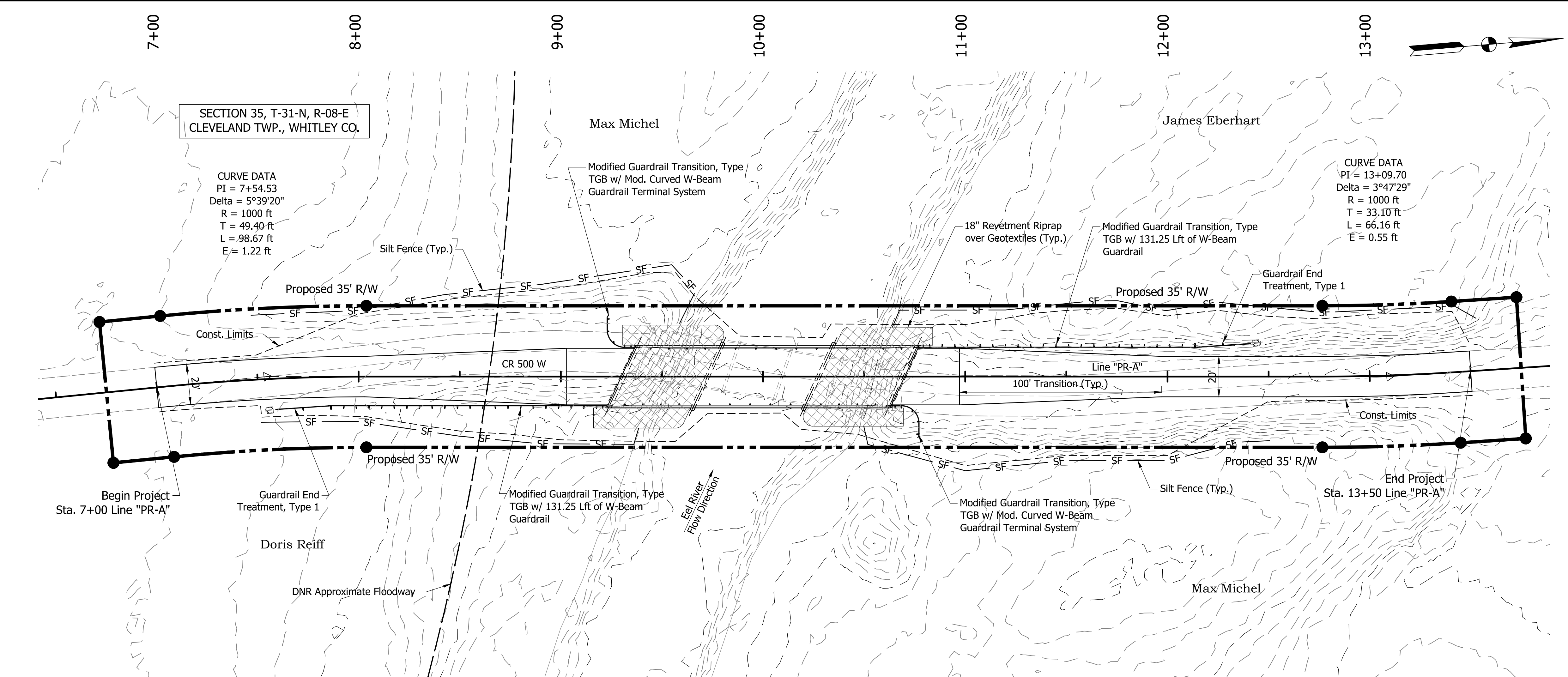
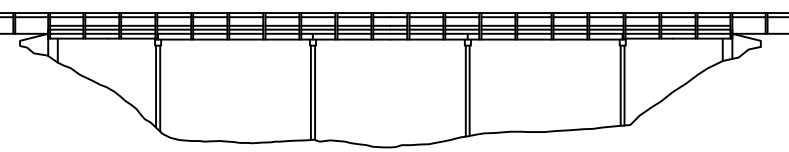




EXISTING STRUCTURE

The Existing Structure is a Five Span Timber Bridge with Spans of 18', 26', 26', 26', and 18' and a 24' Clear Roadway with a 10° Skew Rt. Existing Structure to be Removed.



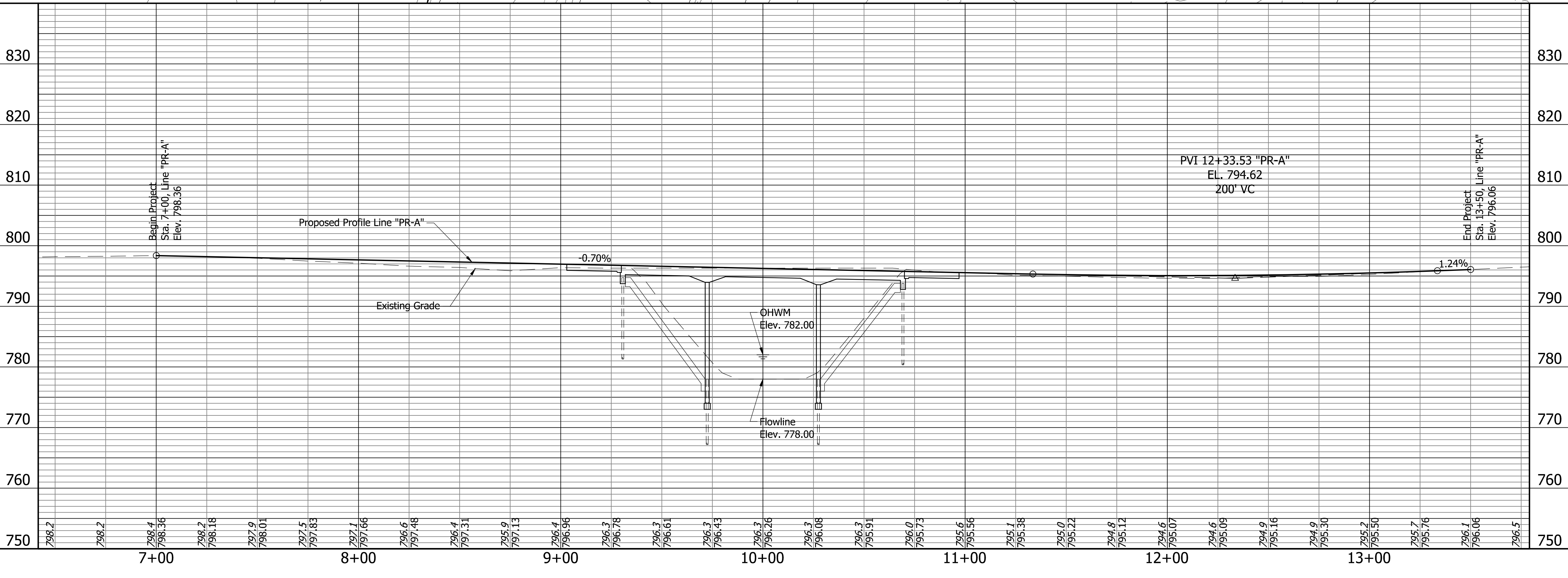
HYDRAULIC SCOUR DATA

Q100 Discharge	=	5800	cfs
Q100 Elev.	=	796.55	ft
Velocity at Q100	=	4.79	ft/s
Scour Depth (Contraction)	=	3.33	ft
Scour Depth (Total)	=	7.57	ft
Low Scour Elev.	=	770.43	ft

Q500 Discharge	=	7000	cfs
Q500 Elev.	=	797.06	ft
Velocity at Q500	=	5.59	ft/s
Scour Depth (Contraction)	=	3.90	ft
Scour Depth (Total)	=	8.39	ft
Low Scour Elev.	=	769.61	ft

EARTHWORK TABULATION

Fill + 25%	995	cys
Common Excavation	1155	cys
Surplus Foundation Excavation	25	cys
Waste	185	cys
Benching (Estimated)	235	cys

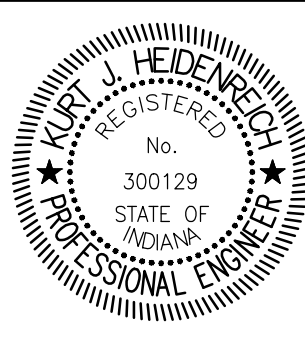


CONTINUOUS REINFORCED CONCRETE SLAB BRIDGE
3 SPANS: 41'-9", 55'-0", 41'-9"
28'-0" CLEAR ROADWAY WIDTH, 25° SKEW RT.
CR 500 W OVER EEL RIVER



Ph: (260) 490-1025
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Fort Wayne, Indiana 46845



