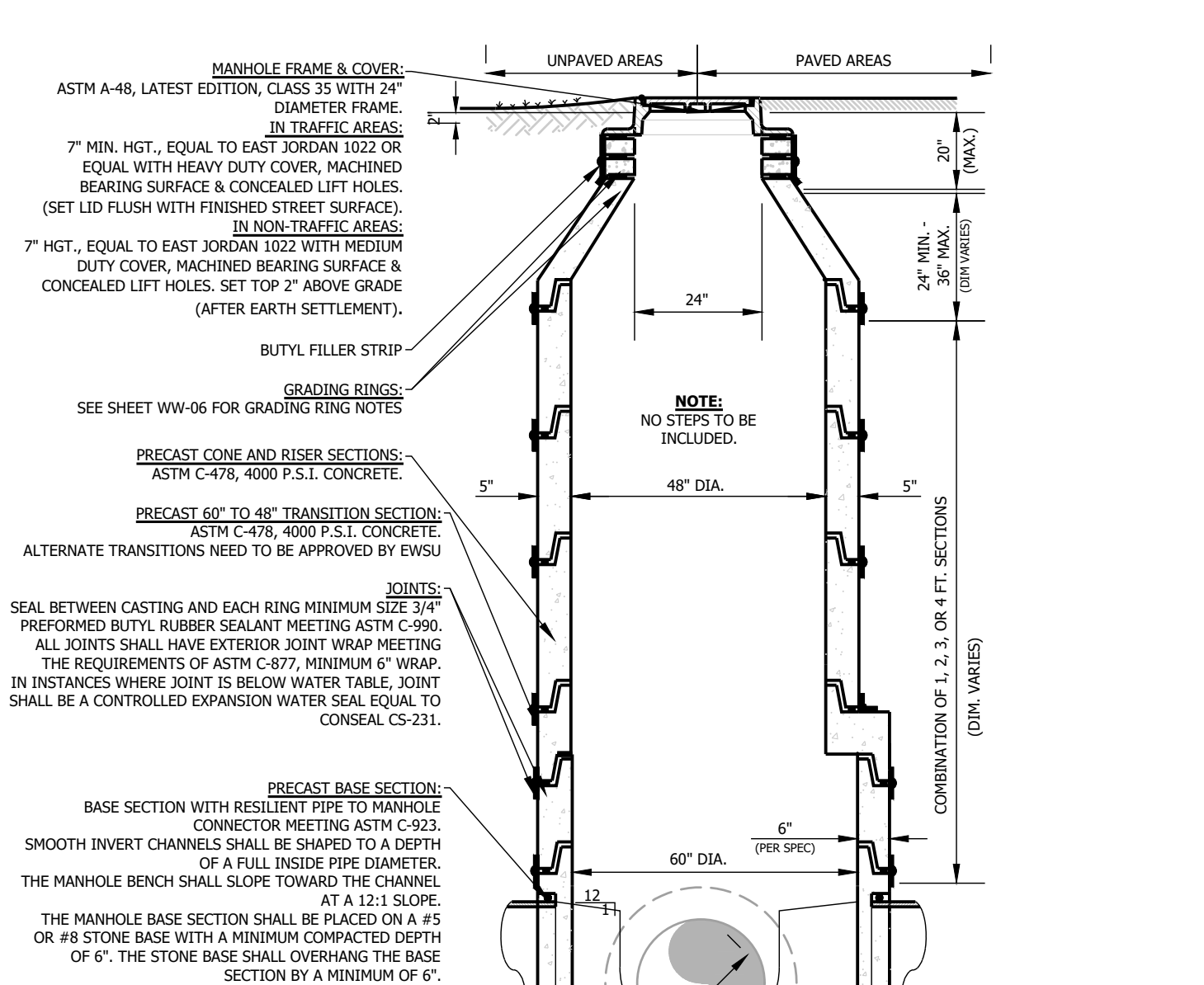


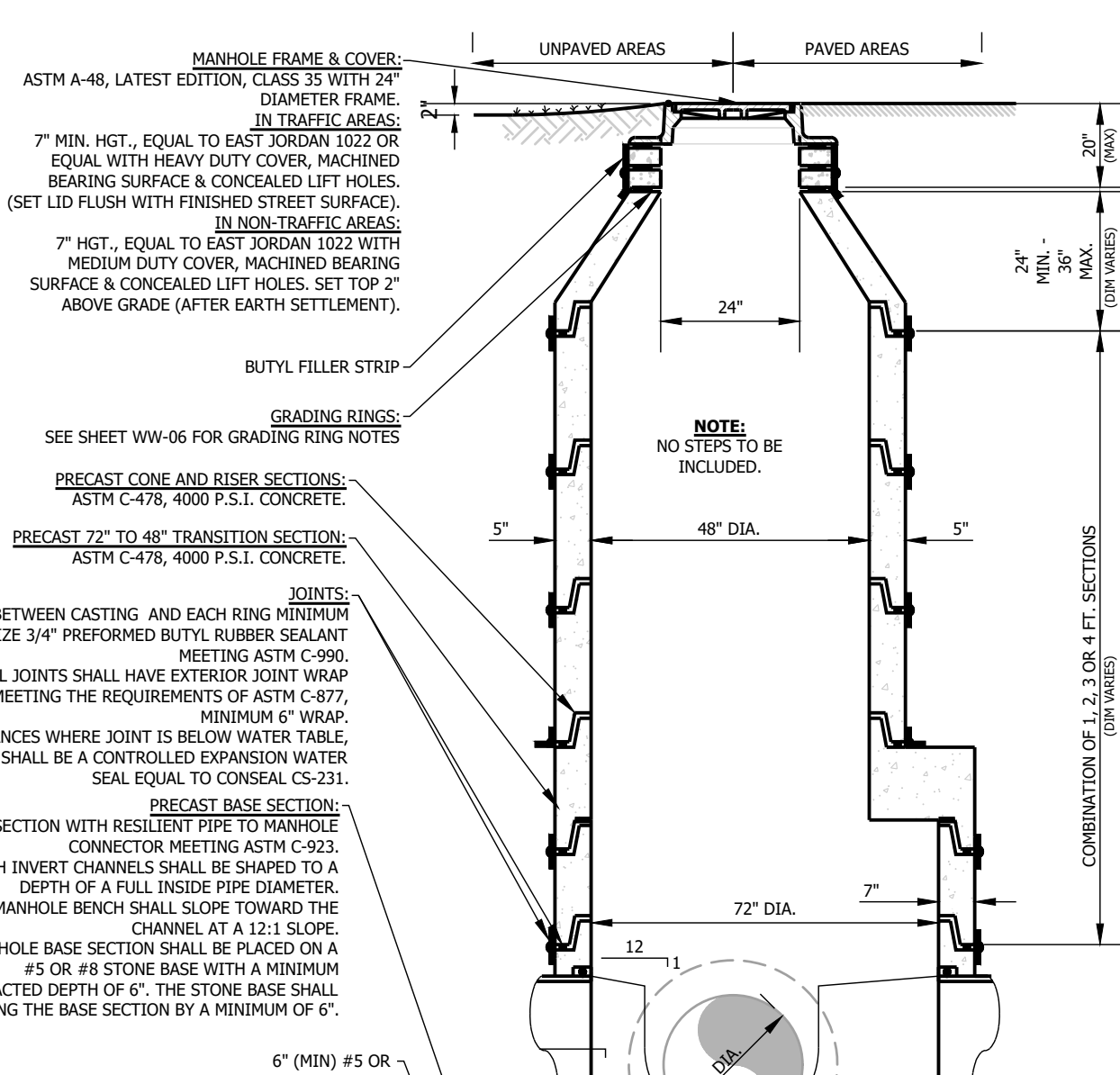
Pipe Size	15"	18"	24"
12"	65°	67°	73°
15"	60°	75°	
18"	60°	81°	

WW-01 - STANDARD PRECAST 48" MANHOLE
SCALE: N.T.S.



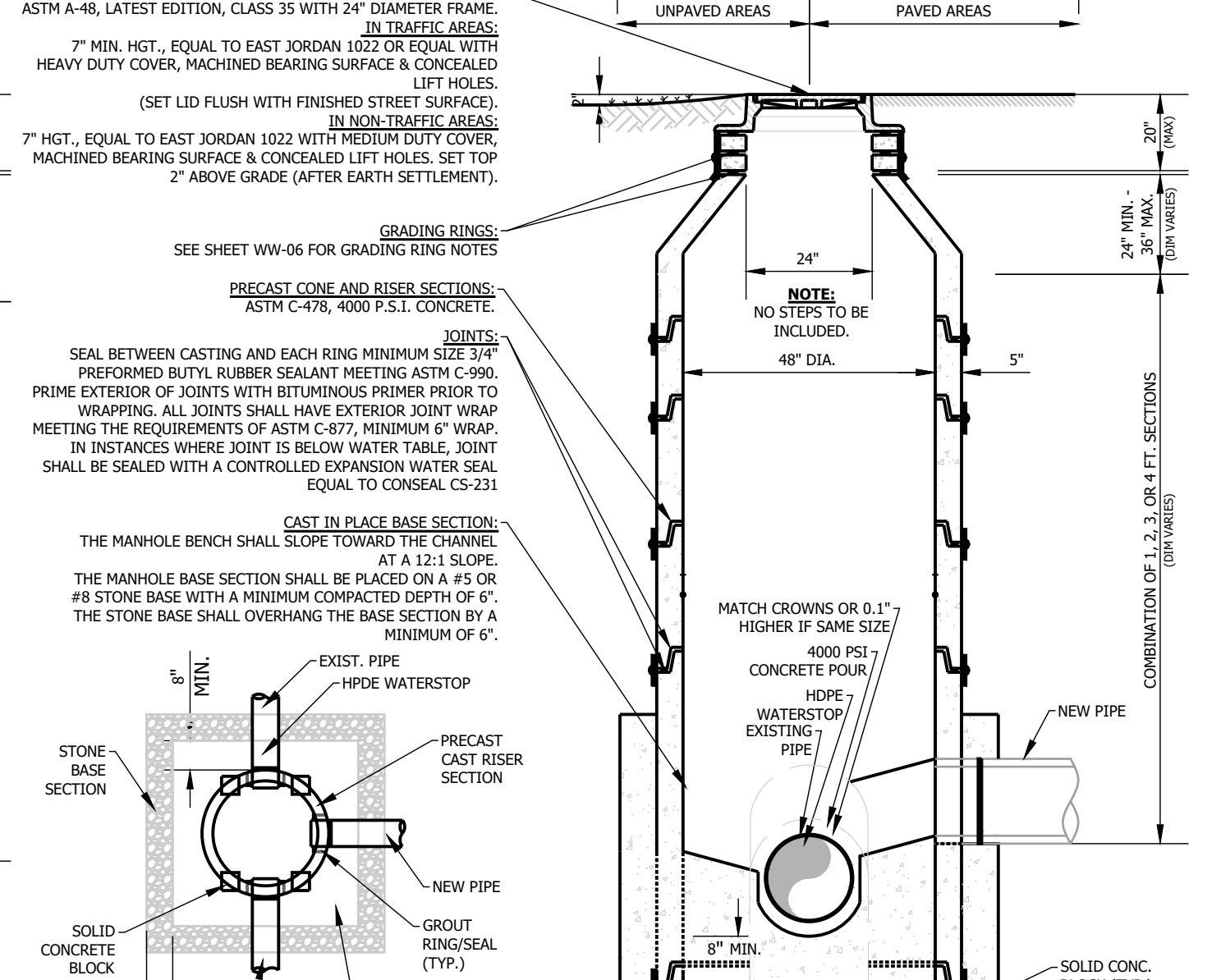
Pipe Size	12"	15"	18"	24"
12"	60°	52°	57°	63°
15"	56°	60°	66°	
18"	64°	70°		
24"			76°	
30"				81°
36"				

WW-02 - STANDARD PRECAST CONCRETE 60" MANHOLE
SCALE: N.T.S.

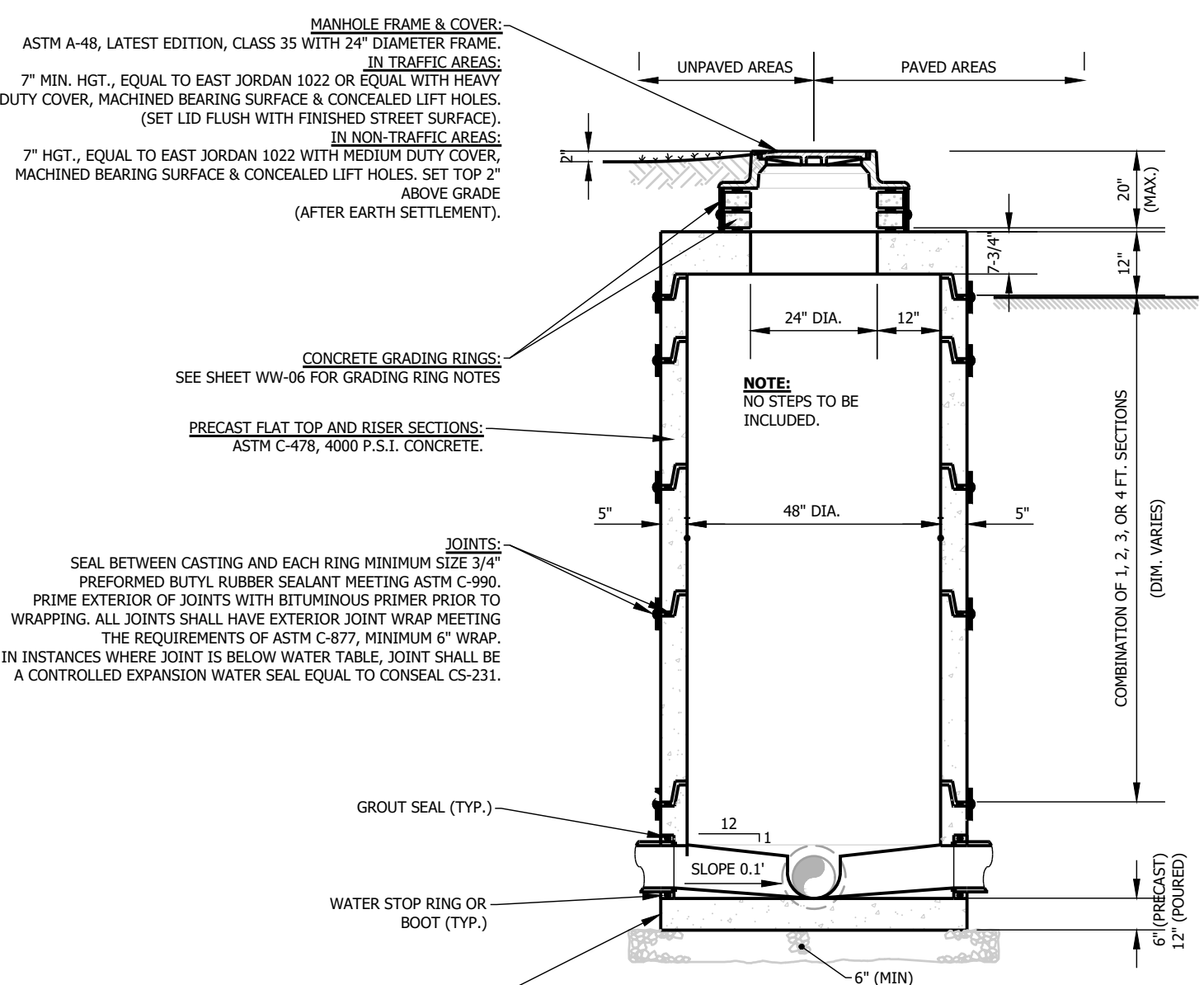


Pipe Size	12"	15"	18"	24"	30"	36"
12"	48°	48°	48°	52°	60°	68°
15"	48°	51°	54°	62°	70°	
18"	50°	56°	62°	70°		
24"			70°	78°		
30"				78°	86°	
36"					86°	

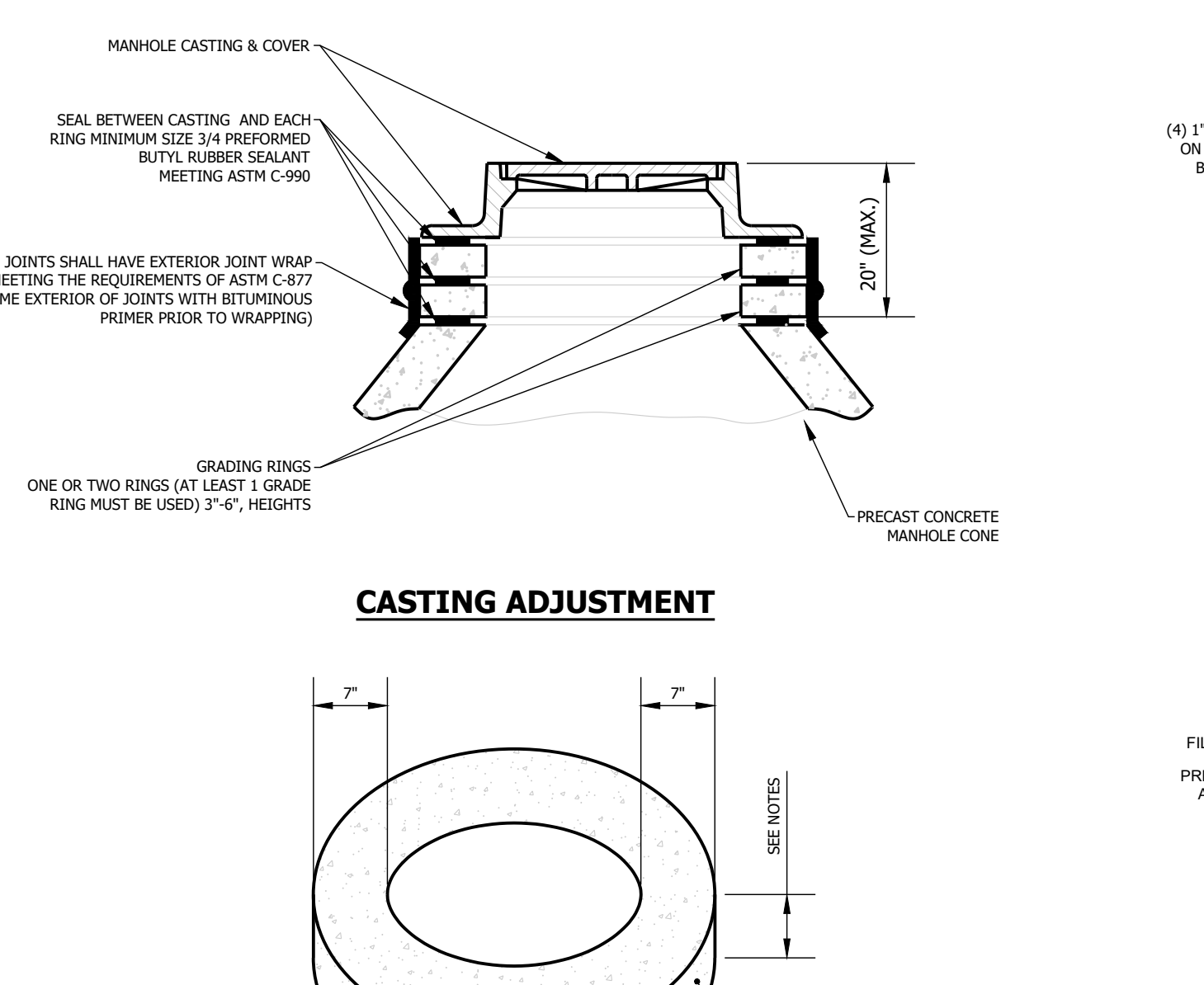
WW-03 - STANDARD PRECAST CONCRETE 72" MANHOLE
SCALE: N.T.S.



