

GENERAL NOTES

CONSTRUCTION SPECIFICATIONS: LATEST APPROVED LOUISIANA STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES, SUPPLEMENTAL SPECIFICATIONS, AND SPECIAL PROVISIONS.

DESIGN SPECIFICATIONS: AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS FOURTH EDITION, 2007, WITH 2009 INTERIM SPECIFICATIONS AND REVISIONS.

DESIGN LOAD: LIVE LOAD IS HL-93.

DESIGN SPEED: 30 MPH.

REINFORCING STEEL: DIMENSIONS RELATING TO REINFORCING STEEL FABRICATION ARE OUT-TO-OUT OF BARS UNLESS OTHERWISE NOTED. DIMENSIONS RELATING TO REINFORCING STEEL SPACING ARE CENTER TO CENTER OF BAR. THE MINIMUM COVERING FROM THE SURFACE OF THE CONCRETE TO THE FACE OF ANY DEFORMED REINFORCING BAR SHALL BE 2" UNLESS OTHERWISE SHOWN. SEE STANDARD PLAN BD.1.2.1.0.01 (S.W.B.S. 100) FOR BAR SUPPORTS FOR REINFORCING STEEL. REINFORCING STEEL SHALL BE GRADE 60 STEEL. THE FIRST DIGIT OF THE REINFORCING BAR NUMBER INDICATES BAR SIZE.

BASIS OF DETOUR BRIDGE PAYMENT: ALL DETOUR BRIDGE MATERIALS INCLUDING GUARD RAIL AND BARRIER RAILING SHALL BE PAID FOR UNDER ITEM 817-01-00100 "TEMPORARY DETOUR BRIDGE (CONCRETE)".

DETOUR BRIDGE ERECTION DRAWINGS: THE BRIDGE DETOUR LENGTH, FINISH GRADE (F.G.) AND SUBSTRUCTURE LAYOUT IS SITE SPECIFIC. THE CONTRACTOR SHALL OBTAIN THE CURRENT FIELD GROUND LINE ALONG THE DETOUR CENTERLINE AND USE THE DETOUR AND PROFILE SHEET ALONG WITH THE DETOUR BRIDGE DETAILS PROVIDED TO DEVELOP ERECTION DRAWINGS. THE DRAWINGS SHALL INDICATE SPAN TYPE AND LENGTHS, BENT CAP ELEVATIONS, BENT HEIGHT AND BENT CASE, GROUND ELEVATIONS AT EACH BENT, PILE TYPE AND LENGTH, WATER ELEVATION AT THE TIME OF CONSTRUCTION, AND ANY OTHER DETAILS REQUIRED TO CONSTRUCT THE DETOUR BRIDGE. ALL DRAWINGS SHALL BE STAMPED AND SIGNED BY A LICENSED CIVIL ENGINEER IN THE STATE OF LOUISIANA AND SHALL BE SUBMITTED TO THE BRIDGE DESIGN ENGINEER FOR REVIEW IN ACCORDANCE WITH SECTION 801 OF THE LOUISIANA STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES.

ALTERNATE DESIGN: AT THE CONTRACTOR'S OPTION, A DETOUR BRIDGE ALTERNATE TO THE LADOTD SPECIAL DETAILS MAY BE SUBMITTED TO THE BRIDGE DESIGN ENGINEER FOR REVIEW. IF THE CONTRACTOR ELECTS TO SUBMIT REVISED PILE LENGTHS AND/OR PILE TYPES, THE ALTERNATE SHALL BE SUBMITTED TO THE GEOTECHNICAL ENGINEER FOR REVIEW. ANY ALTERNATE SHALL BE DESIGNED ACCORDING TO THE REFERENCED AASHTO DESIGN SPECIFICATIONS AND LIVE LOADS AS NOTED ON THIS SHEET. THE AS-DESIGNED RATINGS INCLUDING HL-93 INVENTORY, HL-93 OPERATING AND LADV-11 OPERATING SHALL ALSO BE INCLUDED WITH THE SUPERSTRUCTURE AND/OR SUBSTRUCTURE ALTERNATE SUBMITTAL. ALL DRAWINGS SHALL BE STAMPED AND SIGNED BY A LICENSED CIVIL ENGINEER IN THE STATE OF LOUISIANA. ALL SUBMITTALS SHALL BE IN ACCORDANCE WITH SECTION 801 OF THE LOUISIANA STANDARD SPECIFICATIONS FOR ROAD AND BRIDGES. LADOTD MAY APPROVE OR DISAPPROVE THE SUBMITTED DETOUR BRIDGE ALTERNATE AND/OR PILE ALTERNATE SOLELY AT LADOTD'S DISCRETION.

STRUCTURAL CONCRETE: ALL PRECAST CONCRETE SHALL BE CLASS "PI". EXPOSED EDGES SHALL HAVE A 3/4" CHAMFER, UNLESS OTHERWISE NOTED. ALL SURFACES SHALL RECEIVE A CLASS I ORDINARY SURFACE FINISH. UPON REMOVAL OF FORMS THE FINAL FINISH FOR THE PRECAST DECK UNITS SHALL BE A BROOM FINISH. THE BROOM SHALL BE DRAWN TRANSVERSELY WITH ADJACENT STROKES SLIGHTLY OVER-LAPPING. THE CORRUGATIONS SHALL BE UNIFORM AND NOT MORE THAN 1/4" IN DEPTH. A MECHANICAL BROOMING METHOD MAY BE USED IN LIEU OF THE MANUAL METHOD. THE METHOD, EQUIPMENT, AND FINAL FINISH SHALL MEET THE APPROVAL OF THE PROJECT ENGINEER.

STRUCTURAL METALWORK: HIGH STRENGTH BOLTS SHALL CONFORM TO ASTM DESIGNATION A325, UNLESS OTHERWISE NOTED. PRESTRESSED STRANDS SHALL CONFORM TO ASTM DESIGNATION A416, GRADE 270. PLATES, AND DRIFT BOLTS SHALL CONFORM TO ASTM DESIGNATION A709/AASHTO M270 GRADE 36. SWAY BRACING SHALL CONFORM TO ASTM DESIGNATION A709 GRADE 50. STEEL SPECIFIED TO BE ZINC COATED SHALL BE IN CONFORMANCE WITH ASTM DESIGNATION A123.

WELDING: ALL WELDING SHALL CONFORM TO SECTION 809 OF THE LOUISIANA STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES.

GROUT: THE GROUT SHALL BE AN APPROVED FLOWABLE NON-SHRINK GROUT LISTED ON THE A.M.L. THE GROUT SHALL BE TESTED FOR ACCEPTANCE PRIOR TO USAGE. THE GROUT SHALL ATTAIN A MINIMUM COMPRESSIVE STRENGTH OF 3.5 KSI PRIOR TO LOADING SLABS. SURFACES SHALL BE THOROUGHLY SATURATED WITH WATER BY FLOODING THE HOLES FOR APPROXIMATELY FIVE (5) MINUTES IMMEDIATELY BEFORE THE GROUT IS PLACED. ONLY POTABLE WATER SHALL BE USED FOR SATURATION AND MIXING PURPOSES.

PATCHING MATERIAL: THE PATCHING MATERIAL SHALL BE AN APPROVED PATCHING MATERIAL FOR PRECAST AND PRESTRESSED CONCRETE PRODUCTS FROM THE A.M.L. SURFACE PREPARATION, MIXING AND PLACEMENT SHALL BE IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS. ONLY POTABLE WATER SHALL BE USED FOR SATURATION AND MIXING PURPOSES.

PRECAST UNITS: FABRICATION FACILITIES SHALL BE APPROVED BY THE DEPARTMENT. EACH UNIT SHALL HAVE "LIVE LOAD HL-93", THE FABRICATORS MARK, AND A UNIQUE NUMBER, MEETING THE APPROVAL OF THE ENGINEER, STAMPED OR INSCRIBED IN THE PLASTIC CONCRETE. ALL UNITS SHALL BE HELD AT THE PLANT FOR A MINIMUM OF TEN (10) DAYS AFTER CASTING. THE CONCRETE SHALL REACH A MINIMUM STRENGTH OF 3 KSI BEFORE HANDLING IS PERMITTED. THE LIFTING INSERTS SHALL HAVE A MINIMUM CAPACITY OF 10 KIPS AND SHALL BE 1" TYPE "S" INSERTS AS MANUFACTURED BY DAYTON-SUPERIOR CORPORATION OR AN APPROVED EQUAL. FOUR (4) INSERTS WITH 1" DIAMETER BY 5" LONG COIL BOLTS SHALL BE PLACED IN THE TOP OF THE UNIT LOCATED 15" FROM ITS ENDS AND 12" FROM ITS EDGES. AT THE CONTRACTORS OPTION, A SLING OF SUFFICIENT CAPACITY MAY BE USED FOR LIFTING. PROVIDED THE SAME PICKUP LOCATION FROM THE ENDS ARE USED. FABRICATION TOLERANCES SHALL BE AS FOLLOWS:

UNIT DEPTH	- 1/2"
UNIT LENGTH	+ 1/4" - 5/8"
OVERALL SPAN WIDTH	+ 2"

STEEL PILING AND BRACING: STEEL PILES AND BRACING SHALL CONFORM TO SECTION 804, 807, AND 809.

H-PILE SIZE & SPEC. = HP 12x74 AND SHALL CONFORM TO AASHTO M270/ASTM A572 GRADE 50.

PIPE PILE SIZE:

O.D. & SPEC.= 12.75"Ø AND SHALL CONFORM TO ASTM A252 GRADE 2
MIN. WALL THICKNESS = 3/8"

TIMBER PILING AND STRUCTURAL TIMBER: TIMBER SHALL CONFORM TO SECTIONS 804 AND 817 OF THE STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES. STRUCTURAL TIMBER SHALL CONFORM TO SECTION 812.

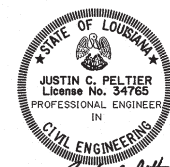
DEBRIS REMOVAL: THE CONTRACTOR SHALL BE REQUIRED TO REMOVE ANY DEBRIS WHICH MAY ACCUMULATE AT THE PILE BENTS OR WITHIN THE SWAY BRACING. IT IS THE CONTRACTORS RESPONSIBILITY TO REMOVE OBSTRUCTIONS OF THIS NATURE AS WELL AS ANY OTHER OBSTRUCTIONS THAT MAY OCCUR AT THE PROJECT SITE AT ALL TIMES. THE CONTRACTOR SHALL NOT BE RELIEVED OF THIS OBLIGATION UNTIL THE DETOUR BRIDGE IS REMOVED. DEBRIS REMOVAL SHALL BE PAID FOR UNDER ITEM NO. 817-01-00100, "TEMPORARY DETOUR BRIDGE (CONCRETE)".

SCOUR: SCOUR CONSIDERATION IS LIMITED TO THE BENTS IN THE CHANNEL, AS DETERMINED BY THE BRIDGE ENGINEER OR PROJECT ENGINEER, AND ONLY LOCAL SCOUR SHALL APPLY. LOCAL SCOUR IS CALCULATED ACCORDING TO FHWA HEC-18, "EVALUATING SCOUR AT BRIDGES". THE PREDICTED SCOUR ELEVATION FOR EACH BENT IS DETERMINED BY SUBTRACTING THE LOCAL SCOUR DEPTH FROM THE EXISTING GROUND ELEVATION AT EACH BENT. 5'-0" OF LOCAL SCOUR WAS USED IN THE FLEXURAL DESIGN OF THE PILES FOR EACH BENT CASE. UNLESS AN ADDITIONAL SCOUR ANALYSIS IS PERFORMED FOR THE DETOUR STRUCTURE, THE LOCAL SCOUR DEPTH SHOWN IN THE HYDRAULIC DATA TABLE FOR THE PERMANENT STRUCTURE SHALL BE USED AS A MINIMUM FOR THE DETERMINATION OF PILE LENGTHS AND/OR PILE TYPES USED IN AN ALTERNATE DETOUR BRIDGE SUBMITTAL.

AS-DESIGNED BRIDGE RATING: THE MOST CRITICAL AS-DESIGNED BRIDGE RATING IS SHOWN IN THE BRIDGE RATING TABLE. FOR ADDITIONAL RATING INFORMATION, SEE THE AS-DESIGNED BRIDGE RATING REPORT.

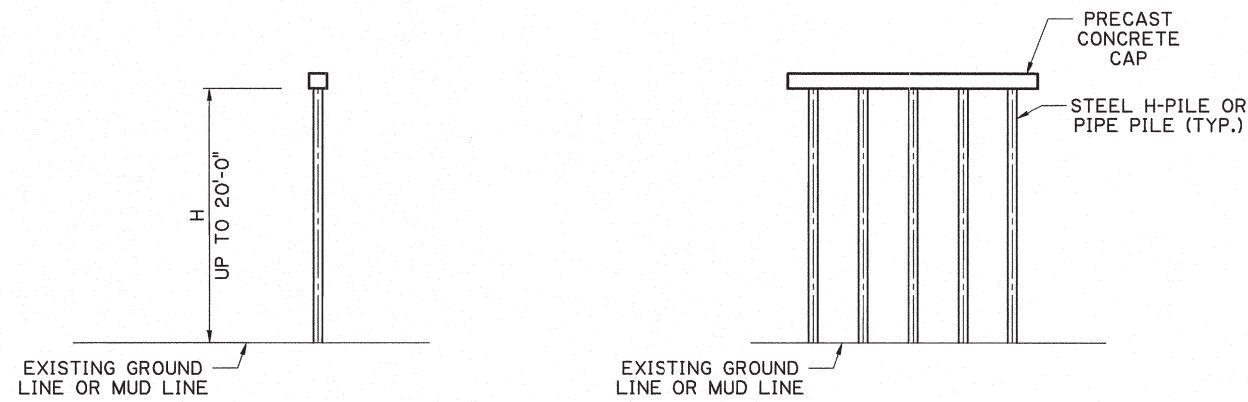
SHEET	BRIDGE STANDARD INDEX NO.	DESCRIPTION
1 OF 16	BD.2.8.1.0.01	BRIDGE INDEX AND GENERAL NOTES
2 OF 16	BD.2.8.1.0.02	BRIDGE GENERAL PLAN
3 OF 16	BD.2.8.1.0.03	BENT CONFIGURATION AND PILE LOADS
4 OF 16	BD.2.8.1.0.04	PRODUCTION PILE DATA TABLE
5 OF 16	BD.2.8.1.0.05	SWAY BRACING DETAILS
6 OF 16	BD.2.8.1.0.06	SWAY BRACING DETAILS
7 OF 16	BD.2.8.1.0.07	END BENT TYPE "A" AND INTERMEDIATE BENT DETAILS
8 OF 16	BD.2.8.1.0.08	END BENT TYPE "A" AND INTERMEDIATE BENT DETAILS
9 OF 16	BD.2.8.1.0.09	END BENT TYPE "B" DETAILS
10 OF 16	BD.2.8.1.0.10	END BENT TYPE "B" DETAILS
11 OF 16	BD.2.8.1.0.11	END BENT TYPE "B" DETAILS
12 OF 16	BD.2.8.1.0.12	ANCHOR BENT DETAILS
13 OF 16	BD.2.8.1.0.13	ANCHOR BENT DETAILS
14 OF 16	BD.2.8.1.0.14	PRECAST CONCRETE DECK PANEL DETAILS
15 OF 16	BD.2.8.1.0.15	PRECAST CONCRETE DECK PANEL DETAILS
16 OF 16	BD.2.8.1.0.16	GUARD RAIL DETAILS

VEHICLE	SUPERSTRUCTURE	SUBSTRUCTURE	NOTES
HL-93 (INV)	1.21	1.44	
HL-93 (OPR)	1.57	1.86	
LADV-11 (OPR)	1.21	1.44	MAGNIFICATION FACTOR = 1.30

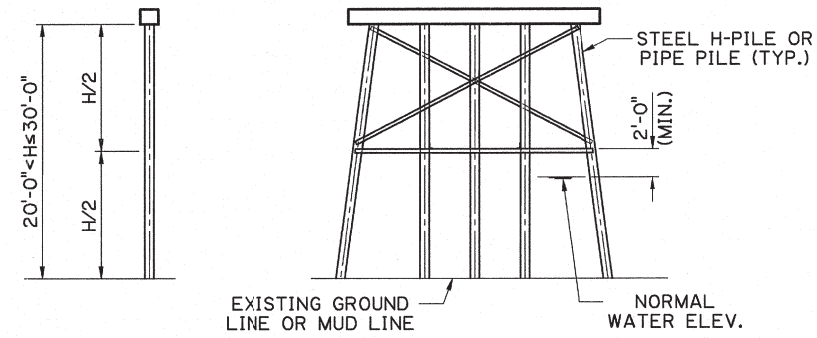


Justin C. Peltier
2/25/2012

SHEET NUMBER									
DESIGNED	CHECKED	RETAILED	CHECKED	REVIEWED	SERIES #	OF	DATE	NO.	BY
J. PELTIER	M. HEBERT	J. PELTIER	M. HEBERT	P. VAUGHN	1	16	03-01-17	0	K.M.B.
PARISH CONTROL STATE PROJECT									
BRIDGE INDEX AND GENERAL NOTES									
BD.2.8.1.0.01 PRECAST PANEL DETOUR BRIDGE									
BRIDGE & STRUCTURAL DESIGN									

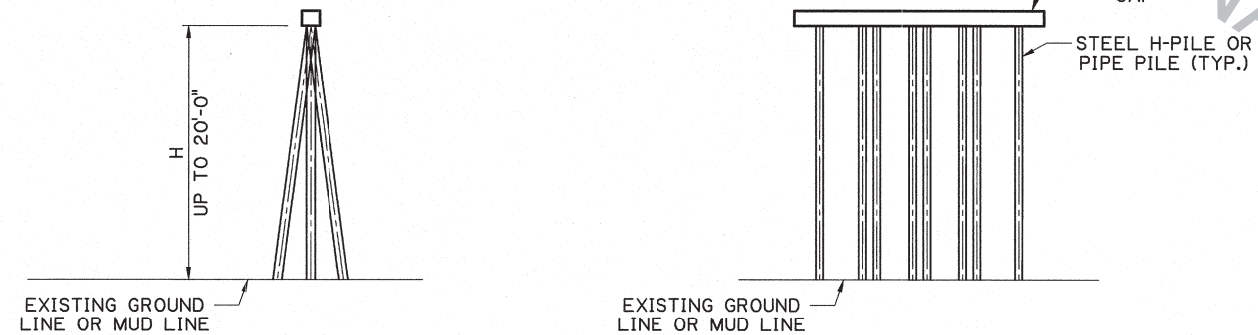


CASE 1 *
(SINGLE ROW BENT)

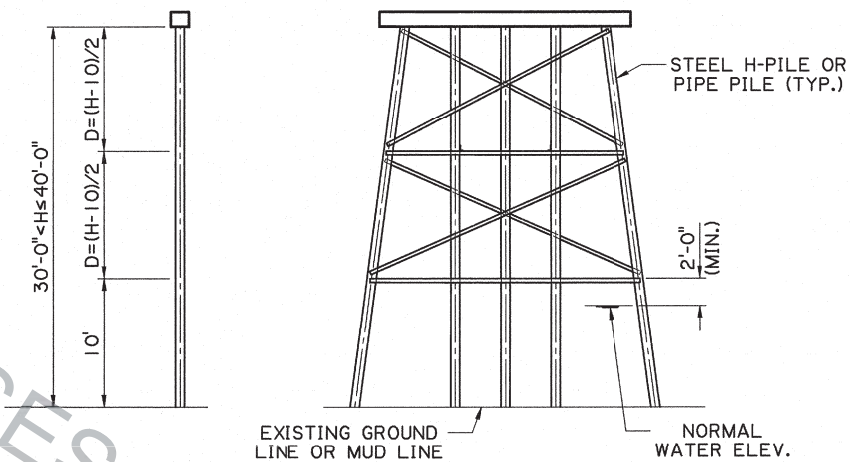


CASE 3

* FOR BENT CASES 1 AND 2 BATTER EXTERIOR PILES 1/2 ON 12 WHEN "H" > 12'-0"



CASE 2 *
(ANCHOR BENT)



CASE 4

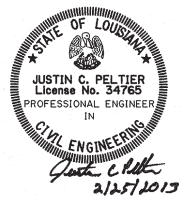
NOTES:

THE PURPOSE OF THE TWO FEET MINIMUM CLEARANCE ABOVE THE NORMAL WATER LEVEL IS TO ALLOW THE PASSAGE OF DEBRIS UNDERNEATH THE HORIZONTAL AND SWAY BRACING. IN THE EVENT OF A FLOOD, THE WATER LEVEL MAY RISE ABOVE THE LOWEST MEMBER OF THE HORIZONTAL AND SWAY BRACING.

