



ADDENDUM NO. 3
August 10, 2022

PROJECT: LTCP Projects 7 & 8: Northside Interceptor Sewer
OWNER: City of Huntington
ENGINEER: Lochmueller Group
Project No. 120-3003-02W

Acknowledgement of Receipt of Addendum No. 3

Send this page immediately to:
(No Cover Sheet Required)

Anthony Goodnight
Lochmueller Group

Email (Preferred):

agoodnight@lochgroup.com

Phone No.:

260-519-2823

From:

(Insert Company Name)

Signature

Date

Note:

**You must also acknowledge receipt of all addenda on the
Bid Proposal Form**



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THE FOLLOWING CHANGES, ADDITIONS AND CLARIFICATIONS ARE HEREBY MADE PART OF THE CONTRACT DOCUMENTS FOR THE ABOVE REFERENCED PROJECT AND SHALL BE TAKEN INTO ACCOUNT IN THE PREPARATION OF ALL PROPOSALS AND THE EXECUTION OF ALL WORK. WORK SHALL CONFORM TO THE REQUIREMENTS OF THE ORIGINAL CONTRACT DOCUMENTS AND ADDENDA WHEREVER THEY APPLY.

RECEIPT OF THIS ADDENDUM MUST BE ACKNOWLEDGED ON THE BID FORM

CLARIFICATIONS/RESPONSES TO CONTRACTOR QUESTIONS

CONTRACT INFORMATION AND PLANS

This addendum is being e-mailed to you, no hard copy will be mailed. It is imperative that you email the acknowledgement to Lochmueller Group, Inc. upon receipt of this document to acknowledge that it has been received. It is also important to acknowledge receipt of this Addendum on the bid form.



DATE: August 10, 2022

FROM: Lochmueller Group
7223 Engle Road, Suite 105
Fort Wayne, IN 46804

TO: Prospective Bidders

RE: **ADDENDUM No. 3** to the Bidding Documents for
Huntington, Indiana
LTCP Projects 7 & 8: Northside Interceptor Sewer
Lochmueller Group Project No. 120-3003-02W



This Addendum forms a part of the Contract Documents and modifies the original Bidding Documents as noted below. Please acknowledge receipt of the Addendum in the space provided in the Bid Form. Failure to do so may subject the Bidder to disqualification.

This **Addendum No. 3** consists of eighty-seven (87) pages, including attachments.

PROJECT MANUAL:

1. Section 00 31 14 (BID FORM)
REPLACE with Section 00 31 14, Rev. 3 (**Attachment A**). Note that there have been revisions to select quantities and line item names. Additional pay items have also been added.
2. Section 00 80 00 (SUPPLEMENTARY CONDITIONS)
REPLACE with Section 00 80 00, Rev. 1 (**Attachment A**).
3. Section 00 51 13 (AGREEMENT BETWEEN OWNER AND CONTRACTOR FOR CONSTRUCTION CONTRACT)
REPLACE with Section 00 51 13, Rev. 1 (**Attachment A**).
4. Section 00 51 16 (NOTICE TO PROCEED)
REPLACE with Section 00 51 16, Rev. 1 (**Attachment A**).
5. Section 01 02 50 (MEASUREMENT AND PAYMENT MISCELLANEOUS)
REPLACE with Section 01 02 50, Rev. 3 (**Attachment A**).
6. Section 31 23 18 (ROCK REMOVAL)
REPLACE with Section 31 23 18, Rev. 1 (**Attachment A**).
7. Section 33 14 13 (PUBLIC WATER UTILITY DISTRIBUTION PIPING)
REPLACE with Section 33 14 13, Rev. 2 (**Attachment A**).
8. Section 33 31 11 (PUBLIC SANITARY SEWERAGE GRAVITY PIPING)
REPLACE with Section 33 31 11, Rev. 1 (**Attachment A**).



PLAN SHEETS:

1. Sheets SP1 – SP3 (no revised plan sheets are being issued)
REPLACE all proposed 6" ductile iron water main call outs on Line "H" with 6" PVC C900 water main.
2. Sheets U1 – U8
REPLACE with revised plan sheets U1 – U8 dated 8/10/2022 (**Attachment B**).
3. Sheet D3
REPLACE with revised plan sheet D3 dated 8/10/2022 (**Attachment B**).
4. Sheet D5
REPLACE with revised plan sheet D5 dated 8/10/2022 (**Attachment B**).

GENERAL NOTES AND CLARIFICATIONS

1. For the mandatory alternative bids, the bid sheet has been revised to allow for any 36" pipe material approved for this size in Section 33 31 11 of the specification.

BIDDER QUESTIONS:

QUESTION 1: Is Spirolite an acceptable alternative to Weholite and/or Duromaxx?

ANSWER 1: Spirolite will be accepted as an equal to Weholite pipe.

QUESTION 2: Has the gas main been moved or is it planned to be moved on Tipton Street?

ANSWER 2: Utility coordination is still ongoing with CenterPoint Energy for the area along Tipton Street. The CITY and ENGINEER acknowledge that some work or delay caused by the relocation, supporting or abandonment of natural gas facilities, by others, is out of the control of the contractor. Such delay attributable to CenterPoint Energy or their contractors will not negatively impact the CONTRACTOR through liquidated damages or schedules as long as the CONTRACTOR has progressed in good faith and has made every effort to continue progress on the project where it is safe to do so. The CITY and ENGINEER remain committed to working with CenterPoint Energy to relocate, abandon, or support the existing facilities along Tipton Street in advance of any work by CONTRACTOR and without delay.

QUESTION 3: Is monitoring required for the section that runs parallel to the tracks or just the crossing? What is the total length of railroad track that needs to be monitored?

ANSWER 3: If the parallel section encroaches Zone 1 and shoring is needed, track monitoring will be required. Monitoring will also be required for the transverse crossing. For the transverse crossing, locations for shooting rail elevations would be at the centerline of the under-track crossing, at both edges of the rail and at multiple locations from the crossing edge but no less than 10, 20, 30, 40 and 50 feet in both directions from the crossing. Please note that these shooting locations shall be taken along the track rails. For a parallel occupancy, the length of the track that needs to be monitored is dependent on length of parallel encroachment on Zone 1.



QUESTION 4: What is the spacing of the railroad ties?

ANSWER 4: The railroad ties are 9" wide and are spaced 20" on center.

QUESTION 5: For the required railroad monitoring, do we need to measure for twist? If so, how many twist sensors?

ANSWER 5: In accordance with Specifications for Pipeline Occupancy of Norfolk Southern Corporation Property, monitoring shall measure vertical and horizontal deflection. These specifications call for the use of adhesive backed reflective targets to be temporarily attached to the side of the rail.

QUESTION 6: For the required railroad monitoring, are we to monitor uniaxial or biaxial?

ANSWER 6: Biaxial. If you are referring to the rails of the track, both rails shall be monitored.

QUESTION 7: For the required railroad monitoring, are there any requirements as to how we are to collect and log the monitoring data? Are there any requirements as to how frequently we are to collect the data?

ANSWER 7: Per Specifications for Pipeline Occupancy of Norfolk Southern Corporation Property, provided in Appendix 4 of the Project Manual, "Monitoring shall be continuous and recorded in a field logbook dedicated for this purpose." See Section 5.1.2. Based on guidance from a railroad representative, an excel spreadsheet dedicated for this purpose is also acceptable. Copies of these field log entries shall be made available to all concerned parties upon request at any time during construction. A benchmark must be established prior to installation, and a set of survey shots must be taken twice during installation per 12-hour shift. Note if settlement occurs during the installation, Norfolk Southern may exercise their rights to require additional monitoring post-construction up to 30 days for protection of the railroad.

QUESTION 8: Do we need to find an insurance carrier that will include the Engineer and RPR on a builder's risk policy? Or can the Engineer and RPR be removed from the specification?

ANSWER 8: The CITY is not requiring a builder's risk policy, but the CONTRACTOR is free to obtain their own policy if desired.

QUESTION 9: What flow rates need to be maintained throughout the project at the various locations where bypass pumping will be necessary?

ANSWER 9: Based on flow monitoring completed by Gripp, Inc., the average dry weather flow in the existing interceptor sewer along Hitzfield Street just west of proposed STR No. 105 ranges from approximately 800 – 2,000 gpm depending on the time of day and year. The estimated 10-year, 1-hour flow rate using Atlas 14 rainfall depths and a Huff rainfall distribution at this location is approximately 14,750 gpm. Actual flow rates may vary significantly from these values depending on a number of factors including weather conditions and the level of Little River. The cost for all required bypass pumping should be included in the cost of the pipe.



QUESTION 10: Can you provide any detail for groundwater depth at the egg-shaped pipe locations?

ANSWER 10: All information related to groundwater depth conditions obtained for the project are located in the Phase 2 Geotechnical Evaluation Report dated October 11, 2021, which is provided in the appendix of the project manual.

QUESTION 11: Is the rock removal for CSO 010 & CSO 014 (Boring B5 and B2, respectively) included in the pay item for rock removal? Or is it to be included with those structures?

ANSWER 11: Rock removal for CSO structure rehabilitation is included with the cost of the CSO structures.

QUESTION 12: Can you provide the actual calculations that were used to determine the quantity of rock removal? I am specifically interested in the width of trench and depth below the pipe.

ANSWER 12: The rock removal quantity has been updated. The calculation uses vertical walls and trench width and bedding depth per the trench details on sheet D3 with revision date 8/10/22.

QUESTION 13: Hitzfield Street is being replaced with PCCP. Does that need to be complete and open to traffic in the 120-day Milestone 1?

ANSWER 13: The Milestone 1 timeframe has been updated. Completion of Milestone 1 includes completion of subbase for PCCP.

QUESTION 14: Can the Milestone 1 completion time be lengthened?

ANSWER 14: Milestone 1 as well as the substantial and final completion timeframes have been extended by 60 days.

ATTACHMENTS

1. Attachment A: Revised Project Manual Documents
2. Attachment B: Revised Plan Sheets

END OF ADDENDUM NO. 3

ATTACHMENT A: REVISED PROJECT MANUAL DOCUMENTS

SECTION 00 31 14

BID FORM FOR CONSTRUCTION CONTRACT

The terms used in this Bid with initial capital letters have the meanings stated in the Instructions to Bidders, the General Conditions, and the Supplementary Conditions.

ARTICLE 1—OWNER AND BIDDER

- 1.01 This Bid is submitted to: **CITY OF HUNTINGTON, 300 Cherry Street, Huntington, IN 46750**
- 1.02 The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with Owner in the form included in the Bidding Documents to perform all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

ARTICLE 2—ATTACHMENTS TO THIS BID

- 2.01 The following documents are submitted with and made a condition of this Bid:
- A. Required Bid security;
 - B. List of Proposed Subcontractors;
 - C. List of Proposed Suppliers;
 - D. Evidence of authority to do business in the state of the Project; or a written covenant to obtain such authority within the time for acceptance of Bids;
 - E. Contractor's license number as evidence of Bidder's State Contractor's License or a covenant by Bidder to obtain said license within the time for acceptance of Bids;
 - F. Required Bidder Qualification Statement with supporting data; and
 - G. Indiana Iran Investment Certification
 - H. E-Verify Certification
 - I. Form OEE-1 Certification of Non-segregated Facilities
 - J. Form OEE-2 Notice to Labor Unions or Other Organizations of Workers Nondiscrimination in Employment
 - K. Bidders List/Good Faith Effort Worksheet
 - L. Indiana State Form No. 96
 - M. Non-Collusion Affidavit
 - N. Financial Statement for Bidders
 - O. Attachment J – Certification from Contractor Related to American Iron and Steel Clause
 - P. Indiana Department of Administration Contractor Pre-Qualification Certification

ARTICLE 3—BASIS OF BID—LUMP SUM BID AND UNIT PRICES**3.01 Unit Price Bids**

A. The Base Bid shall be based on providing Large Diameter Pipe as Centrifugally Cast Fiberglass-Reinforced Polymer Mortar Pipe (CCFRPM).

B. Bidder will perform the following Work at the indicated unit prices:

Item No.	Specification	Description	Unit	Estimated Quantity	Bid Unit Price	Bid Amount
1	105	CONSTRUCTION ENGINEERING	LS	1		
2	110	MOBILIZATION AND DEMOBILIZATION	LS	1		
3	201	CLEARING RIGHT OF WAY	LS	1		
4	202	CURB, CONCRETE, REMOVE	LFT	11,053		
5	202	SIDEWALK CONCRETE, REMOVE	SYD	6,914		
6	202	SIGN, REMOVE	EACH	139		
7	202	MANHOLE OR INLET, REMOVE	EACH	84		
8	202	PIPE, REMOVE, WATER	LFT	3,625		
9	202	PIPE, REMOVE, SANITARY	LFT	7,734		
10	202	FIRE HYDRANT ASSEMBLY, REMOVE	EACH	5		
11	203	EXCAVATION, COMMON	CYD	18,010		
12	205	NO. 2 STONE	TON	2,270		
13	207	SUBGRADE TREATMENT, TYPE II	SYS	6,320		
14	301	COMPACTED AGGREGATE NO. 53	CYD	7,864		
15	302	SUBBASE FOR PCCP	CYD	1,057		
16	303	COMPACTED AGGREGATE NO. 53	TON	2,750		
17	304	HMA PATCHING, TYPE B	TON	15		
18	306	MILLING, ASPHALT, 1 1/2 IN.	SYD	2,006		
19	402	HMA SURFACE, TYPE B	TON	1,730		
20	402	HMA INTERMEDIATE, TYPE B	TON	2,142		
21	402	HMA BASE, TYPE B	TON	3,245		
22	401	JOINT ADHESIVE, SURFACE	LFT	20,011		
23	401	JOINT ADHESIVE, INTERMEDIATE	LFT	20,011		
24	401	LIQUID ASPHALT SEALANT	LFT	20,011		
25	406	ASPHALT FOR TACK COAT	TON	15		
26	502	PCCP, 10 IN.	SYD	4,227		
27	502	PCCP, 4 IN.	SYD	3,075		
28	503	D-1 CONTRACTION JOINT	LFT	2,552		
29	603	FENCE, GATE, CHAIN LINK, RESET	LFT	5		
30	603	FENCE, CHAIN LINK, RESET	LFT	110		
31	604	SIDEWALK, CONCRETE	SYD	2,748		
32	604	CURB RAMP, CONCRETE	SYD	970		
33	604	DETECTABLE WARNING SURFACES	SYD	142		
34	605	CURB, CONCRETE	LFT	837		
35	605	CURB, CONCRETE, MODIFIED	LFT	84		

36	605	CURB AND GUTTER, CONCRETE	LFT	8,282		
37	605	CURB AND GUTTER, CONCRETE, MODIFIED	LFT	1,451		
38	610	HMA FOR APPROACHES, TYPE B	TON	1,645		
39	610	PCCP FOR APPROACHES, 6 IN.	SYD	601		
40	610	PCCP FOR APPROACHES, 9 IN.	SYD	694		
41	621	MULCHED SEEDING R	SYD	16,310		
42	621	SODDING, NURSERY	SYD	7,210		
43	621	ARTICULATED CONCRETE BLOCK ON GEOTEXTILE FABRIC	SYD	54		
44	622	PLANT, DECIDUOUS TREE, SINGLE STEM, 1.25 TO 2 IN.	EACH	46		
45	622	PLANT, DECIDUOUS TREE, SINGLE STEM, OVER 2 IN. TO 2.5 IN.	EACH	41		
46	720	CASTING, ADJUST TO GRADE (MANHOLES AND INLETS)	EACH	27		
47	720	CASTING, WATER VALVE, ADJUST TO GRADE	EACH	11		
48	720	CATCH BASIN, MODIFIED	EACH	27		
49	716	PIPE INSTALLATION, TRENCHLESS, 60 IN.	LFT	166		
50	716	PIPE INSTALLATION, TRENCHLESS, 6 IN.	LFT	166		
51	801	MAINTAINING TRAFFIC	LS	1		
52	802	SIGN POST, SQUARE TYPE 1 REINFORCED ANCHOR BASE	LFT	755		
53	802	SIGN, SHEET, WITH LEGEND, 0.080 IN.	SFT	410		
54	802	SIGN, SHEET, WITH LEGEND, 0.100 IN.	SFT	235		
55	802	SIGN, SHEET, WITH LEGEND, 0.125 IN.	SFT	92		
56	808	TRANSVERSE MARKING, THERMOPLASTIC, CROSSWALK LINE, WHITE, 8 IN.	LFT	2,132		
57	808	LINE, THERMOPLASTIC, SOLID, WHITE, 4 IN.	LFT	4,331		
58	808	LINE, THERMOPLASTIC, SOLID, YELLOW, 4 IN.	LFT	1,398		
59	808	TRANSVERSE MARKING, THERMOPLASTIC, STOP LINE, WHITE, 24 IN.	LFT	393		
60	808	PAVEMENT MESSAGE MARKING, THERMOPLASTIC LANE INDICATION ARROW	EACH	5		

61	808	PAVEMENT MESSAGE MARKING, THERMOPLASTIC ONLY	EACH	3		
62	808	PAVEMENT MESSAGE MARKING, THERMOPLASTIC R X R	EACH	1		
63	01 02 50	CSO 003 REHABILITATION	LS	1		
64	01 02 50	CSO 009 REHABILITATION	LS	1		
65	01 02 50	CSO 010 REHABILITATION	LS	1		
66	01 02 50	CSO 011 REHABILITATION	LS	1		
67	01 02 50	CSO 014 REHABILITATION	LS	1		
68	01 02 50	CSO 015 REHABILITATION	LS	1		
69	01 02 50	CSO 016 REHABILITATION	LS	1		
70	01 02 50	BRICK PAVERS (REMOVE, PROTECT, RESET)	SYD	3,207		
71	01 02 50	LIMESTONE CURB (REMOVE, PROTECT, RESET)	LFT	520		
72	01 02 50	RAILROAD – TRACK MONITORING PLAN PREPARATION	LS	1		
73	01 02 50	RAILROAD – TRACK MONITORING	LS	1		
74	01 02 50	RAILROAD – FRAC PLAN	LS	1		
75	01 02 50	RAILROAD – SHORING PLAN PREPARATION	LS	1		
76	01 02 50	RAILROAD – MONITOR AND OBSERVER	ALLOWANCE	1	\$275,000	
77	01 02 50	DEWATERING FOR CONTAMINATED GROUNDWATER	LS	1		
78	01 02 50	6" METER PIT	EACH	1		
79	01 02 50	BRICKS IN PIPE AT WWTP, REMOVE	LS	1		
80	01 20 00	SCADA	ALLOWANCE	1	\$46,450	
81	01 50 00	TEMPORARY FACILITIES AND CONTROLS	MONTHS	24		
82	26 04 00	FIBER OPTIC TERMINATION AT THE WWTP ADMIN BUILDING	LS	1		
83	26 04 00	FIBER OPTIC TERMINATION FROM WWTP TO THE CABLE VAULT, “CV-9”	LS	1		
84	26 04 00	CSO 003 ELECTRICAL AND FIBER OPTIC	LS	1		
85	26 04 00	CSO 009 ELECTRICAL AND FIBER OPTIC	LS	1		
86	26 04 00	CSO 010 ELECTRICAL AND FIBER OPTIC	LS	1		
87	26 04 00	CSO 011 ELECTRICAL AND FIBER OPTIC	LS	1		
88	26 04 00	CSO 013 ELECTRICAL AND FIBER OPTIC	LS	1		

89	26 04 00	CSO 014 ELECTRICAL AND FIBER OPTIC	LS	1		
90	26 04 00	CSO 015 ELECTRICAL AND FIBER OPTIC	LS	1		
91	26 04 00	CSO 016 ELECTRICAL	LS	1		
92	31 23 18	ROCK REMOVAL	CYS	17,500		
93	31 25 00	EROSION CONTROL	LS	1		
94	33 01 20	TELEVISION INSPECTION OF PROPOSED PIPE	LFT	11,946		
95	33 01 30	CURED-IN-PLACE PIPE LINING, 12"	LFT	74		
96	33 01 30	CURED-IN-PLACE PIPE LINING, 36"	LFT	22		
97	33 01 30	CURED-IN-PLACE PIPE LINING, 42"	LFT	2,028		
98	33 01 30	CURED-IN-PLACE PIPE LINING, 32"x 48" BRICK SEWER	LFT	620		
99	33 01 31	MANHOLE REHABILITATION	VLF	210		
100	33 05 61	MANHOLE, C4	EACH	16		
101	33 05 61	MANHOLE, J10	EACH	3		
102	33 05 61	MANHOLE, J4	EACH	13		
103	33 05 61	MANHOLE, K4	EACH	14		
104	33 05 61	MANHOLE, L4	EACH	16		
105	33 05 61	MANHOLE, N4	EACH	14		
106	34 05 61	MANHOLE, 120" WITH TYPE 4 CASTING	EACH	1		
107	33 05 61	INLET, J10	EACH	24		
108	33 05 61	CONFLICT STRUCTURE (STR No. 138)	EACH	1		
109	33 14 13	12" LINE STOP (UNDISTRIBUTED)	EACH	2		
110	33 14 13	6" LINE STOP (UNDISTRIBUTED)	EACH	6		
111	33 14 13	4" LINE STOP (UNDISTRIBUTED)	EACH	2		
112	33 14 13	WATER MAIN, EXISTING, 4 IN. PIPE CUT & CAP	EACH	3		
113	33 14 13	WATER MAIN, EXISTING, 6 IN. PIPE CUT & CAP	EACH	15		
114	33 14 13	WATER MAIN, EXISTING, 12 IN. PIPE CUT & CAP	EACH	2		
115	33 14 13	3/4" WATER SERVICE CONNECTIONS - LONG (WITH METER)	EACH	29		
116	33 14 13	3/4" WATER SERVICE CONNECTIONS - SHORT (WITH METER)	EACH	31		
117	33 14 13	WATER SERVICE REPAIR (UNDISTRIBUTED)	EACH	10		
118	33 14 13	WATER MAIN, CONNECTION TO EXISTING	EACH	11		

119	33 14 13	WATER MAIN, DUCTILE IRON, 4 IN.	LFT	13		
120	33 14 13	WATER MAIN, DUCTILE IRON, 4 IN. 90° BEND	EACH	1		
121	33 14 13	WATER MAIN, DUCTILE IRON, 6 IN.	LFT	2,346		
122	33 14 13	WATER MAIN, PVC, C900, 6 IN.	LFT	1,335		
123	33 14 13	TRACER WIRE, #10 GAUGE	LFT	1,500		
124	33 14 13	WATER MAIN, DUCTILE IRON, 6 IN. X 4 IN. REDUCER	EACH	3		
125	33 14 13	WATER MAIN, DUCTILE IRON, 6 IN. 11.25° BEND	EACH	3		
126	33 14 13	WATER MAIN, DUCTILE IRON, 6 IN. 22.5° BEND	EACH	3		
127	33 14 13	WATER MAIN, DUCTILE IRON, 6 IN. 45° BEND	EACH	40		
128	33 14 13	WATER MAIN, DUCTILE IRON, 6 IN. 90° BEND	EACH	8		
129	33 14 13	WATER MAIN, DUCTILE IRON, 6 IN. X 6 IN. TEE	EACH	6		
130	33 14 13	WATER MAIN, DUCTILE IRON, 12 IN.	LFT	607		
131	33 14 13	WATER MAIN, DUCTILE IRON, 12 IN. X 6 IN. REDUCER	EACH	2		
132	33 14 13	WATER MAIN, DUCTILE IRON, 12 IN, 22.5° BEND	EACH	1		
133	33 14 13	WATER MAIN, DUCTILE IRON, 12 IN, 45° BEND	EACH	5		
134	33 14 13	WATER MAIN, DUCTILE IRON, 12 IN, 90° BEND	EACH	2		
135	33 14 13	WATER MAIN, DUCTILE IRON, 12 IN. X 6 IN. TEE	EACH	1		
136	33 14 13	WATER MAIN, DUCTILE IRON, 12 IN. X 12 IN. TEE	EACH	2		
137	33 14 19	WATER MAIN, DUCTILE IRON, GATE VALVE 6 IN.	EACH	11		
138	33 14 19	WATER MAIN, DUCTILE IRON, GATE VALVE 12 IN.	EACH	1		
139	33 14 19	WATER MAIN, TAPPING SLEEVE WITH VALVE, 4. IN	EACH	1		
140	33 14 19	WATER MAIN, TAPPING SLEEVE WITH VALVE, 8. IN	EACH	2		
141	33 14 19	WATER MAIN, TAPPING SLEEVE WITH VALVE, 12. IN	EACH	4		
142	33 14 19	WATER MAIN, TAPPING SLEEVE WITH VALVE, 6. IN	EACH	12		
143	33 14 19	HYDRANT ASSEMBLY WITH VALVE	EACH	9		

144	33 42 00	PIPE, TYPE 2, CIRCULAR, 12 IN.	LFT	1,354		
145	33 42 00	PIPE, TYPE 2, CIRCULAR, 18 IN.	LFT	200		
146	33 42 00	PIPE, TYPE 2, CIRCULAR, 24 IN.	LFT	403		
147	33 42 00	PIPE, TYPE 2, CIRCULAR, 12 IN. (C900)	LFT	336		
148	33 42 00	PIPE, TYPE 2, CIRCULAR, 18 IN. (C905)	LFT	157		
149	33 42 00	PIPE, TYPE 2, CIRCULAR, 24 IN. (C905)	LFT	357		
150	33 31 11	OUTSIDE DROP PIPE	EACH	21		
151	33 31 11	SEWER SERVICE LATERAL ADJUSTMENT (UNDISTRIBUTED)	EACH	10		
152	33 31 11	SANITARY SERVICE LATERAL CONNECTION	EACH	85		
153	33 31 11	PIPE, SANITARY SEWER, 8 IN.	LFT	1,621		
154	33 31 11	PIPE, SANITARY SEWER, 18 IN.	LFT	9		
155	33 31 11	PIPE, SANITARY SEWER, 21 IN.	LFT	9		
156	33 31 11	PIPE, SANITARY SEWER, 24 IN.	LFT	22		
157	33 31 11	PIPE, SANITARY SEWER, 30 IN.	LFT	255		
158	33 31 11	PIPE, SANITARY SEWER, 48 IN.	LFT	83		
159	33 31 11	PIPE, SANITARY SEWER, 16 IN. (C905)	LFT	15		
160	33 31 11	PIPE, SANITARY SEWER, 18 IN. (C905)	LFT	21		
161	33 31 11	PIPE, SANITARY SEWER, 30 IN. (C905)	LFT	37		
162	33 31 11	PIPE, SANITARY SEWER, CCFRPM, 60 IN.	LFT	166		
163	33 31 11	ANTI-FLOTATION GEO-GRID	LFT	1,550		
164	33 31 11	PIPE, SANITARY SEWER, 36 IN.	LFT	1,993		
165	33 31 11	PIPE, SANITARY SEWER, 42 IN.	LFT	52		
166	33 31 11	PIPE, SANITARY SEWER, 48 IN.	LFT	3,452		
167	33 31 11	PIPE, SANITARY SEWER, 66 IN.	LFT	2,119		
168	33 31 11	PIPE, SANITARY SEWER, 72 IN.	LFT	2,543		
Total of All Unit Price Bid Items for the Base Bid				\$		
And in words:						

C. Bidder acknowledges that:

- Each Bid Unit Price includes an amount considered by Bidder to be adequate to cover Contractor's overhead and profit for each separately identified item, and

2. Estimated quantities are not guaranteed and are solely for the purpose of comparison of Bids, and final payment for all Unit Price Work will be based on actual quantities, determined as provided in the Contract Documents.

ARTICLE 4—MANDATORY ALTERNATE #1

- 4.01 **Mandatory Alternate #1:** This alternate includes the replacement of 36”-72” CCFRPM Pipe with 36”-72” High Density Profile Wall Polyethylene Pipe (HDPE)

Mandatory Alternate #1: 36”-72” High Density Profile Wall Polyethylene Pipe (HDPE)					Bid Amount
Total of All Unit Price Bid Items for the Base Bid (CCFRPM)					\$
Deduct for Base Bid Line Items 164-168					\$
Item No.	Description	Unit	Estimated Quantity	Bid Unit Price	
164	PIPE, SAN.SEWER, 36 IN.	LFT	1,993		\$
165	PIPE, SAN.SEWER, HDPE, 42 IN.	LFT	52		\$
166	PIPE, SAN.SEWER, HDPE, 48 IN.	LFT	3,452		\$
167	PIPE, SAN.SEWER, HDPE, 66 IN.	LFT	2,119		\$
168	PIPE, SAN.SEWER, HDPE, 72 IN.	LFT	2,543		\$
Total of All Unit Price Bid Items for Alternate #1 (HDPE)					\$
And in words:					

ARTICLE 5—MANDATORY ALTERNATE #2

- 5.01 **Mandatory Alternate #2:** This alternate includes the replacement of 36”-72” CCFRPM Pipe with 36”-72” Steel Reinforced Polyethylene Pipe (SRPE)

Mandatory Alternate #2: Steel Reinforced Polyethylene Pipe (SRPE)					Bid Amount
Total of All Unit Price Bid Items for the Base Bid (CCFRPM)					\$
Deduct for Base Bid Line Items 164-168					\$
Item No.	Description	Unit	Estimated Quantity	Bid Unit Price	
164	PIPE, SAN.SEWER, 36 IN.	LFT	1,993		
165	PIPE, SAN.SEWER, SRPE, 42 IN.	LFT	52		
166	PIPE, SAN.SEWER, SRPE, 48 IN.	LFT	3,452		
167	PIPE, SAN.SEWER, SRPE, 66 IN.	LFT	2,119		
168	PIPE, SAN.SEWER, SRPE, 72 IN.	LFT	2,543		
Total of All Unit Price Bid Items for Alternate #2 (SRPE)					\$
And in words:					

ARTICLE 6—TIME OF COMPLETION

- 6.01 Bidder agrees that the Work will be substantially complete and will be completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions on or before the dates or within the number of calendar days indicated in the Agreement.
- 6.02 Bidder accepts the provisions of the Agreement as to liquidated damages.

ARTICLE 7—BIDDER’S ACKNOWLEDGEMENTS: ACCEPTANCE PERIOD, INSTRUCTIONS, AND RECEIPT OF ADDENDA7.01 *Bid Acceptance Period*

- A. This Bid will remain subject to acceptance for 90 days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of Owner.

7.02 *Instructions to Bidders*

- A. Bidder accepts all of the terms and conditions of the Instructions to Bidders, including without limitation those dealing with the disposition of Bid security.

7.03 *Receipt of Addenda*

- A. Bidder hereby acknowledges receipt of the following Addenda: **[Add rows as needed. Bidder is to complete table.]**

Addendum Number	Addendum Date

ARTICLE 8—BIDDER’S REPRESENTATIONS AND CERTIFICATIONS8.01 *Bidder’s Representations*

- A. In submitting this Bid, Bidder represents the following:
1. Bidder has examined and carefully studied the Bidding Documents, including Addenda.
 2. Bidder has visited the Site, conducted a thorough visual examination of the Site and adjacent areas, and become familiar with the general, local, and Site conditions that may affect cost, progress, and performance of the Work.
 3. Bidder is familiar with all Laws and Regulations that may affect cost, progress, and performance of the Work.
 4. Bidder has carefully studied the reports of explorations and tests of subsurface conditions at or adjacent to the Site and the drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Supplementary Conditions, with respect to the Technical Data in such reports and drawings.
 5. Bidder has carefully studied the reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified in the Supplementary Conditions, with respect to Technical Data in such reports and drawings.

