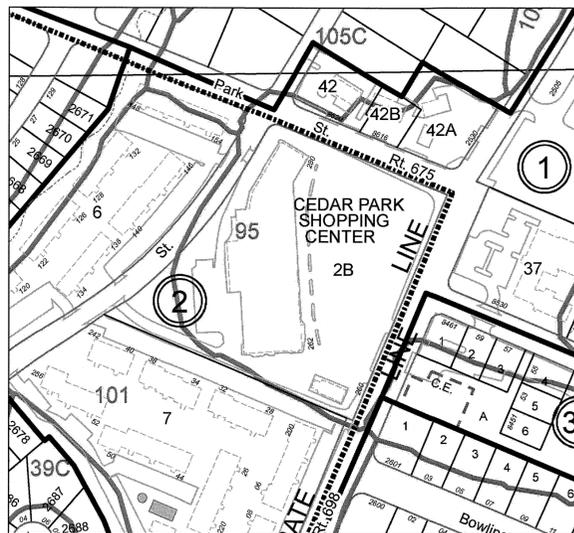


CEDAR PARK SHOPPING CENTER REFURBISHMENT

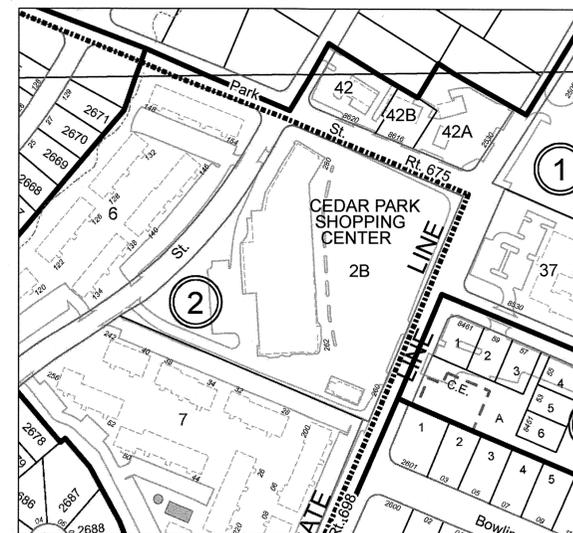
ZONING DISTRICT C-1 FINAL SITE PLAN TOWN OF VIENNA, VIRGINIA

VKA
ENGINEERING SURVEYING/GEOMATICS
LANDSCAPE ARCHITECTURE PLANNING

VKA VIRGINIA, LLC
8180 GREENSBORO DRIVE SUITE 200
TYSONS, VIRGINIA 22102
PHONE: (703) 442-7800
FAX: (703) 761-2787
TYSONS, VA. GERMANTOWN, MD.



SOILS MAP
SCALE 1" = 500'



VICINITY MAP
SCALE 1" = 500'

SCOPE OF WORK NOTE

THE SUBJECT PLAN CALLS ONLY FOR THE EXTERIOR RENOVATION OF THE EXISTING BUILDING FRONTAGE, WITH PLAZA/PARKING IMPROVEMENTS. THIS PLAN PROPOSES APPROPRIATE SWM CONTROLS TO MEET TOWN STANDARDS

USE TABULATIONS

RETAIL/OFFICE/STORAGE 58,734 S.F.
RESTAURANT 16,738 S.F. (WITH 354 SEATS)

SITE TABULATION

TAX MAP REFERENCE: 49-1 ((2)) 2B
SITE AREA: 7.21 ACRES
ZONE: C-1:LOCAL COMMERCIAL ZONE REGULATIONS
USE: EX-RETAIL, OFFICE, AND BASEMENT STORAGE
OWNERSHIP: GRI CEDAR PARK LLC

REVISIONS	DATE
1st. Sub.	10-24-2018
ALT. LAYOUT	12-05-2018
2nd. Sub.	03-28-2019
ADA Space Reloc.	05-08-2019
Updated Bid	05-20-2019

OWNER/DEVELOPER

GRI CEDAR PARK, L.L.C.
4350 EAST-WEST HIGHWAY
SUITE 400
BETHESDA, MD. 20814
(301) 907-7800
CONTACT: GREGG ZIKE
EMAIL: gzike@firstwash.com

CIVIL ENGINEER

VKA VIRGINIA, LLC
8180 GREENSBORO DRIVE
SUITE 200
MCLEAN, VA 22102
(703) 442-7800
CONTACT: STEPHEN CROWELL, P.E.
EMAIL: crowell@vika.com

SHEET INDEX

01.01	COVER SHEET
02.01	NOTES AND LEGEND
03.01-03.02	DETAILS
04.01	EXISTING CONDITION PLAN
04.02	DEMOLITION PLAN
05.01	OVERALL SITE AND CONTEXT PLAN
06.01	SITE PLAN
06.02	DETAIL GRADING PLAN
07.01	INTENTIONALLY OMITTED
08.01-08.02	UTILITY PROFILES AND COMPUTATIONS
09.01	INTENTIONALLY OMITTED
10.01	INTENTIONALLY OMITTED
11.01	INTENTIONALLY OMITTED
12.01	PHASE I EROSION AND SEDIMENT CONTROL PLAN
13.01	PHASE II EROSION AND SEDIMENT CONTROL PLAN
14.01	EROSION AND SEDIMENT CONTROL NOTES AND DETAILS
15.01	FIRE PROTECTION PLAN
16.01	INTENTIONALLY OMITTED
17.01	LANDSCAPE PLAN
17.02	LANDSCAPE DETAILS
17.03	EXISTING TREE INVENTORY PLAN
18.01-18.07	SWM/BMP PLAN AND NARRATIVES
19.01	ADEQUATE OUTFALL ANALYSIS
20.01	CORRESPONDENCE

ZONING TABULATION

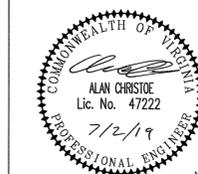
	ZONING REFERENCE	REQUIREMENTS	PROPOSED	TOTAL # REQUIRED
COMMERCIAL USE PARKING SPACES	18-130. H	ONE (1) PARKING SPACE FOR EVERY TWO HUNDRED (200) SQUARE FEET OF FLOOR AREA ON ALL FLOORS COMMERCIAL / STORAGE SPACE: 1 PER EVERY 4 SEATS RESTAURANT SPACE	388	COMMERCIAL 58,734 / 200 = 293.67 RESTAURANT 354 SEATS / 4 = 88.5 TOTAL = 383
SCREENING	18-101	WHEN THE LOT ON WHICH PARKING SPACES ARE LOCATED ABUTS THE REAR OR SIDE LOT LINES OF, OR IS ACROSS THE STREET FROM, ANY LAND IN A RESIDENTIAL ZONE OTHER THAN PUBLICLY OWNED LAND, AN ORNAMENTAL MASONRY WALL, OR EVERGREEN PLANTINGS SIX (6) FEET OR MORE IN HEIGHT SHALL BE MAINTAINED SO AS TO SCREEN SUBSTANTIALLY THE PARKING LOT FROM VIEW FROM THE NEAREST PROPERTY IN THE RESIDENTIAL ZONE.	NOT APPLICABLE TO SUBJECT BUILDING	N/A
LANDSCAPING	18-252.E.1.C	10% OF THE SITE AREA AT 20 YEAR MATURITY WILL BE PROVIDED AS TREE CANOPY.	10.05%	10%

ZONING TABULATION C-1: LOCAL COMMERCIAL ZONE

SUBJECT	ZONING REFERENCE	REQUIREMENTS	PROPOSED (1)
MINIMUM LOT AREA	18-75.1	N/A ACRES	7.21 ACRES
MINIMUM BUILDING SETBACKS			
FROM FRONT LOT LINE	18-75.1	15 FT	79'(CEDAR LANE); 74.5'(PARK STREET); 347'(PATRICK STREET)
FROM SIDE LOT LINE	18-75.1	N/A FT	N/A
FROM REAR LOT LINE	18-75.1	25 FT	392'
SIDE YARD FROM RESIDENTIAL ZONE BOUNDARY	18-75.1	8 FT	392'
MAXIMUM BUILDING HEIGHT	18-75.2	3 STORIES/35 FT	1 STORY/15 FT
TREE COVERAGE	18-252E	10%	10.05%

NO PROPOSED BUILDING ARE INCLUDED IN THIS APPLICATION. THIS PLAN CALLS FOR RENOVATION OF THE EXISTING PARKING AREA AND STORE FRONTS ONLY.

PROFESSIONAL SEAL

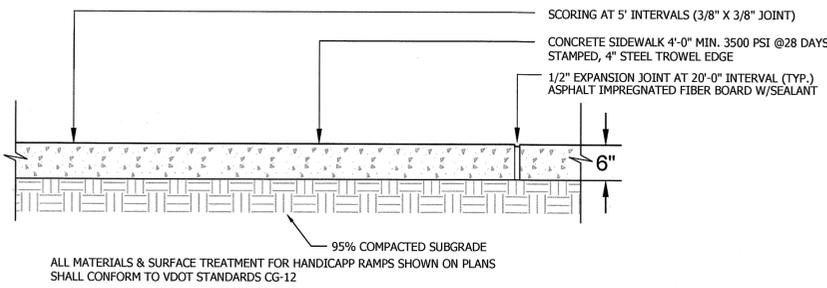


**CEDAR PARK
SHOPPING CENTER**
ZONING DISTRICT C-1
TOWN OF VIENNA, VIRGINIA

COVER SHEET

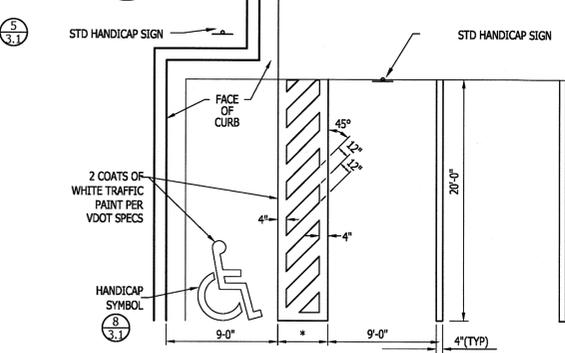
DRAWN BY: DH
DESIGNED BY: SEC
DATE ISSUED: 03-27-2019
DWG. SCALE: N/A
VKA NO. 7062H
SHEET NO. 01.01

NO.	DESCRIPTION	REVIEW BY	APPROVED	DATE



1 CONCRETE SIDEWALK

3.1 NOT TO SCALE



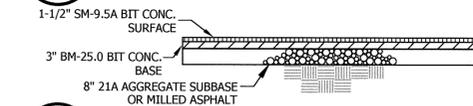
* 5'-0" FOR STANDARD HANDICAP SPACE

8'-0" FOR VAN ACCESSIBLE HANDICAP SPACE

NOTE:
ALL HANDICAP ACCESSIBLE PARKING STALLS SHALL CONFORM TO ALL LOCAL, STATE AND FEDERAL A.D.A. STANDARDS.

2 HANDICAPPED PARKING STALL LAYOUT

3.1 NOT TO SCALE

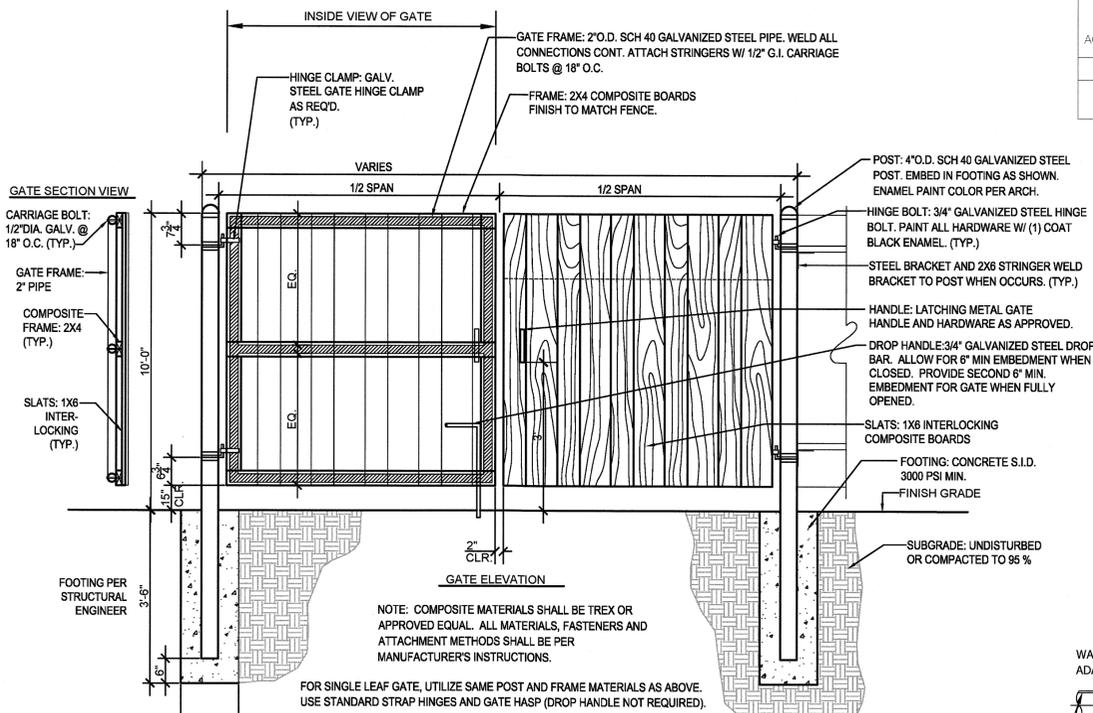


PAVEMENT SECTION NOTES:

- SUBBASE AND SUBGRADE SHALL BE COMPACTED TO 95% OF THEORETICAL MAXIMUM DENSITY THIS STANDARD IS TO APPLY TO SUPPORT MATERIAL FOR ALL PAVED AREAS AND SIDEWALKS. AS DETERMINED BY A.A.S.H.T.O. T-99 METHOD WITHIN PLUS OR MINUS 2% OPTIMUM MOISTURE.
- DESIGNATIONS FOR BITUMINOUS CONCRETE AND AGGREGATE BASE REFER TO VDOT SPECIFICATIONS.
- MILLED ASPHALT TO BE USED IN LIEU OF 21A AGGREGATE FOR SUBBASE AND BASE COURSES WHEN AVAILABLE UPON APPROVAL OF GEOTECHNICAL ENGINEER. SOILS TEST REPORTS OF THE CBR VALUES OF THE PROPOSED SUBGRADE SHALL BE SUBMITTED TO THE SITE ENGINEER FOR ANALYSIS AND POSSIBLE PAVEMENT REDESIGN. PAVEMENT DESIGN IS APPROXIMATE.

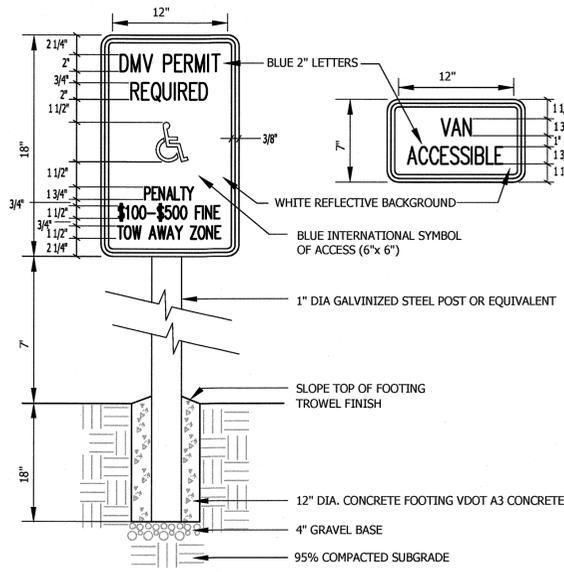
3 NEW PAVEMENT SECTION

3.1



12 DUMPSTER ENCLOSURE

3.1 NOT TO SCALE

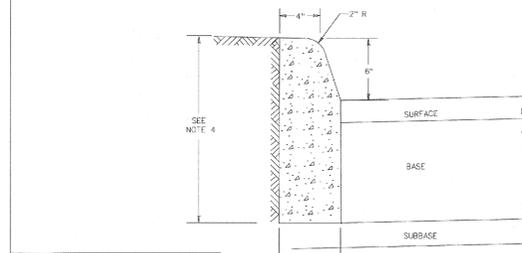
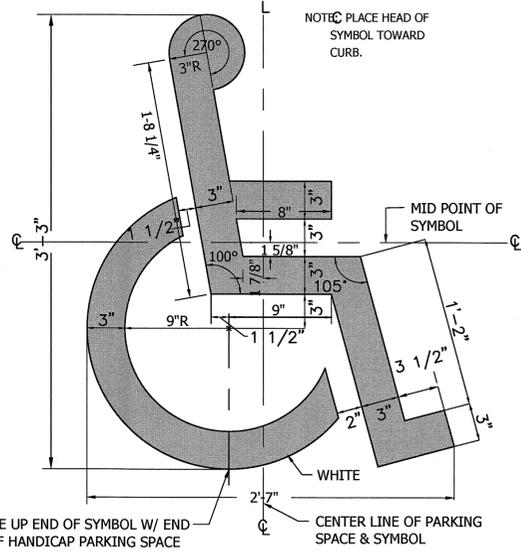


