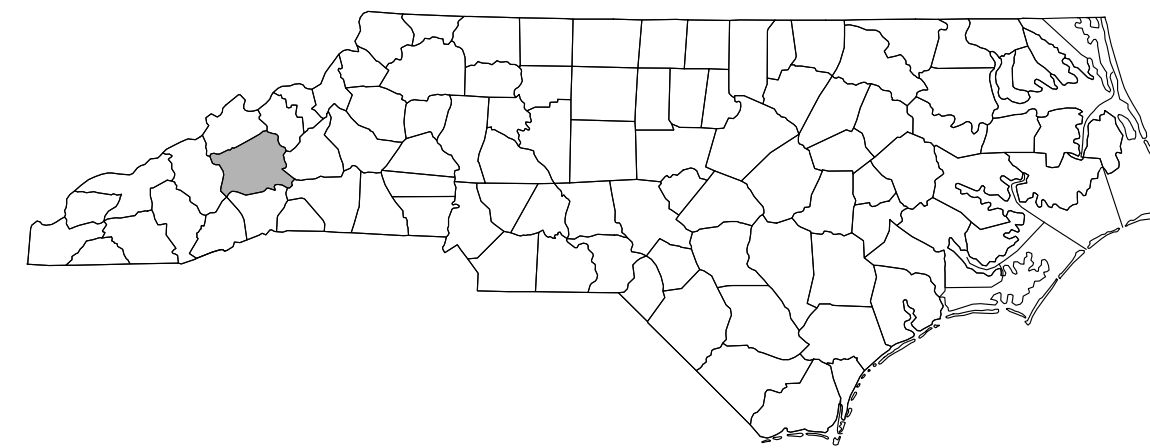


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**CONTRACT NO: C204726 PROJECT: I-5889B**



STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

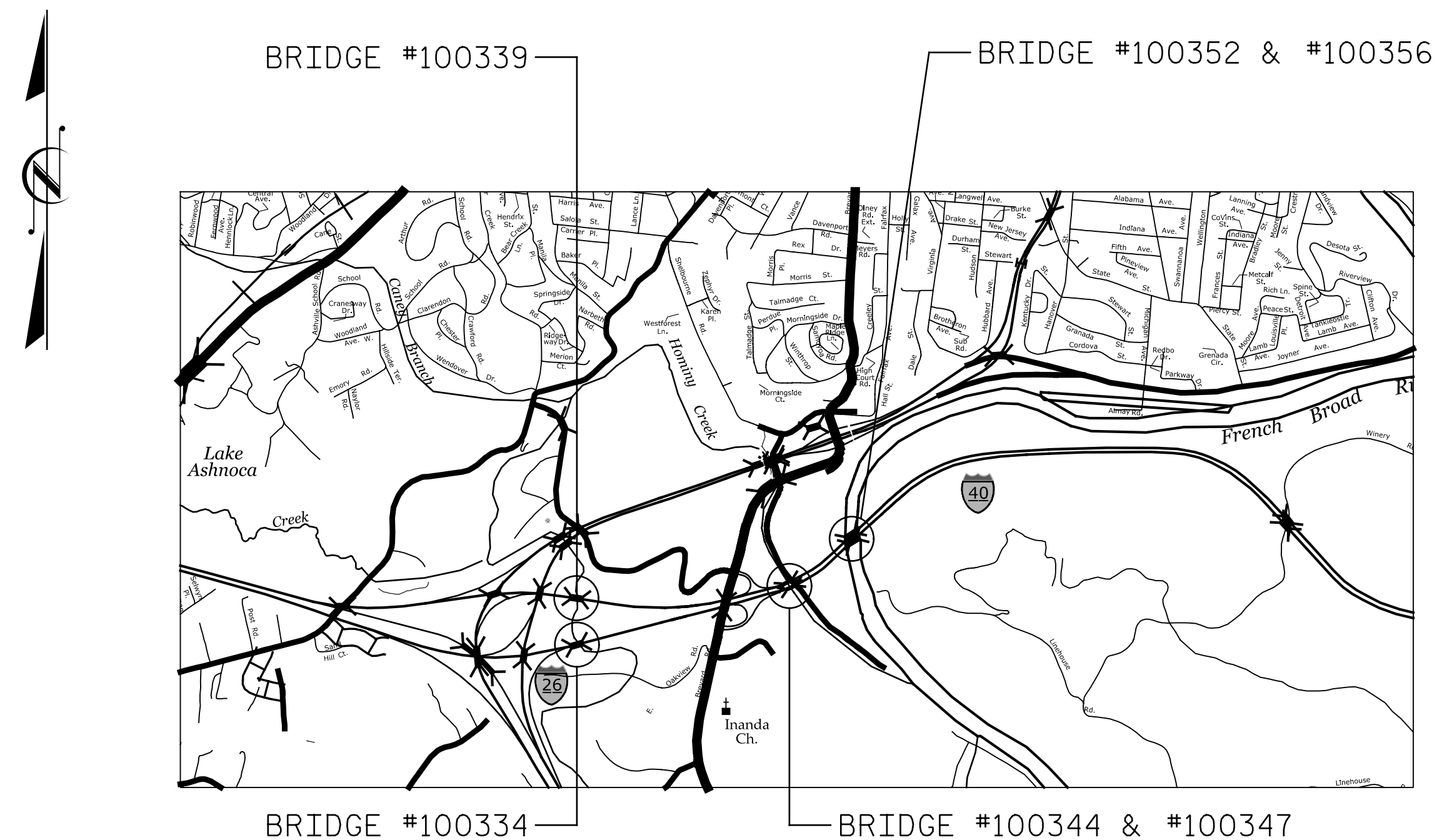
**BUNCOMBE COUNTY**

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	I-5889B	1	133
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
46409.1.3	0040103	P.E.	
46409.3.3	0040103	CONST.	

**LOCATION: BUNCOMBE COUNTY:**

- BRIDGE #100334 ON I-40 EBL OVER HOMINY CREEK
- BRIDGE #100339 ON I-40 WBL OVER HOMINY CREEK
- BRIDGE #100344 ON I-40 EBL OVER SR 3620 (HOMINY CREEK ROAD) AND HOMINY CREEK
- BRIDGE #100347 ON I-40 WBL OVER SR 3620 (HOMINY CREEK ROAD) AND HOMINY CREEK
- BRIDGE #100352 ON I-40 EBL OVER FRENCH BROAD RIVER, FRENCH BROAD RIVER GREENWAY & FARM TRAIL
- BRIDGE #100356 ON I-40 WBL OVER FRENCH BROAD RIVER, FRENCH BROAD RIVER GREENWAY & FARM TRAIL

**TYPE OF WORK: BRIDGE REHABILITATION - FINE MILLING OF ASPHALT WEARING SURFACE AND DECK CONCRETE, DECK REPAIRS. LATEX MODIFIED CONCRETE - VERY EARLY STRENGTH OVERLAY, EPOXY COATING BENT CAPS, REMOVE AND REPLACE STEEL THRIE-BÉAM BRIDGE RAIL, REMOVE AND REPLACE STEEL BEAM GUARDRAIL, SUBSTRUCTURE REPAIR, MILLING AND PAVING OF APPROACH ROADWAY.**



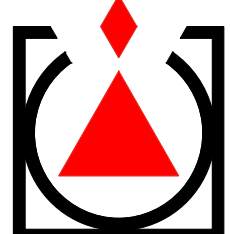
**VICINITY MAP - BUNCOMBE COUNTY**

**DESIGN DATA**  
BUNCOMBE COUNTY

#100334	ADT 2019	=	20,500
#100339	ADT 2019	=	20,500
#100344	ADT 2015	=	18,000
#100347	ADT 2013	=	19,000
#100352	ADT 2015	=	18,000
#100356	ADT 2015	=	18,000

**PROJECT LENGTH**  
BUNCOMBE COUNTY

#100334	=	0.12	MILE
#100339	=	0.12	MILE
#100344	=	0.18	MILE
#100347	=	0.18	MILE
#100352	=	0.22	MILE
#100356	=	0.22	MILE

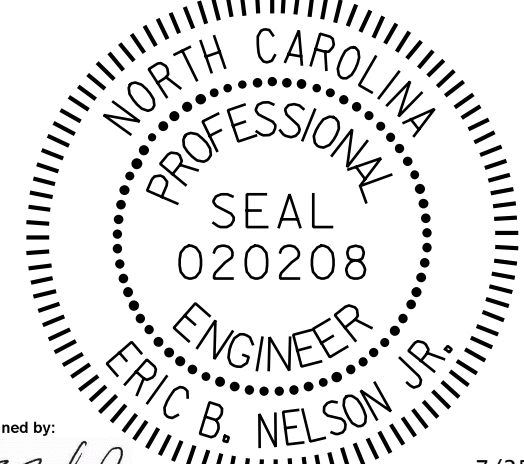


**GANNETT FLEMING**  
One Glenwood Avenue  
Suite 900  
Raleigh, NC 27603  
919-420-7660  
NC Lic. No. F-0270

**RICK NELSON, P.E.**  
PROJECT ENGINEER

2018 STANDARD SPECIFICATIONS

LETTING DATE:  
SEPTEMBER 20, 2022



DocuSigned by:  
Eric B. Nelson, P.E.  
AC8808211902ACD

7/25/2022

**RICK NELSON, P.E.**  
PROJECT DESIGN ENGINEER

**PROJECT: I-5889B**

**CONTRACT NO: C204726**



STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

**BUNCOMBE COUNTY**

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	I-5889B	1A	133
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
46409.1.3	0040103	P.E.	
46409.3.3	0040103	CONST.	

**LOCATION: BUNCOMBE COUNTY:**

- BRIDGE #100334 ON I-40 EBL OVER HOMINY CREEK**
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- BRIDGE #100352 ON I-40 EBL OVER FRENCH BROAD RIVER, FRENCH BROAD RIVER GREENWAY & FARM TRAIL**
- BRIDGE #100356 ON I-40 WBL OVER FRENCH BROAD RIVER, FRENCH BROAD RIVER GREENWAY & FARM TRAIL**

**TYPE OF WORK: BRIDGE REHABILITATION - FINE MILLING OF ASPHALT WEARING SURFACE AND DECK CONCRETE, DECK REPAIRS. LATEX MODIFIED CONCRETE - VERY EARLY STRENGTH OVERLAY, EPOXY COATING BENT CAPS, REMOVE AND REPLACE STEEL THRIE-BEAM BRIDGE RAIL, REMOVE AND REPLACE STEEL BEAM GUARDRAIL, SUBSTRUCTURE REPAIR, MILLING AND PAVING OF APPROACH ROADWAY.**

INDEX OF DRAWINGS

SHEET NO.	DESCRIPTION
1	TITLE SHEET
1A	INDEX OF DRAWINGS
S-1	TOTAL BILL OF MATERIAL
S1-1 TO S1-14	STRUCTURAL PLANS - BRIDGE NO. 100334
S2-1 TO S2-14	STRUCTURAL PLANS - BRIDGE NO. 100339
S3-1 TO S3-20	STRUCTURAL PLANS - BRIDGE NO. 100344
S4-1 TO S4-20	STRUCTURAL PLANS - BRIDGE NO. 100347
S5-1 TO S5-29	STRUCTURAL PLANS - BRIDGE NO. 100352
S6-1 TO S6-29	STRUCTURAL PLANS - BRIDGE NO. 100356
SD-1 TO SD-4	TUBULAR BEAM GUARDRAIL DETAILS
SD-5	TYPICAL CAP AND COLUMN REPAIR DETAILS
SD-6	OVERHANG UNDERSIDE REPAIR DETAILS
SN	STANDARD NOTES



TOTAL BILL OF MATERIAL

BRIDGE NO.	20" TUBULAR TRIPLE CORRUGATED STEEL BEAM GUARDRAIL	W-TR STEEL BEAM GUARDRAIL TRANSITION SECTIONS	GROOVING BRIDGE FLOORS	LATEX MODIFIED CONCRETE OVERLAY - VERY EARLY STRENGTH	PLACING & FINISHING OF LATEX MODIFIED CONCRETE OVERLAY - VERY EARLY STRENGTH	CONCRETE REPAIRS	SHOTCRETE REPAIRS	EPOXY RESIN INJECTION	PEDESTRIAN PROTECTION	WATERCRAFT SAFETY	FOAM JOINT SEALS FOR PRESERVATION	REMOVAL OF EXISTING 20" TUBULAR TRIPLE CORRUGATED STEEL BEAM GUARDRAIL	FLOWABLE FILL	ELASTOMERIC CONCRETE FOR PRESERVATION	BRIDGE JOINT DEMOLITION	EPOXY COATING	FINE MILLING	HYDRO-DEMOLITION OF BRIDGE DECK	REMOVE AND REPLACE W 6X9 POSTS	TEMPORARY RIVER TRAFFIC WARNING SIGNS
	LIN. FT.	EACH	SQ. FT.	CU. YDS.	SQ. YDS.	CU. FT.	CU. FT.	LIN. FT.	LUMP SUM	LUMP SUM	LIN. FT.	LIN. FT.	CU. YDS.	CU. FT.	SQ. FT.	SQ. FT.	SQ. YDS.	SQ. YDS.	EACH	EACH
100334	465	3	7,982	72.8	965	1.0	26.1	2.0	-	-	240.0	485	-	30.0	194	430	2,930	965	6	-
100339	405	2	7,968	72.9	958	1.8	47.8	10.5	-	-	251.0	420	-	31.6	204	448	3,118	958	-	-
100344	785	3	14,923	131.6	1,756	-	742.0	-	-	-	248.0	805	-	60.8	243	364	4,316	1,756	1	-
100347	770	4	14,146	125.8	1,724	-	684.0	12.0	-	-	248.0	795	4.0	61.2	243	364	4,454	1,724	-	-
100352	1,240	3	15,378	141.8	1,948	-	346.3	-	LUMP SUM	LUMP SUM	331.5	1,260	-	80.5	326	721	4,133	1,948	-	8
100356	1,255	3	15,378	141.8	1,948	-	432.7	6.5	LUMP SUM	LUMP SUM	331.5	1,275	-	80.5	326	721	4,213	1,948	-	7
TOTAL	4,920	18	75,775	686.7	9,299	2.8	2,278.9	31.0	LUMP SUM	LUMP SUM	1650.0	5,040	4.0	344.6	1,536	3,048	23,164	9,299	7	15

NOTES:

AT THE TIME OF PREPARATION OF THESE PLANS, IT WAS NOT ANTICIPATED THAT THE ITEM(S) LISTED BELOW WOULD BE REQUIRED. HOWEVER, IT MAY BE DETERMINED IN THE FIELD THAT THE FOLLOWING ITEM(S) LISTED, OR OTHER WORK WILL BE NECESSARY TO PROPERLY COMPLETE THE INTENDED BRIDGE PRESERVATION/REHABILITATION WORK. THE CONTRACTOR SHALL BE PREPARED TO PERFORM SUCH WORK IN A TIMELY MANNER, AS DETERMINED IN THE FIELD. SUCH WORK SHALL BE CONSIDERED EXTRA WORK AND SHALL BE ADDRESSED AS PER ARTICLE 104-7 OF THE STANDARD SPECIFICATIONS. PROJECT SPECIAL PROVISIONS THAT OUTLINE REQUIREMENTS FOR THESE POTENTIAL ADDITIONAL WORK ITEMS HAVE BEEN PROVIDED IN THE PROJECT DOCUMENTS, BUT NO QUANTITIES HAVE BEEN LISTED. ACTUAL PAY ITEMS, QUANTITIES, AND COSTS WILL BE ESTABLISHED, AS REQUIRED, IF EXTRA WORK IS ENCOUNTERED.

UNANTICIPATED ITEMS:  
 CLASS II SURFACE PREPARATION  
 CLASS III SURFACE PREPARATION  
 CONCRETE FOR DECK REPAIR  
 VOLUMETRIC MIXER

PAY ITEMS INDICATED ON THESE STRUCTURE PLAN SHEETS FOR GUARDRAIL, GUARDRAIL TRANSITIONS, AND 20" TUBULAR TRIPLE CORRUGATED GUARDRAIL (THRIE BEAM RAIL) ARE INTENDED AS PAY ITEMS TO REMOVE AND REPLACE OR REMOVE AND RESET SUCH EXISTING ELEMENTS TO PROVIDE ADEQUATE CLEARANCE AND ACCESS TO COMPLETE THE BRIDGE DECK OVERLAY AND APPROACH ROADWAY WORK INDICATED ON THE STRUCTURE PLAN SHEETS AND IN ACCORDANCE WITH THE PHASING SHOWN IN THE TRAFFIC MANAGEMENT PLANS. WORK THESE STRUCTURE PLAN SHEETS WITH THE ROADWAY PLAN SHEETS, WHICH INCLUDE SIMILAR PAY ITEMS AND QUANTITIES FOR THE REMOVAL AND REPLACEMENT OF GUARDRAIL, TRANSITION SECTIONS, AND THRIE BEAM RAIL. SUCH WORK AND PAYMENT SHALL BE COORDINATED WITH AND APPROVED BY THE ENGINEER.

PROJECT NO. I-5889B  
BUNCOMBE COUNTY  
 BRIDGE NO. 100334, 100339, 100344,  
100347, 100352 & 100356



DocuSigned by:  
 Eric B. Nelson 7/28/2022

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

TOTAL BILL OF MATERIAL



One Glenwood Avenue  
 Suite 900  
 Raleigh, NC 27603  
 919-420-7660  
 NC Lic. No. F-0270

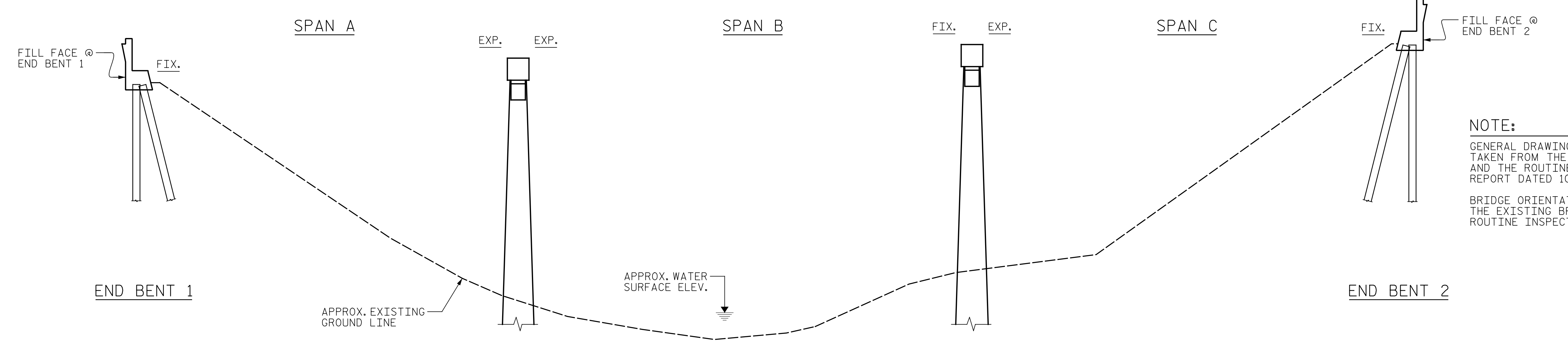
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NO.	BY:	DATE:	NO.	BY:	DATE:	
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2			4			TOTAL SHEETS 133

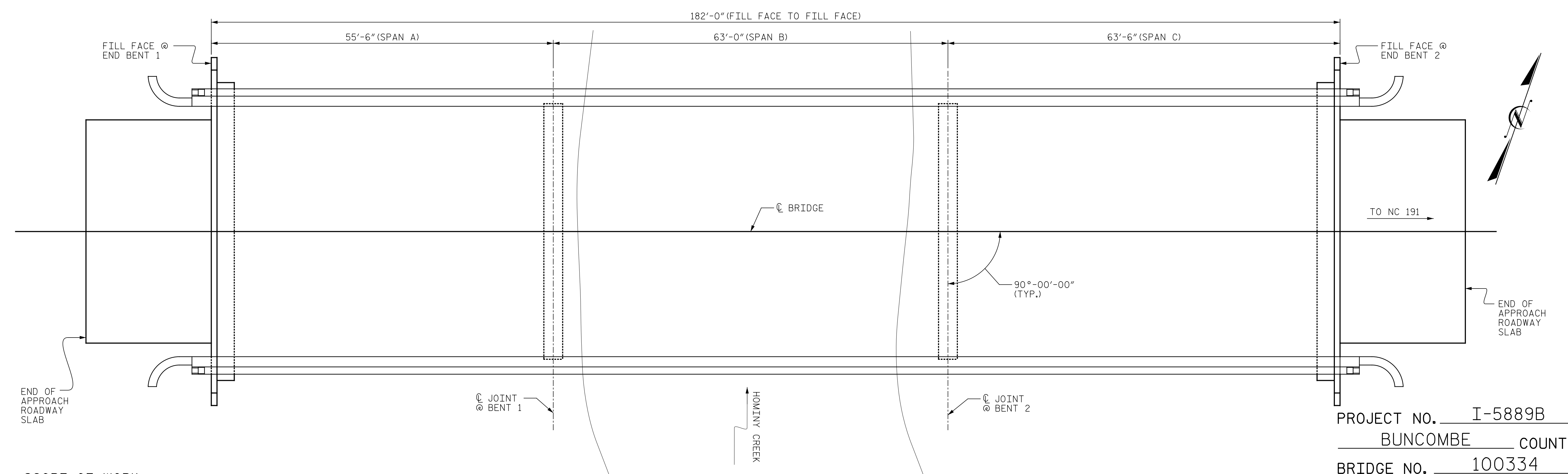
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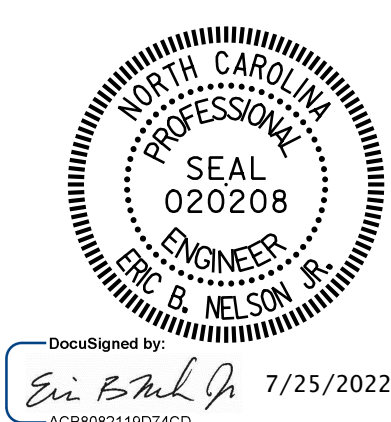
**NOTE:**  
 GENERAL DRAWING INFORMATION IS TAKEN FROM THE ORIGINAL PLANS AND THE ROUTINE INSPECTION REPORT DATED 10/17/2019.  
 BRIDGE ORIENTATION CONFORMS TO THE EXISTING BRIDGE PLANS AND ROUTINE INSPECTION REPORT.



- SCOPE OF WORK**
- REMOVE ASPHALT WEARING SURFACE AND PARTIALLY REMOVE TOP OF BRIDGE DECK CONCRETE BY FINE MILLING AND HYDRO-DEMOLITION.
  - OVERLAY PREPARED TOP OF BRIDGE DECK WITH VERY EARLY STRENGTH LATEX MODIFIED CONCRETE (LMC-VES).
  - REMOVE EXISTING JOINT MATERIAL AND INSTALL FOAM JOINTS.
  - GROOVE LMC-VES BRIDGE DECK.
  - REMOVE AND REPLACE EXISTING TUBULAR TRIPLE CORRUGATED STEEL BEAM BRIDGE RAIL.
  - REMOVE AND REPLACE EXISTING STEEL BEAM GUARDRAIL AND GUARDRAIL ANCHOR UNITS.
  - MILL AND REPAVE ASPHALT APPROACH ROADWAYS.
  - REMOVE DEBRIS FROM TOP OF EXISTING END BENT AND BENT CAPS AND APPLY EPOXY COATING.
  - EPOXY RESIN INJECTION OF CONCRETE CRACKS.
  - REMOVE UNSOUND CONCRETE AND PROPERLY PREPARE EXISTING END BENT AND BENT AREAS FOR SHOTCRETE AND CONCRETE REPAIRS.

I HEREBY CERTIFY THAT THIS STRUCTURE WAS REHABILITATED ACCORDING TO THESE PLANS OR AS NOTED HEREIN.

RESIDENT ENGINEER      DATE



PROJECT NO. I-5889B  
BUNCOMBE COUNTY  
 BRIDGE NO. 100334

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

GENERAL DRAWING  
 FOR BRIDGE ON I-40 EBL  
 OVER HOMINY CREEK

DRAWN BY : M. LEE/J. MYA      DATE : 6/2022  
 CHECKED BY : J. YANNACCONE      DATE : 6/2022



DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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2			4			133



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**LOCATION SKETCH**

INFORMATION INDICATED ON THE LOCATION SKETCH SHALL BE CONSIDERED GENERAL INFORMATION ONLY. CONTRACTOR SHALL CONFIRM, THROUGH OTHER SOURCES, SPECIFIC INFORMATION REGARDING BRIDGES, ROADWAY, UTILITIES, THE SURROUNDING AREA, AND ANY OTHER ASPECTS THAT MAY BE NECESSARY TO PERFORM AND COMPLETE THE PROJECT.

BRIDGE COORDINATES	
LATITUDE	LONGITUDE
35°-33'-18.57"	82°-36'-23.80"

**GENERAL NOTES**

SEE TRANSPORTATION MANAGEMENT PLANS FOR LANE WIDTHS, SEQUENCING AND OTHER TRAFFIC CONTROL MEASURES FOR STAGING OF OVERLAY SURFACE PREPARATION AND LATEX MODIFIED CONCRETE - VERY EARLY STRENGTH (LMC-VES) PLACEMENT.

FOR NEW ASPHALT PLACEMENT, SEE STANDARD SPECIFICATIONS.

THE CONTRACTOR'S ATTENTION IS CALLED TO THE FACT THAT DUE TO THE NATURE OF PRESERVATION PROJECTS, THE EXTENT OF WORK CANNOT ALWAYS BE ACCURATELY DETERMINED PRIOR TO COMMENCEMENT OF WORK. REPAIR LOCATIONS AND ESTIMATES OF QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS.

EXISTING DIMENSIONS AND BRIDGE CONDITION ARE FROM THE BEST INFORMATION AVAILABLE. THE CONTRACTOR SHALL FIELD VERIFY THE INFORMATION SHOWN ON THE PLANS AND NOTIFY THE ENGINEER IF ACTUAL DIMENSIONS AND CONDITIONS DIFFER.

THE CONTRACTOR SHALL HAVE NO CLAIM WHATSOEVER AGAINST THE DEPARTMENT FOR ANY DELAYS OR ADDITIONAL COST INCURRED BASED ON DIFFERENCES BETWEEN WHAT IS SHOWN ON THE PLANS AND THE ACTUAL CONDITIONS AT THE PROJECT SITE.

IT IS THE CONTRACTOR'S RESPONSIBILITY TO FOLLOW ALL STATE AND FEDERAL SAFETY REQUIREMENTS.

WORK ON THE BRIDGE SHALL BE PERFORMED SO AS NOT TO ALLOW DEBRIS TO FALL BELOW, EXCEPT WHERE THE CONTRACTOR'S PLAN USES PLATFORMS, NETS, SCREENS OR OTHER PROTECTIVE DEVICES TO CATCH THE MATERIAL. THE CONTRACTOR SHALL SUBMIT PLANS FOR CONSTRUCTION IN ACCORDANCE WITH ARTICLE 402-2 OF THE STANDARD SPECIFICATIONS AND THE PROJECT SPECIAL PROVISIONS.

THE CONTRACTOR SHALL PERFORM ALL WORK WITH CARE SO THAT THE EXISTING STRUCTURE WHICH IS TO REMAIN IN PLACE WILL NOT BE DAMAGED. IF THE CONTRACTOR DAMAGES ANY PART OF THE EXISTING STRUCTURE WHICH IS TO REMAIN IN PLACE, THE DAMAGED AREA SHALL BE REPAIRED OR REPLACED IN A MANNER SATISFACTORY TO THE ENGINEER AT NO ADDITIONAL COST TO THE DEPARTMENT.

ANY DAMAGE TO EXISTING REINFORCING STEEL, DURING CONTRACTOR'S OPERATIONS, SHALL BE REPAIRED AS DIRECTED BY THE ENGINEER AND PERFORMED AT NO ADDITIONAL COST TO THE DEPARTMENT.

FOR CONTROL OF TRAFFIC AND LIMITS ON PHASING OF CONSTRUCTION, SEE TRANSPORTATION MANAGEMENT PLANS.

PRIOR TO BEGINNING WORK, THE CONTRACTOR SHALL SUBMIT FOR REVIEW AND APPROVAL A COMPLETE SEQUENCE OF TASKS FOR EACH OPERATION AFFECTING THE BRIDGE SURFACE AND/OR TRAFFIC.

FOR OTHER DESIGN DATA AND GENERAL NOTES, SEE SHEET SN.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

ALL PAVEMENT MARKING WILL BE IN ACCORDANCE WITH THE TRANSPORTATION MANAGEMENT PLANS.

EXISTING JOINTS AND DECK DRAINS SHALL BE SEALED PRIOR TO BEGINNING SURFACE PREPARATIONS OF THE BRIDGE DECK. THE CONTRACTOR SHALL TAKE CARE THAT ANY CONSTRUCTION DEBRIS THAT COLLECTS IN THE DRAINS IS CONTAINED. DRAINS IN SHOULDERS OF ADJACENT TRAVEL LANE(S) SHALL BE KEPT FREE AND CLEAR OF DEBRIS.

LONGITUDINAL CONSTRUCTION JOINTS OF OVERLAYS SHALL BE LOCATED ALONG THE CENTERLINE OR EDGE OF TRAVEL LANES.

FOR LATEX MODIFIED CONCRETE - VERY EARLY STRENGTH AND PLACING AND FINISHING LATEX MODIFIED CONCRETE - VERY EARLY STRENGTH, SEE LATEX MODIFIED CONCRETE - VERY EARLY STRENGTH SPECIAL PROVISION.

FOR FINE MILLING BRIDGE DECK, HYDRO-DEMOLITION OF BRIDGE DECK, CLASS II AND CLASS III SURFACE PREPARATION, SEE LMC OVERLAY SURFACE PREPARATION SPECIAL PROVISION.

THE CONTRACTOR MUST COLLECT, TREAT AND DISPOSE OF RUN-OFF WATER FROM THE HYDRO-DEMOLITION PROCESS, SEE LMC OVERLAY SURFACE PREPARATION SPECIAL PROVISION.

THE CONTRACTOR SHALL TAKE CARE DURING JOINT REHAB OPERATIONS NOT TO DROP ANY MATERIAL BELOW THE BRIDGE WITHOUT PROTECTIVE DEVICES TO CATCH THE MATERIAL. ANY MATERIAL THAT FALLS BELOW THE BRIDGE SHALL BE CONTAINED, REMOVED AND DISPOSED OF BY THE CONTRACTOR AT NO EXTRA COST TO THE DEPARTMENT. IF THE ENGINEER DETERMINES THAT PROTECTIVE DEVICES ARE NOT ADEQUATE OR NOT BEING EMPLOYED, THE WORK SHALL BE SUSPENDED UNTIL ADEQUATE PROTECTION IS PROVIDED.

FOR ELASTOMERIC CONCRETE FOR PRESERVATION, SEE SPECIAL PROVISIONS.

FOR BRIDGE JOINT DEMOLITION, SEE SPECIAL PROVISIONS.

FOR FOAM JOINT SEALS FOR PRESERVATION, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

FOR EPOXY COATING AND DEBRIS REMOVAL, SEE SPECIAL PROVISIONS.

FOR FINE MILLING, SEE SPECIAL PROVISIONS.

FOR REMOVAL AND REPLACEMENT OF TUBULAR BEAM GUARDRAIL, SEE SPECIAL PROVISIONS.

PROJECT NO. I-5889B  
BUNCOMBE COUNTY  
 BRIDGE NO. 100334

SHEET 2 OF 2



DocuSigned by:  
 Eric B. Nelson  
 7/25/2022  
 AC88062119D7ACD

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**GENERAL DRAWING  
 FOR BRIDGE ON I-40 EBL  
 OVER HOMINY CREEK**

DRAWN BY : J. MYA DATE : 6/2022  
 CHECKED BY : J. YANACCONI DATE : 6/2022



DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

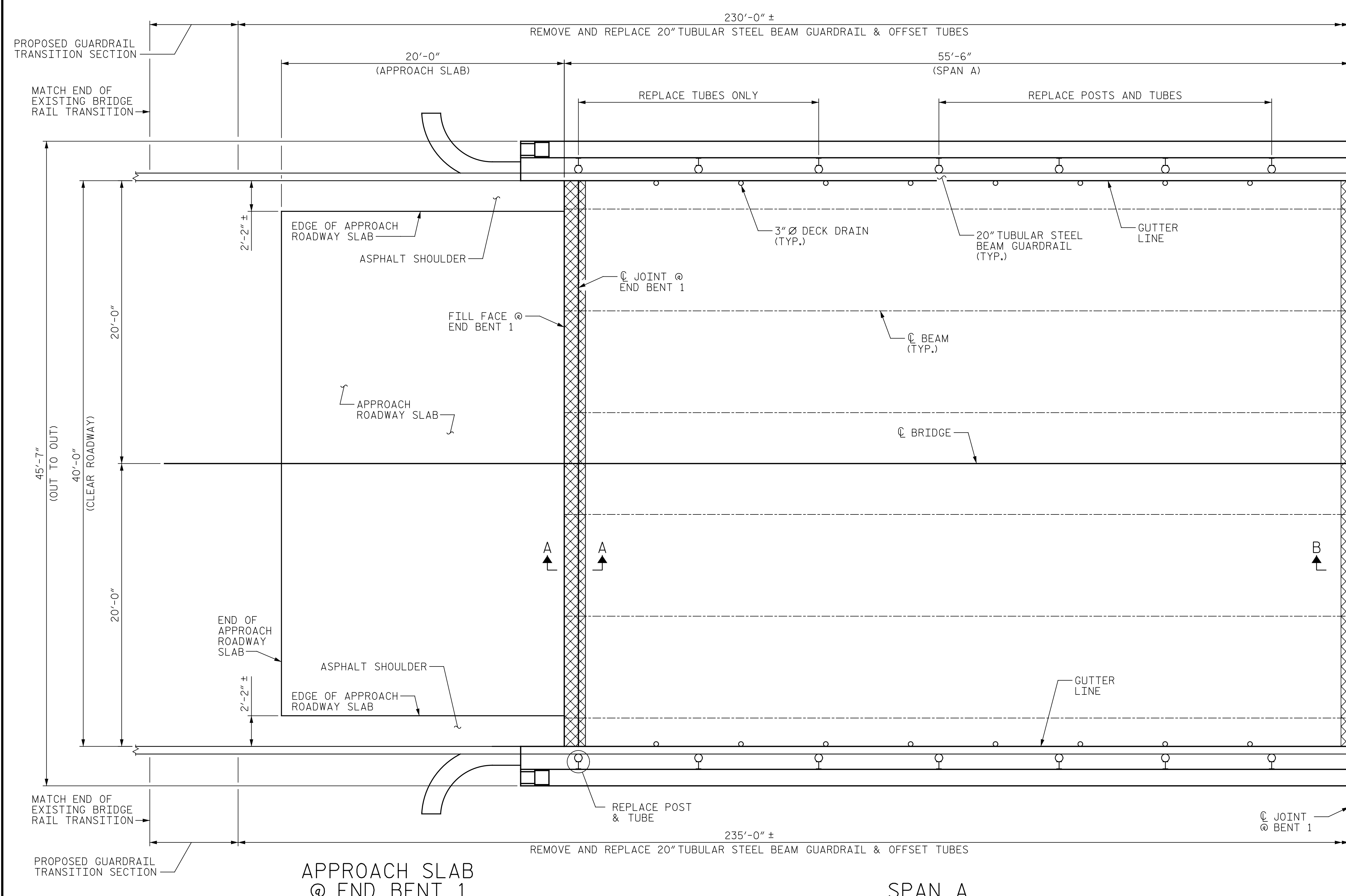
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2			4			133







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 I-5889B+TBI  
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**NOTES:**

REPAIR LOCATIONS AND ESTIMATED QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER WILL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATIONS AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITY TABLE.

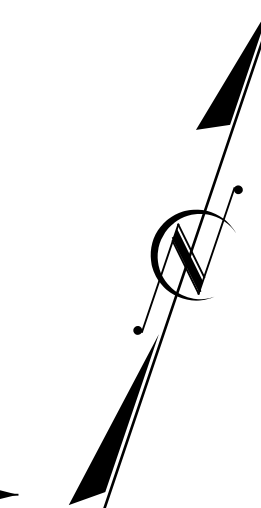
CONCRETE COVER FOR TOP BARS IN THE DECK SLAB IS 1 1/16" PER THE EXISTING BRIDGE PLANS.

FOR SECTION A-A AND B-B, SEE "JOINT DETAILS" SHEET.

FOR FINE MILLING, SEE SPECIAL PROVISIONS.

THE CONTRACTOR SHALL REMOVE AND REPLACE THE 20" TUBULAR STEEL BEAM GUARDRAIL. THE ENGINEER WILL SELECT THOSE SECTIONS OF THE EXISTING GUARDRAIL SUITABLE FOR FUTURE USE AND TRANSPORT THEM TO A STOCKPILE FOR THE USE OF THE DEPARTMENT. THE REMAINING GUARDRAIL SECTIONS SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE PROJECT.

FOR DIMENSIONS OF TUBULAR BEAM GUARDRAIL, POST AND TUBES, SEE "TUBULAR BEAM GUARDRAIL DETAILS" SHEET.



