DC UNITED TRAINING SITE

CONSTRUCTION DOCUMENTS

CATOCTIN ELECTION DISTRICT LOUDOUN COUNTY, VIRGINIA

NO.	SHEET NUMBER AND REVISION DESCRIPTION	DATE
1.		

AS-BUILT PLAN

07-19-0269

TRIAD ENGINEERING, INC.
200 AVIATION DRIVE
WINCHESTER, VA 22602
P 540.667.9300 F 540.667.2260
WWW.TRIADENG.COM

COMMONWEALTH OF VIRGINIA
KEVIN D. SHREINER
No. 2736
05/01/2020
LAND SURVEYOR

FIELD WORK COMPLETED ON MAY 1, 2020

AS-BUILT SURVEY INFORMATION NOTED IN RED AS BOXED

NOTICE REQUIRED

CONTRACTORS SHALL NOTIFY OPERATORS WHO MAINTAIN UNDERGROUND UTILITY LINES IN THE AREA OF PROPOSED EXCAVATION OR BLASTING AT LEAST TWO (2) WORKING DAYS, BUT NOT MORE THAN TEN (10) WORKING DAYS PRIOR TO COMMENCEMENT OF EXCAVATION OR DEMOLITION. NAMES AND TELEPHONE NUMBERS OF THE OPERATORS OF UNDERGROUND UTILITY LINES APPEAR BELOW. THESE NUMBERS SHALL ALSO BE USED TO SERVE IN AN EMERGENCY CONDITION.

CONTACT "MISS UTILITY" AT "811" FOR THESE UTILITIES

VIRGINIA ELEC. & POWER CO. (DOMINION)
COLUMBIA GAS TRANSMISSION CO.
TRANSCO GAS PIPELINE CO.
COLUMBIA GAS OF VIRGINIA
CONTINENTAL TELEPHONE OF VIRGINIA
FAIRFAX COUNTY WATER AUTH.
COLONIAL PIPELINE CO.
WASHINGTON GAS LIGHT CO.
PRINCE WILLIAM ELEC. CO-OP
PLANTATION PIPELINE CO.
C & P TELEPONE CO.
VERIZON
COMCAST

CONTACT THESE UTILITIES

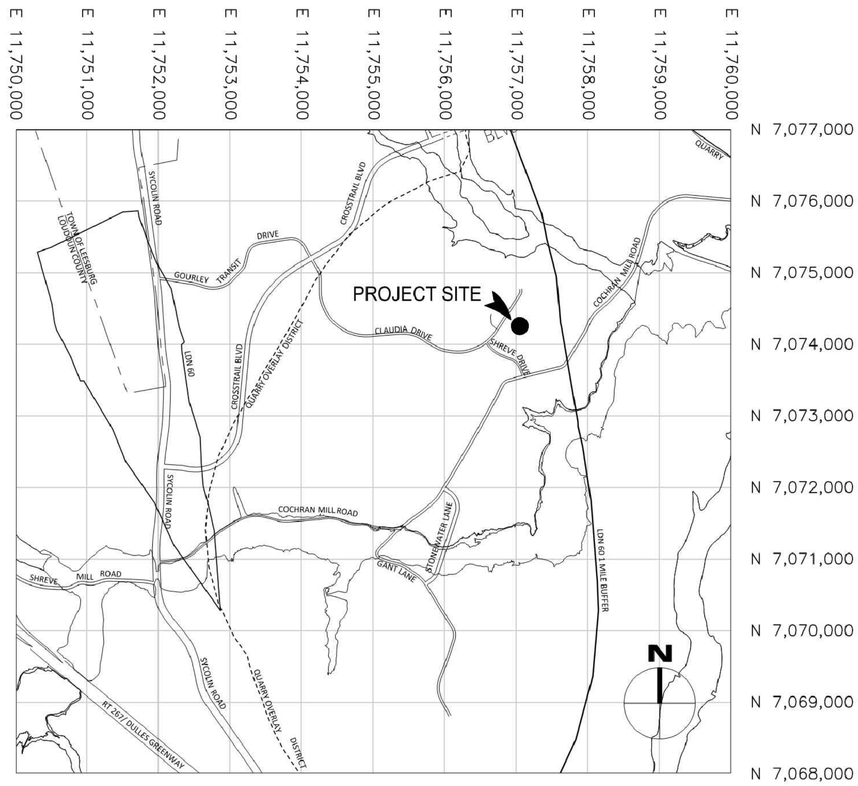
NOVEC:	703-777-2151
LOUDOUN WATER:	571-291-7878
DOMINION VIRGINIA POWER:	888-667-3000

EMERGENCY DIAL

POLICE:	703-777-1021 OR 911
FIRE/RESCUE:	703-777-2222 OR 911

FOR FURTHER INFORMATION ON UNDERGROUND UTILITY LOCATIONS

Visit www.missutilityofvirginia.com



VICINITY MAP SCALE: 1"=1000'

OWNER

COUNTY OF LOUDOUN, VIRGINIA
PO BOX 7000 MSC #01
1 HARRISON STREET, NE
LEESBURG, VIRGINIA 20177-7700
(703)-777-0403

APPLICANT

LOUDOUN COUNTY
DEPARTMENT OF TRANSPORTATION
AND CAPITAL INFRASTRUCTURE
Attention: Joe Kroboth
101 BLUE SEAL DRIVE, SE #102
LEESBURG, VIRGINIA 20177-7500
(703) 777-0396

SHEET INDEX AS-BUILT

Sheet Number	Sheet Title
C.01.01	COVERSHEET
C.01.02	GENERAL NOTES
C.01.03	SOILS MAP
C.01.04	WORK AREA LOCATIONS
C.02.01	ROUGH GRADING PLAN
C.02.02	ROUGH GRADING PLAN
C.02.03	ROUGH GRADING PLAN
C.02.04	TEMPORARY SEEDING AREAS
C.03.01	WALL PROFILES
C.04.01	E&SC PH. I
C.04.02	E&SC PH. II
C.04.03	E&SC DETAILS
C.04.04	OVERALL GRADING & DRAINAGE PLAN
C.04.05	GRADING & DRAINAGE PLAN
C.04.06	GRADING & DRAINAGE PLAN
C.04.07	DRAINAGE PROFILES
C.04.08	DRAINAGE PROFILES
C.04.09	STORMWATER MANAGEMENT DETAILS
C.04.10	STORMWATER MANAGEMENT DETAILS
C.04.11	STORMWATER MANAGEMENT DETAILS
C.04.12	STORMWATER MANAGEMENT DETAILS
C.04.13	BALL NET FOUNDATION
C.04.14	BALL NET FOUNDATION
C.04.15	ON-SITE ROADWAY TYPICAL SECTIONS
C.05.01	UTILITY EXTENSION PLAN
C.05.02	OFFSITE UTILITY PLAN
C.05.03	OFFSITE UTILITY PLAN
C.05.04	SEWER PROFILES
C.05.05	SEWER EXTENSION PROFILES
C.05.06	SEWER EXTENSION PROFILES
C.05.07	SEWER DETAILS

SHEETS C.04.01 THROUGH C.05.07 WERE PROVIDED TO DEWBERRY ON 5/28/2019 WITH THE INTENT FOR THOSE SHEETS TO BE INCORPORATED INTO THIS CONSTRUCTION DOCUMENT. AT THE DIRECTION OF LOUDOUN COUNTY DTCI, DEWBERRY HAS INCORPORATED THESE SHEETS INTO THE CONSTRUCTION DOCUMENTS AND IS NOT DIRECTLY RESPONSIBLE FOR THE CONTENT OF THESE REFERENCE DRAWINGS.

Dewberry
Dewberry Engineers Inc.
1503 Edwards Ferry Road
Suite 200
Leesburg, VA 20176-6680
703.771.8004

DC UNITED TRAINING SITE
CONSRTUCTION DOCUMENTS
CATOCTIN ELECTION DISTRICT
LOUDOUN COUNTY, VIRGINIA

SEAL
COMMONWEALTH OF VIRGINIA
DUANE R. THOMAS
Lic. No. 0.90082
6-28-19
PROFESSIONAL ENGINEER

KEY PLAN

SCALE
0' 500' 1000' 2000'
SCALE: 1" = 1000'

