

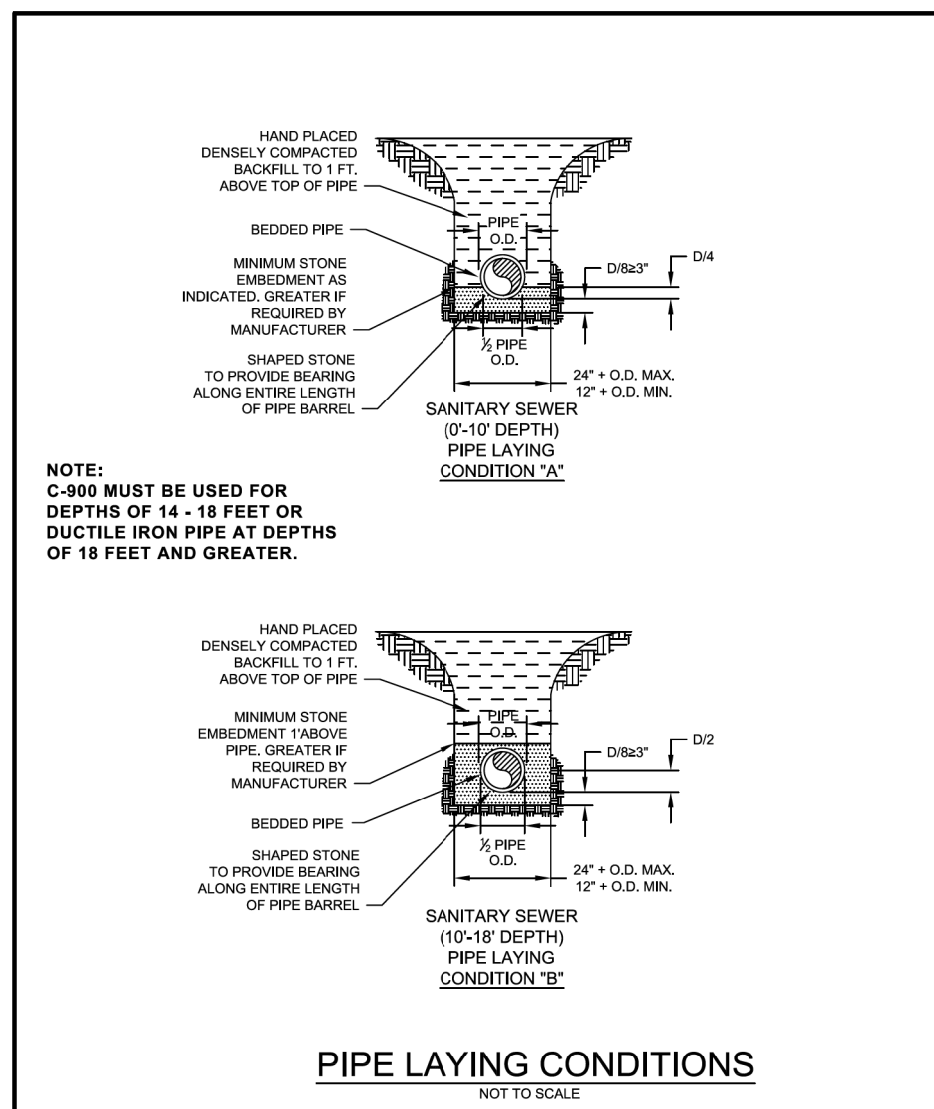
PROJECT REFERENCE NO.	SHEET NO.
W-5600	UC-3B
DESIGNED BY: SS	11/27/2019
DRAWN BY: SS	
CHECKED BY: MVZ	
APPROVED BY: MVZ	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	

