

NOTES

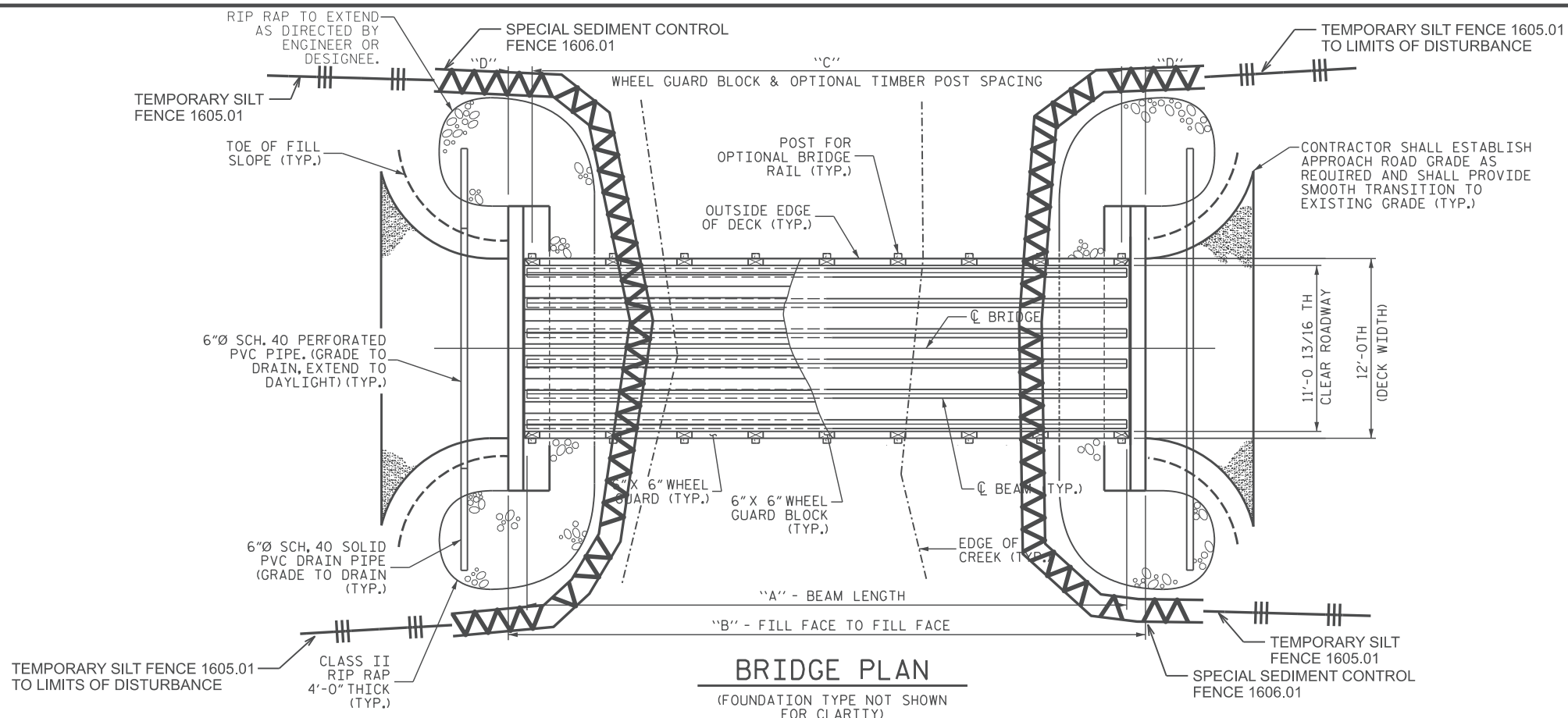
FOR OPTIONAL TIMBER BRIDGE RAIL DETAILS, SEE "OPTIONAL TIMBER BRIDGE RAIL" SHEET.

CONTRACTOR SHALL LOCATE THE EXPANSION BEARING ON THE "UPHILL" END OF THE BRIDGE. THERE WILL BE ONLY ONE EXPANSION BEARING PER BRIDGE.

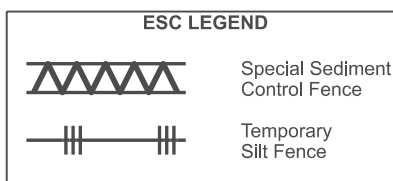
CONTRACTOR SHALL PROVIDE EROSION CONTROL MEASURES, AS REQUIRED ACCORDING TO NCDOT STANDARD SPECIFICATIONS AND THE CONTRACT DOCUMENTS.

THE CONTRACTOR SHALL SET THE LOW-CHORD ELEVATION OF THE BRIDGE BASED ON EXISTING SITE CONDITIONS AND IN COORDINATION WITH THE ENGINEER, SUCH THAT THE NEW CROSSING PROVIDES CONVEYANCE GREATER THAN OR EQUAL TO THE ORIGINAL DESTROYED CROSSING. THE CONTRACTOR SHALL REFER TO THE BSR WHEN SETTING THE LOW-CHORD ELEVATION OF THE BRIDGE. NO CONSTRUCTION ACTIVITIES SHALL COMMENCE UNTIL ALL PARTIES HAVE AGREED UPON THE LOW-CHORD ELEVATION AND THE DATED PERMIT APPLICATION IS APPROVED.

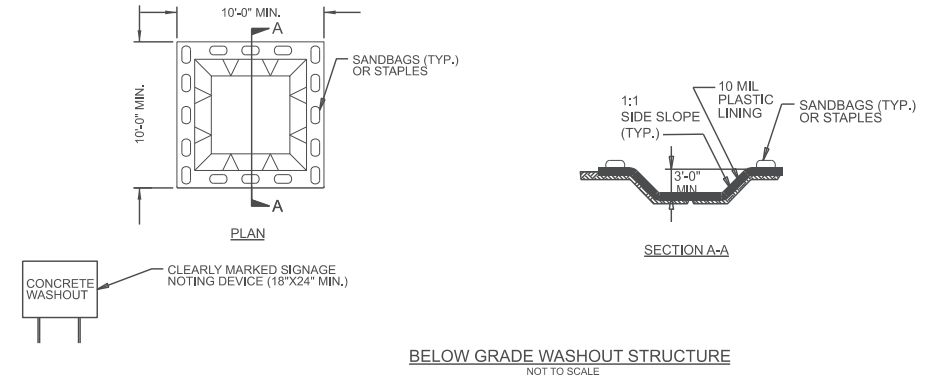
TIMBER DECKING SHALL BE 2X8 BOARDS. 4X6 TIMBER DECKING (6" DIMENSION HORIZONTAL) MAY BE USED IN LIEU OF 2X8 DECKING; SEE OPTIONAL TYPICAL SECTION ON SHEET S-03 FOR DETAILS.



DIMENSIONS TABLE						
SPAN	A	B	C	D	E	
20'-0"	20'-0"	22'-6"	5 SPA. @ 3'-8"	2'-1"	19'-9"	
30'-0"	30'-0"	32'-6"	7 SPA. @ 4'-0"	2'-3"	29'-9"	
40'-0"	40'-0"	42'-6"	9 SPA. @ 4'-3"	2'-1 1/2"	39'-9"	
50'-0"	50'-0"	52'-6"	11 SPA. @ 4'-4"	2'-5"	49'-9"	



ONSITE CONCRETE WASHOUT STRUCTURE WITH LINER

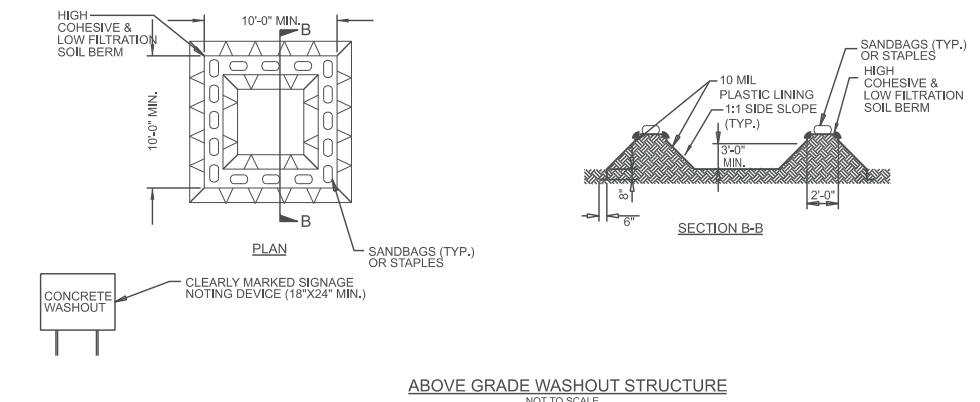


NOTES:

1. ACTUAL LOCATION DETERMINED IN FIELD
2. THE CONCRETE WASHOUT STRUCTURES SHALL BE MAINTAINED WHEN THE LIQUID AND/OR SOLID REACHES 75% OF THE STRUCTURES CAPACITY TO PROVIDE ADEQUATE HOLDING CAPACITY WITH A MINIMUM 12 INCHES OF FREEBOARD.
3. CONCRETE WASHOUT STRUCTURE NEEDS TO BE CLEARLY MARKED WITH SIGNAGE NOTING DEVICE.

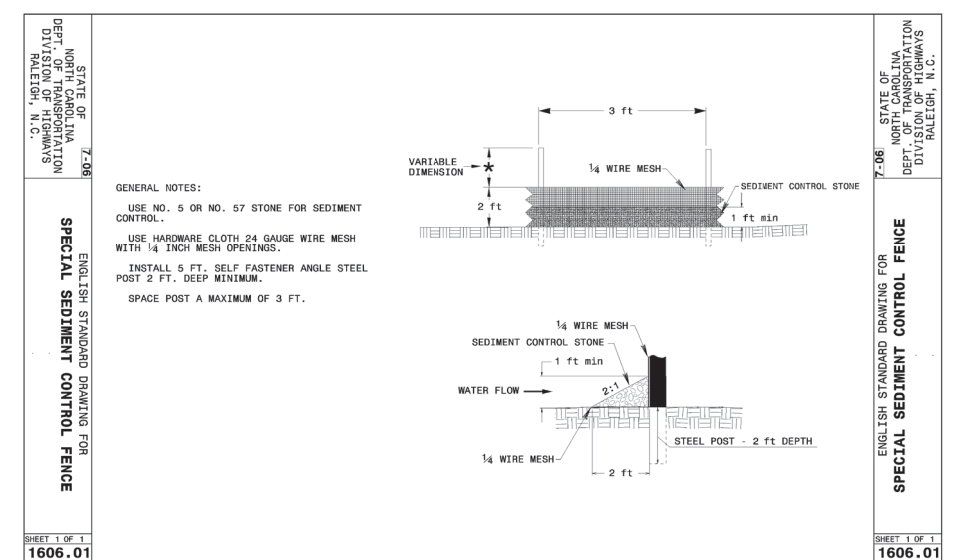
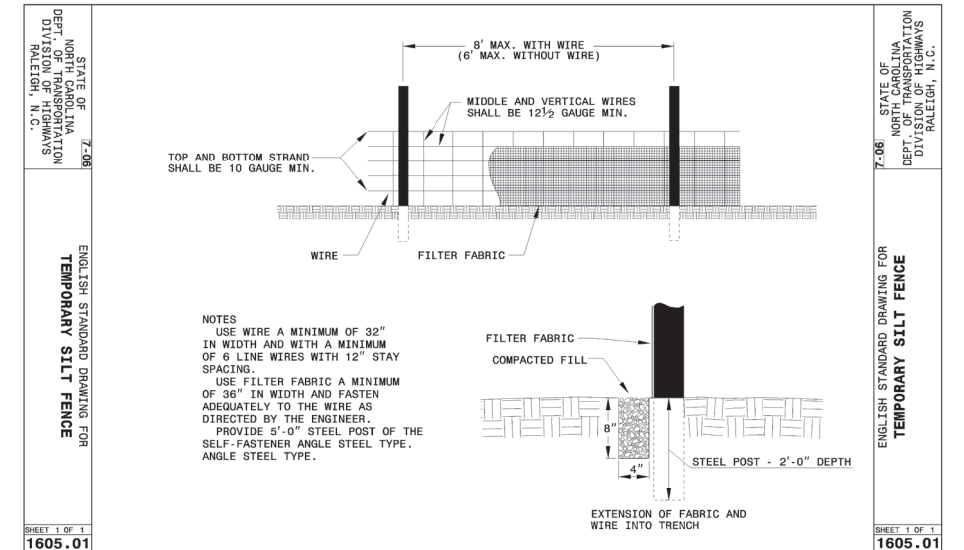
BELOW GRADE WASHOUT STRUCTURE

NOT TO SCALE



NOTES:

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3. CONCRETE WASHOUT STRUCTURE NEEDS TO BE CLEARLY MARKED WITH SIGNAGE NOTING DEVICE.