IF THE EXISTING WATER LEVEL ELEVATION CONFLICTS WITH THE SELECTED BRACING ALTERNATE, THEN THE CONTRACTOR MAY PROPOSE REVISIONS TO THE BRACING AND PILE MEMBERS TO THE BRIDGE ENGINEER FOR REVIEW.

"H" DOES NOT INCLUDE THE DEPTH OF SCOUR.

BENT CASE	PILE LOADS		
	LOAD (TONS)		
	SERVICE PERMANENT LOAD	SERVICE TRANSIENT LOAD	STRENGTH (COMPRESSION)
1	9	16	38
2	6	33	65
3	9	16	38
4	9	16	38



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SHEET NUMBER		PARISH	CONTROL SECTION	STATE PROJECT	
DESIGNED	J. PELTIER	CHECKED	M. HEBERT	REVIEWED	P. VAUGHT
Detailed	J. PELTIER	CHECKED	M. HEBERT	REVIEWED	P. VAUGHT
SERIES #	3 OF 16				
NO.					
DATE					
REVISION OR CHANGE ORDER DESCRIPTION					
BY					

STATE OF LOUISIANA

BRIDGE & STRUCTURAL DESIGN

BENT CONFIGURATION DETAILS AND PILE LOADS

BD.2.B.1.0.03 PRECAST PANEL DETOUR BRIDGE

FOR INFORMATIONAL PURPOSES ONLY

PRODUCTION PILE DATA TABLE				
BENT CASE	PILE TYPE & SIZE	SOIL RESISTANCE FACTOR (ϕ)		MINIMUM PILE EMBEDMENT LENGTH
		SERVICE	STRENGTH (COMPRESSION)	
1	12"Ø STEEL PIPE			
1	HP 12x74			
2	12"Ø STEEL PIPE			
2	HP 12x74			
3	12"Ø STEEL PIPE			
3	HP 12x74			
4	12"Ø STEEL PIPE			
4	HP 12x74			

NOTES:


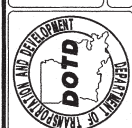
SEE BENT CONFIGURATION DETAILS AND PILE LOADS SHEET FOR PILE LOADS.

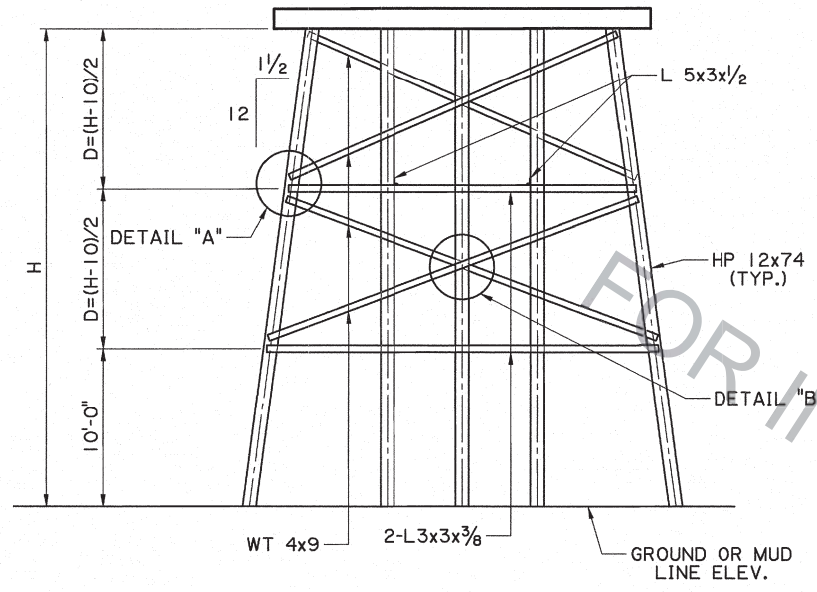
SEE GENERAL NOTES SHEET FOR PILE SPECIFICATIONS.

DETERMINATION OF PILE BEARING CAPACITY: THE PILE BEARING CAPACITY DETERMINATION SHALL BE MADE BY THE USE OF THE DYNAMIC EQUATION.

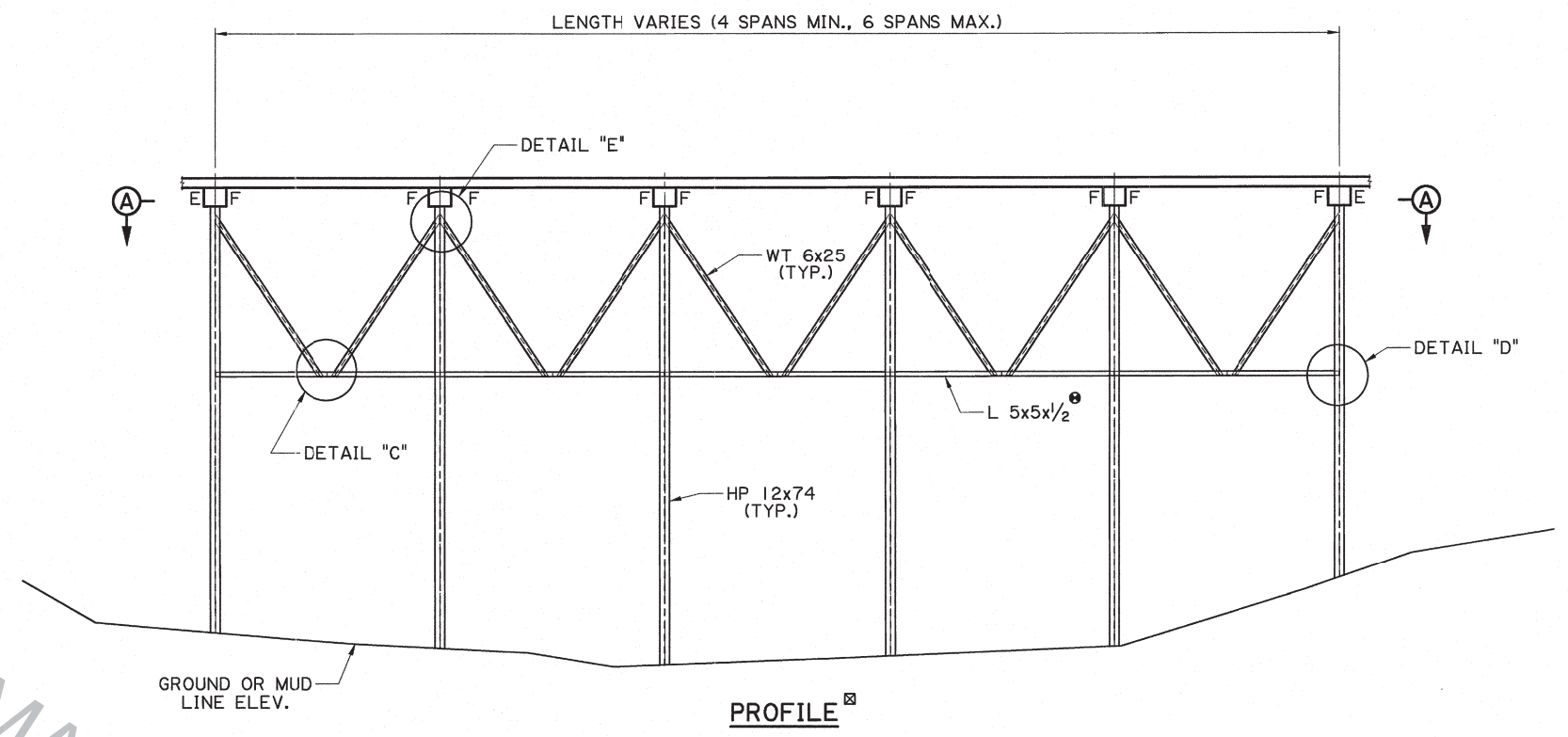
MINIMUM PILE EMBEDMENT DEPTH: THIS IS THE MINIMUM PILE PENETRATION BELOW THE SURVEYED OR EXISTING GROUND SURFACE (WHICHEVER IS LOWER) REQUIRED TO RESIST THE APPLIED LOADS.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE MINIMUM TIMBER PILE EMBEDMENT LENGTHS FOR THE BULKHEAD.

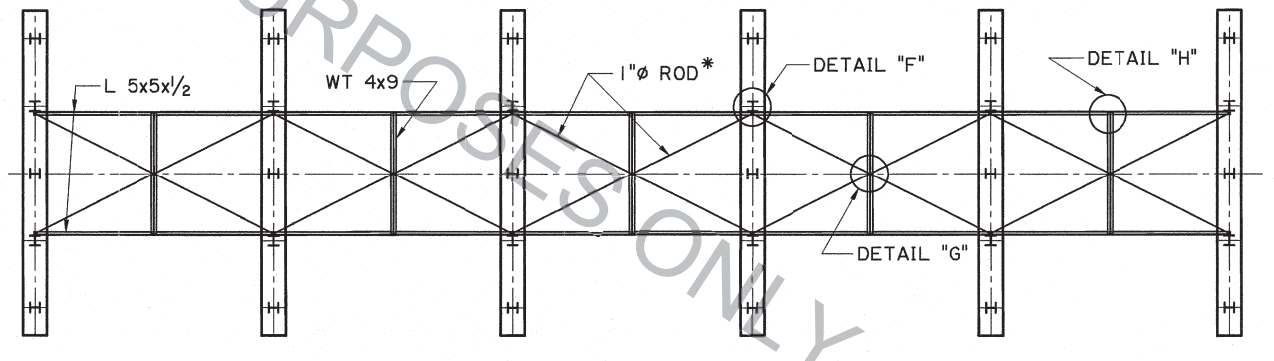
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DESIGNED		CHECKED		REVIEWED		SERIES #	4	OF	16
REVISION OR CHANGE ORDER DESCRIPTION		NO.		DATE		BY			
									
PRODUCTION PILE DATA TABLE BD.2.B.1.0.04 PRECAST PANEL DETOUR BRIDGE									
									
BRIDGE & STRUCTURAL DESIGN									



TYPICAL SECTION ☒
CASE 4 SHOWN



PROFILE ☒

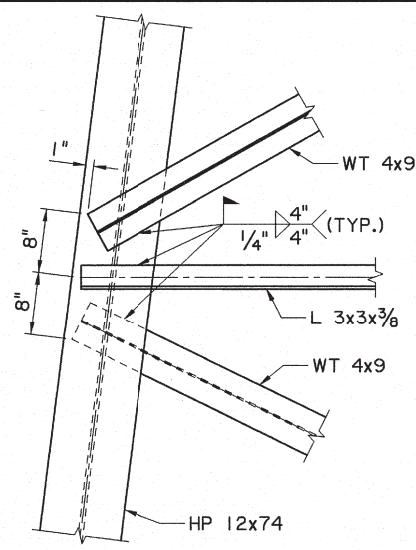


SECTION A-A ☒

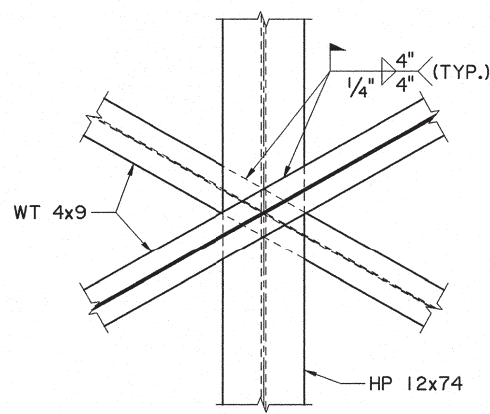
- NOTES:
- ☒ REPLACE STEEL H-PILES WITH STEEL PIPE PILES, WHEN PIPE PILES ARE USED.
 - * NO. 8 BARS MAY BE USED IN LIEU OF 1" #64 ROD.
 - IF A BUTT SPLICE IS REQUIRED, IT SHALL BE LOCATED AT A PILE.



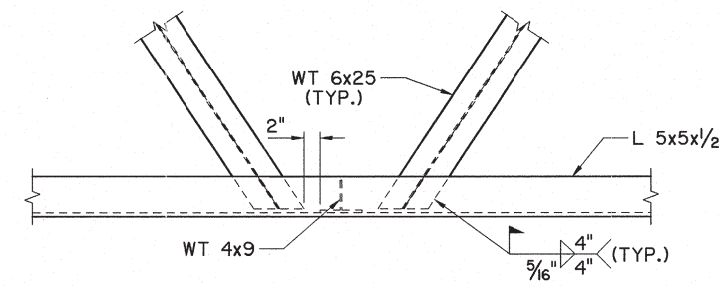
SHEET NUMBER	
DESIGNED	J. PELTIER
CHECKED	M. HEBERT
REVIEWED	P. VAUGHN
DATE	2/25/2015
PROJECT	BRIDGE 8 STRUCTURAL DESIGN
STATE	LOUISIANA
SECTION	SWAY BRACING DETAILS
PARISH	ORLEANS
CONTROL	SECTION
REVISION OR CHANGE ORDER DESCRIPTION	NO. DATE
BY	
BD.2.B.1.0.05 PRECAST PANEL DETOUR BRIDGE	
DOTD	
BRIDGE 8 STRUCTURAL DESIGN	



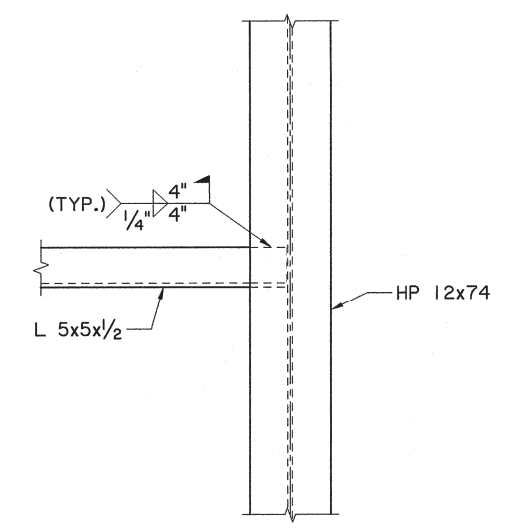
DETAIL "A"



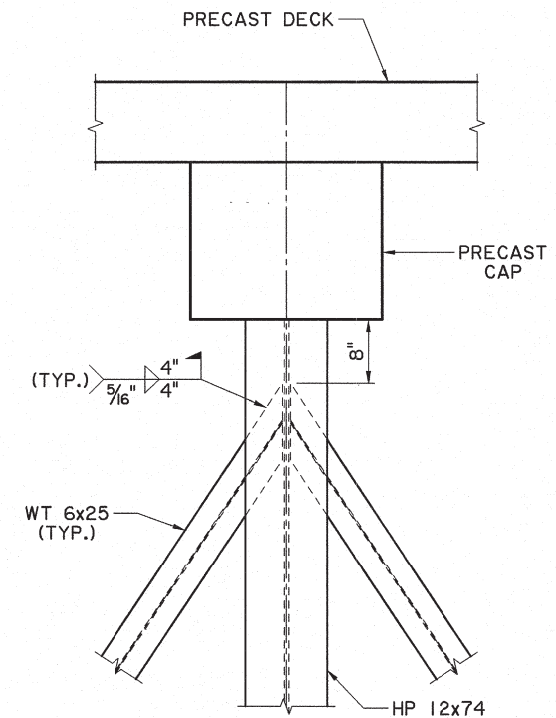
DETAIL "B"