REVISIONS

NO.	DESCRIPTION	DATE

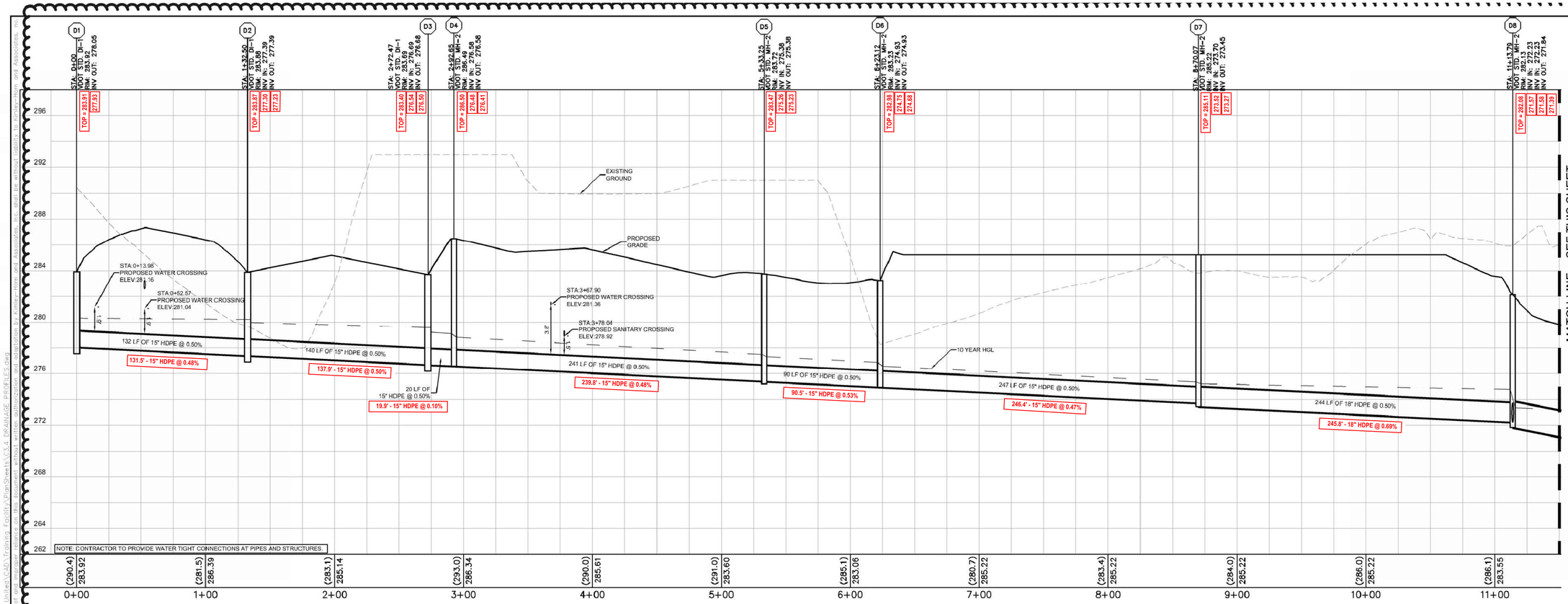
DRAWN BY	ESL/LJR
APPROVED BY	DRT
CHECKED BY	CD
DATE	JUNE 2019

TITLE
COVERSHEET

PROJECT NO. 50075626

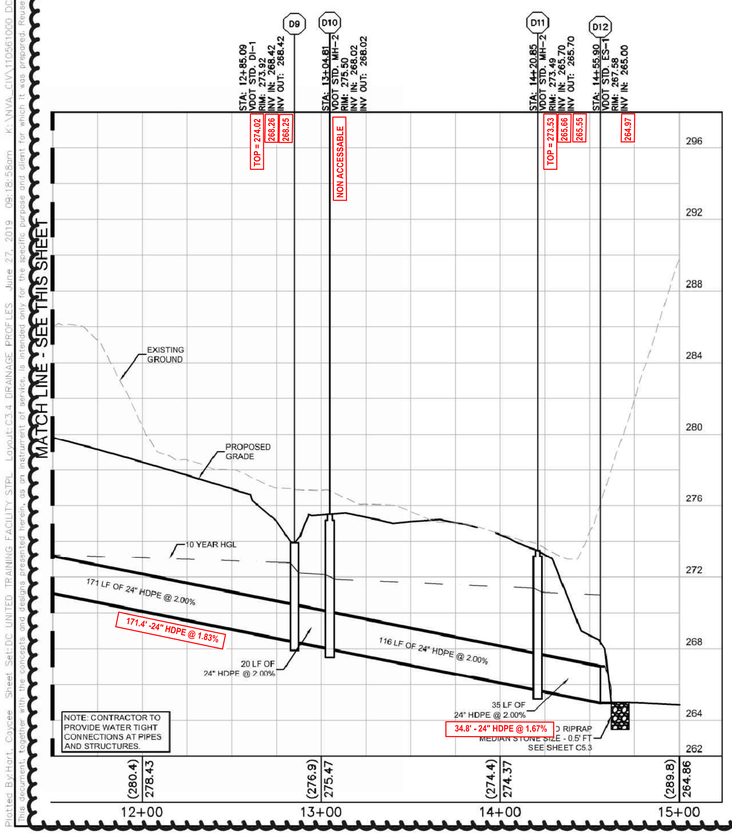
C.01.01

1/22/2016 9:07:15 AM
Q:\50075626\DC UNITED TRAINING FACILITY\CAD\CIVIL\ENGINEERING\DELIVERABLES\C.01.01 COVERSHEET DC UTF.DWG



STORM PROFILE D1 TO D12

SCALE: 1" = 40' H
1" = 4' V



STORM SEWER STRUCTURE TABLE

STRUCTURE NAME:	DETAILS:	PIPES IN:	PIPES OUT
D1	VDOT STD. DI-1 RIM: 283.92 INV OUT: 278.05		TO D2, 15" HDPE INV OUT: 278.05 @ 0.50%
D2	VDOT STD. DI-1 RIM: 283.88 INV IN: 277.39 INV OUT: 277.39	FROM D1, 15" HDPE INV IN: 277.39 @ 0.50%	TO D3, 15" HDPE INV OUT: 277.39 @ 0.50%
D3	VDOT STD. DI-1 RIM: 283.69 INV IN: 276.69 INV OUT: 276.68	FROM D2, 15" HDPE INV IN: 276.69 @ 0.50%	TO D4, 15" HDPE INV OUT: 276.68 @ 0.50%
D4	VDOT STD. MH-2 RIM: 286.49 INV IN: 276.58 INV OUT: 276.58	FROM D3, 15" HDPE INV IN: 276.58 @ 0.50%	TO D5, 15" HDPE INV OUT: 276.58 @ 0.50%
D5	VDOT STD. MH-2 RIM: 283.72 INV IN: 275.38 INV OUT: 275.38	FROM D4, 15" HDPE INV IN: 275.38 @ 0.50%	TO D6, 15" HDPE INV OUT: 275.38 @ 0.50%
D6	VDOT STD. MH-2 RIM: 283.23 INV IN: 274.93 INV OUT: 274.93	FROM D5, 15" HDPE INV IN: 274.93 @ 0.50%	TO D7, 15" HDPE INV OUT: 274.93 @ 0.50%
D7	VDOT STD. MH-2 RIM: 285.22 INV IN: 273.70 INV OUT: 273.45	FROM D6, 15" HDPE INV IN: 273.70 @ 0.50%	TO D8, 18" HDPE INV OUT: 273.45 @ 0.50%
D8	VDOT STD. MH-2 RIM: 282.13 INV IN: 272.23 INV IN: 272.23 INV OUT: 271.84	FROM D7, 18" HDPE INV IN: 272.23 @ 0.50% FROM D13, 18" HDPE INV IN: 272.23 @ 2.23%	TO D9, 24" HDPE INV OUT: 271.84 @ 2.00%
D9	VDOT STD. DI-1 RIM: 273.92 INV IN: 268.42 INV OUT: 268.42	FROM D8, 24" HDPE INV IN: 268.42 @ 2.00%	TO D10, 24" HDPE INV OUT: 268.42 @ 2.00%
D10	VDOT STD. MH-2 RIM: 275.50 INV IN: 268.02 INV OUT: 268.02	FROM D9, 24" HDPE INV IN: 268.02 @ 2.00%	TO D11, 24" HDPE INV OUT: 268.02 @ 2.00%
D11	VDOT STD. MH-2 RIM: 273.49 INV IN: 265.70 INV OUT: 265.70	FROM D10, 24" HDPE INV IN: 265.70 @ 2.00%	TO D12, 24" HDPE INV OUT: 265.70 @ 2.00%
D12	VDOT STD. ES-1 RIM: 267.58 INV IN: 265.00	FROM D11, 24" HDPE INV IN: 265.00 @ 2.00%	
D13	VDOT STD. MH-2 RIM: 285.34 INV IN: 278.44 INV OUT: 278.34	FROM UD1, 18" HDPE INV IN: 278.44 @ 1.00%	TO D8, 18" HDPE INV OUT: 278.34 @ 2.23%
D14	[illegible] RIM: 271.00 INV OUT: 267.00		TO D15, 24" RCP INV OUT: 267.00
D15	VDOT STD. ES-1 RIM: 269.29 INV OUT: 266.54	FROM D14, 24" RCP INV IN: 266.54 @ 1.06%	
D16	VDOT STD. [illegible] RIM: 28[illegible] INV IN: 273.[illegible] INV OUT: 266[illegible]		[illegible], 24" HDPE INV OUT: 266.87 @ 6.00%
D17	VDOT STD. M[illegible] RIM: 270.78 INV IN: 265.15 INV OUT: 258[illegible]		TO D18, 24" HDPE INV OUT: 258.15 @ 6.00%
D18	VDOT STD. M[illegible] RIM: 261.06 INV IN: 256.43 INV OUT: 249[illegible]		TO D19, 24" HDPE INV OUT: 249.87 @ 1.00%
D19	VDOT STD. E[illegible] RIM: 251.93 INV IN: [illegible]		
UD1	[illegible] RIM: 280.02 INV OUT: 278.65		TO D13, 18" [illegible] OUT: 278.65 @ 1.00%
[illegible]	UNDERDRAIN CONNECTION RIM: 276.43 INV OUT: [illegible]		TO D16, 24" HDPE INV OUT: 274.[illegible]

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NO.	SHEET NUMBER AND REVISION DESCRIPTION	DATE
1.		

NO.		
3	COUNTY AND TOWN COMMENTS	6/18/2019
2	COUNTY AND TOWN COMMENTS	4/24/2019
1	LOUDOUN COUNTY COMMENTS	4/11/2019

Kimley»Horn
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11400 COMMERCE PARK DR., SUITE 400, RESTON, VA 20191
PHONE: 703-674-1300 FAX: 703-674-1350
WWW.KIMLEY-HORN.COM