5 HANDICAPPED SIGN

3.1 NOT TO SCALE

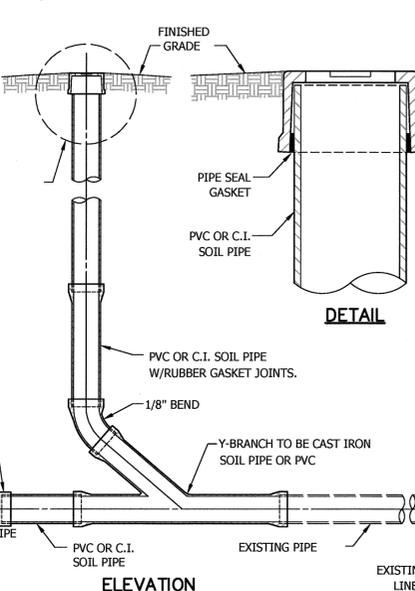
7 HANDICAP ACCESS STENCIL LAYOUT

3.1 NOT TO SCALE



6 CONC. HEADER CURB

3.1 NOT TO SCALE

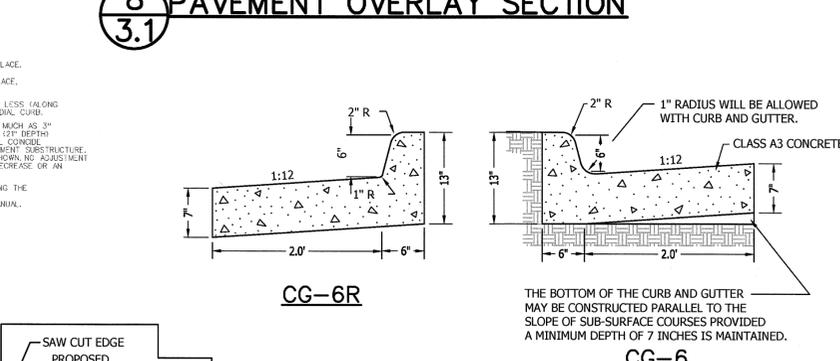


10 CLEANOUT DETAIL

3.1 NOT TO SCALE

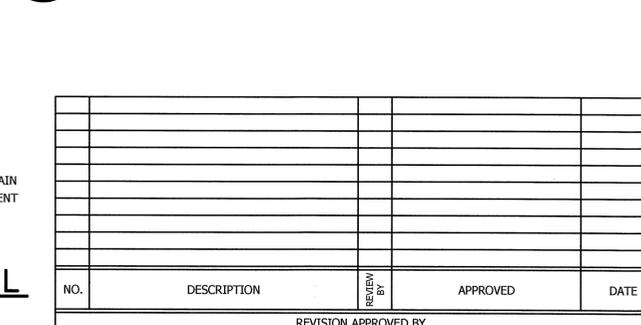
8 PAVEMENT OVERLAY SECTION

3.1



9 CONC. CURB / CURB AND GUTTER

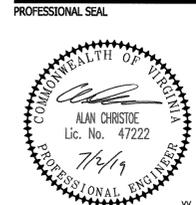
3.1 NOT TO SCALE



REVISION APPROVED BY SITE PLAN REVIEW AND INSPECTIONS DIVISION

NO.	DESCRIPTION	REVIEW BY	APPROVED	DATE

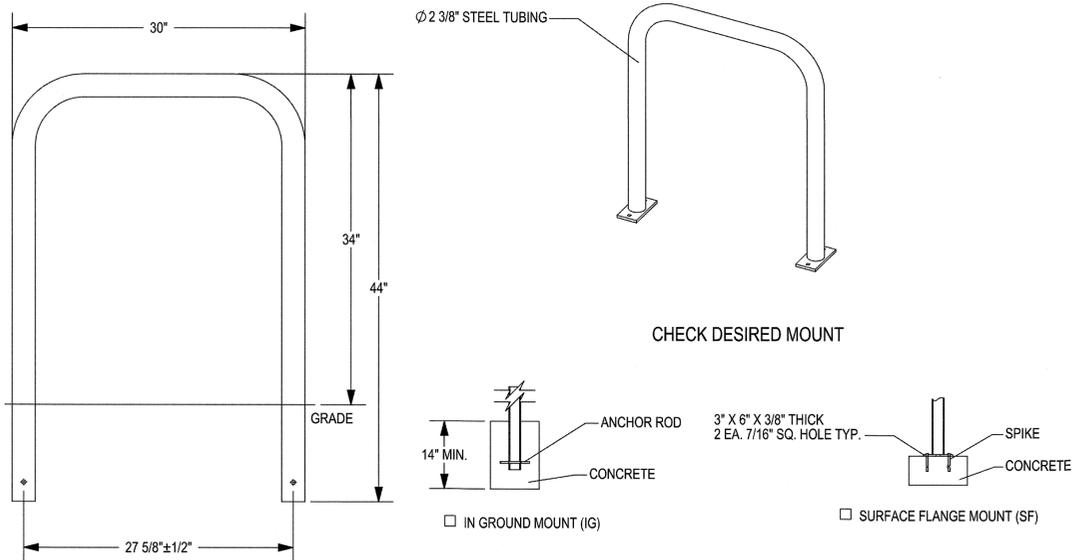
REVISIONS	DATE
1st. Sub.	10-24-2018
ALT. LAYOUT	12-05-2018
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ADA Space Reloc.	05-08-2019
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CEDAR PARK SHOPPING CENTER
ZONING DISTRICT C-1
TOWN OF VIENNA, VIRGINIA

SITE DETAILS

DRAWN BY: DH
DESIGNED BY: SEC
DATE ISSUED: 03-27-2019
DWG. NO.: 7062H
SCALE: NTS
SHEET NO.: 03.01



PRODUCT: UX238-IG(SF)
 DESCRIPTION: 'U' BIKE RACK
 2 BIKE, SURFACE OR IN GROUND MOUNT
 DATE: 10-5-18
 ENG: SMC

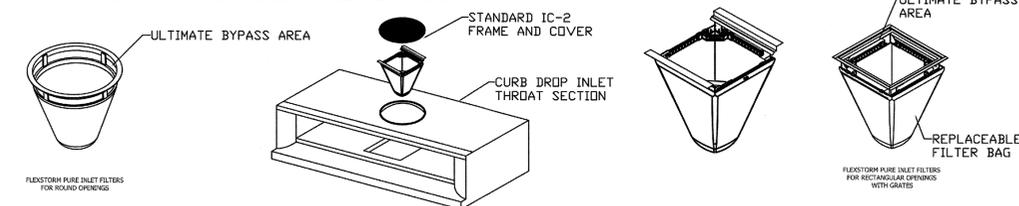
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- NOTES:
- INSTALL BIKE RACKS ACCORDING TO MANUFACTURER'S SPECIFICATIONS.
 - CONSULTANT TO SELECT COLOR / FINISH. SEE MANUFACTURER'S SPECIFICATIONS.
 - SEE SITE PLAN FOR LOCATION OR CONSULT OWNER.

1 BIKE RACK DETAIL
 3.2

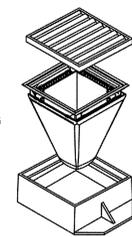
FLEXSTORM PURE FILTERS FOR PERMANENT INLET PROTECTION
 PRODUCT SELECTION AND SPECIFICATION DRAWING



Virginia DOT Std.	Inlet Type	Grate Size	Opening Size	Bag Cap (ft²)	Flow Ratings (CFS)				PIN			
					FX/FX+	PC/PC+	Bypass	FX	FX+	PC	PC+	
DI-1	Square/Rectangular	30 x 30	27 x 27	4.1	1.5	1.3	5.5	62LHDA1FX	62LHDA1FXP	62LHDA1PC	62LHDA1PCP	
DI-3/4	Open Throat	N/A	20 x 30	3.8	2.1	1.7	5.4	62LHDA3FX	62LHDA3FXP	62LHDA3PC	62LHDA3PCP	
DI-7	Concrete box (HD)	40 x 36	36 x 36	7.2	8.8	7.6	8.3	62XLHDA7FX	62XLHDA7FXP	62XLHDA7PC	62XLHDA7PCP	
IC-2	Round (RD)	21.75	20.5	1.7	1.3	1.1	5.4	62MHRFX	62MHRFXP	62MHRPC	62MHRPCP	

- NOTES:
- ALL FRAMING IS CONSTRUCTED OF 304 STAINLESS STEEL FOR 25 YEAR SERVICE LIFE RATING.
 - TOTAL BYPASS CAPACITY: BYPASS CAPACITY WILL VARY WITH EACH SIZE DRAINAGE STRUCTURE. FLEXSTORM DESIGNS FRAMING BYPASS TO MEET OR EXCEED THE DESIGN FLOW OF THE PARTICULAR DRAINAGE STRUCTURE.
 - UPON ORDERING CONFIRMATION OF THE DOT CALLOUT, PRECAST OR CASTING MAKE AND MODEL OR DETAILED DIMENSIONAL FORMS MUST BE PROVIDED TO CONFIGURE AND ASSEMBLE YOUR CUSTOMIZED FLEXSTORM INLET FILTER. PART NUMBER ALONE IS NOT SUFFICIENT.
 - FOR WRITTEN SPECIFICATIONS AND MAINTENANCE GUIDELINES VISIT WWW.INLETFILTERS.COM

- INSTALLATION:
- REMOVE GRATE.
 - DROP FLEXSTORM INLET FILTER DOWNTHE LEAD BEARING LIP OF CASTING OR CONCRETE STRUCTURE.
 - REPLACE GRATE.



ALL PRODUCTS MANUFACTURED BY INLET & PIPE PROTECTION, INC. A DIVISION OF ADS, INC. WWW.INLETFILTERS.COM (866) 287-8655 PH (630) 359-3477 FX INF@INLETFILTERS.COM

3 INLET FILTER DETAIL
 3.2

Ecolume is a rectangular arm-mounted area luminaire, also suitable for wall mounting. The precision segmented optical systems provide required light levels, even illumination, wide pole spacings and glare control. The housing is die-cast and the door frame is anodized aluminum. The luminaire is completely sealed and gasketed, preventing intrusion from moisture, insects and contaminants.

Flat glass lens luminaires provide full cutoff performance.

LIGHT TO BE MOUNTED AT 30'



Enter the order code into the appropriate box above. Note: Graber reserves the right to refuse a configuration. Not all combinations and configurations are valid. Refer to notes below for exclusions and limitations. For questions or concerns, please consult the factory.

PREFIX	Ecolume	MOUNTING
Arm Mount to Pole*	ECA18	18" Square Luminaire
Direct Wall Mount	ECW18	18" Square Luminaire
Wall Mount with Arm	ECWA18	18" Square Luminaire

*Arm mounting on round poles is designed to mount to poles measuring 3.5" OD or larger only.

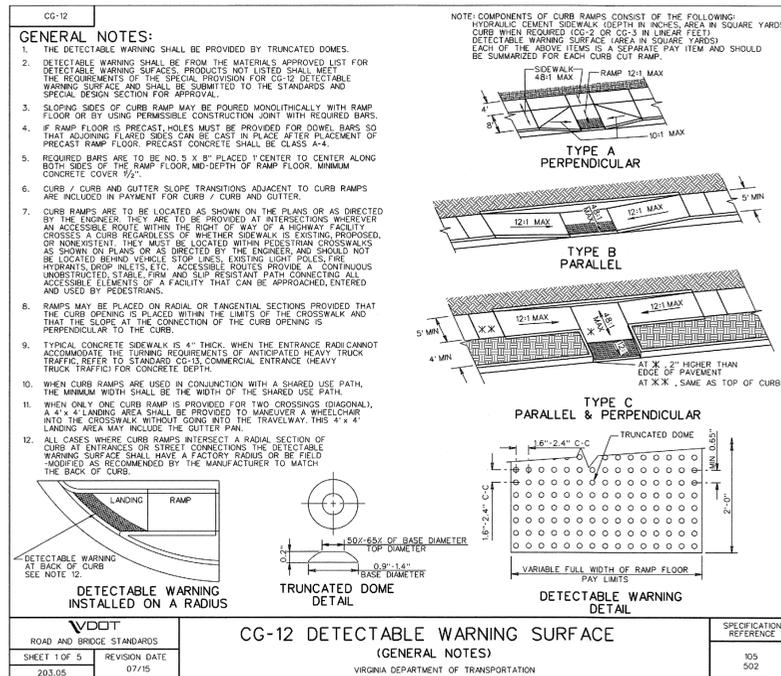
DISTRIBUTION

Horizontal Lamp	Type
3H	Type III
FH	Type IV Forward Throw
QH	Type V

- MOUNTING
- Single Pole Mount
 - Twin Pole Mount at 180°
 - Twin Pole Mount at 90°
 - 3-way Pole Mount at 90°
 - 3-way Pole Mount at 120°
 - 4-way Pole Mount
- Use "1" for wall mounted units.

*Arm mounting on round poles is designed to mount to poles measuring 3.5" OD or larger only.

2 LIGHT POST DETAIL
 3.2



4 DETECTABLE WARNING STRIP DETAIL
 3.2 NOT TO SCALE

CG-12 DETECTABLE WARNING SURFACE (GENERAL NOTES)

VDOT ROAD AND BRIDGE STANDARDS SHEET 1.0F 5	REVISION DATE 07/15	SPECIFICATION REFERENCE 105 502
---	---------------------	---------------------------------

SEE MAINTENANCE SPECIFICATION SHEET 18.06

WATTAGE (E) Wattages marked with circle "E" meet federal energy efficiency standards applicable to 210 watt through 400 watt metal halide luminaires only.

WATTAGE	18"
Pulse Start MH	250PSMH (E)
Magnetic Ballast	250PS0* (E)
	320PSMH (E)
	350PSMH (E)
	400PSMH (E)
MasterColor Elite Electronic System	210MCE-3K (E)
	210MCE-4K (E)
	315MCE-3K (E)
	315MCE-4K (E)
Pulse Start MH Electronic Ballast	250PSE (E)
	320PSE (E)
High Pressure Sodium Magnetic Ballast	250HPS (E)
	400HPS (E)

*250PS0 includes a 100% efficient magnetic ballast meeting the requirements of California Title 20.

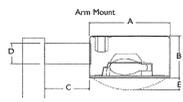
OPTIONS

HS	Internal House Side Shield	SG	Sag Glass Lens
F	Fusing	QS	Quartz Standby
LP	In-Pole-In-Line Fusing	QST	Quartz Standby - Timed
PC	Locking Type Photocontrol Receptacle with Photocontrol	Q24	Delay
PCR	Locking Type Photocontrol Receptacle	Q24	Quartz Emergency Quartz
PCB	Button Photocontrol	Q24	Emergency - Timed Delay
MP	Master Arm Fitter		
PTF2	Pole top fitter fits 2 3/8-2 1/2" OD x 4" depth tenon		
PTF3	Pole top fitter fits 3-3 1/2" OD x 6" depth tenon		
PTF4	Pole top fitter fits 3 1/2-4" OD x 6" depth tenon		
AP	Adjustable Knobble - Square Pole Mount		
AT	Adjustable Knobble - Tension Mount		

DIMENSIONS AND EPA (CONTINUED ON PAGE 3)

ARM MOUNT

ARM MOUNT	18"
A	18" sq 45.72cm
B	10" 25.40cm
C	Arm Length 22.86cm
D	Arm Height 5" 12.70cm
E	Drop Lens 4" 10.16cm



ECOLUME EPA (Effective Projected Area)

ECOLUME	Single	Twin 180°	Quad
18" units	1.97 / 1.77	3.87 / 3.54	4.8 / 4.46

ECOLUME Single Luminaire Weight (lbs / kg)

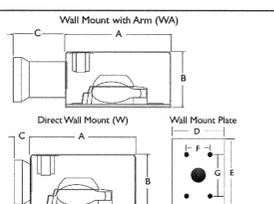
ECOLUME	Single Luminaire Weight (lbs / kg)
18" units	50 / 22.68

DIMENSIONS AND EPA (CONTINUED FROM PAGE 2)

WALL MOUNT / WALL MOUNT PLATE

WALL MOUNT / WALL MOUNT PLATE	18"
A (W & WA)	18" sq 45.72cm
B (W & WA)	10" 25.40cm
C (W only)	27.94cm
D (W & WA)	5" 12.70cm
E (W & WA)	7" 17.78cm
F (W & WA)	5.72cm
G (W & WA)	10.16cm

Arm Mount and Wall Mount



SPECIFICATIONS

GENERAL DESCRIPTION: Ecolume is a cutoff luminaire for high intensity discharge lamps. Internal components are totally enclosed, rain-tight, dust-tight, and corrosion resistant. No venting of the optical system or electrical components is required or permitted. Lamping requires no lifting or hinging of the luminaire housing, disturbing wiring or exposing unshielded live parts.

HOUSING: The housing wrapper is one-piece die-cast aluminum. The housing has an integral reinforcing spine and no welded corners. Silicone seals provide a weatheright seal at all points of material transition.

LENS: A mirrored, extruded anodized aluminum door frame retains the optically clear, heat and impact resistant tempered flat glass in a sealed manner using hollow section, high compliance, memory retentive extruded silicone rubber. A single fluted 1/4 turn captive fastener permits easy access to the luminaire.

OPTICAL SYSTEMS: The segmented reflector system consists of two levels of highly specular aluminum facets precisely aligned to achieve specified photometric distributions. The entire optical system is field rotatable in 90° increments. The position-oriented mogul base socket is glazed porcelain with a nickel plated screw shell. A lamp stabilizer is standard on 3H and QH 400W PSMH units.

HEIGHT OF LIGHT POLES TO BE 30'

ELECTRICAL: All electrical components are UL recognized and factory tested. Electronic and magnetic HID ballasts are high power factor. Magnetic HID ballasts are the separate component type. The ballast is mounted on a unitized tray and secured within the luminaire, above the reflector system. Electronic and magnetic HID ballasts are capable of providing reliable lamp starting down to -20°F / -29°C. Standard fluorescent ballasts are solid state.

FINISH: Each luminaire receives a fade and abrasion resistant, electrostatically applied, thermally-cured polyester powder finish after fabrication.

LABELS: All luminaires bear UL or CUL (where applicable) Wet Location labels.

WARRANTY: Ecolume Luminaires feature a 5 year limited warranty. See www.lighting.philips.com/support/warranty for complete details and exclusions.