UTILITY CONSTRUCTION PLANS ONLY

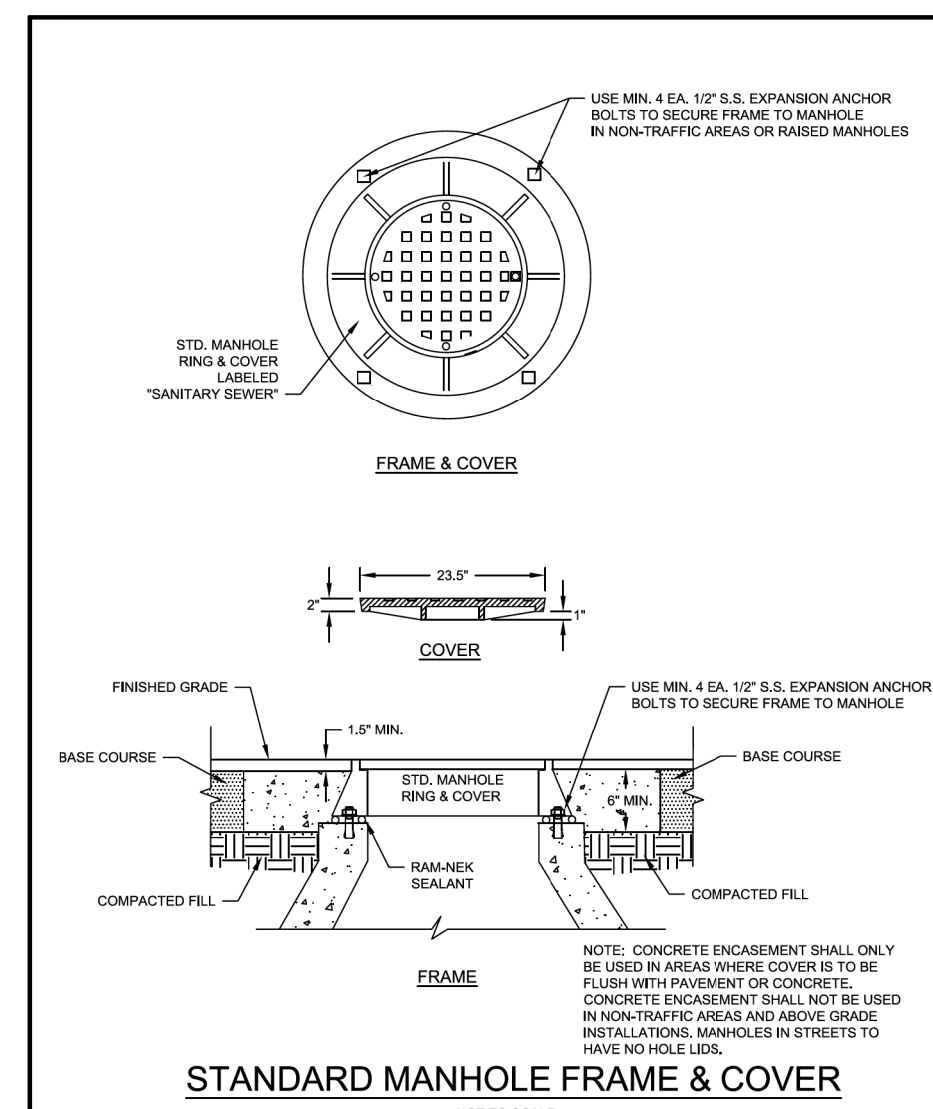
UTILITY CONSTRUCTION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