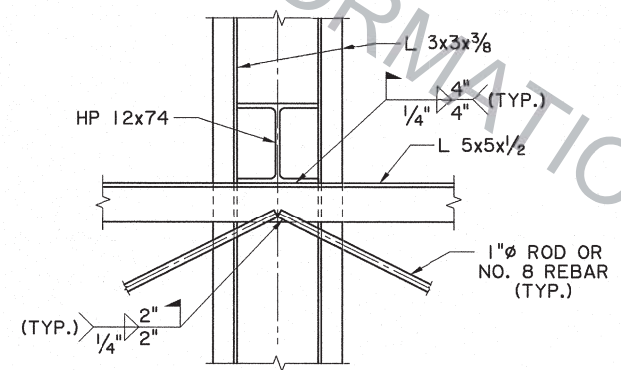
DETAIL "C"



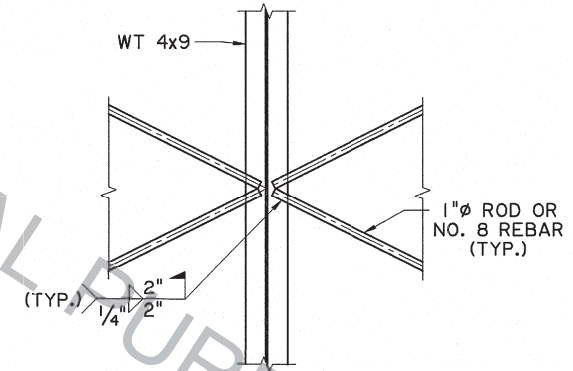
DETAIL "D"



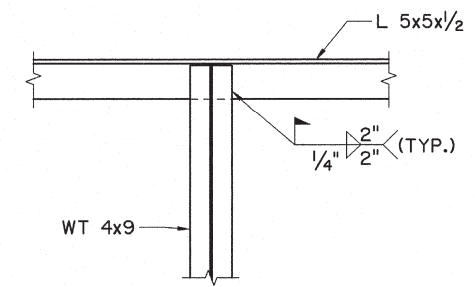
DETAIL "E"



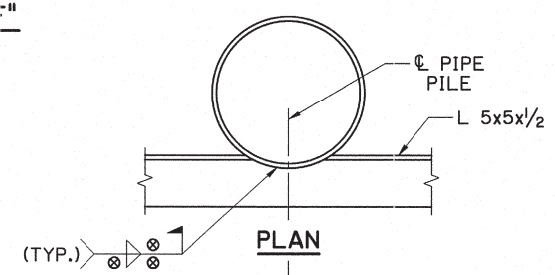
DETAIL "F"



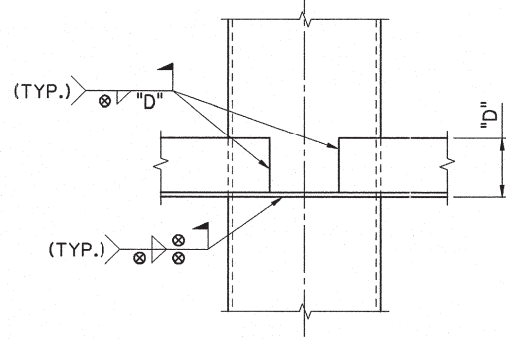
DETAIL "G"



DETAIL "H"



PLAN



ELEVATION

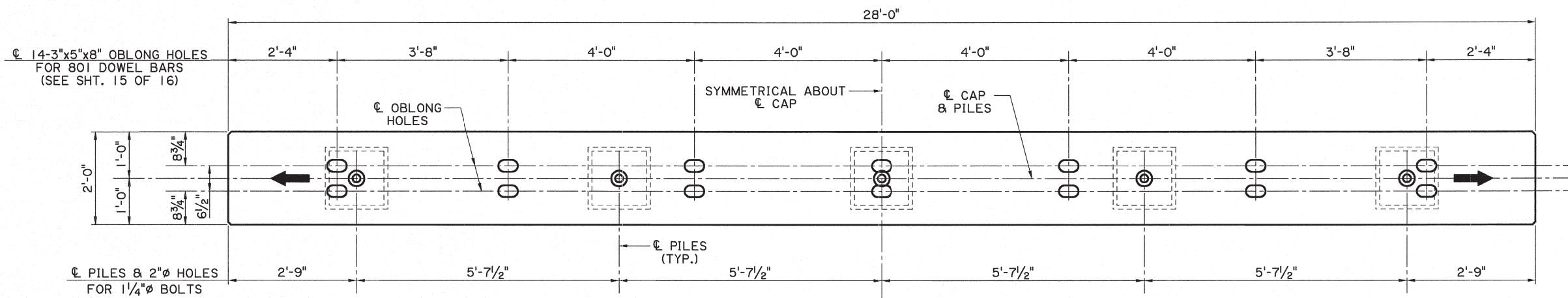
EXAMPLE DETAIL
CONNECTION OF ANGLE MEMBER
TO PIPE PILE

⊗ WHEN PIPE PILES ARE USED IN LIEU OF H-PILES, THE "WT" AND ANGLE MEMBERS SHALL BE CUT SO THAT THEY FIT FLUSH WITH THE PILES PRIOR TO WELDING. THE MINIMUM WELD SIZE AND LENGTH FOR THE CONNECTION OF THESE MEMBERS TO THE PILES, SHALL BE AS DETAILED FOR THE H-PILE CONNECTIONS.



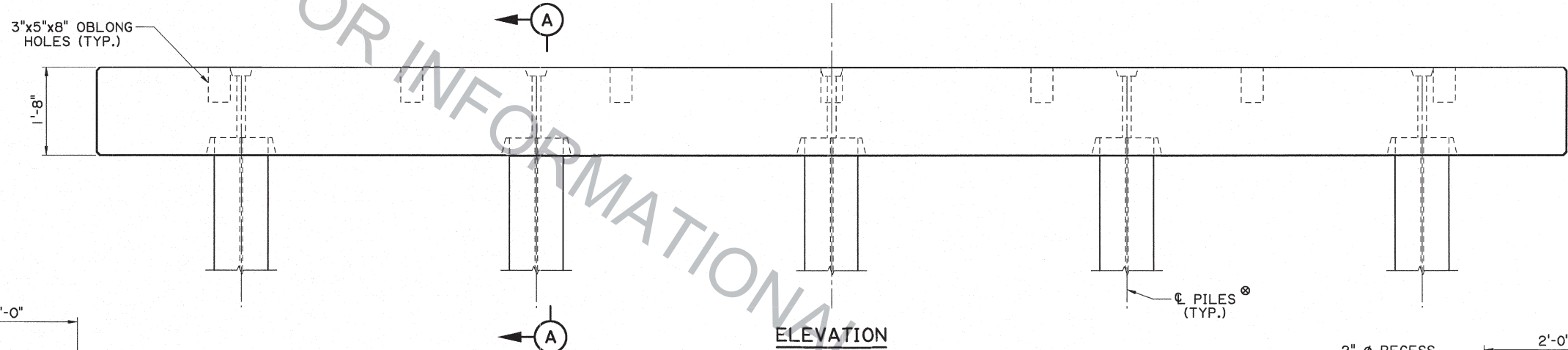
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SHEET NUMBER	PARISH	CONTROL SECTION	STATE	PROJECT
DESIGNED J. PELTIER	CHECKED M. HEBERT	DETAILER J. PELTIER	CHECKED M. HEBERT	REVIEWED P. VAUGHT
SERIES # 6 OF 16				
NO.	DATE	REVISION OR CHANGE ORDER DESCRIPTION	BY	
SWAY BRACING DETAILS				
BD.2.B.1.0.06 PRECAST PANEL DETOUR BRIDGE				
BRIDGE & STRUCTURAL DESIGN				

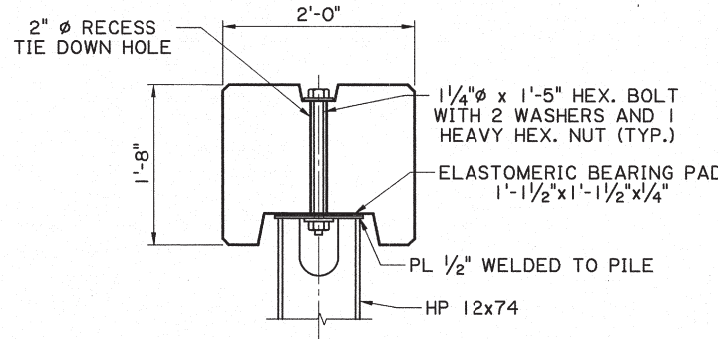


PLAN

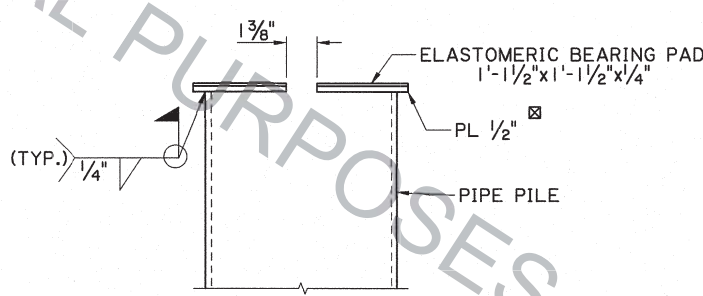
⊗ BATTER EXTERIOR PILES 1/2 ON 12 IN THE DIRECTION SHOWN WHEN "H" > 12'-0".



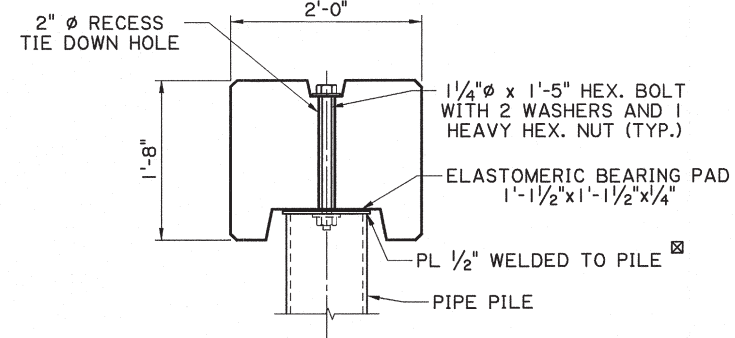
ELEVATION



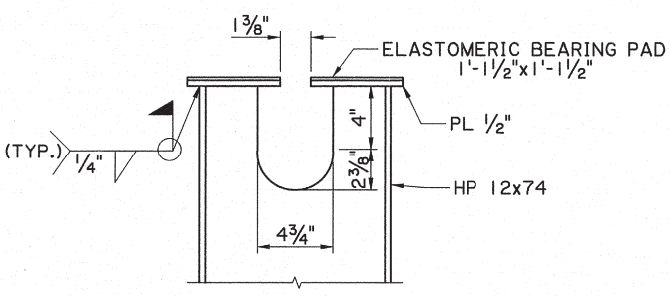
SECTION A-A
H-PILE



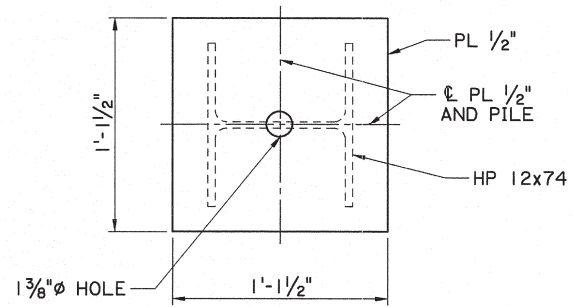
CONNECTION DETAIL
ELEVATION VIEW THROUGH CAP
SHOWING PILE TO PLATE CONNECTION
(PIPE PILE)



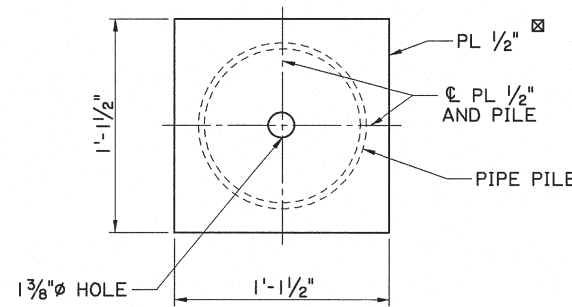
SECTION A-A
PIPE PILE



CONNECTION DETAIL
ELEVATION VIEW THROUGH CAP
SHOWING CUT-OUT DIMENSIONS (H-PILE)

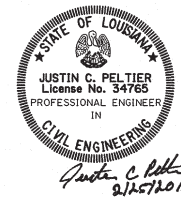


CONNECTION DETAIL
PLAN VIEW SHOWING
PLATE DIMENSIONS (H-PILE)

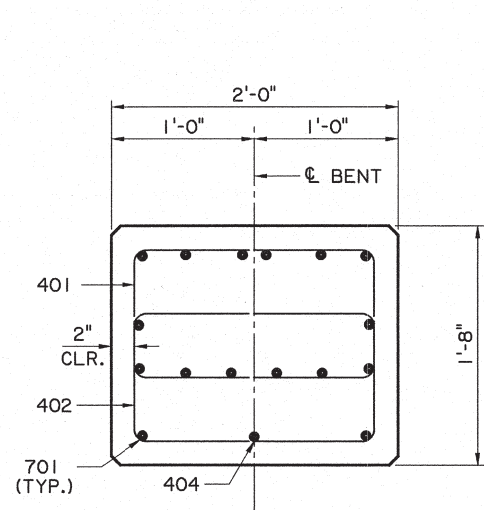


CONNECTION DETAIL
PLAN VIEW SHOWING
PLATE DIMENSIONS (PIPE PILE)

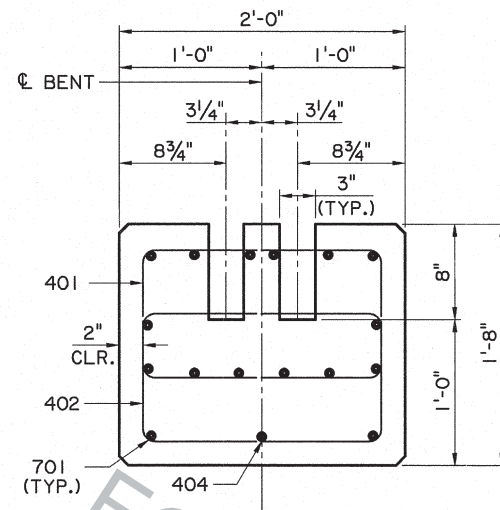
⊗ THE PL 1/2" AND THE ELASTOMERIC BEARING PAD SHALL BE BOLTED TO THE CAP PRIOR TO PLACEMENT OF THE CAP ON TOP OF THE PIPE PILES. ONCE THE CAP IS PLACED ON TOP OF THE PILES, THE PLATES SHALL BE WELDED TO THE PILES.



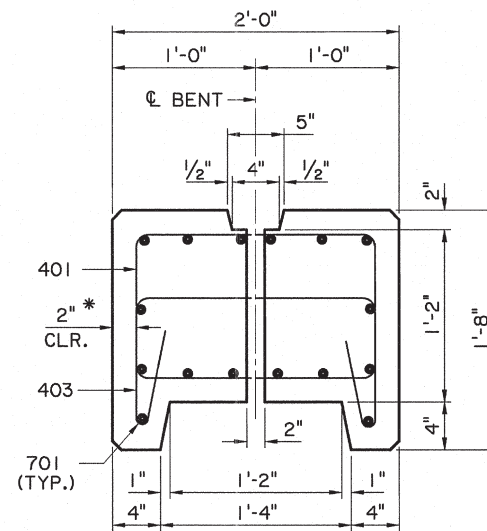
SHEET NUMBER		PARISH		CONTROL SECTION		STATE PROJECT	
DESIGNED	J. PELTIER	CHECKED	M. HEBERT	REVIEWED	P. VAUGHT	SERIES #	7 OF 16
DATE	03-01-17	NO.		REVISION OR CHANGE	DESCRIPTION	BY	K.M.B.
CORRECTED SPELLING							
END BENT TYPE "A" AND INTERMEDIATE BENT DETAILS							
BD.2.B.1.0.07 PRECAST PANEL DETOUR BRIDGE							
BRIDGE & STRUCTURAL DESIGN							



SECTION B-B

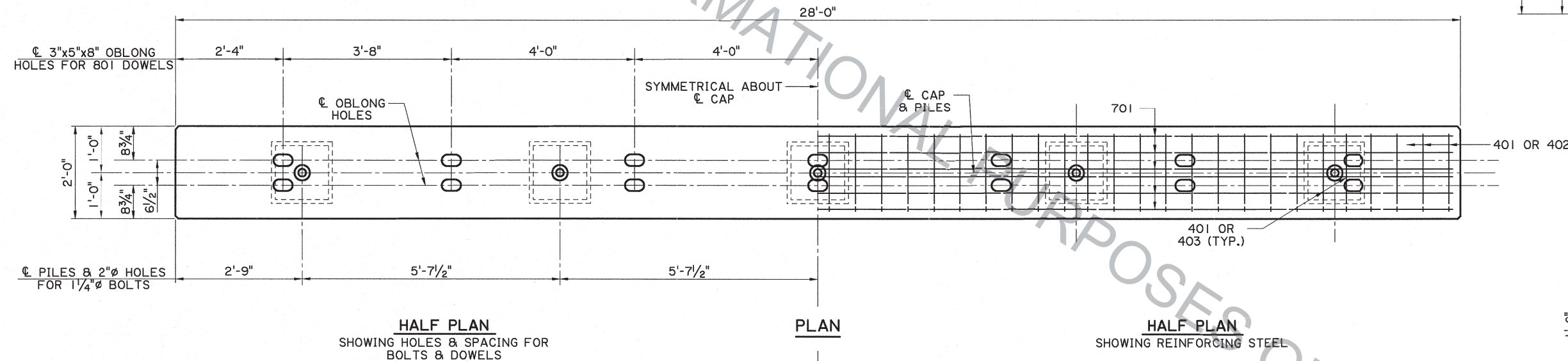


SECTION C-C



SECTION D-D

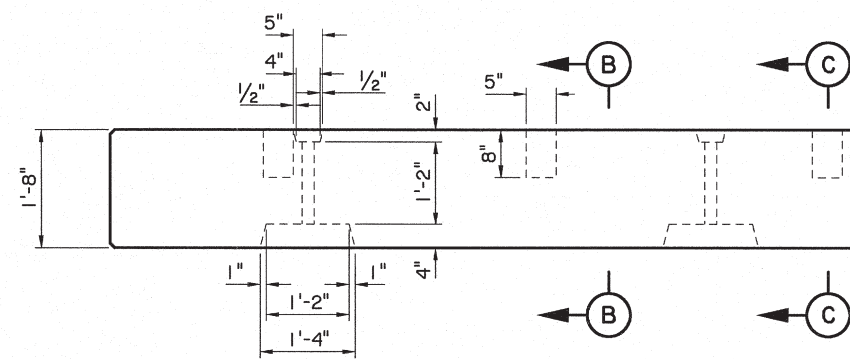
* 1" CLEAR FOR 403 BARS



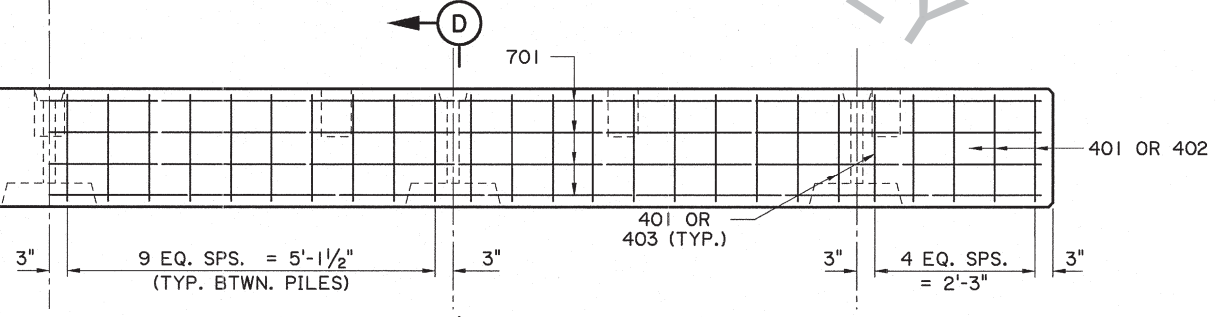
HALF PLAN SHOWING HOLES & SPACING FOR BOLTS & DOWELS

