

MCADAMS

The John R. McAdams Company, Inc.
2905 Meridian Parkway
Durham, NC 27713

phone 919. 361. 5000
fax 919. 361. 2269
license number: C-0293, C-187

www.mcadamsco.com

CONTACT

MIKE SANCHEZ
sanchez@mcadamsco.com
PHONE: 919. 361. 5000

CLIENT

ASHTON RALEIGH RESIDENTIAL, LLC.
5711 SIX FORKS ROAD, SUITE 300
RALEIGH, NORTH CAROLINA 27609
PHONE: 919. 232. 3695
CONTACT: BOB MISHLER



ASHTON WOODS.
PROJECT DIRECTORY

HARRIS CREEK INTERCEPTOR IMPROVEMENTS

ROLESVILLE, NORTH CAROLINA

CONSTRUCTION DRAWINGS

PROJECT NUMBER: AWH-21002

DATE: NOVEMBER 9, 2021

SHEET INDEX

CO.00	PROJECT NOTES
C5.00	PLAN AND PROFILE - HARRIS CREEK INTERCEPTOR STA. 34+00.00 THRU STA. 43+00.00
C5.01	PLAN AND PROFILE - HARRIS CREEK INTERCEPTOR STA. 43+00.00 THRU STA. 52+00.00
C5.02	PLAN AND PROFILE - HARRIS CREEK INTERCEPTOR STA. 52+00.00 THRU STA. 61+00.00
C5.03	PLAN AND PROFILE - HARRIS CREEK INTERCEPTOR STA. 61+00.00 THRU STA. 64+00.00
CB.01	SANITARY SEWER DETAILS
CB.02	EROSION CONTROL DETAILS

The offsite sanitary sewer easements must be prepared with Raleigh locked deed template, reviewed/signed by Raleigh and recorded prior to CD approval.

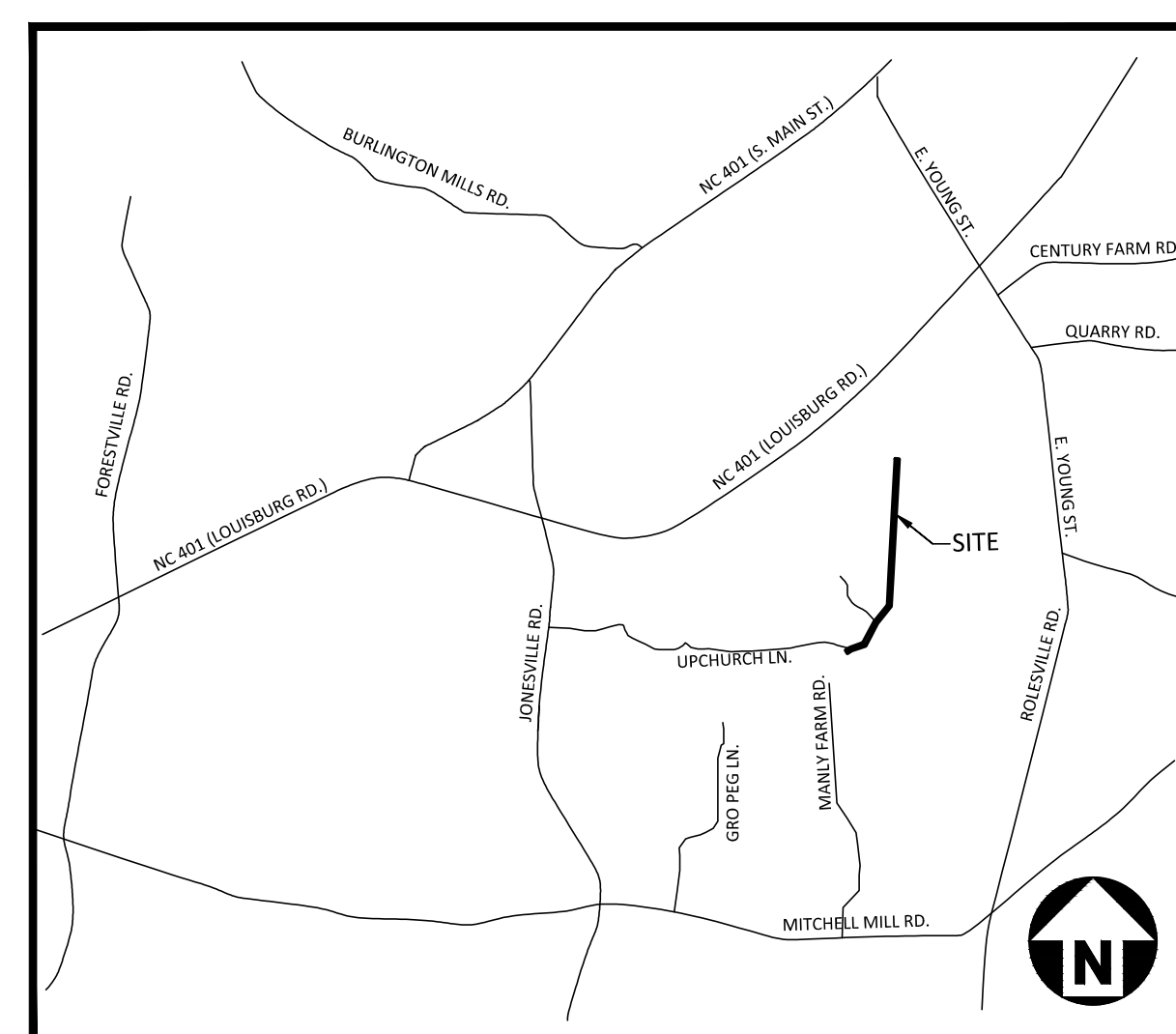
SURVEY BY:
BATEMAN CIVIL SURVEY COMPANY
2424 RELIANCE AVENUE, APEX, NC 27539

TOPOGRAPHIC DECEMBER 22, 2019
ALTA SURVEY DECEMBER 12, 2019

STEVEN P CARSON, PLS
NC LICENSE # 4752
919-577-1081

PUBLIC UTILITY IMPROVEMENT QUANTITIES OF SEWER MAIN & MANHOLES

SIZE	LENGTH
18" PVC (LF)	418 LF
24" PVC (LF)	3,469 LF
NUMBER OF MANHOLES = 13	



VICINITY MAP
N.T.S.

SITE PERMITTING APPROVAL

Water and Sewer Permits (if applicable)

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City of Raleigh Public Utilities Department Permit # _____

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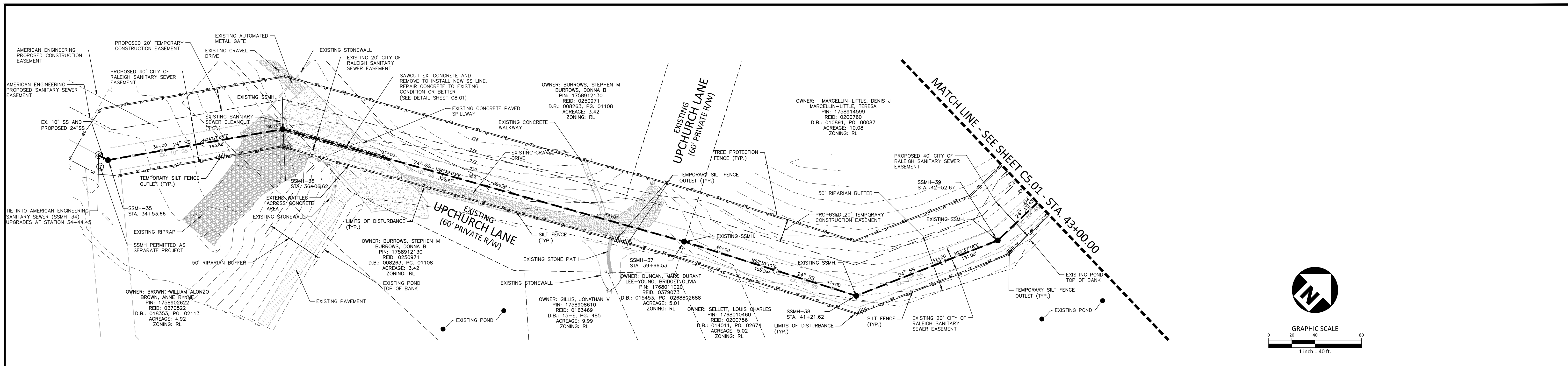


REVISIONS

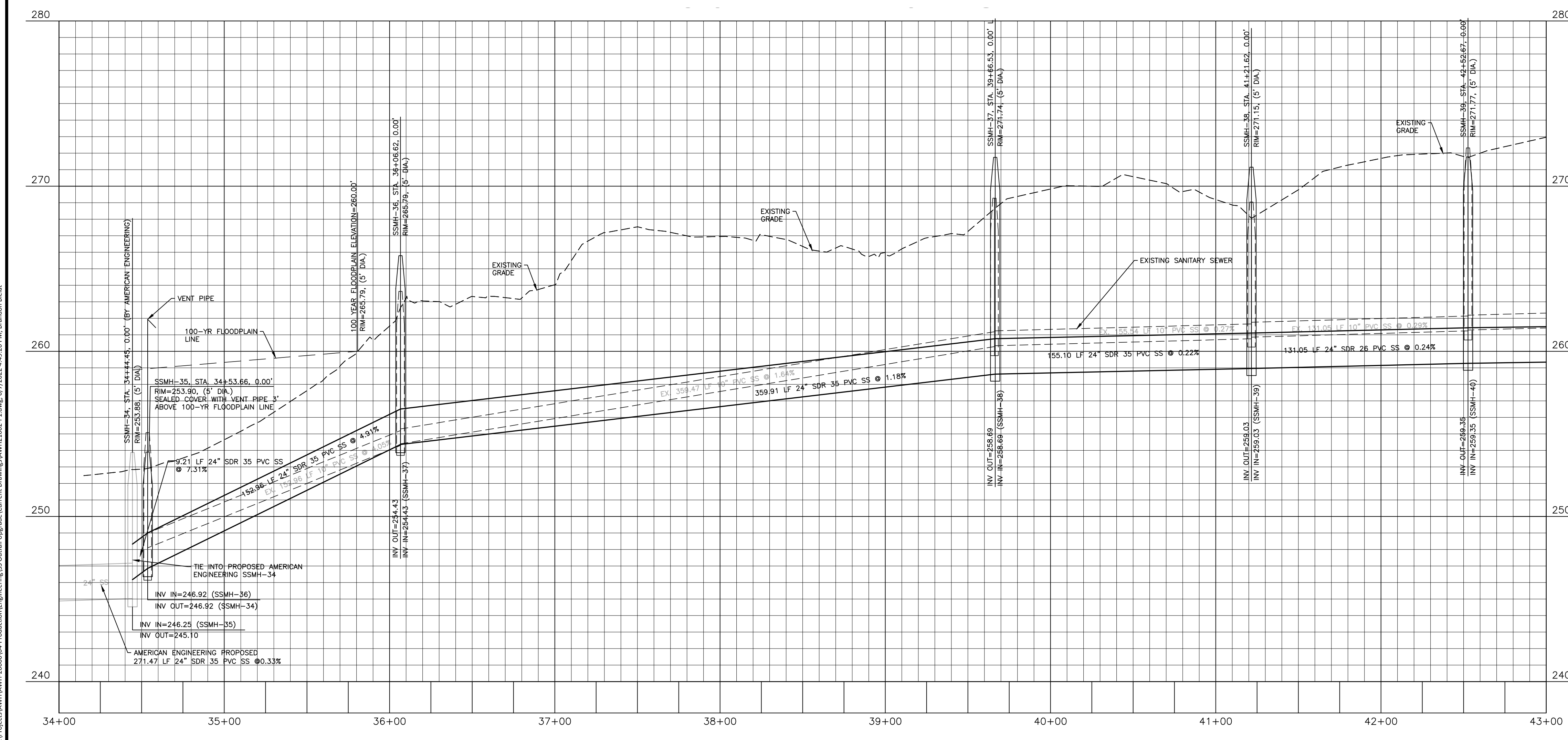
NO.	DATE	REVISION
1	03. 03. 2022	RESPOND TO MUNICIPAL COMMENTS

CONSTRUCTION DRAWINGS FOR:

HARRIS CREEK INTERCEPTOR IMPROVEMENTS
ROLESVILLE, NORTH CAROLINA
PROJECT NUMBER: AWH-21002



HARRIS CREEK INTERCEPTOR



BYPASS PUMPING TABLE		
SUCTION MANHOLE	DISCHARGE MANHOLE	QPEAK (GPM)
MH40	MH39	177.97
MH39	MH38	177.97
MH38	MH37	177.97
MH37	MH36	177.97
MH36	MH34	177.97

I'd like to see future basin build out calculations to show how 24" and 18" SS is justified. This may need to be an update with the narrative for the sewer capacity study.