Signed by:
Matthew D. Foster
 7B19328AFCS472
 4/2/2026 | 6:30:17 PM EDT

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NORTH CAROLINA OFFICE OF
EMERGENCY MANAGEMENT

**PRIVATE DRIVEWAY
 BRIDGE STANDARDS**

SINGLE LANE STEEL BEAM BRIDGE
 TIMBER DECK

EROSION CONTROL

REVISIONS						SHEET NO. EC-01
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 13
2			4			

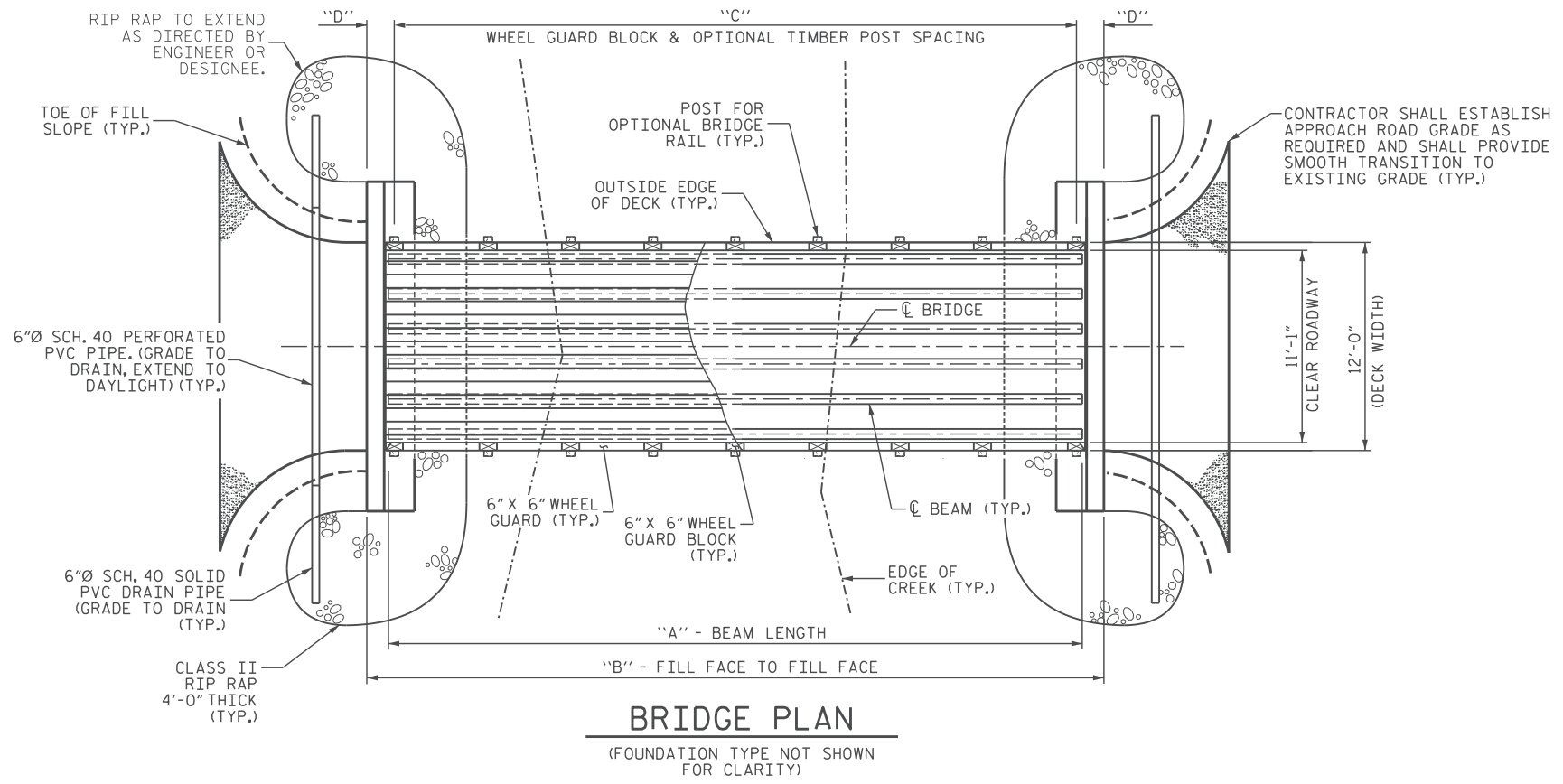
JMT Johnson, Mirmiran, & Thompson Inc.
 108 Asheville Commerce Parkway
 Candler, NC, 28715
 License No: C-3097

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 CHKD. BY: GFW
 DES. EGR. OF RECORD: GFW

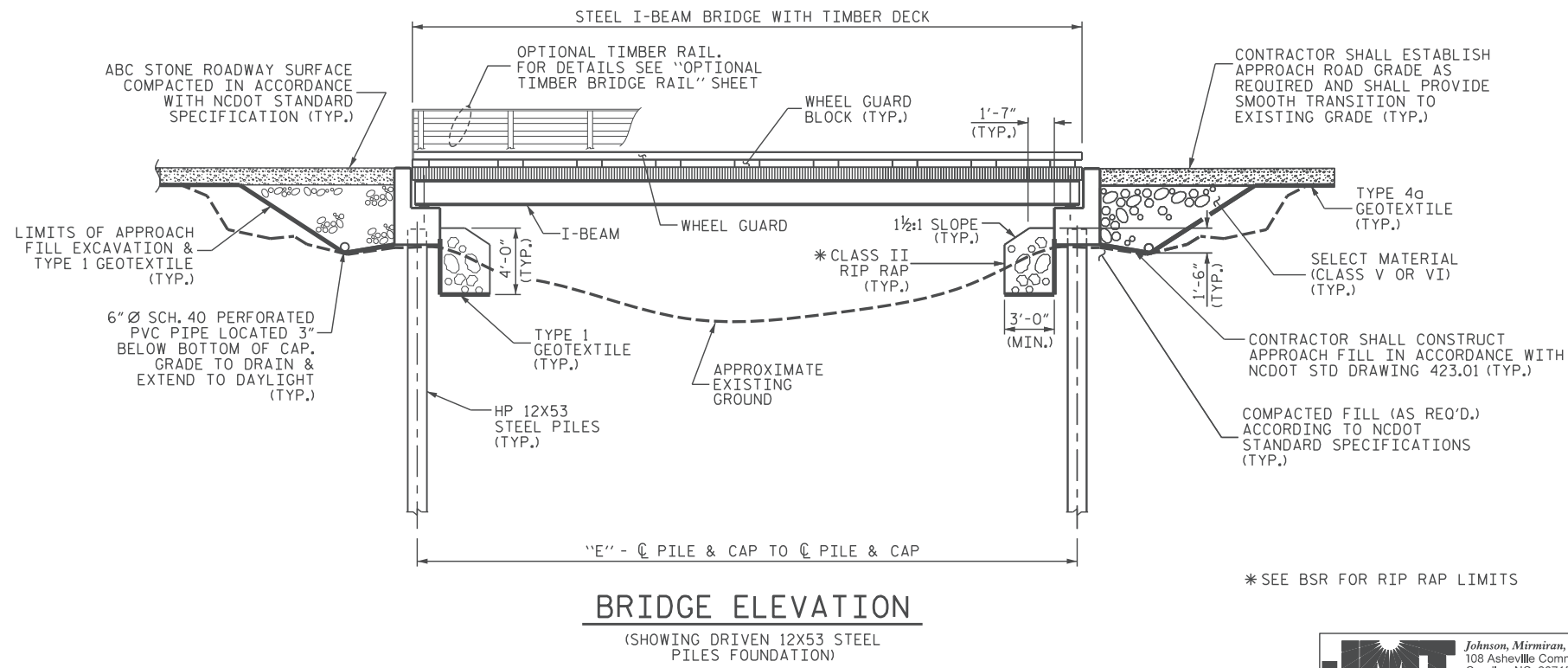
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 TIME: 5/18/2026



DIMENSIONS TABLE					
SPAN	A	B	C	D	E
20'-0"	20'-0"	22'-6"	5 SPA. @ 3'-8"	2'-1"	19'-9"
30'-0"	30'-0"	32'-6"	7 SPA. @ 4'-0"	2'-3"	29'-9"
40'-0"	40'-0"	42'-6"	9 SPA. @ 4'-3"	2'-1 1/2"	39'-9"
50'-0"	50'-0"	52'-6"	11 SPA. @ 4'-4"	2'-5"	49'-9"
60'-0"	60'-0"	62'-6"	13 SPA. @ 4'-5 1/2"	2'-3 1/4"	59'-9"
70'-0"	70'-0"	72'-6"	15 SPA. @ 4'-6"	2'-6"	69'-9"



NOTES

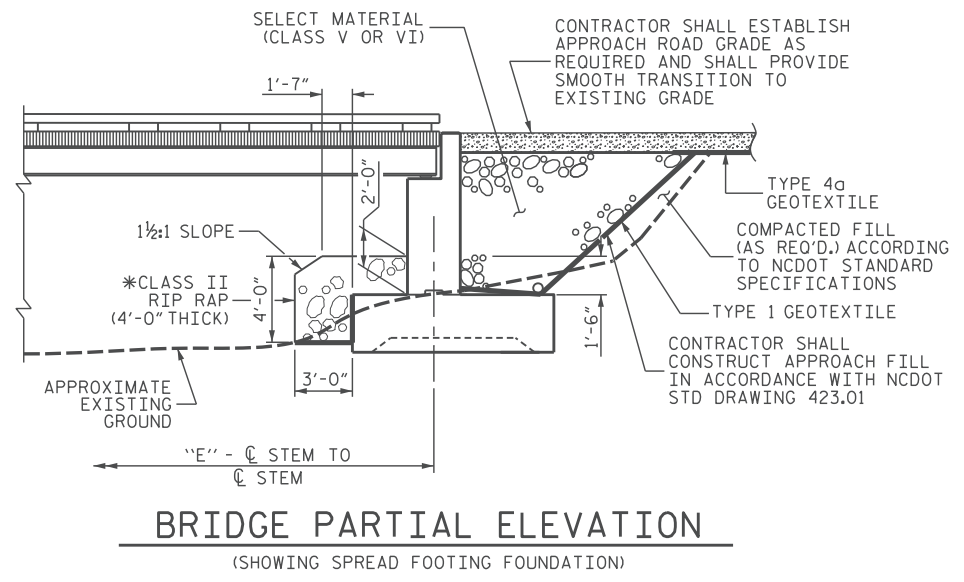
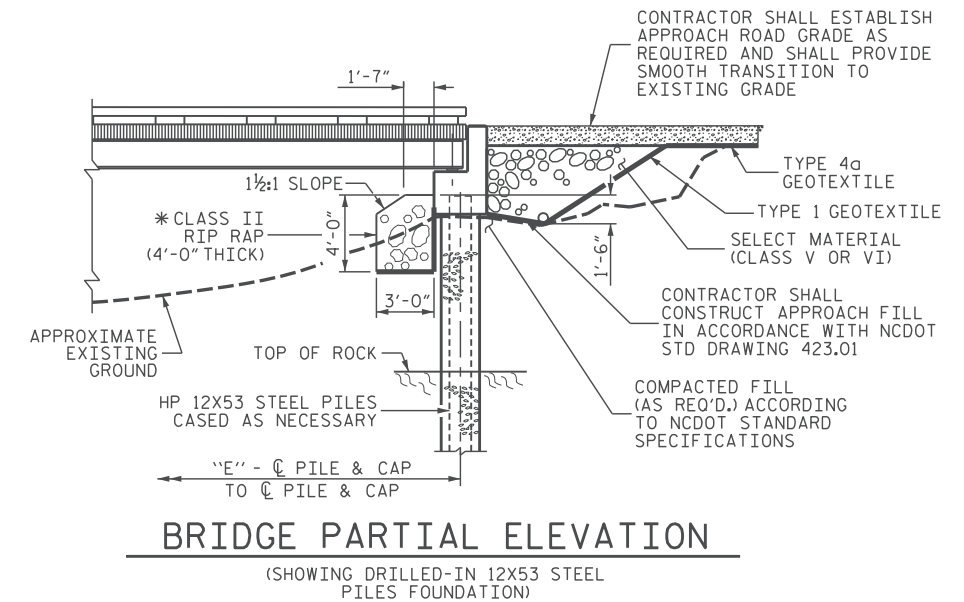
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TIMBER DECKING SHALL BE 2X8 BOARDS. 4X6 TIMBER DECKING (6" DIMENSION HORIZONTAL) MAY BE USED IN LIEU OF 2X8 DECKING; SEE OPTIONAL TYPICAL SECTION ON SHEET S-03 FOR DETAILS.



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NORTH CAROLINA OFFICE OF
EMERGENCY MANAGEMENT

PRIVATE DRIVEWAY BRIDGE STANDARDS

SINGLE LANE STEEL BEAM BRIDGE
TIMBER DECK

GENERAL DRAWING

* SEE BSR FOR RIP RAP LIMITS

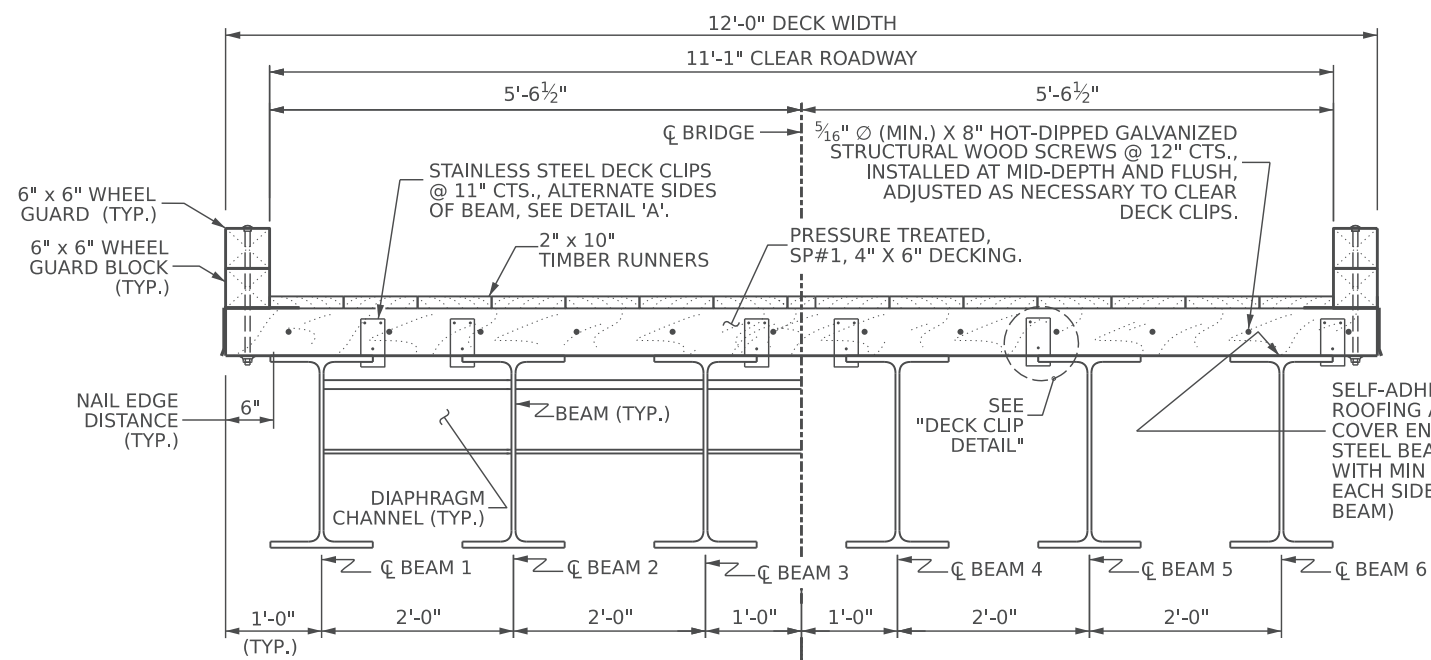
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Candler, NC, 28715
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2			4			

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 DATE: 5/18/2026 TIME: 11:21:21 AM



TYPICAL SECTION

MATERIALS TABLE				
SPAN	BEAM	DIAPHRAGM CHANNEL	DECK PLANK	DECKING SQ. FT.
20'-0"	W16X36	C12X20.7	4X6	244
30'-0"	W21X48	C12X20.7	4X6	364
40'-0"	W24X76	C12X20.7	4X6	484
50'-0"	W24X104	C12X20.7	4X6	604
60'-0"	W30X116	C12X20.7	4X6	724
70'-0"	W33X130	C12X20.7	4X6	844

NOTES

FOR TIMBER BRIDGE DECK SYSTEM DETAILS, SEE "PLAN OF SPAN" SHEET.

