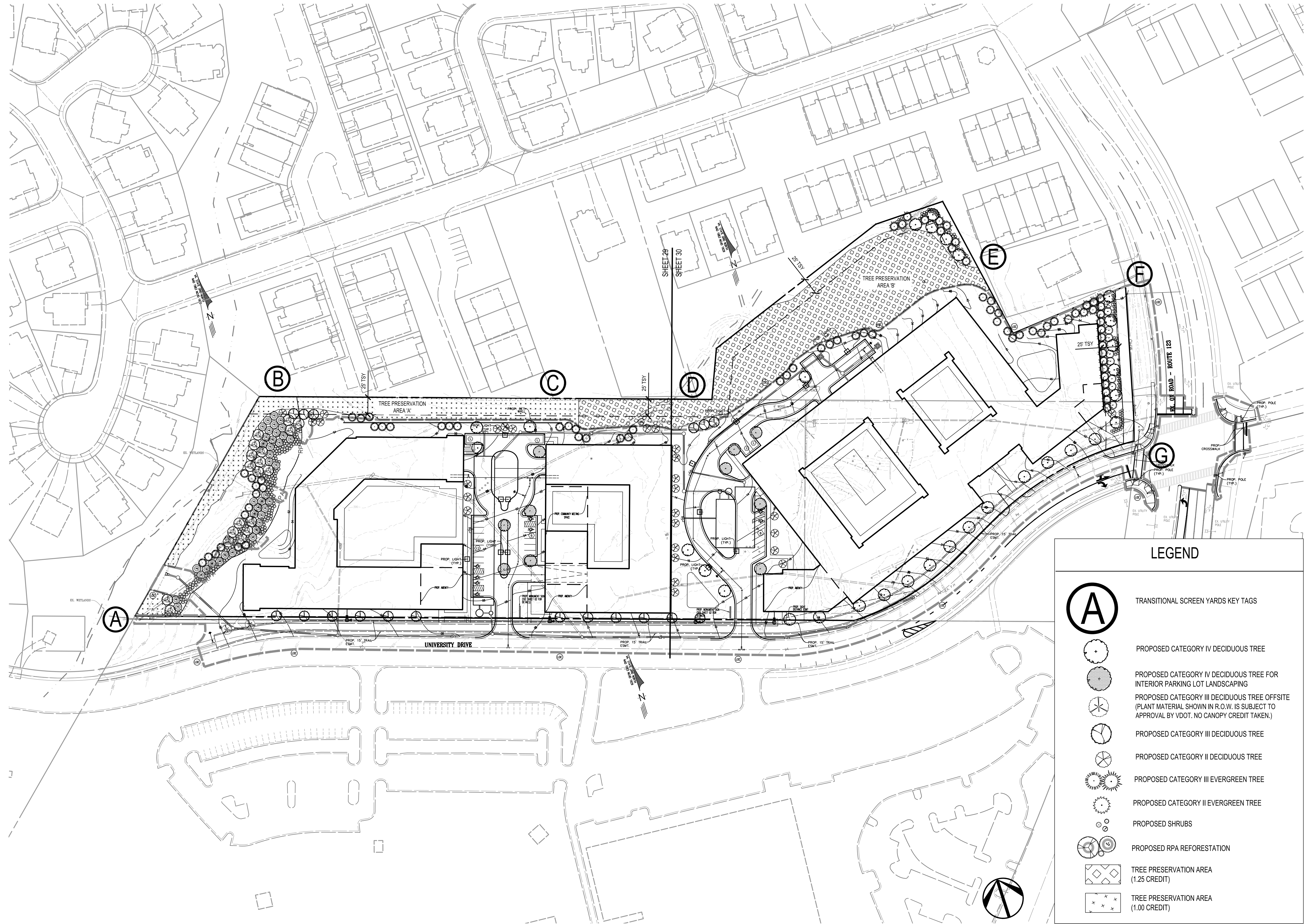
\*DBH = Diameter at Breast Height (measured 4.5 feet above the ground)  
NOTE: Existing vegetation data provided through field study on August 20, 2018, January 31, 2019 and March 23, 2019 by Urban, Ltd.'s Project Advisor (John Lightie, ISA Lic. #M&S174).

**NOTES**  
1. THIS GRAPHIC REPRESENTS THE EXISTING TREE CANOPY COMPUTED AND IS SHOWN TO JUSTIFY THE TEN-YEAR CANOPY TABULATIONS SHOWN ON SHEET # 31.



PLANDATE	11-15-18 02-19-19 04-05-19	REVISIONS	
No.		DATE	
Urban, Ltd. 2000 TECHNOLOGY CT CHANTILLY, VA 20151 TEL: 703.642.2366 FAX: 703.376.7888 www.urban-lltd.com			
Planners-Engineers-Landscape Architects-Land Surveyors			
COMMONWEALTH OF VIRGINIA Adam J. Steiner Lic. No. 1337 04/09/2013 LANDSCAPE ARCHITECT			
EXISTING VEGETATION MAP <b>ONE UNIVERSITY          CDP/FDP/PARTIAL PCA</b> BRADDOCK DISTRICT FAIRFAX COUNTY, VIRGINIA			
SCALE: 1" = 60'			DATE: OCT., 2018
SHEET 27 OF 38			FILE No. RZ-12964

Urban, Ltd. - J:\JOBS\OneUniversity\B-Engineering\Entitlement\CDP-FDP-SPEX\12964-33-LANDSCAPE.dwg [31-LANDSCAPE OVERVIEW] April 05, 2019 - 10:59am yeliasi



### LEGEND

- A TRANSITIONAL SCREEN YARDS KEY TAGS
- PROPOSED CATEGORY IV DECIDUOUS TREE
- PROPOSED CATEGORY IV DECIDUOUS TREE FOR INTERIOR PARKING LOT LANDSCAPING
- PROPOSED CATEGORY III DECIDUOUS TREE OFFSITE (PLANT MATERIAL SHOWN IN R.O.W. IS SUBJECT TO APPROVAL BY VDOT. NO CANOPY CREDIT TAKEN.)
- PROPOSED CATEGORY III DECIDUOUS TREE
- PROPOSED CATEGORY II DECIDUOUS TREE
- PROPOSED CATEGORY III EVERGREEN TREE
- PROPOSED CATEGORY II EVERGREEN TREE
- PROPOSED SHRUBS
- PROPOSED RPA REFORESTATION
- TREE PRESERVATION AREA (1.25 CREDIT)
- TREE PRESERVATION AREA (1.00 CREDIT)

LANDSCAPE OVERVIEW

**ONE UNIVERSITY**  
CDP/FDP/PARTIAL PCA  
BRADDOCK DISTRICT  
FAIRFAX COUNTY, VIRGINIA

DATE: OCT., 2018

SHEET 28 OF 38

SCALE: 1" = 60'

FILE No. RZ-12964

PLANDATE 11-15-18  
02-19-19  
04-05-19

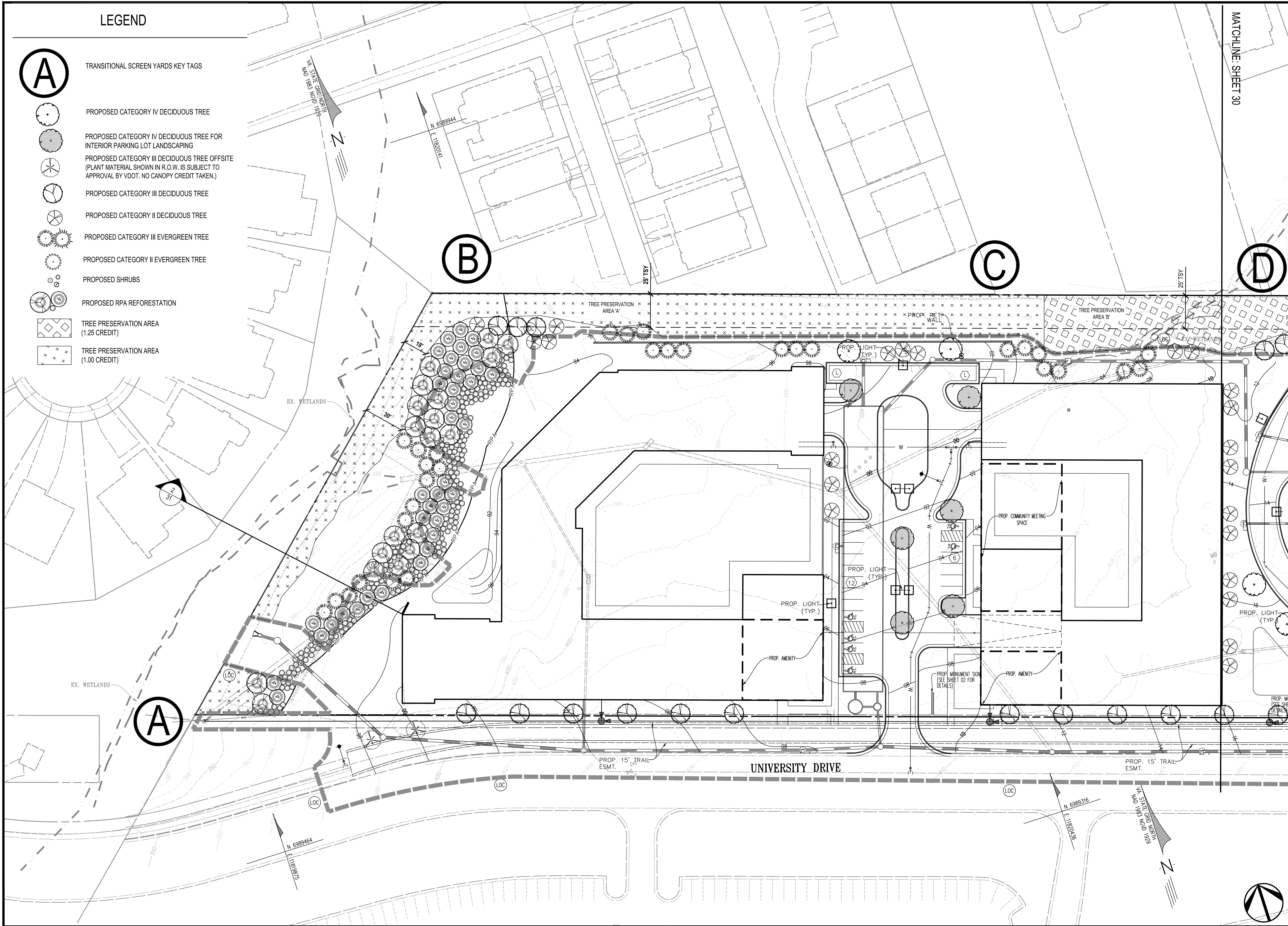
Urban, Ltd.  
2200 TECHNOLOGY CT  
CHANTILLY, VA 20151  
TEL: 703.642.2366  
FAX: 703.376.7888  
www.urban-lltd.com

Planner-Engineer-Landscape Architect-Land Surveyor

No.	DATE	DESCRIPTION

LEGEND

- (A)** TRANSITIONAL SCREEN YARDS KEY TAGS
- PROPOSED CATEGORY IV DECIDUOUS TREE
- PROPOSED CATEGORY IV DECIDUOUS TREE FOR INTERIOR PARKING LOT LANDSCAPING
- PROPOSED CATEGORY III DECIDUOUS TREE OFFSITE (PLANT MATERIAL SHOWN IN R.O.W. IS SUBJECT TO APPROVAL BY VDOT. NO CANOPY CREDIT TAKEN.)
- PROPOSED CATEGORY III DECIDUOUS TREE
- PROPOSED CATEGORY II DECIDUOUS TREE
- PROPOSED CATEGORY III EVERGREEN TREE
- PROPOSED CATEGORY II EVERGREEN TREE
- PROPOSED SHRUBS
- PROPOSED RPA REFORESTATION
- TREE PRESERVATION AREA (1.25 CREDIT)
- TREE PRESERVATION AREA (1.00 CREDIT)

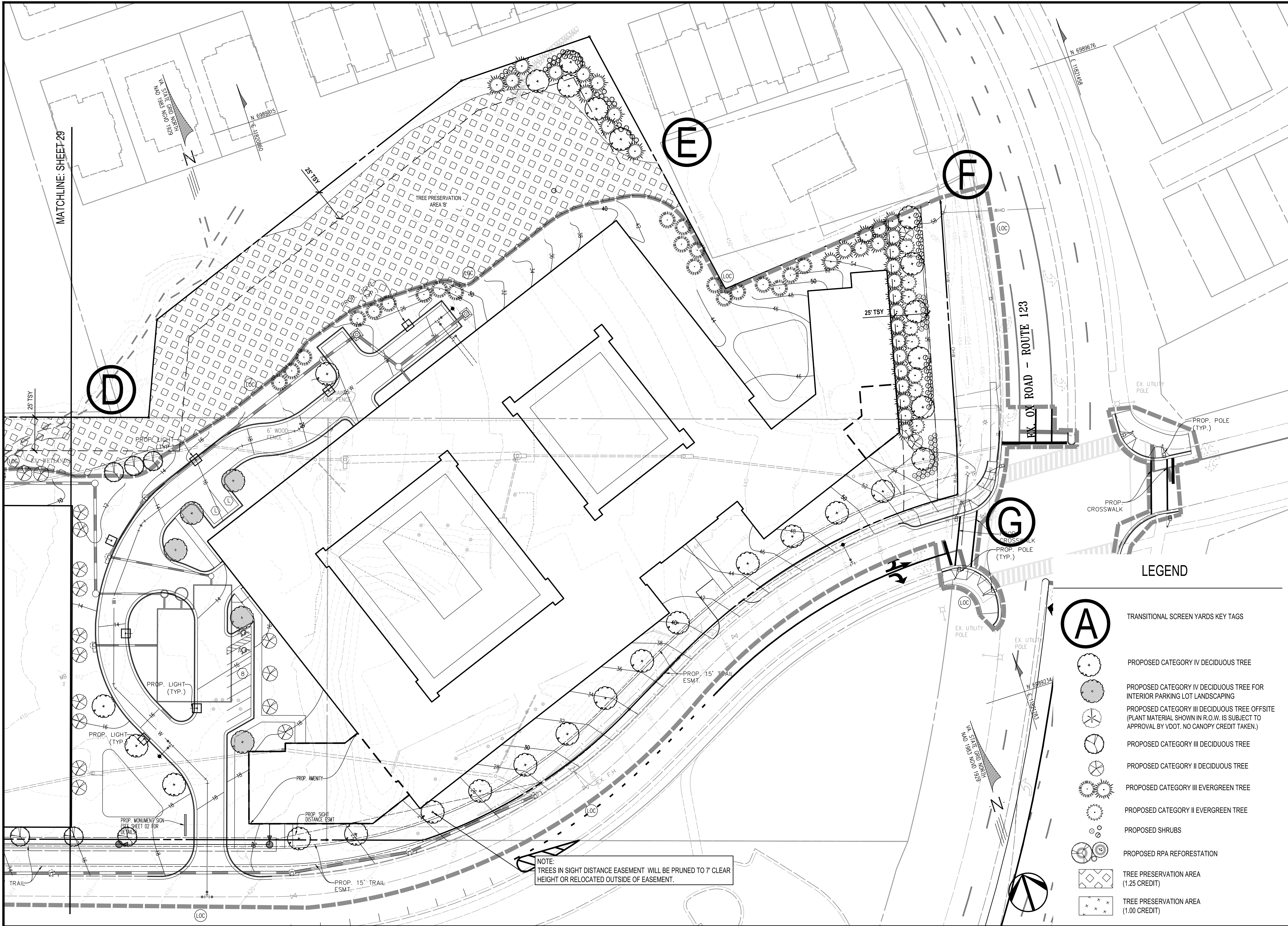


MATCHLINE: SHEET 30

<p>LANDSCAPE PLAN</p> <p><b>ONE UNIVERSITY CDP/FDPP/PARTIAL PCA</b></p> <p>BRADDOCK DISTRICT FAIRFAX COUNTY, VIRGINIA</p> <p>DATE: OCT., 2018</p> <p>SCALE: 1" = 30'</p>	<p>PLANDATE</p> <p>11-15-18 02-19-19 04-05-19</p> <p>Urban, Ltd. 2000 TECHNOLOGY CT CHANTILLY, VA 20151 TEL: 703.642.2366 FAX: 703.376.7888 www.urban-lltd.com</p> <p><b>urban</b> Planners-Engineers-Landscape Architects-Land Surveyors</p> <p><b>John Lightle</b> Lic. No. 1957 04/05/2019</p>	<p>REVISIONS</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>No.</th> <th>DATE</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	No.	DATE	DESCRIPTION							<p>SHEET 29 OF 38</p> <p>FILE No. RZ-12964</p>
No.	DATE	DESCRIPTION										

Urban, Ltd. - J:\\_G055\OneUniversity\B-Engineering\Entitlement\CDP-FDPP-SPEX\12964-33-LANDSCAPE.dwg [29 LANDSCAPE PLAN] April 05, 2019 - 11:00am yetsri

Urban, Ltd. - J:\JOBS\OneUniversity\B-Engineering\Entitlement\CDP-FDP-SPEX\12964-33-LANDSCAPE.dwg [30 LANDSCAPE PLAN] April 05, 2019 - 11:00am yetsri



MATCHLINE: SHEET-29

D

E

F

G

EX. OX ROAD - ROUTE 123

NOTE:  
TREES IN SIGHT DISTANCE EASEMENT WILL BE PRUNED TO 7' CLEAR HEIGHT OR RELOCATED OUTSIDE OF EASEMENT.