COMMONWEALTH OF VIRGINIA
KYLE T. BULLINGER
Lic. No. 051017
06/18/2019
PROFESSIONAL ENGINEER

KHA PROJECT 110561000
DATE 03/06/2019
SCALE AS SHOWN
DESIGNED BY JRA
DRAWN BY JRA

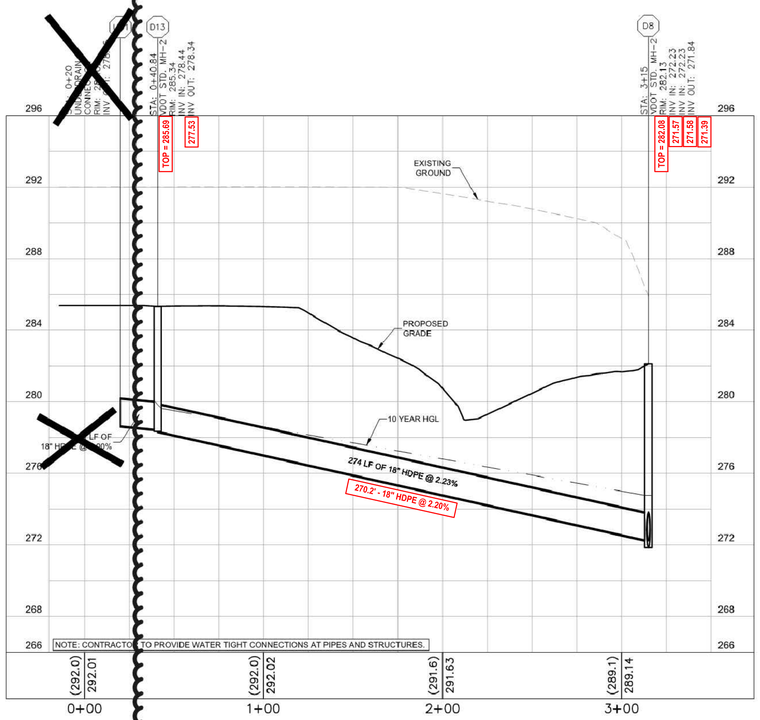
DRAINAGE PROFILES

TRAINING FACILITY

PREPARED FOR
DC UNITED

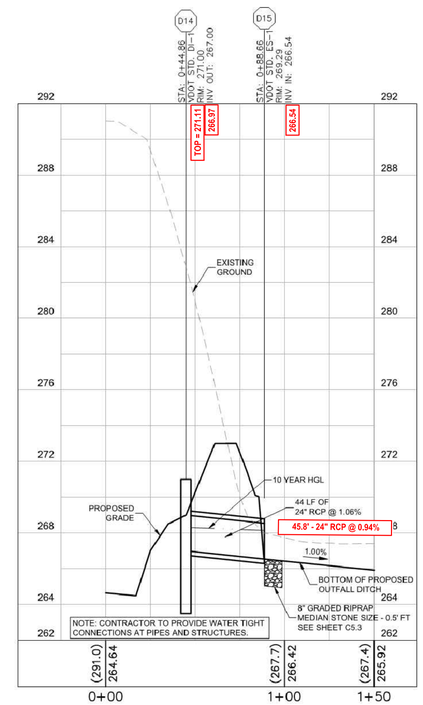
CATOCTIN ELECTION DISTRICT
LOUDOUN COUNTY, VIRGINIA

SHEET NUMBER
C.04.07
~~C3.4~~



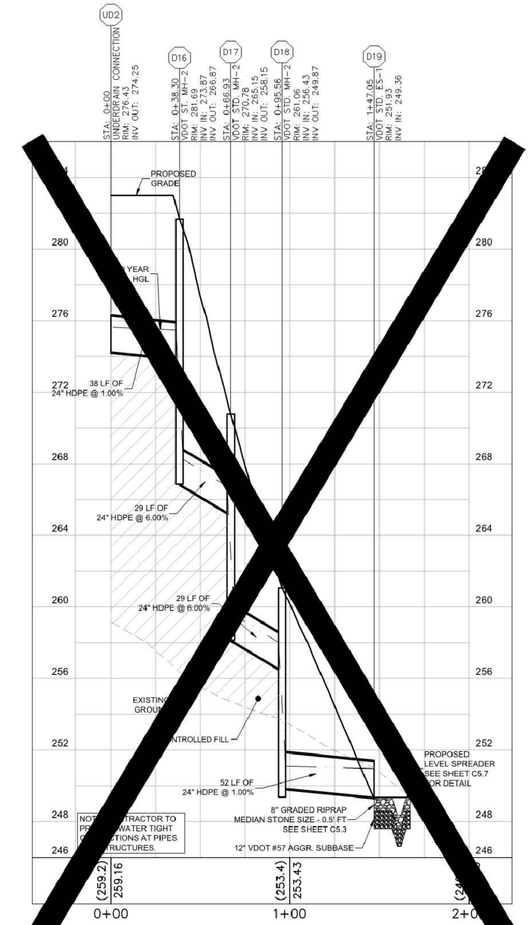
STORM PROFILE - UD1 TO D8

SCALE: 1" = 40' H
1" = 4' V



POND OUTFALL PROFILE

SCALE: 1" = 40' H
1" = 4' V



STORM PROFILE - UD2 TO D19

SCALE: 1" = 40' H
1" = 4' V

CONTRACTOR IS RESPONSIBLE FOR CONSTRUCTION OF ALL ITEMS WITHIN THE RED CLOUD.

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AS-BUILT PLAN

07-19-0269

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PHONE: 703-674-1300 FAX: 703-674-1350
WWW.KIMLEY-HORN.COM

COMMONWEALTH OF VIRGINIA
KYLE T. BOLLINGER
Lic. No. 051017
06/18/20
PROFESSIONAL ENGINEER

KHA PROJECT 110561000
DATE 03/06/2019
SCALE AS SHOWN
DESIGNED BY ___
DRAWN BY ___

DRAINAGE PROFILES

TRAINING FACILITY

PREPARED FOR
DC UNITED

CATOCTIN ELECTION DISTRICT

C.04.08

SHEET NUMBER
~~C3.5~~

Plotted By:Bollinger, Kyle Sheet Set:DC UNITED TRAINING FACILITY STPL Layout:C3.5 DRAINAGE PROFILES June 18, 2019 08:57:17am K:\NVA_CIV\110561000 DC United\CAD\Training Facility\PlanSheets\C3.4 DRAINAGE PROFILES.dwg
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WET POND DESIGN WORKSHEET

Project: DC United - Training Facility **Date:** 04/09/19 **Initials:** JRA

Drainage Area Information to Wet Pond

	Acres	C	CN		
Forest/Open Space:	**0.00**	0.04	70	0.39	Weighted C Factor
Managed Turf (B Soils):	**0.04**	0.20	61	82	Weighted CN
Managed Turf (C Soils):	**2.98**	0.22	74		
Managed Turf (D Soils):	**5.71**	0.25	80		
Impervious Cover:	**2.40**	0.95	98		
Total:	*11.13*				
HSG:	*Type B/C/D*				

Design Criteria	
Length/Width Ratio	*2:1*
flow path	*0.5 or more*
Aquatic Bench	*10 feet @ 15% if depth > 4'*
Landscaping	*Turf in pond buffers*
Safety Bench	*8 to 15 feet @ 5% if depth > 4'*
Wetlands	*N/A*
Forebay	*15% of treatment volume*

Pond Sizing Information

Design Level (1 or 2)	1		
Bottom Pond Elev.	**265.00**	*ft*	
Perm. Pool Elev.	**268.50**	*ft*	
Treatment Volume Provided	40,544	*cu ft*	*PASS*
Treatment Volume Required	15,867	*cu ft*	
Permanent Pool Depth	**42**	*in*	*PASS*
Min. Permanent Pool Depth	39.2	*in*	
Pond internal Slope Provided	**0.5%-1%**		
Pond Internal Slope Required	**0.5%-1%**		

POND A

Elev	Area (SF)	Storage (CF)	Cumulative Storage (CF)		Cumulative Storage Above Perm. Pool	
			CF	AC.FT.	CF	AC.FT.
265.00	7379	0	0	0.00	0	0.00
265.50	8066	3861	3861	0.09	0	0.00
266.00	8778	4211	8072	0.19	0	0.00
266.50	9517	4574	12646	0.29	0	0.00
267.00	10281	4949	17595	0.40	0	0.00
267.50	11544	5456	23052	0.53	0	0.00
268.00	12842	6097	29148	0.67	0	0.00
268.50	14187	6757	35905	0.82	0	0.00
269.00	18520	8177	44082	1.01	8177	0.19
269.50	22890	10353	54435	1.25	18530	0.43
270.00	24071	11740	66175	1.52	30270	0.69
270.50	25277	12337	78512	1.80	42607	0.98
271.00	26508	12946	91459	2.10	55553	1.28
271.50	27763	13568	105026	2.41	69121	1.59
272.00	29043	14202	119228	2.74	83323	1.91
272.50	30348	14848	134076	3.08	98171	2.25
273.00	31678	15506	149582	3.43	113677	2.61

Pond A Sediment Forebay 1

Elev	Area (SF)	Storage (CF)	Cumulative Storage (CF)	
			CF	AC.FT.
265.00	843	0	0	0.00
265.50	942	446	446	0.01
266.00	1045	497	943	0.02
266.50	1153	549	1492	0.03
267.00	1265	605	2097	0.05
267.50	1542	702	2799	0.06
268.00	1835	844	3643	0.08
268.50	2148	996	4639	0.11
269.00	3214	1340	5979	0.14

Forebay Depth Provided	4.0	*ft*	*PASS*
Forebay Depth Required	4.0	*ft*	
Aquatic Bench Provided	**2**	*ft*	
Aquatic Bench Required	4-6	*ft*	
Forebay Volume Provided	5,979	*cu ft*	*PASS*
Forebay Volume Required	2,380	*cu ft*	

WATER BALANCE EQUATION FOR ACCEPTABLE WATER DEPTH								
DP	>	ET	+	INF	+	RES	-	MB
39.2	>	8	+	7.2	+	24	-	0
PERMANENT POND DEPTH=			42	IN	>	39.2	IN	

Pond Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020 Tuesday, 06 / 18 / 2019

Pond No. 1 - Wet Pond 1

Pond Data

Contours -User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 268.50 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	268.50	16,336	0	0
0.50	269.00	21,734	9,484	9,484
1.00	269.50	22,890	11,154	20,638
1.50	270.00	24,071	11,738	32,376
2.00	270.50	25,277	12,335	44,711
2.50	271.00	26,508	12,944	57,654
3.00	271.50	27,763	13,565	71,219
3.50	272.00	29,043	14,199	85,418
4.00	272.50	30,348	14,845	100,263
4.50	273.00	31,678	15,504	115,767

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 24.00	10.00	Inactive	0.00
Span (in)	= 24.00	10.00	10.00	0.00
No. Barrels	= 1	1	1	0
Invert El. (ft)	= 267.00	268.50	270.50	0.00
Length (ft)	= 44.00	0.00	0.00	0.00
Slope (%)	= 1.06	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	Yes	Yes	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 16.60	3.00	0.00	40.00
Crest El. (ft)	= 271.00	270.00	0.00	271.30
Weir Coeff.	= 3.33	3.33	3.33	2.60
Weir Type	= 1	Rect	---	Broad
Multi-Stage	= Yes	Yes	No	No
Exfil.(in/hr)	= 0.000 (by Wet area)			
TW Elev. (ft)	= 0.00			

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).

POND CONTOUR AREA INCLUDES SEDIMENT FOREBAY ABOVE PERMANENT POOL ELEVATION

BUOYANCY CALCULATIONS FOR D14 RISER OUTLET STRUCTURE

INTERNAL DIAMETER OF RISER (FT)	5	FT
HEIGHT OF RISER (FT)	4	FT
WIDTH OF NOTCHED WEIR (FT)	3	FT
HEIGHT OF NOTCHED WEIR (FT)	1	FT
DIAMETER OF OUTLET PIPE (FT)	2	FT
DIAMETER OF LOW FLOW ORIFICE (FT)	0.83	FT
THICKNESS OF RISER STRUCTURE (FT)	0.67	FT
INTERNAL DIAMETER OF EXTENDED BASE (FT)	5	FT
HEIGHT OF EXTENDED BASE (FT)	3.67	FT