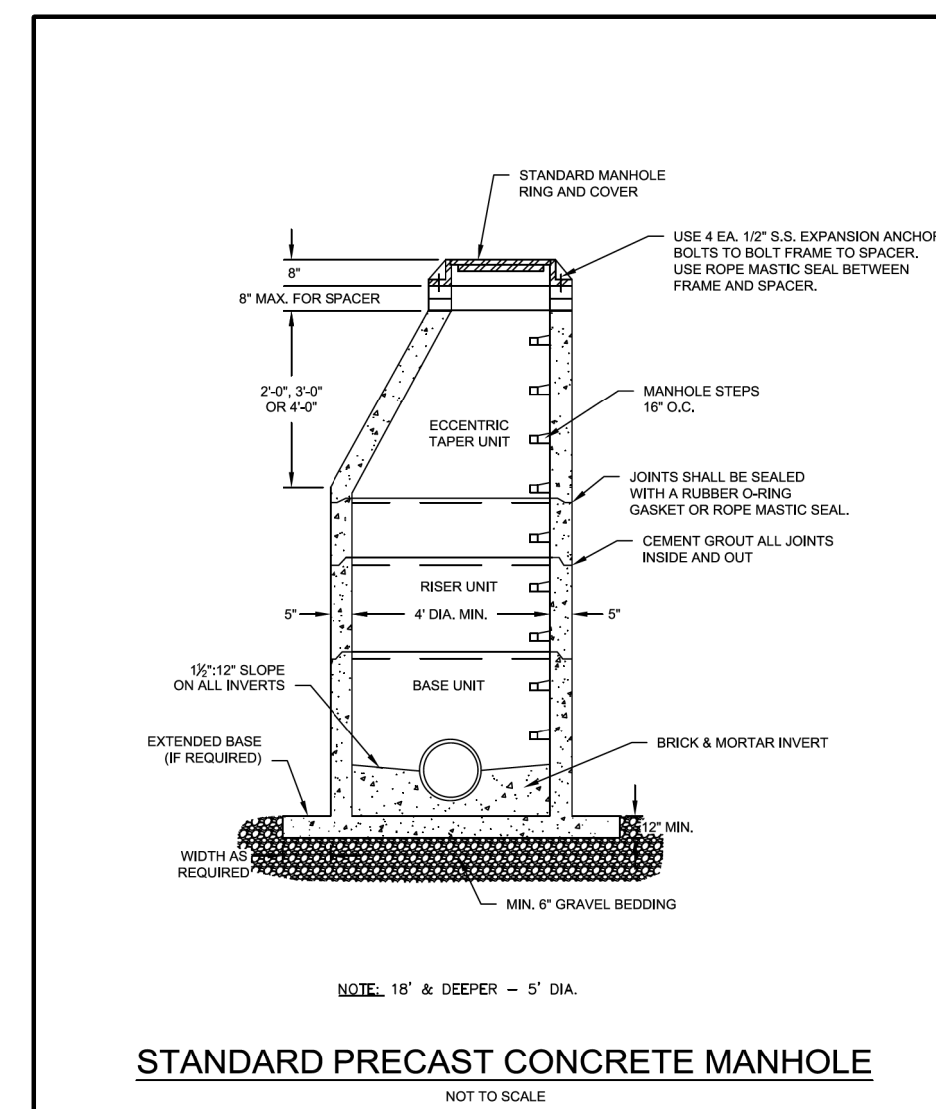
FINAL DESIGN
RELEASE
FOR CONSTRUCTION



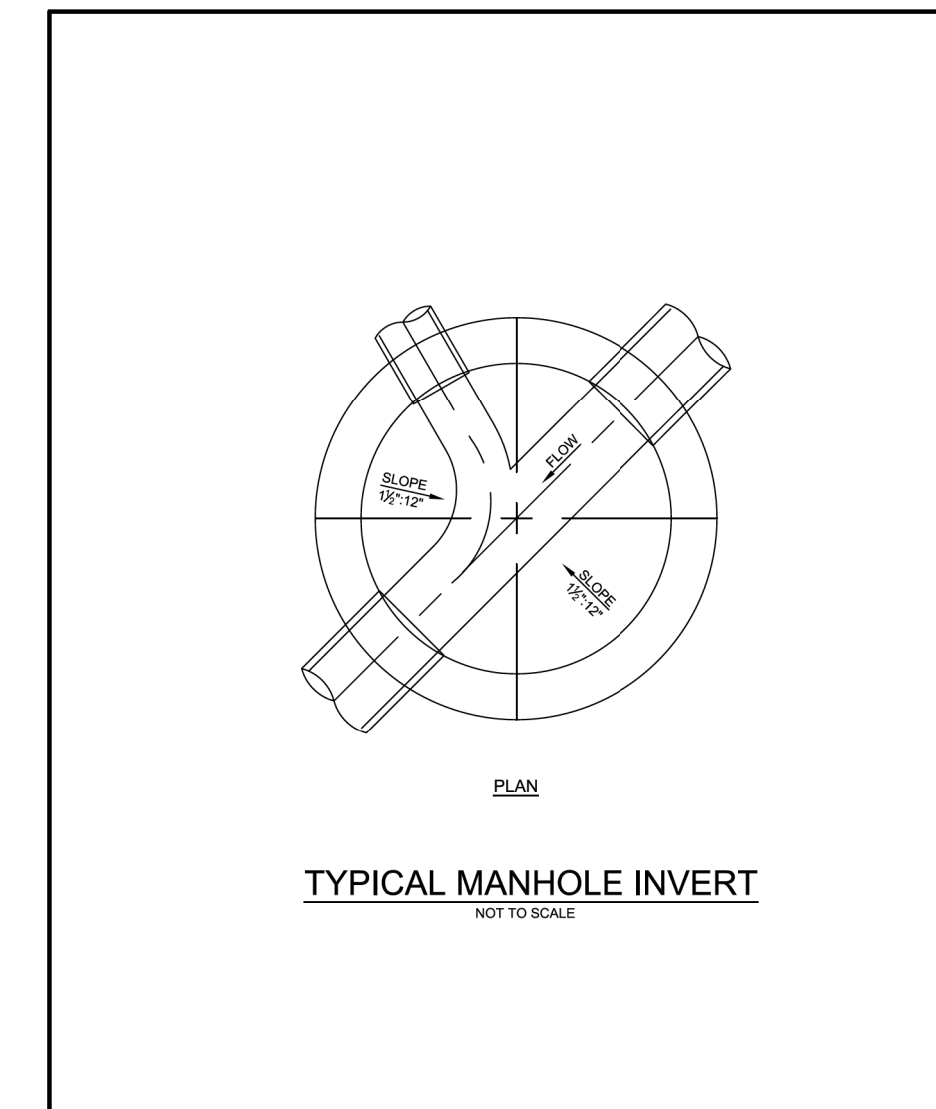
Drawn By:	Name:	Date:		SANITARY SEWER STANDARD DETAIL Pipe Laying Conditions A & B	PAGE 36
Checked By:					
Approved By:					
Date:					



Drawn By:	Name:	Date:		SANITARY SEWER STANDARD DETAIL Standard Manhole Frame & Cover	PAGE 27
Checked By:					
Approved By:					
Date:					



Drawn By:	Name:	Date:		SANITARY SEWER STANDARD DETAIL Standard Precast Manhole	PAGE 30
Checked By:					
Approved By:					
Date:					



Drawn By:	Name:	Date:		SANITARY SEWER STANDARD DETAIL Typical Invert	PAGE 34
Checked By:					
Approved By:					
Date:					