VKA
 ENGINEERING SURVEYING/GEOMATICS
 LANDSCAPE ARCHITECTURE PLANNING
 VIKI VIRGINIA, LLC
 8180 GREENSBORO DRIVE SUITE 200
 TYSONS, VIRGINIA 22102
 PHONE: (703) 442-7800
 FAX: (703) 761-2787
 TYSONS, VA. GERMANTOWN, MD.

REVISIONS

REVISIONS	DATE
1st. Sub.	10-24-2018
ALT. LAYOUT	12-05-2018
2nd. Sub.	03-28-2019
ADA Space Reloc.	05-08-2019
Updated Bid	05-20-2019

PROFESSIONAL SEAL

COMMONWEALTH OF VIRGINIA
 ALAN CRISTOF
 Lic. No. 47222
 7/2/19
 PROFESSIONAL ENGINEER

CEDAR PARK SHOPPING CENTER
 ZONING DISTRICT C-1
 TOWN OF VIENNA, VIRGINIA

SITE DETAILS

DWG. SCALE: NTS

DESIGNED BY: DH
 SEC
 DATE ISSUED: 03-27-2019

NO.	DESCRIPTION	REVIEW BY	APPROVED	DATE

REVISION APPROVED BY
 SITE PLAN REVIEW AND INSPECTIONS DIVISION

V 10.01

SHEET NO. 03.02

TM# 049-1 ((02)) 0006
VIENNA PARK, LLC
DEED BOOK 19169, PAGE 141
ZONE: RM-2
USE: GARDEN APTS RENTAL

APPROX. LOCATION
C/L V.E.P.C.O. EASEMENT
D.B. 2449, PG 367

ZONE: C-5
USE: CONVENIENCE
GROCERY

TM# 049-1 ((01)) 0042A
JFK PROPERTIES, LLC
DEED BOOK 15885, PAGE 1185
ZONE: C-5
USE: GASOLINE AND SERVICE STATION

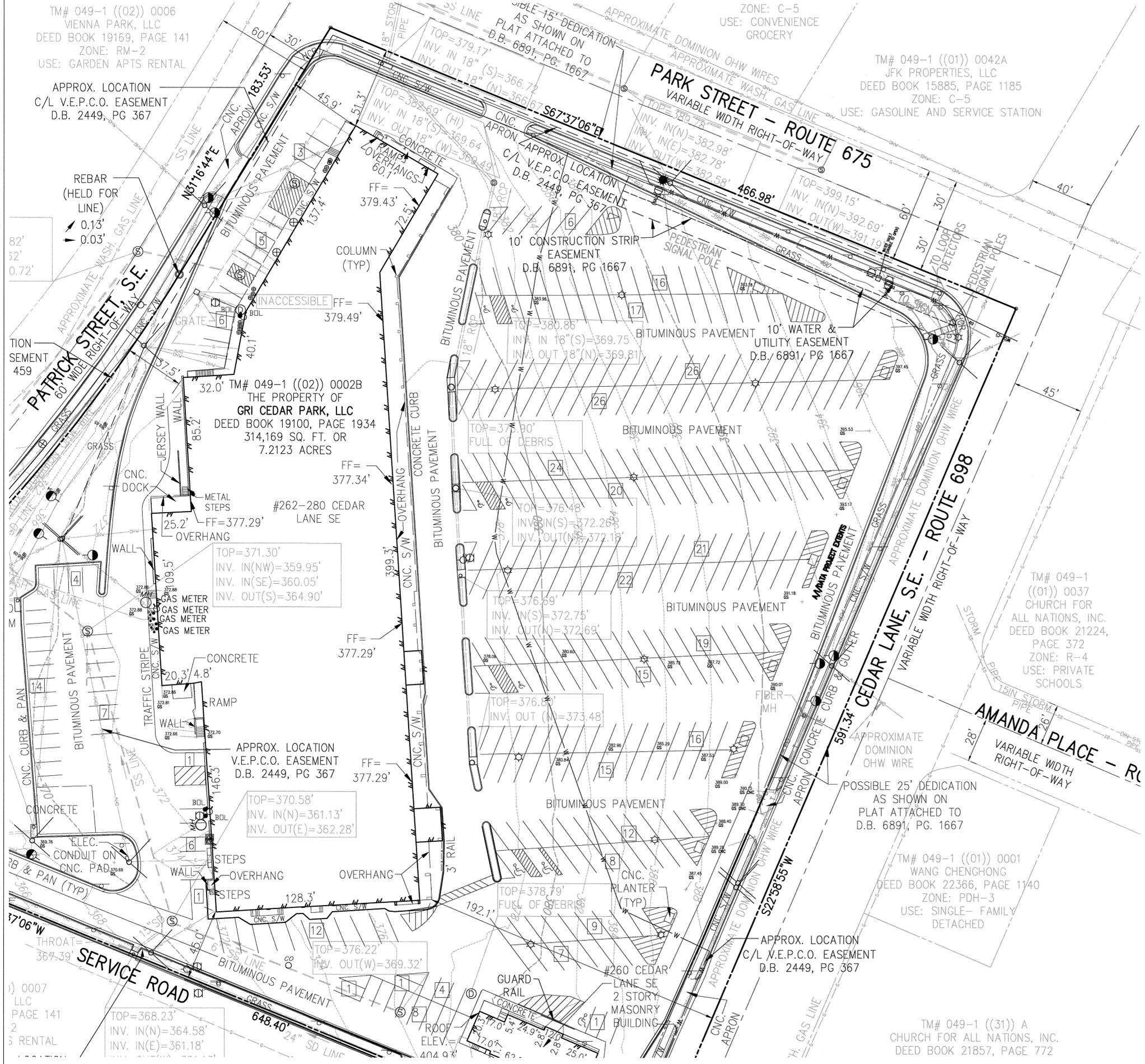
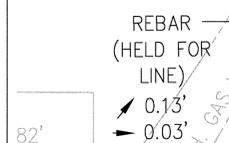
NOTES:

1. THE SUBJECT PROPERTY IS IDENTIFIED ON FAIRFAX COUNTY TAX MAP AS TAX MAP #0491 ((02)) 0002B AND IS ZONED C-1.
2. THE SUBJECT PROPERTY IS LOCATED IN ZONE "X" (AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN) AS SHOWN ON THE FEDERAL EMERGENCY MANAGEMENT AGENCY, FLOOD INSURANCE RATE MAP (FIRM), COMMUNITY PANEL NO. 51059C0165E, FOR FAIRFAX COUNTY, VIRGINIA AND UNINCORPORATED AREAS, DATED SEPTEMBER 17, 2010. ZONE "X" IS NOT IDENTIFIED AS A SPECIAL FLOOD HAZARD ZONE AREA.
3. THE HORIZONTAL DATUM SHOWN HEREON IS REFERENCED TO VIRGINIA COORDINATE SYSTEM OF 1983 (VCS '83) AND THE VERTICAL DATUM SHOWN HEREON IS REFERENCED TO NATIONAL GEODETIC VERTICAL DATUM OF 1988 (NGVD '88) BY A GPS SURVEY PERFORMED BY VIKA VIRGINIA, LLC ON FEBRUARY 26, 2014.
4. THE HORIZONTAL CLOSURE AND ACCURACY OF THE SURVEY CONTROL USED TO PERFORM THIS SURVEY IS 1:168,404 WHICH EXCEEDS THE MINIMUM PRECISION OF 1:20,000 WITH THE ATTENDANT ANGULAR CLOSURE WHICH SUSTAINS THE ERROR OF CLOSURE.
5. THE SUBJECT PROPERTY IS CURRENTLY IN THE NAME OF GRI CEDAR PARK, LLC BY DEED RECORDED IN DEED BOOK 19100 AT PAGE 1934 AMONG THE LAND RECORDS OF FAIRFAX COUNTY, VIRGINIA.
6. THE EXISTING CONDITIONS SURVEY WAS COMPLETED UNDER THE DIRECT RESPONSIBLE CHARGE OF, FRANKLIN JENKINS, L.S. FROM AN ACTUAL GROUND SURVEY MADE UNDER MY SUPERVISION THAT THE ORIGINAL DATA WAS OBTAINED FEBRUARY 26, 2014 AND THAT THIS PLAN MEETS MINIMUM HORIZONTAL AND VERTICAL ACCURACY STANDARDS UNLESS OTHERWISE NOTED.



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LANDSCAPE ARCHITECTURE PLANNING

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TYSONS, VIRGINIA 22102
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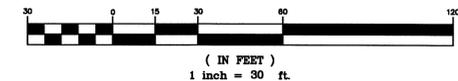
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PROFESSIONAL SEAL

EXISTING TOPO CHECK NOTE:
THE CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY EXISTING TOPOGRAPHIC CONDITIONS INDICATED ON THESE PLANS AND CONTRACT DOCUMENTS PRIOR TO BEGINNING ANY LAND DISTURBANCE WORK ON THE PROJECT. ONCE LAND DISTURBANCE HAS COMMENCED, THE CONTRACTOR SHALL HAVE NO CLAIMS AS TO EXISTING TOPOGRAPHY NOT MEETING MINIMUM SURVEY STANDARDS AND SHALL ACCEPT ALL EXISTING TOPOGRAPHIC CONDITIONS AS BEING WITHIN UNITED STATES NATIONAL MAP ACCURACY STANDARDS FOR CONSTRUCTION CONTRACT PURPOSES. IF THE CONTRACTOR FINDS A DISCREPANCY IN TOPOGRAPHIC INFORMATION, HE/SHE SHALL NOTIFY VIKA AND THE OWNER PRIOR TO PERFORMING ANY LAND DISTURBING ACTIVITY SO THE AREA CAN BE RESURVEYED IN AN UNDISTURBED STATE.



NORTH (NAD 83)
GRAPHIC SCALE



CEDAR PARK SHOPPING CENTER
ZONING DISTRICT C-1
TOWN OF VIENNA, VIRGINIA

EXISTING CONDITIONS PLAN

DRAWN BY: DH
DESIGNED BY: SEC
DATE ISSUED: 03-27-2019

DWG. SCALE: 1"=30'
VIKA NO. 7062H
SHEET NO. 04.01

NO.	DESCRIPTION	REVIEW BY	APPROVED	DATE

REVISION APPROVED BY
SITE PLAN REVIEW AND INSPECTIONS DIVISION

1) 0007
LLC
PAGE 141
2
3 RENTAL

TM# 049-1 ((31)) A
CHURCH FOR ALL NATIONS, INC.
DEED BOOK 21857, PAGE 772

V 10.01

((02)) 0006
 ARK, LLC
 169, PAGE 141
 RM-2
 APTS RENTAL

CATION
 EASEMENT
 PG 367

Way S.E.

32.0' TM# 049-1 ((02)) 0002B
 THE PROPERTY OF
GRI CEDAR PARK, LLC
 DEED BOOK 19100, PAGE 1934
 314,169 SQ. FT. OR
 7.2123 ACRES

#262-280 CEDAR
 LANE SE
 EX FIRE HYDRANT TO BE
 RELOCATED

APPROX. LOCATION
 V.E.P.C.O. EASEMENT
 D.B. 2449, PG 367

ICE ROAD

ZONE: C-5
 USE: CONVENIENCE
 GROCERY

TM# 049-1 ((01)) 0042A
 JFK PROPERTIES, LLC
 DEED BOOK 15885, PAGE 1185
 ZONE: C-5
 USE: GASOLINE AND SERVICE STATION

PARK STREET - ROUTE 675
 VARIABLE WIDTH RIGHT-OF-WAY

TM#
 SCHOOL BLDG
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DEMOLITION OPERATIONS

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3. DEMOLITION SHALL INCLUDE BUT IS NOT LIMITED TO THE EXCAVATION, HAULING AND OFFSITE DISPOSAL OF CONCRETE CURBS, GUTTERS AND SIDEWALKS, BITUMINOUS CONCRETE PAVEMENT AND ALL MATERIALS CLEARED AND STRIPPED (AS DIRECTED BY THE SOILS ENGINEER) TO THE EXTENT NECESSARY FOR THE INSTALLATION OF NEW IMPROVEMENTS AND WITHIN THE LIMITS OF CLEARING.
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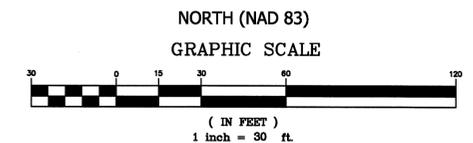
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 ((01)) 0037
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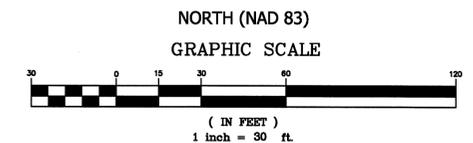
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CEDAR PARK SHOPPING CENTER
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DEMOLITION PLAN

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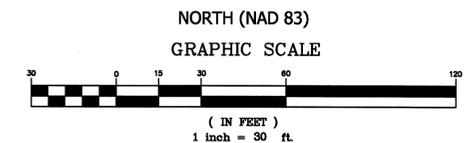
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EX WATER LINE TO BE
 REMOVED/REBUILT AS
 NEEDED IN ORDER TO
 MAINTAIN 4' MIN COVER

LIMITS OF CLEARING
 AND GRADING

TOP=370.58'
 INV. IN(N)=361.13'
 INV. OUT(E)=362.28'

FF=377.34'

FF=377.29'

FF=377.29'

TOP=376.22'
 INV. OUT(W)=369.32'

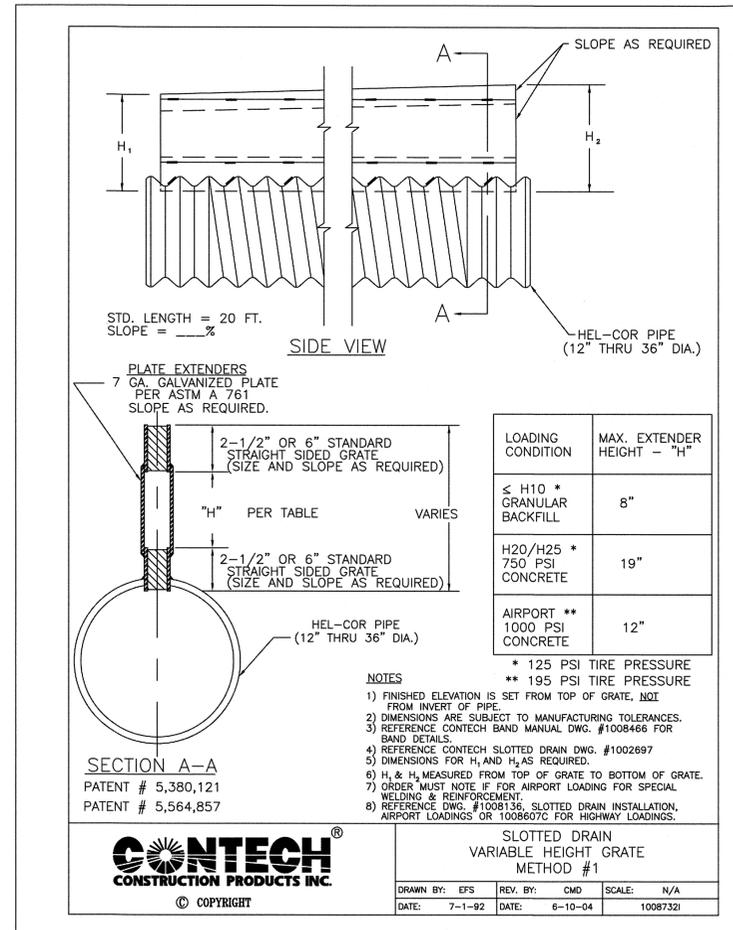
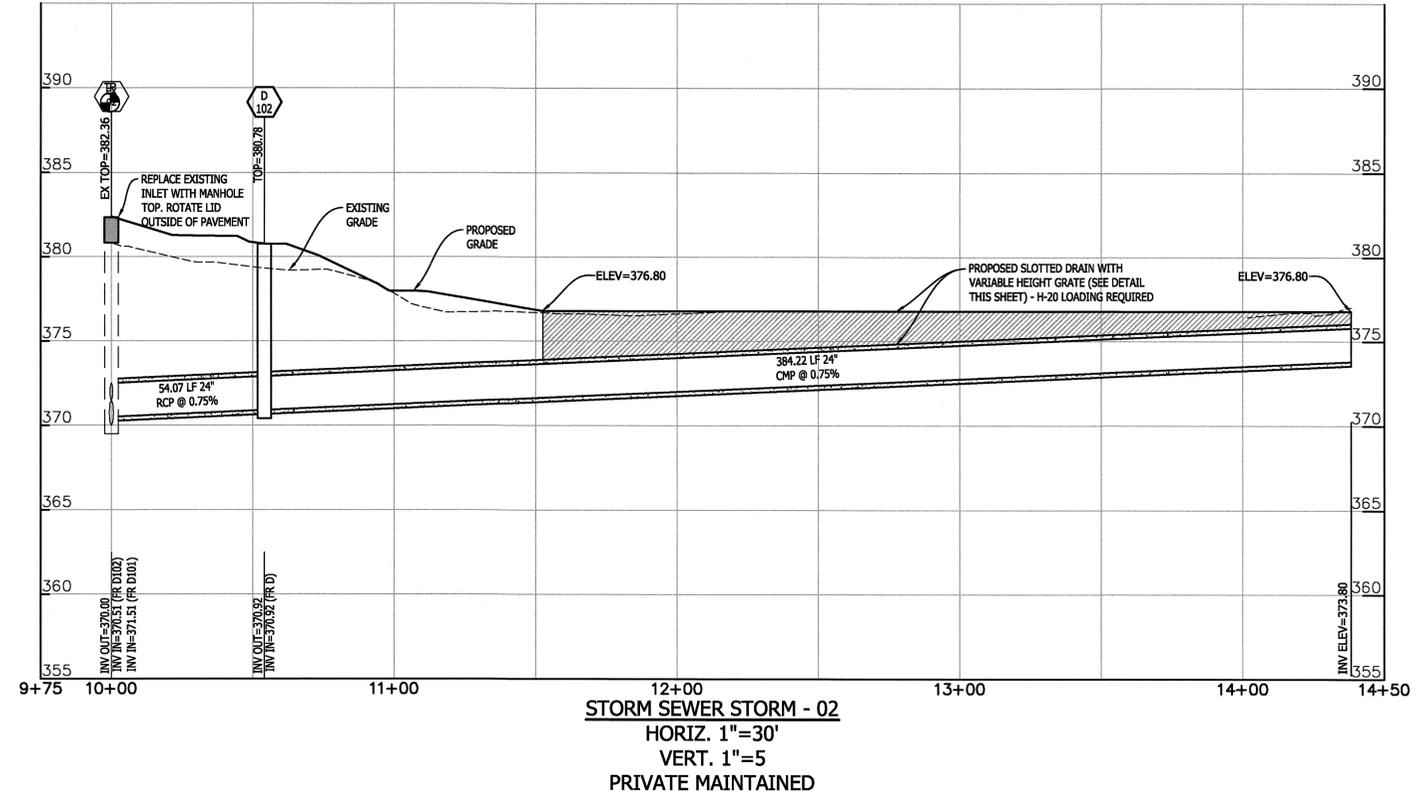
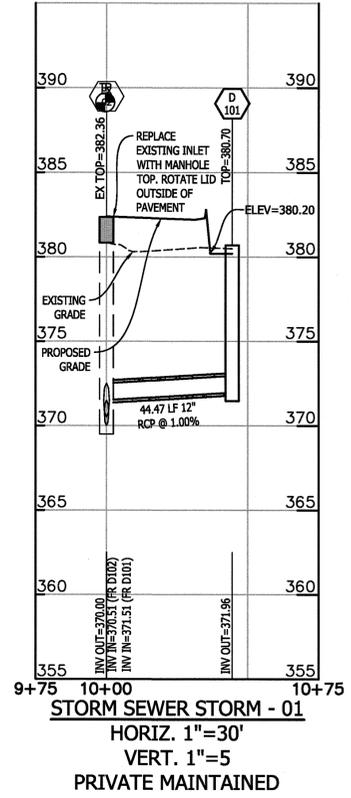
FF=379.43'

FF=379.49'

ZONE: C-5
 USE: CONVENIENCE
 GROCERY



ENGINEERING SURVEYING/GEOMATICS
LANDSCAPE ARCHITECTURE PLANNING
VIKA VIRGINIA, LLC
8180 GREENSBORO DRIVE SUITE 200
TYSONS, VIRGINIA 22102
PHONE: (703) 442-7800
FAX: (703) 761-2787
TYSONS, VA. GERMANTOWN, MD.