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HARRIS CREEK INTERCEPTOR IMPROVEMENTS

CONSTRUCTION DRAWINGS

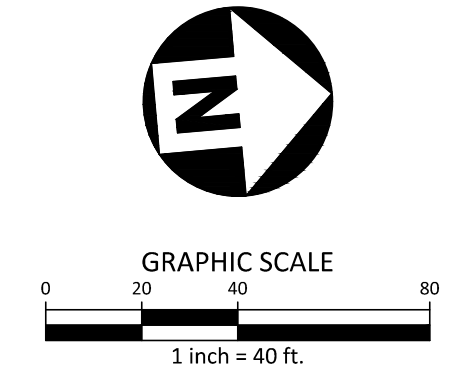
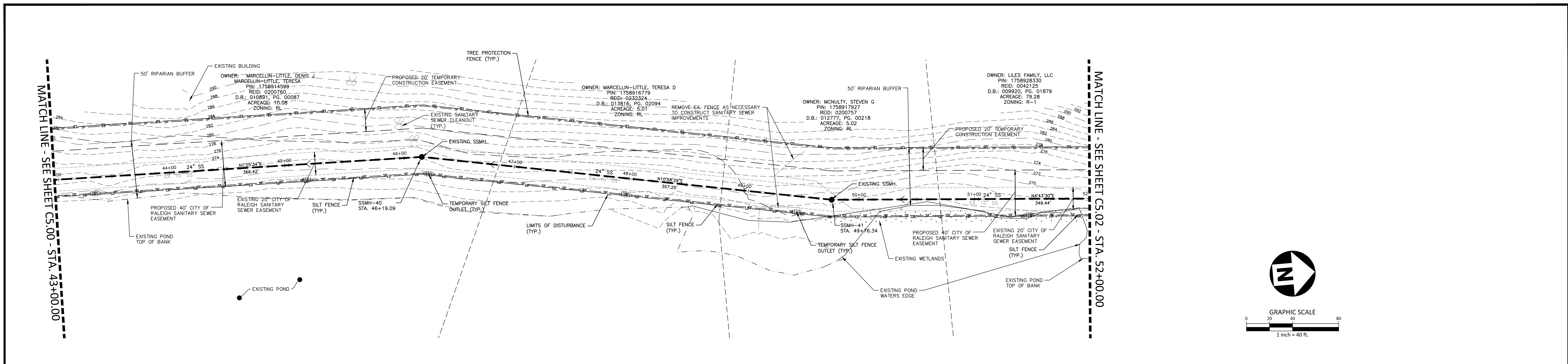
TOWN OF ROLESVILLE, WAKE FOREST TOWNSHIP,
 WAKE COUNTY, NORTH CAROLINA

PLAN INFORMATION

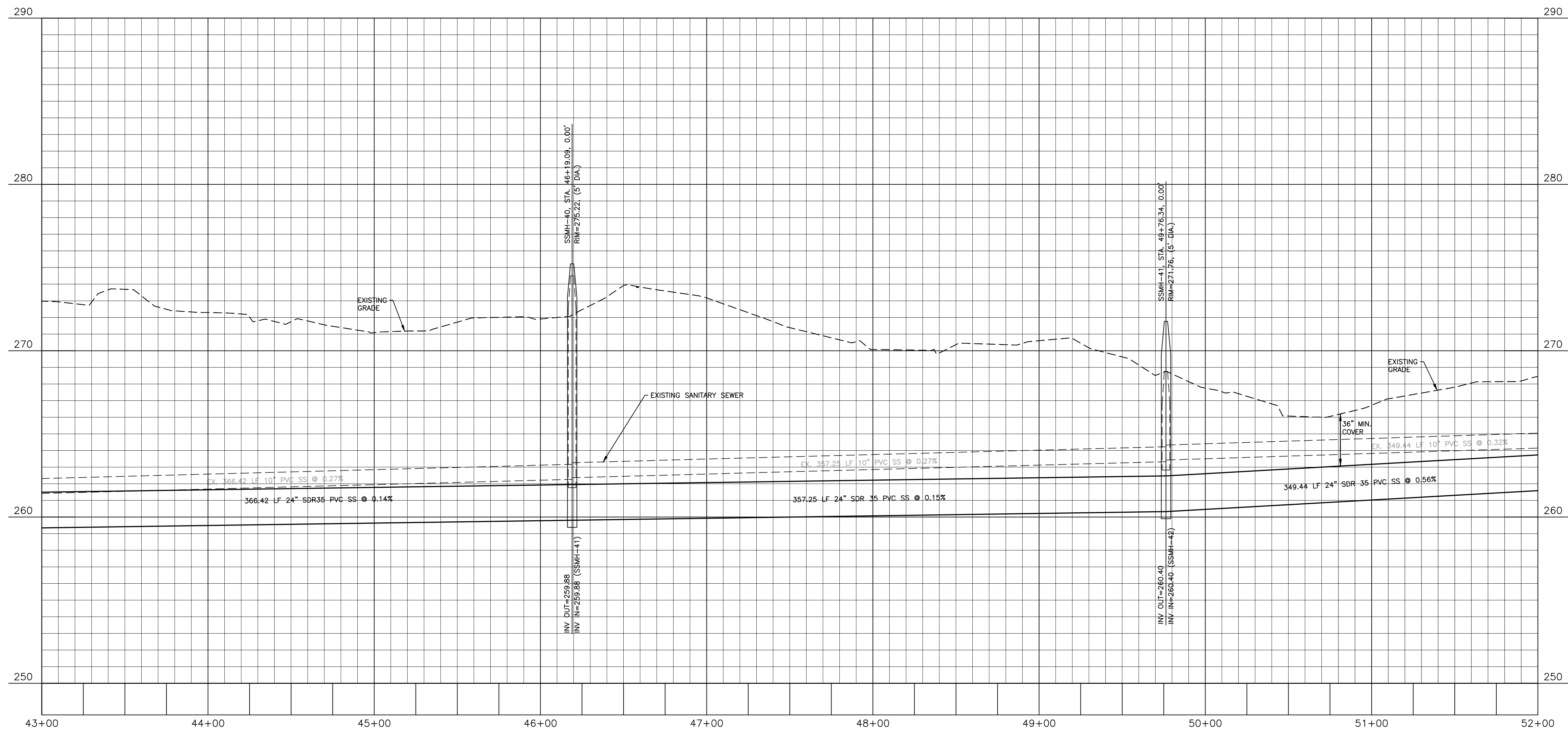
PROJECT NO.	AWH21002
FILENAME	AWH21002-P1
CHECKED BY	WTO
DRAWN BY	BB
SCALE	1"=40'/1"=4'
DATE	11.09.2021

PLAN AND PROFILE
 HARRIS CREEK INTERCEPTOR
 STA. 34+00 THRU STA. 43+00

C5.00



HARRIS CREEK INTERCEPTOR



BYPASS PUMPING TABLE		
SUCTION MANHOLE	DISCHARGE MANHOLE	QPEAK (GPM)
MH42	MH41	177.97
MH41	MH40	177.97
MH40	MH39	177.97

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M:\Projects\AWH\AWH-20000\04-Production\Engineering\SS Outfall Upgrade\Current Drawings\AWH1002-P1.dwg, 6/7/2022 4:52:38 PM, Brandon Bickel



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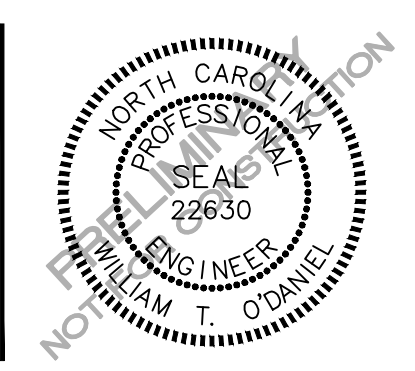
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 WAKE COUNTY, NORTH CAROLINA

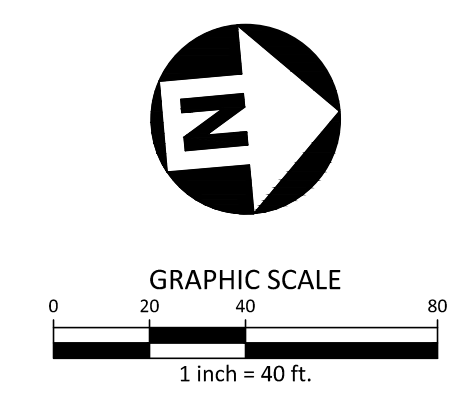
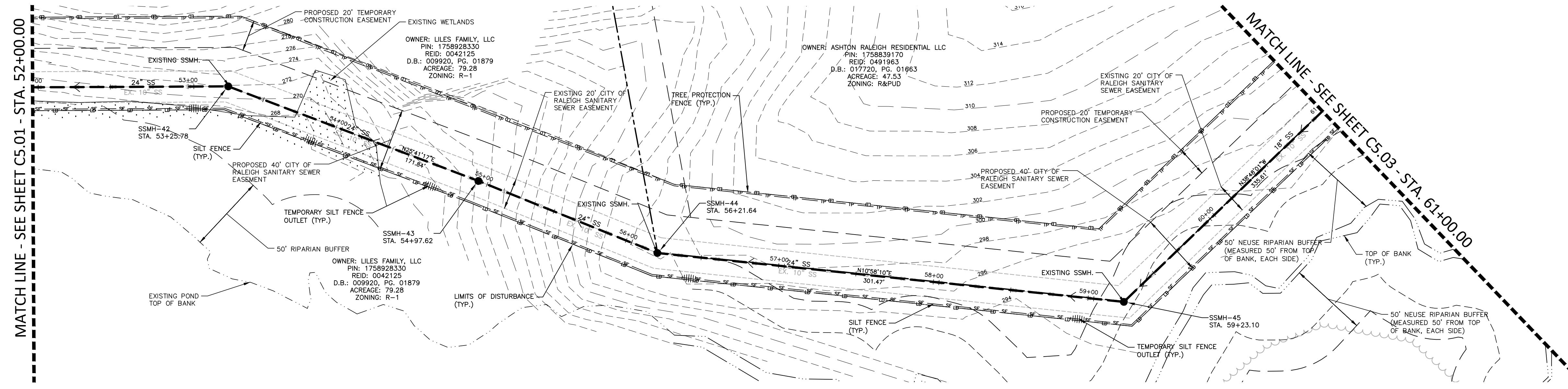
PLAN INFORMATION

PROJECT NO. AWH21002
 FILENAME AWH21002-P1
 CHECKED BY WTO
 DRAWN BY BB
 SCALE 1"=40'/1"=4'
 DATE 11.09.2021

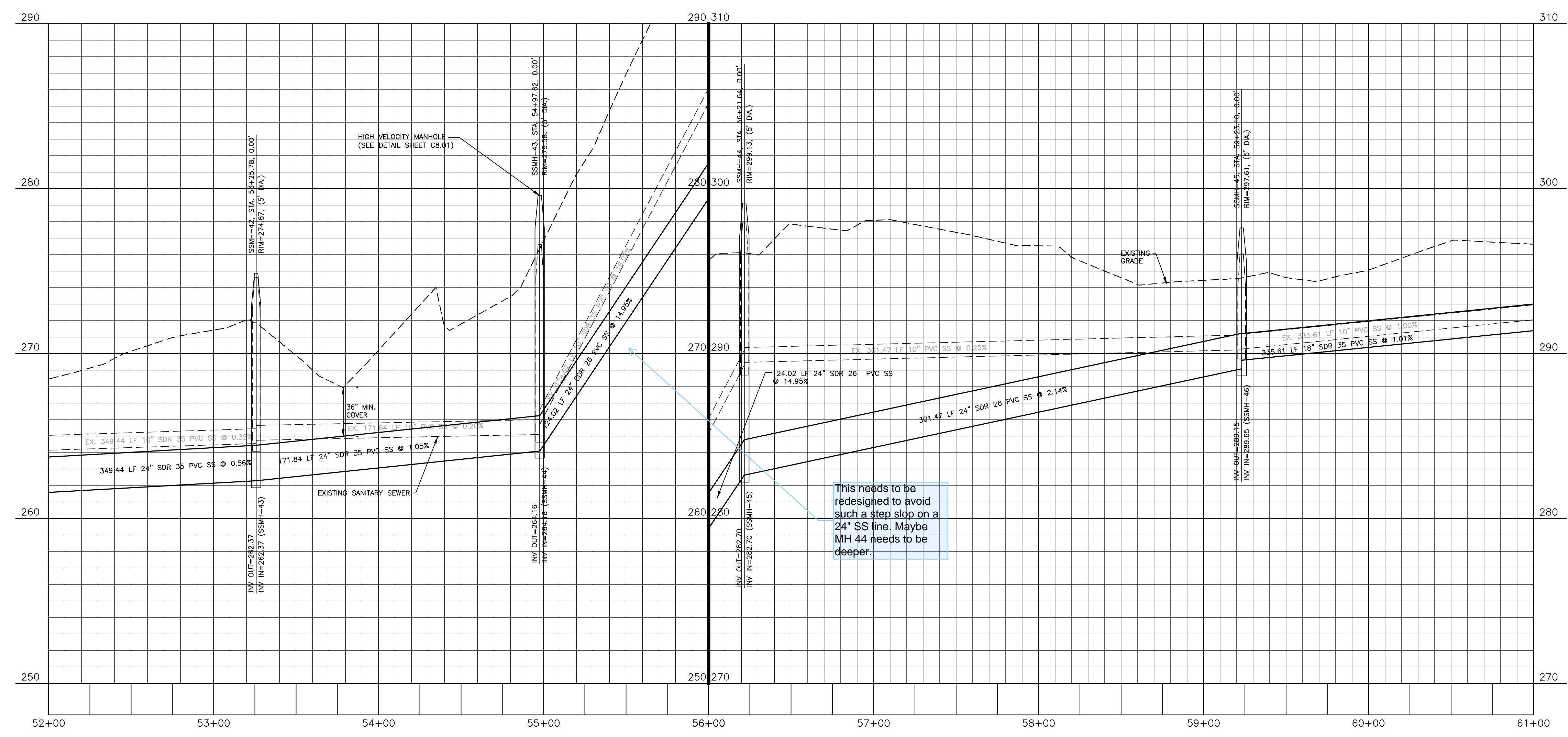
PLAN AND PROFILE
 HARRIS CREEK INTERCEPTOR
 STA. 43+00 THRU STA. 52+00

C5.01

FINAL DRAWING - NOT RELEASED FOR CONSTRUCTION



HARRIS CREEK INTERCEPTOR



BYPASS PUMPING TABLE		
SUCTION MANHOLE	DISCHARGE MANHOLE	QPEAK (GPM)
MH46	MH45	177.97
MH45	MH44	177.97
MH44	MH43	177.97
MH43	MH42	177.97
MH42	MH41	177.97

This needs to be redesigned to avoid such a steep slope on a 24" SS line. Maybe MH 44 needs to be deeper.