6. Bidder has considered the information known to Bidder itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and the Technical Data identified in the Supplementary Conditions or by definition, with respect to the effect of such information, observations, and Technical Data on (a) the cost, progress, and performance of the Work; (b) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, if selected as Contractor; and (c) Bidder's (Contractor's) safety precautions and programs.
7. Based on the information and observations referred to in the preceding paragraph, Bidder agrees that no further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract.
8. Bidder is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents.
9. Bidder has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and of discrepancies between Site conditions and the Contract Documents, and the written resolution thereof by Engineer is acceptable to Contractor.
10. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.
11. The submission of this Bid constitutes an incontrovertible representation by Bidder that without exception the Bid and all prices in the Bid are premised upon performing and furnishing the Work required by the Bidding Documents.

8.02 *Bidder's Certifications*

A. The Bidder certifies the following:

1. This Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any collusive agreement or rules of any group, association, organization, or corporation.
2. Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid.
3. Bidder has not solicited or induced any individual or entity to refrain from bidding.
4. Bidder has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the Contract. For the purposes of this Paragraph 8.02.A:
 - a. Corrupt practice means the offering, giving, receiving, or soliciting of anything of value likely to influence the action of a public official in the bidding process.
 - b. Fraudulent practice means an intentional misrepresentation of facts made (a) to influence the bidding process to the detriment of Owner, (b) to establish bid prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition.
 - c. Collusive practice means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish bid prices at artificial, non-competitive levels.
 - d. Coercive practice means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

BIDDER hereby submits this Bid as set forth above:

Bidder:

(typed or printed name of organization)

By:

(individual's signature)

Name:

(typed or printed)

Title:

(typed or printed)

Date:

(typed or printed)

If Bidder is a corporation, a partnership, or a joint venture, attach evidence of authority to sign.

Attest:

(individual's signature)

Name:

(typed or printed)

Title:

(typed or printed)

Date:

(typed or printed)

Address for giving notices:

Bidder's Contact:

Name:

(typed or printed)

Title:

(typed or printed)

Phone:

Email:

Address:

Bidder's Contractor License No.: (if applicable)

SECTION 00 80 00
SUPPLEMENTARY CONDITIONS OF THE CONSTRUCTION CONTRACT
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SUPPLEMENTARY CONDITIONS OF THE CONSTRUCTION CONTRACT

These Supplementary Conditions amend or supplement EJCDC® C-700, Standard General Conditions of the Construction Contract (2018). The General Conditions remain in full force and effect except as amended.

The terms used in these Supplementary Conditions have the meanings stated in the General Conditions. Additional terms used in these Supplementary Conditions have the meanings stated below, which are applicable to both the singular and plural thereof.

The address system used in these Supplementary Conditions is the same as the address system used in the General Conditions, with the prefix "SC" added—for example, “Paragraph SC-4.05.”

ARTICLE 1—DEFINITIONS AND TERMINOLOGY

No Supplementary Conditions in this Article.

ARTICLE 2—PRELIMINARY MATTERS

2.01 *Delivery of Bonds and Evidence of Insurance*

SC-2.01 Delete Paragraphs 2.01.B. and C. in their entirety and insert the following in their place:

- B. *Evidence of Contractor’s Insurance:* When Contractor delivers the signed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner copies of the policies (including all endorsements, and identification of applicable self-insured retentions and deductibles) of insurance required to be provided by Contractor in this Contract. Contractor may block out (redact) any confidential premium or pricing information contained in any policy or endorsement furnished under this provision.
- C. *Evidence of Owner’s Insurance:* After receipt from Contractor of the signed counterparts of the Agreement and all required bonds and insurance documentation, Owner shall promptly deliver to Contractor copies of the policies of insurance to be provided by Owner in this Contract (if any). Owner may block out (redact) any confidential premium or pricing information contained in any policy or endorsement furnished under this provision.

2.02 *Copies of Documents*

SC-2.02 Delete Paragraph 2.02.A in its entirety and insert the following new paragraph in its place:

- A. Owner shall furnish to Contractor **3** printed copies of conformed Contract Documents incorporating and integrating all Addenda and any amendments negotiated prior to the Effective Date of the Contract (including one fully signed counterpart of the Agreement), and one copy in electronic portable document format (PDF). Additional printed copies of the conformed Contract Documents will be furnished upon request at the cost of reproduction.

2.06 *Electronic Transmittals*

SC-2.06 Delete Paragraphs 2.06.B and 2.06.C in their entirety and insert the following in their place:

- B. *Electronic Documents Protocol:* The parties shall conform to the following provisions in Paragraphs 2.06.B and 2.06.C, together referred to as the Electronic Documents Protocol (“EDP” or “Protocol”) for exchange of electronic transmittals.

1. *Basic Requirements*

- a. To the fullest extent practical, the parties agree to and will transmit and accept Electronic Documents in an electronic or digital format using the procedures described in this Protocol. Use of the Electronic Documents and any information contained therein is subject to the requirements of this Protocol and other provisions of the Contract.
- b. The contents of the information in any Electronic Document will be the responsibility of the transmitting party.
- c. Electronic Documents as exchanged by this Protocol may be used in the same manner as the printed versions of the same documents that are exchanged using non-electronic format and methods, subject to the same governing requirements, limitations, and restrictions, set forth in the Contract Documents.
- d. Except as otherwise explicitly stated herein, the terms of this Protocol will be incorporated into any other agreement or subcontract between a party and any third party for any portion of the Work on the Project, or any Project-related services, where that third party is, either directly or indirectly, required to exchange Electronic Documents with a party or with Engineer. Nothing herein will modify the requirements of the Contract regarding communications between and among the parties and their subcontractors and consultants.
- e. When transmitting Electronic Documents, the transmitting party makes no representations as to long term compatibility, usability, or readability of the items resulting from the receiving party's use of software application packages, operating systems, or computer hardware differing from those established in this Protocol.
- f. Nothing herein negates any obligation 1) in the Contract to create, provide, or maintain an original printed record version of Drawings and Specifications, signed and sealed according to applicable Laws and Regulations; 2) to comply with any applicable Law or Regulation governing the signing and sealing of design documents or the signing and electronic transmission of any other documents; or 3) to comply with the notice requirements of Paragraph 18.01 of the General Conditions.

2. *System Infrastructure for Electronic Document Exchange*

- a. In the case of disputes, conflicts, or modifications to the EDP required to address issues affecting System Infrastructure, the parties shall cooperatively resolve the issues; but, failing resolution, the Owner is authorized to make and require reasonable and necessary changes to the EDP to effectuate its original intent. If the changes cause additional cost or time to Contractor, not reasonably anticipated under the original EDP, Contractor may seek an adjustment in price or time under the appropriate process in the Contract.
- b. Each party is responsible for its own back-up and archive of documents sent and received during the term of the contract under this EDP, unless this EDP establishes a Project document archive, either as part of a mandatory Project website or other communications protocol, upon which the parties may rely for document archiving during the specified term of operation of such Project document archive. Further, each party remains solely responsible for its own post-Project back-up and archive of Project documents after the term of the Contract, or after termination of the

Project document archive, if one is established, for as long as required by the Contract and as each party deems necessary for its own purposes.

- c. If a receiving party receives an obviously corrupted, damaged, or unreadable Electronic Document, the receiving party will advise the sending party of the incomplete transmission.
- d. The parties will bring any non-conforming Electronic Documents into compliance with the EDP. The parties will attempt to complete a successful transmission of the Electronic Document or use an alternative delivery method to complete the communication.
- e. The Owner will operate a Project information management system (also referred to in this EDP as “Project Website”) for use of Owner, Engineer and Contractor during the Project for exchange and storage of Project-related communications and information. Except as otherwise provided in this EDP or the General Conditions, use of the Project Website by the parties as described in this Paragraph will be mandatory for exchange of Project documents, communications, submittals, and other Project-related information.

C. Software Requirements for Electronic Document Exchange; Limitations

- 1. The parties agree not to intentionally edit, reverse engineer, decrypt, remove security or encryption features, or convert to another format for modification purposes any Electronic Document or information contained therein that was transmitted in a software data format, including Portable Document Format (PDF), intended by sender not to be modified, unless the receiving party obtains the permission of the sending party or is citing or quoting excerpts of the Electronic Document for Project purposes.

SC-2.06 Supplement Paragraph 2.06 of the General Conditions by adding the following paragraph:

D. Requests by Contractor for Electronic Documents in Other Formats

- 1. Release of any Electronic Document versions of the Project documents in formats other than those identified in the Electronic Documents Protocol (if any) or elsewhere in the Contract will be at the sole discretion of the Owner.
- 2. To extent determined by Owner, in its sole discretion, to be prudent and necessary, release of Electronic Documents versions of Project documents and other Project information requested by Contractor (“Request”) in formats other than those identified in the Electronic Documents Protocol (if any) or elsewhere in the Contract will be subject to the provisions of the Owner’s response to the Request, and to the following conditions to which Contractor agrees:
 - a. The content included in the Electronic Documents created by Engineer and covered by the Request was prepared by Engineer as an internal working document for Engineer’s purposes solely, and is being provided to Contractor on an “AS IS” basis without any warranties of any kind, including, but not limited to any implied warranties of fitness for any purpose. As such, Contractor is advised and acknowledges that the content may not be suitable for Contractor’s application, or may require substantial modification and independent verification by Contractor. The content may include limited resolution of models, not-to-scale schematic representations and symbols, use of notes to convey design concepts in lieu of accurate graphics, approximations, graphical simplifications, undocumented intermediate revisions, and other devices that may affect subsequent reuse.

- b. Electronic Documents containing text, graphics, metadata, or other types of data that are provided by Engineer to Contractor under the request are only for convenience of Contractor. Any conclusion or information obtained or derived from such data will be at the Contractor's sole risk and the Contractor waives any claims against Engineer or Owner arising from use of data in Electronic Documents covered by the Request.
 - c. Contractor shall indemnify and hold harmless Owner and Engineer and their sub-consultants from all claims, damages, losses, and expenses, including attorneys' fees and defense costs arising out of or resulting from Contractor's use, adaptation, or distribution of any Electronic Documents provided under the Request.
 - d. Contractor agrees not to sell, copy, transfer, forward, give away or otherwise distribute this information (in source or modified file format) to any third party without the direct written authorization of Engineer, unless such distribution is specifically identified in the Request and is limited to Contractor's subcontractors. Contractor warrants that subsequent use by Contractor's subcontractors complies with all terms of the Contract Documents and Owner's response to Request.
3. In the event that Owner elects to provide or directs the Engineer to provide to Contractor any Contractor-requested Electronic Document versions of Project information that is not explicitly identified in the Contract Documents as being available to Contractor, the Owner shall be reimbursed by Contractor on an hourly basis (at \$200 per hour) for any engineering costs necessary to create or otherwise prepare the data in a manner deemed appropriate by Engineer.

ARTICLE 3—CONTRACT DOCUMENTS: INTENT, REQUIREMENTS, REUSE

No Supplementary Conditions in this Article.

ARTICLE 4—COMMENCEMENT AND PROGRESS OF THE WORK

4.05 Delays in Contractor's Progress

SC-4.05 Amend Paragraph 4.05.C by adding the following subparagraphs:

- 5. *Weather-Related Delays*
 - a. If "abnormal weather conditions" as set forth in Paragraph 4.05.C.2 of the General Conditions are the basis for a request for an equitable adjustment in the Contract Times, such request must be documented by data substantiating each of the following: 1) that weather conditions were abnormal for the period of time in which the delay occurred, 2) that such weather conditions could not have been reasonably anticipated, and 3) that such weather conditions had an adverse effect on the Work as scheduled.
 - b. The existence of abnormal weather conditions will be determined on a month-by-month basis in accordance with the following:
 - 1) Every workday on which one or more of the following conditions exist will be considered a "bad weather day":
 - i) Total precipitation (as rain equivalent) occurring between 7:00 p.m. on the preceding day (regardless of whether such preceding day is a workday)

through 7:00 p.m. on the workday in question equals or exceeds **0.5"** of precipitation (as rain equivalent, based on the snow/rain conversion indicated in the table entitled Foreseeable Bad Weather Days; such table is hereby incorporated in this SC-4.05.C by reference.

- ii) Ambient outdoor air temperature at 11:00 a.m. is equal to or less than the following low temperature threshold: **20** degrees Fahrenheit; or, at 3:00 p.m. the ambient outdoor temperature is equal to or greater than the following high temperature threshold: **100** degrees Fahrenheit.
- 2) Determination of actual bad weather days during performance of the Work will be based on the weather records measured and recorded by www.wunderground.com/history weather monitoring station at **Huntington, Indiana, (Zahn St. Station)**.
- 3) Contractor shall anticipate the number of foreseeable bad weather days per month indicated in the table in below—Foreseeable Bad Weather Days.

Foreseeable Bad Weather Days	
January	15 Days
February	15 Days
March	15 Days
April	18 Days
May	8 Days
June	5 Days
July	5 Days
August	4 Days
September	5Days
October	6 Days
November	12 Days
December	15 Days

- 4) In each month, every bad weather day exceeding the number of foreseeable bad weather days established in the table in above—Foreseeable Bad Weather Days will be considered as “abnormal weather conditions.” The existence of abnormal weather conditions will not relieve Contractor of the obligation to demonstrate and document that delays caused by abnormal weather are specific to the planned work activities or that such activities thus delayed were on Contractor’s then-current Progress Schedule’s critical path for the Project.

ARTICLE 5—SITE, SUBSURFACE AND PHYSICAL CONDITIONS, HAZARDOUS ENVIRONMENTAL CONDITIONS

5.03 *Subsurface and Physical Conditions*

SC-5.03 Add the following new paragraphs immediately after Paragraph 5.03.D:

- E. The following table lists the reports of explorations and tests of subsurface conditions at or adjacent to the Site that contain Technical Data, and specifically identifies the Technical Data in the report upon which Contractor may rely:

Report Title	Date of Report	Technical Data
Phase I Feasibility Geotechnical Evaluation Report-Huntington LTCP Interceptor Sewer Project	March 18, 2021	Geotechnical Evaluation
Geotechnical Evaluation Report-Huntington LTCP Interceptor Sewer	October 11, 2021	Geotechnical Evaluation

- F. The following table lists the drawings of existing physical conditions at or adjacent to the Site, including those drawings depicting existing surface or subsurface structures at or adjacent to the Site (except Underground Facilities), that contain Technical Data, and specifically identifies the Technical Data upon which Contractor may rely:

Drawings Title	Date of Drawings	Technical Data
None		

- G. Contractor may examine copies of reports and drawings identified in SC-5.03.E and SC-5.03.F that were not included with the Bidding Documents at **7223 Engle Road, Suite 105, Fort Wayne, Indiana, 46804**, during regular business hours, or may request copies from Engineer.

5.06 *Hazardous Environmental Conditions*

SC-5.06 Add the following new paragraphs immediately after Paragraph 5.06.A.3:

4. The following table lists the reports known to Owner relating to Hazardous Environmental Conditions at or adjacent to the Site, and the Technical Data (if any) upon which Contractor may rely:

Report Title	Date of Report	Technical Data
Phase II Environmental Site Assessment Report	February 10, 2022	

5. The following table lists the drawings known to Owner relating to Hazardous Environmental Conditions at or adjacent to the Site, and Technical Data (if any) contained in such Drawings upon which Contractor may rely:

Drawings Title	Date of Drawings	Technical Data
None		

ARTICLE 6—BONDS AND INSURANCE

6.01 *Performance, Payment, and Other Bonds*

SC-6.01 Add the following paragraphs immediately after Paragraph 6.01.A:

1. *Required Performance Bond Form:* The performance bond that Contractor furnishes will be in the form of EJCDC® C-610, Performance Bond (2010, 2013, or 2018 edition).
2. *Required Payment Bond Form:* The payment bond that Contractor furnishes will be in the form of EJCDC® C-615, Payment Bond (2010, 2013, or 2018 edition).

SC-6.01 Add the following paragraphs immediately after Paragraph 6.01.B:

1. After Substantial Completion, Contractor shall furnish a warranty bond issued in the form of EJCDC® C-612, Warranty Bond (2018). The warranty bond must be in a bond amount of **5** percent of the final Contract Price. The warranty bond period will extend to a date **3** years after Substantial Completion of the Work. Contractor shall deliver the fully executed warranty bond to Owner prior to or with the final application for payment, and in any event no later than 11 months after Substantial Completion.
3. The warranty bond must be issued by the same surety that issues the performance bond required under Paragraph 6.01.A of the General Conditions.

6.02 *Insurance—General Provisions*

SC-6.02 Add the following paragraph immediately after Paragraph 6.02.B:

1. Contractor may obtain worker's compensation insurance from an insurance company that has not been rated by A.M. Best, provided that such company (a) is domiciled in the state in which the Project is located, (b) is certified or authorized as a worker's compensation insurance provider by the appropriate state agency, and (c) has been accepted to provide worker's compensation insurance for similar projects by the state within the last 12 months.

6.03 *Contractor's Insurance*

SC-6.03 Supplement Paragraph 6.03 with the following provisions after Paragraph 6.03.C:

- D. *Other Additional Insureds:* As a supplement to the provisions of Paragraph 6.03.C of the General Conditions, the commercial general liability, automobile liability, umbrella or excess, pollution liability, and unmanned aerial vehicle liability policies must include as additional insureds (in addition to Owner and Engineer) the following: **Norfolk Southern Railroad & all subsidiaries as required and Resident Project Representative.**
- E. *Workers' Compensation and Employer's Liability:* Contractor shall purchase and maintain workers' compensation and employer's liability insurance, including, as applicable, United States Longshoreman and Harbor Workers' Compensation Act, Jones Act, stop-gap employer's liability coverage for monopolistic states, and foreign voluntary workers'

compensation (from available sources, notwithstanding the jurisdictional requirement of Paragraph 6.02.B of the General Conditions).

Workers' Compensation and Related Policies	Policy limits of not less than:
Workers' Compensation	
State	Statutory
Applicable Federal (e.g., Longshoreman's)	Statutory
Foreign voluntary workers' compensation (employer's responsibility coverage), if applicable	Statutory
Jones Act (if applicable)	
Bodily injury by accident—each accident	\$N/A
Bodily injury by disease—aggregate	\$N/A
Employer's Liability	
Each accident	\$1,000,000
Each employee	\$1,000,000
Policy limit	\$1,000,000
Stop-gap Liability Coverage	
For work performed in monopolistic states, stop-gap liability coverage must be endorsed to either the worker's compensation or commercial general liability policy with a minimum limit of:	\$N/A

- F. *Commercial General Liability—Claims Covered:* Contractor shall purchase and maintain commercial general liability insurance, covering all operations by or on behalf of Contractor, on an occurrence basis, against claims for:
1. damages because of bodily injury, sickness or disease, or death of any person other than Contractor's employees,
 2. damages insured by reasonably available personal injury liability coverage, and
 3. damages because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom.
- G. *Commercial General Liability—Form and Content:* Contractor's commercial liability policy must be written on a 1996 (or later) Insurance Services Organization, Inc. (ISO) commercial general liability form (occurrence form) and include the following coverages and endorsements:
1. Products and completed operations coverage.
 - a. Such insurance must be maintained for three years after final payment.
 - b. Contractor shall furnish Owner and each other additional insured (as identified in the Supplementary Conditions or elsewhere in the Contract) evidence of continuation of such insurance at final payment and three years thereafter.
 2. Blanket contractual liability coverage, including but not limited to coverage of Contractor's contractual indemnity obligations in Paragraph 7.18.
 3. Severability of interests and no insured-versus-insured or cross-liability exclusions.
 4. Underground, explosion, and collapse coverage.
 5. Personal injury coverage.

6. Additional insured endorsements that include both ongoing operations and products and completed operations coverage through ISO Endorsements CG 20 10 10 01 and CG 20 37 10 01 (together). If Contractor demonstrates to Owner that the specified ISO endorsements are not commercially available, then Contractor may satisfy this requirement by providing equivalent endorsements.
 7. For design professional additional insureds, ISO Endorsement CG 20 32 07 04 “Additional Insured—Engineers, Architects or Surveyors Not Engaged by the Named Insured” or its equivalent.
- H. *Commercial General Liability—Excluded Content:* The commercial general liability insurance policy, including its coverages, endorsements, and incorporated provisions, must not include any of the following:
1. Any modification of the standard definition of “insured contract” (except to delete the railroad protective liability exclusion if Contractor is required to indemnify a railroad or others with respect to Work within 50 feet of railroad property).
 2. Any exclusion for water intrusion or water damage.
 3. Any provisions resulting in the erosion of insurance limits by defense costs other than those already incorporated in ISO form CG 00 01.
 4. Any exclusion of coverage relating to earth subsidence or movement.
 5. Any exclusion for the insured’s vicarious liability, strict liability, or statutory liability (other than worker’s compensation).
 6. Any limitation or exclusion based on the nature of Contractor’s work.
 7. Any professional liability exclusion broader in effect than the most recent edition of ISO form CG 22 79.
- I. *Commercial General Liability—Minimum Policy Limits*

Commercial General Liability	Policy limits of not less than:
General Aggregate	\$2,000,000
Products—Completed Operations Aggregate	\$1,000,000
Personal and Advertising Injury	\$1,000,000
Bodily Injury and Property Damage—Each Occurrence	\$1,000,000

- J. *Automobile Liability:* Contractor shall purchase and maintain automobile liability insurance for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance, or use of any motor vehicle. The automobile liability policy must be written on an occurrence basis.

Automobile Liability	Policy limits of not less than:
Bodily Injury	
Each Person	\$1,000,000
Each Accident	\$1,000,000
Property Damage	
Each Accident	\$1,000,000

- K. *Umbrella or Excess Liability:* Contractor shall purchase and maintain umbrella or excess liability insurance written over the underlying employer's liability, commercial general liability, and automobile liability insurance described in the Paragraphs above. The coverage afforded must be at least as broad as that of each and every one of the underlying policies.

Excess or Umbrella Liability	Policy limits of not less than:
Each Occurrence	\$5,000,000
General Aggregate	\$5,000,000

- L. *Using Umbrella or Excess Liability Insurance to Meet CGL and Other Policy Limit Requirements:* Contractor may meet the policy limits specified for employer's liability, commercial general liability, and automobile liability through the primary policies alone, or through combinations of the primary insurance policy's policy limits and partial attribution of the policy limits of an umbrella or excess liability policy that is at least as broad in coverage as that of the underlying policy, as specified herein. If such umbrella or excess liability policy was required under this Contract, at a specified minimum policy limit, such umbrella or excess policy must retain a minimum limit of \$1,000,000 after accounting for partial attribution of its limits to underlying policies, as allowed above.
- M. *Railroad Protective Liability Insurance:* Prior to commencing any Work within 50 feet of railroad-owned and controlled property, Contractor shall (1) endorse its commercial general liability policy with ISO CG 24 17, removing the contractual liability exclusion for work within 50 feet of a railroad, (2) purchase and maintain railroad protective liability insurance meeting the following requirements, (3) furnish a copy of the endorsement to Owner, and (4) submit a copy of the railroad protective policy and other railroad-required documentation to the railroad, and notify Owner of such submittal.

Railroad Protective Liability Insurance	Policy limits of not less than:
Each Claim	\$2,000,000
Aggregate	\$2,000,000

- P. *Unmanned Aerial Vehicle Liability Insurance:* If Contractor uses unmanned aerial vehicles (UAV—commonly referred to as drones) at the Site or in support of any aspect of the Work, Contractor shall obtain UAV liability insurance in the amounts stated; name Owner, Engineer, and all individuals and entities identified in the Supplementary Conditions as additional insureds; and provide a certificate to Owner confirming Contractor's compliance with this requirement. Such insurance will provide coverage for property damage, bodily injury or death, and invasion of privacy.

Unmanned Aerial Vehicle Liability Insurance	Policy limits of not less than:
Each Claim	\$1,000,000
General Aggregate	\$2,000,000

6.04 *Builder's Risk and Other Property Insurance*

SC-6.04 Supplement Paragraph 6.04 of the General Conditions with the following provisions:

F. *Builder's Risk Requirements:* The builder's risk insurance must:

1. be written on a builder's risk "all risk" policy form that at a minimum includes insurance for physical loss or damage to the Work, temporary buildings, falsework, and materials and equipment stored and in transit, and must not exclude the coverage of the following risks: fire; windstorm; hail; flood; earthquake, volcanic activity, and other earth movement; lightning; riot; civil commotion; terrorism; vehicle impact; aircraft; smoke; theft; vandalism and malicious mischief; mechanical breakdown, and artificially generated electric current; collapse; explosion; debris removal; demolition occasioned by enforcement of Laws and Regulations; and water damage (other than that caused by flood).
 - a. Such policy will include an exception that results in coverage for ensuing losses from physical damage or loss with respect to any defective workmanship, methods, design, or materials exclusions.
 - b. If insurance against mechanical breakdown, and artificially generated electric current; earthquake, volcanic activity, and other earth movement; or flood, are not commercially available under builder's risk policies, by endorsement or otherwise, such insurance will be provided through other insurance policies acceptable to Owner and Contractor.
2. cover, as insured property, at least the following: (a) the Work and all materials, supplies, machinery, apparatus, equipment, fixtures, and other property of a similar nature that are to be incorporated into or used in the preparation, fabrication, construction, erection, or completion of the Work, including Owner-furnished or assigned property; (b) spare parts inventory required within the scope of the Contract; and (c) temporary works which are not intended to form part of the permanent constructed Work but which are intended to provide working access to the Site, or to the Work under construction, or which are intended to provide temporary support for the Work under construction, including scaffolding, form work, fences, shoring, falsework, and temporary structures.
3. cover expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of contractors, engineers, and architects).
4. extend to cover damage or loss to insured property while in temporary storage at the Site or in a storage location outside the Site (but not including property stored at the premises of a manufacturer or Supplier). If this coverage is subject to a sublimit, such sublimit will be a minimum of **\$10,000**.
5. extend to cover damage or loss to insured property while in transit. If this coverage is subject to a sublimit, such sublimit will be a minimum of **\$10,000**.
6. allow for the waiver of the insurer's subrogation rights, as set forth in this Contract.
7. allow for partial occupancy or use by Owner by endorsement, and without cancellation or lapse of coverage.
8. include performance/hot testing and start-up, if applicable.
9. be maintained in effect until the Work is complete, as set forth in Paragraph 15.06.D of the General Conditions, or until written confirmation of Owner's procurement of property insurance following Substantial Completion, whichever occurs first.

- 10 include as named insureds the Owner, Contractor, Subcontractors (of every tier), and any other individuals or entities required by this Contract to be insured under such builder's risk policy. For purposes of Paragraphs 6.04, 6.05, and 6.06 of the General Conditions, and this and all other corresponding Supplementary Conditions, the parties required to be insured will be referred to collectively as "insureds." In addition to Owner, Contractor, and Subcontractors of every tier, include as insureds the following:

- a. ~~Engineer~~
- b. ~~Resident Project Representative~~
- c. ~~Norfolk Southern Railroad~~

11. include, in addition to the Contract Price amount, the value of the following equipment and materials to be installed by the Contractor but furnished by the Owner or third parties:

- a. N/A

12. If debris removal in connection with repair or replacement of insured property is subject to a coverage sublimit, such sublimit will be a minimum of **\$10,000**.

SC-6.04 Supplement Paragraph 6.04 of the General Conditions with the following provision:

- G. *Coverage for Completion Delays:* The builder's risk policy will include, for the benefit of Owner, loss of revenue and soft cost coverage for losses arising from delays in completion that result from covered physical losses or damage. Such coverage will include, without limitation, fixed expenses and debt service for a minimum of 12 months with a maximum deductible of 30 days, compensation for loss of net revenues, rental costs, and attorneys' fees and engineering or other consultants' fees, if not otherwise covered.

SC-6.04 Supplement Paragraph 6.04 of the General Conditions with the following provisions:

- H. *Builder's Risk and Other Property Insurance Deductibles:* The purchaser of any required builder's risk, installation floater, or other property insurance will be responsible for costs not covered because of the application of a policy deductible.
 - 1. The builder's risk policy (or if applicable the installation floater) will be subject to a deductible amount of no more than **\$10,000** for direct physical loss in any one occurrence.

ARTICLE 7—CONTRACTOR'S RESPONSIBILITIES

7.03 *Labor; Working Hours*

SC-7.03 Add the following new subparagraphs immediately after Paragraph 7.03.C:

- 1. Regular working hours will be 7:00 a.m. – 5:30 p.m. (Monday through Friday)
- 2. Owner's legal holidays are listed in INDOT Standard Specifications (latest edition), Section 101.26

SC-7.03 Amend the first and second sentences of Paragraph 7.03.C to state "...all Work at the Site must be performed during regular working hours, Monday through Friday. Contractor will not perform Work on a Saturday, Sunday, or any legal holiday."

SC-7.03 Add the following new paragraph immediately after Paragraph 7.03.C:

- D. Contractor shall be responsible for the cost of any overtime pay or other expense incurred by the Owner for Engineer's services (including those of the Resident Project Representative, if any), Owner's representative, and construction observation services, occasioned by the

performance of Work on Saturday, Sunday, any legal holiday, or as overtime on any regular work day. If Contractor is responsible but does not pay, or if the parties are unable to agree as to the amount owed, then Owner may impose a reasonable set-off against payments due under Article 15.

SC-7.03 Add the following new subparagraph immediately after Paragraph SC-7.03.D:

1. For purposes of administering the foregoing requirement, additional overtime costs are defined as **hours beyond regular working hours and hours worked on weekends and holidays.**

7.10 *Taxes*

SC-7.10 Add a new paragraph immediately after Paragraph 7.10.A:

- A. Owner is exempt from payment of sales and compensating use taxes of the State of **Indiana** and of cities and counties thereof on all materials to be incorporated into the Work.
 1. Owner will furnish the required certificates of tax exemption to Contractor for use in the purchase of supplies and materials to be incorporated into the Work.
 2. Owner's exemption does not apply to construction tools, machinery, equipment, or other property purchased by or leased by Contractor, or to supplies or materials not incorporated into the Work.

ARTICLE 8—OTHER WORK AT THE SITE

8.02 *Coordination*

SC-8.02 Add the following new Paragraph 8.02.C immediately after Paragraph 8.02.B:

- C. Owner intends to contract with others for the performance of other work at or adjacent to the Site.
 1. **The Contractor** shall have authority and responsibility for coordination of the various contractors and work forces at the Site;

ARTICLE 9—OWNER'S RESPONSIBILITIES

No supplementary conditions in this article.