VOLUME OF CONCRETE IN RISER

Vc = VOL. OF RISER + VOL. EXTENDED BASE - VOL. OF OPENINGS

Vc = 158.53 CF

WEIGHT OF RISER, W = 150 LB/CF W = 23,779.00 LB

VOLUME OF WATER DISPLACED

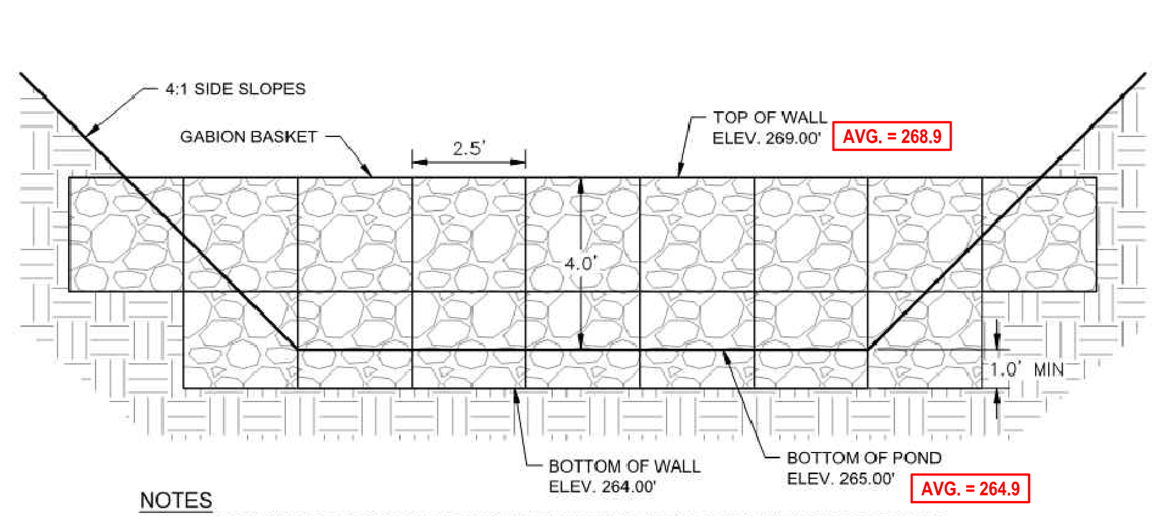
Vw = VOL. OF RISER + VOL.OF BASE

Vw = 241.52 CF

UPLIFT FORCE, U = 62.4 LB/CF U = 15,071.13 LB

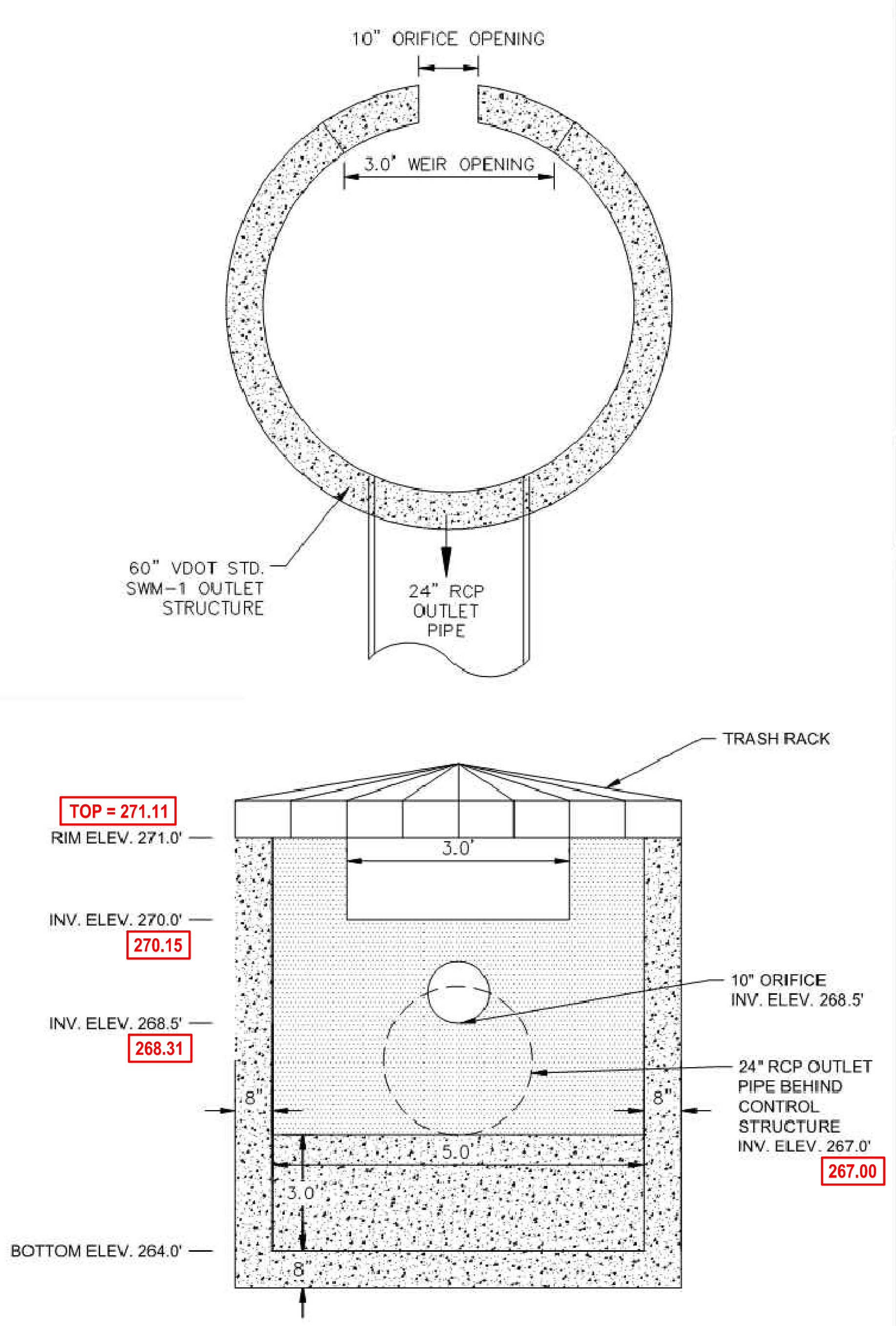
FACTOR OF SAFETY: W/U FS = 1.58

CONTRACTOR IS RESPONSIBLE FOR CONSTRUCTION OF ALL ITEMS WITHIN THE RED CLOUD.

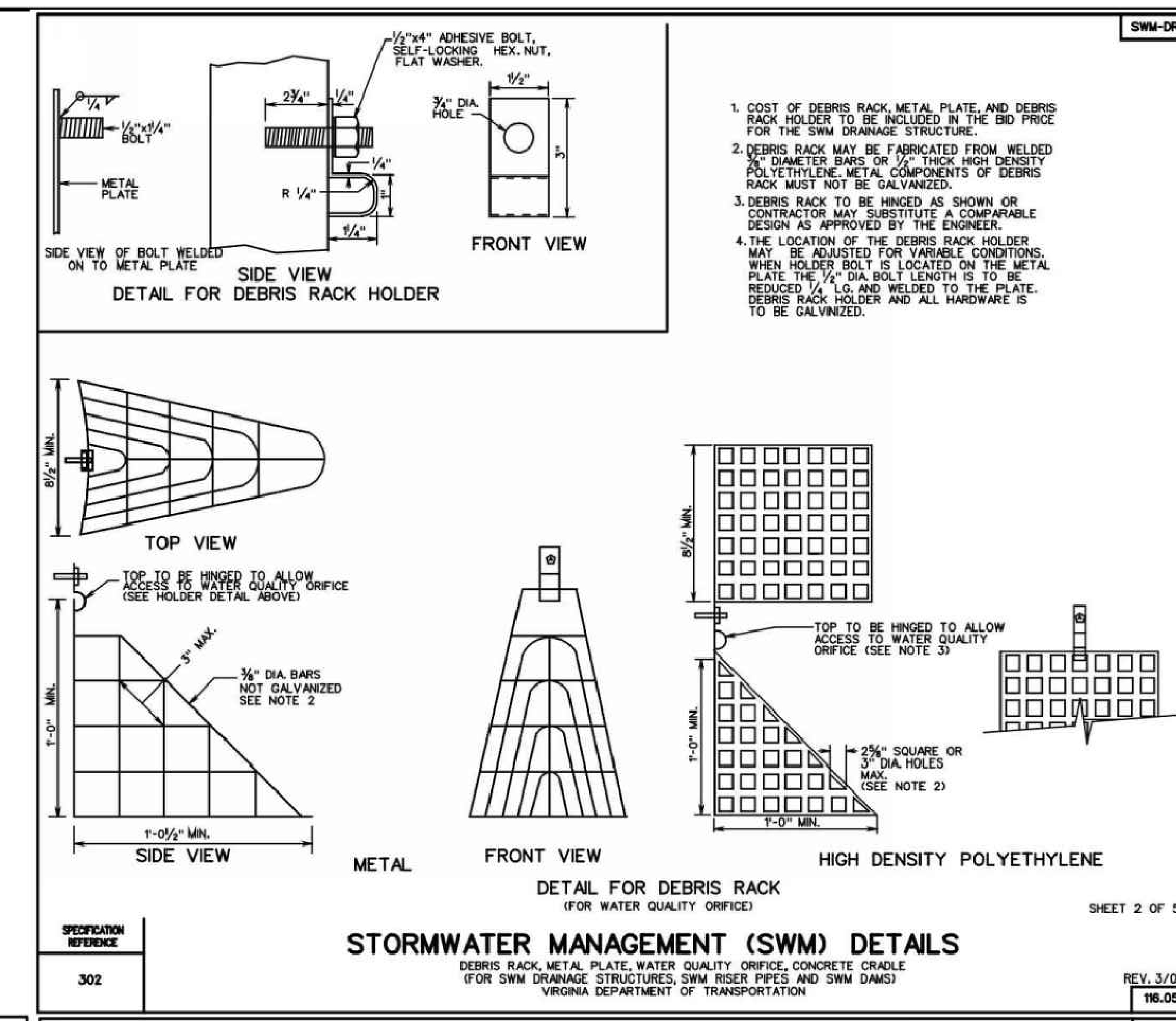


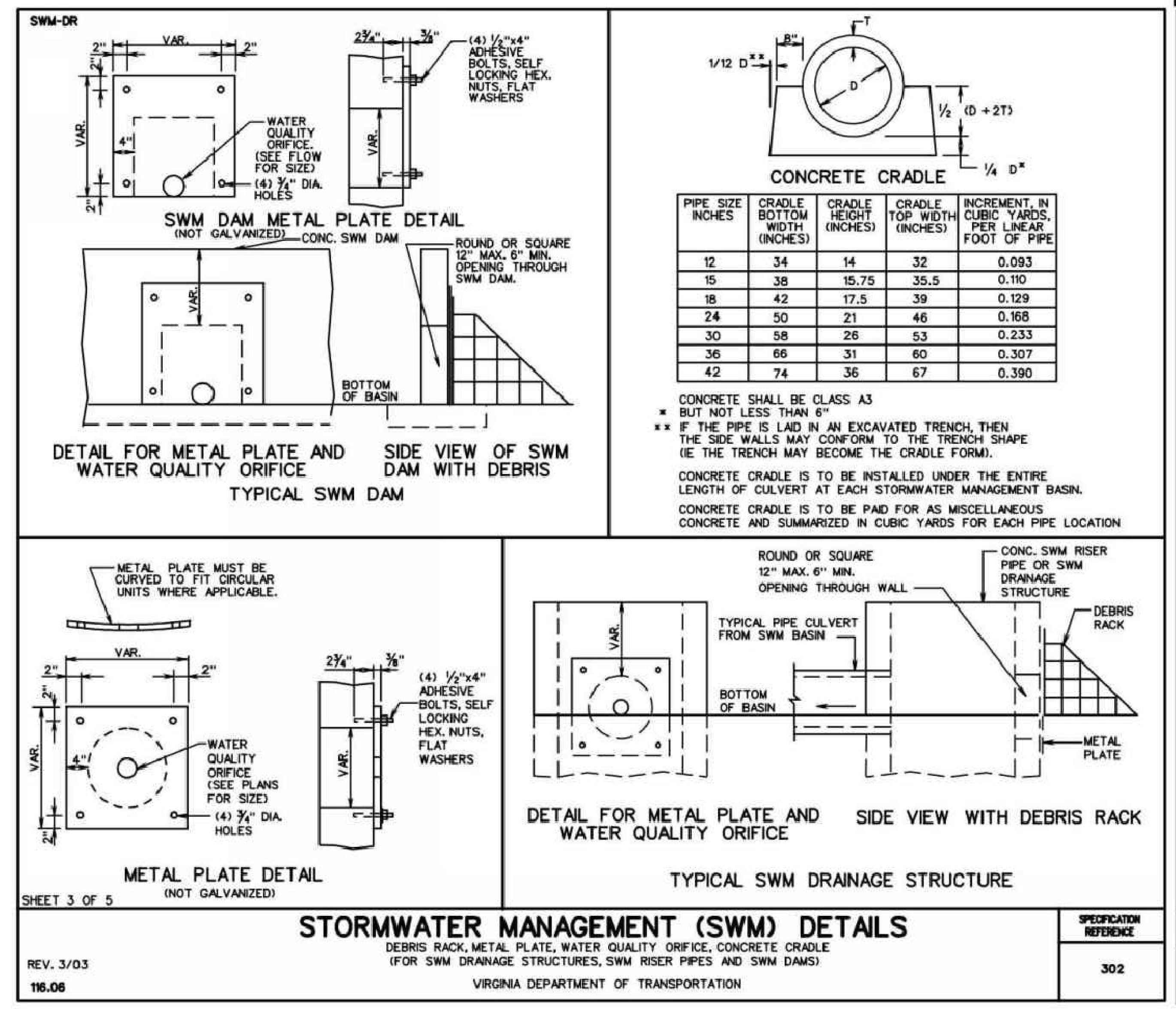
NOTES
1. GABIONS ARE TO CONSIST OF HIGH TENSILE WIRE MESH FILLED WITH CLASS I RIPRAP.
2. GABIONS BASKETS SHALL BE 2' IN WIDTH.
3. GABIONS SHALL BE KEYED INTO THE GROUND A MINIMUM OF 1'.

