



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

ROY COOPER
GOVERNOR

J. ERIC BOYETTE
SECRETARY

April 13, 2023

Addendum No. 2

RE: Contract # C204741

WBS # 45762.3.1

FEDERAL AID NO. NHP-0029(062)

Cabarrus County (B-5808)

BRIDGES #57 AND #59 OVER IRISH BUFFALO CREEK ON US-29 AND US-601.

April 18, 2023 Letting

To Whom It May Concern:

Reference is made to the plans furnished to you on this project.

The following revisions have been made to the Structures Plans.

Sheet No.	Revision
S-6 thru S-8	Note regarding Temporary Barrier added.
S-9	Temporary Barrier w/Drainage Slots note revised.
S-25	Twelfth Paragraph removed under "Notes".

Please void the above listed Sheets in your Plans and staple the revised Sheets thereto.

The contract will be prepared accordingly.

Sincerely,

Ronald E. Davenport, Jr., PE
State Contract Officer

DocuSigned by:
Ronald Elton Davenport, Jr.
F81B6038A47A442...

RED/cms
Attachments

cc: Mr. Boyd Tharrington, PE
Mr. Brett D. Canipe, PE
Mr. Ken Kennedy, PE
Mr. Mike Gwyn
Project File (2)

Mr. Forrest Dungan, PE
Ms. Jaci Kincaid
Mr. Jon Weathersbee, PE

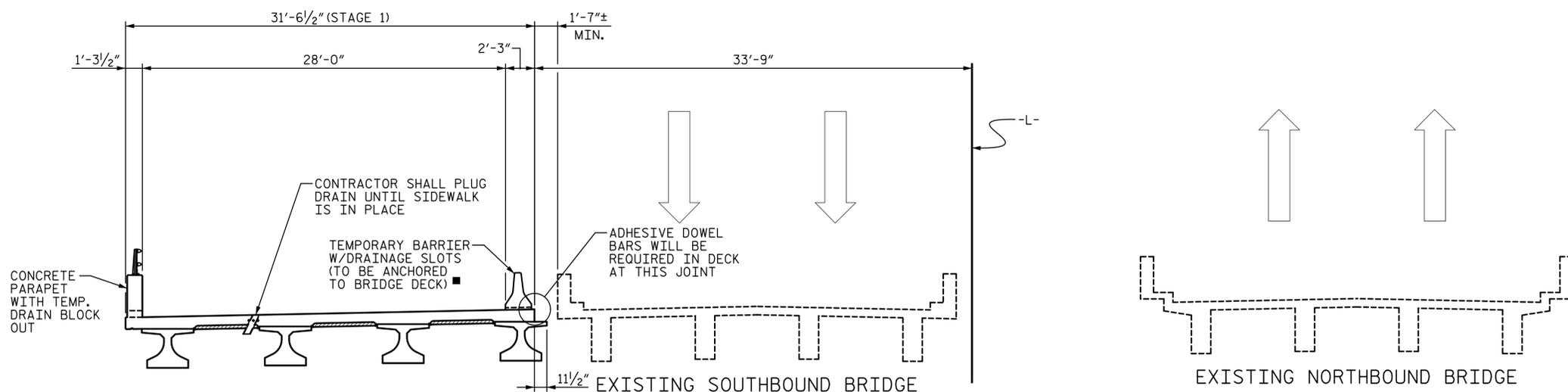
Mailing Address:
NC DEPARTMENT OF TRANSPORTATION
CONTRACT STANDARDS AND DEVELOPMENT
1591 MAIL SERVICE CENTER
RALEIGH, NC 27699-1591

Telephone: (919) 707-6900
Fax: (919) 250-4127
Customer Service: 1-877-368-4968

Location:
1020 BIRCH RIDGE DR.
RALEIGH, NC 27610

Website: www.ncdot.gov

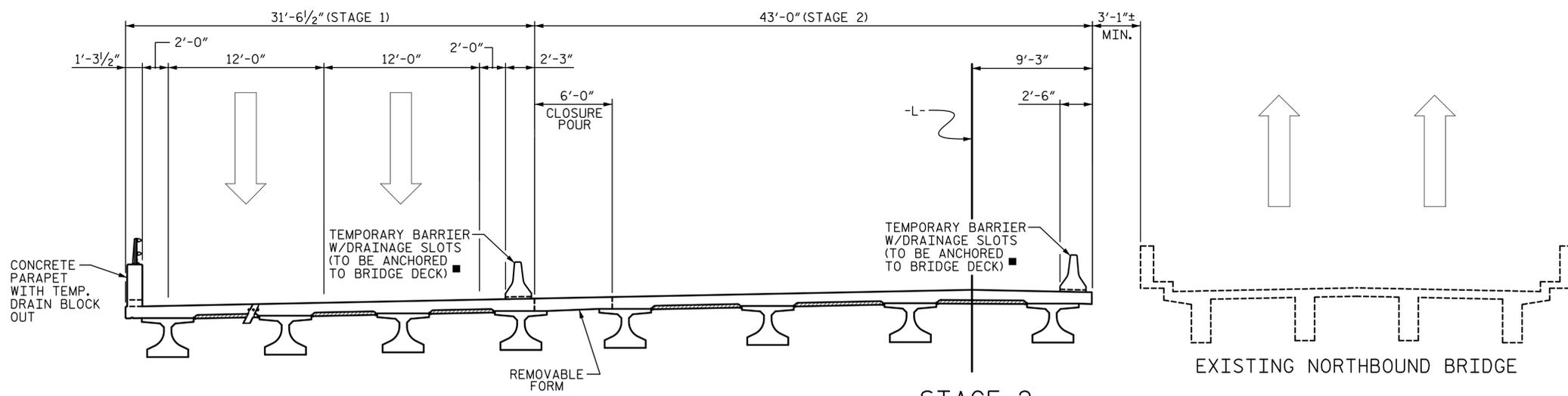
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STAGE 1

1. MAINTAIN EXISTING TRAFFIC PATTERN.
2. CONSTRUCT STAGE 1 OF PROPOSED BRIDGE EXCEPT SIDEWALK.

■ TEMPORARY BARRIER IS A TRAFFIC CONTROL DETAIL AND PAY ITEM, SEE TRAFFIC CONTROL PLANS FOR LOCATIONS AND PAY LIMITS.