LEGEND

- (A)** TRANSITIONAL SCREEN YARDS KEY TAGS
- PROPOSED CATEGORY IV DECIDUOUS TREE
- PROPOSED CATEGORY IV DECIDUOUS TREE FOR INTERIOR PARKING LOT LANDSCAPING
- PROPOSED CATEGORY III DECIDUOUS TREE OFFSITE (PLANT MATERIAL SHOWN IN R.O.W. IS SUBJECT TO APPROVAL BY VDOT. NO CANOPY CREDIT TAKEN.)
- PROPOSED CATEGORY III DECIDUOUS TREE
- PROPOSED CATEGORY II DECIDUOUS TREE
- PROPOSED CATEGORY III EVERGREEN TREE
- PROPOSED CATEGORY II EVERGREEN TREE
- PROPOSED SHRUBS
- PROPOSED RPA REFORESTATION
- TREE PRESERVATION AREA (1.25 CREDIT)
- TREE PRESERVATION AREA (1.00 CREDIT)

LANDSCAPE PLAN <b>ONE UNIVERSITY CDP/FDP/PARTIAL PCA</b> BRADDOCK DISTRICT FAIRFAX COUNTY, VIRGINIA		DATE: OCT., 2018
SHEET 30 OF 38		SCALE: 1" = 30'
FILE No. RZ-12964		
PLAN DATE 11-15-18 02-19-19 04-05-19	Urban, Ltd. 2200 TECHNOLOGY CT CHANTILLY, VA 20151 TEL: 703.642.2366 FAX: 703.376.7888 www.urban-lltd.com	DESIGNER DATE NO.
 Planners-Engineers-Landscape Architects-Land Surveyors		REVISIONS



TREE PRESERVATION TARGET CALCULATIONS	
Gross Site Area (s.f.)	472,187
Pre-Development Area of Existing Tree Canopy (s.f.)	207,411
Percentage of Gross Site Area Covered by Existing Tree Canopy	44%
<b>Tree Preservation Target</b>	
10-Year Tree Canopy Requirement Percentage (per PFM Table 12.4)	10%
10-Year Tree Canopy Required (s.f.) (See "Overall 10-Year Tree Canopy Calculations" Table)	47,219
Percentage of the 10-Year Tree Canopy Requirement that <u>Should</u> be Met Through Tree Preservation (This is the "Tree Preservation Target")	44%
Area of the 10-Year Tree Canopy Requirement that <u>Should</u> be Met Through Tree Preservation (s.f.)	20,776
Area of the 10-Year Tree Canopy Requirement that <u>Will</u> be Met Through Tree Preservation (s.f.) (See "Tree Preservation Calculations" Table)	71,750
Proposed Percentage of 10-Year Tree Canopy Requirement that <u>Will</u> be Met Through Tree Preservation	152%
<b>Tree Preservation Target is met (%)...</b>	<b>152%</b> is greater than... <b>44%</b>

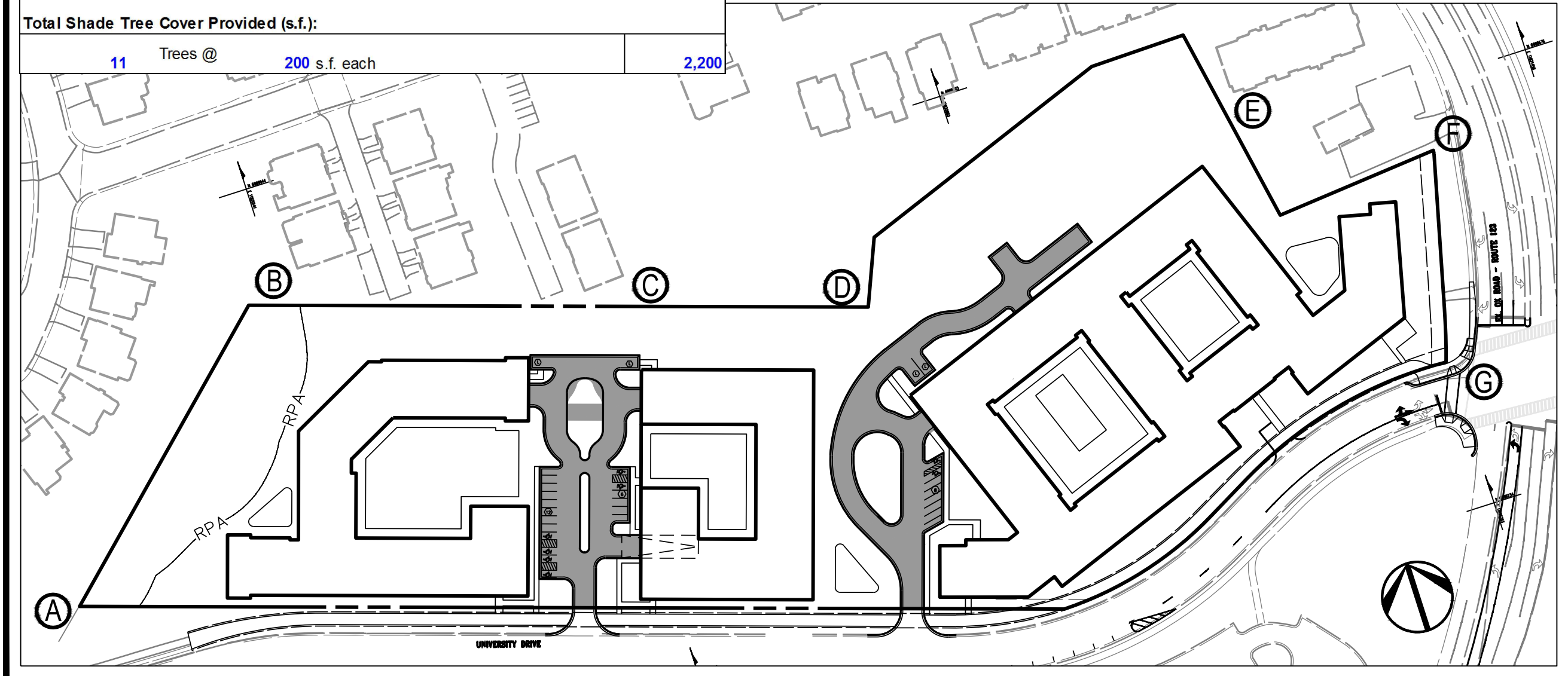
10-YEAR TREE CANOPY REQUIREMENT CALCULATIONS	
Gross Site Area (s.f.)	472,187
Zone: [PRM]	Use: [DWELLING, MULTIFAMILY] (Group 3)
Tree Canopy Required (s.f.)	47,219
<b>10-YEAR TREE CANOPY PROVIDED</b>	
Total Canopy Area Provided Through Tree Preservation (s.f.)	71,750
Total Proposed Canopy Area Provided (s.f.)	21,250
<b>Total Tree Canopy Provided (s.f.)</b>	<b>93,000</b>

PLANT SCHEDULE					
QTY	SYMBOL	TREE TYPE	10 YR CANOPY COVERAGE	SIZE	CANOPY COVERAGE (SF)
60		CATEGORY IV DECIDUOUS	200 SQUARE FEET	2" Cal.	12,000
2		OFFSITE CATEGORY III DECIDUOUS	0 SQUARE FEET	2" Cal.	0
18		CATEGORY III DECIDUOUS	150 SQUARE FEET	2" Cal.	2,700
66		CATEGORY II DECIDUOUS	100 SQUARE FEET	2" Cal.	6,600
31		CATEGORY III EVERGREEN	150 SQUARE FEET	8" HT.	4,650
52		CATEGORY III EVERGREEN	125 SQUARE FEET	6" HT.	6,500
8		CATEGORY II EVERGREEN	100 SQUARE FEET	8" HT.	800
<b>TOTAL 10 YR CANOPY COVERAGE</b>			<b>21,250</b>		

INTERIOR PARKING LANDSCAPING	
Area to be Counted (s.f.) (See Detail 1 for Interior Parking Schematic)	40,163
Interior Landscaping Required (s.f.) (5%)	2,008
<b>Total Shade Tree Cover Provided (s.f.):</b>	<b>2,200</b>

INTERIOR PARKING AREA

TRANSITIONAL SCREENING YARD KEY TAG



**1 INTERIOR PARKING AREA**  
SCALE: 1" = 120'

TRANSITIONAL SCREENING AND BARRIER CALCULATIONS																		
Onsite Use: MULTI FAMILY RESIDENTIAL (Group 3)	Adjacent Use (Group)	REQUIRED				PROVIDED												
		Transitional Screening Barrier	Width (l.f.)	Length (l.f.)	Area (s.f.)	10-Year Canopy Cover (75%) Shrubs	Barrier	Width (l.f.)	Length (l.f.)	Gross TSY Area (s.f.)	Area of Forested TSY (s.f.)	Net 10-Year Canopy Cover Required (s.f.)	Provided Trees			Total Canopy	Shrubs	TSY Modifications and Notes
													QTY	TYPE	CANOPY			
Buffer A-B: Dwellings, Detached (Group 1)	TYPE 1	25	360	9,000	6,750 MIN 70% Evergreen= 4,725 108 Shrubs	Existing Chainlink Fence to Remain	VARIES	360	VARIES	6,927	N/A	16 32 16	Cat III Evergreen Cat II Deciduous Cat IV Deciduous	125.00 s.f. 100.00 s.f. 200.00 s.f.	2,000 s.f. 3,200 s.f. 3,200 s.f.	175	TRANSITIONAL SCREENING MODIFICATION (SEE NOTE 1)	
Buffer B-C: Dwellings, Attached (Group 2)	TYPE 1	25	420	10,500	7,875 MIN 70% Evergreen= 5,513 126 Shrubs	N/A	25	420	10,500	9,812	N/A	2 3	Cat II Deciduous Cat III Deciduous	100.00 s.f. 150.00 s.f.	200 s.f. 450 s.f.	0		
Buffer C-D: Dwellings, Detached (Group 1)	TYPE 1	25	200	5,000	3,750 MIN 70% Evergreen= 2,625 60 Shrubs	Existing Chainlink Fence to Remain	25	200	5,000	5,000	N/A	TREE PRESERVATION AREA			0			
Buffer D-E: Dwellings, Attached (Group 2)	TYPE 1	25	595	14,875	11,156 MIN 70% Evergreen= 7,810 179 Shrubs	N/A	25	595	14,875	9,139	2,017	10 4	Cat III Evergreen Cat IV Deciduous	150.00 s.f. 200.00 s.f.	1,500 s.f. 800 s.f.	34		
Buffer E-F: Church (Group 4)	N/A				N/A													
Buffer F-G: Dwellings, Attached (Group 1)	TYPE 1	25	225	5,625	4,219 MIN 70% Evergreen= 2,954 68 Shrubs	N/A	25	225	5,625	0	4,219	15 8 2 6	Cat III Evergreen Cat II Evergreen Cat II Deciduous Cat IV Deciduous	150.00 s.f. 100.00 s.f. 100.00 s.f. 200.00 s.f.	2,250 s.f. 800 s.f. 200 s.f. 1,200 s.f.	68		
Buffer A-G: GMU Field House (Group 11)	N/A				N/A													

TREE PRESERVATION			
Tree Preservation Target (%)	44%		
Tree Preservation Target (s.f.)	20,776		
Tree Save Areas	S.F.	Credit Factor	Total
Area 'A'	18,000	1.00	18,000
Area 'B'	43,000	1.25	53,750
<b>Total Tree Preservation Provided (s.f.)</b>	<b>71,750</b>		

NOTE:  
• ADDITIONAL CANOPY CREDIT MULTIPLIER TAKEN FOR TREES LOCATED OUTSIDE THE RPA THAT MEET POST-DEVELOPMENT MINIMUM FOREST SIZE. (PFM 12-0310.3 (B))

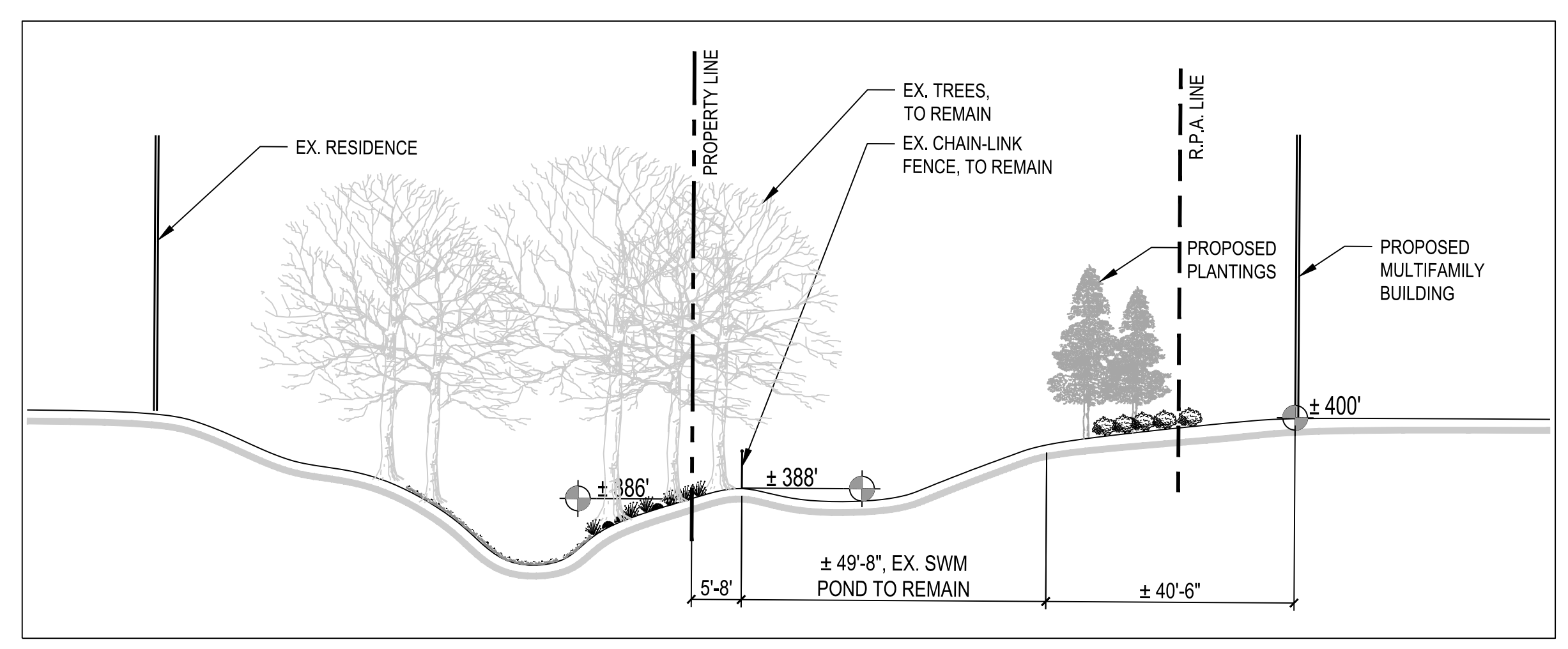
RPA RESTORATION CALCULATIONS (PER CBPO SECTION 118-3-3 (F))	
PROPOSED DISTURBANCE OF EX. RPA:	
STORM OUTFALL	2,270 SQ. FT. OR 0.052 AC.
REMOVAL OF EX. STRUCTURES	5,890 SQ. FT. OR 0.135 AC.
TOTAL AREA OF DISTURBANCE	8,160 SQ. FT. OR 0.189 AC.
RESTORATION REQUIREMENTS:	
LANDSCAPE REQUIRED:	
OVERSTORY TREE (100/AC)	19
UNDERSTORY TREE (200/AC)	38
SHRUBS (1,089 SHRUBS/AC)	206
LANDSCAPE PROVIDED:	
OVERSTORY TREES	19
UNDERSTORY TREES	38
SHRUBS	206

- INVASIVE PLANT MANAGEMENT**
- SOME OF THE EXISTING FORESTED AREAS ON SITE CONTAIN INVASIVE SPECIES. AT TIME OF FINAL SITE PLAN, THE APPLICANT WILL PREPARE AN INVASIVE PLANT MANAGEMENT PLAN FOR ALL TREE PRESERVATION AREAS ON SITE AND FOR ALL AREAS WITHIN THE RPA.
  - THE INVASIVE PLANT MANAGEMENT PLAN SHALL INCLUDE, AT A MINIMUM, THE FOLLOWING COMPONENTS:
    - TARGETED INVASIVE AND/OR NOXIOUS PLANT SPECIES
    - SPECIFIC AREAS OF MANAGEMENT CONTROL
    - METHODS OF PLANT MANAGEMENT
    - METHODS OF PLANT DISPOSAL
    - TIMING OF MANAGEMENT PLAN
    - MONITORING SCHEDULE
    - REFORESTATION METHODS
    - DURATION OF PLAN

**TRANSITIONAL SCREEN YARD MODIFICATION REQUEST**

- THE APPLICANT REQUESTS A Z.O. MODIFICATION (SEC. 13-303) FOR THE TRANSITIONAL SCREENING YARD ALONG THE WESTERN BOUNDARY, DELINEATED AS BUFFER A-B ON THE LANDSCAPE PLAN. THE JUSTIFICATION FOR THIS MODIFICATION REQUEST IS BASED ON THE ALLOWED CIRCUMSTANCES PER Z.O. SECTION 13-305(3) WHEREIN THE LAND BETWEEN THE PROPERTY LINE AND THE PROPOSED USE HAS BEEN DESIGNED TO MITIGATE VIEWS WITH THE PRESERVATION OF EXISTING TREES ALONG THE PROPERTY LINE AND THE PLACEMENT OF PROPOSED PLANTINGS AT THE TOP OF THE STORMWATER MANAGEMENT POND, AS SHOWN IN THE "BUFFER A-B SECTION" BELOW. THE PROPOSED PLANTINGS SHALL CONSIST OF A BIO-DIVERSE MIX OF NATIVE SPECIES MADE UP OF THE RPA RESTORATION PLANTINGS AUGMENTED WITH EVERGREEN TREES, AS SHOWN ON THE LANDSCAPE PLAN.