PLAN

HALF PLAN SHOWING REINFORCING STEEL

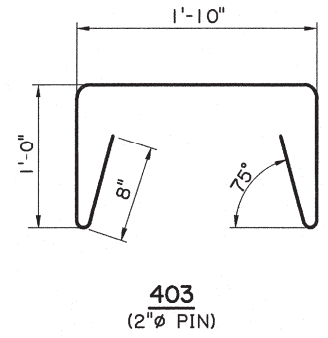
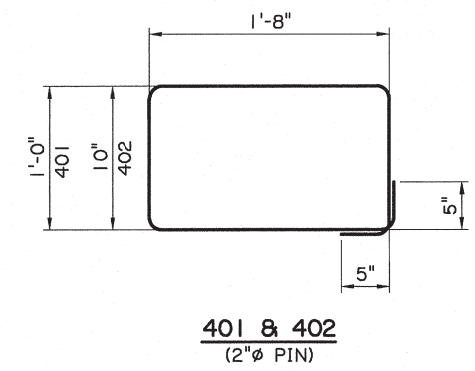


HALF ELEVATION SHOWING HOLES & SPACING FOR BOLTS & DOWELS



HALF ELEVATION SHOWING REINFORCING STEEL

ESTIMATED QUANTITIES (ONE SINGLE ROW CAP)				
BAR	NO.	UNIT LENGTH	TOTAL LENGTH	LOCATION
701	16	27'-8"	442'-8"	LONGIT. IN CAP
TOTAL NO. 7 BARS = 442'-8" = 905 LBS.				
401	50	6'-2"	308'-4"	UPPER STIRRUPS
402	40	5'-10"	233'-4"	LOWER STIRRUPS
403	10	5'-2"	51'-8"	LOWER STIRRUPS ABOVE PILES
404	4	4'-3"	17'-3"	LONGIT. IN CAP BTWN. PILES
TOTAL NO. 4 BARS = 610'-7" = 408 LBS.				
TOTAL DEFORMED REINFORCING STEEL = 1313 LBS.				
TOTAL CLASS "PI" CONCRETE = 3.33 CU. YDS.				



DESIGNED: J. PELTIER
 CHECKED: M. HEBERT
 DETAILED: J. PELTIER
 CHECKED: M. HEBERT
 REVIEWED: P. VAUGHN
 SERIES #: 8 OF 16

PARISH CONTROL SECTION STATE PROJECT

DESIGNED FOR 2016 SPECIFICATIONS
 REVISION OR CHANGE ORDER DESCRIPTION

03-01-17 DATE

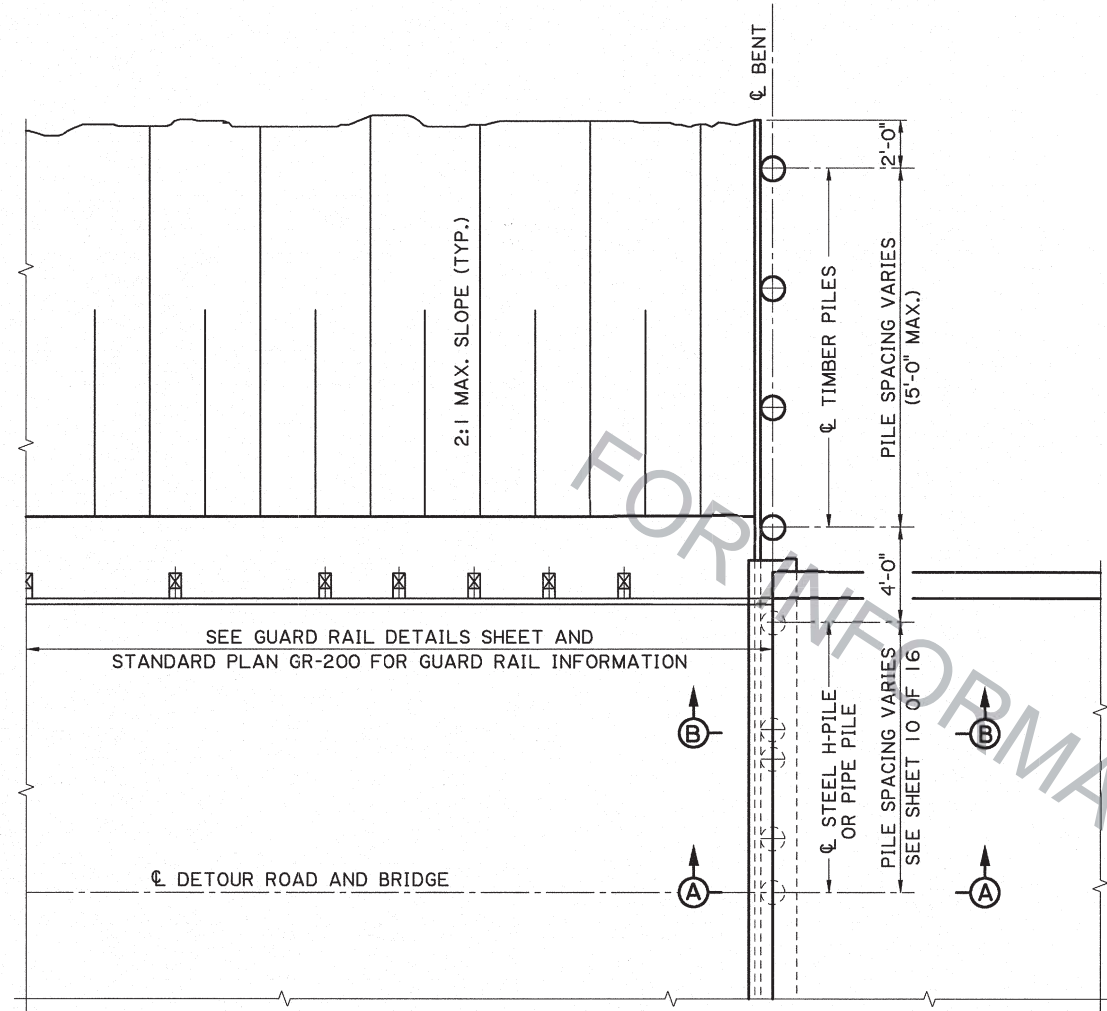
NO. 03-01-17

BY: K.M.B.

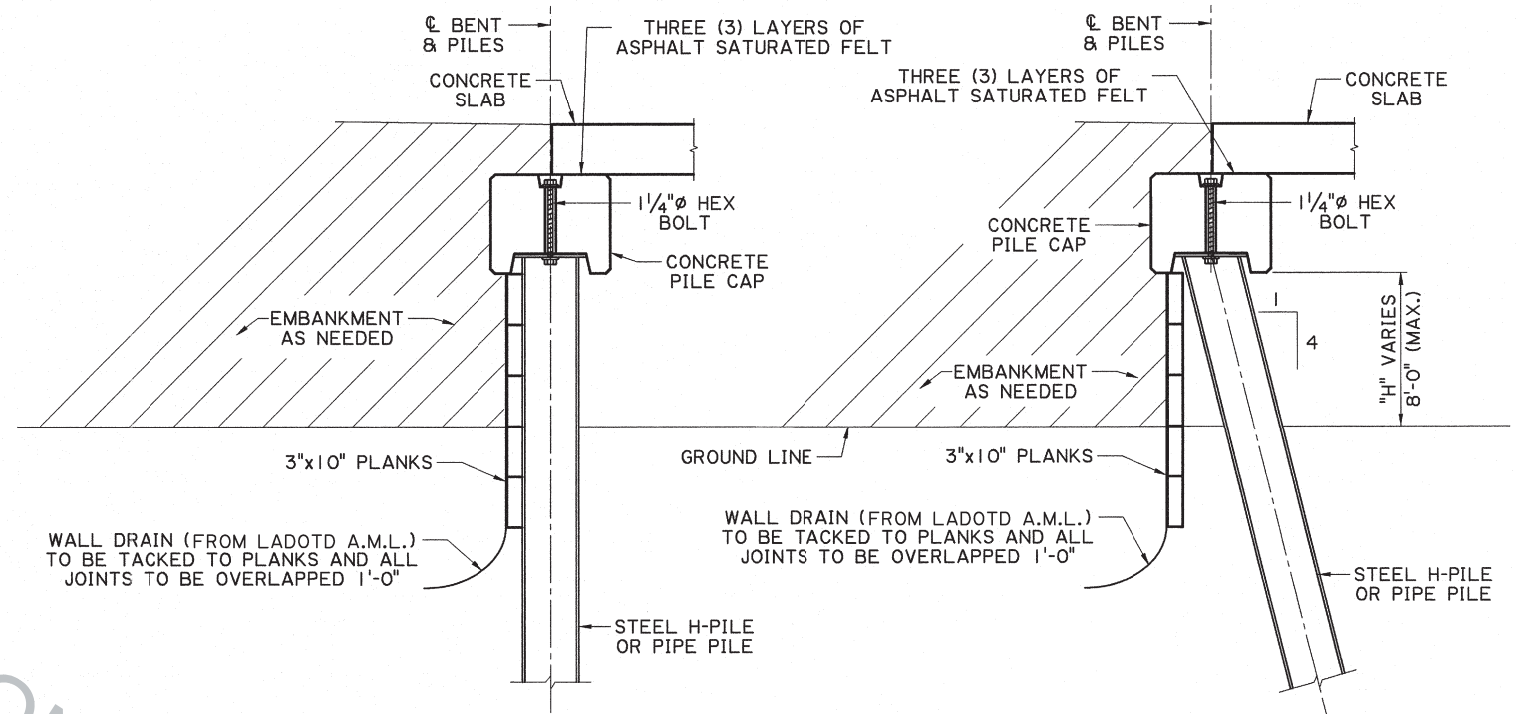
END BENT TYPE "A" AND INTERMEDIATE BENT DETAILS

BD.2-B.1.0.08 PRECAST PANEL DETOUR BRIDGE

BRIDGE & STRUCTURAL DESIGN

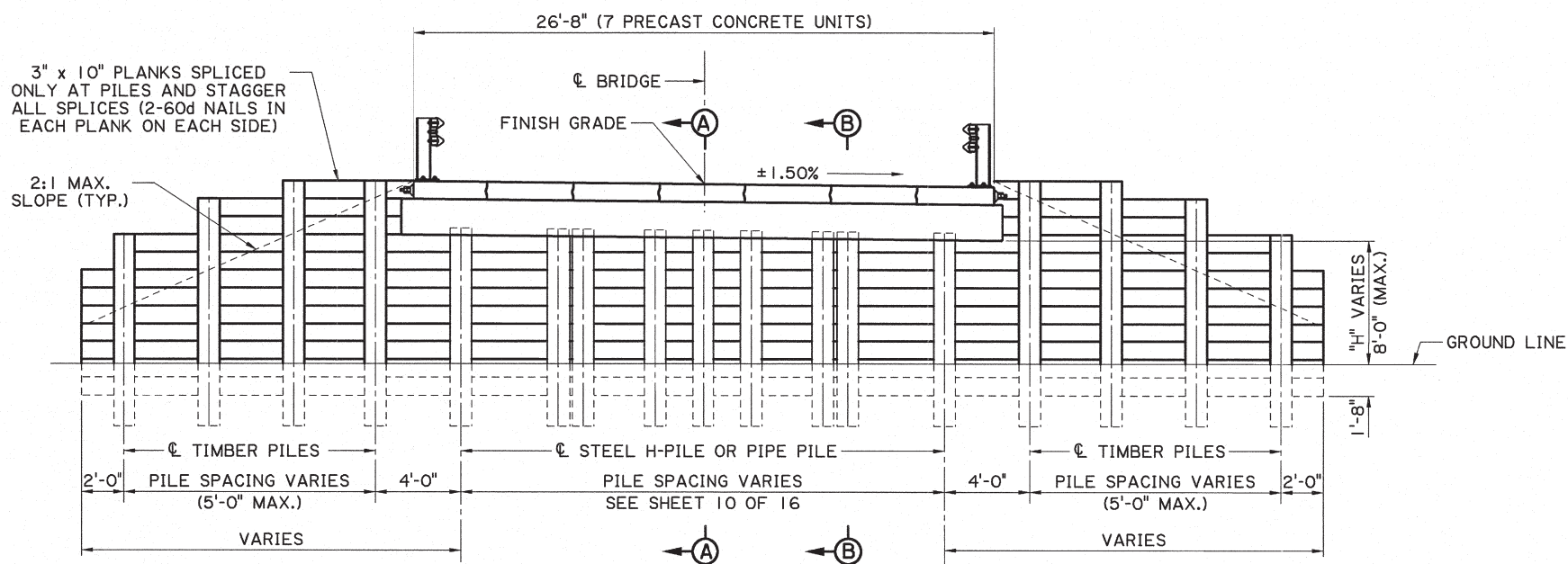


HALF PLAN



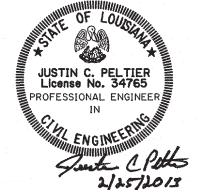
SECTION A-A

SECTION B-B

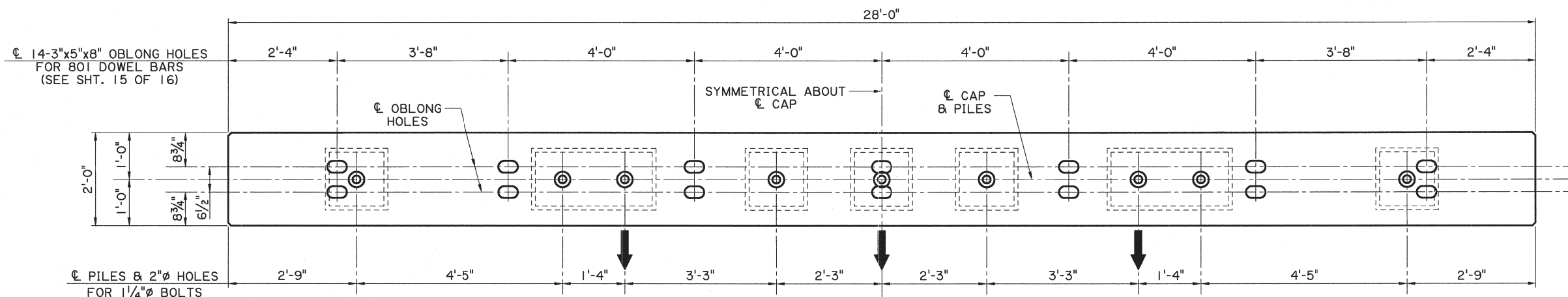


ELEVATION SHOWING BULKHEAD

FOR INFORMATIONAL PURPOSES ONLY

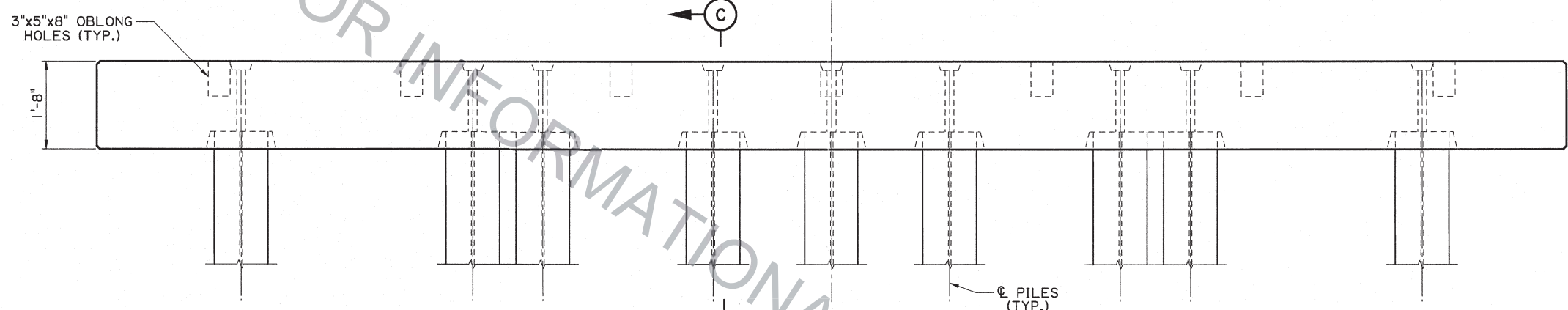


SHEET NUMBER	9 OF 16
DESIGNED	J. PELTIER
CHECKED	M. HEBERT
REVIEWED	P. VAUGHT
DATE	03-01-17
NO.	0
REVISION OR CHANGE ORDER DESCRIPTION	UPDATED FOR 2016 SPECIFICATIONS
BY	K.M.B.
PROJECT	BRIDGE & STRUCTURAL DESIGN
STATE	LOUISIANA
SECTION	END BENT TYPE "B" DETAILS
DESCRIPTION	BD.2.B.1.0.09 PRECAST PANEL DETOUR BRIDGE

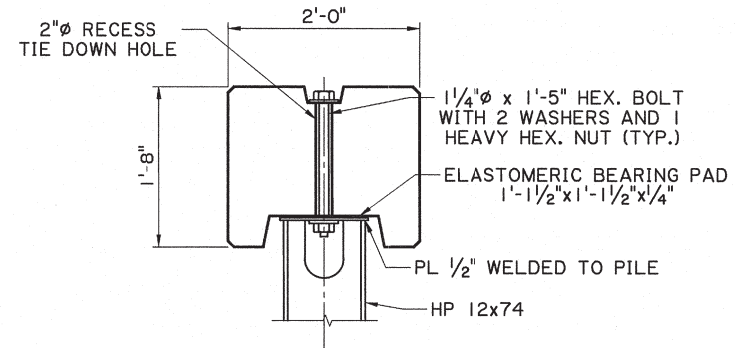


PLAN

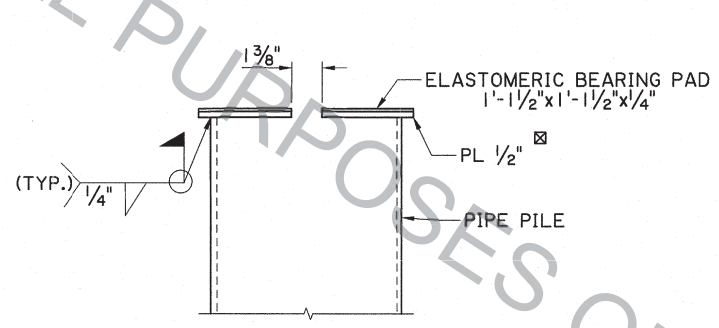
NOTE:
PILES ARE TO BE BATTERED 1 ON 4 AWAY FROM THE BULKHEAD AS SHOWN ON SHEET 9 OF 16, SECTION B-B.