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M:\Projects\AWH\120000\AWH120000\Production\Engineering\SS\Outfall\Upgrade\Current Drawings\AWH12002-P1.dwg, 6/7/2022 4:51:08 PM, Brandon Bicket

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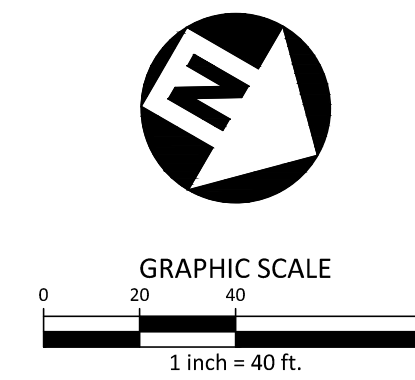
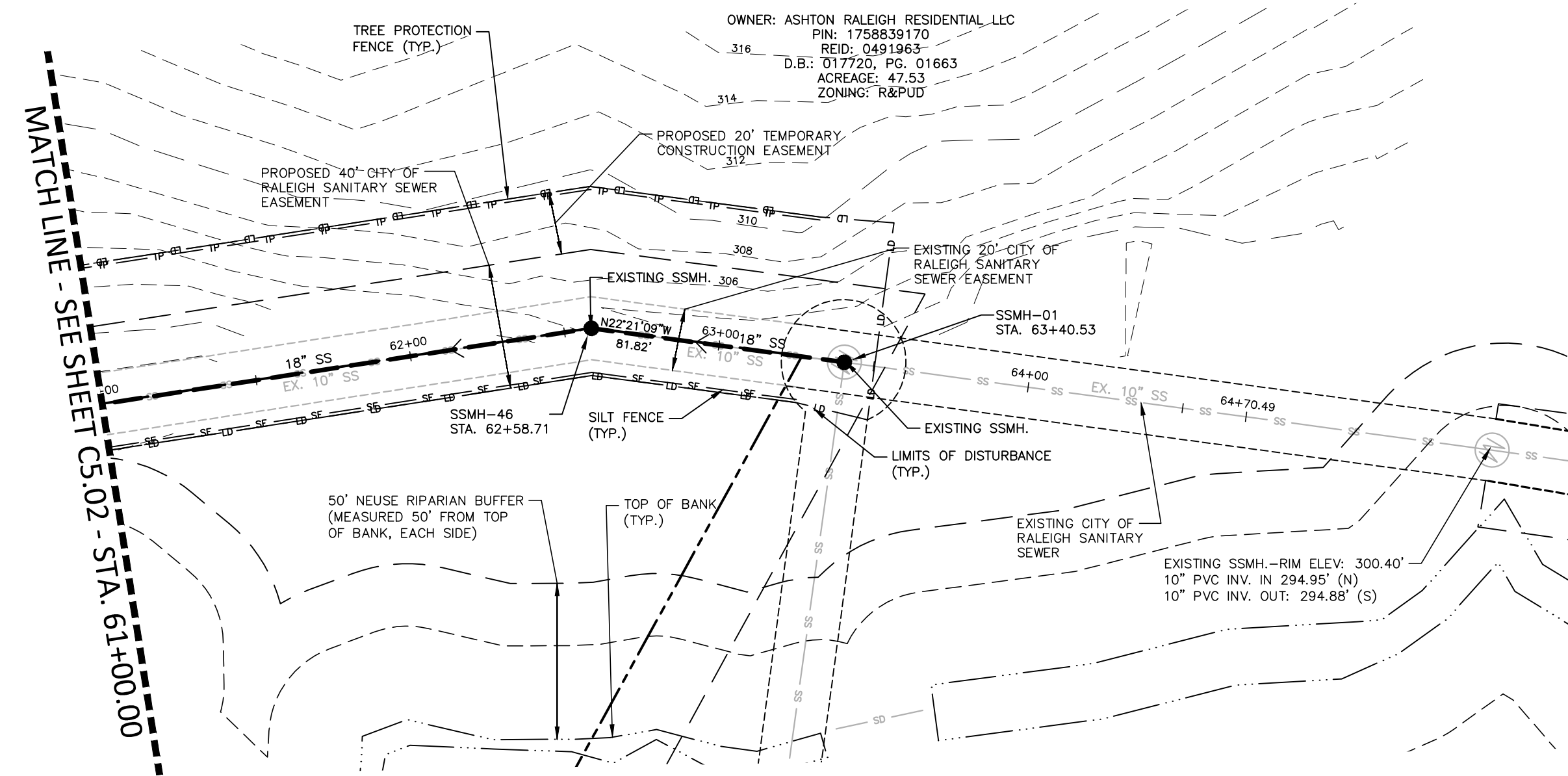
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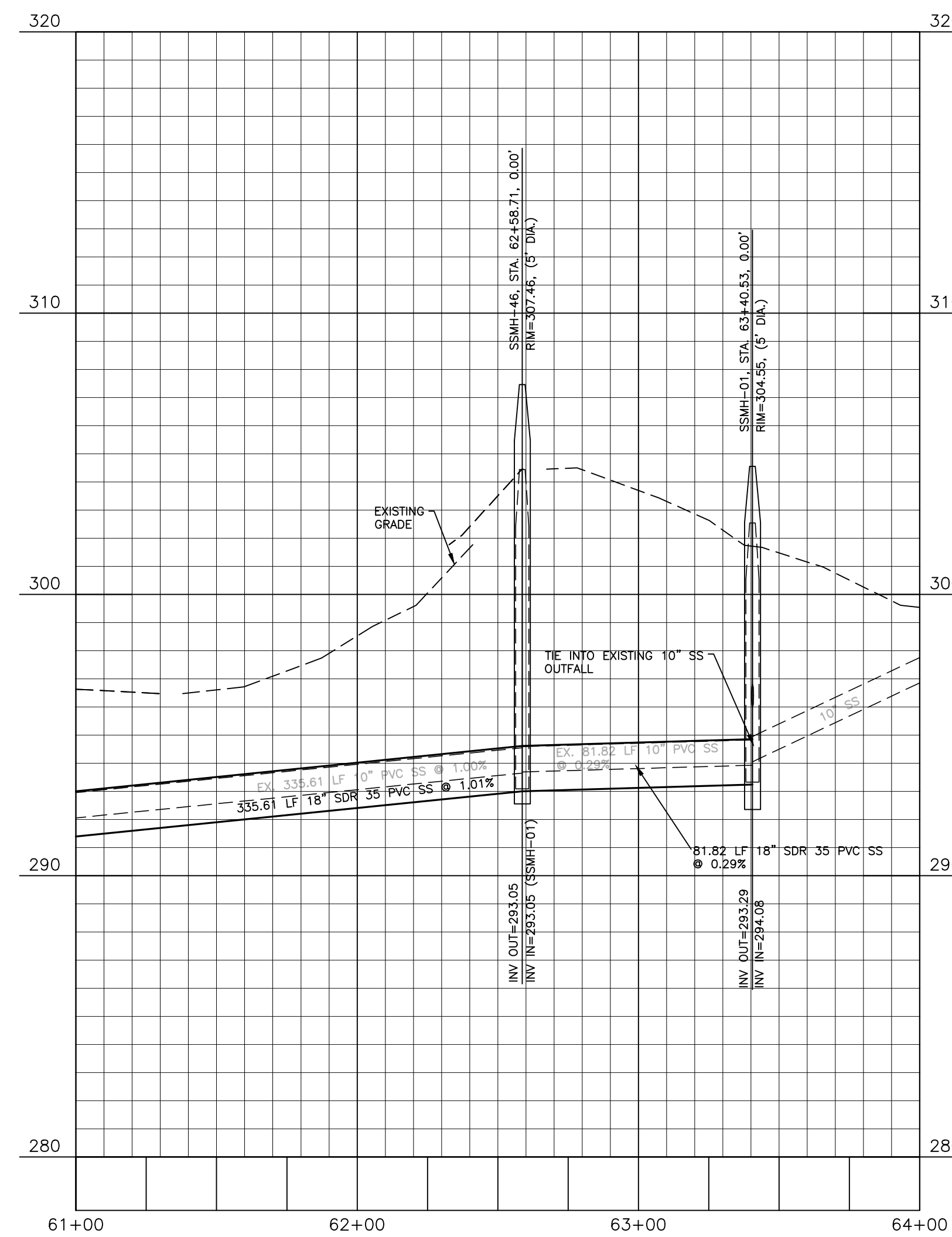
PROJECT NO.	AWH21002
FILENAME	AWH21002-P1
CHECKED BY	WTO
DRAWN BY	BB
SCALE	1"=40'/1"=4'
DATE	11.09.2021

PLAN AND PROFILE
 HARRIS CREEK INTERCEPTOR
 STA. 52+00 THRU STA. 61+00

C5.02



HARRIS CREEK INTERCEPTOR



BYPASS PUMPING TABLE		
SUCTION MANHOLE	DISCHARGE MANHOLE	QPEAK (GPM)
MH01	MH46	177.97
MH46	MH45	177.97

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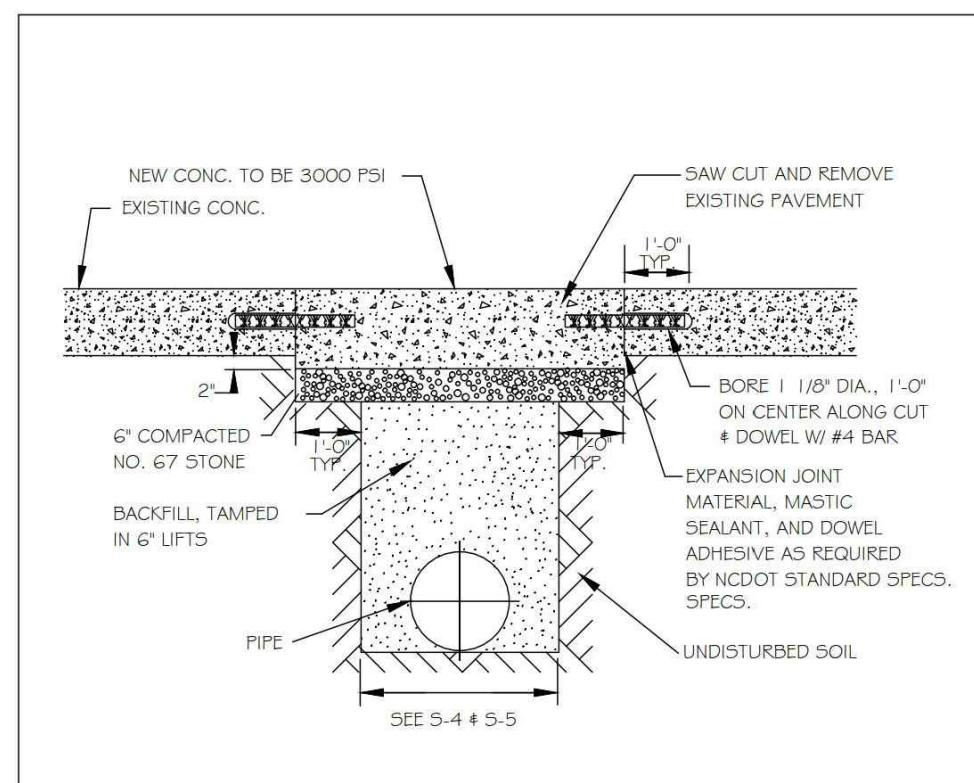
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PLAN INFORMATION