- GENERAL NOTES**
- THIS PLAN IS SCHEMATIC AND REFLECTS THE GENERAL CHARACTERISTIC 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. DRAWINGS ARE NOT FOR CONSTRUCTION.
  - TO SATISFY THE MINIMUM 10-YEAR CANOPY COVERAGE, TREE CATEGORY DESIGNATION, TREE LOCATION, TREE QUANTITY AND TREE PRESERVATION AREAS ARE SUBJECT TO CHANGE BASED ON MODIFICATIONS AND VARIATIONS THAT WILL OCCUR WITH FINAL SITE PLAN.
  - ADDITIONAL CREDIT MULTIPLIERS AT THIS TIME. APPLICANT RESERVES THE RIGHT TO INCLUDE TREES THAT QUALIFY FOR ADDITIONAL TREE CANOPY CREDIT MULTIPLIERS. THIS INFORMATION WILL BE PROVIDED AT TIME OF SITE PLAN.
  - INTERIOR PARKING LOT TREES ARE SCHEMATIC. FINAL QUANTITY AND LOCATION MAY BE MODIFIED AT TIME OF SITE PLAN. TOTAL CANOPY PROVIDED WILL EXCEED THE MINIMUM 5% REQUIRED COVERAGE.



**2 BUFFER A-B SECTION**  
SCALE: 1" = 20'

LANDSCAPE COMPUTATIONS

ONE UNIVERSITY CDP/FDPP/PARTIAL PCA  
BRADDOCK DISTRICT  
FAIRFAX COUNTY, VIRGINIA

DATE: OCT., 2018  
SCALE: AS SHOWN  
C.I.= N/A

SHEET 31 OF 38  
FILE No. RZ-12964

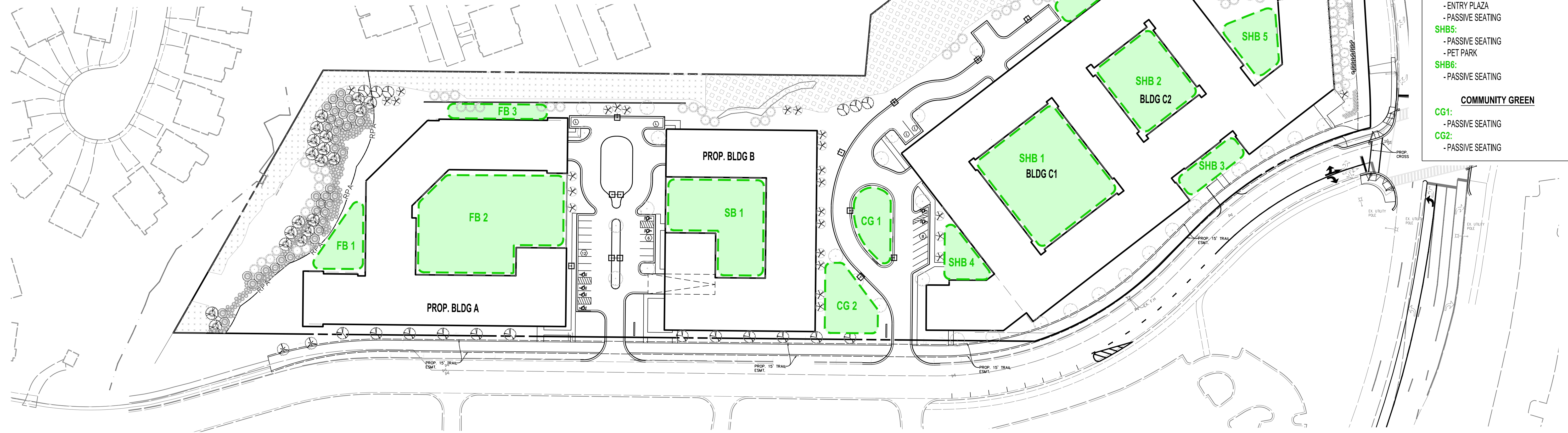
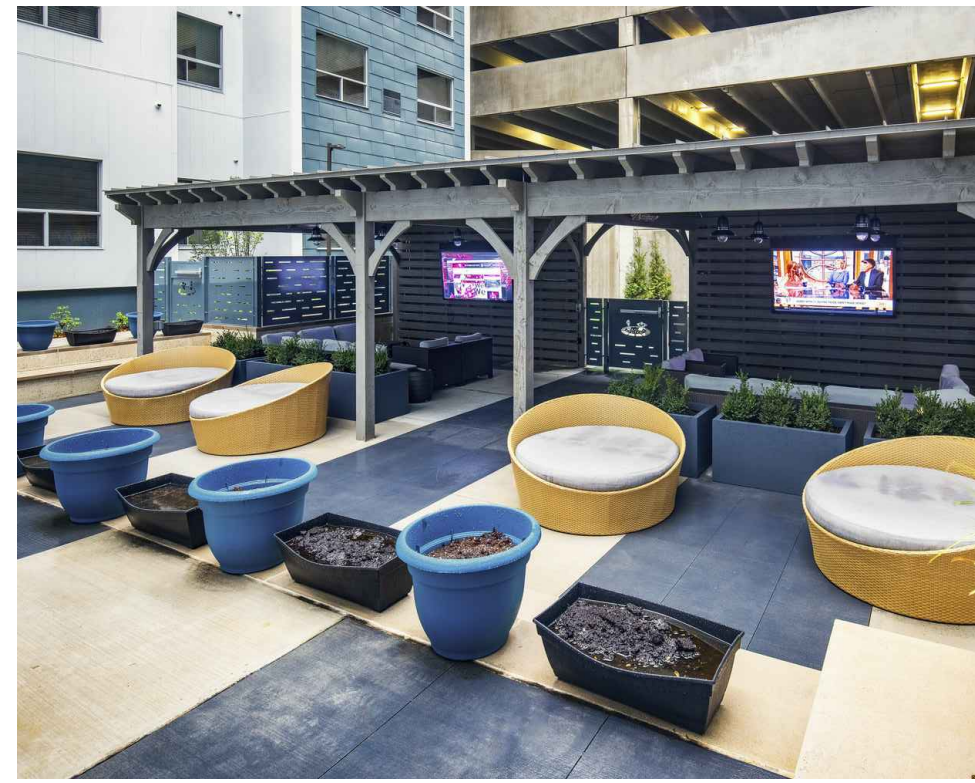
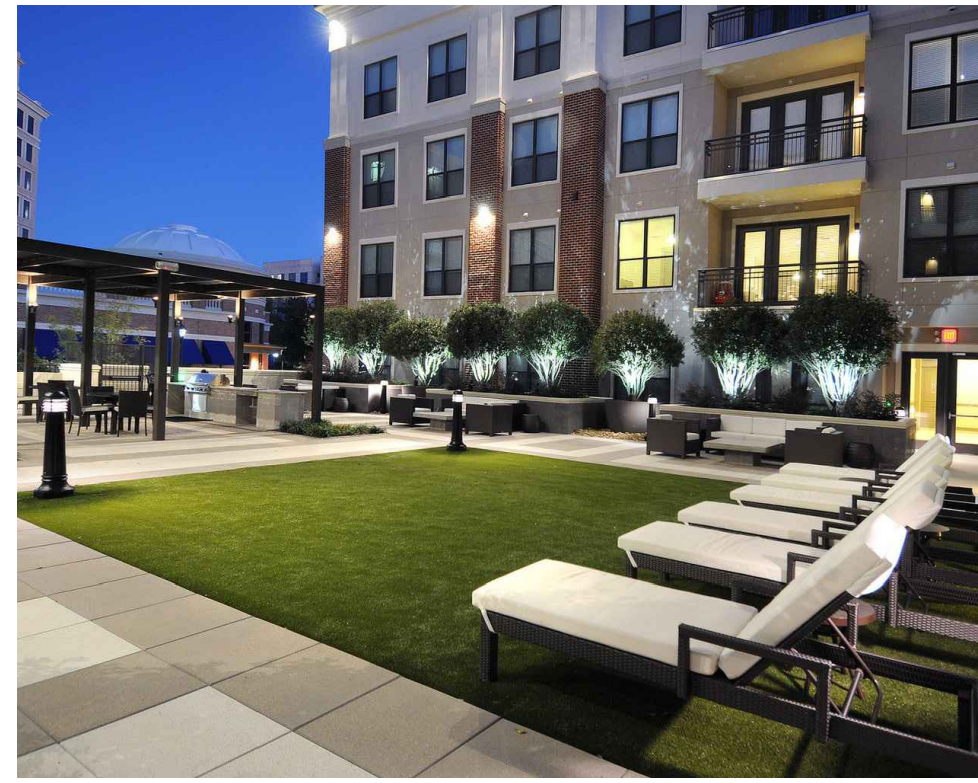
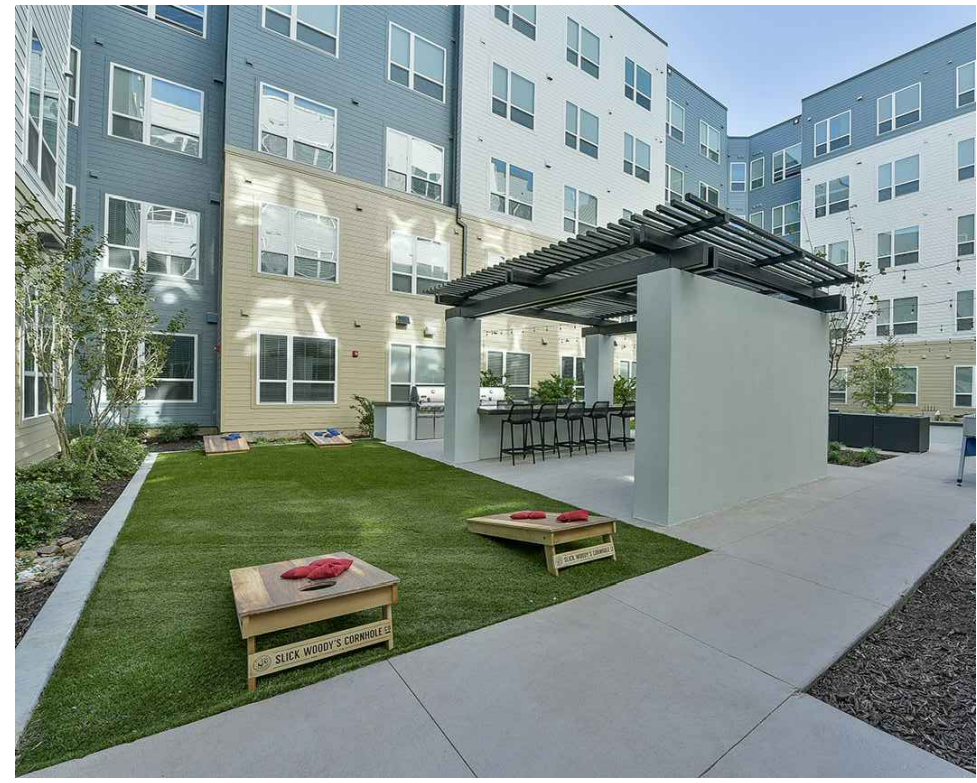
urban  
Planners-Engineers-Landscape Architects-Join Survivors

Urban, Ltd. - J. JOBS (OneUniversity)B-Engineering\Entitlement\CDP-FDP-SPEX\12964-33-LANDSCAPE COMP\ April 05, 2019 - 11:00am\_yelosri

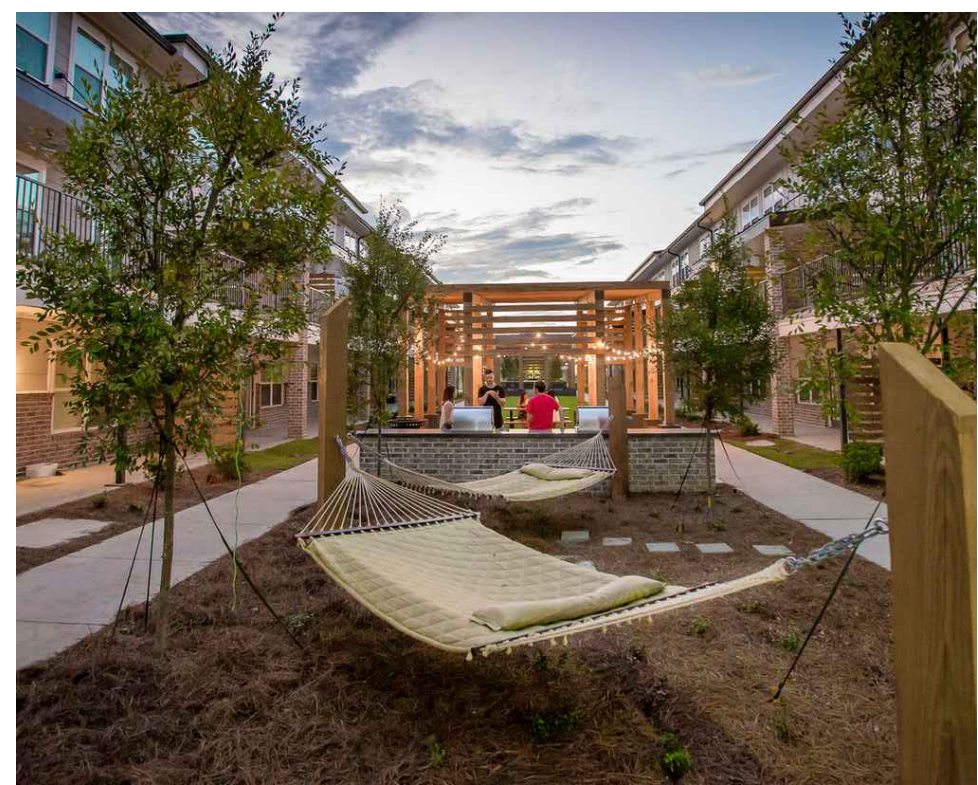
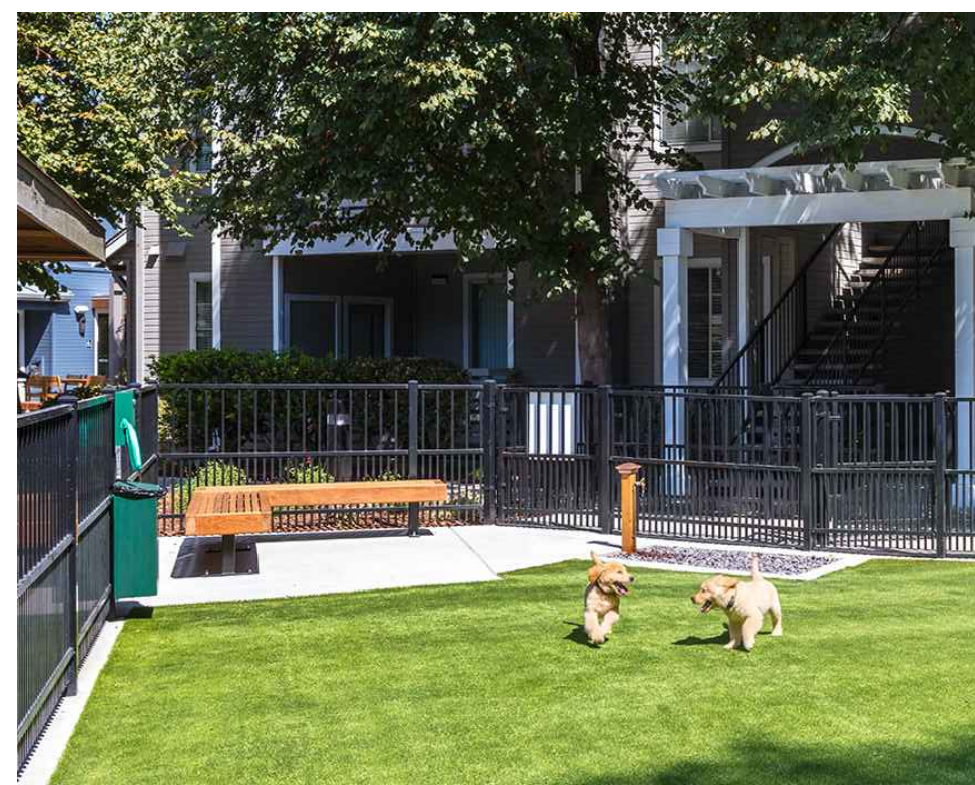
PLANDATE 11-15-18  
02-19-19  
04-05-19

Urban, Ltd.  
2000 TECHNOLOGY CT  
CHANTILLY, VA 20151  
TEL: 703.642.2366  
FAX: 703.376.7888  
www.urban-lltd.com

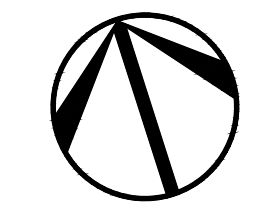
Urban, Ltd. - J:\JOBS\OneUniversity\B-Engineering\Entitlement\CDP-FDP-SPEX\12964-34-AMENITIES.dwg [32 AMENITIES] April 05, 2019 - 11:00am yelsiri



- SITE AMENITIES**
- FAMILY BUILDING**
- FB1:**
- POOL
  - SPLASH PAD
- FB2:**
- GRILL
  - PASSIVE SEATING
  - SHADE STRUCTURE
  - TOT LOT
- FB3:**
- SMALL PET PARK
- SENIOR BUILDING**
- SB1:**
- GRILL
  - SHADED PLAZA
  - SMALL PET PARK
  - COMMUNITY GARDEN
- STUDENT HOUSING BUILDING**
- SHB1:**
- GRILL
  - SHADE STRUCTURE
  - SMALL PET PARK
  - ACTIVE YARD
  - PASSIVE SEATING
  - LOUNGE SEATING
  - POOL
- SHB2:**
- GRILL
  - PASSIVE SEATING
  - LOUNGE SEATING
- SHB3:**
- ENTRY PLAZA
  - PASSIVE SEATING
- SHB4:**
- ENTRY PLAZA
  - PASSIVE SEATING
- SHB5:**
- PASSIVE SEATING
  - PET PARK
- SHB6:**
- PASSIVE SEATING
- COMMUNITY GREEN**
- CG1:**
- PASSIVE SEATING
- CG2:**
- PASSIVE SEATING