From Point OUT	To Point IN	Drainage Area	C Factor	C x A		Inlet Time Min.	Rain Fall In/Hr	Runoff Q C.F.S.	Invert Elev.		Length FT.	Slope %	Dia. IN.	Capacity Q C.F.S.	VEL. F.P.S.	Flow Time MIN.
				Increment	Cumm.				Upper End	Lower End						
TRENCH DRAIN	D-102	2.54	0.85	2.16	2.16	5.00	6.78	14.64	373.80	370.92	384.2	0.75%	24	19.64	6.54	0.98
D-102	EX-01	0.00	0	0.00	2.16	5.24	6.69	14.45	370.92	370.51	54.1	0.76%	24	19.75	6.56	0.14
D-101	EX-01	0.63	0.9	0.57	0.57	5.44	6.63	3.76	372.18	371.51	44.5	1.50%	12	4.37	6.26	0.12
EX-01	EX-02	0.00	0	0.00	2.73	6.02	6.44	17.56	368.96	368.93	103.3	1.97%	18	14.77	8.36	0.21

Slotted Drain in Sag

Required Information	
Total flow into inlet, Q (cfs):	14.64
Depth of flow over the slot, d (ft):	0.25
Output	
Length of the slot required for total interception, L _s (ft):	40.992
Minimum required length with safety factor, L _s (ft):	81.984

TEST PIT NOTE:
INFORMATION CONCERNING UNDERGROUND UTILITIES WAS OBTAINED FROM AVAILABLE RECORDS. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION, ELEVATIONS, SIZES, AND MATERIALS OF EX UTILITIES BY DIGGING TEST PITS BY HAND AT ALL POINTS OF CONNECTION AND AT CROSSINGS. RESULTS FROM THESE TEST PITS SHALL BE SUBMITTED TO VIKA, INC. PRIOR TO COMMENCING CONSTRUCTION AND/OR ORDERING MATERIALS.

PIPE MATERIAL NOTE:
UNLESS OTHERWISE NOTED ALL PIPE IS TO BE ASTM C-76 CLASS III RCP.

MAINTENANCE NOTE:
UNLESS OTHERWISE NOTED ALL PIPE IS TO BE PRIVATELY MAINTAINED.

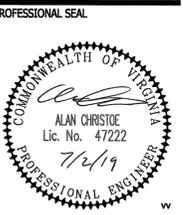
10-YR HGL NOTE:
UNLESS OTHERWISE NOTED THE 10-YR HGL IS AT OR BELOW THE CROWN OF THE PIPE.

ROOF DRAIN NOTE:
ALL ROOF DRAINS AND NON-STANDARD PIPES TO BE CONSTRUCTED UNDER A SEPARATE PLUMBING PERMIT.

NOTE:
CONTRACTOR SHALL INSTALL TO ENSURE AT A MINIMUM THE H-20 LOADING SPECIFICATIONS ARE MET.

REVISIONS

REVISIONS	DATE
1st. Sub.	10-24-2018
ALT. LAYOUT	12-05-2018
2nd. Sub.	03-28-2019
ADA Space Reloc.	05-08-2019
Updated Bid	05-20-2019



CEDAR PARK SHOPPING CENTER
ZONING DISTRICT C-1
TOWN OF VIENNA, VIRGINIA

UTILITY PROFILES AND COMPUTATIONS

DRAWN BY: DH
DESIGNED BY: SEC
DATE ISSUED: 03-27-2019
DWG. NO.: 7062H
SHEET NO.: 08.01

1
8.01
SLOTTED DRAIN
NOT TO SCALE

NO.	DESCRIPTION	REVIEW BY	APPROVED	DATE

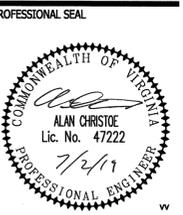
REVISION APPROVED BY
SITE PLAN REVIEW AND INSPECTIONS DIVISION

V 10.01



ENGINEERING SURVEYING/GEOMATICS
LANDSCAPE ARCHITECTURE PLANNING
Vika VIRGINIA, LLC
8180 GREENSBORO DRIVE SUITE 200
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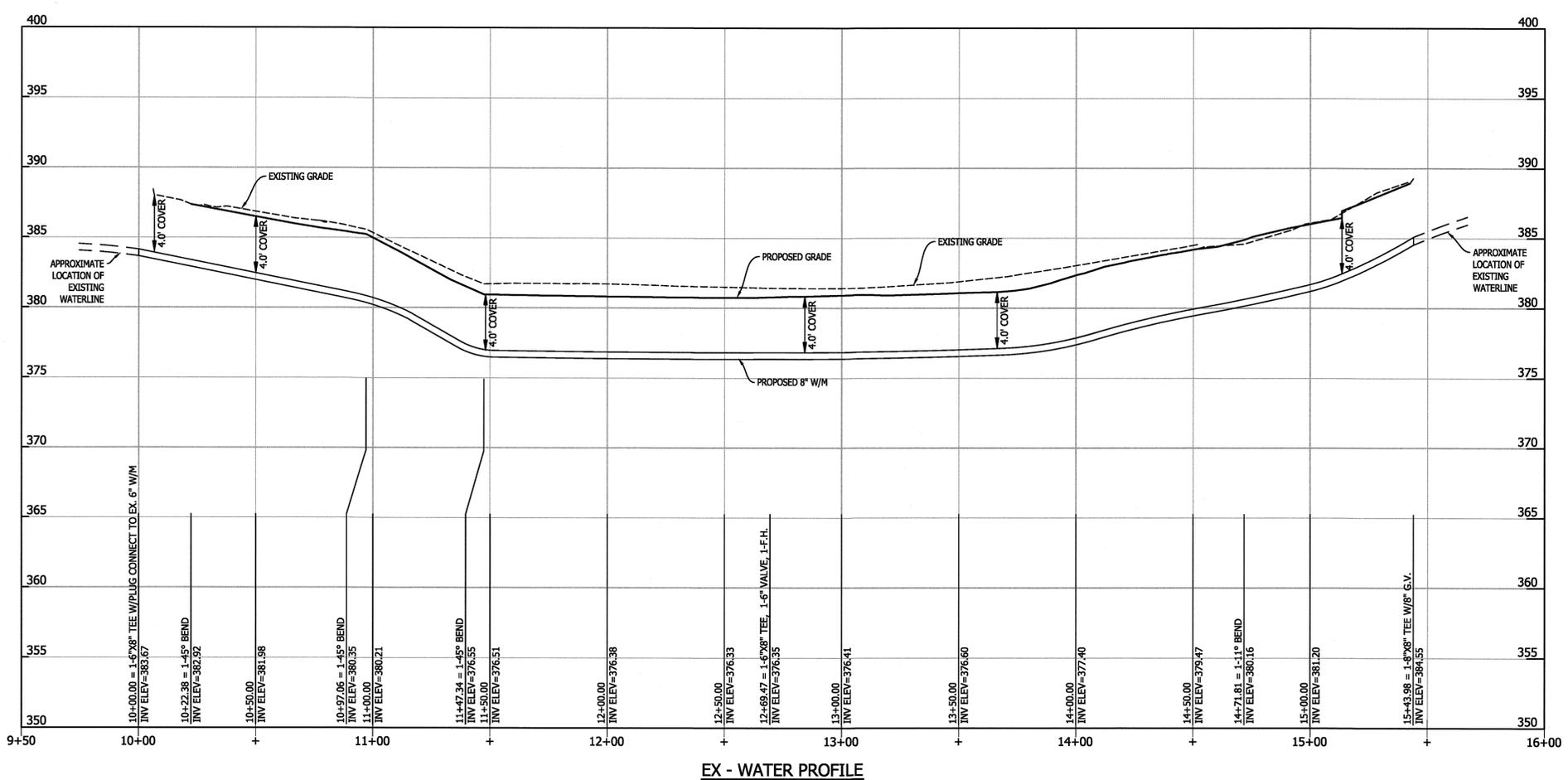
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CEDAR PARK SHOPPING CENTER
ZONING DISTRICT C-1
TOWN OF VIENNA, VIRGINIA

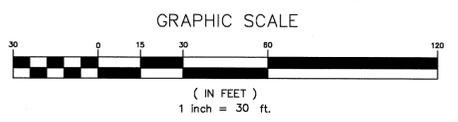
UTILITY PROFILES AND COMPUTATIONS

DRAWN BY: DH
DESIGNED BY: SEC
DATE ISSUED: 03-27-2019
DWG. SCALE: H:1"=30'; V:1"=5'
Vika NO. 7062H
SHEET NO. 08.02



TEST PIT NOTE:
INFORMATION CONCERNING UNDERGROUND UTILITIES WAS OBTAINED FROM AVAILABLE RECORDS. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION, ELEVATIONS, AND SIZES OF EX. UTILITIES BY DIGGING TEST PITS BY HAND AT ALL POINTS OF CONNECTION AND AT CROSSINGS. TEST PIT SHALL BE DUG AT APPROPRIATE INTERVAL TO VERIFY ALLOWABLE COVER ON WATER LINE IS MAINTAINED.

RESTRAINT NOTE:
ALL VERTICAL BENDS IN WATER MAIN ARE TO BE RESTRAINED



NO.	DESCRIPTION	REVIEW BY	APPROVED	DATE

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SEDIMENT AND EROSION CONTROL NARRATIVE

- DESCRIPTION OF SITE

TYPE OF DEVELOPMENT: OFFICE / BUSINESS FACILITY, PARKING AREAS, AND SUPPORTING UTILITIES.

AREA OF SITE: 7.21 ACRES

EXISTING CONDITIONS AND VEGETATION:
 THE EXISTING TERRAIN CONSISTS OF MODERATE SLOPES WITH A VAST MAJORITY OF THE SITE BEING PAVED OR BUILDING AND A MINOR GRASS AREA WITH LIMITED LANDSCAPING. THERE ARE EXISTING BUILDINGS A MAXIMUM OF 2 STORIES ABOVE GRADE WITH AN ADDITIONAL STORY BELOW GRADE IN THE SAME AREAS.

DRAINAGE SHED: WOLFTRAP CREEK
- CONSTRUCTION SCHEDULE:

CONSTRUCTION IS PLANNED TO BEGIN WITHIN ONE YEAR OF APPROVAL OF THE CONSTRUCTION PLANS AND TO BE COMPLETED IN TWO YEARS.
- SOILS DATA:

PER FAIRFAX COUNTY SOILS MAPS, SEE COVER SHEET.
- EROSION AND SEDIMENT CONTROL:

PERMANENT OR TEMPORARY SOIL STABILIZATION MUST BE APPLIED TO DENUDED AREAS WITHIN 7 DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE. SOIL STABILIZATION MUST BE APPLIED WITHIN 7 DAYS TO DENUDED AREAS WHICH MAY NOT BE AT FINAL GRADE, BUT WILL REMAIN DORMANT (UNDISTURBED) FOR LONGER THAN 60 DAYS.
- EROSION AND SEDIMENT CONTROL MEASURES:

THE SUBJECT SITE WILL RELY ON SILT FENCE, INLET PROTECTION, AND A CONSTRUCTION ENTRANCE WITH A WASH RACK TO CONTROL SEDIMENT LEAVING THE SITE AND MINIMIZE EROSION. THE EXISTING PAVEMENT MAY BE USED AS A CONSTRUCTION ENTRANCE WITH APPROVAL OF THE TOWN INSPECTOR.

E&S PHASE I

- INSTALL THE CONSTRUCTION ENTRANCE & PERIMETER CONTROLS & INLET PROTECTION & SILT FENCE.
- PROCEED WITH DEMOLITION ON THE DEMOLITION PLAN WITH THE INSPECTORS APPROVAL.
- PROCEED WITH CONSTRUCTION OF THE IMPROVEMENTS SHOWN ON THE SITE PLAN, PENDING APPROVAL OF THE INSPECTOR.
- WORK TOWARD THE PHASE II PROGRAM FOR THIS SITE IN COORDINATION WITH THE INSPECTOR.

E&S PHASE II

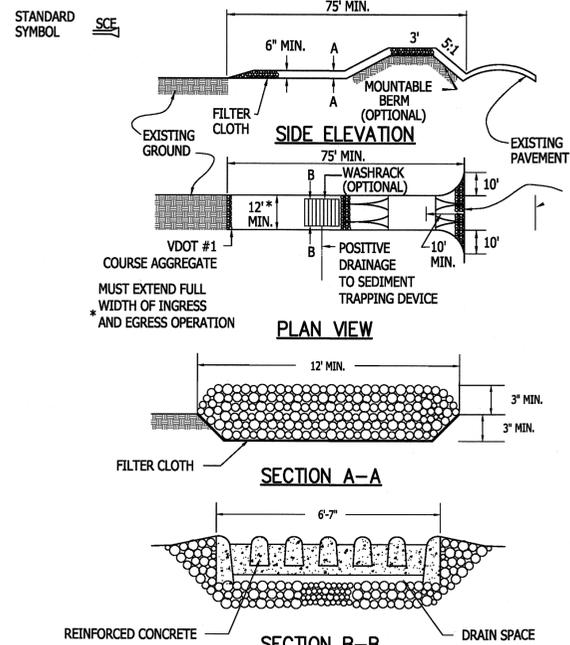
- ALL SEDIMENT AND EROSION CONTROL DEVICES INSTALLED AS PART OF THE PREVIOUS E&S PHASE SHALL REMAIN IN PLACE AND FUNCTIONING, UNLESS OTHERWISE DIRECTED BY THE INSPECTOR.
- FILL SLOPE SURFACES TO BE LEFT IN ROUGHENED CONDITION TO REDUCE SHEET AND RILL EROSION OF THE SLOPES. THE CONTRACTOR SHALL REDIRECT CONCENTRATED FLOW AWAY FROM THE SLOPES BY INSTALLING EARTH BERMS AND OUTLETTING THE RUNOFF TO A STABILIZED OUTLET WITH SEDIMENT TRAPPING DEVICE.
- RESTORE AND STABILIZE ALL UNPAVED AREAS. THIS WORK MUST BE PERFORMED AND INSPECTED AS EARLY AS SITE CONDITIONS ALLOW.
- REMOVE CONTROLS FROM THE PREVIOUS E&S PHASE ONLY AS APPROVED BY THE INSPECTOR.
- AFTER CONSTRUCTION OPERATIONS HAVE ENDED AND ALL DISTURBED AREAS HAVE BEEN STABILIZED, MECHANICAL CONTROLS SHALL BE REMOVED AND THE GROUND PERMANENTLY STABILIZED WITH VEGETATION UPON APPROVAL OF THE TOWN OF VIENNA INSPECTOR.
- MECHANICAL DEVICE MAINTENANCE PROGRAM:
 - ALL CONTROLS ARE TO BE INSPECTED ON A DAILY BASIS BY THE SITE SUPERINTENDENT OR HIS REPRESENTATIVE. ANY DAMAGED CONTROLS ARE TO BE REPAIRED BY THE END OF THE WORKING DAY.
- VEHICLE MAINTENANCE MEASURES:

ALL CONSTRUCTION VEHICLES LEAVING THE SITE SHALL EXIT VIA THE CONSTRUCTION ENTRANCE, AND BE WASHED AS NECESSARY TO INSURE THAT SEDIMENT WILL NOT BE REMOVED FROM THE SITE. WASH WATER TO BE TRUCKED INTO THE SITE OR OBTAINED FROM A METERED WATER CONNECTION. WASH WATER TO BE DIRECTED TO A SEDIMENT TRAPPING DEVICE.
- SEDIMENT BASIN MAINTENANCE:

IF THE ENTIRE SITE IS NOT PROTECTED FROM PUBLIC INGRESS/EGRESS A CHAIN LINK FENCE SHALL BE PLACED AROUND THE SEDIMENT BASIN. SIGNS SHALL BE PLACED AROUND THE TEMPORARY SEDIMENT BASIN STATING "DANGER-QUICKSAND-STAY AWAY." THE TEMPORARY SEDIMENT BASIN SHALL BE CLEANED WHEN IT IS NO LONGER REQUIRED. IF APPROVED BY THE GEOTECHNICAL ENGINEER SEDIMENT REMOVED FROM SEDIMENT BASIN MAY BE DRIED OUT AND USED IN NON-STRUCTURAL FILL AREAS.