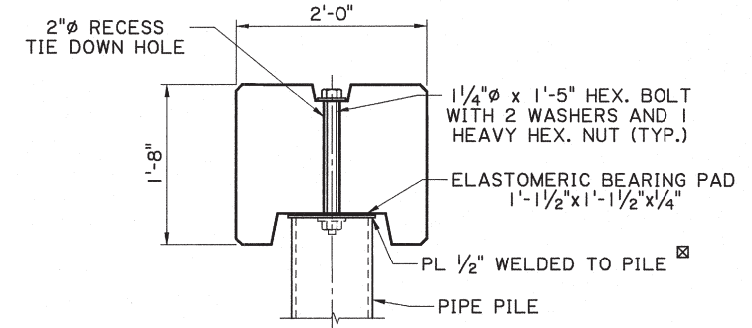
ELEVATION



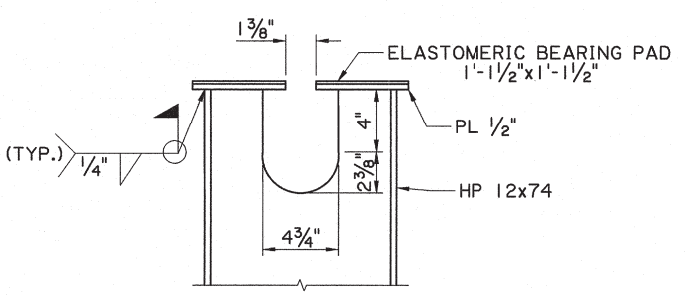
SECTION C-C
H-PILE



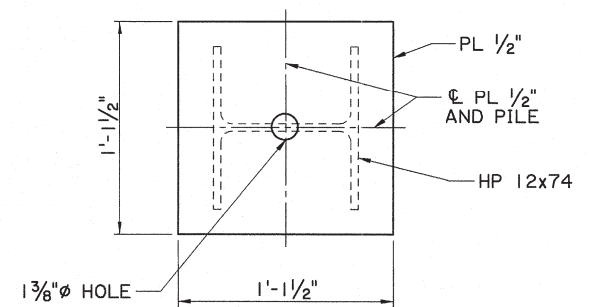
CONNECTION DETAIL
ELEVATION VIEW THROUGH C-C
SHOWING PILE TO PLATE CONNECTION
(PIPE PILE)



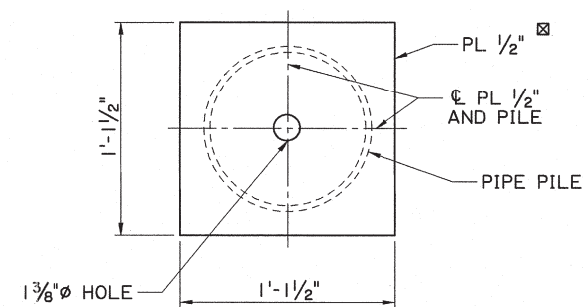
SECTION C-C
PIPE PILE



CONNECTION DETAIL
ELEVATION VIEW THROUGH C-C
SHOWING CUT-OUT DIMENSIONS (H-PILE)

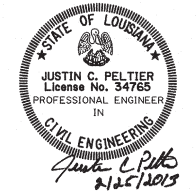


CONNECTION DETAIL
PLAN VIEW SHOWING
PLATE DIMENSIONS (H-PILE)

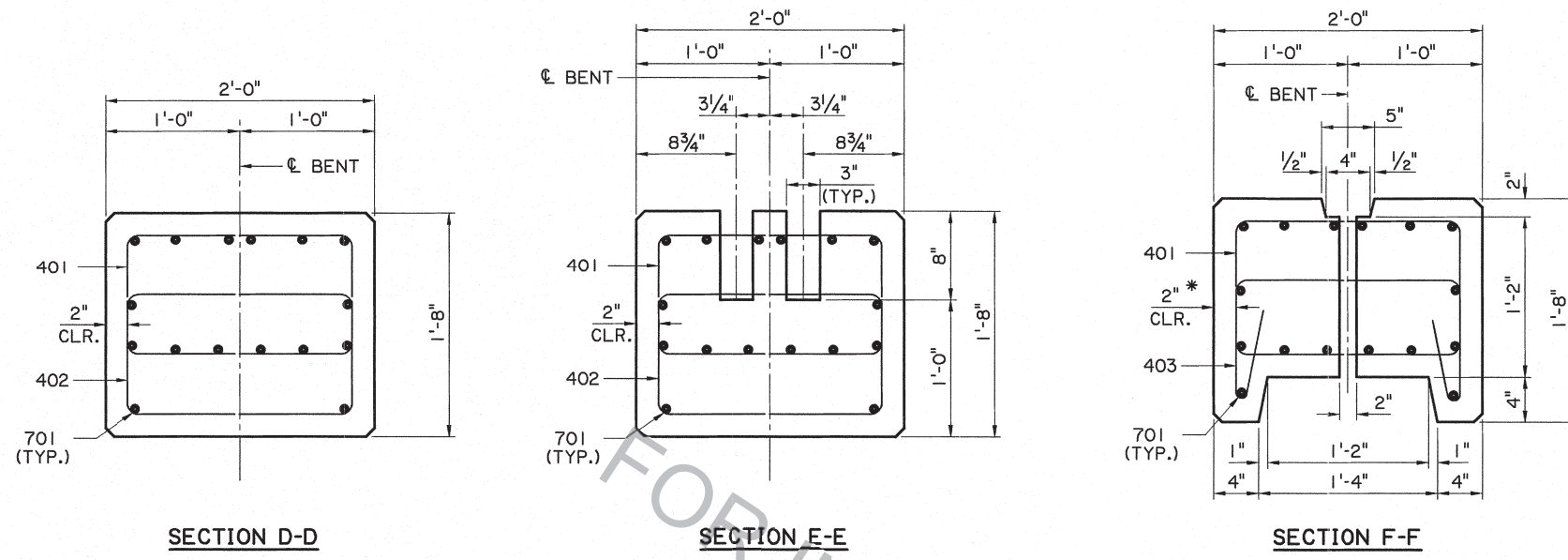


CONNECTION DETAIL
PLAN VIEW SHOWING
PLATE DIMENSIONS (PIPE PILE)

☒ THE PL 1/2" AND THE ELASTOMERIC BEARING PAD SHALL BE BOLTED TO THE CAP PRIOR TO THE PLACEMENT OF THE CAP ON TOP OF THE PIPE PILES. ONCE THE CAP IS PLACED ON TOP OF THE PILES, THE PLATES SHALL BE WELDED TO THE PILES.

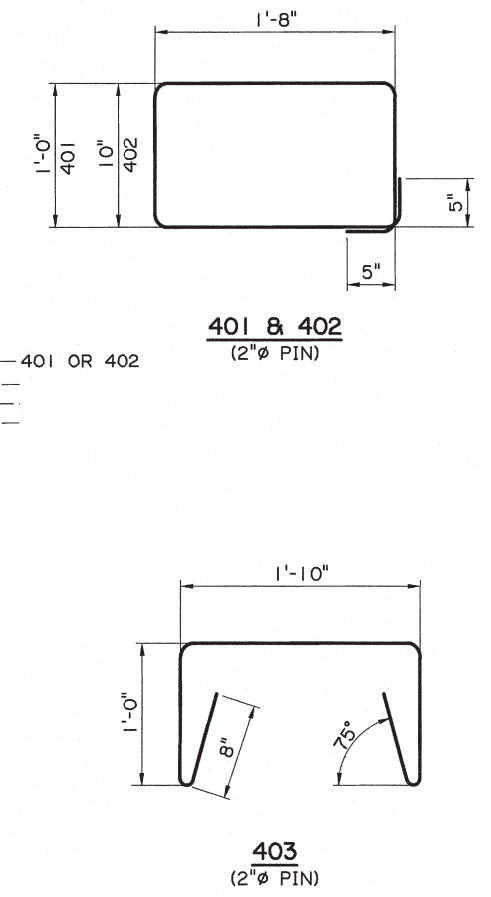
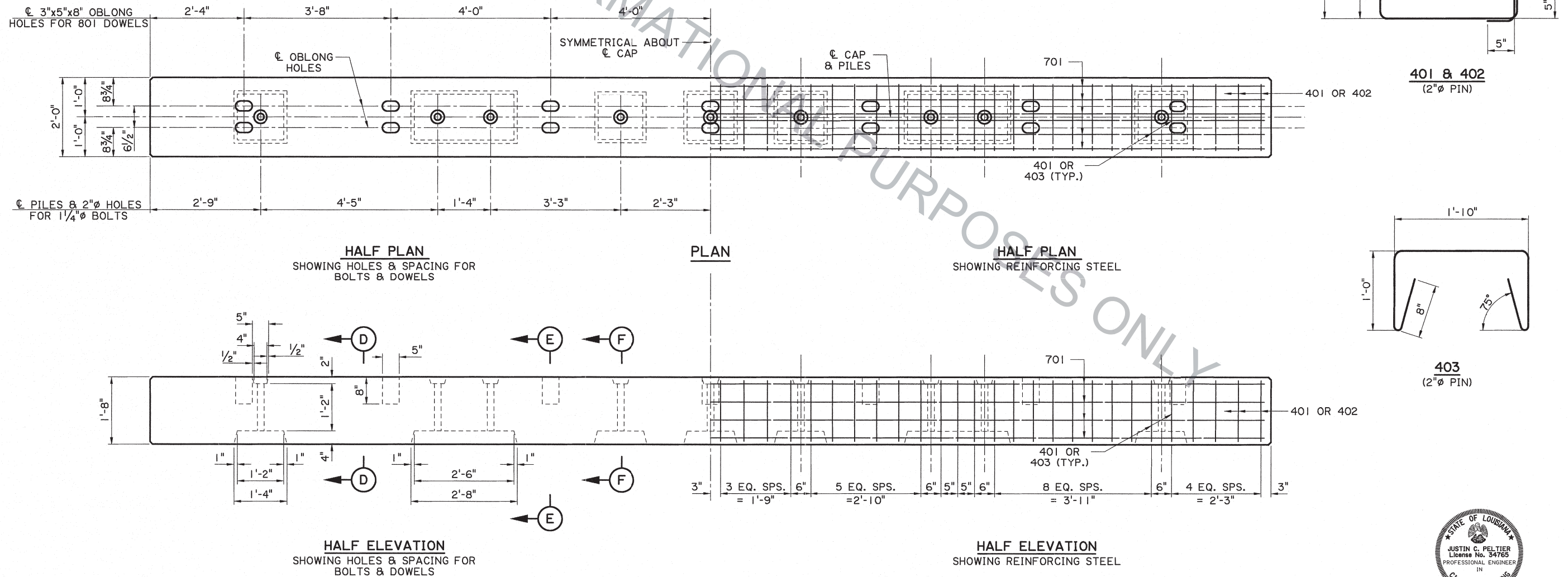


SHEET NUMBER	10 OF 16
DESIGNED	J. PELTIER
CHECKED	M. HEBERT
DATE	03-01-17
PROJECT	BRIDGE 8 STRUCTURAL DESIGN
REVISION OR CHANGE	CORRECTED SPELLING
BY	K.M.B.



* 1" CLEAR FOR 403 BARS

ESTIMATED QUANTITIES (ONE SINGLE ROW CAP)				
BAR	NO.	UNIT LENGTH	TOTAL LENGTH	LOCATION
701	16	27'-8"	442'-8"	LONGIT. IN CAP
TOTAL NO. 7 BARS = 442'-8" = 905 LBS.				
401	54	6'-2"	333'-0"	UPPER STIRRUPS
402	34	5'-10"	198'-4"	LOWER STIRRUPS
403	20	5'-2"	103'-4"	LOWER STIRRUPS ABOVE PILES
TOTAL NO. 4 BARS = 634'-8" = 424 LBS.				
TOTAL DEFORMED REINFORCING STEEL = 1329 LBS.				
TOTAL CLASS "PI" CONCRETE = 3.26 CU. YDS.				



SHEET NUMBER

DESIGNED BY: J. PELTIER
CHECKED BY: M. HEBERT
REVIEWED BY: P. VAUGHT

PARISH: [] CONTROL SECTION: [] STATE: [] PROJECT: []

DATE: 03-01-17

NO. 0

NO. 11 OF 16

BY: K.M.B.

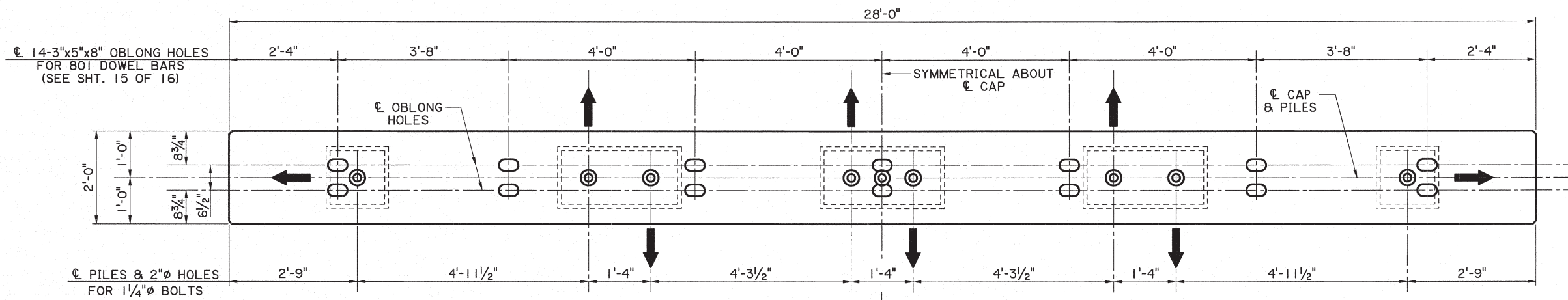
UPDATED FOR 2016 SPECIFICATIONS

REVISION OR CHANGE ORDER DESCRIPTION

END BENT TYPE "B" DETAILS

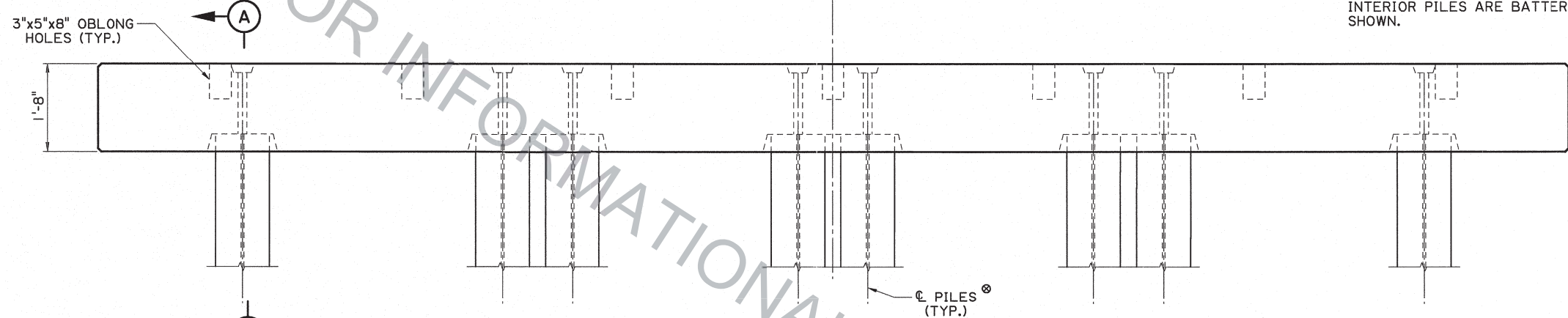
BD.2.B.1.O.11 PRECAST PANEL DETOUR BRIDGE

BRIDGE & STRUCTURAL DESIGN

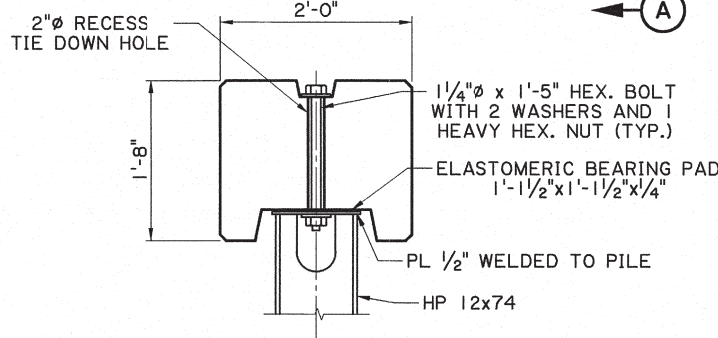


PLAN

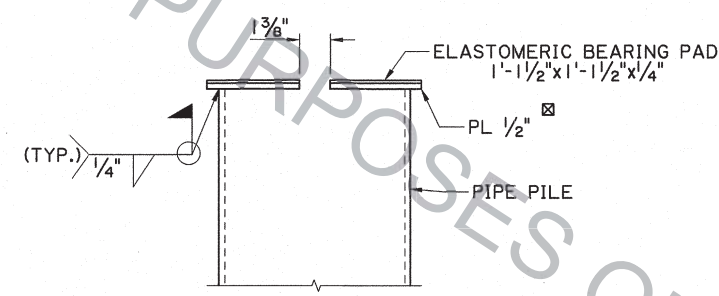
⊗ BATTER EXTERIOR PILES 1/2 ON 12 IN THE DIRECTION SHOWN FOR "h" > 12'-0".
INTERIOR PILES ARE BATTERED 1/2 ON 12 IN THE DIRECTION SHOWN.