STAGE 2

1. SHIFT SOUTHBOUND TRAFFIC TO STAGE 1 OF PROPOSED BRIDGE AND DEMOLISH EXISTING SOUTHBOUND BRIDGE.
2. CONSTRUCT STAGE 2 OF PROPOSED BRIDGE EXCEPT CONCRETE MEDIAN STRIP.

PROJECT NO. B-5808
CABARRUS COUNTY
 STATION: 20+64.00 -L-

SHEET 1 OF 2



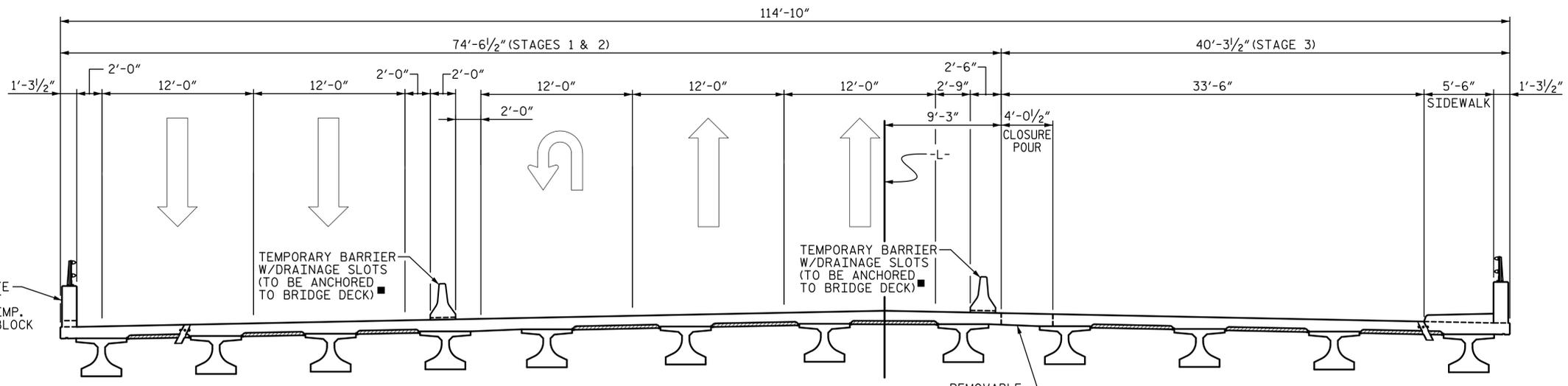
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 100 900 West Trade St., Suite 715
 Charlotte, NC 28202
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STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
BRIDGE CONSTRUCTION SEQUENCE					
REVISIONS					SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
					S-6
					TOTAL SHEETS 65

ASSEMBLED BY : SGH DATE : 7-21
 CHECKED BY : MLO DATE : 6-22
 DESIGN ENGINEER OF RECORD : J. GRISCOM DATE : 3-23

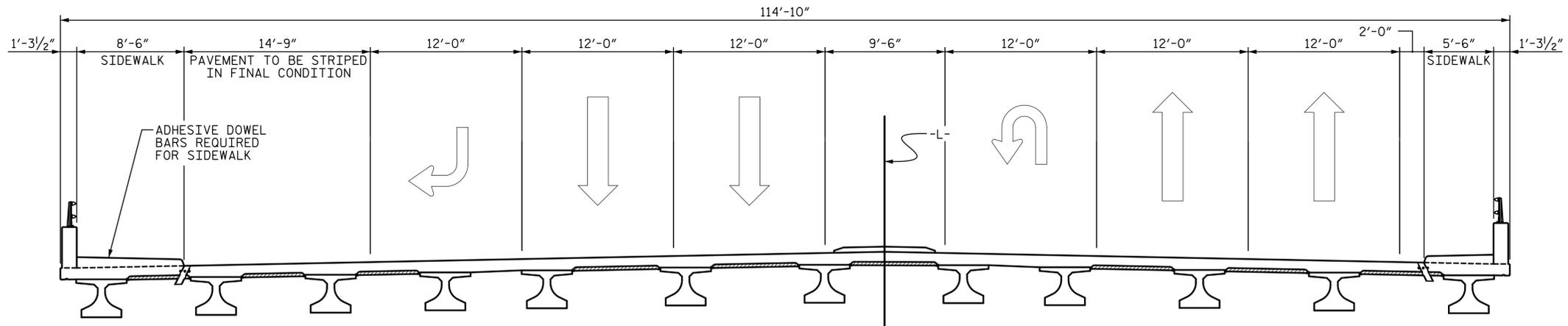
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STAGE 3

1. SHIFT NORTHBOUND TRAFFIC TO STAGE 2 OF PROPOSED BRIDGE AND DEMOLISH EXISTING NORTHBOUND BRIDGE.
2. CONSTRUCT STAGE 3 OF PROPOSED BRIDGE.

■ TEMPORARY BARRIER IS A TRAFFIC CONTROL DETAIL AND PAY ITEM, SEE TRAFFIC CONTROL PLANS FOR LOCATIONS AND PAY LIMITS.



STAGE 4

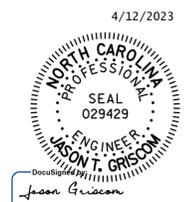
1. SHIFT TRAFFIC TO FINAL PATTERN.
2. FILL TEMPORARY DRAINAGE BLOCKOUTS WITH AN APPROVED GROUT.
3. CONSTRUCT SIDEWALK ON LEFT SIDE AND CONCRETE MEDIAN STRIP.
4. UNPLUG DECK DRAINS.
5. REMOVE TEMPORARY GLANDS IN JOINTS AND INSTALL FINAL CONTINUOUS GLAND.