SEDIMENT SHALL BE REMOVED FROM THE BASIN WHEN THE SEDIMENT REACHES THE CLEANOUT ELEVATION SHOWN ON THE BASIN DETAILS

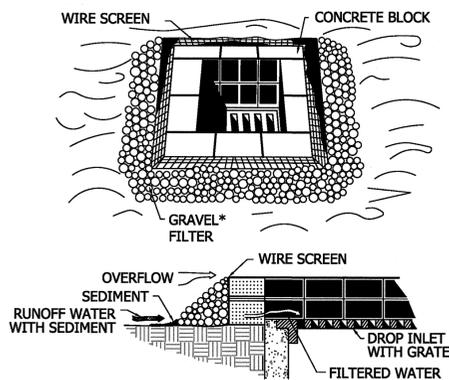
SEDIMENT REMOVAL FROM THE TRAP SHALL BE DEPOSITED IN A SUITABLE AREA AND IN SUCH A MANNER THAT IT WILL NOT ERODE AND CAUSE SEDIMENTATION PROBLEMS.



1
14.01
STONE CONSTRUCTION ENTRANCE
NOT TO SCALE

LAND CONSERVATION NOTES

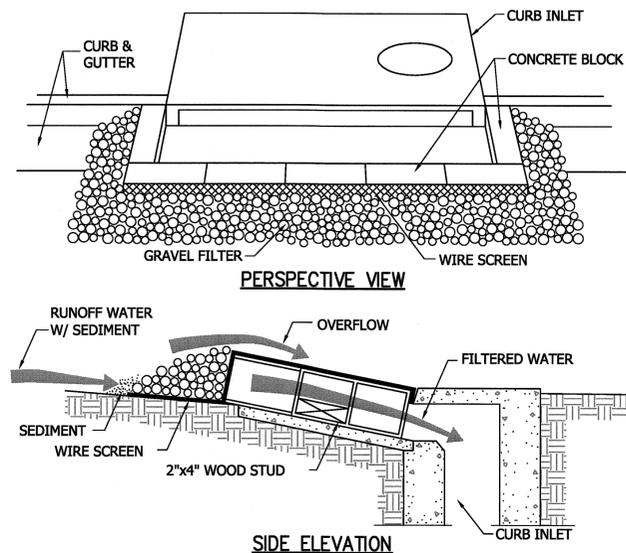
- NO DISTURBED AREA WILL REMAIN DENUDED AND DORMANT FOR MORE THAN 7 CALENDAR DAYS UNLESS OTHERWISE AUTHORIZED BY THE DIRECTOR. SPEED IS THE ESSENTIAL LAND CONSERVATION ELEMENT FOR LINEAR PROJECTS.
- ALL EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE PLACED PRIOR TO OR AS THE FIRST STEP IN GRADING. FIRST AREAS TO BE CLEARED ARE TO BE THOSE REQUIRED FOR THE PERIMETER CONTROLS.
- ALL STORM AND SANITARY SEWER LINES NOT IN STREETS ARE TO BE MULCHED AND SEEDED WITHIN 7 DAYS AFTER BACKFILL. NO MORE THAN 500 FEET IS TO BE OPENED AT ANY ONE TIME.
- ELECTRIC POWER, TELEPHONE AND GAS SUPPLY TRENCHES ARE TO BE COMPACTED, SEEDED AND MULCHED WITHIN 7 DAYS AFTER BACKFILL.
- WHERE CONSISTENT WITH JOB SAFETY REQUIREMENTS, ALL EXCAVATED MATERIAL IS TO BE PLACED ON THE UPHILL SIDE OF TRENCHES. NO MATERIAL IS TO BE PLACED IN STREAM BEDS. ANY STOCKPILED MATERIAL WHICH WILL REMAIN IN PLACE LONGER THAN 7 DAYS IS TO BE SEEDED FOR TEMPORARY VEGETATION AND MULCHED WITH STRAW MULCH. WHERE SOIL IS PLACED ON THE DOWNHILL SIDE OF TRENCH, IT IS TO BE BACK SLOPED TO DRAIN TOWARD THE TRENCH. THE PUMP DISCHARGE HOSE MUST OUTLET IN A STABILIZED AREA OF A SEDIMENT BASIN.
- ALL TEMPORARY EARTH BERMS, DIVERSIONS, AND SEDIMENT CONTROL DAMS ARE TO BE MULCHED AND SEEDED FOR TEMPORARY VEGETATIVE COVER IMMEDIATELY AFTER GRADING. STRAW OR HAY MULCH IS REQUIRED. THE SAME APPLIES TO ALL STOCKPILES. ALL FILLS ARE TO BE LEFT WITH A TEMPORARY FILL DIVERSION AT THE TOP OF THE SLOPE AT THE END OF EACH DAY'S OPERATION.
- DURING CONSTRUCTION, ALL STORM SEWER INLETS WILL BE PROTECTED BY INLET PROTECTION DEVICES, MAINTAINED AND MODIFIED AS REQUIRED BY CONSTRUCTION PROGRESS.
- ANY DISTURBED AREA NOT COVERED BY NOTE #1 ABOVE AND NOT PAVED, SODDED, OR BUILT UPON BY NOVEMBER 1ST, OR DISTURBED AFTER THAT DATE, IS TO BE MULCHED WITH HAY OR STRAW MULCH AT A RATE OF TWO TONS PER ACRE AND OVER SEEDED NO LATER THAN APRIL 15.
- WHERE STREAM CROSSINGS ARE REQUIRED FOR EQUIPMENT, TEMPORARY CULVERTS SHALL BE PROVIDED.
- AT THE COMPLETION OF CONSTRUCTION PROJECTS AND PRIOR TO RELEASE OF BOND, ALL TEMPORARY SEDIMENT AND EROSION CONTROLS SHALL BE REMOVED AND ALL DISTURBED AREAS SHALL BE STABILIZED.



2
14.01
BLOCK AND GRAVEL DROP INLET SEDIMENT FILTER
TYPE II INLET PROTECTION
NOT TO SCALE

SPECIFIC APPLICATION
 THE METHOD OF INLET PROTECTION IS APPLICABLE WHERE HEAVY FLOWS ARE EXPECTED AND WHERE AN OVERFLOW CAPACITY IS NECESSARY TO PREVENT EXCESSIVE PONDING AROUND THE STRUCTURE.

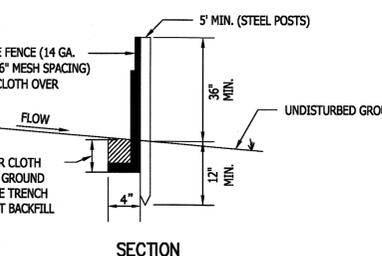
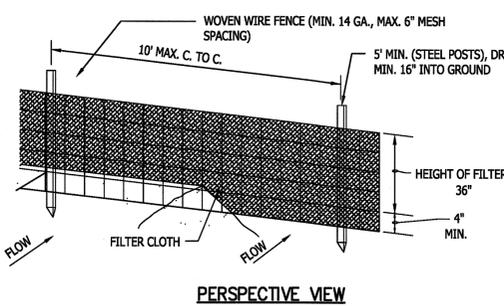
* GRAVEL SHALL BE VDOT #3, #357 OR #5 COARSE AGGREGATE.



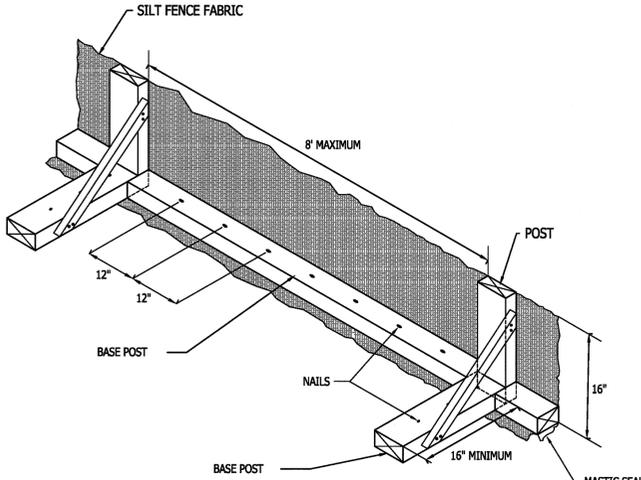
SPECIFIC APPLICATION
 THIS METHOD OF INLET PROTECTION IS APPLICABLE AT CURB INLETS WHERE AN OVERFLOW CAPABILITY IS NECESSARY TO PREVENT EXCESSIVE PONDING IN FRONT OF THE STRUCTURE.

- MAINTENANCE**
- THE STRUCTURE SHALL BE INSPECTED AFTER EACH RAIN AND REPAIRS MADE AS NEEDED.
 - SEDIMENT SHALL BE REMOVED AND THE TRAP RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO 1/2 THE DESIGN DEPTH OF THE TRAP. REMOVED SEDIMENT SHALL BE DEPOSITED IN A SUITABLE AREA AND IN SUCH A MANNER THAT IT WILL NOT ERODE.
 - STRUCTURES SHALL BE REMOVED AND THE AREA STABILIZED WHEN THE REMAINING DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.

3
14.01
BLOCK AND GRAVEL CURB INLET SEDIMENT FILTER
TYPE I INLET PROTECTION
NOT TO SCALE



4
14.01
SILT FENCE
NOT TO SCALE



- NOTES**
- ALL LUMBER SHALL BE 2"x4" NOMINAL.
 - A MASTIC SEAL SHALL BE PROVIDED, AS SHOWN, TO PREVENT SEDIMENT LADEN WATER ESCAPING UNTREATED BENEATH SILT FENCE INSTALLATION.
 - SILT FENCE FABRIC SHALL BE TAUT AND SECURELY STAPLED TO FACE OF UPRIGHT SUPPORTS.
 - NAILS AS REQUIRED TO SECURE BOARDS TO PAVEMENT SHALL BE 20d X 4" MINIMUM LENGTH.
 - APPLICATION DESIGN AND MATERIALS CRITERIA SHALL BE AS STATED IN THE VIRGINIA SOIL EROSION AND SEDIMENT CONTROL HANDBOOK.

5
14.01
SILT FENCE IN PAVEMENT
NOT TO SCALE

NO.	DESCRIPTION	REVIEW BY	APPROVED	DATE

REVISION APPROVED BY
 SITE PLAN REVIEW AND INSPECTIONS DIVISION

VKA
 ENGINEERING SURVEYING/GEOMATICS
 LANDSCAPE ARCHITECTURE PLANNING

VKA VIRGINIA, LLC
 8180 GREENSBORO DRIVE SUITE 200
 TYSONS, VIRGINIA 22102
 PHONE: (703) 442-7800
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ADA Space Reloc.	05-08-2019
Updated Bid	05-20-2019

PROFESSIONAL SEAL

COMMONWEALTH OF VIRGINIA
 ALAN CRISTOE
 Lic. No. 47222
 7/2/19
 PROFESSIONAL ENGINEER

CEDAR PARK SHOPPING CENTER
 ZONING DISTRICT C-1
 TOWN OF VIENNA, VIRGINIA

EROSION AND SEDIMENT CONTROL NOTES AND DETAILS

DRAWN BY: DH
 DESIGNED BY: SEC
 DATE ISSUED: 03-27-2019

DWG. SCALE: N/A
 VKA NO. 7062H
 SHEET NO. 14.01

TM# 049-1 ((02)) 0006
VIENNA PARK, LLC
DEED BOOK 19169, PAGE 141
ZONE: RM-2
USE: GARDEN APTS RENTAL

ZONE: C-5
USE: CONVENIENCE GROCERY

TM# 049-1 ((02)) 0007B
VIENNA PARK, LLC
DEED BOOK 19169, PAGE 141
ZONE: RM-2
USE: GARDEN APTS RENTAL

TM# 049-1 ((02)) 0002B
THE PROPERTY OF
GRI CEDAR PARK, LLC
DEED BOOK 19100, PAGE 1934
314,169 SQ. FT. OR
7.2123 ACRES

TM# 049-1 ((02)) 0007
VIENNA PARK, LLC
DEED BOOK 19169, PAGE 141
ZONE: RM-2
USE: GARDEN APTS RENTAL

QTY	CREDIT	KEY	LATIN NAME	COMMON NAME	SIZE
13	300 SF	Qp	Quercus phellos	Willow Oak	2"-2.5" Cal B & B
4	300 SF	Ta	Tilia americana	American Linden	2"-2.5" Cal B & B
20	300 SF	Pa	Platanus x acerifolia	London Plane Tree	2"-2.5" Cal B & B
7	300 SF	Ua	Ulmus americana 'Princeton'	'Princeton American Elm	2"-2.5" Cal B & B
3	300 SF	Ar	Acer rubrum 'Red Sunset'	'Red Sunset' Red Maple	2"-2.5" Cal B & B
8	200 SF	Ns	Nyssa Sylvatica	Black Gum	2"-2.5" Cal B & B
4	300 SF	Pe	Pinus echinata	Short Leaf Pine	8'-10' Height B & B
3	150 SF (native)	Cc	Cercis canadensis	Eastern Redbud	2"-2.5" Cal B & B
6	100 SF	Mv	Magnolia virginiana	Sweetbay Magnolia	2"-2.5" Cal B & B
14	100 SF	Aa	Amelanchier arborea	Serviceberry	2"-2.5" Cal B & B
11	100 SF	Co	Cotinus obovatus	American Smoketree	2"-2.5" Cal B & B
8	100 SF	Cf	Cornus florida	Flowering Dogwood	2"-2.5" Cal B & B
2	225 SF (native)	Bn	Betula nigra	River Birch	2"-2.5" Cal B & B

QTY	KEY	SPACING	LATIN NAME	COMMON NAME	SIZE
136	At	18"	Asclepias tuberosa	Butterfly Milkweed	2 GAL. POT
1,023	Hc	12"	Heuchera americana	American Alumroot	1 GAL. POT
205	Pd	12"	Penstemon digitalis	Beard-Tongue	2 GAL. POT

TREE COVER CANOPY CALCULATIONS

GROSS SITE AREA	(=)	314,169 SF
ZONING DISTRICT	(=)	C-1 - LOCAL COMMERCIAL ZONE
REQUIRED TREE CANOPY COVER FOR C-1 ZONE	(=)	10%
REQUIRED TREE CANOPY		31,417 SF

TREE COVER PROVIDED

VEGETATION PRESERVED: (SEE SHEET 17.03 THIS PLAN SET)	(+)	9,722.50 (7,778 SF + 1,944.50 SF (25%))
ADDITIONAL COVERAGE TO PROVIDED BY PLANTING TREES:	(+)	21,700 SF *
TOTAL COVERAGE PROVIDED	(=)	31,422.50 (10%)

* COVERAGE PROVIDED BY PLANTING TREES:	51 TREES @ 300	= 15,300 SF
	8 TREES @ 200	= 1,600 SF
	2 TREES @ 225	= 450 SF
	3 TREES @ 150	= 450 SF
	39 TREES @ 100	= 3,900 SF
	TOTAL COVERAGE =	21,700 SF

NEW PLANTING NOTES

Newly planted trees shall be healthy and vigorous, and meet all ANSI Standards. All newly installed trees that are required by the Tree Conservation Plan, which in the opinion of the Town Arborist are dead or are not healthy, shall be replaced by the contractor.

New plantings shall be a minimum of 2.0"-2.5" caliper for deciduous trees and 6'-8" height for evergreens.

- A minimum of TWO different tree species will be required when planting 3-5 new trees on site.
- A minimum of THREE different tree species will be required for 6-9 new trees installed on site.
- A minimum of FOUR different tree species will be required for 10+ new tree plantings on site.
- "Large Shade Trees" shall be installed no closer than 30' on-center.
- "Medium Shade Trees" and "Medium Evergreen Trees" shall be installed no closer than 20' o.c.
- "Small Ornamental and Small Evergreen Trees" shall be installed no closer than 15' o.c.

Planting shall be done only within the following listed dates. Any tree planted outside of these planting seasons will be rejected by the Town Arborist upon inspection:

- Spring Planting Season: March 15 - May 30
- Fall Planting Season: September 15 - November 30

If not completed during the accepted planting seasons, a Planting Season Waiver will be required for trees/shrubs that must be installed for canopy coverage or other requirements as specified on the approved plans for final occupancy. Consideration and approval of a planting season waiver shall be at the discretion of the Head Arborist, or his/her designee.

If a Planting Season Waiver is granted, the applicant shall post a bond (cash or surety) covering any tree plantings required for canopy coverage for the site.

*To compute the bond for tree plantings the applicant shall use the latest Town of Vienna Tree Preservation and Planting Specifications Manual to compute cost for proposed trees for canopy coverage.

*If after the following planting season, required tree plantings are not provided, the owner / applicant will be notified and the entire bond will be forfeited to the Town; the Town will use the bond money to complete required tree plantings. Any additional charges for completing the plantings shall be borne by the applicant.

*Bond will be released upon a passing inspection by the Town Arborist.