ARTICLE 10—ENGINEER'S STATUS DURING CONSTRUCTION

10.03 *Resident Project Representative*

SC-10.03 Add the following new paragraphs immediately after Paragraph 10.03.B:

- C. The Resident Project Representative (RPR) will be Engineer's representative at the Site. RPR's dealings in matters pertaining to the Work in general will be with Engineer and Contractor. RPR's dealings with Subcontractors will only be through or with the full knowledge or approval of Contractor. The RPR will:
 1. *Conferences and Meetings:* Attend meetings with Contractor, such as preconstruction conferences, progress meetings, job conferences, and other Project-related meetings (but not including Contractor's safety meetings), and as appropriate prepare and circulate copies of minutes thereof.

2. *Safety Compliance:* Comply with Site safety programs, as they apply to RPR, and if required to do so by such safety programs, receive safety training specifically related to RPR's own personal safety while at the Site.
 3. *Liaison*
 - a. Serve as Engineer's liaison with Contractor. Working principally through Contractor's authorized representative or designee, assist in providing information regarding the provisions and intent of the Contract Documents.
 - b. Assist Engineer in serving as Owner's liaison with Contractor when Contractor's operations affect Owner's on-Site operations.
 - c. Assist in obtaining from Owner additional details or information, when required for Contractor's proper execution of the Work.
 4. *Review of Work; Defective Work*
 - a. Conduct on-Site observations of the Work to assist Engineer in determining, to the extent set forth in Paragraph 10.02, if the Work is in general proceeding in accordance with the Contract Documents.
 - b. Observe whether any Work in place appears to be defective.
 - c. Observe whether any Work in place should be uncovered for observation, or requires special testing, inspection or approval.
 5. *Inspections and Tests*
 - a. Observe Contractor-arranged inspections required by Laws and Regulations, including but not limited to those performed by public or other agencies having jurisdiction over the Work.
 - b. Accompany visiting inspectors representing public or other agencies having jurisdiction over the Work.
 6. *Payment Requests:* Review Applications for Payment with Contractor.
 7. *Completion*
 - a. Participate in Engineer's visits regarding Substantial Completion.
 - b. Assist in the preparation of a punch list of items to be completed or corrected.
 - c. Participate in Engineer's visit to the Site in the company of Owner and Contractor regarding completion of the Work, and prepare a final punch list of items to be completed or corrected by Contractor.
 - d. Observe whether items on the final punch list have been completed or corrected.
- D. The RPR will not:
1. Authorize any deviation from the Contract Documents or substitution of materials or equipment (including "or-equal" items).
 2. Exceed limitations of Engineer's authority as set forth in the Contract Documents.
 3. Undertake any of the responsibilities of Contractor, Subcontractors, or Suppliers.
 4. Advise on, issue directions relative to, or assume control over any aspect of the means, methods, techniques, sequences or procedures of construction.

- 5 Advise on, issue directions regarding, or assume control over security or safety practices, precautions, and programs in connection with the activities or operations of Owner or Contractor.
- 6 Participate in specialized field or laboratory tests or inspections conducted off-site by others except as specifically authorized by Engineer.
- 7 Authorize Owner to occupy the Project in whole or in part.

ARTICLE 11—CHANGES TO THE CONTRACT

No Supplementary Conditions in this Article.

ARTICLE 12—CLAIMS

No Supplementary Conditions in this Article.

ARTICLE 13—COST OF WORK; ALLOWANCES, UNIT PRICE WORK

13.01 *Cost of the Work*

SC-13.01 Supplement Paragraph 13.01.B.5.c.(2) by adding the following sentence:

The equipment rental rate book that governs the included costs for the rental of machinery and equipment owned by Contractor (or a related entity) under the Cost of the Work provisions of this Contract is the most current edition of **Rental Rate Blue Book (latest edition)**

SC-13.01 Supplement Paragraph 13.01.C.2 by adding the following definition of small tools and hand tools:

- a. For purposes of this paragraph, “small tools and hand tools” means any tool or equipment whose current price if it were purchased new at retail would be less than \$500.

13.03 *Unit Price Work*

SC-13.03 Delete Paragraph 13.03.E in its entirety and insert the following in its place:

E. *Adjustments in Unit Price*

1. Contractor or Owner shall be entitled to an adjustment in the unit price with respect to an item of Unit Price Work if:
 - a. the extended price of a particular item of Unit Price Work amounts to **twenty-five (25)** percent or more of the Contract Price (based on estimated quantities at the time of Contract formation) and the variation in the quantity of that particular item of Unit Price Work actually furnished or performed by Contractor differs by more than **twenty-five (25)** percent from the estimated quantity of such item indicated in the Agreement; and
 - b. Contractor’s unit costs to perform the item of Unit Price Work have changed materially and significantly as a result of the quantity change.
2. The adjustment in unit price will account for and be coordinated with any related changes in quantities of other items of Work, and in Contractor’s costs to perform such other

Work, such that the resulting overall change in Contract Price is equitable to Owner and Contractor.

3. Adjusted unit prices will apply to all units of that item.

ARTICLE 14—TESTS AND INSPECTIONS; CORRECTION, REMOVAL, OR ACCEPTANCE OF DEFECTIVE WORK

No suggested Supplementary Conditions in this Article.

ARTICLE 15—PAYMENTS TO CONTRACTOR, SET OFFS; COMPLETIONS; CORRECTION PERIOD

15.03 Substantial Completion

SC-15.03 Add the following new subparagraph to Paragraph 15.03.B:

1. If some or all of the Work has been determined not to be at a point of Substantial Completion and will require re-inspection or re-testing by Engineer, the cost of such re-inspection or re-testing, including the cost of time, travel and living expenses, will be paid by Contractor to Owner. If Contractor does not pay, or the parties are unable to agree as to the amount owed, then Owner may impose a reasonable set-off against payments due under this Article 15.

15.08 Correction Period

SC-15.08 Add the following new Paragraph 15.08.G:

- G. The correction period specified as one year after the date of Substantial Completion in Paragraph 15.08.A of the General Conditions is hereby revised to be the number of years set forth in SC-6.01.B.1; or if no such revision has been made in SC-6.01.B, then the correction period is hereby specified to be **3** years after Substantial Completion.

ARTICLE 16—SUSPENSION OF WORK AND TERMINATION

No suggested Supplementary Conditions in this Article.

ARTICLE 17—FINAL RESOLUTIONS OF DISPUTES

17.02 Arbitration

SC-17.02 Add the following new paragraph immediately after Paragraph 17.01.

17.02 Arbitration

- A. All matters subject to final resolution under this Article will be settled by arbitration administered by the American Arbitration Association in accordance with its Construction Industry Arbitration Rules (subject to the conditions and limitations of this Paragraph SC-17.02). Any controversy or claim in the amount of \$100,000 or less will be settled in accordance with the American Arbitration Association's supplemental rules for Fixed Time and Cost Construction Arbitration. This agreement to arbitrate will be specifically enforceable under the prevailing law of any court having jurisdiction.

- B. The demand for arbitration will be filed in writing with the other party to the Contract and with the selected arbitration administrator, and a copy will be sent to Engineer for information. The demand for arbitration will be made within the specific time required in Article 17, or if no specified time is applicable within a reasonable time after the matter in question has arisen, and in no event will any such demand be made after the date when institution of legal or equitable proceedings based on such matter in question would be barred by the applicable statute of limitations.
- C. The arbitrator(s) must be licensed engineers, contractors, attorneys, or construction managers. Hearings will take place pursuant to the standard procedures of the Construction Arbitration Rules that contemplate in-person hearings. The arbitrators will have no authority to award punitive or other damages not measured by the prevailing party's actual damages, except as may be required by statute or the Contract. Any award in an arbitration initiated under this clause will be limited to monetary damages and include no injunction or direction to any party other than the direction to pay a monetary amount.
- D. The Arbitrators will have the authority to allocate the costs of the arbitration process among the parties, but will only have the authority to allocate attorneys' fees if a specific Law or Regulation or this Contract permits them to do so.
- E. The award of the arbitrators must be accompanied by a reasoned written opinion and a concise breakdown of the award. The written opinion will cite the Contract provisions deemed applicable and relied on in making the award.
- F. The parties agree that failure or refusal of a party to pay its required share of the deposits for arbitrator compensation or administrative charges will constitute a waiver by that party to present evidence or cross-examine witness. In such event, the other party shall be required to present evidence and legal argument as the arbitrator(s) may require for the making of an award. Such waiver will not allow for a default judgment against the non-paying party in the absence of evidence presented as provided for above.
- G. No arbitration arising out of or relating to the Contract will include by consolidation, joinder, or in any other manner any other individual or entity (including Engineer, and Engineer's consultants and the officers, directors, partners, agents, employees or consultants of any of them) who is not a party to this Contract unless:
 - 1. the inclusion of such other individual or entity will allow complete relief to be afforded among those who are already parties to the arbitration;
 - 2. such other individual or entity is substantially involved in a question of law or fact which is common to those who are already parties to the arbitration, and which will arise in such proceedings;
 - 3. such other individual or entity is subject to arbitration under a contract with either Owner or Contractor, or consents to being joined in the arbitration; and
 - 4. the consolidation or joinder is in compliance with the arbitration administrator's procedural rules.
- H. The award will be final. Judgment may be entered upon it in any court having jurisdiction thereof, and it will not be subject to modification or appeal, subject to provisions of the Laws and Regulations relating to vacating or modifying an arbitral award.
- I. Except as may be required by Laws or Regulations, neither party nor an arbitrator may disclose the existence, content, or results of any arbitration hereunder without the prior written consent of both parties, with the exception of any disclosure required by Laws and Regulations or the

Contract. To the extent any disclosure is allowed pursuant to the exception, the disclosure must be strictly and narrowly limited to maintain confidentiality to the extent possible.

17.03 *Attorneys' Fees*

SC-17.03 Add the following new paragraph immediately after Paragraph 17.02.

17.03 *Attorneys' Fees*

- A. For any matter subject to final resolution under this Article, the prevailing party shall be entitled to an award of its attorneys' fees incurred in the final resolution proceedings, in an equitable amount to be determined in the discretion of the court, arbitrator, arbitration panel, or other arbiter of the matter subject to final resolution, taking into account the parties' initial demand or defense positions in comparison with the final result.

ARTICLE 18—MISCELLANEOUS

No Supplementary Conditions in this Article

SECTION 00 51 13

AGREEMENT BETWEEN OWNER AND CONTRACTOR FOR CONSTRUCTION CONTRACT (STIPULATED PRICE)

This Agreement is by and between **City of Huntington** (“Owner”) and (“Contractor”).

Terms used in this Agreement have the meanings stated in the General Conditions and the Supplementary Conditions.

Owner and Contractor hereby agree as follows:

ARTICLE 1—WORK

- 1.01 Contractor shall complete all Work as specified or indicated in the Contract Documents. The Work is generally described as follows:

Construction of approximately 8,100 linear feet of 36” to 72” diameter interceptor sewer pipe, plus connecting sewers. The bidding documents allow for HDPE Pipe, Steel Reinforced Polyethylene Pipe (SRP) or Centrifugally Cast Glass-Fiber-Reinforced Polymer Mortar (CCFRPM) Sewer Pipe. The project also includes approximately 13,000 cubic yards of rock excavation, 72” jack and bore of Norfolk Southern Railroad, water main replacement, new sidewalks and curbs, full roadway reconstruction, fiber optic installation and new CSO structures with meters.

ARTICLE 2—THE PROJECT

- 2.01 The Project, of which the Work under the Contract Documents is a part, is generally described as follows: **City of Huntington LTCP Projects 7 & 8 – Northside Interceptor Sewer**

ARTICLE 3—ENGINEER

- 3.01 The Owner has retained **Lochmueller Group, Inc.** (“Engineer”) to act as Owner’s representative, assume all duties and responsibilities of Engineer, and have the rights and authority assigned to Engineer in the Contract.
- 3.02 The part of the Project that pertains to the Work has been designed by **Lochmueller Group, Inc.**

ARTICLE 4—CONTRACT TIMES

- 4.01 Time is of the Essence

- A. All time limits for Milestones, if any, Substantial Completion, and completion and readiness for final payment as stated in the Contract Documents are of the essence of the Contract.

- 4.02

Contract Times: Days

- A. The Work will be substantially complete within **600** days after the date when the Contract Times commence to run as provided in Paragraph 4.01 of the General Conditions, and completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions within **660** days after the date when the Contract Times commence to run.

4.03 Milestones

- A. Parts of the Work must be substantially completed on or before the following Milestone(s):

Milestone 1:	WWTP to State St & Lafontaine St.	180 days
Milestone 2:	State St & Lafontaine St. to Lafontaine St. & Tipton St.	90 days
Milestone 3:	Tipton from Lafontaine St. to Jefferson St.	150 days
Milestone 4:	Tipton from Jefferson St. to End of Project	150 days
Milestone 5A:	Each CSO Structure manhole (pre-cast)	14 days
Milestone 5B:	Each CSO Structure manhole (cast-in-place)	21 days
Milestone 6:	Each CSO Structure's Equipment, Electrical, Fiber	30 days
Milestone 7:	Fiber Optic Routing from Lafontaine St. to First St.	90 days

- B. Milestones 1, 2, 3, & 4 - Days shall be defined as the time pavement is removed, until intermediate pavement is completed for asphalt pavement or subbase is complete for PCCP.
- C. Milestones 5 & 6 - Days for CSO Structures shall be defined as the time pavement is removed until the road is opened for traffic. Any work that is incidental to the CSO structure including equipment, fiber optic or electrical installation must be completed within the 30 days from time pavement is removed.
1. Milestone 5A and 5B – The Contractor is responsible to determine if each structure is pre-cast or cast-in-place based on the field conditions. For pre-cast structures the road can only remain closed for 14 days. If cast-in-place is determined, then contractor shall have 21 days to complete road work.
- D. Milestone 7 – Days shall be defined as the time land disturbance begins until restoration is complete for the installation of fiber optic not covered under other milestones.

4.04 Liquidated Damages

- A. Contractor and Owner recognize that time is of the essence as stated in Paragraph 4.01 above and that Owner will suffer financial and other losses if the Work is not completed and Milestones not achieved within the Contract Times, as duly modified. The parties also recognize the delays, expense, and difficulties involved in proving, in a legal or arbitration proceeding, the actual loss suffered by Owner if the Work is not completed on time. Accordingly, instead of requiring any such proof, Owner and Contractor agree that as liquidated damages for delay (but not as a penalty):
1. *Substantial Completion:* Contractor shall pay Owner **\$2,500** for each day that expires after the time (as duly adjusted pursuant to the Contract) specified above for Substantial Completion, until the Work is substantially complete.
 2. *Completion of Remaining Work:* After Substantial Completion, if Contractor shall neglect, refuse, or fail to complete the remaining Work within the Contract Times (as duly adjusted pursuant to the Contract) for completion and readiness for final payment, Contractor shall pay Owner **\$2,500** for each day that expires after such time until the Work is completed and ready for final payment.
 3. Milestone 1: Contractor shall pay Owner **\$4,000** for each day that expires after the time (as duly adjusted pursuant to the Contract) specified above for achievement of Milestone 1, until the milestone is achieved, or until the time specified for Substantial Completion is reached, at which time the rate indicated in Paragraph 4.04.A.1 will apply, rather than the Milestone rate.

4. Milestones 2-7: Contractor shall pay Owner **\$1,000** for each day that expires after the time (as duly adjusted pursuant to the Contract) specified above for achievement of Milestones 2-7, until the milestone is achieved, or until the time specified for Substantial Completion is reached, at which time the rate indicated in Paragraph 4.04.A.1 will apply, rather than the Milestone rate.
 5. Liquidated damages for failing to timely attain Milestones, Substantial Completion, and final completion are not additive, and will not be imposed concurrently.
- B. If Owner recovers liquidated damages for a delay in completion by Contractor, then such liquidated damages are Owner's sole and exclusive remedy for such delay, and Owner is precluded from recovering any other damages, whether actual, direct, excess, or consequential, for such delay, except for special damages (if any) specified in this Agreement.

ARTICLE 5—CONTRACT PRICE

- 5.01 Owner shall pay contractor for completion of the work in accordance with the contract documents, the amounts that follow, subject to adjustment under the contract:
- A. For all Unit Price Work, an amount equal to the sum of the extended prices (established for each separately identified item of Unit Price Work by multiplying the unit price times the actual quantity of that item).
 - B. The extended prices for Unit Price Work set forth as of the Effective Date of the Contract are based on estimated quantities. As provided in Paragraph 13.03 of the General Conditions, estimated quantities are not guaranteed, and determinations of actual quantities and classifications are to be made by Engineer.
 - C. Total Price of Work (subject to final Unit Price adjustment)
 1. All specific cash allowances are included in the price below in accordance with Paragraph 13.02 of the General Conditions.

					Bid Amount
Total of All Unit Price Bid Items for the Base Bid (CCFRPM)					\$
Deduct for Base Bid Line Items 164-168					\$
Item No.	Description (Pipe Type_____)	Unit	Estimated Quantity	Bid Unit Price	
164	PIPE, SAN.SEWER, _____, 36 IN.	LFT	1,993		
165	PIPE, SAN.SEWER, _____, 42 IN.	LFT	52		
166	PIPE, SAN.SEWER, _____, 48 IN.	LFT	3,452		
167	PIPE, SAN.SEWER, _____, 66 IN.	LFT	2,119		
168	PIPE, SAN.SEWER, _____, 72 IN.	LFT	2,543		
Total of All Unit Price Bid Items for Selected Alternate					\$
And in words:					

- E. For all Work, at the prices stated in Contractor's Bid, attached hereto as an exhibit.

ARTICLE 6—PAYMENT PROCEDURES

6.01 *Submittal and Processing of Payments*

- A. Contractor shall submit Applications for Payment in accordance with Article 15 of the General Conditions. Applications for Payment will be processed by Engineer as provided in the General Conditions.

6.02 *Progress Payments; Retainage*

- A. Owner shall make progress payments on the basis of Contractor's Applications for Payment on or about the _____ day of each month during performance of the Work as provided in Paragraph 6.02.A.1 below, provided that such Applications for Payment have been submitted in a timely manner and otherwise meet the requirements of the Contract. All such payments will be measured by the Schedule of Values established as provided in the General Conditions (and in the case of Unit Price Work based on the number of units completed) or, in the event there is no Schedule of Values, as provided elsewhere in the Contract.
 - 1. Prior to Substantial Completion, progress payments will be made in an amount equal to the percentage indicated below but, in each case, less the aggregate of payments previously made and less such amounts as Owner may withhold, including but not limited to liquidated damages, in accordance with the Contract.
 - a. 95 percent of the value of the Work completed (with the balance being retainage).
 - b. 95 percent of cost of materials and equipment not incorporated in the Work (with the balance being retainage).
- B. Upon Substantial Completion, Owner shall pay an amount sufficient to increase total payments to Contractor to 100 percent of the Work completed, less such amounts set off by Owner pursuant to Paragraph 15.01.E of the General Conditions, and less 200 percent of Engineer's estimate of the value of Work to be completed or corrected as shown on the punch list of items to be completed or corrected prior to final payment.

6.03 *Final Payment*

- A. Upon final completion and acceptance of the Work, Owner shall pay the remainder of the Contract Price in accordance with Paragraph 15.06 of the General Conditions.

6.04 *Consent of Surety*

- A. Owner will not make final payment, or return or release retainage at Substantial Completion or any other time, unless Contractor submits written consent of the surety to such payment, return, or release.

6.05 *Interest*

- A. All amounts not paid when due will bear interest at the rate of 0 percent per annum.

ARTICLE 7—CONTRACT DOCUMENTS

7.01 *Contents*

- A. The Contract Documents consist of all of the following:
 - 1. This Agreement.
 - 2. Bonds:
 - a. Performance bond (together with power of attorney).
 - b. Payment bond (together with power of attorney).

3. General Conditions.
4. Supplementary Conditions.
5. Specifications as listed in the table of contents of the project manual (copy of list attached).
6. Drawings (not attached but incorporated by reference) consisting of _____ sheets with each sheet bearing the following general title: _____.
8. Addenda (numbers _____ to _____, inclusive).
9. Exhibits to this Agreement (enumerated as follows):
 - a. _____
10. The following which may be delivered or issued on or after the Effective Date of the Contract and are not attached hereto:
 - a. Notice to Proceed.
 - b. Work Change Directives.
 - c. Change Orders.
 - d. Field Orders.
 - e. Warranty Bond, if any.
- B. The Contract Documents listed in Paragraph 7.01.A are attached to this Agreement (except as expressly noted otherwise above).
- C. There are no Contract Documents other than those listed above in this Article 7.
- D. The Contract Documents may only be amended, modified, or supplemented as provided in the Contract.

ARTICLE 8—REPRESENTATIONS, CERTIFICATIONS, AND STIPULATIONS

7.01 Contractor's Representations

- A. In order to induce Owner to enter into this Contract, Contractor makes the following representations:
 1. Contractor has examined and carefully studied the Contract Documents, including Addenda.
 2. Contractor has visited the Site, conducted a thorough visual examination of the Site and adjacent areas, and become familiar with the general, local, and Site conditions that may affect cost, progress, and performance of the Work.
 3. Contractor is familiar with all Laws and Regulations that may affect cost, progress, and performance of the Work.
 4. Contractor has carefully studied the reports of explorations and tests of subsurface conditions at or adjacent to the Site and the drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Supplementary Conditions, with respect to the Technical Data in such reports and drawings.

5. Contractor has carefully studied the reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified in the Supplementary Conditions, with respect to Technical Data in such reports and drawings.
6. Contractor has considered the information known to Contractor itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Contract Documents; and the Technical Data identified in the Supplementary Conditions or by definition, with respect to the effect of such information, observations, and Technical Data on (a) the cost, progress, and performance of the Work; (b) the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor; and (c) Contractor's safety precautions and programs.
7. Based on the information and observations referred to in the preceding paragraph, Contractor agrees that no further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract.
8. Contractor is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Contract Documents.
9. Contractor has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Contractor has discovered in the Contract Documents, and of discrepancies between Site conditions and the Contract Documents, and the written resolution thereof by Engineer is acceptable to Contractor.
10. The Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.
11. Contractor's entry into this Contract constitutes an incontrovertible representation by Contractor that without exception all prices in the Agreement are premised upon performing and furnishing the Work required by the Contract Documents.

8.02 *Contractor's Certifications*

- A. Contractor certifies that it has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for or in executing the Contract. For the purposes of this Paragraph 8.02:
 1. "corrupt practice" means the offering, giving, receiving, or soliciting of anything of value likely to influence the action of a public official in the bidding process or in the Contract execution;
 2. "fraudulent practice" means an intentional misrepresentation of facts made (a) to influence the bidding process or the execution of the Contract to the detriment of Owner, (b) to establish Bid or Contract prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition;
 3. "collusive practice" means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish Bid prices at artificial, non-competitive levels; and
 4. "coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

8.03 *Standard General Conditions*

- A. Owner stipulates that if the General Conditions that are made a part of this Contract are EJCDC® C-700, Standard General Conditions for the Construction Contract (2018), published by the Engineers Joint Contract Documents Committee, and if Owner is the party that has furnished said General Conditions, then Owner has plainly shown all modifications to the standard wording of such published document to the Contractor, through a process such as highlighting or “track changes” (redline/strikeout), or in the Supplementary Conditions.

IN WITNESS WHEREOF, Owner and Contractor have signed this Agreement.

This Agreement will be effective on _____. (which is the Effective Date of the Contract).

Owner:

Contractor:

(typed or printed name of organization)

By:

(individual's signature)

Date:

(date signed)

Name:

(typed or printed)

Title:

(typed or printed)

Attest:

(individual's signature)

Title:

(typed or printed)

Address for giving notices:

Designated Representative:

Name:

(typed or printed)

Title:

(typed or printed)

Address:

Phone:

Email:

(If [Type of Entity] is a corporation, attach evidence of authority to sign. If [Type of Entity] is a public body, attach evidence of authority to sign and resolution or other documents authorizing execution of this Agreement.)

(typed or printed name of organization)

By:

(individual's signature)

Date:

(date signed)

Name:

(typed or printed)

Title:

(typed or printed)

(If [Type of Entity] is a corporation, a partnership, or a joint venture, attach evidence of authority to sign.)

Attest:

(individual's signature)

Title:

(typed or printed)

Address for giving notices:

Designated Representative:

Name:

(typed or printed)

Title:

(typed or printed)

Address:

Phone:

Email:

License No.:

(where applicable)

State:

SECTION 00 51 16
NOTICE TO PROCEED

Owner: City of Huntington Owner's Project No.: _____
 Engineer: Lochmueller Group, Inc. Engineer's Project No.: 120-3003-02W
 Contractor: _____ Contractor's Project No.: _____
 Project: LTCP Projects 7 & 8 – Northside Interceptor Sewer
 Contract Name: LTCP Projects 7 & 8 – Northside Interceptor Sewer
 Effective Date of Contract: _____

Owner hereby notifies Contractor that the Contract Times under the above Contract will commence to run on **[date Contract Times are to start]** pursuant to Paragraph 4.01 of the General Conditions.

On that date, Contractor shall start performing its obligations under the Contract Documents. No Work will be done at the Site prior to such date.

In accordance with the Agreement:

The number of days to achieve Substantial Completion is **600** from the date stated above for the commencement of the Contract Times, resulting in a date for Substantial Completion; and the number of days to achieve readiness for final payment is **660** from the commencement date of the Contract Times, resulting in a date for readiness for final payment.

Before starting any Work at the Site, Contractor must comply with the following:

Owner: **City of Huntington**
 By *(signature)*: _____
 Name *(printed)*: _____
 Title: _____
 Date Issued: _____
 Copy: Engineer

SECTION 01 02 50
MEASUREMENT AND PAYMENT MISCELLANEOUS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. CSO 0## Rehabilitation
2. Brick Pavers (remove, protect, reset)
3. Limestone Curb (remove, protect, reset)
4. Railroad – Tack Monitoring Plan Preparation
5. Railroad – Track Monitoring
6. Railroad – Frac Plan
7. Railroad – Shoring Plan Preparation
8. Railroad – Flagger (Allowance)
9. Dewatering for Contaminated Groundwater
10. 6" Meter Pit
11. Bricks in Pipes at WWTP, Remove

1.2 UNIT PRICE – MEASUREMENT AND PAYMENT

A. CSO 0## REHABILITATION (003, 009, 010, 011, 013, 014, 015, AND 016)

1. Basis of Measurement: by Lump Sum
2. Plan Sheets – S1 through S8
3. Basis of Payment: For furnishing and installing complete and in place, all labor, materials, and equipment necessary to fully construct and place in service new CSO control structures. The work shall include submittal of shop drawings signed by a professional engineer certified in the State of Indiana, excavation, dewatering, by-pass pumping, bedding and backfill, removal of existing pavement as required, restoration including asphalt, concrete, sod and seeding, and installation of all the above, all per plan. This shall include excavating, rock removal, pre-cast or cast-in-place structures, check valves (where indicated on plans), water main relocation, cleanup, maintenance of traffic, sheeting, shoring, protection of existing structures, replacement of connector pipes damaged during excavation, pipe fittings, weir, pipe lining for pipes connecting to the CSO structure where indicated on the plans, CSO structure lining (where indicated on plans), castings, and appurtenances as required by the plan for that specific CSO. Contractor shall be responsible to supply a full, complete, and operational replacement.

B. BRICK PAVERS (REMOVE, PROTECT, RESET)

1. Basis of Measurement: by Square Yards
2. Basis of Payment: For furnishing and installing complete and in place, all labor, materials, and equipment necessary to fully remove and reset brick pavers according to the plans. This will include documenting patterns, removing, with care, existing bricks, palletizing, transporting, storing, cleaning and securing existing bricks for future reuse. Resetting shall include all labor, materials, and equipment necessary to provide, geotextile fabric, cutting, adhesive, tack coat layer, bedding material, joint treatment, labor and equipment, cleanup as necessary. The concrete base shall be paid for under the PCCP, 4 IN pay item.

- C. LIMESTONE CURB (REMOVE, PROTECT, RESET)
1. Basis of Measurement: by Linear Feet
 2. Basis of Payment: For furnishing and installing complete and in place, all labor, materials, and equipment necessary to fully remove and reset existing limestone curb according to the plans. This will include removing, with care, existing a sufficient number of sections of limestone curbing, palletizing, transporting, storing, and securing for future reuse. Resetting shall include all labor, materials, and equipment necessary to provide compacted base for hand placing curb sections. The cost will include all cutting, removing, placing and cleaning curb sections. The contractor shall remove enough good and full sections of curb to fulfill the block of street as indicated on the plans. No reuse of sections smaller than 24" shall be permitted.
- D. RAILROAD - TRACK MONITORING PLAN PREPARATION
1. Basis of Measurement: by Lump Sum
 2. Basis of Payment: For preparation of a plan for track monitoring including writing a track monitoring plan in accordance with NSCE-8 or other Norfolk Southern regulations or requirements, for submission and approval of the Norfolk Southern Railroad. The contractor will be required to provide a track monitoring plan that includes adhesive targets. The contractor shall coordinate with, answer questions, and provide all documents and information to Norfolk Southern as required.
- E. RAILROAD – TRACK MONITORING
1. Basis of Measurement: by Lump Sum
 2. Basis of Payment: For furnishing and installing complete and in place, all labor, materials, and equipment necessary to fully implement a track monitoring program as approved by Norfolk Southern. The contractor is required to utilize adhesive targets as a part of their track monitoring program. The cost shall include all costs associated with the setup, ongoing operation and dismantling of said monitoring system. All costs for monitoring shall be included in this bid item.
- F. RAILROAD – FRAC PLAN
1. Basis of Measurement: by Lump Sum
 2. Basis of Payment: For drafting, preparation and implementing a frac out plan through Norfolk Southern. This plan shall be in accordance with NSCE-8 and any other Norfolk Southern regulations or requirements. This bid item shall include any costs to comply with the frac plan including labor, equipment, materials, analysis, testing, inspecting and management activities.
- G. RAILROAD – SHORING PLAN PREPARATION
1. Basis of Measurement: by Lump Sum
 2. Basis of Payment: For drafting and preparation of a shoring plan approved through Norfolk Southern. This plan shall be in accordance with NSCE-8 and any other Norfolk Southern regulations or requirements. The cost of implementation of the shoring plan recommendations shall be included in the linear foot cost of the pipe. The contractor is responsible for the cost of both the plan and implementation of the shoring.
- H. RAILROAD – MONITOR AND OBSERVER (ALLOWANCE)
1. Basis of Measurement: by Dollars
 2. Basis of Payment: For use by the City for costs of Norfolk Southern personnel to be present during construction activities on and within the railroad right of way. Fees for those

individuals will be paid directly from this bid item. Any remaining fees shall be returned to the City of Huntington and will be done so in the form of a change order.

I. DEWATERING FOR CONTAMINATED GROUNDWATER

1. Basis of Measurement: by Lump Sum
2. Basis of Payment: For drafting, preparation, and implementation of a dewatering management plan to address potential contamination of groundwater per the Phase II Environmental Site Assessment. The cost of implementation of all other dewatering shall be included in the linear foot cost of the pipe.