BRIDGE RAIL QUANTITIES (FOR ENTIRE BRIDGE)	
REMOVE 20" TUBULAR STEEL BEAM GUARDRAIL	485 LF
20" TUBULAR STEEL BEAM GUARDRAIL	465 LF
REMOVE AND REPLACE W 6X9 POSTS	6 EA
W-TR STEEL BEAM GUARDRAIL TRANSITION SECTIONS	3 EA

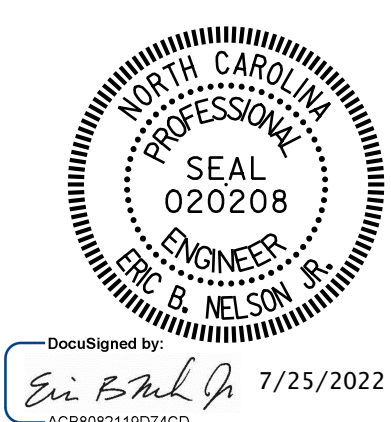
- BRIDGE JOINT DEMOLITION
- APPROX. CLASS II SURFACE PREPARATION
- APPROX. CLASS III SURFACE PREPARATION
- UNDERSIDE OF DECK/OVERHANG REPAIR
- ERI EPOXY RESIN INJECTION

PROJECT NO. I-5889B  
BUNCOMBE COUNTY  
 BRIDGE NO. 100334

SHEET 1 OF 3

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

PLAN OF SPANS  
 SPAN A AND  
 APPROACH SLAB



REPAIR QUANTITY TABLE					UNDERSIDE OF DECK REPAIR			
TOP OF DECK REPAIR	APPROACH SLAB 1		SPAN A		SHOTCRETE REPAIR			
	ESTIMATE	ACTUAL	ESTIMATE	ACTUAL	AREA SF	VOLUME CF	AREA SF	VOLUME CF
FINE MILLING	79 SY		245 SY		0.0	0.0		
HYDRO-DEMOLITION OF BRIDGE DECK	79 SY		245 SY		0.0	0.0		
CLASS II SURFACE PREPARATION	0.0 SY		0.0 SY		0.0	0.0		
CLASS III SURFACE PREPARATION	0.0 SY		0.0 SY		0.0	0.0		
LATEX MODIFIED CONCRETE - VES OVERLAY	5.9 CY		18.3 CY					
PLACING & FINISHING LMC - VES OVERLAY	79 SY		245 SY					
BRIDGE JOINT DEMOLITION	37 SF		40 SF					
GROOVING BRIDGE FLOORS	695 SF		2052 SF					
							ESTIMATE	ACTUAL
							0.0 LF	

VALUES IN CHART REPRESENT ESTIMATED UNDERSIDE OF DECK REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MINIMUM OF 1" BEHIND REBAR AND MINIMUM 2" CLEAR TO SAWCUT. FOR REPAIR DETAILS, SEE "OVERHANG & DIAPHRAGM REPAIR DETAILS" SHEET.

PAYMENT FOR CLASS II AND CLASS III SURFACE PREPARATION IS BASED ON THE SQUARE YARDS OF ADDITIONAL DEMOLITION REQUIRED FOLLOWING HYDRO-DEMOLITION OF THE BRIDGE DECK. SEE "OVERLAY SURFACE PREPARATION" SPECIAL PROVISION.

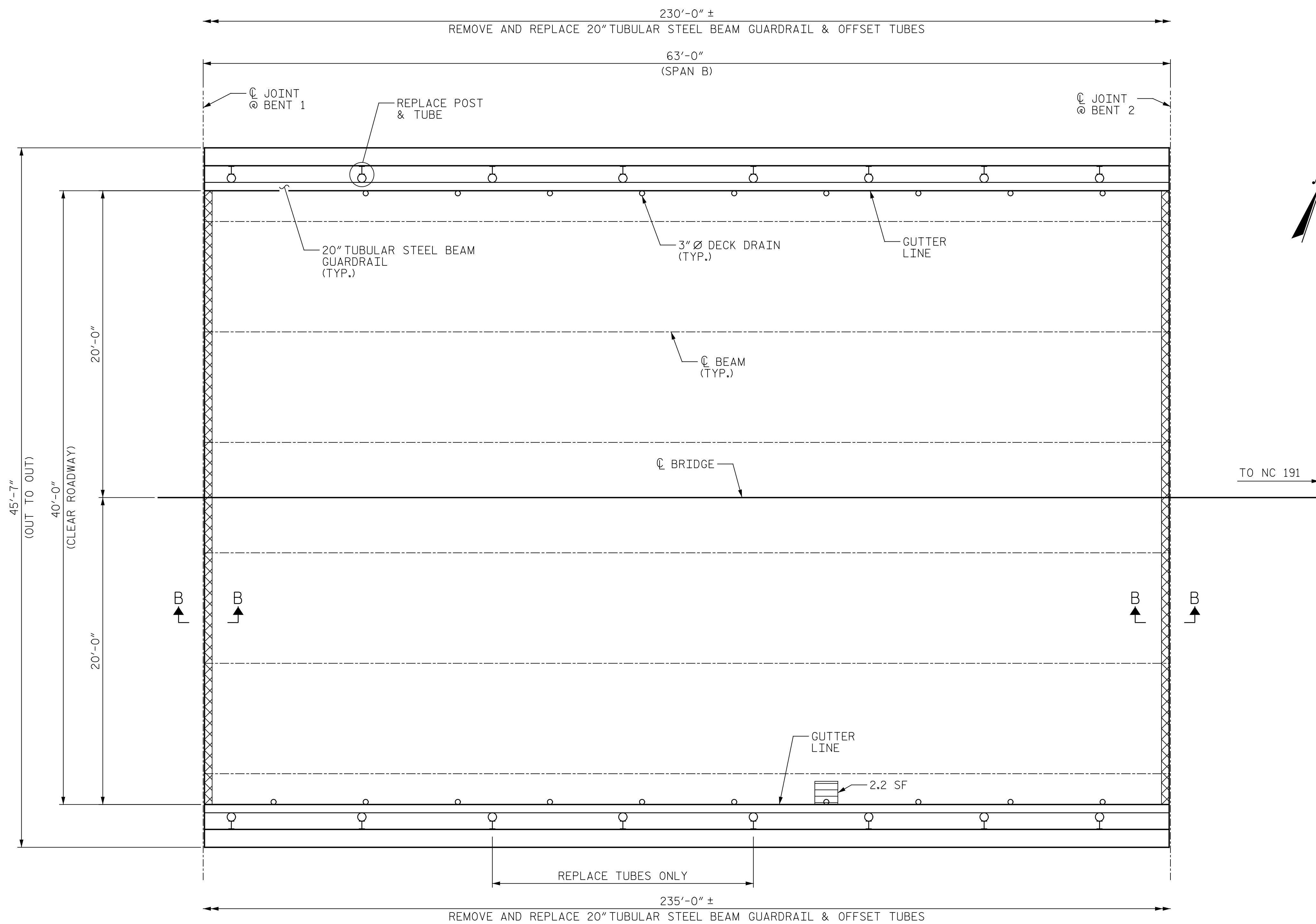
DRAWN BY: M. LEE/J. MYA DATE: 6/2022  
 CHECKED BY: J. YANACONE DATE: 6/2022



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**SPAN B**

**NOTES:**

REPAIR LOCATIONS AND ESTIMATED QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER WILL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATIONS AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITY TABLE.

CONCRETE COVER FOR TOP BARS IN THE DECK SLAB IS 1 1/16" PER THE EXISTING BRIDGE PLANS.

FOR SECTION B-B, SEE "JOINT DETAILS" SHEET.

FOR FINE MILLING, SEE SPECIAL PROVISIONS.

THE CONTRACTOR SHALL REMOVE AND REPLACE THE 20" TUBULAR STEEL BEAM GUARDRAIL. THE ENGINEER WILL SELECT THOSE SECTIONS OF THE EXISTING GUARDRAIL SUITABLE FOR FUTURE USE AND TRANSPORT THEM TO A STOCKPILE FOR THE USE OF THE DEPARTMENT. THE REMAINING GUARDRAIL SECTIONS SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE PROJECT.




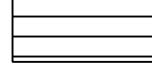
FOR DIMENSIONS OF TUBULAR BEAM GUARDRAIL, POSTS AND TUBES, SEE "TUBULAR BEAM GUARDRAIL DETAILS" SHEET.

DRAWN BY : M. LEE/J. MYA DATE : 6/2022  
 CHECKED BY : J. YANACCONI DATE : 6/2022

REPAIR QUANTITY TABLE				
TOP OF DECK REPAIR				
	ESTIMATE	ACTUAL		
FINE MILLING	280 SY			
HYDRO-DEMOLITION OF BRIDGE DECK	280 SY			
CLASS II SURFACE PREPARATION	0.0 SY			
CLASS III SURFACE PREPARATION	0.0 SY			
LATEX MODIFIED CONCRETE - VES OVERLAY	20.6 CY			
PLACING & FINISHING LMC - VES OVERLAY	280 SY			
GROOVING BRIDGE FLOORS	2278 SF			
UNDERSIDE OF DECK REPAIR				
SHOTCRETE REPAIRS	ESTIMATE		ACTUAL	
	AREA SF	VOLUME CF	AREA SF	VOLUME CF
UNDERSIDE OF DECK	0.0	0.0		
OVERHANG DIAPHRAGMS	0.0	0.0		
UNDERSIDE OF OVERHANG	2.2	0.6		
INTERIOR DIAPHRAGMS	0.0	0.0		
	ESTIMATE		ACTUAL	
UNDERSIDE EPOXY RESIN INJECTION	0.0 LF			

VALUES IN CHART REPRESENT ESTIMATED UNDERSIDE OF DECK REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MINIMUM OF 1" BEHIND REBAR AND MINIMUM 2" CLEAR TO SAWCUT. FOR REPAIR DETAILS, SEE "OVERHANG UNDERSIDE REPAIR DETAILS" SHEET.

PAYMENT FOR CLASS II AND CLASS III SURFACE PREPARATION IS BASED ON THE SQUARE YARDS OF ADDITIONAL DEMOLITION REQUIRED FOLLOWING HYDRO-DEMOLITION OF THE BRIDGE DECK. SEE "OVERLAY SURFACE PREPARATION" SPECIAL PROVISION.

-  BRIDGE JOINT DEMOLITION
-  APPROX. CLASS II SURFACE PREPARATION
-  APPROX. CLASS III SURFACE PREPARATION
-  UNDERSIDE OF DECK/OVERHANG REPAIR
- ERI EPOXY RESIN INJECTION

PROJECT NO. I-5889B  
BUNCOMBE COUNTY  
 BRIDGE NO. 100334

SHEET 2 OF 3



DocuSigned by:  
 Eric B. Nelson  
 7/25/2022  
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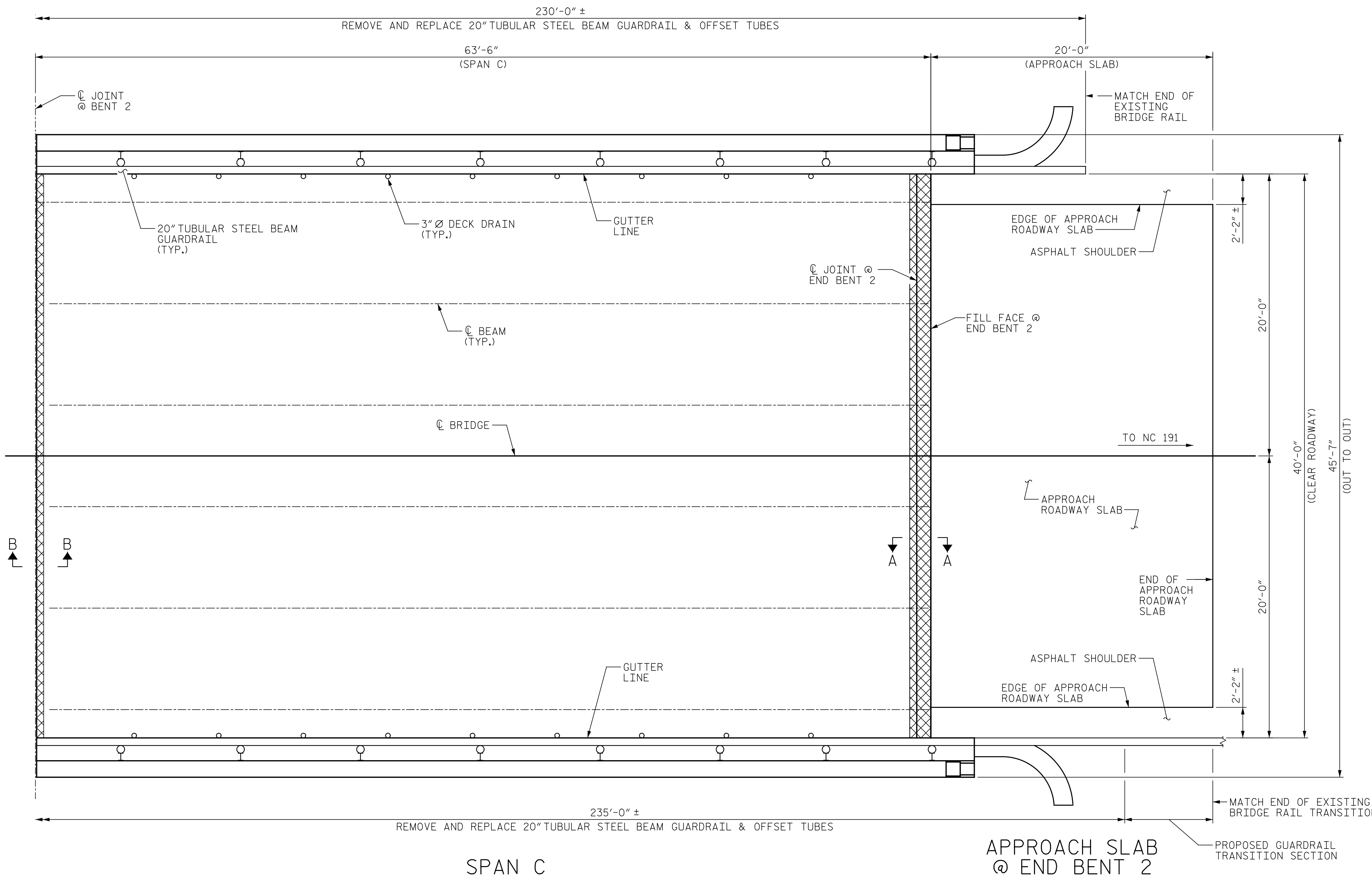
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PLAN OF SPANS SPAN B					
REVISIONS					SHEET NO.
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**NOTES:**

REPAIR LOCATIONS AND ESTIMATED QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER WILL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATIONS AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITY TABLE.

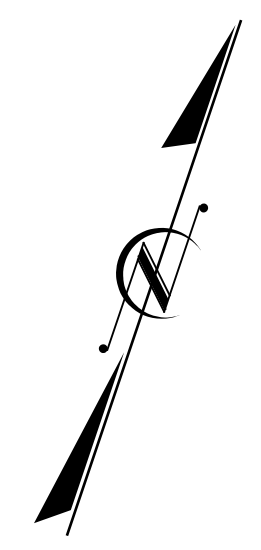
CONCRETE COVER FOR TOP BARS IN THE DECK SLAB IS 1 1/16" PER THE EXISTING BRIDGE PLANS.

FOR SECTION A-A AND B-B, SEE "JOINT DETAILS" SHEET.

FOR FINE MILLING, SEE SPECIAL PROVISIONS.

THE CONTRACTOR SHALL REMOVE AND REPLACE THE 20" TUBULAR STEEL BEAM GUARDRAIL. THE ENGINEER WILL SELECT THOSE SECTIONS OF THE EXISTING GUARDRAIL SUITABLE FOR FUTURE USE AND TRANSPORT THEM TO A STOCKPILE FOR THE USE OF THE DEPARTMENT. THE REMAINING GUARDRAIL SECTIONS SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE PROJECT.

FOR DIMENSIONS OF TUBULAR BEAM GUARDRAIL, POST AND TUBES, SEE "TUBULAR BEAM GUARDRAIL DETAILS" SHEET.



- BRIDGE JOINT DEMOLITION
- APPROX. CLASS II SURFACE PREPARATION
- APPROX. CLASS III SURFACE PREPARATION
- UNDERSIDE OF DECK/OVERHANG REPAIR
- ERI EPOXY RESIN INJECTION

PROJECT NO. I-5889B  
BUNCOMBE COUNTY  
 BRIDGE NO. 100334

REPAIR QUANTITY TABLE				
TOP OF DECK REPAIR	SPAN C		APPROACH SLAB 2	
	ESTIMATE	ACTUAL	ESTIMATE	ACTUAL
FINE MILLING	282 SY		79 SY	
HYDRO-DEMOLITION OF BRIDGE DECK	282 SY		79 SY	
CLASS II SURFACE PREPARATION	0.0 SY		0.0 SY	
CLASS III SURFACE PREPARATION	0.0 SY		0.0 SY	
LATEX MODIFIED CONCRETE - VES OVERLAY	20.9 SF		5.9 SF	
PLACING & FINISHING LMC - VES OVERLAY	282 SY		79 SY	
BRIDGE JOINT DEMOLITION	40 SF		37 SF	
GROOVING BRIDGE FLOORS	2262 SF		695 SF	

UNDERSIDE OF DECK REPAIR				
SHOTCRETE REPAIR	ESTIMATE		ACTUAL	
	AREA SF	VOLUMN CF	AREA SF	VOLUMN CF
UNDERSIDE OF DECK	0.0	0.0		
OVERHANG DIAPHRAGMS	0.0	0.0		
UNDERSIDE OF OVERHANG	0.0	0.0		
INTERIOR DIAPHRAGMS	0.0	0.0		
	ESTIMATE		ACTUAL	
UNDERSIDE EPOXY RESIN INJECTION	0.0 LF			

VALUES IN CHART REPRESENT ESTIMATED UNDERSIDE OF DECK REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MINIMUM OF 1" BEHIND REBAR AND MINIMUM 2" CLEAR TO SAWCUT. FOR REPAIR DETAILS, SEE "OVERHANG UNDERSIDE REPAIR DETAILS" SHEET.

PAYMENT FOR CLASS II AND CLASS III SURFACE PREPARATION IS BASED ON THE SQUARE YARDS OF ADDITIONAL DEMOLITION REQUIRED FOLLOWING HYDRO-DEMOLITION OF THE BRIDGE DECK. SEE "OVERLAY SURFACE PREPARATION" SPECIAL PROVISION.



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**PLAN OF SPANS  
 SPAN C AND  
 APPROACH SLAB**

DRAWN BY: M. LEE/J. MYA DATE: 6/2022  
 CHECKED BY: J. YANACCONE DATE: 6/2022

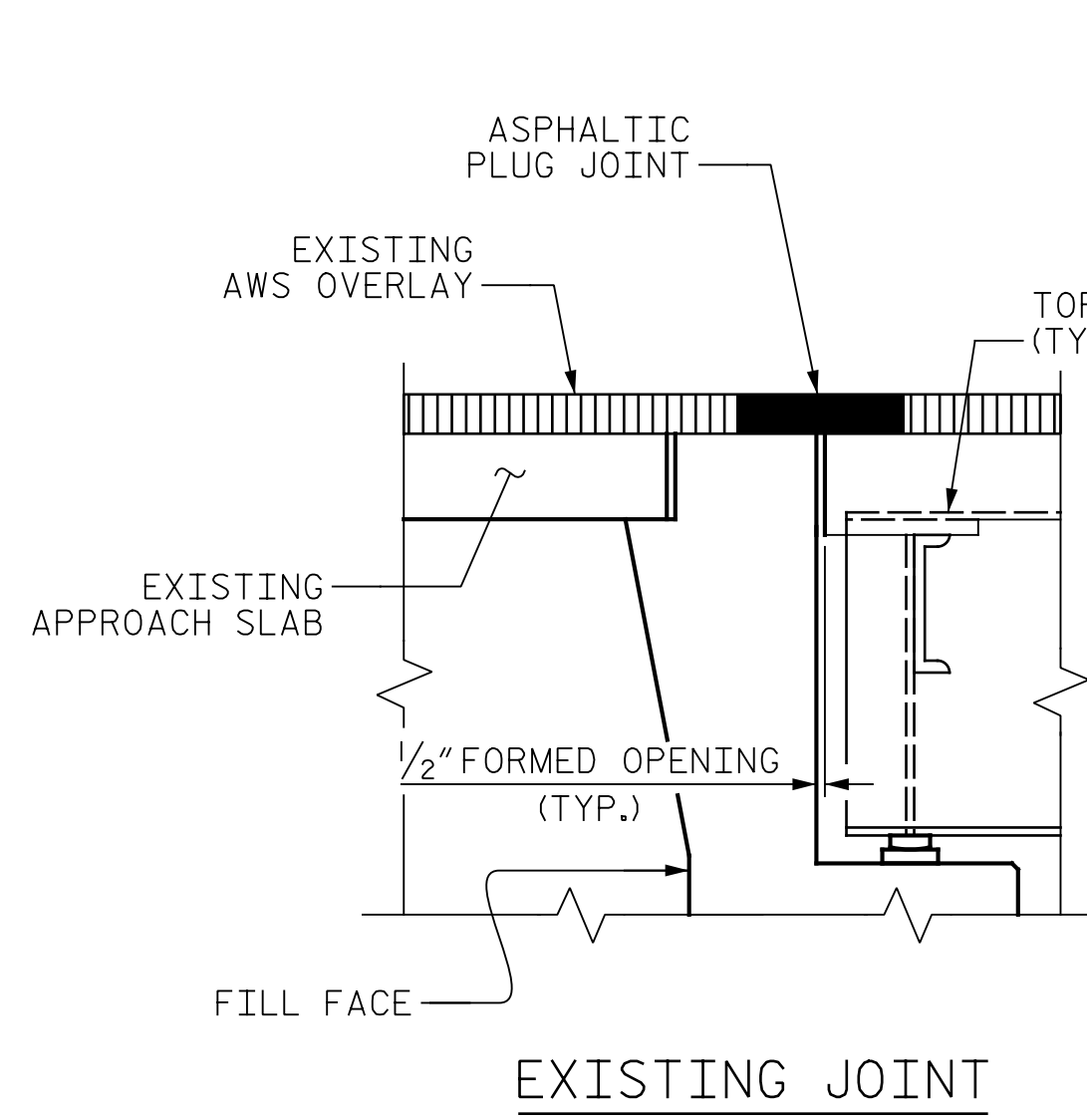


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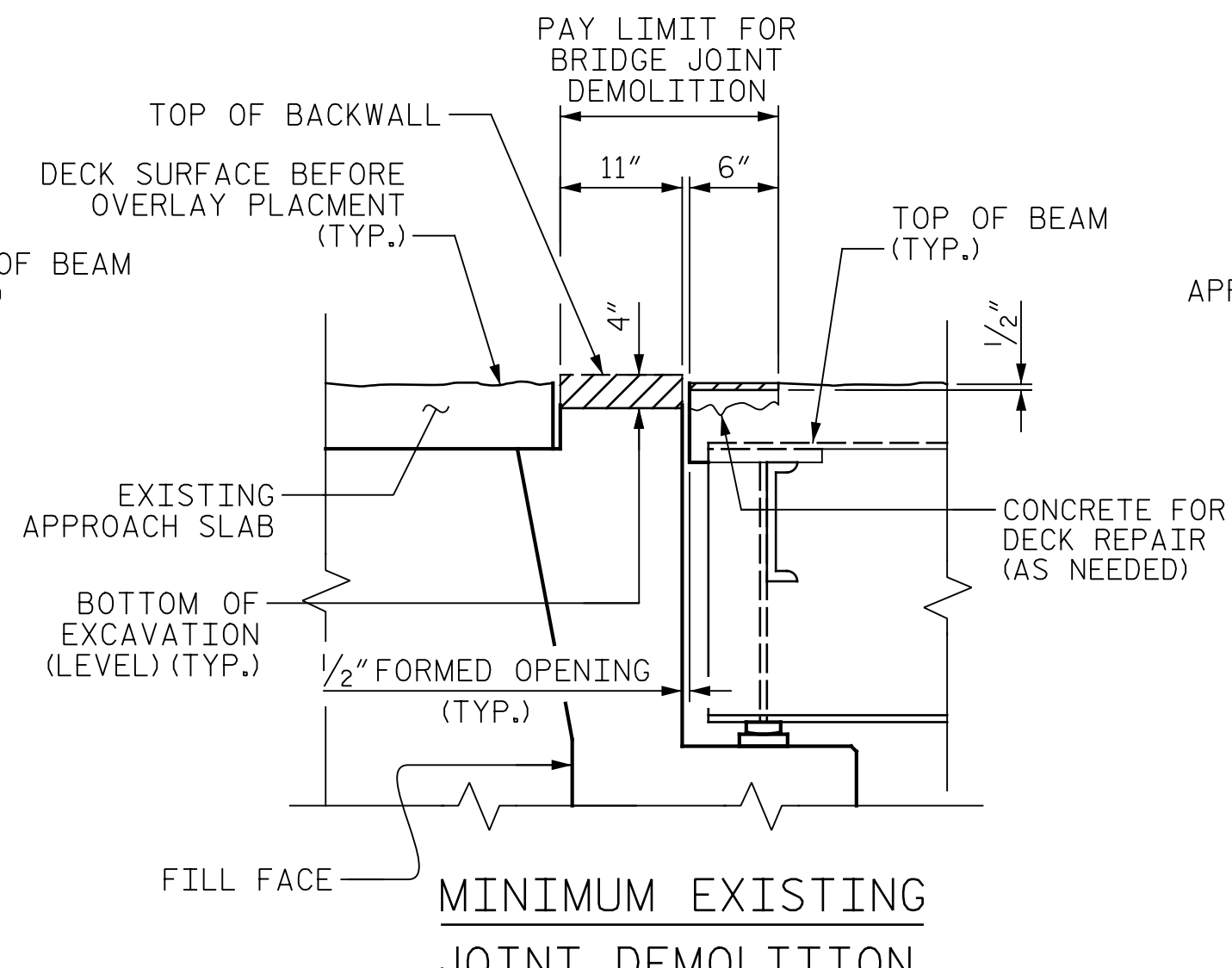
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2			4			TOTAL SHEETS 133



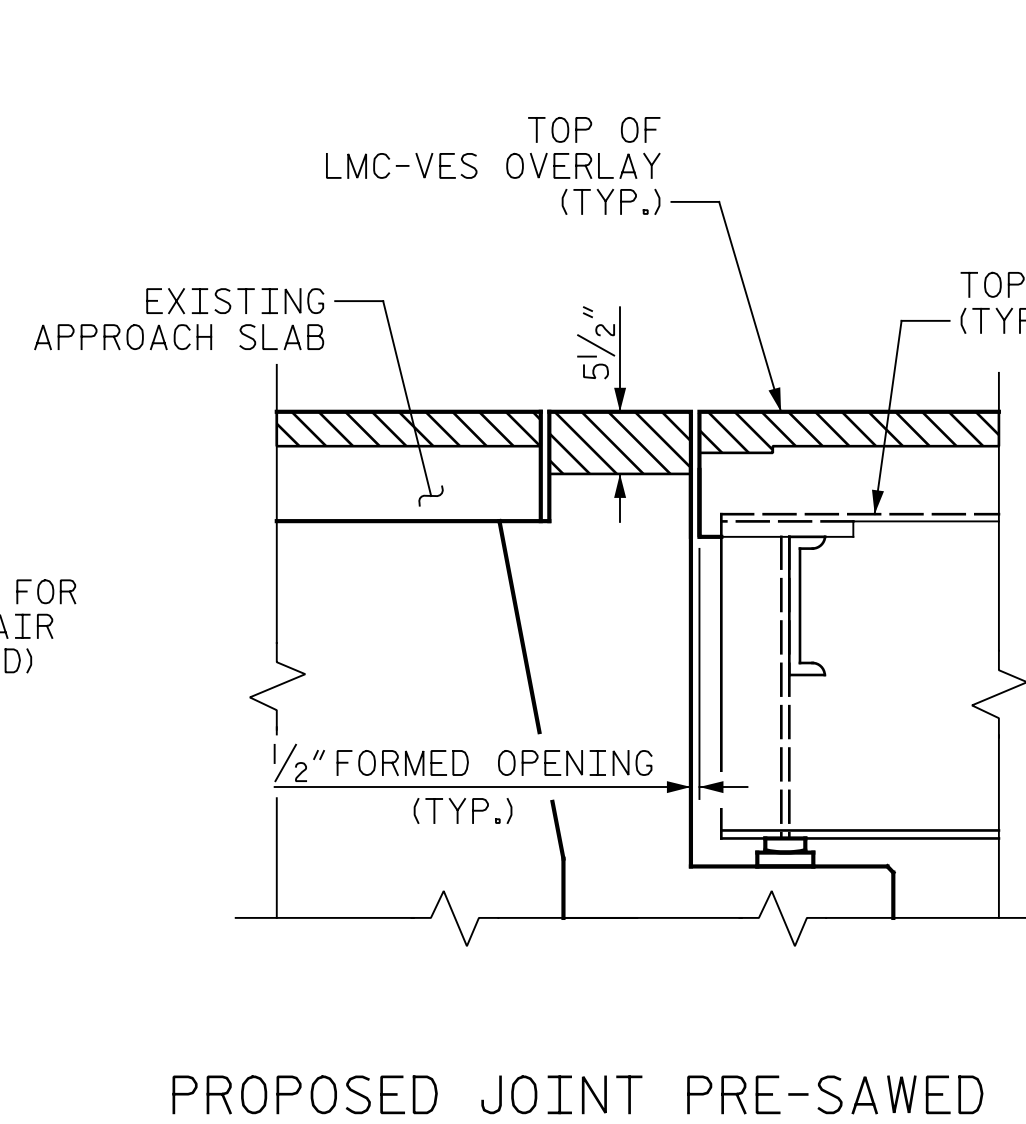
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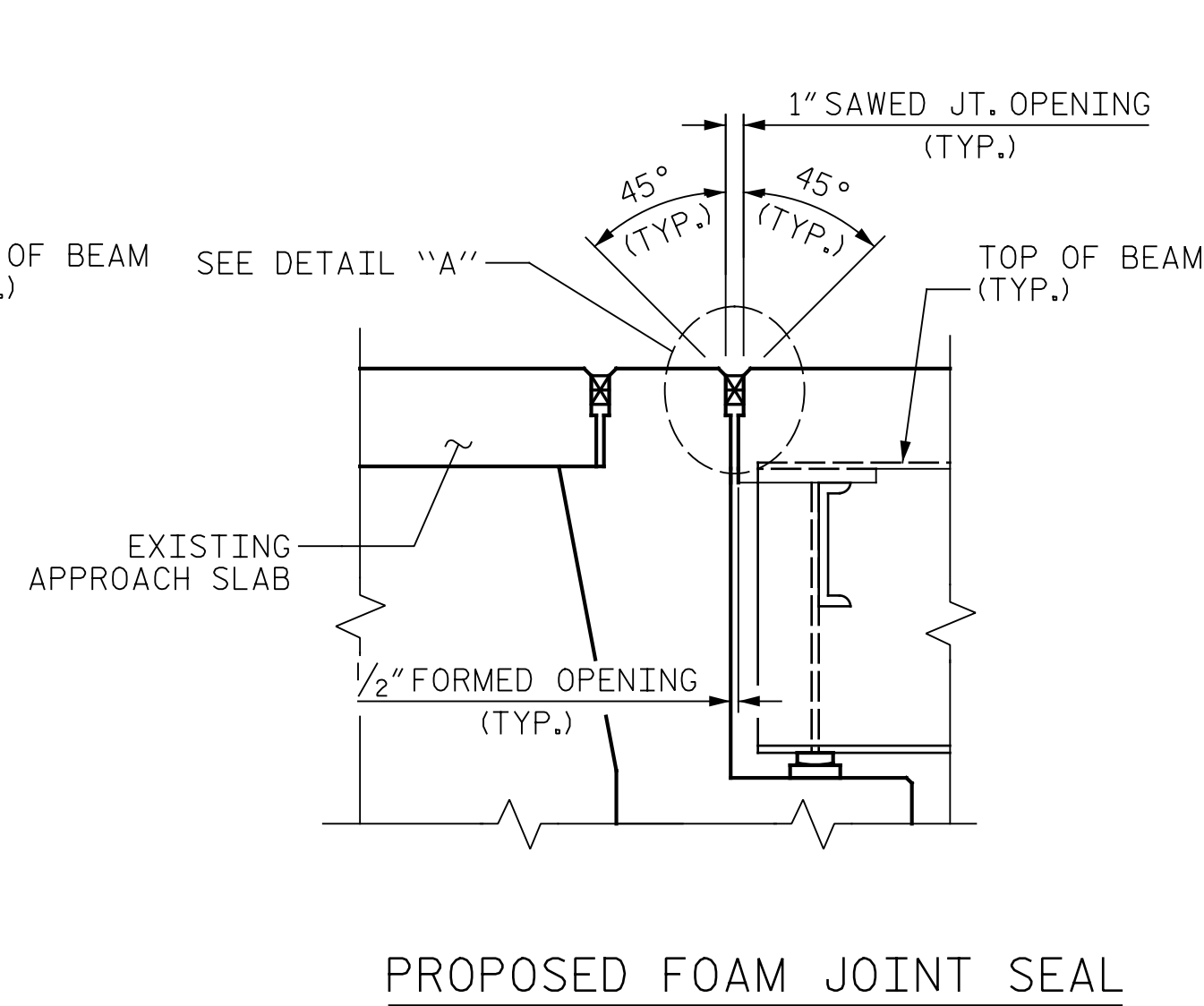
**EXISTING JOINT**



**MINIMUM EXISTING JOINT DEMOLITION**  
(BACKWALL DEMOLITION DONE PRIOR TO OVERLAY PLACEMENT)

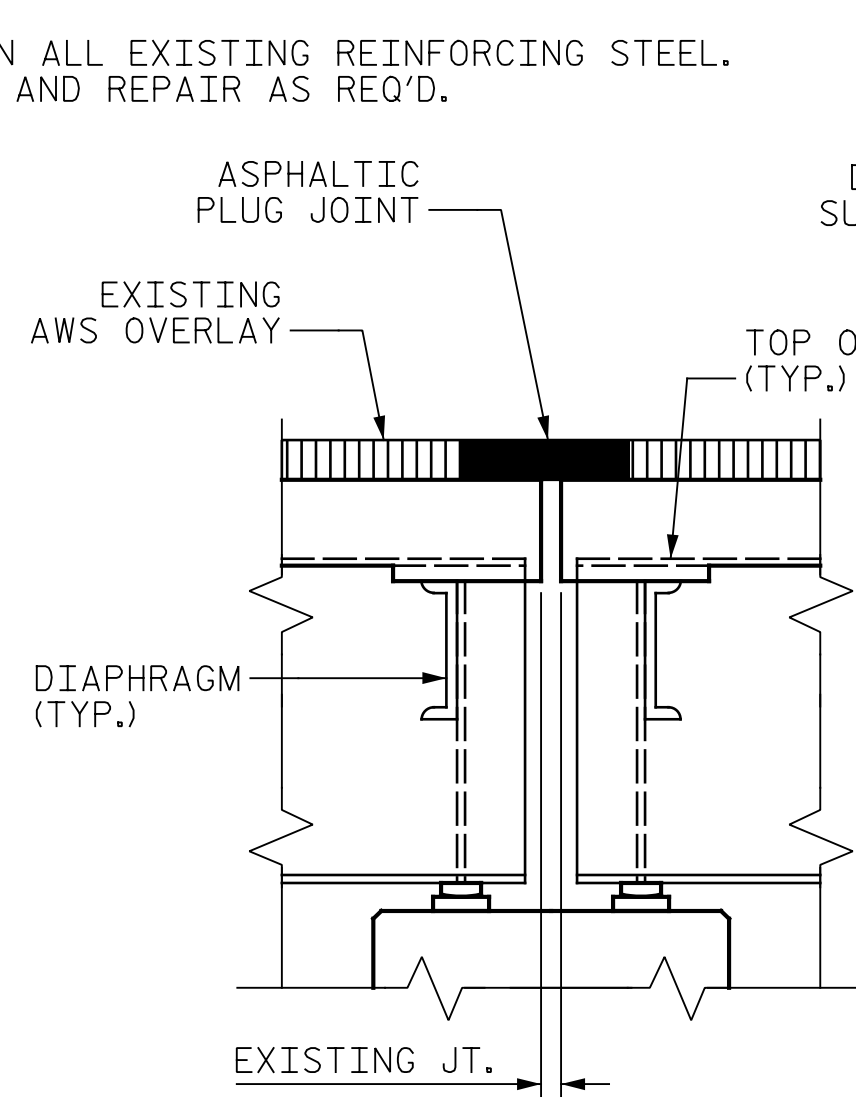


**PROPOSED JOINT PRE-SAWED**

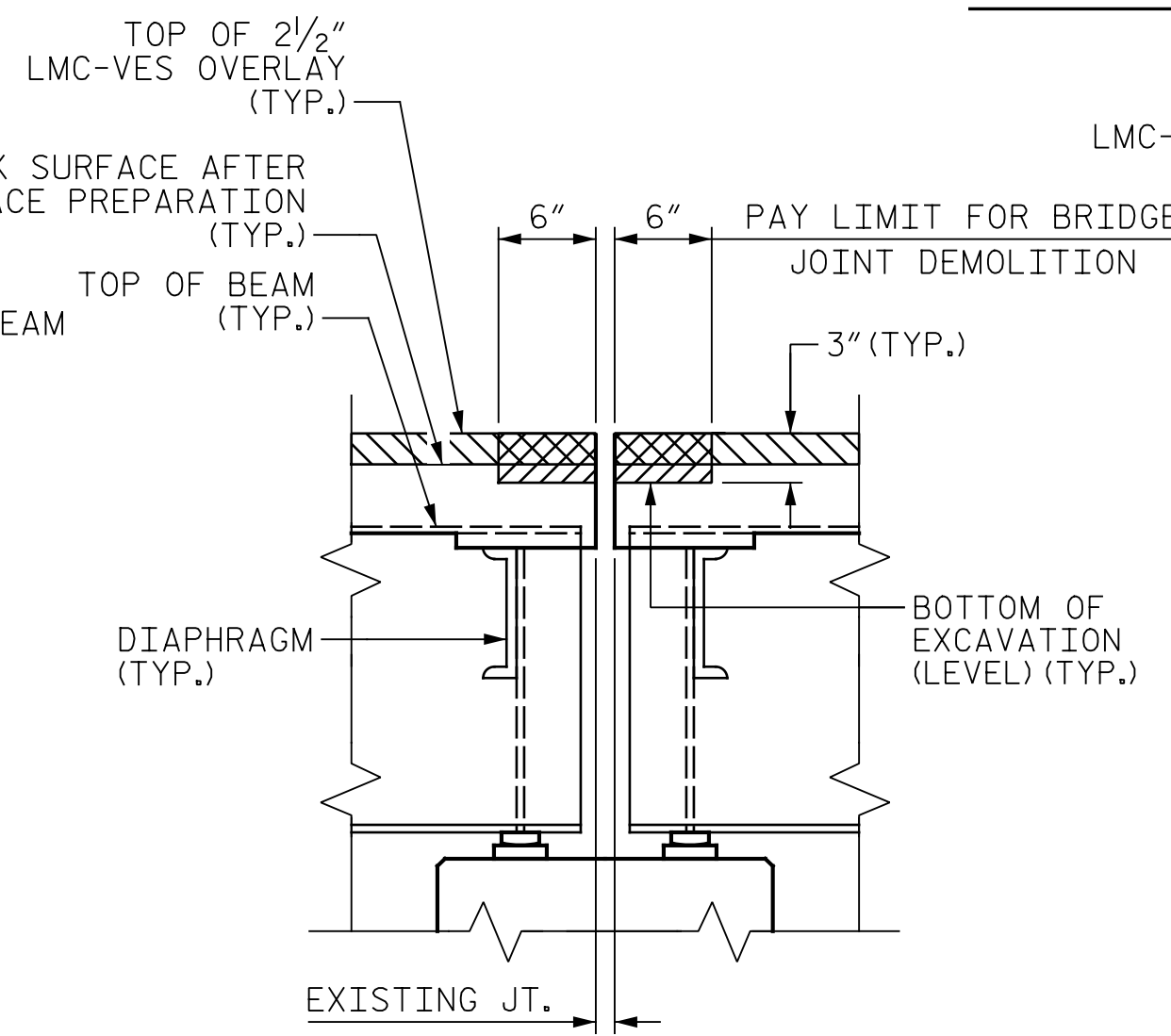


**PROPOSED FOAM JOINT SEAL**  
(AT FILL FACE AND FRONT FACE OF END BENT)

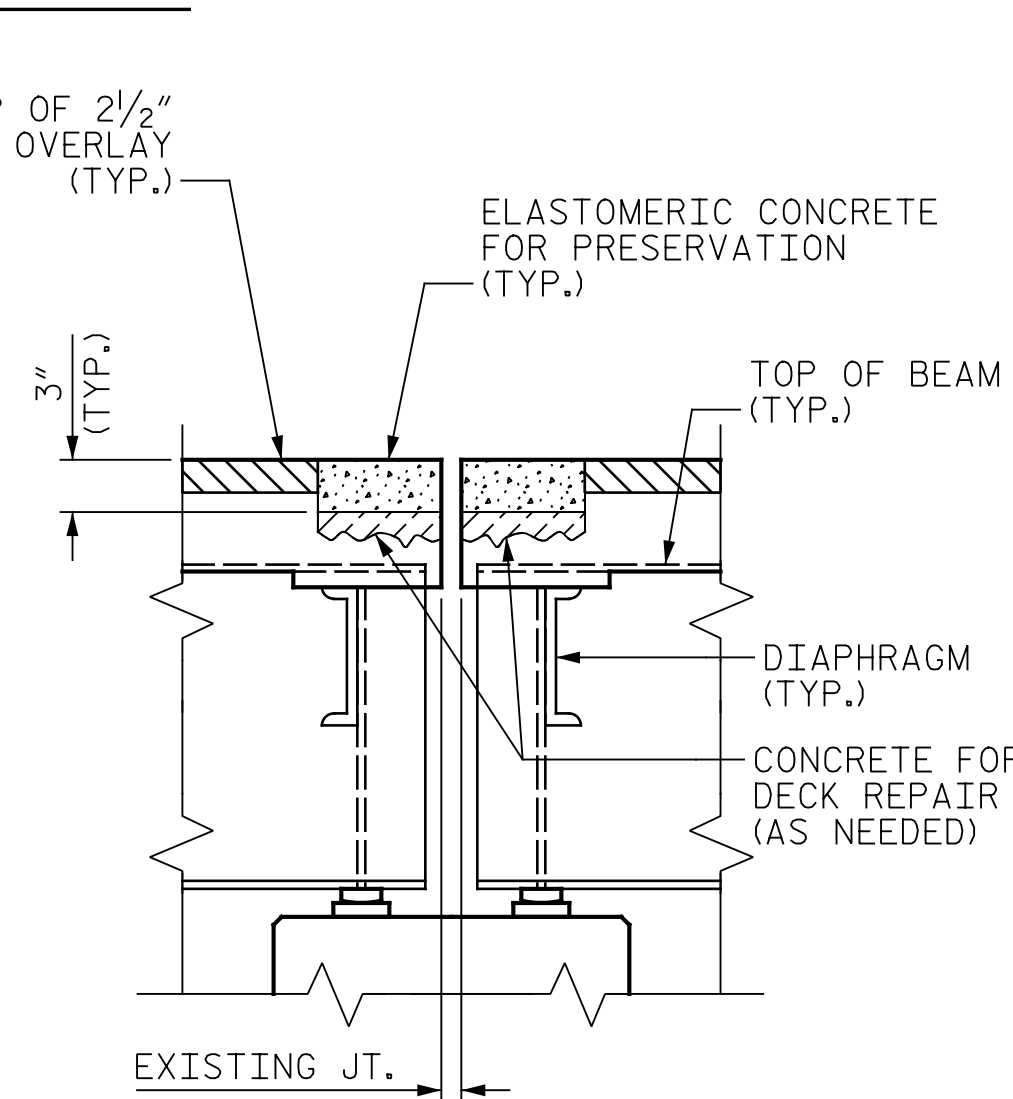
NOTE: RETAIN ALL EXISTING REINFORCING STEEL. CLEAN AND REPAIR AS REQ'D.