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SHEET 2 OF 2

STATE OF NORTH CAROLINA
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 RALEIGH

BRIDGE CONSTRUCTION SEQUENCE



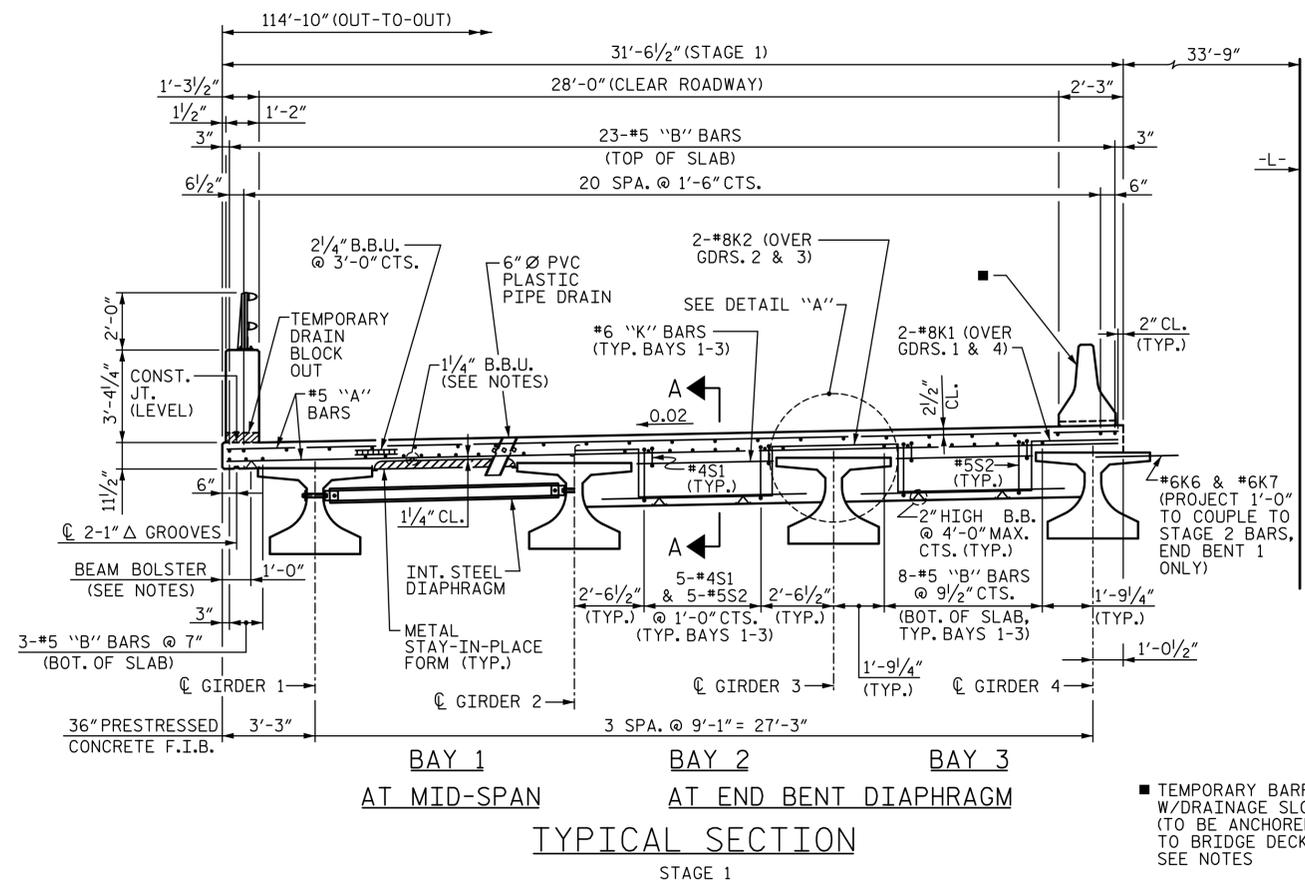
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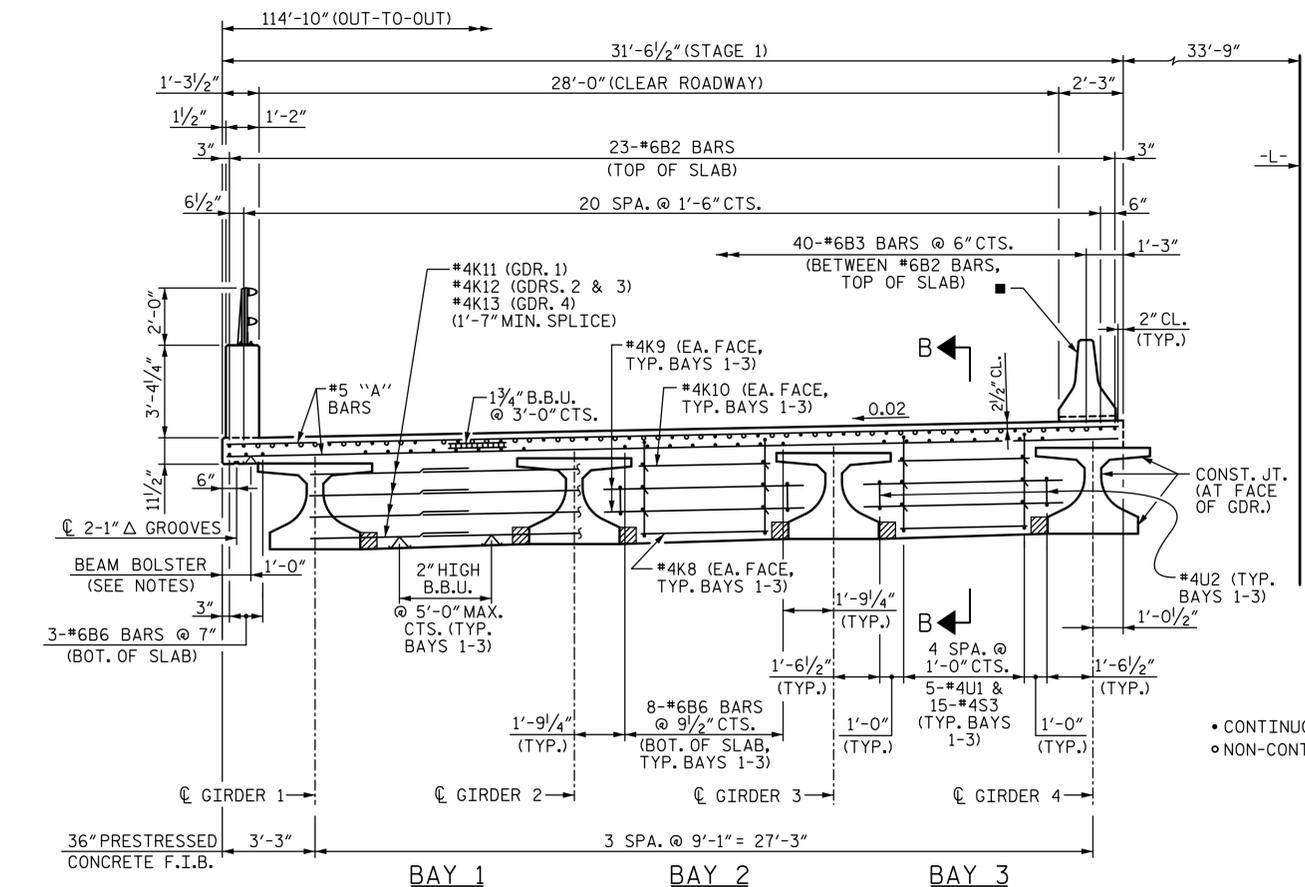
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DESIGN ENGINEER OF RECORD :	J. GRISCOM	DATE :	3-23