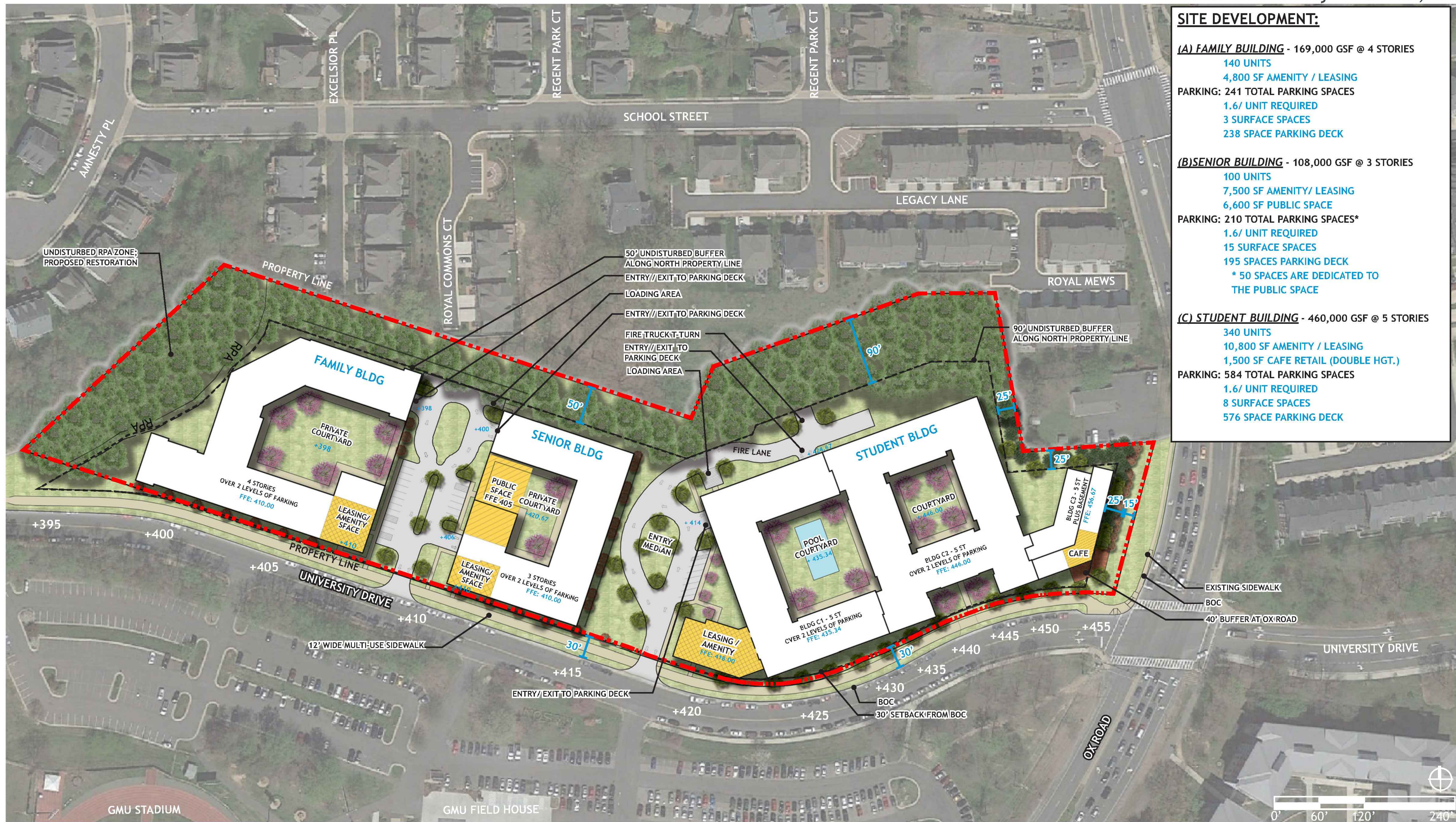


PLAN DATE	11-15-18 02-05-19	DESCRIPTION	REVISIONS
No.	DATE		
Urban, Ltd. 2200 TECHNOLOGY CT CHANTILLY, VA, 20151 TEL: 703.642.2366 FAX: 703.378.7888 www.urban-lltd.com			
urban Planners • Engineers • Landscape Architects • Joint Services			
<b>AMENITIES</b> ONE UNIVERSITY CDP/FDP/PARTIAL PCA BRADDOCK DISTRICT FAIRFAX COUNTY, VIRGINIA		DATE: OCT., 2018 SCALE: 1" = 60' C.I. = 2'	
SHEET 32 OF 38		FILE No. RZ-12964	



# Proposed Site Plan

## One University - Fairfax, VA



### SITE DEVELOPMENT:

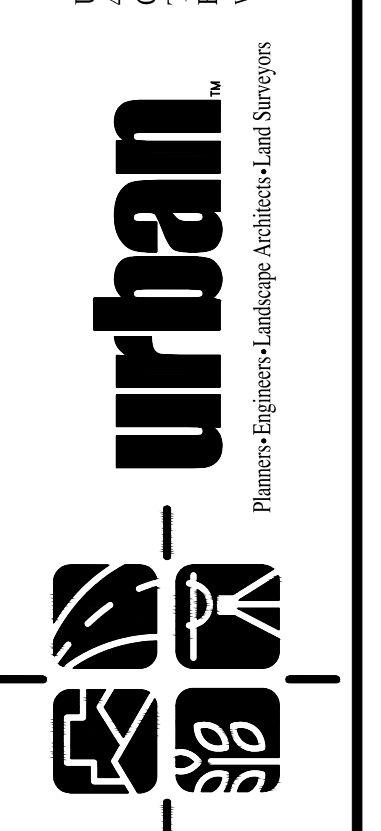
**(A) FAMILY BUILDING** - 169,000 GSF @ 4 STORIES  
 140 UNITS  
 4,800 SF AMENITY / LEASING  
 PARKING: 241 TOTAL PARKING SPACES  
 1.6/ UNIT REQUIRED  
 3 SURFACE SPACES  
 238 SPACE PARKING DECK

**(B) SENIOR BUILDING** - 108,000 GSF @ 3 STORIES  
 100 UNITS  
 7,500 SF AMENITY / LEASING  
 6,600 SF PUBLIC SPACE  
 PARKING: 210 TOTAL PARKING SPACES\*  
 1.6/ UNIT REQUIRED  
 15 SURFACE SPACES  
 195 SPACES PARKING DECK  
 \* 50 SPACES ARE DEDICATED TO THE PUBLIC SPACE

**(C) STUDENT BUILDING** - 460,000 GSF @ 5 STORIES  
 340 UNITS  
 10,800 SF AMENITY / LEASING  
 1,500 SF CAFE RETAIL (DOUBLE HGT.)  
 PARKING: 584 TOTAL PARKING SPACES  
 1.6/ UNIT REQUIRED  
 8 SURFACE SPACES  
 576 SPACE PARKING DECK

PLAN DATE	NO.	DATE	DESCRIPTION
11-15-18			
02-19-19			
04-05-19			

Urban, Ltd.  
 2200 TECHNOLOGY CT  
 CHANTILLY, VA, 20151  
 TEL: 703.642.2366  
 FAX: 703.376.7888  
 www.urban-lltd.com



COMMONWEALTH OF VIRGINIA  
 PROFESSIONAL ENGINEER  
 License No. 068790  
 04/05/2019

RENDERED SITE PLAN  
 ONE UNIVERSITY  
 CDP/FDP/PARTIAL PCA  
 BRADDOCK DISTRICT  
 FAIRFAX COUNTY, VIRGINIA  
 C.I. = N/A  
 DATE: OCT., 2018

RISE STRATFORD | 04.05.19 |

NILES BOLTON ASSOCIATES

FOR ILLUSTRATIVE PURPOSES ONLY!

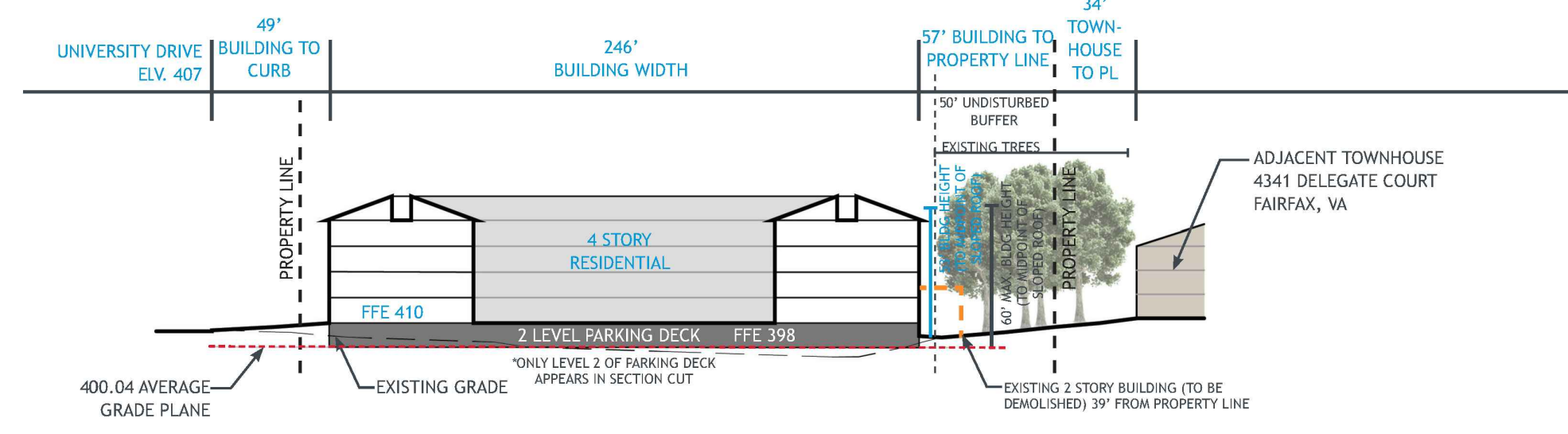
SHEET  
 33  
 OF  
 38  
 FILE No.  
 RZ-12964

Urban, Ltd. - J:\\_G085\OneUniversity\B-Engineering\Entitlement\CDP-FDP-SPEX\12964-40-ELEVATIONS.dwg [33 ARCHITECTURAL ELEVATIONS] April 05, 2019 - 11:00am yelosri

Urban, Ltd. - J:\085\OneUniversity\B-Engineering\Entitlement\CDP-FDP-SPEX\12964-40-ELEVATIONS.dwg [34-ARCHITECTURAL ELEVATION (5)] April 05, 2019 - 11:00am yelastri

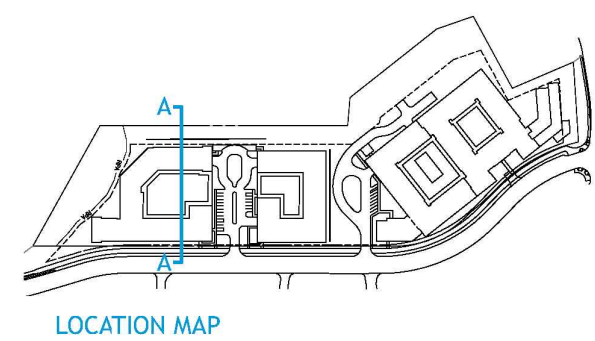
### Family Building One University - Fairfax, VA

### Senior Building One University - Fairfax, VA



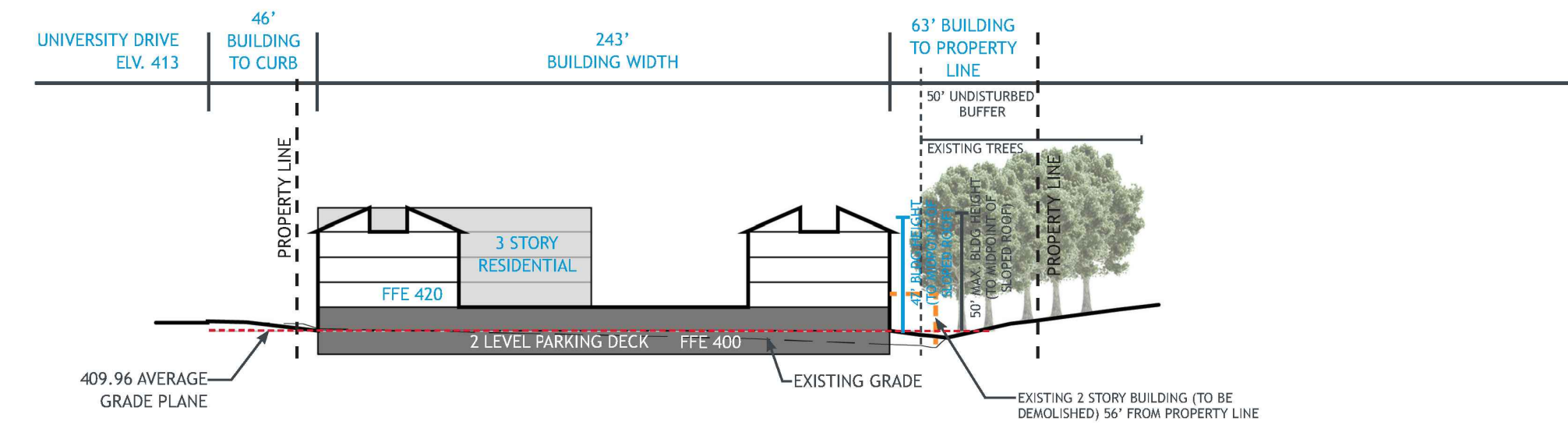
BUILDING A AVERAGE GRADE PLANE ELEVATION IS 400.04; MAXIMUM BUILDING HEIGHT FROM AVERAGE GRADE PLANE IS UP TO 60' MEASURED TO MIDPOINT OF SLOPED ROOF (UP FROM 50' AT PREVIOUS SUBMISSION)

SECTION AA



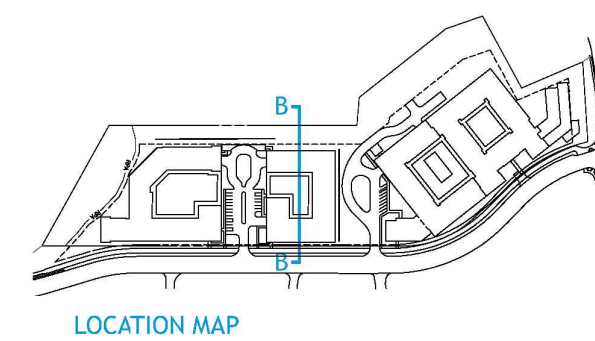
NILES BOLTON ASSOCIATES

RISE STRATFORD | 04.05.19 |



BUILDING B AVERAGE GRADE PLANE ELEVATION IS 409.96; MAXIMUM BUILDING HEIGHT FROM AVERAGE GRADE PLANE IS UP TO 50' MEASURED TO MIDPOINT OF SLOPED ROOF (DOWN FROM 55' AT PREVIOUS SUBMISSION)

SECTION BB



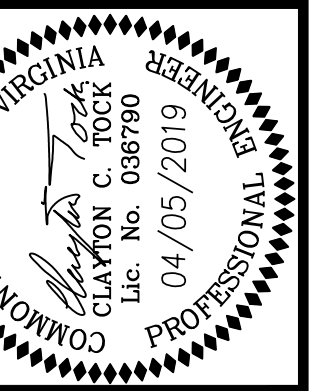
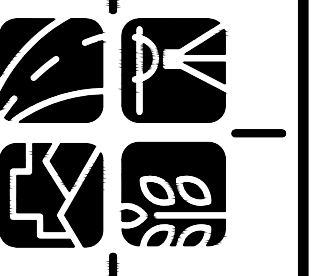
NILES BOLTON ASSOCIATES

RISE STRATFORD | 04.05.19 |

No.	DATE	DESCRIPTION

PLANDATE	
11-15-18	
02-19-19	
04-05-19	

Urban, Ltd.  
2000 TECHNOLOGY CT  
CHANTILLY, VA, 20151  
TEL: 703.642.2306  
FAX: 703.376.7888  
www.urban-lltd.com



SITE SECTIONS  
**ONE UNIVERSITY  
CDP/FDP/PARTIAL PCA**  
BRADDOCK DISTRICT  
FAIRFAX COUNTY, VIRGINIA

SCALE: N.T.S. C.I.= N/A

DATE: OCT., 2018

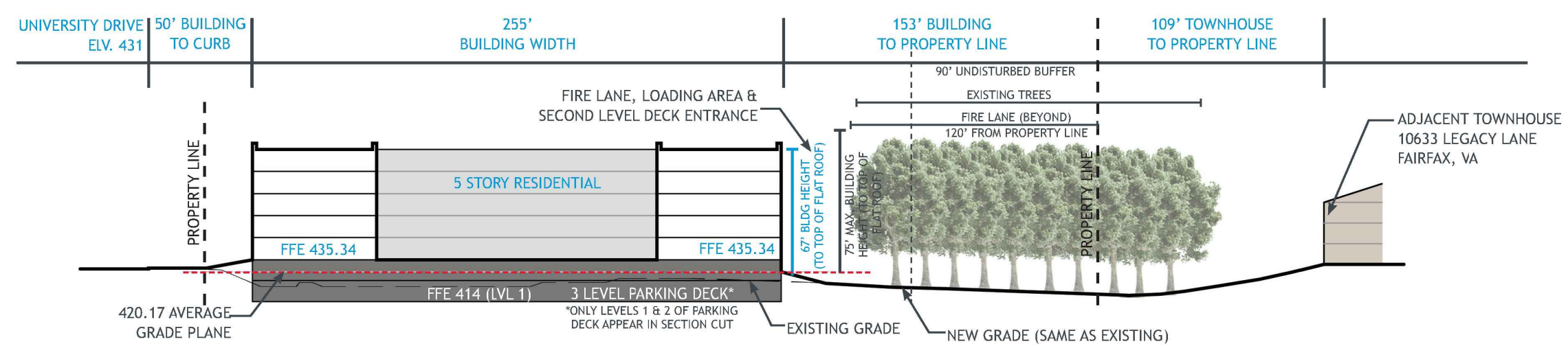
SHEET  
34  
OF  
38

FILE No.  
RZ-12964

FOR ILLUSTRATIVE PURPOSES ONLY!