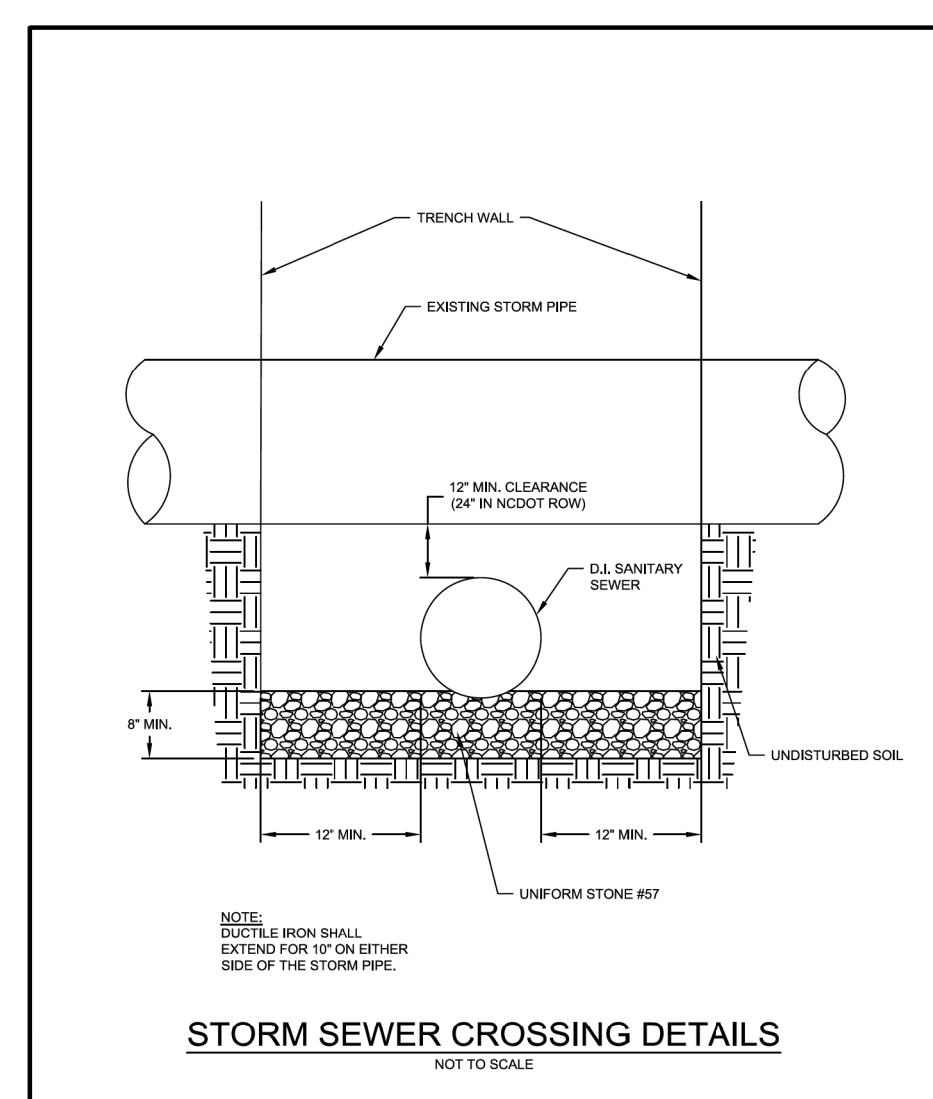
NOTES FOR AERIAL CROSSING:

- STEEL CASING PIPE SHALL BE SPIRAL WELDED OR SMOOTH WALL SEAMLESS WITH A MIN. YIELD STRENGTH OF 35,000 PSI. REQUIREMENTS SHOWN IN TABLE BELOW:

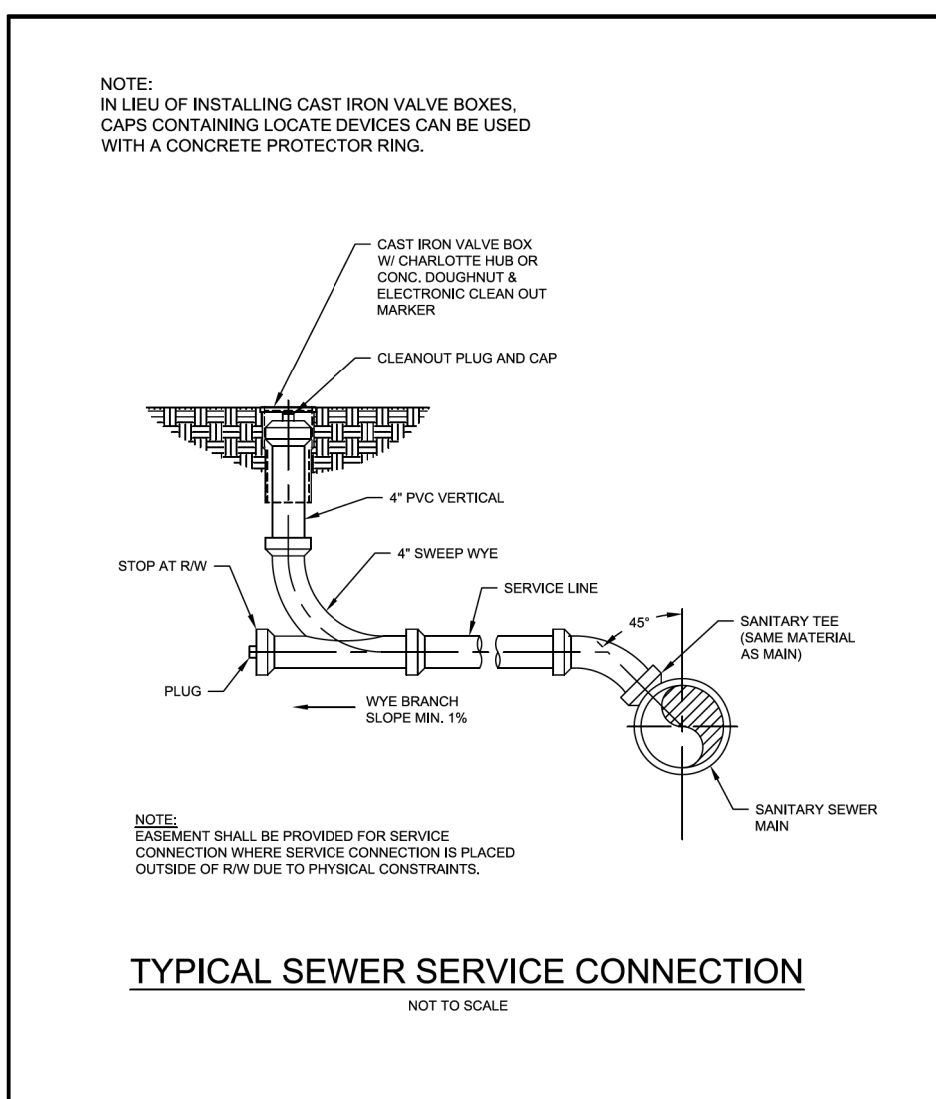
ALLOWABLE SPANS FOR STEEL CASING PIPE			
CARRIER PIPE, R/DIP DIAMETER (IN)	CASING PIPE, STEEL DIAMETER (IN)	MIN. CASING PIPE WALL THICKNESS (IN)	ALLOWABLE SPAN (FT)
5	14	0.3750	40
8	16	0.3750	45
10	17	0.3750	50
12	20	0.3750	50
14	24	0.3750	55
16	26	0.3750	55
18	30	0.3750	60
20	32	0.3750	60
24	36	0.4375	65
30	42	0.4375	65
36	48	0.5000	65
40	56	0.5000	65