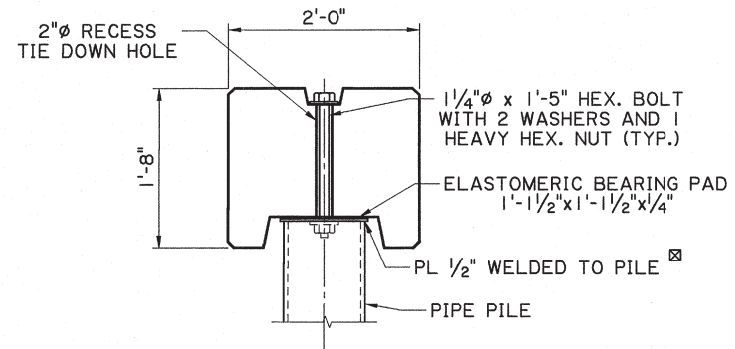
ELEVATION



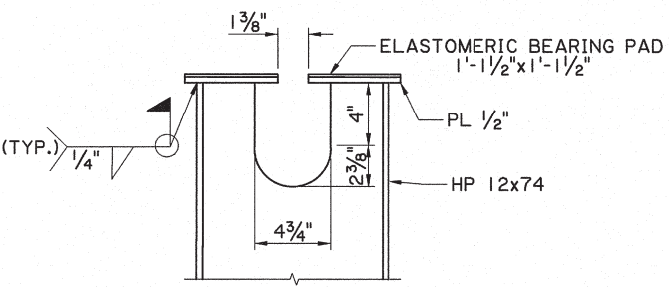
SECTION A-A
H-PILE



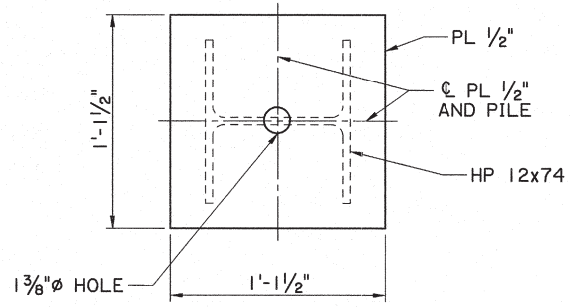
CONNECTION DETAIL
ELEVATION VIEW THROUGH C
SHOWING PILE TO PLATE CONNECTION
(PIPE PILE)



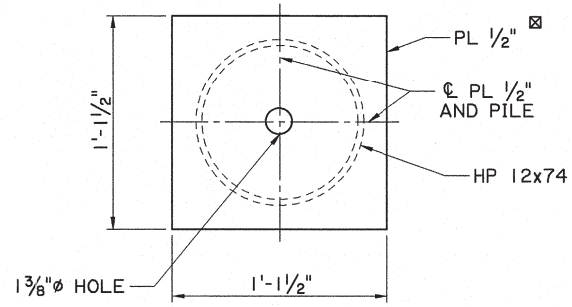
SECTION A-A
PIPE PILE



CONNECTION DETAIL
ELEVATION VIEW THROUGH C
SHOWING CUT-OUT DIMENSIONS (H-PILE)



CONNECTION DETAIL
PLAN VIEW SHOWING
PLATE DIMENSIONS (H-PILE)

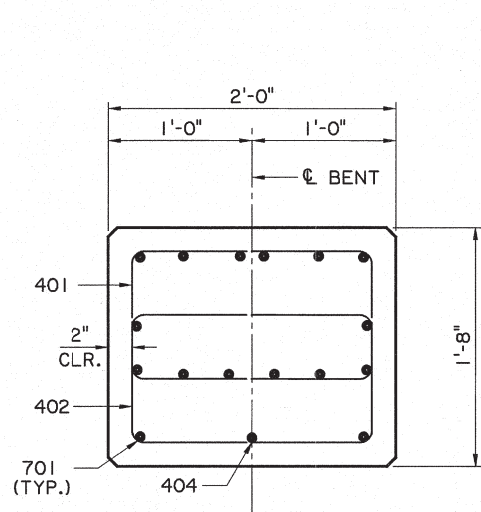


CONNECTION DETAIL
PLAN VIEW SHOWING
PLATE DIMENSIONS (PIPE PILE)

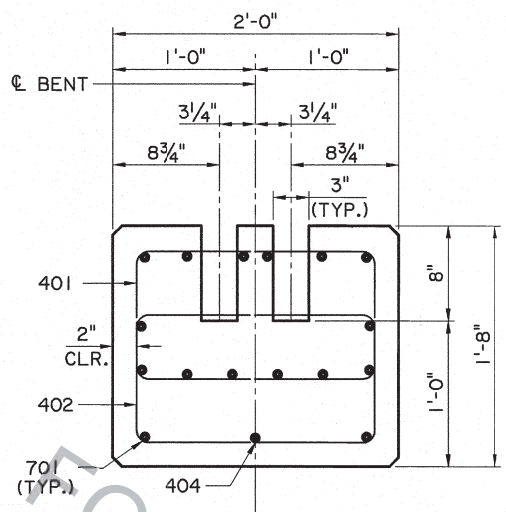
⊗ THE PL 1/2" AND THE ELASTOMERIC BEARING PAD SHALL BE BOLTED TO THE CAP PRIOR TO THE PLACEMENT OF THE CAP ON TOP OF THE PIPE PILES. ONCE THE CAP IS PLACED TOP OF THE PILES, THE PLATES SHALL BE WELDED TO THE PILES.



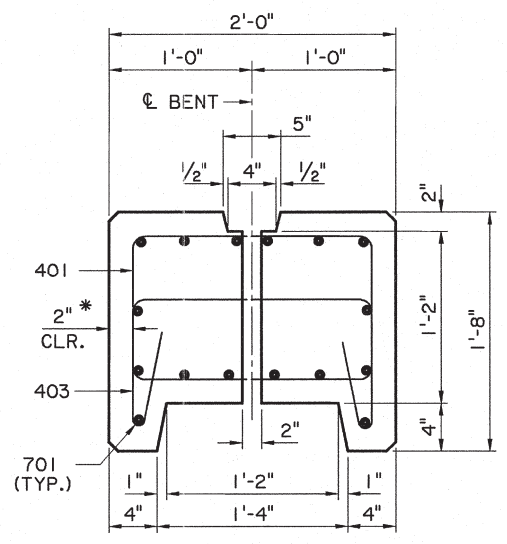
SHEET NUMBER	12 OF 16
DESIGNED BY	J. PELTIER
CHECKED BY	M. HEBERT
RETAILED BY	J. PELTIER
CHECKED BY	M. HEBERT
REVIEWED BY	P. VAUGHT
DATE	03-01-17
NO.	03-01-17
REVISION OR CHANGE ORDER DESCRIPTION	CORRECTED SPELLING
BY	K.M.B.
PROJECT	BD.2.B.1.0.12 PRECAST PANEL DETOUR BRIDGE
SECTION	ANCHOR BENT DETAILS
STATE	LOUISIANA
BRIDGE & STRUCTURAL DESIGN	



SECTION B-B



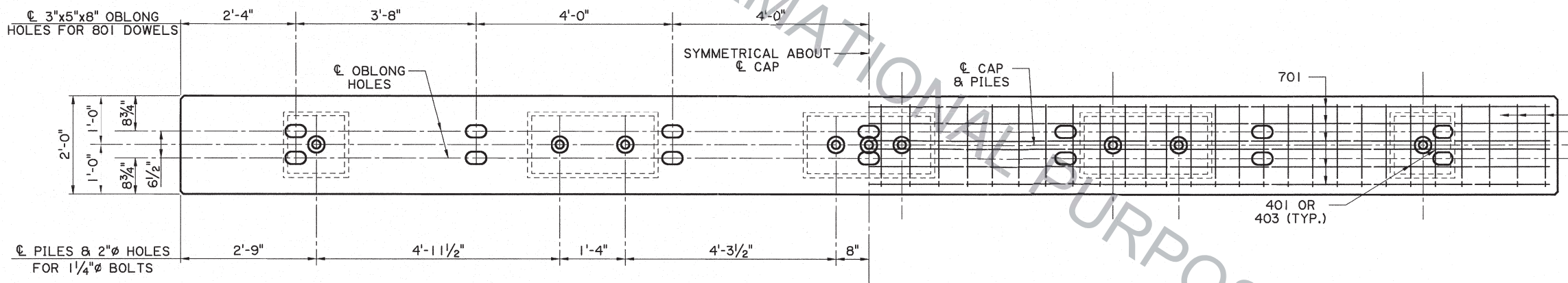
SECTION C-C



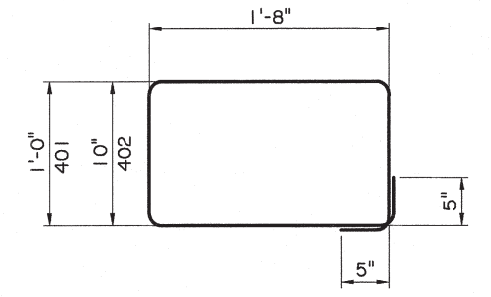
SECTION D-D

* 1" CLEAR FOR 403 BARS

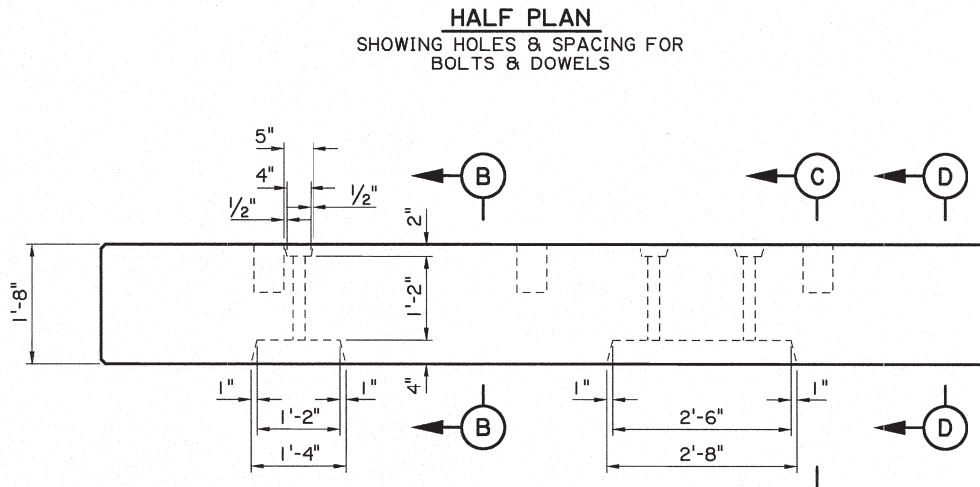
ESTIMATED QUANTITIES (ONE SINGLE ROW CAP)				
BAR	NO.	UNIT LENGTH	TOTAL LENGTH	LOCATION
701	16	27'-8"	442'-8"	LONGIT. IN CAP
TOTAL NO. 7 BARS = 442'-8" = 905 LBS.				
401	57	6'-2"	351'-6"	UPPER STIRRUPS
402	38	5'-10"	221'-8"	LOWER STIRRUPS
403	19	5'-2"	98'-2"	LOWER STIRRUPS ABOVE PILES
404	4	3'-6"	14'-0"	LONGIT. IN CAP BTWN. PILES
TOTAL NO. 4 BARS = 685'-4" = 458 LBS.				
TOTAL DEFORMED REINFORCING STEEL = 1363 LBS.				
TOTAL CLASS "PI" CONCRETE = 3.26 CU. YDS.				



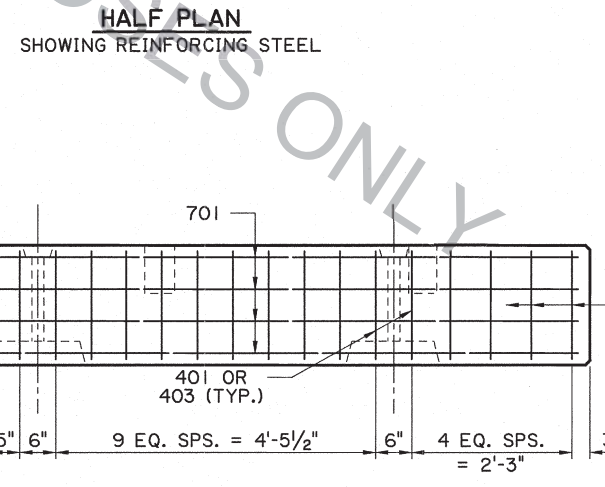
PLAN



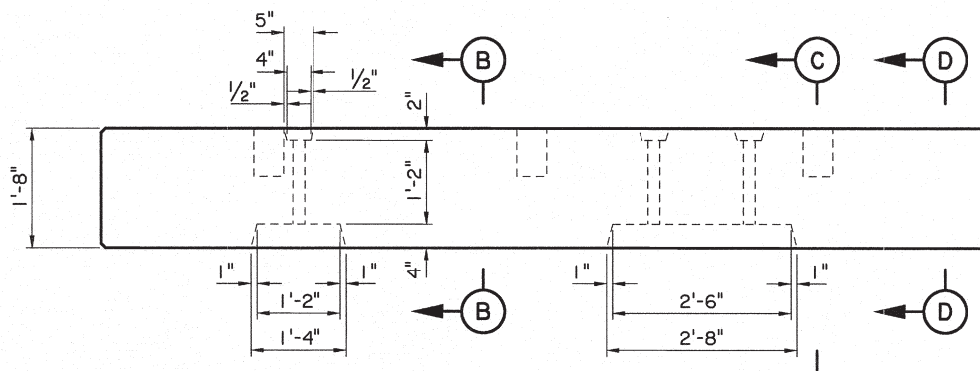
401 & 402 (2" Ø PIN)



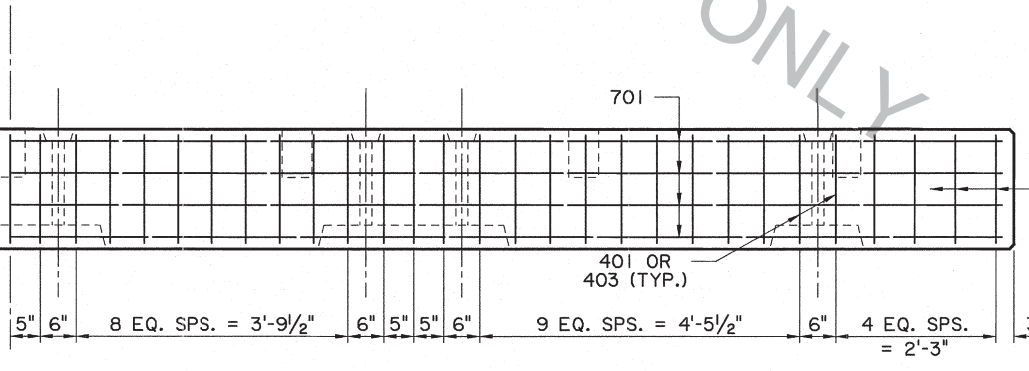
HALF PLAN SHOWING HOLES & SPACING FOR BOLTS & DOWELS



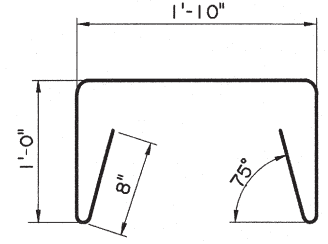
HALF PLAN SHOWING REINFORCING STEEL



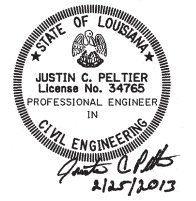
HALF ELEVATION SHOWING HOLES & SPACING FOR BOLTS & DOWELS



HALF ELEVATION SHOWING REINFORCING STEEL



403 (2" Ø PIN)



SHEET NUMBER

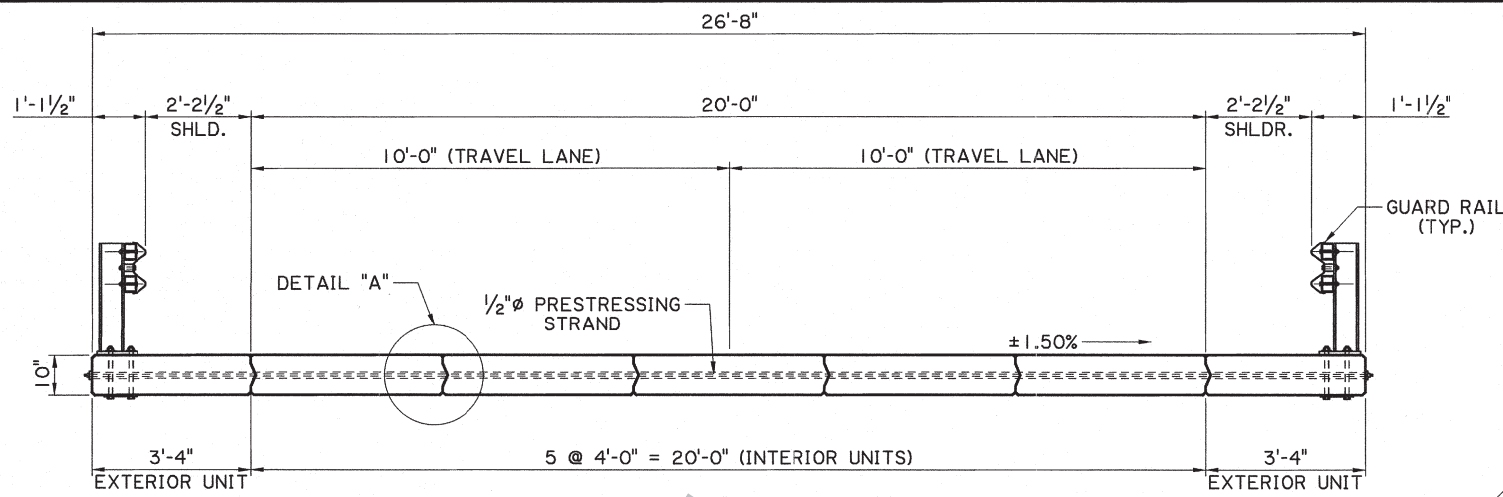
DESIGNED BY: J. PELTIER
 CHECKED BY: M. HEBERT
 REVISION OR CHANGE ORDER DESCRIPTION: UPDATED FOR 2016 SPECIFICATIONS
 DATE: 03-01-17
 NO. 0

PARISH CONTROL SECTION
 STATE PROJECT

BY: K.M.B.