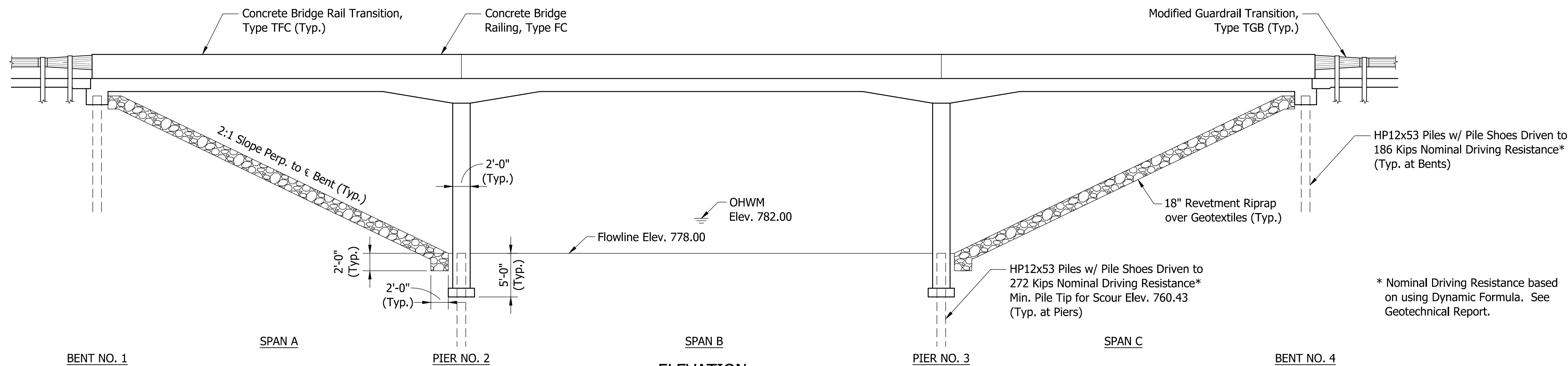
RECOMMENDED FOR APPROVAL
DESIGN ENGINEER
DATE
7/19/2019

DESIGNED: AJI
DRAWN: BKH
CHECKED: KJH
CHECKED: AJI

LAYOUT

HORIZONTAL SCALE 1" = 30'	BRIDGE FILE WHITLEY CO. BRIDGE No. 95
VERTICAL SCALE 1" = 10'	DESIGNATION
	SHEETS
	1 of 14
CONTRACT	PROJECT

STRUCTURE TO BE BUILT ON A -0.70% GRADE

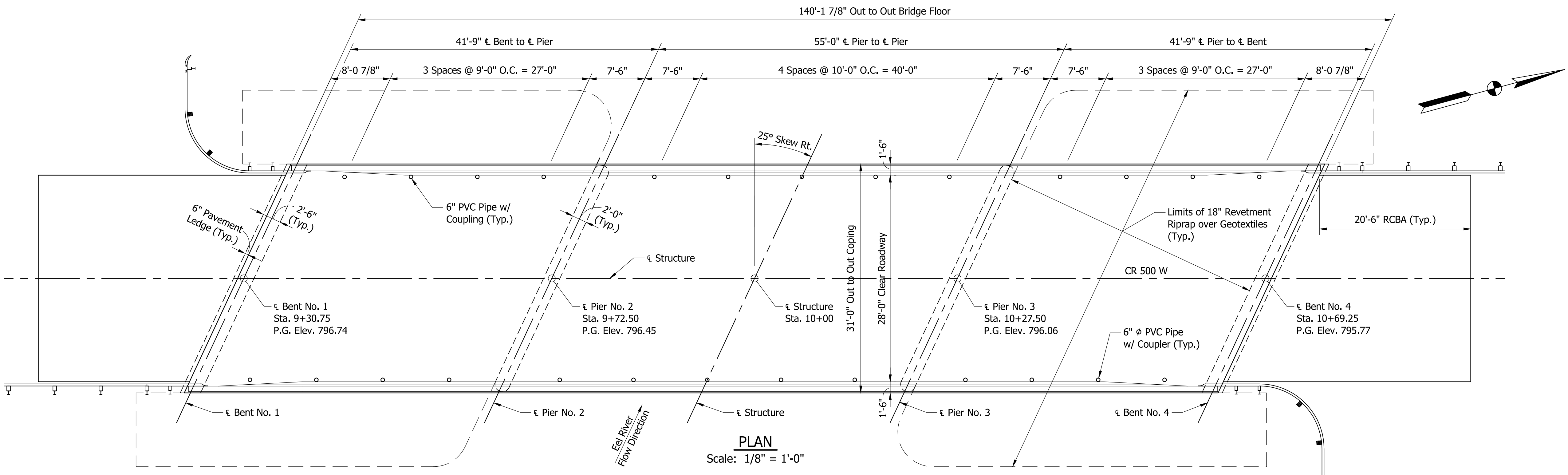


DNR PERMIT REQUIREMENTS

Silt Fence shall be installed as indicated on the Layout sheet.

All disturbed areas within the floodway shall be seeded with perennial plant species native to northern Indiana. The list of allowable species is found in Natural Resources Commision, Bulletin #17.

A steel sheet pile cofferdam shall be used to construct the piers. Intake hoses for dewatering shall contain a screen over the end of the hose. Water shall be discharged onto an energy dissipater on the bank.



DESIGN DATA

Live Load
Designed for HL-93 Loading in accordance with the AASHTO LRFD Bridge Design Specifications, 8th Edition, 2017.

Dead Load
Dead Load increased 35 psf for Future Wearing Surface.

Design Strengths
Reinforcing Steel (Grade 60) $f_y = 60,000$ psi
Class 'C' Concrete $f'_c = 4,000$ psi
Class 'B' Concrete $f'_c = 3,000$ psi
Class 'A' Concrete $f'_c = 3,500$ psi

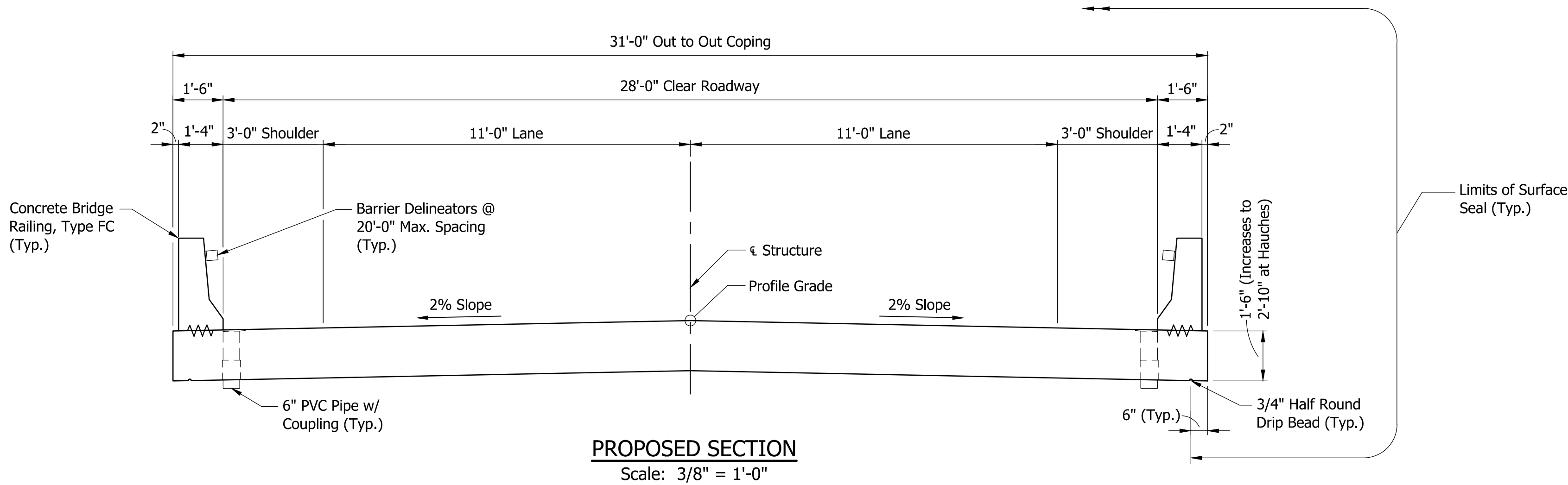
GENERAL NOTES

Reinforcing Steel Cover Shall be 2 1/2" in Top and 1" in Bottom of Floor Slabs, and Shall be 2" in All Other Locations, Unless Noted Otherwise.