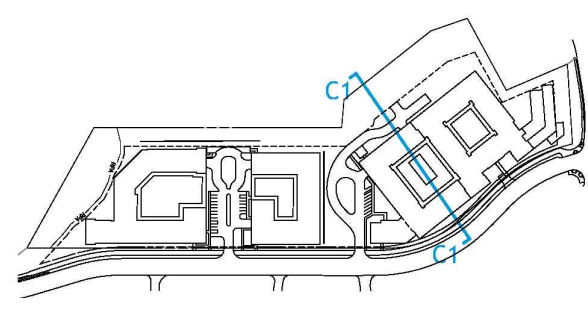
### Student Building C1

One University - Fairfax, VA



BUILDING C1 AVERAGE GRADE PLANE ELEVATION IS 420.17; MAXIMUM BUILDING HEIGHT FROM AVERAGE GRADE PLANE IS UP TO 75' MEASURED TO TOP OF FLAT ROOF (DOWN FROM 84' AT PREVIOUS SUBMISSION)

SECTION C1



LOCATION MAP

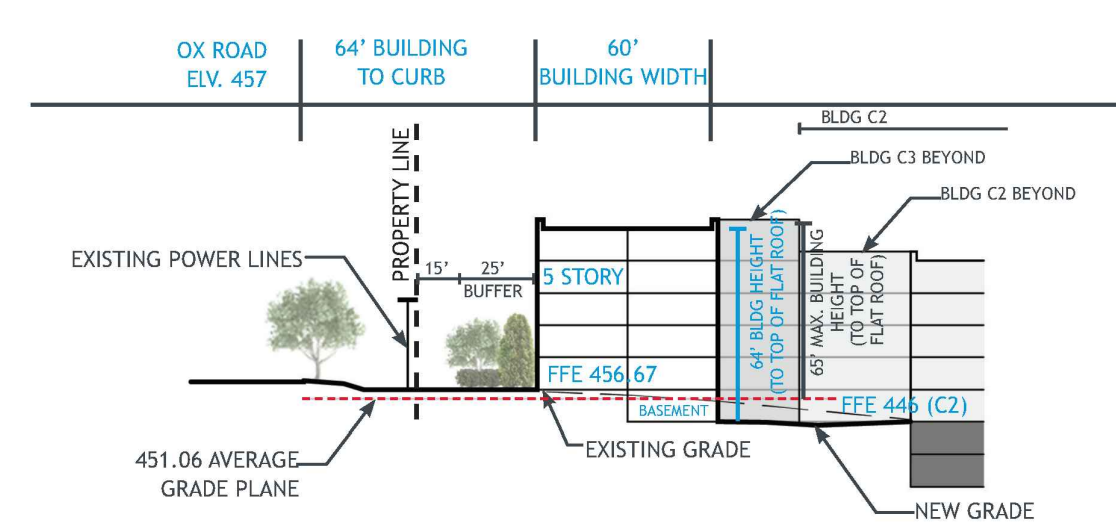
RISE STRATFORD | 04.05.19 |



NILES BOLTON ASSOCIATES

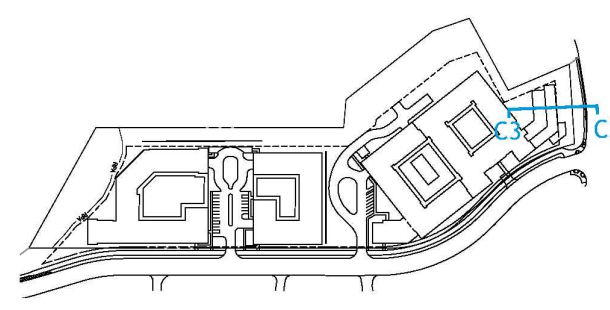
### Student Building C3

One University - Fairfax, VA



BUILDING C3 AVERAGE GRADE PLANE ELEVATION IS 451.06; MAXIMUM BUILDING HEIGHT FROM AVERAGE GRADE PLANE IS UP TO 65' MEASURED TO TOP OF FLAT ROOF (DOWN FROM 72' AT PREVIOUS SUBMISSION)

SECTION C3



LOCATION MAP

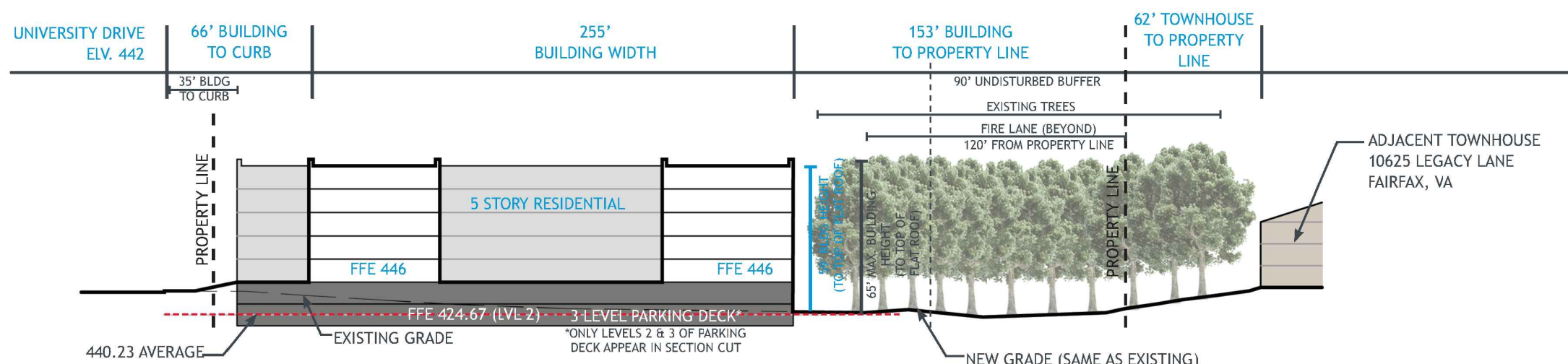
RISE STRATFORD | 04.05.19 |



NILES BOLTON ASSOCIATES

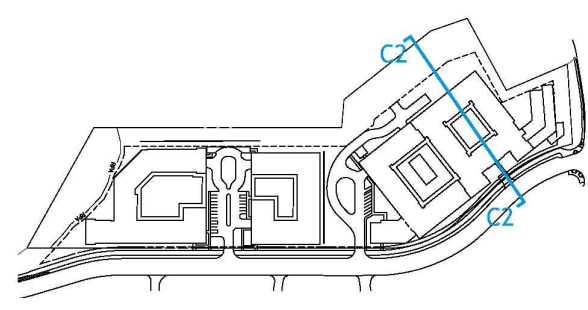
### Student Building C2

One University - Fairfax, VA



BUILDING C2 AVERAGE GRADE PLANE ELEVATION IS 440.23; MAXIMUM BUILDING HEIGHT FROM AVERAGE GRADE PLANE IS UP TO 65' MEASURED TO TOP OF FLAT ROOF (DOWN FROM 72' AT PREVIOUS SUBMISSION)

SECTION C2



LOCATION MAP

RISE STRATFORD | 04.05.19 |



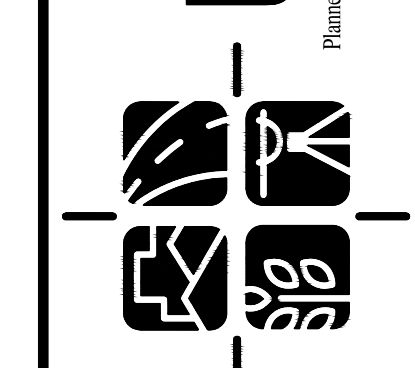
NILES BOLTON ASSOCIATES

No.	DATE	DESCRIPTION

PLAN DATE	DESCRIPTION
11-15-18	
02-19-19	
04-05-19	

Urban, Ltd.  
 4200 TECHNOLOGY CT  
 CHANTILLY, VA, 20151  
 TEL: 703.642.2366  
 FAX: 703.376.7888  
 www.urban-lltd.com

Planner-Engineer-Landscape-Architect-Jean Services



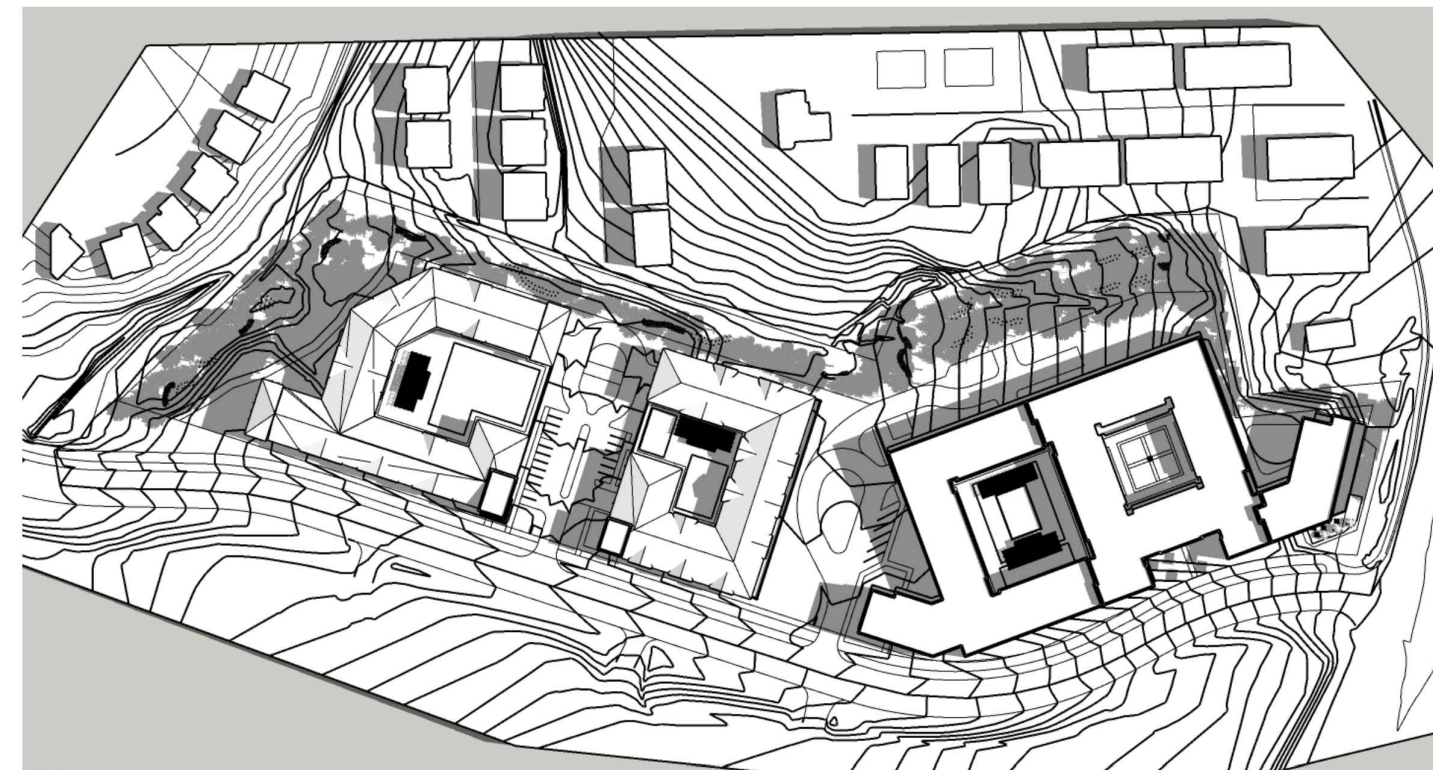
SITE SECTIONS  
 ONE UNIVERSITY  
 CDP/FDP/PARTIAL PCA  
 BRADDOCK DISTRICT  
 FAIRFAX COUNTY, VIRGINIA

SCALE: N.T.S. C.I.= N/A  
 DATE: OCT., 2018

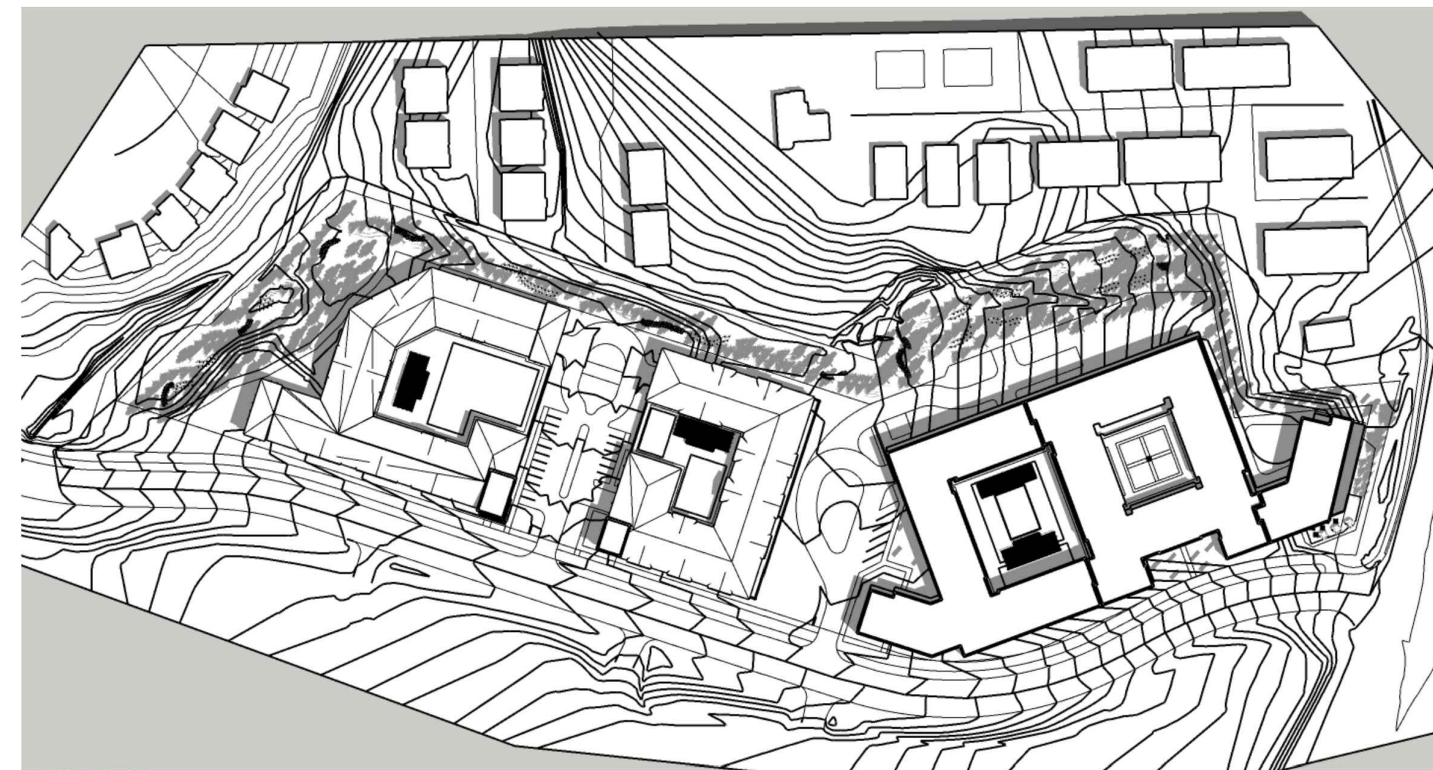
SHEET 35 OF 38  
 FILE No. RZ-12964

FOR ILLUSTRATIVE PURPOSES ONLY!

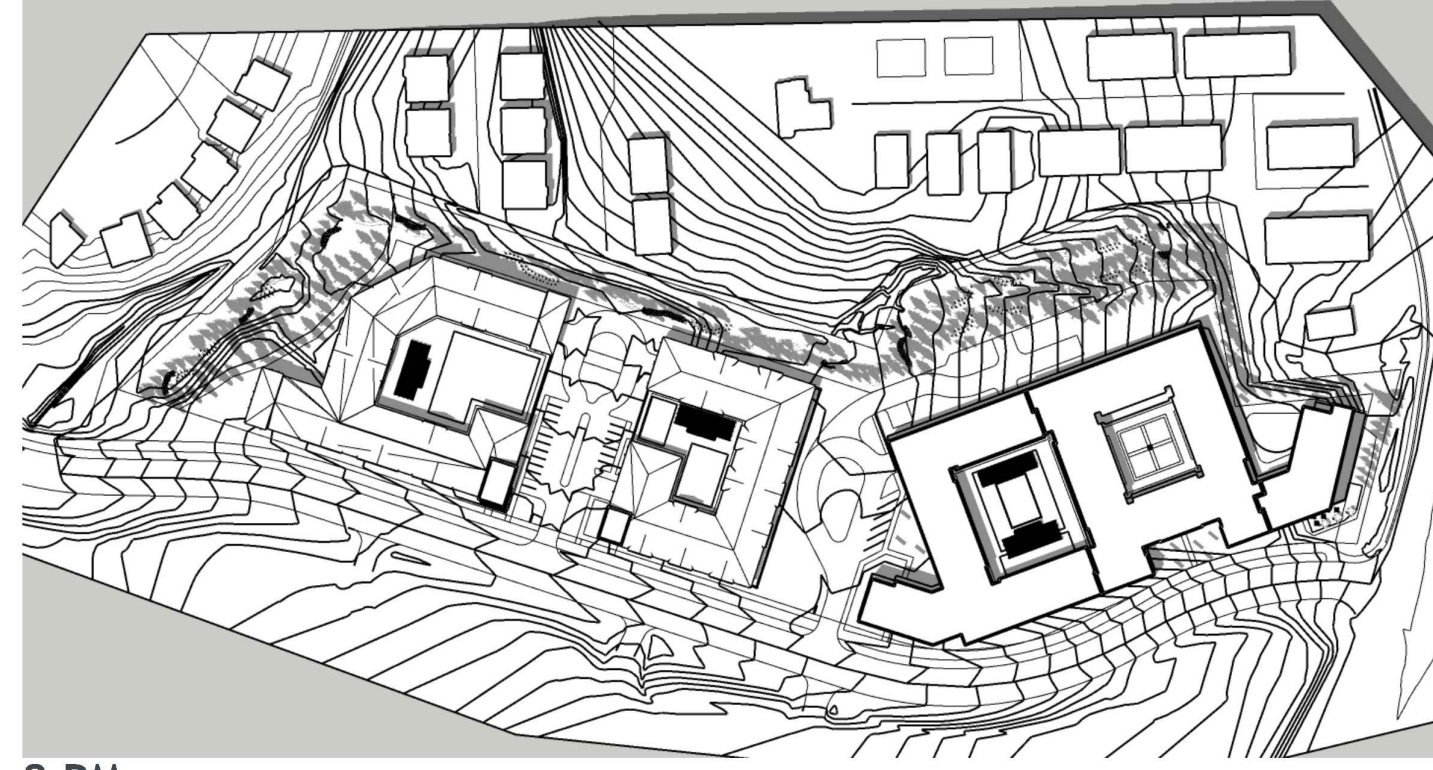
Summer Solstice Sun/Shade Study  
One University - Fairfax, VA