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FILENAME	AWH21002-P1
CHECKED BY	WTO
DRAWN BY	BB
SCALE	1"=40'/1"=4'
DATE	11.09.2021

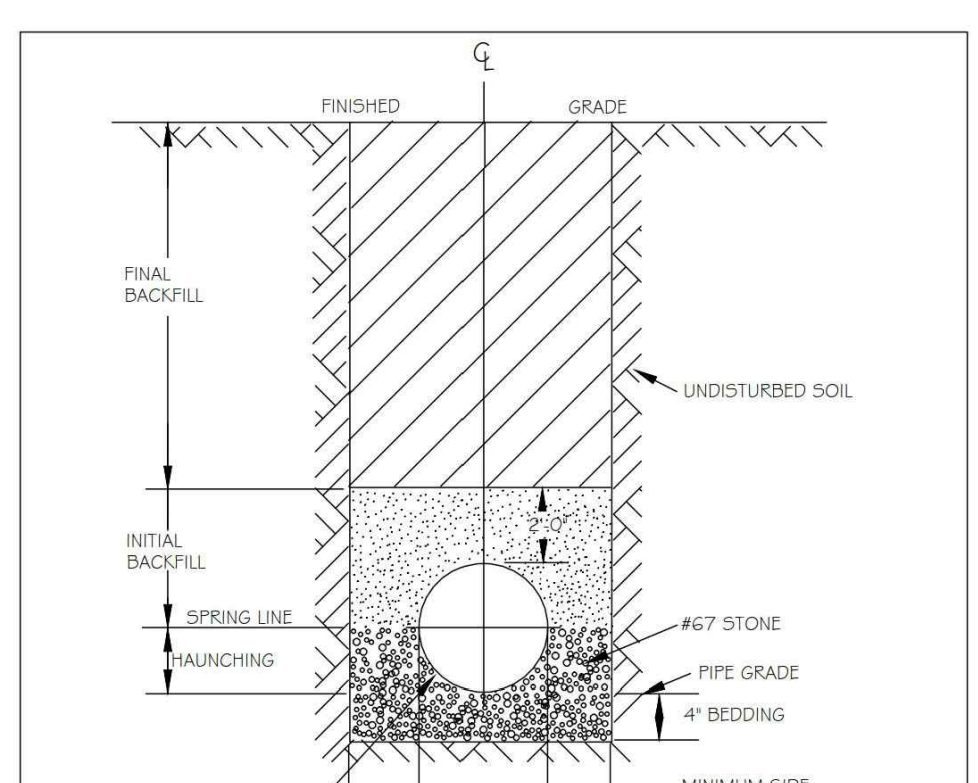
PLAN AND PROFILE
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 STA. 61+00 THRU STA. 64+00

C5.03



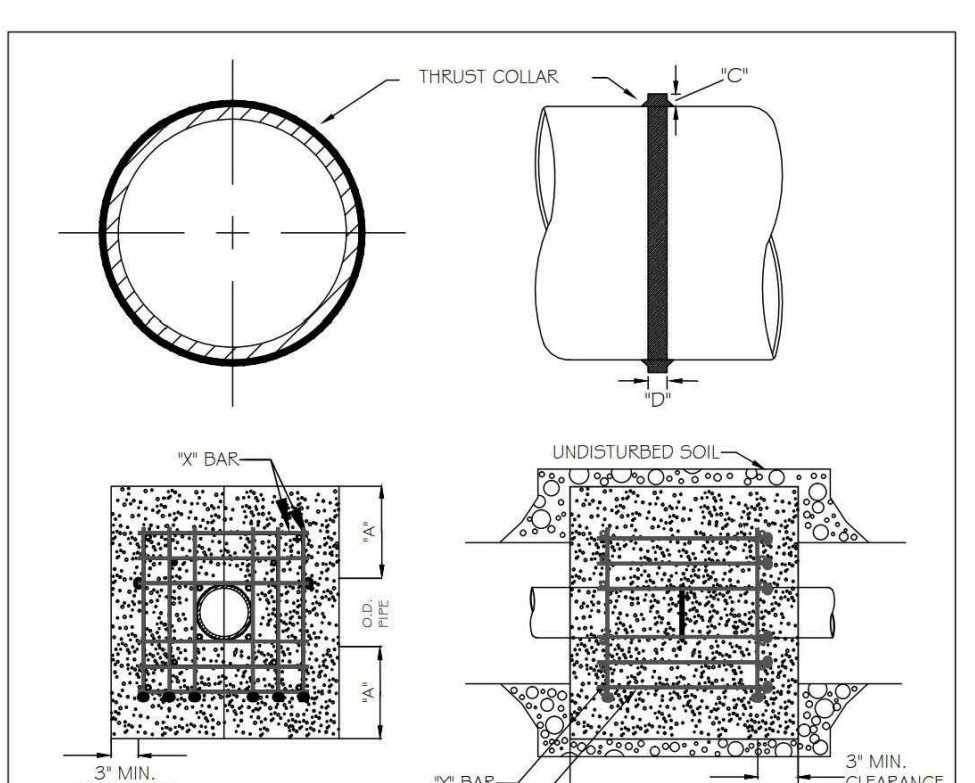
NOTES:
 1. See City of Raleigh standards for trenches and pipe bedding (S-4 & S-5) for additional details.
 2. Pavement cuts over 5'-0" in width shall be reinforced to N.C.D.O.T. standards.
 3. Pavement cuts shall be made with an appropriate saw cut machine.
 4. Pavement cuts within NCDOT ROW shall conform to the approved on site encroachment permit.

CITY OF RALEIGH DEPARTMENT OF PUBLIC UTILITIES				
STANDARD CONCRETE PAVEMENT PATCH DETAIL				
DWG. NO.	REVISIONS	DATE	DATE	
5-2	D.W.C. RKH	6-23-99 3-30-00	A.B.B. J.P.S.	4-19-04 0-6-10



NOTES:
 1. FOR TRENCHES REQUIRING SHORING AND BRACING, DIMENSIONS SHALL BE TAKEN FROM THE INSIDE FACE OF THE SHORING AND BRACING.
 2. NO ROCKS OR BOULDERS 4" OR LARGER TO BE USED IN INITIAL BACKFILL.
 3. ALL BACKFILL MATERIAL SHALL BE SUITABLE NATIVE MATERIAL.
 4. BACKFILL SHALL BE TAMPED IN 6" LIFTS IN TRAFFIC AREAS, 12" IN NON-TRAFFIC AREAS.

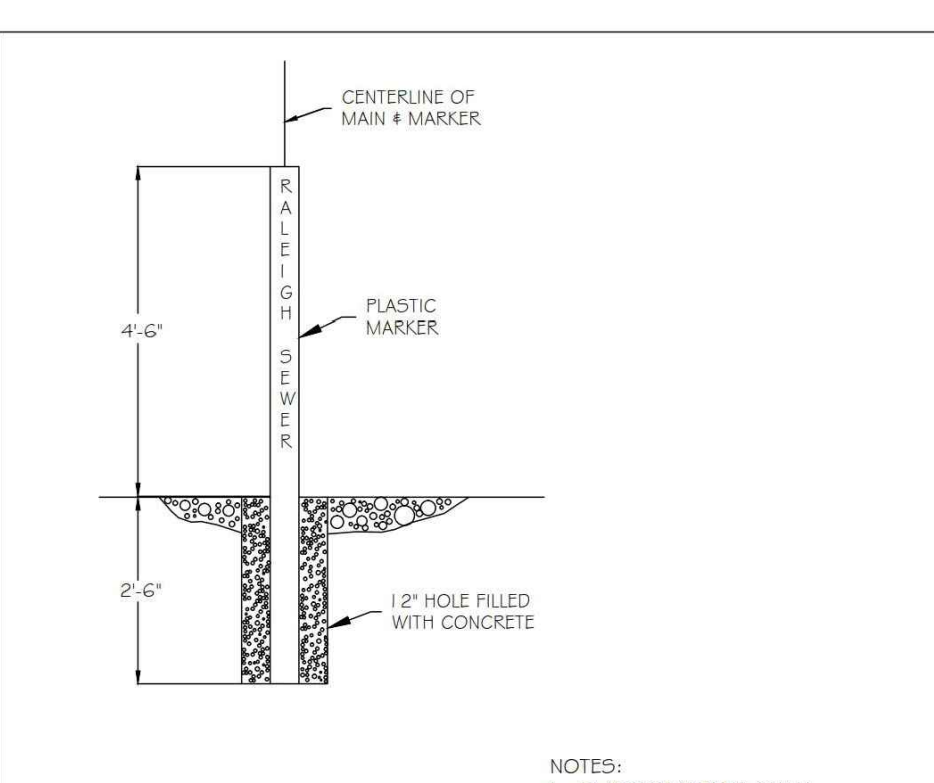
CITY OF RALEIGH DEPARTMENT OF PUBLIC UTILITIES			
TRENCH BOTTOM DIMENSIONS AND BACKFILL REQUIREMENTS FOR PVC GRAVITY SEWER MAIN			
DWG. NO.	REVISIONS	DATE	DATE
5-5	D.W.C. RKH	3-1-97 7-2-82	9-3-99 3-30-00



REINFORCING REQUIREMENTS					
PIPE SIZE	MIN. BAR SIZE	MIN. BAR LENGTH	MIN. BAR WEIGHT	NO. REQUIRED	NO. REQUIRED
6" - 18"	#4	5'-0" MIN. PER 12" BAR	1.1 LBS. EACH	2-24	11-2
20" - 24"	#4	5'-0" MIN. PER 12" BAR	1.1 LBS. EACH	2-24	11-2
30" - 36"	#4	5'-0" MIN. PER 12" BAR	1.1 LBS. EACH	2-24	11-2
48" & greater	#4	5'-0" MIN. PER 12" BAR	1.1 LBS. EACH	2-24	11-2

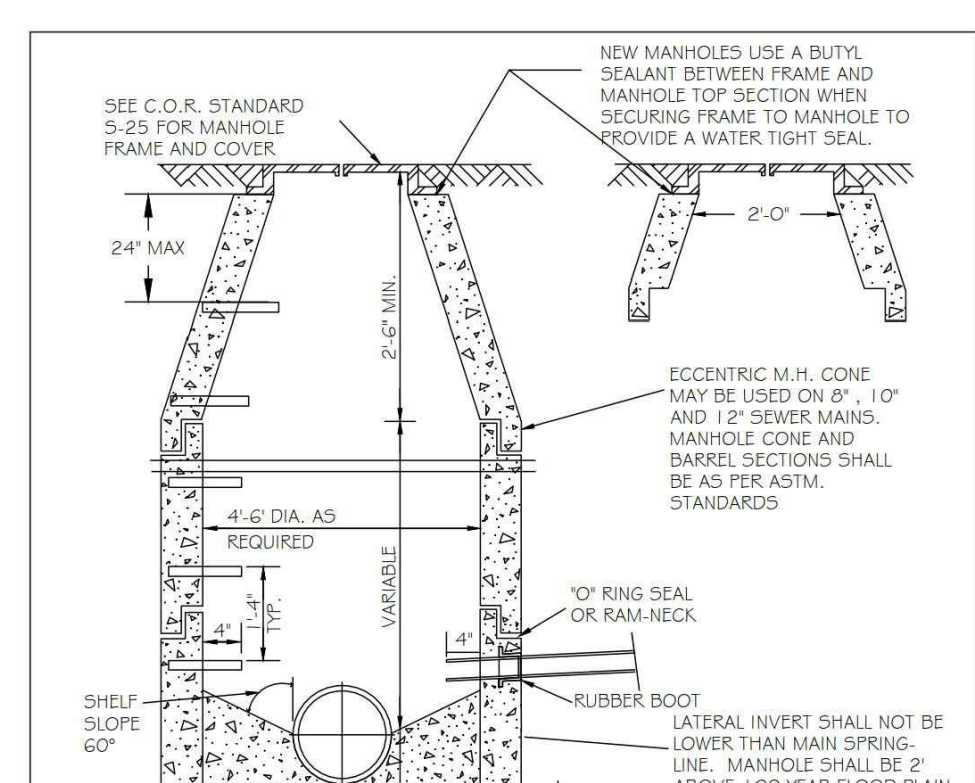
NOTES:
 1. CONCRETE SHALL BE 3000 PSI AND TRANSIT MIXED.
 2. REINFORCING BARS SHALL BE DEFORMED AND TIED TOGETHER.
 3. TRENCH BOTTOM WIDTH IN VICINITY OF THRUST BLOCK INSTALLATION SHALL BE THE MINIMUM WIDTH AS SHOWN ON STANDARD DETAIL W-5.
 4. BACKFILL TAMPED IN 6" LIFTS PER STANDARD DETAIL W-5.
 5. THRUST COLLAR MUST BE FACTORY WELDED ON BOTH SIDES ALONG BOTH EDGES OF COLLAR AROUND CIRCUMFERENCE.