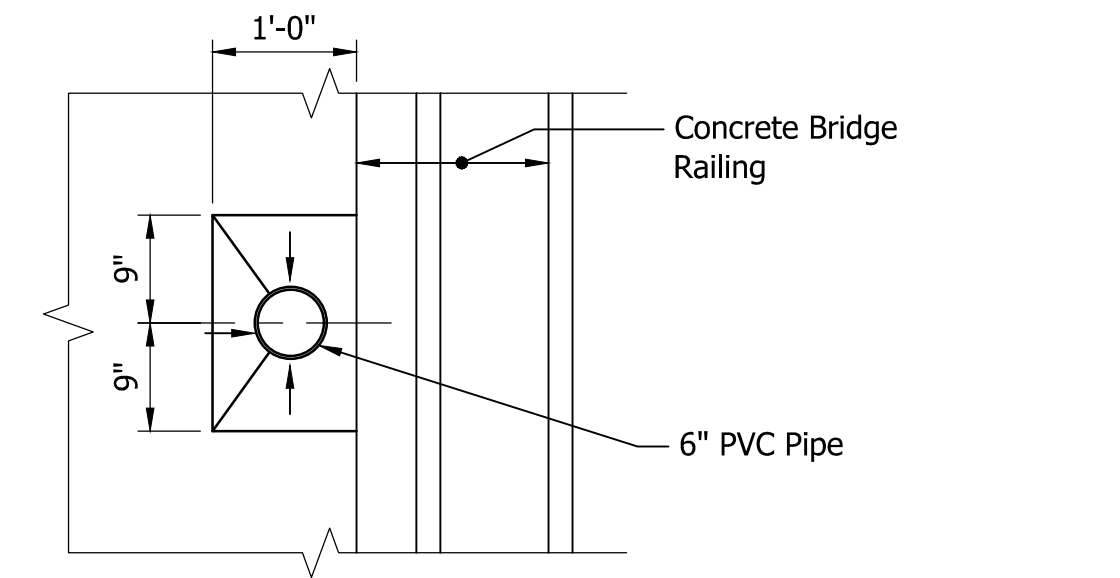
All Exposed Concrete Edges Shall be Chamfered 1".

Pile Location Tolerance Shall be 2".

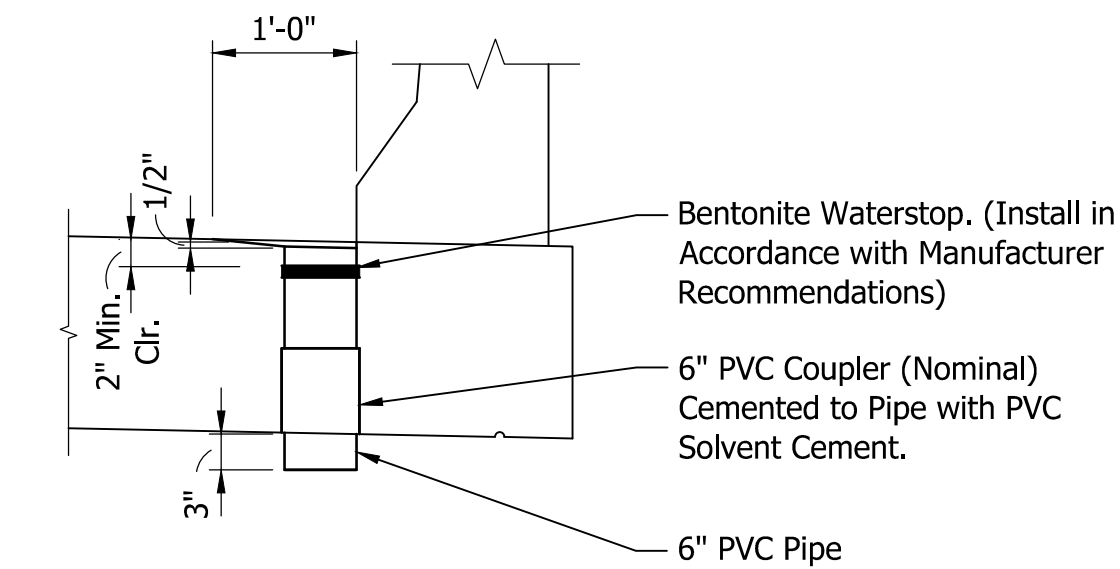
The Present Structure and Foundations from Previous Structures Shall be Removed in their Entirety to Facilitate Placing of the New Structure.



CONTINUOUS REINFORCED CONCRETE SLAB BRIDGE
3 SPANS: 41'-9", 55'-0", 41'-9"
28'-0" CLEAR ROADWAY WIDTH, 25° SKEW RT.
CR 500 W OVER EEL RIVER