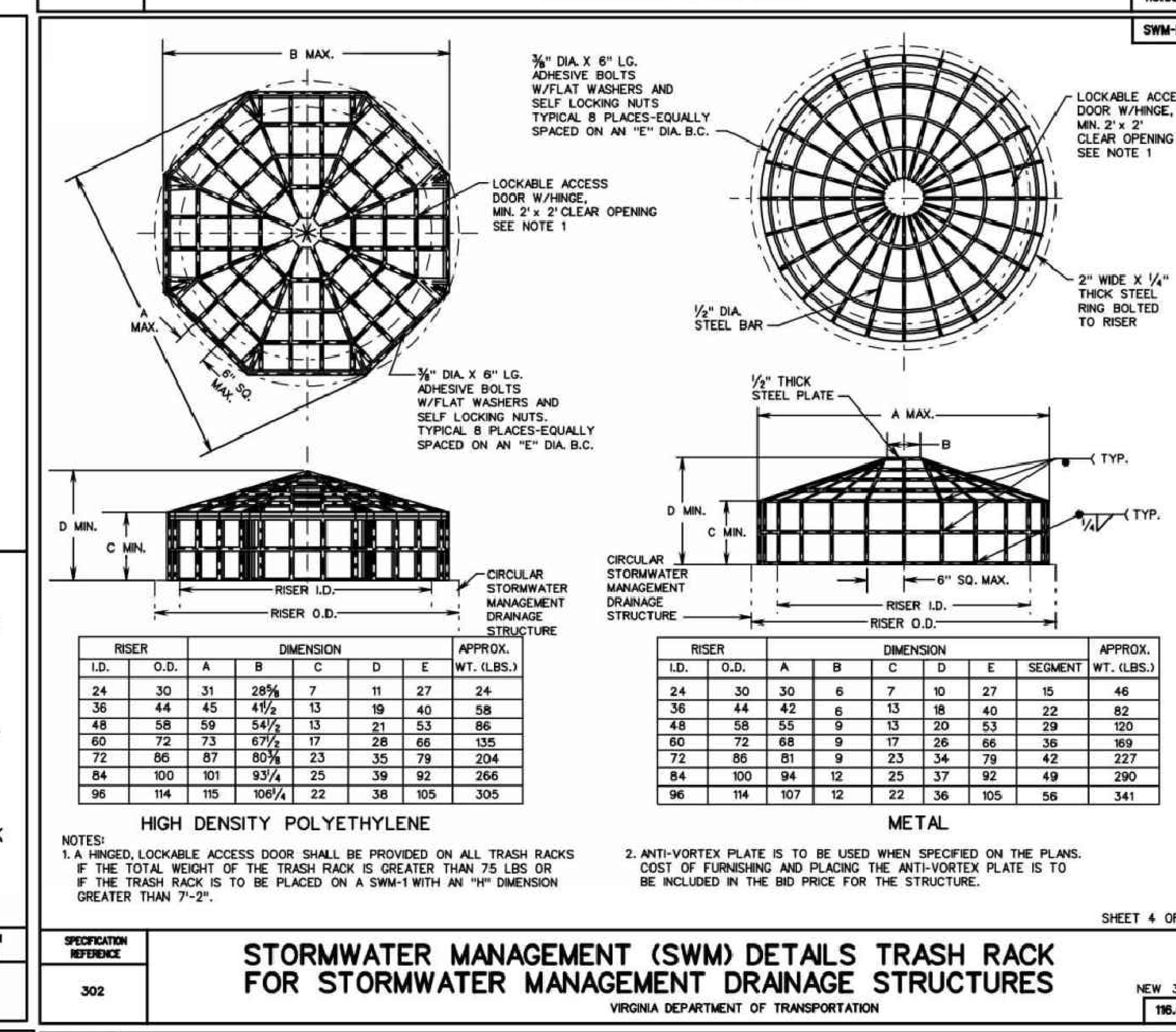
1 GABION WALL DETAIL
N.T.S.

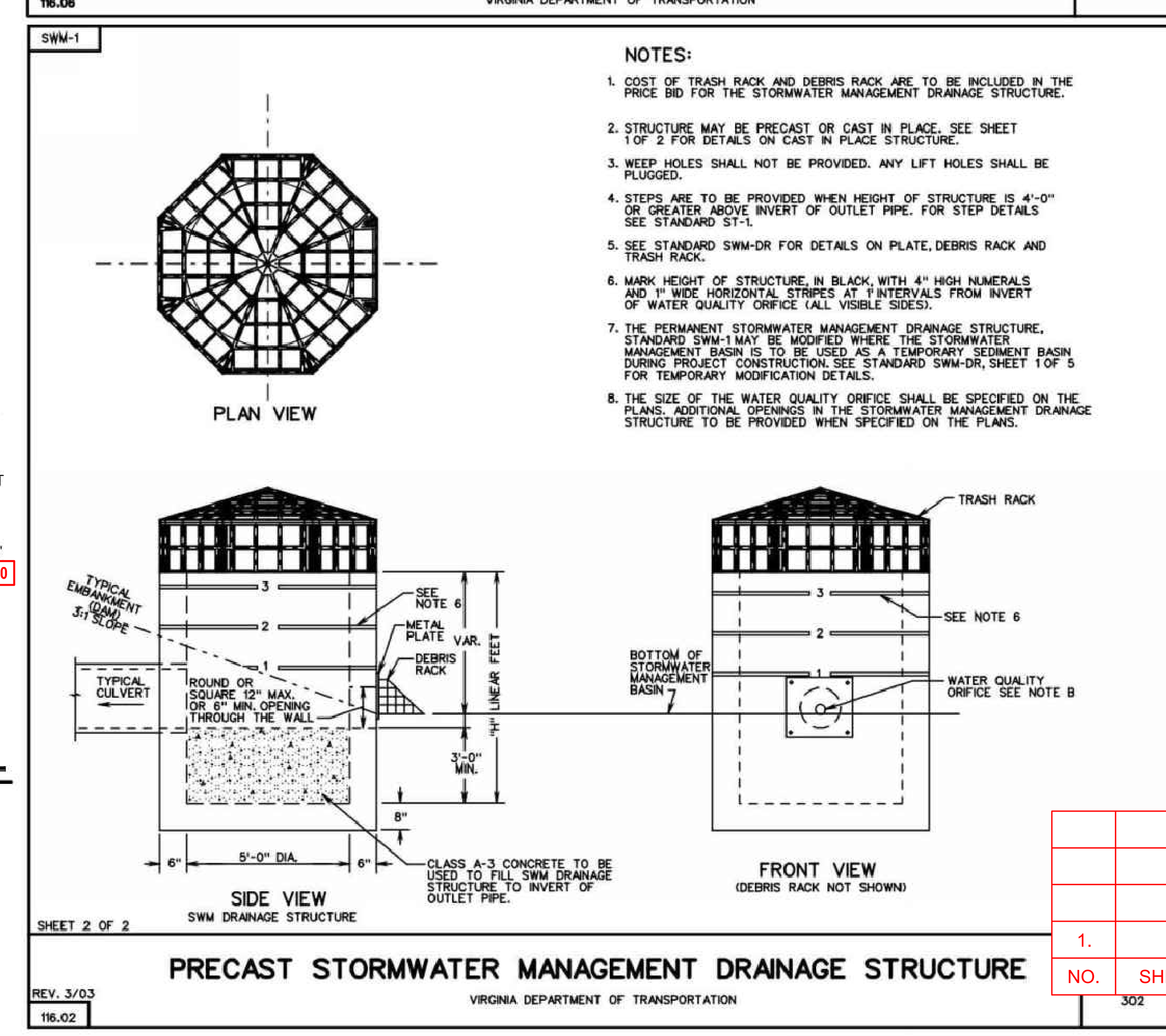


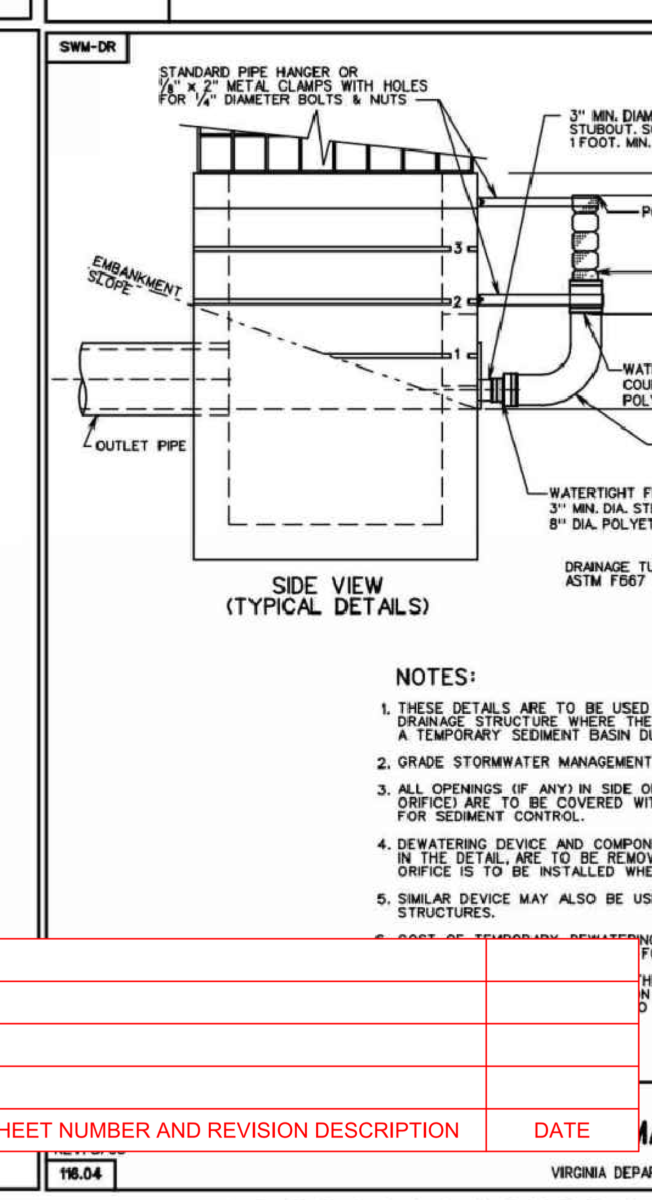
2 D14 OUTLET STRUCTURE DETAIL
N.T.S.