J. 6" METER PIT

1. Basis of Measurement: by Each
2. Basis of Payment: For furnishing and installing complete and in place, all labor, materials, and equipment necessary to fully construct and place in service a new pre-cast or cast-in-place water meter pit as detailed on the plans. The work shall include submittal of shop drawings signed by a professional engineer certified in the State of Indiana, excavation, dewatering, by-pass pumping, bedding and backfill, removal of existing pavement as required, restoration including asphalt, concrete, sod and seeding, and installation of all the above, all per plan. This shall include pre-cast or cast-in-place structures, aluminum hatch, sump, grouting of the pit floor, steps, installation of the 6" meter, which will be supplied by others, sheeting, shoring, protection of existing structures, flexible boot connections, furnishing and installing gate valves within the structure, and other appurtenances as required by the plan for the meter pit.

K. BRICKS IN PIPE AT WWTP, REMOVE

1. Basis of Measurement: by Lump Sum
2. Basis of Payment: For all labor, equipment, and material necessary to remove the existing bricks within the existing 72" pipe within Flow junction box at the wastewater treatment plant (WWTP). The work shall include all removal, scaffolding, disposal, lifting, cleaning, bypass pumping, dewatering, sanding, grinding, grouting, repairing and general demolition of all bricks to allow free flow of wastewater to enter the WWTP.

END OF SECTION 01 02 50

SECTION 31 23 18 ROCK REMOVAL

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Removing identified and discovered rock during excavation.
 - 2. Expansive tools to assist rock removal.
- B. Section Excludes:
 - 1. Rock Removal in CSO Rehabilitation Areas. Cost of rock excavation in those areas shall be covered under each bid item for said CSO.

1.2 UNIT PRICE – MEASUREMENT AND PAYMENT

- A. ROCK REMOVAL
 - 1. Basis of Measurement: By Cubic Yard
 - 2. Basis of Payment: Includes excavation and disposal of rock by mechanical means as defined in this specification.

1.3 DEFINITIONS

- A. Trench Rock: Solid mineral material with volume in excess of 1/3 cu yd or solid material that cannot be removed with 3/4 cu yd capacity excavator without drilling, hammering or blasting.
- B. Rock: Solid mineral material of size that cannot be removed with 3/4 cu yd capacity excavator.

1.4 PROJECT CONDITIONS

- A. Conduct survey and document conditions near utilities prior to construction.

PART 2 PRODUCTS

PART 3 EXECUTION

3.1 EXAMINATION

- A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.
- B. Verify site conditions and note subsurface irregularities affecting Work of this section.

3.2 PREPARATION

- A. Identify required lines, levels, contours, and datum.

3.3 ROCK REMOVAL BY MECHANICAL METHOD

- A. Excavate and remove rock by mechanical method.
 - 1. Drill holes and use expansive tools, wedges, or mechanical disintegration compound to fracture rock.
- B. Cut away rock at bottom of excavation to form level bearing.
- C. In utility trenches, excavate per the detail as shown on the plans.
- D. Remove excavated materials from site.
- E. Correct unauthorized rock removal as directed by Architect/Engineer.
- F. **BLASTING WILL NOT BE ALLOWED.**

END OF SECTION 31 23 18

**SECTION 33 14 13
PUBLIC WATER UTILITY DISTRIBUTION PIPING**

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Pipe and fittings for potable water line.
2. Tapping sleeves and valves.
3. Line stops.
4. Bedding and cover materials.
5. Tracer Wire

1.2 UNIT PRICE - MEASUREMENT AND PAYMENT

A. Section 01 20 00 - Price and Payment Procedures: Contract Sum/Price modification procedures.

B. WATER MAIN, DUCTILE IRON (VARIOUS SIZES)

1. Basis of Measurement: By linear foot along centerline of the pipe from fitting center to fitting center.
2. Basis of Payment: For furnishing and installing complete and in place, all labor, materials and equipment necessary for the main. Includes soil excavation, dewatering, bedding and backfill, miscellaneous restoration as required or shown on the plans, sheeting, shoring, protection of existing structures, cleanup, testing; pipe, fittings, and appurtenances, retaining glands as required or shown on the plans, connection to site service piping, connection and tap to municipal utility water source, preconstruction photographs and Record Drawings.

C. WATER MAIN, PVC, C900 (VARIOUS SIZES)

1. Basis of Measurement: By linear foot along centerline of the pipe from fitting center to fitting center.
2. Basis of Payment: For furnishing and installing complete and in place, all labor, materials and equipment necessary for the main. Includes soil excavation, dewatering, bedding and backfill, miscellaneous restoration as required or shown on the plans, sheeting, shoring, protection of existing structures, cleanup, testing; pipe, fittings, restraints, and appurtenances, retaining glands as required or shown on the plans, connection to site service piping, connection and tap to municipal utility water source, preconstruction photographs and Record Drawings.

D. FITTINGS (VARIOUS SIZES AND TYPES)

1. Basis of Measurement: By Each.
2. Basis of Payment: For furnishing and installing complete and in place, all labor, materials, and equipment necessary for the installation of new ductile iron fittings as described in the project specifications. The bid price shall include, but not be limited to, all costs for all fittings, joint material, installation of fittings and accessories, bedding and backfill material, excavation and backfill, dewatering, removal and disposal or abandonment of existing water main, miscellaneous restoration, concrete thrust blocking or retaining glands as required or shown on the plans, sheeting, shoring, protection of

existing structures, testing, cleanup, as-built drawings and all other operations necessary to complete the work as shown on the plans or as specified.

E. TAPPING SLEEVE AND VALVE (VARIOUS SIZES)

1. Basis of Measurement: By Each.
2. Basis of Payment: This Work shall consist of all labor, equipment, transportation and materials required to install and make active tapping sleeve and tapping valve, including, but not necessarily limited to: saw cutting and removing pavement; all excavation; permanent and temporary shoring of the excavation; groundwater control; treatment and disposal; any and all necessary hardware, bedding, cover, testing; bypass pumping; protection, replacement or repair of utilities, drainage systems, structures, and miscellaneous property; removal and legal disposal of surplus excavated material; and clean up, all in accordance with the Contract Documents.

F. LINE STOPS (VARIOUS SIZES)

1. Basis of Measurement: By Each.
2. Basis of Payment: For furnishing and installing complete and in place, all labor, materials, and equipment necessary to install water line stops at diameters of existing water mains to be temporarily plugged. Line stops will be at the discretion of the City and its representatives to eliminate or reduce water service outages to customers or to shut down a section of water main where there is a lack of existing valving or operational valving. The work shall include, but not be limited to, line stop material, equipment, all pavement removal, excavation, backfill, dewatering, removal and disposal of the existing water main, miscellaneous restoration, sheeting, shoring, protection of existing structures, testing, cleanup, as-built drawings and all other operations necessary to complete the work as required.

G. CONNECTION TO EXISTING WATER MAIN

1. Basis of Measurement: By Each.
2. Basis of Payment: This Work shall consist of all labor, equipment, transportation and materials required to install and make direction connections to existing water lines without the use of a hot tap, including, but not necessarily limited to: Coordination with the City of Huntington Water Department for temporary main shut down, draining a portion of the existing water main, saw cutting and removing pavement; all excavation; permanent and temporary shoring of the excavation; groundwater control; treatment and disposal; any and all necessary equipment, bedding, cover, testing; bypass pumping; protection, replacement or repair of utilities, drainage systems, structures, and miscellaneous property; removal and legal disposal of surplus excavated material; and clean up, all in accordance with the Contract Documents. The cost of the fitting or valve used to make the connection itself will be paid for separately.

H. WATER SERVICE CONNECTION WITH METER

1. Basis of Measurement: By Each.
2. Basis of Payment: For furnishing and installing complete and in place, all labor, materials and equipment necessary for the installation of water service lateral. This work shall consist of installing water service connections between the utility owned distribution main and the existing service pipes to accommodate construction requirements. The bid price shall include, but not be limited to, all cost for repairing, relocating and/or furnishing and installing any Type K soft copper or poly copper tube size (CTS) pipe tubing, curb stops, saddle, corp stop, curb box, road box meters (reuse existing meter or provided by others), meter pit, and castings, excavation, dewatering, bedding and

backfill, miscellaneous restoration as required or shown on the plans, sheeting, shoring, protection of existing structures, cleanup, that may be necessary to continue water service for private mains and/or service pipes. The CONTRACTOR shall also be responsible for preconstruction photographs, Record Drawings and maintaining a minimum cover height of 3'-0" for all service pipes within the limits of construction. Any work on mains 2-inches and smaller shall have one continuous pipe from the water main to the curb stop or meter pit. No coupling shall be allowed within the right-of-way. The CONTRACTOR shall notify the Utility 24 hours in advance of doing this work so that the Utility can inspect the work.

I. WATER SERVICE REPAIR

1. Basis of Measurement: By Each.
2. Basis of Payment: For furnishing and installing complete and in place, all labor, materials and equipment necessary for the repair of water service laterals for locations as determined by the ENGINEER.

J. CUT AND CAP (VARIOUS SIZES)

1. Basis of Measurement: By Each.
2. Basis of Payment: This Work shall consist of all labor, equipment, transportation and materials required to drain the existing water main, place a ductile iron cap and necessary mechanical fitting, including the: saw cutting and removing pavement; all excavation; permanent and temporary shoring of the excavation; groundwater control; treatment and disposal; any and all necessary hardware, bedding, cover, asphalt, testing; bypass pumping; protection, replacement or repair of utilities, drainage systems, structures, and miscellaneous property; removal and legal disposal of surplus excavated material; and clean up, all in accordance with the Contract Documents. The cost shall include the cost to fully abandon old water main in place after all connections are connected to new water main.

K. TRACER WIRE, #10 GAUGE

1. Basis of Measurement: By Linear Foot.
2. Basis of Payment: This Work shall consist of all labor, equipment, transportation, and materials required to install tracer wire including connectors, splicing, enclosures, access points, anchors, collars, testing stations, continuity testing, and cleanup.

1.3 REFERENCE STANDARDS

A. American Association of State Highway and Transportation Officials:

1. AASHTO T 180 - Standard Method of Test for Moisture-Density Relations of Soils Using a 4.54-kg (10-lb) Rammer and a 457-mm (18-in.) Drop.

B. ASTM International:

1. ASTM A123/A123M - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
2. ASTM A307 - Standard Specification for Carbon Steel Bolts, Studs, and Threaded Rod 60 000 PSI Tensile Strength.
3. ASTM D698 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12 400 ft-lbf/ft³ (600 kN-m/m³).
4. ASTM D1557 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft³ (2,700 kN-m/m³).

5. ASTM D3035 - Standard Specification for Polyethylene (PE) Plastic Pipe (DR-PR) Based on Controlled Outside Diameter.
6. ASTM D6938 - Standard Test Method for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth).
7. ASTM F477 - Standard Specification for Elastomeric Seals (Gaskets) for Joining Plastic Pipe.

C. American Water Works Association:

1. AWWA C104 - Cement-Mortar Lining for Ductile-Iron Pipe and Fittings.
2. AWWA C105 - Polyethylene Encasement for Ductile-Iron Pipe Systems.
3. AWWA C110 - Ductile-Iron and Gray-Iron Fittings.
4. AWWA C111 - Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings.
5. AWWA C151 - Ductile-Iron Pipe, Centrifugally Cast.
6. AWWA C153 - Ductile-Iron Compact Fittings.
7. AWWA C600 - Installation of Ductile-Iron Mains and Their Appurtenances.
8. AWWA C900 - Polyvinyl Chloride (PVC) Pressure Pipe and Fabricated Fittings, 4 In. Through 12 In. (100 mm Through 300 mm), for Water Transmission and Distribution.
9. AWWA C901 - Polyethylene (PE) Pressure Pipe and Tubing, 1/2 In. (13 mm) Through 3 In. (76 mm), for Water Service.

D. Manufacturers Standardization Society of the Valve and Fittings Industry:

1. MSS SP-60 - Connecting Flange Joints between Tapping Sleeves and Tapping Valves.

E. National Fire Protection Association:

1. NFPA 24 - Standard for the Installation of Private Fire Service Mains and Their Appurtenances.

F. NSF International:

1. NSF 61 - Drinking Water System Components - Health Effects.
2. NSF 372 - Drinking Water System Components - Lead Content.

1.4 COORDINATION

- A. Section 01 30 00 - Administrative Requirements: Requirements for coordination.
- B. Coordinate Work of this Section with termination of water main connection at Site boundary, connection to municipal water utility service, and trenching.

1.5 SUBMITTALS

- A. Section 01 33 00 - Submittal Procedures: Requirements for submittals.
- B. Product Data: Submit manufacturer information regarding pipe materials, pipe fittings, valves, and hydrants.
- C. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.
- D. Field Quality-Control Submittals: Indicate results of Contractor-furnished tests and inspections.

- E. Preconstruction Photographs: Submit digital files of color photographs of Work areas and material storage areas, as specified in Section 01 70 00 - Execution and Closeout Requirements.
- F. Qualifications Statements:
 - 1. Submit qualifications for manufacturer and installer.

1.6 CLOSEOUT SUBMITTALS

- A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for submittals.
- B. Project Record Documents: Record actual locations of piping mains, valves, connections, thrust restraints, and centerline elevations.
- C. Provide GPS coordinates of centerline of watermain in a Datum that is compatible with the Municipal Water Utility. Contractor to coordinate file format and transfer.
- D. Identify and describe unexpected variations to subsoil conditions or discovery of uncharted utilities.

1.7 QUALITY ASSURANCE

- A. Valves: Mark valve body with manufacturer's name and pressure rating.
- B. Materials in Contact with Potable Water: Certified according to NSF 61 and NSF 372.
- C. Perform Work according to City of Huntington standards.
- D. Maintain one copy of each standard affecting Work of this Section on Site.

1.8 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing products specified in this Section with minimum three years' documented experience.
- B. Installer: Company specializing in performing Work of this Section with minimum ten years' documented experience in installation of liner materials.

1.9 DELIVERY, STORAGE, AND HANDLING

- A. Section 01 60 00 - Product Requirements: Requirements for transporting, handling, storing, and protecting products.
- B. Inspection: Accept materials on Site in manufacturer's original packaging and inspect for damage.
- C. Storage:
 - 1. Store materials according to manufacturer instructions.
 - 2. Block individual and stockpiled pipe lengths to prevent moving.

3. Do not place pipe or pipe materials on private property or in areas obstructing pedestrian or vehicle traffic.
4. Store PE and PVC materials out of sunlight.

D. Protection:

1. Protect materials from moisture and dust by storing in clean, dry location remote from construction operations areas.
2. Provide additional protection according to manufacturer instructions.

1.10 EXISTING CONDITIONS

A. Field Measurements:

1. Verify field measurements prior to fabrication.
2. Indicate field measurements on Shop Drawings.

1.11 WARRANTY

- A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for warranties.
- B. Furnish three (3) years manufacturer's warranty for valves, fire hydrants, main and fittings.

PART 2 - PRODUCTS

2.1 WATER PIPING

A. Ductile-Iron Pipe:

1. Comply with AWWA C151.
2. Bituminous Outside Coating: Comply with AWWA C151.
3. Pipe Mortar Lining:
 - a. Comply with AWWA C104.
 - b. Thickness: Double.
4. Pipe Class:
 - a. Comply with AWWA C151.
 - b. Pressure Class 350 – Mains less than and equal to 12”
 - c. Pressure Class 250 – Mains greater than and equal to 16”
5. Fittings:
 - a. Material: Ductile iron; comply with AWWA C110.
 - b. Compact Fittings: Comply with AWWA C153.

c. Coating and Lining:

- 1) Bituminous Coating: Comply with AWWA C110.
- 2) Cement-Mortar Lining: Comply with AWWA C104; double thickness.

6. Joints:

- a. Manufacturers
 - 1) EBBA Iron
- b. Mechanical and Push-on Joints: Comply with AWWA C111.
- c. Flanged Joints: Comply with AWWA C115
- d. Solvent-cement couplings are not permitted

B. PVC:

1. Comply with AWWA C900 DR 14, Class 305.
2. Fittings: Refer to Section Ductile Iron Pipe Fittings in 2.1.5 of this specification
3. Joints:
 - a. Comply with ASTM D3139
 - b. Seals: PVC flexible elastomeric.
 - c. Solvent-cement couplings are not permitted

C. Tracer Wire

1. Comply with ASTM D1238
2. Wire Size - #10 Gauge
3. Number of Wires – one (1)
4. Color – Blue
5. Underground Rated
6. Approved Manufacturers
 - a. Copperhead Industries
 - b. Pro-Pak
 - c. Approved Equal
7. Tracer wire shall be connected to all valves and fire hydrant flange bolts

2.2 TAPPING SLEEVES AND VALVES

A. Tapping Sleeves:

1. Manufacturers:
 - a. Mueller Co.
 - b. U.S. Pipe Valve & Hydrant Division.
 - c. Substitutions: As specified in Section 01 60 00 - Product Requirements
2. Description:
 - a. Material: Ductile iron.
 - b. Type: Dual compression.
 - c. Outlet Flange Dimensions and Drilling: Comply with ASME B16.1, Class 125, and MSS SP-60.
 - d. Opening Direction: Counterclockwise

B. Tapping Valves:

1. Manufacturers:

- a. Mueller Co.
- b. U.S. Pipe Valve & Hydrant Division.
- c. Substitutions: As specified in Section 01 60 00 - Product Requirements

2. Description:

- a. Comply with AWWA C500.
- b. Type: resilient gate with non-rising stem.
- c. Inlet Flanges: Comply with ASME B16.1, Class 125, and MSS SP-60.
- d. Mechanical Joint Outlets: Comply with AWWA C111.

C. Line Stops (various sizes):

1. Manufacturers:

- a. Hydra-Stop
- b. Approved Equal
- c.

2. Description:

- a. Comply with NSF/ANSI Standards 61 and 372
- b. Body: 304 Stainless Steel (AIS Compliant)
- c. Pressure: 250psi working pressure, 375 psi test pressure maximum

2.3 SERVICE LINES

- A. Service lines shall be installed by the contractor after pressure testing and disinfecting of water main.
- B. Meter pits shall be pre-fabricated, with the yoke bar and corporation stops, and shall be manufactured by T-Z products Noblesville, Indiana. All “new construction” service lines shall be installed with one continuous pipe from the water main to the corporation stop within the meter pit.
- C. Acceptable materials for service lines are Type K soft copper or poly copper tube size (CTS) pipe rated 200 psi.
 - 1. All service lines constructed out of poly pipe shall have one electrically continuous Type THWN #10 solid tracer wire. This wire shall be installed along the pipe, fastened to the pipe at twenty (20) foot intervals and terminated in the meter pit.
- D. Water Meters shall be placed at the right of way line. Avoid placement of water meters in driveways, sidewalks, paved areas, ditches, drainage swales, or BMP’s.

2.4 VALVES AND FIRE HYDRANTS

- A. As specified in Section 33 14 19 - Valves and Hydrants for Water Utility Service.

2.5 POSITIVE DISPLACEMENT METERS

- A. Contractor to coordinate meter replacement with City of Huntington personnel. Meters will be provided by City of Huntington.

2.6 MATERIALS

- A. Bedding and Cover:
 - 1. Bedding: All pipe shall be laid in A1 Aggregate bedding as specified in Section 31 05 16 - Aggregates for Earthwork.
 - 2. Backfill: Fill Type A3 as specified in Section 31 05 16 - Aggregates for Earthwork.

2.7 ACCESSORIES

- A. Thrust Restraints:
 - 1. As specified in Section 33 05 09 - Thrust Restraint for Utility Piping.
 - 2. Pipe restraints are to be installed as needed and shall conform to the Megalug Series 1100 as manufactured by EBBA Iron, Inc. These said restraints shall conform to AWWA C111 and AWWA C153, and shall have a minimum pressure rating of 350 psi. Field lock restraining gaskets are to be utilized as needed.
- B. Steel Rods, Bolt, Lugs, and Brackets:
 - 1. Comply with ASTM A307
 - 2. Grade A carbon steel.
- C. Cut-in-Sleeves
 - 1. Cut-in sleeves or couplings shall be rated at a working pressure of 350 psi. The sleeve shall be suitable for pit cast or centrifugally cast pipe, with the appropriate size gasket for pipe(s) diameter(s). These sleeves shall also be compatible with set screw style restraint devices.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for installation examination.
- B. Verify that existing utility water main size, location, and invert are as indicated on Drawings.

3.2 PREPARATION

- A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for installation preparation.
- B. Preconstruction Site Photos:
 - 1. As specified in Section 01 70 00 - Execution and Closeout Requirements.

2. Take photographs along centerline of proposed pipe trench; minimum one photograph for each 50' of pipe trench.
3. Show mailboxes, curbing, lawns, driveways, signs, culverts, and other existing Site features.
4. Include Project description, date taken, and sequential number on back of each photograph.

C. Pipe Cutting:

1. Cut pipe ends square, ream pipe and tube ends to full pipe diameter, and remove burrs.
2. Use only equipment specifically designed for pipe cutting; use of chisels or hand saws is not permitted.
3. Grind edges smooth with beveled end for push-on connections.

D. Remove scale and dirt on inside and outside before assembly.

E. Prepare pipe connections to equipment with flanges or unions.

3.3 INSTALLATION

A. Bedding:

1. Excavation:
 - a. As specified in Section 31 23 16 – Excavation and 31 23 17 - Trenching.
 - b. Hand trim for accurate placement of pipe to elevations as indicated on Drawings.
2. Dewater excavations to maintain dry conditions and to preserve final grades at bottom of excavation.

B. Piping:

1. Comply with AWWA C600.
2. Handle and assemble pipe according to manufacturer instructions and as indicated on Drawings.
3. Steel Rods, Bolts, Lugs, and Brackets: Coat buried steel before backfilling.
4. Maintain 10 feet of horizontal separation between water main and sewer according to 10-State Standard and Indiana Administrative Code.
5. Ductile-Iron Piping and Fittings: Comply with AWWA C600.
6. Flanged Joints: Do not use in underground installations except within structures.
7. Route pipe in straight line, and re-lay pipe that is out of alignment or grade.
8. High Points:
 - a. Install pipe with no high points.
9. Bearing:
 - a. Maintain bearing along entire length of pipe.
 - b. Do not lay pipe in wet or frozen trench.
10. Prevent foreign material from entering pipe during placement.

11. Allow for expansion and contraction without stressing pipe or joints.
12. Close pipe openings with watertight plugs during Work stoppages.
13. Install access fittings to permit disinfection of water system performed under Section 33 01 10 - Disinfection of Water Utility Piping Systems.
14. Cover:

- a. Establish elevations of buried piping with not less than sixty (60) inches of cover.
- b. Measure depth of cover from final surface grade to top of pipe barrel.

- C. Valves and Hydrants: As specified in Section 33 14 19 - Valves and Hydrants for Water Utility Service.
- D. Tapping Sleeves and Valves: As indicated on Shop Drawings and according to manufacturer instructions.
- E. Thrust Restraints: As specified in Section 33 05 09 - Thrust Restraint for Utility Piping.
- F. Backfilling:
 1. Backfill around sides and to top of pipe with cover fill in minimum lifts of six (6) inches, tamp in place, and compact to 95 percent of maximum density.
 2. Place and compact material immediately adjacent to pipes to avoid damage to pipe and prevent pipe misalignment.
 3. Maintain optimum moisture content of bedding material to attain required compaction density.
 4. Where water lines are used under pavement or within 5 feet either direction, special backfill shall be used in accordance with Section 31 05 16 – AGGREGATES FOR EARTHWORK. Backfill shall be placed in no more than 6" lifts and shall be compacted to a 95% Standard Proctor per ASTM D-698.
- G. Disinfection of Potable Water Piping Systems: As specified in Section 33 01 10.58 - Disinfection of Water Utility Piping Systems.
- H. Installation Standards: Install Work according to City of Huntington standards.

3.4 TOLERANCES

- A. Section 01 40 00 - Quality Requirements: Requirements for tolerances.
- B. Install pipe to indicated elevation within tolerance of 5/8 inch.

3.5 FIELD QUALITY CONTROL

- A. Section 01 40 00 - Quality Requirements: Requirements for inspecting and testing.
- B. Section 01 70 00 - Execution and Closeout Requirements: Requirements for testing, adjusting, and balancing.
- C. Testing:
 1. Pressure test piping system according to AWWA C600 and following:

- a. Test Pressure: Not less than 1.5 times standard operating pressure, with a minimum test pressure of 150 psi, whichever is greater.
- b. Conduct hydrostatic test for a minimum of two (2) hours.
- c. Slowly fill section to be tested with water; expel air from piping at high points.
- d. Install corporation cocks at high points.
- e. Close air vents and corporation cocks after air is expelled.
- f. Raise pressure to specified test pressure.
- g. Observe joints, fittings, and valves under test.
- h. Remove and renew cracked pipes, joints, fittings, and valves showing visible leakage, and retest.
- i. Correct visible deficiencies and continue testing at same test pressure for additional two hours to determine leakage rate.
- j. Maintain pressure within plus or minus 5 psi of test pressure.
- k. Leakage is defined as quantity of water supplied to piping necessary to maintain test pressure during period of test.
- l. Compute maximum allowable leakage using following formula:
 - 1) $L = SD \times \sqrt{P}/C$.
 - 2) L = testing allowance, gph.
 - 3) S = length of pipe tested, feet.
 - 4) D = nominal diameter of pipe, inches.
 - 5) P = average test pressure during hydrostatic test, psig.
 - 6) C = 133,200.
- m. If pipe under test contains sections of various diameters, calculate allowable leakage from sum of computed leakage for each size.
- n. Leakage:
 - 1) If test of pipe indicates leakage greater than allowed, locate source of leakage, make corrections, and retest until leakage is within allowable limits.
 - 2) Correct visible leaks regardless of quantity of leakage.

ALLOWABLE LEAKAGE PER 1000 FT. OF PIPELINE												
Nominal Pipe Diameter - in.												
Avg. Test Pressure psi	3	4	6	8	10	12	14	16	18	20	24	30
450	0.48	0.64	0.95	1.27	1.59	1.91	2.23	2.55	2.87	3.18	3.82	4.78
400	0.45	0.60	0.90	1.20	1.50	1.80	2.10	2.40	2.70	3.00	3.60	4.50
350	0.42	0.56	0.84	1.12	1.40	1.69	1.97	2.25	2.53	2.81	3.37	4.21
300	0.39	0.52	0.78	1.04	1.30	1.56	1.82	2.08	2.34	2.60	3.12	3.90
275	0.37	0.50	0.75	1.00	1.24	1.49	1.74	1.99	2.24	2.49	2.99	3.73
250	0.36	0.47	0.71	0.95	1.19	1.42	1.66	1.90	2.14	2.37	2.85	3.56
225	0.34	0.45	0.68	0.90	1.13	1.35	1.58	1.80	2.03	2.25	2.70	3.38
200	0.32	0.43	0.64	0.85	1.06	1.28	1.48	1.70	1.91	2.12	2.55	3.19
175	0.30	0.40	0.59	0.80	0.99	1.19	1.39	1.59	1.79	1.98	2.38	2.98
150	0.28	0.37	0.55	0.74	0.92	1.10	1.29	1.47	1.66	1.84	2.21	2.76
125	0.25	0.34	0.50	0.67	0.84	1.01	1.18	1.34	1.51	1.68	2.01	2.52
100	0.23	0.30	0.45	0.60	0.75	0.90	1.05	1.20	1.35	1.50	1.80	2.25

2. Perform pressure test on piping according to City of Huntington standards.
3. Compaction Testing:

- a. Comply with ASTM D1557.
- b. Frequency of Compaction Tests: INDOT Manual for Frequency of Sampling and Testing and Basis for Use of Materials
- c. If tests indicate Work does not meet specified requirements, remove Work, replace, and retest.

D. After Construction

- 1. The contractor shall maintain and make available to the inspector on the jobsite one complete plan set. After each portion of the work is installed, the contractor shall record all deviations from the original design shown in the drawings either by additional sketches or red ink thereon. Upon completion of the job, the Applicant or Contractor shall deliver this record set and digital set to the City of Huntington Engineering Department.
- 2. All water service laterals shall be measured from the nearest property pin and shall be designated on a City of Huntington Water Tap form as which that form needs to be provided to the city in conjunction with the Record Drawings.
- 3. For water infrastructure being turned over to the City the Owner/Representative must request, in writing, to the Board of Public Works and Safety that he/she requests the City of Huntington Water Department to accept the installed water infrastructure that was put in to the City of Huntington Water Specifications.

END OF SECTION 33 14 13

SECTION 33 31 11
PUBLIC SANITARY SEWERAGE GRAVITY PIPING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Sanitary sewerage piping.
2. Large diameter sewer pipe.
3. Outside drop pipes.
4. Connection to existing manholes.
5. Sanitary lateral connections.
6. Bedding and cover materials.
7. Anti-Flotation Geo-Grid

1.2 UNIT PRICE – MEASUREMENT AND PAYMENT

A. Section 01 20 00 - Price and Payment Procedures: Contract Sum/Price modification procedures.

B. PIPE, SANITARY SEWER (VARIOUS SIZES AND TYPES)

1. Basis of Measurement: By linear foot.
2. Basis of Payment: For furnishing and installing complete and in place, all labor, materials and equipment necessary for the sanitary sewer. Includes excavation, dewatering, by-pass pumping, bedding and backfill, miscellaneous restoration as required or shown on the plans, sheeting, shoring, protection of existing structures, cleanup, pipe, fittings, and appurtenances as required or shown on the plans, preconstruction photographs and Record Drawings.

C. OUTSIDE DROP PIPE

1. Basis of Measurement: By Each.
2. Basis of Payment: For furnishing and installing complete and in place, all labor, materials and equipment necessary for outside drop pipes at sewer manholes as required or shown on the plans. Includes excavation, dewatering, by-pass pumping, bedding and backfill, concrete, sheeting, shoring, protection of existing structures, cleanup, pipe, fittings, and appurtenances as required or shown on the plans.

D. SANITARY SERVICE LATERAL CONNECTION

1. Basis of Measurement: By Each.
2. Basis of Payment: For furnishing and installing complete and in place, all labor, materials and equipment necessary for the connection of sanitary sewer laterals between utility-owned sanitary sewers and buildings to accommodate construction requirements. Includes excavation, dewatering, by-pass pumping, bedding and backfill, miscellaneous restoration as required or shown on the plans, sheeting, shoring, protection of existing structures, cleanup, pipe, cleanout(s), fittings, appurtenances, connection to site service

pipng as required or shown on the plans, preconstruction photographs and Record Drawings.

E. SEWER SERVICE LATERAL ADJUSTMENT

1. Basis of Measurement: By Each.
2. Basis of Payment: This Work shall consist of all labor, equipment, transportation and materials required to adjust existing sanitary services when necessary for, but not necessarily limited to: furnishing and installing pipe and couplings, excavation, dewatering, bedding and backfill, sheeting, shoring, pavement removal and legal disposal, subgrade treatment, aggregate base, pavement patching and all testing in accordance with the Contract Documents.

F. Flexible Couplings

1. No payment will be made for work under this section. Payment for work performed as described under this section shall be included in the unit price bid for applicable work items.