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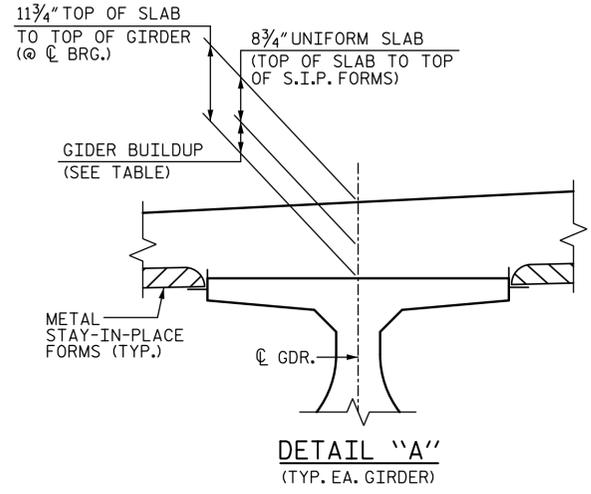
TYPICAL SECTION AT MID-SPAN STAGE 1



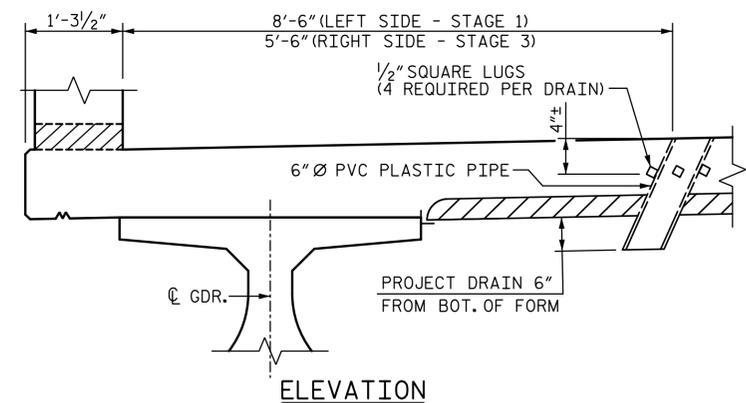
TYPICAL SECTION AT BENT DIAPHRAGM STAGE 1

NOTES:

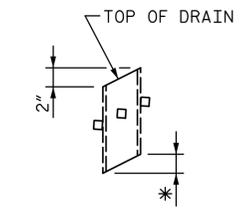
- PROVIDE 1/4" HIGH BEAM BOLSTERS UPPER AT 4'-0" CTS. ATOP THE METAL STAY-IN-PLACE FORMS TO SUPPORT THE BOTTOM MAT OF "A" BARS. WHEN USING REMOVEABLE FORMS, PROVIDE CONTINUOUS HIGH CHAIRS FOR METAL DECK (CHCM) AT 4'-0" CTS. WITH A HEIGHT TO SUPPORT THE BOTTOM MAT OF "A" BARS A CLEAR DISTANCE OF 2 1/2" ABOVE THE TOP OF THE REMOVEABLE FORM.
- LONGITUDINAL STEEL MAY BE SHIFTED SLIGHTLY, AS NECESSARY, TO AVOID INTERFERENCE WITH STIRRUPS IN PRESTRESSED CONCRETE GIRDERS AND 6" PVC PLASTIC PIPE DRAINS.
- HEIGHT OF BEAM BOLSTER IN OVERHANG WILL VARY ALONG THE SPAN. CONTRACTOR SHALL DETERMINE HEIGHT REQUIRED TO MAINTAIN REQUIRED CLEARANCES.
- FOR SECTIONS A-A & B-B SEE "SUPERSTRUCTURE DETAILS" SHEETS.
- FOR CONCRETE PARAPET, SEE "1'-2" x 3'-4 1/4" CONCRETE PARAPET" SHEETS.
- FOR 2-BAR METAL RAIL, SEE "2-BAR METAL RAIL" SHEETS.
- PREVIOUSLY CAST CONCRETE IN A CONTINUOUS UNIT SHALL HAVE ATTAINED A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI BEFORE ADDITIONAL CONCRETE IS CAST IN THE UNIT.
- CONCRETE PARAPET SHALL NOT BE CAST UNTIL ALL SLAB CONCRETE HAS BEEN CAST AND ATTAINED A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI.
- SIDEWALK SHALL BE PLACED IN STAGE 4. FOR DETAILS, SEE "SIDEWALK DETAILS" SHEETS.
- FOR INTERMEDIATE STEEL DIAPHRAGMS, SEE "INTERMEDIATE STEEL DIAPHRAGMS FOR 36" FIB" SHEET.
- TEMPORARY BARRIER IS A TRAFFIC CONTROL DETAIL AND PAY ITEM, SEE TRAFFIC CONTROL PLANS FOR LOCATIONS AND PAY LIMITS.



DETAIL "A" (TYP. EA. GIRDER)



ELEVATION



PIPE DETAIL

DRAIN DETAILS

(LEFT SIDE-STAGE 1 SHOWN, RIGHT SIDE-STAGE 3 SIMILAR.)
DRAINS IN STAGE 1 SHALL BE PLUGGED DURING STAGES 1-3. UNPLUG DRAINS AFTER SIDEWALK PLACEMENT IN STAGE 4.