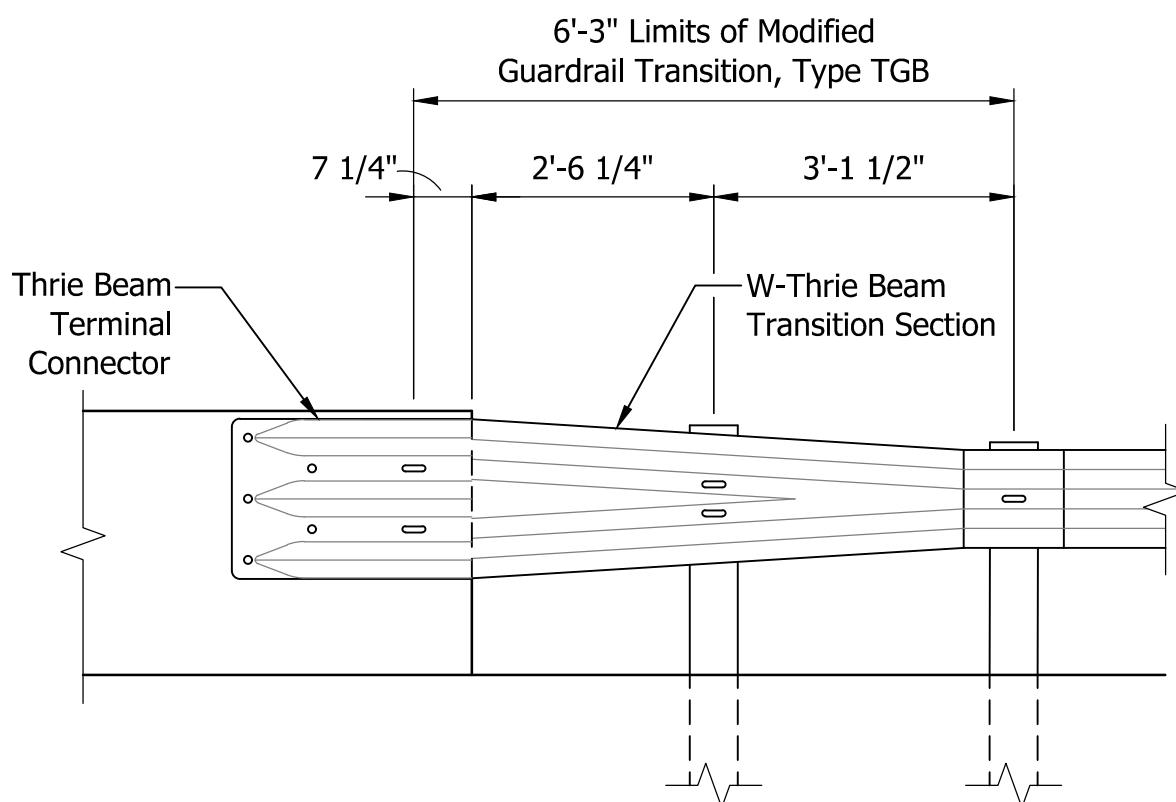
PLAN



SECTION THRU FLOOR DRAIN

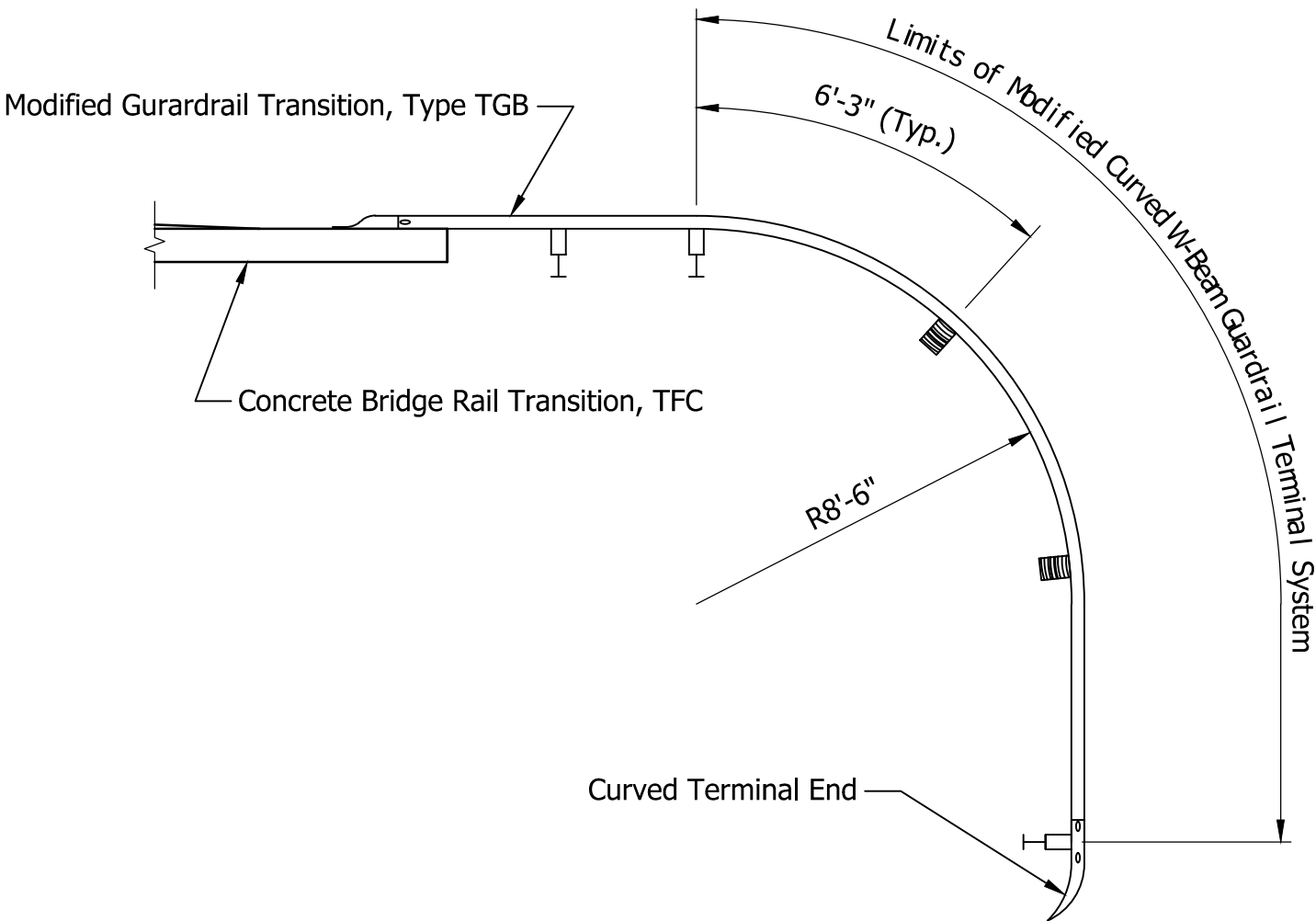
FLOOR DRAIN DETAIL

Scale: 3/4" = 1'-0"



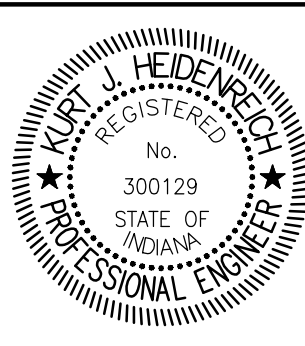
MODIFIED GUARDRAIL TRANSITION, TYPE TGB

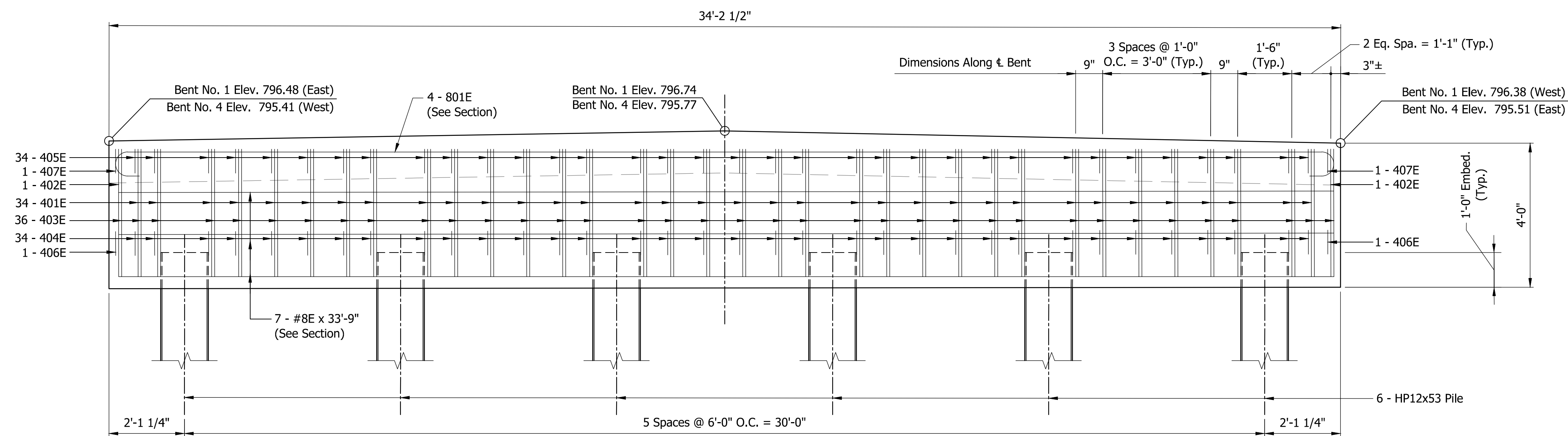
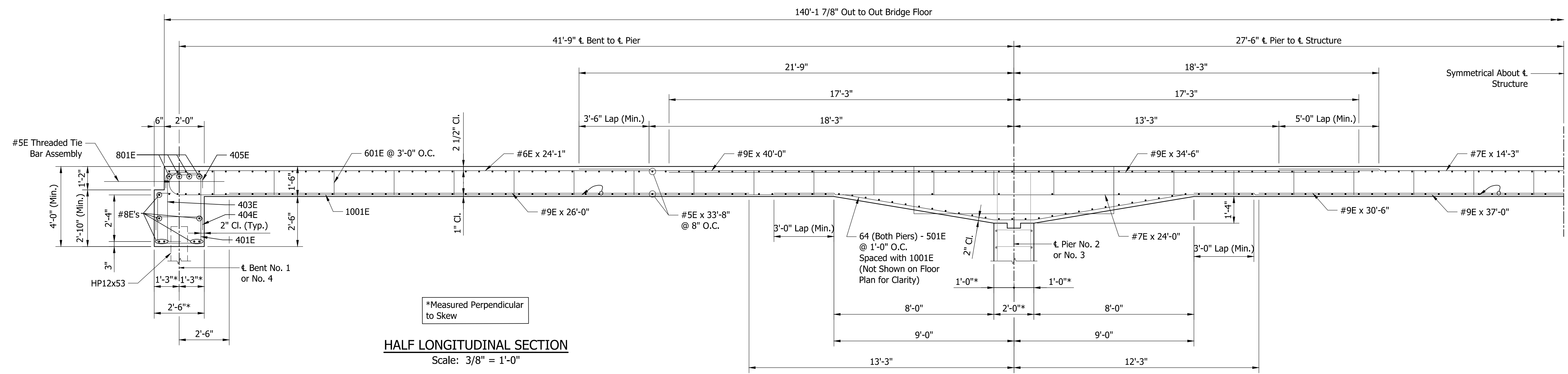
Scale: 1/2" = 1'-0"



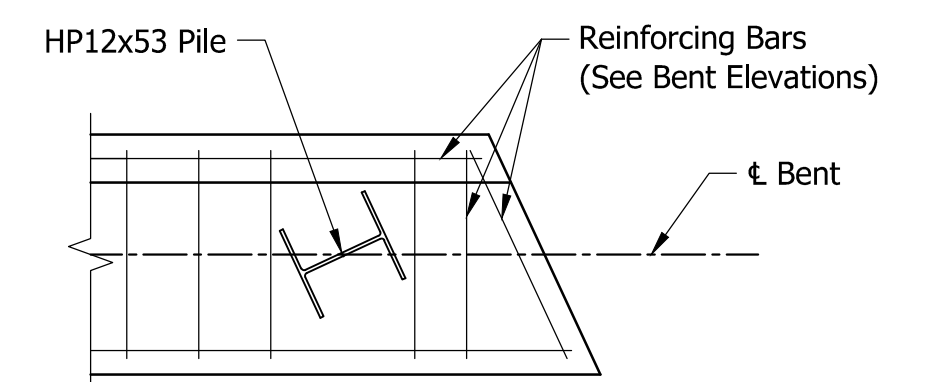
MODIFIED GUARDRAIL, TERMINAL SYSTEM, W-BEAM CURVED, TYPE 3

Scale: 1/4" = 1'-0"

	 ENGINEERING RESOURCES, INC. Ph: (260) 490-1025 www.eri consulting 11020 Diebold Rd. Fort Wayne, Indiana 46845		RECOMMENDED FOR APPROVAL  7/19/2019 DESIGN ENGINEER DATE			SCALE AS NOTED	BRIDGE FILE WHITLEY CO. BRIDGE No. 95 DESIGNATION	
			DESIGNED: <u>AJI</u>		DRAWN: <u>BKH</u>		SHEETS 3 of 14	
			CHECKED: <u>KJH</u>		CHECKED: <u>AJI</u>		PROJECT	

