

See Sheet 1A For Index of Sheets
See Sheet 1B For Conventional Plan Sheet Symbols
See Sheet 1C-1 Through 1C-? For Survey Control Sheets

STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

T.I.P. NO.	SHEET NO.
B-4786	SU-1

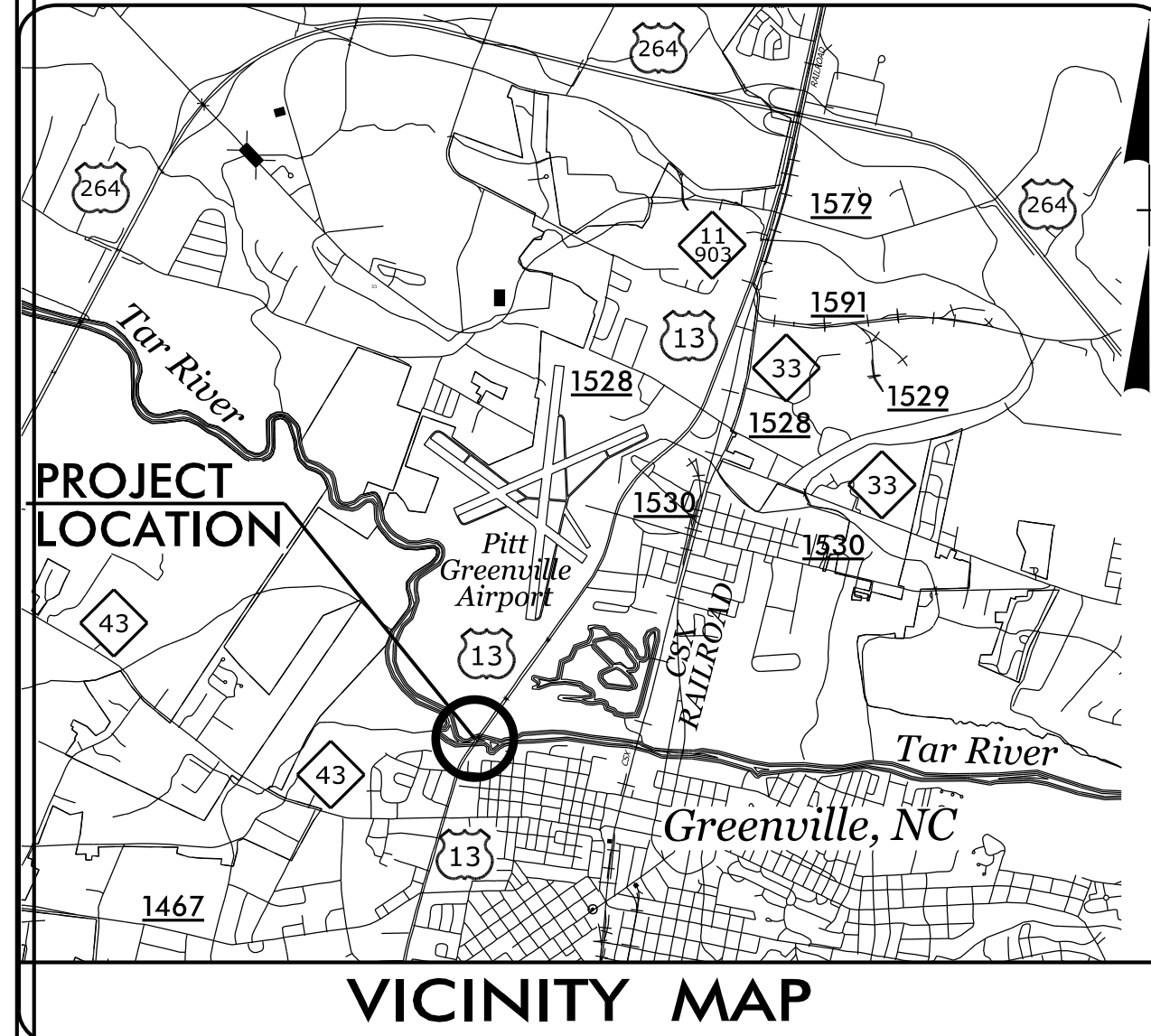
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STRUCTURE UTILITIES PLANS PITT COUNTY

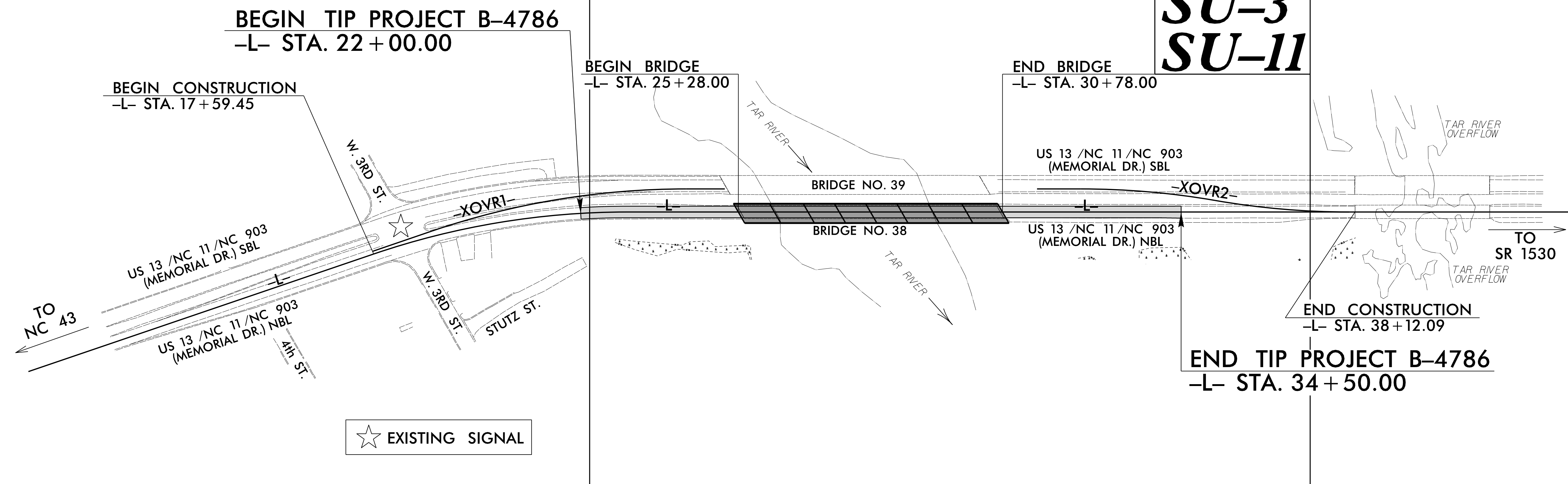
**LOCATION: REPLACE BRIDGE NO. 38 OVER THE TAR RIVER
ON US 13 IN GREENVILLE**

**TYPE OF WORK: ATTACH TEMPORARY 8" WATER LINE TO THE EXISTING
BRIDGE NO. 39 AND ATTACH A PERMANENT 12" WATER
LINE TO THE PROPOSED BRIDGE NO. 38**

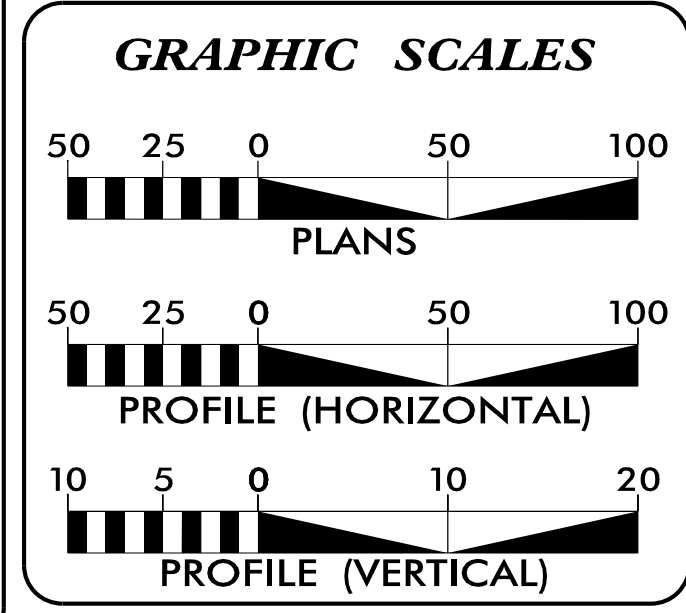
TIP PROJECT: B-4786



RIGHT OF WAY PLANS



CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II.
THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF GREENVILLE.



INDEX OF SHEETS

SHEET NO.	DESCRIPTION
SU-1	TITLE SHEET
SU-2	UTILITY SYMBOLOGY
SU-3 THRU SU-10	8" WL BRIDGE ATTACHMENT PLAN SHEETS
SU-11 THRU SU-23	12" WL BRIDGE ATTACHMENT PLAN SHEETS

WATER AND SEWER OWNERS ON PROJECT

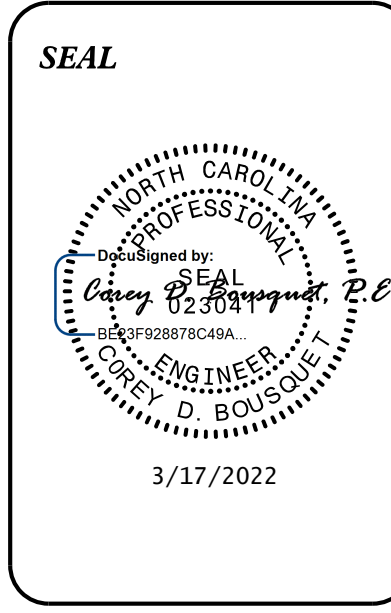
(A) GREENVILLE UTILITIES COMMISSION

PREPARED IN THE OFFICE OF:

HINDE ENGINEERING

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Larry M. James UTILITIES COORDINATOR

I7-MAR-2022 15:24 S:\Server_Files\PROJECTS\2018\A2018302.00_NCDOT_B-4786\Design\Utilities\Engineering\UC\Proj\New 12 WL Bridge Attachment Plans\B4786_UT_Tsh_SUI_psh.dgn

STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS



UTILITIES PLAN SHEET SYMBOLS

PROPOSED WATER SYMBOLS

Water Line (Sized as Shown)	12" WL
11¼ Degree Bend	++
22½ Degree Bend	+X
45 Degree Bend	+X
90 Degree Bend	+
Plug	⊥
Tee	⊕
Cross	⊕
Reducer	▶
Gate Valve	GV
Butterfly Valve	BV
Tapping Valve	TGV
Line Stop	LS
Line Stop with Bypass	LS/BP
Blow Off	BO
Fire Hydrant	PFH
Relocate Fire Hydrant	RFH
Remove Fire Hydrant	REM FH
Water Meter	PWM
Relocate Water Meter	RWM
Remove Water Meter	REM WM
Water Pump Station	PS(W)
RPZ Backflow Preventer	PRPZ
DCV Backflow Preventer	PBFP
Relocate RPZ Backflow Preventer	RRPZ
Relocate DCV Backflow Preventer	RBFP

PROPOSED SEWER SYMBOLS

Gravity Sewer Line (Sized as Shown)	12" SS
Force Main Sewer Line (Sized as Shown)	12" FSS
Manhole (Sized per Note)	•
Sewer Pump Station	PS(SS)

PROPOSED MISCELLANEOUS UTILITIES SYMBOLS

Power Pole	o
Telephone Pole	o
Joint Use Pole	o
Telephone Pedestal	TE PED
Utility Line by Others (Type as Shown)	PROP O/H POW LINES
Trenchless Installation	12" TL INSTALL
Encasement by Open Cut	24" ENCAS. BY OC
Encasement	24" ENCASUREMENT

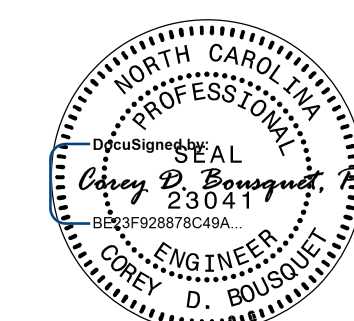
Thrust Block	⊥
Air Release Valve	AR
Utility Vault	UV
Concrete Pier	CP
Steel Pier	SP
Plan Note	NOTE
Pay Item Note	PAY ITEM

EXISTING UTILITIES SYMBOLS

Power Pole	•	*Underground Power Line	P
Telephone Pole	•	*Underground Telephone Cable	T
Joint Use Pole	•	*Underground Telephone Conduit	TC
Utility Pole	•	*Underground Fiber Optics Telephone Cable	F FO
Utility Pole with Base	□	*Underground TV Cable	TV
H-Frame Pole	•	*Underground Fiber Optics TV Cable	TV FO
Power Transmission Line Tower	⊠	*Underground Gas Pipeline	G
Water Manhole	⊙	Aboveground Gas Pipeline	A/G Gas
Power Manhole	⊙	*Underground Water Line	W
Telephone Manhole	⊙	Aboveground Water Line	A/G Water
Sanitary Sewer Manhole	⊙	*Underground Gravity Sanitary Sewer Line	SS
Hand Hole for Cable	⊠	Aboveground Gravity Sanitary Sewer Line	A/G Sanitary Sewer
Power Transformer	⊠	*Underground SS Forced Main Line	FSS
Telephone Pedestal	⊠	Underground Unknown Utility Line	UTIL
CATV Pedestal	⊠	SUE Test Hole	•
Gas Valve	◇	Water Meter	⊙
Gas Meter	◇	Water Valve	⊙
Located Miscellaneous Utility Object	⊙	Fire Hydrant	◇
Abandoned According to Utility Records	AATUR	Sanitary Sewer Cleanout	⊙
End of Information	E.O.I.		

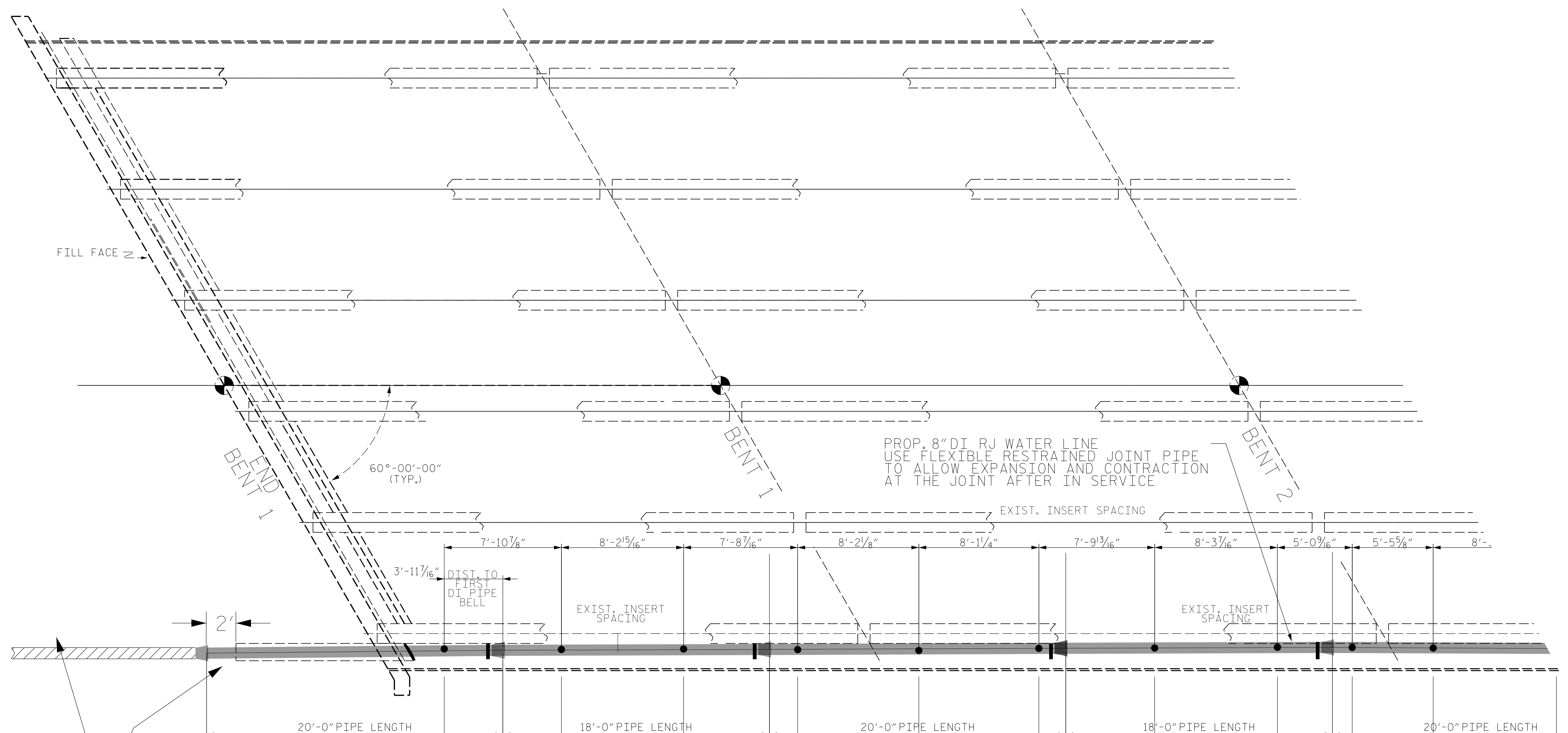
*For Existing Utilities
 Utility Line Drawn from Record (Type as Shown) ————
 Designated Utility Line (Type as Shown) - - - - -

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3/17/2022

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PLACE PROP. 20' SECTION OF 8" RJ DI WATER LINE THRU EXIST. 14" ENCASEMENT.