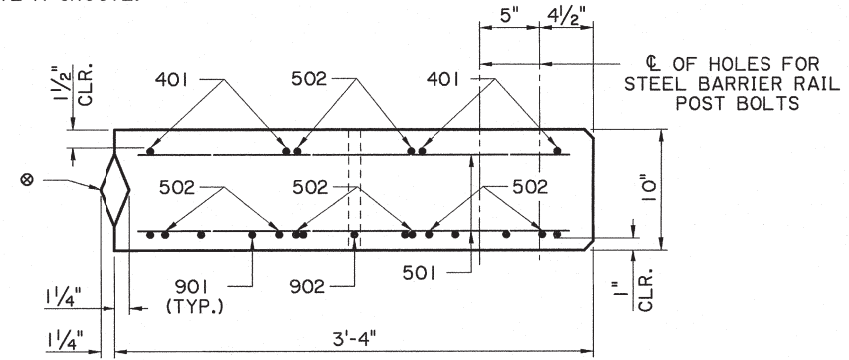
ANCHOR BENT DETAILS

BRIDGE & STRUCTURAL DESIGN

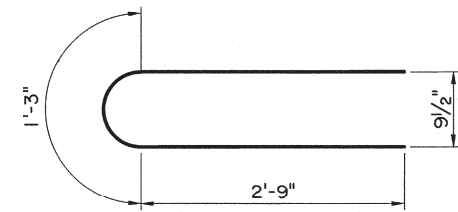


TYPICAL SECTION

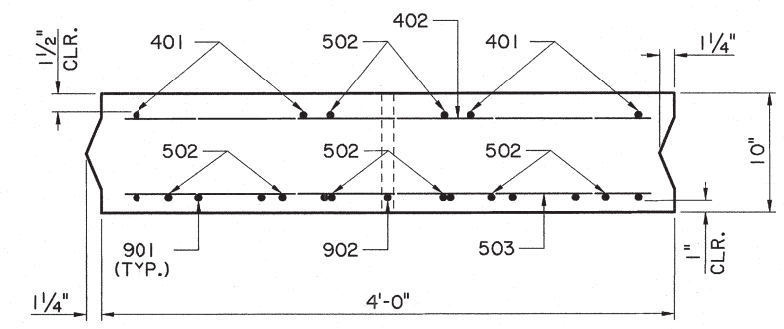
⊗ FOR EACH SPAN, ONE EXTERIOR UNIT WILL HAVE A TONGUE AND ONE WILL HAVE A GROOVE.



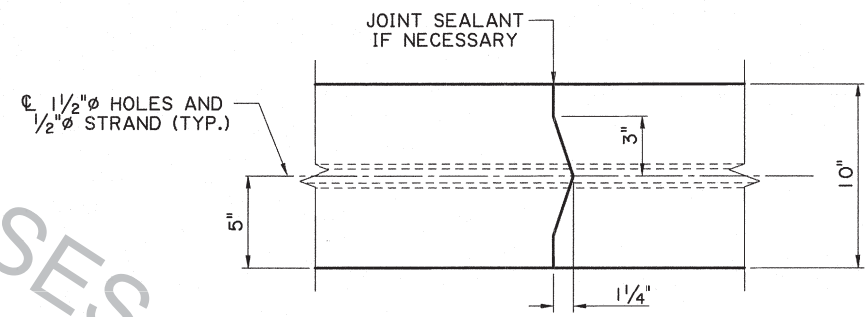
SECTION A-A



502 (5" PIN)

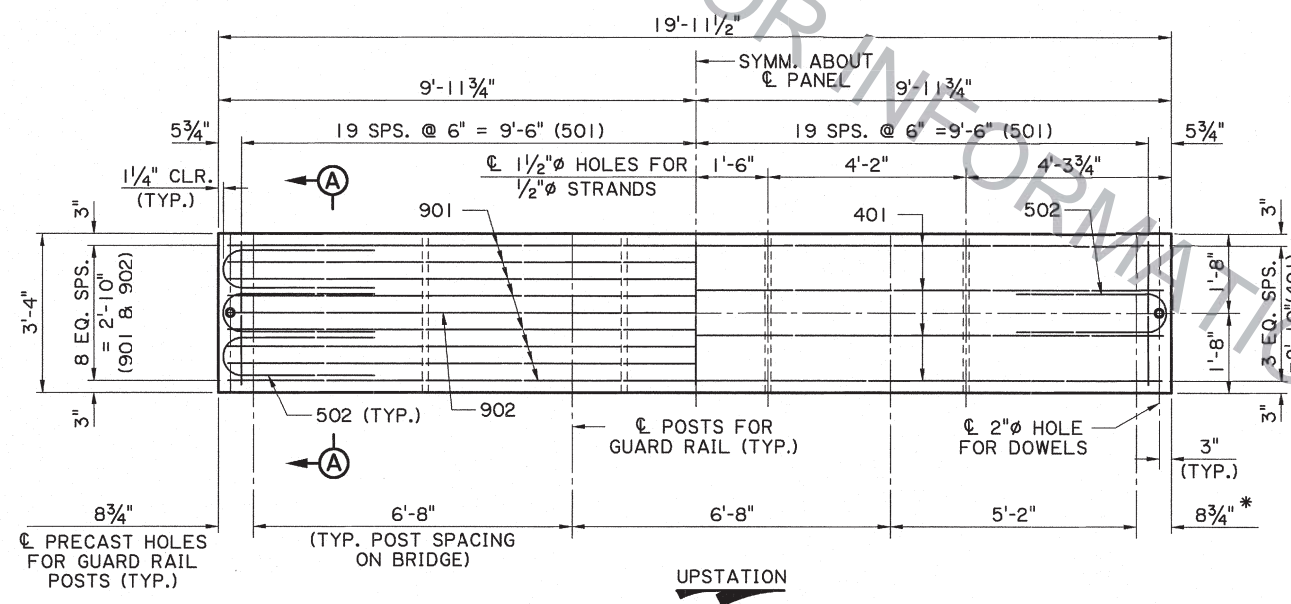


SECTION B-B



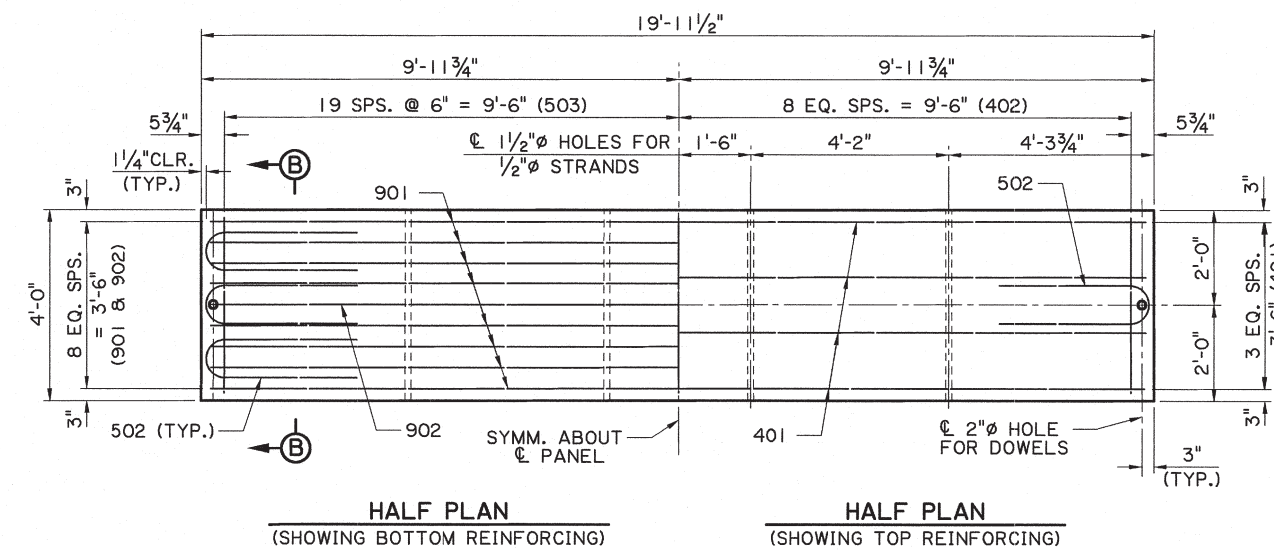
DETAIL "A"

NOTES:
 FOR GUARD RAIL INFORMATION, SEE STANDARD PLANS AND GUARD RAIL DETAILS.
 EACH UNIT SHALL HAVE AN UPWARD CAMBER OF 1/2".
 WHERE GUARD RAIL POSTS ARE REQUIRED ON EXTERIOR UNITS, A BOLT ANCHORAGE PLATE SHALL BE CAST INTO THE UNIT AT THE POST LOCATIONS. FOR MORE INFORMATION, SEE "SLAB CONNECTION DETAIL" ON GUARD RAIL DETAILS SHEET.



EXTERIOR UNIT

* TO ALLOW FOR CONNECTION OF GUARD RAIL AT END OF BRIDGE SPANS ONLY. HOLES NOT USED SHALL BE FILLED AND CAPPED. SEE "POST HOLE DETAIL" ON SHEET 15 OF 16 FOR MORE INFORMATION. SEE GUARD RAIL DETAILS SHEET FOR POST HOLE PATTERN.

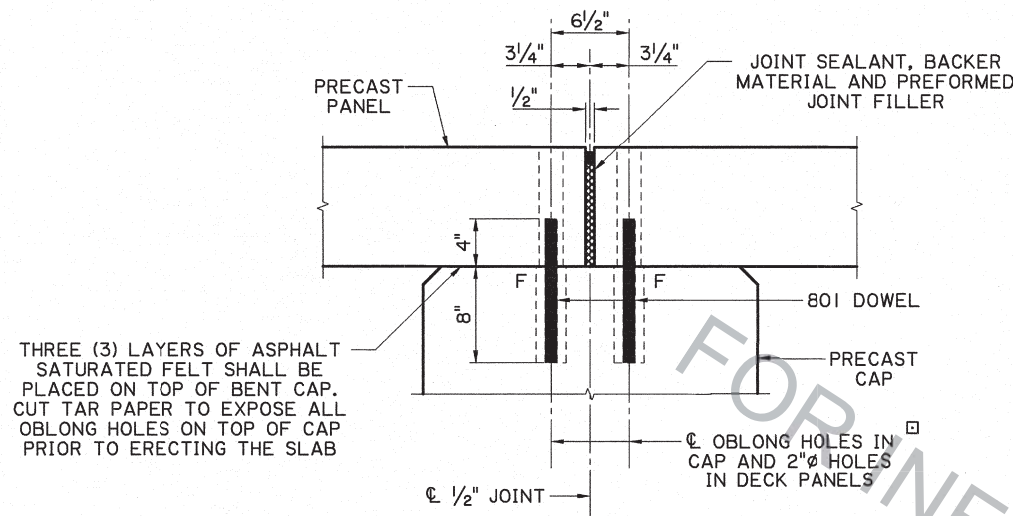


INTERIOR UNIT



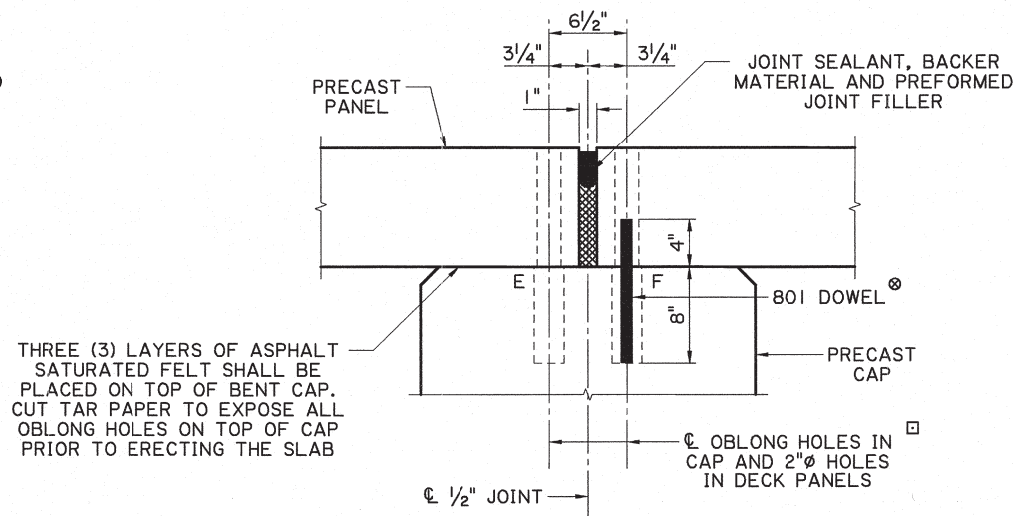
Kurt M. Brauner
 2/25/13

SHEET NUMBER	
DESIGNED	K. BRAUNER
CHECKED	J. PELTIER
RETAILED	K. BRAUNER
CHECKED	P. VAUGHT
REVIEWED	
SERIES #	14 OF 16
BY	K.M.B.
DATE	03-01-17
NO.	
DESCRIPTION	UPDATED FOR 2016 SPECIFICATIONS
REVISION OR CHANGE	REVISION OR CHANGE ORDER DESCRIPTION
PRECAST CONCRETE DECK PANEL DETAILS	
BRIDGE 8 STRUCTURAL DESIGN	
BD.2.B.1.0.14 PRECAST PANEL DETOUR BRIDGE	



THREE (3) LAYERS OF ASPHALT SATURATED FELT SHALL BE PLACED ON TOP OF BENT CAP. CUT TAR PAPER TO EXPOSE ALL OBLONG HOLES ON TOP OF CAP PRIOR TO ERECTING THE SLAB

JOINT DETAIL
(TWO FIXED ENDS)

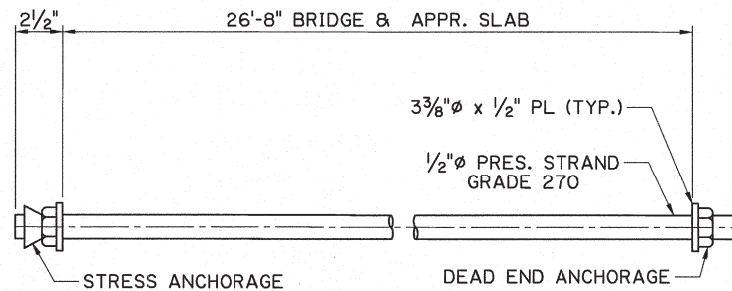


THREE (3) LAYERS OF ASPHALT SATURATED FELT SHALL BE PLACED ON TOP OF BENT CAP. CUT TAR PAPER TO EXPOSE ALL OBLONG HOLES ON TOP OF CAP PRIOR TO ERECTING THE SLAB

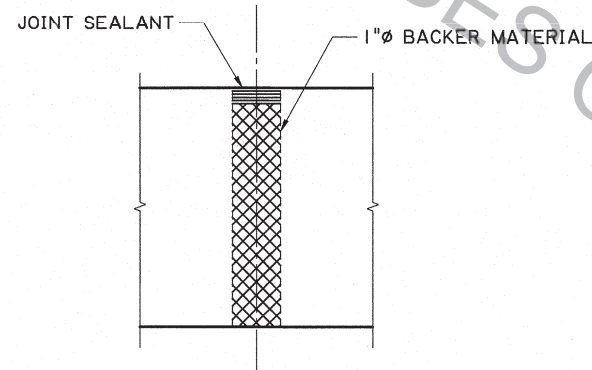
JOINT DETAIL
(EXPANSION & FIXED END)

☐ HOLES SHALL BE FILLED WITH NON-SHRINK GROUT AFTER DOWEL BARS ARE IN PLACE. USE AN ADEQUATE DEBONDER TO PREVENT BONDING OF THE GROUT WITH THE SLAB AND THE PILE CAP BEFORE GROUTING HOLES.