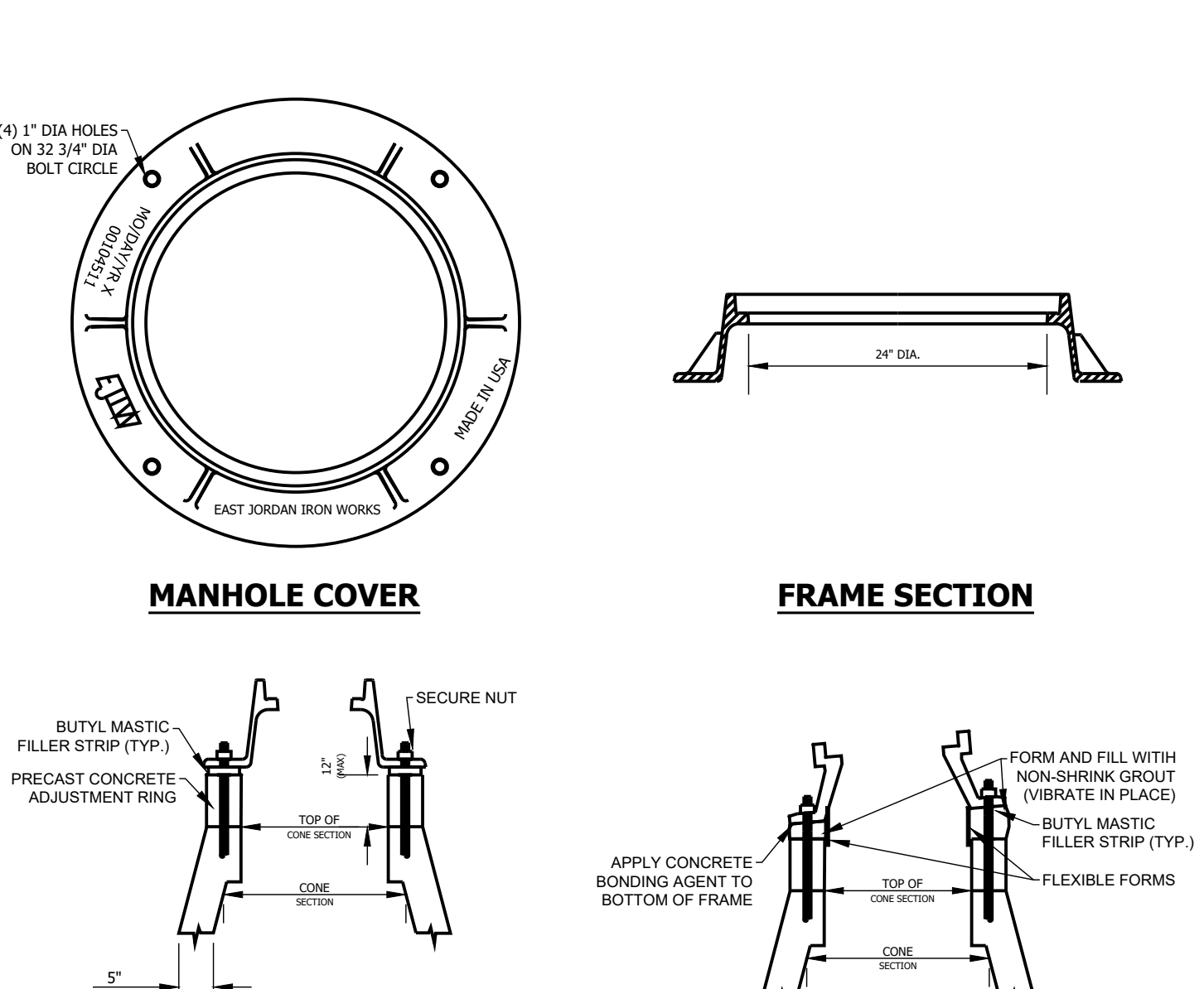
WW-04 - STANDARD DOGHOUSE 48" MANHOLE
SCALE: N.T.S.



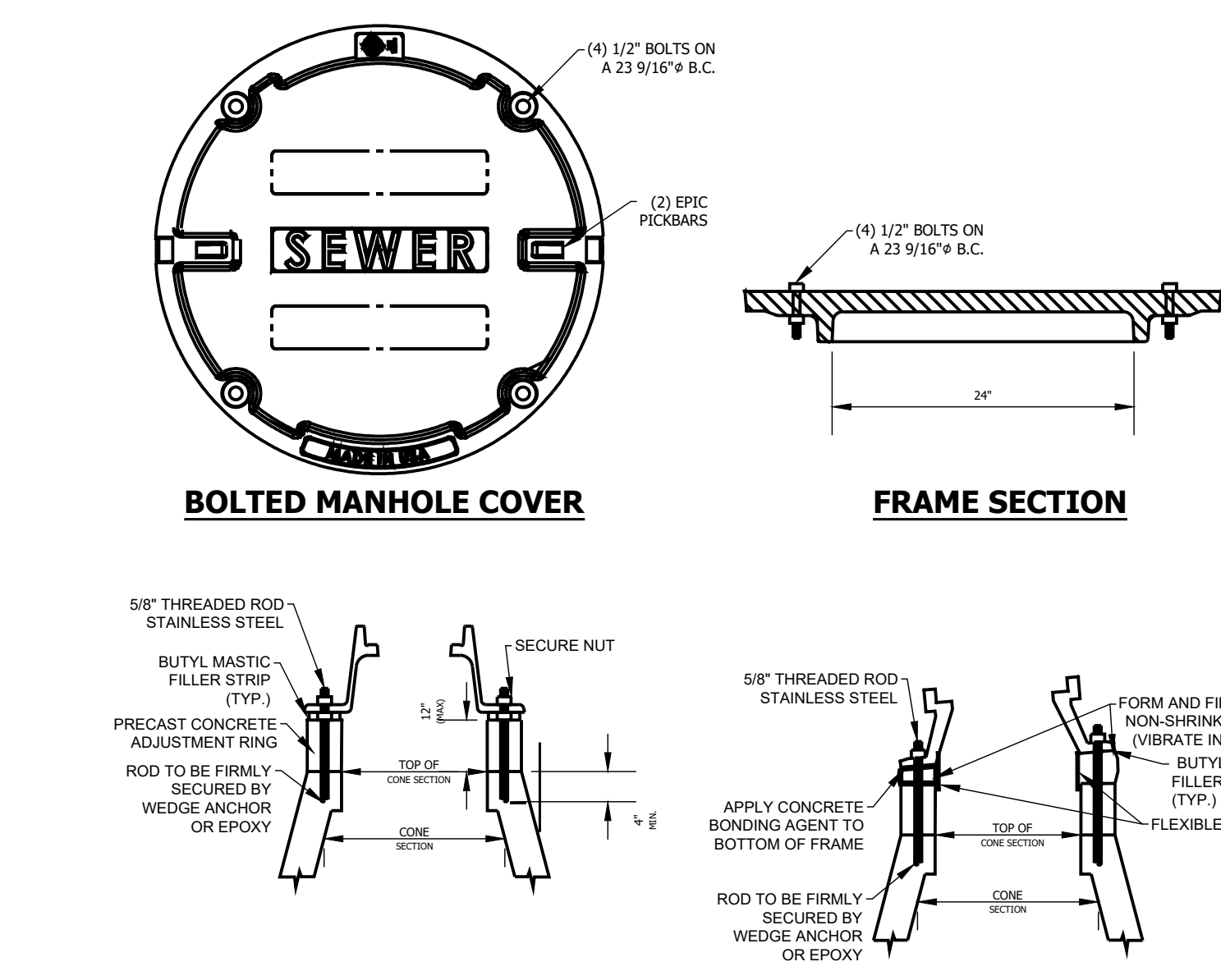
WW-05 - STANDARD PRECAST FLAT TOP MANHOLE
SCALE: N.T.S.



WW-06 - STANDARD CASTING ADJUSTMENT AND GRADE RINGS
SCALE: N.T.S.



WW-07 - BOLT DOWN FRAME
SCALE: N.T.S.



WW-08 - BOLT DOWN MANHOLE FRAME AND COVER
SCALE: N.T.S.

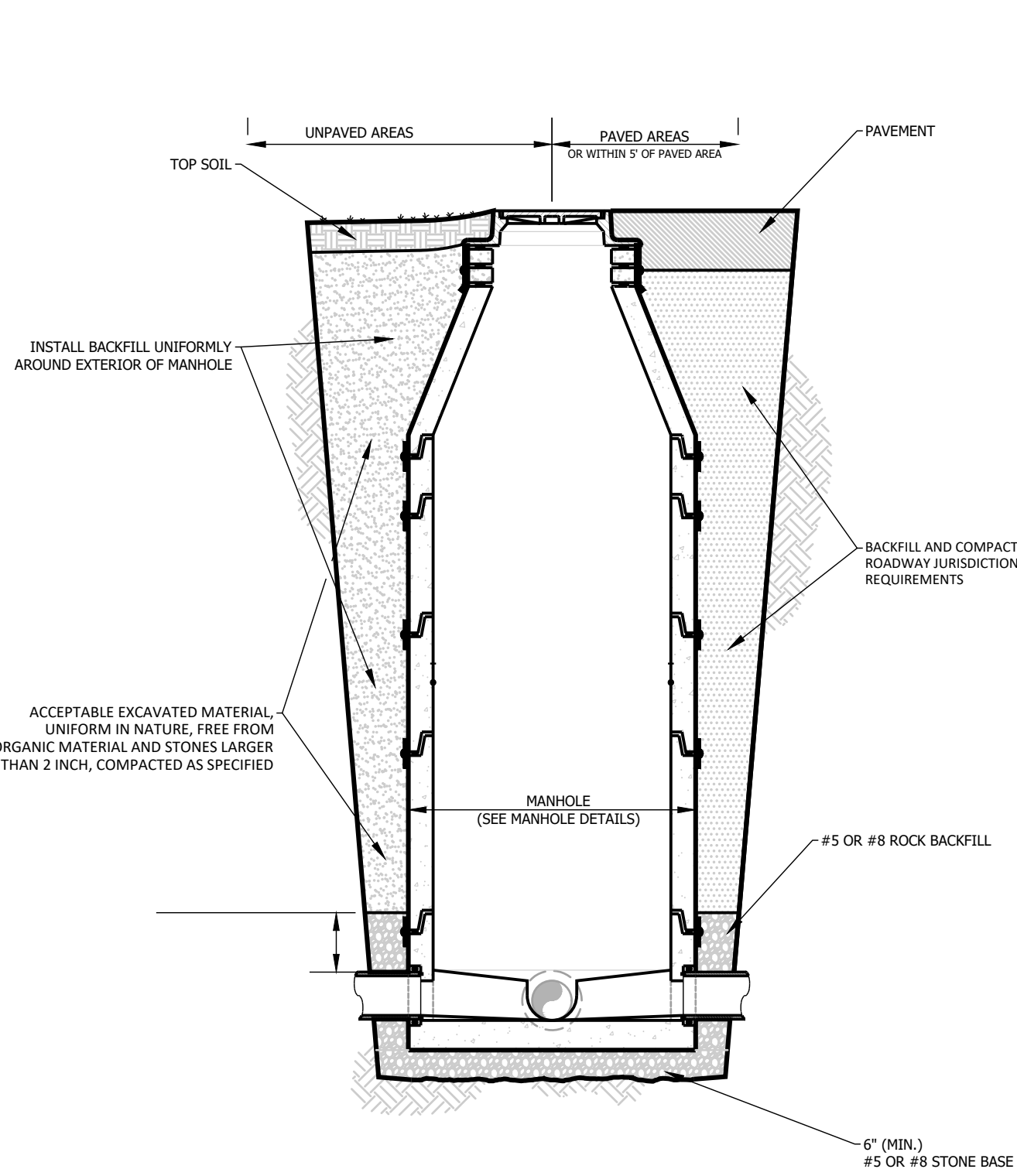
APPROVED: 01/18/2022
SCALE: N.T.S.
APPROVED: 01/12/2022
APPROVED BY: J.D.S.
FIGURES: WW-01 THROUGH WW-08
APPROVED: *[Signature]*
TITLE: DIRECTOR, ENGINEERING SERVICES DATE: *[Date]*

EVANSVILLE WATER AND SEWER UTILITY
1 S.E. 9TH STREET SUITE 200 - Evansville, IN 47708 (812) 421-2120

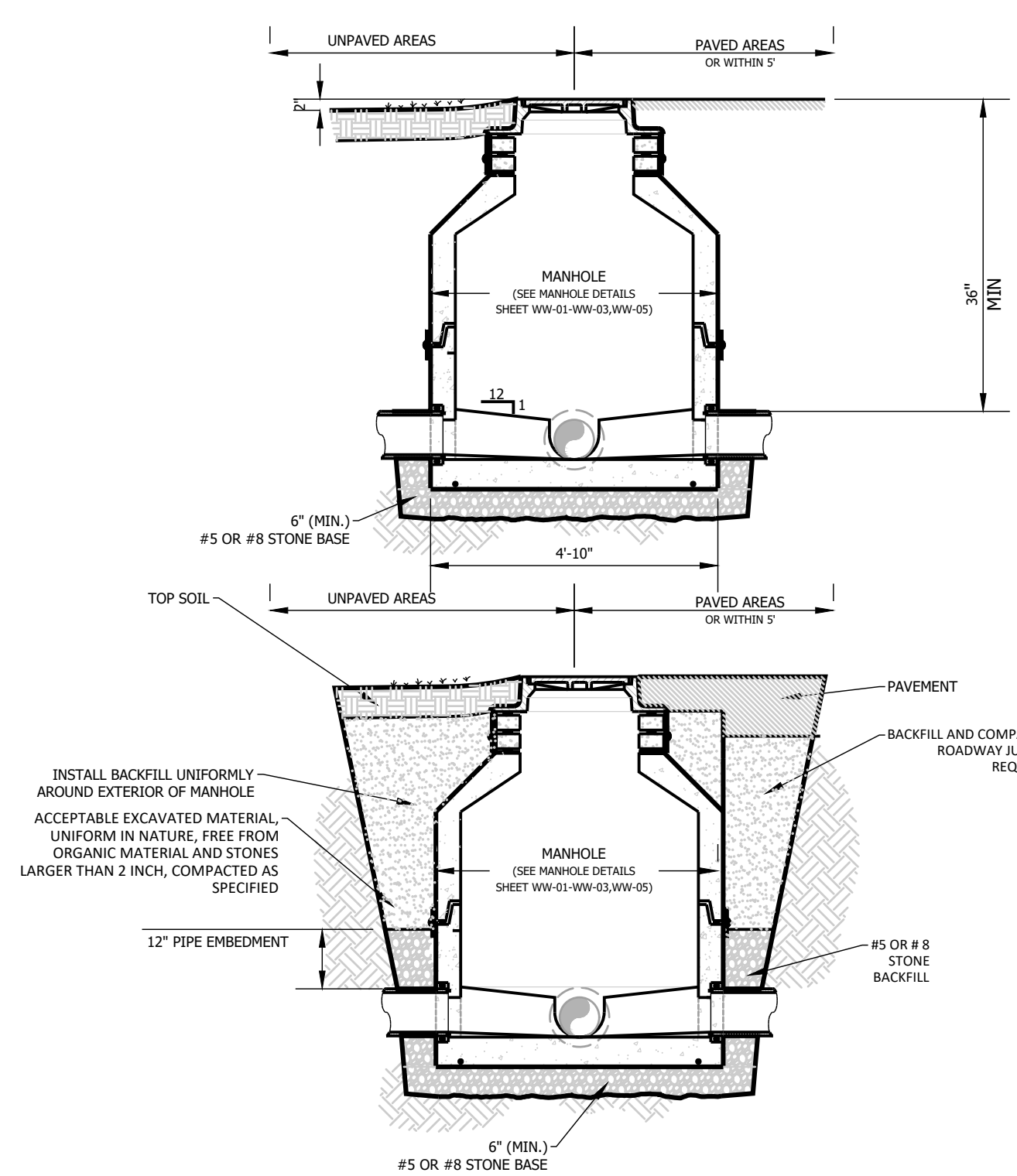
STANDARD SANITARY SEWER DETAILS

REVISIONS	DESCRIPTION	DATE

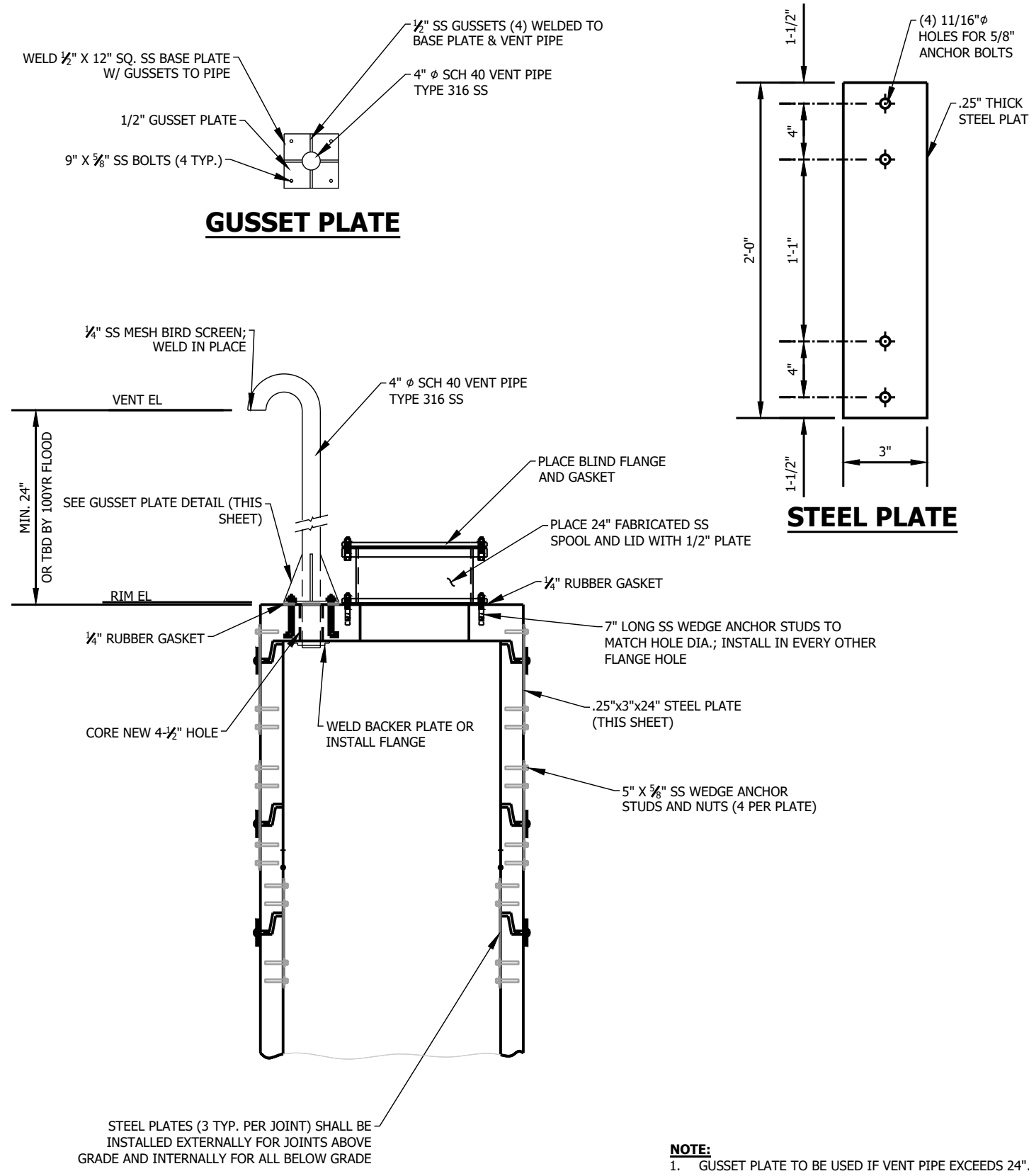
Date: Feb 09, 2022, 12:05pm User Name: T.Rutherford File: S:\113-0170\W\CAD\Plans\Details Proposed by L.C\Sanitary Sewer\24x36 Detail Sheets\Updated 2022-02-04\WW-01 through WW-03.dwg



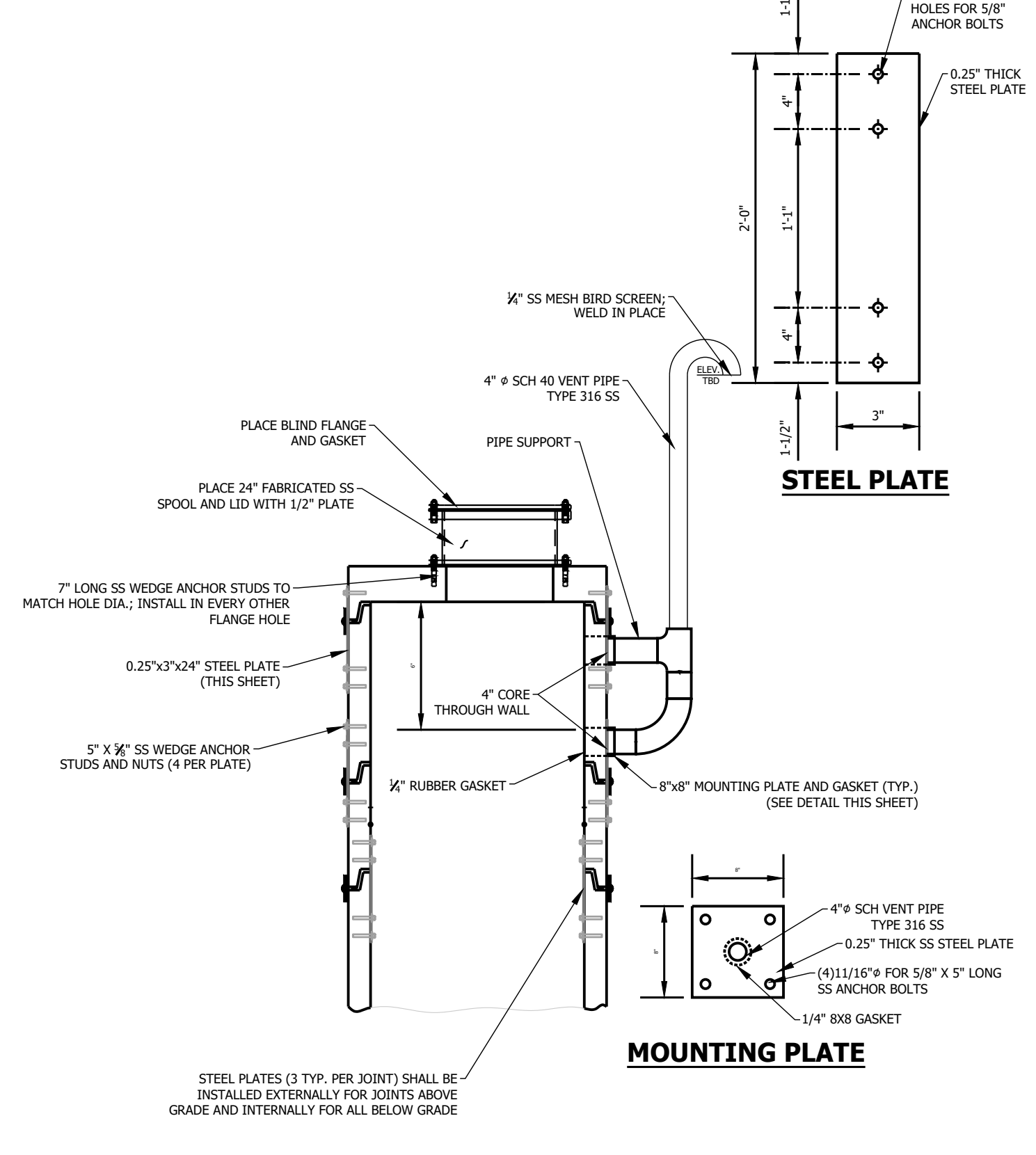
WW-09 - STANDARD MANHOLE BACKFILL
SCALE: N.T.S.