FOR OPTIONAL TIMBER RAILS, SEE "OPTIONAL TIMBER BRIDGE RAIL" SHEET.

FOR BEAM AND DIAPHRAGM DETAILS, SEE "FRAMING PLAN & BEAM DETAILS" SHEET.

TREAT ALL DRILLED OR NEWLY EXPOSED HOLES IN TIMBER MEMBERS BY PUMPING WITH BITUMINOUS ASPHALT-BASED ROOFING CEMENT, OR APPROVED PRESERVATIVE SYSTEM BEFORE INSTALLING HARDWARE.

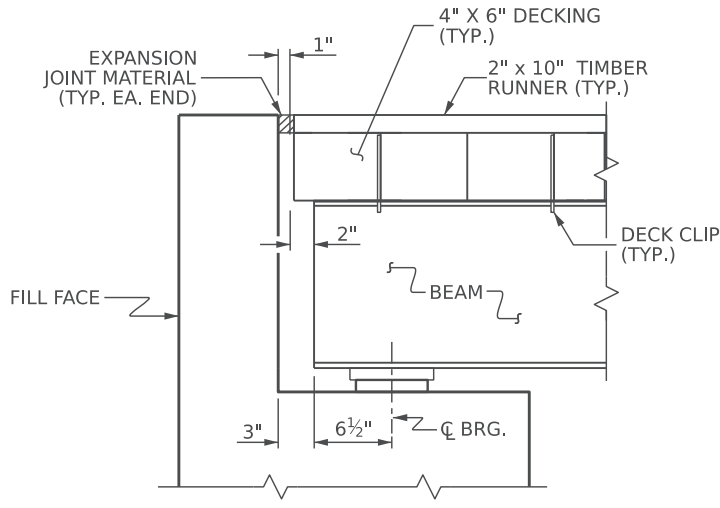
SEE "PLAN OF SPAN" SHEET FOR NUMBER OF WHEEL GUARDS AND WHEEL GUARD SPACING.

STAINLESS STEEL DECK CLIPS SHALL BE FABRICATED FROM 12 GAUGE STEEL.

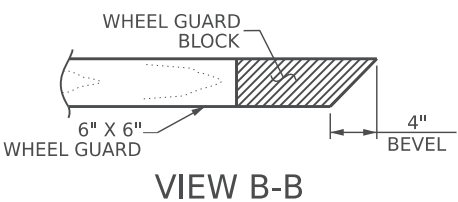
THE 2"x10" TIMBER RUNNERS SHALL BE LAID OUT SYMMETRICALLY ABOUT THE CENTERLINE OF THE BRIDGE. ANY REQUIRED WIDTH ADJUSTMENT SHALL BE MADE AT THE CENTER RUNNER.

PLACE 2X10 WEARING SURFACE BOARDS PARALLEL TO TRAFFIC WITH A UNIFORM 1/4" CLEAR LONGITUDINAL GAP BETWEEN ADJACENT BOARDS. DO NOT BUTT BOARDS TIGHT. THIS GAP SHALL BE MAINTAINED TO FACILITATE SURFACE DRAINAGE AND PREVENT MOISTURE ENTRAPMENT AT THE INTERFACE OF THE STRUCTURAL DECK.

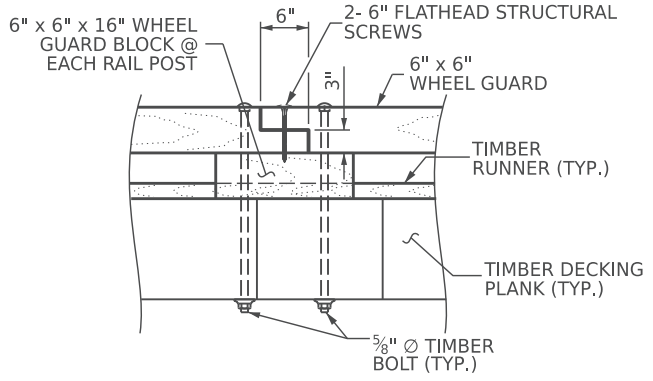
INSTALL 2X10 WEARING SURFACE BOARDS WITH GROWTH RINGS CURVING DOWNWARD TO PROMOTE DRAINAGE.



SECTION AT END BENT



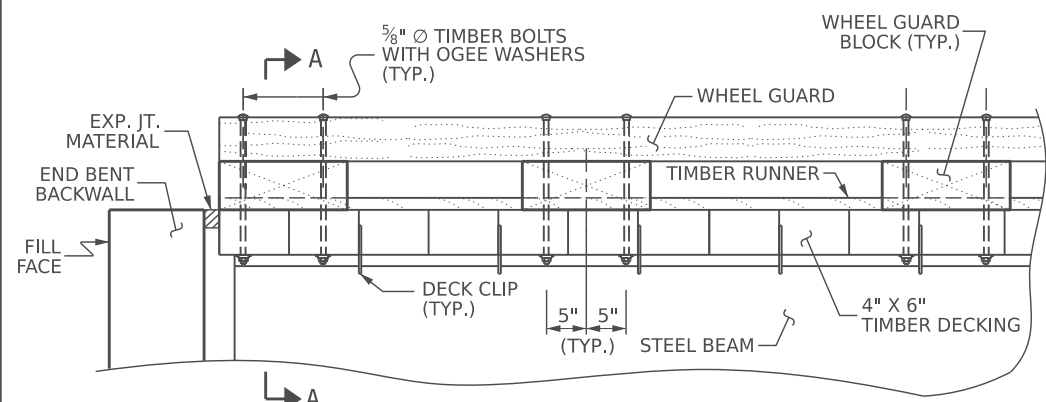
VIEW B-B



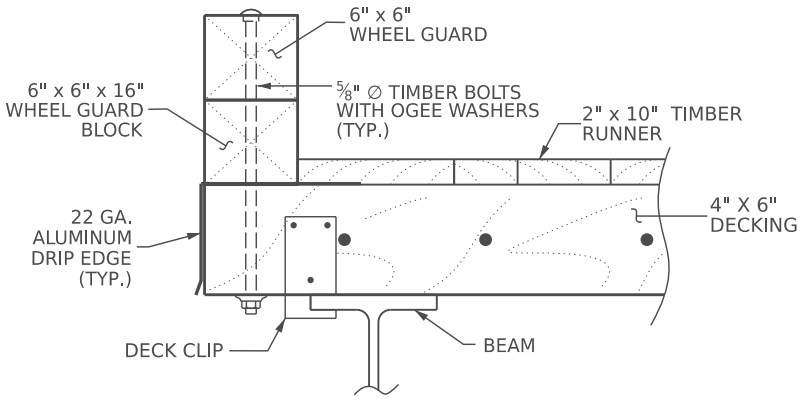
WHEEL GUARD SPLICE DETAIL

DECK CLIP DIMENSIONS		
SPAN	BEAM	*A
20'-0"	W16X36	1/2"
30'-0"	W21X48	1/2"
40'-0"	W24X76	3/4"
50'-0"	W24X104	13/16"
60'-0"	W30X116	15/16"
70'-0"	W33X130	15/16"

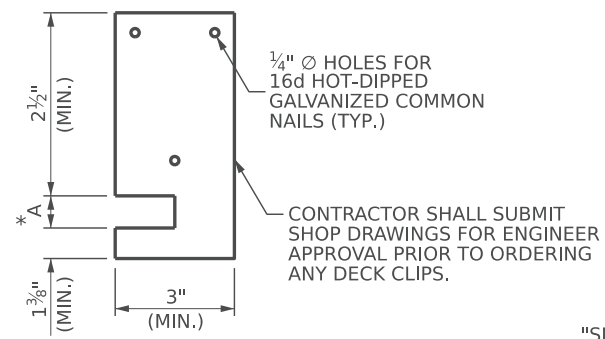
* DIMENSION A IS FOR INFORMATION ONLY. IT IS BASED ON THE FLANGE THICKNESS PLUS A 1/16" TOLERANCE. THE CONTRACTOR SHALL VERIFY THIS DIMENSION WITH DECK CLIP SUPPLIER. THE DECK CLIP SHALL HAVE A SNUG FIT TO THE BEAM FLANGE.



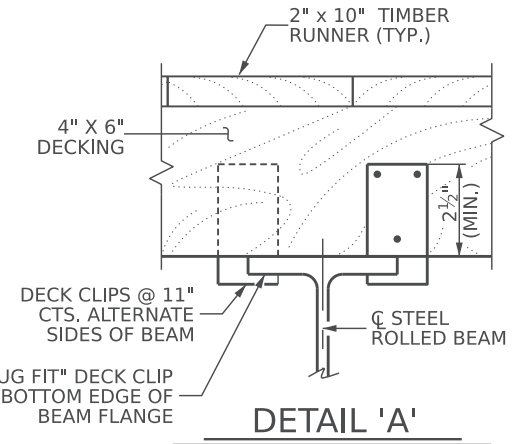
WHEEL GUARD DETAIL AT END BENTS



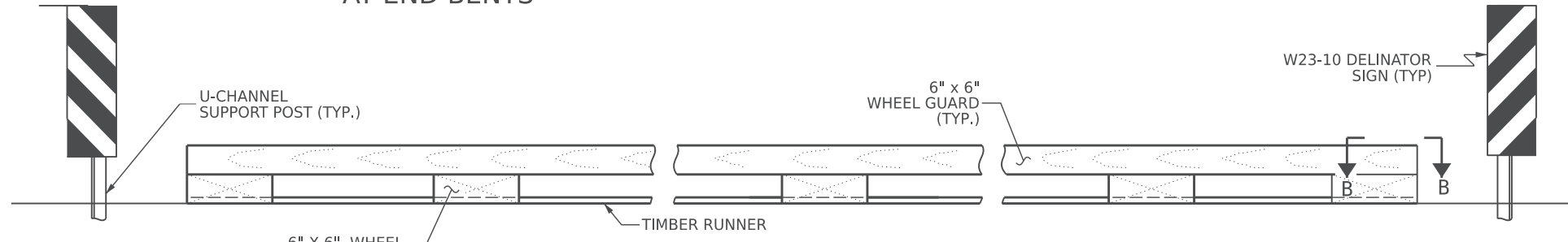
SECTION A-A



DECK CLIP DETAIL



DETAIL 'A'



WHEEL GUARD ELEVATION



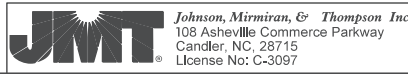
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NORTH CAROLINA OFFICE OF EMERGENCY MANAGEMENT

PRIVATE DRIVEWAY BRIDGE STANDARDS

SINGLE LANE STEEL BEAM BRIDGE
4X6 TIMBER DECK

OPTIONAL TYPICAL SECTION & RAIL DETAILS



DWN. BY: BC
CHKD. BY: GFW
DES. EGR. OF RECORD: GFW

DATE: 04/2026
DATE: 04/2026
DATE: 04/2026

REVISIONS						SHEET NO. S-03
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 13
2			4			

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 DATE: 5/18/2026
 TIME: 11:58:00 AM

DIMENSIONS TABLE				
SPAN	A	B	C	D
20'-0"	20'-0"	22'-6"	5 SPA. @ 3'-8"	10"
30'-0"	30'-0"	32'-6"	7 SPA. @ 4'-0"	1'-0"
40'-0"	40'-0"	42'-6"	9 SPA. @ 4'-3"	10½"
50'-0"	50'-0"	52'-6"	11 SPA. @ 4'-4"	1'-2"
60'-0"	60'-0"	62'-6"	13 SPA. @ 4'-5½"	1'-0¼"
70'-0"	70'-0"	72'-6"	15 SPA. @ 4'-6"	1'-3"