REMOVE EXIST. 14" ENCASEMENT PIPE 2' BEYOND THE PROP. FIRST SECTION OF 20' - 8" WATER LINE THRU THE EXIST. END BENT. SEE UC PLANS FOR CONTINUATION OF THE 8" WATER LINE.

PLACE PROPOSED 8" RJ DI PIPE THRU EXIST. 14" ENCASEMENT USE CASING SPACERS (2-PER JOINT) TO SUPPORT THE PROP. 8" RJ DI PIPE INSIDE THE ENCASEMENT. GROUT THE SPACE BETWEEN THE 8" PIPE AND CASING AFTER THE PIPE IS INSTALLED.

AFTER THE TEMPORARY 8" WL IS REMOVED CUT THE CASING AND 8" WL FLUSH WITH THE END BENT FACE. USE NON-SHRINKABLE GROUT TO FILL THE 8" DI PIPE AND 14" CASING FLUSH WITH THE END BENT FACE.

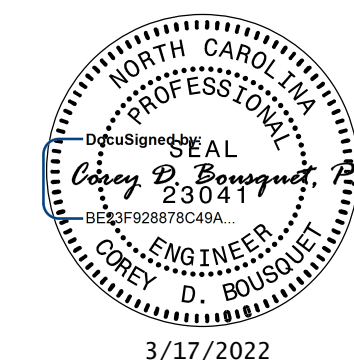
PROJECT NO. B-4786
PITT COUNTY
STATION: SB EX. BRIDGE

SHEET 5 OF 5

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

EXIST. BRIDGE
PLAN OF SPAN
8" WATER LINE
ATTACHMENT

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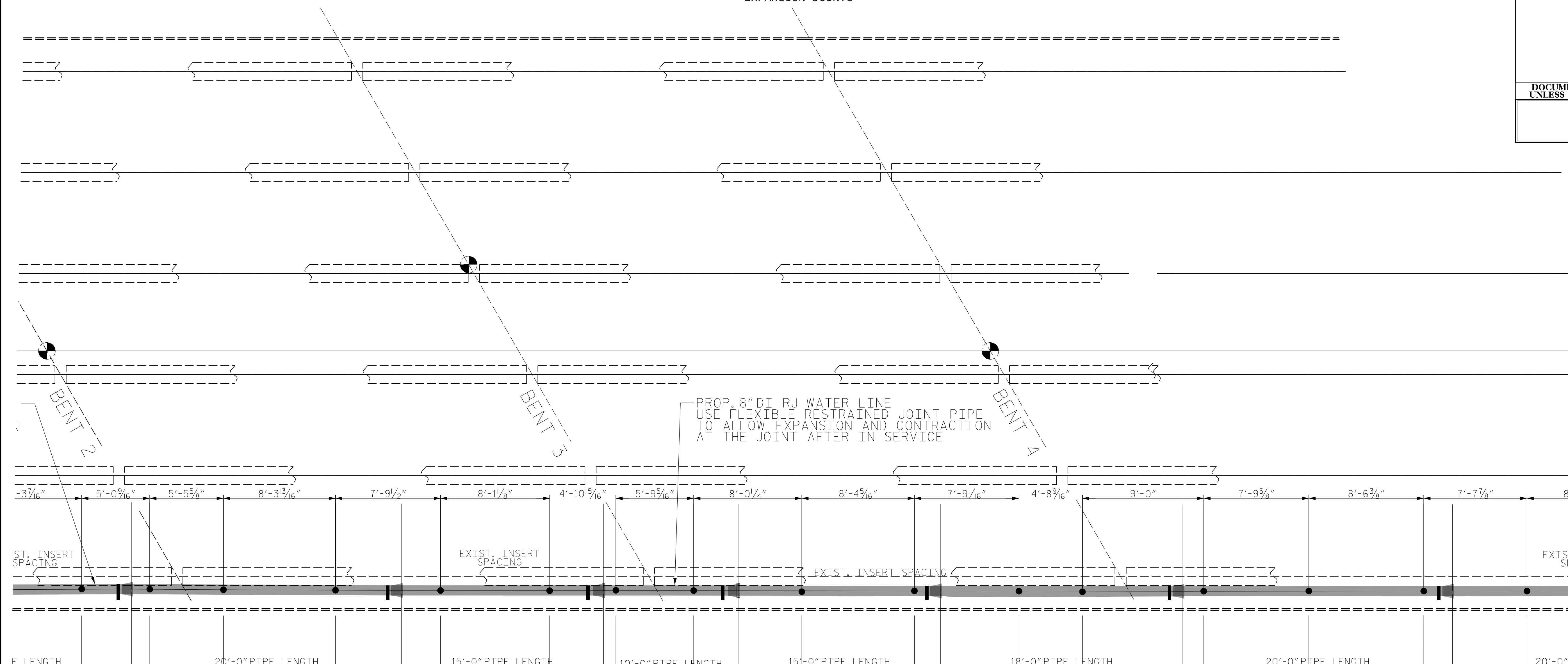


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EXIST. BRIDGE
EXPANSION JOINTS

PROP. 8" DI RJ WATER LINE
USE FLEXIBLE RESTRAINED JOINT PIPE
TO ALLOW EXPANSION AND CONTRACTION
AT THE JOINT AFTER IN SERVICE



- PROP. PIPE HANGER AND EXIST. INSERT 8
- PROP. LATERAL PIPE BRACING 4
1'-0" BELL OFFSET
- PROP. PIPE HANGER AND EXIST. INSERT 9
- PROP. PIPE HANGER AND EXIST. INSERT 10
- PROP. PIPE HANGER AND EXIST. INSERT 11
- PROP. LATERAL PIPE BRACING 5
1'-0" BELL OFFSET
- PROP. PIPE HANGER AND EXIST. INSERT 12
- PROP. PIPE HANGER AND EXIST. INSERT 13
- PROP. LATERAL PIPE BRACING 6
2'-5" BELL OFFSET
- PROP. PIPE HANGER AND EXIST. INSERT 14
- PROP. PIPE HANGER AND EXIST. INSERT 15
- PROP. LATERAL PIPE BRACING 7
2'-5" BELL OFFSET
- PROP. PIPE HANGER AND EXIST. INSERT 16
- PROP. PIPE HANGER AND EXIST. INSERT 17
- PROP. LATERAL PIPE BRACING 8
1'-0" BELL OFFSET
- PROP. PIPE HANGER AND EXIST. INSERT 18
- PROP. PIPE HANGER AND EXIST. INSERT 19
- PROP. LATERAL PIPE BRACING 9
1'-0" BELL OFFSET
- PROP. PIPE HANGER AND EXIST. INSERT 20
- PROP. PIPE HANGER AND EXIST. INSERT 21
- PROP. PIPE HANGER AND EXIST. INSERT 22

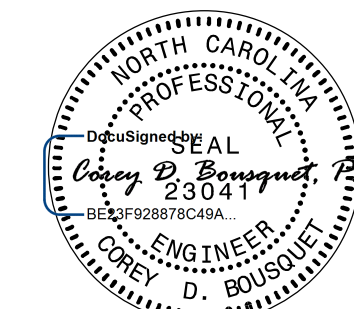
PROJECT NO. B-4786
PITT COUNTY
STATION: SB EX. BRIDGE

SHEET 10 OF 23

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

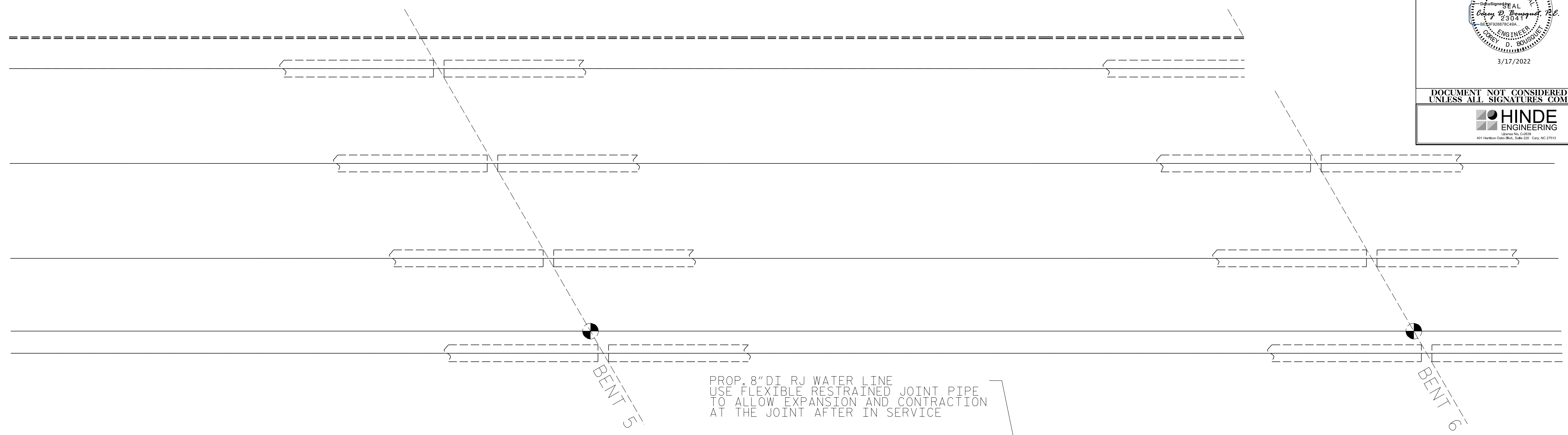
**EXIST. BRIDGE
PLAN OF SPAN
8" WATER LINE
ATTACHMENT**

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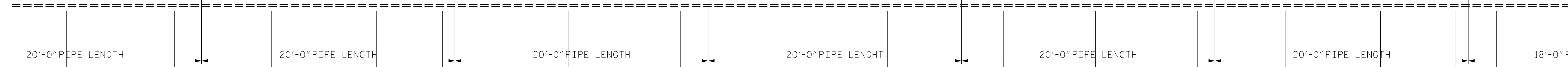
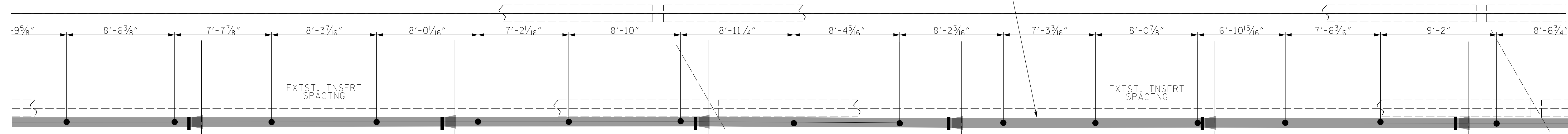


3/17/2022

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PROP. 8" DI RJ WATER LINE
USE FLEXIBLE RESTRAINED JOINT PIPE
TO ALLOW EXPANSION AND CONTRACTION
AT THE JOINT AFTER IN SERVICE



- PROP. PIPE HANGER AND EXIST. INSERT 21
- PROP. PIPE HANGER AND EXIST. INSERT 22
- PROP. LATERAL PIPE BRACING 10
1'-0" BELL OFFSET
- PROP. PIPE HANGER AND EXIST. INSERT 23
- PROP. PIPE HANGER AND EXIST. INSERT 24
- PROP. LATERAL PIPE BRACING 11
1'-0" BELL OFFSET
- PROP. PIPE HANGER AND EXIST. INSERT 25
- PROP. PIPE HANGER AND EXIST. INSERT 26
- PROP. PIPE HANGER AND EXIST. INSERT 27
- PROP. LATERAL PIPE BRACING 12
1'-0" BELL OFFSET
- PROP. PIPE HANGER AND EXIST. INSERT 28
- PROP. PIPE HANGER AND EXIST. INSERT 29
- PROP. LATERAL PIPE BRACING 13
1'-0" BELL OFFSET
- PROP. PIPE HANGER AND EXIST. INSERT 30
- PROP. PIPE HANGER AND EXIST. INSERT 31
- PROP. PIPE HANGER AND EXIST. INSERT 32
- PROP. LATERAL PIPE BRACING 14
1'-0" BELL OFFSET
- PROP. PIPE HANGER AND EXIST. INSERT 33
- INSERT 34
- ING 15
- INSERT 35

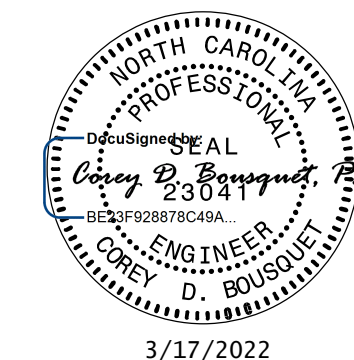
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PITT COUNTY
STATION: SB EX. BRIDGE

SHEET OF

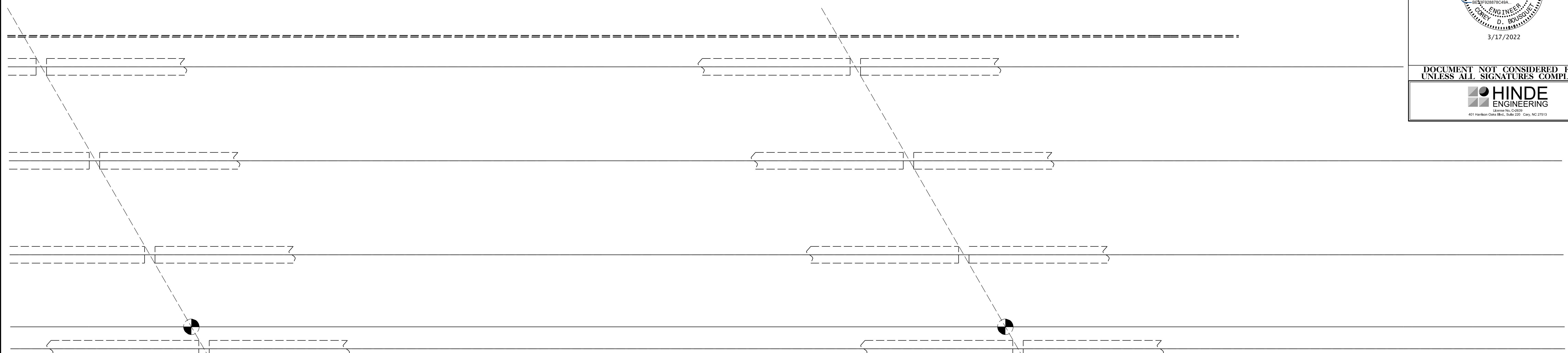
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

**EXIST. BRIDGE
PLAN OF SPAN
8" WATER LINE
ATTACHMENT**

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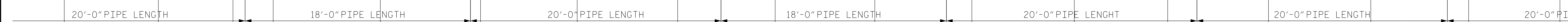
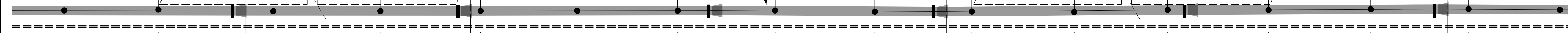


PROP. 8" DI RJ WATER LINE
USE FLEXIBLE RESTRAINED JOINT PIPE
TO ALLOW EXPANSION AND CONTRACTION
AT THE JOINT AFTER IN SERVICE



EXIST. INSERT SPACING

EXIST. INSERT SPACING



- PROP. PIPE HANGER AND EXIST. INSERT 33
- PROP. PIPE HANGER AND EXIST. INSERT 34
- PROP. LATERAL PIPE BRACING 15
1'-0" BELL OFFSET
- PROP. PIPE HANGER AND EXIST. INSERT 35
- PROP. PIPE HANGER AND EXIST. INSERT 36
- PROP. LATERAL PIPE BRACING 16
1'-0" BELL OFFSET
- PROP. PIPE HANGER AND EXIST. INSERT 37
- PROP. PIPE HANGER AND EXIST. INSERT 38
- PROP. PIPE HANGER AND EXIST. INSERT 39
- PROP. LATERAL PIPE BRACING 17
1'-0" BELL OFFSET
- PROP. PIPE HANGER AND EXIST. INSERT 40
- PROP. PIPE HANGER AND EXIST. INSERT 41
- PROP. LATERAL PIPE BRACING 18
1'-0" BELL OFFSET
- PROP. PIPE HANGER AND EXIST. INSERT 42
- PROP. PIPE HANGER AND EXIST. INSERT 43
- PROP. PIPE HANGER AND EXIST. INSERT 44
- PROP. LATERAL PIPE BRACING 19
1'-0" BELL OFFSET
- PROP. PIPE HANGER AND EXIST. INSERT 45
- RT 46
- RT 47
- RT 48

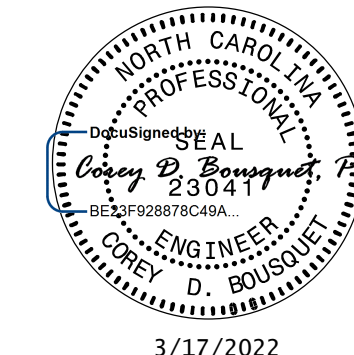
PROJECT NO. B-4786
PITT COUNTY
 STATION: SB EX. BRIDGE