- RESTRAINED JOINT PIPE AND FITTINGS SHALL CONSIST OF BOLTED RETAINER RINGS AND WELDER RETAINER BARS OR BOLTED TYPE WHICH INCLUDE DUCTILE IRON LOCKING SEGMENTS AND RUBBER RETAINERS. RESTRAINED PIPE AND FITTINGS MEET REQUIREMENTS SET IN JOHNSTON COUNTY STANDARD SPECIFICATIONS.
- CONCRETE PROPERTIES SHALL BE AS FOLLOWS:
CONCRETE COMPRESSIVE STRENGTH = 4000 PSI
NOMINAL SLUMP = 4 INCHES
WATER/CEMENTIOUS MATERIAL RATIO = 0.45 MAX
AIR CONTENT = MIN 6%, MAX 7.5%
CONCRETE SHALL BE TYPE II OR IN ACCORDANCE WITH ASTM C-150.
- ALL EXPOSED CONCRETE CORNERS SHALL BE CHAMFERED 3/4"
- CONVENTIONAL REINFORCING STEEL SHALL CONFORM TO ASTM A615 GRADE 60 AND SHALL BE PLACED IN ACCORDANCE WITH "THE RECOMMENDED PRACTICE FOR PLACING REINFORCING BARS" (LATEST EDITION AS PUBLISHED BY THE CONCRETE REINFORCING INSTITUTE. SPICES SHALL BE CLASS B CONFORMING TO A3138 OF "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE.
- NEOPRENE BEARING PADS SHALL BE FORMED FROM PREVIOUSLY UNVULCANIZED, 100% VIRGIN NEOPRENE WITH DUROMETER HARDNESS OF 50.
- IF ENGINEERED DESIGN REQUIRES PILES, THE CALCULATIONS AND ALTERNATE DESIGN MUST BE SUBMITTED FOR APPROVAL PRIOR TO INSTALLATION.