* TO BE SET TO MATCH SLOPE OF BOTTOM OF S.I.P. FORM
(14 DRAINS REQUIRED)

PIPE DETAIL

GIRDER BUILDUP		
	CL BRG.	MAX. @ MIDSPAN ▲
SPAN A, GDRS. 3 & 5-12	3"	2 5/8"
SPAN B, GDRS. 10 & 11	3"	3"
SPAN C, GDRS. 6-7 & 10-12	3"	2 1/4"

▲ BASED ON PREDICTED FINAL CAMBER AND THEORETICAL GRADE LINE ELEVATIONS.

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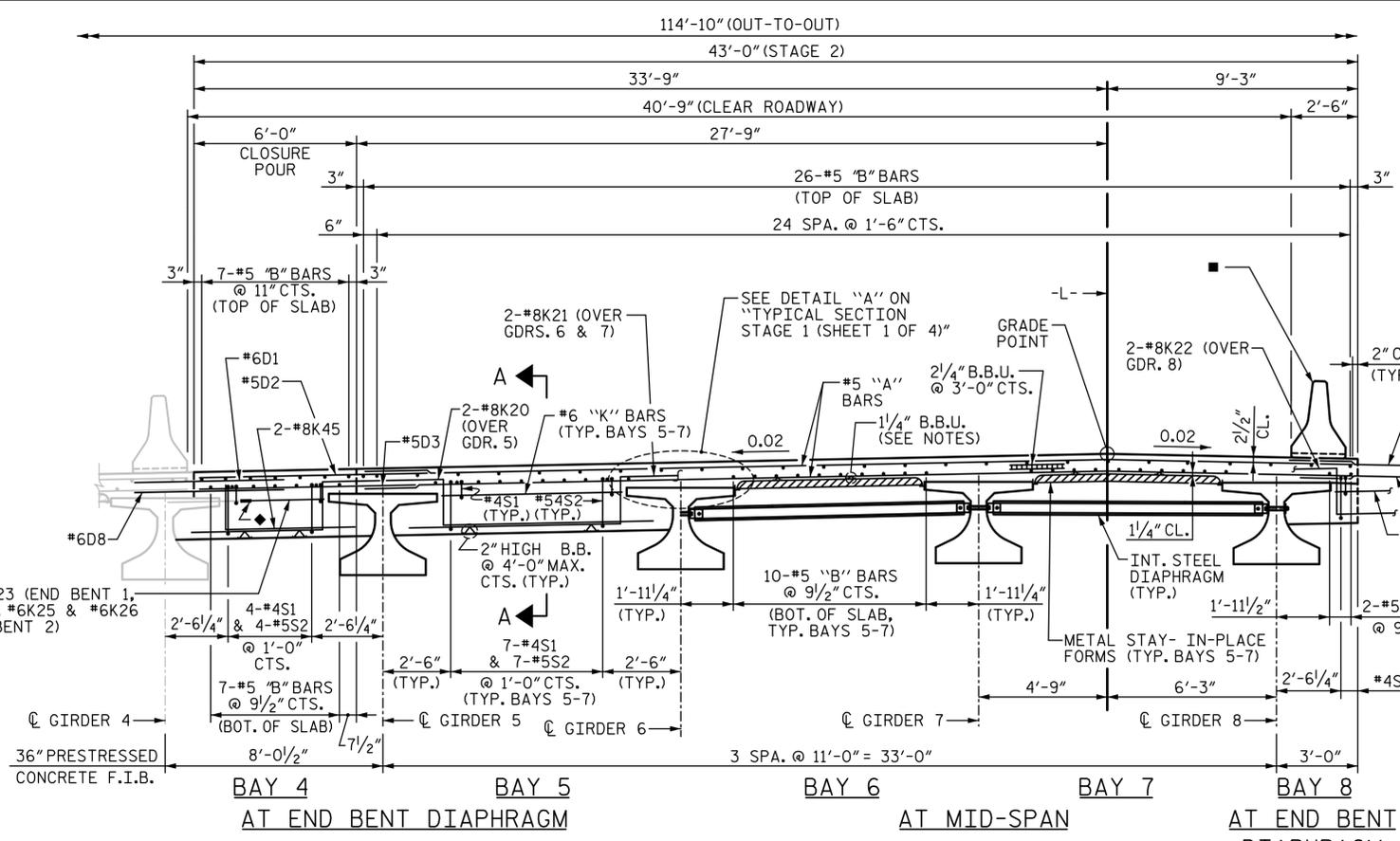
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Charlotte, NC 28202
NC License Number F-0991