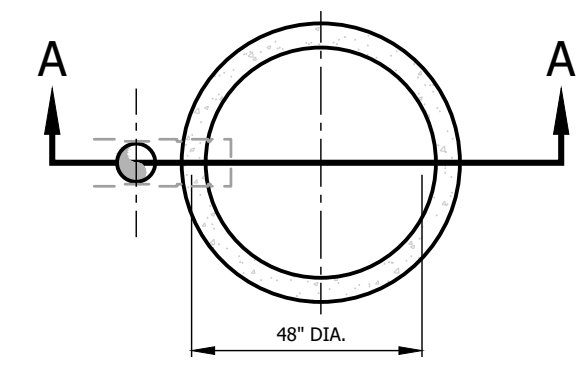
WW-10 - STANDARD SHALLOW MANHOLE BACKFILL
SCALE: N.T.S.



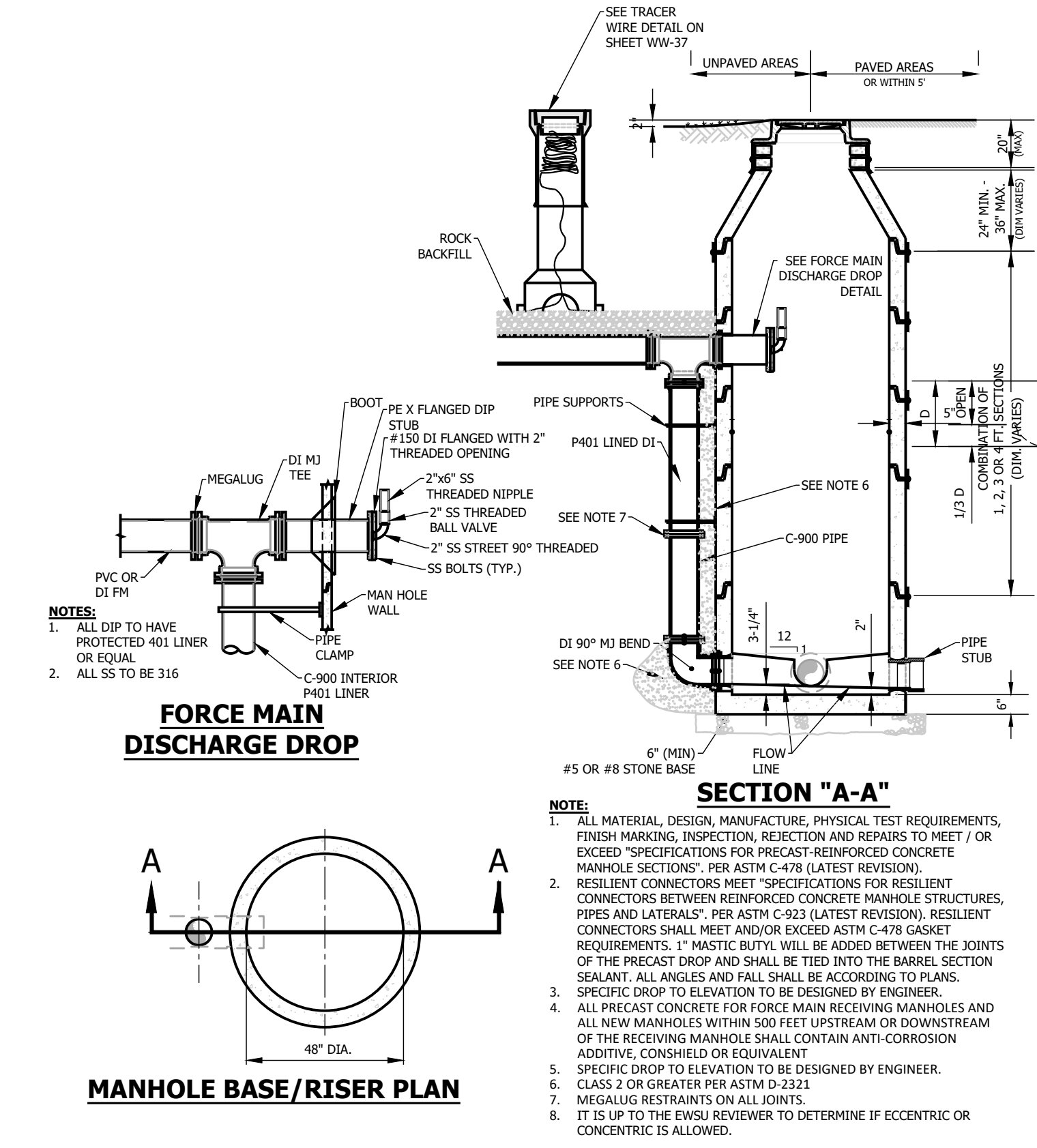
WW-11 - FLAT VENTED FLOODPLAIN PRECAST 48" MANHOLE
SCALE: N.T.S.



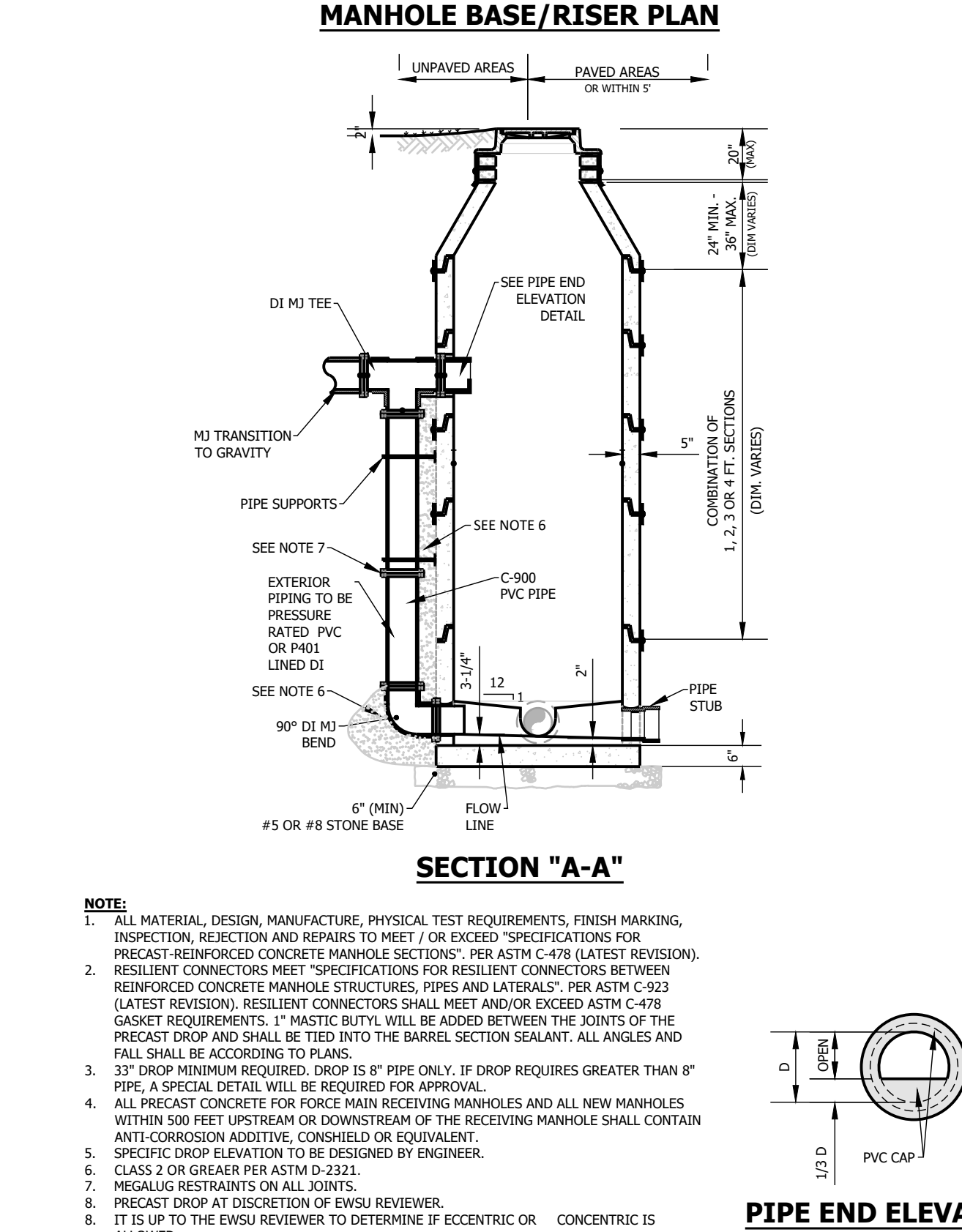
WW-12 - FLAT VENTED FLOODPLAIN PRECAST 48" MANHOLE WITH SIDE VENT
SCALE: N.T.S.



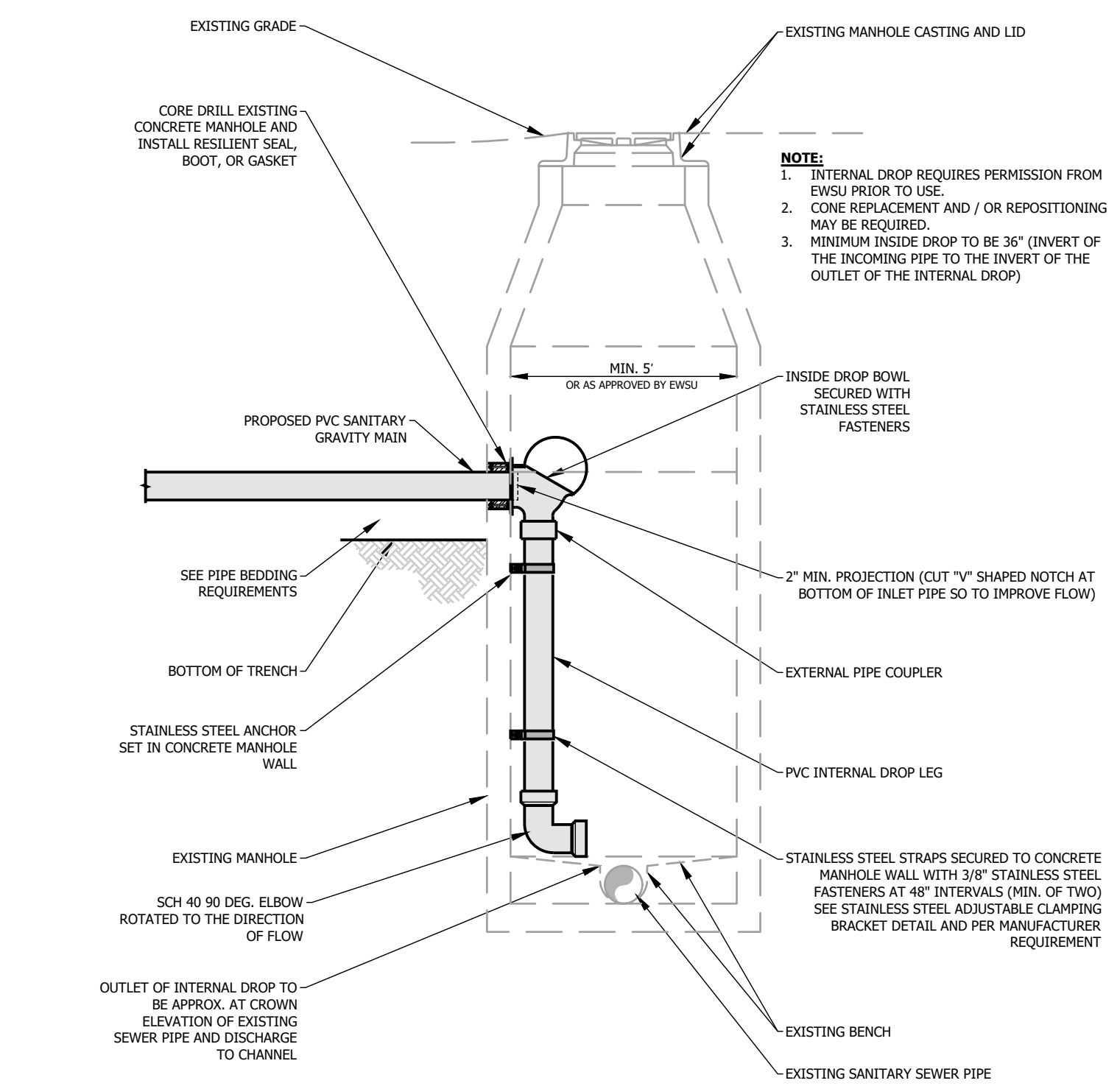
MANHOLE BASE/ RISER PLAN



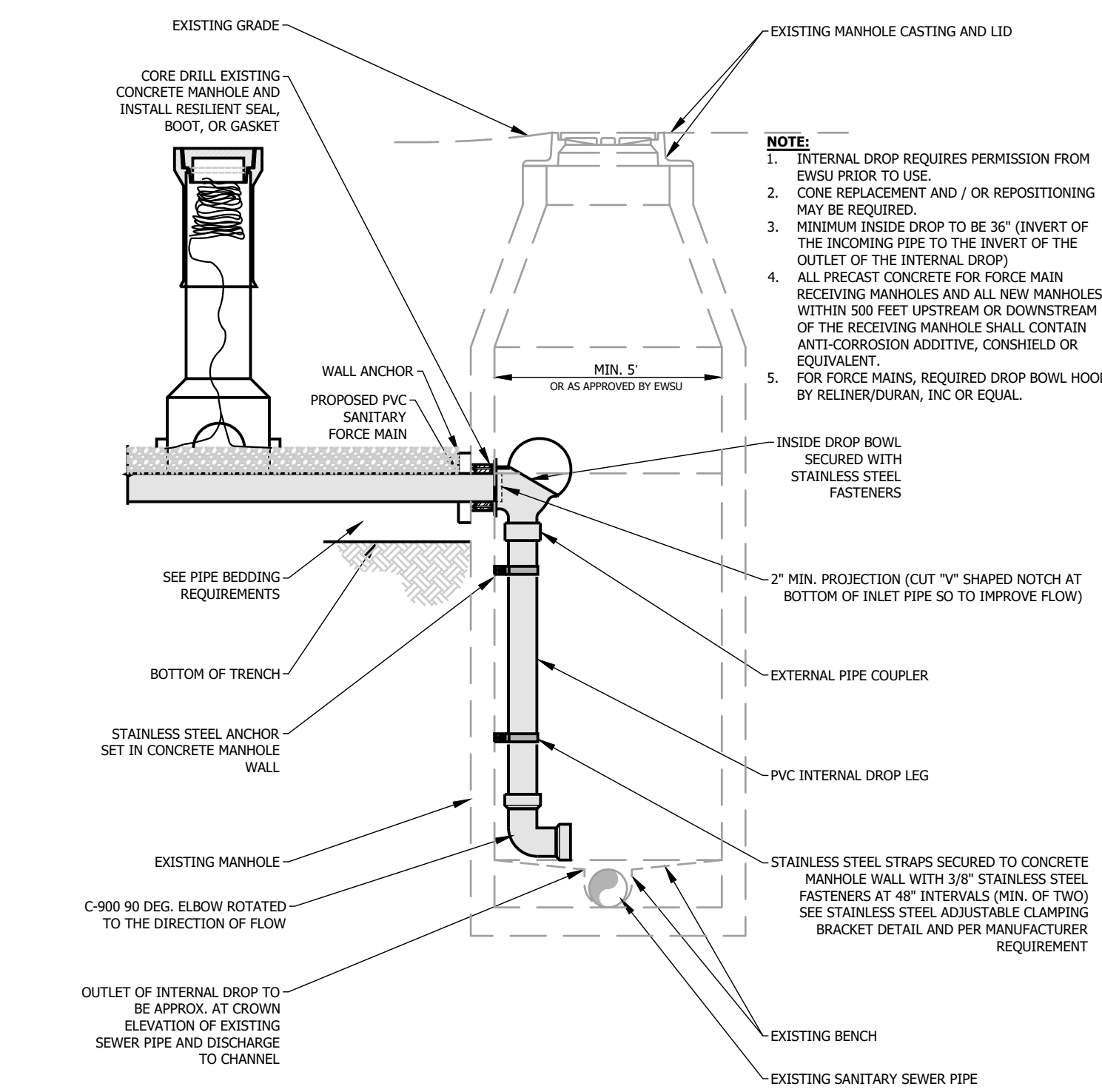
WW-13 - PRECAST EXTERNAL DROP MANHOLE (REQUIRED ON ALL DROPS GREATER THAN 24") (FORCE MAIN)
SCALE: N.T.S.



WW-14 - PRECAST EXTERNAL DROP MANHOLE (REQUIRED ON ALL DROPS GREATER THAN 24") (GRAVITY)
SCALE: N.T.S.



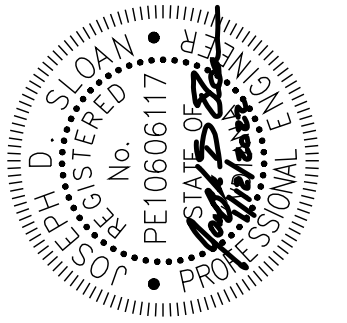
WW-15 - INTERNAL DROP CONNECTION TO EXISTING MANHOLE (GRAVITY)
SCALE: N.T.S.



WW-16 - INTERNAL DROP CONNECTION TO EXISTING MANHOLE (FORCE MAIN)
SCALE: N.T.S.

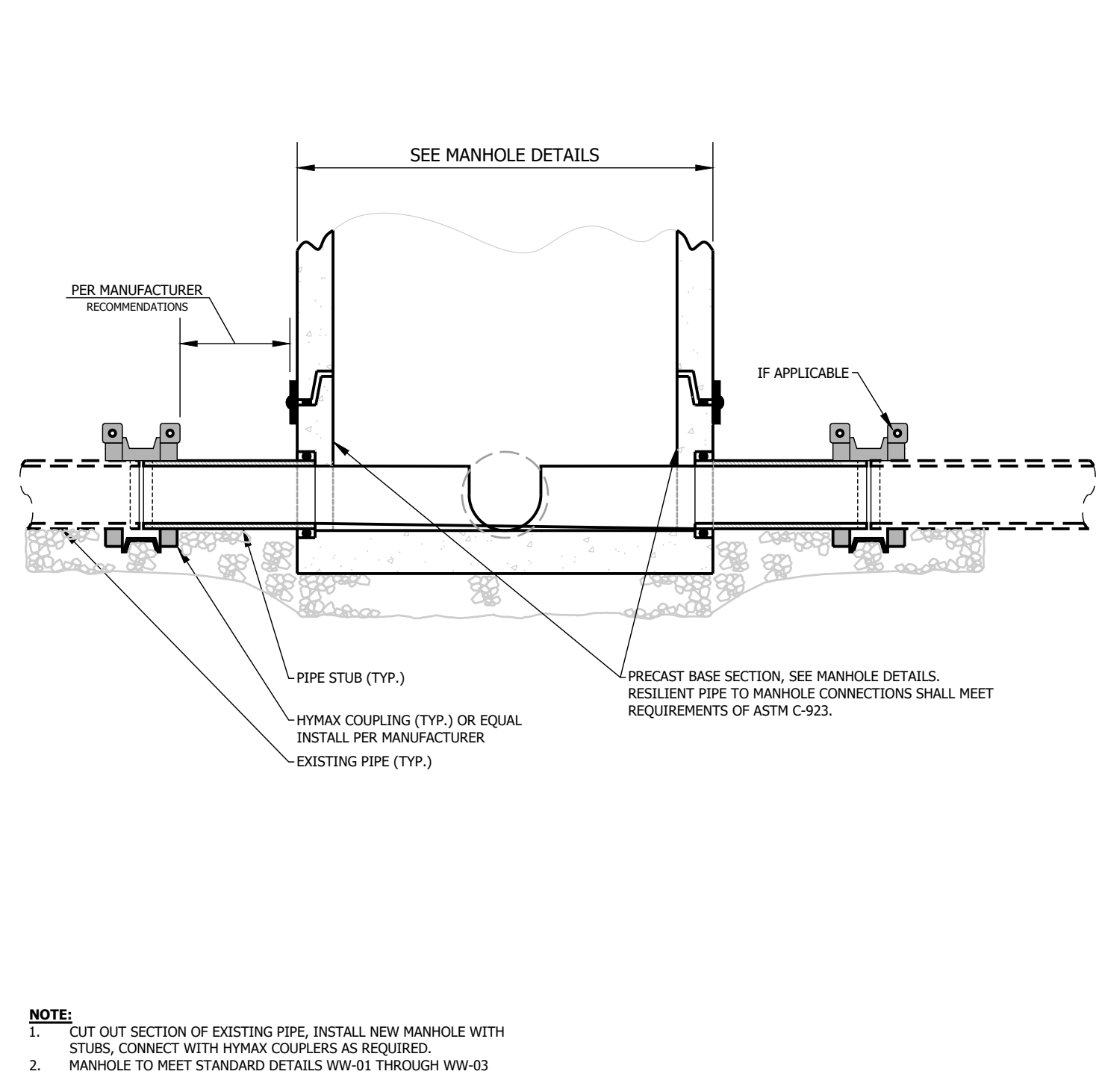
Date: Feb 09, 2022, 12:05pm User Name: T.Ruherford File: S:\113-0170\WRI\CAD\Plans\Details Proposed by L.G\Sanitary Sewer\24x36 Detail Sheets Updated 2022-02-04\WW-01 through WW-16.dwg