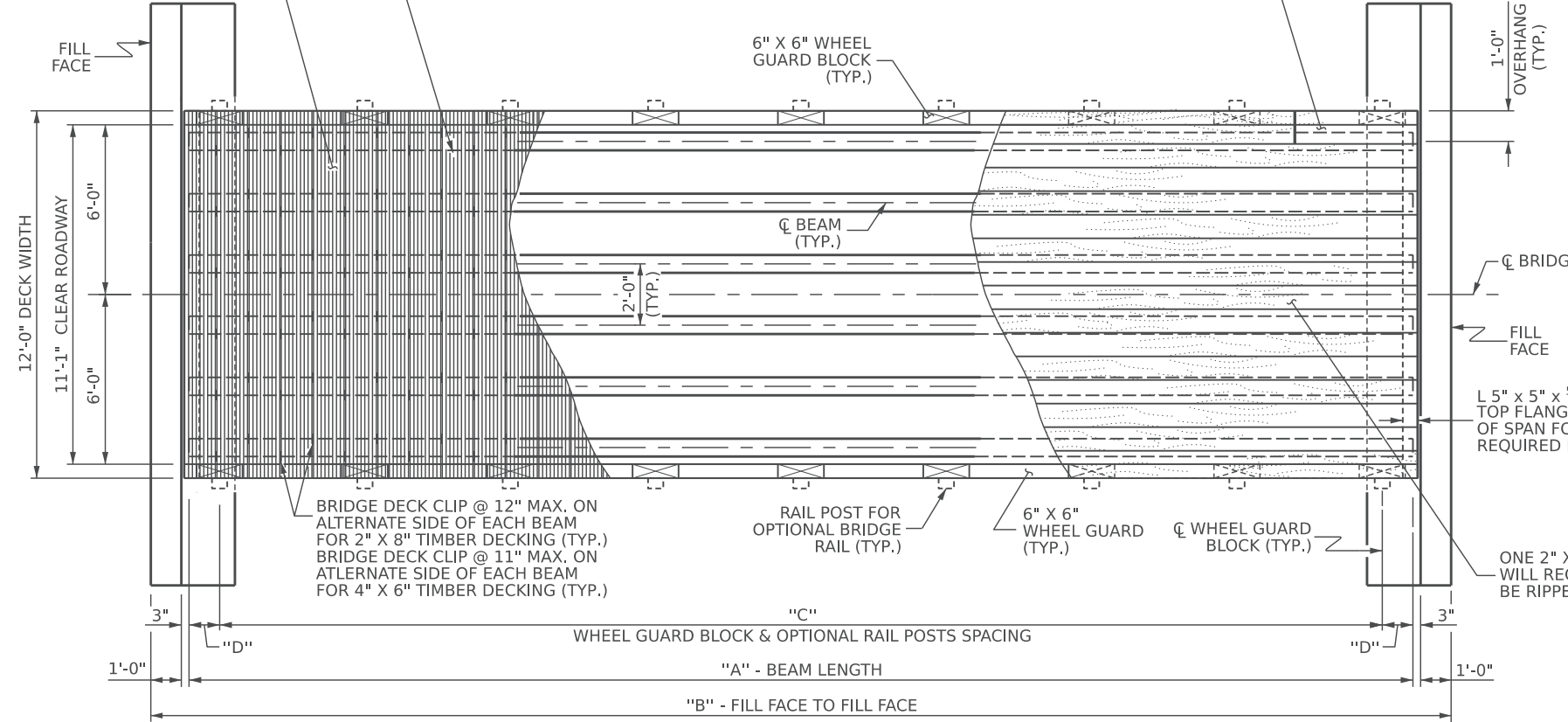
NOTES

FOR ADDITIONAL NOTES, SEE "TYPICAL SECTION & RAIL DETAILS" SHEET, "OPTIONAL TYPICAL SECTION & RAIL DETAILS", AND "GENERAL NOTES" SHEET.

COUNTERSINK FLATHEAD STRUCTURAL TIMBER SCREW HEADS TO BE FLUSH WITH TIMBER SURFACE.

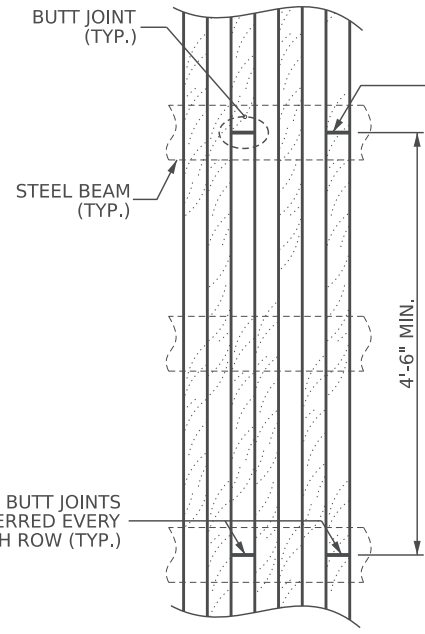
RIP ONE DECK BOARD (CLOSURE BOARD) AS NECESSARY TO PROVIDE A TIGHT, UNIFORM FIT.

PRESSURE TREATED (PT), SP#1, 2" X 8" DECKING SHOWN (8 BOARD CLUSTERS) 4" X 6" DECKING (2 BOARD CLUSTERS) MAY BE USED IN LIEU.



L 5" x 5" x 5/16" ANGLE 12'-0" LONG, WELD TO TOP FLANGE OF EACH BEAM (TYP., EACH END OF SPAN FOR 2" X 8" DECKING). NO ANGLE REQUIRED FOR THE 4" X 6" TIMBER DECKING.

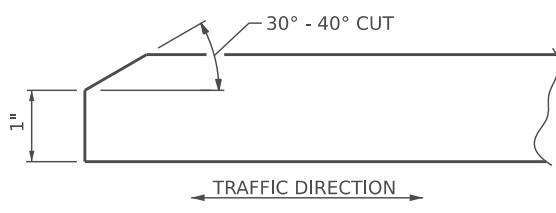
ONE 2" X 10" RUNNER WILL REQUIRE TO BE RIPPED FOR FIT



DECKING BOARD BUTT JOINT DETAIL

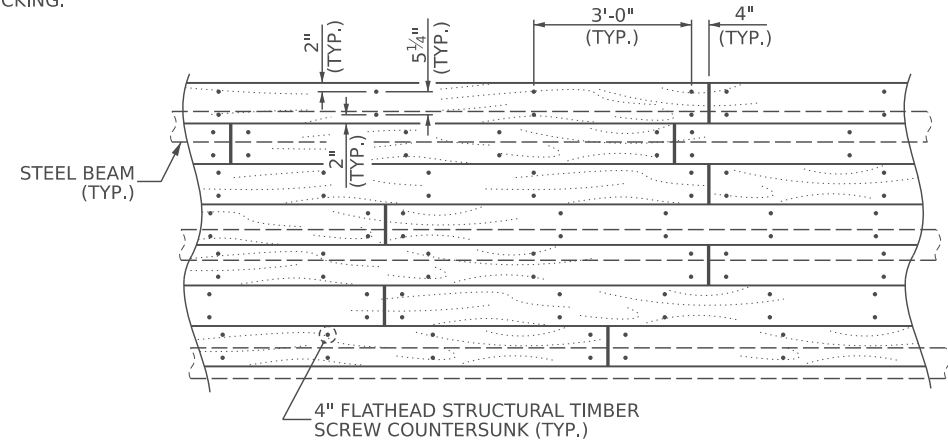
BUTT JOINTS SHALL BE OVER THE CENTERLINE OF A BEAM. JOINTS SHALL BE STAGGERED EVERY FOURTH DECK BOARD. NONE ALLOWED AT THE EXTERIOR BEAMS.

WHEN BUTT JOINTS ARE REQUIRED IN A PLANK RUN, DETAIL THE BUTT JOINTS OVER THE CENTERLINE OF THE BEAM



**SIDE VIEW
TIMBER RUNNER BEVEL DETAIL**
(TYP. AT EACH END OF BRIDGE)

2" X 8" TIMBER DECKING SHOWN. 4" X 6" TIMBER DECKING (6" DIMENSION HORIZONTAL) MAY BE USED IN LIEU OF 2" X 8" DECKING.



TIMBER RUNNER BUTT JOINT DETAIL



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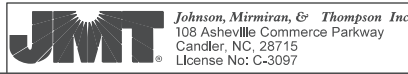
NORTH CAROLINA OFFICE OF
EMERGENCY MANAGEMENT

**PRIVATE DRIVEWAY
BRIDGE STANDARDS**

SINGLE LANE STEEL BEAM BRIDGE
TIMBER DECK

PLAN OF SPAN

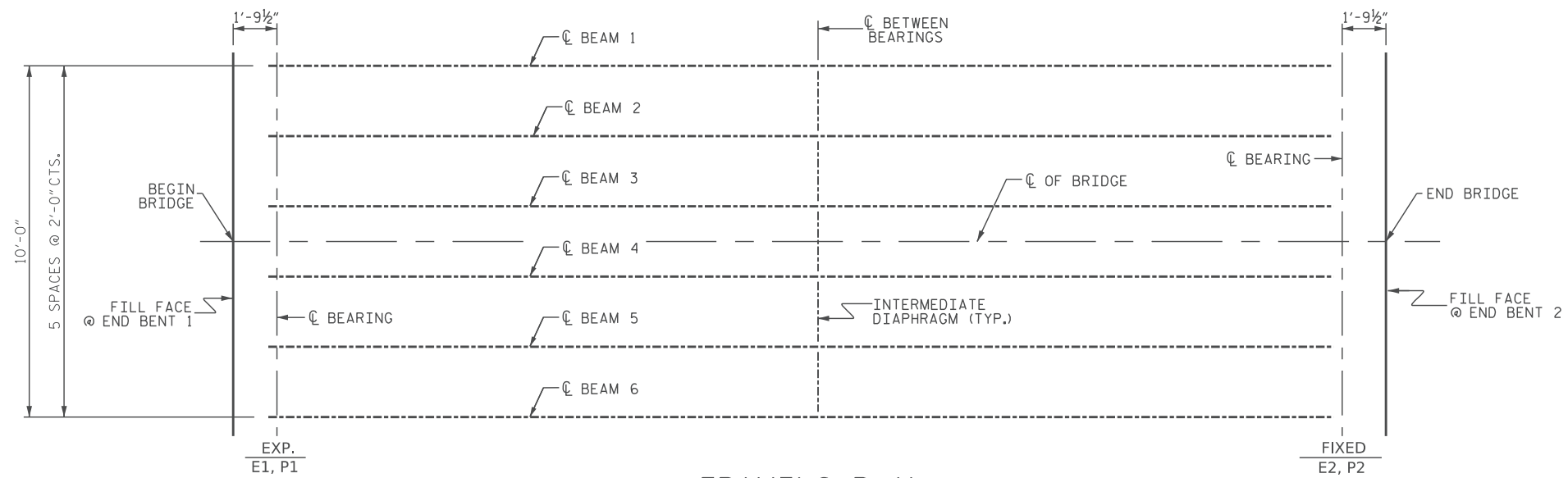
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2			4			13



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CHKD. BY: GFW
DES. EGR. OF RECORD: GFW

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 Date: 5/18/2026
 Time: 5:18:26 PM



FRAMING PLAN
 EXPANSION BEARING SHALL BE PLACED ON THE "UPHILL" END OF THE BRIDGE.

NOTES

NO SALVAGED BEAMS SHALL BE USED, UNLESS OTHERWISE NOTED ON THE PLANS.

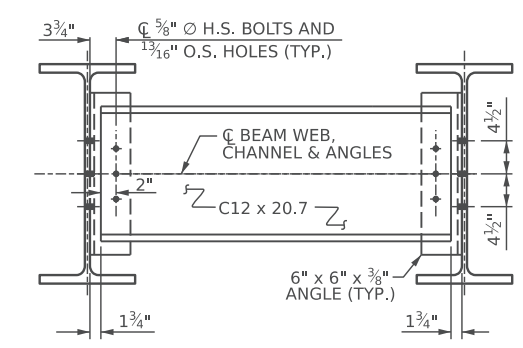
NO SHOP CAMBER REQUIRED, TURN NATURAL MILL CAMBER UP.

ALL STRUCTURAL STEEL FIELD CONNECTIONS SHALL BE 5/8" DIA. GALVANIZED HIGH STRENGTH BOLTS UNLESS OTHERWISE NOTED.

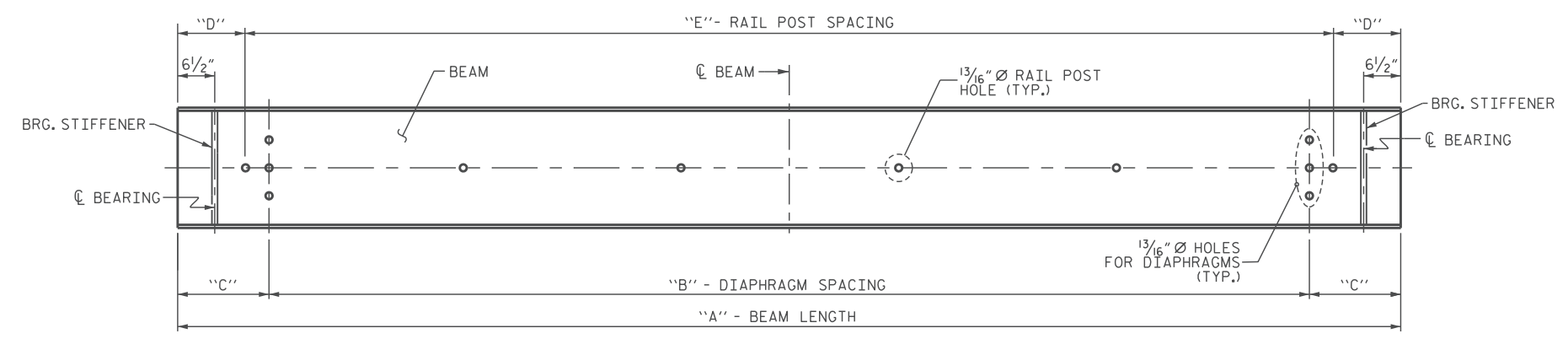
BEAMS SHALL BE PLACED PARALLEL TO THE CHORD.

CONTRACTORS OPTION TO WELD CONNECTOR TO BEAM PRIOR TO SHOP COATING.