AS-BUILT PLAN

07-19-0269

TRIAD ENGINEERING, INC.
200 AVIATION DRIVE
WINCHESTER, VA 22602
P 540.667.9300 F 540.667.2260
WWW.TRIADENG.COM

COMMONWEALTH OF VIRGINIA
KEVIN D. SHREINER
No. 2736
05/01/2020
LAND SURVEYOR

FIELD WORK COMPLETED ON MAY 1, 2020

AS-BUILT SURVEY INFORMATION NOTED IN RED AS BOXED

NO.	SHEET NUMBER AND REVISION DESCRIPTION	DATE
1.		

No.	Revisions	Date	By
3	COUNTY AND TOWN COMMENTS	6/18/2019	KHA
2	COUNTY AND TOWN COMMENTS	4/24/2019	KHA
1	LOUDOUN COUNTY COMMENTS	4/11/2019	KHA

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11400 COMMERCE PARK DR., SUITE 400, RESTON, VA 20191
PHONE: 703-674-1300 FAX: 703-674-1350
WWW.KIMLEY-HORN.COM

COMMONWEALTH OF VIRGINIA
KYLE T. BOLLINGER
Lic. No. 051017
6/18/2019
PROFESSIONAL ENGINEER

KHA PROJECT 110561000
DATE 03/06/2019
SCALE AS SHOWN
DESIGNED BY ---
DRAWN BY ---

STORMWATER MANAGEMENT DETAILS

TRAINING FACILITY
PREPARED FOR
DC UNITED
CATOCTIN ELECTION DISTRICT

SHEET NUMBER
C.04.12
~~C5.9~~

PREV. PAGE

Plotted By: Bollinger, Kyle Sheet Set: DC UNITED TRAINING FACILITY STPL Layout: C6.9 STORMWATER MANAGEMENT DETAILS June 18, 2019 01:48:04pm K:\NVA_CIV\110561000 DC United\CAD\Training Facility\PlanSheets\C6.10 STORMWATER MANAGEMENT DETAILS.dwg
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AS-BUILT PLAN

07-19-0269

TRIAD ENGINEERING, INC.
200 AVIATION DRIVE
WINCHESTER, VA 22602
P 540.667.9300 F 540.667.2260
WWW.TRIADENG.COM

COMMONWEALTH OF VIRGINIA
KEVIN D. SHREINER
No. 2736
05/01/2020
LAND SURVEYOR

FIELD WORK COMPLETED ON MAY 1, 2020

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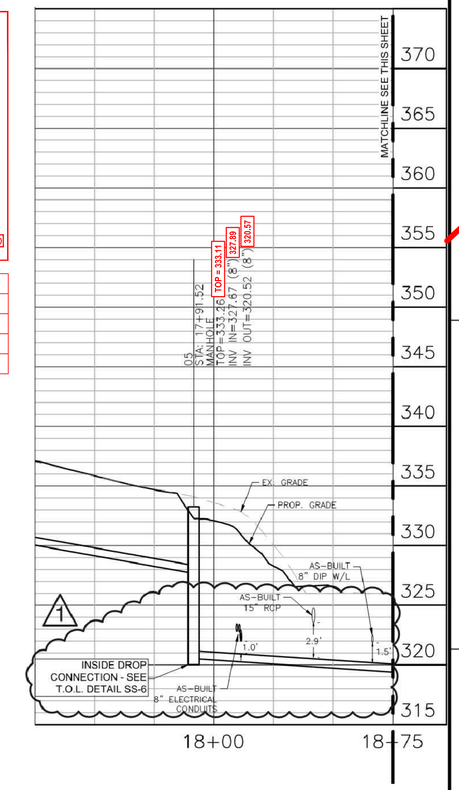
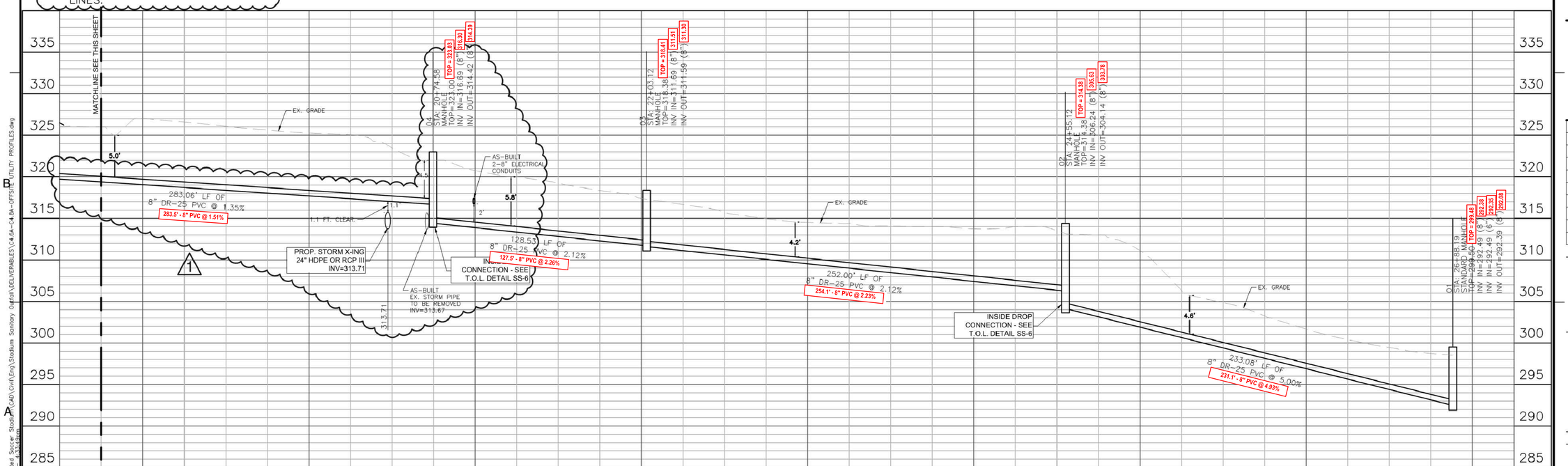


EX SSWR LATERAL:
SCALE: 1" = 30' H
1" = 6' V

NOTE:

1. DURING SEWER CONSTRUCTION EXCAVATION WILL REMAIN OPEN AT ALL WATER LINE CROSSINGS SO THAT TOWN UTILITIES STAFF CAN FIELD VERIFY DEPTHS AND LOCATIONS WATER AND SEWER LINES.

CLOUDED AREA BEING REVISED WITH THIS PLAN.



EX SSWR LATERAL:
SCALE: 1" = 30' H
1" = 6' V

Dewberry

Dewberry Engineers Inc
1503 Edwards Ferry Road
Suite 200
Leesburg, VA 20176-6680
703.771.9400

LOUDOUN UNITED FC STADIUM

PREPARED FOR DC UNITED

CATOCTIN ELECTION DISTRICT
LOUDOUN COUNTY

SEAL

COMMONWEALTH OF VIRGINIA
DUANE R. THOMAS
Lic. No. 050482
5-5-20
PROFESSIONAL ENGINEER

SCALE

0' 15' 30' 60'
SCALE: 1" = 30'

No.	DATE	BY	Description

REVISIONS

DRAWN BY

APPROVED BY

CHECKED BY

DATE

TITLE

SEWER EXTENSION PROFILES

PROJECT NO.

*C4.6A

SHEET NO.

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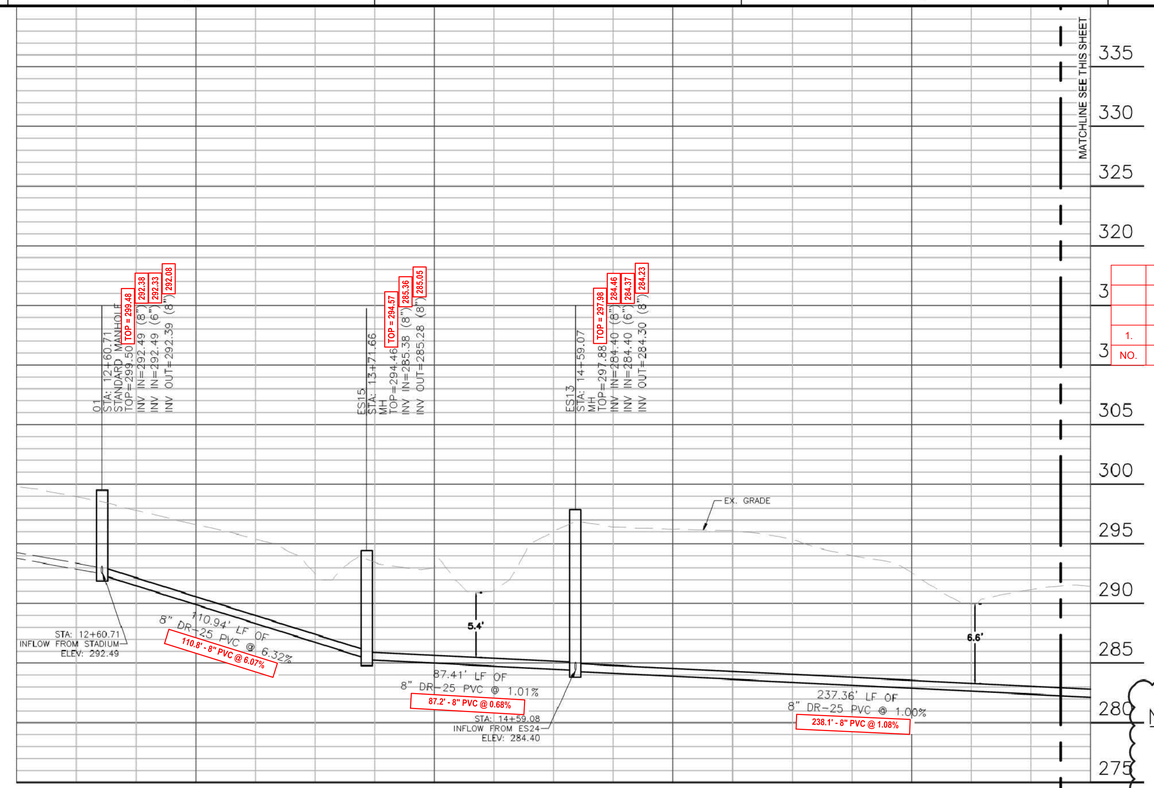
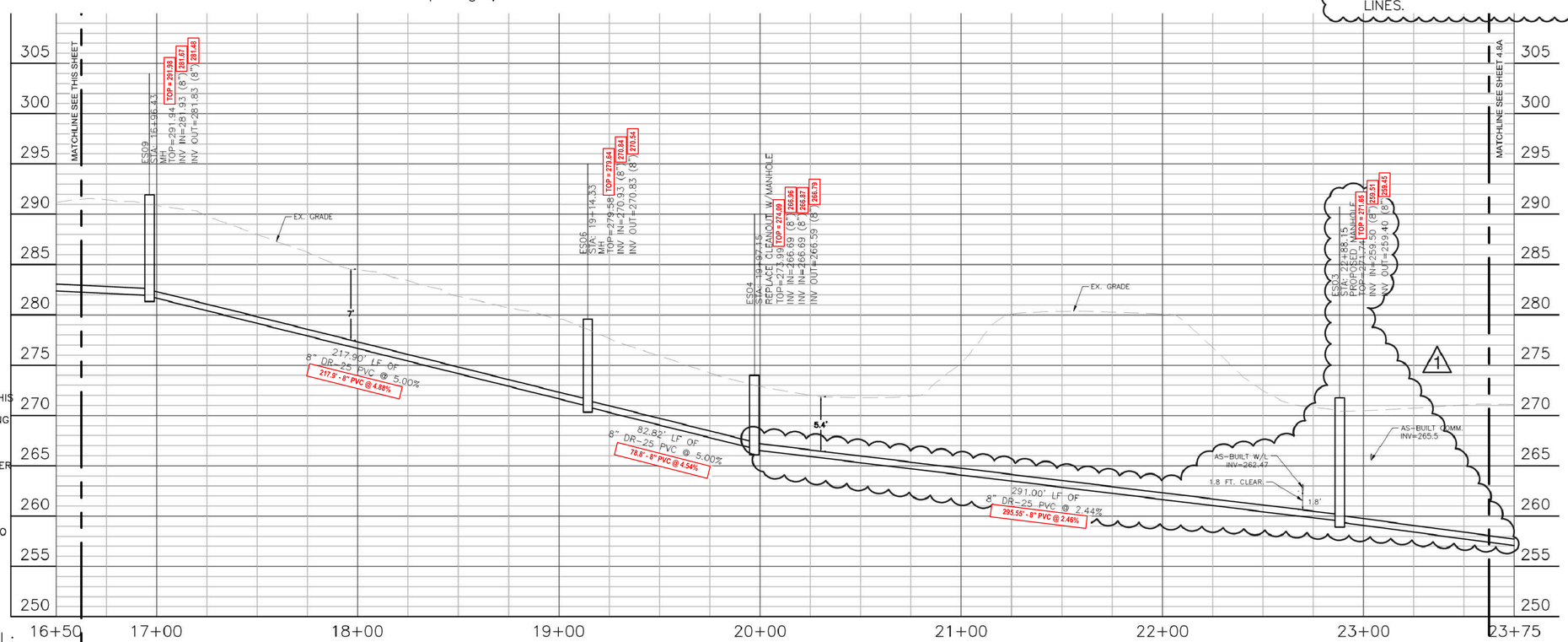
Plot Date: 05/01/2020