⊙ ONLY REQUIRED AT FIXED END



DETAILS OF PRESTRESSING STRANDS



POST HOLE DETAIL
(TYP. FOR UNUSED BARRIER POST HOLES)

NOTES:

THE PRESTRESSING STRAND SHALL BE SHEATHED WITH AN EXTRUDED PVC MATERIAL IN ACCORDANCE WITH THE POST-TENSIONING INSTITUTE SPECIFICATIONS. STRANDS SHALL BE TENSIONED TO 15 KIPS. THE ANCHOR SYSTEM SHALL BE OF THE APPROPRIATE TYPE MANUFACTURED BY ALTAS PRESTRESSING CORP., OR BY STRESS STEEL CORP., OR AN APPROVED EQUAL. ALL EXPOSED ENDS SHALL BE PAINTED WITH AN APPROVED COATING AFTER STRESSING.

SEE BRIDGE GENERAL PLAN SHEET FOR JOINT TYPE AND LOCATION.

ESTIMATED QUANTITIES (ONE EXTERIOR UNIT)				
BAR NO.	UNIT LENGTH	TOTAL LENGTH	LOCATION	
901	8	19'-7"	156'-8"	LONGIT. BOT. OF SLAB
902	1	19'-5"	19'-5"	LONGIT. BOT. OF SLAB
TOTAL NO. 9 BARS = 176'-1" = 599 LBS.				
501	78	3'-0"	234'-0"	TRANS. TOP & BOT. OF SLAB
502	8	6'-9"	54'-0"	BOT. & TOP END OF SLAB
TOTAL NO. 5 BARS = 288'-0" = 300 LBS.				
401	4	19'-7"	78'-4"	LONGIT. TOP OF SLAB
TOTAL NO. 4 BARS = 78'-4" = 52 LBS.				
Δ DEFORMED REINFORCING STEEL = 951 LBS.				
⊙ CLASS "PI" CONCRETE = 2.05 CU. YDS.				
CONCRETE RAILING (PER SPAN) = 40.00 LIN. FT.				

ESTIMATED QUANTITIES (ONE INTERIOR UNIT)				
BAR NO.	UNIT LENGTH	TOTAL LENGTH	LOCATION	
901	8	19'-7"	156'-8"	LONGIT. BOT. OF SLAB
902	1	19'-5"	19'-5"	LONGIT. BOT. OF SLAB
TOTAL NO. 9 BARS = 176'-1" = 599 LBS.				
502	8	6'-9"	54'-0"	TOP END OF SLAB
503	39	3'-8"	143'-0"	TRANS. BOT. OF SLAB
TOTAL NO. 5 BARS = 197'-0" = 206 LBS.				
401	4	19'-7"	78'-4"	LONGIT. TOP OF SLAB
402	17	3'-8"	62'-4"	TRANS. TOP OF SLAB
TOTAL NO. 9 BARS = 140'-8" = 94 LBS.				
Δ DEFORMED REINFORCING STEEL = 899 LBS.				
⊙ CLASS "PI" CONCRETE = 2.46 CU. YDS.				

⊙ BASED ON A 10" THICKNESS
 Δ ADD 2-801 DOWELS, 1'-0" LONG TO EACH UNIT WITH TWO FIXED ENDS AND 1-801 DOWEL TO UNITS WITH ONE FIXED AND ONE EXPANSION END.



K.M.B.
2/25/13

SHEET NUMBER

DESIGNED BY: K. BRAUNER
 CHECKED BY: J. PELTIER
 RETAILER: J. PELTIER
 CHECKED BY: K. BRAUNER
 REVIEWED BY: P. VAUGHT
 SERIES #: 15 OF 16

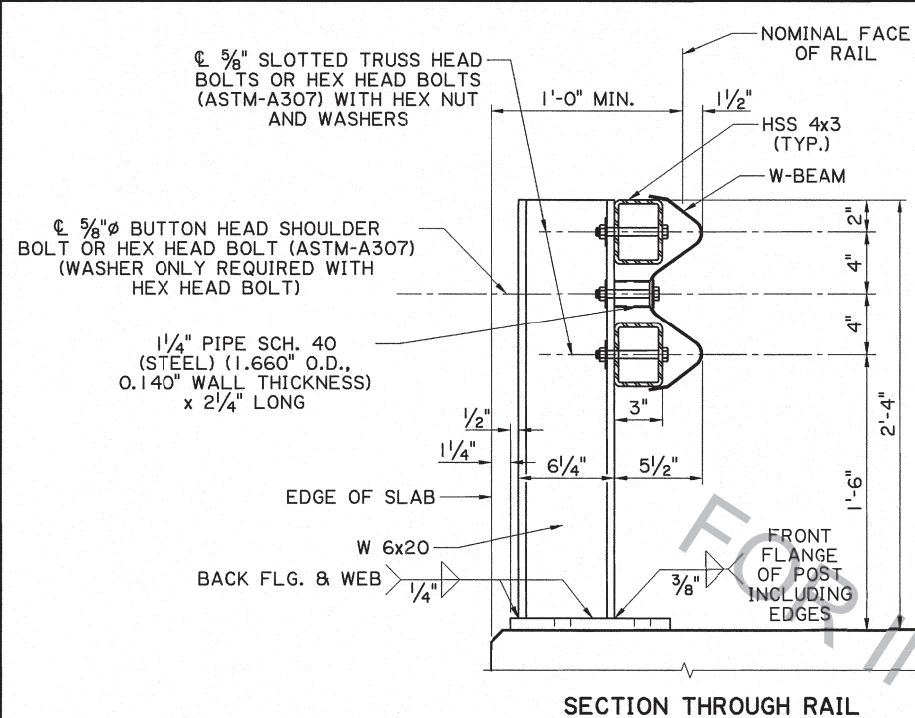
DATE: 03-01-17
 NO. 0
 DESCRIPTION: UPDATED FOR 2016 SPECIFICATIONS
 REVISION OR CHANGE ORDER DESCRIPTION

STATE OF LOUISIANA
 PROFESSIONAL ENGINEER

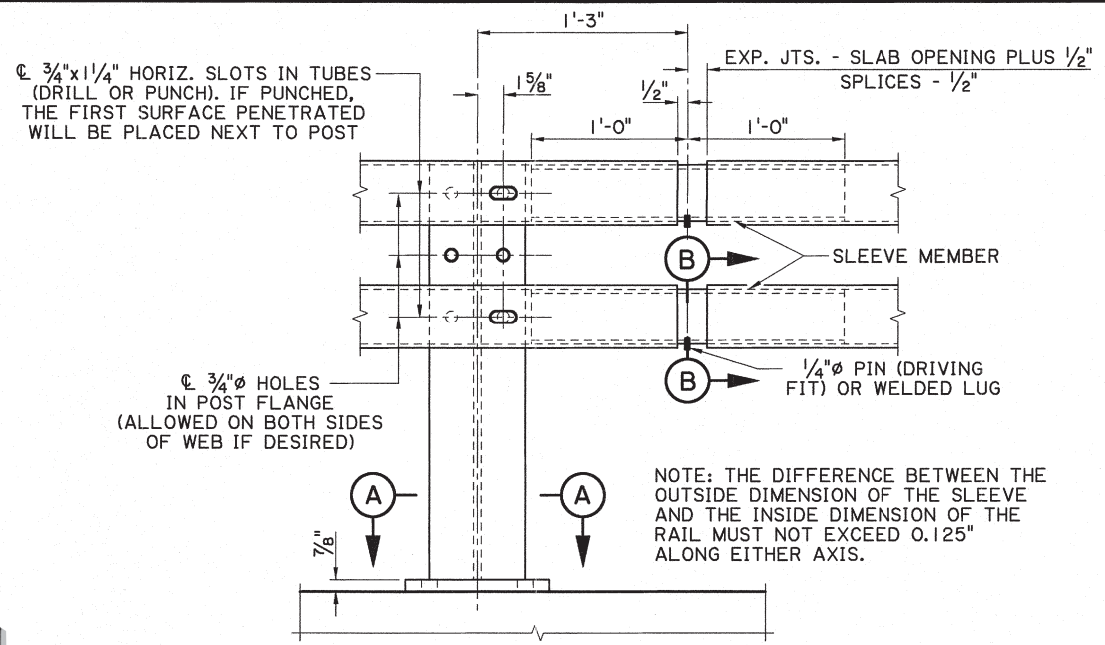
PRECAST CONCRETE DECK PANEL DETAILS

BD.2.B.1.0.15 PRECAST PANEL DETOUR BRIDGE

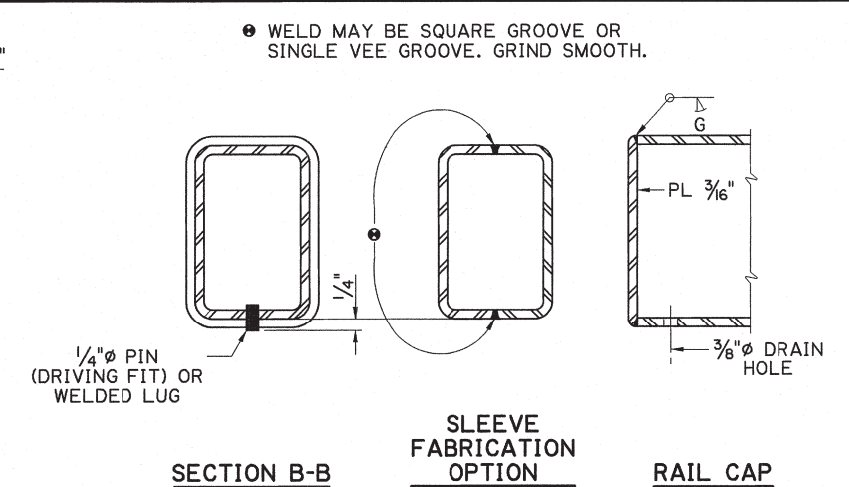
BRIDGE & STRUCTURAL DESIGN



SECTION THROUGH RAIL



TUBE SPLICE DETAILS



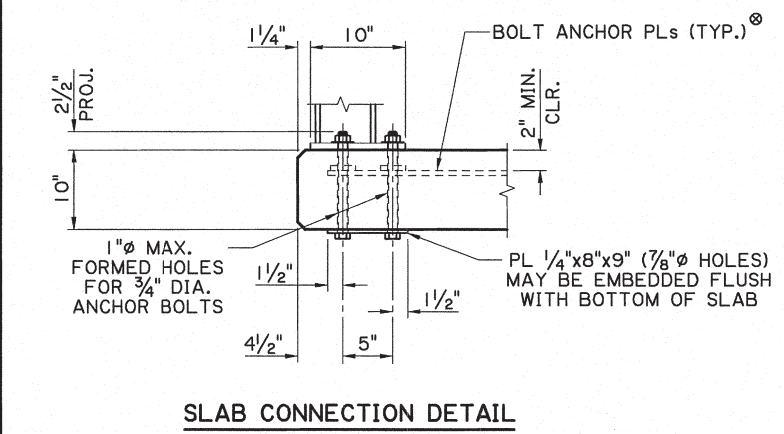
SECTION B-B

SLEEVE FABRICATION OPTION

RAIL CAP

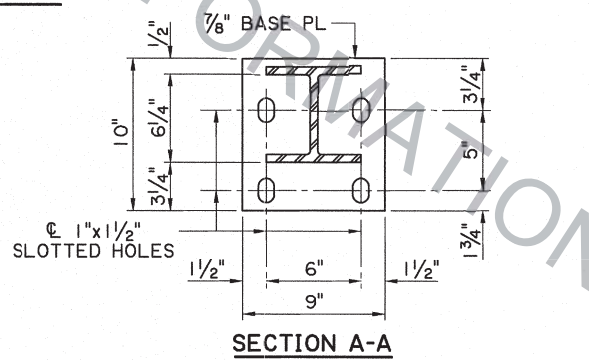
TUBE & SLEEVE MEMBERS		
RAIL MEMBER	SLEEVE THICKNESS	
MATERIAL	THICKNESS	MATERIAL A36
A 500 GRADE C	0.188"	0.188"
A 500 GRADE B	0.250"	0.250"
A 500 GRADE A OR A 501	0.313"	0.250"

NOTE: OTHER SECTIONS OF EQUAL OR GREATER STRENGTH ARE ACCEPTABLE FOR SLEEVES.

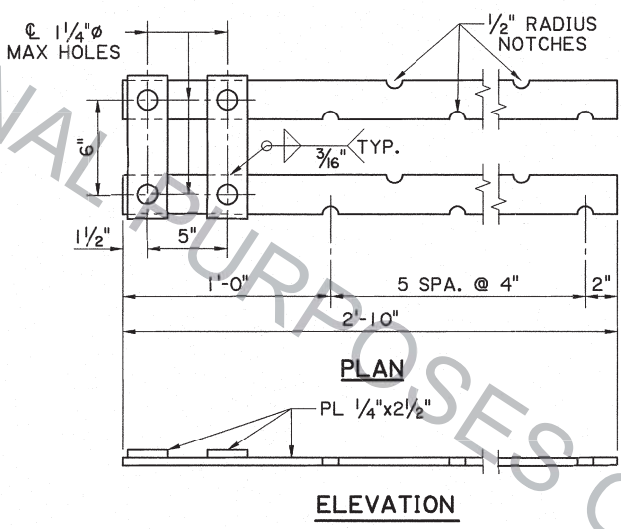


SLAB CONNECTION DETAIL

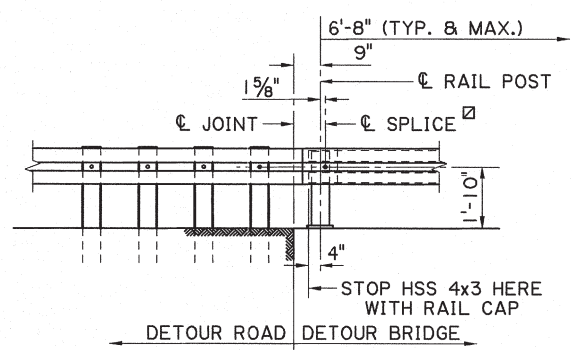
INSTALL ONE ANCHORAGE PLATE ASSEMBLY IN SLAB AT EACH RAIL POST. DO NOT GALVANIZE OR OIL THIS ASSEMBLY. BOLT ANCHORAGE PLATES MAY NOT BE CUT.



SECTION A-A

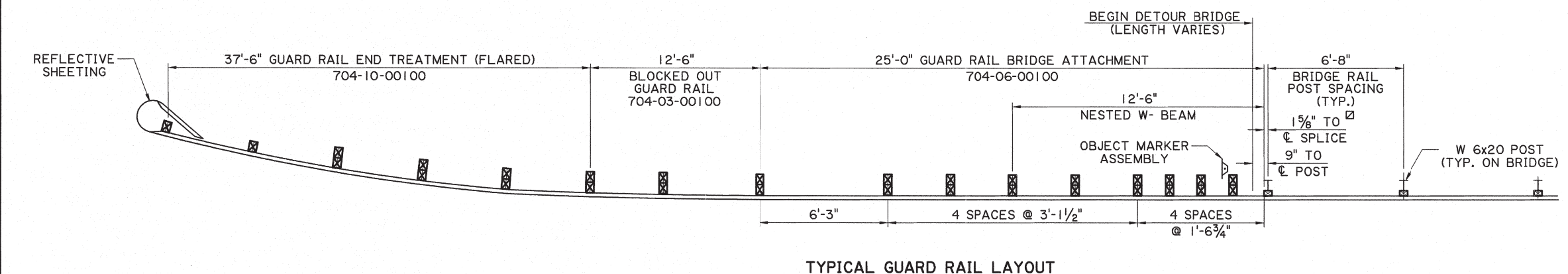


BOLT ANCHORAGE PLATES



CONNECTION DETAIL

NOTES:
 FOR MORE GUARD RAIL INFORMATION, SEE STANDARD PLANS.
 THIS RAIL HAS BEEN APPROVED AS A NCHRP 350-TEST LEVEL 3 BARRIER.
 ALL STEEL POSTS AND PLATES SHALL CONFORM TO (ASTM-A36).
 GALVANIZE ALL STEEL COMPONENTS UNLESS OTHERWISE SHOWN ON PLANS. ANCHOR BOLTS ARE 3/4 inch ASTM-A325 BOLTS OR A449 HEAVY HEX BOLTS (OR A449 THREADED RODS WITH ONE TACK WELDED HEAVY HEX NUT EACH) WITH ONE HEAVY HEX NUT AND ONE 2" O.D. WASHER (0.122" MIN. THICK) AT EACH BOLT. OPTIONALLY USE RECTANGULAR 3/8 inch x 2 inch x 3 inch ASTM-A36 PLATE WITH 1 1/8 inch HOLE.
 ATTACH SECTION LENGTHS OF HSS 4x3 MEMBERS CONTINUOUSLY TO A MINIMUM OF THREE POSTS (EXCEPT AT ABUTMENTS WITH EXPANSION JOINTS). FACE OF RAIL AND POSTS MUST BE VERTICAL TRANSVERSELY UNLESS OTHERWISE APPROVED BY THE BRIDGE DESIGN ENGINEER. POSTS MUST BE PERPENDICULAR TO ADJACENT ROADWAY GRADE. USE EPOXY MORTAR UNDER POST BASE PLATES IF GAPS LARGER THAN 1/16 inch EXIST.
 FOR ALL RAILS, ERECTION DRAWINGS SHOWING LENGTHS, SPLICE LOCATIONS, RAIL POST SPACING AND ANCHOR BOLT SETTING SHALL BE SUBMITTED TO THE BRIDGE ENGINEER FOR REVIEW.



TYPICAL GUARD RAIL LAYOUT

SHEET NUMBER	
DESIGNED	T. BRAUNER
CHECKED	K. BRAUNER
REVIEWED	P. VAUGHT
DATE	03-01-17
NO.	16 OF 16
PROJECT	BD.2.B.1.0.16 PRECAST PANEL DETOUR BRIDGE
STATE	LOUISIANA
CONTROL SECTION	
PARISH	

KURT M. BRAUNER
 License No. 30567
 PROFESSIONAL ENGINEER
 CIVIL ENGINEERING
 2/25/13

STATE OF LOUISIANA
 PROFESSIONAL ENGINEER
 CIVIL ENGINEERING
 KURT M. BRAUNER
 License No. 30567
 2/25/13

BRIDGE & STRUCTURAL DESIGN