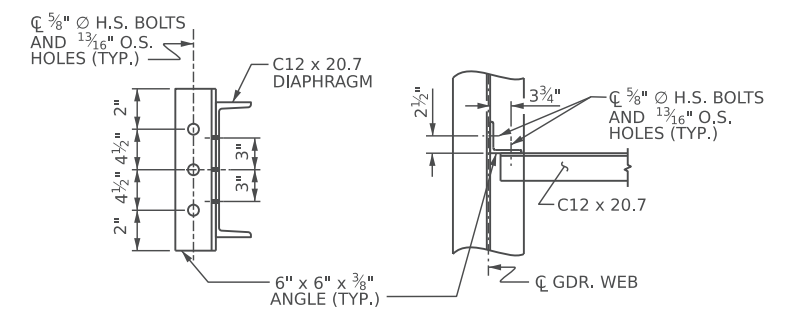
SEE "GENERAL NOTES" SHEET FOR COATING.



DIAPHRAGM DETAILS

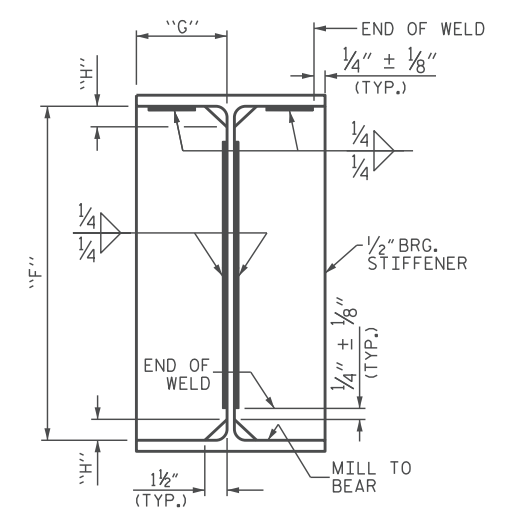


BEAM FLANGE ELEVATION
 SHOWING DIAPHRAGM HOLES FOR ALL BEAMS, AND RAIL POST HOLES FOR EXTERIOR BEAMS.



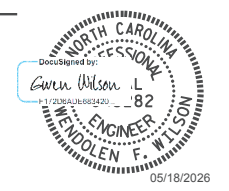
ANGLE DETAILS

BEAM DIMENSION TABLE							
SPAN	BEAM	CHANNEL	A	B	C	D	E
20'-0"	W16X36	C12X20.7	20'-0"	2 SPA. @ 7'-0"	3'-0"	10"	5 SPA. @ 3'-8"
30'-0"	W21X48	C12X20.7	30'-0"	2 SPA @ 12'-0"	3'-0"	1'-0"	7 SPA. @ 4'-0"
40'-0"	W24X76	C12X20.7	40'-0"	2 SPA. @ 17'-0"	3'-0"	10 1/2"	9 SPA. @ 4'-3"
50'-0"	W24X104	C12X20.7	50'-0"	2 SPA. @ 22'-0"	3'-0"	1'-2"	11 SPA. @ 4'-4"
60'-0"	W30X116	C12X20.7	60'-0"	4 SPA. @ 13'-6"	3'-0"	1'-0 1/4"	13 SPA. @ 4'-5 1/2"
70'-0"	W33X130	C12X20.7	70'-0"	4 SPA. @ 16'-0"	3'-0"	1'-3"	15 SPA. @ 4'-6"



SECTION VIEW - BRG. STIFFENER

STIFFENER DIMENSION			
BEAM	F	G	H
W16X36	1'-3"	3 3/8"	2"
W21X48	1'-7 3/4"	3 7/8"	2"
W24X76	1'-10 9/16"	4 1/4"	2 7/16"
W24X104	1'-10 9/16"	6 1/8"	2 3/4"
W30X116	2'-4 1/4"	5"	3 1/16"
W33X130	2'-7 3/8"	5 1/2"	3 1/8"



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NORTH CAROLINA OFFICE OF
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**PRIVATE DRIVEWAY
 BRIDGE STANDARDS**

SINGLE LANE STEEL BEAM BRIDGE
 TIMBER DECK

**FRAMING PLAN &
 BEAM DETAILS**

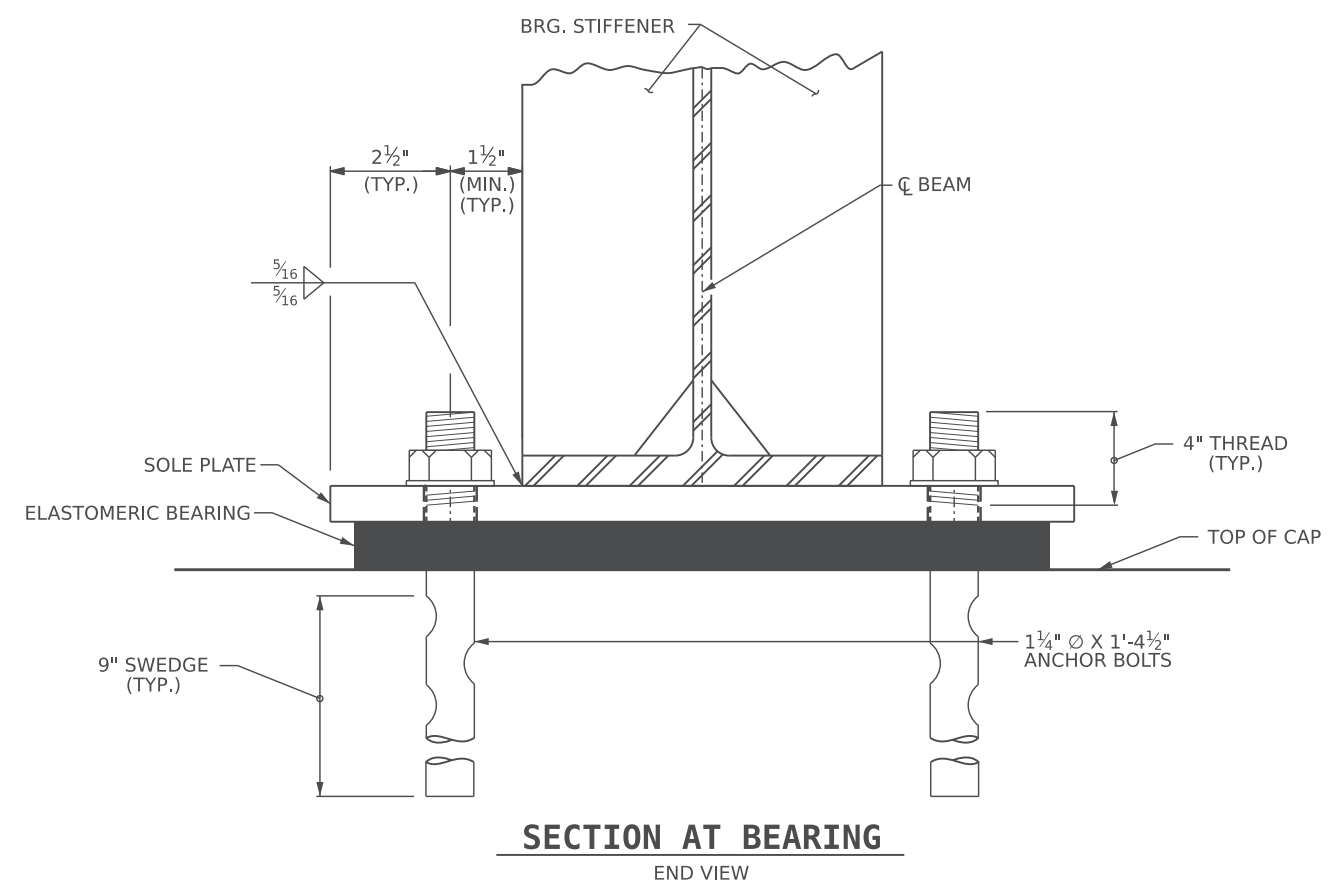
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 TIME: 5/18/2026



DIMENSIONS TABLE						
SPAN	BEAM	FLANGE WIDTH	TYPE	A	B	C
20'-0"	W16X36	7"	I	11"	1'-3"	1'-4"
30'-0"	W21X48	8 1/8"	II	1'-1"	1'-5"	1'-6"
40'-0"	W24X76	9"	II	1'-1"	1'-5"	1'-6"
50'-0"	W24X104	12 3/4"	III	1'-4"	1'-8"	1'-9"
60'-0"	W30X116	10 1/2"	IV	1'-3"	1'-7"	1'-8"
70'-0"	W33X130	11 1/2"	IV	1'-3"	1'-7"	1'-8"

NOTES

ELASTOMER IN ALL BEARINGS SHALL BE 50 DUROMETER HARDNESS IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

AT ALL SUPPORTS, NUTS FOR ANCHOR BOLTS ARE TO BE TIGHTENED FINGER TIGHT AND THEN BACKED OFF 1/2 TURN. THE THREAD OF THE NUT AND BOLT SHALL THEN BE BURRED WITH A SHARP POINTED TOOL.

SOLE PLATES, ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

ALL BEARING PLATES SHALL BE AASHTO M270 GRADE 36.

ANCHOR BOLTS SHALL MEET THE REQUIREMENTS OF ASTM A449. NUTS SHALL MEET THE REQUIREMENTS OF AASHTO M291-DH OR AASHTO M292-2H. WASHERS SHALL MEET THE REQUIREMENTS OF AASHTO M293. SHOP DRAWINGS ARE NOT REQUIRED FOR ANCHOR BOLTS, NUTS, AND WASHERS. SHOP INSPECTION IS REQUIRED.

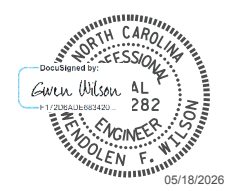
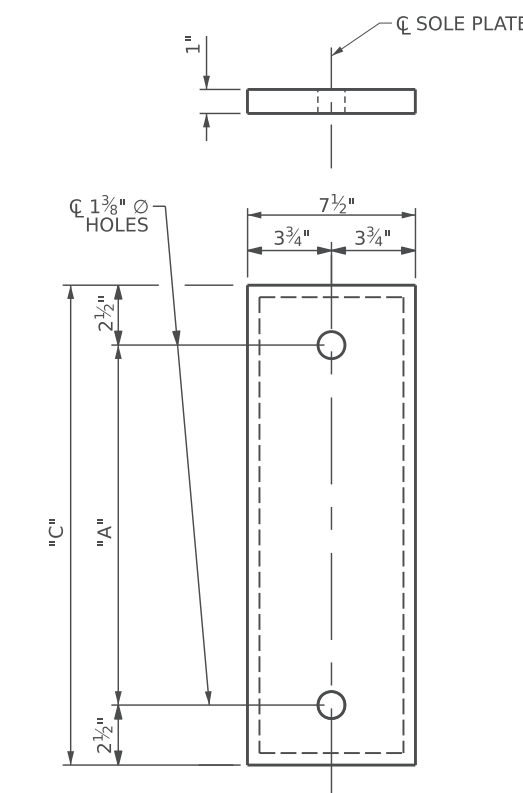
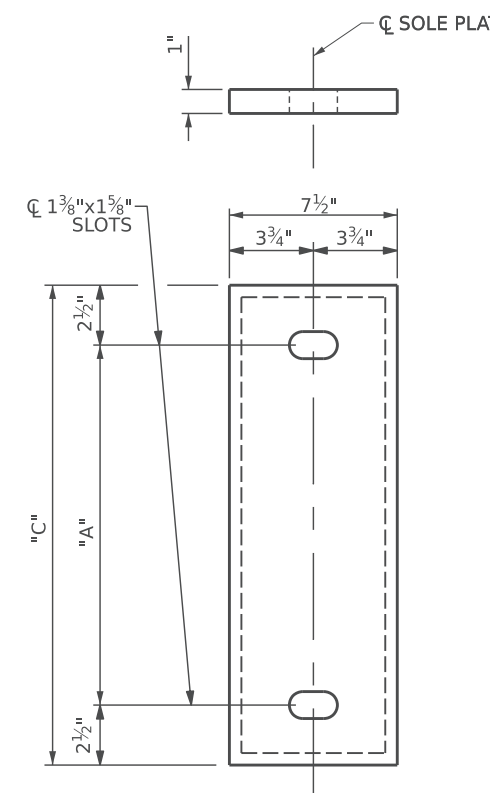
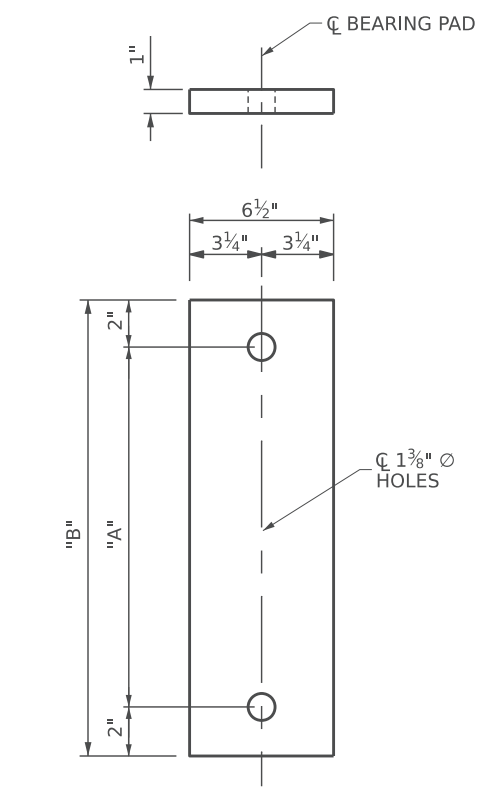
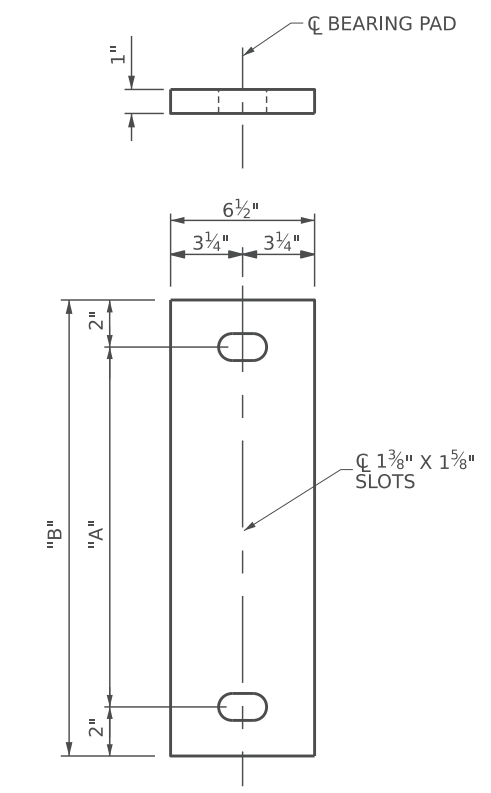
AT THE APPROVAL OF THE ENGINEER, SOLE PLATES AT THE EXPANSION END MAY BE FIELD WELDED.