PROJECT NO. **B-5808**
CABARRUS COUNTY
STATION: **20+64.00 -L-**

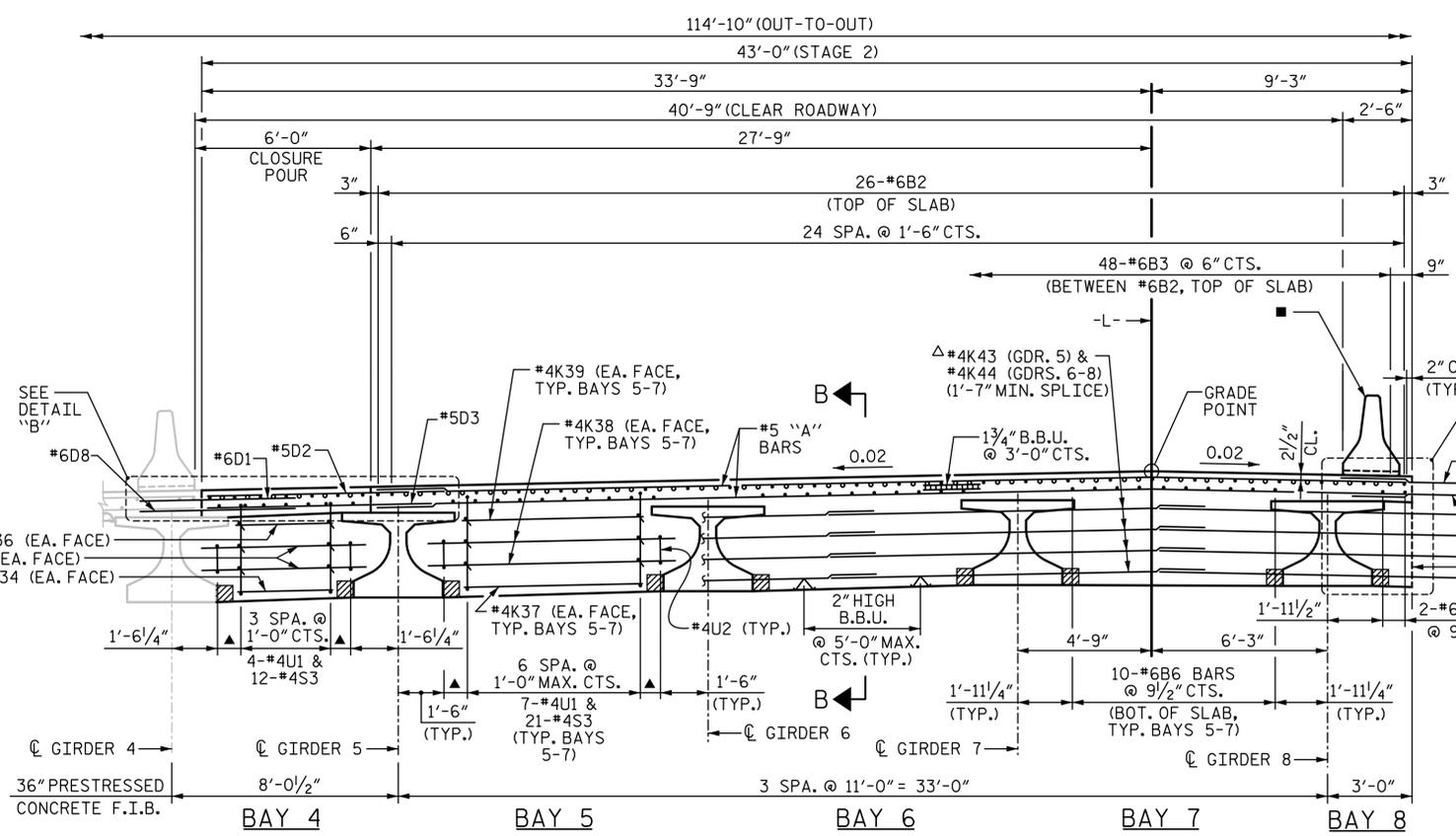
SHEET 1 OF 4

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
TYPICAL SECTION STAGE 1					
REVISIONS					SHEET NO.
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					TOTAL SHEETS 65

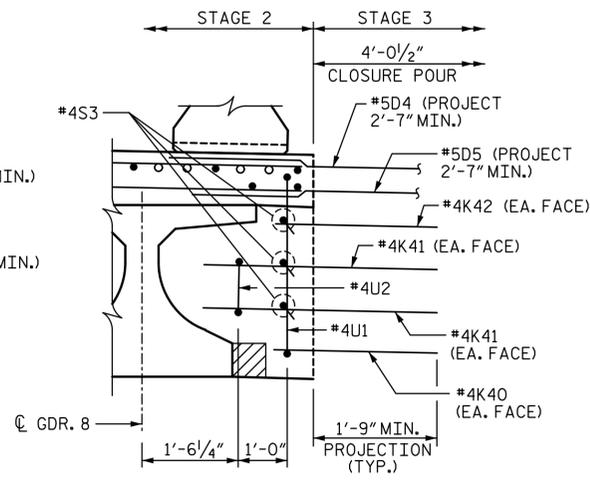
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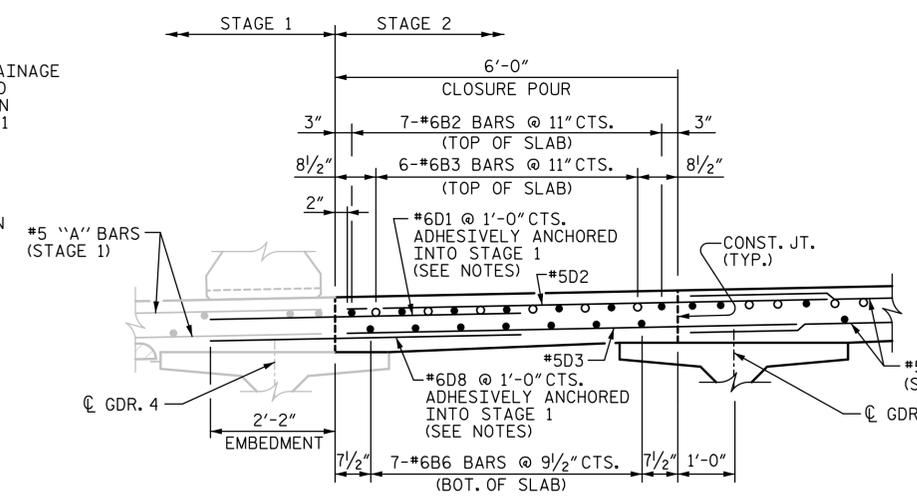
TYPICAL SECTION AT END BENT DIAPHRAGM



TYPICAL SECTION AT BENT DIAPHRAGM



DETAIL 'C'



DETAIL 'B'

■ TEMPORARY BARRIER W/DRAINAGE SLOTS (TO BE ANCHORED TO BRIDGE DECK) SEE NOTES ON 'TYPICAL SECTION STAGE 1 SHEET (1 OF 4)'

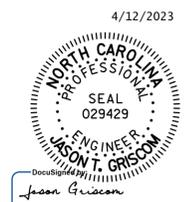
◆ MECHANICAL COUPLERS

△ FIELD BEND #4K13 BARS IN STAGE 1 TO SPLICE 1'-7" MIN. TO #4K43 BARS

● CONTINUOUS BAR LINE
○ NON-CONTINUOUS BAR LINE
▲ 1'-0" (TYP.)

NOTES:
FOR ADDITIONAL NOTES, SEE 'TYPICAL SECTION STAGE 1 (SHEET 1 OF 4)'.
CONCRETE MEDIAN SHALL BE PLACED IN STAGE 4. FOR DETAILS, SEE 'TYPICAL SECTION STAGE 4 (SHEET 4 OF 4)'.
LEVEL ONE FIELD TESTING OF THE ADHESIVELY ANCHORED DOWELS IS REQUIRED. THE YIELD LOAD OF THE DOWEL IS 26.4 KIPS.
DOWELS SHALL BE PLACED IN THE SAME HORIZONTAL PLANE AS THE TOP SLAB REINFORCING STEEL.