SHEET OF

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

**EXIST. BRIDGE
 PLAN OF SPAN
 8" WATER LINE
 ATTACHMENT**

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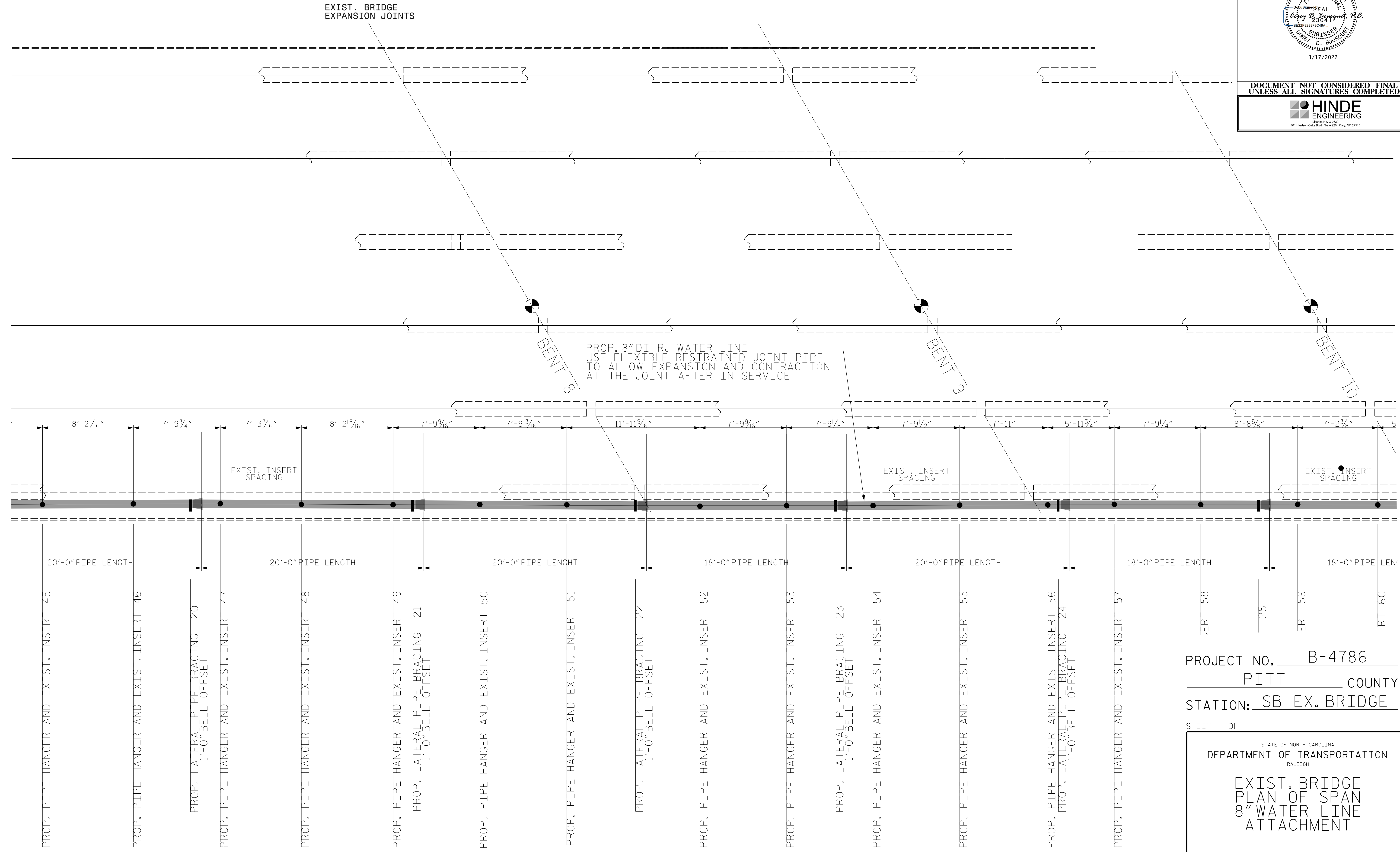
EXIST. BRIDGE
EXPANSION JOINTS

BENT 8

BENT 9

BENT 10

PROP. 8" DI RJ WATER LINE
USE FLEXIBLE RESTRAINED JOINT PIPE
TO ALLOW EXPANSION AND CONTRACTION
AT THE JOINT AFTER IN SERVICE



PROP. PIPE HANGER AND EXIST. INSERT 45

PROP. PIPE HANGER AND EXIST. INSERT 46

PROP. LATERAL PIPE BRACING 20
1'-0" BELL OFFSET

PROP. PIPE HANGER AND EXIST. INSERT 47

PROP. PIPE HANGER AND EXIST. INSERT 48

PROP. PIPE HANGER AND EXIST. INSERT 49

PROP. LATERAL PIPE BRACING 21
1'-0" BELL OFFSET

PROP. PIPE HANGER AND EXIST. INSERT 50

PROP. PIPE HANGER AND EXIST. INSERT 51

PROP. LATERAL PIPE BRACING 22
1'-0" BELL OFFSET

PROP. PIPE HANGER AND EXIST. INSERT 52

PROP. PIPE HANGER AND EXIST. INSERT 53

PROP. LATERAL PIPE BRACING 23
1'-0" BELL OFFSET

PROP. PIPE HANGER AND EXIST. INSERT 54

PROP. PIPE HANGER AND EXIST. INSERT 55

PROP. PIPE HANGER AND EXIST. INSERT 56

PROP. LATERAL PIPE BRACING 24
1'-0" BELL OFFSET

PROP. PIPE HANGER AND EXIST. INSERT 57

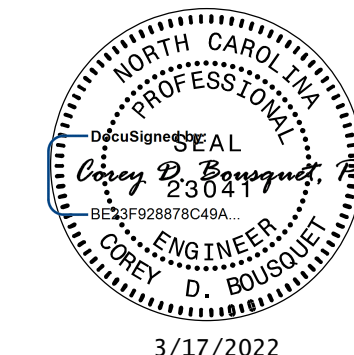
PROJECT NO. B-4786
PITT COUNTY
STATION: SB EX. BRIDGE

SHEET 1 OF 5

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

EXIST. BRIDGE
PLAN OF SPAN
8" WATER LINE
ATTACHMENT

REVISIONS						SHEET NO.
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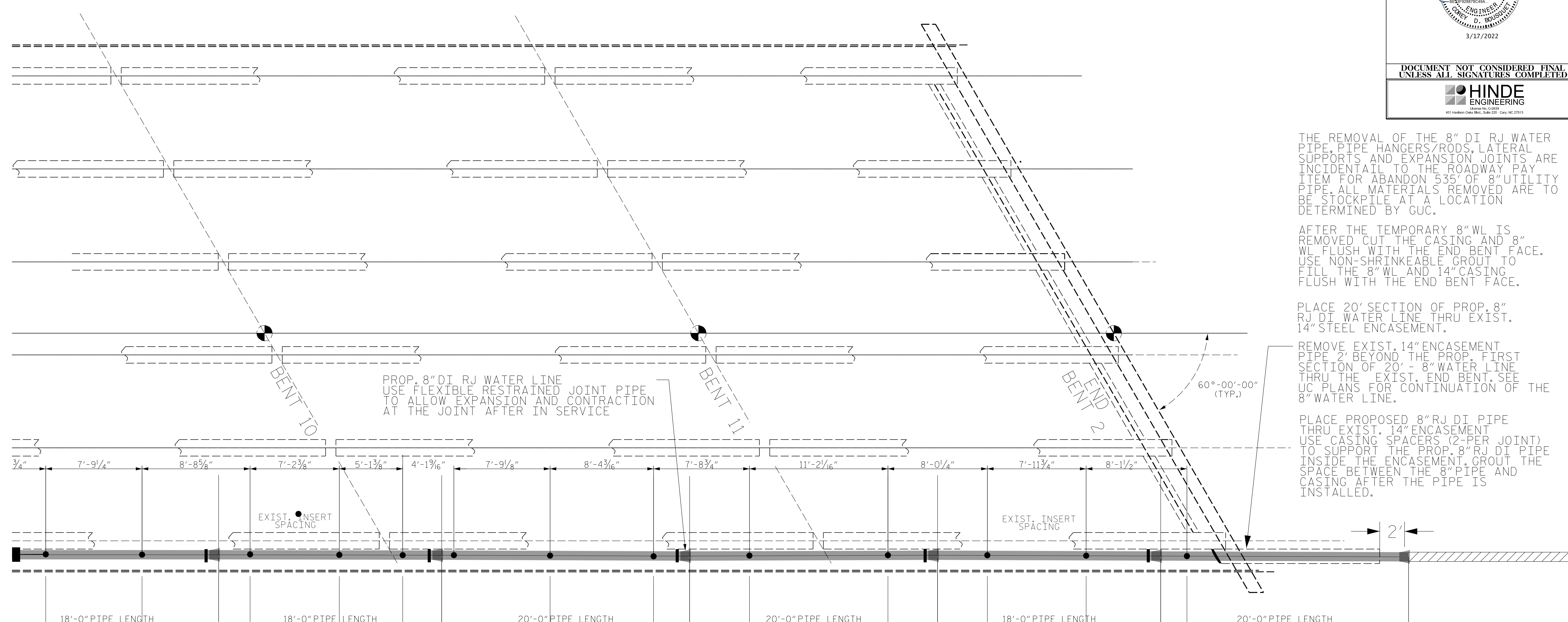
THE REMOVAL OF THE 8" DI RJ WATER PIPE, PIPE HANGERS/RODS, LATERAL SUPPORTS AND EXPANSION JOINTS ARE INCIDENTAL TO THE ROADWAY PAY ITEM FOR ABANDON 535' OF 8" UTILITY PIPE. ALL MATERIALS REMOVED ARE TO BE STOCKPILED AT A LOCATION DETERMINED BY GUC.

AFTER THE TEMPORARY 8" WL IS REMOVED CUT THE CASING AND 8" WL FLUSH WITH THE END BENT FACE. USE NON-SHRINKABLE GROUT TO FILL THE 8" WL AND 14" CASING FLUSH WITH THE END BENT FACE.

PLACE 20' SECTION OF PROP. 8" RJ DI WATER LINE THRU EXIST. 14" STEEL ENCASUREMENT.

REMOVE EXIST. 14" ENCASUREMENT PIPE 2' BEYOND THE PROP. FIRST SECTION OF 20' - 8" WATER LINE THRU THE EXIST. END BENT. SEE UC PLANS FOR CONTINUATION OF THE 8" WATER LINE.

PLACE PROPOSED 8" RJ DI PIPE THRU EXIST. 14" ENCASUREMENT USE CASING SPACERS (2-PER JOINT) TO SUPPORT THE PROP. 8" RJ DI PIPE INSIDE THE ENCASUREMENT. GROUT THE SPACE BETWEEN THE 8" PIPE AND CASING AFTER THE PIPE IS INSTALLED.



PROP. 8" DI RJ WATER LINE
USE FLEXIBLE RESTRAINED JOINT PIPE
TO ALLOW EXPANSION AND CONTRACTION
AT THE JOINT AFTER IN SERVICE

60°-00'-00" (TYP.)

EXIST. INSERT SPACING

EXIST. INSERT SPACING

2'

18'-0" PIPE LENGTH 18'-0" PIPE LENGTH 20'-0" PIPE LENGTH 20'-0" PIPE LENGTH 18'-0" PIPE LENGTH 20'-0" PIPE LENGTH

- PROP. PIPE HANGER AND EXIST. INSERT 57
- PROP. PIPE HANGER AND EXIST. INSERT 58
- PROP. LATERAL PIPE BRACING 25
1'-0" BELL OFFSET
- PROP. PIPE HANGER AND EXIST. INSERT 59
- PROP. PIPE HANGER AND EXIST. INSERT 60
- PROP. PIPE HANGER AND EXIST. INSERT 61
- PROP. LATERAL PIPE BRACING 26
1'-0" BELL OFFSET
- PROP. PIPE HANGER AND EXIST. INSERT 62
- PROP. PIPE HANGER AND EXIST. INSERT 63
- PROP. PIPE HANGER AND EXIST. INSERT 64
- PROP. LATERAL PIPE BRACING 27
1'-0" BELL OFFSET
- PROP. PIPE HANGER AND EXIST. INSERT 65
- PROP. PIPE HANGER AND EXIST. INSERT 66
- PROP. LATERAL PIPE BRACING 28
1'-0" BELL OFFSET
- PROP. PIPE HANGER AND EXIST. INSERT 67
- PROP. PIPE HANGER AND EXIST. INSERT 68
- PROP. LATERAL PIPE BRACING 29
1'-0" BELL OFFSET
- PROP. PIPE HANGER AND EXIST. INSERT 69

PROJECT NO. B-4786
PITT COUNTY
STATION: SB EX. BRIDGE

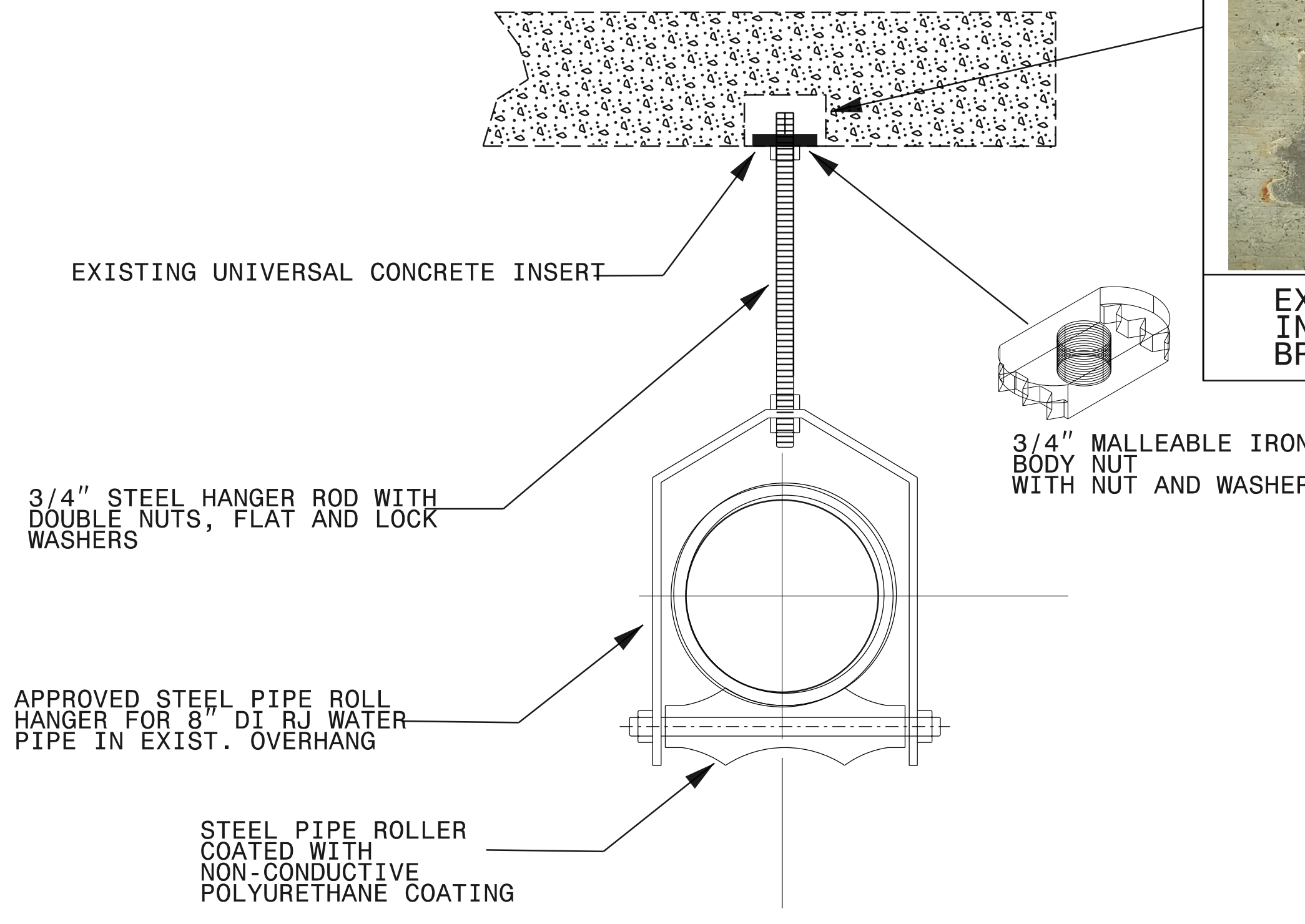
SHEET OF

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

**EXIST. BRIDGE
PLAN OF SPAN
8" WATER LINE
ATTACHMENT**

REVISIONS						SHEET NO.
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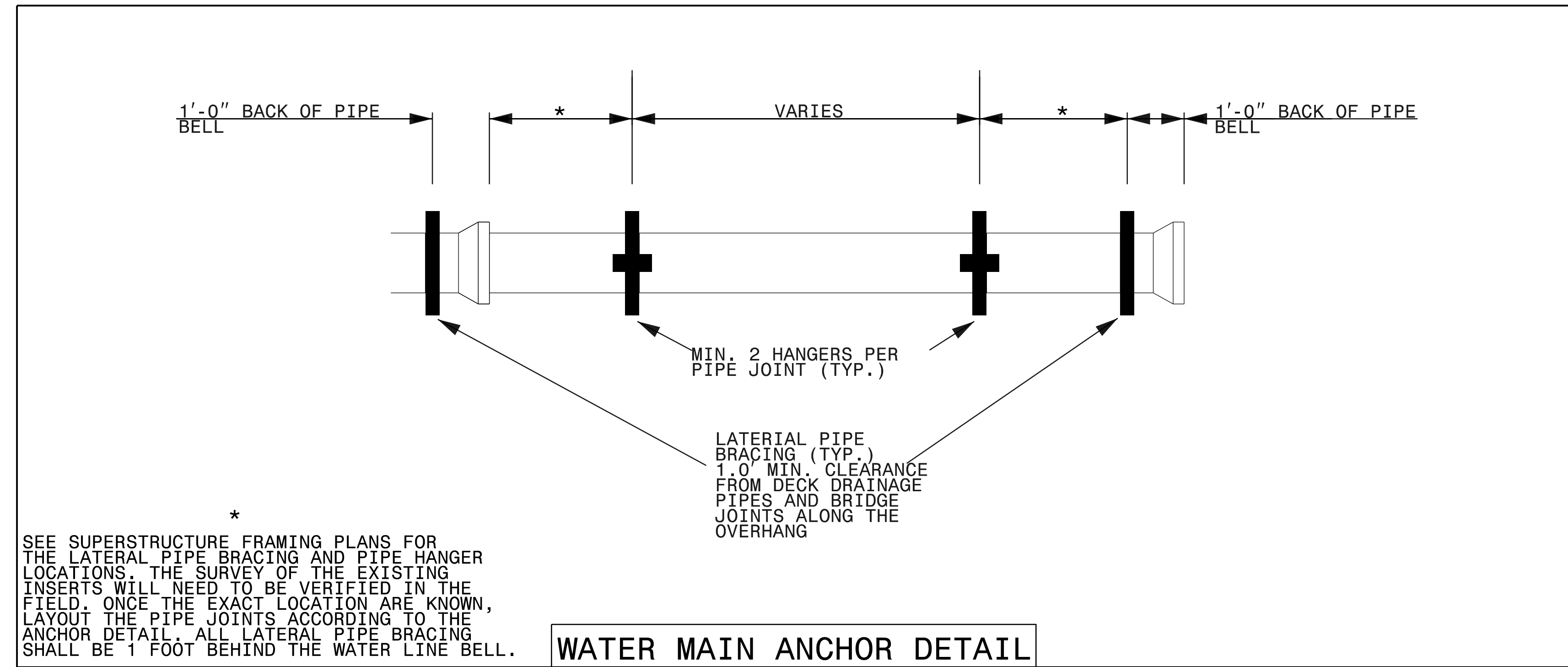
PIPE HANGER ASSEMBLY SHALL BE PAINTED WITH ONE PRIME COAT AND ONE FINAL FLAT BLACK COAT ANY PAINT DAMAGED DURING THE INSTALLATION SHALL BE RECOATED HARDWARE SHALL BE CARBON STEEL ZINC PLATED