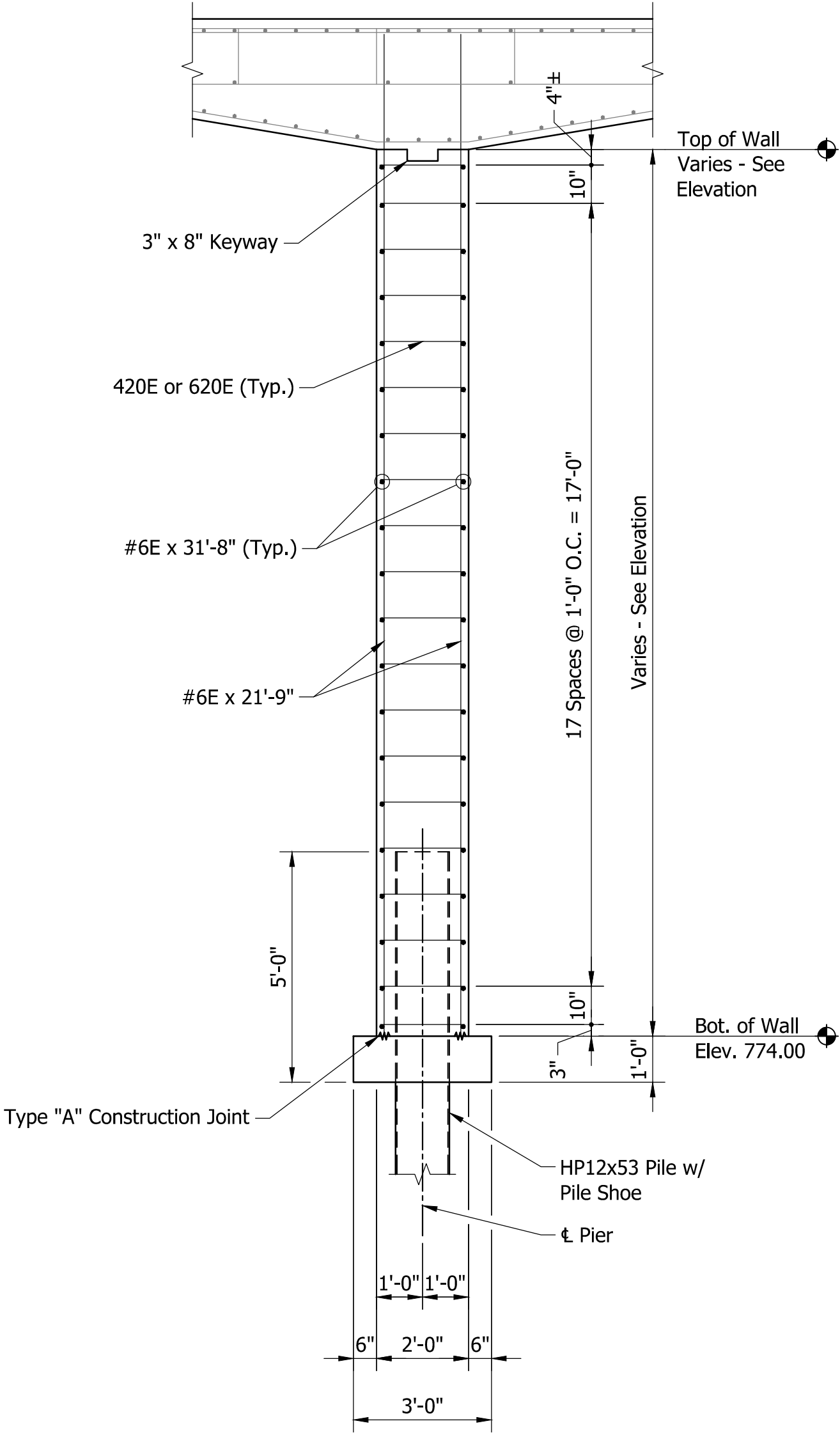


BENT NO. 1 & NO. 4 ELEVATION
Scale: 1/2" = 1'-0"

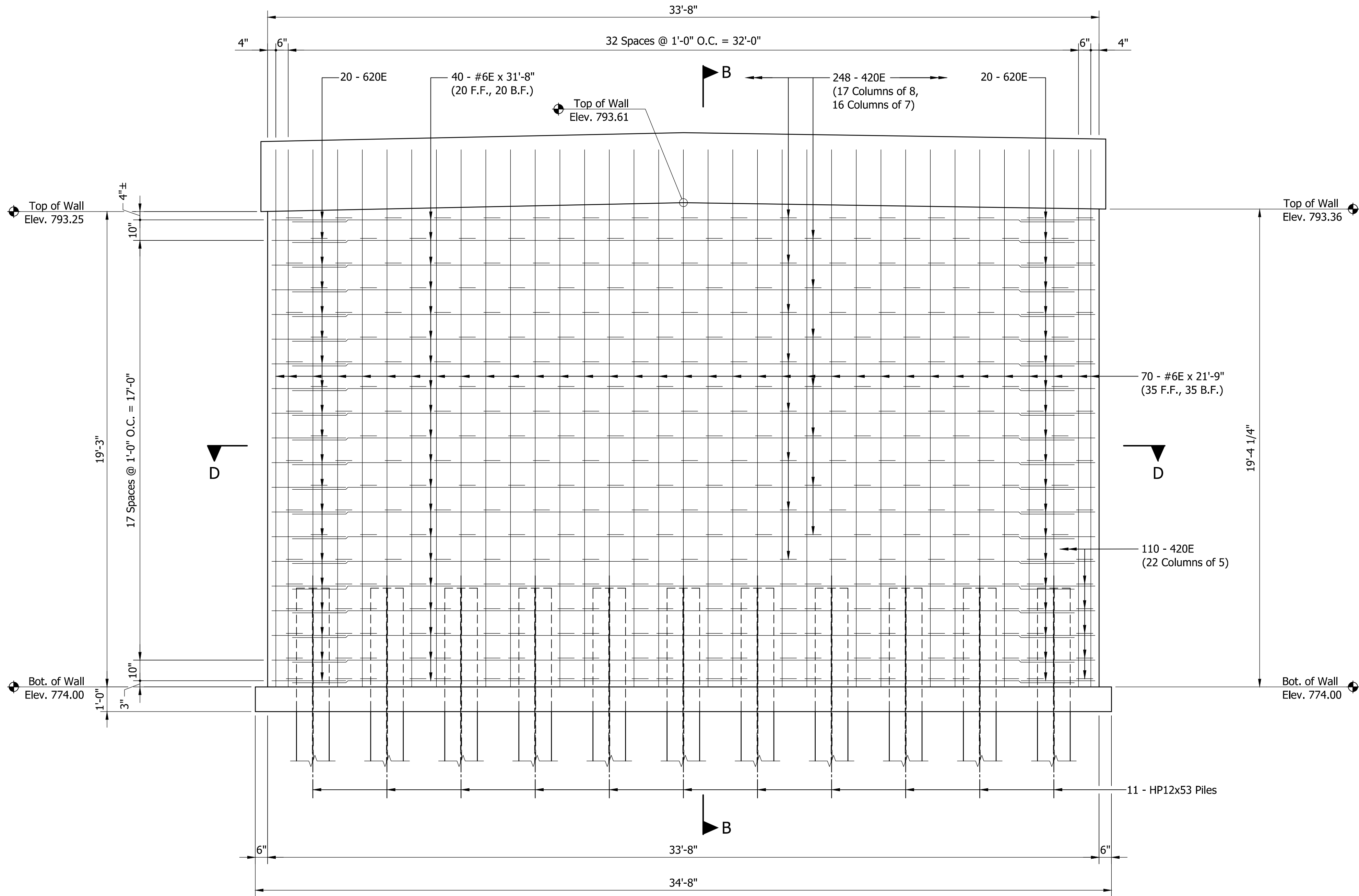


TYPICAL BENT DETAIL
Scale: 1/2" = 1'-0"

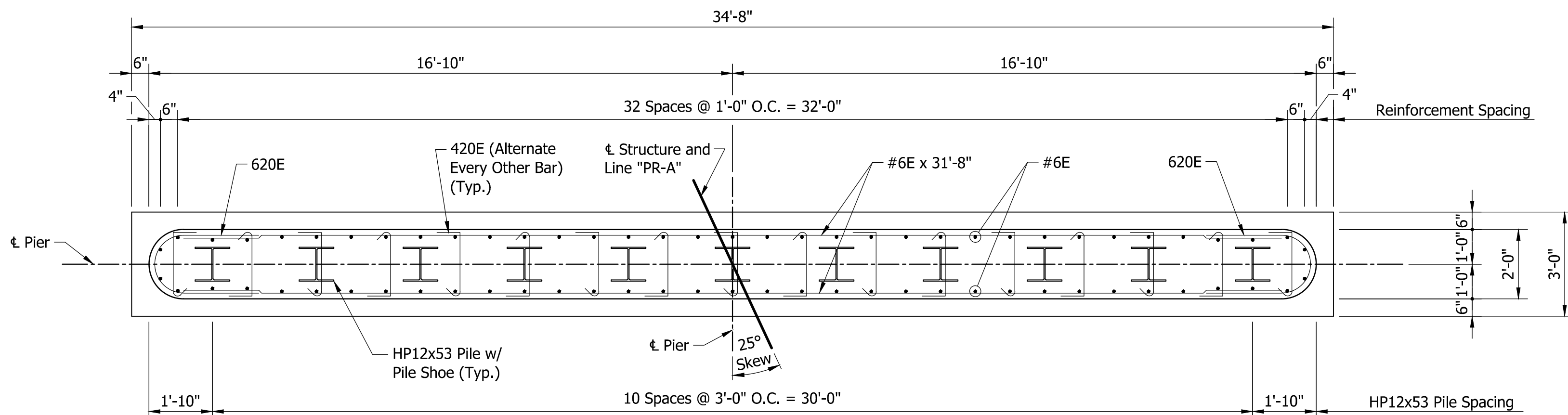
BILL OF MATERIALS			
PIER NO. 2			
MARK OR SIZE	NO. REQ'D	LENGTH	WEIGHT
620E	40	7'-0"	
#6E	40	31'-8"	
#6E	70	21'-9"	
Total #6 Epoxy Coated Bars			4,610#
420E	358	2'-9"	
Total #4 Epoxy Coated Bars			658#
Total Epoxy Coated Reinf. Bars			5,268#
CONCRETE			
Concrete, Class A, Substructure			48.3 CYS
Concrete, Class B, Footings			3.9 CYS
MISCELLANEOUS			
Pile, HP12x53			TBD
Pile Shoe, HP12x53			11 EA