CITY OF RALEIGH DEPARTMENT OF PUBLIC UTILITIES			
RESTRAINING COLLAR DESIGN DATA FOR SEWER FORCE MAIN			
DWG. NO.	REVISIONS	DATE	DATE
5-6	D.H.L. RKH	1-21-00 6-18-05	



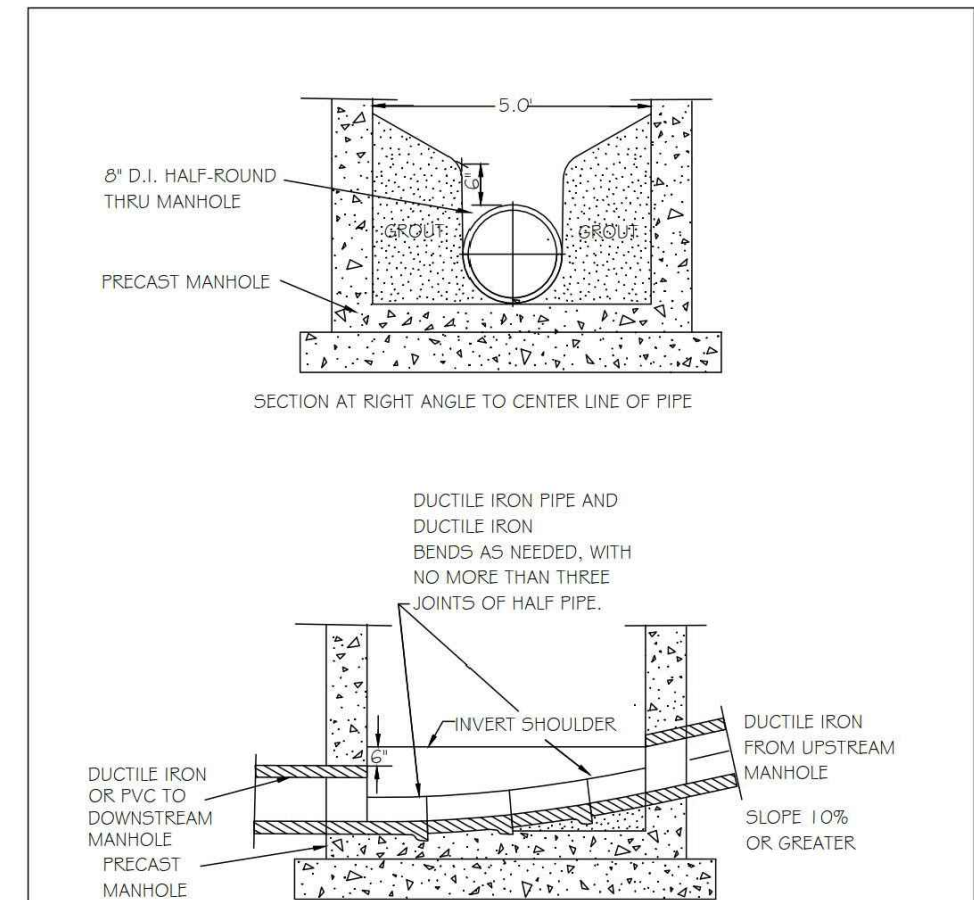
NOTES:
 1. PLASTIC MARKER SHALL BE GREEN IN COLOR.
 2. MARKERS SHALL BE LABELED "RALEIGH SEWER".
 3. TO BE SPACED EVERY 300 FEET ON EACH SIDE OF ANY ROADWAY OR JUNCTION.
 4. MARKERS SHALL BE ROUND 4" IN DIAMETER.

CITY OF RALEIGH DEPARTMENT OF PUBLIC UTILITIES			
STANDARD MAIN MARKER FOR SEWER FORCE MAINS IN EASEMENTS			
DWG. NO.	REVISIONS	DATE	DATE
5-8	RKH D.H.L.	1-21-00 6-18-05	



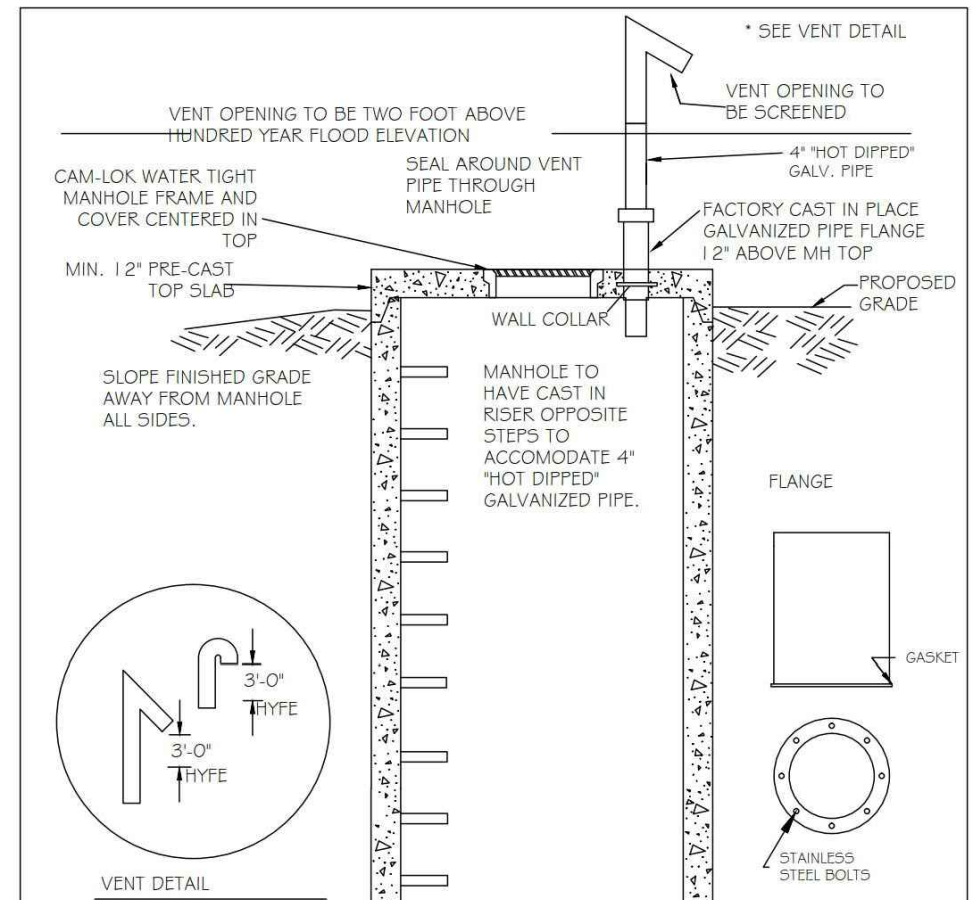
NOTES:
 1. ALL MANHOLE FRAMES SHALL BE DOMESTICALLY CAST.
 2. FRAME SHALL BE A MINIMUM WEIGHT OF 160 LBS. WITHIN PUBLIC ROW AND 160 LBS. WITHIN EASEMENTS.
 3. COVER SHALL WEIGH A MIN. OF 120 LBS.
 4. ALL MANHOLE FRAMES OUTSIDE OF PAVED SURFACES SHALL BE BOLTED TO THE CONE SECTION OR RING WITH A MINIMUM OF 4 BOLTS PER FRAME.

CITY OF RALEIGH DEPARTMENT OF PUBLIC UTILITIES				
STANDARD PRECAST SANITARY SEWER MANHOLE				
DWG. NO.	REVISIONS	DATE	DATE	
5-20	T.C.A. RKH	12-31-82 3-30-00	A.B.B. D.H.L.	3-31-05 6-18-05



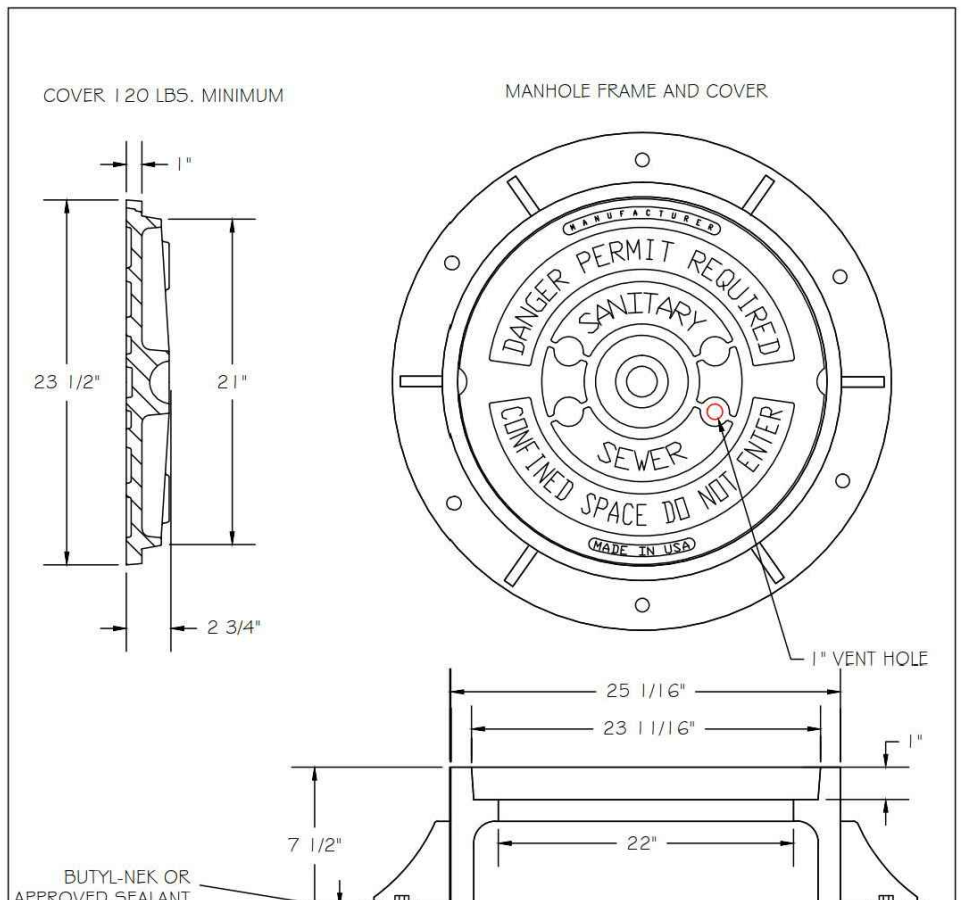
NOTE:
 NO HORIZONTAL ALIGNMENT CHANGE CAN BE MADE WITH IN THIS MANHOLE TYPE. USE ON GRADES 1.0% OR GREATER.

CITY OF RALEIGH DEPARTMENT OF PUBLIC UTILITIES				
STANDARD HIGH VELOCITY MANHOLE INVERT				
DWG. NO.	REVISIONS	DATE	DATE	
5-23	T.C.A.	3-1-97 12-31-91	RKH	3-30-00



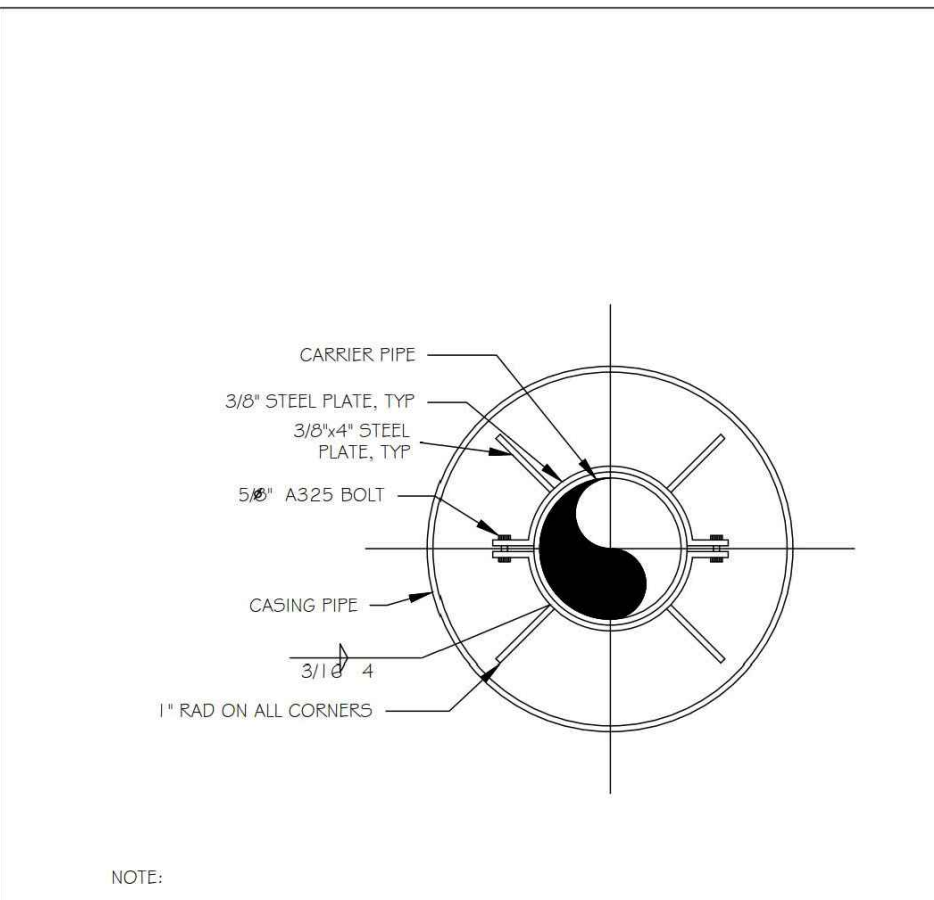
NOTES:
 1. VENT MUST BE FACTORY WELDED FABRICATED AND "HOT DIPPED" GALVANIZED.
 2. TYPE - Hundred Year Flood elevation