EXIST. CONCRETE INSERTS IN THE BRIDGE OVERHANG

PIPE ROLL TYPE HANGER FOR 8" DI RJ WATER MAIN

HANGER ASSEMBLY AND HARDWARE SHALL BE HOT DIPPED GALVANIZED



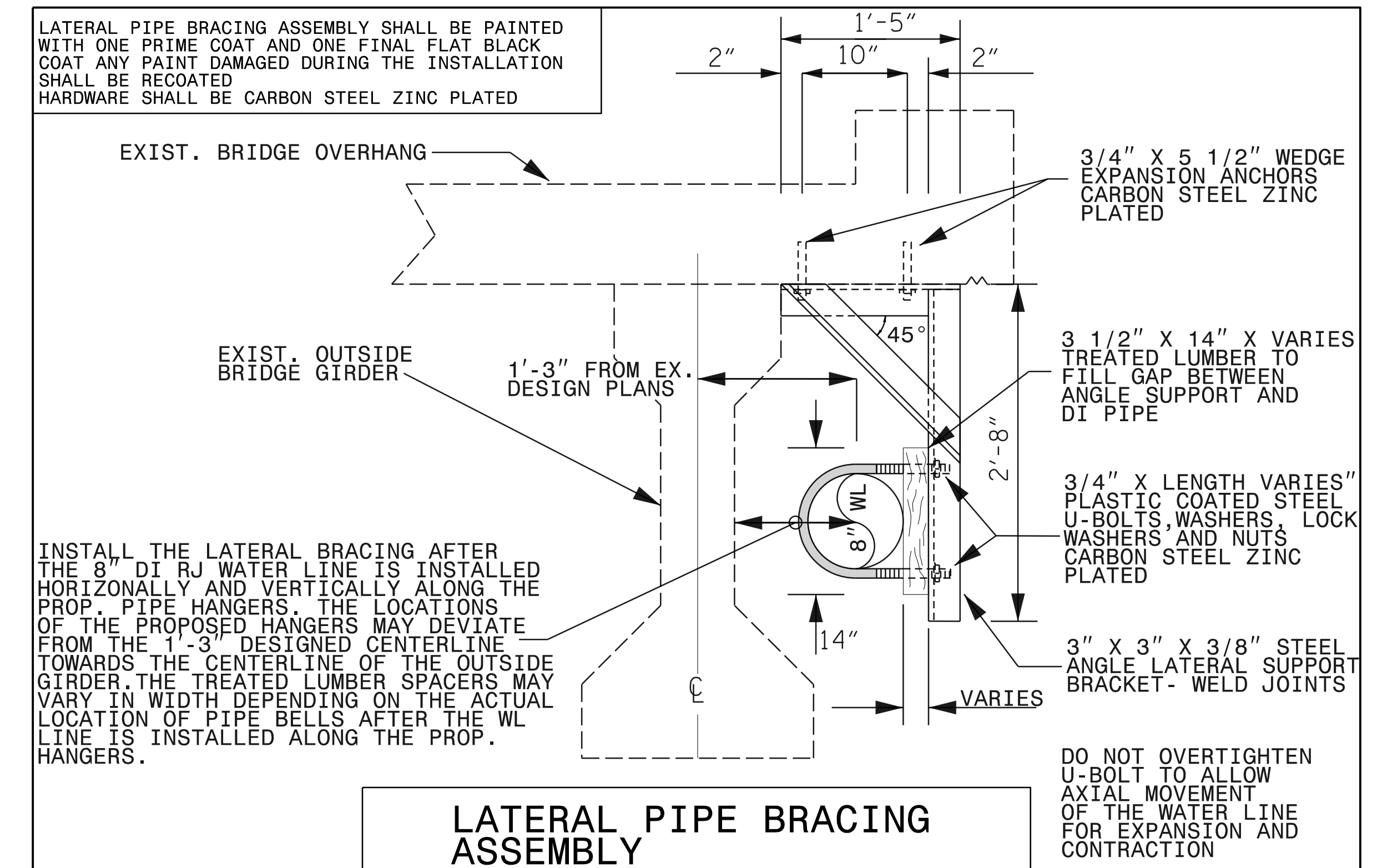
WATER MAIN ANCHOR DETAIL

* SEE SUPERSTRUCTURE FRAMING PLANS FOR THE LATERAL PIPE BRACING AND PIPE HANGER LOCATIONS. THE SURVEY OF THE EXISTING INSERTS WILL NEED TO BE VERIFIED IN THE FIELD. ONCE THE EXACT LOCATION ARE KNOWN, LAYOUT THE PIPE JOINTS ACCORDING TO THE ANCHOR DETAIL. ALL LATERAL PIPE BRACING SHALL BE 1 FOOT BEHIND THE WATER LINE BELL.

BILL OF MATERIALS FOR 8" WATER MAIN

NO.	UNITS	ITEMS
1	69 EA	PIPE HANGER ASSEMBLY (PAINTED)
2	29 EA	LATERAL PIPE BRACE ASSEMBLY (PAINTED)
3	562 LF	8" DUCTILE IRON RESTRAINED JOINT (D.I.R.J.) WATER PIPE, PRESSURE CLASS 350
4	2 EA	END PLUG FOR 8" DI WATER PIPE
5	1 CY	GROUT EXIST. ENCASEMENT AFTER PROPOSED 8" WATER LINE IS INSTALLED THRU END BENT
6	2 LOT	PAINT (AS REQUIRED)

THESE MATERIALS ARE ESTIMATED QUANTITIES ONLY AND ARE TO BE FURNISHED BY THE CONTRACTOR FOR THE ATTACHMENT TO THE EXIST. BRIDGE



LATERAL PIPE BRACING ASSEMBLY SHALL BE PAINTED WITH ONE PRIME COAT AND ONE FINAL FLAT BLACK COAT ANY PAINT DAMAGED DURING THE INSTALLATION SHALL BE RECOATED HARDWARE SHALL BE CARBON STEEL ZINC PLATED

INSTALL THE LATERAL BRACING AFTER THE 8" DI RJ WATER LINE IS INSTALLED HORIZONTALLY AND VERTICALLY ALONG THE PROP. PIPE HANGERS. THE LOCATIONS OF THE PROPOSED HANGERS MAY DEVIATE FROM THE 1'-3" DESIGNED CENTERLINE TOWARDS THE CENTERLINE OF THE OUTSIDE GIRDER. THE TREATED LUMBER SPACERS MAY VARY IN WIDTH DEPENDING ON THE ACTUAL LOCATION OF PIPE BELLS AFTER THE WL LINE IS INSTALLED ALONG THE PROP. HANGERS.

LATERAL PIPE BRACING ASSEMBLY

DO NOT OVERTIGHTEN U-BOLT TO ALLOW AXIAL MOVEMENT OF THE WATER LINE FOR EXPANSION AND CONTRACTION

PROJECT NO. B-4786
 PITT COUNTY
 STATION: SB EX. BRIDGE
 SHEET OF

Professional Engineer Seal for Corey D. Bousquet, P.E., License No. 23041, State of North Carolina. Date: 3/22/2022.

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HINDE ENGINEERING
 License No. C-2039
 401 Harrison Oaks Blvd., Suite 200, Cary, NC 27513

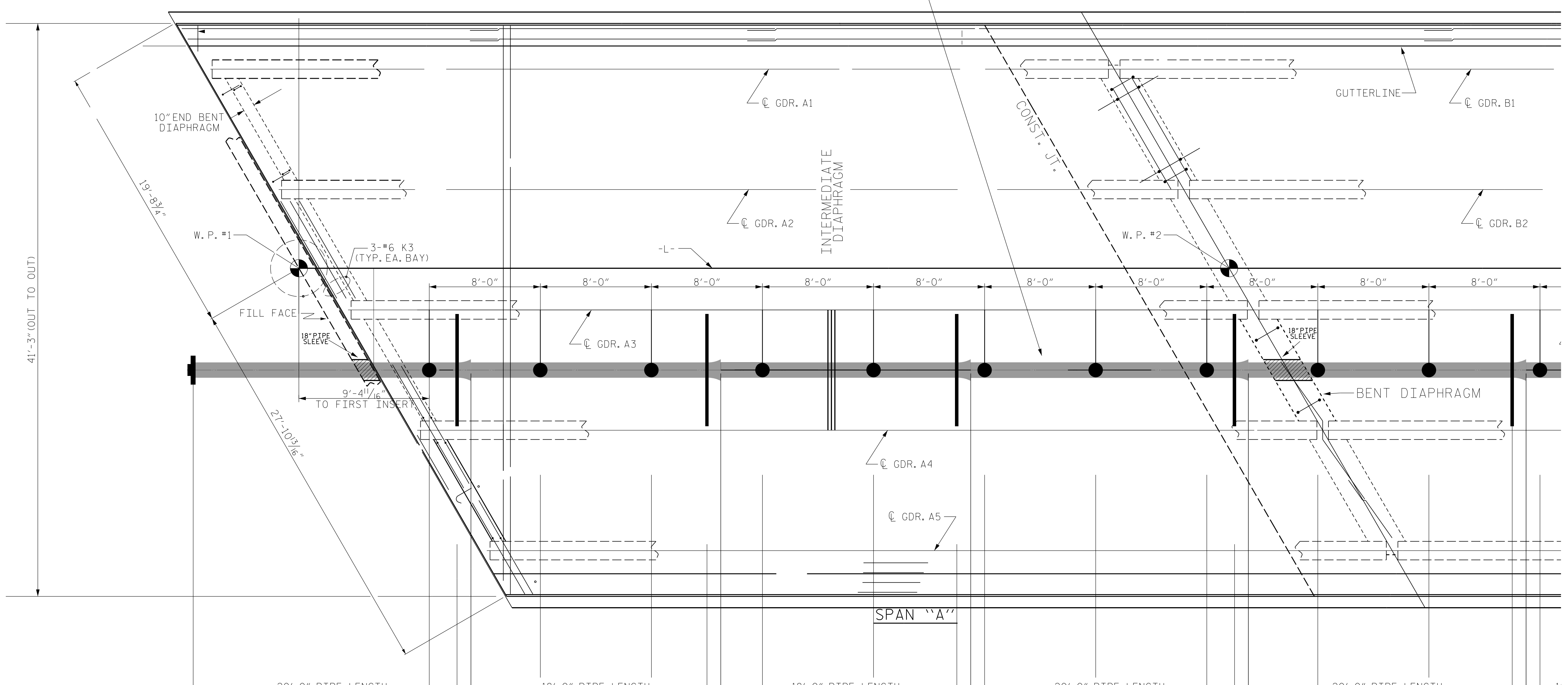
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

8" WATER LINE BRIDGE ATTACHMENT DETAILS

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	NO.
1			3			SU-10
2			4			

DRAWN BY : SBW DATE : 8-18
 CHECKED BY : DATE :
 DESIGN ENGINEER OF RECORD: DATE :

PROP. 12" DI RJ WATER LINE
USE FLEXIBLE RESTRAINED JOINT PIPE
TO ALLOW EXPANSION AND CONTRACTION
AT THE JOINT AFTER IN SERVICE



PROJECT NO. B-4786
PITT COUNTY
 STATION: 28+03.00 -L-

SHEET OF

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

PLAN OF SPAN
 12" WATER LINE
 ATTACHMENT

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	SHEET NO.
1			3			SU-12
2			4			

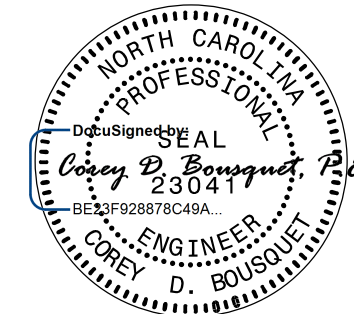
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(LPB) - LATERAL PIPE BRACING
 INTERMEDIATE DIAPHRAGM TO BE
 REMOVED PRIOR TO PROPOSED
 WATER LINE BEING INSTALLED

DRAWN BY : SBW DATE : 8-18
 CHECKED BY : DATE :
 DESIGN ENGINEER OF RECORD: DATE :

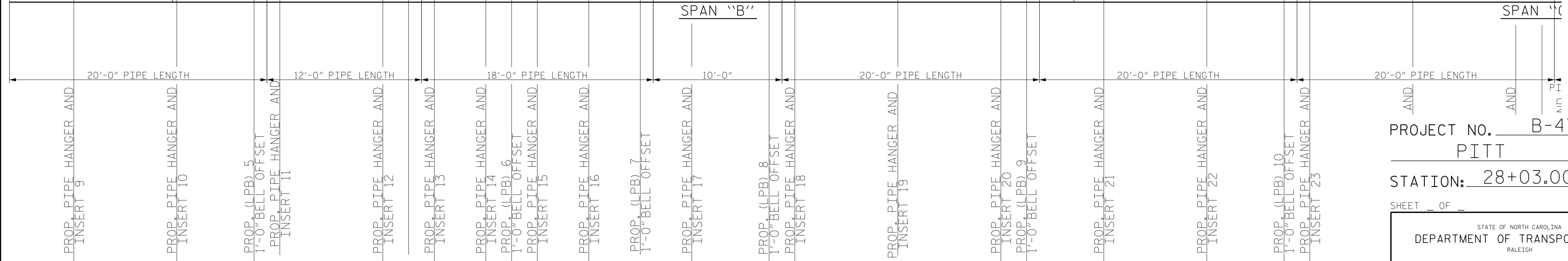
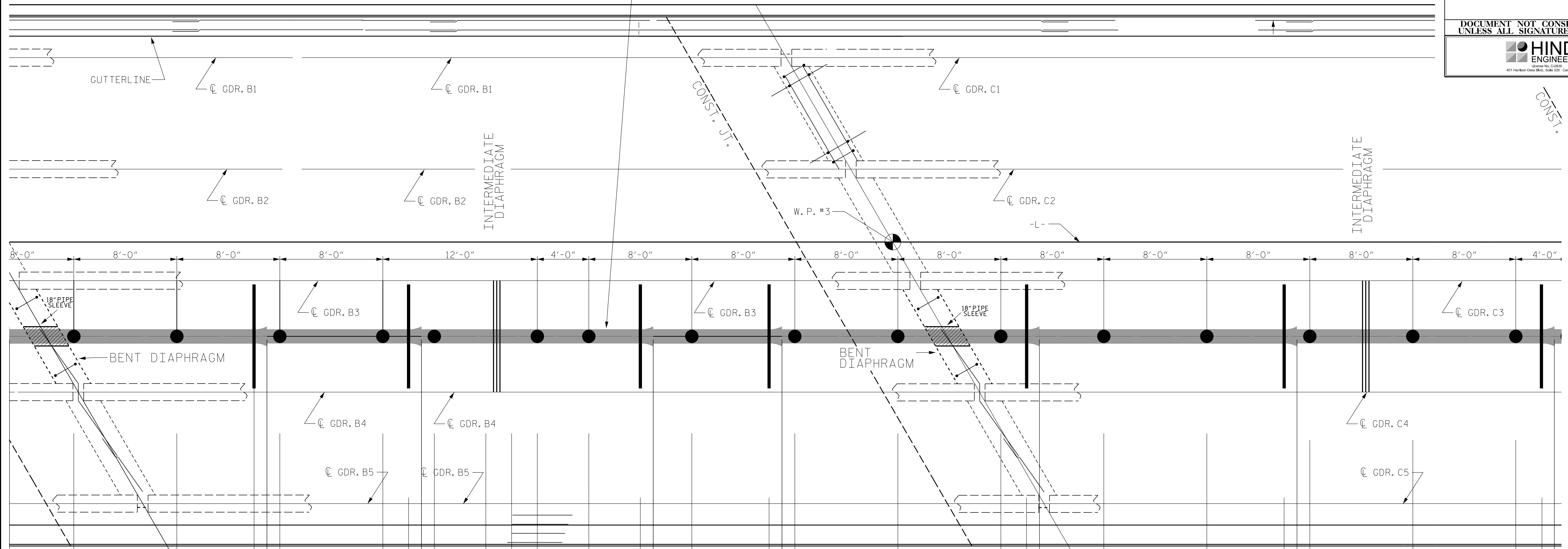