SOME OF THE NEW PROPOSED TREES ON THE WEST SIDE OF THIS SITE WILL REQUIRE THE REMOVAL OF APPROXIMATELY (49) EXISTING TREES. THE TOWN OF VIENNA PARK AND RECREATION DEPARTMENT ARBORIST HAS EVALUATED THESE (49) EXISTING TREES AND DEEMED THEM UNHEALTHY AND NOT TO BE COUNTED TOWARD THE CANOPY CREDITS (SEE SHEET 17.03 EXISTING TREE INVENTORY PLAN).

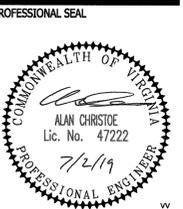


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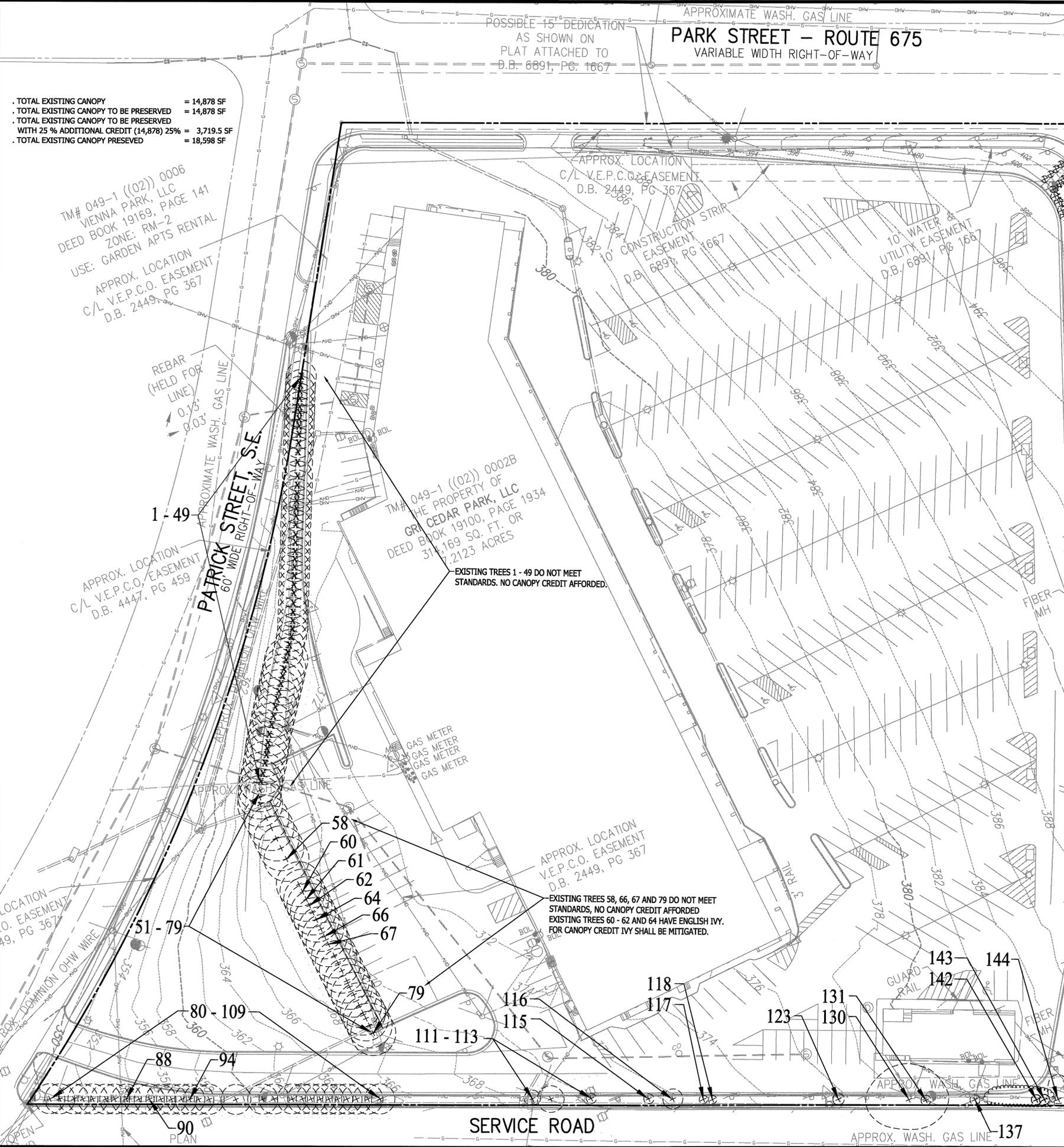
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Updated Bid	05-20-2019



CEDAR PARK SHOPPING CENTER
ZONING DISTRICT C-1
TOWN OF VIENNA, VIRGINIA

LANDSCAPE PLAN

DRAWN BY: DH
DESIGNED BY: SEC
DATE ISSUED: 03-27-2019
DWG. SCALE: 1"=30'
VIKA NO.: 7062H
SHEET NO.: 17.01



. TOTAL EXISTING CANOPY = 14,878 SF
 . TOTAL EXISTING CANOPY TO BE PRESERVED = 14,878 SF
 . TOTAL EXISTING CANOPY TO BE PRESERVED WITH 25 % ADDITIONAL CREDIT (14,878) 25% = 3,719.5 SF
 . TOTAL EXISTING CANOPY PRESERVED = 18,598 SF

TM# 049-1 ((02)) 0006
 VIENNA PARK, LLC
 DEED BOOK 19169, PAGE 141
 ZONE: RM-2
 USE: GARDEN APTS RENTAL
 APPROX. LOCATION
 C/L V.E.P.C.O. EASEMENT
 D.B. 2449, PG 367

REBAR (HELD FOR LINE)
 APPROXIMATE WASH. GAS LINE
 0.13'
 0.03'
 1 - 49
 PATRICK STREET, S.E.
 60' WIDE RIGHT-OF-WAY
 APPROX. LOCATION
 C/L V.E.P.C.O. EASEMENT
 D.B. 4447, PG 459

TM# 049-1 ((02)) 0002B
 THE PROPERTY OF
 GRI CEDAR PARK, LLC
 DEED BOOK 19100, PAGE 1934
 314,169 SQ. FT. OR
 .2123 ACRES

EXISTING TREES 1 - 49 DO NOT MEET
 STANDARDS. NO CANOPY CREDIT AFFORDED.

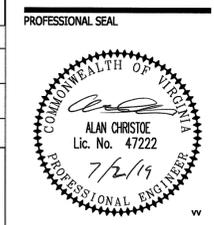
APPROX. LOCATION
 V.E.P.C.O. EASEMENT
 D.B. 2449, PG 367
 EXISTING TREES 58, 66, 67 AND 79 DO NOT MEET
 STANDARDS, NO CANOPY CREDIT AFFORDED
 EXISTING TREES 60 - 62 AND 64 HAVE ENGLISH IVY.
 FOR CANOPY CREDIT IVY SHALL BE MITIGATED.

Tree No.	Species	Size	CRZ	Condition	Canopy Position	Crown Density	Average Crown Radius	Status / Action Item	Existing Conditions / Observations
		DBH (in)	R (ft)	%		%	R (ft)		
1 - 49	Juniperus virginiana, Eastern Redcedar	7 - 13	13	0.30	Codominant	50	13	REMOVE AS NEEDED TO INSTALL NEW PLANTINGS	Trees 1 - 50 have been topped from years of canopy utility pruning for overhead wire clearance. Trees show some stress and die-back.
51 - 79	Juniperus virginiana, Eastern Redcedar	9 - 13	13	0.52	Codominant	65	14	PRESERVE. REMOVE EXISTING INVASIVE ENGLISH IVY FROM TREES 60-62 & 64.	Trees 51 - 79 show no severe biotic issues. Poor to fair scaffold branching. Some trees have invasive E. Ivy up the trunk stem & into canopy.
80 - 109	Juniperus virginiana, Eastern Redcedar	8 - 12	12	0.52	Codominant	65	9	PRESERVE. REMOVE EXISTING INVASIVE ENGLISH IVY. REMOVE INVASIVE ORIENTAL BITTERSWEET FROM TREE 101.	Trees 80 - 109 show no severe biotic issues. Poor to fair scaffold branching. Some trees have invasive E. Ivy up the trunk stem & into canopy.
111 - 113	Juniperus virginiana, Eastern Redcedar	7 - 10	7	.02 - .10	Intermediate	20	8	PRESERVE	Trees 111 - 113 show severe decline and would not be considered high value trees.
115	Juniperus virginiana, Eastern Redcedar	10	10	0.10	Intermediate	N/A	5	PRESERVE	Tree 115 shows severe decline & would not be considered high value trees. The canopy has significant die-back.
116	Morus alba, White Mulberry	9	9	0.10	Supressed	25	6	PRESERVE	Tree 116 has experience storm damage & poor pruning. Twisty trunk stem with cracks & splits. Overall tree 116 has poor scaffold branching. Morus alba is on the Mid-Atlantic invasive species plant list. Tree 116
117, 118	Juniperus virginiana, Eastern Redcedar	7 - 9	9	0.10	Intermediate	20	6	PRESERVE	Trees 117-119 show decline and would not be considered high value trees.
123	Juniperus virginiana, Eastern Redcedar	3 - 9	9	0.0 - .18	Intermediate	50	6	PRESERVE	Trees 121 - 130 show decline and would not be considered high value trees.
131	Morus alba, White Mulberry	23	23	0.30	Dominant	60	21	PRESERVE	The 131 tree shows some decline with fair to poor scaffold branching. Tree 131 would not be considered a high value tree though it shows vigor & vitality. Morus alba is on the Mid-Atlantic invasive species plant list.
137, 142, 143, 144	Juniperus virginiana, Eastern Redcedar	7 - 12	10	0.12	Codominant	30	6	PRESERVE	Trees 132 - 145 have been topped from canopy utility pruning for overhead wire clearance. V-poor scaffold branching. Trees show some stress and die-back.

DBH = Diameter at Breast Height (measured 4.5 feet above ground).
 CRZ = Critical Root Zone (1 foot of radius per inch of tree diameter). CRZ for trees with multiple stems are calculated based on the diameter of a tree with the basal area equal to the sum of the basal areas for all stems measured.
 Conditions Ratings are provided as percentages and are based on methods outlined in the "Guide for Plant Appraisal", 9th edition, published by the International Society of Arboriculture.
 P:\projects\7062\7062H\DATA\Landscape & Trees\Ex Tree Inventory (2019.05.30).xls\Sheet1



REVISIONS	DATE
1st. Sub.	10-24-2018
ALT. LAYOUT	12-05-2018
2nd. Sub.	03-28-2019
ADA Space Reloc.	05-08-2019
Updated Bid	05-20-2019



CEDAR PARK SHOPPING CENTER
 ZONING DISTRICT C-1
 TOWN OF VIENNA, VIRGINIA

PLAN PREPARED BY: NELSON P. KIRCHNER, RLA
 ISA CERTIFIED ARBORIST No. MA-4720AM
 SIGNATURE _____
 DATE _____
 GRAPHIC SCALE
 (IN FEET)
 1 inch = 30 ft.



NO.	DESCRIPTION	REVIEWED BY	APPROVED	DATE

REVISION APPROVED BY
 SITE PLAN REVIEW AND INSPECTIONS DIVISION

EXISTING TREE INVENTORY PLAN

DRAWN BY: DH
 DESIGNED BY: SEC
 DATE ISSUED: 03-27-2019
 DWG. SCALE: 1"=30'
 VIKI NO. 7062H
 SHEET NO. 17.03

PRE-DEVELOPMENT

LEGEND
 IMPERVIOUS AREA = 2.11 AC
 MANAGED TURF = 0.05 AC
 TOTAL = 2.16 AC

REVISIONS	DATE
1st. Sub.	10-24-2018
ALT. LAYOUT	12-05-2018
2nd. Sub.	03-28-2019
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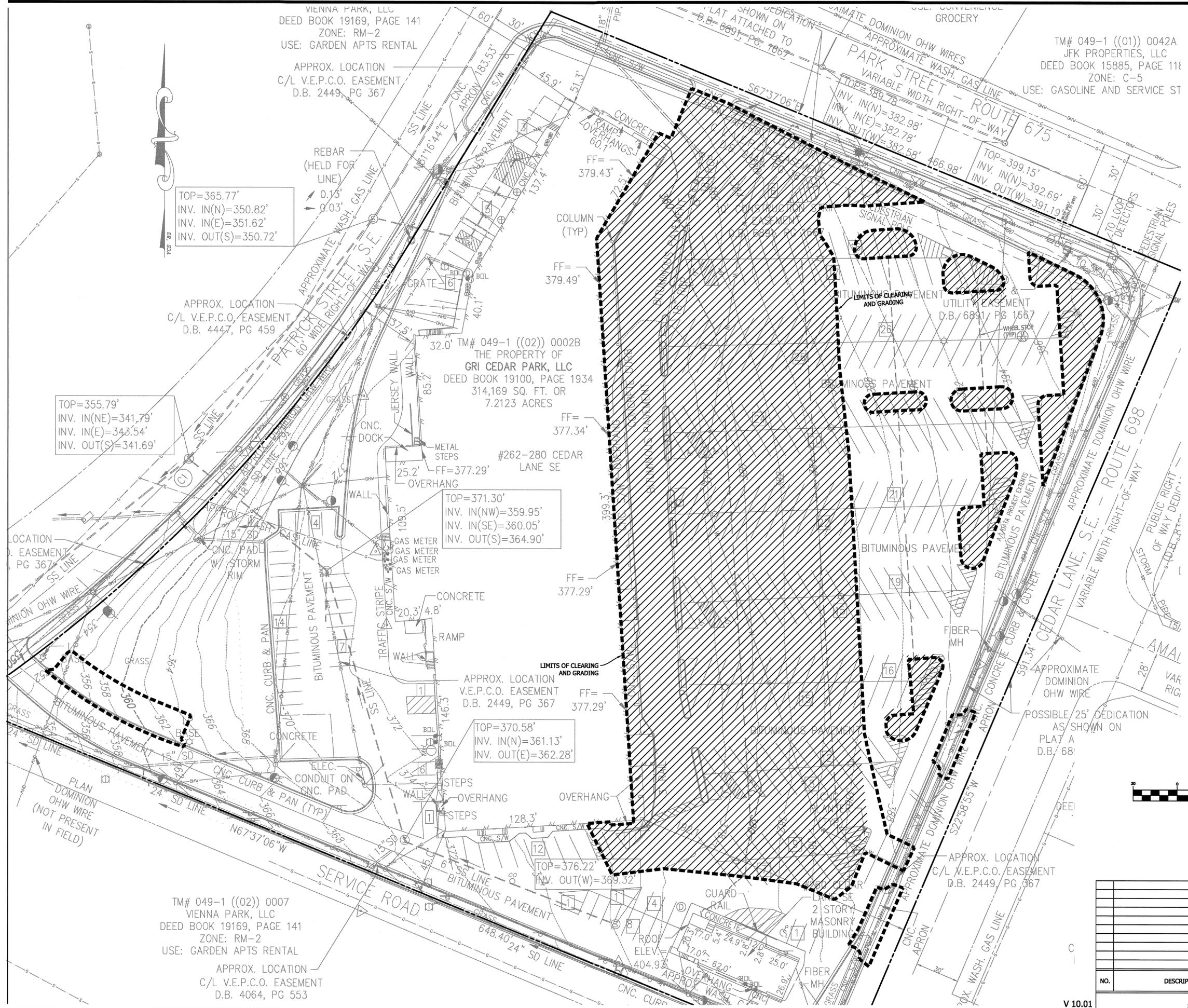
PROFESSIONAL SEAL


CEDAR PARK SHOPPING CENTER
 ZONING DISTRICT C-1
 TOWN OF VIENNA, VIRGINIA

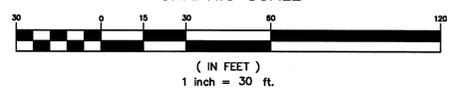
EXISTING SWM BMP MAP

DRAWN BY: DH
 DESIGNED BY: SEC
 DATE ISSUED: 03-27-2019

DWG. SCALE: 1"=30'
 Vika NO. 7062H
 SHEET NO. **18.01**



NORTH (NAD 83)
 GRAPHIC SCALE



NO.	DESCRIPTION	REVIEW BY	APPROVED	DATE

REVISION APPROVED BY
 SITE PLAN REVIEW AND INSPECTIONS DIVISION

V 10.01

Drainage Area A

Drainage Area A Land Cover (acres)

	A Soils	B Soils	C Soils	D Soils	Totals	Land Cover Rv
Forest/Open Space (acres)				0.03	0.03	0.05
Managed Turf (acres)				0.40	0.40	0.25
Impervious Cover (acres)				1.73	1.73	0.95
Total				2.16		

CLEAR BMP AREAS

Total Phosphorus Available for Removal in D.A. A (lb/yr)	3.98
Post Development Treatment Volume in D.A. A (ft ³)	6,329

Stormwater Best Management Practices (RR = Runoff Reduction)

--Select from dropdown lists--

Practice	Runoff Reduction Credit (%)	Managed Turf Credit Area (acres)	Impervious Cover Credit Area (acres)	Volume from Upstream Practice (ft ³)	Runoff Reduction (ft ³)	Remaining Runoff Volume (ft ³)	Total BMP Treatment Volume (ft ³)	Phosphorus Removal Efficiency (%)	Phosphorus Load from Upstream Practices (lb)	Untreated Phosphorus Load to Practice (lb)	Phosphorus Removed By Practice (lb)	Remaining Phosphorus Load (lb)	Downstream Practice to be Employed
6. Bioretention (RR)													
6.a. Bioretention #1 or Micro-Bioretention #1 or Urban Bioretention (Spec #9)	40		0.51	0	703	1,055	1,759	25	0.00	1.10	0.61	0.50	
6.b. Bioretention #2 or Micro-Bioretention #2 (Spec #9)	80			0	0	0	0	50	0.00	0.00	0.00	0.00	

Site Results (Water Quality Compliance)

Area Checks	D.A. A	D.A. B	D.A. C	D.A. D	D.A. E	AREA CHECK
FOREST/OPEN SPACE (ac)	0.03	0.00	0.00	0.00	0.00	OK.
IMPERVIOUS COVER (ac)	1.73	0.00	0.00	0.00	0.00	OK.
IMPERVIOUS COVER TREATED (ac)	0.51	0.00	0.00	0.00	0.00	OK.
MANAGED TURF AREA (ac)	0.40	0.00	0.00	0.00	0.00	OK.
MANAGED TURF AREA TREATED (ac)	0.00	0.00	0.00	0.00	0.00	OK.
AREA CHECK	OK.	OK.	OK.	OK.	OK.	