WHEN FIELD WELDING THE SOLE PLATE TO THE GIRDER FLANGE, USE TEMPERATURE INDICATING WAX PENS, OR OTHER SUITABLE MEANS, TO ENSURE THAT THE TEMPERATURE OF THE SOLE PLATE DOES NOT EXCEED 300° F. TEMPERATURES ABOVE THIS MAY DAMAGE THE ELASTOMER.

ALL SURFACES OF BEARING PLATES SHALL BE SMOOTH AND STRAIGHT.

AT NO ADDITIONAL COST, THE CONTRACTOR MAY USE ADHESIVELY ANCHORED ANCHOR BOLTS IN PLACE OF CAST-IN-PLACE ANCHORS. LEVEL 1 FIELD TESTING IS REQUIRED, AND THE YIELD LOAD OF THE ANCHOR BOLT IS 30 KIPS. FOR ADHESIVELY ANCHORED ANCHOR BOLTS OR DOWELS, SEE STANDARD SPECIFICATIONS.

ADHESIVELY ANCHORED ANCHOR BOLTS SHALL BE THREADED FULL LENGTH.



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NORTH CAROLINA OFFICE OF
EMERGENCY MANAGEMENT
PRIVATE DRIVEWAY
BRIDGE STANDARDS
 SINGLE LANE STEEL BEAM BRIDGE
 TIMBER DECK
BEARING DETAILS

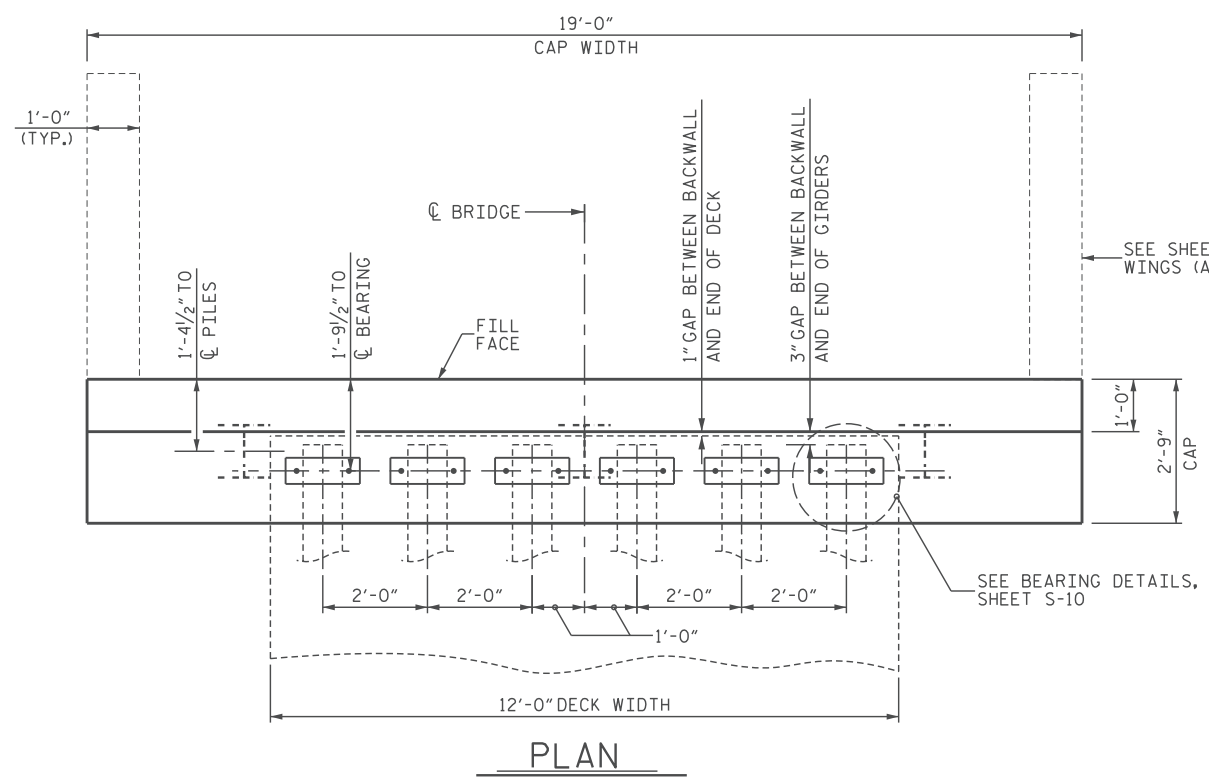
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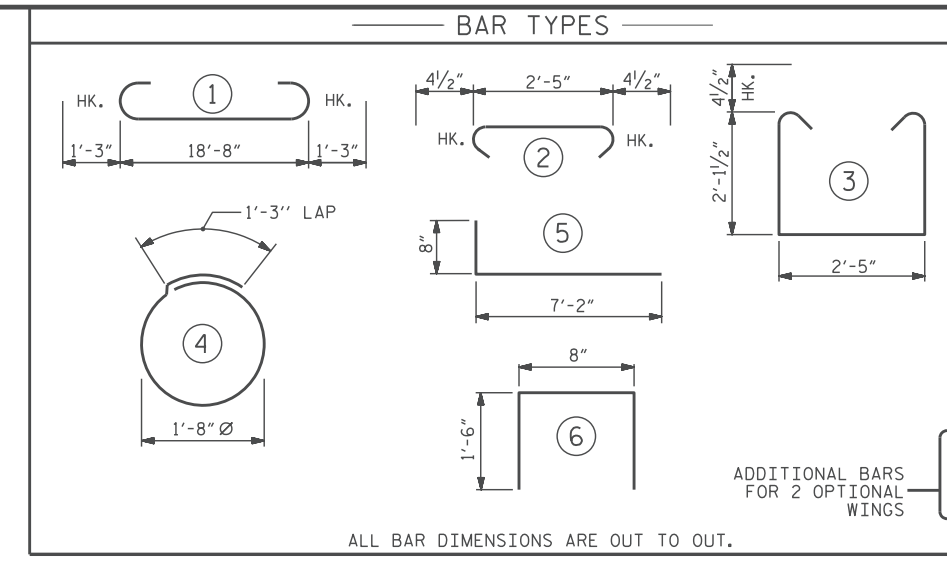
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PLAN



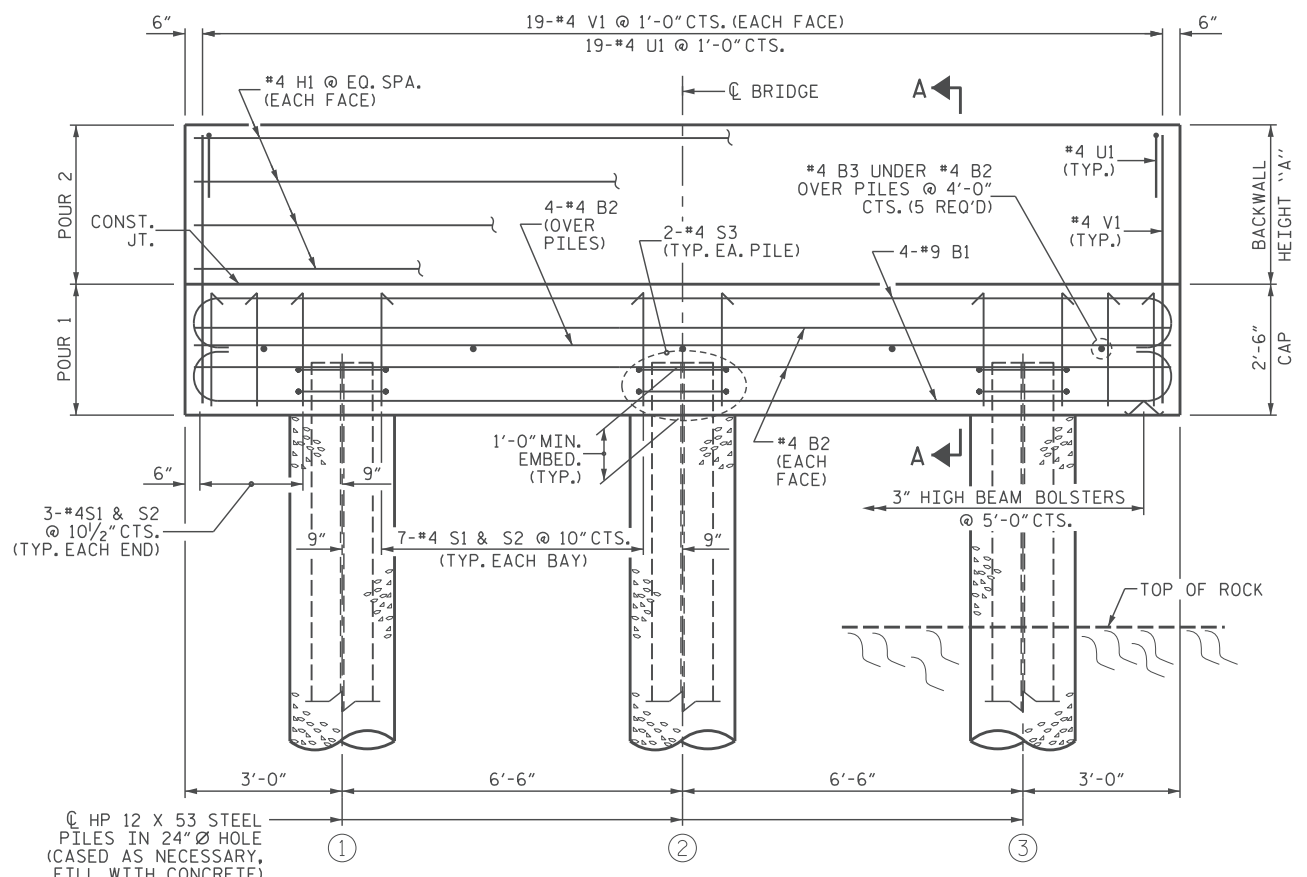
ALL BAR DIMENSIONS ARE OUT TO OUT.

BILL OF MATERIAL FOR ONE END BENT					
BAR NO.	QTY	SIZE	TYPE	LENGTH	WEIGHT
B1	8	#9		21'-2"	576
B2	8	#4	STR	18'-8"	100
B3	5	#4	STR	2'-5"	8
H1	8	#4	STR	18'-8"	100
S1	20	#4	3	7'-5"	99
S2	20	#4	2	3'-2"	42
S3	6	#4	4	6'-6"	26
U1	19	#4	6	3'-8"	47
V1	38	#4	STR	4'-4"	110
H2	28	#4	5	7'-10"	147
V2	56	#4	STR	3'-2"	118
				W/O WINGS	WITH WINGS
REINFORCING STEEL (FOR ONE END BENT) (LBS.) *				1,108	1,373
CLASS A CONCRETE (FOR ONE END BENT) (C.Y.)					
POUR 1				4.8	6.0
POUR 2 *				1.7	2.8
TOTAL				6.5	8.8

BACKWALL HEIGHT			
SPAN	BEAM	A (2X8 DECKING)	A (4X6 DECKING)
20'-0"	W16X36	2'-2 5/8"	1'-10 3/8"
30'-0"	W21X48	2'-7 3/8"	2'-3 3/8"
40'-0"	W24X76	2'-10 5/8"	2'-6 7/8"
50'-0"	W24X104	2'-10 3/4"	2'-7"
60'-0"	W30X116	3'-4 3/4"	3'-1"
70'-0"	W33X130	3'-7 3/4"	3'-4"

DIMENSION "A" (BACKWALL HEIGHT) VARIES BASED ON DECKING TYPE. USE VALUES CORRESPONDING TO SELECTED DECKING OPTION.

* REINFORCING AND CONCRETE QUANTITIES ARE BASED ON THE SHORTEST BACKWALL HEIGHT USING 2X8 DECKING. CONTRACTOR SHALL ADJUST FOR 4X6 DECKING OR INCREASED BACKWALL HEIGHT.