3/17/2022

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PROP. 12" DI RJ WATER LINE
USE FLEXIBLE RESTRAINED JOINT PIPE
TO ALLOW EXPANSION AND CONTRACTION
AT THE JOINT AFTER IN SERVICE



(LPB) - LATERAL PIPE BRACING
INTERMEDIATE DIAPHRAGM TO BE
REMOVED PRIOR TO PROPOSED
WATER LINE BEING INSTALLED

PROJECT NO. B-4786
PITT COUNTY
STATION: 28+03.00 -L-

SHEET _ OF _

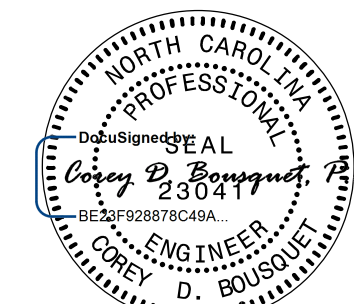
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

PLAN OF SPAN 12" WATER LINE ATTACHMENT

DRAWN BY :	SBW	DATE :	8-18
CHECKED BY :		DATE :	
DESIGN ENGINEER OF RECORD:		DATE :	

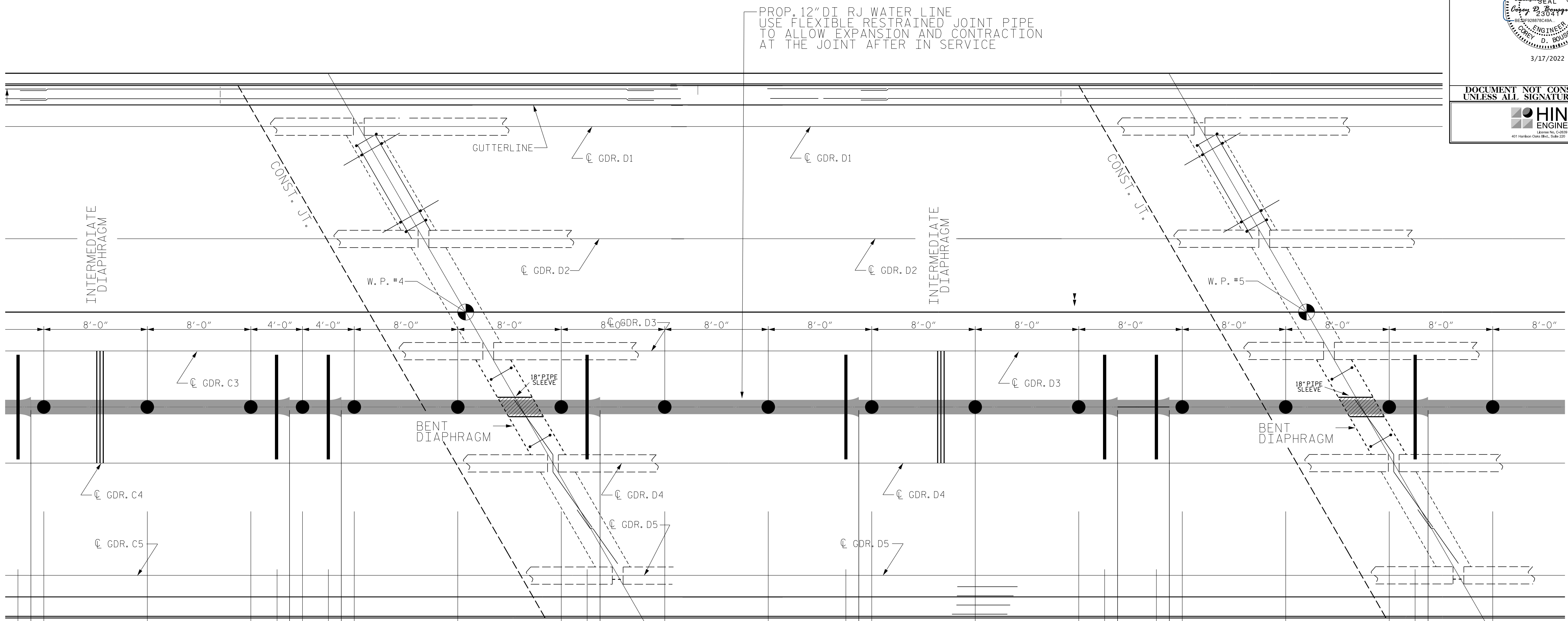
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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	SU-13
1			3			
2			4			



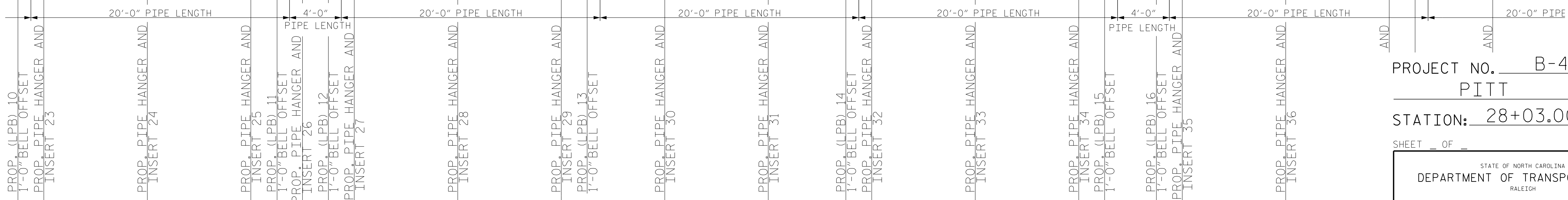
3/17/2022

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SPAN "C"

SPAN "D"



(LPB) - LATERAL PIPE BRACING
INTERMEDIATE DIAPHRAGM TO BE
REMOVED PRIOR TO PROPOSED
WATER LINE BEING INSTALLED

PROJECT NO. B-4786
PITT COUNTY
STATION: 28+03.00 -L-

SHEET OF

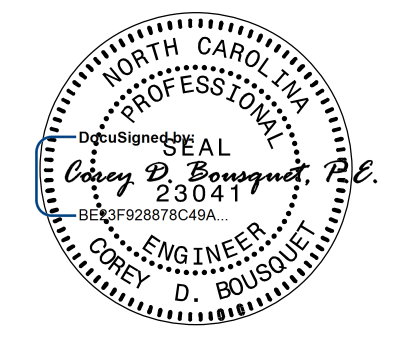
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

PLAN OF SPAN 12" WATER LINE ATTACHMENT

DRAWN BY : SBW DATE : 8-18
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DESIGN ENGINEER OF RECORD: DATE :

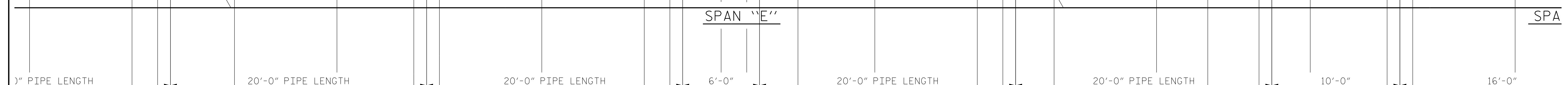
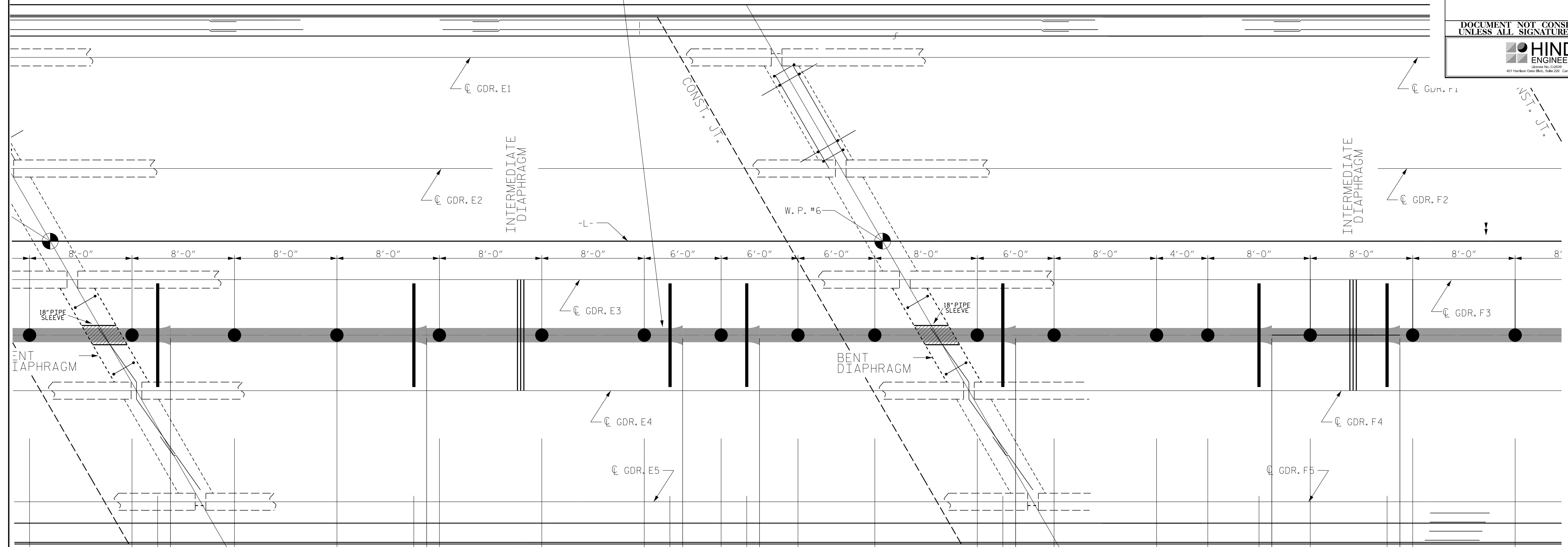
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NO.	BY:	DATE:	NO.	BY:	DATE:	S-14
1			3			TOTAL SHEETS
2			4			

PROP. 12" DI RJ WATER LINE
USE FLEXIBLE RESTRAINED JOINT PIPE
TO ALLOW EXPANSION AND CONTRACTION
AT THE JOINT AFTER IN SERVICE



3/17/2022

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- PROP. PIPE HANGER AND INSERT 36
- PROP. PIPE HANGER AND INSERT 37
- PROP. (LPB) 17
- 1'-0" BELL OFFSET
- PROP. PIPE HANGER AND INSERT 38
- PROP. PIPE HANGER AND INSERT 39
- PROP. (LPB) 18
- 1'-0" BELL OFFSET
- PROP. PIPE HANGER AND INSERT 40
- PROP. PIPE HANGER AND INSERT 41
- PROP. PIPE HANGER AND INSERT 42
- PROP. (LPB) 19
- 1'-0" BELL OFFSET
- PROP. PIPE HANGER AND INSERT 43
- PROP. (LPB) 20
- 1'-0" BELL OFFSET
- PROP. PIPE HANGER AND INSERT 44
- PROP. PIPE HANGER AND INSERT 45
- PROP. PIPE HANGER AND INSERT 46
- PROP. (LPB) 21
- 1'-0" BELL OFFSET
- PROP. PIPE HANGER AND INSERT 47
- PROP. PIPE HANGER AND INSERT 48
- PROP. PIPE HANGER AND INSERT 49
- PROP. (LPB) 22
- 1'-0" BELL OFFSET
- PROP. PIPE HANGER AND INSERT 50

(LPB) - LATERAL PIPE BRACING
INTERMEDIATE DIAPHRAGM TO BE REMOVED PRIOR TO PROPOSED WATER LINE BEING INSTALLED

PROJECT NO. B-4786
PITT COUNTY
STATION: 28+03.00 -L-

SHEET OF

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

PLAN OF SPAN 12" WATER LINE ATTACHMENT

DRAWN BY : SBW DATE : 8-18
CHECKED BY : DATE :
DESIGN ENGINEER OF RECORD: DATE :

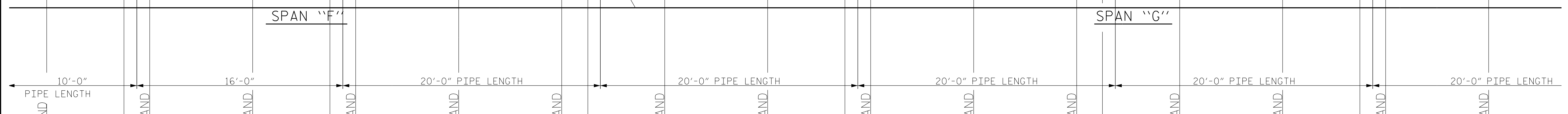
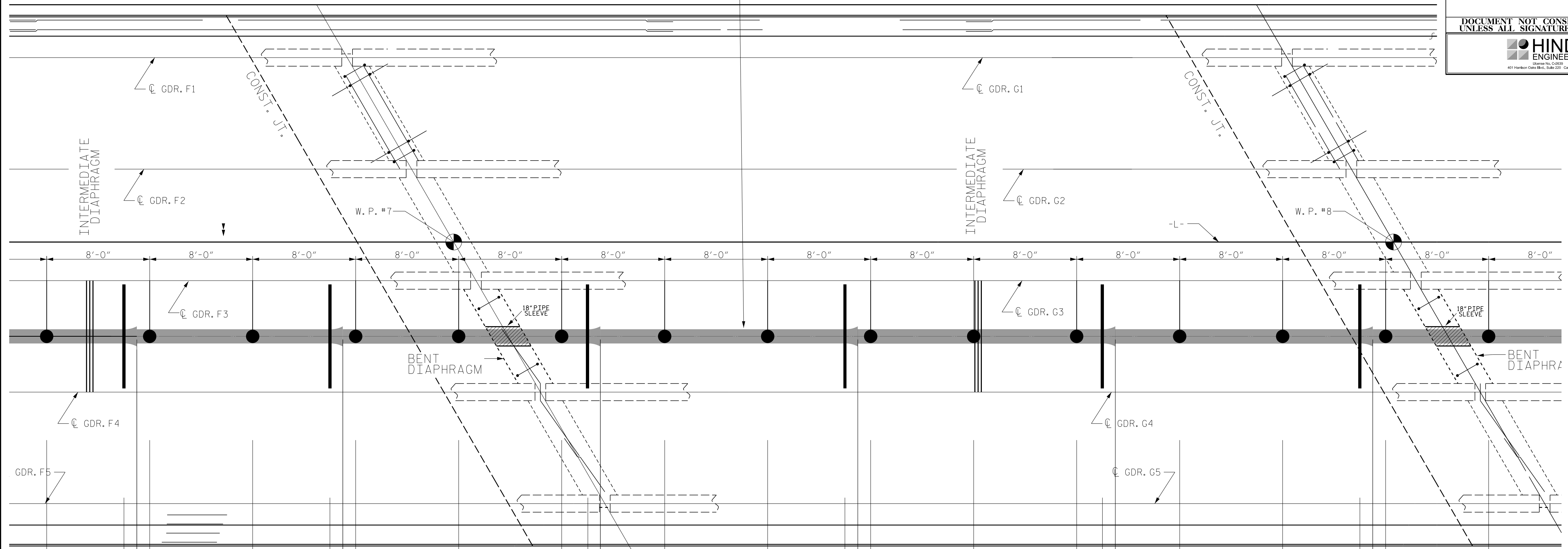
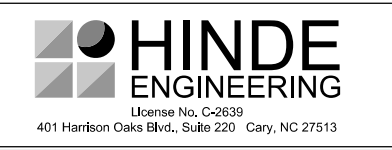
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NO.	BY:	DATE:	NO.	BY:	DATE:	SU-15
1			3			
2			4			

PROP. 12" DI RJ WATER LINE
 USE FLEXIBLE RESTRAINED JOINT PIPE
 TO ALLOW EXPANSION AND CONTRACTION
 AT THE JOINT AFTER IN SERVICE



3/17/2022

DOCUMENT NOT CONSIDERED FINAL
 UNLESS ALL SIGNATURES COMPLETED



(LPB) - LATERAL PIPE BRACING
 INTERMEDIATE DIAPHRAGM TO BE
 REMOVED PRIOR TO PROPOSED
 WATER LINE BEING INSTALLED

PROJECT NO. B-4786
 PITT COUNTY
 STATION: 28+03.00 -L-

SHEET OF

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

PLAN OF SPAN
 12" WATER LINE
 ATTACHMENT

DRAWN BY : SBW DATE : 8-18
 CHECKED BY : DATE :
 DESIGN ENGINEER OF RECORD: DATE :