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SHEET 2 OF 4



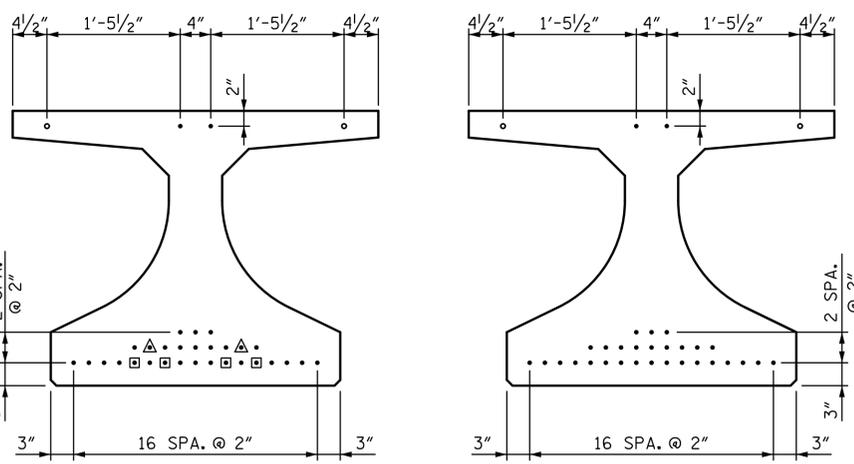
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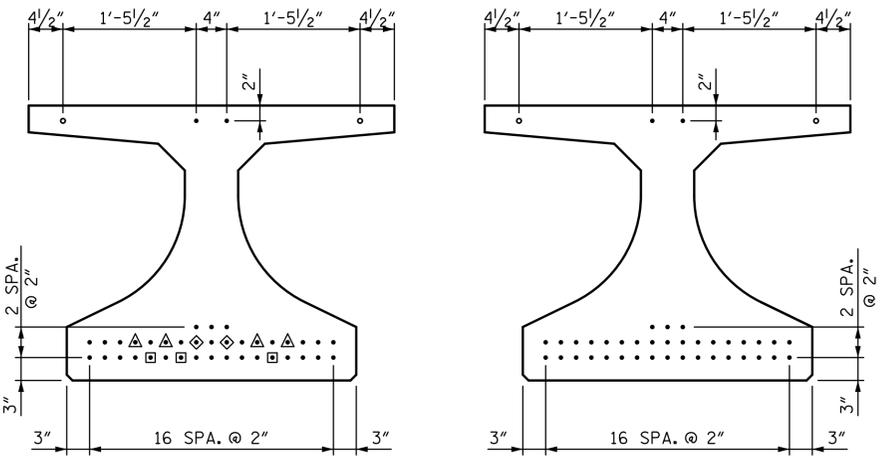
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TOTAL SHEETS 65

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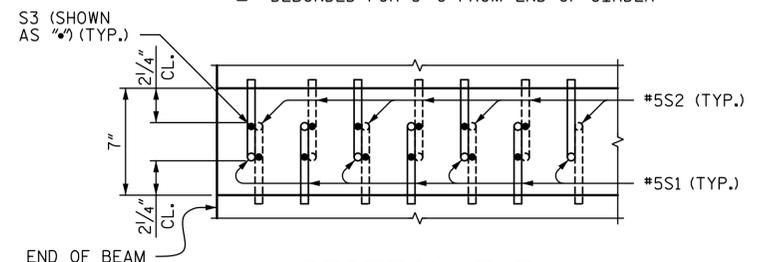
AT END OF GIRDER AT C OF GIRDER
0.6" O LOW RELAXATION STRAND LAYOUT
 SPANS A & C
 (33 - 0.6" O STRANDS REQUIRED)



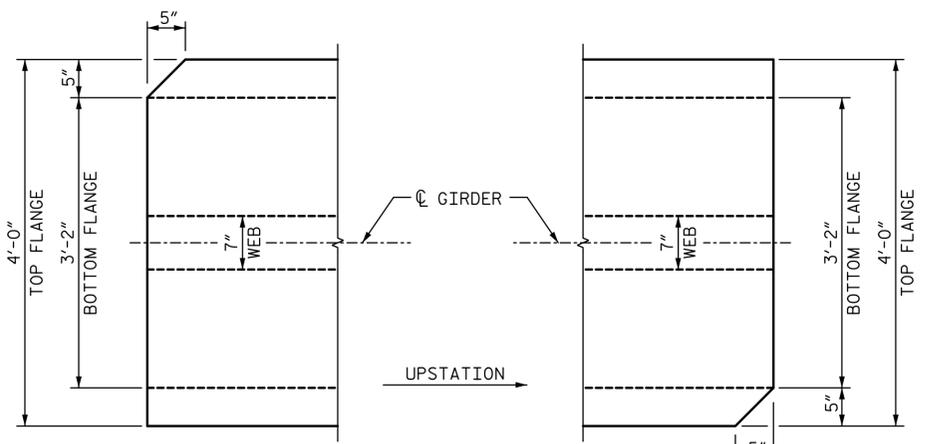
AT END OF GIRDER AT C OF GIRDER
0.6" O LOW RELAXATION STRAND LAYOUT
 SPAN B
 (41 - 0.6" O STRANDS REQUIRED)

DEBONDING LEGEND

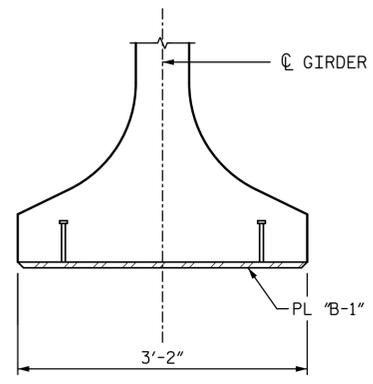
- FULLY BONDED STRANDS
- STRANDS PULLED TO 10,000 LBS.
- ◇ - DEBONDED FOR 4'-0" FROM END OF GIRDER
- △ - DEBONDED FOR 6'-0" FROM END OF GIRDER
- - DEBONDED FOR 8'-0" FROM END OF GIRDER