Site Treatment Volume (ft³) **6,334**

Runoff Reduction Volume and TP By Drainage Area

	D.A. A	D.A. B	D.A. C	D.A. D	D.A. E	TOTAL
RUNOFF REDUCTION VOLUME ACHIEVED (ft ³)	703	0	0	0	0	703
TP LOAD AVAILABLE FOR REMOVAL (lb/yr)	3.98	0.00	0.00	0.00	0.00	3.98
TP LOAD REDUCTION ACHIEVED (lb/yr)	0.61	0.00	0.00	0.00	0.00	0.61
TP LOAD REMAINING (lb/yr)	3.37	0.00	0.00	0.00	0.00	3.37

NITROGEN LOAD REDUCTION ACHIEVED (lb/yr)	5.05	0.00	0.00	0.00	0.00	5.05
--	------	------	------	------	------	------

Total Phosphorus

FINAL POST-DEVELOPMENT TP LOAD (lb/yr)	3.98
TP LOAD REDUCTION REQUIRED (lb/yr)	0.30
TP LOAD REDUCTION ACHIEVED (lb/yr)	0.61
TP LOAD REMAINING (lb/yr)	3.37

REMAINING TP LOAD REDUCTION REQUIRED (lb/yr): 0.00 **
 ** TARGET TP REDUCTION EXCEEDED BY 0.31 LB/YEAR **

Total Nitrogen (For Information Purposes)

POST-DEVELOPMENT LOAD (lb/yr)	28.47
NITROGEN LOAD REDUCTION ACHIEVED (lb/yr)	5.05
REMAINING POST-DEVELOPMENT NITROGEN LOAD (lb/yr)	23.42

Runoff Volume and Curve Number Calculations

Enter design storm rainfall depths (in):

1-year storm	2-year storm	10-year storm
2.62	3.17	4.87

Use NOAA Atlas 14 (<http://hdsc.nws.noaa.gov/hdsc/pfds/>)

***Notes (see below):**

- [1] The curve numbers and runoff volumes computed in this spreadsheet for each drainage area are limited in their applicability for determining and demonstrating compliance with water quantity requirements. See VRRM User's Guide and Documentation for additional information.
- [2] Runoff Volume (RV) for pre- and post-development drainage areas must be in volumetric units (e.g., acre-feet or cubic feet) when using the Energy Balance Equation. Runoff measured in watershed-inches and shown in the spreadsheet as RV(watershed-inch) can only be used in the Energy Balance Equation when the pre- and post-development drainage areas are equal. Otherwise RV(watershed-inch) must be multiplied by the drainage area.
- [3] Adjusted CNs are based on runoff reduction volumes as calculated in D.A. tabs. An alternative CN adjustment calculation for Vegetated Roofs is included in BMP specification No. 5.

Drainage Area Curve Numbers and Runoff Depths*

Curve numbers (CN, CNadj) and runoff depths (RV_{Developed}) are computed with and without reduction practices.

Drainage Area A		A Soils	B Soils	C Soils	D Soils	Total Area (acres):	2.16
Forest/Open Space -- undisturbed, protected forest/open space or reforested land	Area (acres)	0.00	0.00	0.00	0.03	Runoff Reduction Volume (ft ³):	703
	CN	30	55	70	77		
Managed Turf -- disturbed, graded for yards or other turf to be mowed/managed	Area (acres)	0.00	0.00	0.00	0.40		
	CN	39	61	74	80		
Impervious Cover	Area (acres)	0.00	0.00	0.00	1.73		
	CN	98	98	98	98		
						CN _(D.A. A)	94
		1-year storm	2-year storm	10-year storm			
RV _{Developed} (watershed-inch) with no Runoff Reduction*		1.98	2.51	4.18			
RV _{Developed} (watershed-inch) with Runoff Reduction*		1.89	2.43	4.09			
Adjusted CN*		93	93	93			

*See Notes above



ENGINEERING SURVEYING/GEOMATICS
 LANDSCAPE ARCHITECTURE PLANNING
VIKA VIRGINIA, LLC
 8180 GREENSBORO DRIVE SUITE 200
 TYSONS, VIRGINIA 22102
 PHONE: (703) 442-7800
 FAX: (703) 761-2787
 TYSONS, VA. GERMANTOWN, MD.

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1st. Sub.	10-24-2018
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PROFESSIONAL SEAL



CEDAR PARK SHOPPING CENTER
 ZONING DISTRICT C-1
 TOWN OF VIENNA, VIRGINIA

SWM COMPUTATIONS

DRAWN BY: DH
 DESIGNED BY: SEC
 DATE ISSUED: 03-27-2019

DWG. SCALE: N/A
 VIKA NO. 7062H
 SHEET NO. 18.04

NO.	DESCRIPTION	REVIEW BY	APPROVED	DATE

V 10.01

REVISION APPROVED BY
 SITE PLAN REVIEW AND INSPECTIONS DIVISION



ENGINEERING SURVEYING/GEOMATICS
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DEQ BIO-RETENTION BASIN Sizing chart (ON-SITE)

BIO-RETENTION BASIN #	IMPERVIOUS DA (SQ FT)	PERVIOUS DA (SQ FT)	TOTAL DA (ACRE)	SURFACE AREA (SQ FT)	Rv	Tv REQ'D (CFT)	Surface Area PROV'D (SFT)	PONDING VOL PROV'D (CFT)	SOIL VOL PROV'D (CFT)	GRAVEL VOL PROV'D (CFT)	PONDING DEPTH (INCH)	SOIL DEPTH (FT)	GRAVEL DEPTH (FT)	PONDING Vr	SOIL Vr	GRAVEL Vr	Tv PROV'D (CFT)	t _r PROV'D (Hr)
BIO #1	22,170	0	0.51	1,350	0.95	1,755	1,379	690	690	414	6	2	0.75	1	0.25	0.4	1,793	
TOTALS (Ac) =	0.51	0.00	0.51	1,350		1,755											1,793	

\\192.168.10.93\projects\projects\7062\7062H\DATA\SWM\DCR SPEC CALCS - SITE PLAN.xlsx|Curb Extension sizing
Note: Sizing based on DCR Spec# 9; Level I design
SA(REQ'D)=Tv/1.40
TV(REQ'D)=1**Rv*A/12
TV(PROV'D)=SA*SUM OF STORAGE
Assumes sideslopes are 1:1

1 BIO-RETENTION BASIN COMPUTATIONS
18.07 NOT TO SCALE

BIO-RETENTION BASIN DESIGN NARRATIVE

THE BIO-RETENTION AREA HAS BEEN DESIGNED IN ACCORDANCE WITH DCR STORMWATER DESIGN SPECIFICATION #9, LEVEL I DESIGN. AS DEPICTED ON SHEET 18.02 AND 18.03 THE BIO-RETENTION SHALL RECEIVE RUNOFF VIA SURFACE SHEET FLOW THROUGH A 4" GRASS STRIP AND GRAVEL DIAPHRAGM AS WELL AS PIPED FLOW FROM THE ROOF LEADERS. THE BIO-RETENTION MEDIA SHALL BE 24" IN DEPTH WITH 12" STONE PROVIDED, AND 6" UNDER-DRAIN. THE BIO-RETENTION AREA WILL BE DIVIDED INTO THREE CELLS (BIO-RETENTION AREA #1, BIO-RETENTION AREA #2 & BIO-RETENTION AREA #3) IN WHICH EACH CELL WILL TREAT A MAX OF 2.5 AC OF IMPERVIOUS AREA. SEE SHEETS 06.03, 06.04 & 18.03 FOR LOCATIONS. IMPERMEABLE LINERS SHALL BE INSTALLED AROUND EACH CELL AND BENEATH TO PREVENT WATER FROM SEEPING INTO THE ADJACENT BIO-RETENTION CELL AND GROUND. THE BIO-RETENTION AREA SHALL BE GRADED AS SHOWN ON SHEET 18.03 WITH A LEVEL SURFACE AREA AND TWO WEIRS OVERFLOW STRUCTURES. THE FIRST WEIR (2" WEIR) IS LEVEL WITH THE BIO-RETENTION SURFACE AND THE SECOND WEIR (7" WEIR) IS SET 6" ABOVE. TO ELIMINATE ANY POTENTIAL SHORT CIRCUITING THE EACH FACILITY HAS A s_p/i RATIO OF 0.68 (H) WHICH IS GREATER THAN THE REQUIRED 0.30 FOR LEVEL 1 BIO-RETENTION. THE PLANTING PLAN SHALL BE IN ACCORDANCE WITH THIS SHEET & THE PLANTING MATRIX ON SHEET 17.04 AND THE SOIL MEDIA MIX SHALL BE PER THIS SHEET. SEE THIS SHEET FOR CROSS-SECTION DETAILS AND SIZING CALCULATIONS.

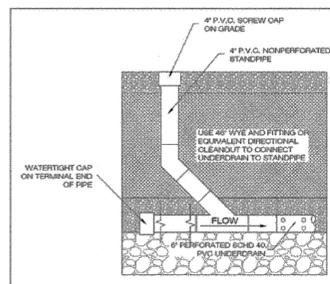
MAINTENANCE SCHEDULE:

Maintenance Tasks	Frequency
• Moving of grass filter strips and bioretention turf cover	At least 4 times a year
• Spot weeding, erosion repair, trash removal, and mulch raking	Twice during growing season
• Add reinforcement planting to maintain desired vegetation density	As needed
• Remove invasive plants using recommended control methods	
• Stabilize the contributing drainage area to prevent erosion	
• Spring inspection and cleanup	Annually
• Supplement mulch to maintain a 3 inch layer	
• Prune trees and shrubs	
• Remove sediment in pre-treatment cells and inflow points	Once every 2 to 3 years
• Replace the mulch layer	Every 3 years

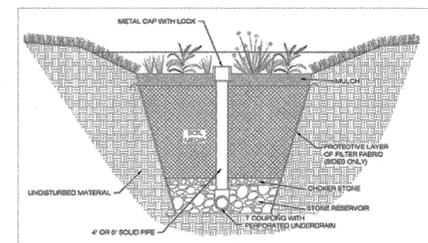
ALL CONSTRUCTION SPECIFICATION ARE TO BE IN ACCORDANCE WITH DEQ SPECIFICATION #9

MATERIAL SPECIFICATIONS

Material	Specification	Notes
Filter Media Composition	Filter Media to contain: • 80% - 90% sand • 10%-20% soil fines • 3%-5% organic matter	The volume of filter media based on 110% of the plan volume, to account for settling or compaction.
Filter Media Testing	Available P between L+ and M per DCR 2005 Nutrient Management Criteria.	The media should be certified by the supplier.
Mulch Layer	Use aged, shredded hardwood bark mulch or stable coarse compost.	Lay a 2 to 3 inch layer on the surface of the filter bed.
Alternative Surface Cover	Use river stone or pea gravel, coir and jute matting, or turf cover.	Lay a 2 to 3 inch layer of to suppress weed growth.
Top Soil For Turf Cover	Loamy sand or sandy loam texture, with less than 5% clay content, pH corrected to between 6 and 7, and an organic matter content of at least 2%.	3 inch surface depth.
Geotextile/Liner	Use a non-woven geotextile fabric with a flow rate of > 110 gal./min./sq. ft. (e.g., Geotex 351 or equivalent)	Apply only to the sides and directly above the underdrain. For hotspots and certain karst sites only, use an appropriate liner on bottom.
Choking Layer	Lay a 2 to 4 inch layer of sand over a 2 inch layer of choker stone (typically #8 or #89 washed gravel), which is laid over the underdrain stone.	
Stone Jacket for Underdrain and/or Storage Layer	1 inch stone should be double-washed and clean and free of all fines (e.g., VDOT #57 stone).	12 inches for the underdrain; 12 to 18 inches for the stone storage layer, if needed
Underdrains, Cleanouts, and Observation Wells	Use 6 inch rigid schedule 40 PVC pipe (or equivalent) corrugated HDPE for bioretention), with 3/8-inch perforations at 6 inches on center; position each underdrain on a 1% or 2% slope located not more than 20 feet from the next pipe.	Lay the perforated pipe under the length of the bioretention cell, and install non-perforated pipe as needed to connect with the storm drain system. Install T's and Y's as needed, depending on the underdrain configuration. Extend cleanout pipes to the surface with vented caps at the T's and Y's.
Plant Materials	Plant one tree per 250 square feet (15 feet on-center, minimum 1 inch caliper). Shrubs a minimum of 30 inches high planted a minimum of 10 feet on-center. Plant ground cover plugs at 12 to 18 inches on-center; Plant container-grown plants at 18 to 24 inches on-center, depending on the initial plant size and how large it will grow.	Establish plant materials as specified in the landscaping plan and the recommended plant list. In general, plant spacing must be sufficient to ensure the plant material achieves 80% cover in the proposed planting areas within a 3-year period. If seed mixes are used, they should be from a qualified supplier, should be appropriate for stormwater basin applications, and should consist of native species (unless the seeding is to establish maintained turf).



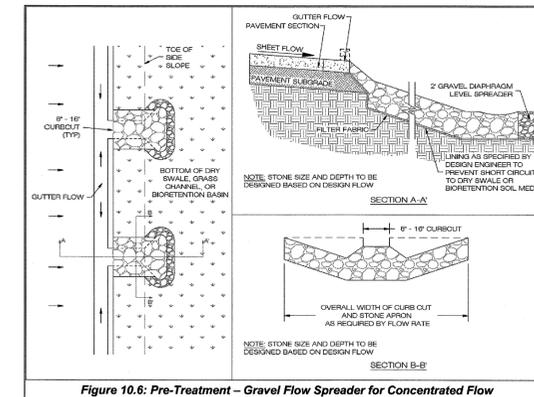
3 UNDERDRAIN CLEANOUT
18.07 NOT TO SCALE