APPROVED:	01/12/2022	APPROVED:	01/18/2022
APPROVED BY:	J.D.S.	APPROVED BY:	N.T.S.
FIGURES:	WW-09 THROUGH WW-16	TITLE:	DIRECTOR, ENGINEERING SERVICES DATE: 1/12/2022
EVANSVILLE WATER AND SEWER UTILITY			
1 S.E. 9TH STREET SUITE 200 - Evansville, IN 47708 (812) 421-2120			
STANDARD SANITARY SEWER DETAILS			



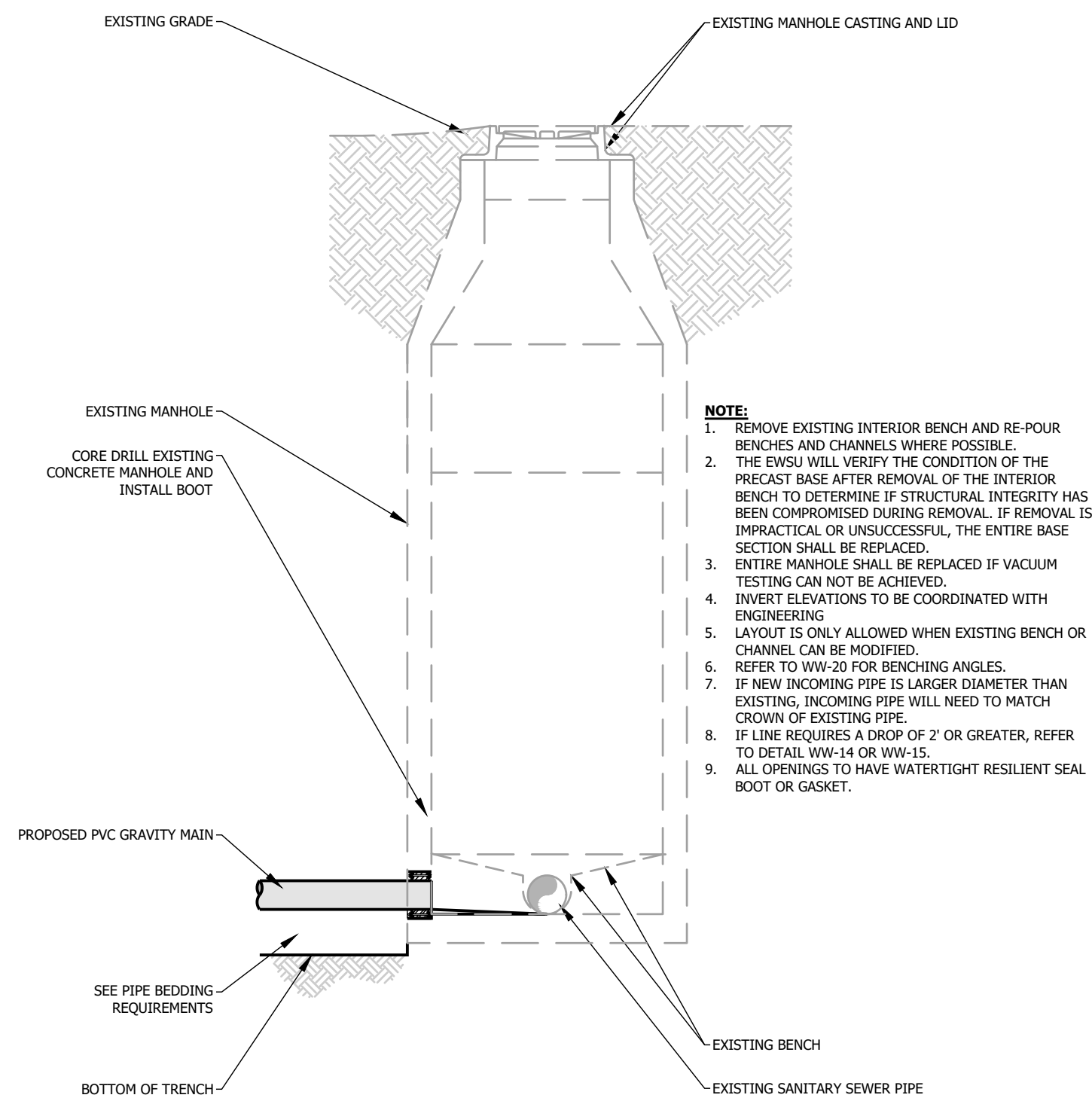
REVISIONS	APPROVED
DESCRIPTION	
DATE	

DRAWING NO:	
SHEET NO:	02
	2 of 6



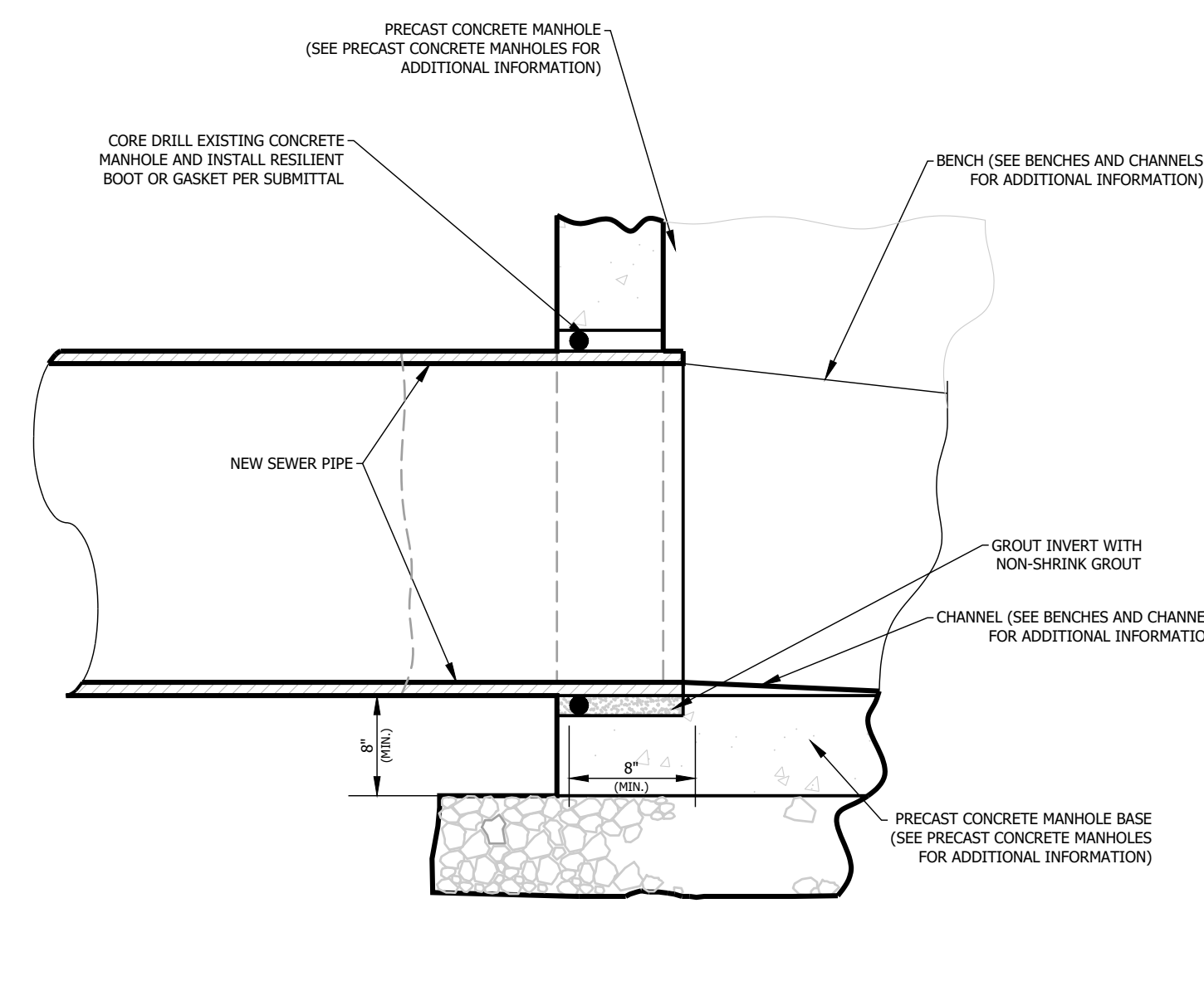
WW-17 - NEW MANHOLE ON EXISTING PIPE

SCALE: N.T.S.



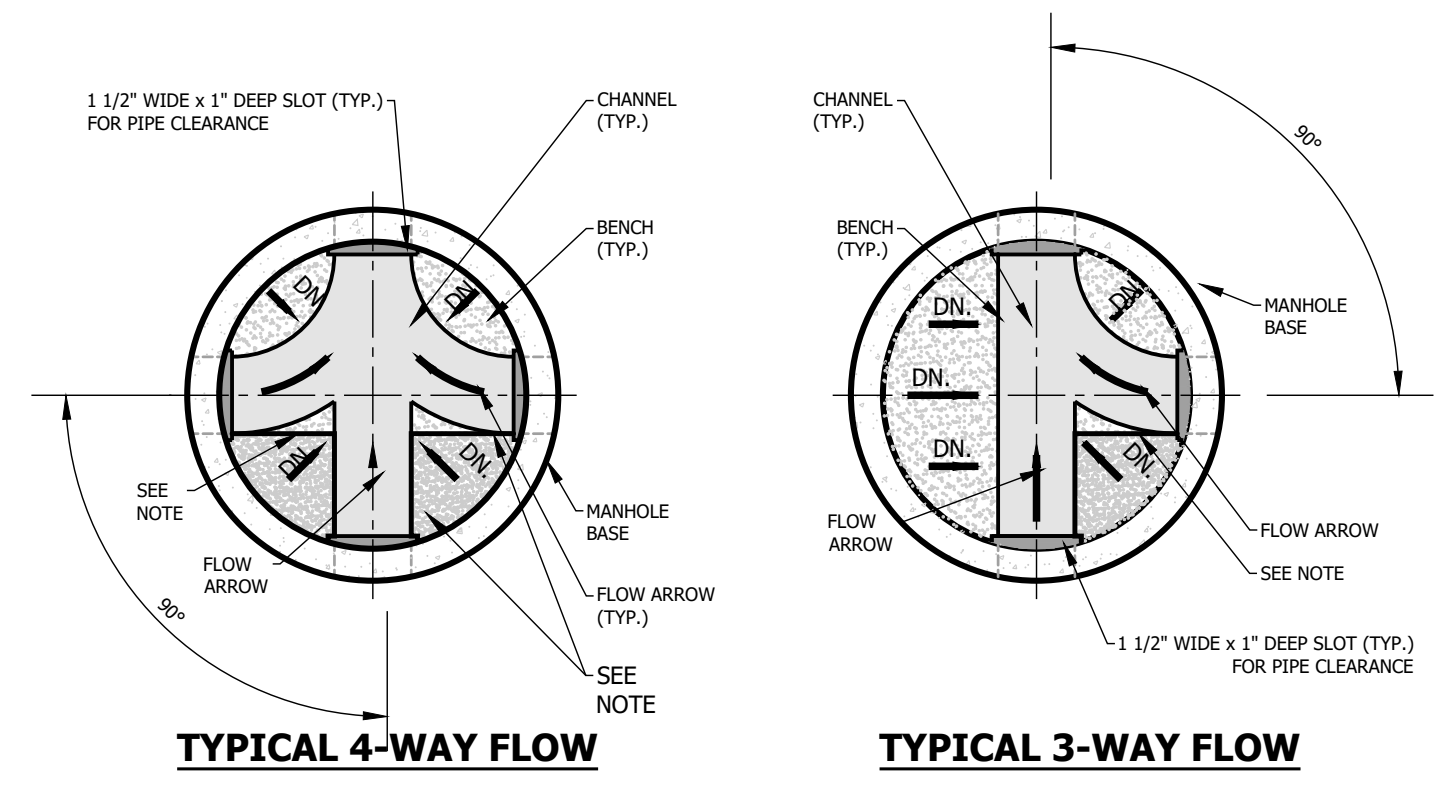
WW-18 - NEW PIPE CONNECTION TO EXISTING MANHOLE

SCALE: N.T.S.



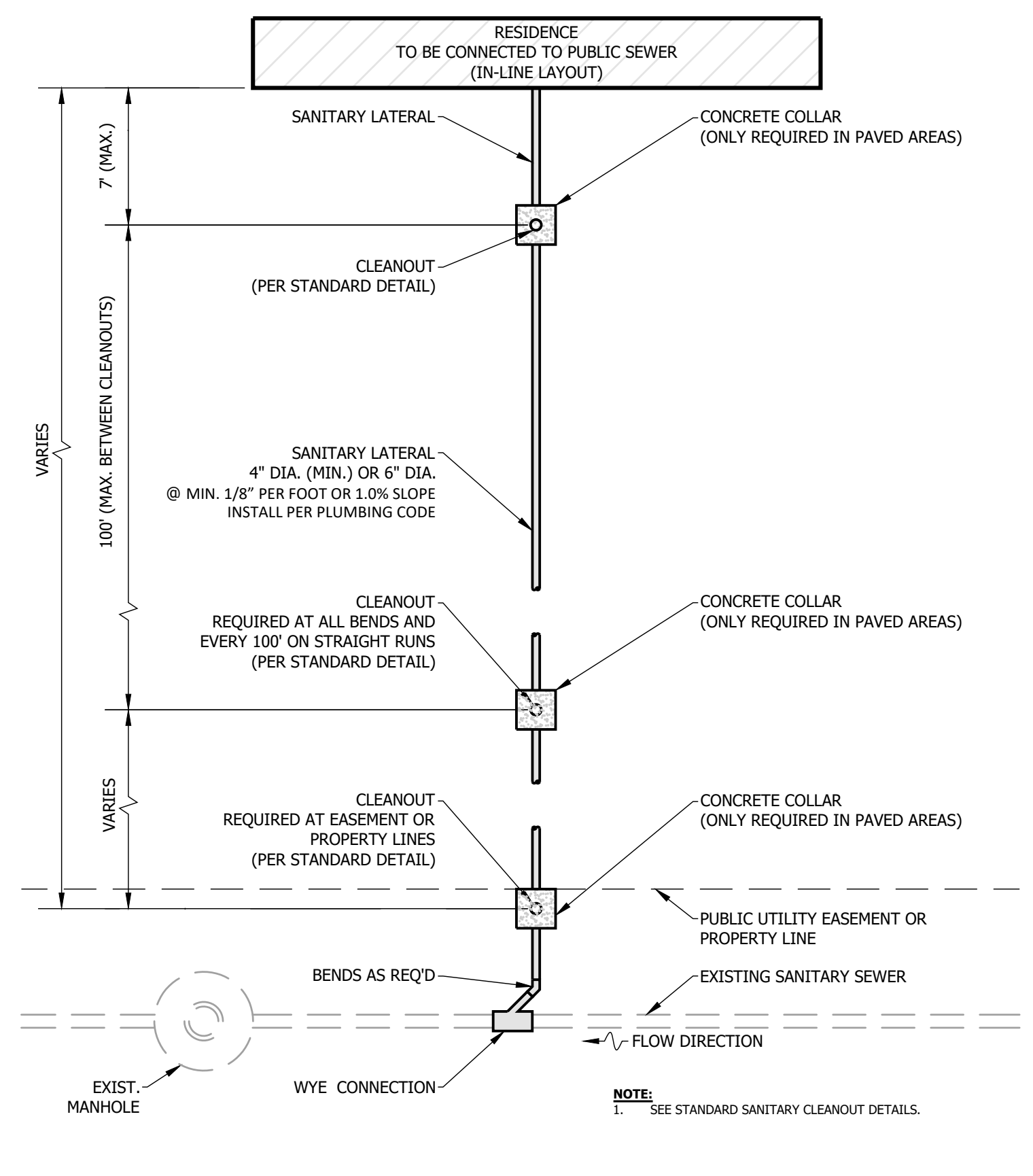
WW-19 - CORE EXISTING MANHOLE FOR NEW TAP

SCALE: N.T.S.



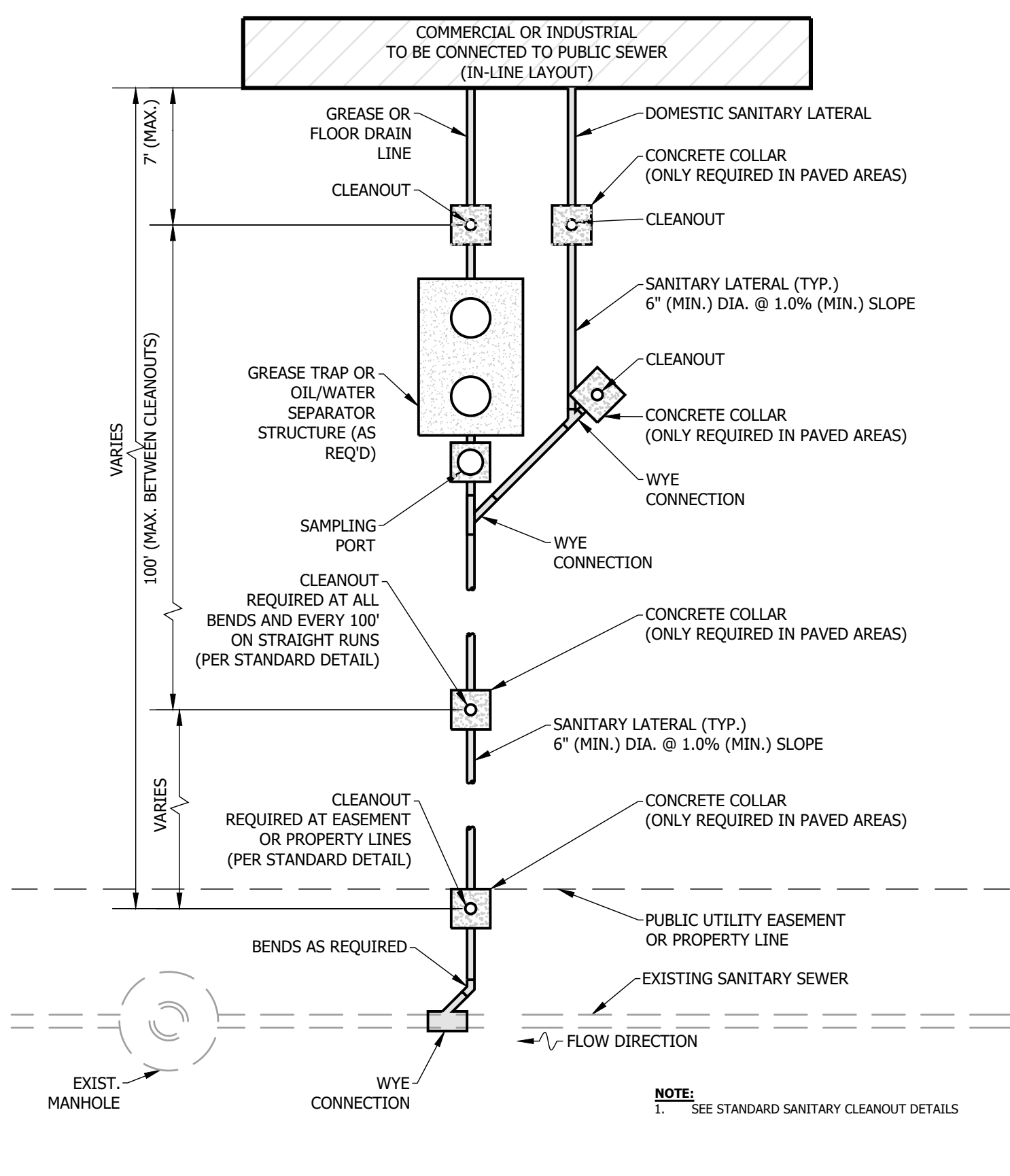
WW-20 - STANDARD MANHOLE BENCHES AND CHANNELS

SCALE: N.T.S.