ELEVATION

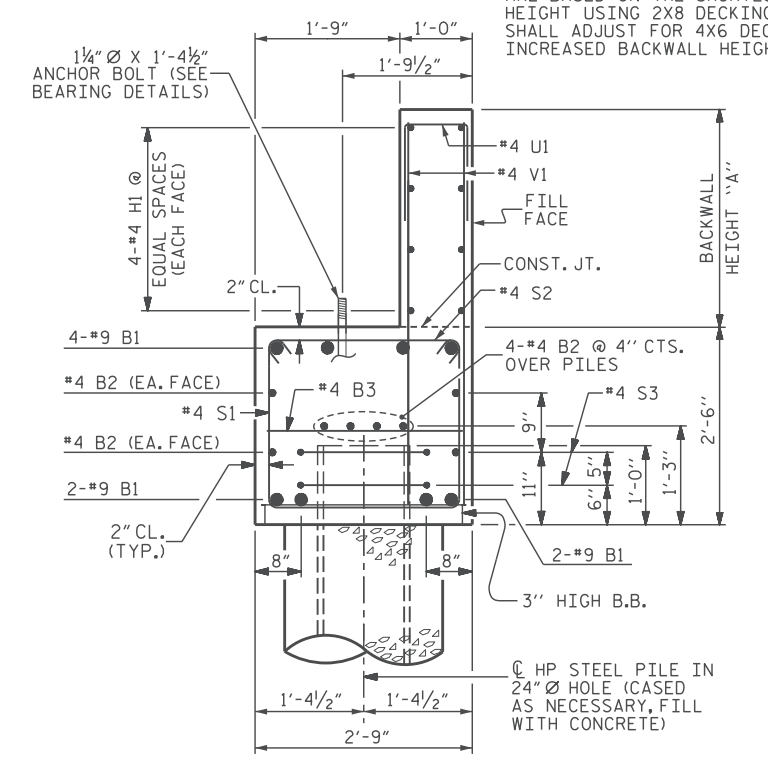
(OPTIONAL WINGS NOT SHOWN FOR CLARITY)

GENERAL NOTES

STIRRUPS IN CAP MAY BE SHIFTED AS NECESSARY TO CLEAR ANCHOR BOLTS.
 CONTRACTOR SHALL SLOPE TOP OF CAP TO MATCH LONGITUDINAL GRADE OF THE BRIDGE. SLOPES SHALL MATCH ON BOTH END BENT 1 AND END BENT 2 CAPS.
 WINGS MAY BE REQUIRED AT THE DIRECTION OF THE ENGINEER OR DESIGNEE.
 FOR OPTIONAL WINGS FOR END BENT, SEE SHEET S-10.
 FOR BEARING DETAILS, SEE SHEET S-10.
 FOR PILE SPlice DETAILS, SEE SHEET S-10.

FOUNDATION NOTES

DRILLED-IN PILES
 ROCK QUALITY DESIGNATION (ROD)
 GEOLOGICAL STRENGTH INDEX (GSI)
 INSTALL DRILLED-IN PILES IN ACCORDANCE WITH SECTION 450 OF THE STANDARD SPECIFICATIONS.
 MINIMUM PILE PENETRATION OF 10-FT INTO NATURAL GROUND OR CHANNEL BOTTOM IS REQUIRED.
 MINIMUM ROCK SOCKET DEPTHS, UNLESS OTHERWISE INDICATED ON PROJECT SPECIFIC DATA SHEET:
 4' MINIMUM (ROD >70, GSI >50)
 6' MINIMUM (ROD 30-70, GSI 30-50)
 8' MINIMUM (ROD <30, GSI <30)
 REFER TO BORING LOGS FOR ROD AND GSI DATA.
 PILES SHALL BE SEATED IN THE BOTTOM OF THE EXCAVATION. PILE DRIVING IS NOT REQUIRED.
 BACKFILL WITH CONCRETE ONLY. DO NOT PROCEED WITH CONSTRUCTION ACTIVITIES UNTIL THE 28 DAY STRENGTH IS ACHIEVED.



SECTION A-A

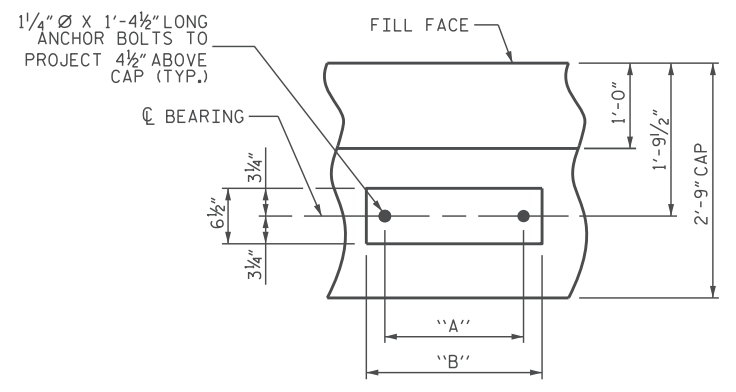
SHEET 1 OF 2

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NORTH CAROLINA OFFICE OF
EMERGENCY MANAGEMENT
PRIVATE DRIVEWAY BRIDGE STANDARDS
 SINGLE LANE STEEL BEAM BRIDGE
 TIMBER DECK
END BENT DRILLED-IN PILES

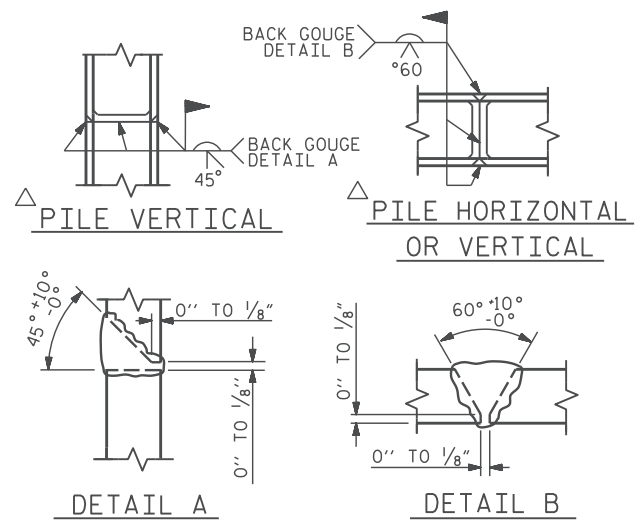
Johnson, Mirmiran, & Thompson Inc. 108 Asheville Commerce Parkway Candler, NC, 28715 License No: C-3097	DWN. BY: BC CHKD. BY: GFW DES. EGR. OF RECORD: GFW	DATE: 04/2026 DATE: 04/2026 DATE: 04/2026	NO. 1 NO. 2	BY: 3 BY: 4	DATE:	SHEET NO. S-09 TOTAL SHEETS 13
	REVISIONS					

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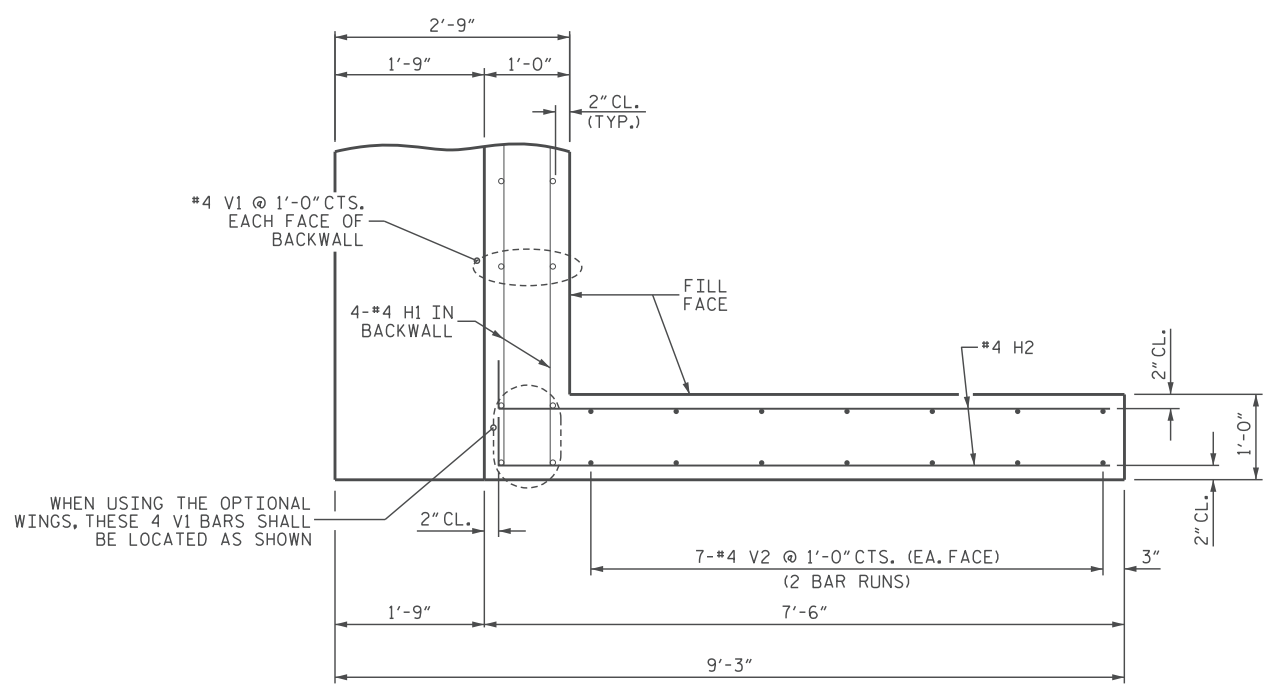
BEARING DETAIL

(TYP. EACH BEARING LOCATION)
 REFER TO DIMENSIONS TABLE ON SHEET S-07 FOR DIMENSIONS A AND B.



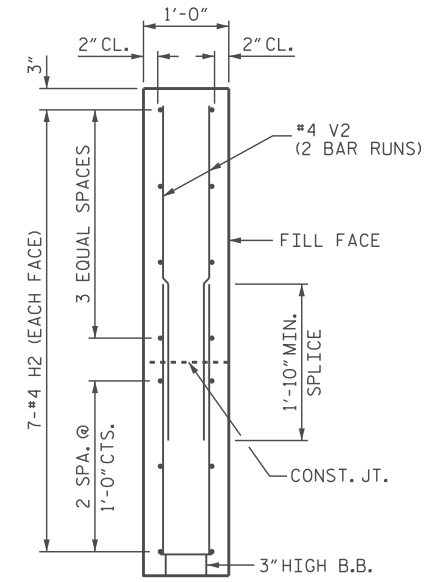
PILE SPLICE DETAILS

△ POSITION OF PILE DURING WELDING.



ELEVATION OF WING

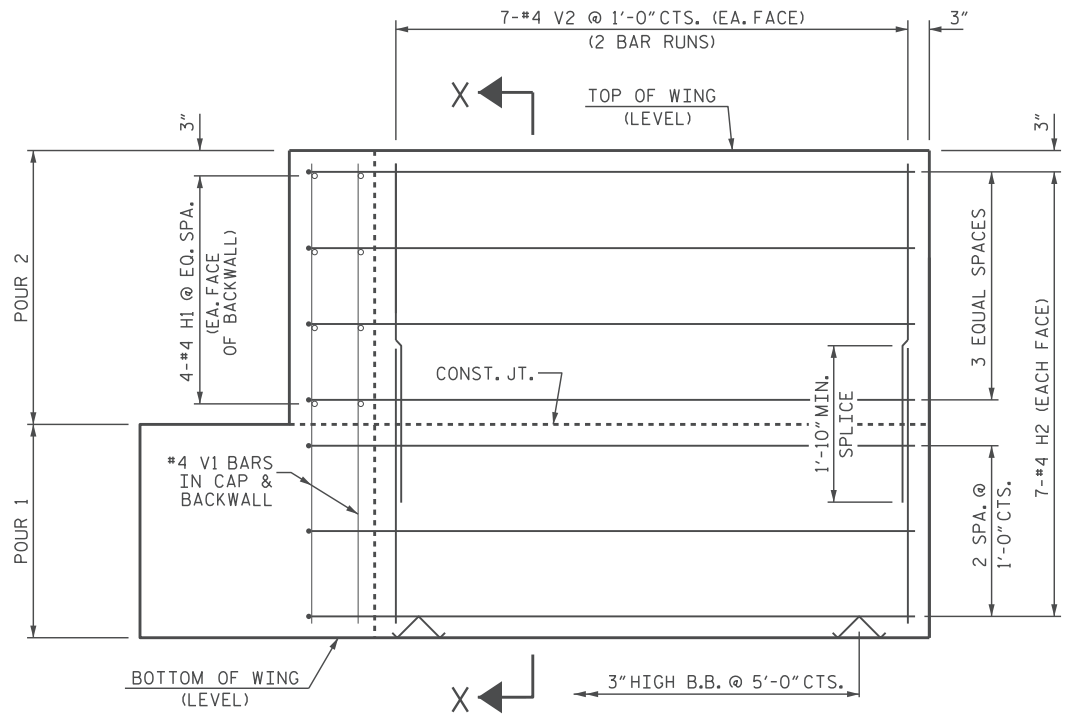
(OPTIONAL)



SECTION X-X

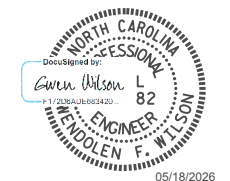
(OPTIONAL)

RIGHT SIDE WING SHOWN, LEFT SIDE WING SIMILAR.
 WING HEIGHT DEPENDENT ON BACKWALL HEIGHT.