EX SSWR LATERAL:
SCALE: 1" = 30' H
1" = 6' V

NOTE:

1. ALL PIPES DOWNSTREAM OF DOGHOUSE STRUCTURE 01 ARE PROPOSED TO BE UPSIZED TO 8".
2. PROPOSED REPLACEMENTS SHOWN ON THIS PLAN ARE ONLY INTENDED TO PROVIDE 0.52% MINIMUM SLOPE TO MEET PLUMBING CODE FOR AN 8" PIPE.
3. ALL NEW PROPOSED PIPES TO BE INSTALLED SHALL HAVE A SLOPE GREATER OR EQUAL TO 0.52%.
4. CONTRACTOR TO VERIFY EXISTING CLEANOUTS UPSTREAM OF DOGHOUSE STRUCTURE 01 ARE SPACED AT A MAXIMUM OF 100 FEET. CONTRACTOR TO INSTALL NEW MANHOLES AS SHOWN TO MEET 300 FOOT MAXIMUM SPACING.



EX SSWR LATERAL:
SCALE: 1" = 30' H
1" = 6' V

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AS-BUILT PLAN

07-19-0269

TRIAD ENGINEERING, INC.
200 AVIATION DRIVE
WINCHESTER, VA 22602
P 540.667.9300 F 540.667.2260
WWW.TRIADENG.COM

COMMONWEALTH OF VIRGINIA
KEVIN D. SHREINER
No. 2736
05/01/2020
LAND SURVEYOR

FIELD WORK COMPLETED ON MAY 1, 2020

AS-BUILT SURVEY INFORMATION NOTED IN RED AS BOXED

NO.	SHEET NUMBER AND REVISION DESCRIPTION	DATE
1.		

CLOUDED AREA BEING REVISED WITH THIS PLAN.

NOTE:

1. DURING SEWER CONSTRUCTION EXCAVATION WILL REMAIN OPEN AT ALL WATER LINE CROSSINGS SO THAT TOWN UTILITIES STAFF CAN FIELD VERIFY DEPTHS AND LOCATIONS WATER AND SEWER LINES.

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Dewberry Engineers Inc
1503 Edwards Ferry Road
Suite 200
Leesburg, VA 20176-6680
703.771.9400

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CATOCTIN ELECTION DISTRICT
LOUDOUN COUNTY

COMMONWEALTH OF VIRGINIA
DUANE R. THOMAS
Lic. No. 050582
5-5-20
PROFESSIONAL ENGINEER

SCALE
0' 15' 30' 60'
SCALE: 1" = 30'

No.	DATE	BY	Description

REVISIONS

DRAWN BY
APPROVED BY
CHECKED BY
DATE

TITLE

SEWER EXTENSION PROFILES

PROJECT NO.

*C4.7A

SHEET NO.

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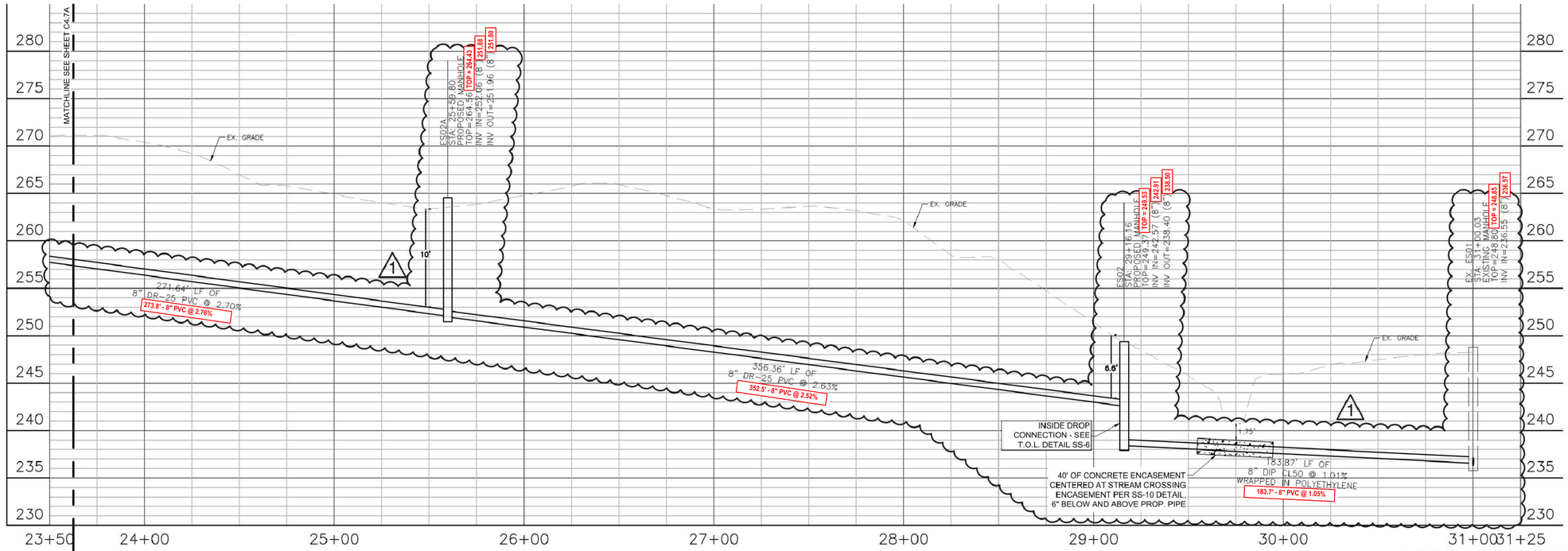

NOTE:

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EX SSWR LATERAL:

SCALE: 1" = 30' H
1" = 6' V

CLOUDED AREA BEING REVISED WITH THIS PLAN.

NOTE: 1

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AS-BUILT PLAN

07-19-0269

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200 AVIATION DRIVE
WINCHESTER, VA 22602
P 540.667.9300 F 540.667.2260
WWW.TRIADENG.COM

COMMONWEALTH OF VIRGINIA
KEVIN D. SHREINER
No. 2736
05/01/2020
LAND SURVEYOR

FIELD WORK COMPLETED ON MAY 1, 2020

AS-BUILT SURVEY INFORMATION NOTED IN RED AS BOXED

NO.	SHEET NUMBER AND REVISION DESCRIPTION	DATE
1.		

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Suite 200
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703.771.9400

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PREPARED FOR DC UNITED

CATOCTIN ELECTION DISTRICT
LOUDOUN COUNTY

COMMONWEALTH OF VIRGINIA
DUANE R. THOMAS
Lic. No. 056082
5-5-20
PROFESSIONAL ENGINEER

SCALE

0' 15' 30' 60'
SCALE: 1" = 30'

No.	DATE	BY	Description

REVISIONS

DRAWN BY
APPROVED BY
CHECKED BY
DATE

TITLE

SEWER EXTENSION PROFILES

PROJECT NO.

*C4.8A

SHEET NO.