SECTION B-B
Scale: 3/8" = 1'-0"



PIER NO. 2 - WALL ELEVATION
Scale: 3/8" = 1'-0"
(Looking North at South Face)



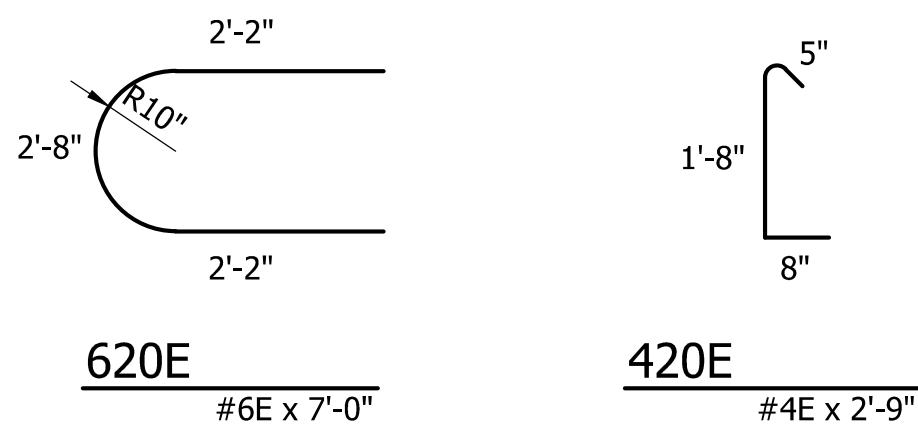
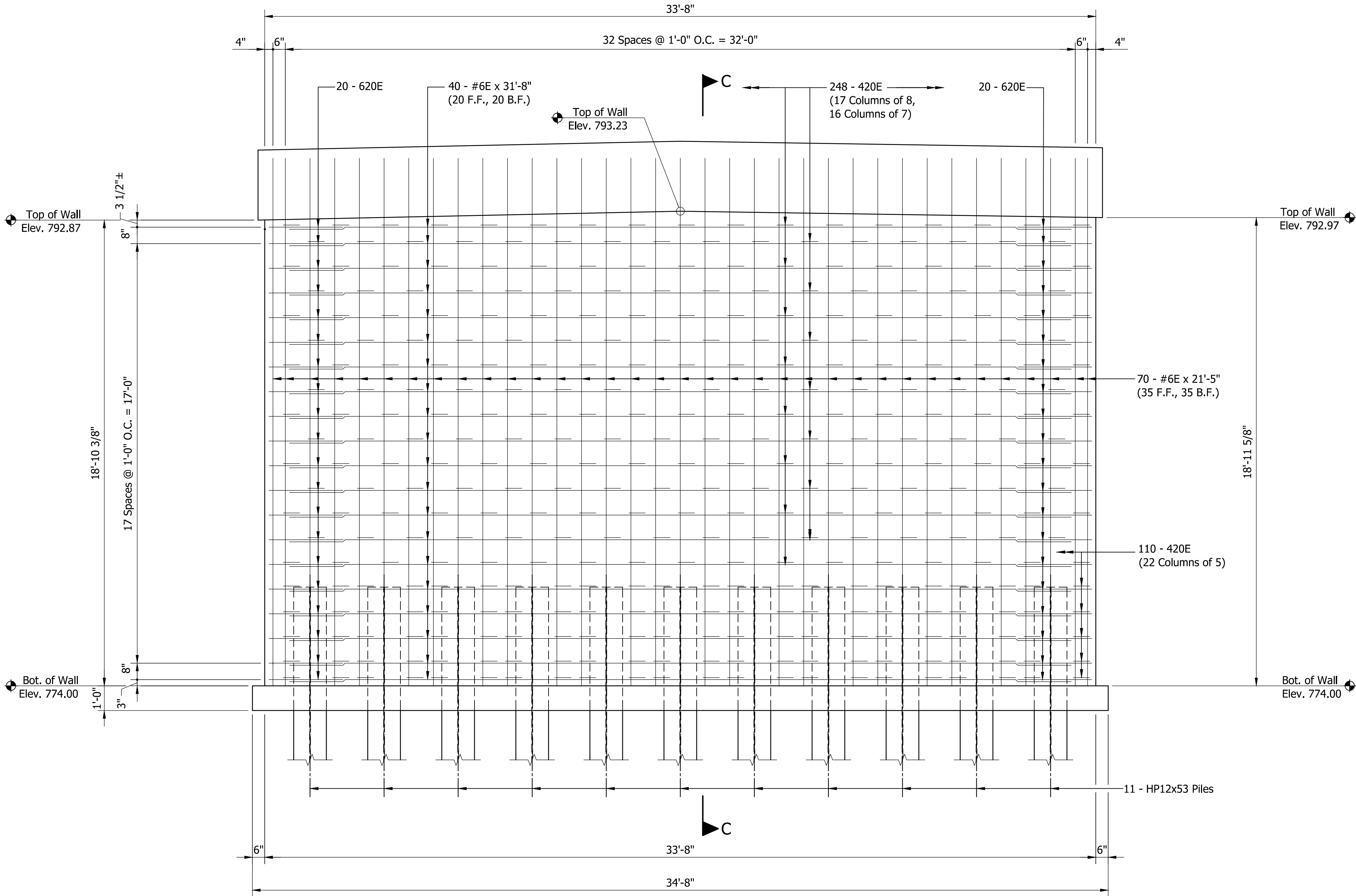
SECTION D-D
Scale: 3/8" = 1'-0"



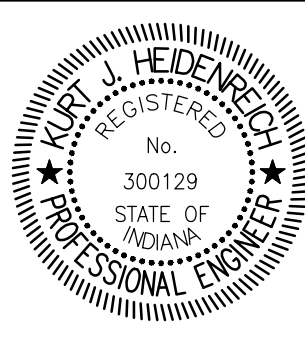
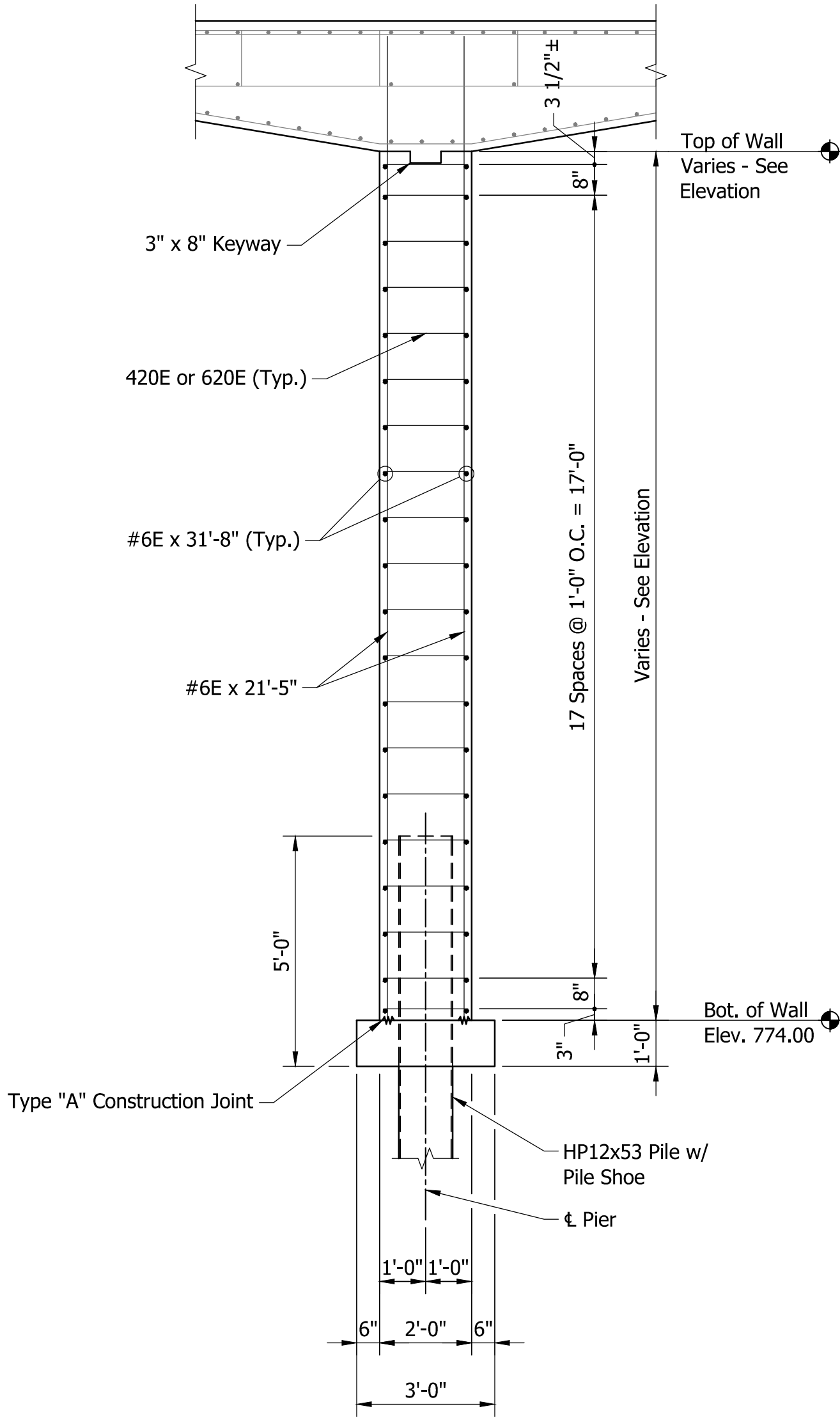
RECOMMENDED FOR APPROVAL	<i>K. H.</i>	7/19/2019
DESIGNED: AJI	DRAWN: MRD	DATE
CHECKED: KJH	CHECKED: AJI	