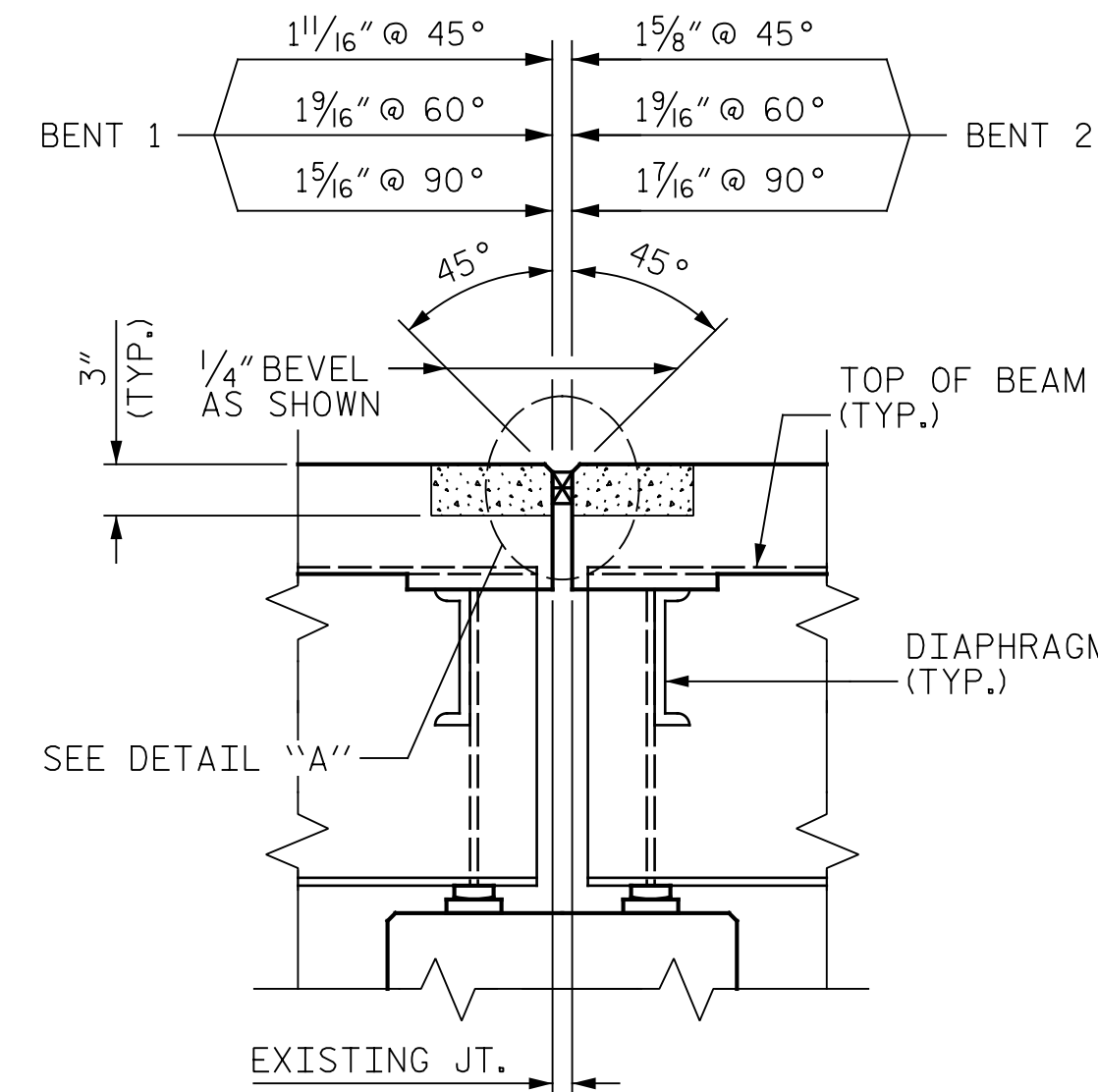
**EXISTING JOINT**



**MINIMUM EXISTING JOINT DEMOLITION**



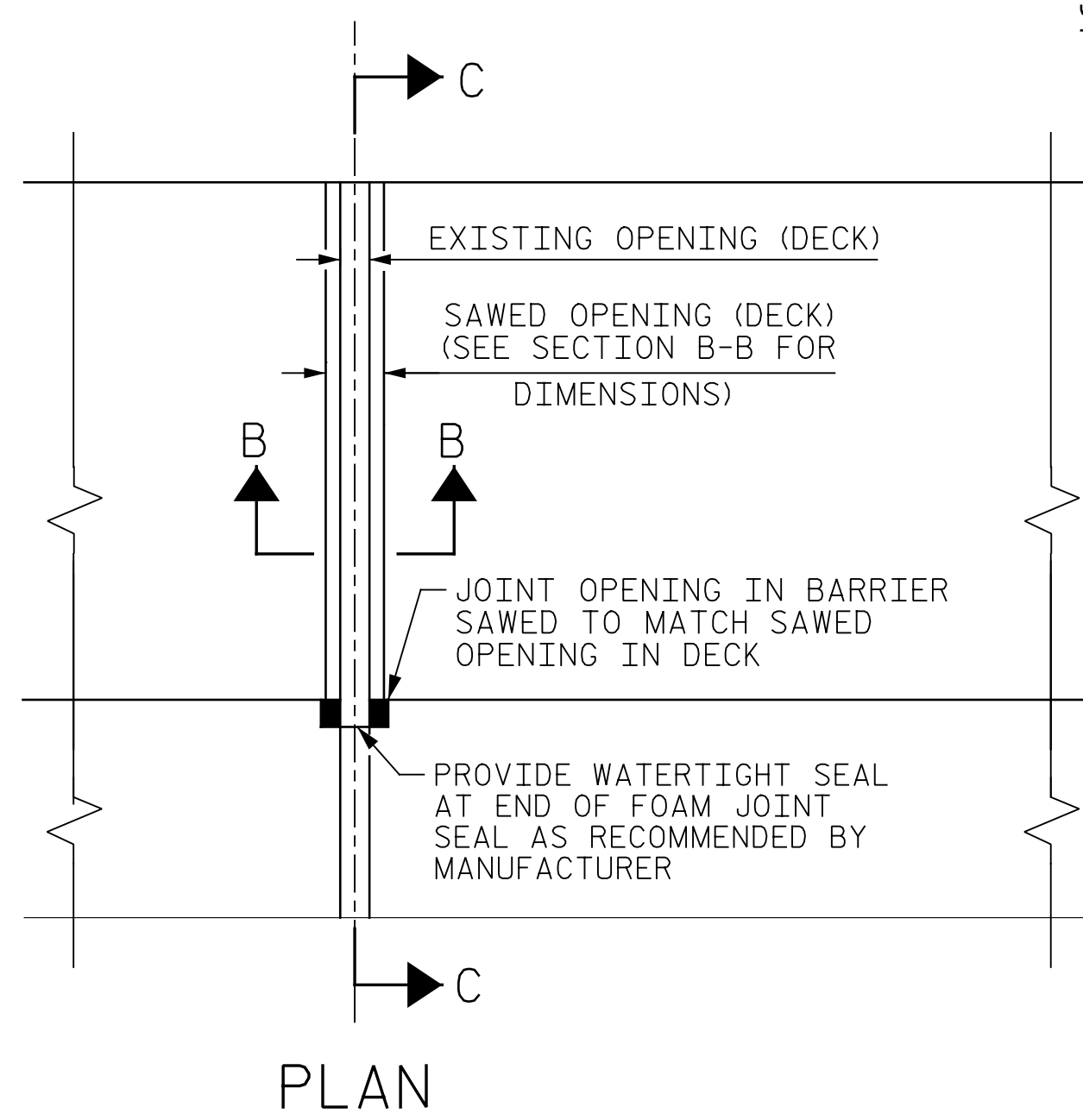
**PROPOSED JOINT PRE-SAWED**



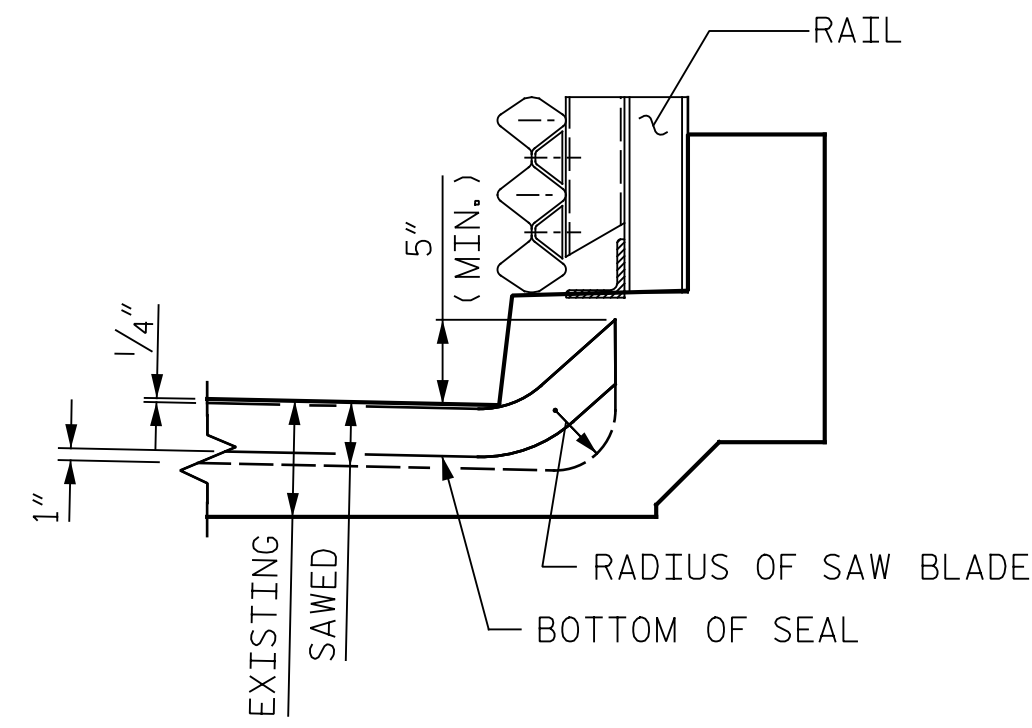
**PROPOSED FOAM JOINT SEAL**

**SECTION A-A**

**SECTION B-B**



**PLAN**

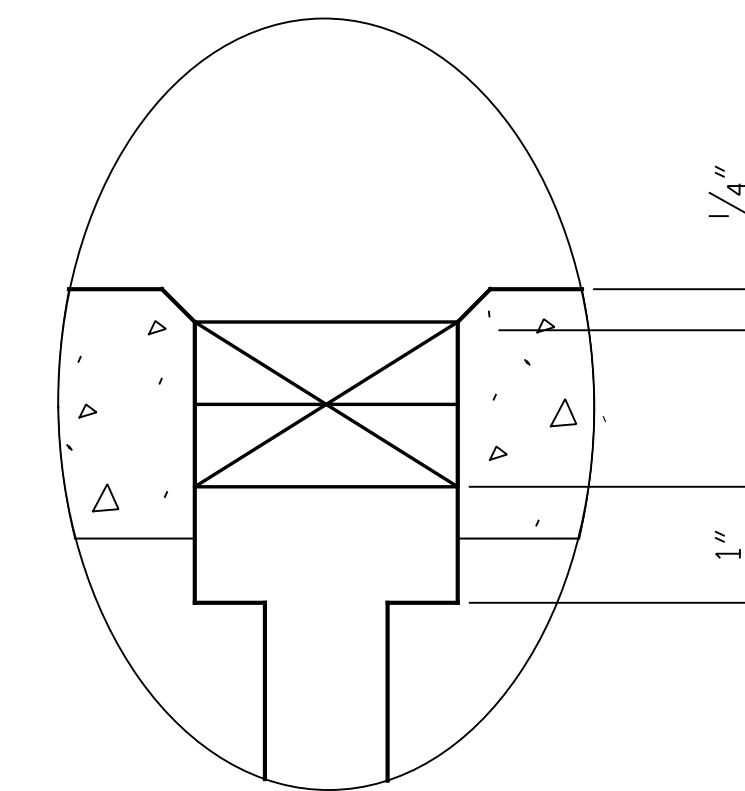


**SECTION C-C**

FOAM JOINT SEAL SHALL BE FACTORY FORMED OR CUT, HEAT WELDED AND TURNED UP PARALLEL TO SLOPED FACE OF CURB.

LOCATION	ELASTOMERIC CONCRETE FOR PRESERVATION	FOAM JOINT SEALS FOR PRESERVATION
	CU. FT.	LIN. FT.
END BENT 1	5.0	78.0
BENT 1	10.0	42.0
BENT 2	10.0	42.0
END BENT 2	5.0	78.0
* TOTAL	30.0	240.0

\* BASED ON MINIMUM BLOCKOUT SHOWN



**DETAIL "A"**

**NOTES:**

FINAL JOINT SEALS SHALL NOT BE INSTALLED UNTIL THE OVERLAY OR SEALANT WORK IS COMPLETE.

THE CONTRACTOR SHALL FIELD VERIFY THE EXISTING JOINT OPENING PRIOR TO ORDERING JOINT SEAL MATERIAL. IF THE ACTUAL JOINT OPENING VARIES FROM THE OPENING INDICATED IN THE DETAILS BY MORE THAN 1/4", NOTIFY THE ENGINEER.

THE MANUFACTURER IS TO PROVIDE THE NOMINAL UNCOMPRESSED SEAL WIDTH OF THE FOAM JOINT SEAL FOR THE SIZE OF THE OPENING ON THE PLANS AND ACCOMMODATE THE MINIMUM EXPANSION SHOWN ON THE PLANS.

FOAM JOINTS SHALL BE INSTALLED AS PER THE MANUFACTURER'S RECOMMENDATIONS.

THE CONTRACTOR SHALL TAKE CARE DURING JOINT REHAB OPERATIONS NOT TO DROP ANY MATERIAL BELOW THE BRIDGE WITHOUT PROTECTIVE DEVICES BELOW TO CATCH THE MATERIAL. ANY MATERIAL THAT FALLS BELOW THE BRIDGE SHALL BE CONTAINED, REMOVED AND DISPOSED OF BY THE CONTRACTOR AT NO EXTRA COST TO THE DEPARTMENT. IF THE ENGINEER DETERMINES THAT THE PROTECTIVE DEVICES ARE NOT ADEQUATE OR NOT BEING EMPLOYED, THE WORK SHALL BE SUSPENDED UNTIL ADEQUATE PROTECTION IS PROVIDED.

FOR EXCAVATION BELOW THE BOTTOM OF THE PLANNED JOINT DEMOLITION, CONCRETE FOR DECK REPAIR SHALL BE PLACED IN THE EXCAVATED AREA TO THE ELEVATION AT THE BOTTOM OF THE PROPOSED ELASTOMERIC CONCRETE FOR PRESERVATION HEADERS AS SHOWN.

FINAL SURFACE OF THE JOINT DEMOLITION AREA PRIOR TO PLACEMENT OF CONCRETE REPAIR MATERIAL OR ELASTOMERIC CONCRETE SHOULD BE REASONABLY FLAT AND LEVEL. ENGINEER SHALL DETERMINE THE ACCEPTABILITY OF THE SURFACE PRIOR TO PLACEMENT OF REPAIR CONCRETE OR ELASTOMERIC CONCRETE.

THE CONTRACTOR WILL NOT BE PERMITTED TO FORM THE JOINT IN LIEU OF SAWING THE JOINT.

THE INSTALLED FOAM JOINTS SHALL BE WATERTIGHT.

THE CONTRACTOR SHALL SAW CUT TO A NOMINAL DEPTH OF 1/2" BUT REINFORCING STEEL SHALL NOT BE DAMAGED. CONTRACTOR SHALL REMOVE SURFACE CONCRETE TO VERIFY THAT SAWCUT DEPTH WILL NOT DAMAGE EXISTING REINFORCING STEEL.

QUANTITIES SHOWN IN THE ELASTOMERIC CONCRETE FOR PRESERVATION TABLE ARE BASED ON THE MINIMUM JOINT DEMOLITION SHOWN.

FOR BRIDGE JOINT DEMOLITION, SEE SPECIAL PROVISIONS.

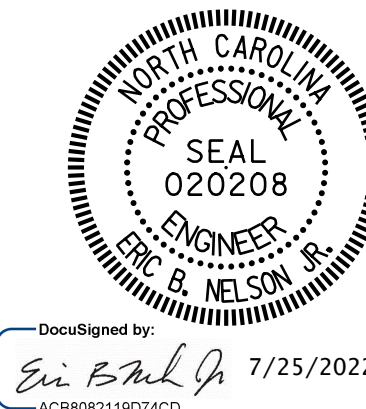
FOR ELASTOMERIC CONCRETE FOR PRESERVATION, SEE SPECIAL PROVISIONS.

FOR FOAM JOINT SEALS FOR PRESERVATION, SEE SPECIAL PROVISIONS.

PROJECT NO. I-5889B  
BUNCOMBE COUNTY  
 BRIDGE NO. 100334

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**JOINT DETAILS**



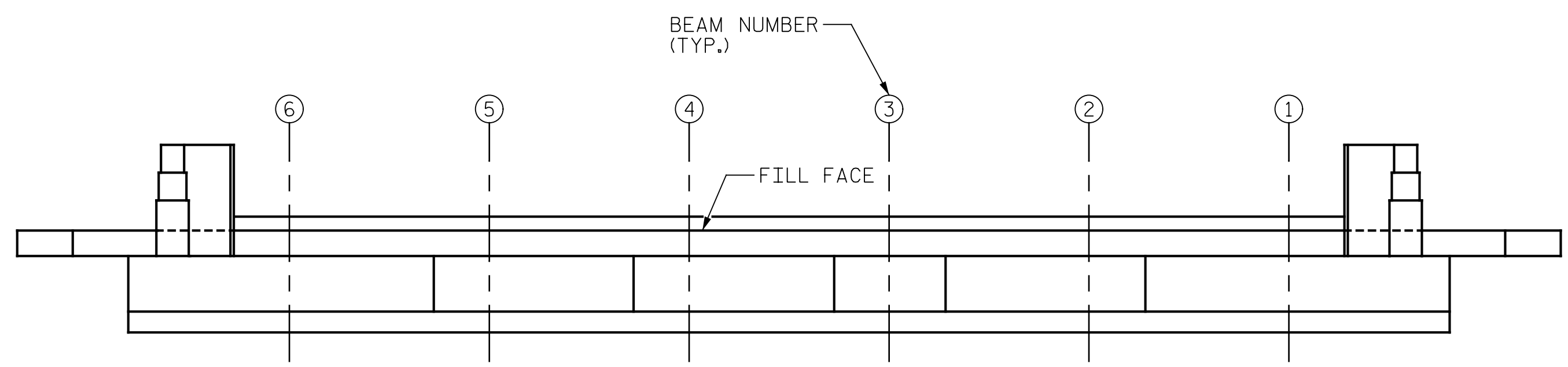
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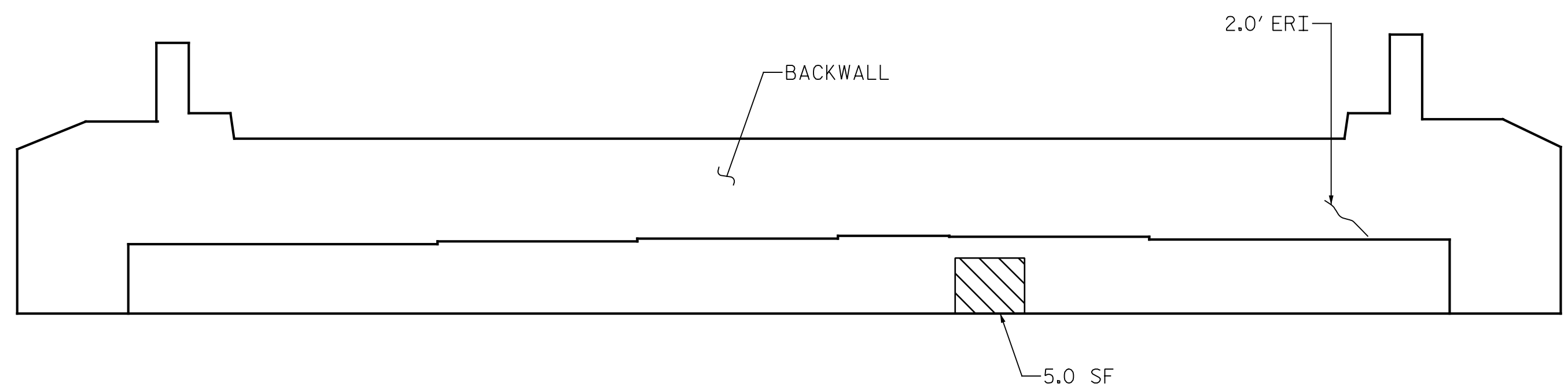


DRAWN BY: J. MYA DATE: 6/2022  
 CHECKED BY: J. YANACCONI DATE: 6/2022

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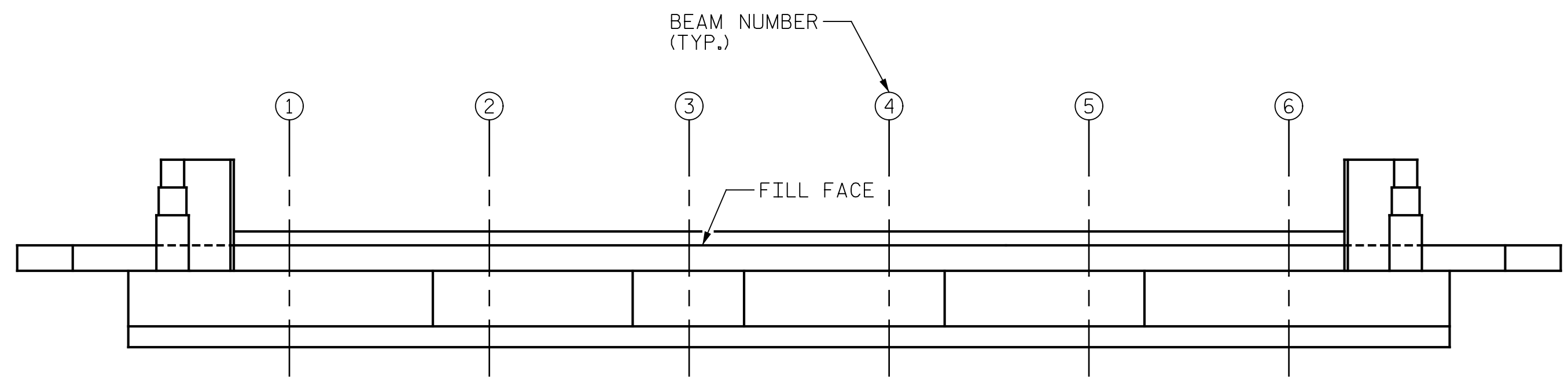


PLAN



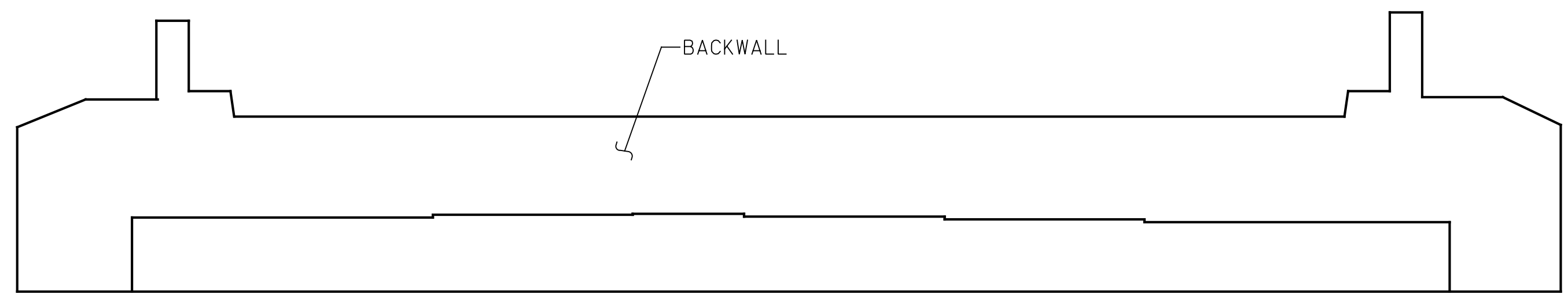
ELEVATION  
END BENT 1

- SHOTCRETE REPAIR
- CONCRETE REPAIR (FORM & POUR)
- ERI - EPOXY RESIN INJECTION



PLAN

NO REPAIRS NOTED FOR END BENT 2 DURING FIELD SCOPING. THE CONTRACTOR AND ENGINEER SHALL INSPECT END BENT 2 PRIOR TO BEGINNING WORK.



ELEVATION  
END BENT 2

AS-BUILT REPAIR QUANTITY TABLE					
END BENT 1 REPAIRS	QUANTITIES				
	ESTIMATE		ACTUAL		
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF
CAP	5.0	2.5			
BACKWALL	0.0	0.0			
CONCRETE REPAIRS	0.0	0.0			
EPOXY RESIN INJECTION		LENGTH LF		LENGTH LF	
CAP		0.0			
BACKWALL		2.0			
EPOXY COATING		SQ. FT		SQ. FT	
TOP OF BENT CAP		100			

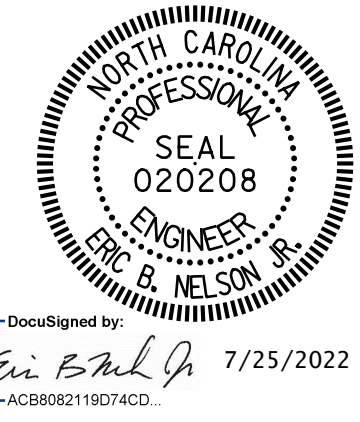
END BENT 2 REPAIRS	QUANTITIES				
	ESTIMATE		ACTUAL		
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF
CAP	0.0	0.0			
BACKWALL	0.0	0.0			
CONCRETE REPAIRS	0.0	0.0			
EPOXY RESIN INJECTION		LENGTH LF		LENGTH LF	
CAP		0.0			
BACKWALL		0.0			
EPOXY COATING		SQ. FT		SQ. FT	
TOP OF BENT CAP		100			

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MINIMUM OF 1" BEHIND REBAR AND MINIMUM OF 2" CLEARANCE TO SAWCUT. FOR REPAIR DETAILS, SEE "TYPICAL CAP REPAIR DETAILS" SHEET.

**NOTES:**  
 REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER WILL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUALITIES ENTERED INTO THE AS-BUILT REPAIR QUANTITY TABLE.

- CONTRACTOR SHALL SAW CUT TO A MINIMUM DEPTH OF 1/2" BUT REINFORCING STEEL SHALL NOT BE DAMAGED
- CONTRACTOR SHALL REMOVE SURFACE CONCRETE TO VERIFY THAT SAW CUT DEPTH WILL NOT DAMAGE EXISTING REINFORCING STEEL.
- CONTRACTOR SHALL SAW CUT THE REPAIR AREAS SO THAT THE CORNERS ARE SQUARE AS INDICATED ON THE DETAILS.
- FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.
- FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.
- SHOTCRETE REPAIRS MAY BE REPLACED WITH CONCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.
- FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

PROJECT NO. I-5889B  
BUNCOMBE COUNTY  
 BRIDGE NO. 100334



DocuSigned by:  
 Eric B. Nelson  
 7/25/2022

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

END BENT 1 & 2

DRAWN BY : J. MYA DATE : 6/2022  
 CHECKED BY : J. YANNAACONE DATE : 6/2022

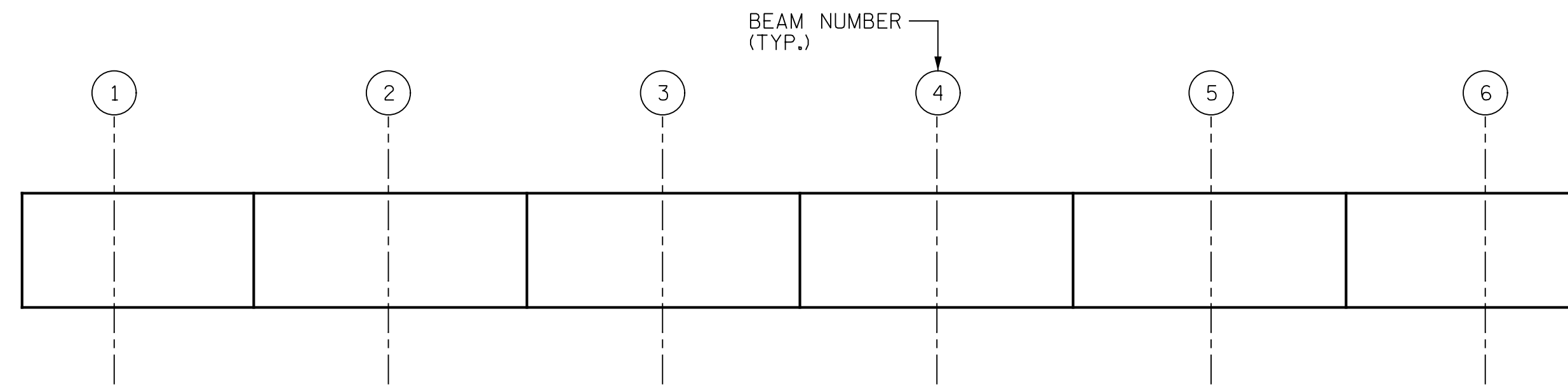


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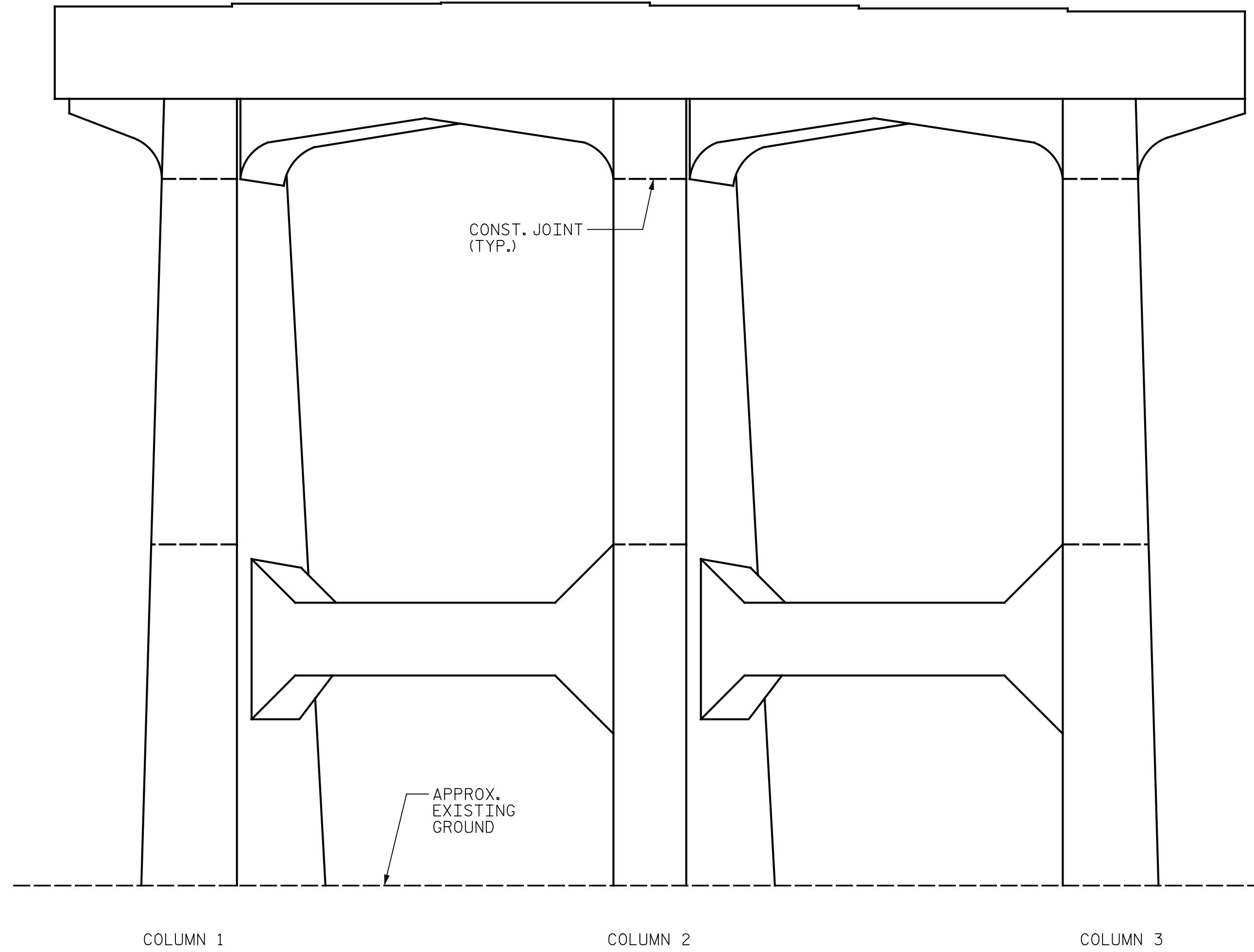
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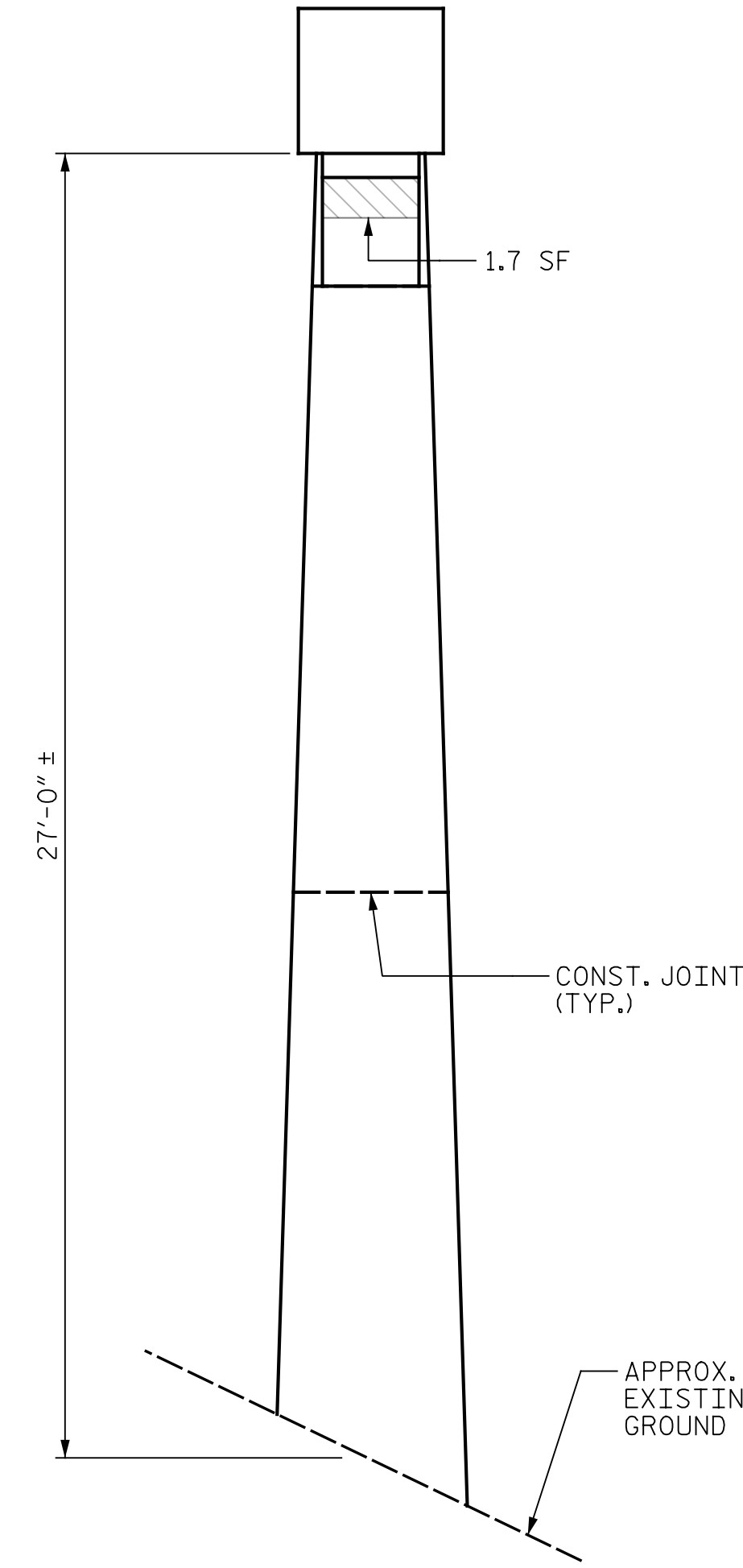
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SPAN B  
SPAN A



ELEVATION



END VIEW  
(COLUMN 3)

AS-BUILT REPAIR QUANTITY TABLE

BENT 1 REPAIRS	QUANTITIES				
	ESTIMATE		ACTUAL		
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF
CAP	0.0	0.0			
COLUMN	25.0	12.5			
STRUT	3.1	1.6			
CONCRETE REPAIRS	0.0	0.0			
EPOXY RESIN INJECTION		LENGTH LF	LENGTH LF		
CAP		0.0			
COLUMN		0.0			
STRUT		0.0			
EPOXY COATING		SQ. FT	SQ. FT		
TOP OF BENT CAP		116			

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MINIMUM OF 1" BEHIND REBAR AND MINIMUM OF 2" CLEARANCE TO SAWCUT. FOR REPAIR DETAILS, SEE "TYPICAL CAP AND COLUMN REPAIR DETAILS" SHEET.