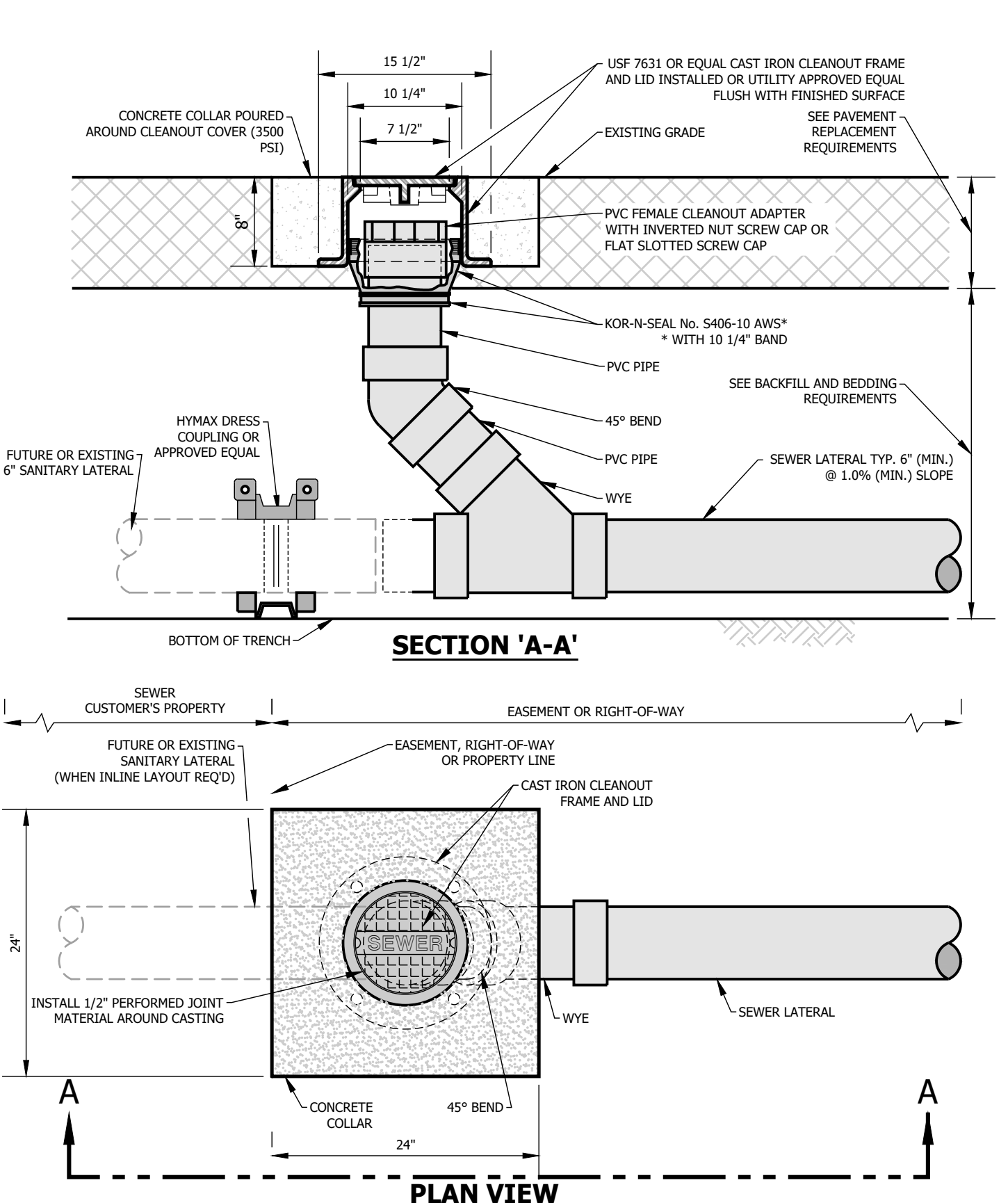
WW-21 - LATERAL SEWER CONNECTION LAYOUT (RESIDENTIAL)

SCALE: N.T.S.



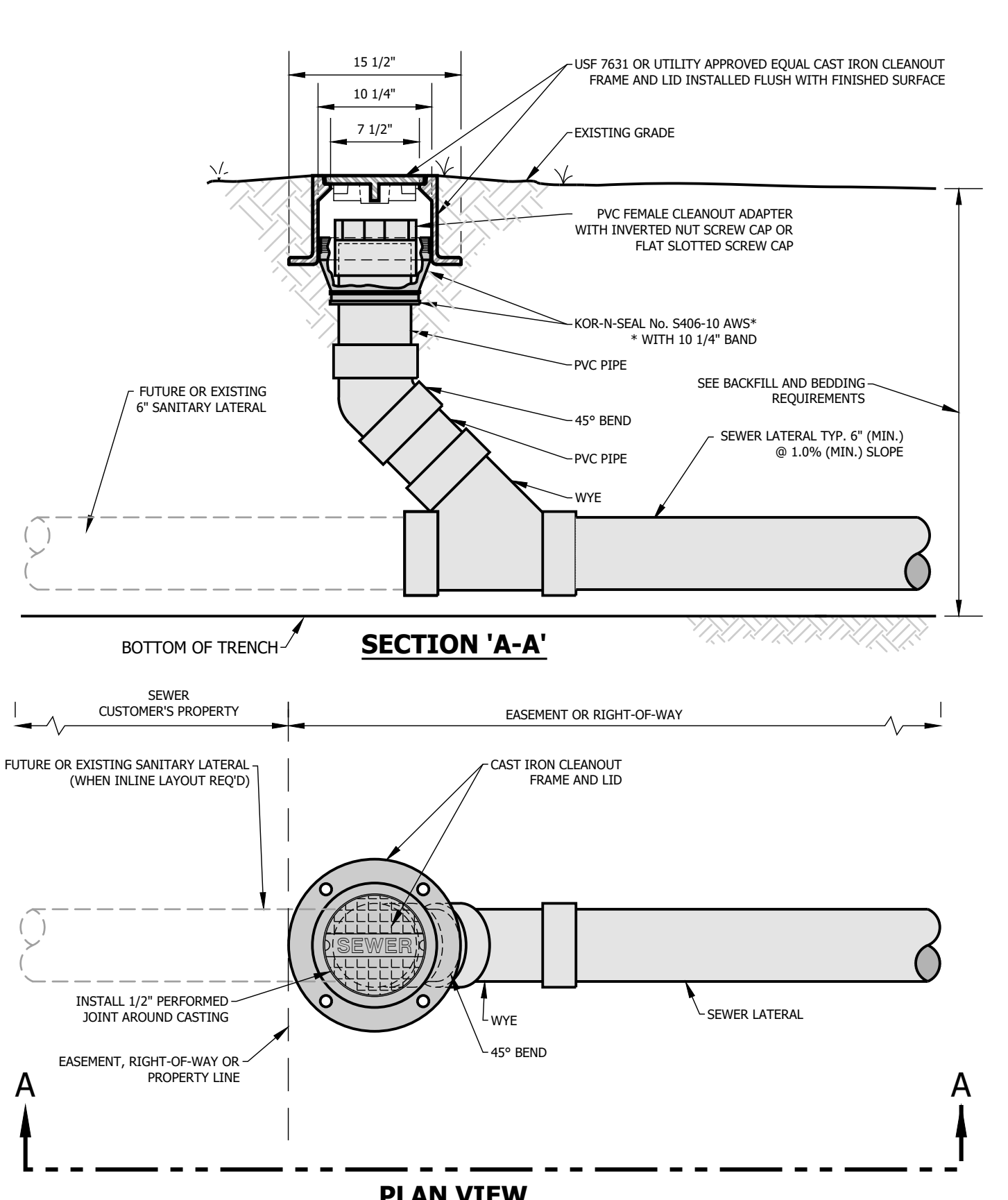
WW-22 - LATERAL SEWER CONNECTION LAYOUT (COMMERCIAL)

SCALE: N.T.S.



WW-23 - STANDARD SANITARY CLEANOUT IN PAVED AREAS

SCALE: N.T.S.



WW-24 - STANDARD SANITARY CLEANOUT IN UN-PAVED AREAS

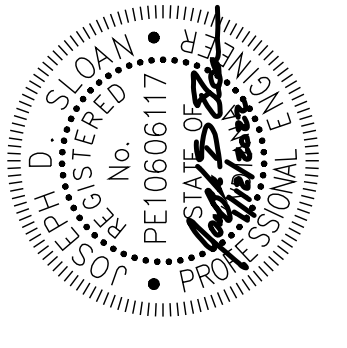
SCALE: N.T.S.

Date: Feb 09, 2022, 12:05pm User Name: T.Rutherford File: S:\113-0170\WRI\CAD\Plans\Details Proposed by LCI\Sanitary Sewer\24x36 Detail Sheets\Updated 2022-02-09\WW-01 through WW-43.dwg

APPROVED:	01/12/2022	APPROVED:	01/18/2022
APPROVED BY:	J.D.S.	APPROVED BY:	N.T.S.
FIGURES:	WW-17 THROUGH WW-24	TITLE:	DIRECTOR, ENGINEERING SERVICES