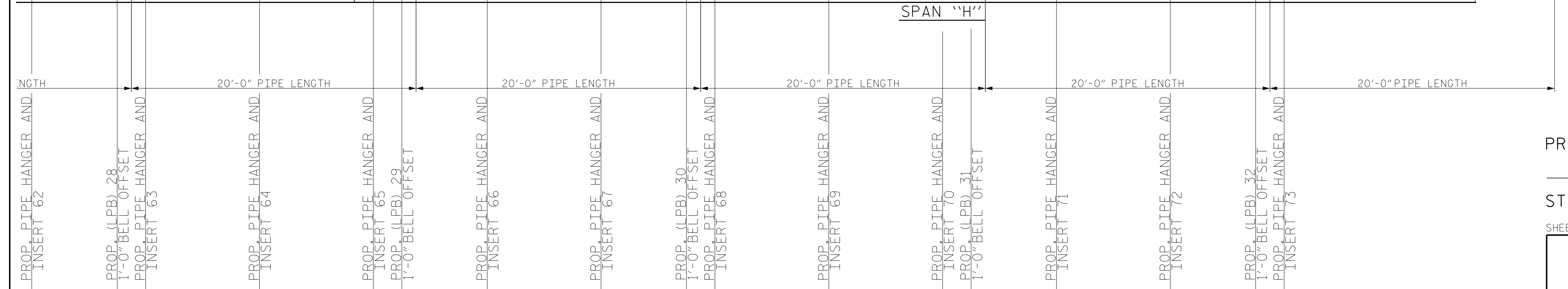
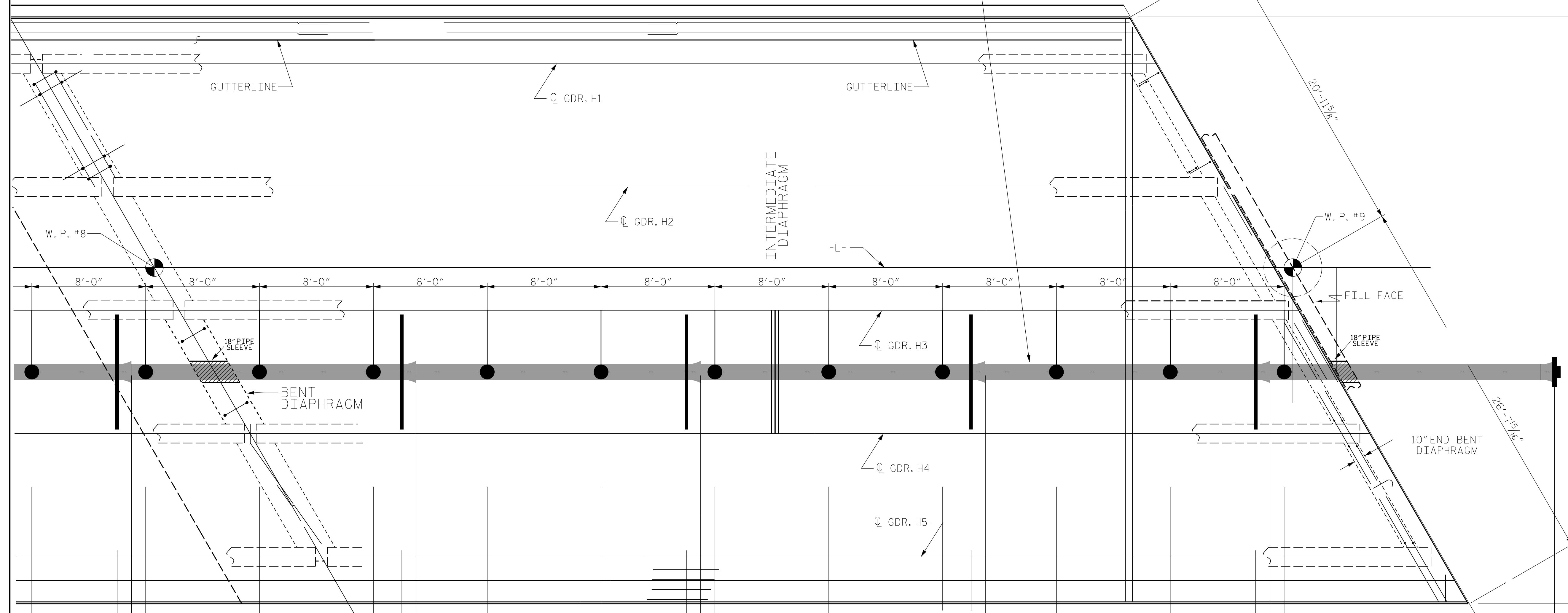
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NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			SU-16
2			4			

PROP. 12" DI RJ WATER LINE
USE FLEXIBLE RESTRAINED JOINT PIPE
TO ALLOW EXPANSION AND CONTRACTION
AT THE JOINT AFTER IN SERVICE



3/17/2022

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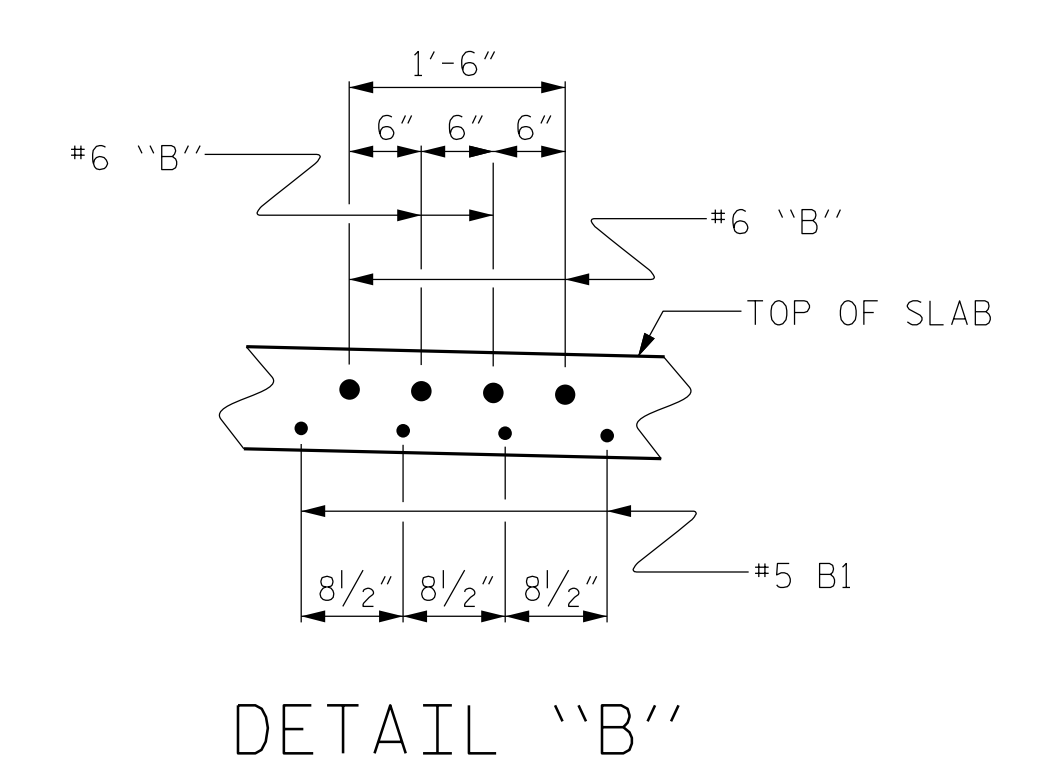
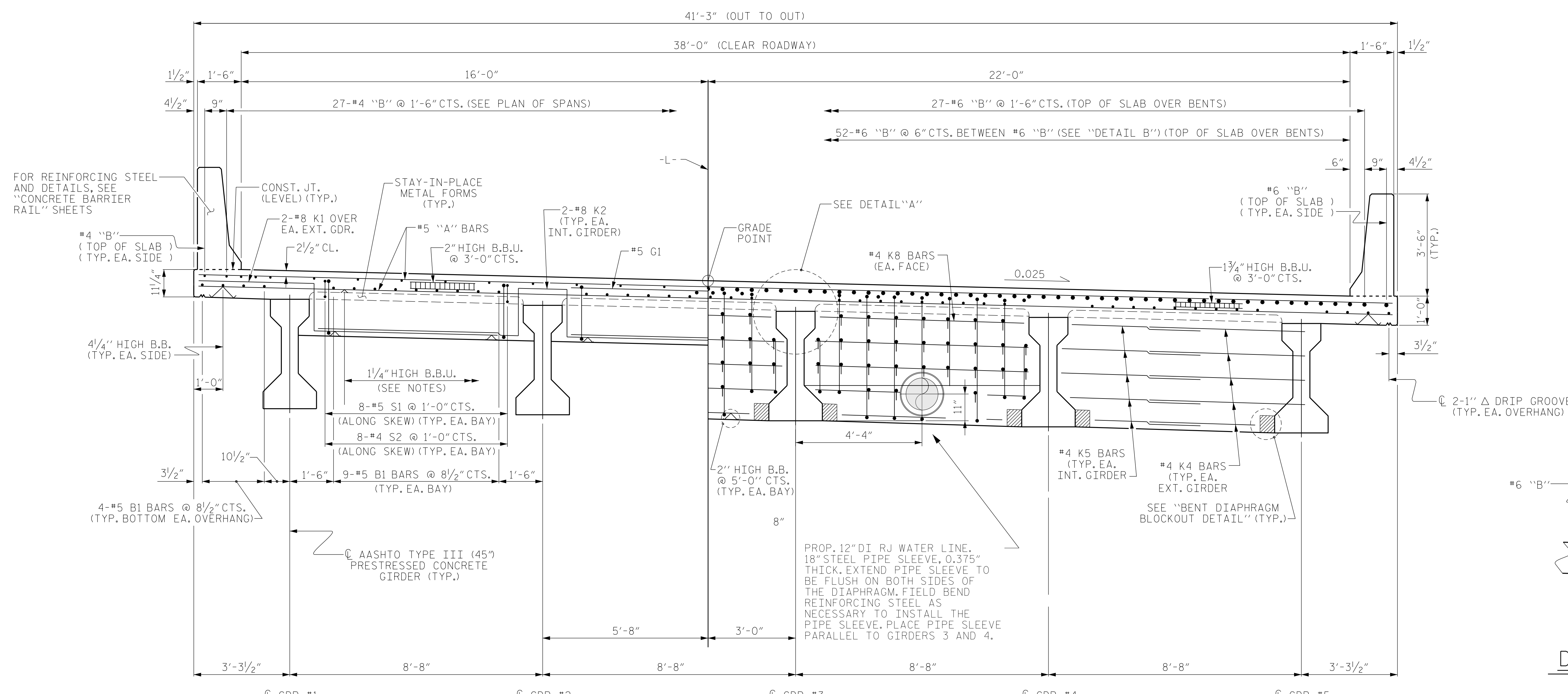
(LPB) - LATERAL PIPE BRACING
INTERMEDIATE DIAPHRAGM TO BE
REMOVED PRIOR TO PROPOSED
WATER LINE BEING INSTALLED

PROJECT NO. B-4786
PITT COUNTY
STATION: 28+03.00 -L-

SHEET OF

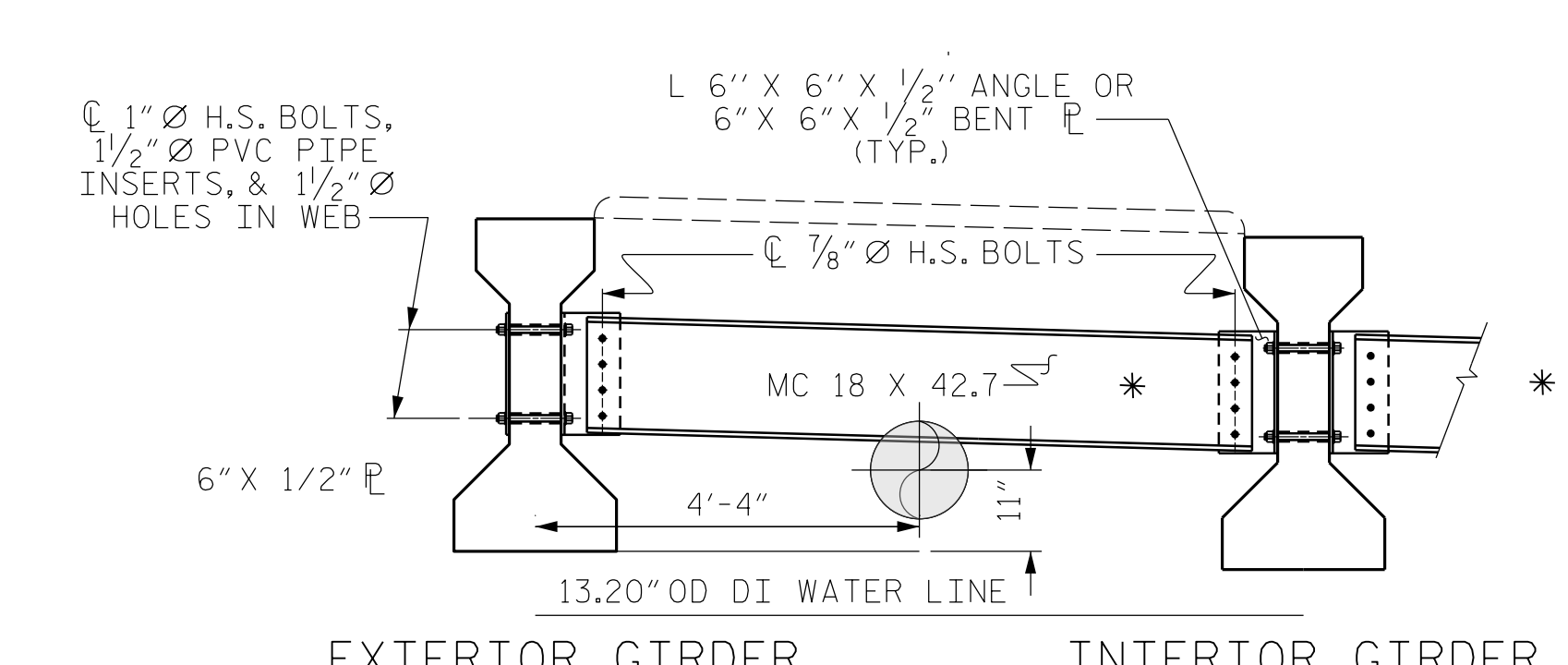
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
PLAN OF SPAN 12" WATER LINE ATTACHMENT					
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
					SHEET NO. SU-17

DRAWN BY : SBW DATE : 8-18
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DESIGN ENGINEER OF RECORD: DATE :

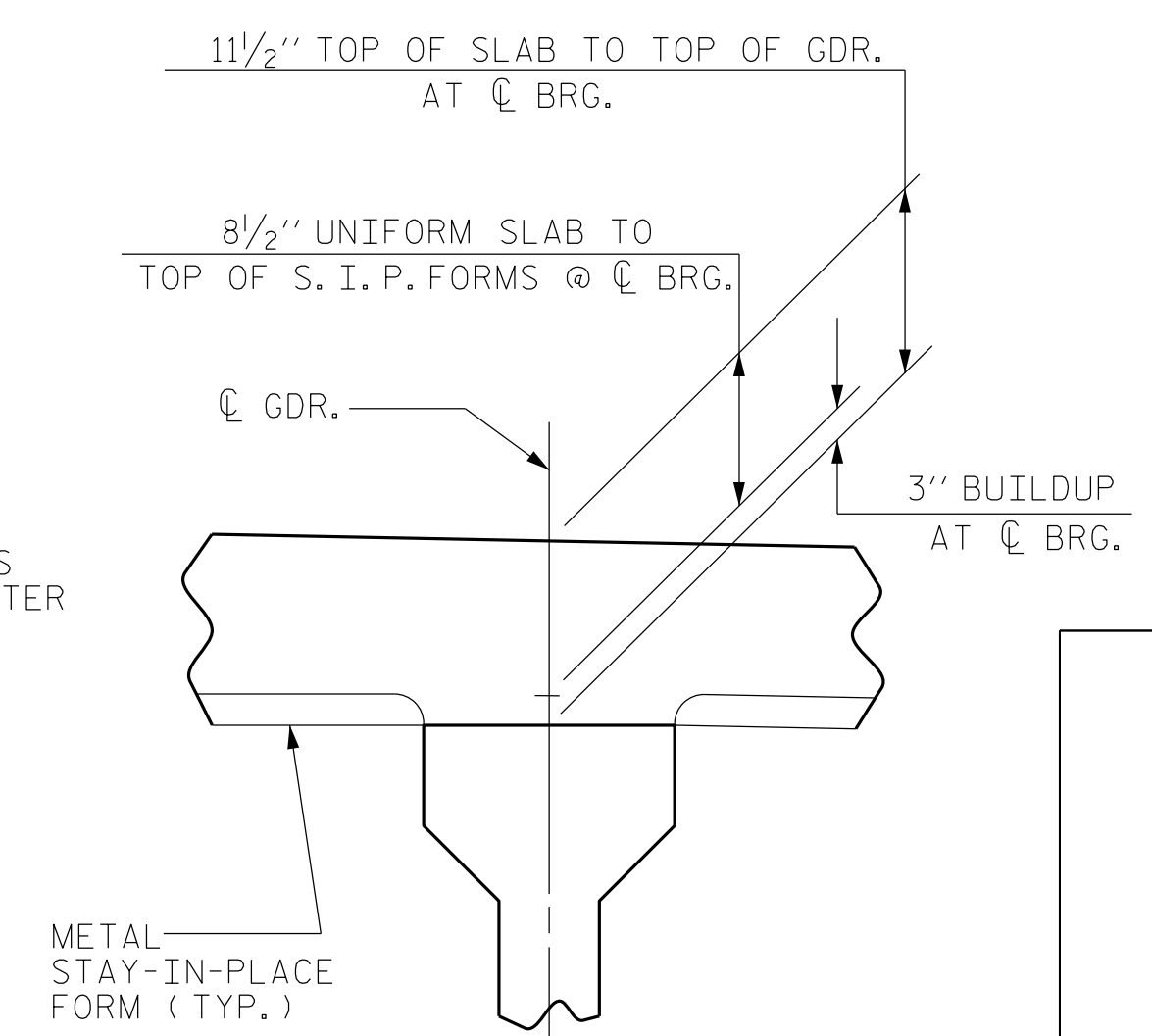


PARTIAL TYPICAL SECTION
(SHOWING END BENT DIAPHRAGMS)

PARTIAL TYPICAL SECTION
(SHOWING CONTINUOUS BENT DIAPHRAGMS)



PARTIAL TYPICAL SECTION
(SHOWING INTERMEDIATE DIAPHRAGMS)
(FOR DETAILS, SEE "INTERMEDIATE STEEL DIAPHRAGMS FOR TYPE III PRESTRESSED CONCRETE GIRDERS" SHEET.