NOTES:

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FOR REPAIRS, SEE "TYPICAL CAP AND COLUMN REPAIR DETAILS" SHEET.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

SHOTCRETE REPAIRS MAY BE REPLACED WITH CONCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

CONTRACTOR SHALL SAW CUT TO A MINIMUM DEPTH OF 1/2" BUT REINFORCING STEEL SHALL NOT BE DAMAGED. CONTRACTOR SHALL REMOVE SURFACE CONCRETE TO VERIFY THAT SAW CUT DEPTH WILL NOT DAMAGE EXISTING REINFORCING STEEL.

CONTRACTOR SHALL SAW CUT THE REPAIR AREAS SO THAT THE CORNERS ARE SQUARE AS INDICATED ON THE DETAILS.

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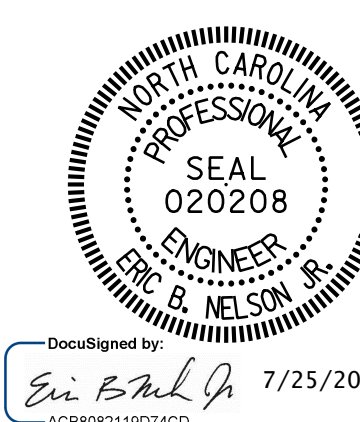
FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

WHEN COLUMN REPAIRS ARE INDICATED TO GROUND LINE, EXTEND REPAIR ONE (1) FOOT MIN. BELOW GROUND LINE.

- SHOTCRETE REPAIR
- CONCRETE REPAIR (FORM & POUR)
- ERI - EPOXY RESIN INJECTION

PROJECT NO. I-5889B  
BUNCOMBE COUNTY  
 BRIDGE NO. 100334

SHEET 1 OF 2



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**BENT 1  
SPAN A SIDE**

DRAWN BY : J. MYA DATE : 6/2022  
 CHECKED BY : J. YANNAACONE DATE : 6/2022

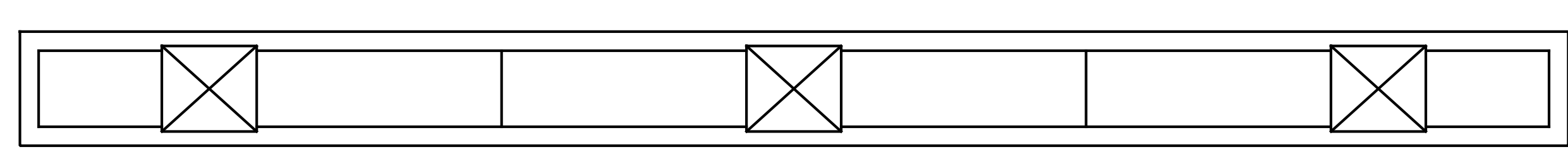


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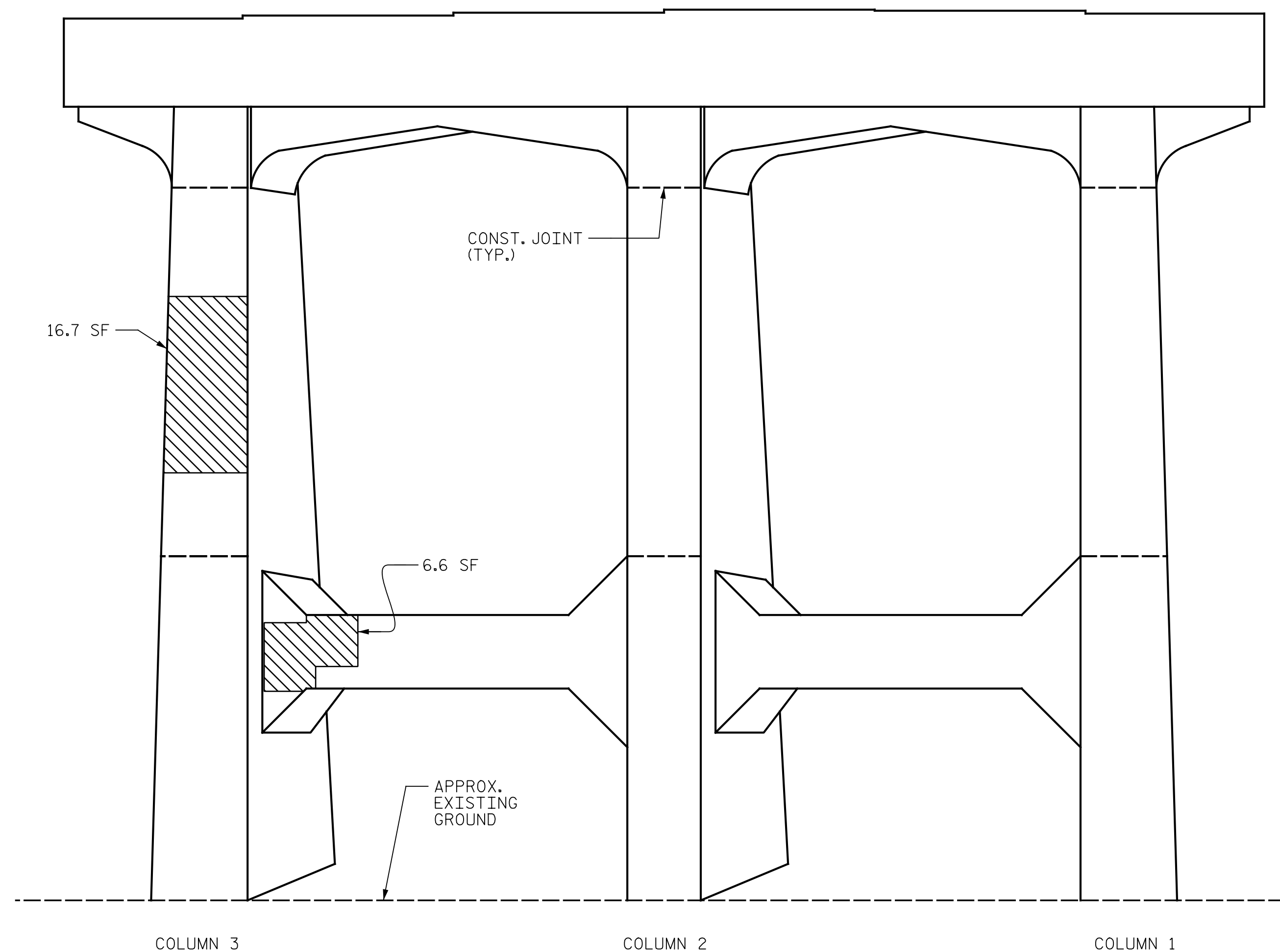


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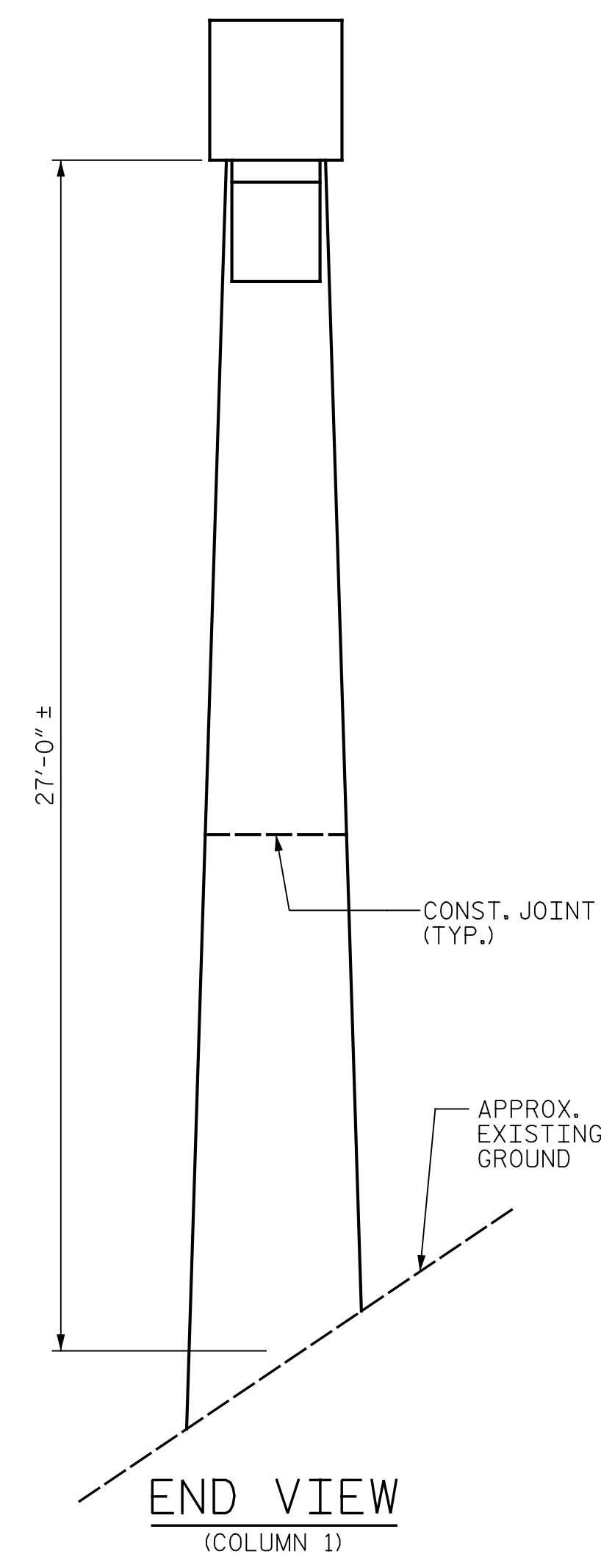


SPAN A  
SPAN B

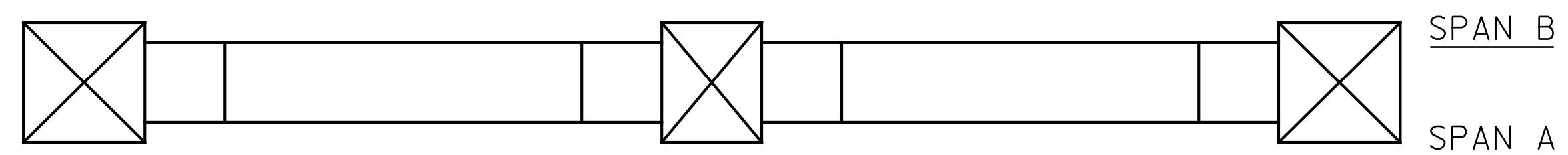
BOTTOM OF CAP



ELEVATION

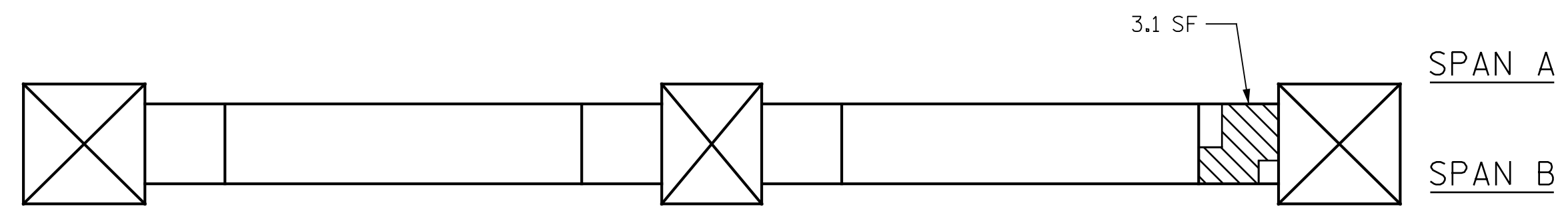


END VIEW  
(COLUMN 1)



SPAN B  
SPAN A

TOP OF STRUT



SPAN A  
SPAN B

BOTTOM OF STRUT

**NOTES:**

REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE BASED ON THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER WILL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATIONS AND DESCRIPTION OF THE REPAIRS AND ENTER THE ACTUAL QUANTITIES INTO THE AS-BUILT REPAIR QUANTITY TABLE.

FOR REPAIRS, SEE "TYPICAL CAP AND COLUMN REPAIR DETAILS" SHEET.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

SHOTCRETE REPAIRS MAY BE REPLACED WITH CONCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

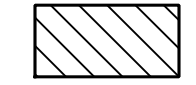


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 SHOTCRETE REPAIR  
 CONCRETE REPAIR (FORM & POUR)  
 ERI - EPOXY RESIN INJECTION

PROJECT NO. I-5889B  
BUNCOMBE COUNTY  
 BRIDGE NO. 100334

SHEET 2 OF 2

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**BENT 1  
 SPAN B SIDE**



DocuSigned by:  
*Eric B. Nelson* 7/25/2022  
 AC8089211907402

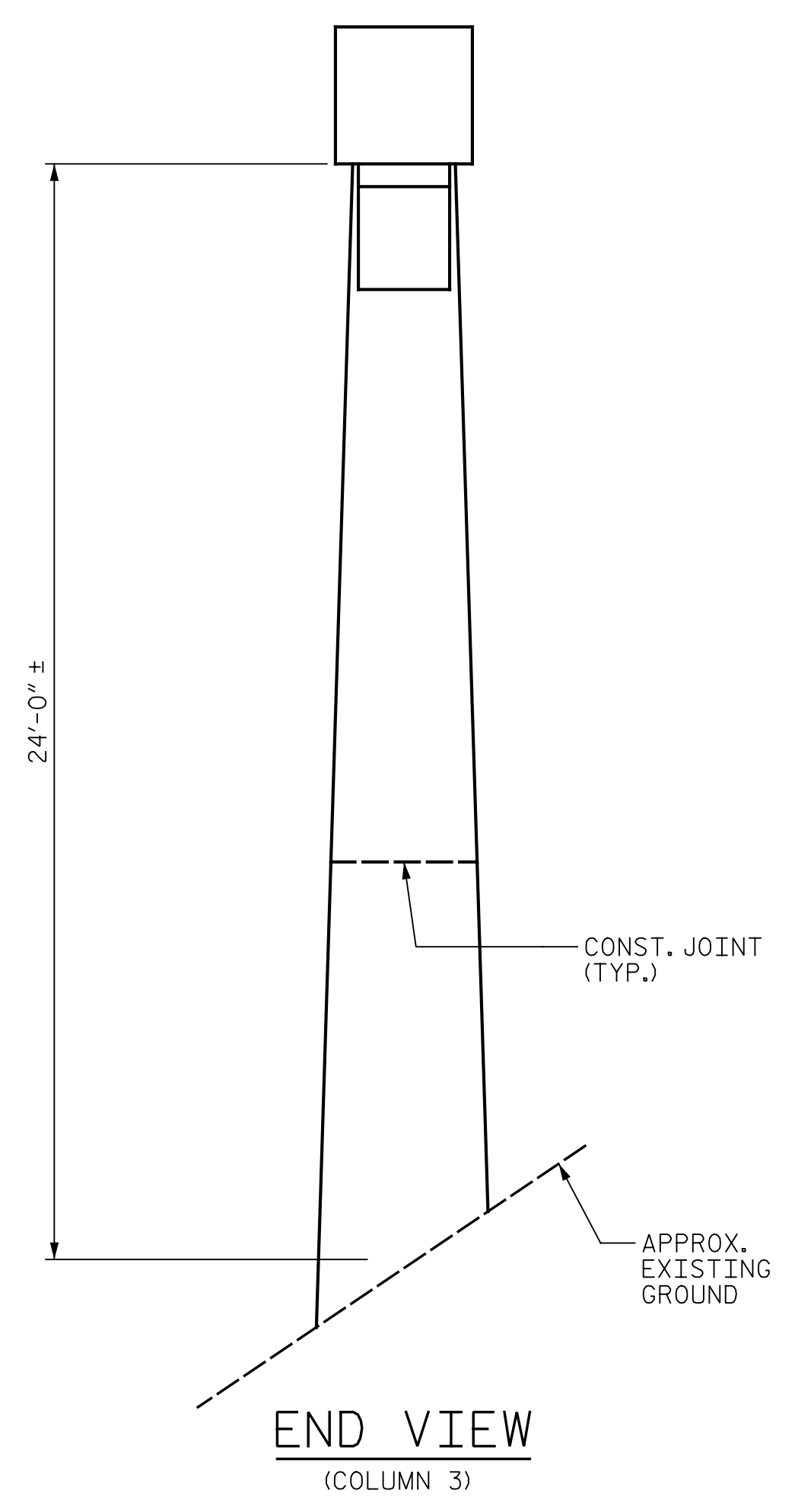
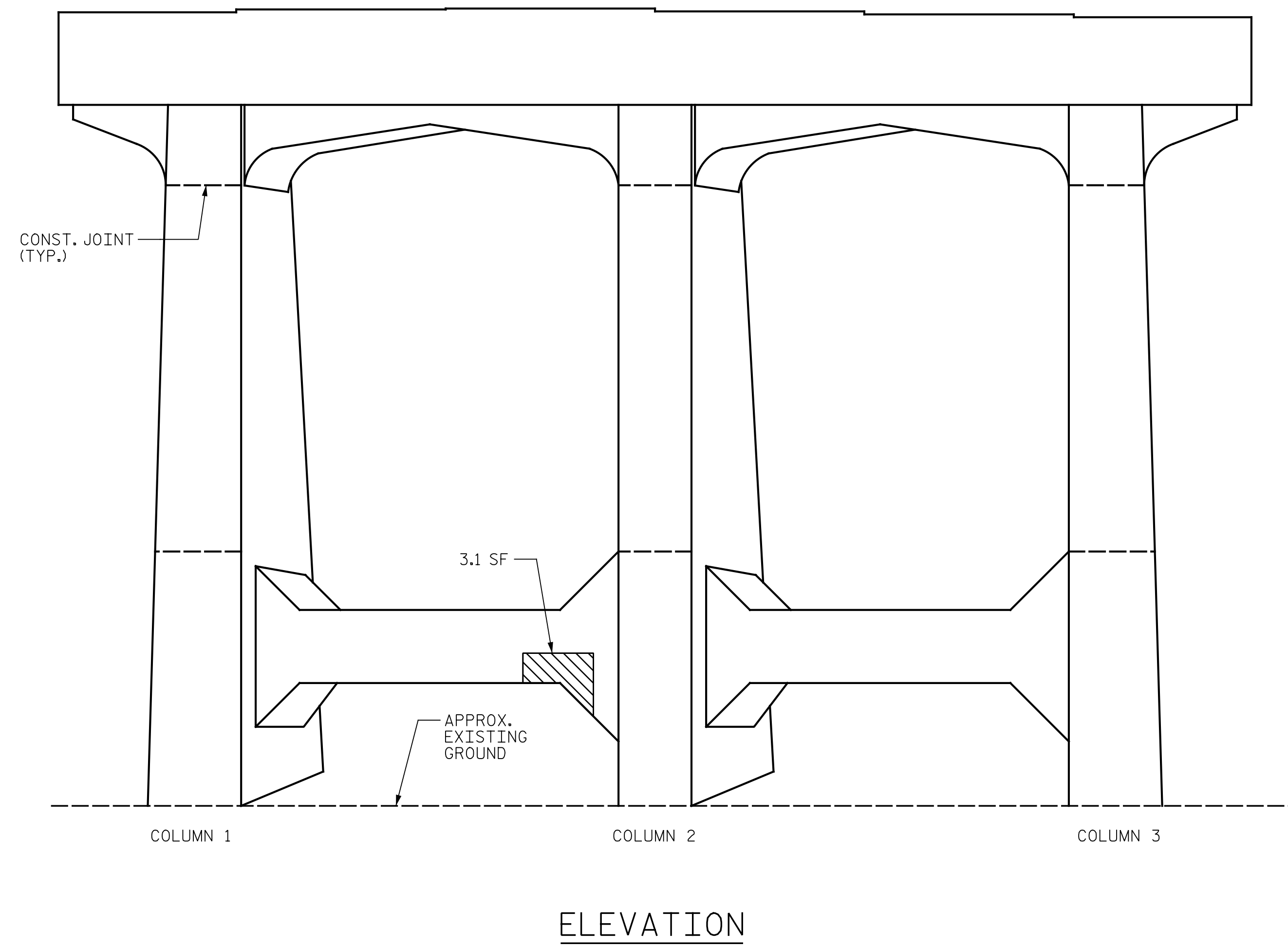
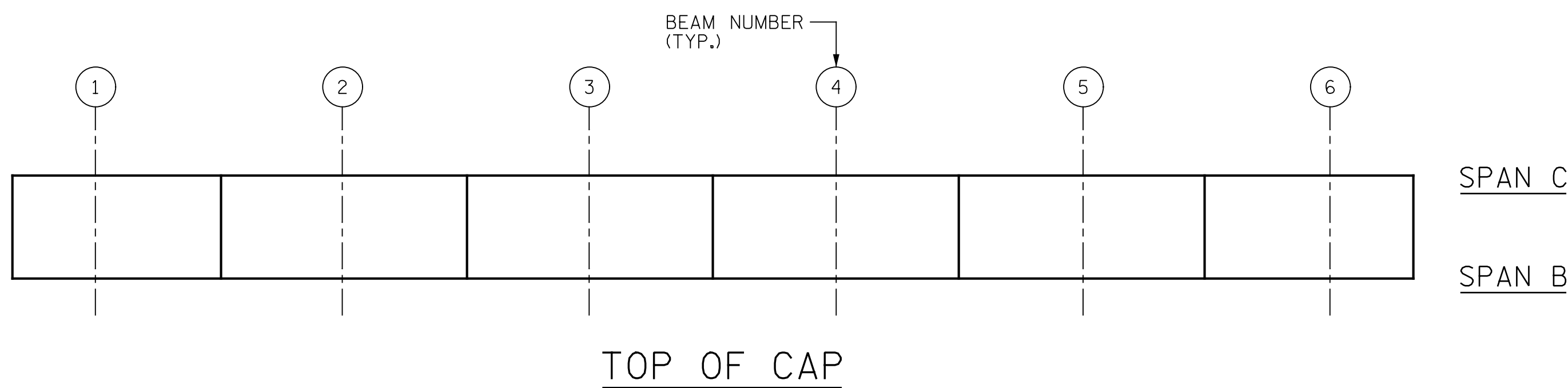


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DRAWN BY : J. MYA DATE : 6/2022  
 CHECKED BY : J. YANNAACONE DATE : 6/2022

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AS-BUILT REPAIR QUANTITY TABLE					
BENT 2 REPAIRS	QUANTITIES				
	ESTIMATE		ACTUAL		
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF
CAP	6.0	3.0			
COLUMN	3.4	1.7			
STRUT	8.3	4.2			
CONCRETE REPAIRS	2.0	1.0			
EPOXY RESIN INJECTION	LENGTH LF		LENGTH LF		
CAP	0.0				
COLUMN	0.0				
STRUT	0.0				
EPOXY COATING	SQ. FT		SQ. FT		
TOP OF BENT CAP	116				

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MINIMUM OF 1" BEHIND REBAR AND MINIMUM OF 2" CLEARANCE TO SAWCUT. FOR REPAIR DETAILS, SEE "TYPICAL CAP AND COLUMN REPAIR DETAILS" SHEET.

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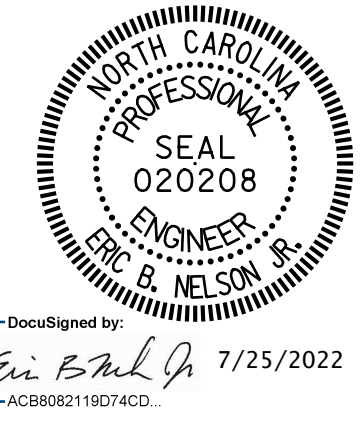
- SHOTCRETE REPAIR
- CONCRETE REPAIR (FORM & POUR)
- ERI - EPOXY RESIN INJECTION

PROJECT NO. I-5889B  
BUNCOMBE COUNTY  
 BRIDGE NO. 100334

SHEET 1 OF 2

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

BENT 2  
 SPAN B SIDE



DocuSigned by:  
*Eric B. Nelson Jr.* 7/25/2022  
 AC286082119074CD

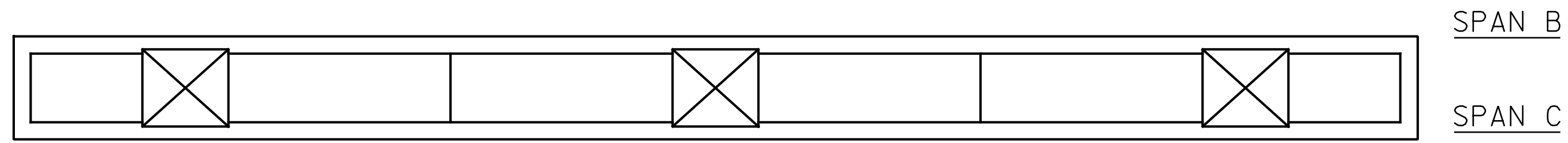


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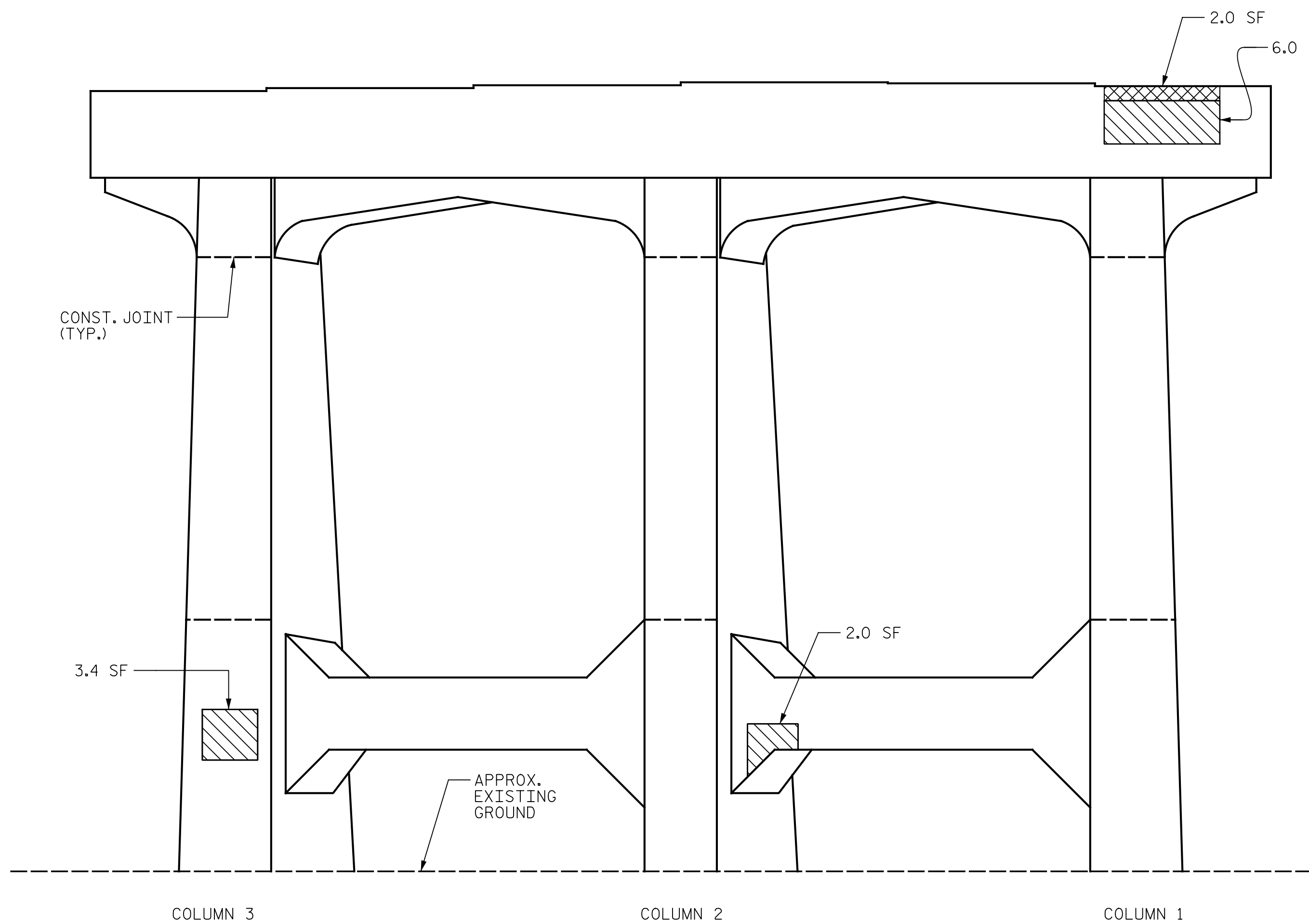
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 CHECKED BY : J. YANNACCONE DATE : 6/2022

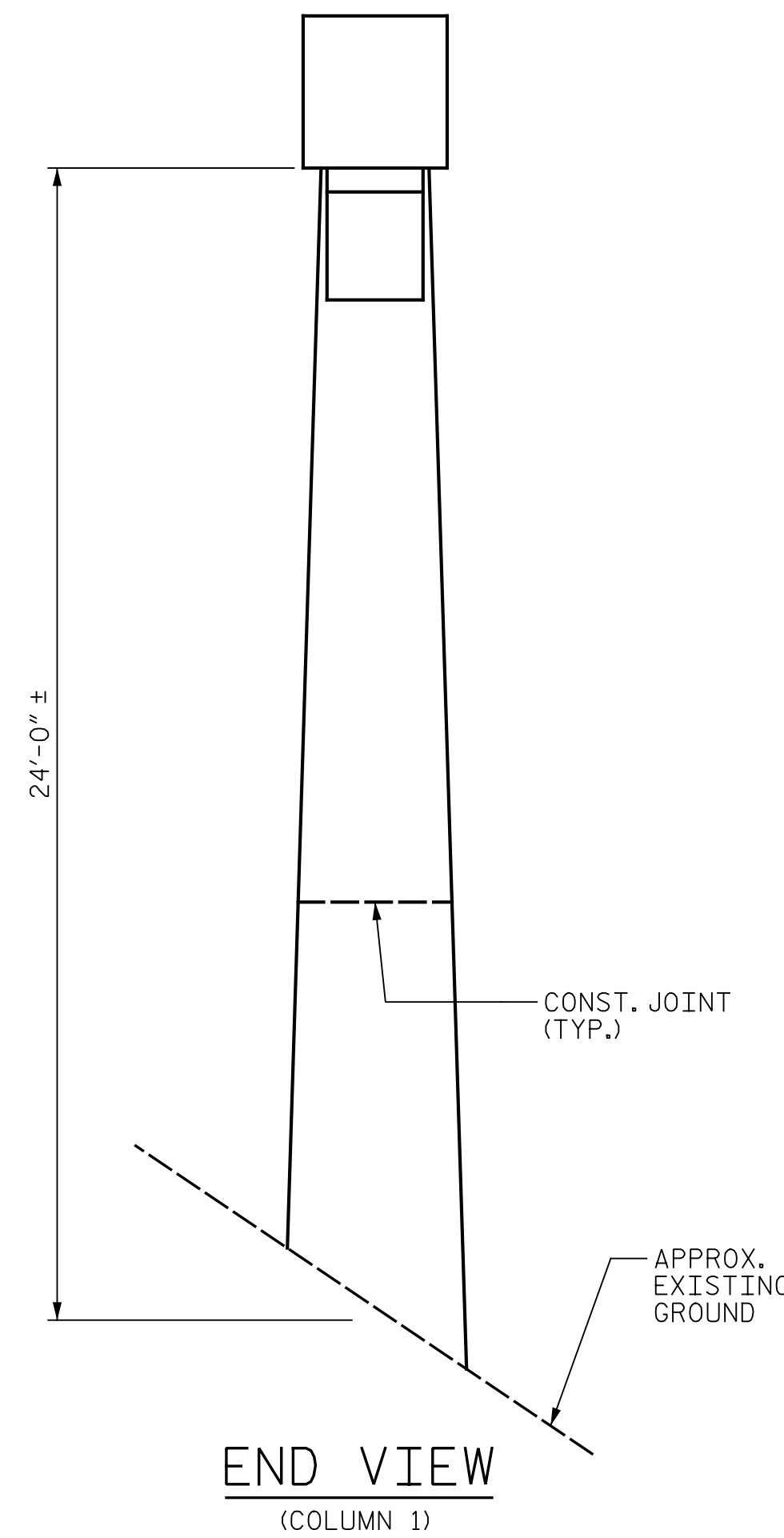
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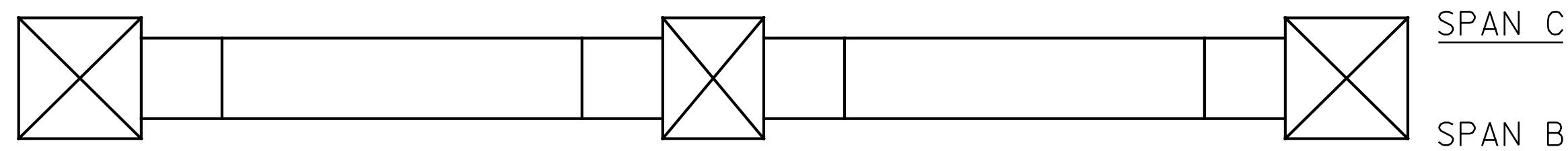
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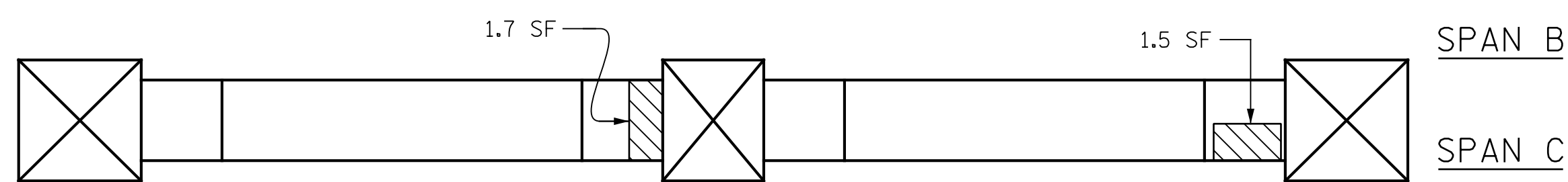
ELEVATION



END VIEW  
(COLUMN 1)



TOP OF STRUT



BOTTOM OF STRUT

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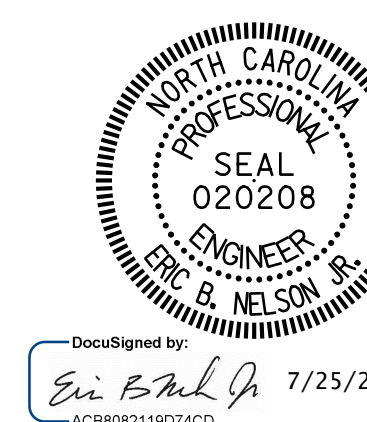
- SHOTCRETE REPAIR
- CONCRETE REPAIR (FORM & POUR)
- ERI - EPOXY RESIN INJECTION