G. Flexible Pipe Boots For Manhole Pipe Entrances

1. No payment will be made for work under this section. Payment for work performed as described under this section shall be included in the unit price bid for applicable work items.

H. Concrete Encasement And Cradles

1. No payment will be made for work under this section. Payment for work performed as described under this section shall be included in the unit price bid for applicable work items.

I. Backfill

1. The cost of structure backfill will be included in the cost of the pipe. Where used as a substitute for structure backfill or specified for pipe backfill, the cost of flowable backfill will be included in the cost of the pipe.

J. ANTI-FLOTATION GEO-GRID

1. Basis of Measurement: By Linear Feet
2. Basis of Payment: This work shall consist of all labor, equipment, transportation and materials required to purchase and install geogrid nonwoven fabric in the trench per the detail. The cost shall include the material, placement, anchoring, cutting, and disposal, all in accordance with the Contract Documents.

1.3 REFERENCE STANDARDS

A. ASTM International:

1. ASTM C923 - Standard Specification for Resilient Connectors Between Reinforced Concrete Manhole Structures, Pipes, and Laterals.
2. ASTM D2321 - Standard Practice for Underground Installation of Thermoplastic Pipe for Sewers and Other Gravity-Flow Applications.
3. ASTM D2729 - Standard Specification for Poly(Vinyl Chloride) (PVC) Sewer Pipe and Fittings.
4. ASTM D3034 - Standard Specification for Type PSM Poly(Vinyl Chloride) (PVC) Sewer Pipe and Fittings.

5. ASTM F477 - Standard Specification for Elastomeric Seals (Gaskets) for Joining Plastic Pipe.

1.4 COORDINATION

- A. Section 01 30 00 - Administrative Requirements: Requirements for coordination.
- B. Coordinate Work of this Section with the local sewer utility.
- C. Notify affected utility companies at least 72 hours prior to construction.

1.5 SUBMITTALS

- A. Section 01 33 00 - Submittal Procedures: Requirements for submittals.
- B. Product Data: Submit manufacturer information indicating proposed materials, accessories, details, and construction information.
- C. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.
- D. Test and Evaluation Reports: Submit reports indicating field tests made and results obtained.
- E. Manufacturer Instructions:
 1. Indicate special procedures required to install specified products.
- F. Field Quality-Control Submittals: Indicate results of Contractor-furnished tests and inspections.

1.6 CLOSEOUT SUBMITTALS

- A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for submittals.
- B. Project Record Documents: Record invert elevations and actual locations of pipe runs, connections, manholes, and cleanouts.
- C. Identify and describe unexpected variations to subsoil conditions or discovery of uncharted utilities.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Section 01 60 00 - Product Requirements: Requirements for transporting, handling, storing, and protecting products.
- B. Inspection: Accept materials on Site in manufacturer's original packaging and inspect for damage.
- C. Store materials according to manufacturer instructions.
- D. Protection:

1. Protect materials from moisture and dust by storing in clean, dry location remote from construction operations areas.
2. Block individual and stockpiled pipe lengths to prevent moving.
3. Provide additional protection according to manufacturer instructions.

1.8 EXISTING CONDITIONS

A. Field Measurements:

1. Verify field measurements prior to fabrication.
2. Indicate field measurements on Shop Drawings.

PART 2 - PRODUCTS

2.1 SANITARY SEWERAGE PIPING

A. Small Diameter PVC Gravity Sewer Pipe:

1. Material: PVC.
2. Comply with ASTM D3034, SDR-35.
 - a. Less than 15 foot bury depth use SDR-35.
 - b. Greater than 15 foot bury depth use SDR-26.
3. Inside Nominal Diameter: 4 to 15 inches.
4. End Connections: Bell-and-spigot style, with rubber-ring-sealed gasket joint.
5. Fittings: PVC.
6. Joints:
 - a. Elastomeric gaskets.
 - b. Comply with ASTM F477.
7. Testing: Please refer to specification 33 05 41 – Air Testing.

B. PVC Profile Wall Pipe:

1. Material: PVC.
2. Manufacturer:
 - a. Contech A-2000
3. Comply with ASTM F949.
4. Inside Nominal Diameter: 18 to 36 inches.
5. End Connections: Bell-and-spigot style, with rubber-ring-sealed gasket joint.
6. Fittings: PVC per ASTM F949, Section 5.2.3 or F794, Section 7.2.4.
7. Joints:
 - a. Elastomeric gaskets.
 - b. Comply with ASTM F477.
8. Testing: Please refer to specification 33 05 41 – Air Testing.

- C. Dual Wall Polypropylene with Smooth Inner Surface and Corrugated Exterior:
 - 1. Material: Polypropylene.
 - 2. Manufacturer:
 - a. ADS Sani-Tite HP (High Performance) Dual Wall Pipe
 - 3. Comply with ASTM F2764.
 - 4. Inside Nominal Diameter: 12 to 30 inches.
 - 5. End Connections: Bell-and-spigot style, with rubber-ring-sealed gasket joint.
 - 6. Fittings: Polypropylene per ASTM F2764.
 - 7. Joints:
 - a. Elastomeric gaskets.
 - b. Comply with ASTM D3212 and ASTM F477.
 - c. 15 psi pressure requirement.
 - 8. Testing: Please refer to specification 33 05 41 – Air Testing.

- D. Triple Wall Polypropylene with Smooth Inner and Outer Surface:
 - 1. Material: Polypropylene.
 - 2. Manufacturer:
 - a. ADS Sani-Tite HP (High Performance) Triple Wall Pipe
 - 3. Comply with ASTM F2764.
 - 4. Inside Nominal Diameter: 36 -60 inches.
 - 5. End Connections: Bell-and-spigot style, with rubber-ring-sealed gasket joint.
 - 6. Fittings: Polypropylene per ASTM F2764.
 - 7. Joints:
 - a. Elastomeric gaskets.
 - b. Comply with ASTM D3212 and ASTM F477.
 - c. 15 psi pressure requirement.
 - 8. Testing: Please refer to specification 33 05 41 – Air Testing.

- E. PVC Pressure Rated Pipe for Gravity Application:
 - 1. Material: PVC.
 - 2. Comply with:
 - a. ASTM D2241, SDR-21.
 - b. AWWA C900 (4"-12") – DR 14 (305 psi)
 - c. AWWA C905 (14"-36") – DR 18 (235 psi)
 - 3. Inside Nominal Diameter: 12 inches. minimum
 - 4. End Connections: Bell-and-spigot style, with rubber-ring-sealed gasket joint.
 - 5. Fittings: PVC.
 - 6. Joints:
 - a. Elastomeric gaskets.
 - b. Comply with ASTM D3139 and ASTM F477.
 - 7. Testing: Please refer to specification 33 05 41 – Air Testing.

2.2

LARGE DIAMETER PIPE:

1. Material: High Density Profile Wall Polyethylene Pipe (HDPE)
 - a. Manufacturers:
 - 1) Infra Pipe Solutions LTD. (Weholite)
 - 2) ISCO industries, Inc. (Spirolite)
 - 3) Approved equal.
 - b. Comply with:
 - 1) ASTM D2321: Underground Installation of Thermoplastic Pipe for Sewers and Other Gravity-Flow Applications.
 - 2) ASTM D3212: Joints for Drain and Sewer Plastic Pipes Using Flexible Elastomeric.
 - 3) ASTM D3350: Polyethylene Plastic Pipe and Fittings Materials.
 - 4) ASTM F894: Underground Installation of Thermoplastics Pipe for Sewers and Other Gravity Flow Applications.
 - 5) ISO 9001:2008 Quality Systems, Model for Quality Assurance in Production and Installation.
 - 6) PPI Handbook: The Plastic Pipe Institute Handbook of Polyethylene Pipe
 - c. The Manufacturer shall provide professionally sealed Ring Stiffness Class calculations as necessitated by the structural evaluation of burial, installation and application loads.
 - d. Inside Nominal Diameter: 36-132 inches.
 - e. Fittings: HDPE
 - f. Joints: Extrusion welded joints or bell and spigot gasketed joints per ASTM D3212.
 - g. Leakage tests shall be carried out as infiltration/exfiltration or the individual joint tests.
 - h. Pipe deflection shall be tested in accordance with PPI Handbook of Polyethylene Pipe (2nd Edition), Chapter 2 either by pulling a mandrel through the pipe, or by measuring vertical inside diameter (greater than 95% of initial diameter).
2. Material: Steel Reinforced Polyethylene Pipe (SRPE)
 - a. Manufacturer:
 - 1) Contech (DuroMaxx)
 - 2) Approved equal.
 - b. Comply with:
 - 1) ASTM D2321: Underground Installation of Thermoplastic Pipe for Sewers and Other Gravity-Flow Applications.
 - 2) ASTM F2562: Steel Reinforced Thermoplastic Ribbed Pipe and Fittings for Non-Pressure Drainage and Sewerage.
 - 3) ASTM D3212: Joints for Drain and Sewer Plastic Pipes Using Flexible Elastomeric.
 - 4) ASTM D3350: Polyethylene Plastic Pipe and Fittings Materials.
 - 5) ASTM F894: Underground Installation of Thermoplastics Pipe for Sewers and Other Gravity Flow Applications.
 - 6) ISO 9001:2008 Quality Systems, Model for Quality Assurance in Production and Installation.
 - 7) PPI Handbook: The Plastic Pipe Institute Handbook of Polyethylene Pipe
 - c. The Manufacturer shall provide professionally sealed Ring Stiffness Class calculations as necessitated by the structural evaluation of burial, installation, and application loads.
 - d. Inside Nominal Diameter: 30-120 inches.

- e. End Connections: Bell-and-spigot style, with rubber-ring-sealed gasket joint.
 - f. Fittings: HDPE.
 - g. Joints: Coupling bands around the gasketed bell & spigots or welded couplers especially designed for DuroMaxx pipe (10 psi minimum).
 - h. Leakage tests shall be carried out as infiltration/exfiltration or the individual joint tests.
 - i. Pipe deflection shall be tested in accordance with PPI Handbook of Polyethylene Pipe (2nd Edition), Chapter 2 either by pulling a mandrel through the pipe, or by measuring vertical inside diameter (greater than 95% of initial diameter).
3. Material: Centrifugally Cast Fiberglass-Reinforced Polymer Mortar Pipe (CCFRPM)
- a. Manufacturer:
 - 1) HOBAS
 - 2) Approved equal.
 - b. Comply with:
 - 1) ASTM D3262 Standard Specification for "Fiberglass" (Glass-Fiber-Reinforced Thermosetting-Resin) Sewer Pipe.
 - 2) ASTM D3681 Standard Test Method for Chemical Resistance of "Fiberglass" (Glass-Fiber-Reinforced Thermosetting-Resin) Pipe in a Deflected Condition.
 - 3) ASTM D 4161 Standard specification for "fiberglass" pipe joints using flexible elastomeric seals.
 - 4) ASTM D2412 Standard Test Method for Determination of External Loading Characteristics of Plastic Pipe by Parallel-Plate Loading.
 - c. Inside Nominal Diameter: 36-126 inches.
 - d. End Connections: Bell-and-spigot style, with rubber-ring-sealed gasket joint.
 - e. Fittings/Joints: The fittings and couplings shall be manufactured using the same process as the pipe. The joints shall utilize elastomeric sealing gaskets meeting the performance requirements of ASTM D4161.
 - f. Leakage tests shall be carried out as infiltration/exfiltration or the individual joint tests.
 - g. Pipe deflection shall be tested in accordance with PPI Handbook of Polyethylene Pipe (2nd Edition), Chapter 2 either by pulling a mandrel through the pipe, or by measuring vertical inside diameter (greater than 95% of initial diameter).

2.2 ANTI-FLOATATION GEO-GRID:

- 1. Geo-grid material shall be installed over the proposed piping as indicated on the plan sheets.
- 2. Geo-grid shall be
 - a. Basetrac Duo C 110T.5 by Huesker
 - b. Approved Equal
- 3. Bedding, Backfill and Fill material is included in cost of pipe.

2.3 MANHOLES

- A. As specified in:
 - 1. Section 33 05 61 - Concrete Manholes and Inlets

2.4 FLEXIBLE COUPLINGS

A. Manufacturers:

1. Fernco Inc.
2. Romac Industries, Inc.
3. Approved Equal per Section 01 25 00 – Substitution Procedures.

B. Description:

1. Material: Resilient, chemical-resistant, elastomeric PVC.
2. Attachment: Two Series-300 stainless-steel clamps, screws, and housings.

2.5 FLEXIBLE PIPE BOOTS FOR MANHOLE PIPE ENTRANCES

A. Description:

1. Material: EPDM.
2. Comply with ASTM C923.
3. Attachment: Series-300 stainless-steel clamp and hardware.

2.6 SANITARY LATERAL CONNECTIONS

A. For connections to sanitary sewers less than 24”

1. PVC wye.
2. Comply with ASTM D2729 - Standard Specification for Poly Vinyl Chloride (PVC) Sewer Pipe and Fittings.

B. For connections to sanitary sewer greater than 24”

1. Manufacturers
 - a. Inserta Tee.
 - b. Advanced Drainage Solutions.
 - c. Approved Equal per Section 01 25 00 – Substitution Procedures.
2. Comply with ASTM D3212
3. Attachment:
 - a. Material: Resilient, chemical-resistant, elastomeric PVC.
 - b. Attachment: Two Series-300 stainless-steel clamps, screws, and housings.

2.7 CONCRETE ENCASEMENT AND CRADLES

A. Concrete:

1. As specified in Section 03 30 00 - Cast-in-Place Concrete.
2. Strength: 4,000 psi at 28 days.
3. Air entrained.
4. Finish: Rough troweled.

2.8 MATERIALS

A. Bedding and Cover:

1. Bedding: Fill Type A1, as specified in Section 31 05 16 - Aggregates for Earthwork.
2. Backfill for thermoplastic pipes: Class I or Class II per ASTM D2321.
3. Backfill for non-thermoplastic pipes: Type A1 or A3 as specified in Section 31 05 16 – Aggregates for Earthwork.
4. Soil Backfill from Above Pipe to Finish Grade in areas where no vehicle access is required:
 - a. Soil Type S2, as specified in Section 31 05 13 - Soils for Earthwork
 - b. Subsoil with no rocks more than 3 inches in diameter, frozen earth, or foreign matter.

2.9 MIXES

- ### A. Grout: As specified in INDOT Standard Specifications (latest edition).

2.10 SOURCE QUALITY CONTROL

- ### A. Section 01 40 00 - Quality Requirements: Requirements for testing, inspection, and analysis.

PART 3 - EXECUTION

3.1 EXAMINATION

- #### A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for installation examination.
- #### B. Verify that trench cut is ready to receive Work of this Section.
- #### C. Verify that excavations, dimensions, and elevations are as indicated on Drawings.

3.2 PREPARATION

- #### A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for installation preparation.
- #### B. Correct over-excavation with coarse aggregate.
- #### C. Remove large stones or other hard materials that could damage pipe or impede consistent backfilling or compaction.
- #### D. Protect and support existing sewer lines, utilities, and appurtenances.
- #### E. Utilities:
1. Maintain profiles of utilities.
 2. Coordinate with other utilities to eliminate interference.
 3. Notify Engineer if crossing conflicts occur.

3.3 INSTALLATION

A. Bedding:

1. Excavate pipe trench as specified in Section 31 23 17 - Trenching.
2. Excavate to lines and grades as indicated on Drawings, or as required to accommodate installation of encasement.
3. Dewater excavations to maintain dry conditions and to preserve final grades at bottom of excavation.
4. Provide sheeting and shoring as specified in Section 31 23 17 - Trenching.
5. Placement:
 - a. Place bedding material at trench bottom.
 - b. Level materials in continuous layer not exceeding 6-inch compacted depth.
 - c. Compact to 95 percent of maximum density.

B. Piping:

1. Install pipe, fittings, and accessories according to ASTM D2321, and seal joints watertight.
2. Lay pipe to slope gradients as indicated on Drawings.
3. Begin at downstream end of system and progress upstream.
4. Bedding: Install at sides and over top of pipe, to minimum compacted thickness of 12 inches or as indicated on Drawings, whichever is greater.
5. Lay bell-and-spigot pipe with bells upstream.
6. Backfill and compact as specified in Section 31 23 17 - Trenching.
7. Do not displace or damage pipe when compacting.
8. Connect pipe to existing sewer system at existing manhole.

C. By-Pass Pumping

1. Precautions shall be taken to ensure that flow control and dewatering operations shall not cause flooding or damage to public or private properties. In the event flooding or damage occurs, CONTRACTOR shall make provisions to correct such damage at no additional cost to OWNER. CONTRACTOR shall be responsible for any damages to public or private property, overflows from the sewer system and violations resulting in fines as a result of the dewatering/bypass operation.
2. The bypass system shall be of adequate capacity to handle all flows including wet weather-related flows. If bypass pumping is utilized by CONTRACTOR to control flows, CONTRACTOR shall be responsible for monitoring and manning the bypass pumping operation at all times until Work is complete. The location of pump(s), force main, discharge point, pumping rates, etc., shall be approved by OWNER and shall be monitored by CONTRACTOR.
3. CONTRACTOR shall prepare a detailed Flow Control Plan that describes the measures to be used to control flows. CONTRACTOR shall submit the Plan to and obtain approval of the Plan from ENGINEER prior to beginning any flow control work. CONTRACTOR's Plan shall include, but not necessarily be limited to the following:
 - a. Location of flow diversion structures, collapsible sewer plugs, dams, pumps and related materials and equipment.
 - b. Key operational control factors, (i.e. maximum flow elevations upstream of dams).
 - c. Pump sizes and flow rates.
 - d. Destination of bypassed flows including routing of force mains and provisions for vehicular and pedestrian traffic as necessary.
 - e. Wet weather event procedures.

4. The number and size of pumps utilized in bypass pumping shall be such that if the largest pump is out of service, bypass flows will be maintained during the bypass operation.
- D. Manholes as specified in:
1. Section 33 05 61 - Concrete Manholes
- E. Connections to Existing Manholes:
1. Drilling:
 - a. Core drill existing manhole to clean opening.
 - b. Use of pneumatic hammers, chipping guns, sledgehammers are not permitted.
 2. Install watertight neoprene gasket and seal with non-shrink concrete grout.
 3. Prevent construction debris from entering existing sewer line when making connection.
- F. Wye Branches and Tees:
1. Concurrent with pipe-laying operations, install wye branches and pipe tees at locations indicated on Drawings.
 2. Use standard fittings of same material and joint type as sewer main.
 3. Maintain minimum 5-foot separation distance between wye connection and manhole.
 4. Use saddle wye or tee with stainless-steel clamps for taps into existing piping.
 5. Mount saddles with solvent cement or gasket and secure with metal bands.
 6. Lay out holes with template and cut holes with mechanical cutter.
- G. Sanitary Laterals:
1. Construct laterals from wye branch to terminal point at right-of-way.
 2. Construct one clean out at right of way line
 3. Where depth of main pipeline warrants, construct riser-type laterals from wye branch.
 4. Minimum Depth of Cover over Piping: 2 feet.
 5. Minimum Separation Distance between Laterals: 5 feet.
 6. Install approved couplers as necessary to connect new lateral to existing lateral.
- H. Backfilling: As specified in Section 31 23 23 - Fill.
- 3.4 FIELD QUALITY CONTROL
- A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for testing, adjusting, and balancing.
- B. Request inspection by Engineer prior to and immediately after placing bedding.
- C. Testing:
1. If tests indicate that Work does not meet specified requirements, remove Work, replace, and retest.
 2. Pipe Testing:
 - a. Pressure Testing: As specified in Section 33 05 41 - Air Testing.
 - b. Deflection Testing: As specified in Section 33 05 43 - Mandrel Testing.

3. Compaction Testing:

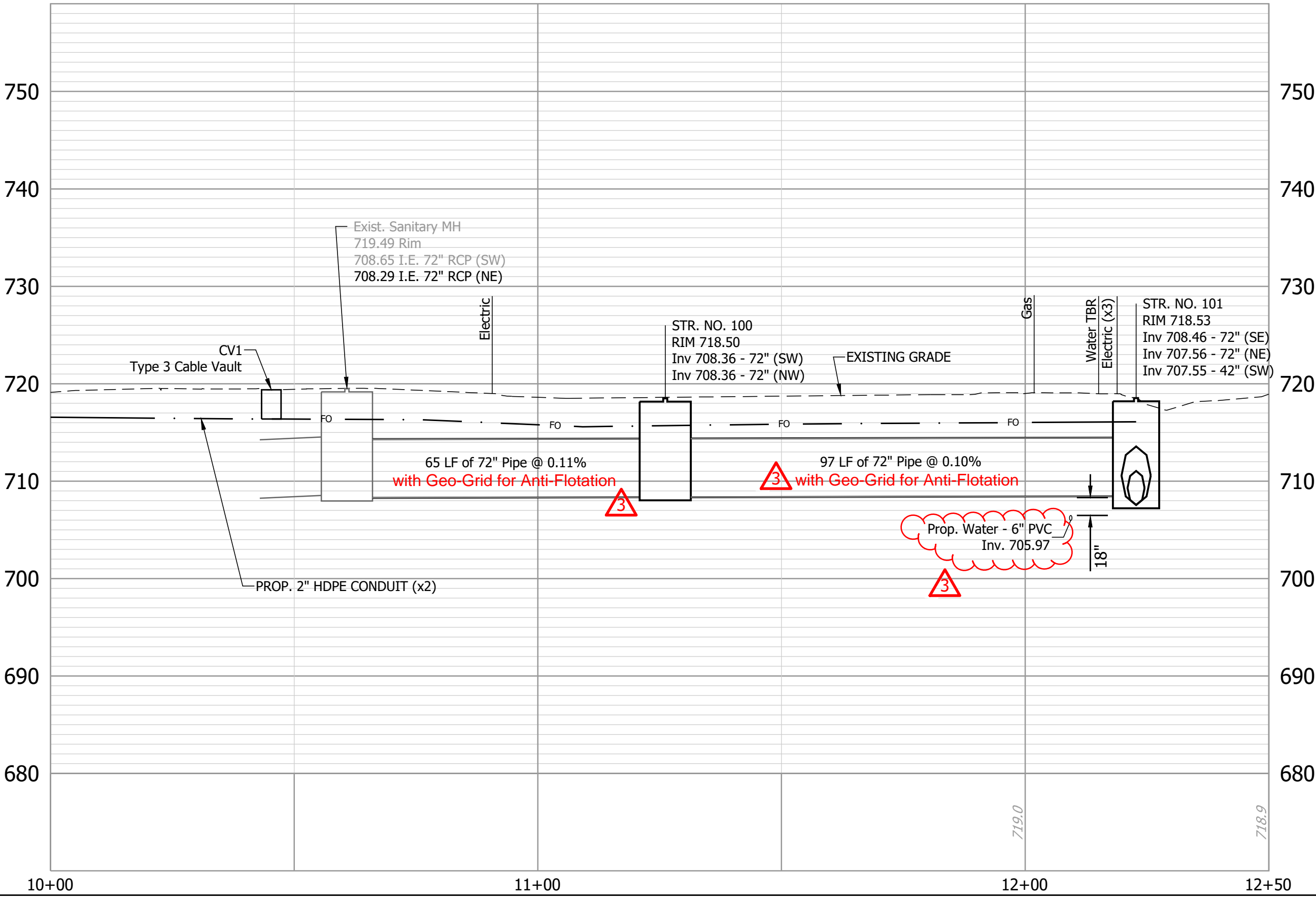
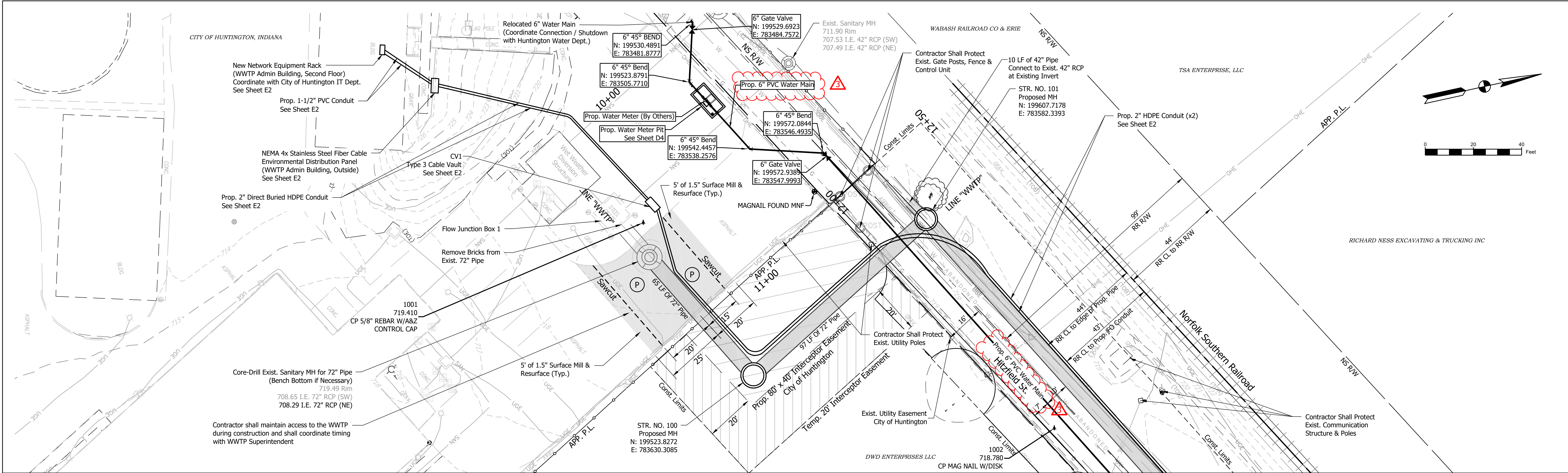
- a. Comply with INDOT Specifications for compaction.
- b. Testing Frequency: INDOT Manual for Frequency of Sampling and Testing

3.5 PROTECTION

- A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for protecting finished Work.
- B. Protect pipe and aggregate cover from damage or displacement until backfilling operation is in progress.
- C. Cap open ends of piping during periods of Work stoppage.

END OF SECTION 33 31 11

ATTACHMENT B: REVISED PLAN SHEETS

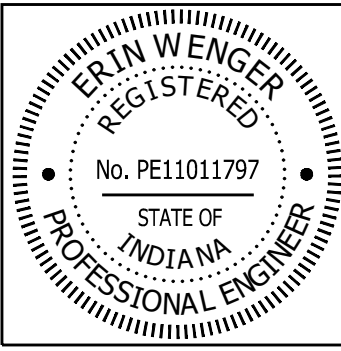


- GENERAL NOTES - RAILROAD:**
- Any excavation that encroaches on Zone 1 or Zone 2 of roadbed profile shall require a shoring plan and a track monitoring plan for protection of the railroad and will need to be reviewed during work plan and prior to construction. See Specifications for Pipeline Occupancy of Norfolk Southern Corporation Property (NSCE-8) dated 11/06/2020.
 - Frac-Out plan shall be provided to the railroad for review prior to construction.
 - All pipe jacking operations must be executed on a continuous 24-hour basis until completed per NSCE-8.
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 - Newly graded area shall be seeded to match existing vegetation.

REVISIONS		
DATE	REVISION	BY
8/10/22	Addendum No. 3	EW



165#/sys HMA Surface, Type A on
385#/sys HMA Intermediate, Type A on
9" Compacted Aggregate No. 53 on
1.5" Asphalt Milling

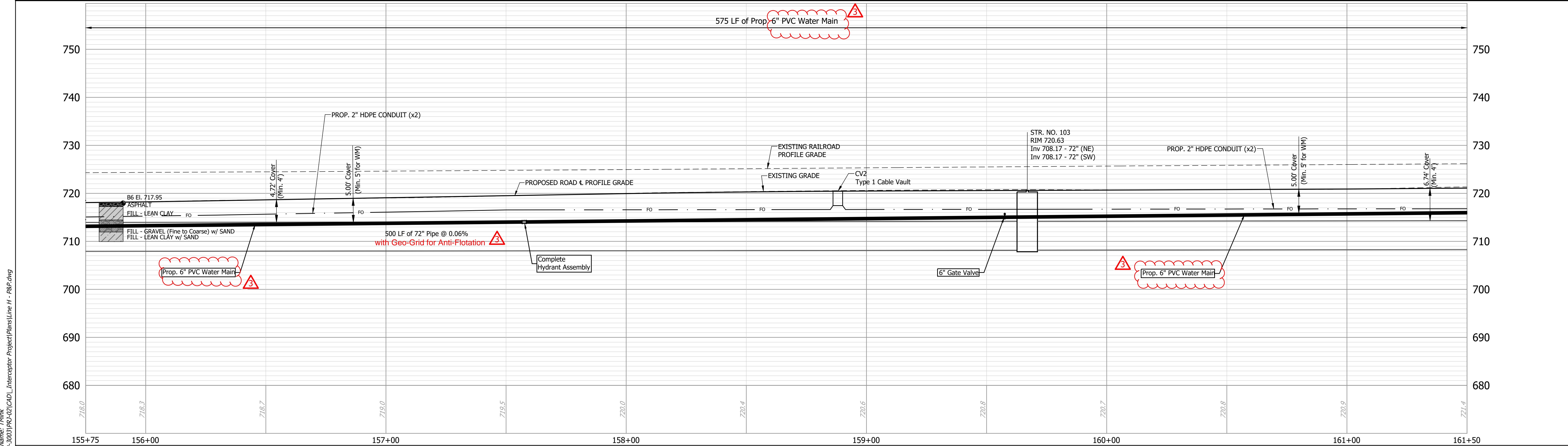
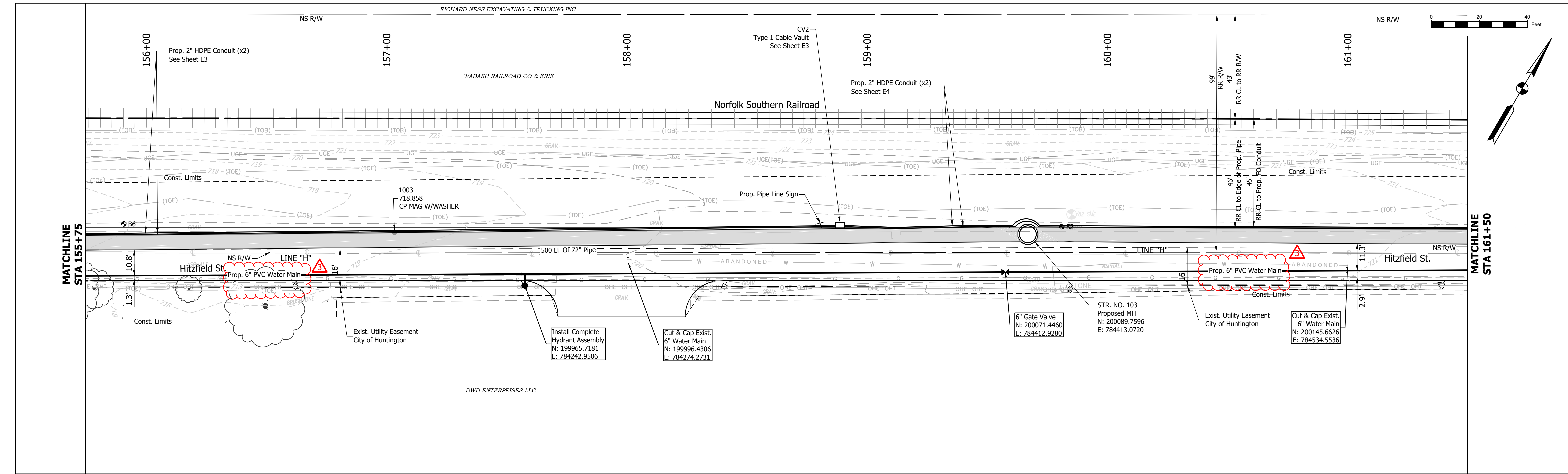


RECOMMENDED FOR APPROVAL	Erin Wenger	07/01/22
DESIGNED: DEW	DRAWN: TNM	DATE
CHECKED: EW	CHECKED: MJC	

CITY OF HUNTINGTON
LTCP PROJECTS 7 & 8: NORTHSIDE INTERCEPTOR SEWER
UTILITY PLAN & PROFILE
LINE "WWTP"

SCALE
H: 1" = 20' - V: 1" = 10'
CONSULTANT PROJECT NUMBER
120-3003-02W
SHEET
U1

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REVISIONS		
DATE	REVISION	BY
8/10/22	Addendum No. 3	EW

Know what's below.
Call before you dig.