10 AM

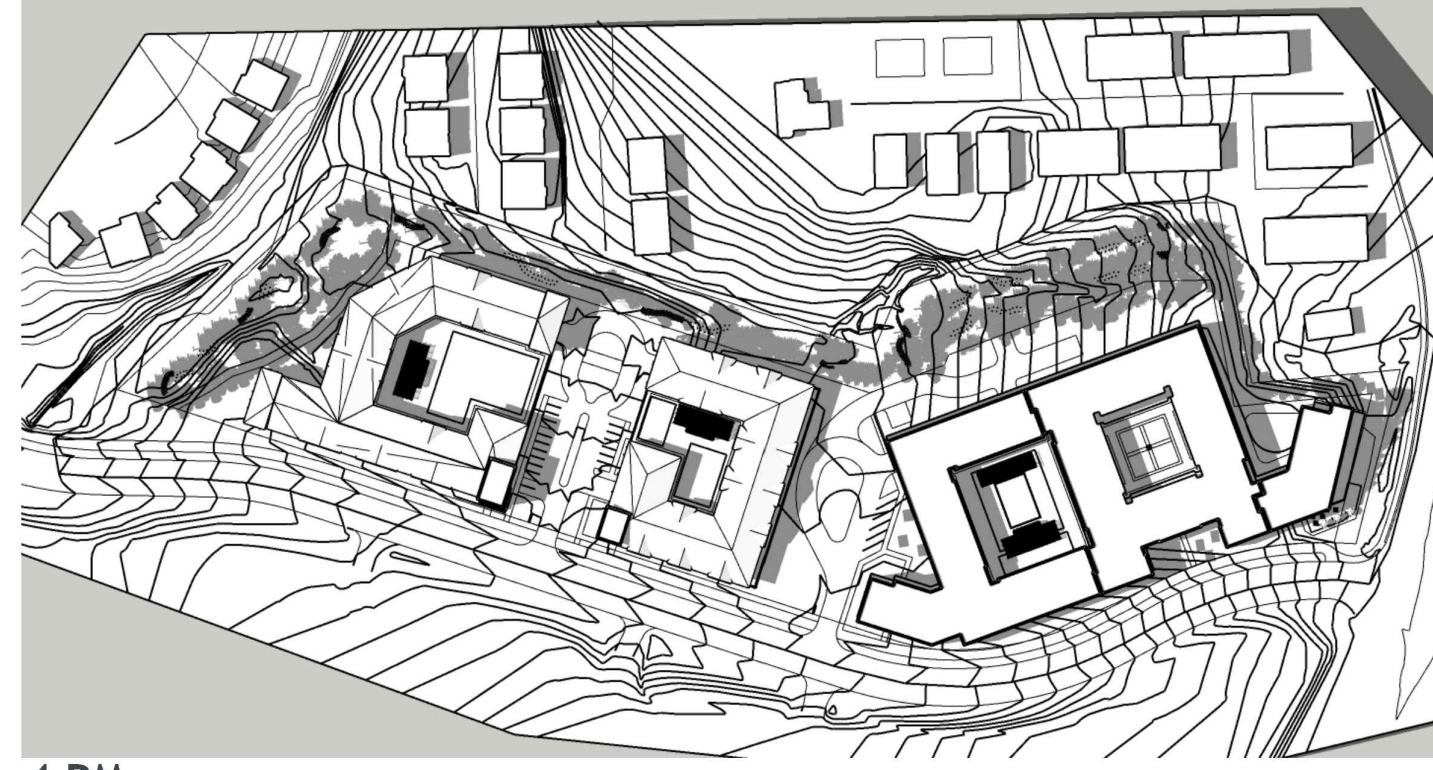


12 PM



2 PM

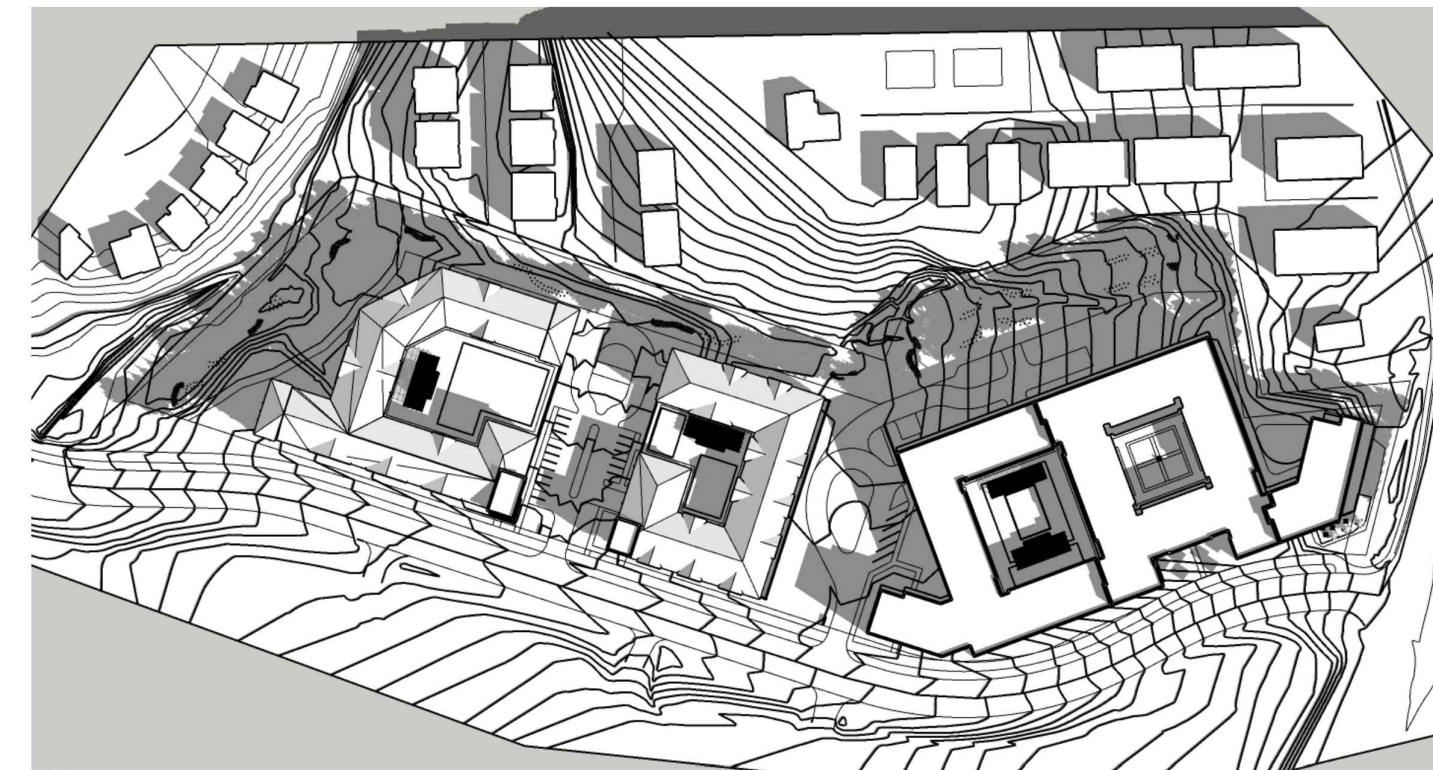
RISE STRATFORD | 04.05.19 |



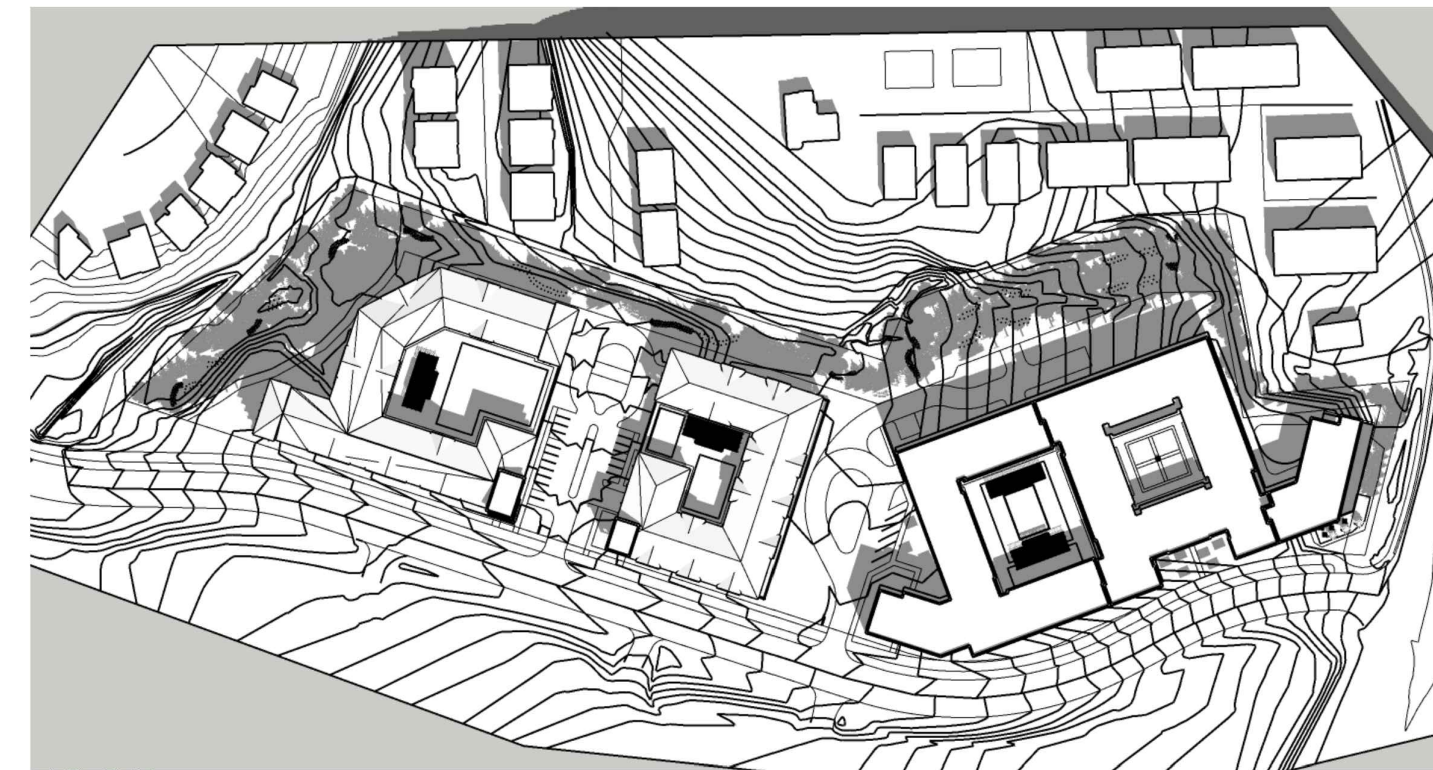
4 PM

NILES BOLTON ASSOCIATES

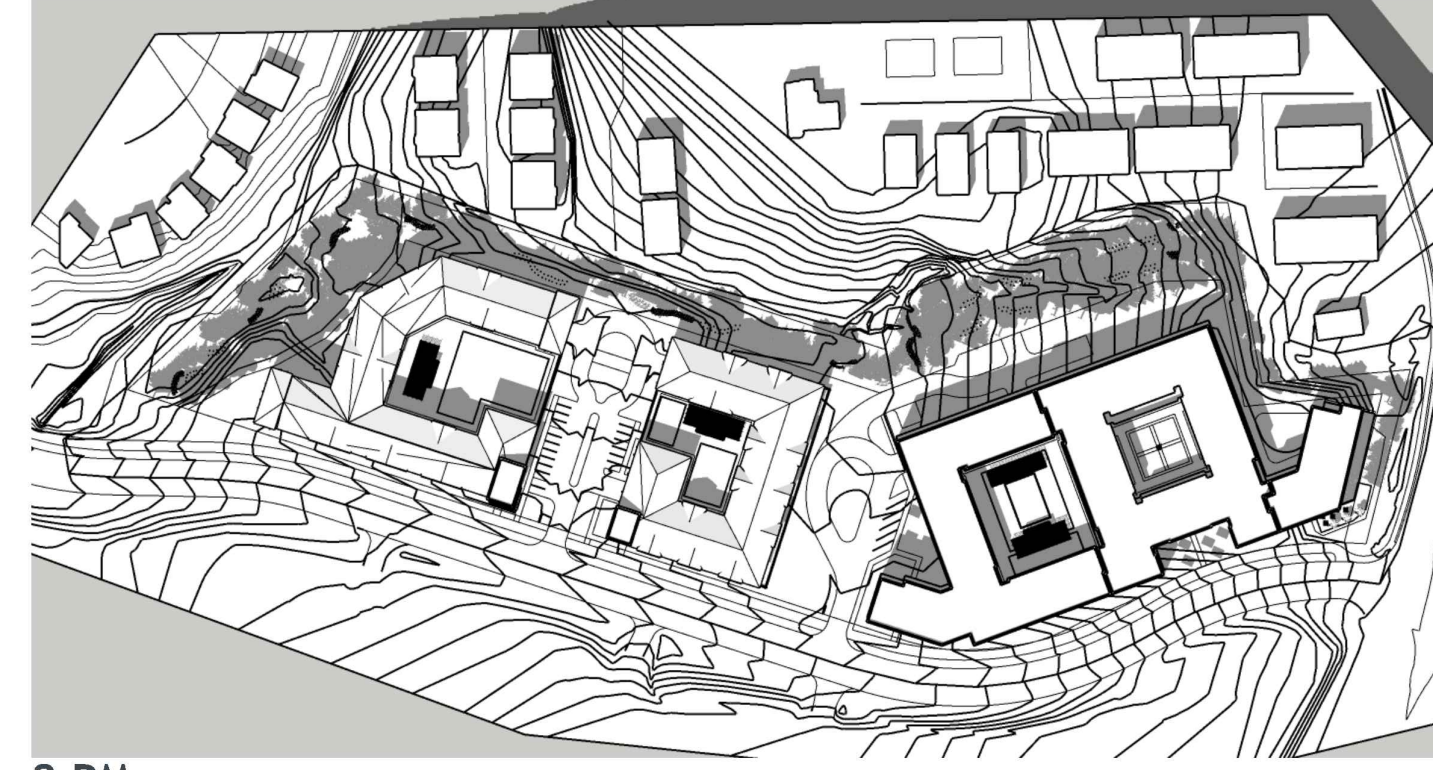
Fall Equinox Sun/Shade Study  
One University - Fairfax, VA