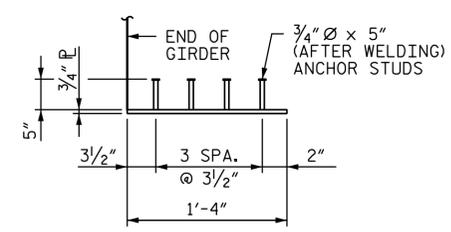
SECTION E-E



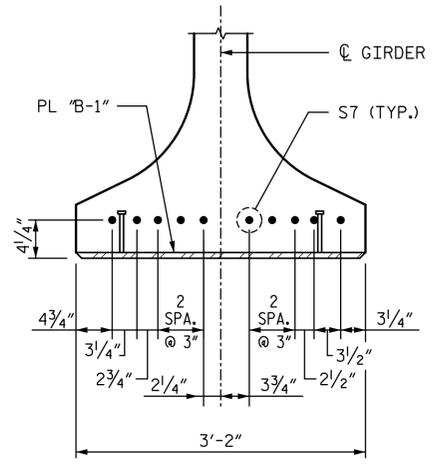
END BENT 1 SPAN A END BENT 2 SPAN C
TOP FLANGE BLOCKOUT



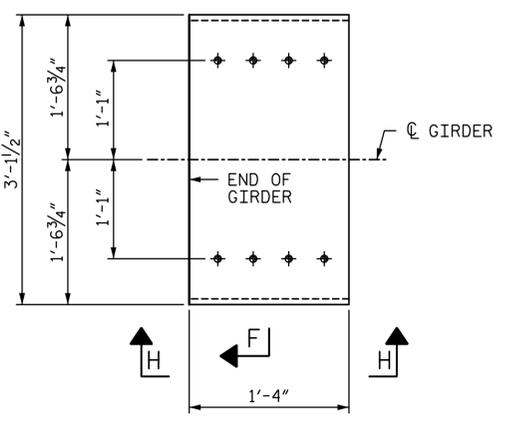
DETAIL "D"



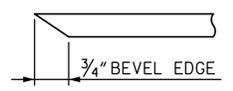
VIEW H-H



VIEW C-C



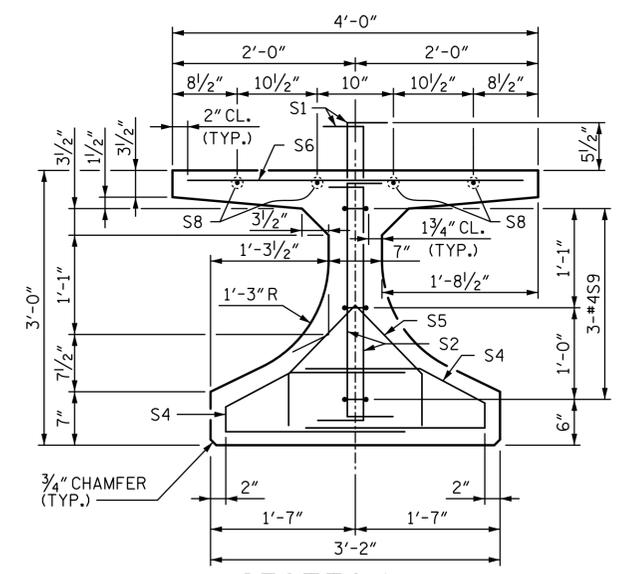
EMBEDDED PLATE "B-1"
 DETAILS
 (2 REQ'D PER GIRDER)



SECTION "F"
 (SEE NOTES)

NOTES

- ALL PRESTRESSING STRANDS SHALL BE 7-WIRE LOW-RELAXATION GRADE 270 STRANDS AND SHALL CONFORM TO AASHTO M203 EXCEPT FOR SAMPLING REQUIREMENTS WHICH SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.
- ALL REINFORCING STEEL SHALL BE GRADE 60.
- TIE BARS S1 AND S2 TO THE FULLY BONDED STRANDS IN THE BOTTOM OR CENTER ROW.
- AT THE CONTRACTOR'S OPTION, THE LENGTH OF THE BOTTOM LEGS OF BARS S1 AND S2 MAY BE EXTENDED TO FACILITATE TYING.
- S4 BARS MAY BE FABRICATED AS A SINGLE BAR WITH A 1'-0" MINIMUM LAP SPLICE OF THE TOP LEGS, OR THE LENGTH OF THE BOTTOM LEGS MAY BE EXTENDED TO FACILITATE TYING TO THE EXTERIOR STRANDS.
- EMBEDDED PLATE "B-1" SHALL BE GALVANIZED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.
- ANCHOR STUDS SHALL CONFORM TO AASHTO M169 GRADES 1010 THROUGH 1020 OR APPROVED EQUAL, AND SHALL MEET THE TYPE "B" REQUIREMENTS OF SUBSECTION 7.3 OF THE ANSI/AASHTO/AWS D1.5 BRIDGE WELDING CODE.
- THE TRANSFER OF LOAD FROM THE ANCHORAGES TO THE GIRDER SHALL BE DONE WHEN CONCRETE HAS REACHED A COMPRESSIVE STRENGTH OF NOT LESS THAN 6,000 PSI.
- DEPENDING ON THE TYPE OF SYSTEM USED TO SUPPORT THE DECK SLAB FORMS, PRESET ANCHORS MAY BE NECESSARY IN THE PRESTRESSED CONCRETE GIRDER.
- THE TOP SURFACE OF THE GIRDER, EXCLUDING THE OUTSIDE 4", SHALL BE RAKED TO A DEPTH OF 1/4".
- APPLY EPOXY PROTECTIVE COATING TO END OF GIRDER SURFACES INDICATED IN THE ELEVATION VIEW ON SHEET 1 OF 3.
- AT THE ENDS OF GIRDERS TO BE EMBEDDED IN CONCRETE DIAPHRAGMS, PRESTRESSING STRANDS MAY EXTEND A MAXIMUM OF 2" BEYOND THE GIRDER ENDS. OTHERWISE, PRESTRESSING STRANDS SHALL BE CUT FLUSH WITH THE GIRDER ENDS.



SECTION A-A
 (S3 AND S7 BARS NOT SHOWN FOR CLARITY)

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SHEET 3 OF 3



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STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
36" F.I.B. PRESTRESSED CONCRETE GIRDER DETAILS					
REVISIONS					SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
					S-25
					TOTAL SHEETS 65

ASSEMBLED BY : SGH DATE : 7-21
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 DESIGN ENGINEER OF RECORD : J. GRISCOM DATE : 3-23