CITY OF RALEIGH DEPARTMENT OF PUBLIC UTILITIES				
STANDARD SEAL TIGHT MANHOLE WITH VENTED STACK				
DWG. NO.	REVISIONS	DATE	DATE	
5-24	D.W.C. RKH	6-7-99 3-30-00	A.B.B. D.H.L.	4-15-04 6-18-05



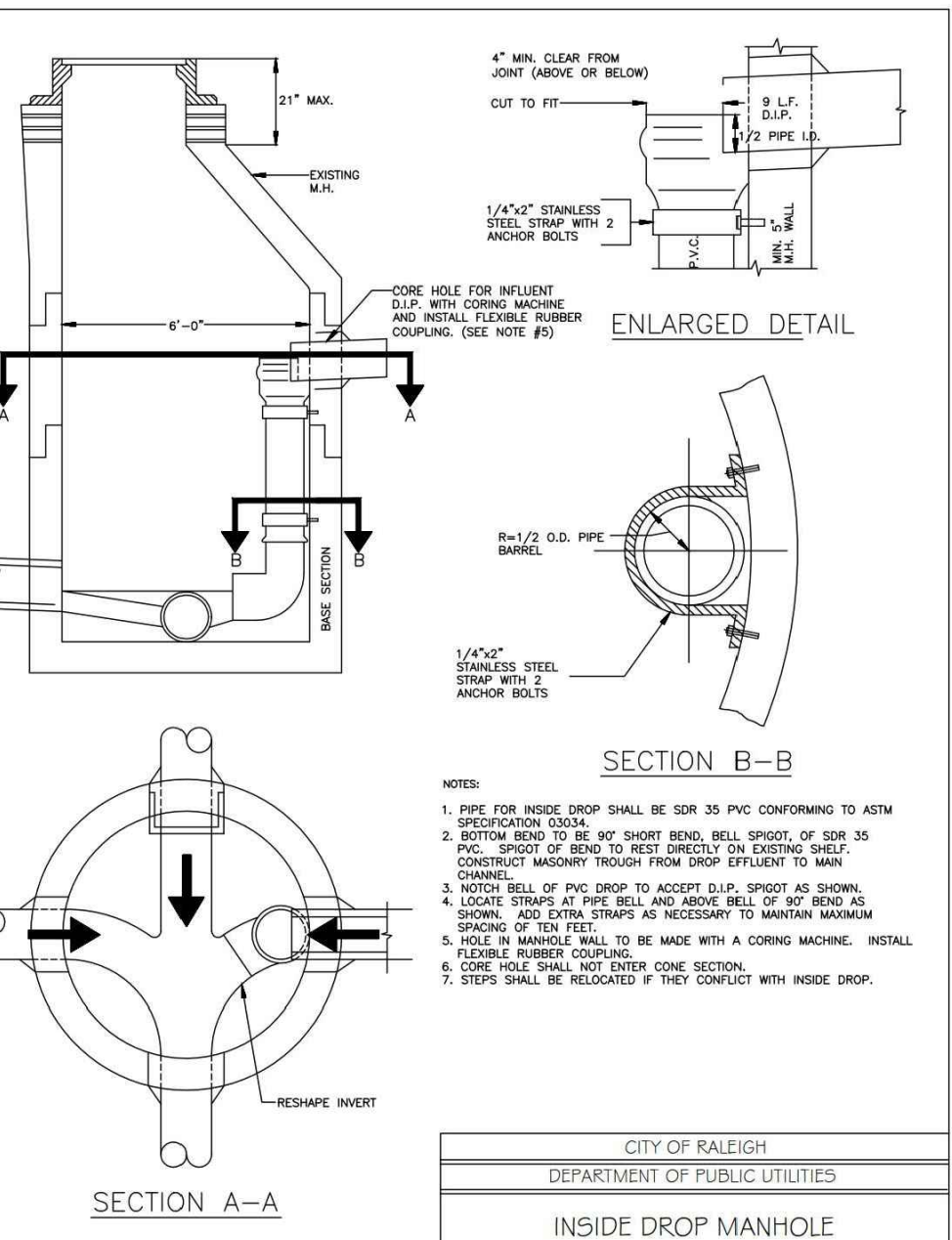
NOTES:
 1. ALL MANHOLE FRAMES SHALL BE DOMESTICALLY CAST.
 2. FRAME SHALL BE A MINIMUM WEIGHT OF 160 LBS. WITHIN PUBLIC ROW AND 160 LBS. WITHIN EASEMENTS.
 3. COVER SHALL WEIGH A MIN. OF 120 LBS.
 4. ALL MANHOLE FRAMES OUTSIDE OF PAVED SURFACES SHALL BE BOLTED TO THE CONE SECTION OR RING WITH A MINIMUM OF 4 BOLTS PER FRAME.

CITY OF RALEIGH DEPARTMENT OF PUBLIC UTILITIES				
STANDARD MANHOLE COVER				
DWG. NO.	REVISIONS	DATE	DATE	
5-25	RKH D.H.L.	3-1-97 3-30-00	A.B.B. D.H.L.	2-9-05 6-18-05

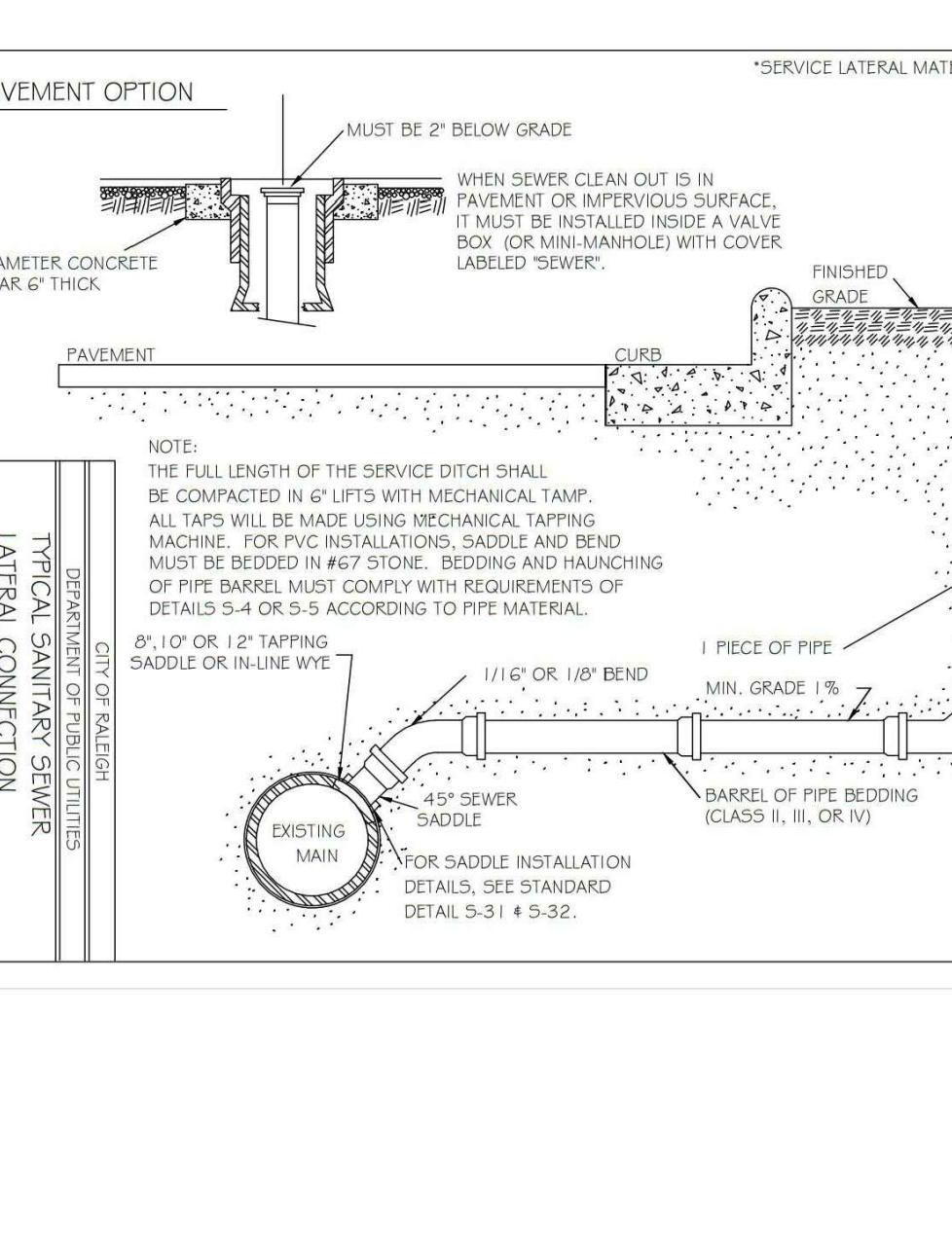


NOTE:
 1) USE A MINIMUM OF TWO SPIDERS PER PIPE JOINT ONE FOURTH OF THE PIPE JOINT LENGTH IN FROM BOTH THE BELL AND SPIGOT ENDS.

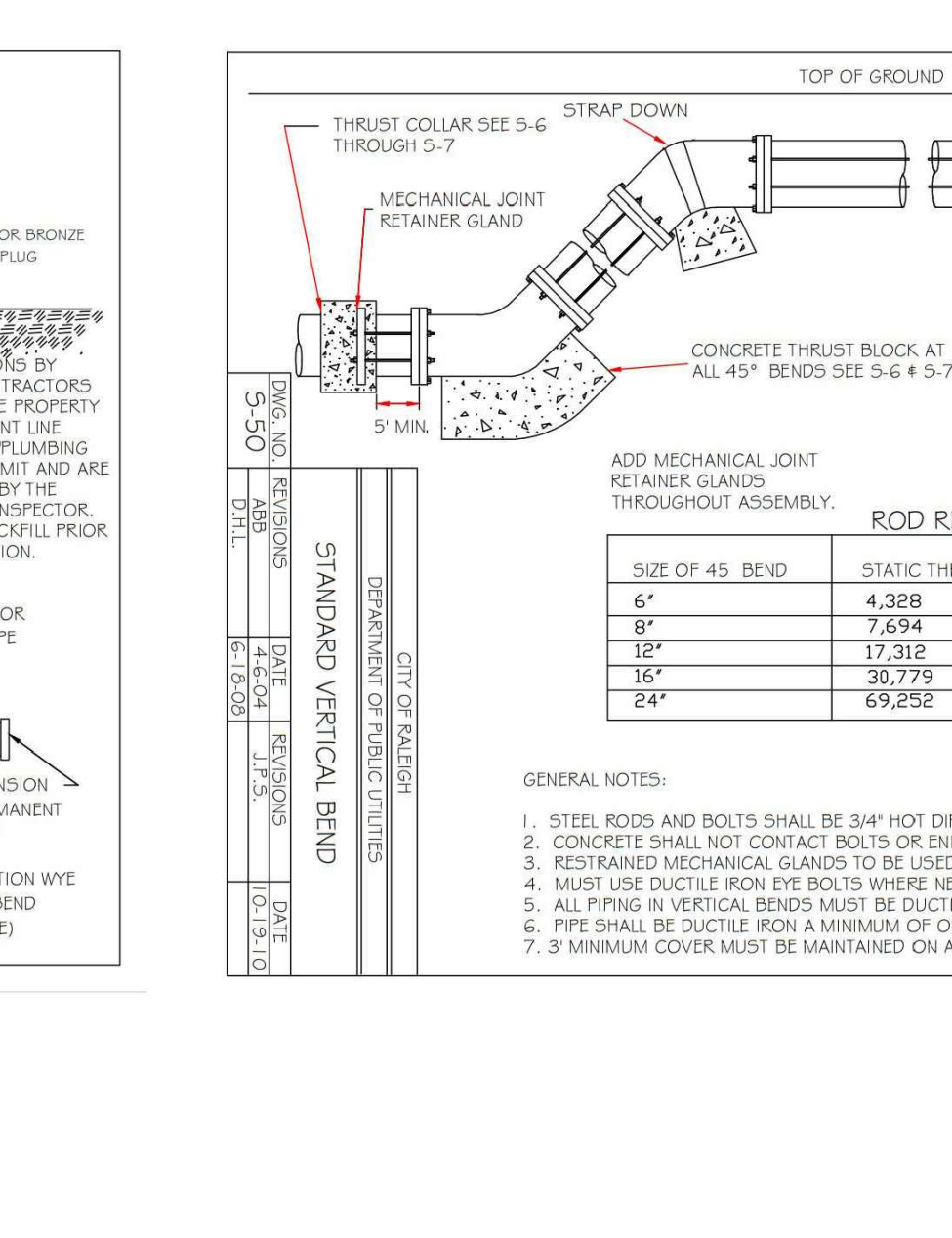
CITY OF RALEIGH DEPARTMENT OF PUBLIC UTILITIES			
PIPE ALIGNMENT GUIDE			
DWG. NO.	REVISIONS	DATE	DATE
5-39	RKH A.B.B.	3-31-00 4-1-04	