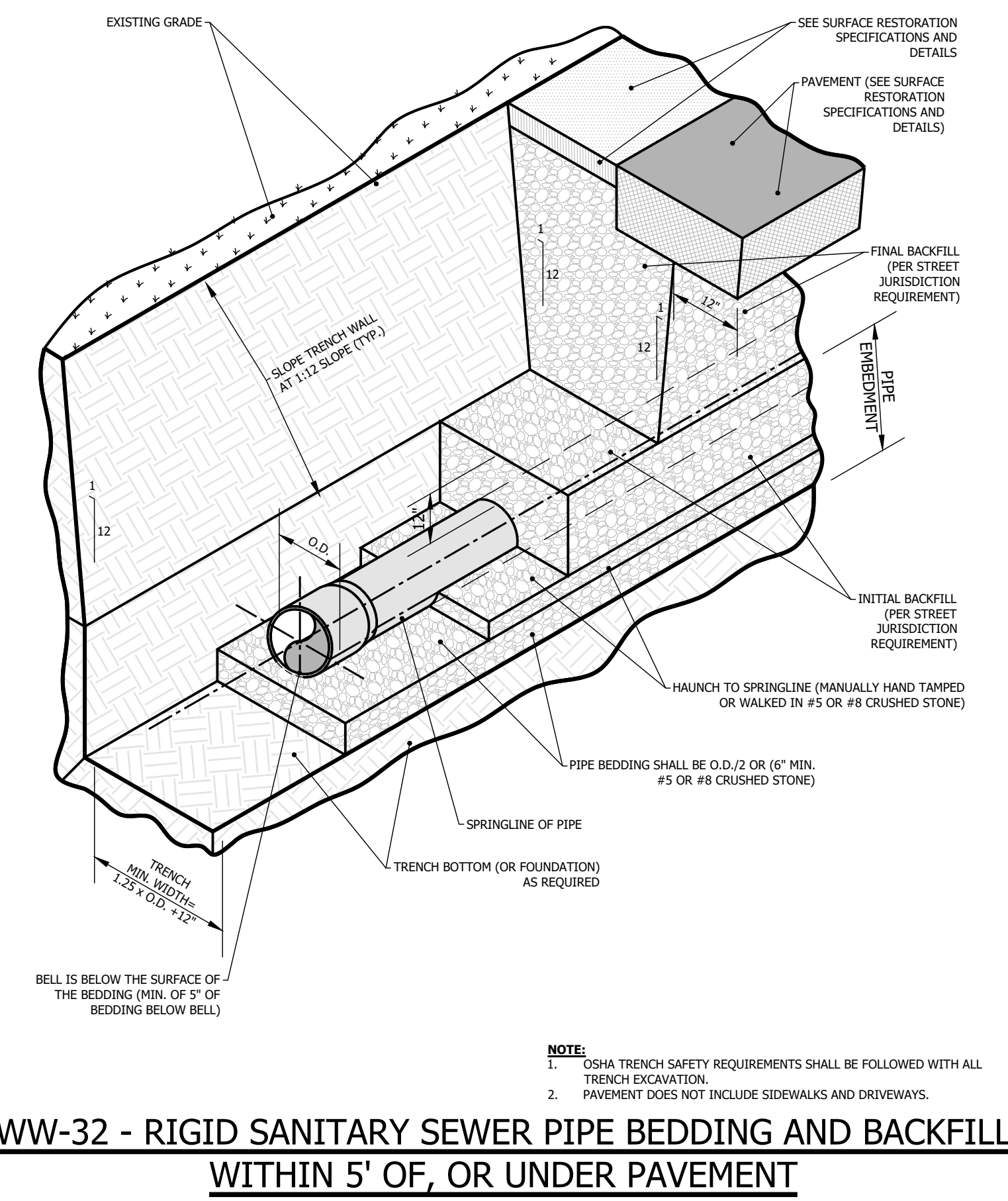
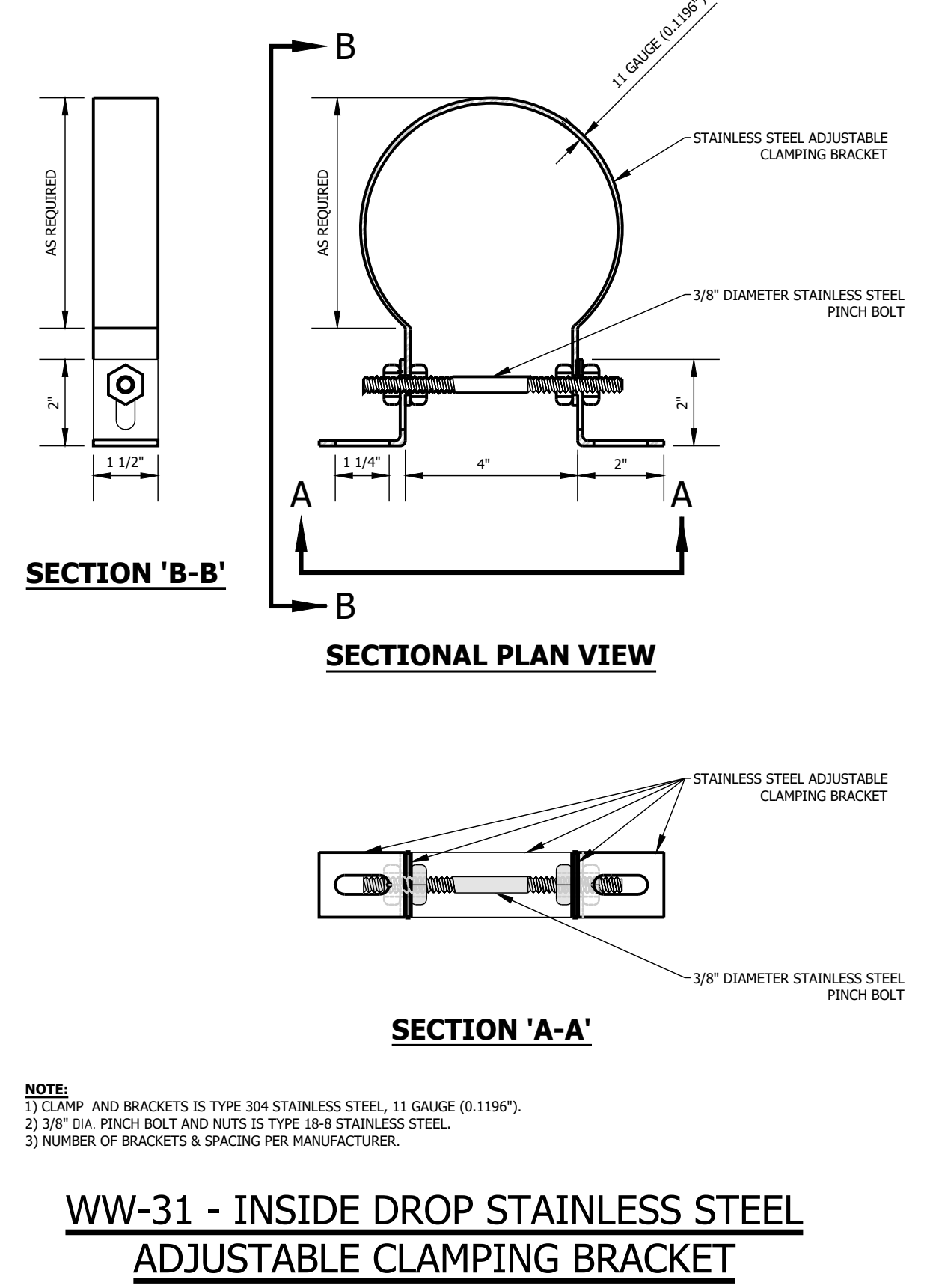
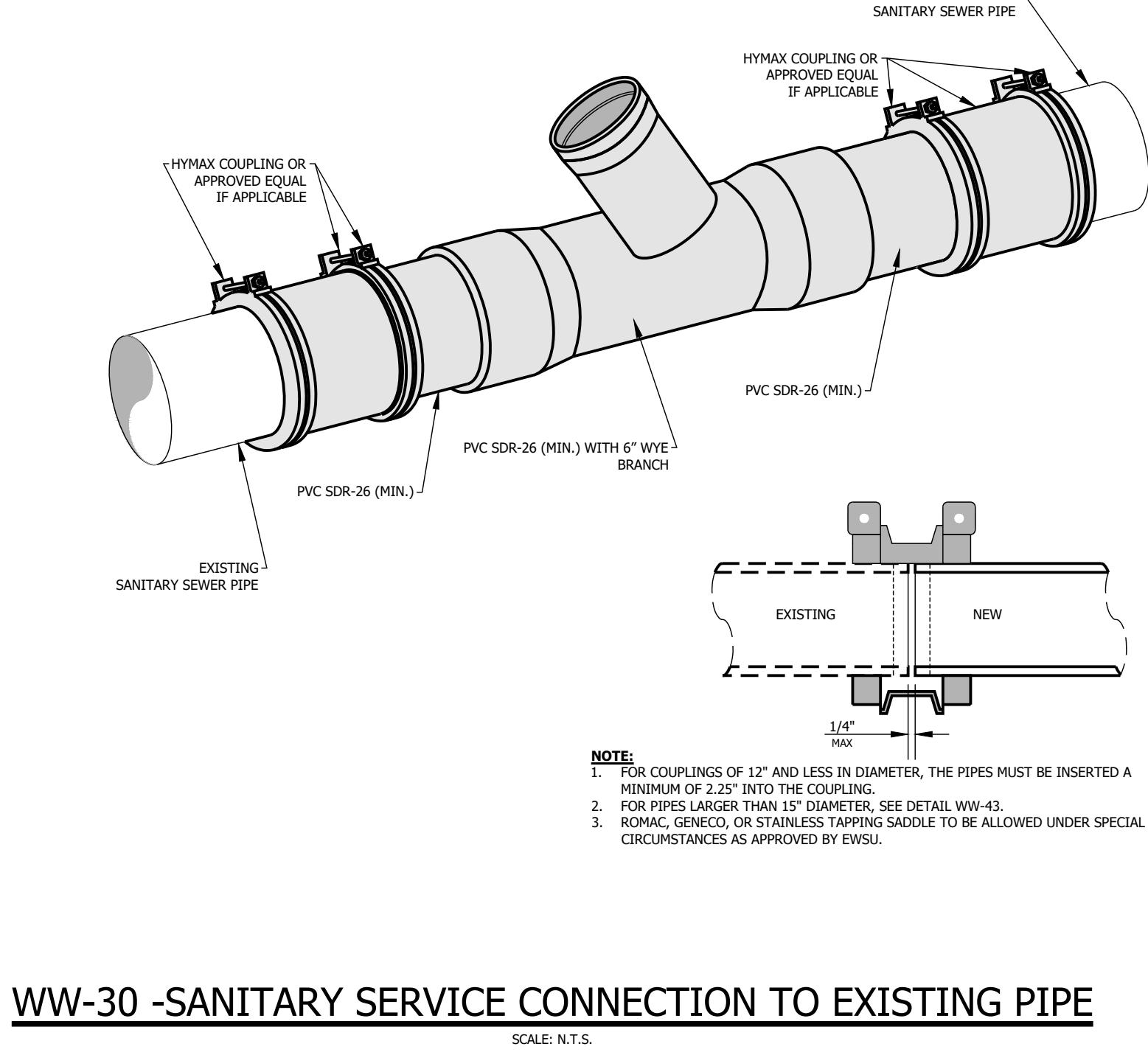
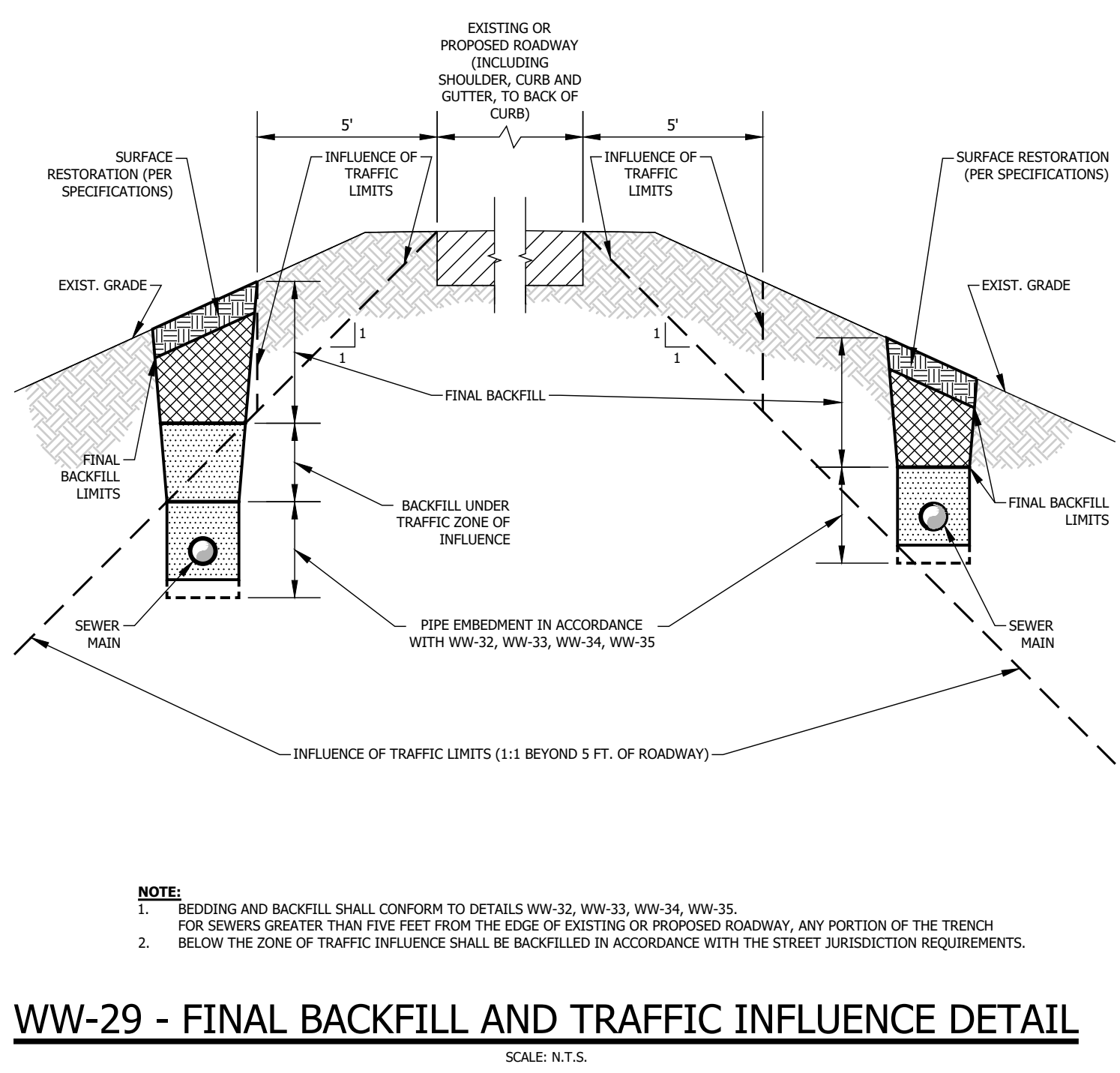
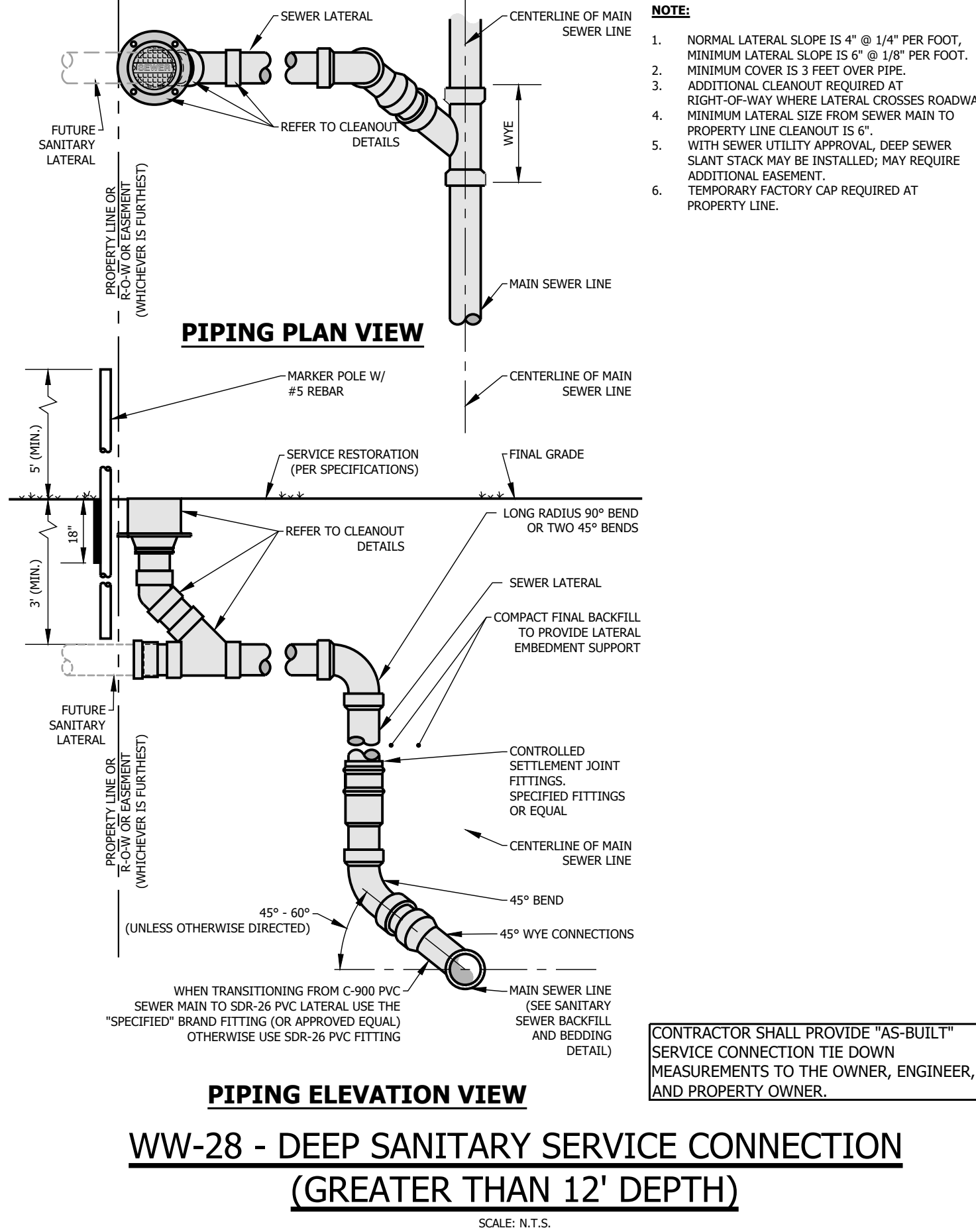
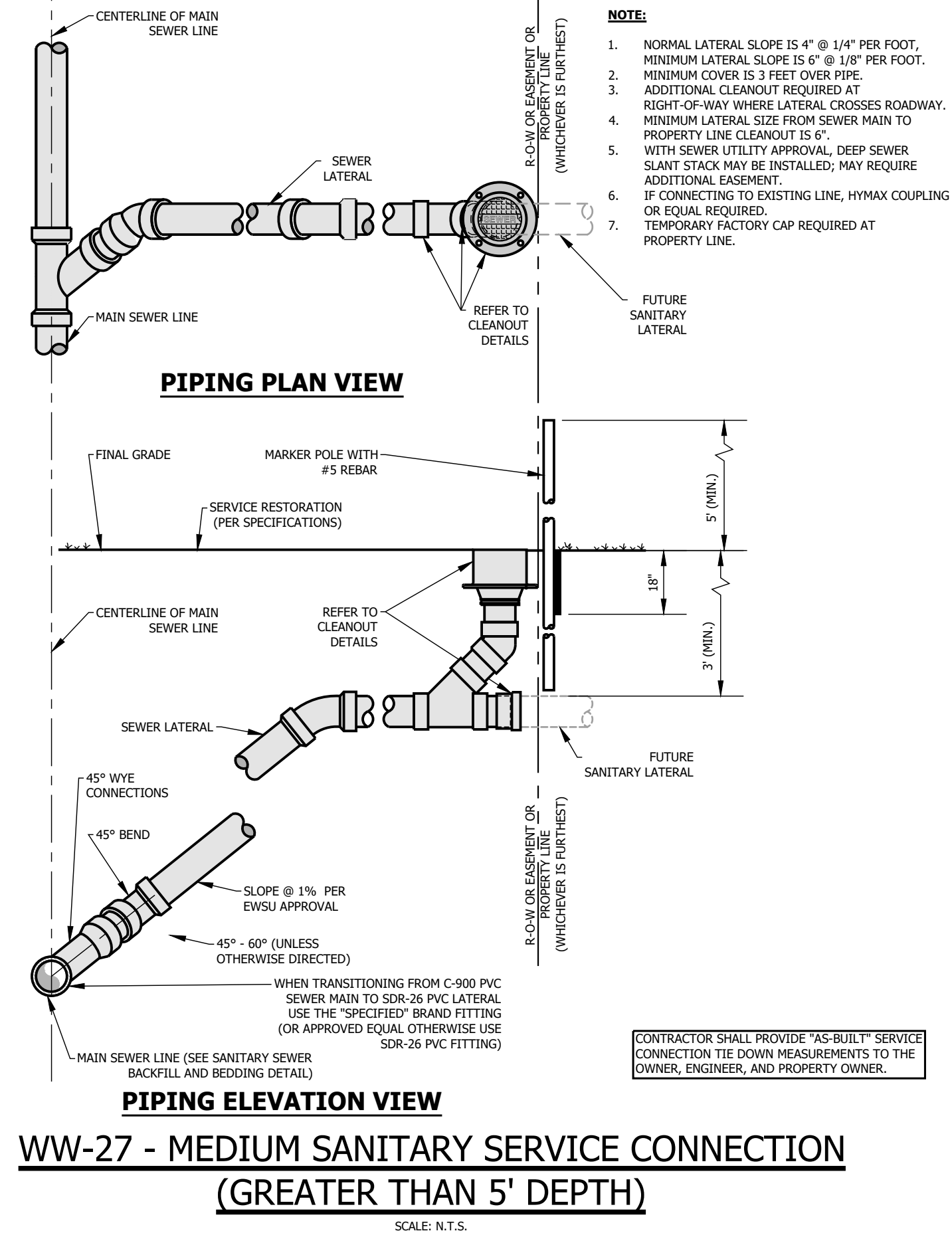
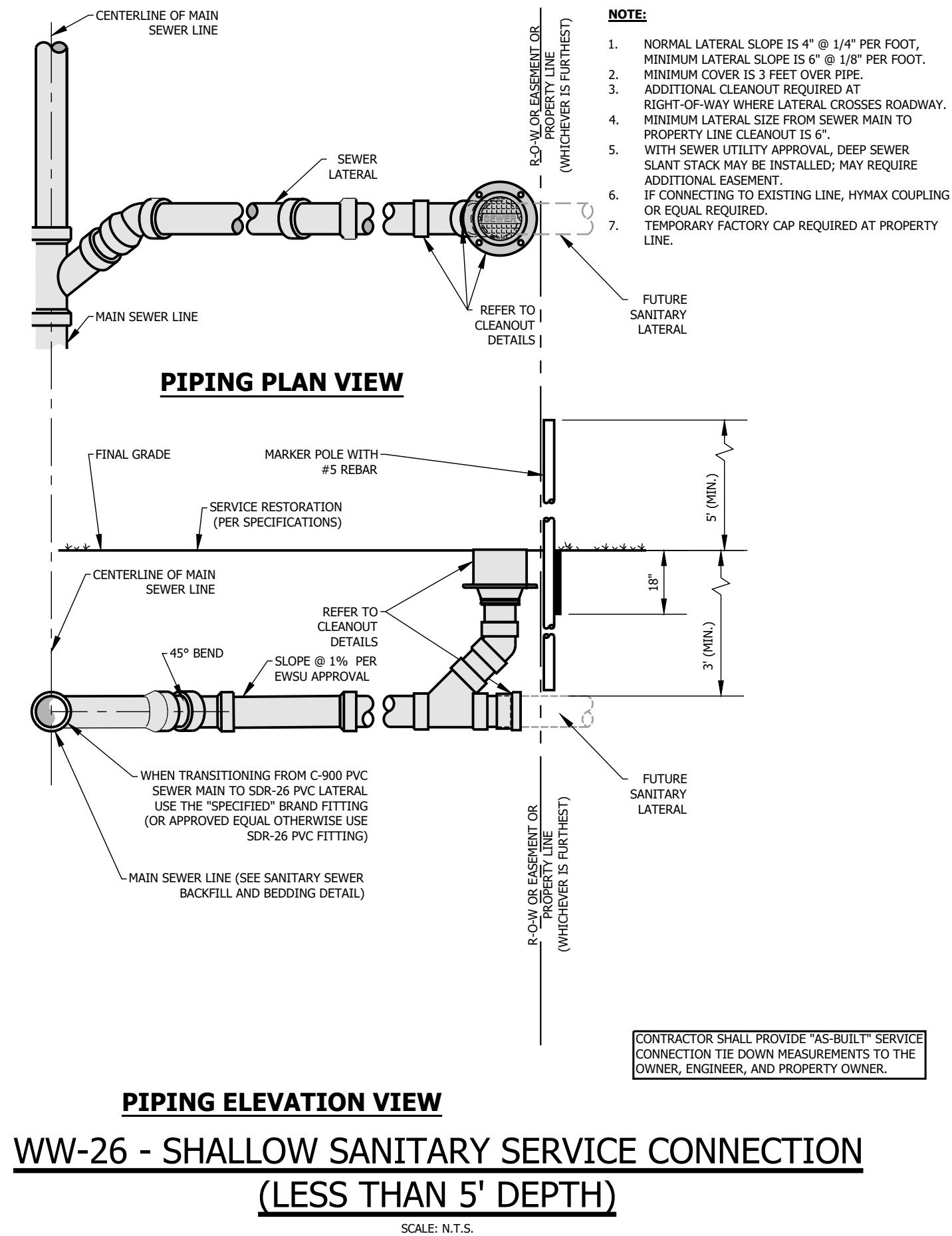
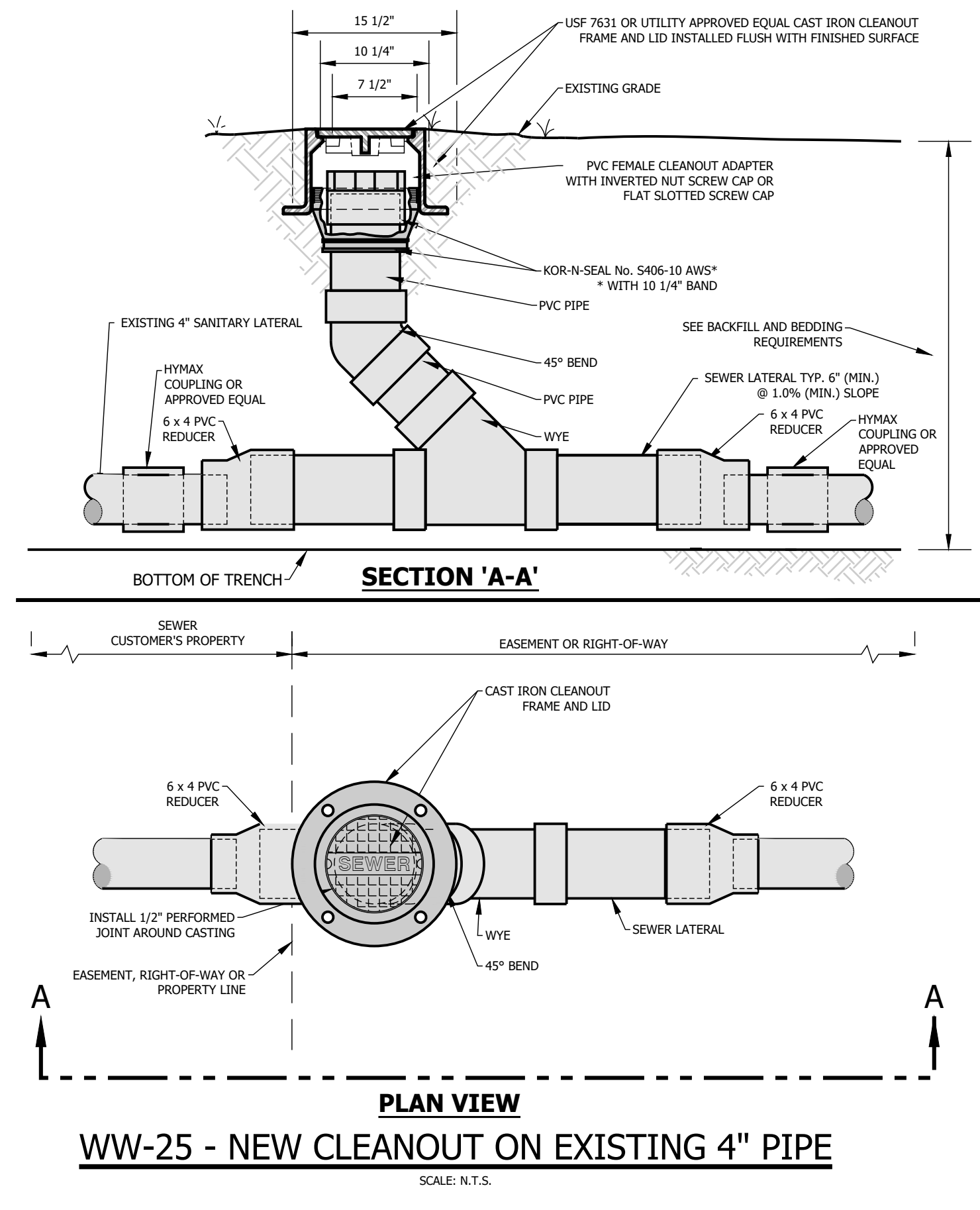
EVANSVILLE WATER AND SEWER UTILITY
 1 S.E. 9TH STREET SUITE 200 - Evansville, IN 47708 (812) 421-2120

STANDARD SANITARY SEWER DETAILS



REVISIONS	DATE	DESCRIPTION	APPROVED

DRAWING NO: -
 SHEET NO: **03**
 3 of 6



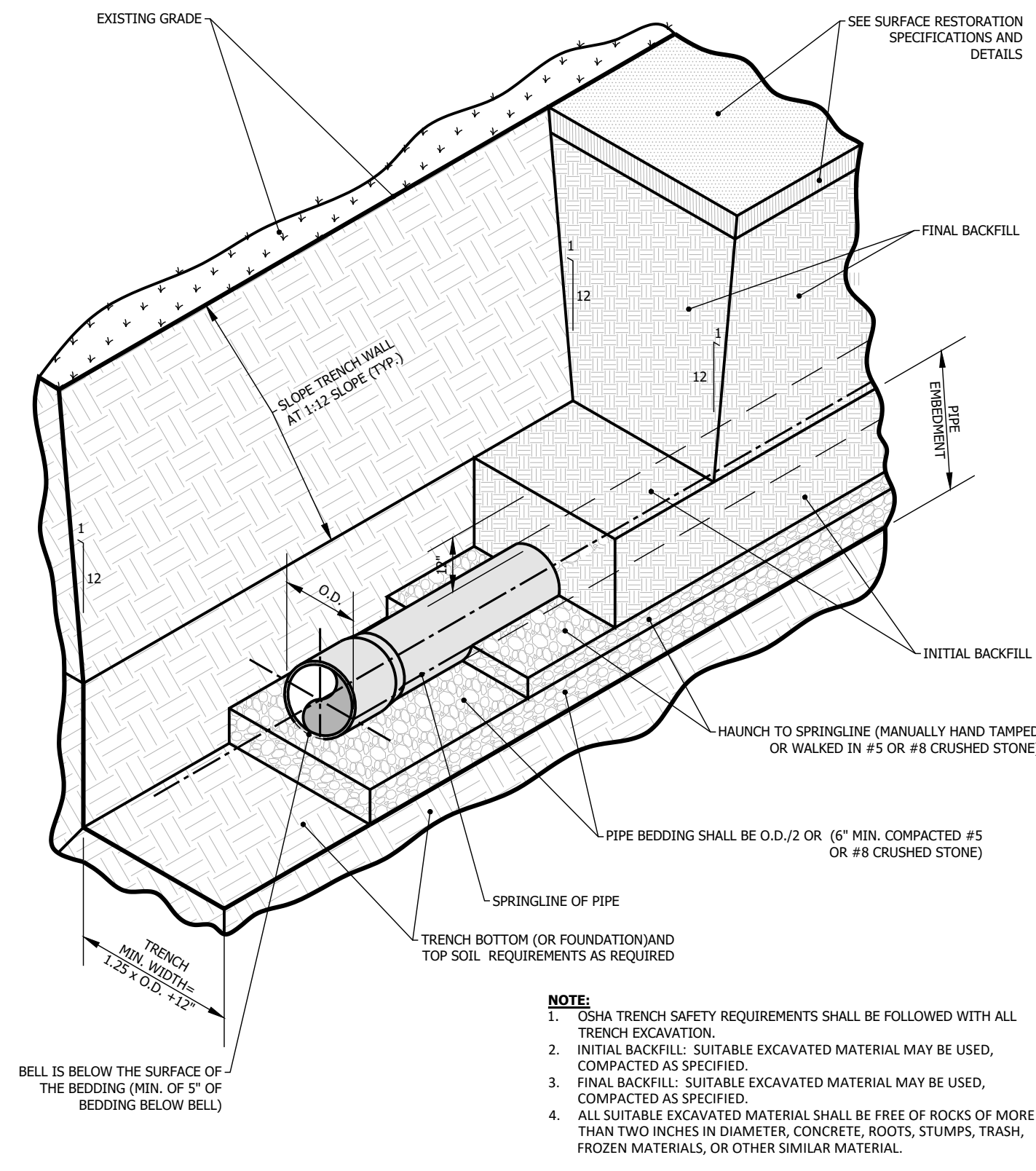
Date: Feb 09, 2022, 12:05pm User Name: T.Rutherford File: S:\113-0170\WRI\CAD\Plans\Details Proposed by L.G\Sanitary Sewer\242636 Detail Sheets\Updated 2022-02-09\WW-01 through WW-43.dwg

APPROVED:	01/12/2022	APPROVED:	01/18/2022
APPROVED BY:	J.D.S.	SCALE:	N.T.S.
FIGURES:	WW-25 THROUGH WW-32	TITLE:	STANDARD SANITARY SEWER DETAILS
APPROVED:	<i>[Signature]</i>	TITLE:	DIRECTOR, ENGINEERING SERVICES
DATE:		DRAWING NO.:	
REVISIONS:		SHEET NO.:	04
DESCRIPTION:			4 of 6