PLAN OF WING

(OPTIONAL)



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SHEET 2 OF 2

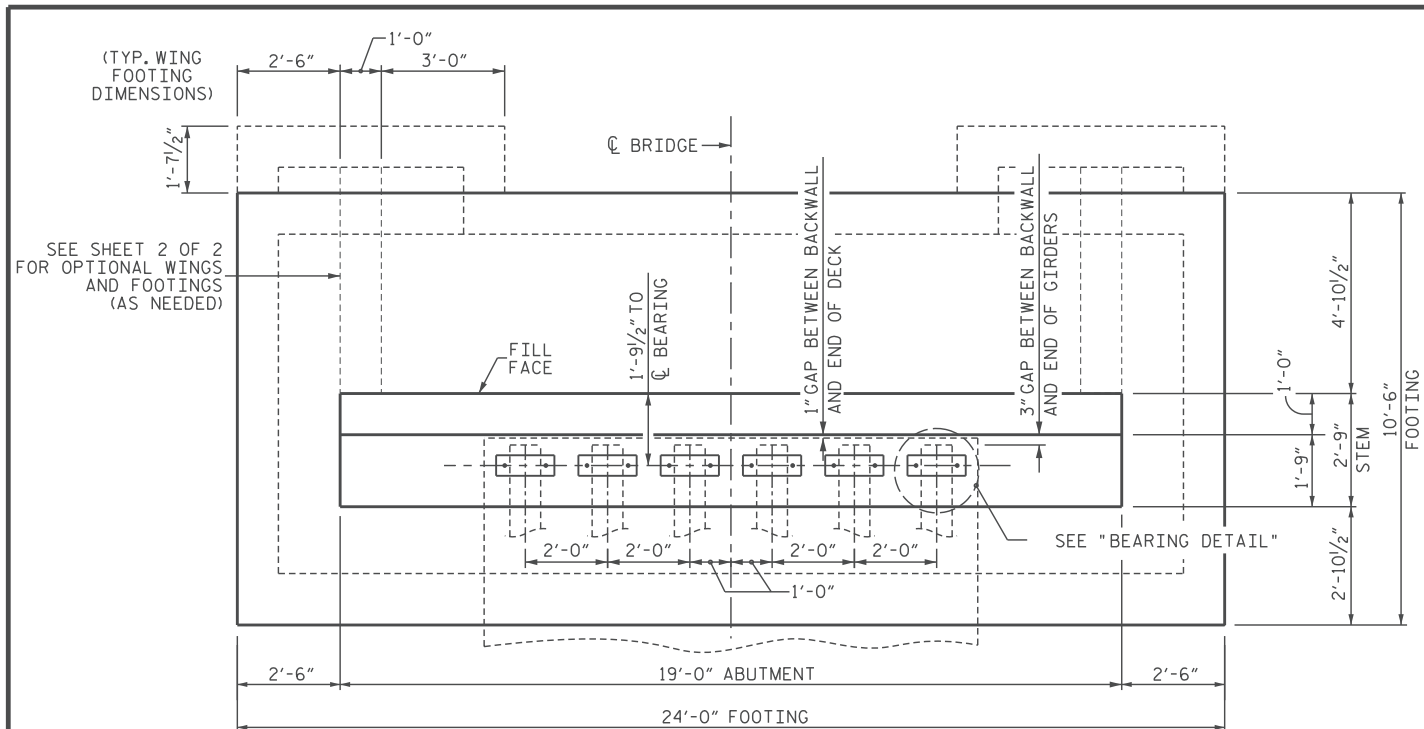
NORTH CAROLINA OFFICE OF
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PRIVATE DRIVEWAY BRIDGE STANDARDS
 SINGLE LANE STEEL BEAM BRIDGE
 TIMBER DECK
OPTIONAL WINGS FOR DRIVEN OR DRILLED-IN PILES

REVISIONS						SHEET NO.
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1			3			TOTAL SHEETS
2			4			13

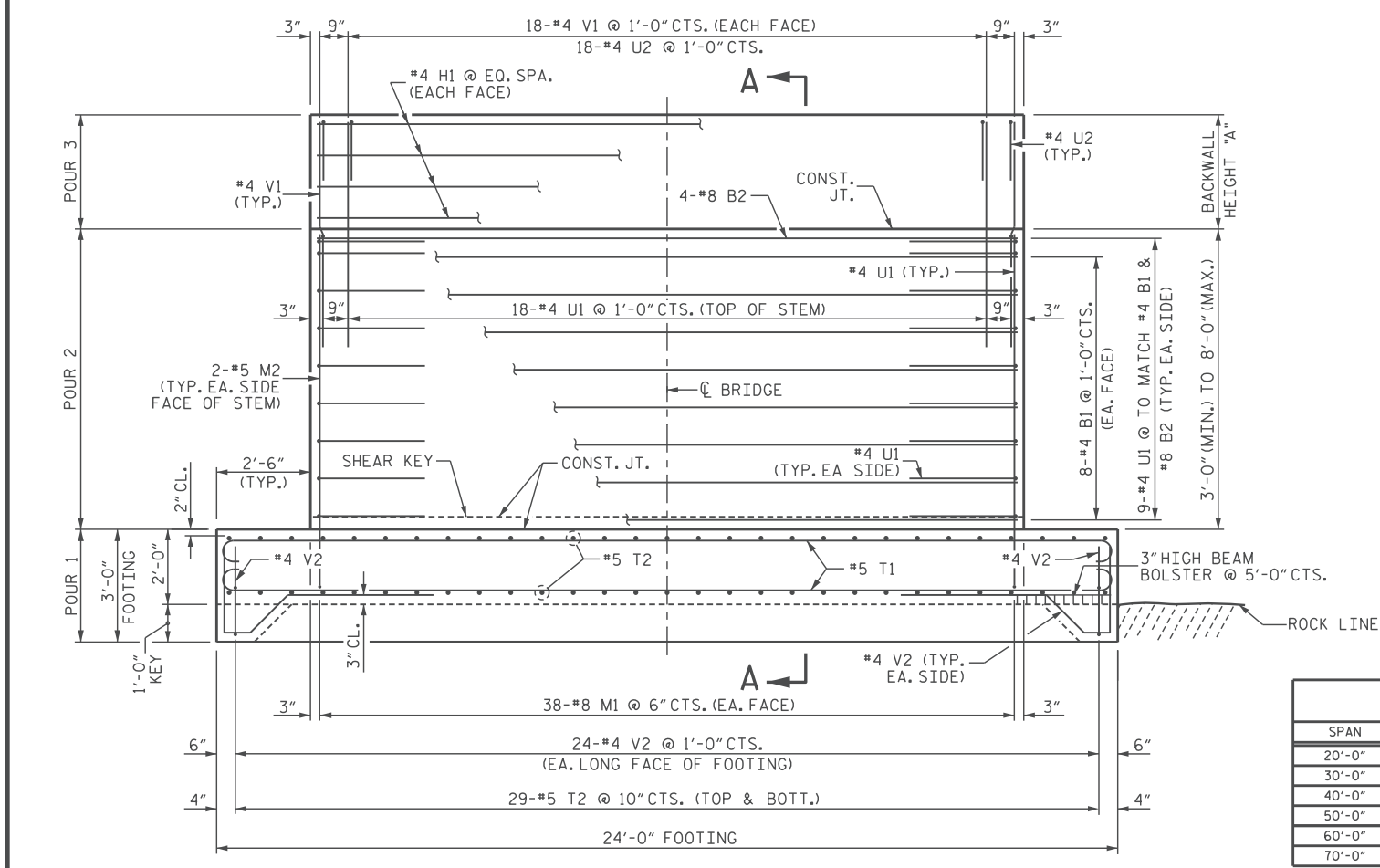
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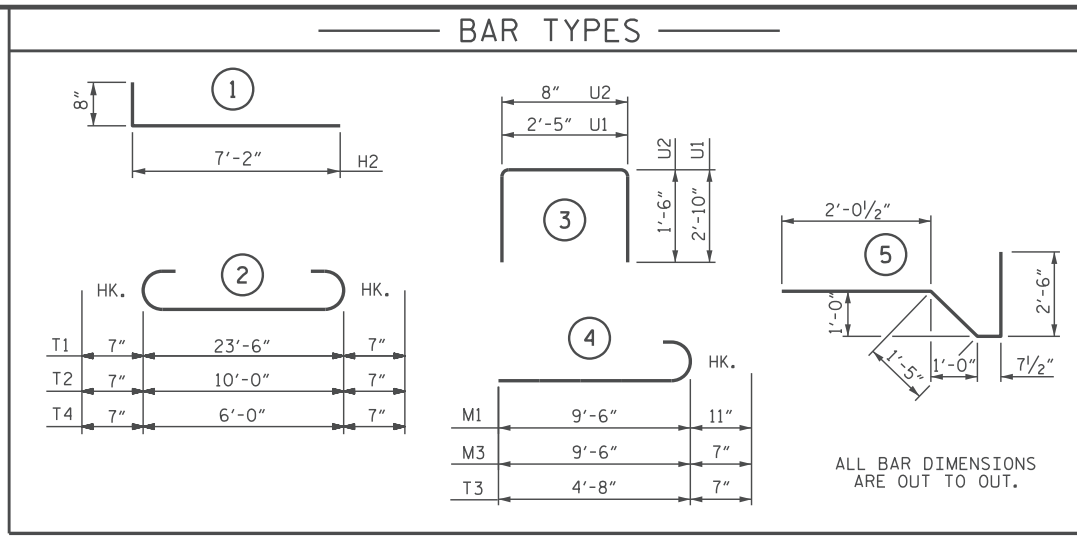


PLAN



ELEVATION

(OPTIONAL WINGS NOT SHOWN FOR CLARITY)



GENERAL NOTES

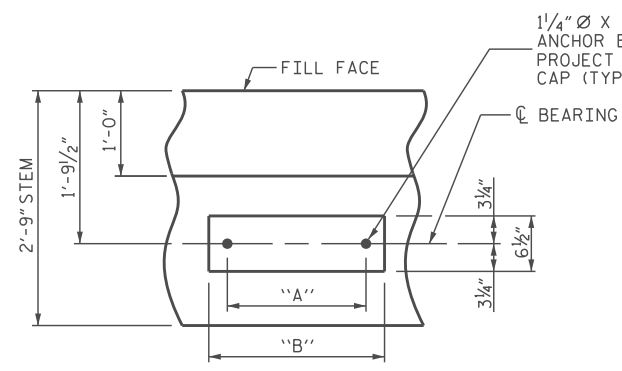
U1 BARS IN STEM MAY BE SHIFTED AS NECESSARY TO CLEAR ANCHOR BOLTS.
 CONTRACTOR SHALL SLOPE TOP OF CAP TO MATCH LONGITUDINAL GRADE OF THE BRIDGE. SLOPES SHALL MATCH ON BOTH END BENT 1 AND END BENT 2 CAPS.
 WINGS MAY BE REQUIRED AT THE DIRECTION OF THE ENGINEER OR DESIGNEE.
 FOR OPTIONAL WINGS FOR END BENT, SEE SHEET 2 OF 2.
 FOR SECTION A-A, SEE SHEET 2 OF 2.

FOUNDATION NOTES

SPREAD FOOTING
 FOUNDATION EXCAVATIONS SHALL BE ACCOMPLISHED IN ACCORDANCE WITH SECTION 410 OF THE SPECIFICATIONS.
 A GEOTECHNICAL ENGINEER LICENSED IN THE STATE OF NORTH CAROLINA SHALL OBSERVE THE BEARING SURFACE AND CONFIRM THE FOOTING IS CONSTRUCTED ON ROCK. THE ENGINEER SHALL PROVIDE A LETTER VERIFYING ACCEPTANCE OF THE BEARING SURFACE.
 CLEAN ALL ROCK OF LOOSE MATERIAL AND CUT TO A FIRM SURFACE, AS DIRECTED BY THE ENGINEER AND FILL WITH CONCRETE, MORTAR OR GROUT. LEAVE ROCK SURFACE IN A ROUGH CONDITION.
 BEARING SURFACE MUST RESIST A MAXIMUM APPLIED BEARING PRESSURE OF 5.0 KSF.
 KEY IN FOOTINGS AT LEAST 1 FT INTO ROCK.

BACKWALL HEIGHT			
SPAN	BEAM	A (2X8 DECKING)	A (4X6 DECKING)
20'-0"	W16X36	2'-2 5/8"	1'-10 3/8"
30'-0"	W21X48	2'-7 3/8"	2'-3 3/8"
40'-0"	W24X76	2'-10 3/8"	2'-6 3/8"
50'-0"	W24X104	2'-10 3/8"	2'-7"
60'-0"	W30X116	3'-4 3/8"	3'-1"
70'-0"	W33X130	3'-7 3/8"	3'-4"

DIMENSION "A" (BACKWALL HEIGHT) VARIES BASED ON DECKING TYPE. USE VALUES CORRESPONDING TO SELECTED DECKING OPTION.



BEARING DETAIL

(TYP. EACH BEARING LOCATION)
 REFER TO DIMENSIONS TABLE ON SHEET S-07 FOR DIMENSIONS A AND B.

** BILL OF MATERIAL FOR ONE END BENT					
BAR NO.	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	16	#4	STR	18'-8"	200
B2	4	#8	STR	18'-8"	199
H1	8	#4	STR	18'-8"	100
M1	76	#8	4	10'-5"	2,114
M2	4	#5	STR	7'-6"	31
T1	26	#5	2	24'-8"	669
T2	58	#5	2	11'-2"	676
U1	38	#4	3	8'-1"	205
U2	20	#4	3	3'-8"	49
V1	40	#4	STR	6'-0"	160
V2	70	#4	5	6'-7"	308
H2	52	#4	1	7'-10"	272
M3	40	#5	4	10'-1"	421
M4	40	#5	STR	5'-4"	223
T3	32	#5	4	5'-3"	175
T4	8	#5	2	7'-2"	60
V2	22	#4	5	6'-7"	97
REINFORCING STEEL (W/O WINGS)					4711 LBS.
REINFORCING STEEL (WITH WINGS)					5959 LBS.
CLASS A CONCRETE BREAKDOWN					
POUR #1 FOOTING					22.5 C.Y.
POUR #2 END BENT STEM					15.5 C.Y.
POUR #3 BACKWALL					1.6 C.Y.
WINGWALLS (OPTIONAL)					7.5 C.Y.
TOTAL CLASS A CONCRETE (W/O WINGS)					39.6 C.Y.
TOTAL CLASS A CONCRETE (WITH WINGS)					47.1 CY

ADDITIONAL BARS FOR 2 OPTIONAL WINGS WITH FOOTINGS

* THE CONTRACTOR'S ATTENTION IS CALLED TO THE FACT THAT THE QUANTITIES AND REINFORCING BARS SHOWN IN THE BILL OF MATERIAL ARE BASED ON AN 8'-0" MAXIMUM STEM WALL HEIGHT AND THE SHORTEST BACKWALL HEIGHT USING 2X8 DECKING. THE CONTRACTOR IS RESPONSIBLE FOR THE FINAL QUANTITIES BASED ON THE ACTUAL STEM WALL AND BACKWALL HEIGHTS.



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SHEET 1 OF 2

NORTH CAROLINA OFFICE OF
EMERGENCY MANAGEMENT
PRIVATE DRIVEWAY BRIDGE STANDARDS
 SINGLE LANE STEEL BEAM BRIDGE
 TIMBER DECK
END BENT
SPREAD FOOTING

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-11
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2			4			



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