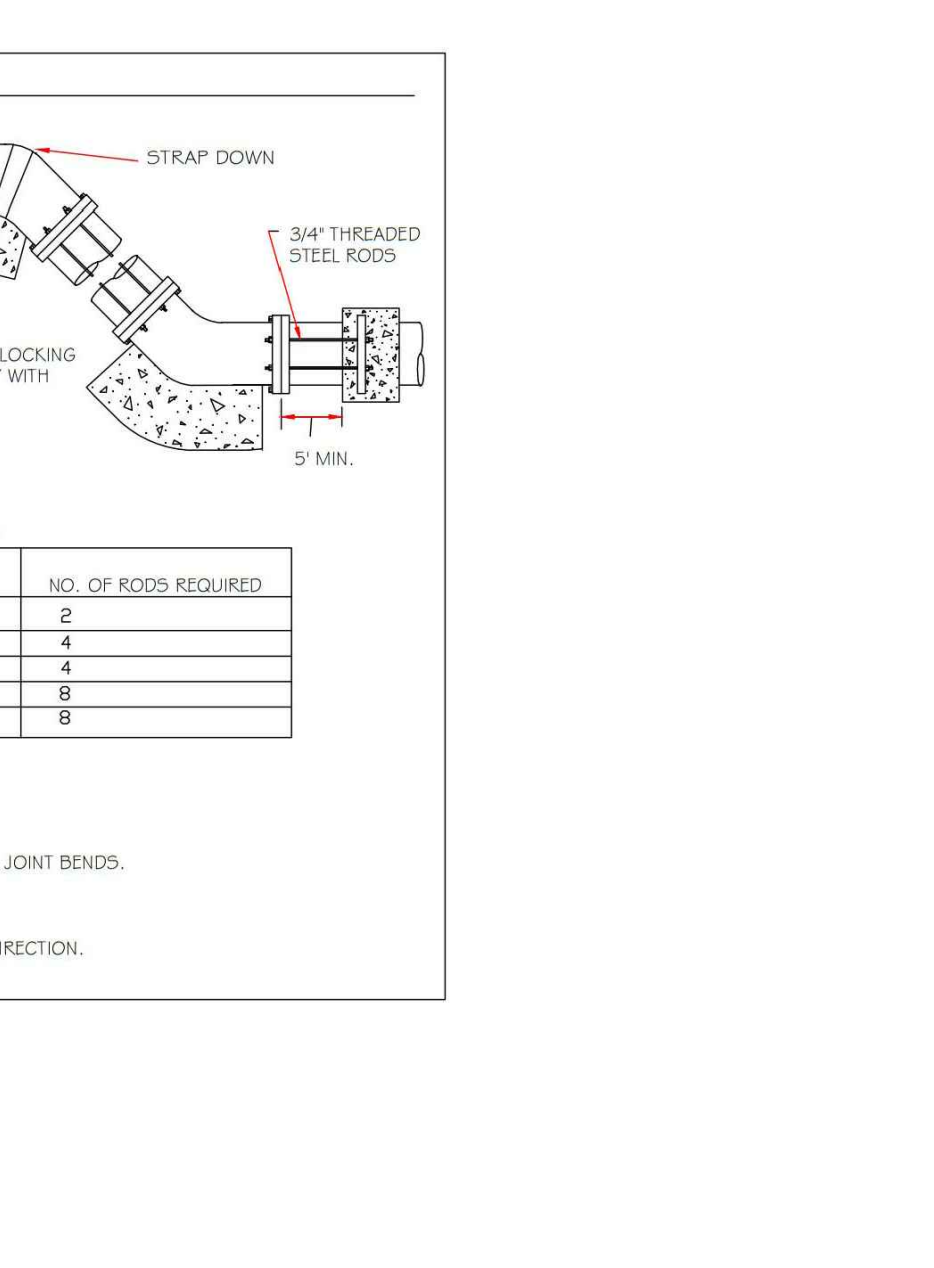
CITY OF RALEIGH DEPARTMENT OF PUBLIC UTILITIES			
INSIDE DROP MANHOLE			
DWG. NO.	REVISIONS	DATE	DATE
5-53	MAE	11-6-13	



CITY OF RALEIGH DEPARTMENT OF PUBLIC UTILITIES			
TYPICAL SANITARY SEWER LATERAL CONNECTION			
DWG. NO.	REVISIONS	DATE	DATE
5-30	RKH D.H.L.	3-30-00 6-18-05	



CITY OF RALEIGH DEPARTMENT OF PUBLIC UTILITIES			
STANDARD VERTICAL BEND			
DWG. NO.	REVISIONS	DATE	DATE
5-31	RKH D.H.L.	3-30-00 6-18-05	



CITY OF RALEIGH DEPARTMENT OF PUBLIC UTILITIES			
ROD REQUIREMENTS			
SIZE OF 45° BEND	STATIC THRUST IN POUNDS	NO. OF RODS REQUIRED	
6"	4,328	2	
8"	7,294	4	
12"	17,312	4	
15"	30,779	8	
24"	69,252	8	

SITE PERMITTING APPROVAL

Water and Sewer Permits (if applicable)

The City of Raleigh consents to the connection and extension of the City's Public Sewer System as shown on this plan. The material and Construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook. City of Raleigh Public Utilities Department Permit # S-4273

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CITY OF RALEIGH - PLANS AUTHORIZED FOR CONSTRUCTION

Plans for the proposed use have been reviewed for general compliance with applicable codes. This limited review, and authorization for construction is not to be considered to represent total compliance with all legal requirements for development and construction. The property owner, design consultants, and contractors are each responsible for compliance with all applicable City, State and Federal laws. This specific authorization below is not a permit, nor shall it be construed to permit any violation of City, State or Federal Law. All Construction must be in accordance with all Local, State, and Federal Rules and Regulations.

Electronic Approval: This approval is being issued electronically. This approval is valid only upon the signature of a City of Raleigh Review Officer below. The City will retain a copy of the approved plans. Any work authorized by this approval must proceed in accordance with the plans kept on file with the City. This electronic approval may not be relied upon issued. Any modification to this approval once issued will invalidate this approval.

City of Raleigh Development Approval _____
 City of Raleigh Review Officer _____

CITY OF RALEIGH DEPARTMENT OF PUBLIC UTILITIES				
STANDARD PRECAST SANITARY SEWER MANHOLE				
DWG. NO.	REVISIONS	DATE	DATE	
5-20	T.C.A. RKH	12-31-82 3-30-00	A.B.B. D.H.L.	3-31-05 6-18-05

McADAMS
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 Durham, NC 27713
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 fax 919. 361. 2269
 license number: C-0293, C-187
 www.mcadamsco.com

CLIENT
 ASHTON RALEIGH RESIDENTIAL, LLC.
 5711 SIX FORKS ROAD, SUITE 300
 RALEIGH, NORTH CAROLINA 27609
 PHONE: 919. 232. 3695
 CONTACT: BOB MISHLER

ASHTON WOODS

**HARRIS CREEK INTERCEPTOR
 IMPROVEMENTS**
 TOWN OF ROLESVILLE, WAKE FOREST TOWNSHIP,
 WAKE COUNTY, NORTH CAROLINA

PROFESSIONAL SEAL
 22630
 NORTH CAROLINA
 WILLIAM H. O'DANIEL

REVISIONS

NO.	DATE	RESPOND TO MUNICIPAL COMMENTS
1	03.03.2022	RESPOND TO MUNICIPAL COMMENTS

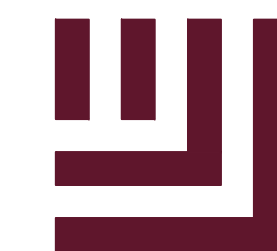
PLAN INFORMATION

PROJECT NO. AWH-21002
 FILENAME AWH21002-01
 CHECKED BY .
 DRAWN BY .
 SCALE N.T.S.
 DATE 11.09.2021
SHEET

**SANITARY SEWER
 DETAILS
 C8.01**

FINAL DRAWING - NOT RELEASED FOR CONSTRUCTION

M:\Projects\AWH\AWH-21002\04-Production\Engineering\SS\Current\Drawings\AWH21002-01.dwg, 6/6/2022 10:24:45 AM, Williams, 1:1