PROJECT NO. I-5889B  
BUNCOMBE COUNTY  
 BRIDGE NO. 100334

SHEET 2 OF 2

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

BENT 2  
 SPAN C SIDE



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 Eric B. Nelson  
 7/25/2022



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 CHECKED BY : J. YANACCONI DATE : 6/2022



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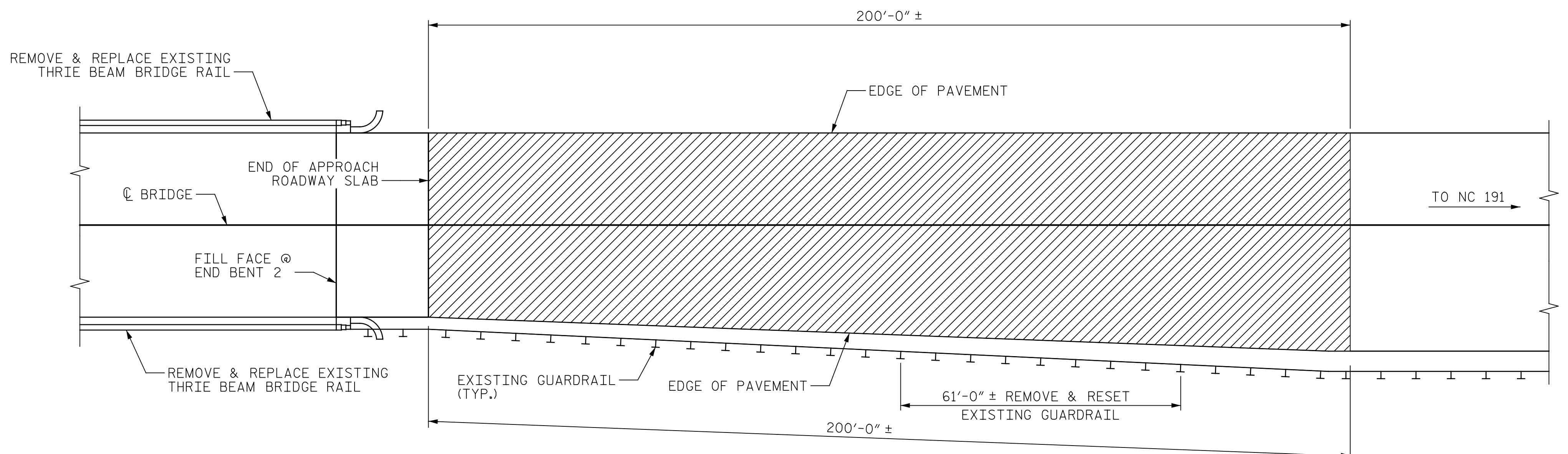
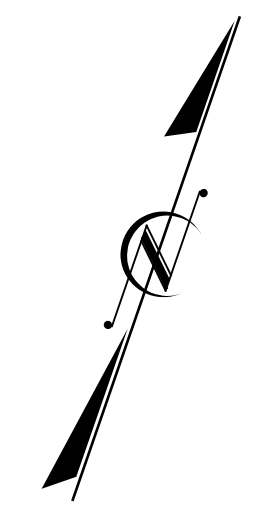
SUMMARY OF QUANTITIES		
DESCRIPTION	ESTIMATE	ACTUAL
FINE MILLING	1965 SY	
REMOVE & RESET EXISTING GUARDRAIL	331 LF	

**NOTES:**

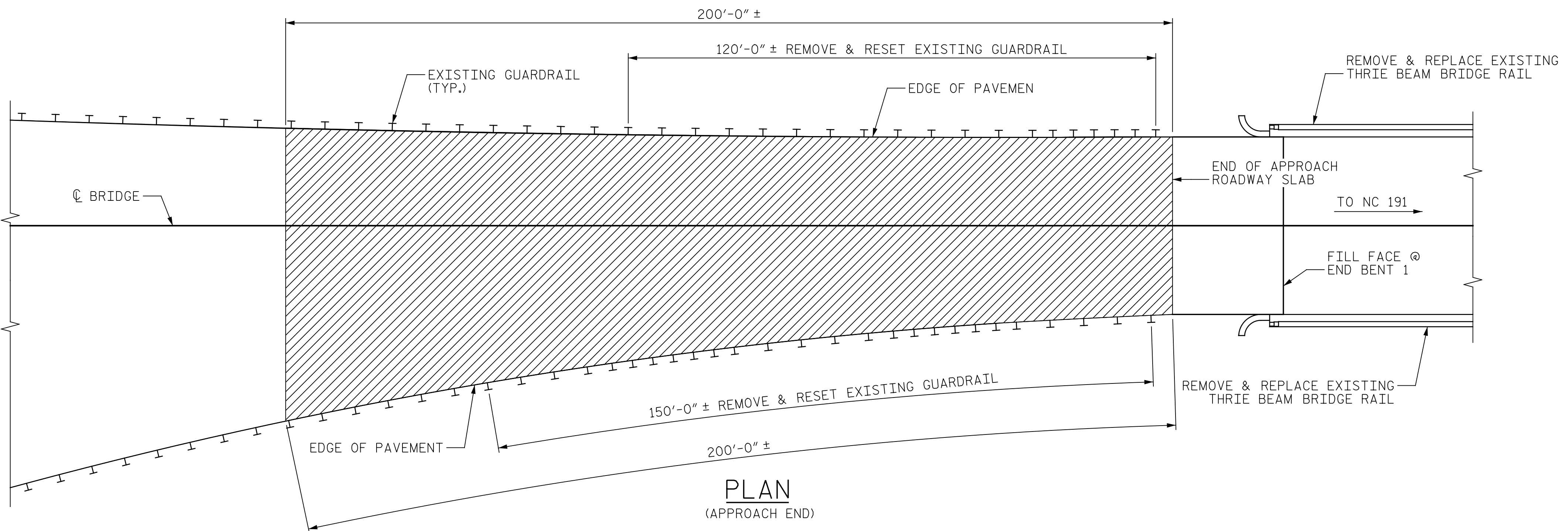
FINE MILLING - EXISTING APPROACH ASPHALT PAVEMENT TO BE MILLED AS NECESSARY TO ATTAIN MINIMUM 1 1/2" DEPTH OF NEW ASPHALT PAVEMENT, NEW ASPHALT PAVEMENT SHALL BE OF THICKNESS NECESSARY TO CREATE A SMOOTH TRANSITION BETWEEN THE ROADWAY AND THE BRIDGE NECK, NEW ASPHALT PAVING THICKNESS MAY EXCEED 1 1/2" DUE TO THE SETTLEMENT OF THE EXISTING APPROACH.

FOR ADDITIONAL DETAILS ON ASPHALT SURFACE COURSE, REPLACEMENT OF GUARDRAIL AND EROSION CONTROL MEASURES, SEE ROADWAY PLANS.

 FINE MILLING



**PLAN**  
(EXIT END)



**PLAN**  
(APPROACH END)

PROJECT NO. I-5889B  
BUNCOMBE COUNTY  
 BRIDGE NO. 100334

SHEET 1 OF 2

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**APPROACH MILLING  
 AND TYPICAL ROADWAY  
 SECTIONS**



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 Eric B. Nelson  
 7/25/2022



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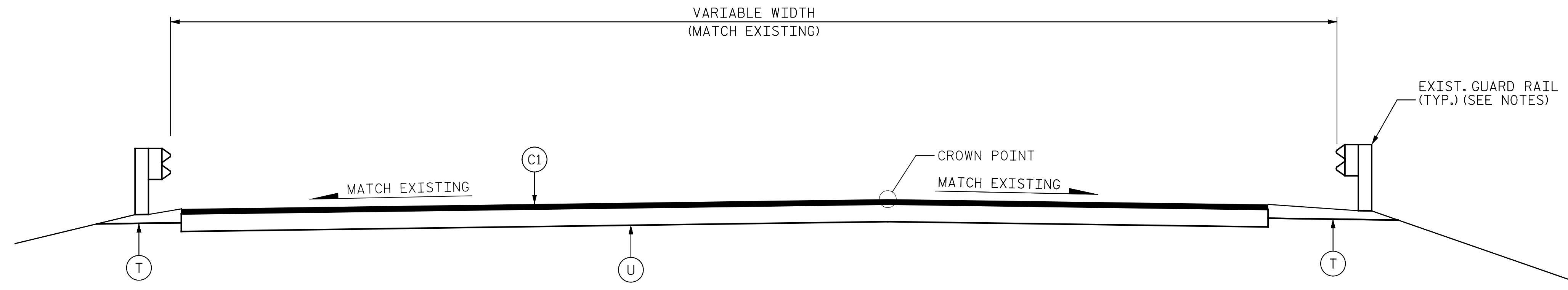
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 CHECKED BY : J. YANNAACONE DATE : 6/2022

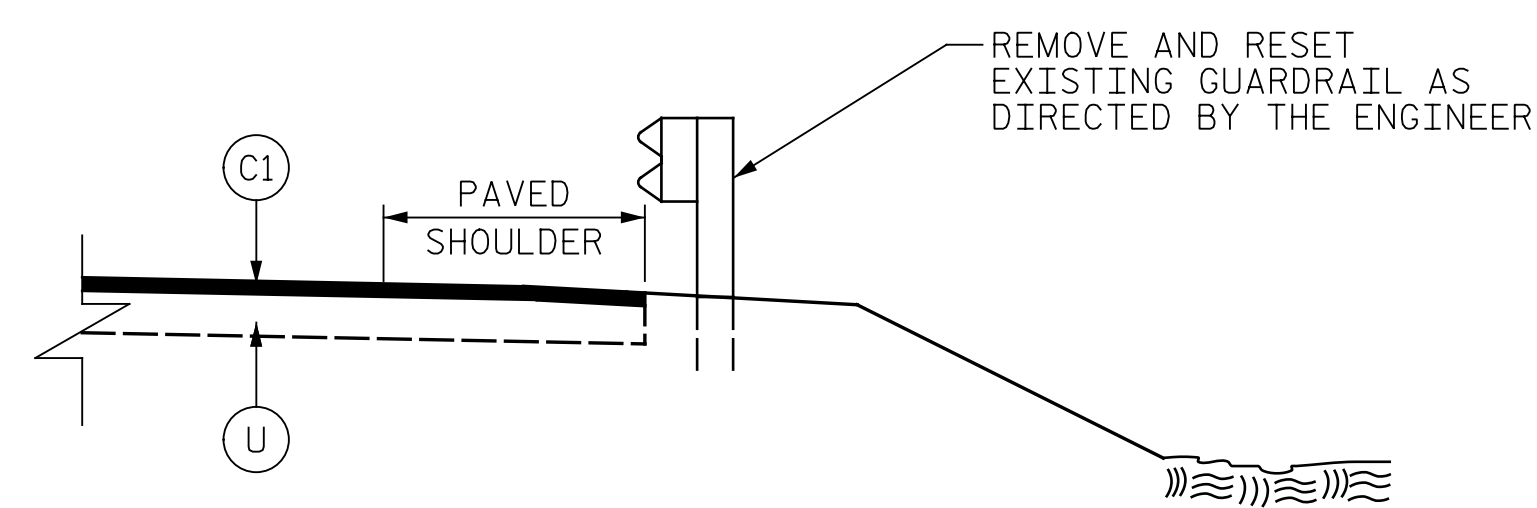
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PAVEMENT SCHEDULE	
C1	PROP. APPROX. 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5D, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
M	FINE MILLING
T	SHOULDER RECONSTRUCTION
U	EXISTING PAVEMENT

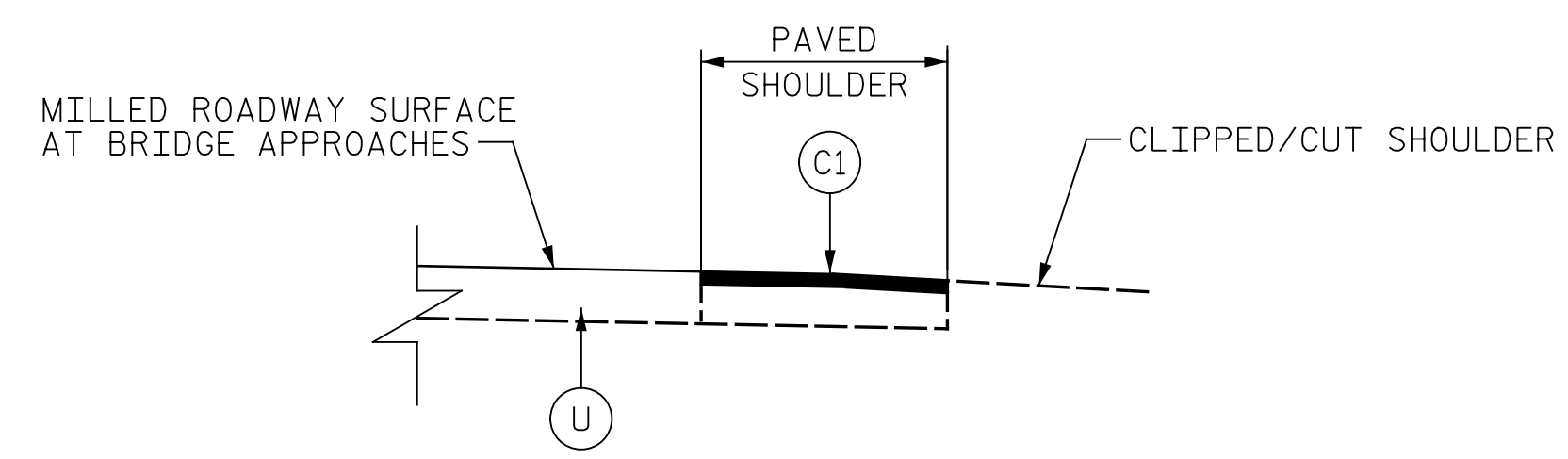
**NOTES:**  
 DETAIL DOES NOT APPLY TO OGAFD AND ULTRA-THIN BONDED WEARING COURSE.  
 BACKFILL SHOULDER WITH APPROVED MATERIAL.  
 REMOVE AND RESET EXISTING GUARDRAIL TO FACILITATE PLACEMENT OF ASPHALT PAVEMENT.  
 FOR ASPHALT CONCRETE SURFACE COURSE AND SHOULDER RECONSTRUCTION, SEE ROADWAY PLANS.



**TYPICAL SECTION**  
 CLIP/CUT/FILL SHOULDERS PER NCDOT STANDARD  
 DRAWING 560.01 & 560.02 BEFORE RE-INSTALLING  
 GUARDRAIL IN AREAS AS DIRECTED BY THE ENGINEER.

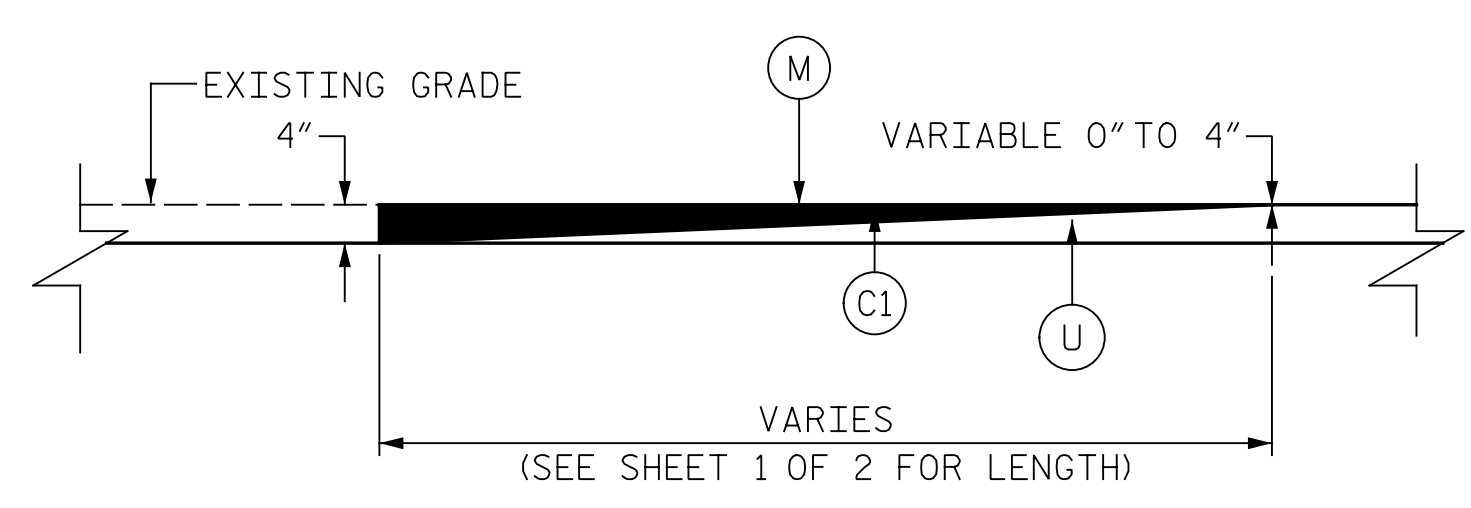


**GUARDRAIL DETAIL**  
 TO BE USED AT VARIOUS LOCATIONS

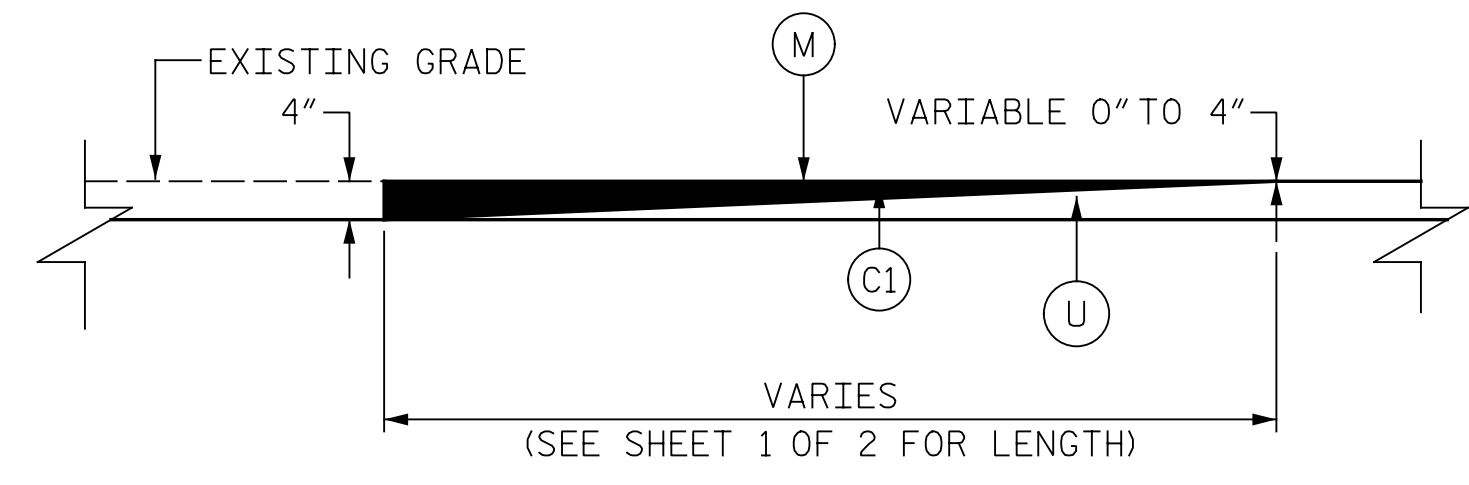


**SHOULDER DETAIL AT BRIDGE APPROACHES**

1. REMOVE PAVED SHOULDER MATERIAL.
  2. COMPACT SUBGRADE.
  3. PLACE SURFACE COURSE (S9.5D) ON COMPACTED SUBGRADE UP TO MILLED SURFACE FOR BRIDGE APPROACHES.
- TYPICAL FOR BOTH SIDES OF ROADWAY.  
 PAYMENT FOR THE REMOVAL OF THE PAVED SHOULDER AND COMPACTION OF THE SUBGRADE IS INCIDENTAL TO THE PLACEMENT OF S9.5D.



**MILLING DETAIL AT BRIDGE APPROACH**



**DETAIL TO TIE INTO EXISTING PAVEMENT**

THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE FACT THAT HE WILL BE REQUIRED TO MILL THE EXISTING ASPHALT PAVEMENT TO ENSURE A PROPER TIE-IN WITH THE EXISTING SURFACE AT THE BEGINNING AND END OF EACH MAP TO BE RESURFACED WITH ASPHALT CONC. SURFACE COURSE, TYPE S9.5D.  
 THIS WILL BE PAID FOR AS FINE MILLING.

PROJECT NO. I-5889B  
BUNCOMBE COUNTY  
 BRIDGE NO. 100334  
 SHEET 2 OF 2

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**APPROACH MILLING  
 AND TYPICAL ROADWAY  
 SECTIONS**



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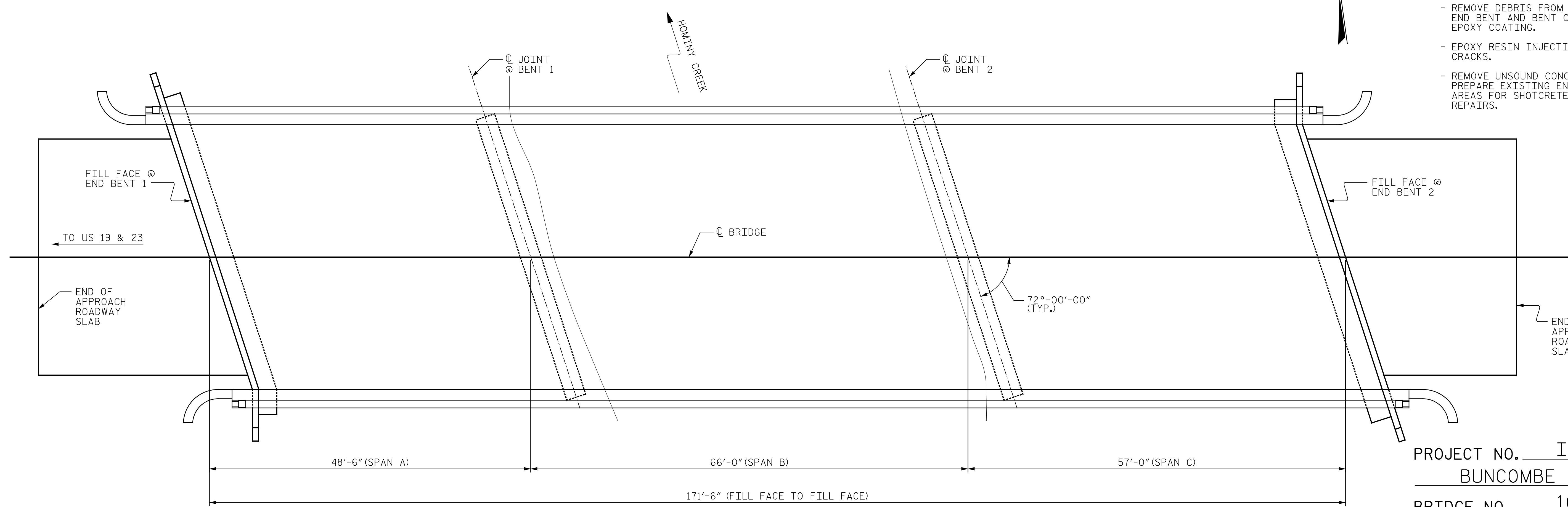
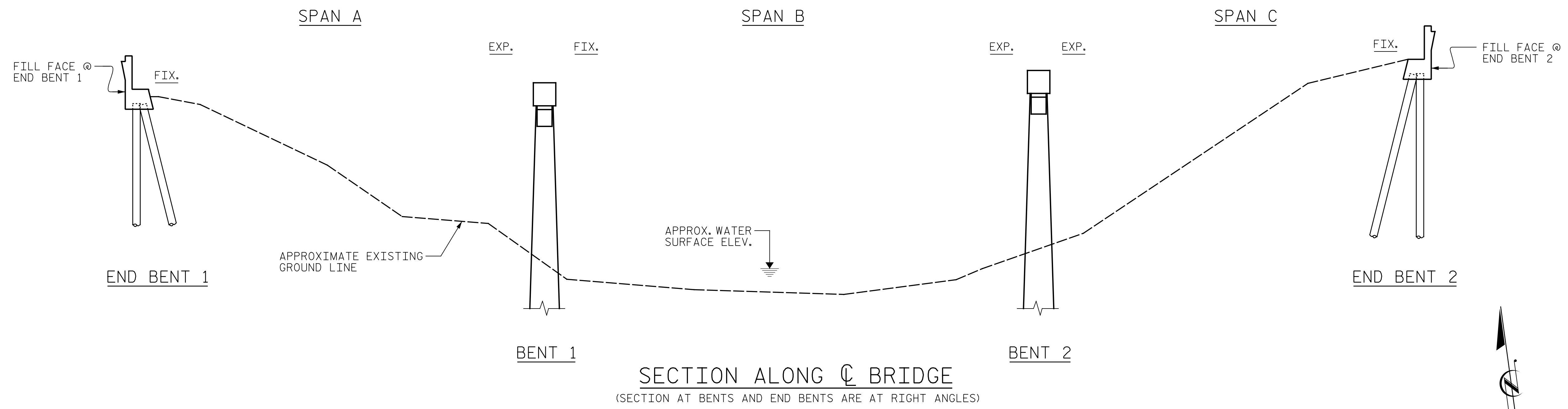


DRAWN BY : J. HARRIS DATE : 6/2022  
 CHECKED BY : J. YANACCONO DATE : 6/2022

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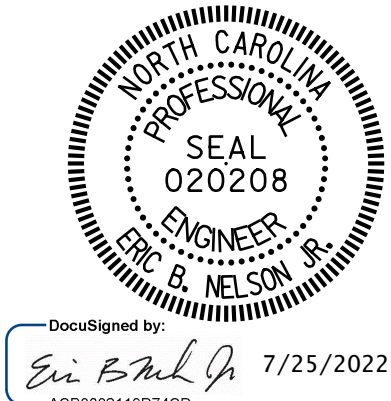


**NOTE:**  
 GENERAL DRAWING INFORMATION IS TAKEN FROM THE ORIGINAL PLANS AND THE ROUTINE INSPECTION REPORT DATED 10/05/2021.  
 BRIDGE ORIENTATION CONFORMS TO THE EXISTING BRIDGE PLANS AND ROUTINE INSPECTION REPORT.  
**SCOPE OF WORK**  
 - REMOVE ASPHALT WEARING SURFACE AND PARTIALLY REMOVE TOP OF BRIDGE DECK CONCRETE BY FINE MILLING AND HYDRO-DEMOLITION.  
 - OVERLAY PREPARED TOP OF BRIDGE DECK WITH VERY EARLY STRENGTH LATEX MODIFIED CONCRETE (LMC-VES).  
 - REMOVE EXISTING JOINT MATERIAL AND INSTALL FOAM JOINTS.  
 - GROOVE LMC-VES BRIDGE DECK.  
 - REMOVE AND REPLACE EXISTING TUBULAR TRIPLE CORRUGATED STEEL BEAM BRIDGE RAIL.  
 - REMOVE AND REPLACE EXISTING STEEL BEAM GUARDRAIL AND GUARDRAIL ANCHOR UNITS.  
 - MILL AND REPAVE ASPHALT APPROACH ROADWAYS.  
 - REMOVE DEBRIS FROM TOP OF EXISTING END BENT AND BENT CAPS AND APPLY EPOXY COATING.  
 - EPOXY RESIN INJECTION OF CONCRETE CRACKS.  
 - REMOVE UNSOUND CONCRETE AND PROPERLY PREPARE EXISTING END BENT AND BENT AREAS FOR SHOTCRETE AND CONCRETE REPAIRS.

PROJECT NO. I-5889B  
BUNCOMBE COUNTY  
 BRIDGE NO. 100339

SHEET 1 OF 2  
 STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
 GENERAL DRAWING  
 FOR BRIDGE ON I-40 WBL  
 OVER HOMINY CREEK

I HEREBY CERTIFY THAT THIS STRUCTURE WAS REHABILITATED ACCORDING TO THESE PLANS OR AS NOTED HEREIN.  
 \_\_\_\_\_  
 RESIDENT ENGINEER DATE



DocuSigned by:  
 Eric B. Nelson 7/25/2022  
 ACB002116D74CD



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2			4			TOTAL SHEETS 133



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**LOCATION SKETCH**

INFORMATION INDICATED ON THE LOCATION SKETCH SHALL BE CONSIDERED GENERAL INFORMATION ONLY. CONTRACTOR SHALL CONFIRM, THROUGH OTHER SOURCES, SPECIFIC INFORMATION REGARDING BRIDGES, ROADWAY, UTILITIES, THE SURROUNDING AREA, AND ANY OTHER ASPECTS THAT MAY BE NECESSARY TO PERFORM AND COMPLETE THE PROJECT.

BRIDGE COORDINATES	
LATITUDE	LONGITUDE
35°-33'-25.24"	82°-36'-23.94"

**GENERAL NOTES**

SEE TRANSPORTATION MANAGEMENT PLANS FOR LANE WIDTHS, SEQUENCING AND OTHER TRAFFIC CONTROL MEASURES FOR STAGING OF OVERLAY SURFACE PREPARATION AND LATEX MODIFIED CONCRETE-VERY EARLY STRENGTH (LMC-VES) PLACEMENT.

FOR NEW ASPHALT PLACEMENT, SEE STANDARD SPECIFICATIONS.

THE CONTRACTOR'S ATTENTION IS CALLED TO THE FACT THAT DUE TO THE NATURE OF PRESERVATION PROJECTS, THE EXTENT OF WORK CANNOT ALWAYS BE ACCURATELY DETERMINED PRIOR TO COMMENCEMENT OF WORK. REPAIR LOCATIONS AND ESTIMATES OF QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS.

EXISTING DIMENSIONS AND BRIDGE CONDITION ARE FROM THE BEST INFORMATION AVAILABLE. THE CONTRACTOR SHALL FIELD VERIFY THE INFORMATION SHOWN ON THE PLANS AND NOTIFY THE ENGINEER IF ACTUAL DIMENSIONS AND CONDITIONS DIFFER.

THE CONTRACTOR SHALL HAVE NO CLAIM WHATSOEVER AGAINST THE DEPARTMENT FOR ANY DELAYS OR ADDITIONAL COST INCURRED BASED ON DIFFERENCES BETWEEN WHAT IS SHOWN ON THE PLANS AND THE ACTUAL CONDITIONS AT THE PROJECT SITE.

IT IS THE CONTRACTOR'S RESPONSIBILITY TO FOLLOW ALL STATE AND FEDERAL SAFETY REQUIREMENTS.

WORK ON THE BRIDGE SHALL BE PERFORMED SO AS NOT TO ALLOW DEBRIS TO FALL BELOW, EXCEPT WHERE THE CONTRACTOR'S PLAN USES PLATFORMS, NETS, SCREENS OR OTHER PROTECTIVE DEVICES TO CATCH THE MATERIAL. THE CONTRACTOR SHALL SUBMIT PLANS FOR CONSTRUCTION IN ACCORDANCE WITH ARTICLE 402-2 OF THE STANDARD SPECIFICATIONS AND THE PROJECT SPECIAL PROVISIONS.

THE CONTRACTOR SHALL PERFORM ALL WORK WITH CARE SO THAT THE EXISTING STRUCTURE WHICH IS TO REMAIN IN PLACE WILL NOT BE DAMAGED. IF THE CONTRACTOR DAMAGES ANY PART OF THE EXISTING STRUCTURE WHICH IS TO REMAIN IN PLACE, THE DAMAGED AREA SHALL BE REPAIRED OR REPLACED IN A MANNER SATISFACTORY TO THE ENGINEER AT NO ADDITIONAL COST TO THE DEPARTMENT.

ANY DAMAGE TO EXISTING REINFORCING STEEL, DURING CONTRACTOR'S OPERATIONS, SHALL BE REPAIRED AS DIRECTED BY THE ENGINEER AND PERFORMED AT NO ADDITIONAL COST TO THE DEPARTMENT.

FOR CONTROL OF TRAFFIC AND LIMITS ON PHASING OF CONSTRUCTION, SEE TRANSPORTATION MANAGEMENT PLANS.

PRIOR TO BEGINNING WORK, THE CONTRACTOR SHALL SUBMIT FOR REVIEW AND APPROVAL A COMPLETE SEQUENCE OF TASKS FOR EACH OPERATION AFFECTING THE BRIDGE SURFACE AND/OR TRAFFIC.

FOR OTHER DESIGN DATA AND GENERAL NOTES, SEE SHEET SN.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

ALL PAVEMENT MARKING WILL BE IN ACCORDANCE WITH THE TRANSPORTATION MANAGEMENT PLANS.

EXISTING JOINTS AND DECK DRAINS SHALL BE SEALED PRIOR TO BEGINNING SURFACE PREPARATIONS OF THE BRIDGE DECK. THE CONTRACTOR SHALL TAKE CARE THAT ANY CONSTRUCTION DEBRIS THAT COLLECTS IN THE DRAINS IS CONTAINED. DRAINS IN SHOULDERS OF ADJACENT TRAVEL LANE(S) SHALL BE KEPT FREE AND CLEAR OF DEBRIS.

LONGITUDINAL CONSTRUCTION JOINTS OF OVERLAYS SHALL BE LOCATED ALONG THE CENTERLINE OR EDGE OF TRAVEL LANES.

FOR LATEX MODIFIED CONCRETE - VERY EARLY STRENGTH AND PLACING AND FINISHING LATEX MODIFIED CONCRETE - VERY EARLY STRENGTH, SEE LATEX MODIFIED CONCRETE - VERY EARLY STRENGTH SPECIAL PROVISIONS

FOR FINE MILLING BRIDGE DECK, HYDRO-DEMOLITION OF BRIDGE DECK, CLASS II AND CLASS III SURFACE PREPARATION, SEE LMC OVERLAY SURFACE PREPARATION SPECIAL PROVISIONS.

THE CONTRACTOR MUST COLLECT, TREAT AND DISPOSE OF RUN-OFF WATER FROM THE HYDRO-DEMOLITION PROCESS, SEE LMC OVERLAY SURFACE PREPARATION SPECIAL PROVISION.

THE CONTRACTOR SHALL TAKE CARE DURING JOINT REHAB OPERATIONS NOT TO DROP ANY MATERIAL BELOW THE BRIDGE WITHOUT PROTECTIVE DEVICES BELOW TO CATCH THE MATERIAL. ANY MATERIAL THAT FALLS BELOW THE BRIDGE SHALL BE CONTAINED, REMOVED AND DISPOSED OF BY THE CONTRACTOR AT NO EXTRA COST TO THE DEPARTMENT. IF THE ENGINEER DETERMINES THAT PROTECTIVE DEVICES ARE NOT ADEQUATE OR NOT BEING EMPLOYED, THE WORK SHALL BE SUSPENDED UNTIL ADEQUATE PROTECTION IS PROVIDED.

FOR ELASTOMERIC CONCRETE FOR PRESERVATION, SEE SPECIAL PROVISIONS.

FOR BRIDGE JOINT DEMOLITION, SEE SPECIAL PROVISIONS.

FOR FOAM JOINT SEALS FOR PRESERVATION, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

FOR EPOXY COATING AND DEBRIS REMOVAL, SEE SPECIAL PROVISIONS.

FOR FINE MILLING, SEE SPECIAL PROVISIONS.

FOR REMOVAL AND REPLACEMENT OF TUBULAR BEAM GUARDRAIL, SEE SPECIAL PROVISIONS.