PIER NO. 2 DETAILS

SCALE		BRIDGE FILE	
AS NOTED		WHITLEY CO. BRIDGE No. 95	
		DESIGNATION	
		SHEETS	
		5	of 14
CONTRACT		PROJECT	



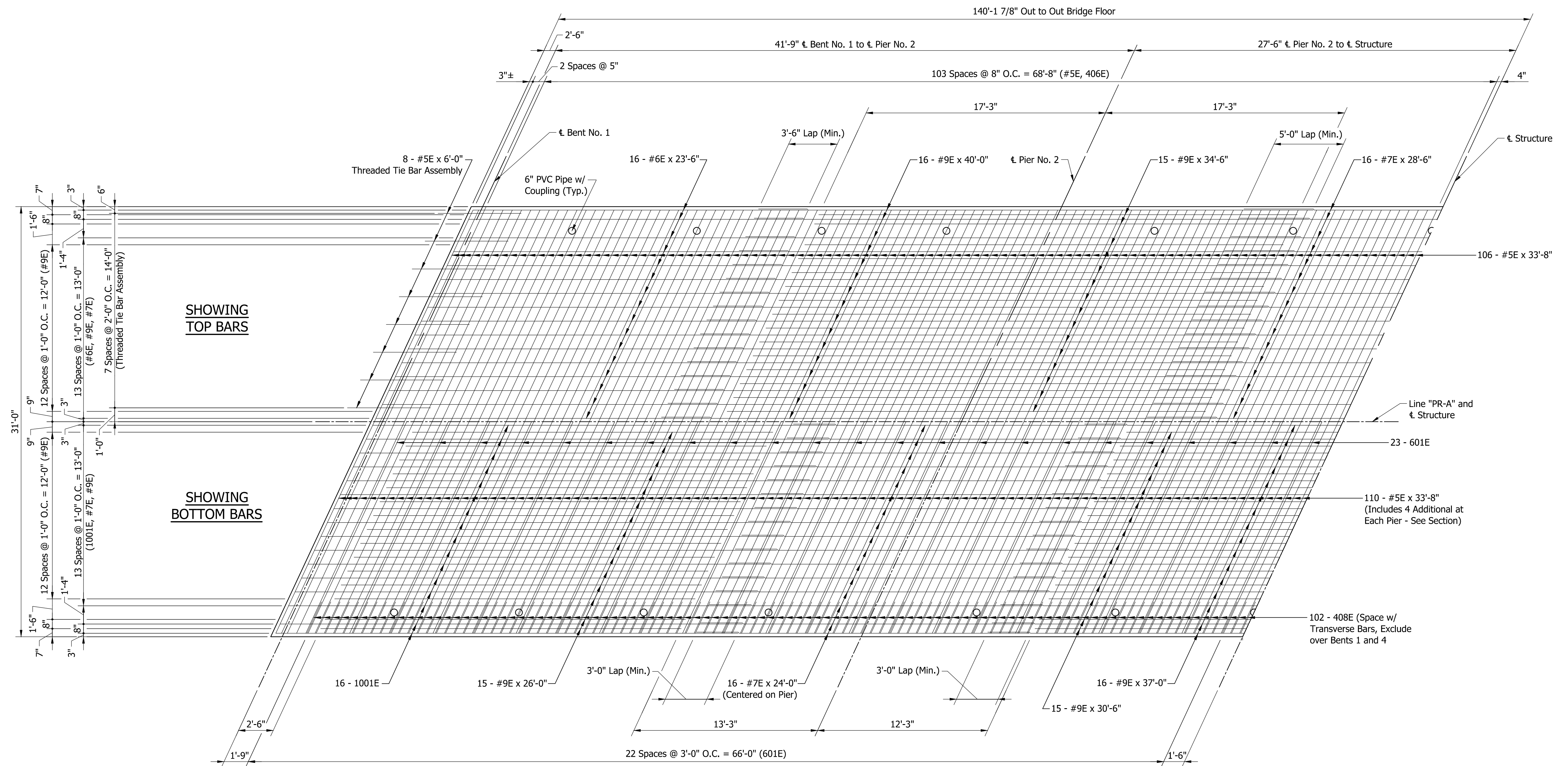
BILL OF MATERIALS			
PIER NO. 3			
MARK OR SIZE	NO. REQ'D	LENGTH	WEIGHT
620E	40	7'-0"	
#6E	40	31'-8"	
#6E	70	21'-5"	
Total #6 Epoxy Coated Bars			4,575#
420E	358	2'-9"	
Total #4 Epoxy Coated Bars			658#
Total Epoxy Coated Reinf. Bars			5,233#
CONCRETE			
Concrete, Class A, Substructure			47.4 CYS
Concrete, Class B, Footings			3.9 CYS
MISCELLANEOUS			
Pile, HP12x53			TBD
Pile Shoe, HP12x53			11 EA



RECOMMENDED FOR APPROVAL	<i>K. Heidebrecht</i>	7/19/2019
DESIGNED: AJI	DRAWN: MRD	DATE
CHECKED: KJH	CHECKED: AJI	

PIER NO. 3 DETAILS

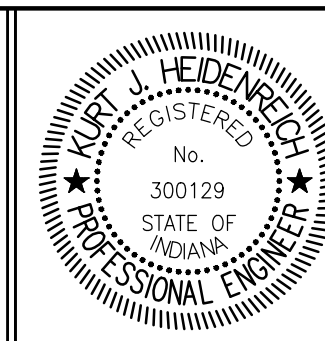
SCALE		BRIDGE FILE	
AS NOTED		WHITLEY CO. BRIDGE No. 95	
		DESIGNATION	
		SHEETS	
		6	of 14
CONTRACT		PROJECT	



HALF FLOOR PLAN
Scale: 1/4" = 1'-0"

NOTES

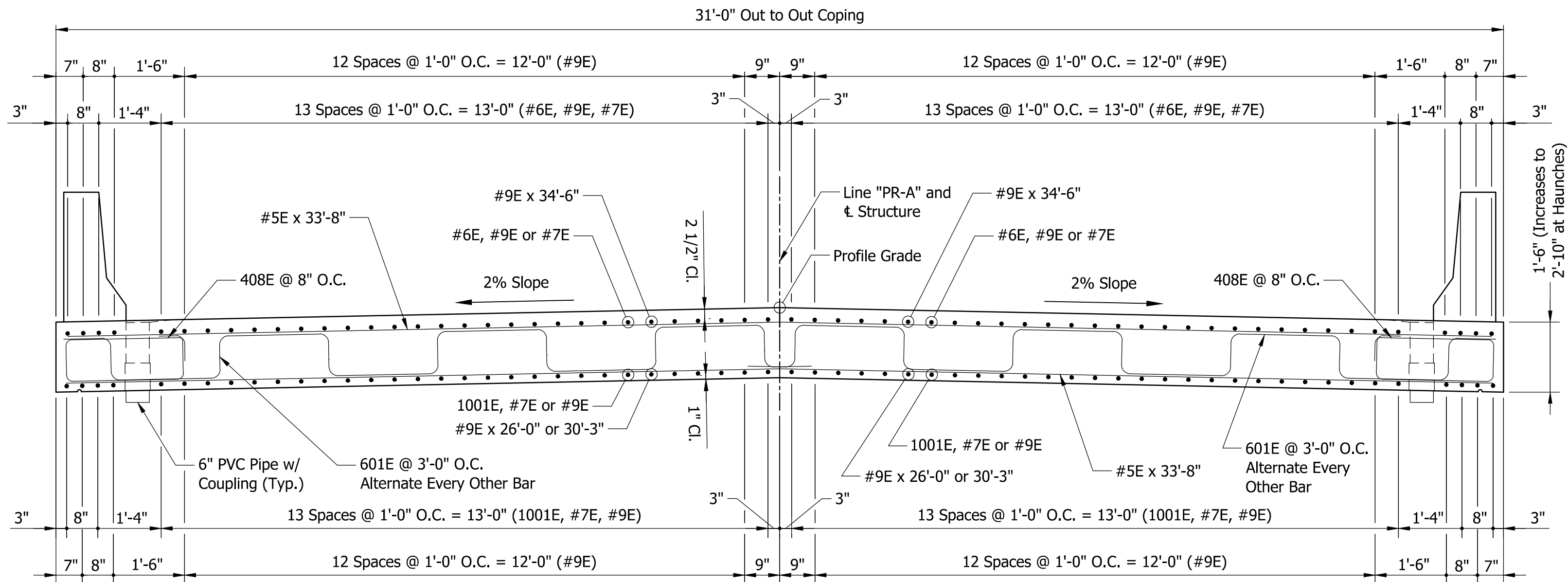
Adjust Transverse Bars as Required at Drains