McADAMS

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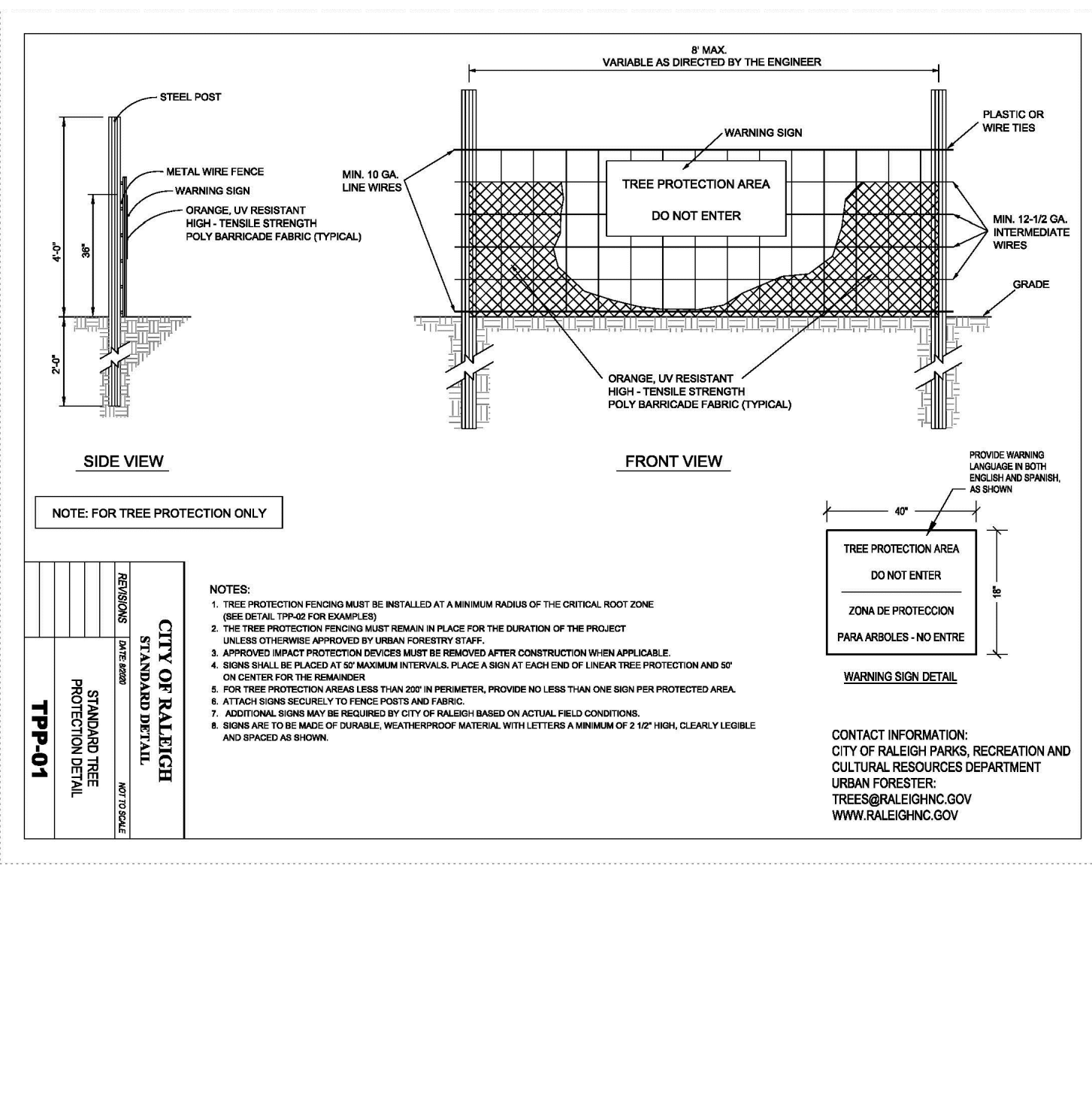
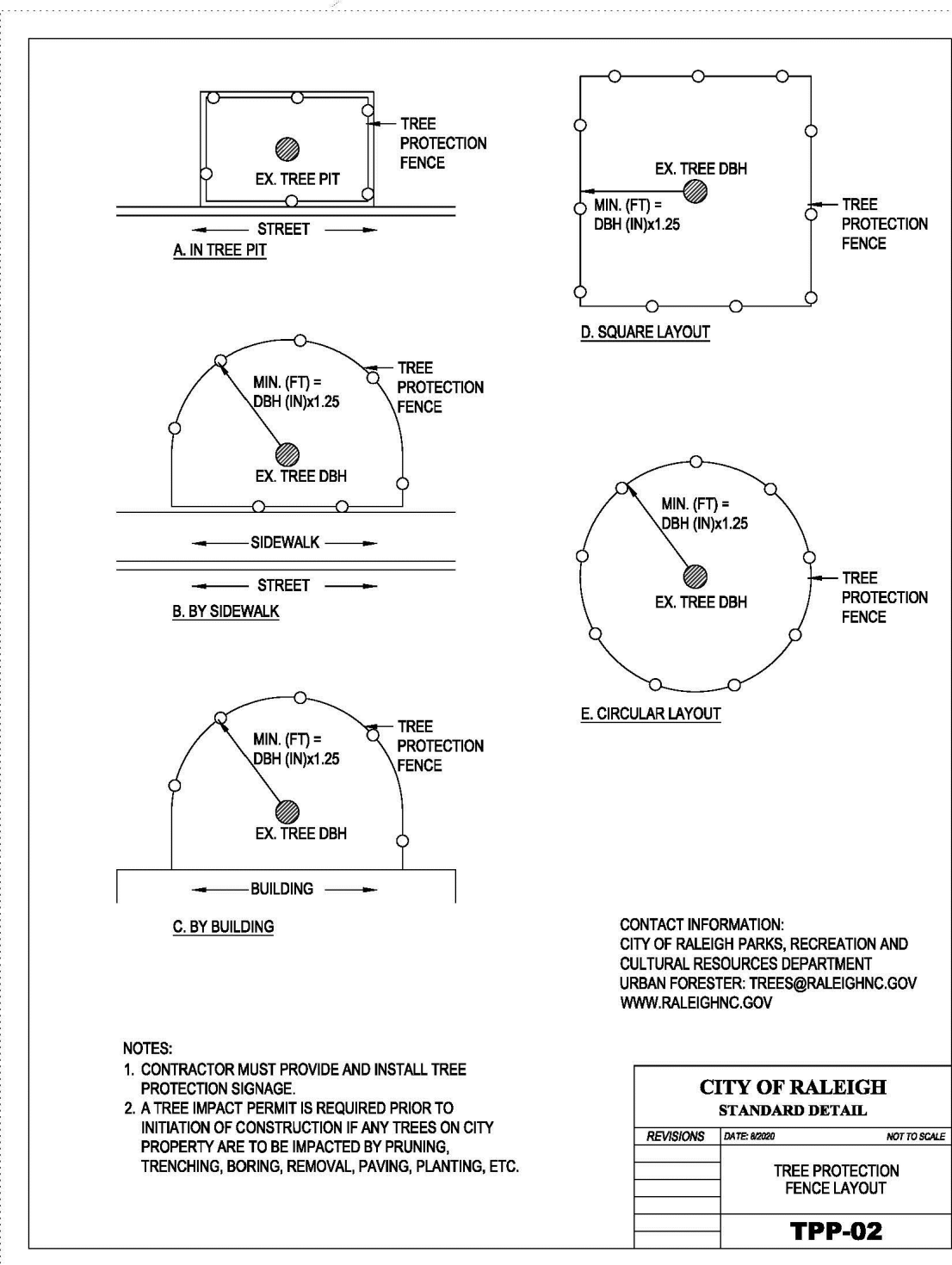
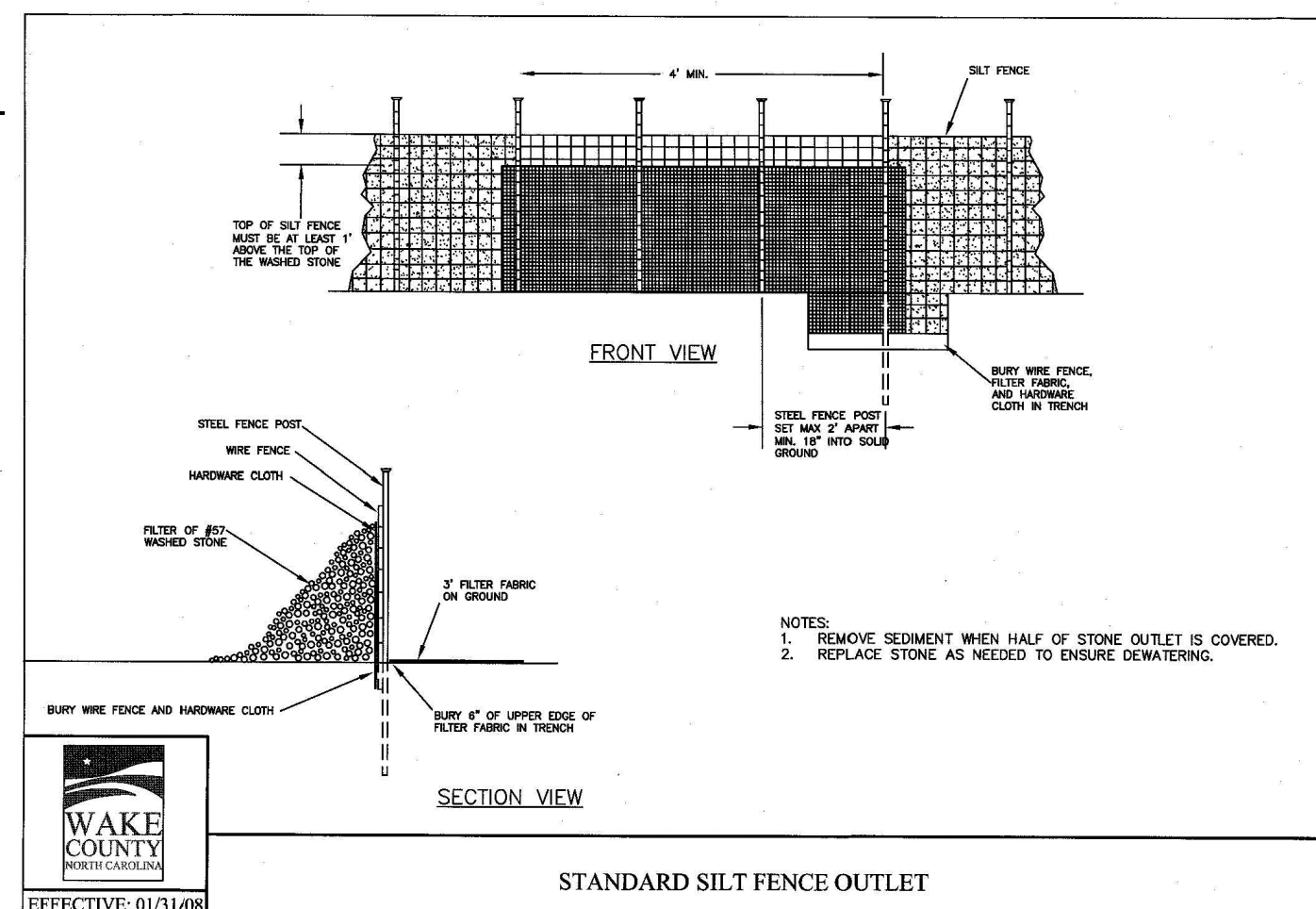
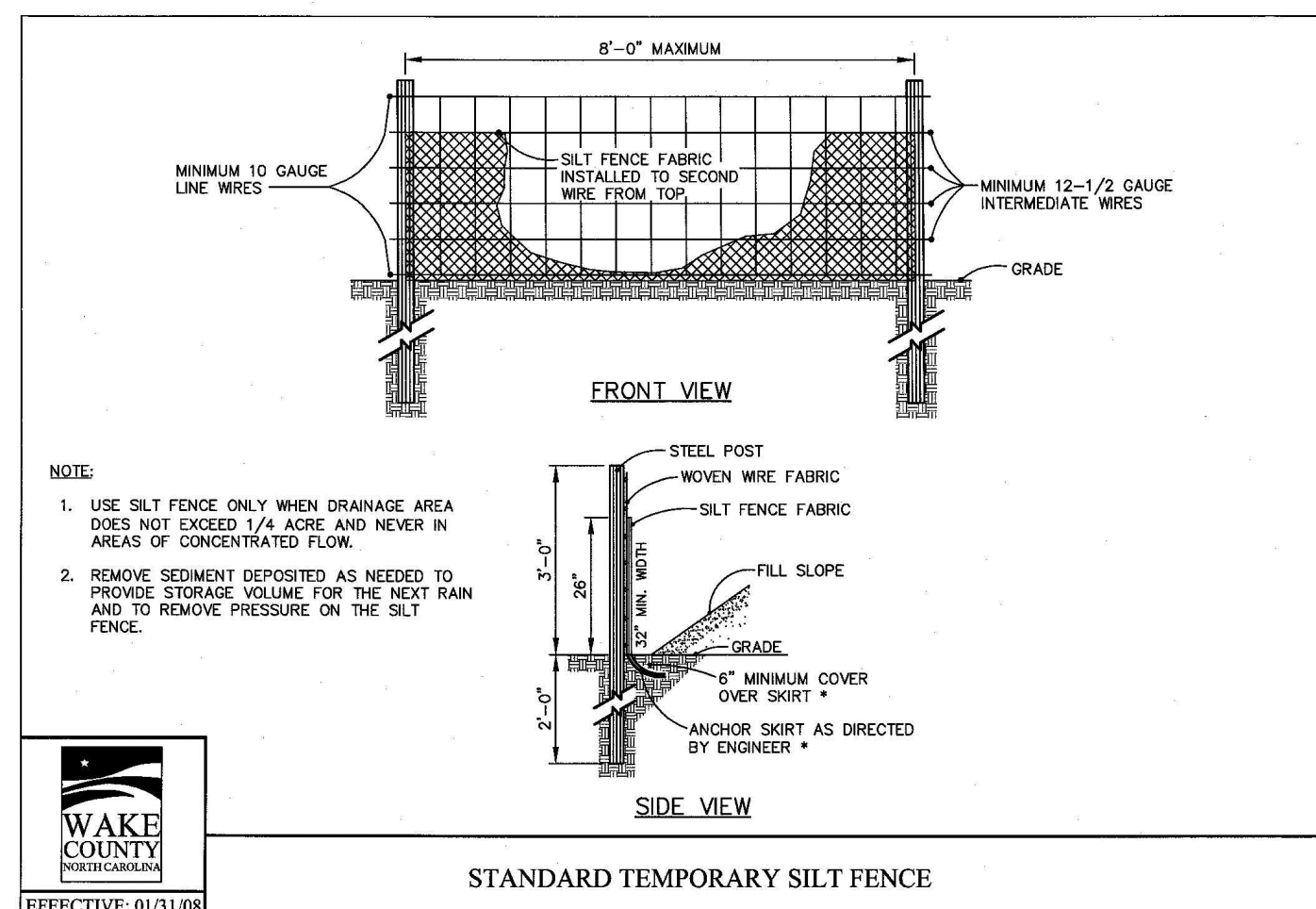
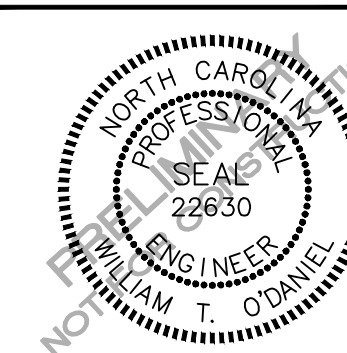
CLIENT

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IMPROVEMENTS
TOWN OF ROLESVILLE, WAKE FOREST TOWNSHIP,
WAKE COUNTY, NORTH CAROLINA



SITE PERMITTING APPROVAL

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City of Raleigh Development Approval _____
City of Raleigh Review Officer

REVISIONS

Table with columns: NO., DATE, RESPONSE TO MUNICIPAL COMMENTS

PLAN INFORMATION

Table with columns: PROJECT NO., FILENAME, CHECKED BY, DRAWN BY, SCALE, DATE

EROSION CONTROL
DETAILS
C8.02

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