● B# Soil Boring
● S# Rock Sounding

7223 Engle Road, Suite 105
Fort Wayne, Indiana 46819
PHONE: 260.494.1901

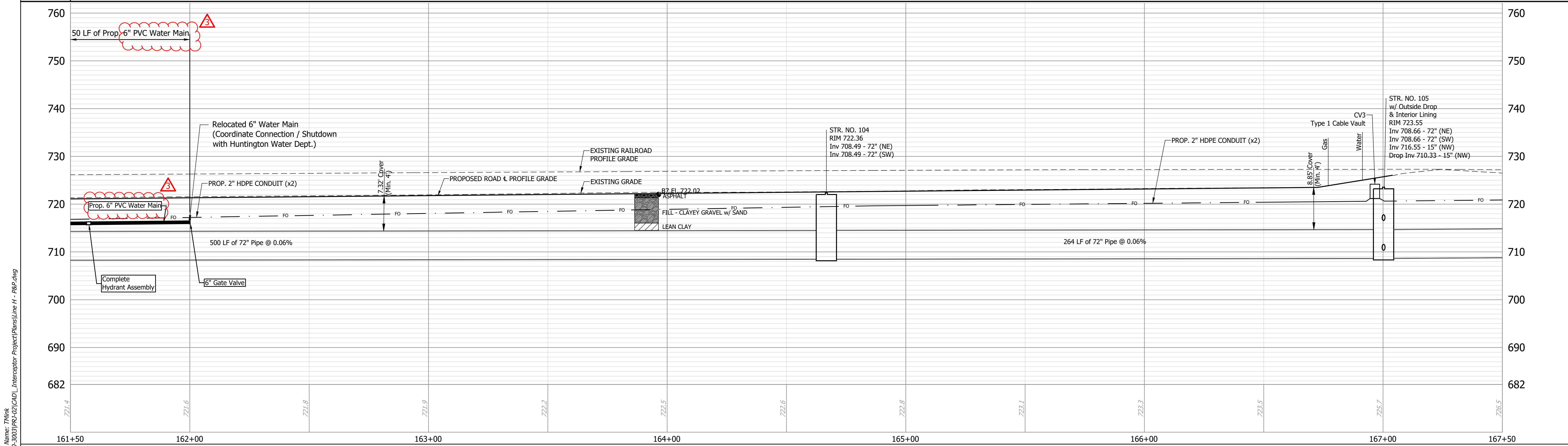
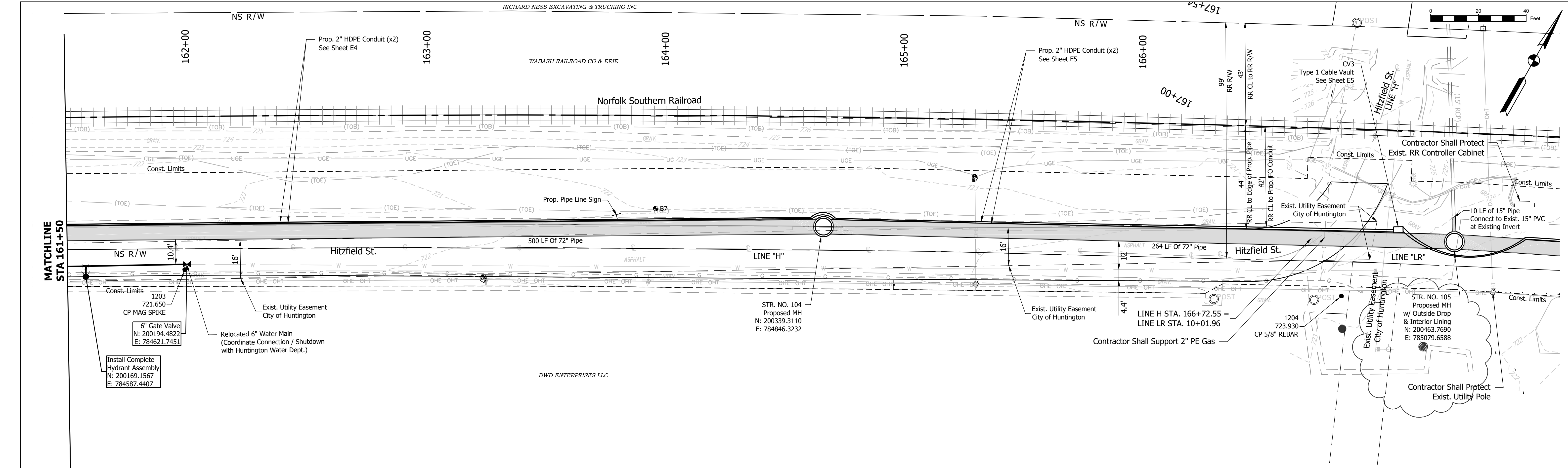
RECOMMENDED FOR APPROVAL *Erin Wenger* 07/01/22
Erin Wenger, P.E., CFM DATE

DESIGNED: DEW	DRAWN: TNM
CHECKED: EW	CHECKED: MJC

CITY OF HUNTINGTON
LTCP PROJECTS 7 & 8: NORTHSIDE INTERCEPTOR SEWER

UTILITY PLAN & PROFILE
LINE "H"

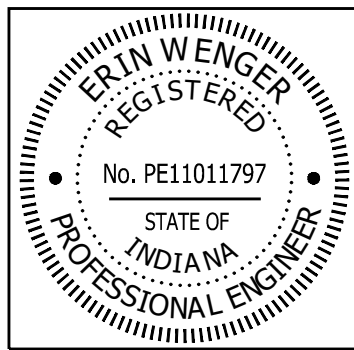
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REVISIONS		
DATE	REVISION	BY
8/10/22	Addendum No. A	EW



- B# Soil Boring
- S# Rock Sounding

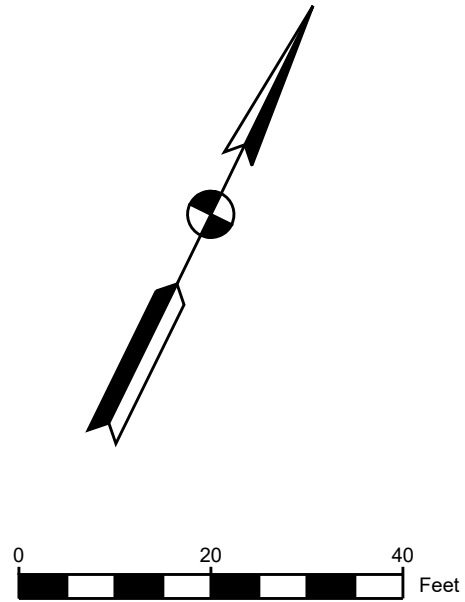
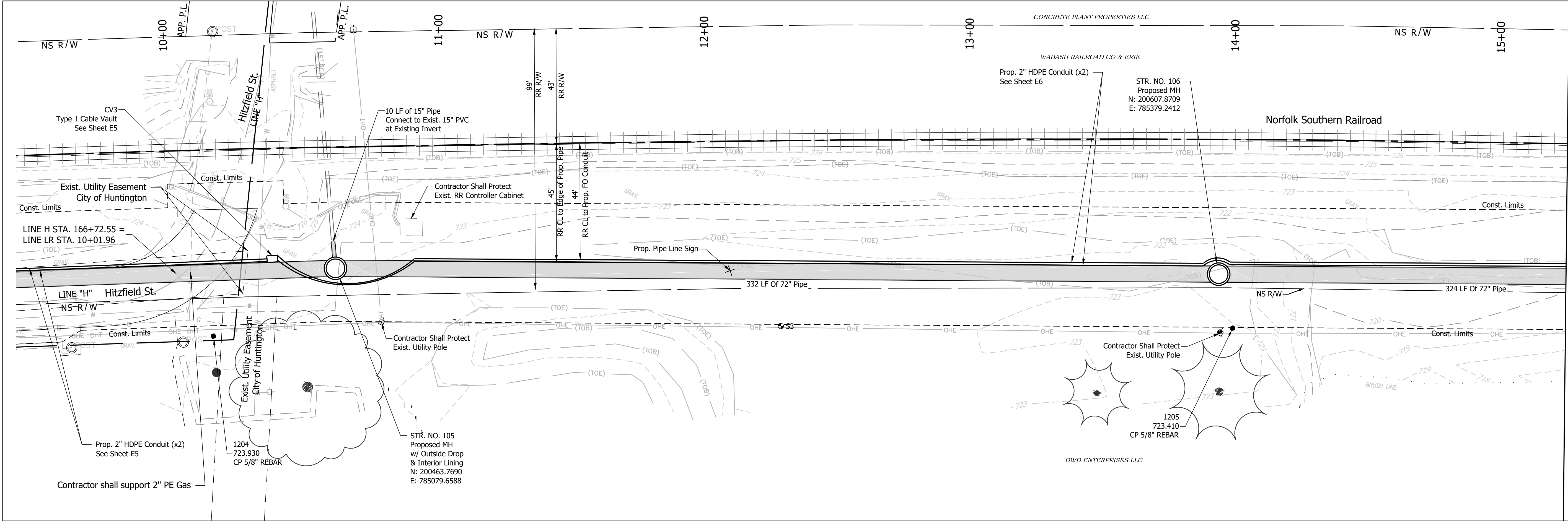


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	Erin Wenger, P.E., CFM	DATE
DESIGNED: DEW	DRAWN: TNM	
CHECKED: EW	CHECKED: MJC	

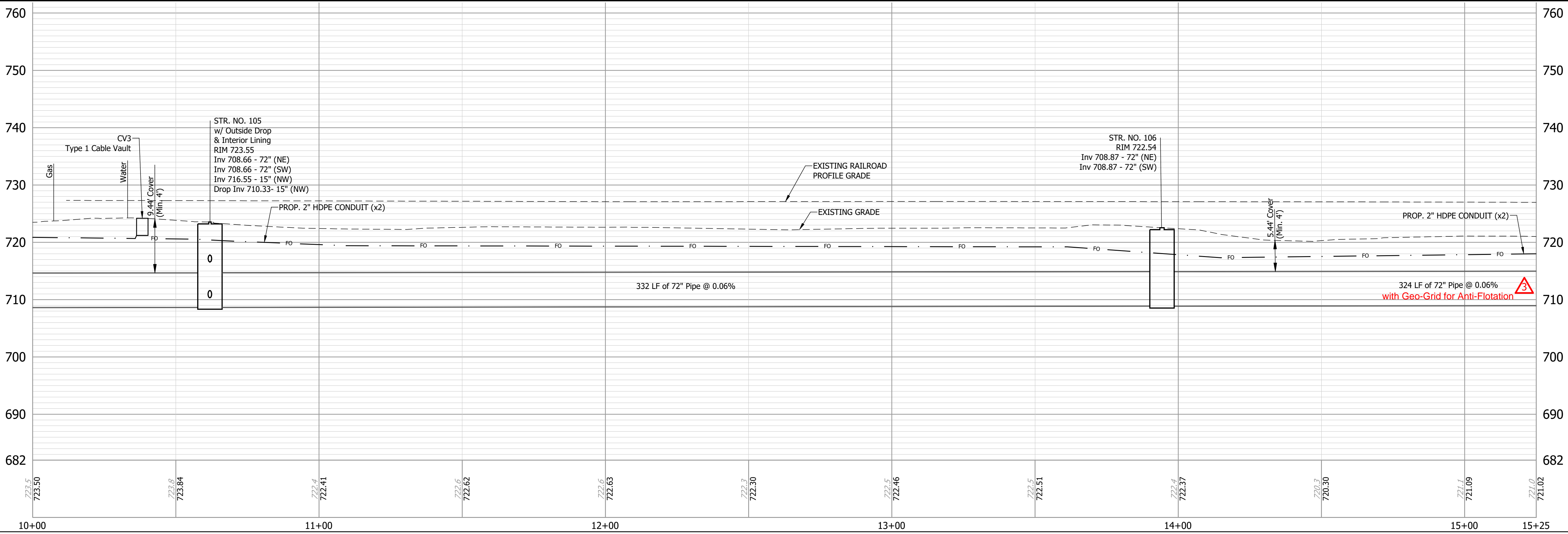
CITY OF HUNTINGTON
LTCP PROJECTS 7 & 8: NORTHSIDE INTERCEPTOR SEWER
UTILITY PLAN & PROFILE
LINE "H"

SCALE
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CONSULTANT PROJECT NUMBER
120-3003-02W
SHEET
U4

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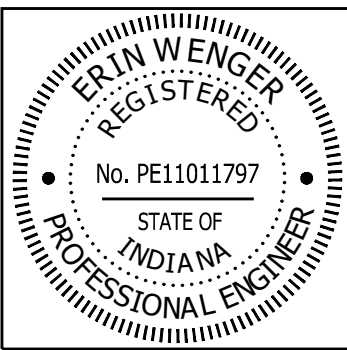
MATCHLINE
STA 15+25



REVISIONS		
DATE	REVISION	BY
8/10/22	Addendum No. 3	EW



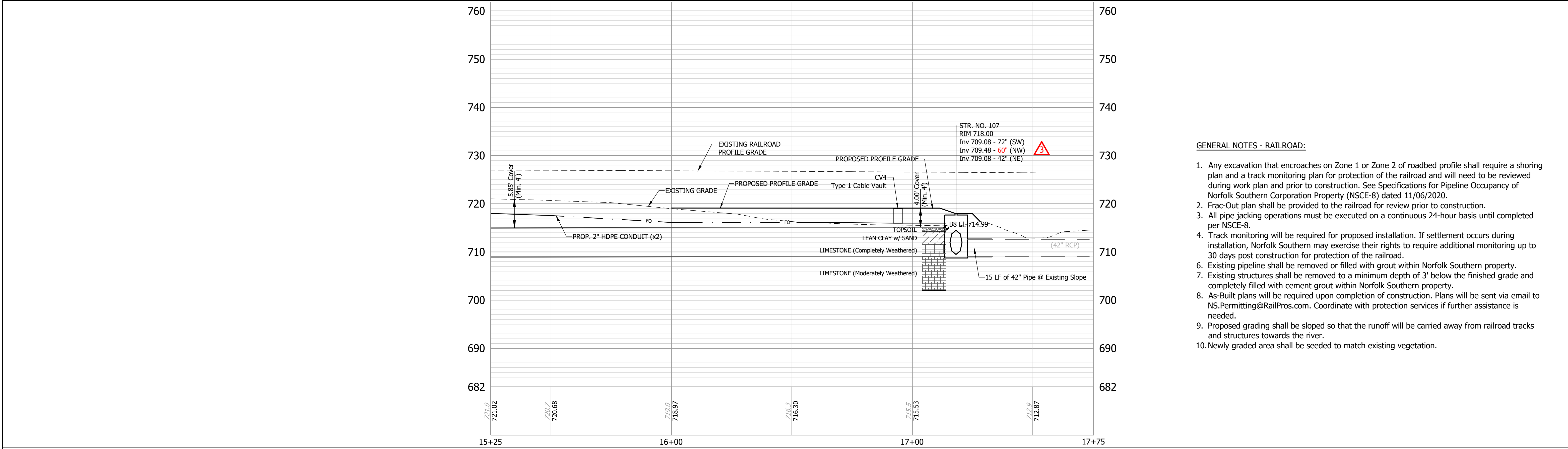
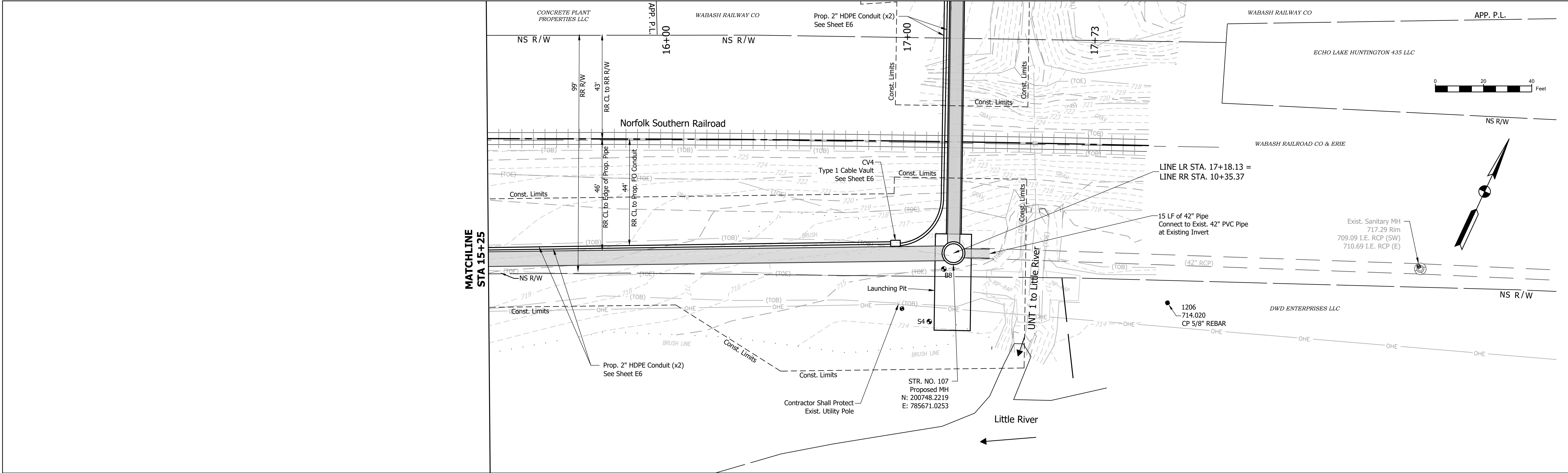
- B# Soil Boring
- S# Rock Sounding



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Erin Wenger, P.E., CFM		DATE
DESIGNED: DEW	DRAWN: TNM	
CHECKED: EW	CHECKED: MJC	

CITY OF HUNTINGTON	
LTCP PROJECTS 7 & 8: NORTHSIDE INTERCEPTOR SEWER	
UTILITY PLAN & PROFILE	
LINE "LR"	

SCALE	
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SHEET	
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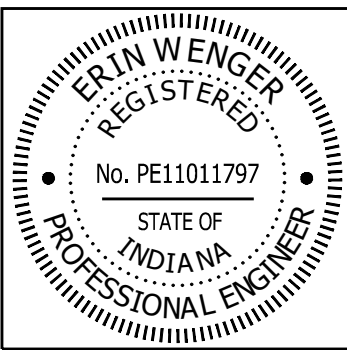


- GENERAL NOTES - RAILROAD:**
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 - Proposed grading shall be sloped so that the runoff will be carried away from railroad tracks and structures towards the river.
 - Newly graded area shall be seeded to match existing vegetation.

REVISIONS		
DATE	REVISION	BY
08/10/22	Addendum No.	TNM



- B# Soil Boring
- S# Rock Sounding

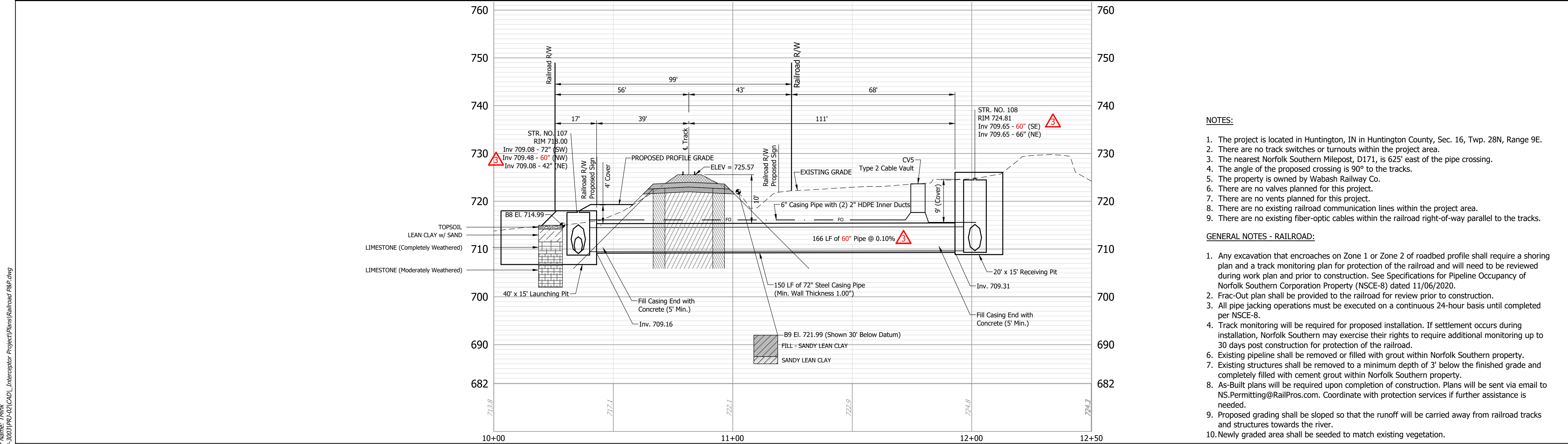
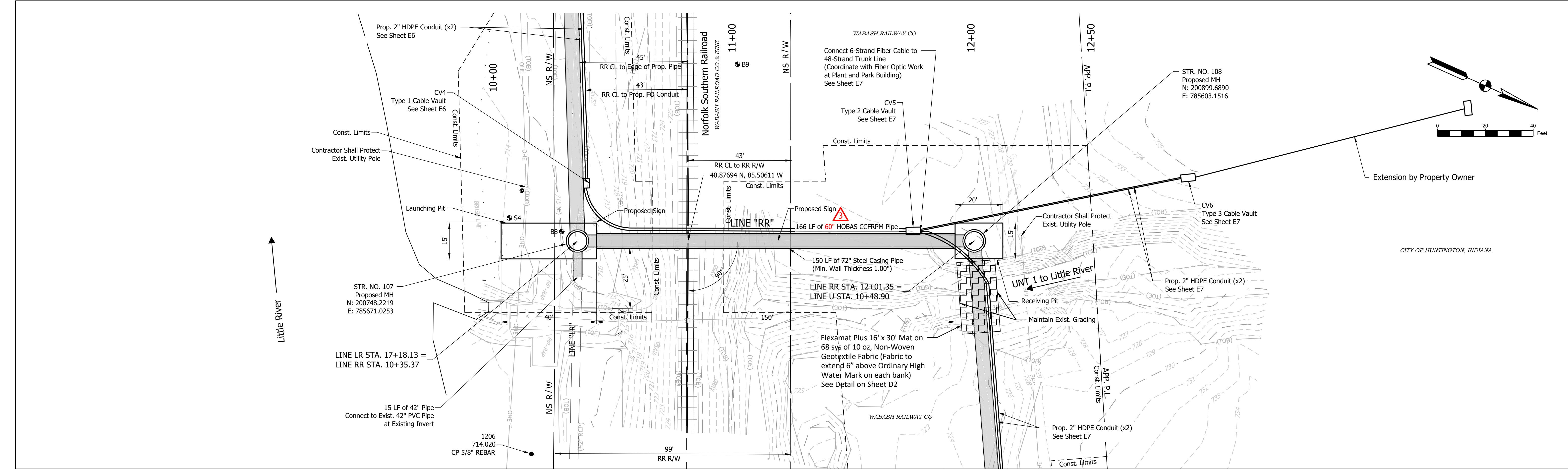


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Erin Wenger, P.E., CFM DATE	
DESIGNED: <u>DEW</u>	DRAWN: <u>TNM</u>
CHECKED: <u>EW</u>	CHECKED: <u>MJC</u>

CITY OF HUNTINGTON	
LTCP PROJECTS 7 & 8: NORTHSIDE INTERCEPTOR SEWER	
UTILITY PLAN & PROFILE	
LINE "LR"	

SCALE
H: 1" = 20' - V: 1" = 10'
CONSULTANT PROJECT NUMBER
120-3003-02W
SHEET
U6

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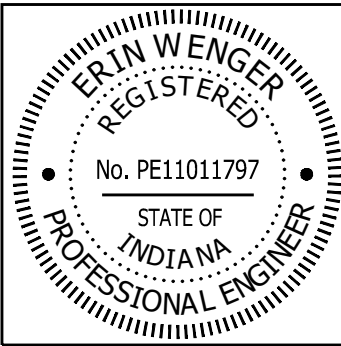
- NOTES:**
1. The project is located in Huntington, IN in Huntington County, Sec. 16, Twp. 28N, Range 9E.
 2. There are no track switches or turnouts within the project area.
 3. The nearest Norfolk Southern Milepost, D171, is 625' east of the pipe crossing.
 4. The angle of the proposed crossing is 90° to the tracks.
 5. The property is owned by Wabash Railway Co.
 6. There are no valves planned for this project.
 7. There are no vents planned for this project.
 8. There are no existing railroad communication lines within the project area.
 9. There are no existing fiber-optic cables within the railroad right-of-way parallel to the tracks.

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08/10/22	Addendum No. A	TNM



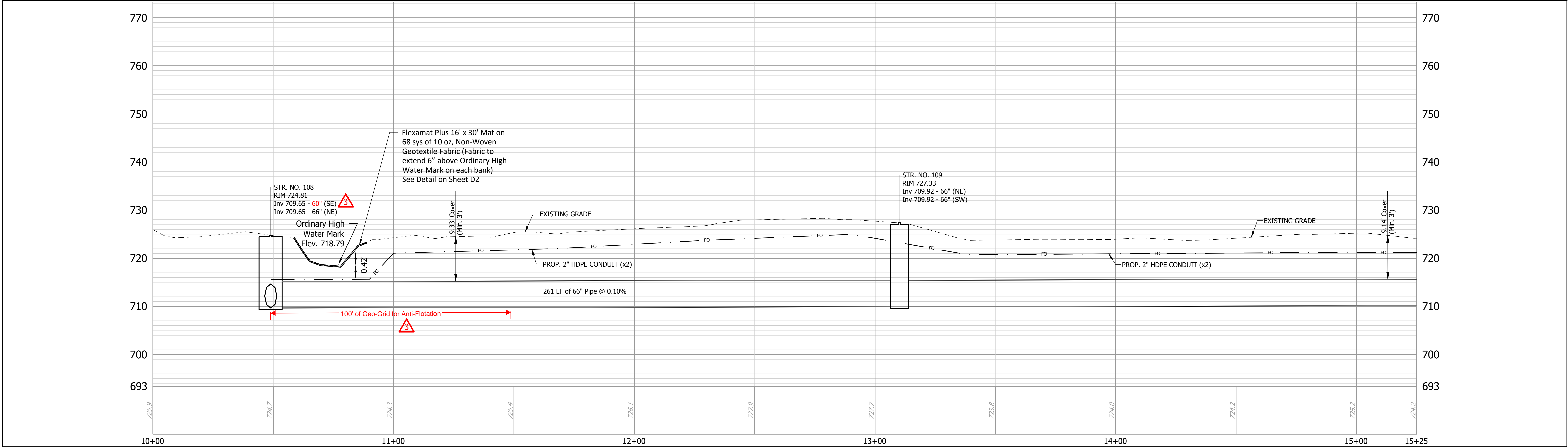
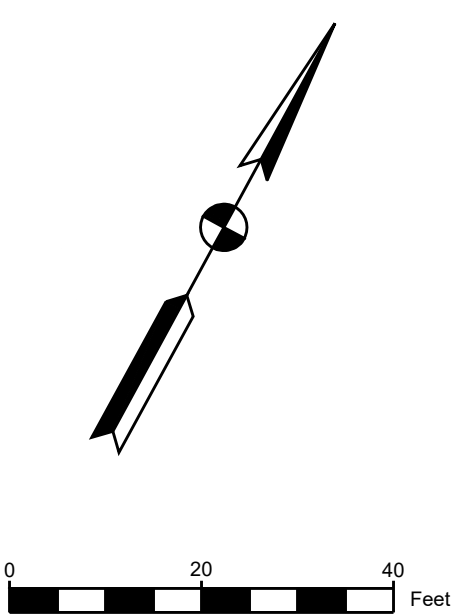
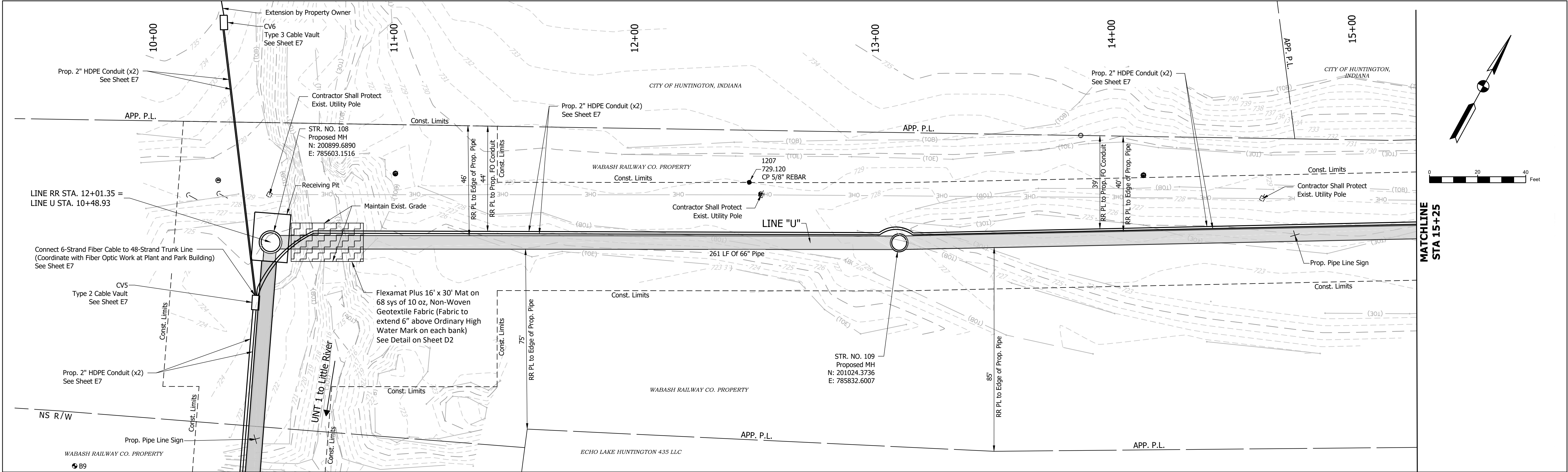
- B# Soil Boring
● S# Rock Sounding