PROJECT NO. I-5889B  
BUNCOMBE COUNTY  
 BRIDGE NO. 100339

SHEET 2 OF 2



DocuSigned by:  
 Eric B. Nelson 7/25/2022  
 AC88082116074CDD

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**GENERAL DRAWING  
 FOR BRIDGE ON I-40 WBL  
 OVER HOMINY CREEK**

DRAWN BY : J. MYA DATE : 6/2022  
 CHECKED BY : J. YANACCONO DATE : 6/2022

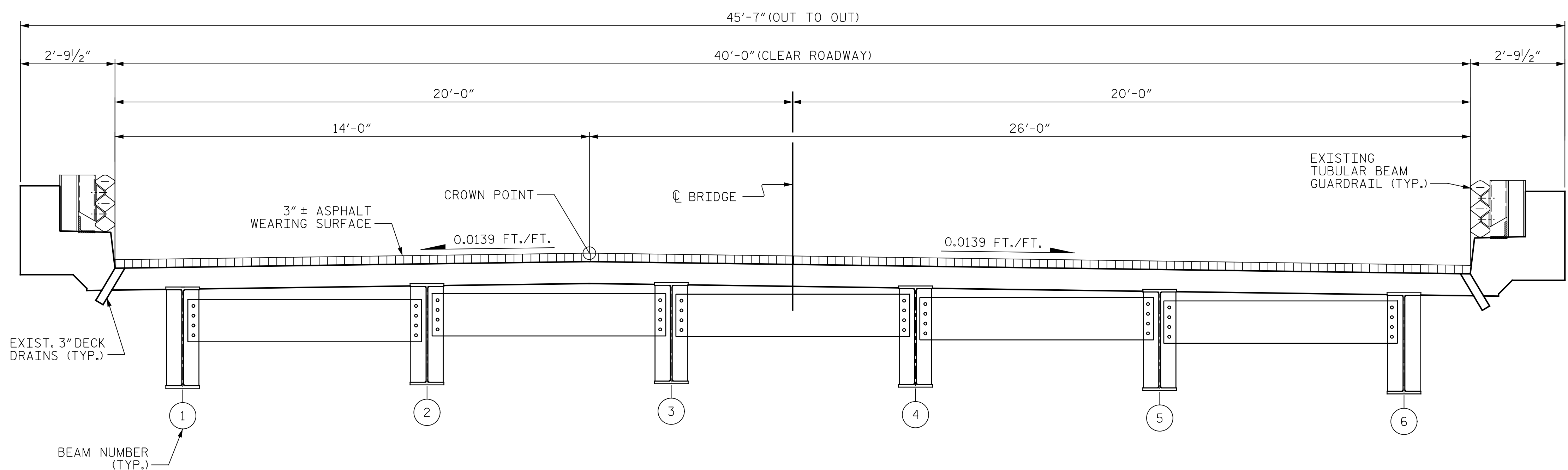


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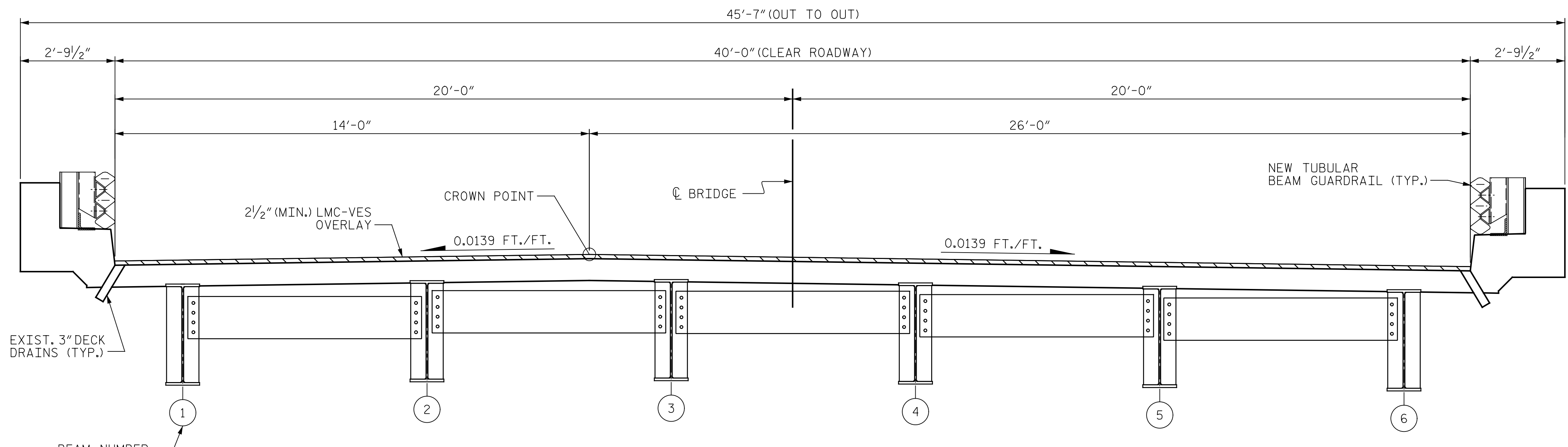
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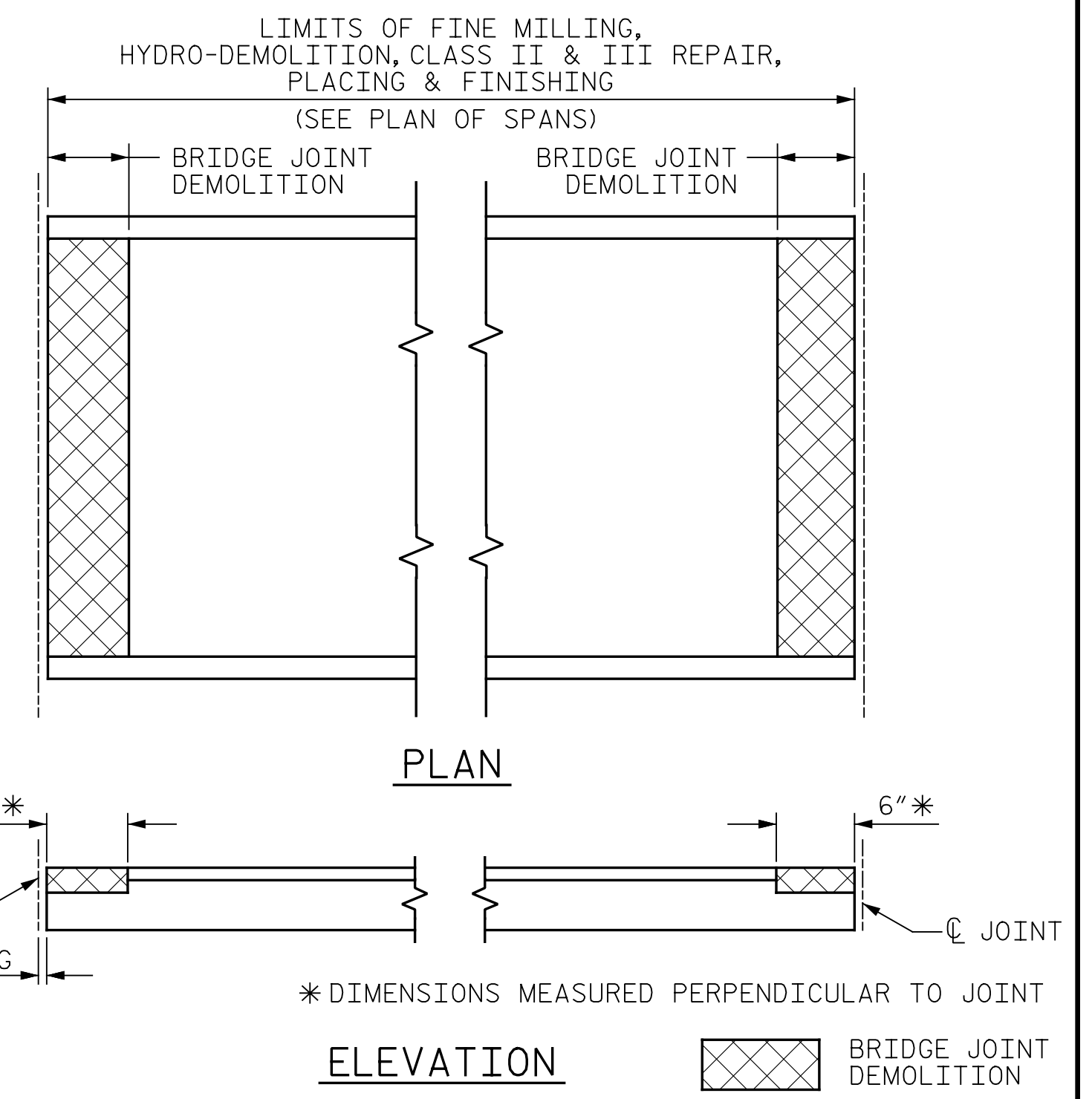
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TYPICAL SECTION  
(PROPOSED)

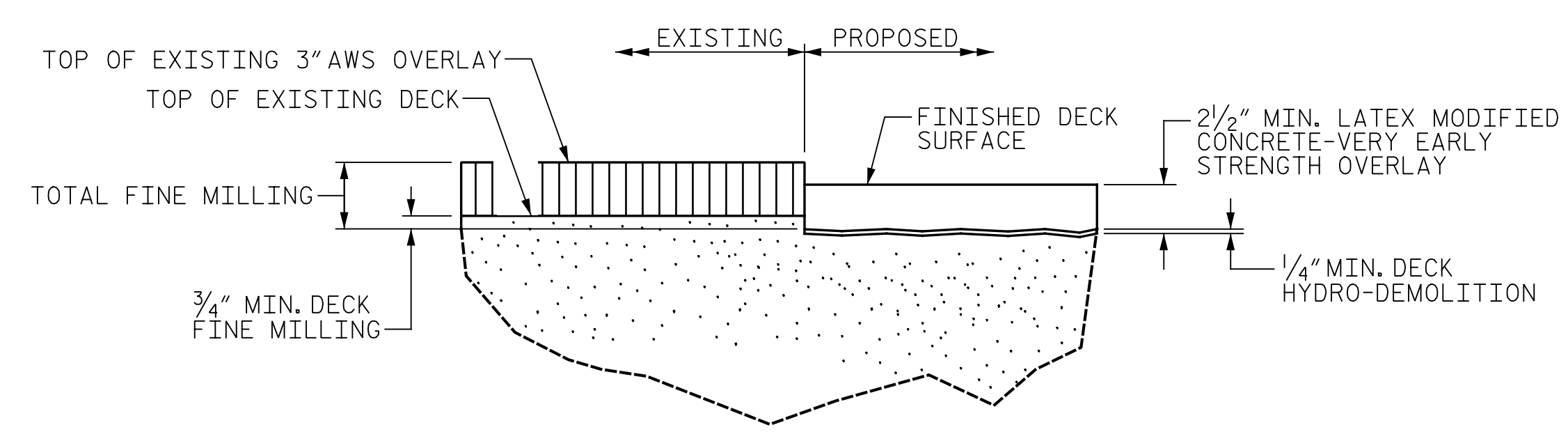


TYPICAL SECTION  
(PROPOSED)

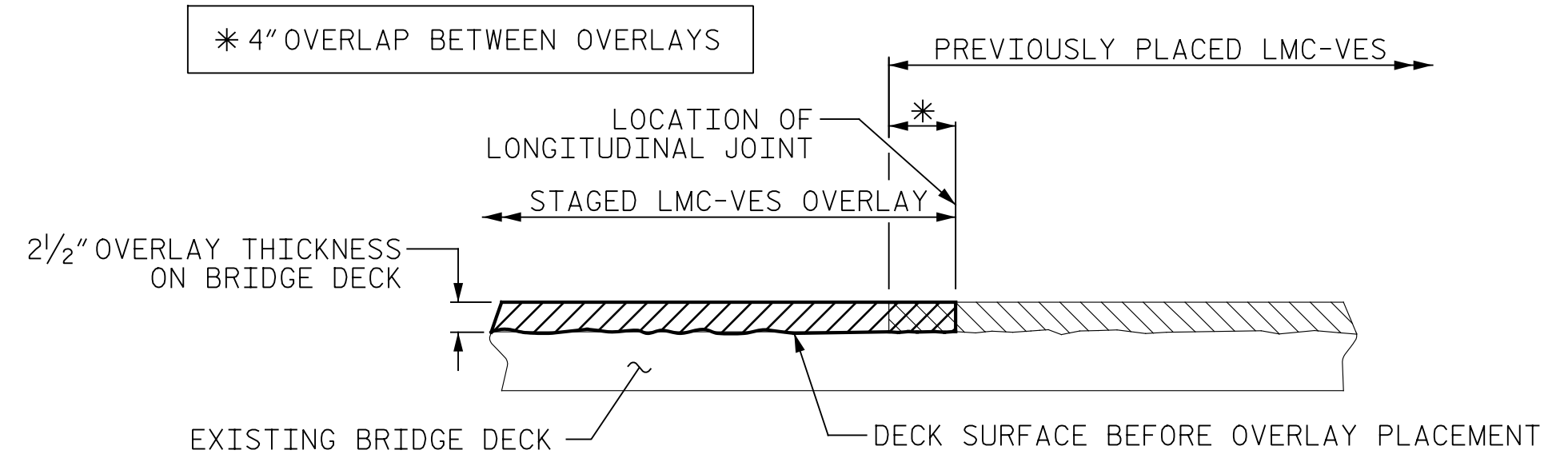


PAY LIMITS FOR OVERLAY BID ITEMS

**NOTES:**  
 SEE TRAFFIC MANAGEMENT PLANS FOR LANE WIDTHS, SEQUENCING, AND OTHER TRAFFIC CONTROL MEASURES FOR STAGING OF OVERLAY SURFACE PREPARATION AND LMC PLACEMENT.  
 WHEN PREPARING THE SURFACE FOR LMC-VES OVERLAY ADJACENT TO A PREVIOUSLY PLACED LMC-VES STAGE, THE PREVIOUSLY PLACED LMC-VES SHALL BE REMOVED FOR A DISTANCE OF 4 INCHES FROM THE LMC-VES EDGE. THE SURFACE OF THE NEW STAGE AREA, ALONG WITH THE 4 INCH OVERLAY AREA, SHALL BE PREPARED AS PER THE OVERLAY SURFACE PREPARATION SPECIAL PROVISIONS. NEW LMC-VES SHALL BE PLACED IN THE 4-INCH OVERLAP, AS PART OF THE NEW LMC-VES STAGE PLACEMENT.

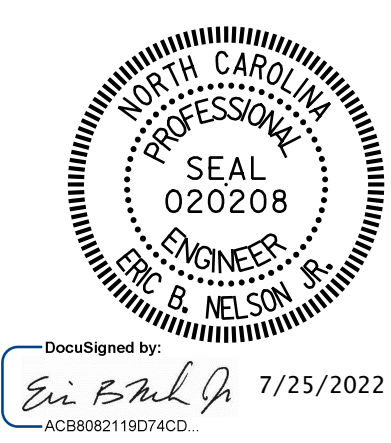


DETAIL FOR LMC-VES OVERLAY



SECTION THRU DECK  
STAGED LMC-VES OVERLAY JOINT

PROJECT NO. I-5889B  
 BUNCOMBE COUNTY  
 BRIDGE NO. 100339



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
 TYPICAL SECTION AND  
 SURFACE PREPARATION  
 DETAILS

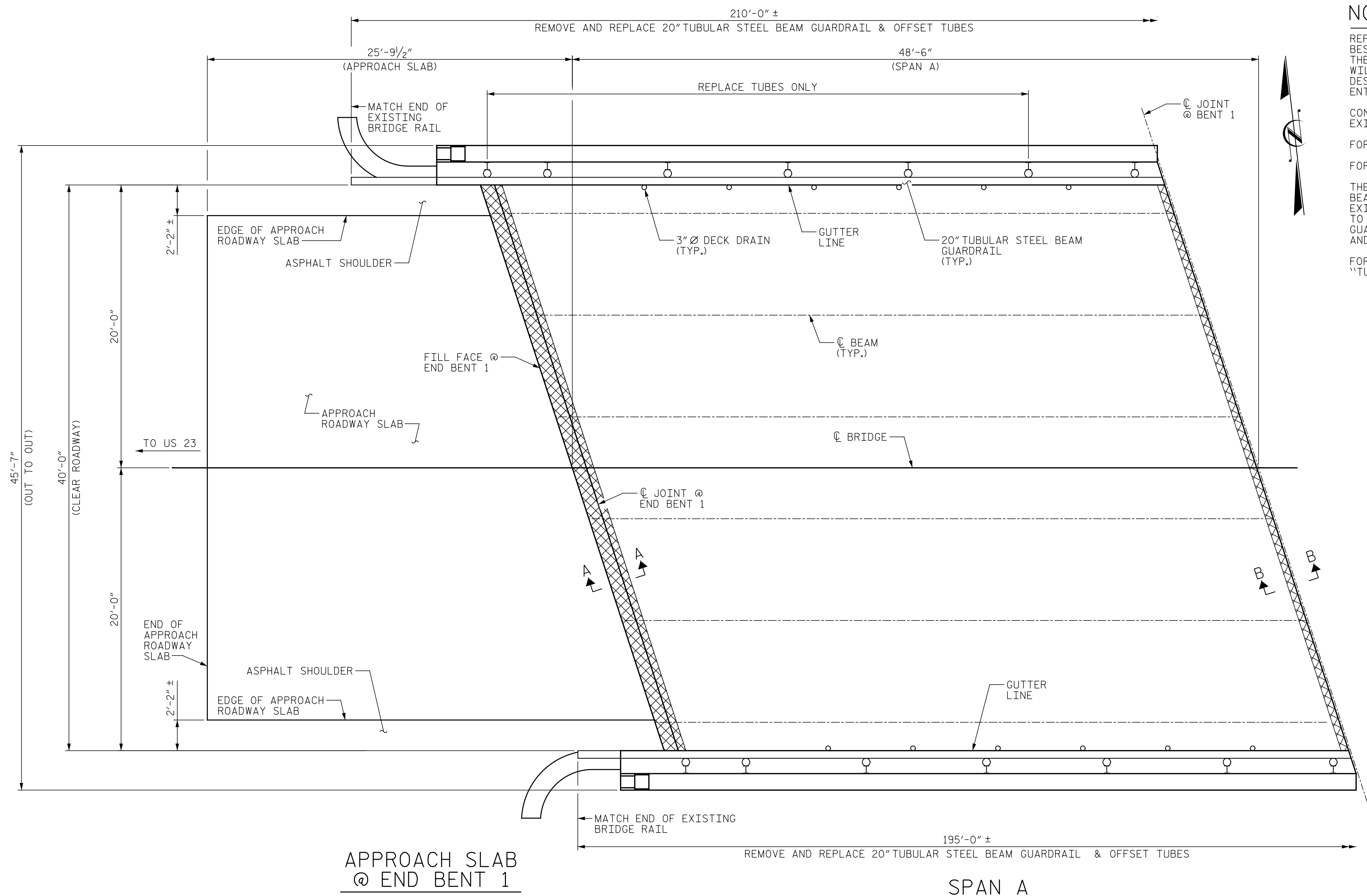
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**NOTES:**

REPAIR LOCATIONS AND ESTIMATED QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER WILL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATIONS AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITY TABLE.

CONCRETE COVER FOR TOP BARS IN THE DECK SLAB IS 1 1/8" PER THE EXISTING BRIDGE PLANS.

FOR SECTION A-A AND B-B, SEE "JOINT DETAILS" SHEET.

FOR FINE MILLING, SEE SPECIAL PROVISIONS.

THE CONTRACTOR SHALL REMOVE AND REPLACE THE 20" TUBULAR STEEL BEAM GUARDRAIL. THE ENGINEER WILL SELECT THOSE SECTIONS OF THE EXISTING GUARDRAIL SUITABLE FOR FUTURE USE AND TRANSPORT THEM TO A STOCKPILE FOR THE USE OF THE DEPARTMENT. THE REMAINING GUARDRAIL SECTIONS SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE PROJECT.

FOR DIMENSIONS OF TUBULAR BEAM GUARDRAIL, POST AND TUBES, SEE "TUBULAR BEAM GUARDRAIL DETAILS" SHEET.

BRIDGE RAIL QUANTITIES (FOR ENTIRE BRIDGE)	
REMOVE 20" TUBULAR STEEL BEAM GUARDRAIL	420 LF
20" TUBULAR STEEL BEAM GUARDRAIL	405 LF
REMOVE AND REPLACE W 6X9 POSTS	0 EA
W-TR STEEL BEAM GUARDRAIL TRANSITION SECTION	2 EA

- BRIDGE JOINT DEMOLITION
- APPROX. CLASS II SURFACE PREPARATION
- APPROX. CLASS III SURFACE PREPARATION
- UNDERSIDE OF DECK/OVERHANG REPAIR
- ERI EPOXY RESIN INJECTION

TOP OF DECK REPAIR	APPROACH SLAB 1		SPAN A	
	ESTIMATE	ACTUAL	ESTIMATE	ACTUAL
FINE MILLING	102 SY		214 SY	
HYDRO-DEMOLITION OF BRIDGE DECK	102 SY		214 SY	
CLASS II SURFACE PREPARATION	0.0 SY		0.0 SY	
CLASS III SURFACE PREPARATION	0.0 SY		0.0 SY	
LATEX MODIFIED CONCRETE - VES OVERLAY	7.6 CY		15.9 CY	
PLACING & FINISHING LMC - VES OVERLAY	102 SY		214 SY	
BRIDGE JOINT DEMOLITION	39 SF		42 SF	
GROOVING BRIDGE FLOORS	899 SF		1702 SF	

UNDERSIDE OF DECK REPAIR	ESTIMATE		ACTUAL	
	AREA SF	VOLUME CF	AREA SF	VOLUME CF
UNDERSIDE OF DECK	0.0	0.0		
OVERHANG DIAPHRAGMS	0.0	0.0		
UNDERSIDE OF OVERHANG	0.0	0.0		
INTERIOR DIAPHRAGMS	0.0	0.0		
			ESTIMATE	ACTUAL
UNDERSIDE EPOXY RESIN INJECTION		0.0 LF		

VALUES IN CHART REPRESENT ESTIMATED UNDERSIDE OF DECK REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MINIMUM OF 1" BEHIND REBAR AND MINIMUM 2" CLEAR TO SAWCUT. FOR REPAIR DETAILS, SEE "OVERHANG UNDERSIDE REPAIR DETAILS" SHEET.

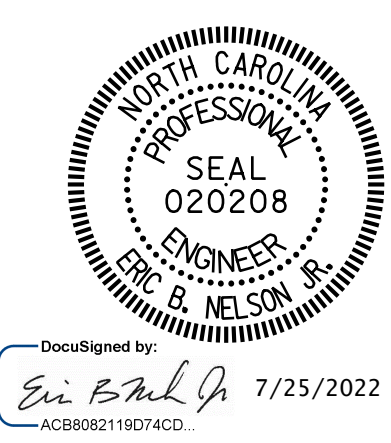
PAYMENT FOR CLASS II AND CLASS III SURFACE PREPARATION IS BASED ON THE SQUARE YARDS OF ADDITIONAL DEMOLITION REQUIRED FOLLOWING HYDRO-DEMOLITION OF THE BRIDGE DECK. SEE "OVERLAY SURFACE PREPARATION" SPECIAL PROVISION.

PROJECT NO. I-5889B  
BUNCOMBE COUNTY  
 BRIDGE NO. 100339

SHEET 1 OF 3

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

PLAN OF SPANS  
 SPAN A AND  
 APPROACH SLAB



DocuSigned by:  
 Eric B. Nelson Jr. 7/25/2022  
 AC8805211674CDD

DRAWN BY: M. LEE/J. MYA DATE: 6/2022  
 CHECKED BY: J. YANACCONI DATE: 6/2022



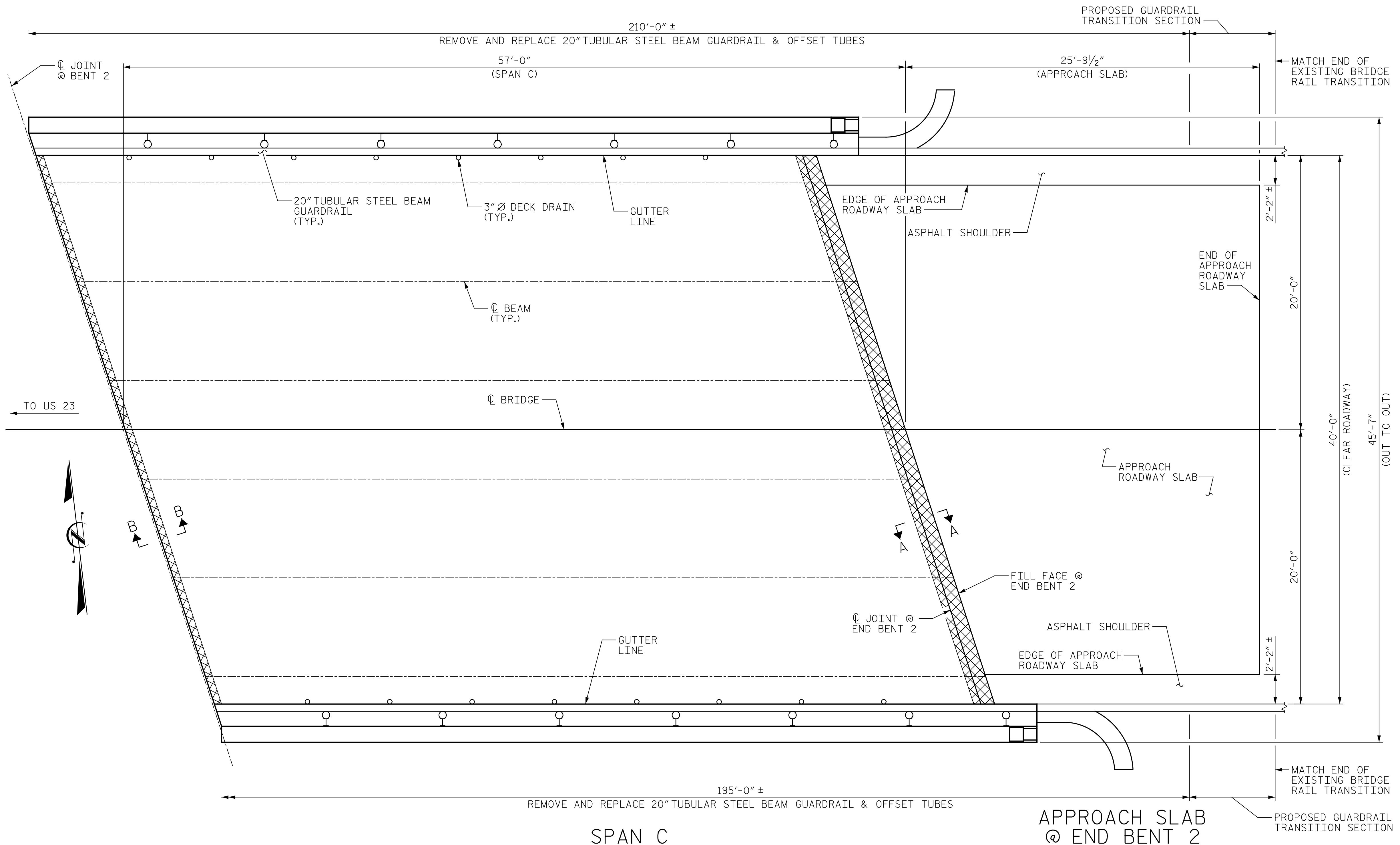
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**NOTES:**

REPAIR LOCATIONS AND ESTIMATED QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER WILL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATIONS AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITY TABLE.

CONCRETE COVER FOR TOP BARS IN THE DECK SLAB IS 1 1/8" PER THE EXISTING BRIDGE PLANS.

FOR SECTION A-A AND B-B, SEE "JOINT DETAILS" SHEET.

FOR FINE MILLING, SEE SPECIAL PROVISIONS.

THE CONTRACTOR SHALL REMOVE AND REPLACE THE 20" TUBULAR STEEL BEAM GUARDRAIL. THE ENGINEER WILL SELECT THOSE SECTIONS OF THE EXISTING GUARDRAIL SUITABLE FOR FUTURE USE AND TRANSPORT THEM TO A STOCKPILE FOR THE USE OF THE DEPARTMENT. THE REMAINING GUARDRAIL SECTIONS SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE PROJECT.

FOR DIMENSIONS OF TUBULAR BEAM GUARDRAIL, POST AND TUBES, SEE "TUBULAR BEAM GUARDRAIL DETAILS" SHEET.

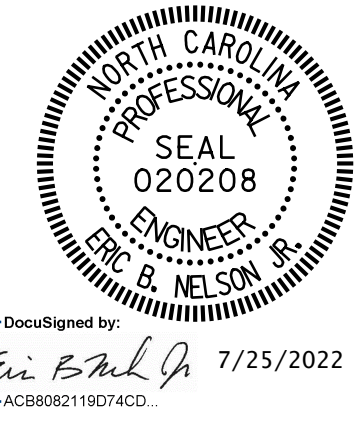
- BRIDGE JOINT DEMOLITION
- APPROX. CLASS II SURFACE PREPARATION
- APPROX. CLASS III SURFACE PREPARATION
- UNDERSIDE OF DECK/OVERHANG REPAIR
- ERI EPOXY RESIN INJECTION

PROJECT NO. I-5889B  
BUNCOMBE COUNTY  
 BRIDGE NO. 100339

SHEET 3 OF 3

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**PLAN OF SPANS  
 SPAN C AND  
 APPROACH SLAB**



REPAIR QUANTITY TABLE					UNDERSIDE OF DECK REPAIR				
TOP OF DECK REPAIR	SPAN C		APPROACH SLAB 2		SHOTCRETE REPAIR	ESTIMATE		ACTUAL	
	ESTIMATE	ACTUAL	ESTIMATE	ACTUAL		AREA SF	VOLUME CF	AREA SF	VOLUME CF
FINE MILLING	251 SY		102 SY		UNDERSIDE OF DECK	0.0	0.0		
HYDRO-DEMOLITION OF BRIDGE DECK	251 SY		102 SY		OVERHANG DIAPHRAGMS	0.0	0.0		
CLASS II SURFACE PREPARATION	0.0 SY		0.0 SY		UNDERSIDE OF OVERHANG	0.0	0.0		
CLASS III SURFACE PREPARATION	0.0 SY		0.0 SY		INTERIOR DIAPHRAGMS	0.0	0.0		
LATEX MODIFIED CONCRETE - VES OVERLAY	18.8 SF		7.6 SF					ESTIMATE	ACTUAL
PLACING & FINISHING LMC - VES OVERLAY	251 SY		102 SY						
BRIDGE JOINT DEMOLITION	42 SF		39 SF		UNDERSIDE EPOXY RESIN INJECTION	0.0 LF			
GROOVING BRIDGE FLOORS	2017 SF		899 SF						

VALUES IN CHART REPRESENT ESTIMATED UNDERSIDE OF DECK REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MINIMUM OF 1" BEHIND REBAR AND MINIMUM 2" CLEAR TO SAWCUT. FOR REPAIR DETAILS, SEE "OVERHANG UNDERSIDE REPAIR DETAILS" SHEET.

PAYMENT FOR CLASS II AND CLASS III SURFACE PREPARATION IS BASED ON THE SQUARE YARDS OF ADDITIONAL DEMOLITION REQUIRED FOLLOWING HYDRO-DEMOLITION OF THE BRIDGE DECK. SEE "OVERLAY SURFACE PREPARATION" SPECIAL PROVISION.

DRAWN BY: M. LEE/J. MYA DATE: 6/2022  
 CHECKED BY: J. YANACCONI DATE: 6/2022

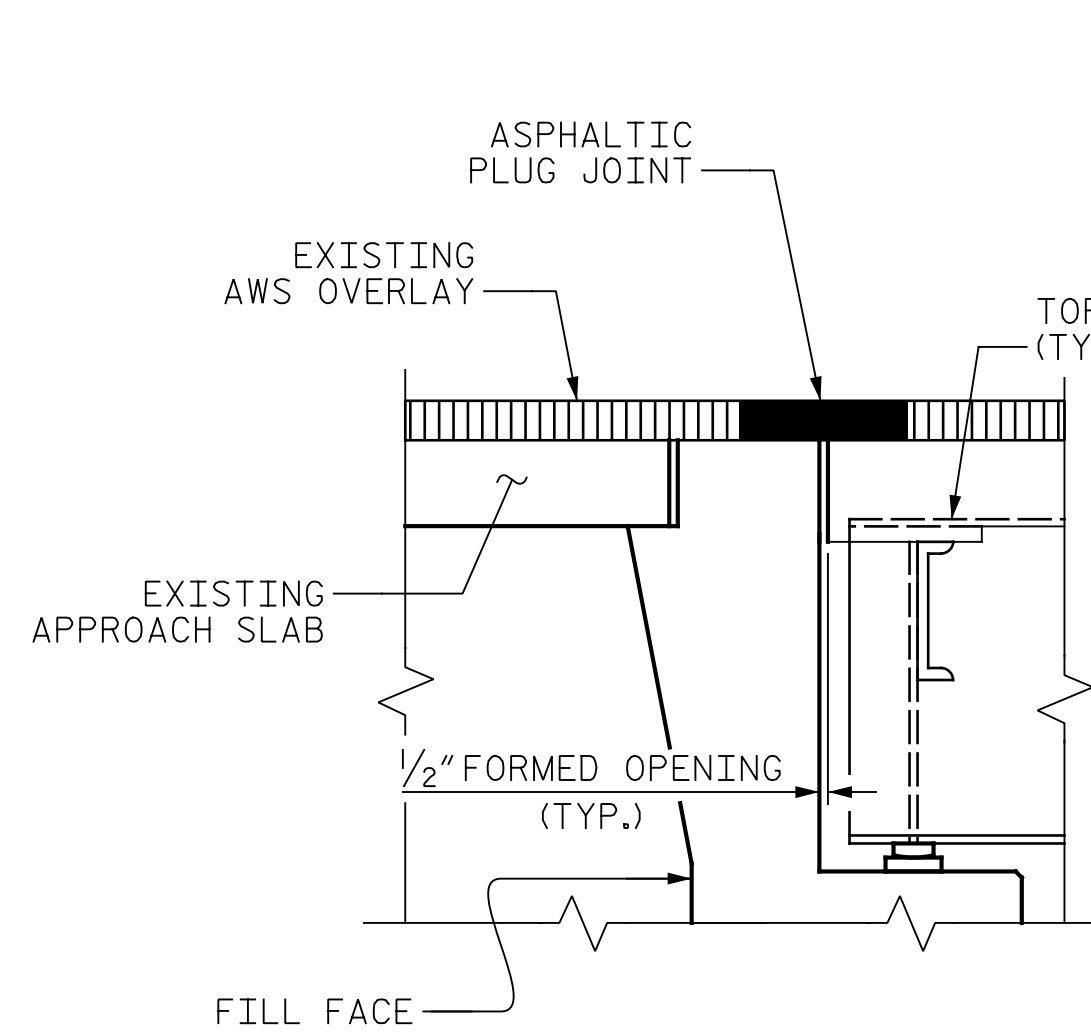
**GANNETT FLEMING**  
 One Glenwood Avenue  
 Suite 900  
 Raleigh, NC 27603  
 919-420-7660  
 NC Lic. No. F-0270

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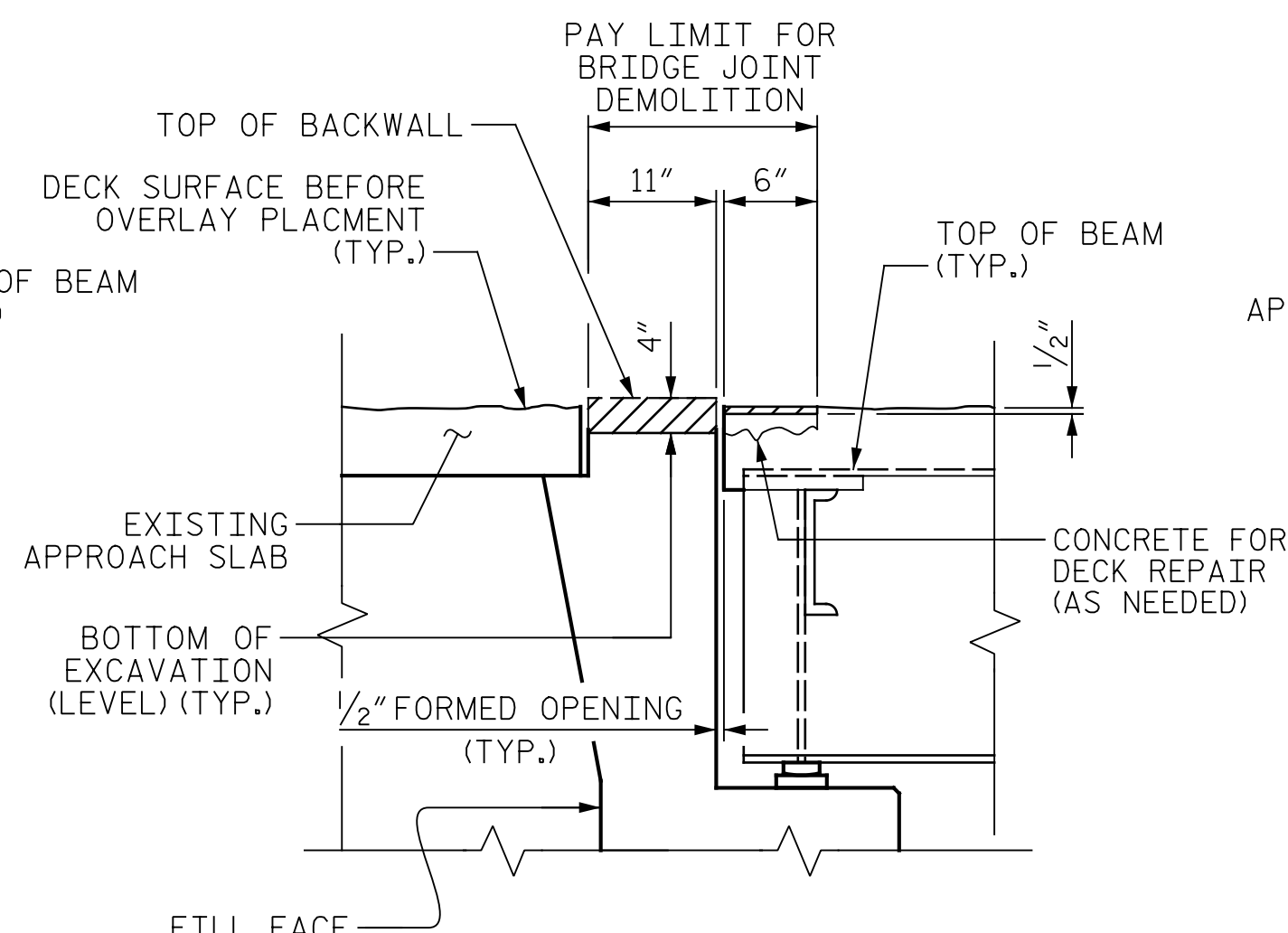
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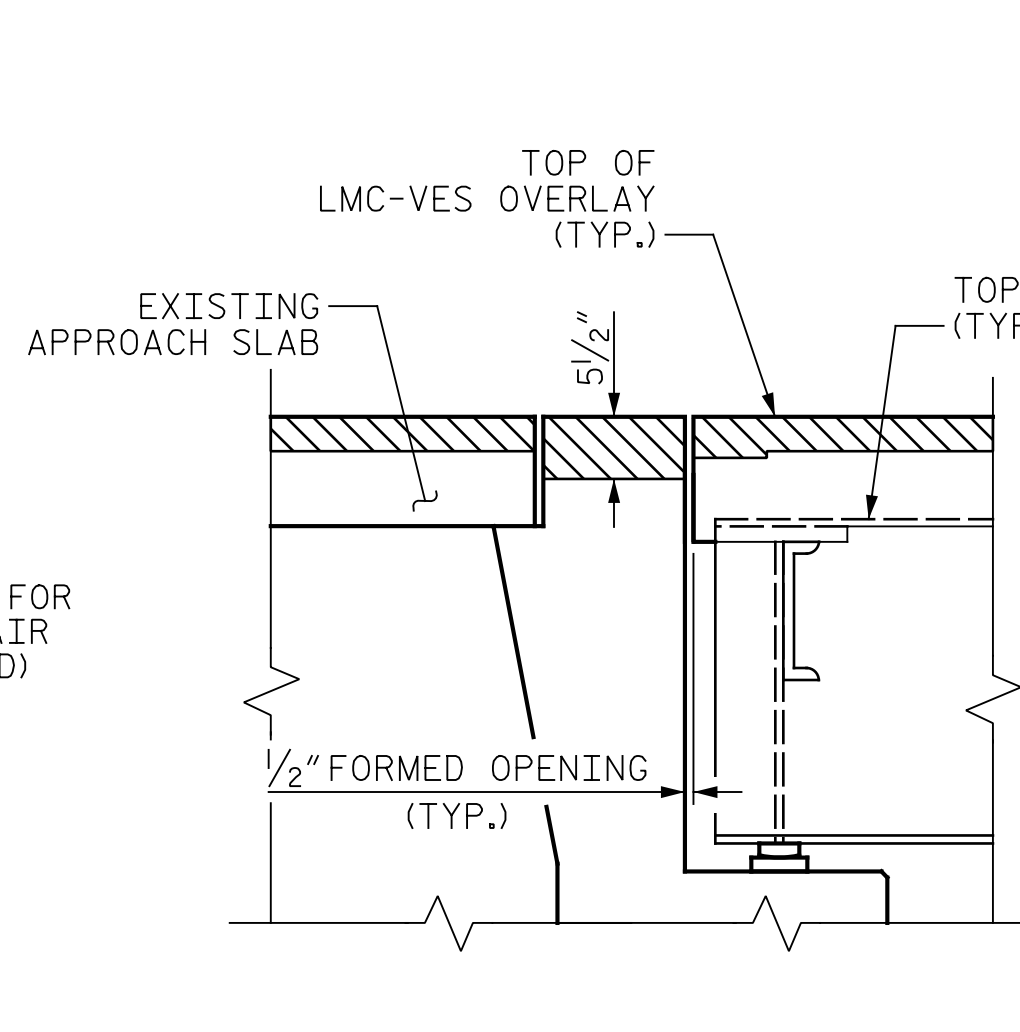
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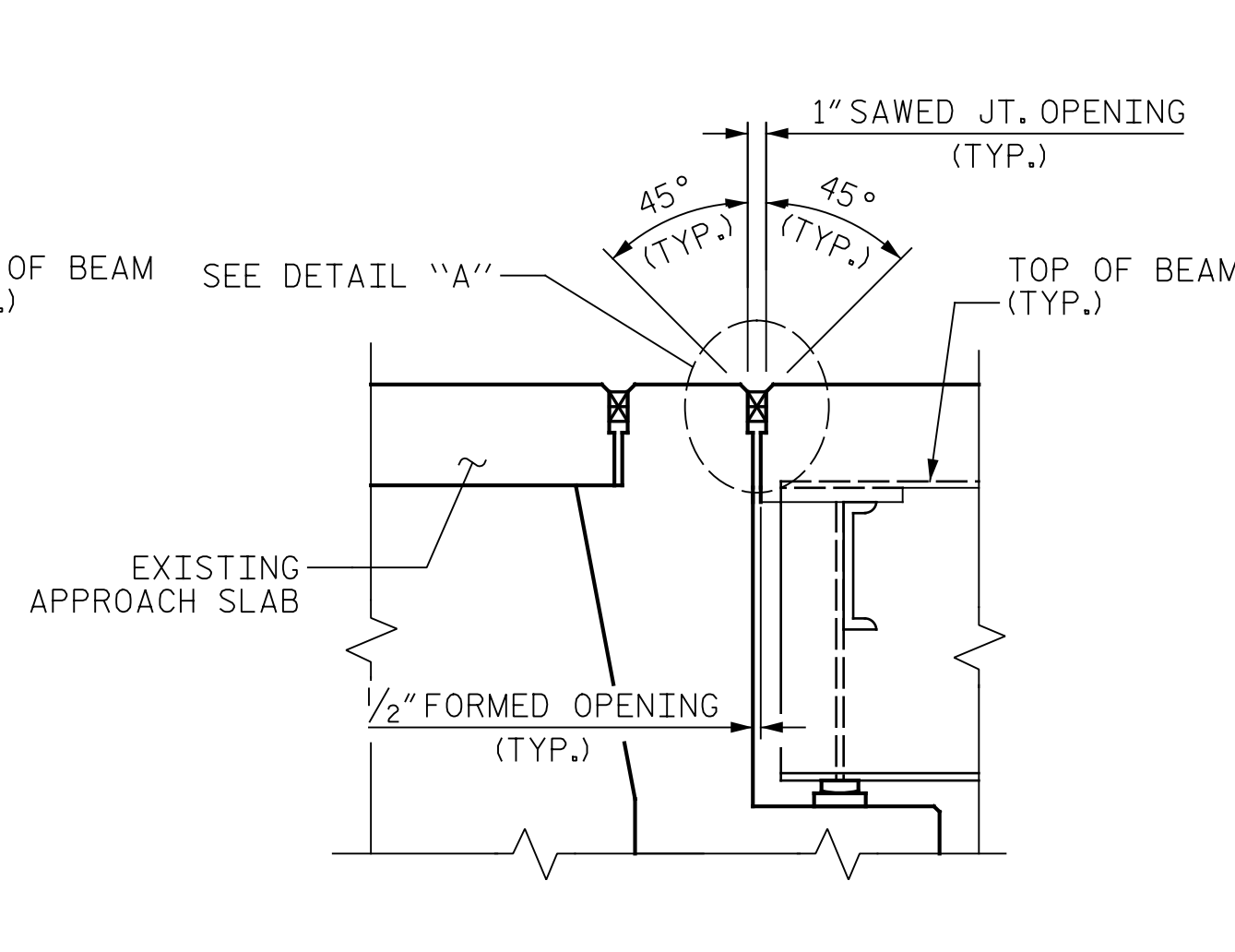
**EXISTING JOINT**