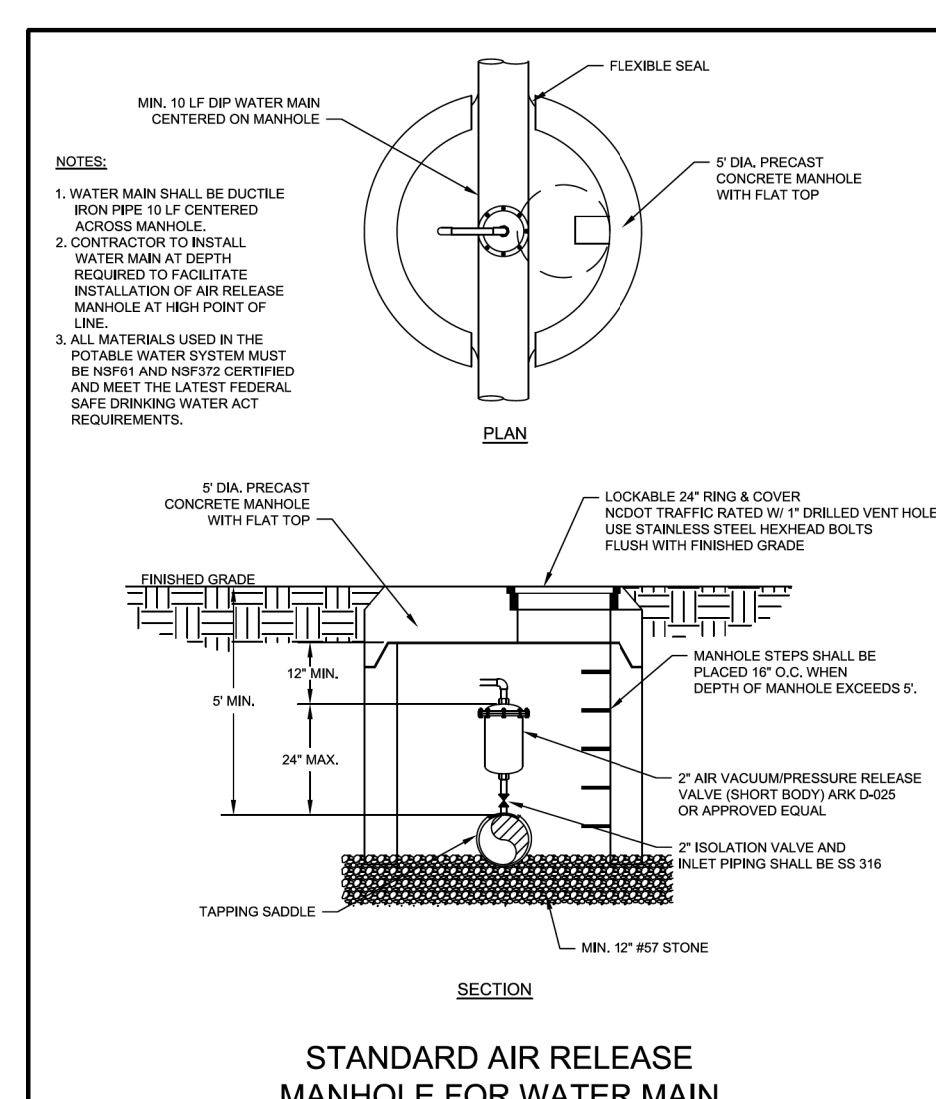
Drawn By:	Name:	Date:		SANITARY SEWER STANDARD DETAIL Aerial Pipe Supports	PAGE 39B
Checked By:					
Approved By:					
Date:					



Drawn By:	Name:	Date:		SANITARY SEWER STANDARD DETAIL Typical Storm Sewer Crossing	PAGE 40
Checked By:					
Approved By:					
Date:					



Drawn By:	Name:	Date:		SANITARY SEWER STANDARD DETAIL Typical Sewer Service Connection	PAGE 41
Checked By:					
Approved By:					
Date:					



Drawn By:	Name:	Date:		WATER STANDARD DETAIL Air Vacuum/Pressure Release Valve in Manhole	PAGE 3
Checked By:					
Approved By:					
Date:					

REVISIONS

11/20/2019
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PLOT DRIVER: \$PLOTDRIVER\$
PEN TABLE: \$PENTABLE\$