10 AM

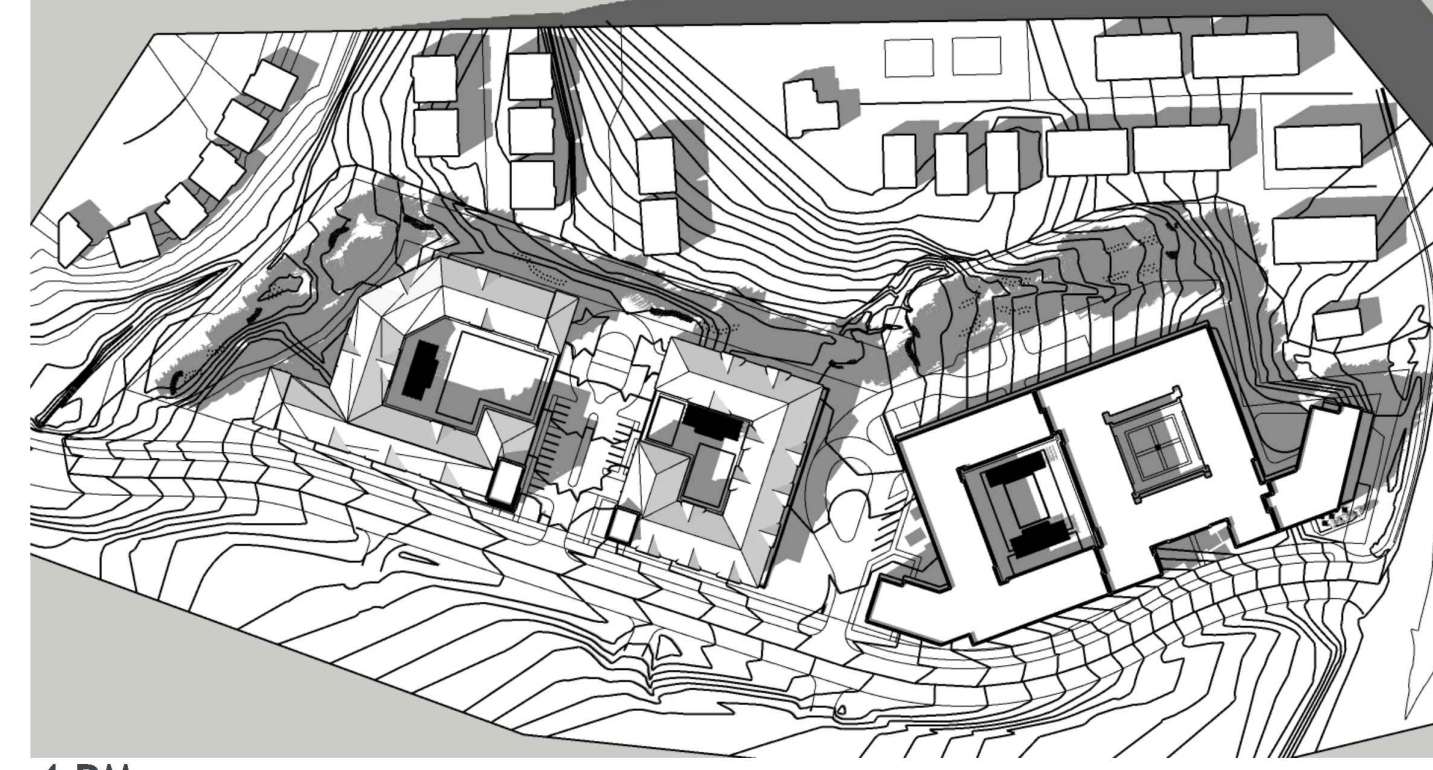


12 PM



2 PM

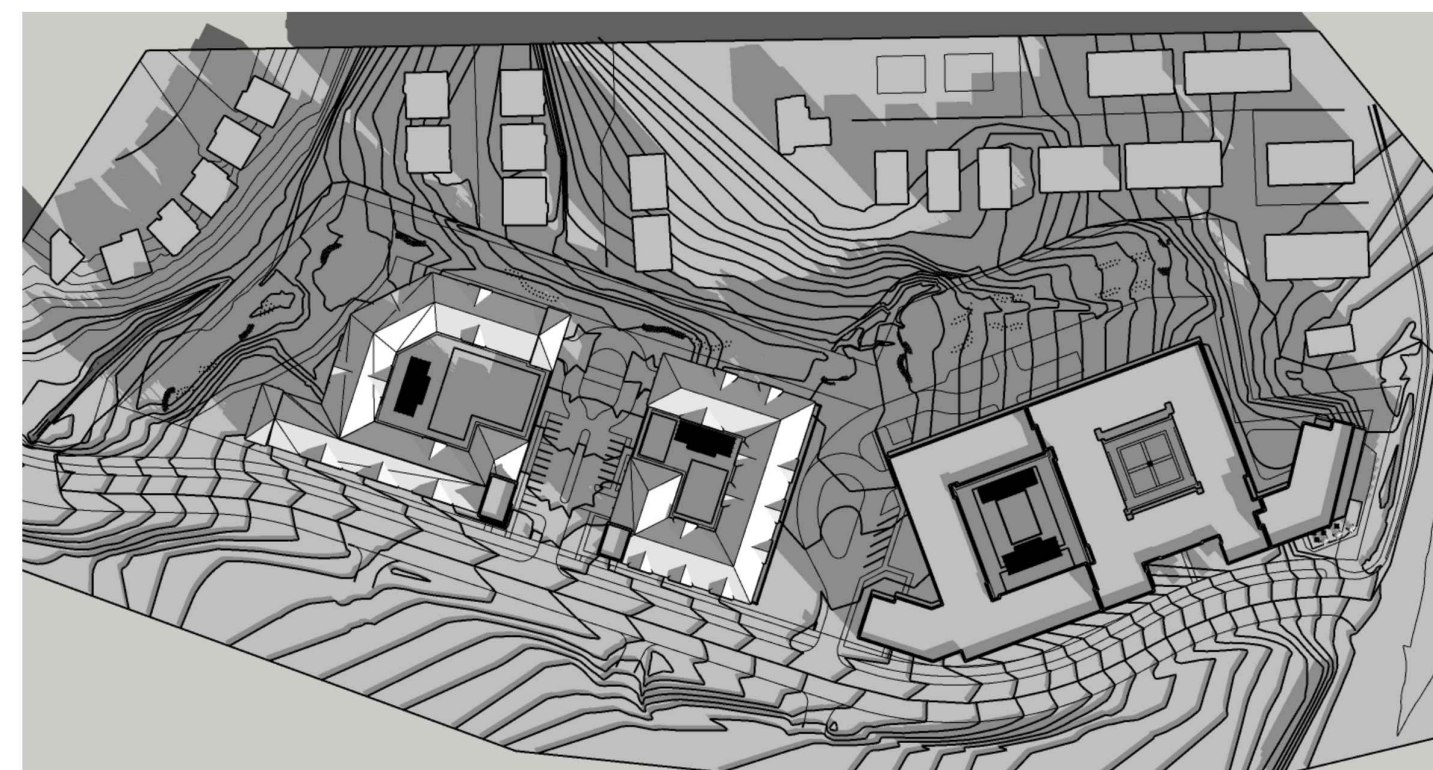
RISE STRATFORD | 04.05.19 |



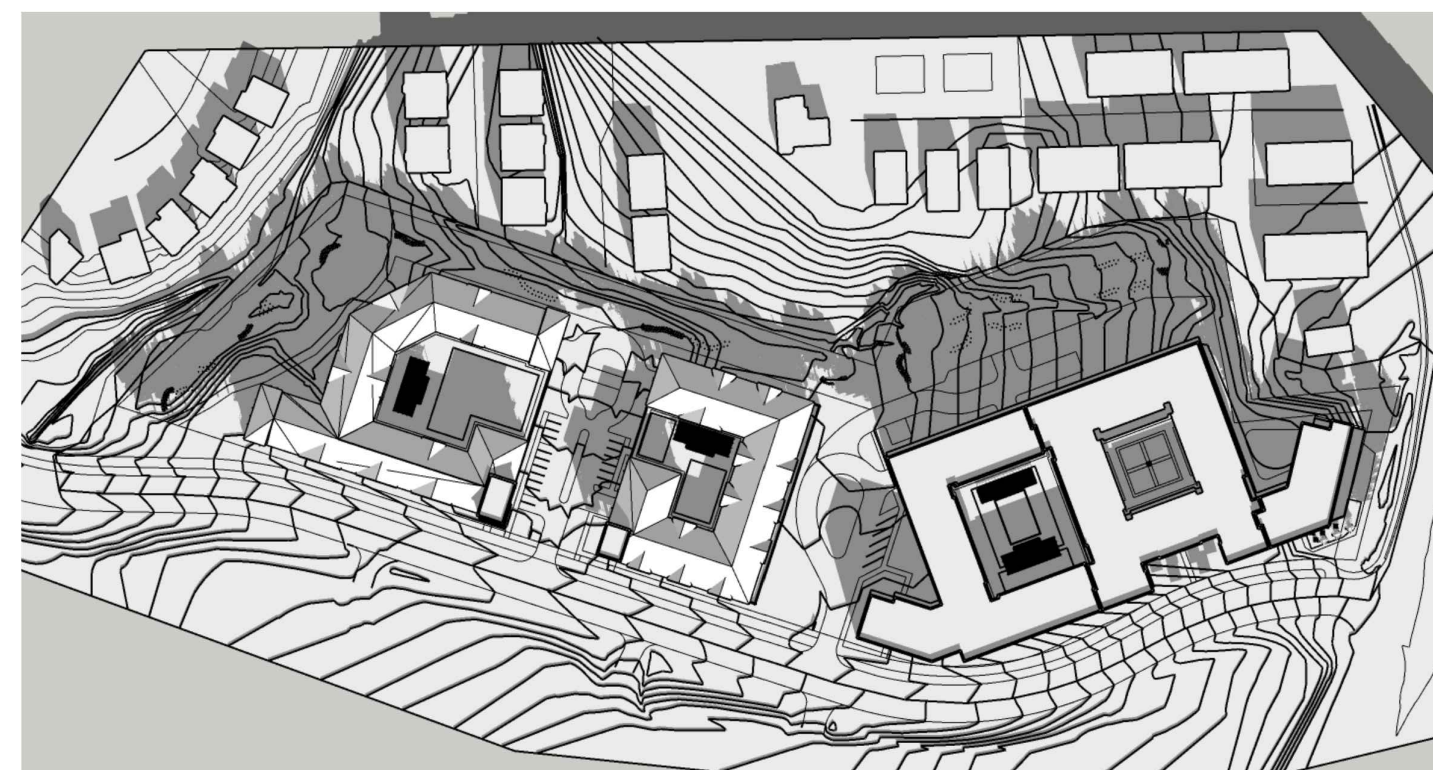
4 PM

NILES BOLTON ASSOCIATES

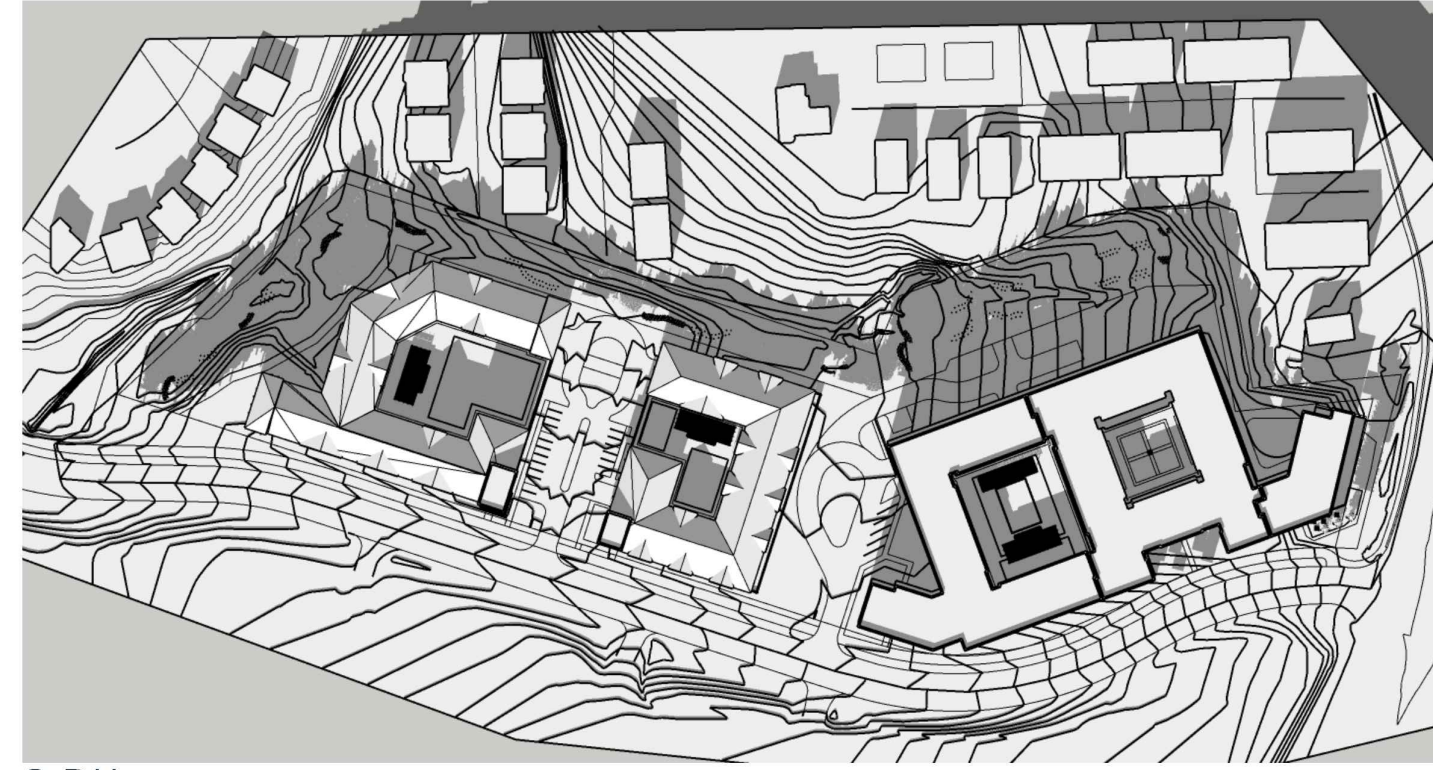
Winter Solstice Sun/Shade Study  
One University - Fairfax, VA