**MINIMUM EXISTING JOINT DEMOLITION**  
(BACKWALL DEMOLITION DONE PRIOR TO OVERLAY PLACEMENT)

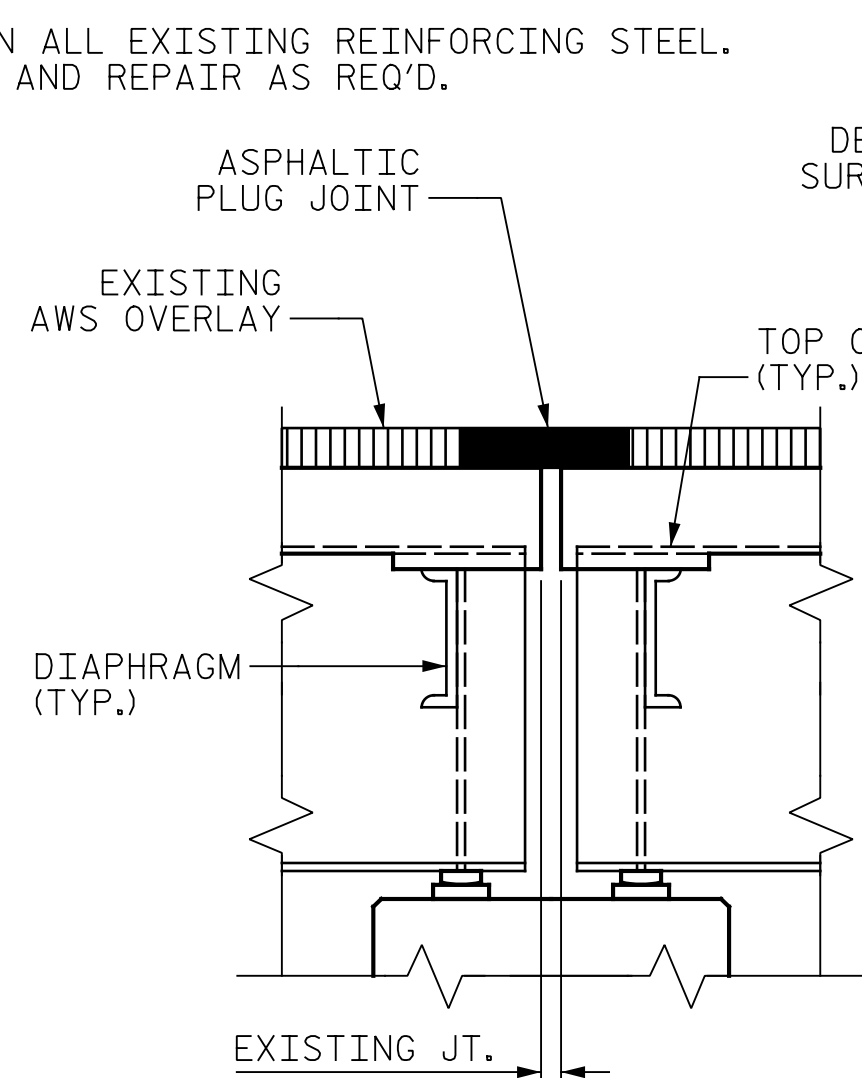


**PROPOSED JOINT PRE-SAWED**

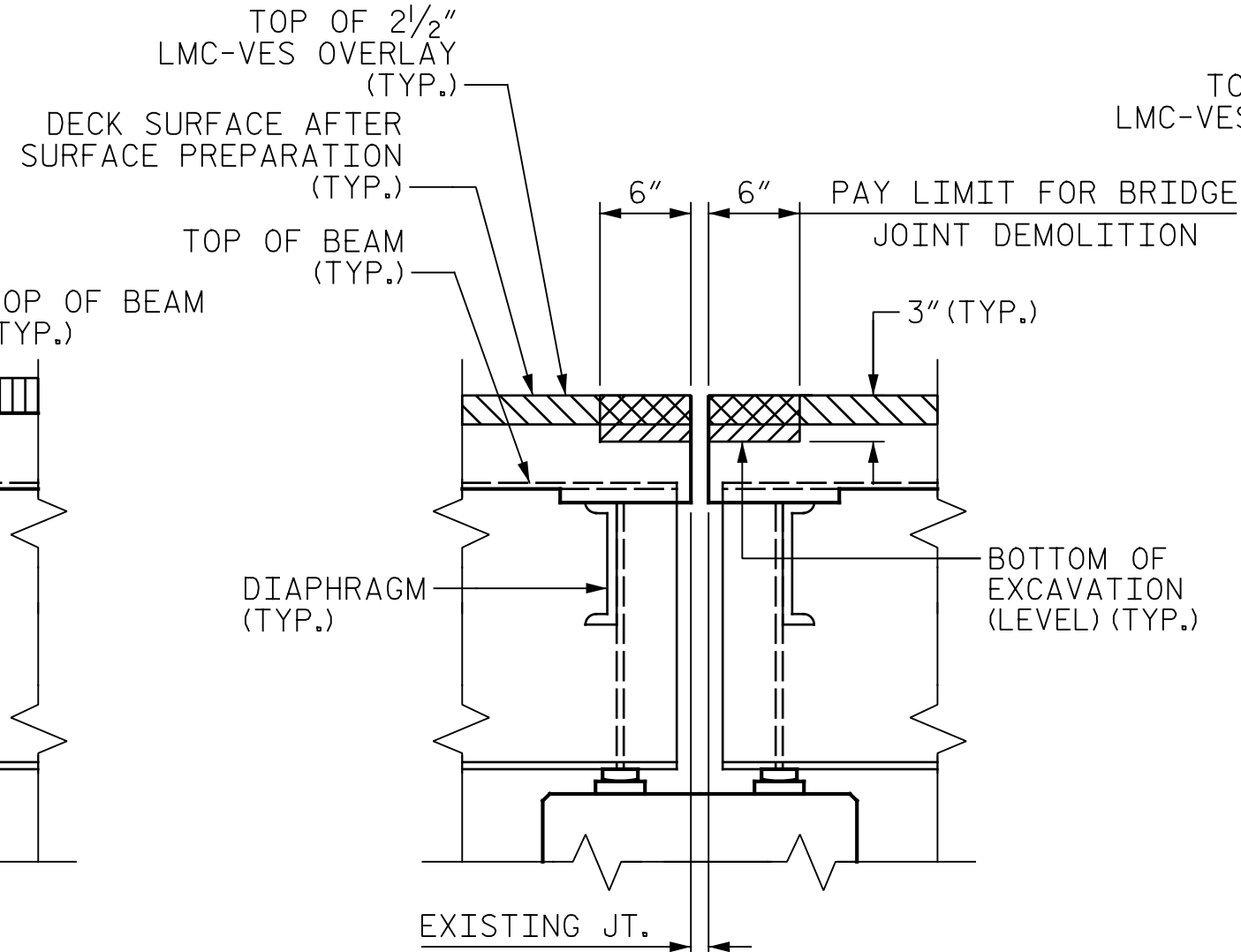


**PROPOSED FOAM JOINT SEAL**  
(AT FILL FACE AND FRONT FACE OF END BENT)

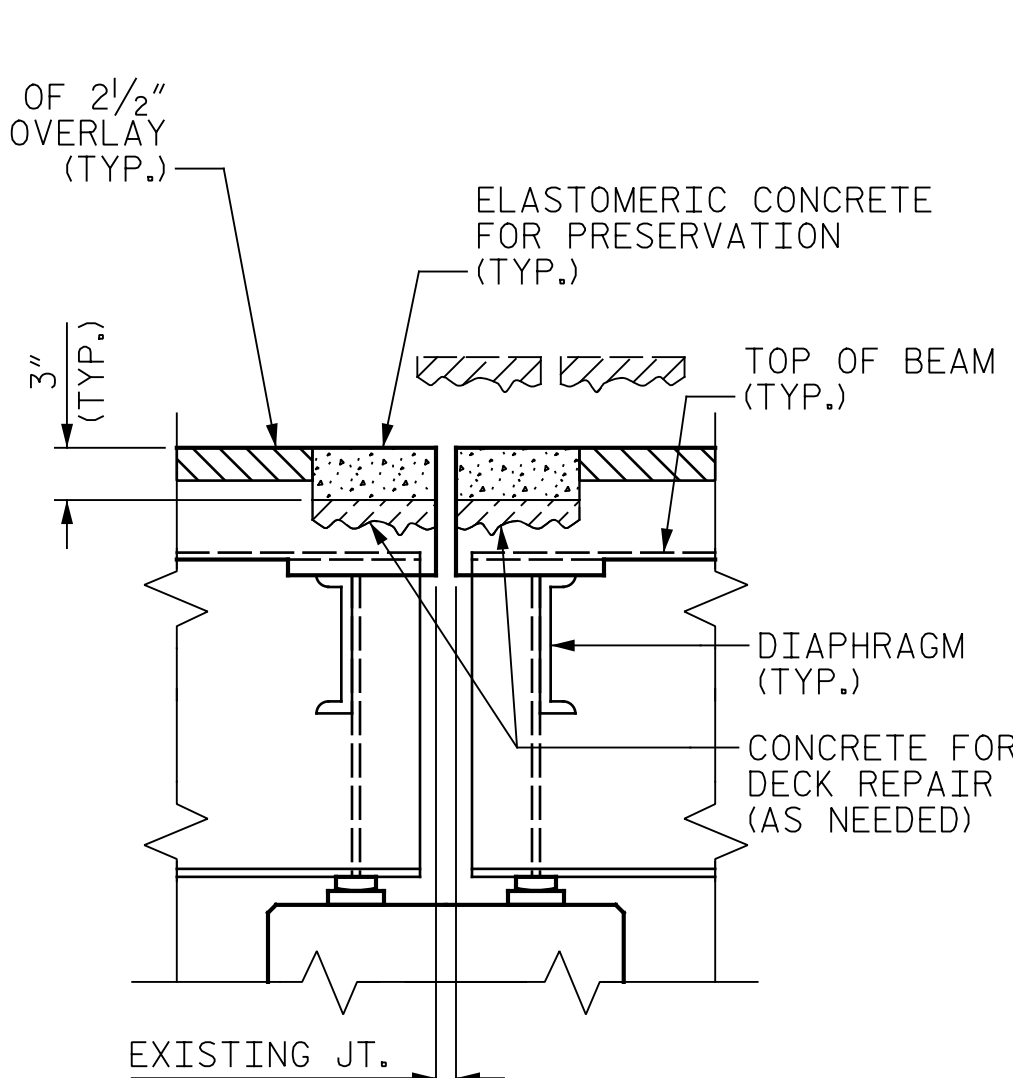
NOTE: RETAIN ALL EXISTING REINFORCING STEEL. CLEAN AND REPAIR AS REQ'D.



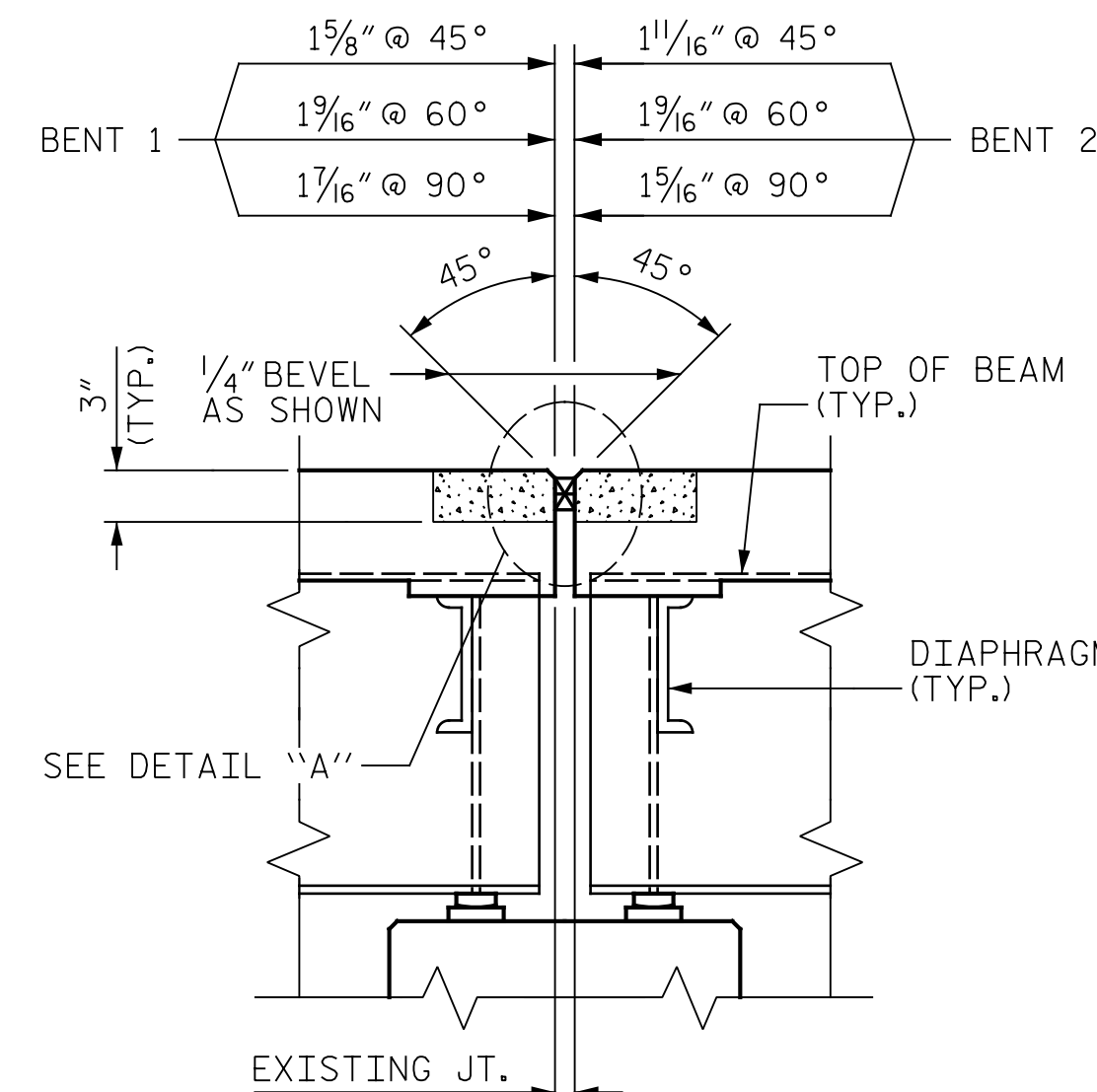
**EXISTING JOINT**



**MINIMUM EXISTING JOINT DEMOLITION**



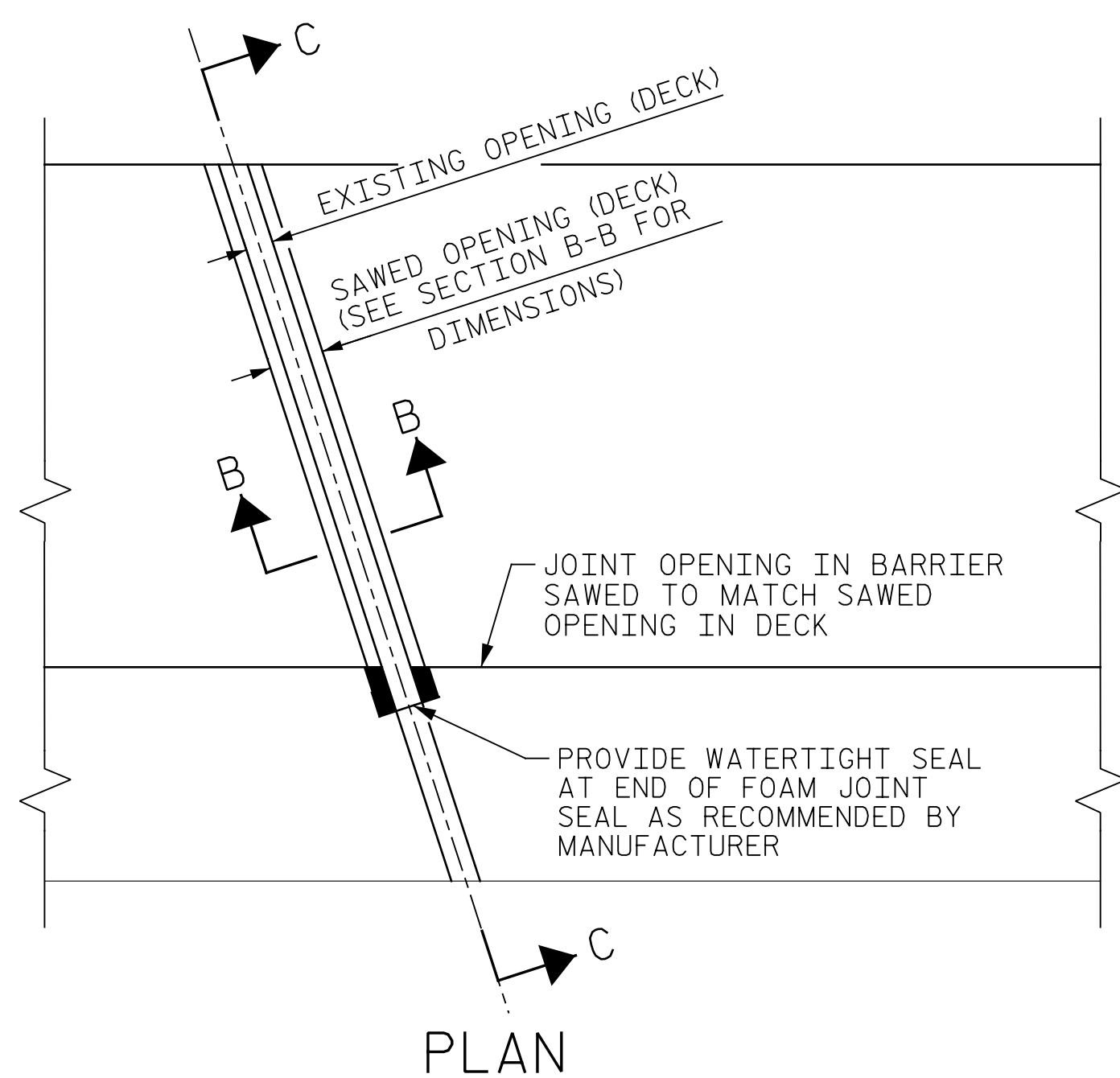
**PROPOSED JOINT PRE-SAWED**



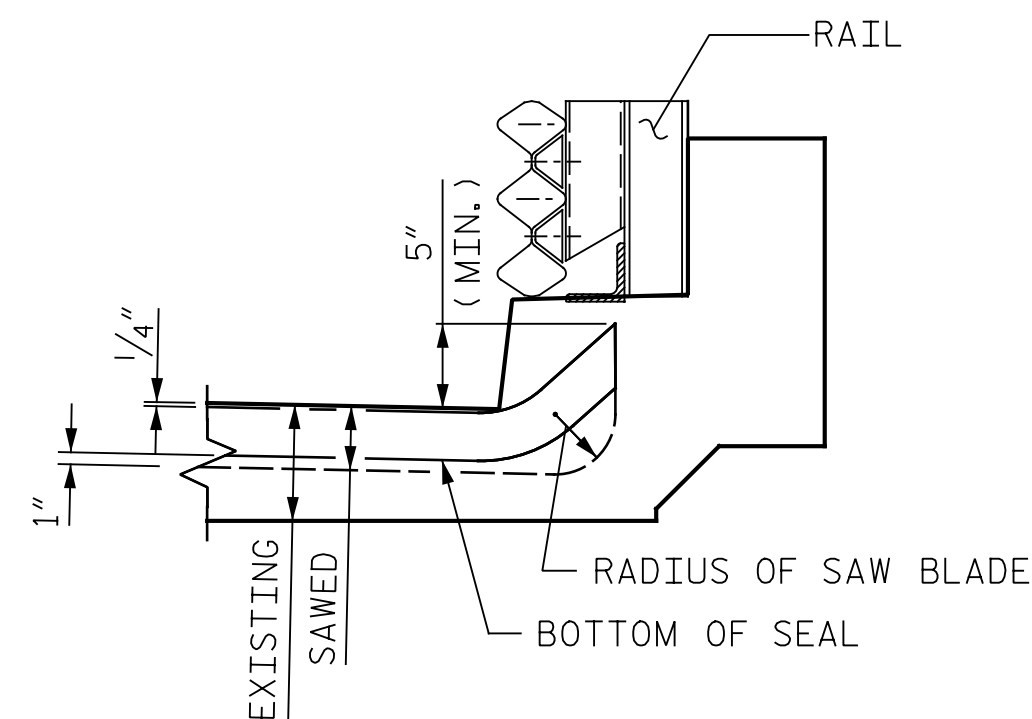
**PROPOSED FOAM JOINT SEAL**

**SECTION A-A**

**SECTION B-B**



**PLAN**



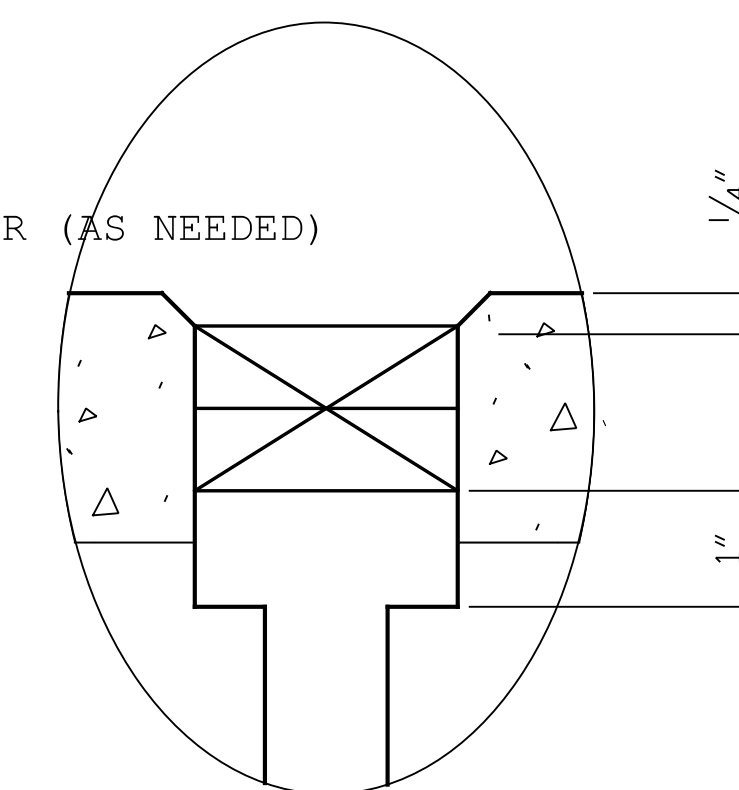
**SECTION C-C**

FOAM JOINT SEAL SHALL BE FACTORY FORMED OR CUT, HEAT WELDED AND TURNED UP PARALLEL TO SLOPED FACE OF CURB.

CONCRETE FOR DECK REPAIR (AS NEEDED)

LOCATION	ELASTOMERIC CONCRETE FOR PRESERVATION	FOAM JOINT SEALS FOR PRESERVATION
	CU. FT.	LIN. FT.
END BENT 1	5.3	81.5
BENT 1	10.0	42.0
BENT 2	10.0	42.0
END BENT 2	5.3	81.5
* TOTAL	31.6	251.0

\* BASED ON MINIMUM BLOCKOUT SHOWN



**DETAIL "A"**

**NOTES:**

FINAL JOINT SEALS SHALL NOT BE INSTALLED UNTIL THE OVERLAY OR SEALANT WORK IS COMPLETE.

THE CONTRACTOR SHALL FIELD VERIFY THE EXISTING JOINT OPENING PRIOR TO ORDERING JOINT SEAL MATERIAL. IF THE ACTUAL JOINT OPENING VARIES FROM THE OPENING INDICATED IN THE DETAILS BY MORE THAN 1/4", NOTIFY THE ENGINEER.

THE MANUFACTURER IS TO PROVIDE THE NOMINAL UNCOMPRESSED SEAL WIDTH OF THE FOAM JOINT SEAL FOR THE SIZE OF THE OPENING ON THE PLANS AND ACCOMMODATE THE MINIMUM EXPANSION SHOWN ON THE PLANS.

FOAM JOINTS SHALL BE INSTALLED AS PER THE MANUFACTURER'S RECOMMENDATIONS.

THE CONTRACTOR SHALL TAKE CARE DURING JOINT REHAB OPERATIONS NOT TO DROP ANY MATERIAL BELOW THE BRIDGE WITHOUT PROTECTIVE DEVICES BELOW TO CATCH THE MATERIAL. ANY MATERIAL THAT FALLS BELOW THE BRIDGE SHALL BE CONTAINED, REMOVED AND DISPOSED OF BY THE CONTRACTOR AT NO EXTRA COST TO THE DEPARTMENT. IF THE ENGINEER DETERMINES THAT THE PROTECTIVE DEVICES ARE NOT ADEQUATE OR NOT BEING EMPLOYED, THE WORK SHALL BE SUSPENDED UNTIL ADEQUATE PROTECTION IS PROVIDED.

FOR EXCAVATION BELOW THE BOTTOM OF THE PLANNED JOINT DEMOLITION, CONCRETE FOR DECK REPAIR SHALL BE PLACED IN THE EXCAVATED AREA TO THE ELEVATION AT THE BOTTOM OF THE PROPOSED ELASTOMERIC CONCRETE FOR PRESERVATION HEADERS AS SHOWN.

FINAL SURFACE OF THE JOINT DEMOLITION AREA PRIOR TO PLACEMENT OF CONCRETE REPAIR MATERIAL OR ELASTOMERIC CONCRETE SHOULD BE REASONABLY FLAT AND LEVEL. ENGINEER SHALL DETERMINE THE ACCEPTABILITY OF THE SURFACE PRIOR TO PLACEMENT OF REPAIR CONCRETE OR ELASTOMERIC CONCRETE.

THE CONTRACTOR WILL NOT BE PERMITTED TO FORM THE JOINT IN LIEU OF SAWING THE JOINT.

THE INSTALLED FOAM JOINTS SHALL BE WATERTIGHT.

THE CONTRACTOR SHALL SAW CUT TO A NOMINAL DEPTH OF 1/2" BUT REINFORCING STEEL SHALL NOT BE DAMAGED. CONTRACTOR SHALL REMOVE SURFACE CONCRETE TO VERIFY THAT SAWCUT DEPTH WILL NOT DAMAGE EXISTING REINFORCING STEEL.

QUANTITIES SHOWN IN THE ELASTOMERIC CONCRETE FOR PRESERVATION TABLE ARE BASED ON THE MINIMUM JOINT DEMOLITION SHOWN.

FOR BRIDGE JOINT DEMOLITION, SEE SPECIAL PROVISIONS.

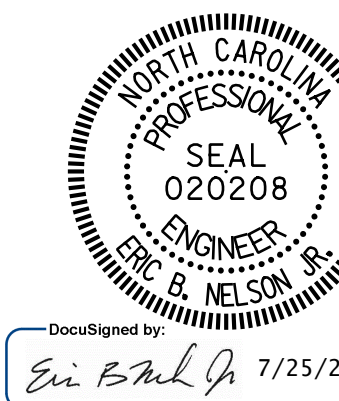
FOR ELASTOMERIC CONCRETE FOR PRESERVATION, SEE SPECIAL PROVISIONS.

FOR FOAM JOINT SEALS FOR PRESERVATION, SEE SPECIAL PROVISIONS.

PROJECT NO. I-5889B  
BUNCOMBE COUNTY  
 BRIDGE NO. 100339

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**JOINT DETAILS**



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 Eric B. Nelson  
 7/25/2022

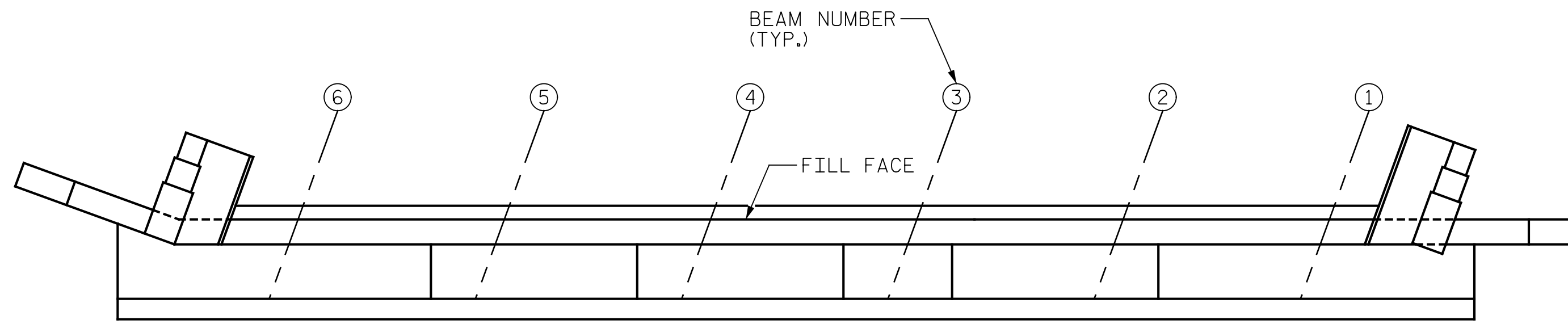
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 CHECKED BY: J. YANACCONE DATE: 6/2022



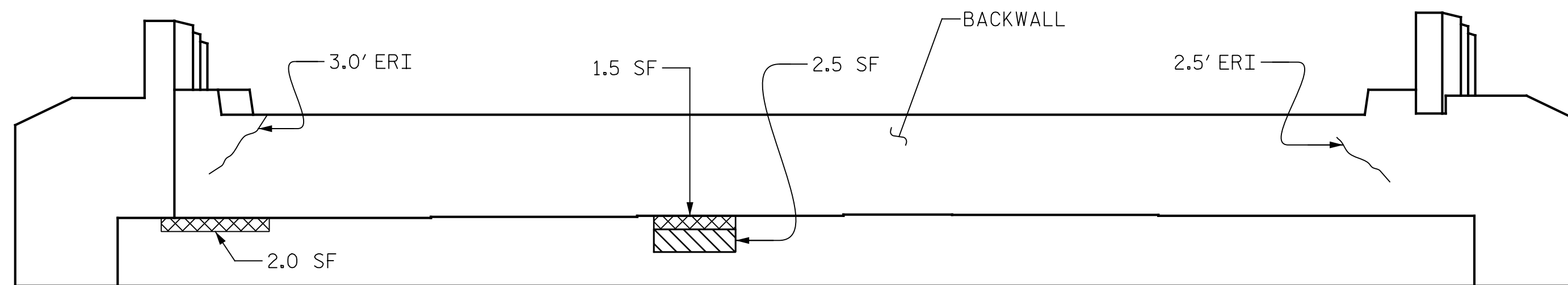
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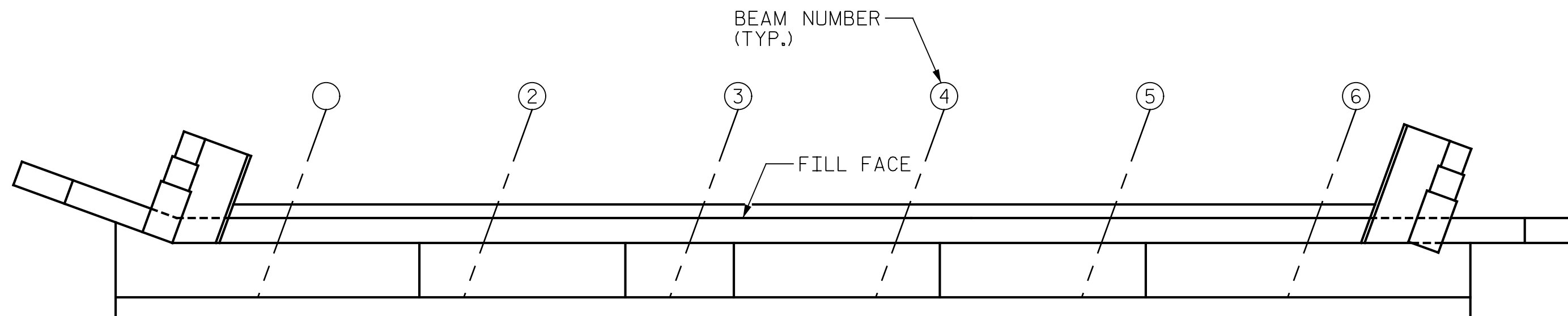


PLAN



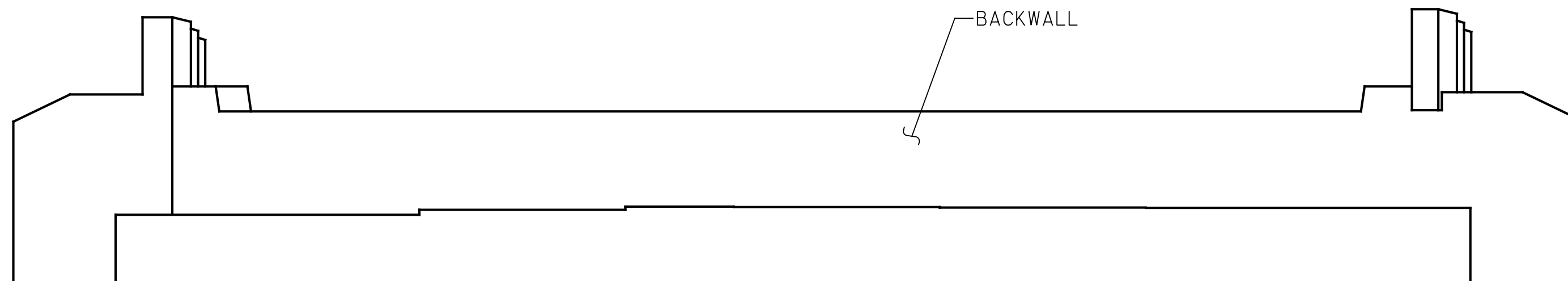
ELEVATION

END BENT 1



PLAN

NO REPAIRS NOTED FOR END BENT 2 DURING FIELD SCOPING. THE CONTRACTOR AND ENGINEER SHALL INSPECT END BENT 2 PRIOR TO BEGINNING WORK.