EVANSVILLE WATER AND SEWER UTILITY
1 S.E. 9TH STREET SUITE 200 - Evansville, IN 47708 (812) 421-2120

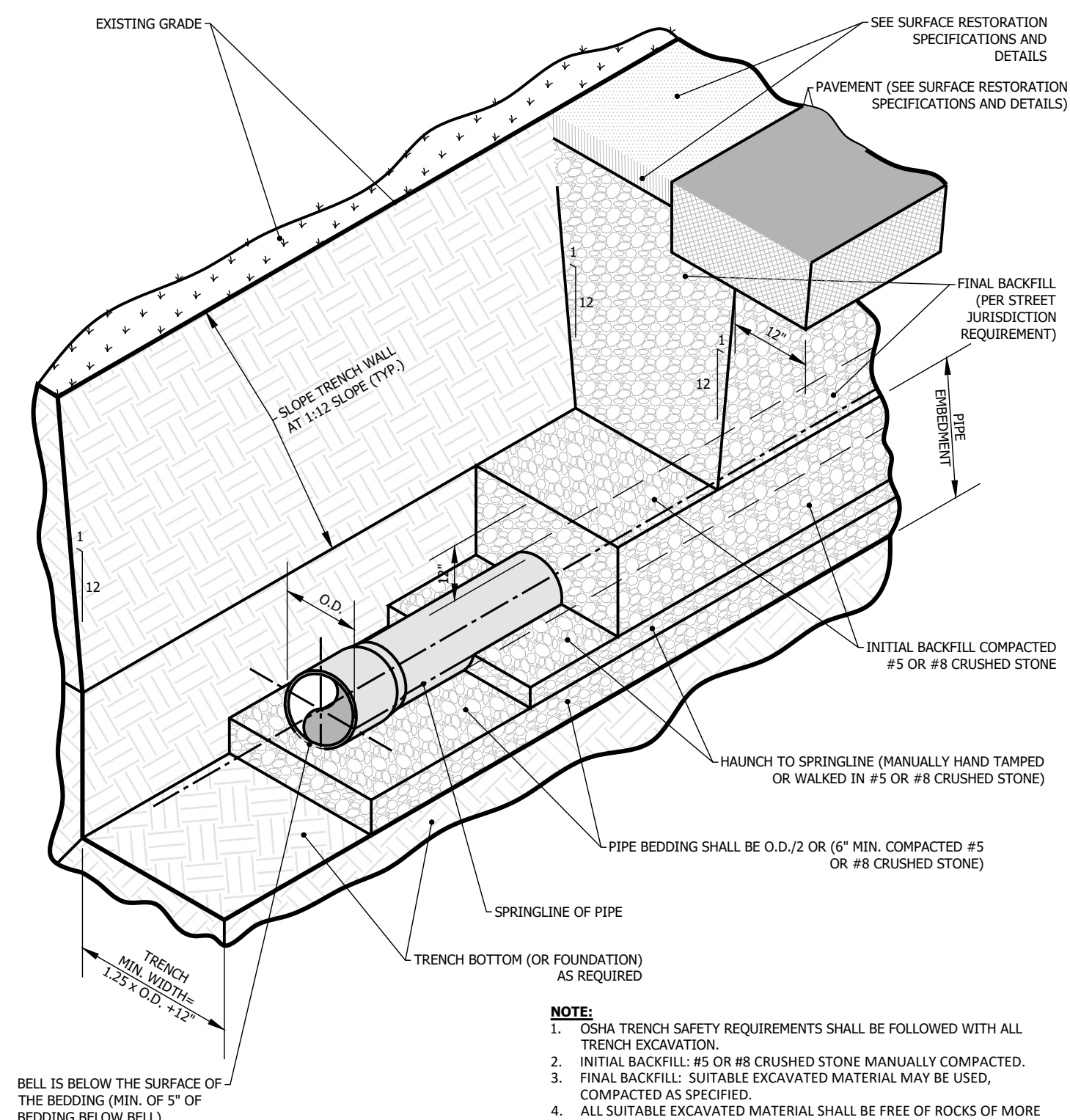
Evansville
Water and Sewer Utility

PROFESSIONAL ENGINEER
No. 1060611
EXPIRES 12/31/2024



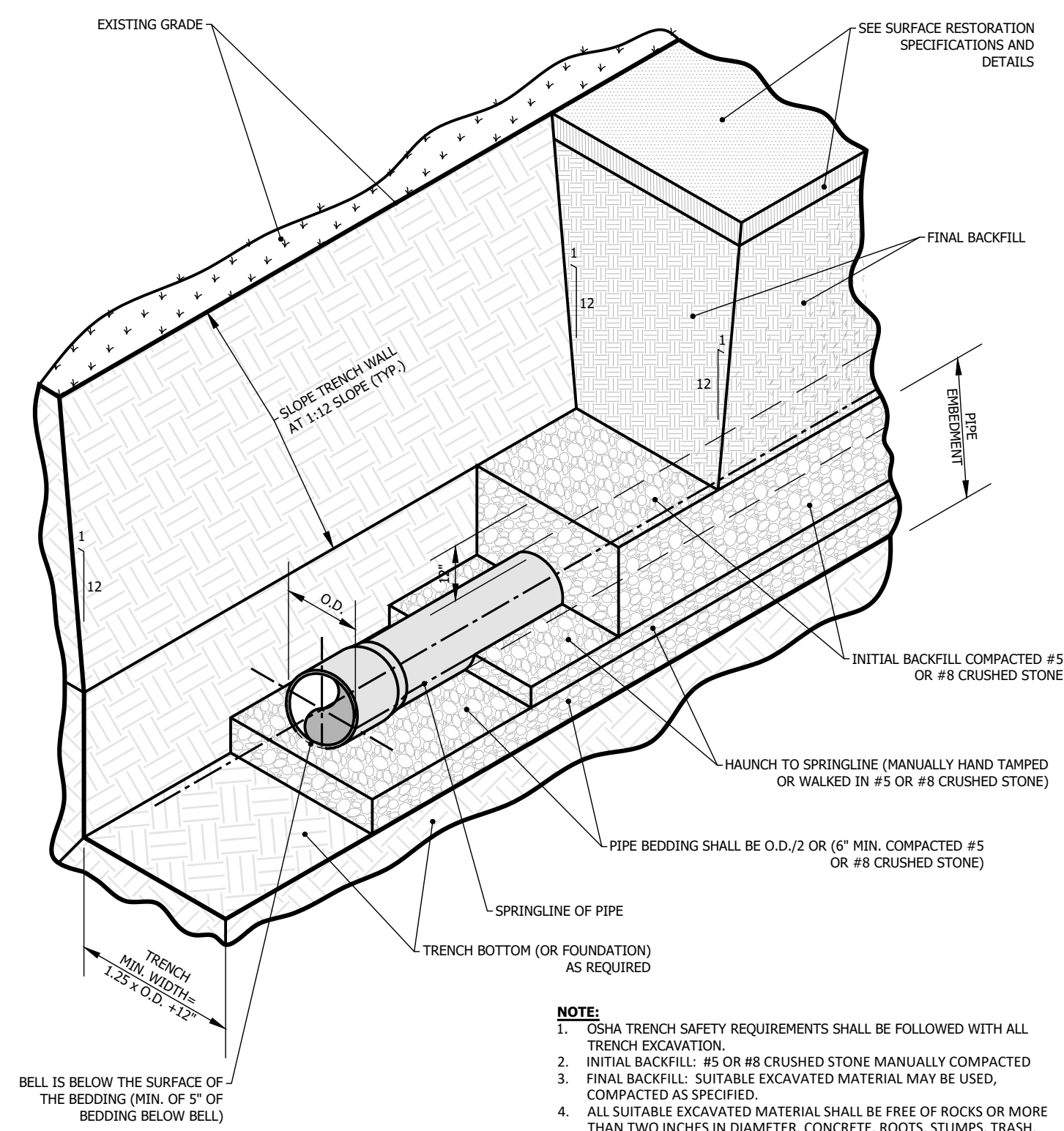
WW-33 - RIGID SANITARY SEWER PIPE BEDDING AND BACKFILL MORE THAN 5' FROM PAVEMENT

SCALE: N.T.S.



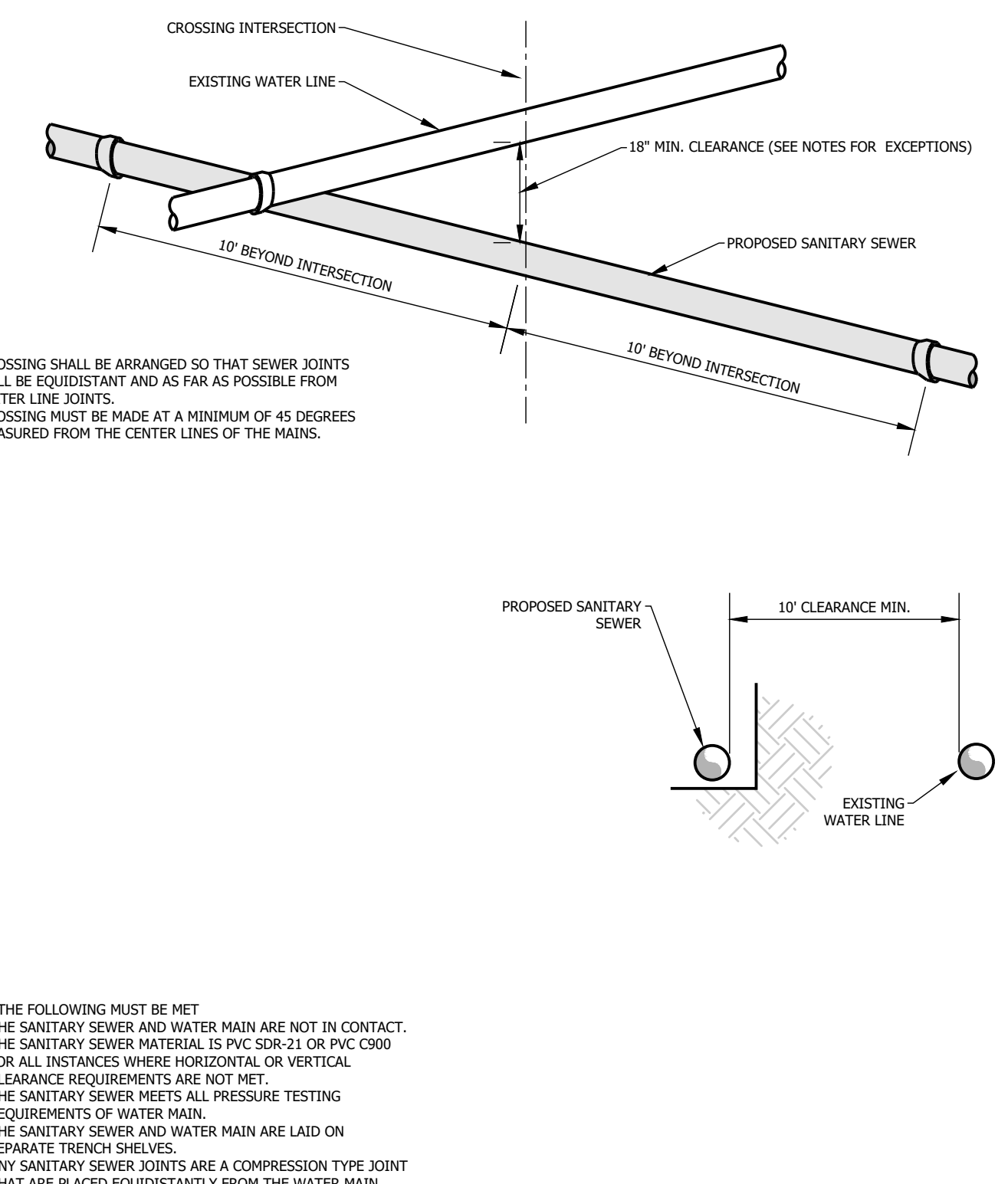
WW-34 - NON-RIGID SANITARY SEWER PIPE BEDDING AND BACKFILL WITHIN 5' OF, OR UNDER PAVEMENT

SCALE: N.T.S.



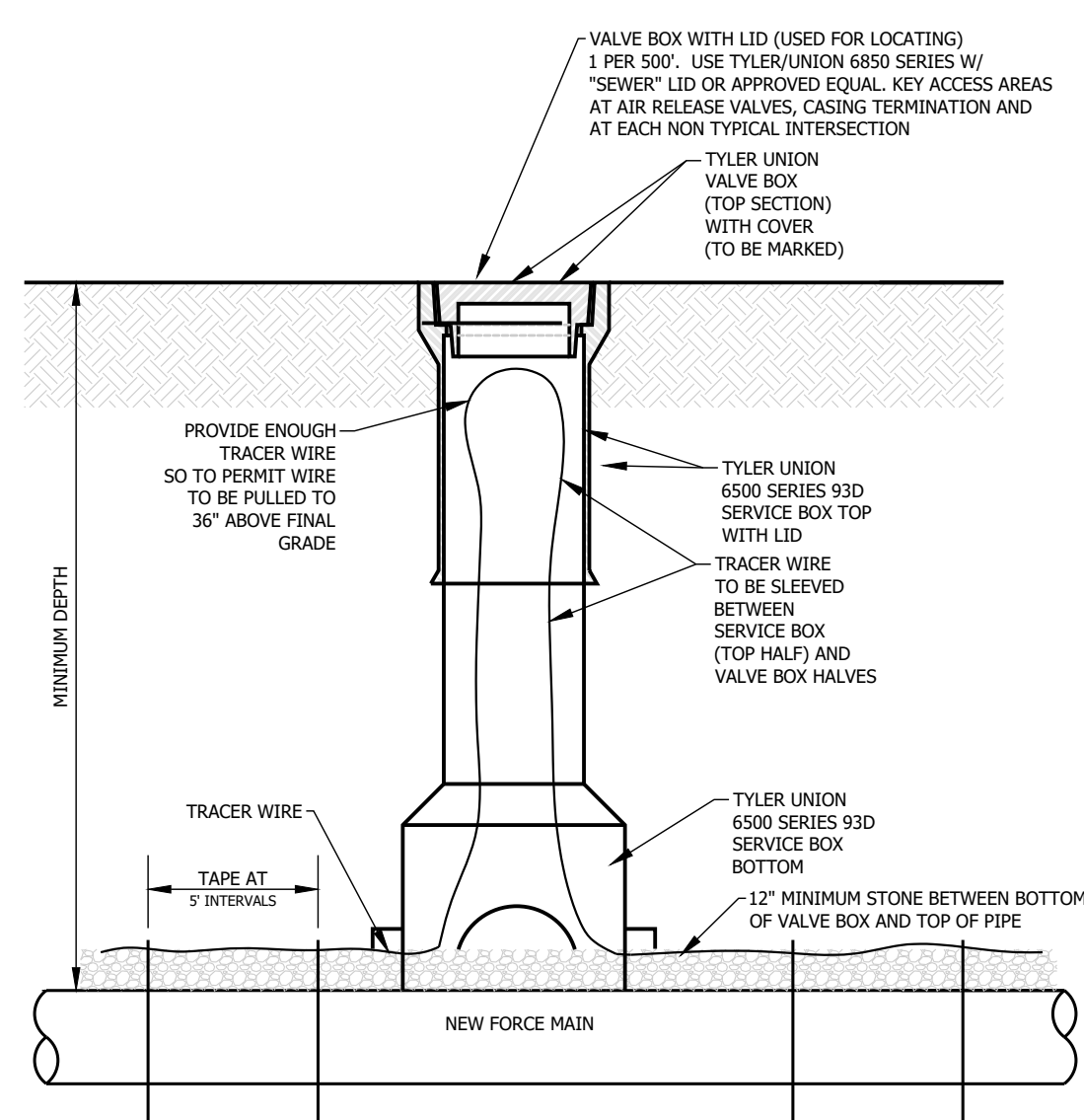
WW-35 - NON-RIGID SANITARY SEWER PIPE BEDDING AND BACKFILL MORE THAN 5' FROM PAVEMENT

SCALE: N.T.S.



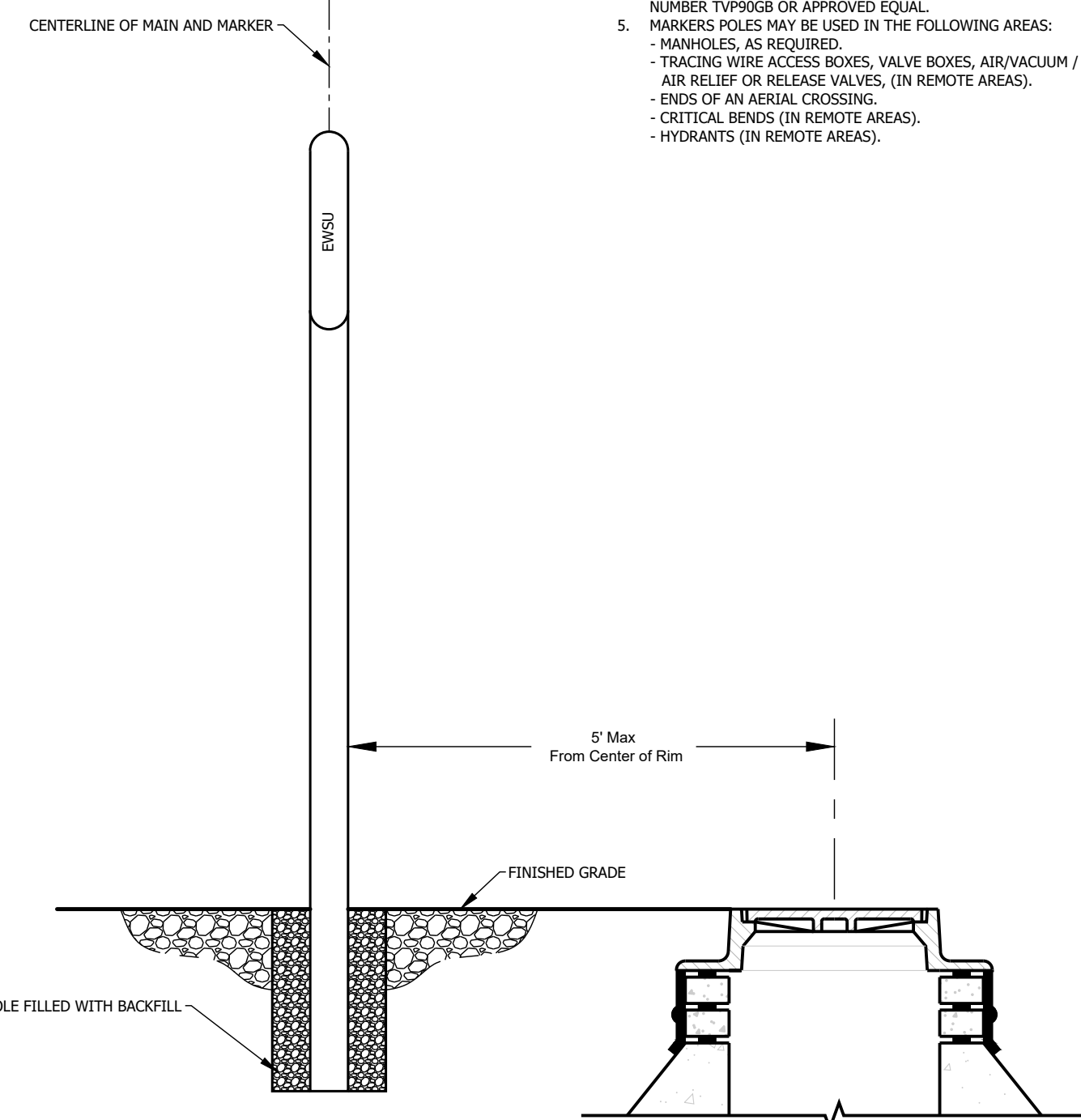
WW-36 - PROPOSED SANITARY SEWER AND EXISTING WATER LINE CROSSING

SCALE: N.T.S.