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CHECKED: <u>EW</u>	CHECKED: <u>MJC</u>

CITY OF HUNTINGTON LTCP PROJECTS 7 & 8: NORTHSIDE INTERCEPTOR SEWER	
UTILITY PLAN & PROFILE LINE "RR"	

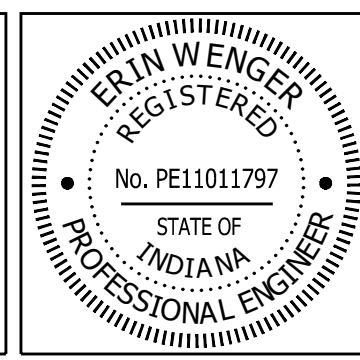
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SHEET U7	



REVISIONS		
DATE	REVISION	BY
08/10/22	Addendum No.	TNM



- B# Soil Boring
- S# Rock Sounding

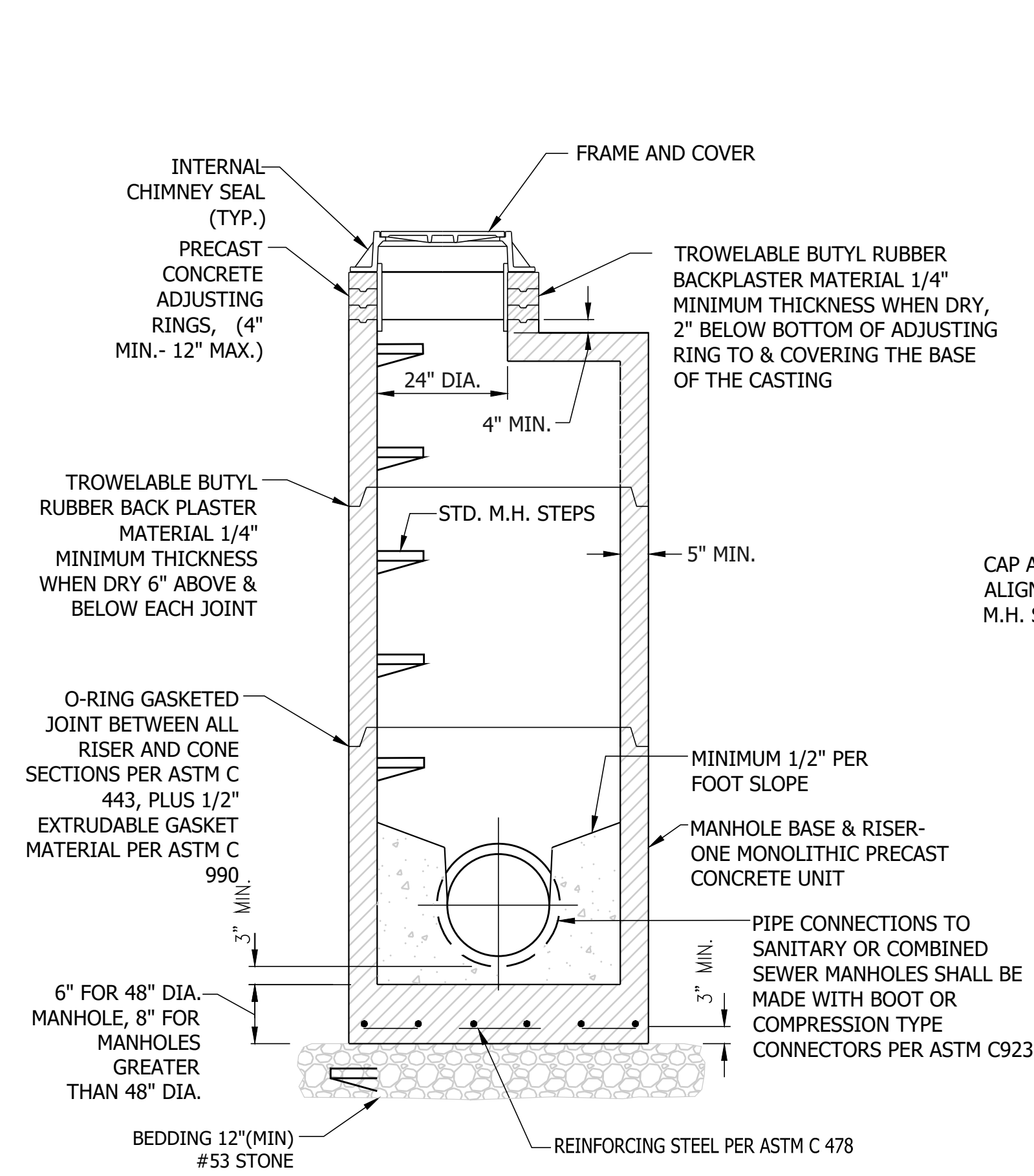


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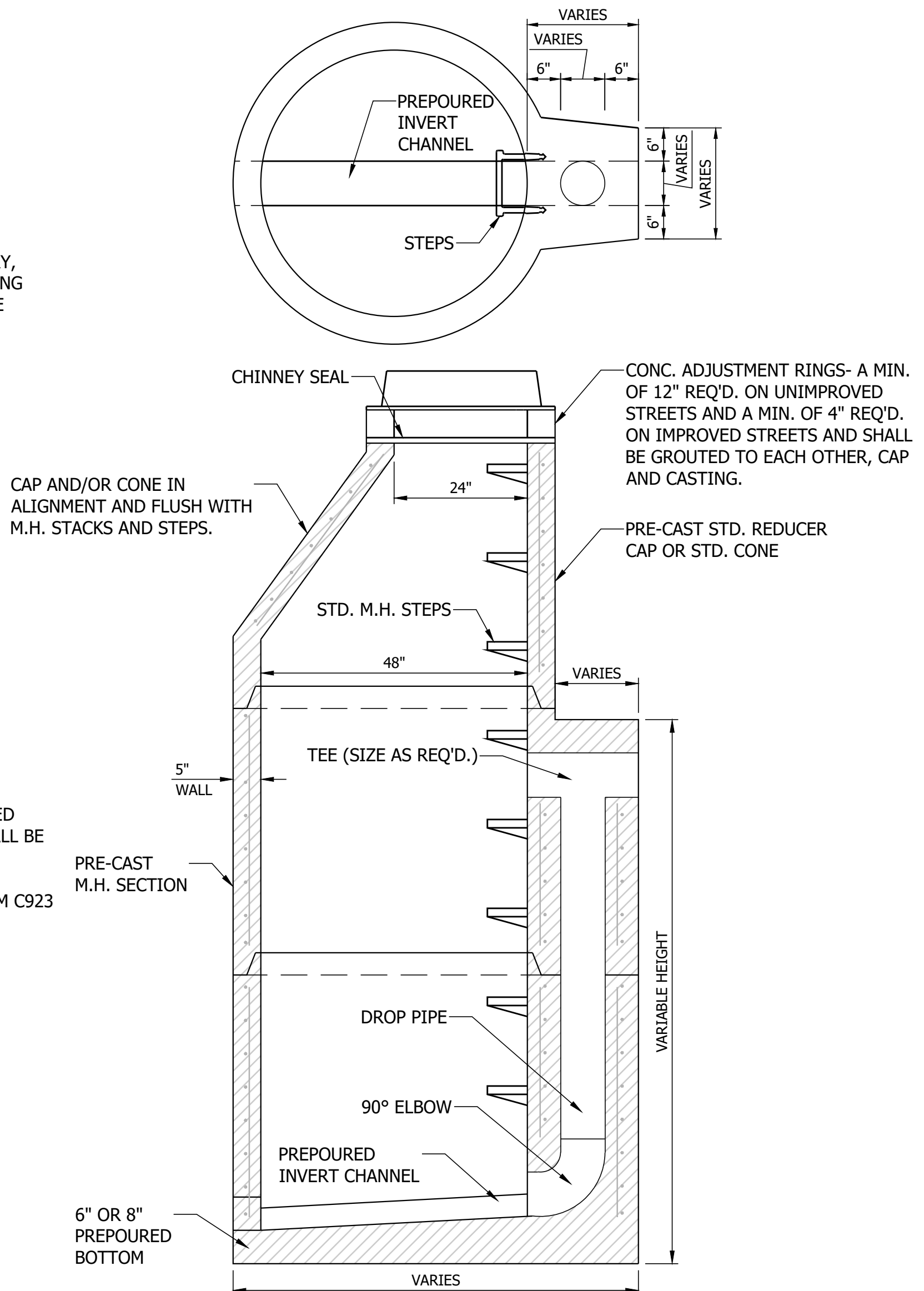
CITY OF HUNTINGTON
LTCP PROJECTS 7 & 8: NORTHSIDE INTERCEPTOR SEWER
UTILITY PLAN & PROFILE
LINE "U"

SCALE
H: 1" = 20' - V: 1" = 10'
CONSULTANT PROJECT NUMBER
120-3003-02W
SHEET
U8

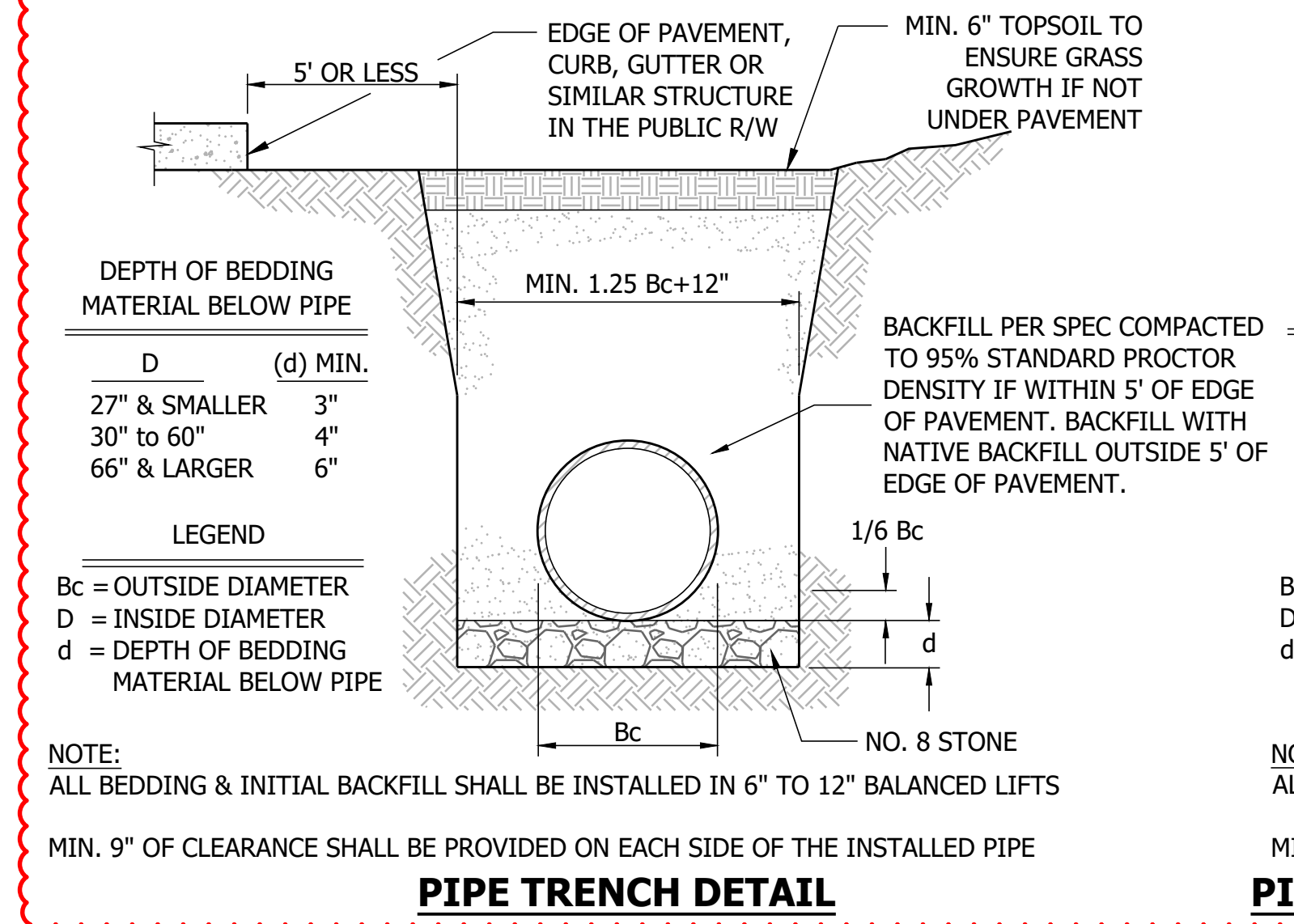
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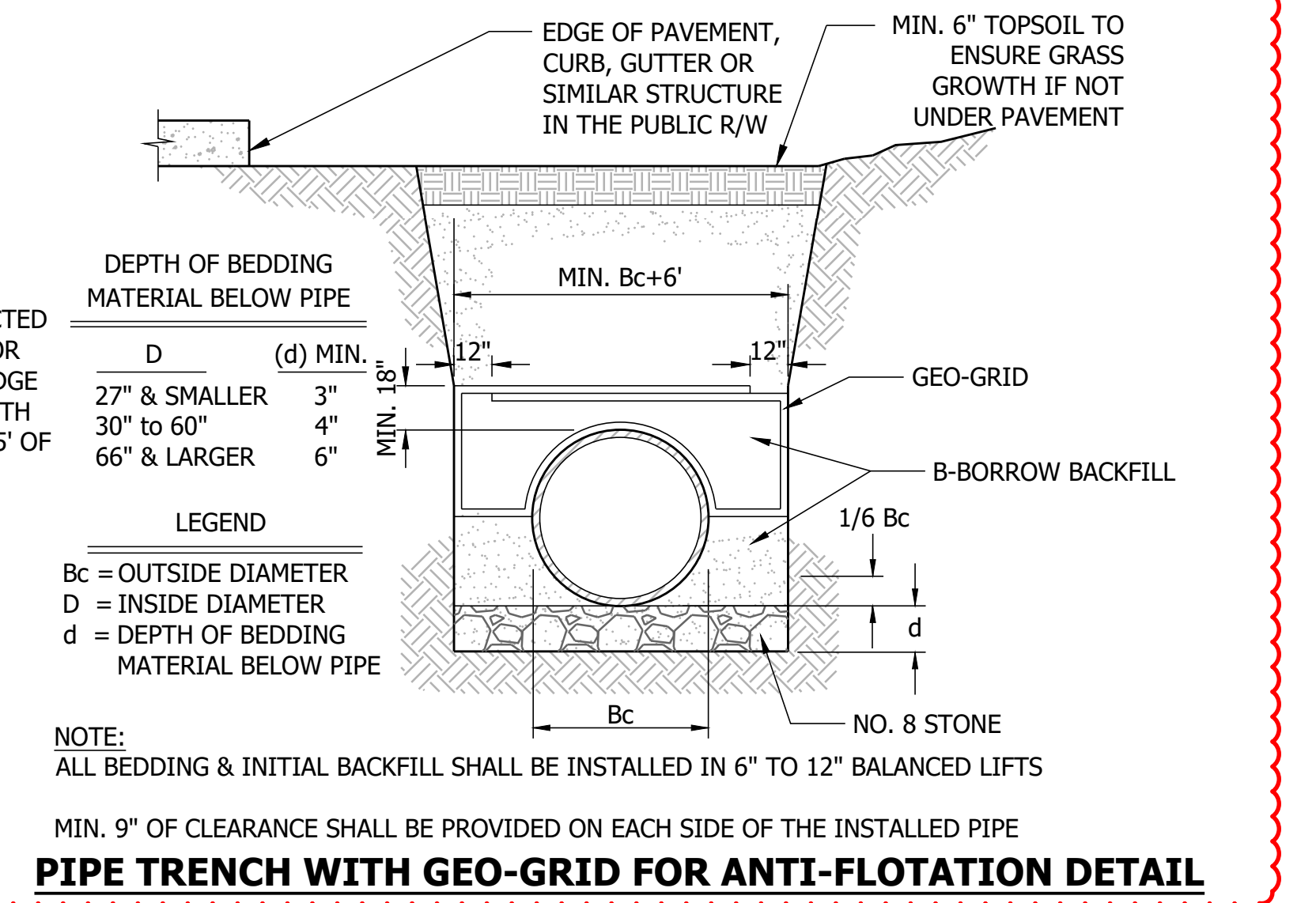
STANDARD MANHOLE



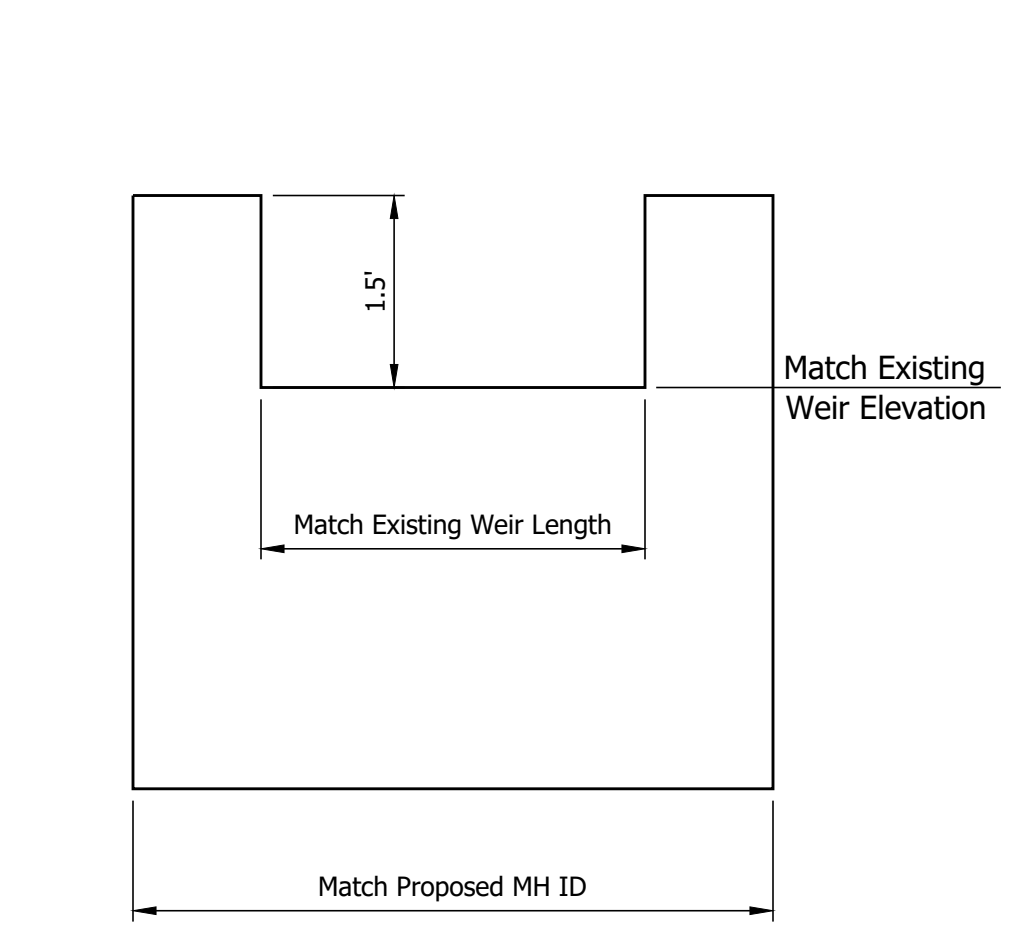
MANHOLE WITH OUTSIDE DROP



PIPE TRENCH DETAIL

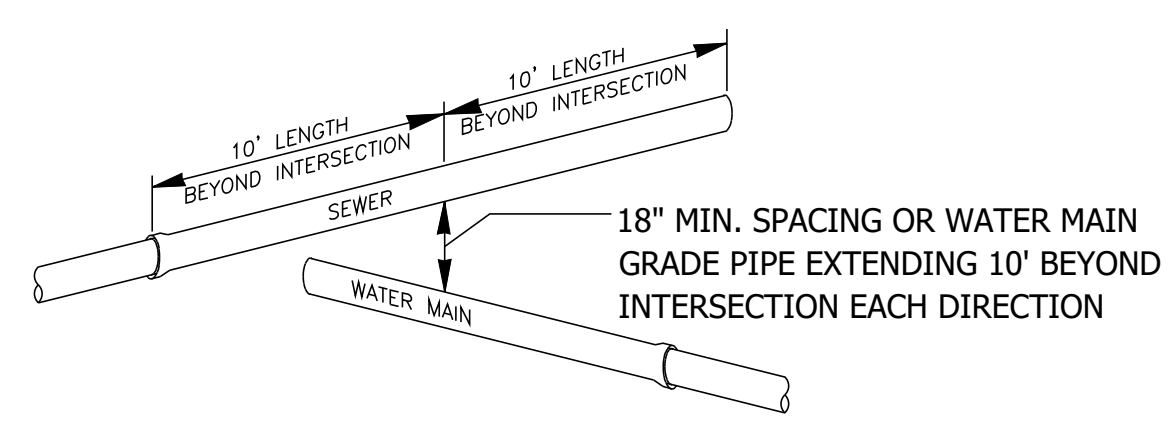


PIPE TRENCH WITH GEO-GRID FOR ANTI-FLOTATION DETAIL



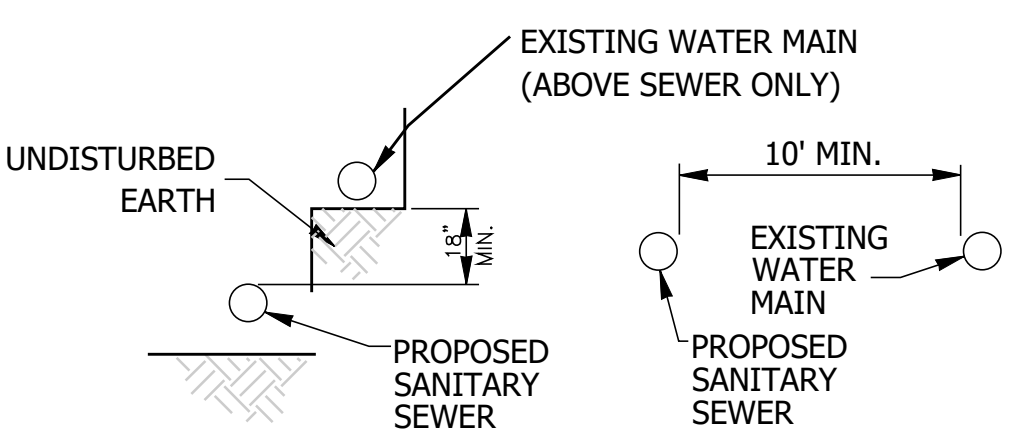
- NOTES:
- Contractor to field verify existing weir length and elevation before removing existing CSO control structures.
 - Concrete weir to be minimum thickness of 3"

CSO STRUCTURE WEIR DETAIL



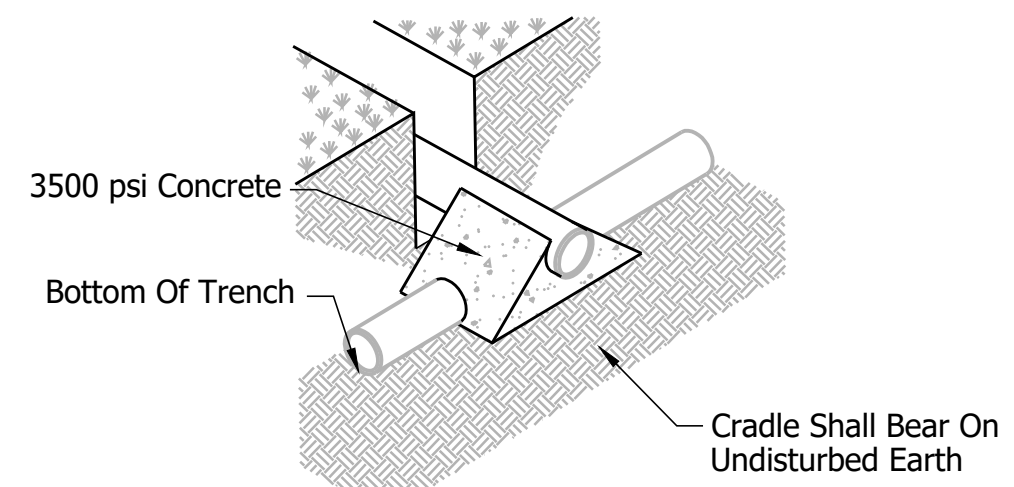
CROSSING ARRANGED SO THAT SEWER JOINTS WILL BE EQUIDISTANT AND AS FAR AS POSSIBLE FROM WATER MAIN JOINTS

SANITARY & STORM SEWER CROSSING

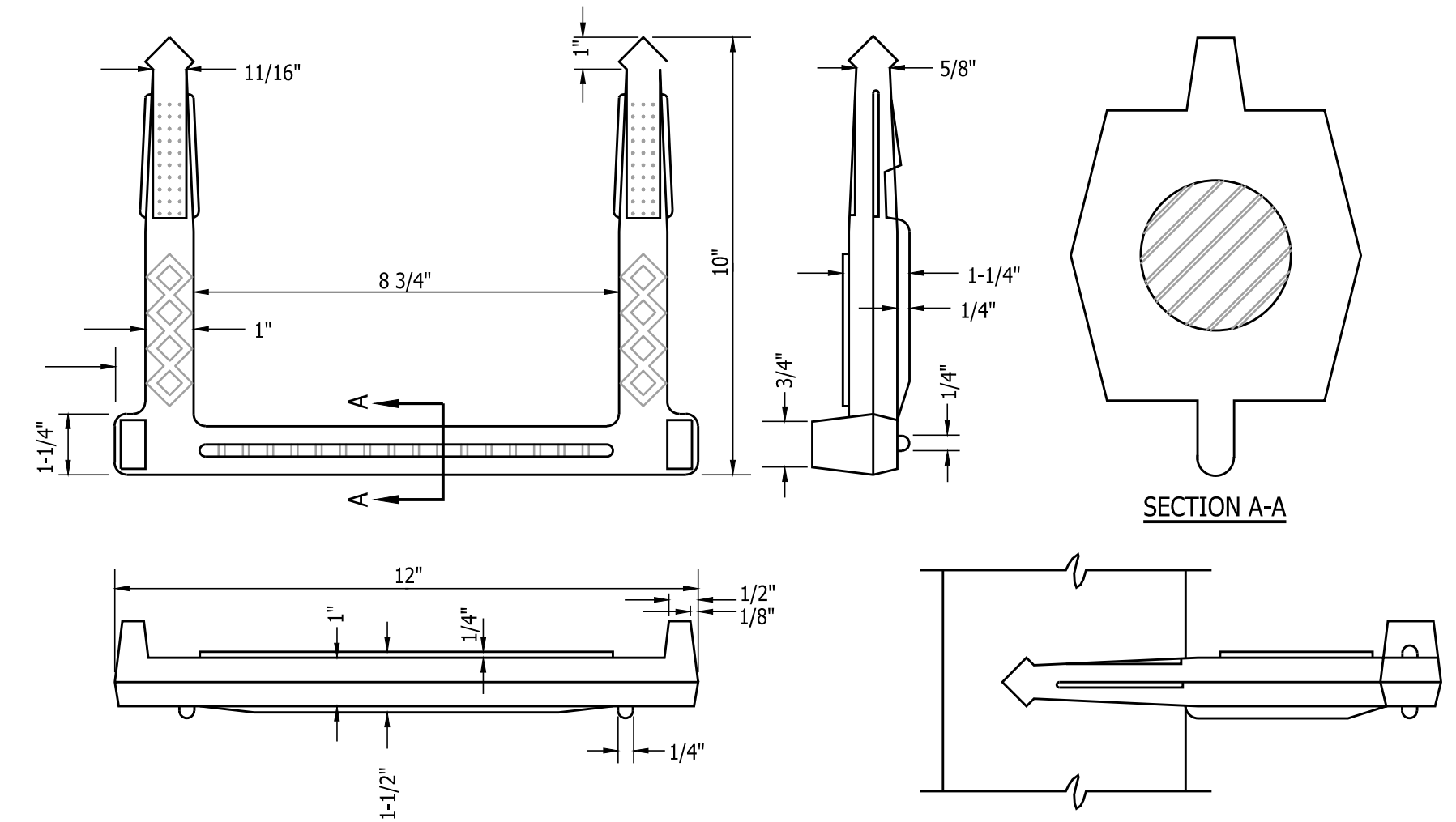


IF 10' MIN. HORIZONTAL SPACING CANNOT BE MAINTAINED, THE WATER LINE MUST SIT ON A SHELF OF UNDISTURBED EARTH A MINIMUM OF 18" VERTICAL DISTANCE FROM THE TOP OF THE SEWER PIPE

PARALLEL SEWER/WATER LINES

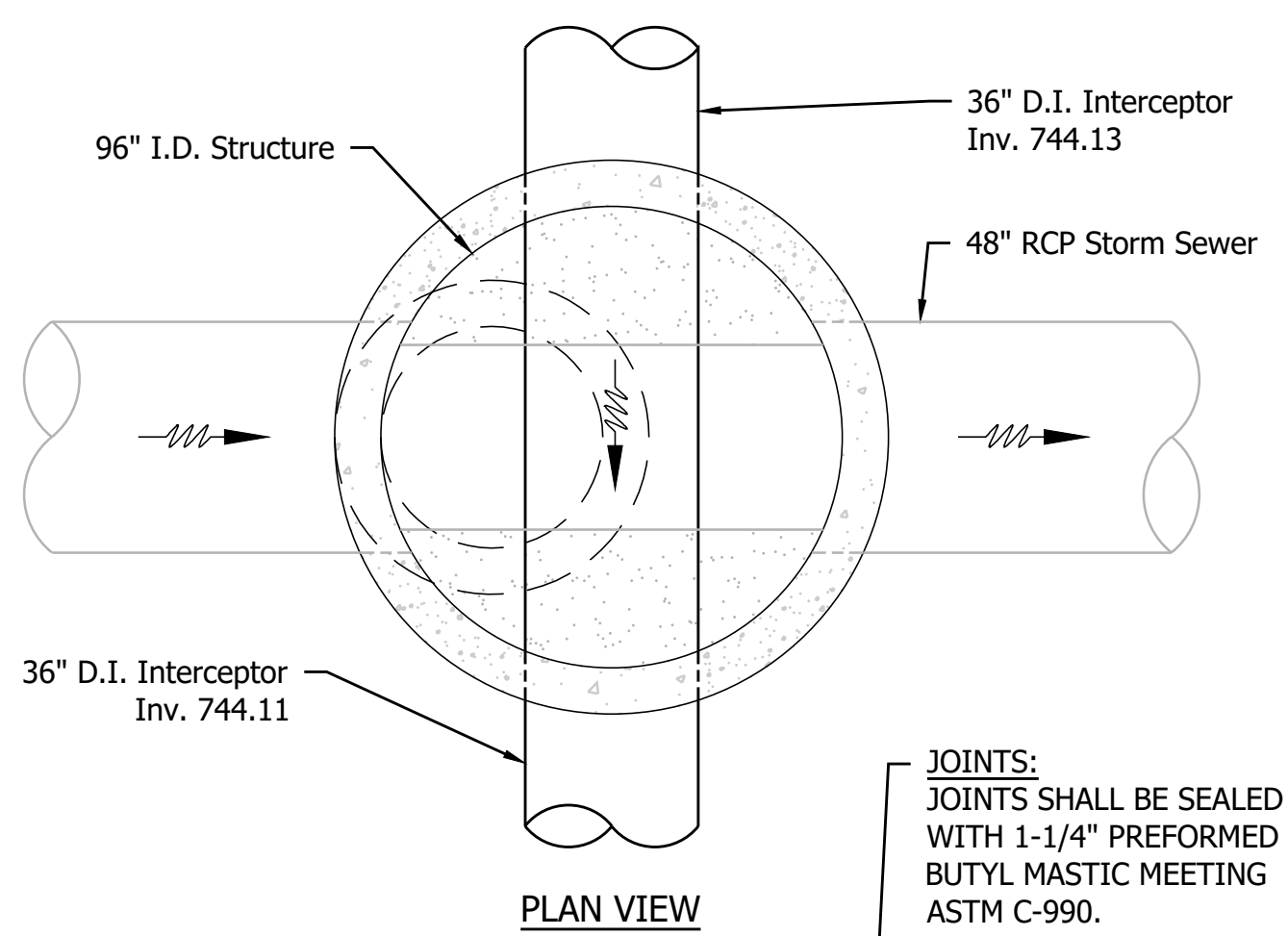


CONCRETE CRADLE DETAIL



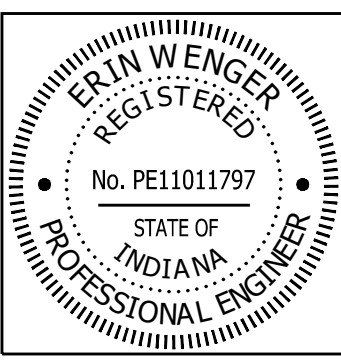
- NOTES:
- STEPS SHALL BE PLACED INTO WET CONCRETE WALL DURING MANUFACTURE OR MORTED INTO HOLES AFTER CONCRETE HAS SET.
 - IN ACCORDANCE WITH INDIANA STATE HIGHWAY COMISSION TESTS OF M.H. STEP #170, OR APPROVED EQUAL.