10 AM

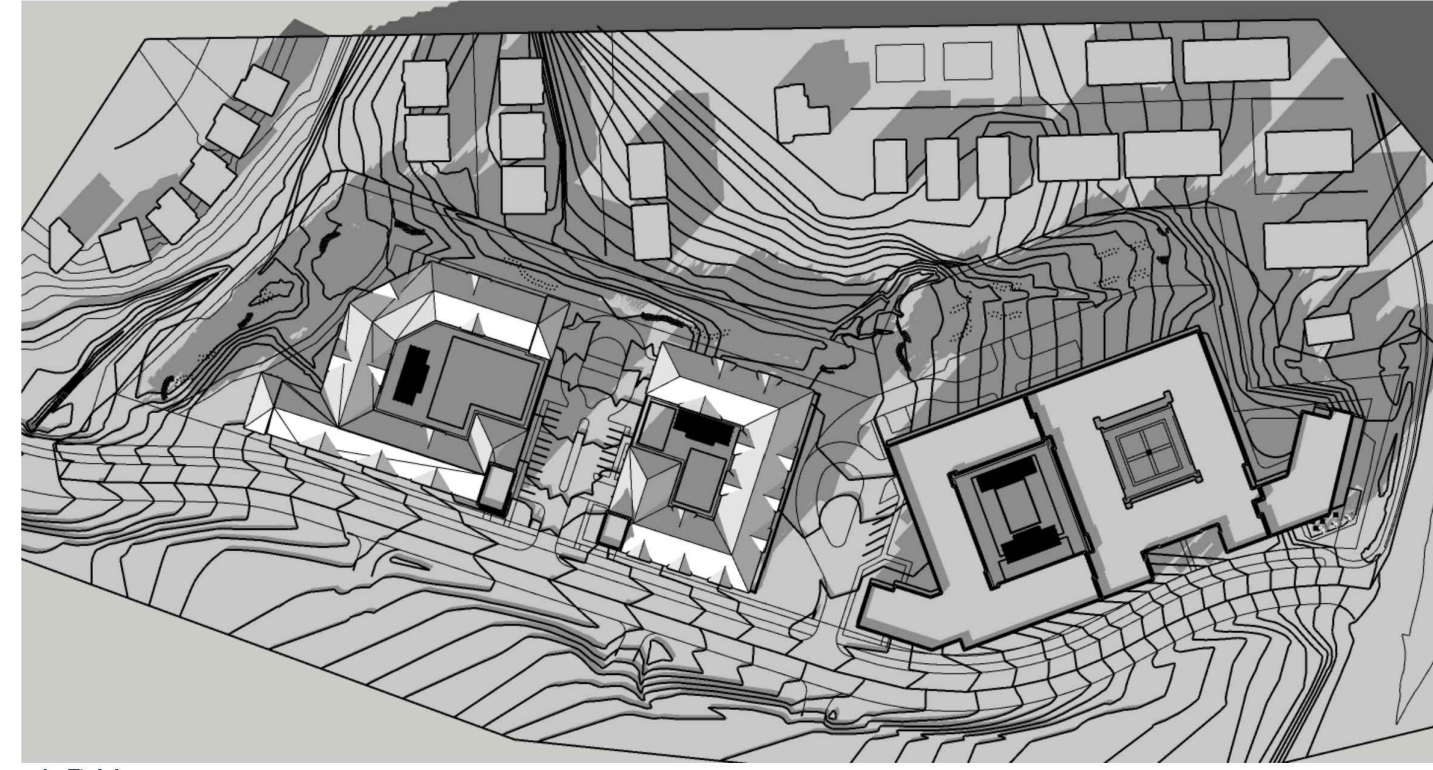


12 PM



2 PM

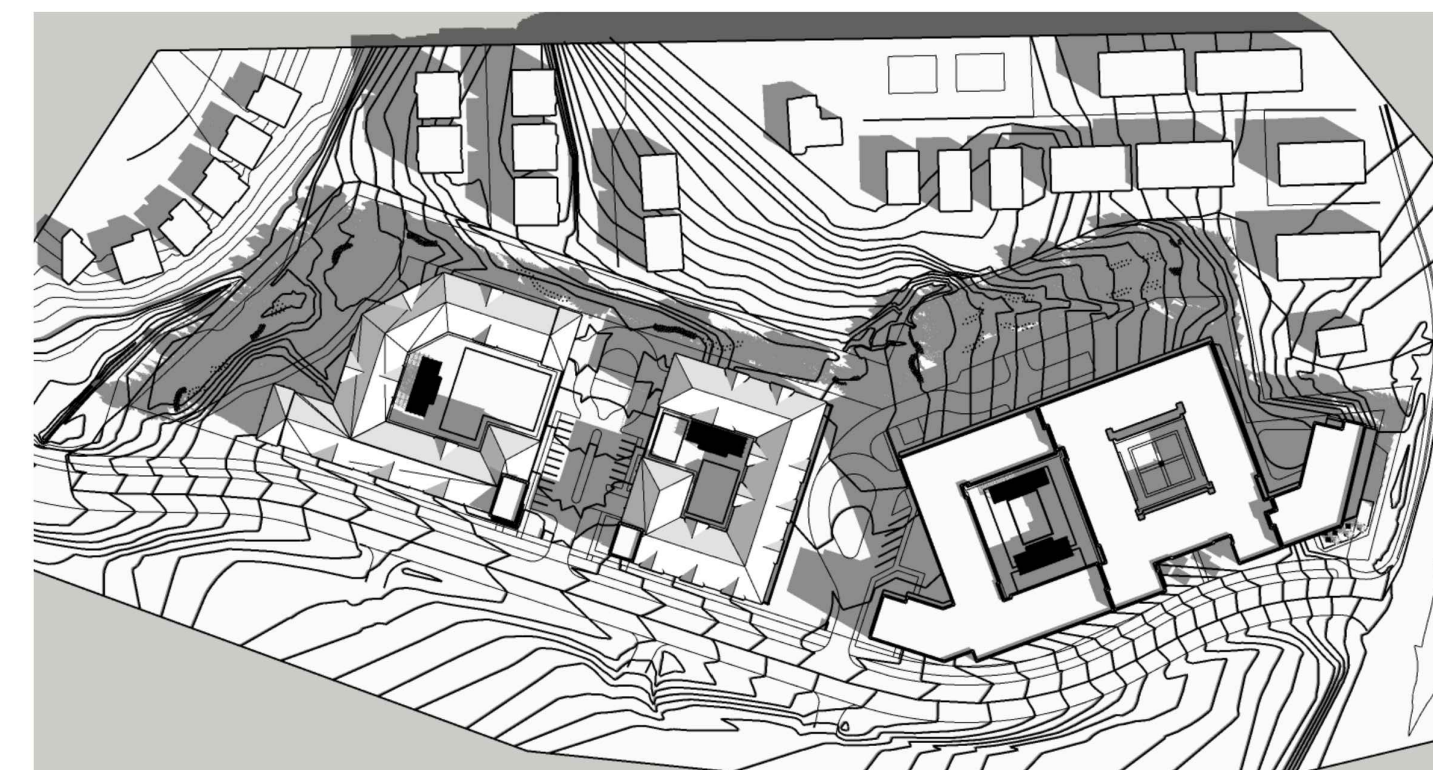
RISE STRATFORD | 04.05.19 |



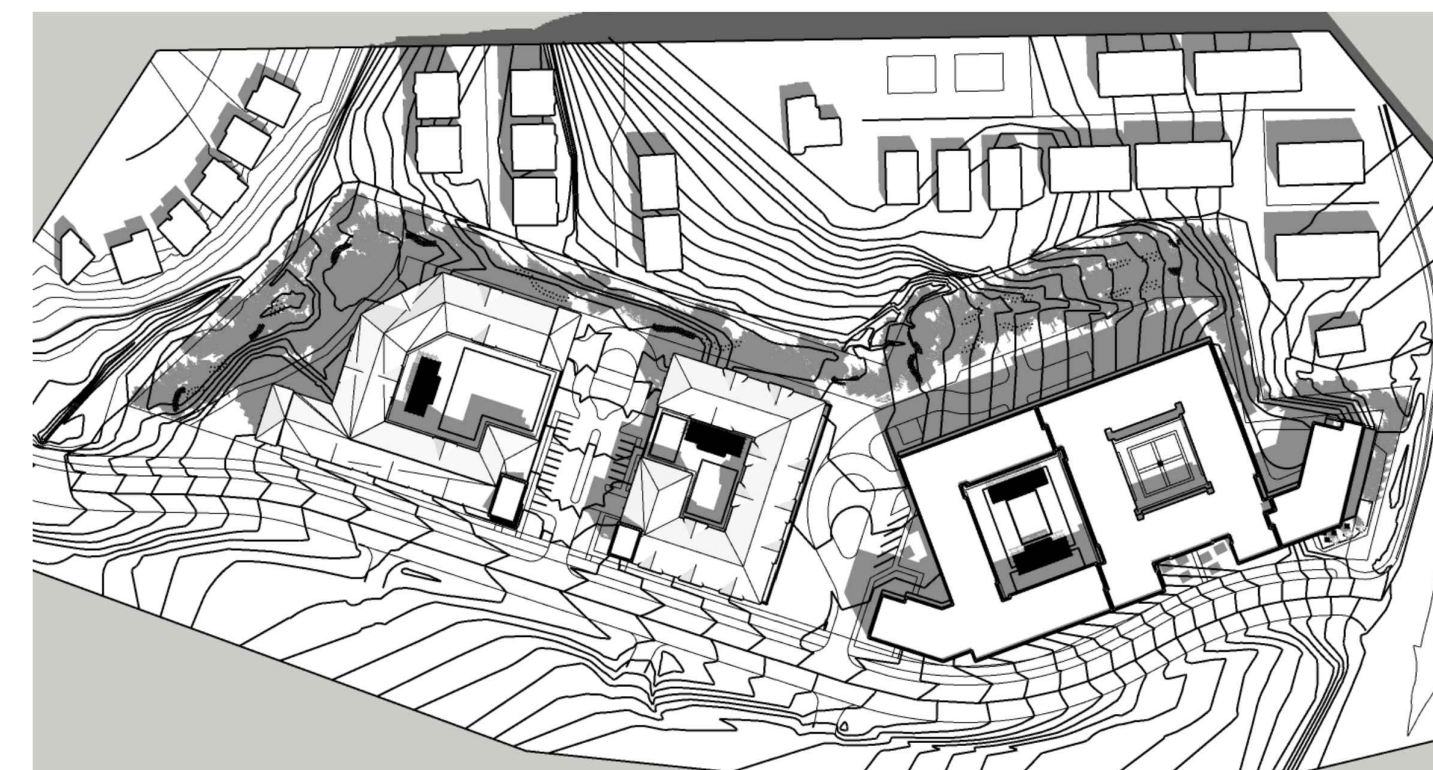
4 PM

NILES BOLTON ASSOCIATES

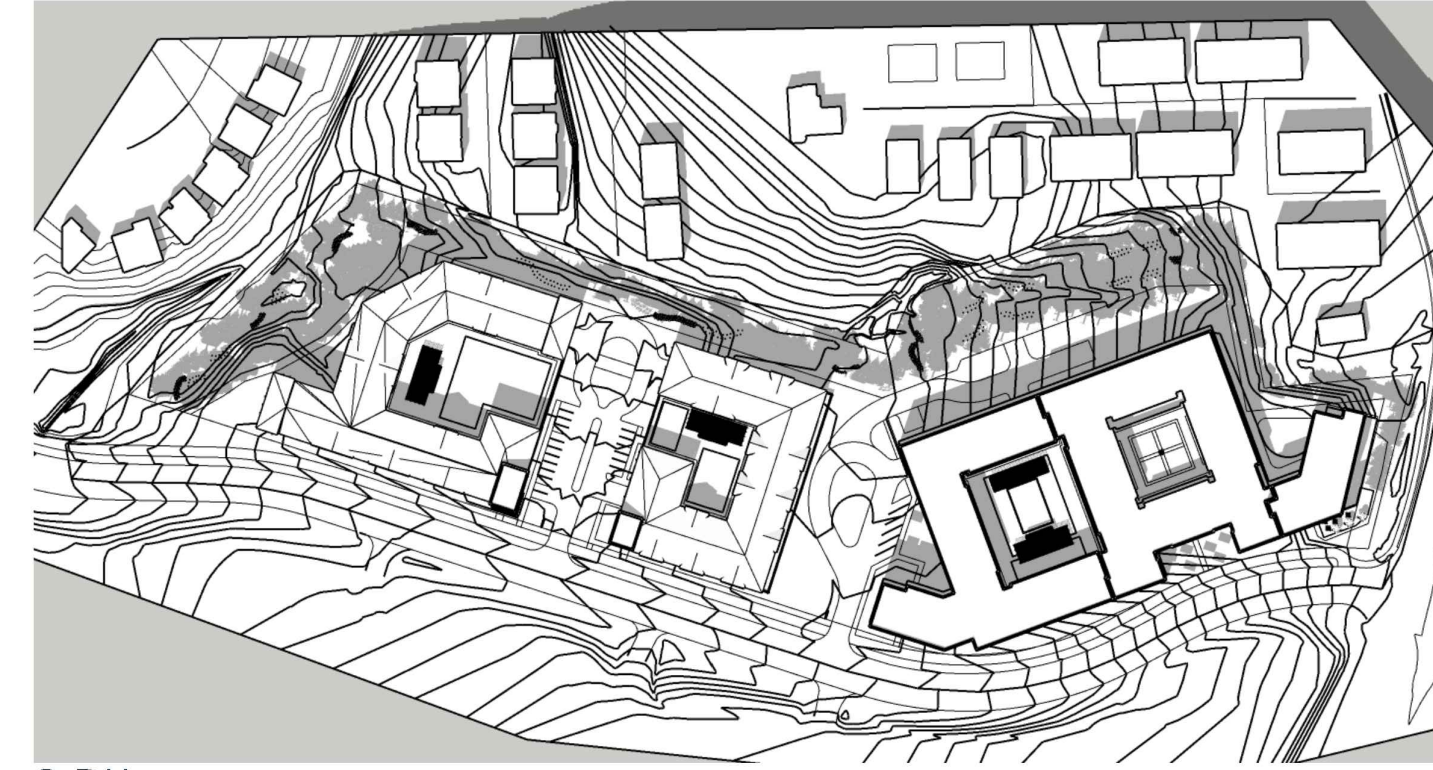
Spring Equinox Sun/Shade Study  
One University - Fairfax, VA



10 AM

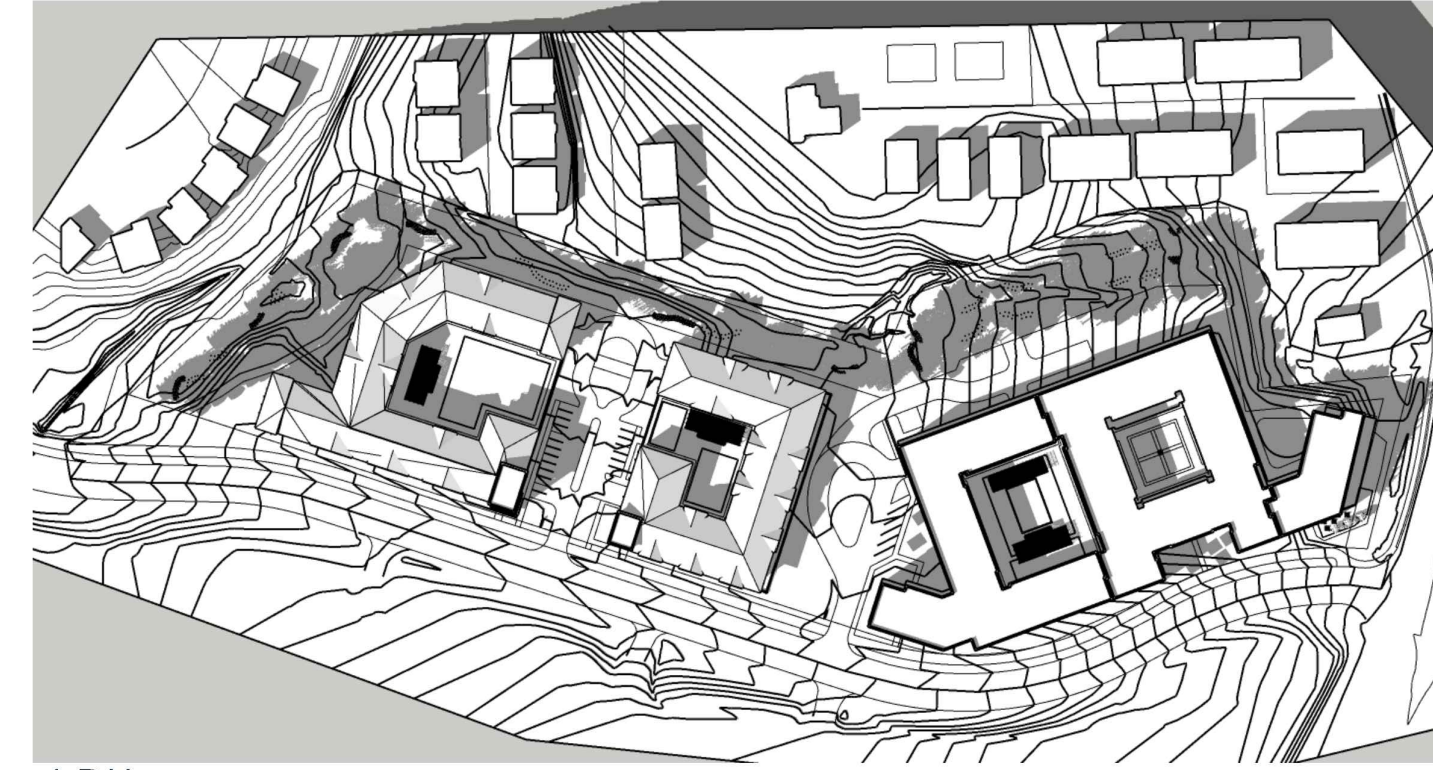


12 PM



2 PM

RISE STRATFORD | 04.05.19 |



4 PM

NILES BOLTON ASSOCIATES

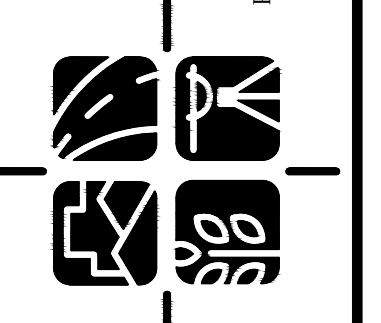
FOR ILLUSTRATIVE PURPOSES ONLY!

Urban, Ltd. - J:\\_005\OneUniversity\B-Engineering\Entitlement\CDP-FDP-SPEX\12964-40-ELEVATIONS.dwg [34-ARCHITECTURAL ELEVATION (2)] April 05, 2019 - 11:07am yetosri

PLANDATE	NO.	DATE	DESCRIPTION
11-15-18			
02-19-19			
04-05-19			

Urban, Ltd. 2000 TECHNOLOGY CT CHANTILLY, VA, 20151 TEL: 703.642.2366 FAX: 703.376.7888 www.urban-lltd.com
---

**urban**  
Planners • Engineers • Landscape Architects • Joint Surveyors



SUN STUDY PLAN  
ONE UNIVERSITY  
CDP/FDP/PARTIAL PCA  
BRADDOCK DISTRICT  
FAIRFAX COUNTY, VIRGINIA

SCALE: N.T.S.  
C.I. = N/A  
DATE: OCT., 2018

SHEET  
36  
OF  
38  
FILE No.  
RZ-12964

J:\085\OneUniversity\B-Engineering\Entitlement\CDP-FDP-SPEX\12964-40-ELEVATIONS.dwg [34 ARCHITECTURAL ELEVATION (3)] April 05, 2019 - 11:01am yetosri

### Student Building - University Drive Elevation One University - Fairfax, VA



### Student Building - University Drive Elevations One University - Fairfax, VA



### Student Building Elevations One University - Fairfax, VA

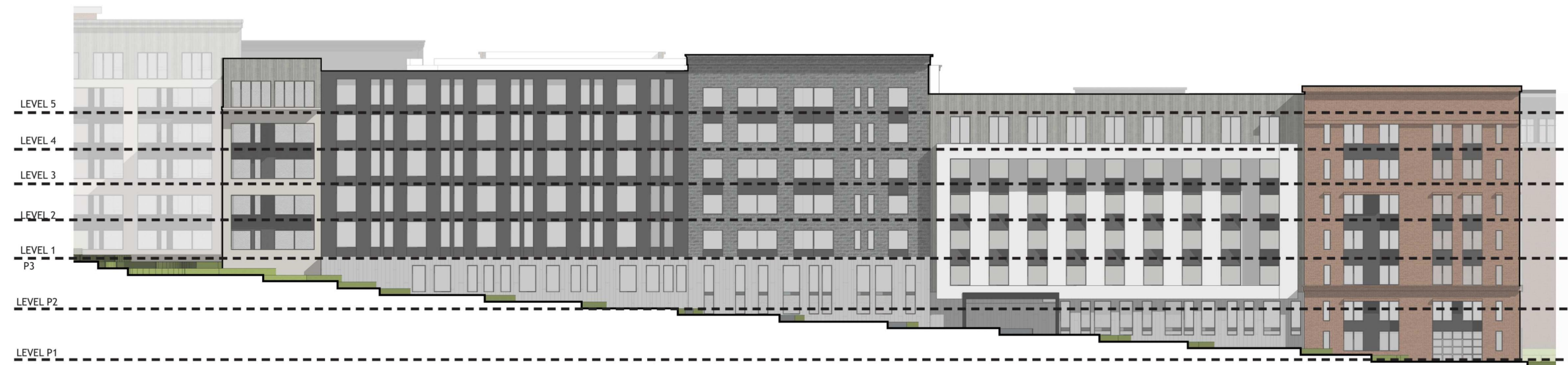


Drive Aisle Elevation



Ox Road Elevation

### Student Building Elevation One University - Fairfax, VA

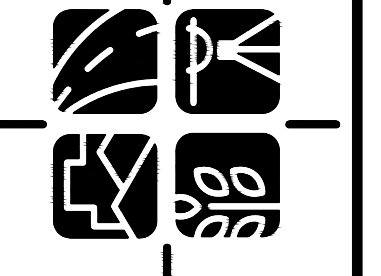


Rear Elevation

No.	DATE	DESCRIPTION

PLANDATE	11-15-18
	02-19-19
	04-05-19

Urban, Ltd.  
2200 TECHNOLOGY CT  
CHANTILLY, VA, 20151  
TEL: 703.642.2366  
FAX: 703.376.7888  
www.urban-lltd.com



ARCHITECTURAL ELEVATIONS  
**ONE UNIVERSITY  
CDP/FDP/PARTIAL PCA**  
BRADDOCK DISTRICT  
FAIRFAX COUNTY, VIRGINIA

SCALE: N.T.S.  
C.I.: N/A  
DATE: OCT., 2018

SHEET  
37  
OF  
38  
FILE No.  
RZ-12964

FOR ILLUSTRATIVE PURPOSES ONLY!

Urban, Ltd. - J:\085\OneUniversity\B-Engineering\Entitlement\CDP-FDP-SPEX\12964-40-ELEVATIONS.dwg [34\_ARCHITECTURAL ELEVATION (4)] April 05, 2019 - 11:01am yetosri

## Senior Building Elevations

One University - Fairfax, VA



University Drive Elevation



Drive Aisle Elevation

## Family Building Elevations

One University - Fairfax, VA



University Drive Elevation



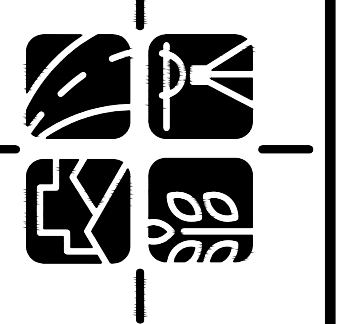
Drive Aisle Elevation

FOR ILLUSTRATIVE PURPOSES ONLY!

No.	DATE	DESCRIPTION

PLAN DATE	11-15-18 02-19-19 04-05-19
-----------	----------------------------------

Urban, Ltd.  
2200 TECHNOLOGY CT  
CHANTILLY, VA, 20151  
TEL: 703.642.2366  
FAX: 703.376.7888  
www.urban-lltd.com



ARCHITECTURAL ELEVATIONS  
**ONE UNIVERSITY**  
CDP/FDP/PARTIAL PCA  
BRADDOCK DISTRICT  
FAIRFAX COUNTY, VIRGINIA

SCALE: N.T.S. C.I.= N/A DATE: OCT., 2018

SHEET  
38  
OF  
38  
FILE No.  
RZ-12964