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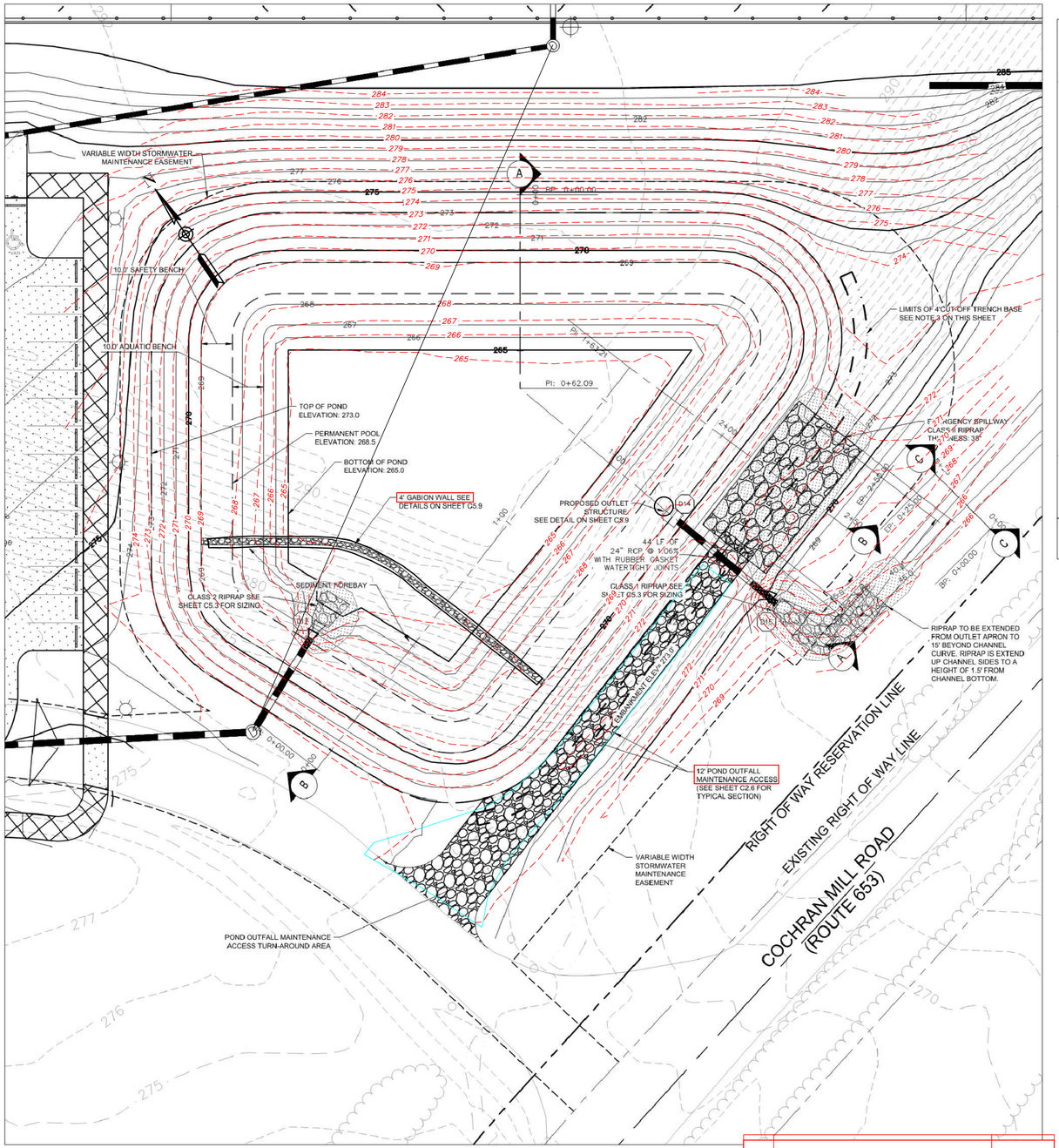
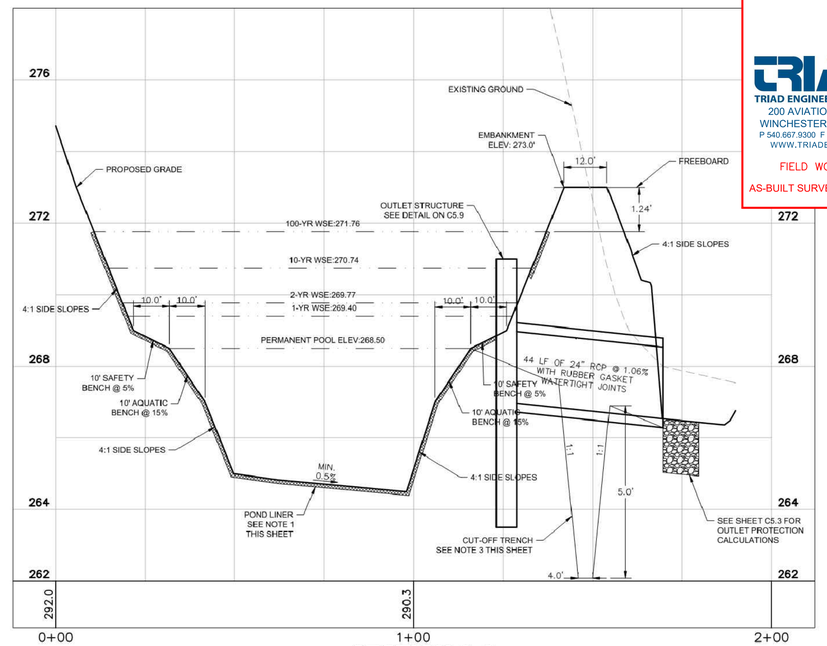


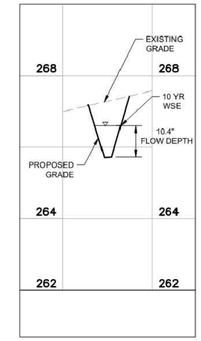
WET POND ENLARGEMENT

SCALE: 1" = 20'



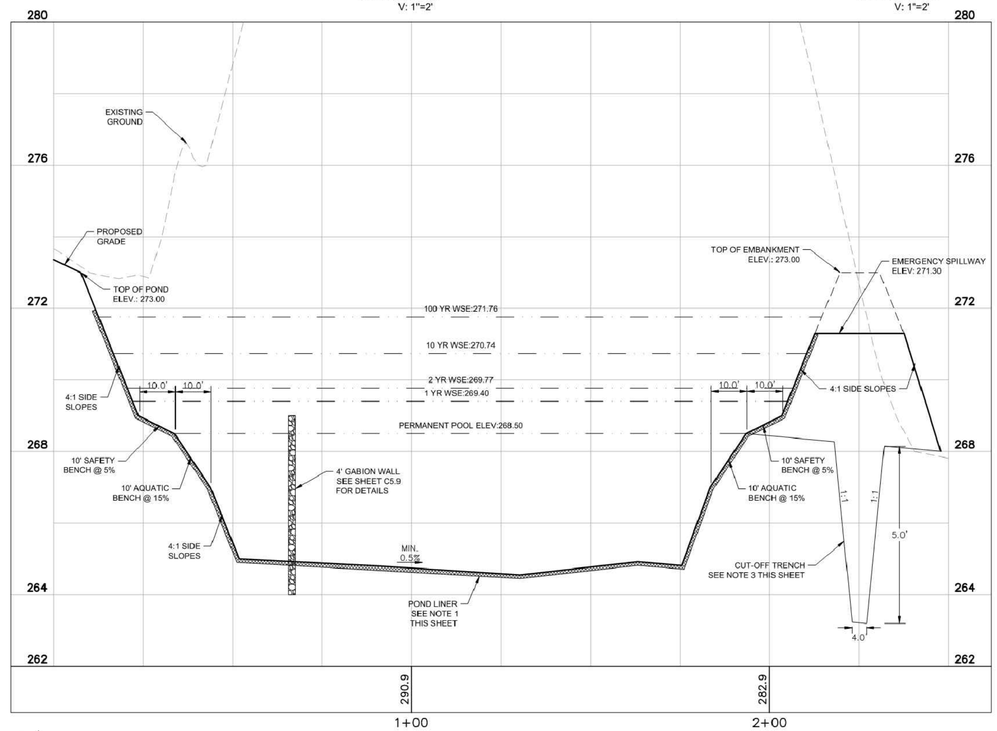
SECTION A-A

SCALE: H:1" = 20'
V: 1"=2'



SECTION C-C

SCALE: H:1" = 20'
V: 1"=2'



SECTION B-B

SCALE; H:1" = 20'
V: 1"=2'

NO.	SHEET NUMBER AND REVISION DESCRIPTION	DATE

NOTES:

1. PER A GEOTECHNICAL INVESTIGATION AND REPORT PREPARED BY HILLIS CARNES ENGINEERING ASSOCIATES ON MARCH 28, 2019, THE PROPOSED LEVEL 1 WET POND SHALL BE LINED WITH EITHER A MANUFACTURED LINER OR A CLAY LINER TO AVOID INFILTRATION OF WATER AND MIGRATION OF FINES. IF A MANUFACTURED LINER IS SELECTED, IT SHALL BE A POLYMER PVC LINER OR EQUIVALENT AT LEAST 30-MILLIMETER AND SHALL BE INSTALLED PER THE RECOMMENDATIONS OF THE MANUFACTURER OR THE GEOTECHNICAL ENGINEER OF RECORD. IF A CLAY LINER IS SELECTED, IT SHOULD CONSIST OF AT LEAST 18-INCH THICK CLAY (CL/CH) LAYER WITH MORE THAN 70% FINES PASSING THE NO. 200 SIEVE, AND HAVE A MAXIMUM PERMEABILITY OF 1X10-6 CM/SEC. THE LINER SHALL BE PLACED IN 8-INCH THICK LOOSE LIFTS AND COMPACTED TO AT LEAST 95 OF THE MAXIMUM DRY DENSITY PER ASTM D698. IF FOUND IN SUFFICIENT QUANTITY, FAT CLAY (CH) AND LEAN CLAY (CL) ENCOUNTERED ON-SITE MAY BE SUITABLE FOR USE AS THE SWM FACILITY LINER.
2. IN ORDER TO PREVENT EXCESS SEEPAGE ALONG THE EXTERIOR OF THE OUTLET PIPE, A CONCRETE CRADLE SHALL BE PLACED BELOW THE PIPES. SEE DETAIL ON SHEET C5.9. THE CRADLE SHALL BEGIN AT THE RISER OR INLET END OF THE PIPE AND EXTEND THE PIPE'S FULL LENGTH. THE CRADLE SHALL BE AT LEAST SIX INCHES THICK, WITH THE PIPE EMBEDDED INTO THE CRADLE A DEPTH OF 0.5 TIMES THE PIPE DIAMETER. THE CRADLE SHALL BE PLACED DIRECTLY ON TOP OF UNDISTURBED NATURAL SOILS AND SHOULD EXTEND UP TO A LEVEL EQUAL TO OR ABOVE THE SPRING LINE OF THE PIPE.
3. A CUT-OFF TRENCH SHALL BE INSTALLED THROUGH NATURAL SOILS ALONG THE CENTERLINE OF THE PROPOSED EMBANKMENT. THE TRENCH SHOULD EXTEND TO A DEPTH OF AT LEAST 5 FEET OR TO COMPETENT BEDROCK, WHICHEVER IS LESS, BE AT LEAST 4 FEET WIDE AT THE BASE, AND SHOULD HAVE SIDE SLOPES OF AT LEAST 1H:1V.

VERTICAL 0 1 2 4

GRAPHIC SCALE IN FEET 0 10 20 40 HORIZONTAL

NORTH

CONTRACTOR IS RESPONSIBLE FOR CONSTRUCTION OF ALL ITEMS WITHIN THE RED CLOUD.

AS-BUILT PLAN

07-19-0269

TRIAD ENGINEERING, INC.
200 AVIATION DRIVE
WINCHESTER, VA 22602
P 540.667.9300 F 540.667.2260
WWW.TRIADENG.COM

COMMONWEALTH OF VIRGINIA
KEVIN D. SHREINER
No. 2736
05/01/2020
LAND SURVEYOR

FIELD WORK COMPLETED ON MAY 1, 2020

AS-BUILT SURVEY INFORMATION NOTED IN RED AS BOXED

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PHONE: 703-674-1300 FAX: 703-674-1350
WWW.KIMLEY-HORN.COM

COMMONWEALTH OF VIRGINIA
KYLE T. BOLLINGER
Lic. No. 046017
10/18/2019
PROFESSIONAL ENGINEER

KHA PROJECT 110561000
DATE 03/06/2019
SCALE AS SHOWN
DESIGNED BY JRA
DRAWN BY JRA
CHECKED BY KTB

STORMWATER MANAGEMENT DETAILS

C TRAINING FACILITY
PREPARED FOR
DC UNITED
CATOCTIN ELECTION DISTRICT
LOUDOUN COUNTY
VIRGINIA

SHEET NUMBER
C.04.11
~~C5.8~~

Plotted By: Bollinger, Kyle Sheet Set:DC UNITED TRAINING FACILITY STPL Layout:C6.8 STORMWATER MANAGEMENT DETAILS June 18, 2019 01:48:00pm K:\NVA_CIV\110561000 DC United\CAD\Training Facility\PlanSheets\C6.10 STORMWATER MANAGEMENT DETAILS.dwg
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