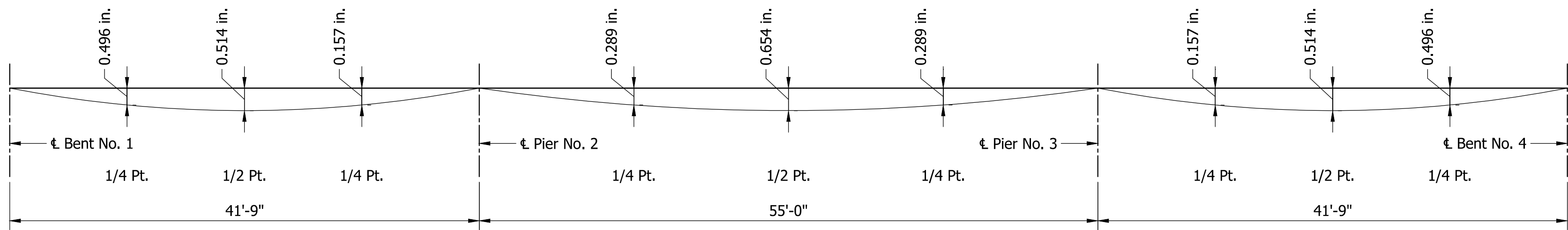
RECOMMENDED FOR APPROVAL <i>K. Heidebrecht</i> 7/19/2019 DESIGN ENGINEER DATE	
DESIGNED: AJI	DRAWN: MRD
CHECKED: KJH	CHECKED: AJI

FLOOR DETAILS

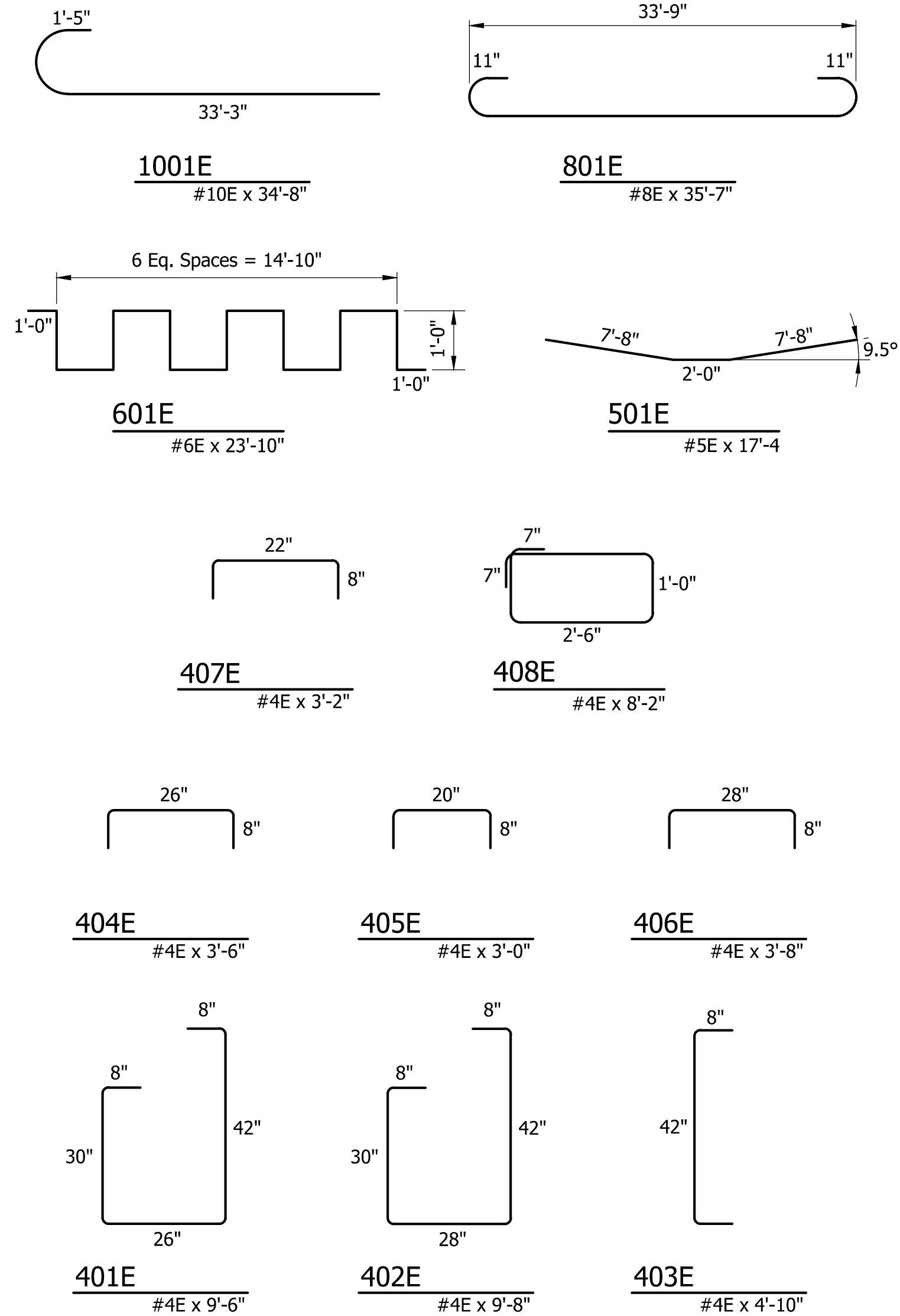
SCALE AS NOTED		BRIDGE FILE WHITLEY CO. BRIDGE No. 95 DESIGNATION	
		SHEETS 7 of 14	
CONTRACT		PROJECT	



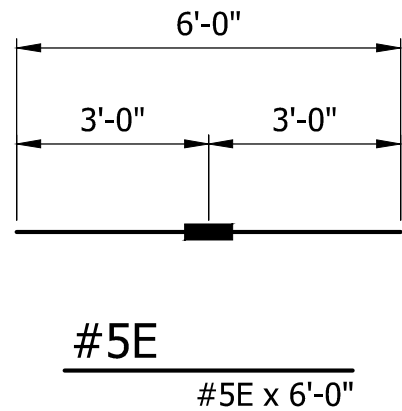
TYPICAL SECTION
Scale: 1/2" = 1'-0"



DEAD LOAD DEFLECTION DIAGRAM
Scale: N.T.S.



BAR BENDING DETAILS
Scale: N.T.S.



THREADED TIE BAR ASSEMBLY, EPOXY COATED
Scale: N.T.S.

BILL OF MATERIALS			
SUPERSTRUCTURE			
MARK OR SIZE	NO. REQ'D	LENGTH	WEIGHT
1001E	64	34'-8"	
Total #10 Epoxy Coated Bars			9,547#
#9E	64	40'-0"	
#9E	32	37'-0"	
#9E	60	34'-6"	
#9E	30	30'-6"	
#9E	60	26'-0"	
Total #9 Epoxy Coated Bars			28,183#
801E	8	35'-7"	
#8E	14	33'-9"	
Total #8 Epoxy Coated Bars			2,022#
#7E	32	28'-6"	
#7E	64	24'-0"	
Total #7 Epoxy Coated Bars			5,004#
601E	92	23'-10"	
#6E	64	23'-6"	
Total #6 Epoxy Coated Bars			5,553#
501E	64	17'-4"	
#5E	432	33'-8"	
Total #5 Epoxy Coated Bars			16,326#
401E	68	9'-6"	
402E	4	9'-8"	
403E	72	4'-10"	
404E	68	3'-6"	
405E	68	3'-0"	
406E	4	3'-8"	
407E	4	3'-2"	
408E	408	8'-2"	
Total #4 Epoxy Coated Bars			3,230#
Total Epoxy Coated Reinf. Bars			69,865#
CONCRETE			
Concrete, Class C, Superstructure			275.2 CYS
MISCELLANEOUS			
Pile, HP12x53			TBD
Pile Shoe, HP12x53			12 EA
Threaded Tie Bar Assembly, Epoxy Coated, #5E			32 EA
Surface Seal			6354 SFT
Structure Backfill, Type 4			24 CYS