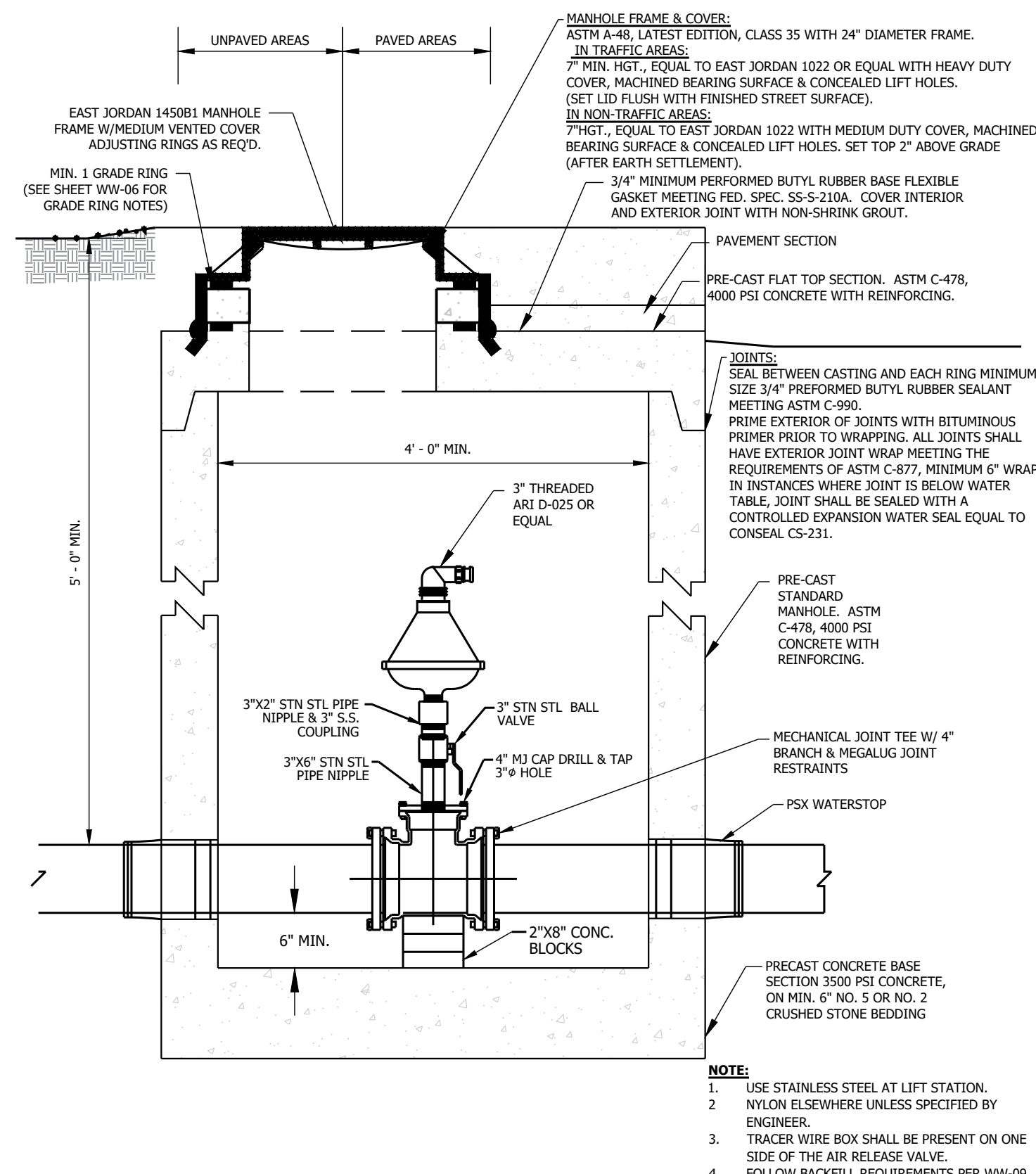
WW-37 - FORCE MAIN TRACER WIRE BOX

SCALE: N.T.S.



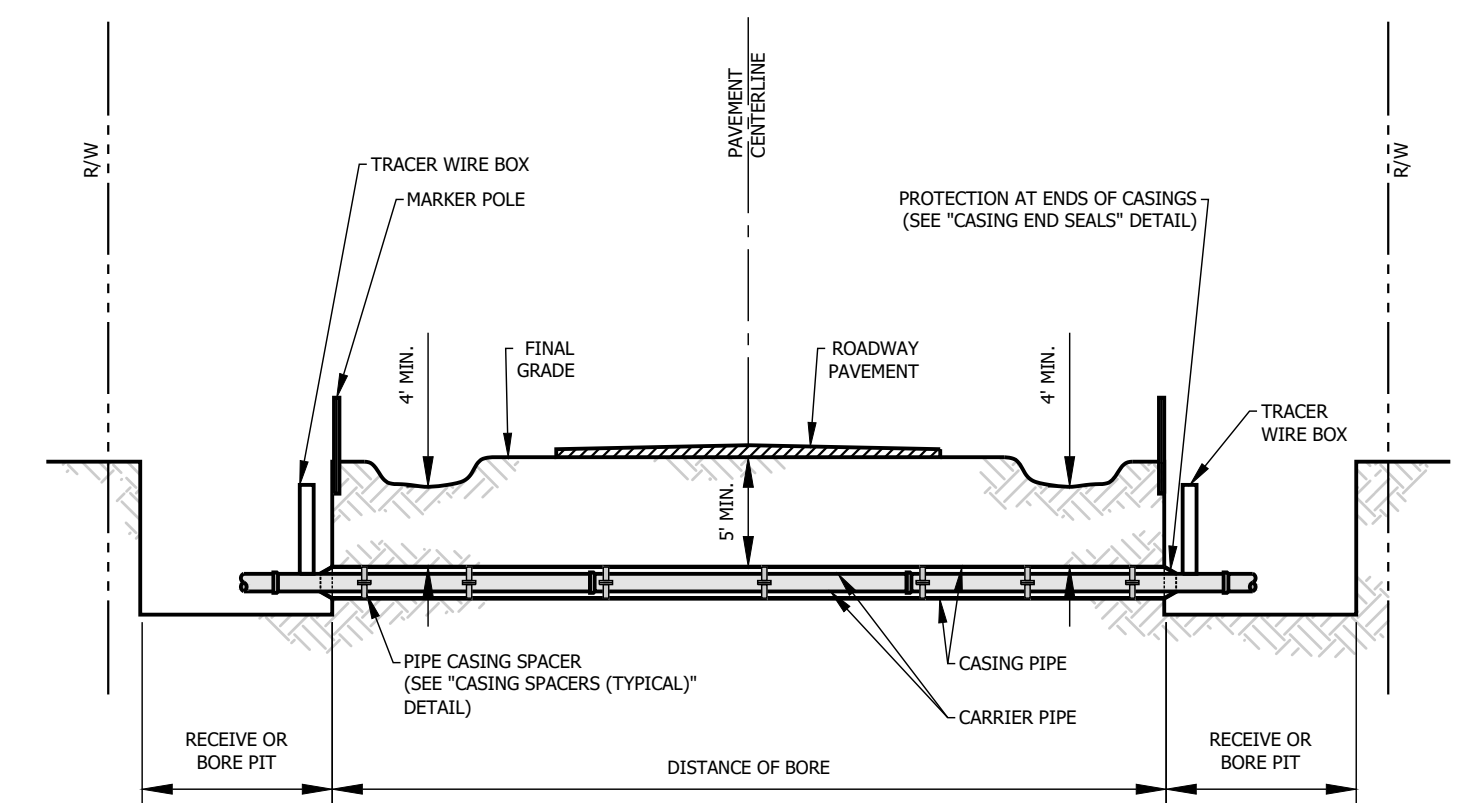
WW-38 - MARKER POLE FOR RURAL AREAS

SCALE: N.T.S.



WW-39 - SANITARY SEWER FORCE MAIN AIR RELEASE VALVE

SCALE: N.T.S.

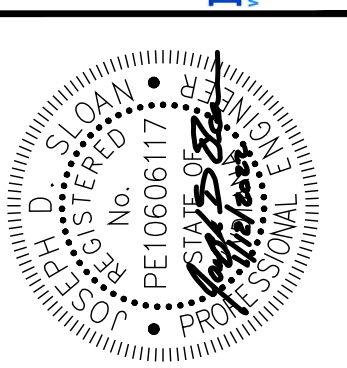


WW-40 - TYPICAL JACK AND BORE CASING PIPE

SCALE: N.T.S.

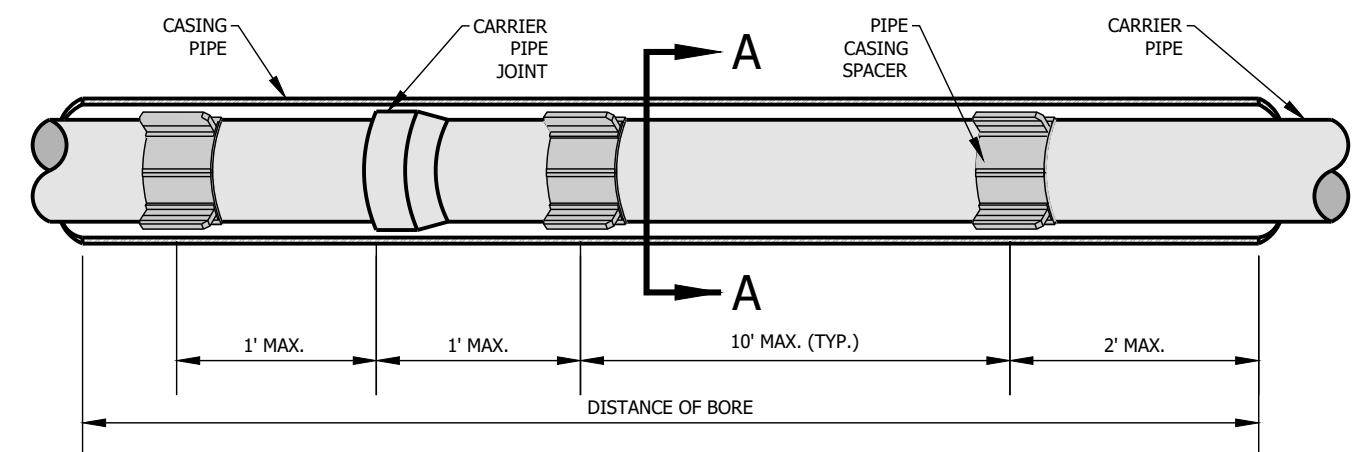
Date: Feb 09, 2022, 12:05pm User Name: T.Ruheford File: S:\113-0170\WRI\CAD\Plans\Details Proposed by L.G.\Sanitary Sewer\24x36 Detail Sheets Updated 2022-02-04\WW-01 through WW-43.dwg

APPROVED:	01/12/2022	APPROVED:	01/18/2022
APPROVED BY:	J.D.S.	APPROVED BY:	N.T.S.
FIGURES:	WW-33 THROUGH WW-40	TITLE:	DIRECTOR, ENGINEERING SERVICES
EVANSVILLE WATER AND SEWER UTILITY		1 S.E. 9TH STREET SUITE 200 - Evansville, IN 47708 (812) 421-2120	
STANDARD SANITARY SEWER DETAILS			



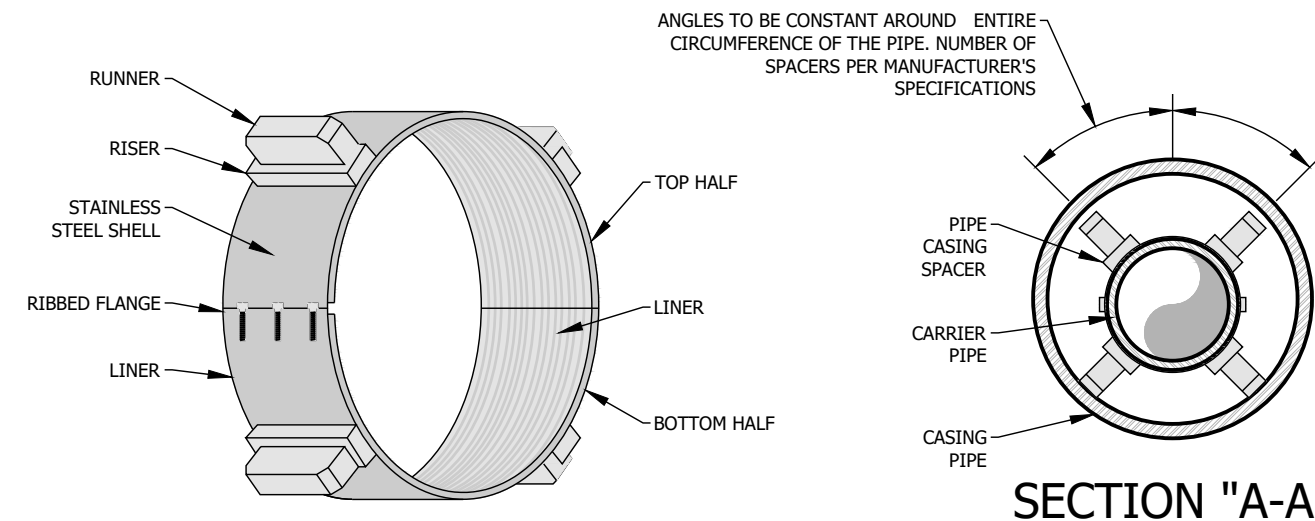
REVISIONS	DESCRIPTION	DATE
APPROVED		

DRAWING NO:	-
SHEET NO:	05
	5 of 6



CARRIER PIPE MIN. THICKNESS		
PIPE SIZE	CASING	THICKNESS
6"	16"	1/4"
8"	18"	1/4"
10"	20"	5/16"
12"	24"	3/8"
16"	30"	1/2"
20"	36"	1/2"
24"	42"	9/16"

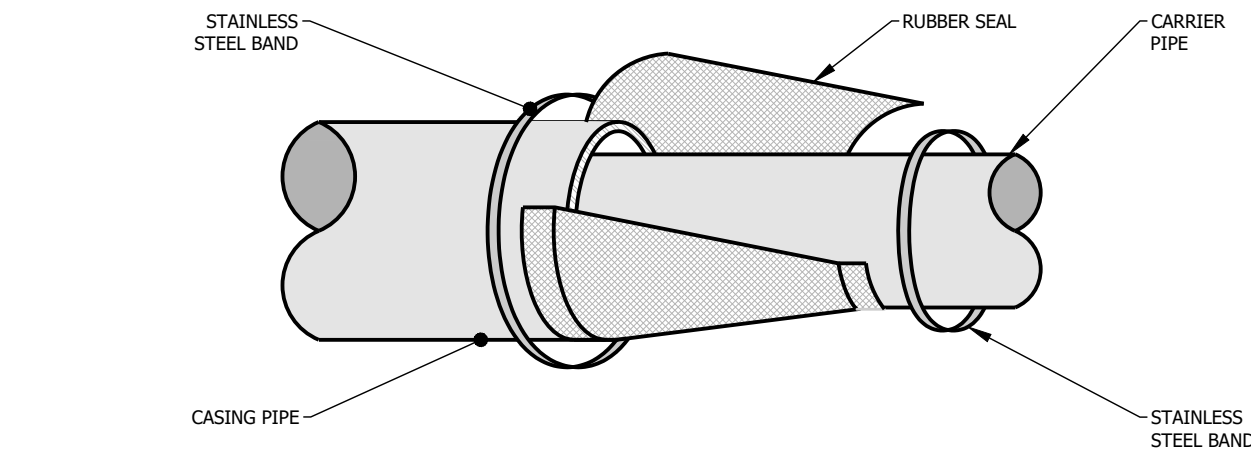
* UNLESS OTHERWISE REQUIRED BY I.N.D.O.T., RAILROAD OR OTHER SUCH GOVERNING AUTHORITY.



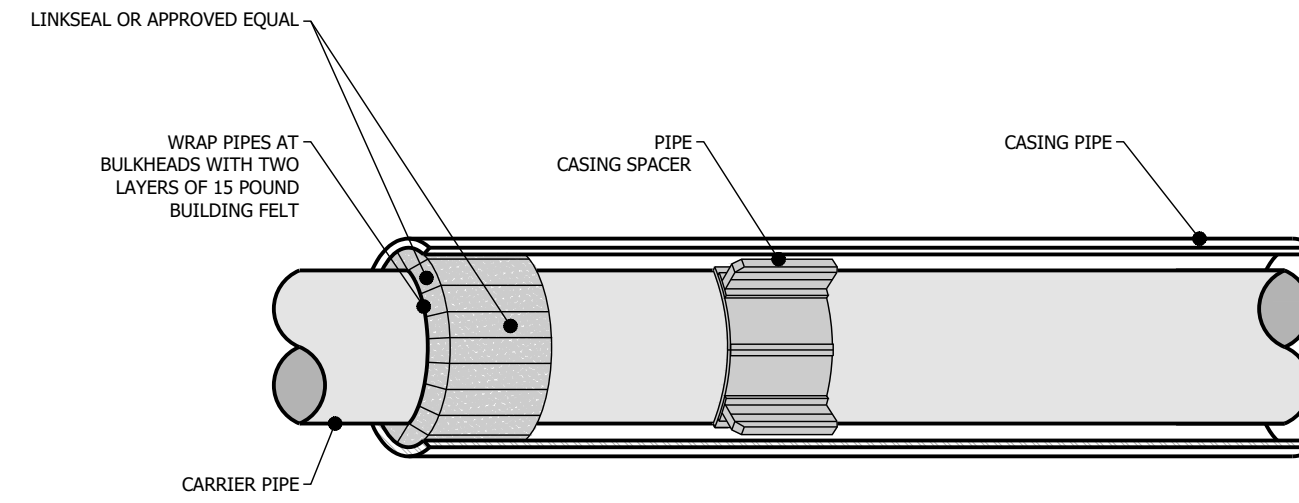
ANGLES TO BE CONSTANT AROUND ENTIRE CIRCUMFERENCE OF THE PIPE. NUMBER OF SPACERS PER MANUFACTURER'S SPECIFICATIONS

NOTE:
 1. CASING SPACERS SHALL BE CCS SERIES BY CASCADE WATERWORKS MFG. OR APPROVED EQUAL. ALTERNATE CASING SPACERS MAY BE USED WITH PRIOR APPROVAL FROM CITY UTILITIES PROJECT ENGINEER.
 2. CITY UTILITIES APPROVED CASING SPACERS AND END SEALS SHALL BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS. USE A "CENTERED" CONFIGURATION AND PROVIDE THE MANUFACTURER WITH THE FOLLOWING INFORMATION: CARRIER PIPE O.D., CASING PIPE I.D., AND CASING LENGTH.

WW-41 - TYPICAL CASING SPACERS
SCALE: N.T.S.



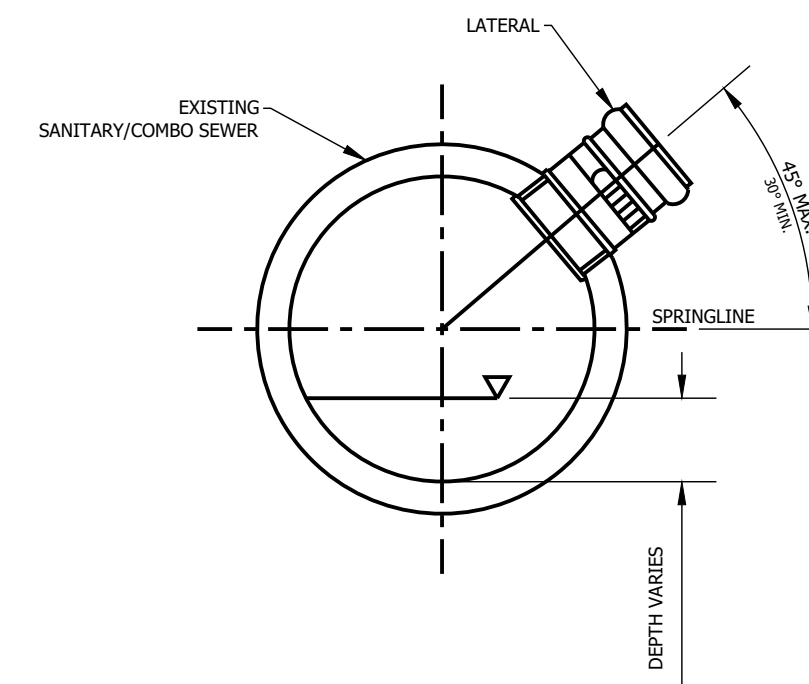
METHOD 'A'



METHOD 'B'

NOTE:
 1. THIS STANDARD IS APPLICABLE FOR 4" DIAMETER AND LARGER CARRIER PIPE.

WW-42 - TYPICAL CASING END SEALS
SCALE: N.T.S.



NOTE:
 1. TO BE USED ON 15" PIPE OR LARGER.
 2. SADDLE TAP SHALL BE KOR-N-TEE OR APPROVED EQUAL.
 3. LATERAL CONNECTIONS SHALL BE 6"-10".
 4. CORE BIT PER MANUFACTURER SPECIFICATION.
 5. HOPE AND PVC PRODUCT SHALL BE DETERMINED BY THE EWSU REVIEWER.

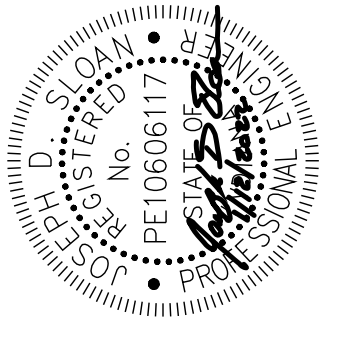
MATERIAL & DIAMETER OR PREFERRED PRODUCT MANUFACTURER AND JOB PROCESS			
	15"	18"	24"
RCP	INSERTA-TEE	INSERTA-TEE	INSERTA-TEE
HDPE	TBD	TBD	TBD
PVC	TBD	TBD	TBD
BRICK/GUNITE	TBD	TBD	KOR-N-TEE

WW-43 - MEDIUM/LARGE DIAMETER TAPPING SADDLE
SCALE: N.T.S.

Date: Feb 09, 2022, 12:05pm User Name: Trutherford
 File: S:\113-01\WRI\CAD\Plans\Details Proposed by LCI\Sanitary Sewer\24x36 Detail Sheets Updated 2022-02-09\WW-01 through WW-43.dwg

APPROVED: 01/12/2022
 APPROVED BY: J.D.S.
 FIGURES: WW-41 THROUGH WW-43
 APPROVED: 01/18/2022
 SCALE: N.T.S.
 APPROVED: [Signature]
 TITLE: DIRECTOR, ENGINEERING SERVICES DATE: 1/12/2022

EVANSVILLE WATER AND SEWER UTILITY
 1 S.E. 9TH STREET SUITE 200 - Evansville, IN 47708 (812)421-2120
STANDARD SANITARY SEWER DETAILS



DATE	REVISIONS DESCRIPTION	APPROVED

DRAWING NO: <PROJECT NO.>
 SHEET NO: **06**
 6 of 6