REINFORCED PLASTIC MANHOLE STEP



JOINTS: JOINTS SHALL BE SEALED WITH 1-1/4" PREFORMED BUTYL MASTIC MEETING ASTM C-990. PRIME EXTERIOR OF JOINTS WITH BITUMINOUS PRIMER PRIOR TO WRAPPING. ALL JOINTS SHALL HAVE EXTERIOR JOINT WRAP MEETING THE REQUIREMENTS OF ASTM C-877, MINIMUM 6" WRAP. IN INSTANCES WHERE JOINT IS BELOW WATER TABLE, JOINT SHALL BE SEALED WITH A CONTROLLED EXPANSION WATER SEAL EQUAL TO CONSEAL CS-231

REVISIONS		
DATE	REVISION	BY
08/10/22	Addendum No.	TNM

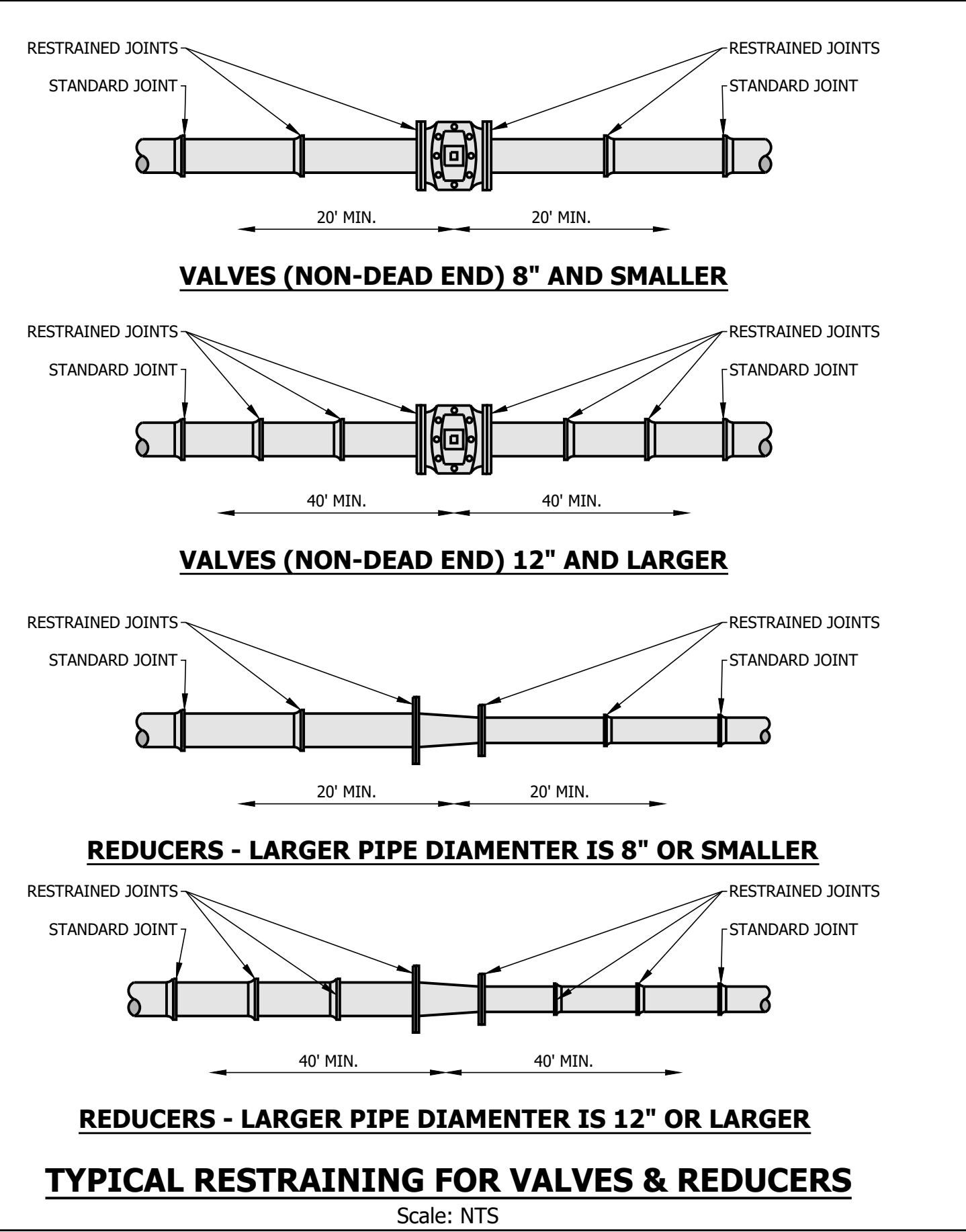
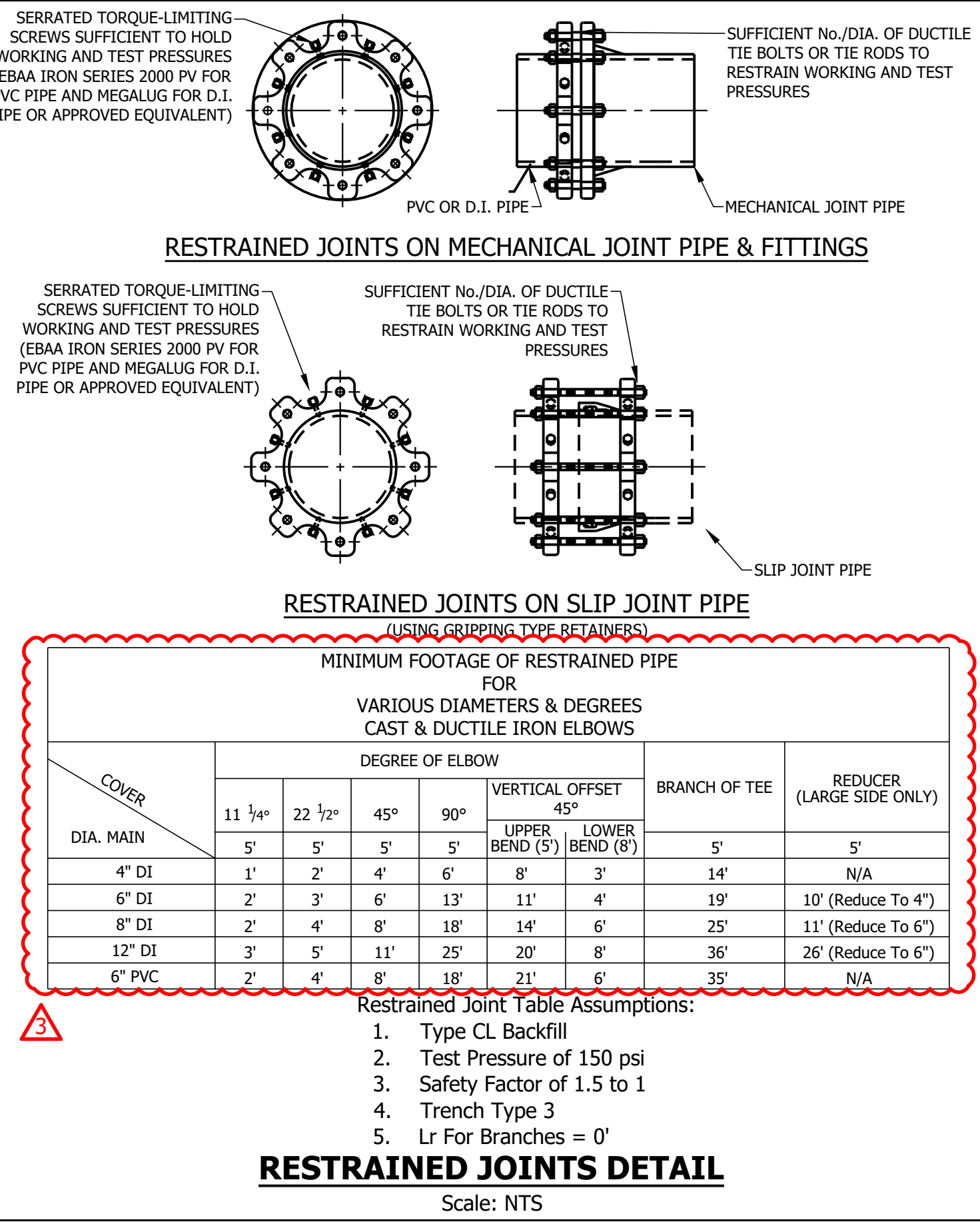
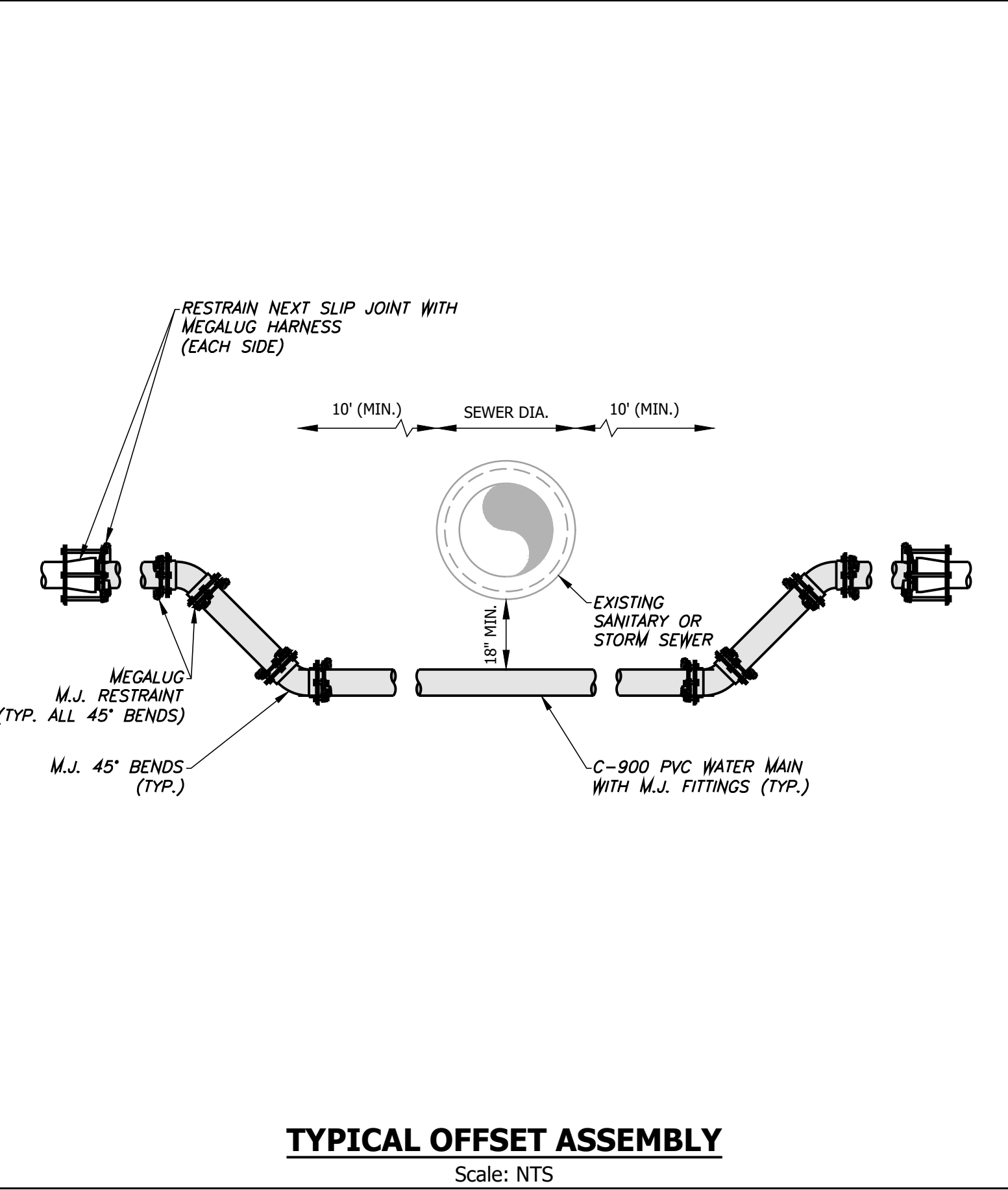
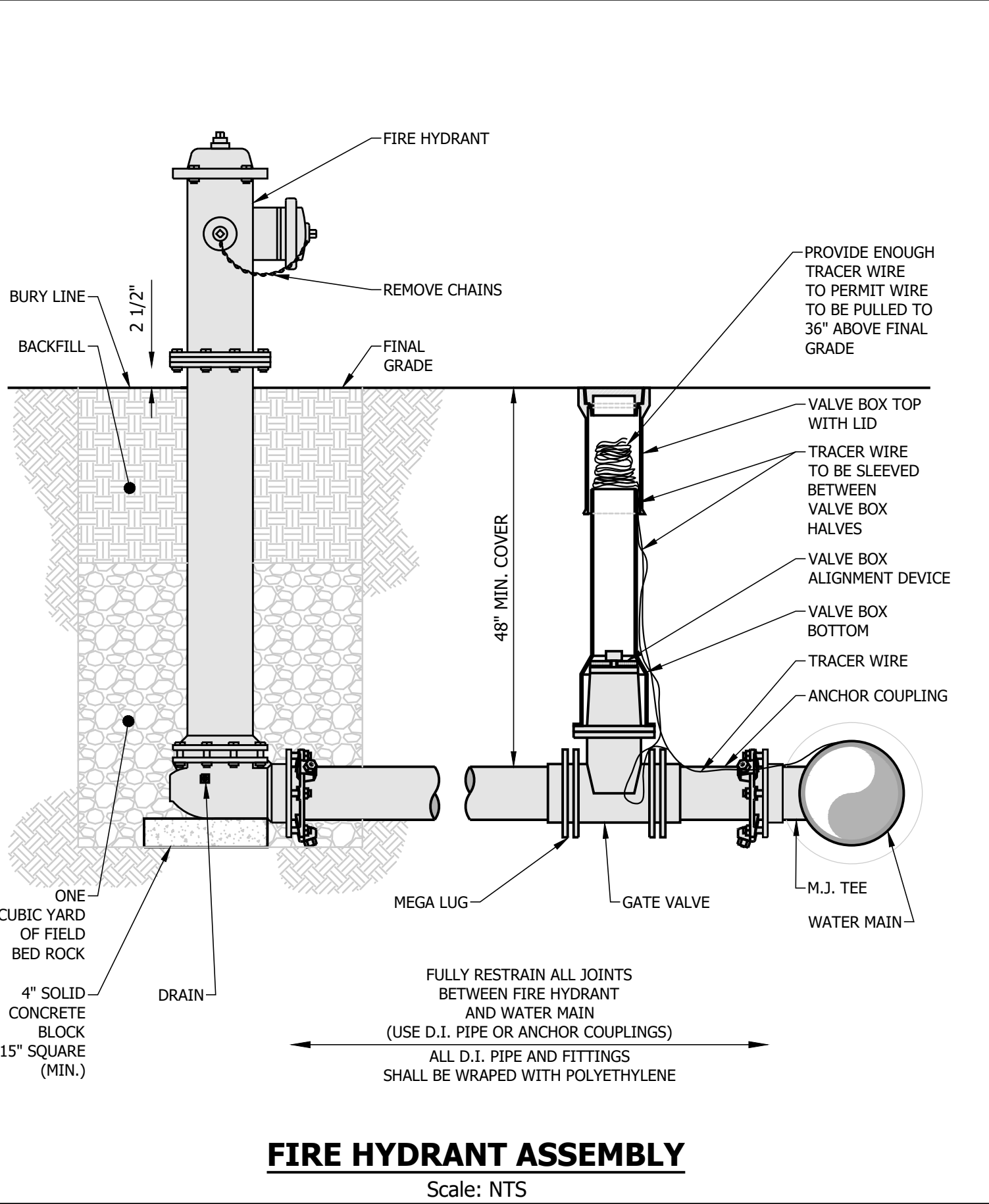
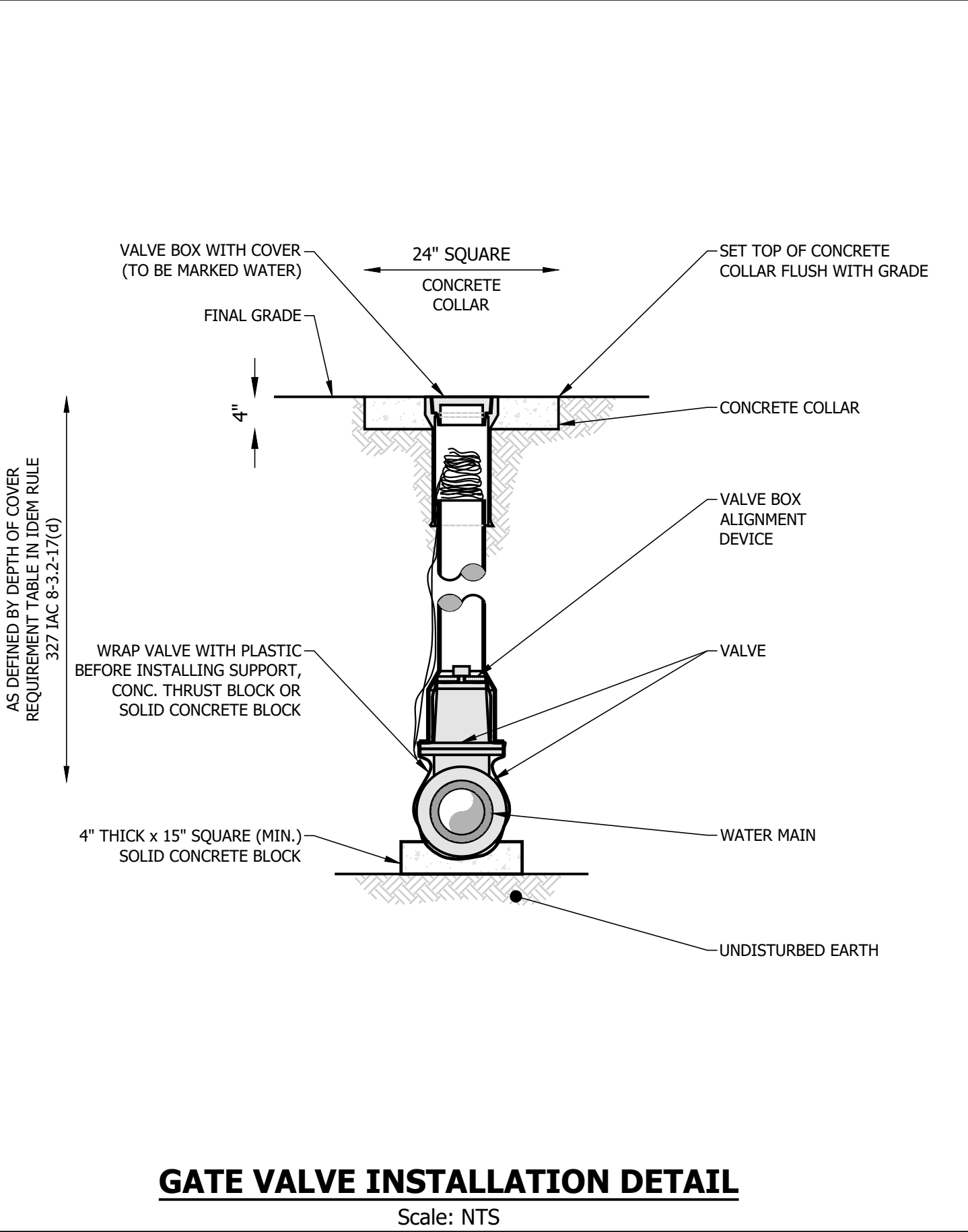
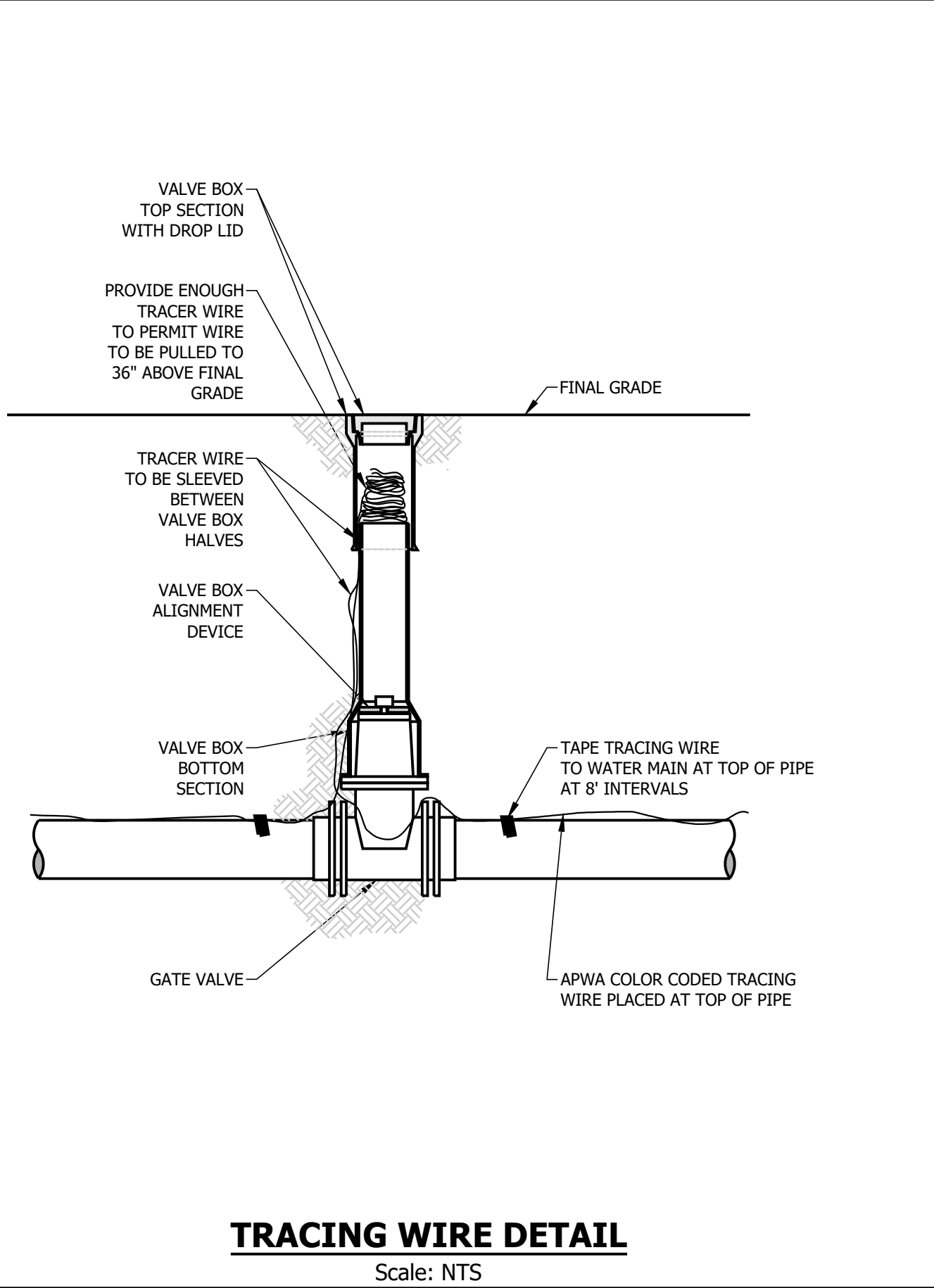
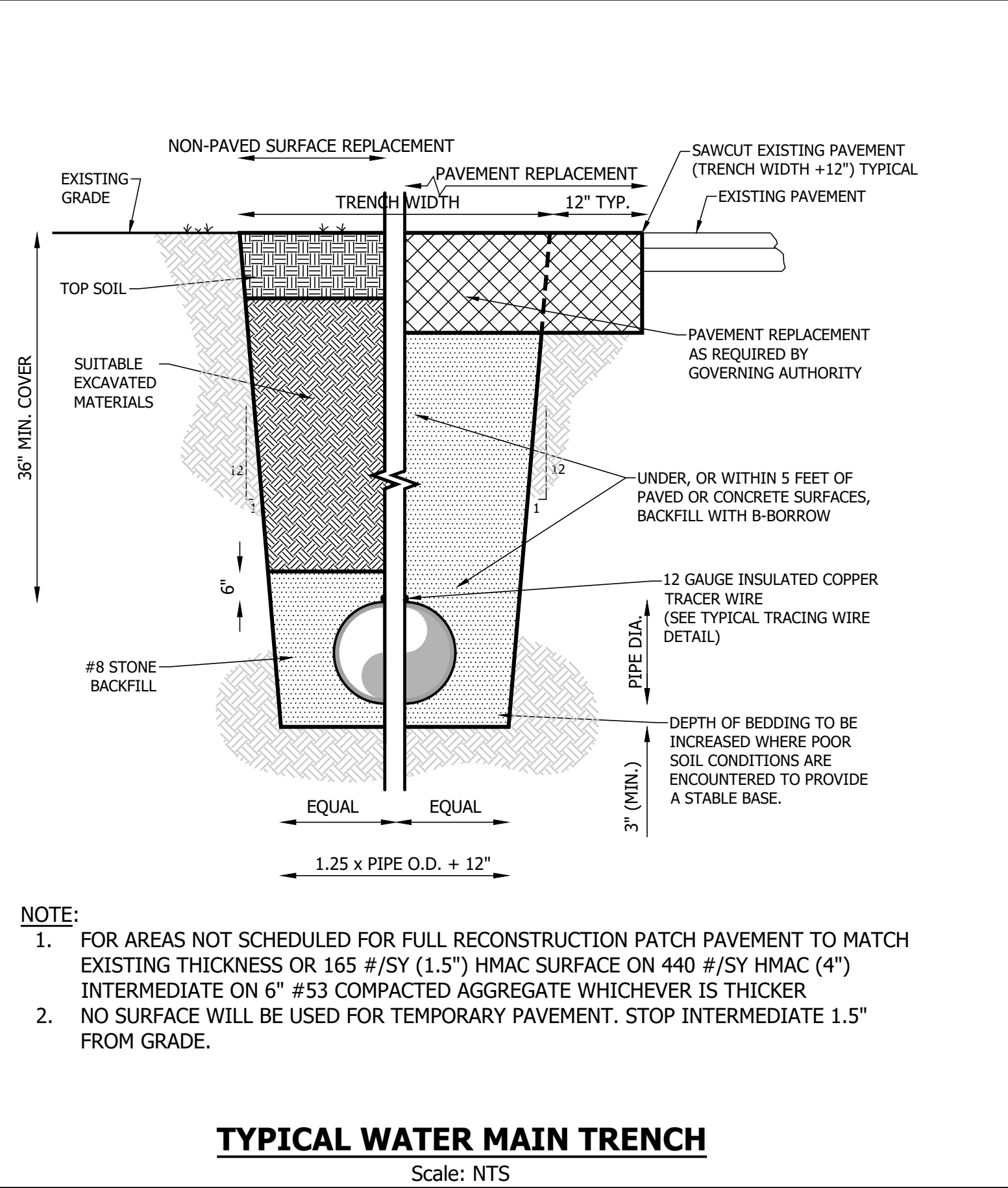


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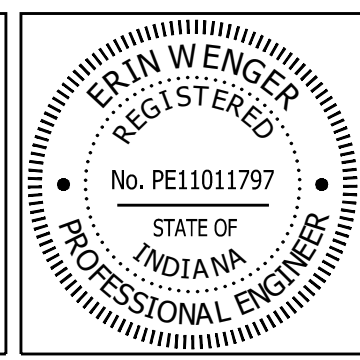
CITY OF HUNTINGTON
LTCP PROJECTS 7 & 8: NORTHSIDE INTERCEPTOR SEWER
SANITARY DETAILS
SHEET 2 OF 2

SCALE
NTS
CONSULTANT PROJECT NUMBER
120-3003-02W
SHEET
D3

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REVISIONS		
DATE	REVISION	BY
08/10/22	Addendum No.	TNM



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CITY OF HUNTINGTON
LTCP PROJECTS 7 & 8: NORTHSIDE INTERCEPTOR SEWER
WATER DETAILS
SHEET 2 OF 2

SCALE
H: 1" = 20' - V: 1" = 10'
CONSULTANT PROJECT NUMBER
120-3003-02W
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Date: Aug 10, 2022 6:40pm User: Numpy Think
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