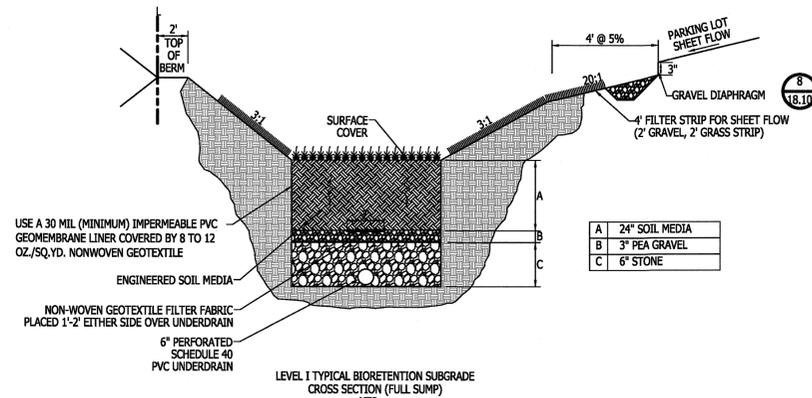
4 OBSERVATION WELL
18.07 NOT TO SCALE

CONSTRUCTION SPECIFICATIONS

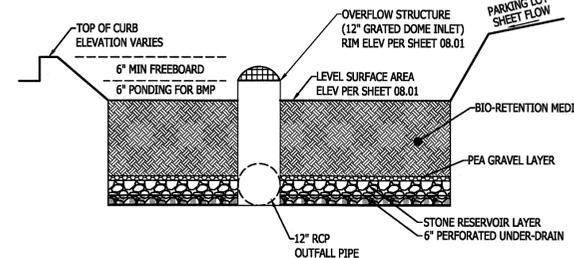
- THE OWNER SHALL PROVIDE FOR INSPECTION DURING CONSTRUCTION OF THE FACILITY BY A LICENSED DESIGN PROFESSIONAL. (IN ACCORDANCE WITH STANDARD PRACTICE, THE ACTUAL INSPECTIONS MAY BE PERFORMED BY AN INDIVIDUAL UNDER RESPONSIBLE CHARGE OF THE LICENSED PROFESSIONAL.) THE LICENSED PROFESSIONAL SHALL CERTIFY THAT THE FACILITY WAS CONSTRUCTED IN ACCORDANCE WITH THE APPROVED PLANS. THE LICENSED PROFESSIONAL'S CERTIFICATION ALONG WITH ANY MATERIAL DELIVERY TICKETS AND CERTIFICATIONS FROM THE MATERIAL SUPPLIERS AND RESULTS OF THE TESTS AND INSPECTIONS SHALL BE SUBMITTED TO THE COUNTY PRIOR TO BOND RELEASE.
- BIORETENTION FACILITIES SHALL BE CONSTRUCTED AFTER THE DRAINAGE AREA TO THE FACILITY IS COMPLETELY STABILIZED. EROSION AND SEDIMENT CONTROLS FOR CONSTRUCTION OF THE FACILITY SHALL BE INSTALLED AS SPECIFIED IN THE EROSION AND SEDIMENT CONTROL PLAN.
- THE COMPONENTS OF THE SOIL MEDIA SHALL BE THOROUGHLY MIXED UNTIL A HOMOGENEOUS MIXTURE IS OBTAINED. IT IS PREFERABLE THAT THE COMPONENTS OF THE SOIL MEDIA BE MIXED AT A BATCH FACILITY PRIOR TO DELIVERY TO THE SITE. THE SOIL MEDIA SHALL BE MOISTENED, AS NECESSARY, TO PREVENT SEPARATION DURING INSTALLATION.
- THE PROPOSED ENGINEERED SOIL MEDIA MUST BE APPROVED BY A CERTIFIED VENDOR PRIOR TO INSTALLATION.
- THE SOIL MEDIA SHALL BE TESTED FOR PH, ORGANIC MATTER, GRAIN SIZE DISTRIBUTION, P-INDEX (PHOSPHORUS CONTENT) AND CATION EXCHANGE CAPACITY (CEC) USING STANDARD TEST METHODS PRIOR TO INSTALLATION. IF THE RESULTS OF THE TESTS INDICATE THAT THE REQUIRED SPECIFICATIONS ARE NOT MET, THE SOIL REPRESENTED BY SUCH TESTS SHALL BE AMENDED OR CORRECTED AS REQUIRED AND RETESTED UNTIL THE SOIL MEETS THE REQUIRED SPECIFICATIONS. IF THE PH IS LOW, IT MAY BE RAISED BY ADDING LIME. IF THE PH IS TOO HIGH, IT MAY BE LOWERED BY ADDING IRON SULFATE PLUS SULFUR.
- FOR BIORETENTION BASINS, THE FLOOR OF THE FACILITY SHALL BE SCARIFIED OR TILLED TO REDUCE SOIL COMPACTION AND RAKED TO LEVEL IT BEFORE THE FILTER FABRIC, STONE, AND SOIL MEDIA ARE PLACED.
- THE SOIL MEDIA MAY BE PLACED BY MECHANICAL METHODS WITH MINIMAL COMPACTION IN ORDER TO MAINTAIN THE POROSITY OF THE MEDIA. SPREADING SHALL BE BY HAND. THE SOIL MEDIA SHALL BE PLACED IN 8- TO 12-INCH LIFTS WITH NO MACHINERY ALLOWED OVER THE SOIL MEDIA DURING OR AFTER CONSTRUCTION. THE SOIL MEDIA SHOULD BE OVERFILLED ABOVE THE PROPOSED SURFACE ELEVATION AS NEEDED TO ALLOW FOR NATURAL SETTLEMENT. LIFTS MAY BE LIGHTLY WATERED TO ENCOURAGE SETTLEMENT. AFTER THE FINAL LIFT IS PLACED, THE SOIL MEDIA SHALL BE RAKED TO LEVEL IT, SATURATED, AND ALLOWED TO SETTLE FOR AT LEAST ONE WEEK PRIOR TO INSTALLATION OF PLANT MATERIALS.
- FILL FOR THE BERM AND OVERFLOW WEIR SHALL CONSIST OF CLEAN MATERIAL FREE OF ORGANIC MATTER, RUBBISH, FROZEN SOIL, SNOW, ICE, PARTICLES WITH SIZES LARGER THAN 3 INCHES, OR OTHER DELETERIOUS MATERIAL. FILL SHALL BE PLACED IN 8- TO 12-INCH LIFTS AND COMPACTED TO AT LEAST 95 PERCENT OF STANDARD PROCTOR MAXIMUM DENSITY IN ACCORDANCE WITH ASTM D-698, AASHTO T-99, OR VDOT SPECIFICATIONS. COMPACTION EQUIPMENT SHALL NOT BE ALLOWED WITHIN THE FACILITY ON THE SOIL BED. THE TOP OF THE BERM AND THE INVERT OF THE OVERFLOW WEIR SHALL BE CONSTRUCTED LEVEL AT THE DESIGN ELEVATION (IF REQUIRED).
- PLANT MATERIAL SHALL BE INSTALLED PER THE APPROVED LANDSCAPE PLAN.
- PLANTING SHALL TAKE PLACE AFTER CONSTRUCTION IS COMPLETED AND DURING THE FOLLOWING PERIODS: MARCH 15 THROUGH JUNE 15 AND SEPT. 15 THROUGH NOV. 15, UNLESS OTHERWISE APPROVED BY THE COUNTY.
- ALL AREAS SURROUNDING THE FACILITY THAT ARE GRADED OR DENURED DURING CONSTRUCTION OF THE FACILITY AND ARE TO BE PLANTED WITH TURF GRASS SHALL BE SODED.
- THE FACILITY SHALL BE INSPECTED AT 12-24 AND 36-48 HOURS AFTER A SIGNIFICANT RAINFALL (0.5-1.0 INCHES) OR ARTIFICIAL FLOWING TO DETERMINE THAT THE FACILITY IS DRAINING PROPERLY. RESULTS OF THE INSPECTION SHALL BE PROVIDED TO THE COUNTY PRIOR TO BOND RELEASE.
- ADDITIONAL GUIDELINES FOR CONSTRUCTION ARE PROVIDED IN VIRGINIA STORMWATER DESIGN SPECIFICATION NO. 9 BIORETENTION (LATEST VERSION REFERENCED IN THE VSPM REGULATIONS).



6 GRAVEL FLOW SPREADER DETAIL
18.07 NOT TO SCALE



2 TYPICAL LEVEL 1 BIO-RETENTION BASIN
18.07 NOT TO SCALE

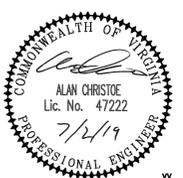


5 OVERFLOW STRUCTURE DETAIL
18.07 NOT TO SCALE

REVISIONS DATE

REVISIONS	DATE
1st. Sub.	10-24-2018
ALT. LAYOUT	12-05-2018
2nd. Sub.	03-28-2019
ADA Space Reloc.	05-08-2019
Updated Bid	05-20-2019

PROFESSIONAL SEAL



CEDAR PARK SHOPPING CENTER
ZONING DISTRICT C-1
TOWN OF VIENNA, VIRGINIA

SWM COMPUTATIONS

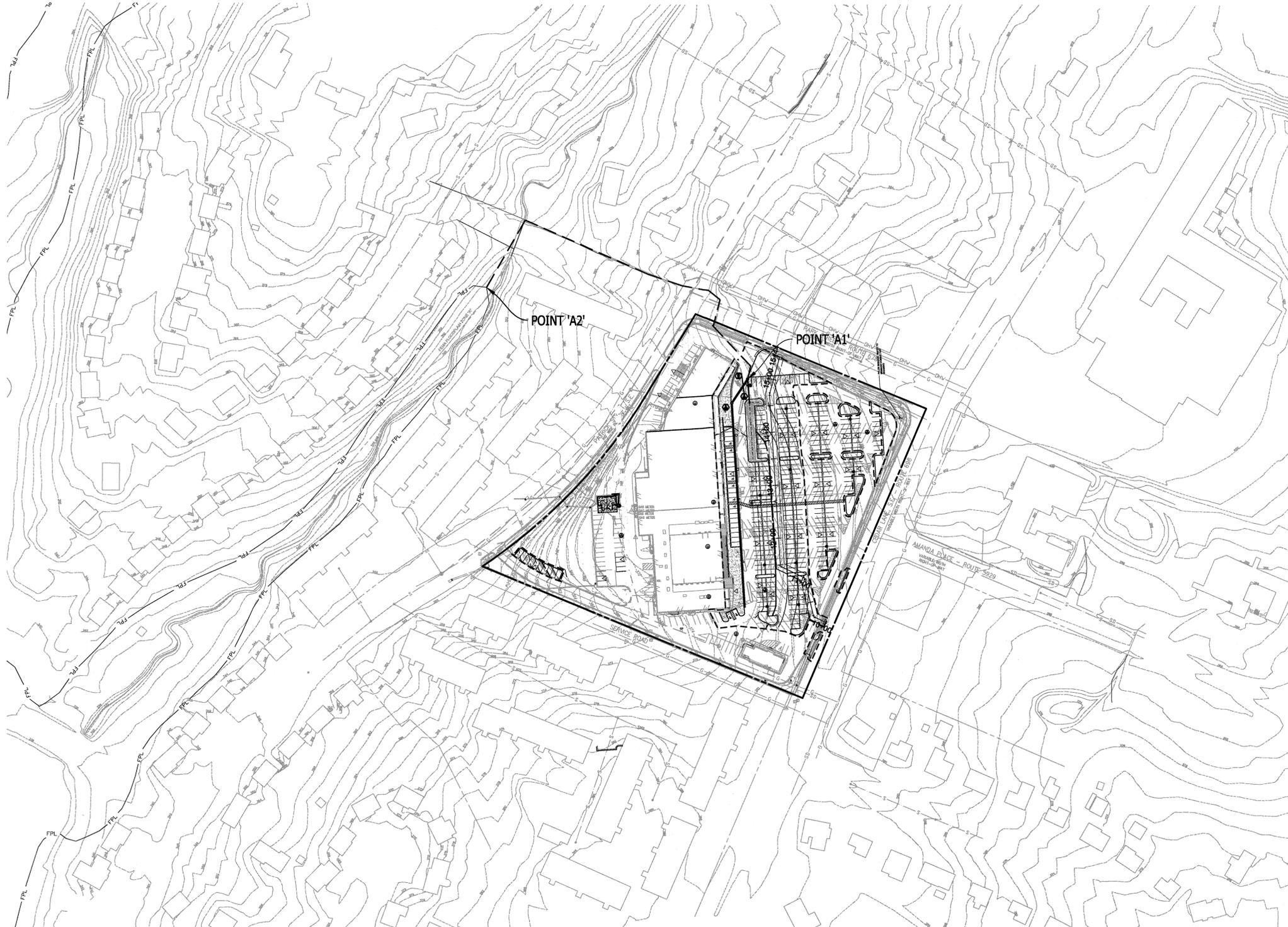
DRAWN BY: DH
DESIGNED BY: SEC
DATE ISSUED: 03-27-2019

DWG. SCALE: N/A
Vika No. 7062H
SHEET NO. 18.07

NO.	DESCRIPTION	REVIEW BY	APPROVED	DATE

V 10.01

REVISION APPROVED BY
SITE PLAN REVIEW AND INSPECTIONS DIVISION



SWM FACILITIES (PROPOSED ONLY)

FACILITY ID NO.	FACILITY TYPE	PURPOSE (QUALITY/ QUANTITY)	IMPERVIOUS AREA TREATED (ACRES)	AREA TREATED (ACRES)	LATITUDE (DECIMAL DEGREE)	LONGITUDE (DECIMAL DEGREE)	DESCRIPTION OF DISCHARGE POINT	MAINTENANCE AGREEMENT Y/N
D-101	BIORETENTION	BOTH	0.1200	0.1200	-	-	EX-02	YES, PRIVATE
D-102	BIORETENTION	BOTH	0.2000	0.2000	-	-	D-101	YES, PRIVATE
D-103	BIORETENTION	BOTH	0.1700	0.1700	-	-	D-102	YES, PRIVATE

WATERSHED A - LIMIT OF ANALYSIS NARRATIVE:

THE PROPOSED REDEVELOPMENT IS APPROXIMATELY 2.16 ACRES AND THE OUTFALL HAS BEEN STUDIED AS OUTLINED IN SECTION 26-329 OF THE TOWN OF VIENNA CODE WHICH REQUIRES THAT ALL REGULATED LAND DISTURBING ACTIVITIES COMPLY WITH STATE CODE 9VAC25-870-66 (WATER QUANTITY).

THIS APPLICATION HAS A SINGLE OUTFALL AT POINT 'A1' (SEE THIS SHEET) AN EXISTING UNDERGROUND CONVEYANCE SYSTEM THAT OUTFALLS AT POINT 'A2' WHICH IS A TRIBUTARY OF BEAR BRANCH AND IS A MAPPED FEMA FLOODPLAIN.

CHANNEL PROTECTION:

AS THE OUTFALL IS A NATURAL CONVEYANCE SYSTEM AT THE POINT WHERE THE TOTAL WATERSHED IS 100 TIMES THE SITES CONTRIBUTING DRAINAGE AREA, THE CHANNEL PROTECTION REQUIREMENTS ARE REQUIRED TO BE ANALYZED PER 9VAC25-870-66-B-3.A (ENERGY BALANCE), WHICH REQUIRES THE MAXIMUM PEAK FLOW RATE FOR THE 1-YEAR 24-HOUR STORM TO BE CALCULATED IN ACCORDANCE WITH THE ENERGY BALANCE EQUATION. AS THE ENERGY BALANCE OPTION IS BEING UTILIZED, PER 9VAC25-870-66-B-4, THE LIMITS OF THE ANALYSIS SHALL TERMINATE AT THE POINT OF DISCHARGE, WHICH IS THE CONNECTION POINT OF THE PROPOSED STORM DRAINS TO THE EXISTING STORM SYSTEM.

THE ALLOWABLE 1-YEAR 24-HOUR PEAK RELEASE RATE PER THE ENERGY BALANCE EQUATION HAS BEEN COMPUTED TO BE 6.05 CFS (SEE ENERGY BALANCE COMPUTATIONS THIS SHEET). POST-DEVELOPMENT PEAK RUNOFF RATE HAS BEEN CALCULATED TO BE 5.27 CFS (SEE WINTR-20 ON SHEET 18.07). SINCE THE POST DEVELOPMENT 1-YEAR 24-HOUR PEAK RELEASE RATES IS LESS THAN THE COMPUTED ALLOWABLE RELEASE RATE (5.27 CFS < 6.05 CFS) (SEE ENERGY BALANCE COMPUTATIONS THIS SHEET) THE REQUIREMENTS OF 9VAC25-870-66-B-3.A AND 9VAC25-870-66-B-4 HAVE BEEN SATISFIED.

FLOOD CONTROL:

THE FLOOD PROTECTION REQUIREMENTS HAVE BEEN ANALYZED PER 9VAC25-870-66-C-2.A WHICH REQUIRES THE MAXIMUM PEAK FLOW RATE FOR THE POST-DEVELOPMENT 10-YEAR 24-HOUR STORM TO BE CONFINED WITHIN THE CONVEYANCE SYSTEM. ADDITIONALLY, PER 9VAC25-870-66-C-3.C THE LIMITS OF THE ANALYSIS SHALL TERMINATE AT FOLLY LICK BRANCH, WHICH IS A MAPPED FLOODPLAIN CONTAINED WITHIN THE EXISTING BOX CULVERT RUNNING THROUGH THE SITE.

AS SHOWN IN THE STORM DRAIN COMPUTATION ON SHEET 08.01 THE RUNOFF IS ADEQUATELY CONVEYED FROM THE SITE INTO THE BOX CULVERT (MAPPED FLOODPLAIN) THUS MEETING THE REQUIREMENTS OF 9VAC25-870-66-C-2.A AND 9VAC25-870-66-C-3.C

SUMMARY/CONCLUSION:

IT IS THE OPINION OF VIKI VIRGINIA, LLC. THAT THIS PROJECT WILL HAVE NO ADVERSE EFFECT NOR CAUSE FLOODING OF ANY DOWN STREAM PROPERTY OR STRUCTURE AND THAT THE OUTFALL IS ADEQUATE

WATER QUALITY NARRATIVE

TO MEET THE WATER QUALITY REQUIREMENTS OF 9VAC25-870-65 THE POST-DEVELOPMENT SITE INFORMATION WAS INPUT INTO THE CURRENT WRRM STATE SPREADSHEET. AS CAN BE SEEN ON SHEETS 18.03-18.05, 0.28 LBS OF PHOSPHORUS IS REQUIRED TO BE REMOVED. THIS PLAN PROPOSES TO REDUCE IMPERVIOUS AREAS ON SITE AND PROVIDE BIORETENTION TO TREAT A PORTION OF THE SITE. SEE COMPUTATIONS ON SHEET 18.03-18.05.

SWM/BMP AGREEMENT NOTE:

A STORMWATER MANAGEMENT / BMP FACILITY MAINTENANCE AGREEMENT WILL BE COMPLETED AND RECORDED IN FAIRFAX COUNTY LAND RECORDS PRIOR TO PLAN APPROVAL. SEE SHEET 18.06 FOR MAINTENANCE AND INSPECTION REQUIREMENTS.

SWM Water Quantity Energy Balance Worksheet

CN (BASED ON SITE CONDITIONS)	98
SITE AREA (acre)	2.16
	1-year
P	PRE
CN	2.62
S=1000/CN-10	98
0.25	0.20
	0.04
RV=(P-0.25)/(P-0.25)+S	2.39

Q_{Post Development} <= I.F.* (Q_{pre-development}* RV_{pre-development})/RV_{Developed})

I.F.	0.8
CHANNEL PROTECTION	
Q _{pre-development}	6.05
RV _{Post Development} (with runoff reduction)	1.89
Allowable*	6.05

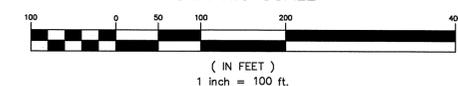
*UNDER NO CONDITION SHALL Q_{allowable} BE GREATER THAN Q_{pre-development}

1-YR EXISTING RELEASE RATE PER TRSS
FROM WRRM SPREADSHEET
1-YR ALLOWABLE RELEASE RATE



NORTH (NAD 83)

GRAPHIC SCALE



ENGINEERING SURVEYING/GEOMATICS
LANDSCAPE ARCHITECTURE PLANNING

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8180 GREENSBORO DRIVE SUITE 200
TYSONS, VIRGINIA 22102
PHONE: (703) 442-7800
FAX: (703) 761-2787
TYSONS, VA. GERMANTOWN, MD.

REVISIONS

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PROFESSIONAL SEAL



CEDAR PARK SHOPPING CENTER
ZONING DISTRICT C-1
TOWN OF VIENNA, VIRGINIA

ADEQUATE OUTFALL ANALYSIS

DRAWN BY: DH
DESIGNED BY: SEC
DATE ISSUED: 03-27-2019

DWG. SCALE: 1"=100'
VIKA NO. 7062H
SHEET NO. 19.01