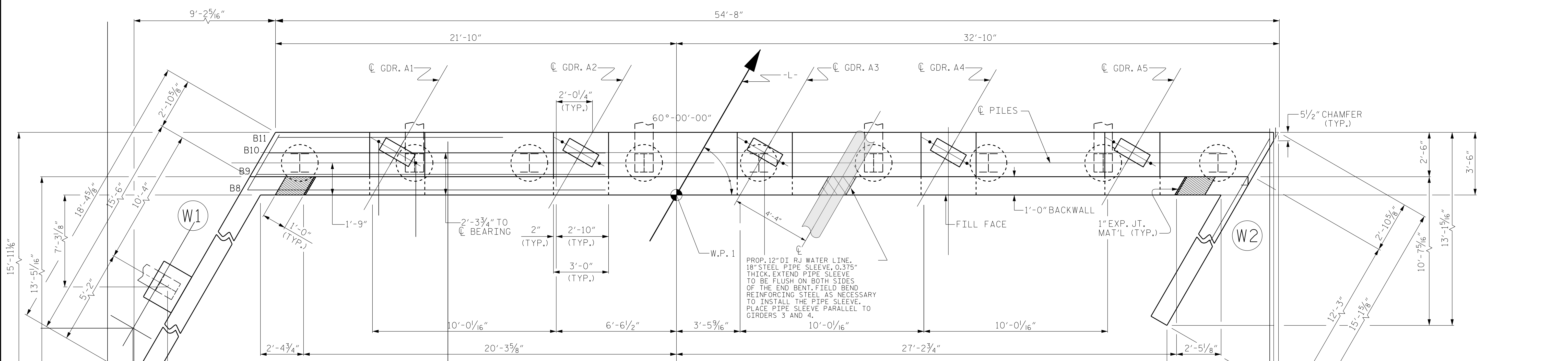
DETAIL 'A'

PROJECT NO. B-4786
PITT COUNTY
 STATION: 28+03.00 -L-
 SHEET 1 OF 2

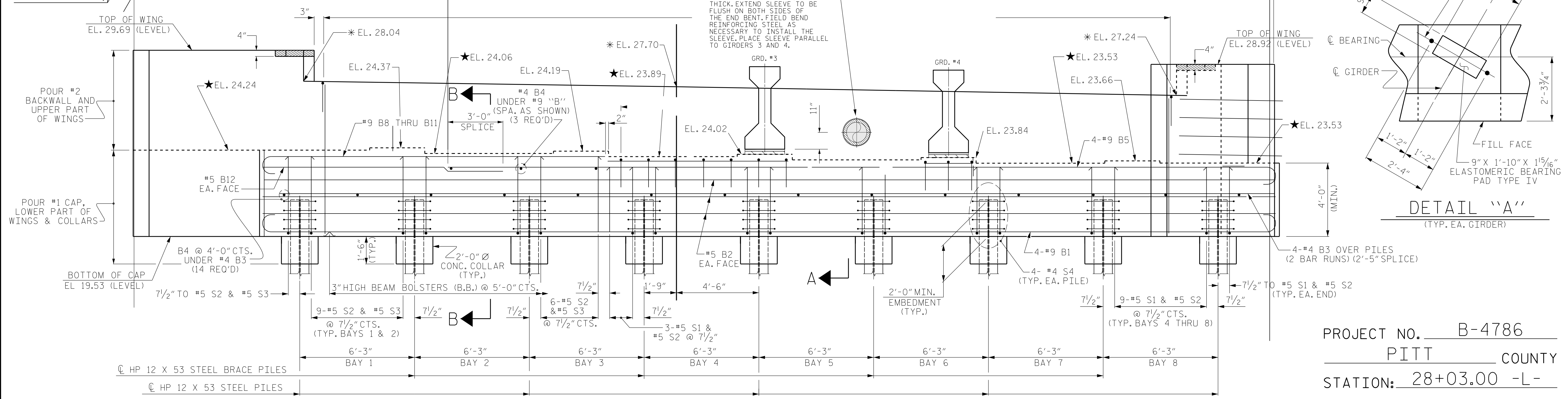
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 SUPERSTRUCTURE
 TYPICAL SECTION
 12" WATER LINE
 ATTACHMENT

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	SU-18
1			3			TOTAL SHEETS
2			4			

DRAWN BY : SBW DATE : 8-18
 CHECKED BY : MGC DATE : 11-18
 DESIGN ENGINEER OF RECORD: TBE DATE : -



PLAN

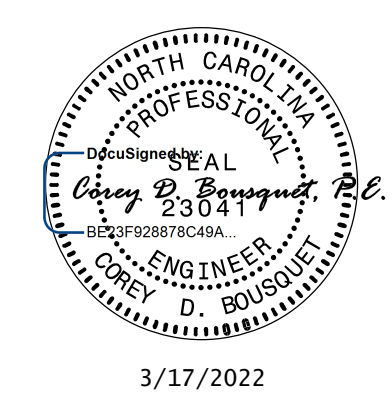


ELEVATION

★ FOR LOCATION OF ELEVATIONS BETWEEN BRIDGE SEAT BUILD UPS, SEE SECTION A-A, SHEET 3 OF 3.
 * THIS ELEVATION TAKEN ON FILL FACE OF BACKWALL.
 (WING BRACE PILE NOT SHOWN FOR CLARITY)

PROJECT NO. B-4786
PITT COUNTY
 STATION: 28+03.00 -L-

SHEET 1 OF 3

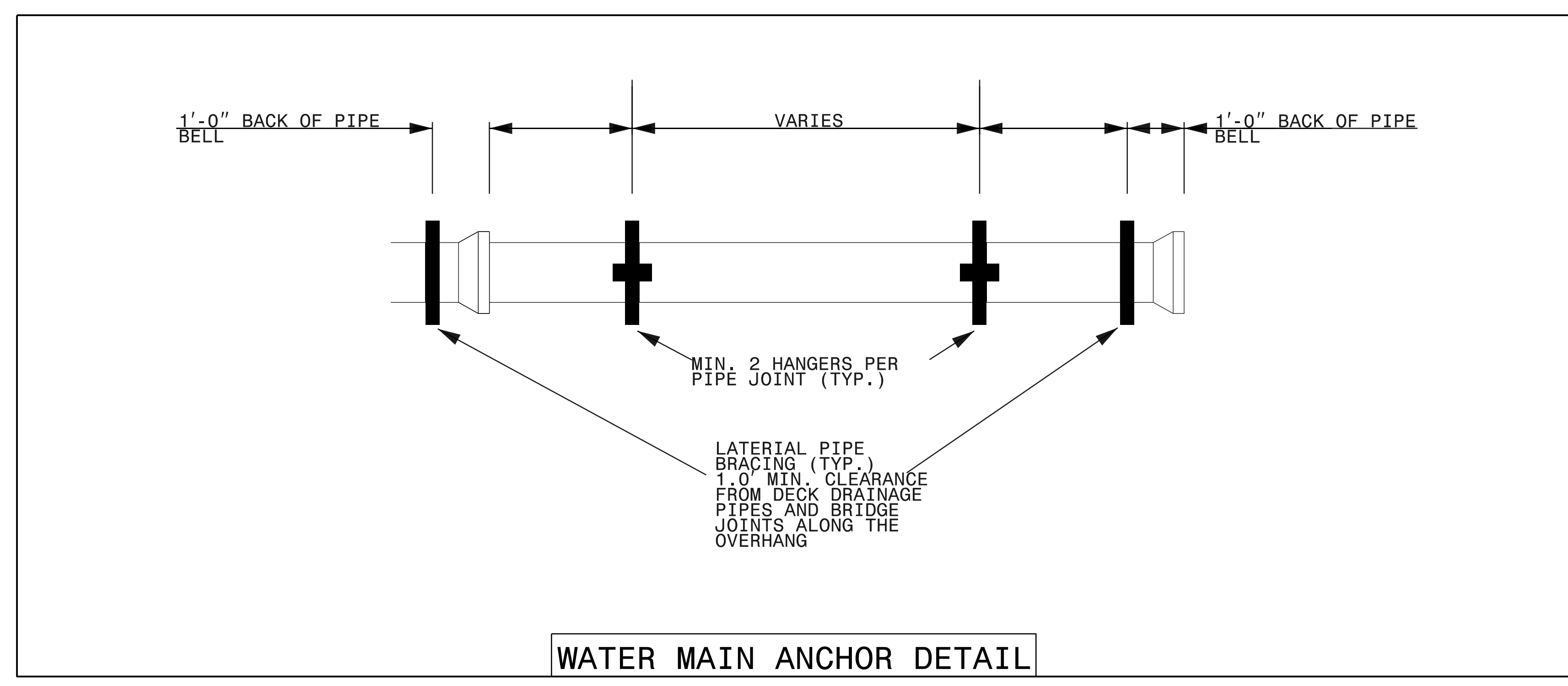
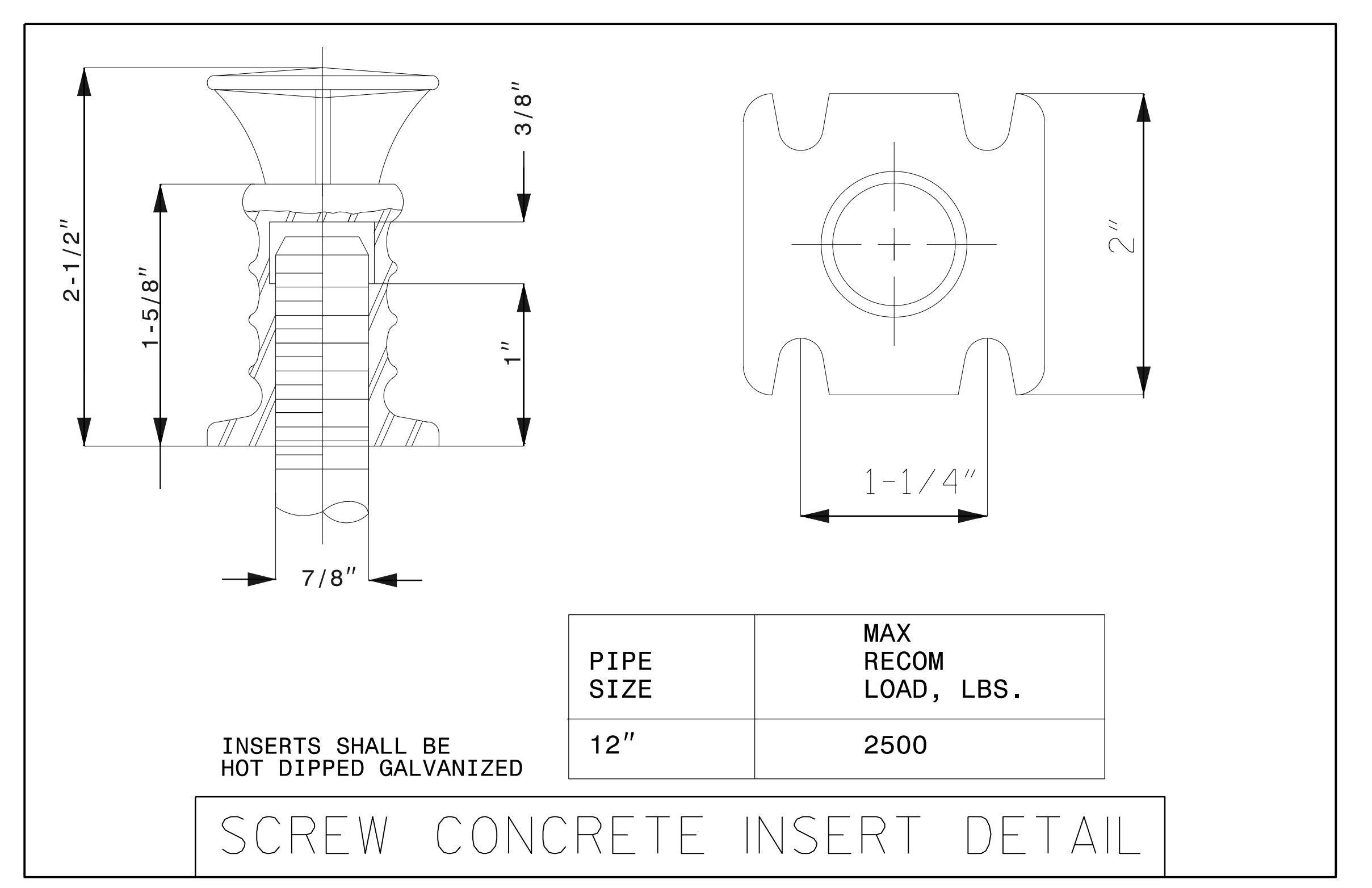
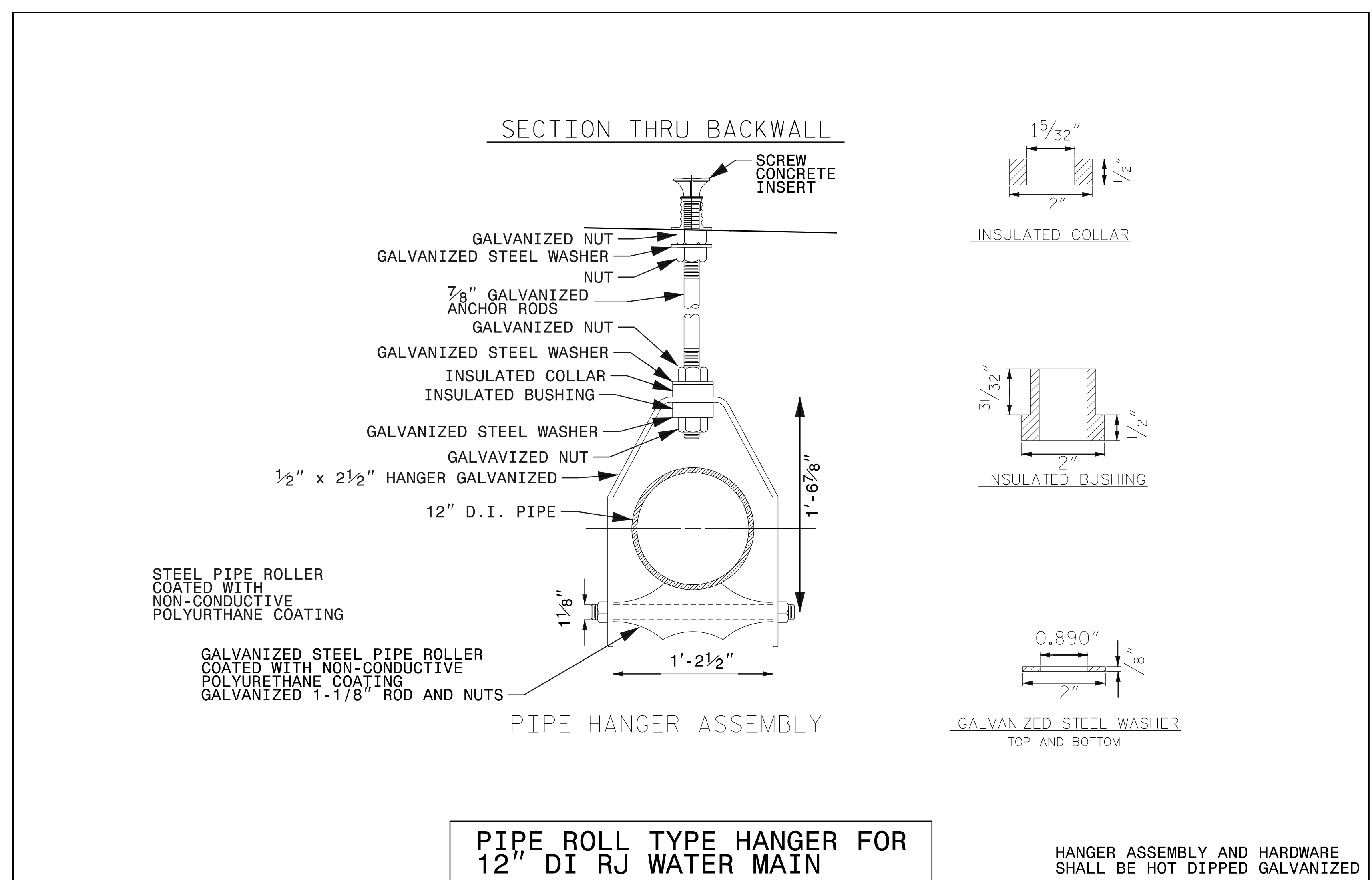


STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 SUBSTRUCTURE
 END BENT 1
 12" WATER LINE
 ATTACHMENT

DRAWN BY : S. B. WILLIAMS DATE : 6-19
 CHECKED BY : MGC DATE : 6-19
 DESIGN ENGINEER OF RECORD: TBE DATE : -



REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	SU-19
1			3			TOTAL SHEETS
2			4			



PROJECT NO. B-4786
PITT COUNTY
 STATION: PROPOSED BRIDGE
 SHEET OF

3/22/2022

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

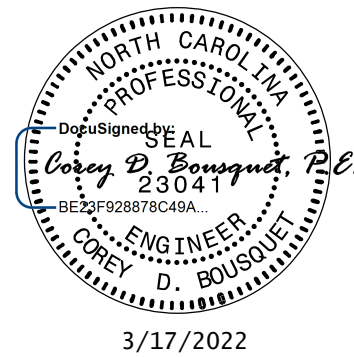
**12" WATER LINE BRIDGE
 ATTACHMENT DETAILS**

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REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

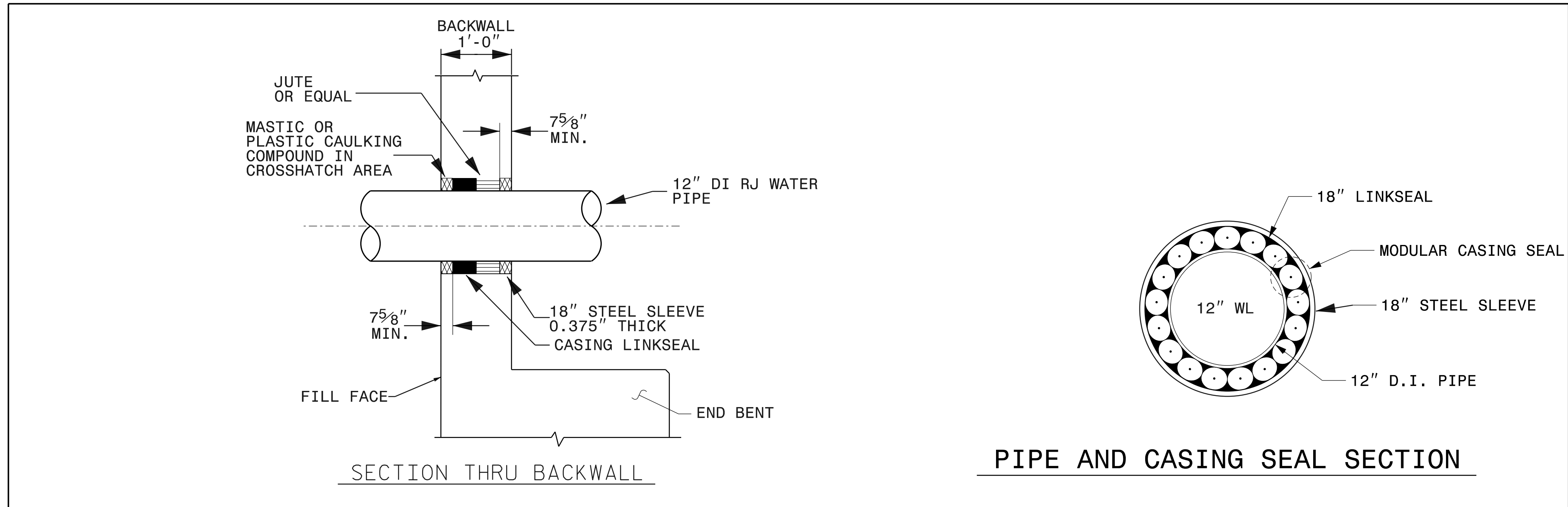
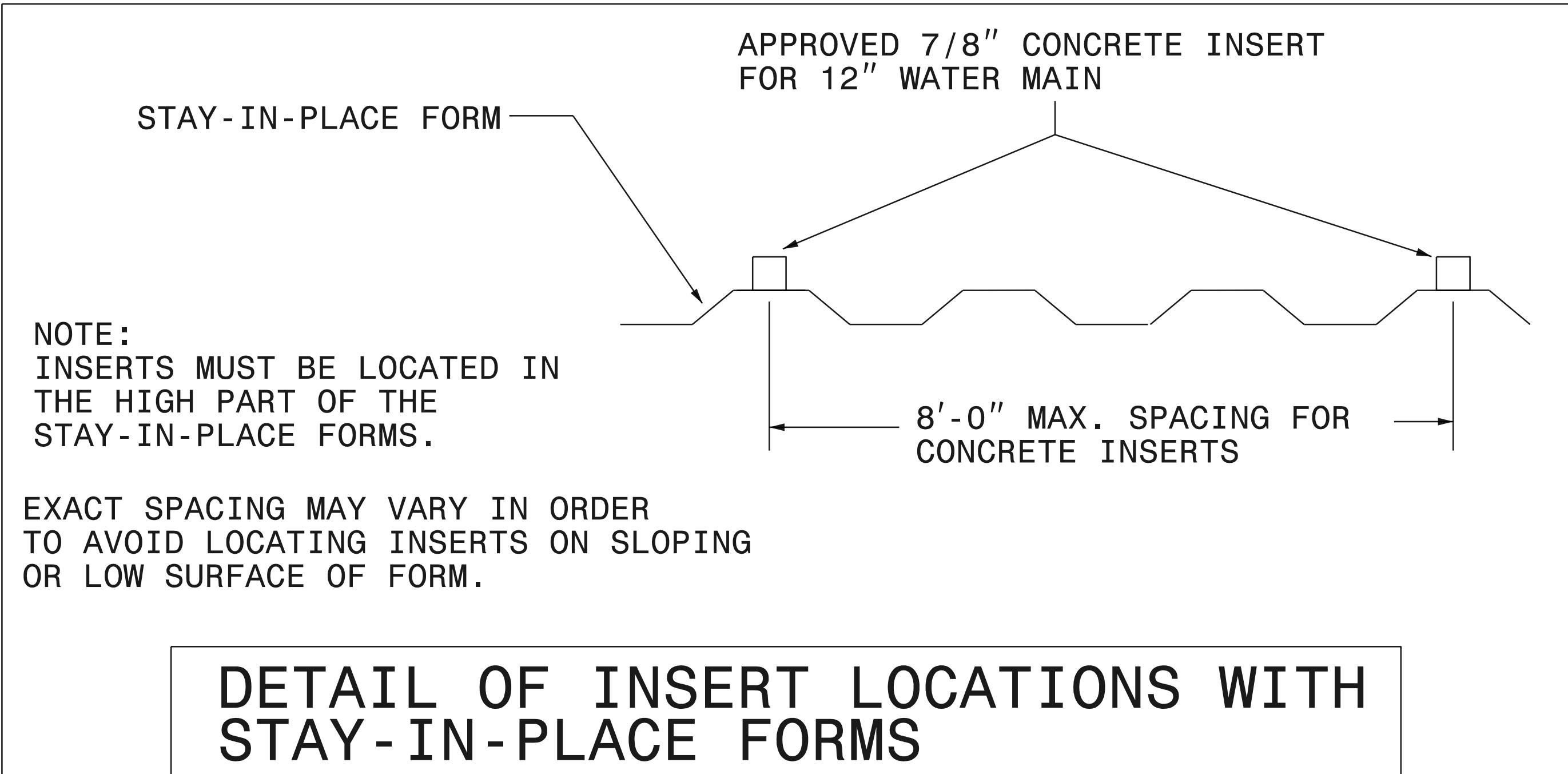
401 Harrison Oaks Blvd., Suite 200, Cary, NC 27513

SHEET NO. **SU-21**

DRAWN BY : SBW DATE : 8-18
 CHECKED BY : DATE :
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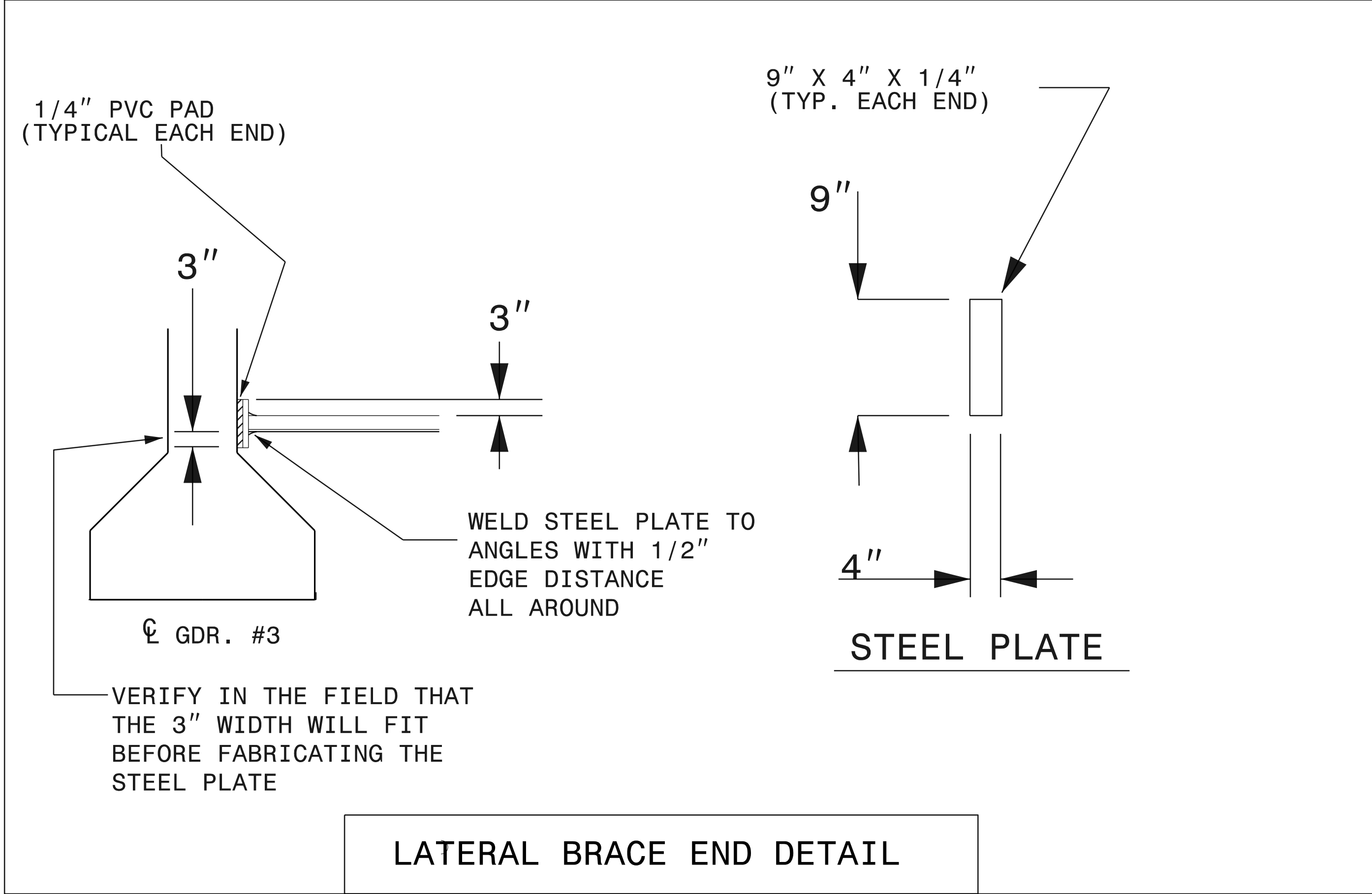
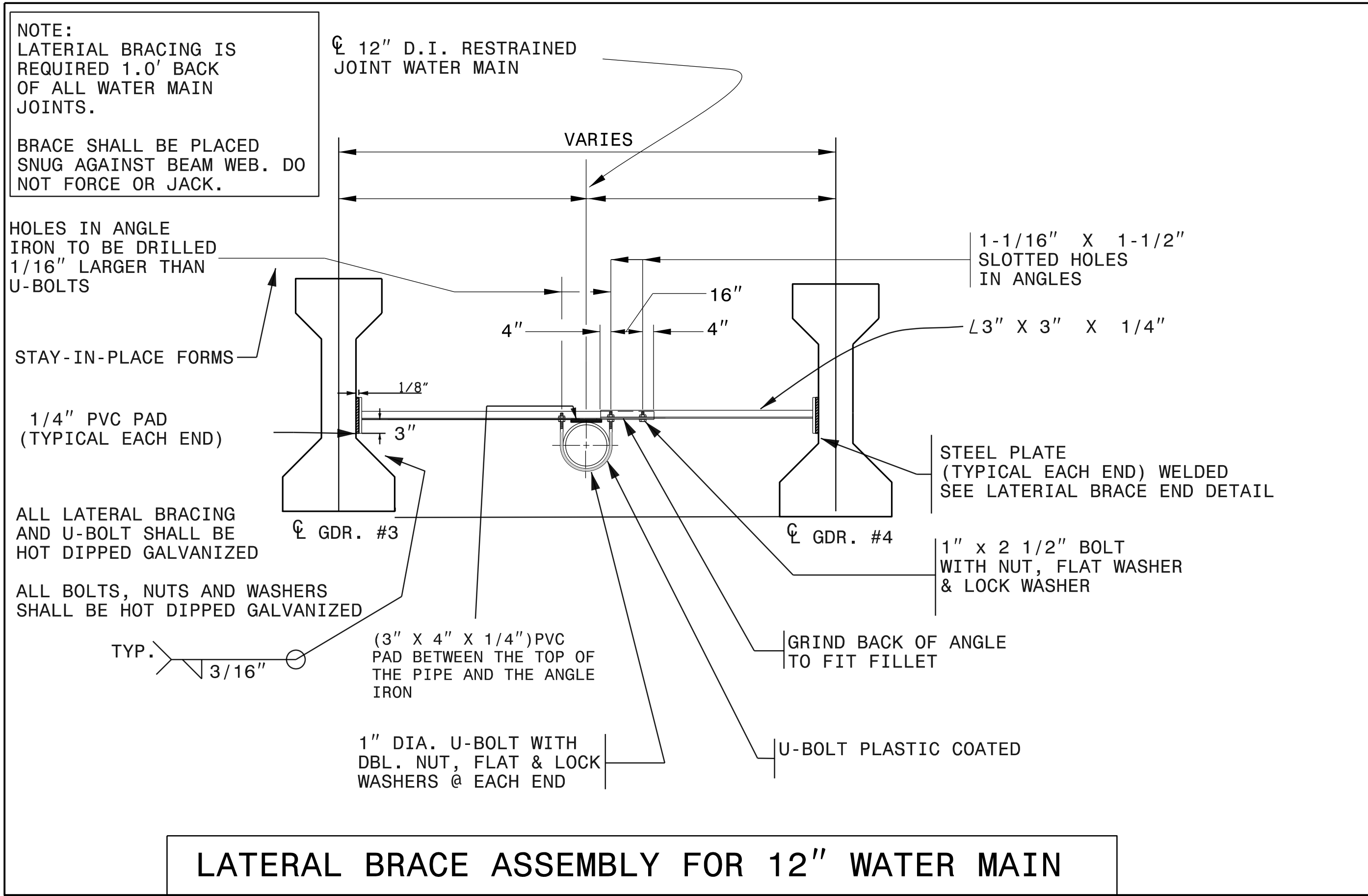


PROJECT NO. B-4786
PITT COUNTY
 STATION PROPOSED BRIDGE
 SHEET OF

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

12" WATER LINE BRIDGE
 ATTACHMENT DETAILS

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	SU-22
1			3			
2			4			



BILL OF MATERIAL FOR 12" WATER MAIN		
NO.	UNITS	ITEM
1	73 EA	PIPE HANGER ASSEMBLY (GALVANIZED)
2	2 EA	18" STEEL PIPE SLEEVE, 0.375" WALL THICKNESS, (END BENTS)
3	7 EA	18" STEEL PIPE SLEEVE, 0.375" WALL THICKNESS, (CONTINUOUS BENT DIAPHRAGM)
4	576 LF	12" DUCTILE IRON RESTRAINED JOINT (D.I.R.J.) WATER PIPE, PRESSURE CLASS 350
5	2 EA	MODULAR TYPE CASING SEAL
6	2 EA	JUTE
7	2 EA	MASTIC OR PLASTIC CAULKING COMPOUND
8	2 EA	END PLUG FOR 12" DI WATER LINE
9	74 EA	7/8" GALVANIZED CONCRETE INSERTS
10	32 EA	LATERAL PIPE BRACE ASSEMBLY (GALVANIZED)

THESE MATERIALS ARE ESTIMATED QUANTITIES ONLY AND ARE TO BE FURNISHED BY THE CONTRACTOR FOR THE 12" WATER LINE ATTACHMENT TO THE PROPOSED BRIDGE

PROJECT NO. B-4786
PITT COUNTY
STATION: PROPOSED BRIDGE
SHEET _ OF _

3/21/2022

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HINDE ENGINEERING

401 HARBOR CREEK BLVD., SUITE 220 - CARY, NC 27513

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

12" WATER LINE BRIDGE ATTACHMENT DETAILS

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	NO.
1			3			SU-23
2			4			