ELEVATION

END BENT 2

- SHOTCRETE REPAIR
- CONCRETE REPAIR (FORM & POUR)
- ERI - EPOXY RESIN INJECTION

AS-BUILT REPAIR QUANTITY TABLE					
END BENT 1 REPAIRS	QUANTITIES				
	ESTIMATE		ACTUAL		
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF
CAP	2.5	1.3			
BACKWALL	0.0	0.0			
CONCRETE REPAIRS	3.5	1.8			
EPOXY RESIN INJECTION		LENGTH LF		LENGTH LF	
CAP		0.0			
BACKWALL		5.5			
EPOXY COATING		SQ. FT		SQ. FT	
TOP OF BENT CAP		105			
END BENT 2 REPAIRS	QUANTITIES				
	ESTIMATE		ACTUAL		
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF
CAP	0.0	0.0			
BACKWALL	0.0	0.0			
CONCRETE REPAIRS	0.0	0.0			
EPOXY RESIN INJECTION		LENGTH LF		LENGTH LF	
CAP		0.0			
BACKWALL		0.0			
EPOXY COATING		SQ. FT		SQ. FT	
TOP OF BENT CAP		105			

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MINIMUM OF 1" BEHIND REBAR AND MINIMUM OF 2" CLEARANCE TO SAWCUT. FOR REPAIR DETAILS, SEE "TYPICAL CAP REPAIR DETAILS" SHEET.

**NOTES:**

REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER WILL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUALITIES ENTERED INTO THE AS-BUILT REPAIR QUANTITY TABLE.

CONTRACTOR SHALL SAW CUT TO A MINIMUM DEPTH OF 1/2" BUT REINFORCING STEEL SHALL NOT BE DAMAGED

CONTRACTOR SHALL REMOVE SURFACE CONCRETE TO VERIFY THAT SAW CUT DEPTH WILL NOT DAMAGE EXISTING REINFORCING STEEL.

CONTRACTOR SHALL SAW CUT THE REPAIR AREAS SO THAT THE CORNERS ARE SQUARE AS INDICATED ON THE DETAILS.

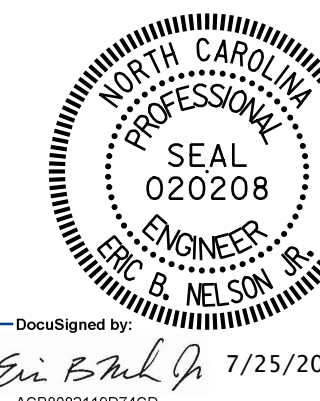
FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

SHOTCRETE REPAIRS MAY BE REPLACED WITH CONCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

PROJECT NO. I-5889B  
BUNCOMBE COUNTY  
 BRIDGE NO. 100339



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

END BENT 1 & 2

DRAWN BY : J. MYA DATE : 6/2022  
 CHECKED BY : J. YANNAACONE DATE : 6/2022

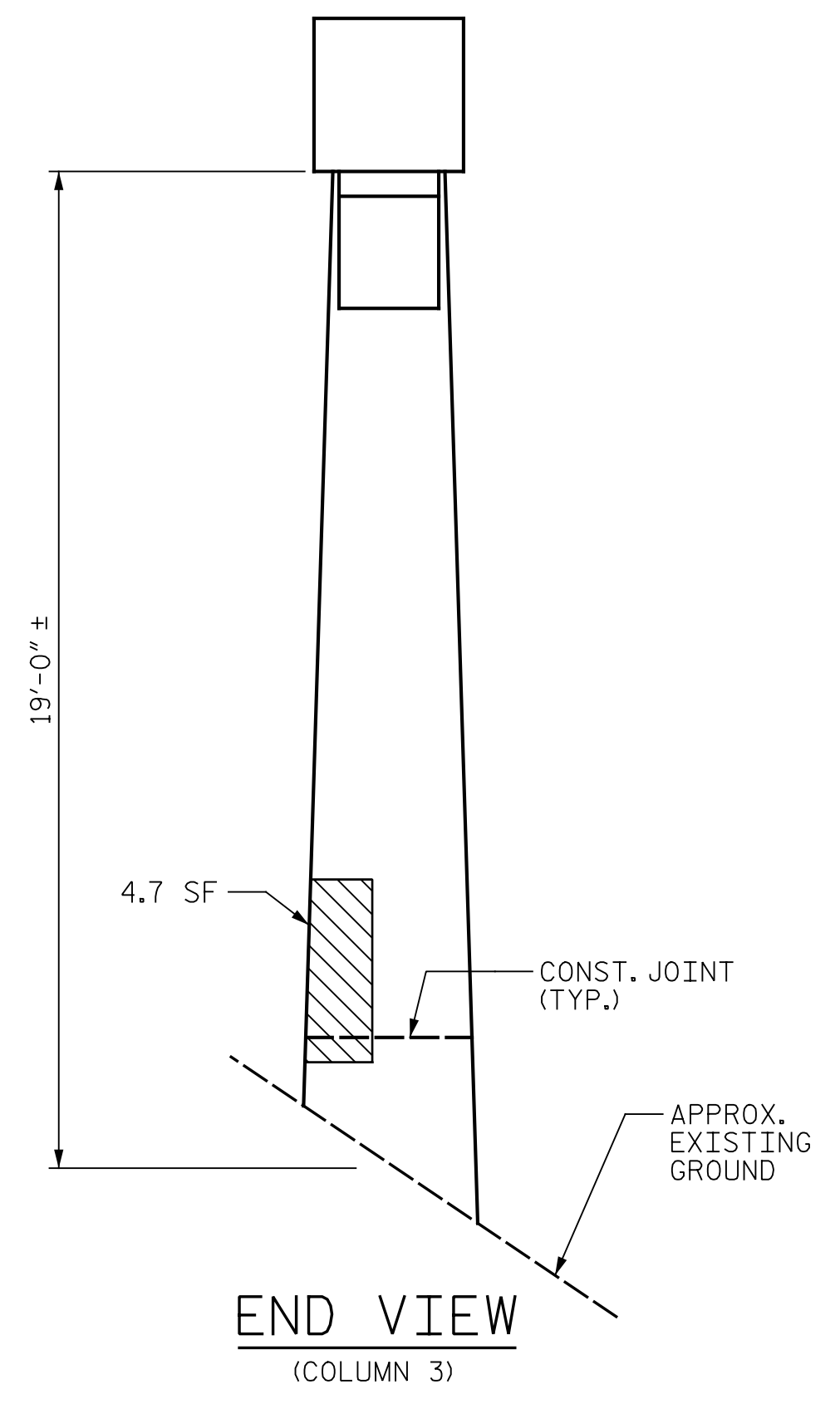
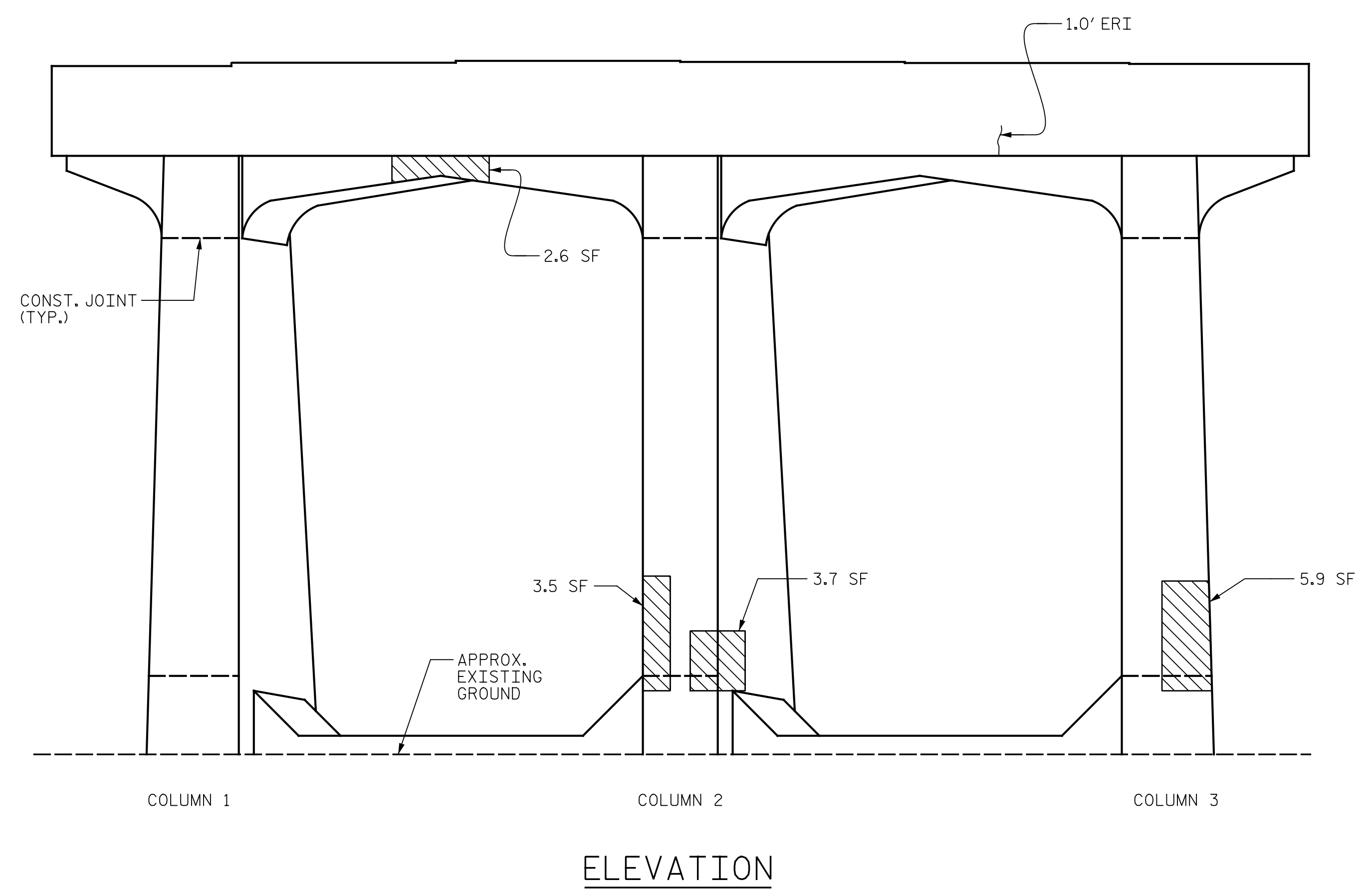
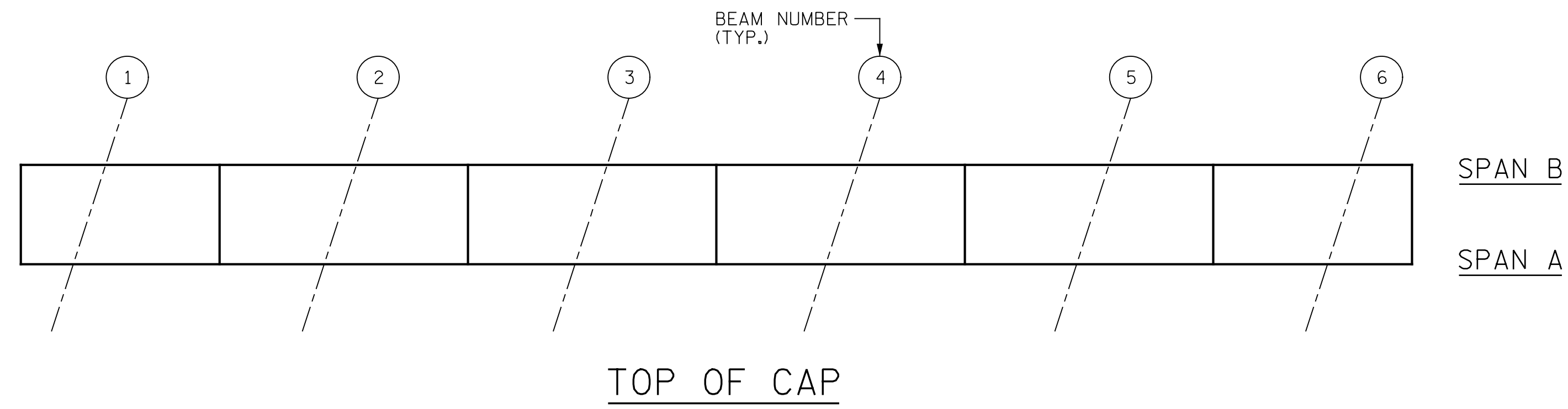


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AS-BUILT REPAIR QUANTITY TABLE					
BENT 1 REPAIRS	QUANTITIES				
	ESTIMATE		ACTUAL		
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF
CAP	4.2	2.1			
COLUMN	21.3	10.7			
STRUT	0.0	0.0			
CONCRETE REPAIRS	0.0	0.0			
EPOXY RESIN INJECTION	LENGTH LF		LENGTH LF		
CAP	1.0				
COLUMN	0.0				
STRUT	0.0				
EPOXY COATING	SQ. FT		SQ. FT		
TOP OF BENT CAP	120				

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MINIMUM OF 1" BEHIND REBAR AND MINIMUM OF 2" CLEARANCE TO SAWCUT. FOR REPAIR DETAILS, SEE "TYPICAL CAP AND COLUMN REPAIR DETAILS" SHEET.

**NOTES:**  
 REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE BASED ON THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER WILL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATIONS AND DESCRIPTION OF THE REPAIRS AND ENTER THE ACTUAL QUANTITIES INTO THE AS-BUILT REPAIR QUANTITY TABLE.

FOR REPAIRS, SEE "TYPICAL CAP AND COLUMN REPAIR DETAILS" SHEET.  
 FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.  
 FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.  
 SHOTCRETE REPAIRS MAY BE REPLACED WITH CONCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

CONTRACTOR SHALL SAW CUT TO A MINIMUM DEPTH OF 1/2" BUT REINFORCING STEEL SHALL NOT BE DAMAGED. CONTRACTOR SHALL REMOVE SURFACE CONCRETE TO VERIFY THAT SAW CUT DEPTH WILL NOT DAMAGE EXISTING REINFORCING STEEL.

CONTRACTOR SHALL SAW CUT THE REPAIR AREAS SO THAT THE CORNERS ARE SQUARE AS INDICATED ON THE DETAILS.

CLEAN AND REMOVE DEBRIS FROM THE TOP OF THE CAP AND APPLY EPOXY PROTECTIVE COATING. EPOXY COATING SHALL BE APPLIED TO THE TOP SURFACE OF THE CAP. THE CONTRACTOR SHALL NOT COAT THE AREA OF THE CAP BENEATH THE MASONRY PLATES. FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

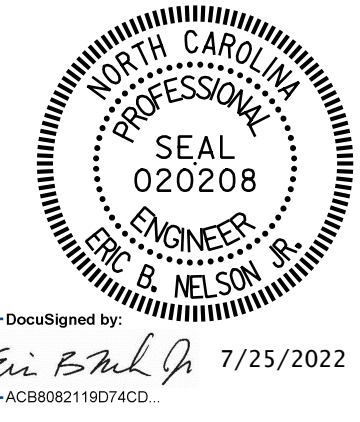
FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

WHEN COLUMN REPAIRS ARE INDICATED TO GROUND LINE, EXTEND REPAIR ONE (1) FOOT MIN. BELOW GROUND LINE.

- SHOTCRETE REPAIR
- CONCRETE REPAIR (FORM & POUR)
- ERI - EPOXY RESIN INJECTION

PROJECT NO. I-5889B  
BUNCOMBE COUNTY  
 BRIDGE NO. 100339

SHEET 1 OF 2



DocuSigned by:  
 Eric B. Nelson  
 7/25/2022

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**BENT 1  
 SPAN A SIDE**

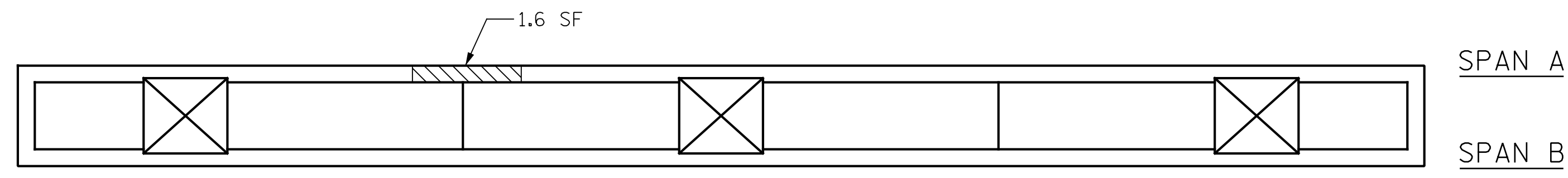
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 CHECKED BY : J. YANNAACONE DATE : 6/2022



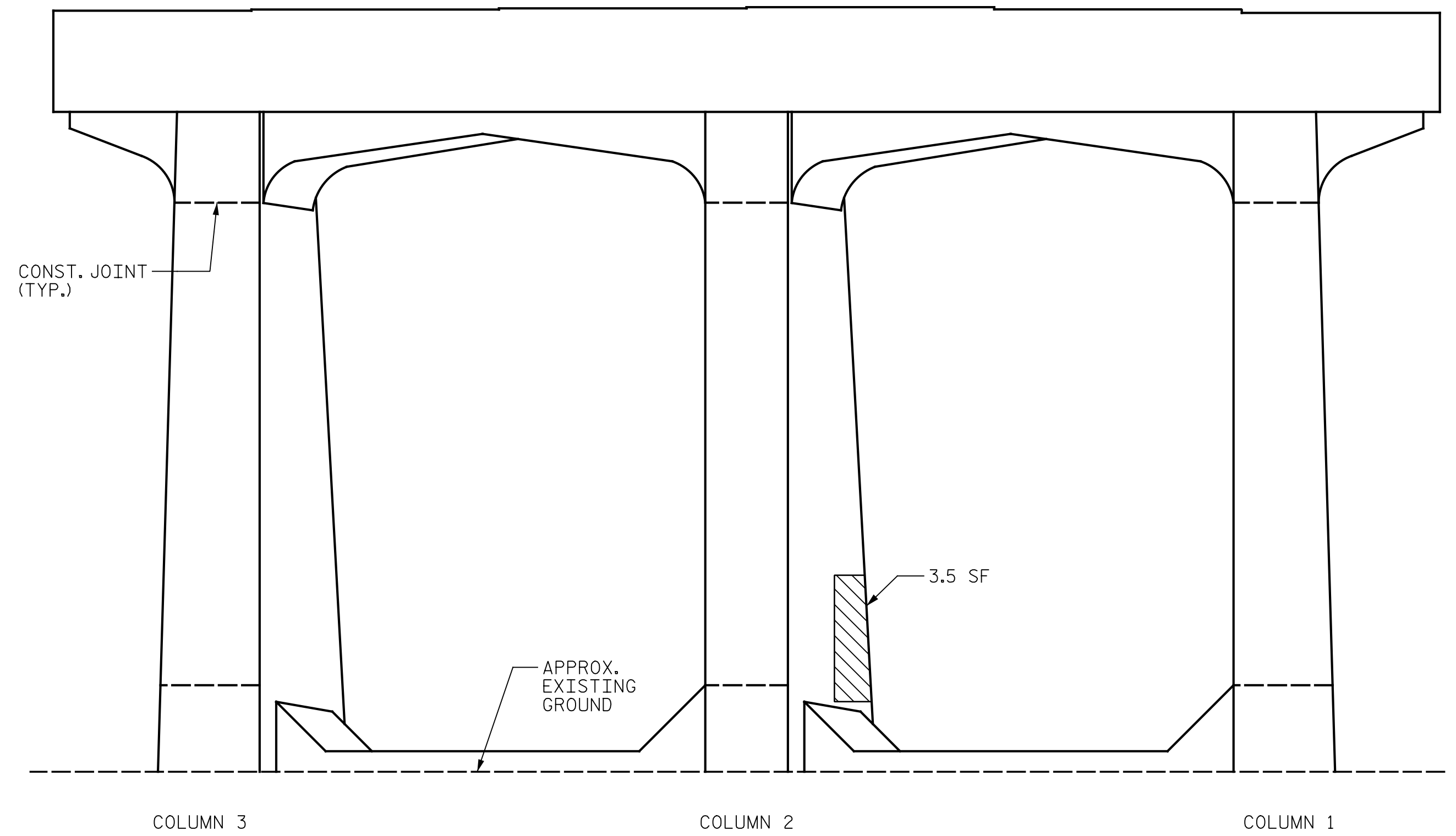
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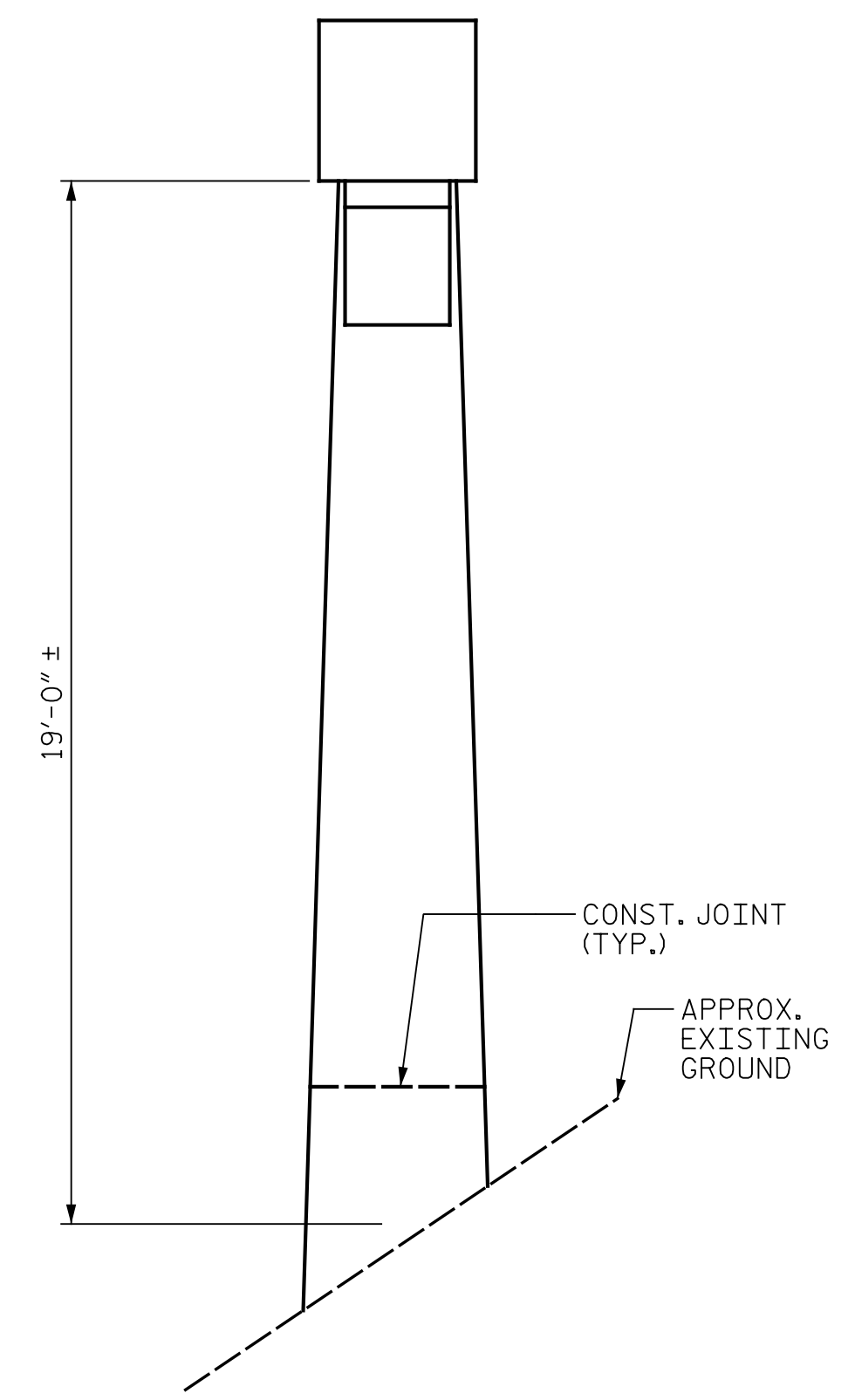
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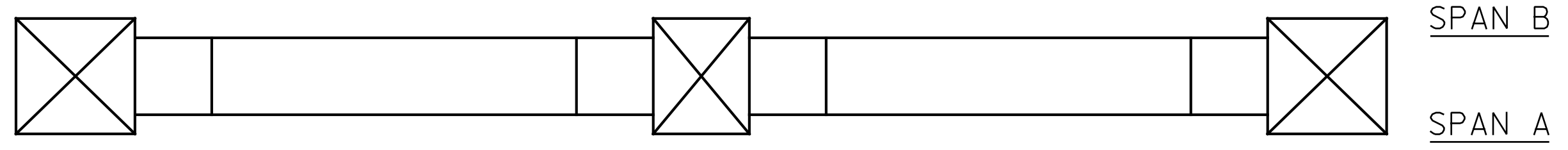
BOTTOM OF CAP



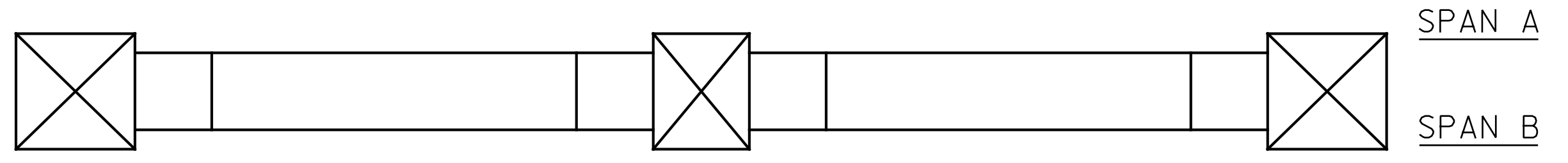
ELEVATION



END VIEW  
(COLUMN 1)



TOP OF STRUT



BOTTOM OF STRUT

**NOTES:**

REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE BASED ON THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER WILL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATIONS AND DESCRIPTION OF THE REPAIRS AND ENTER THE ACTUAL QUANTITIES INTO THE AS-BUILT REPAIR QUANTITY TABLE.

FOR REPAIRS, SEE "TYPICAL CAP AND COLUMN REPAIR DETAILS" SHEET.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

SHOTCRETE REPAIRS MAY BE REPLACED WITH CONCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

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CONTRACTOR SHALL SAW CUT THE REPAIR AREAS SO THAT THE CORNERS ARE SQUARE AS INDICATED ON THE DETAILS.

CLEAN AND REMOVE DEBRIS FROM THE TOP OF THE CAP AND APPLY EPOXY PROTECTIVE COATING. EPOXY COATING SHALL BE APPLIED TO THE TOP SURFACE OF THE CAP. THE CONTRACTOR SHALL NOT COAT THE AREA OF THE CAP BENEATH THE MASONRY PLATES. FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

WHEN COLUMN REPAIRS ARE INDICATED TO GROUND LINE, EXTEND REPAIR ONE (1) FOOT MIN. BELOW GROUND LINE.

- SHOTCRETE REPAIR
- CONCRETE REPAIR (FORM & POUR)
- ERI - EPOXY RESIN INJECTION

PROJECT NO. I-5889B  
BUNCOMBE COUNTY  
 BRIDGE NO. 100339

SHEET 2 OF 2

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

BENT 1  
 SPAN B SIDE



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*Eric B. Nelson* 7/25/2022  
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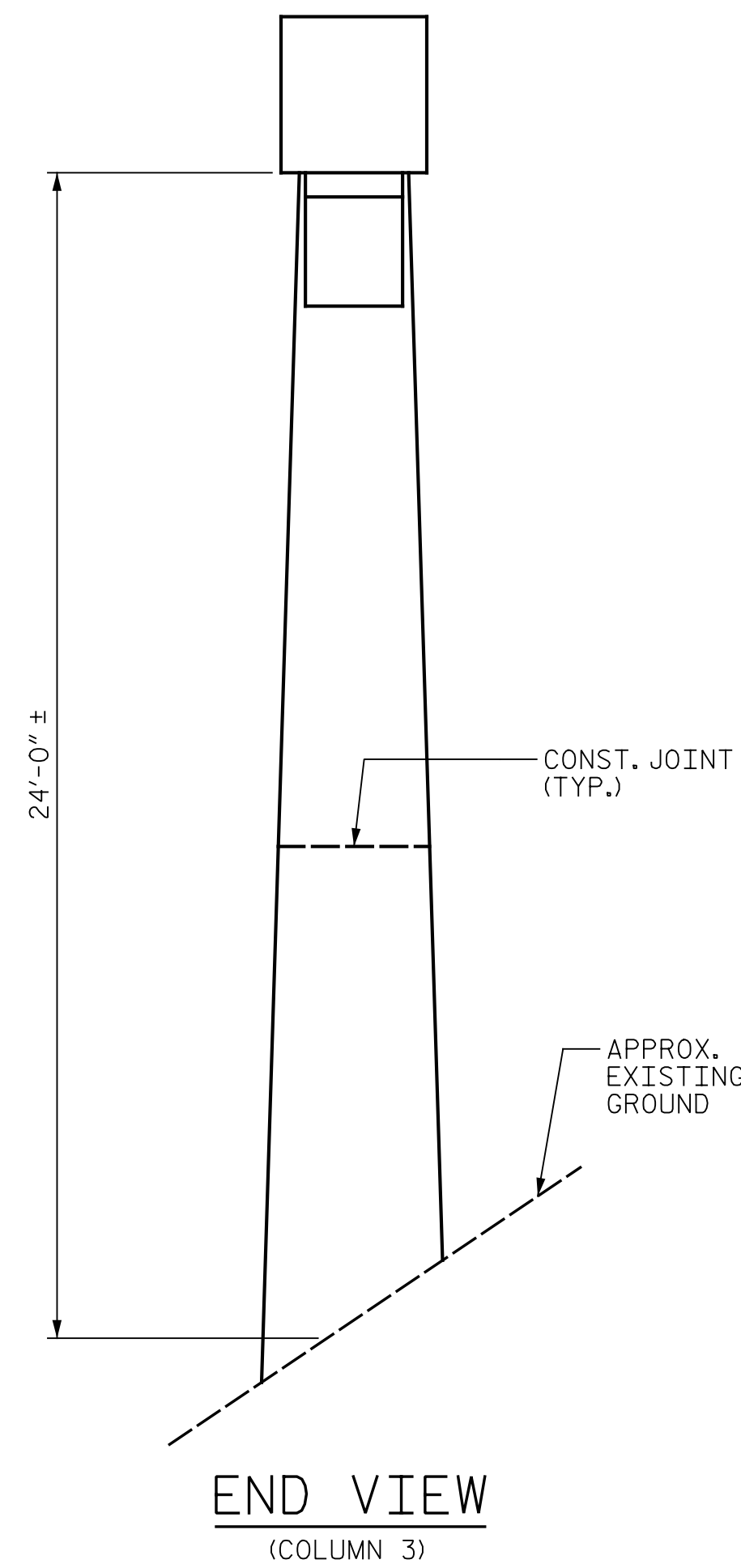
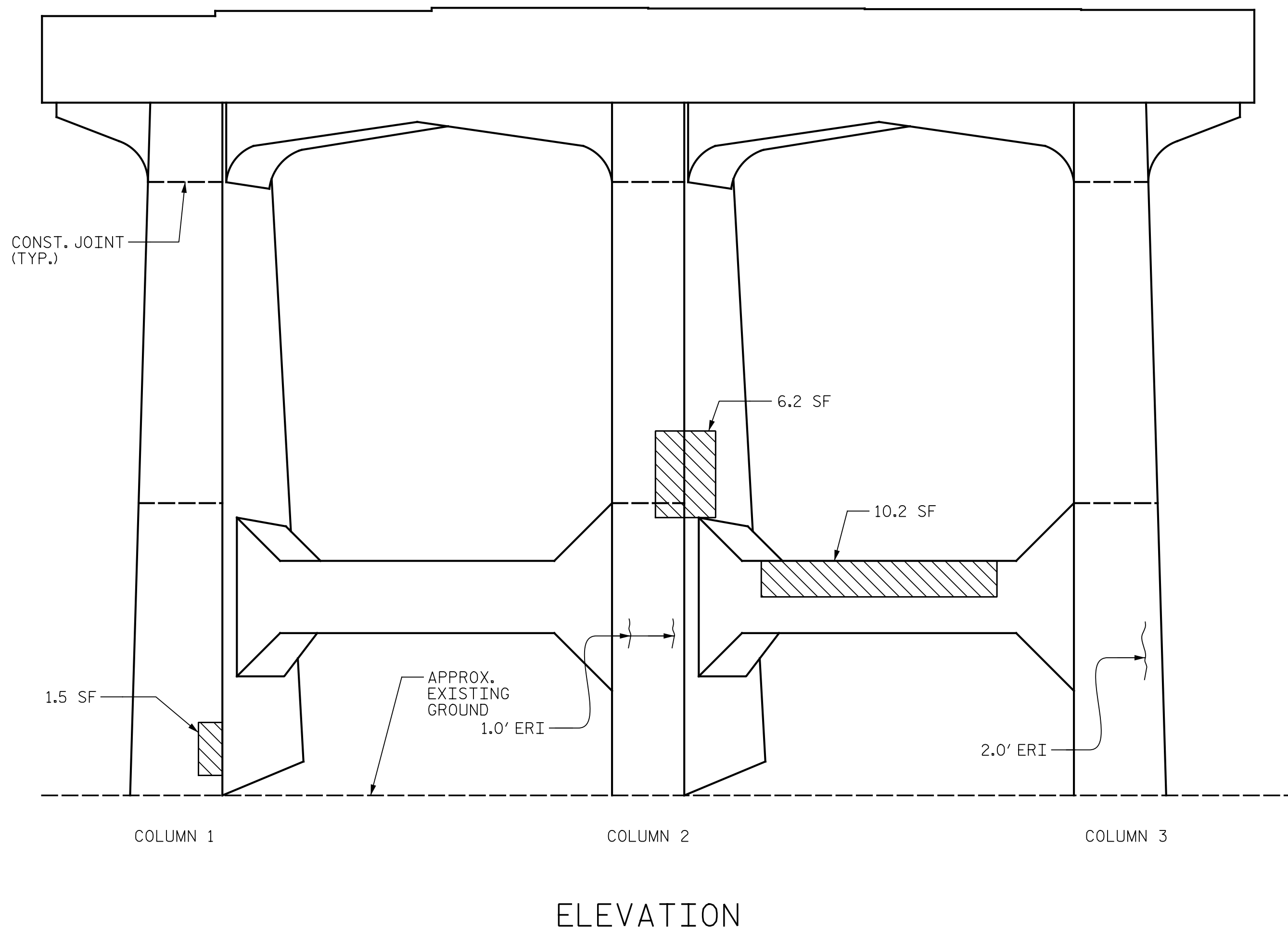
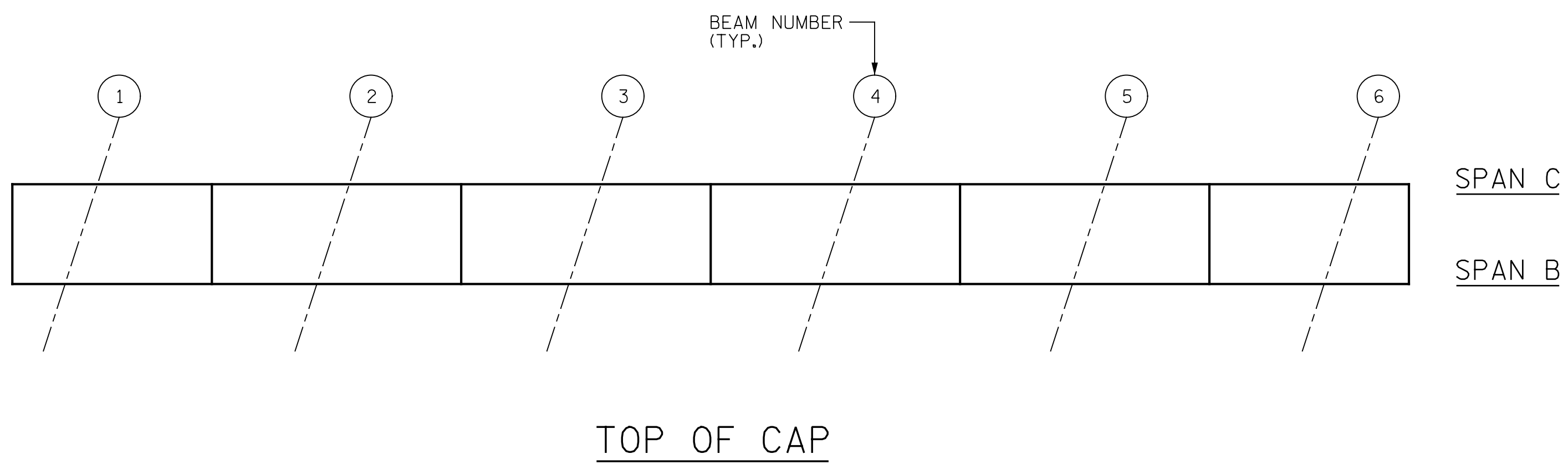
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2			4			133

DRAWN BY : J. MYA DATE : 6/2022  
 CHECKED BY : J. YANACCONE DATE : 6/2022



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AS-BUILT REPAIR QUANTITY TABLE					
BENT 2 REPAIRS	QUANTITIES				
	ESTIMATE		ACTUAL		
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF
CAP	31.3	15.7			
COLUMN	6.2	3.1			
STRUT	27.6	13.8			
CONCRETE REPAIRS	0.0	0.0			
EPOXY RESIN INJECTION		LENGTH LF		LENGTH LF	
CAP		4.0			
COLUMN		0.0			
STRUT		0.0			
EPOXY COATING		SQ. FT		SQ. FT	
TOP OF BENT CAP		120			

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MINIMUM OF 1" BEHIND REBAR AND MINIMUM OF 2" CLEARANCE TO SAWCUT. FOR REPAIR DETAILS, SEE "TYPICAL CAP AND COLUMN REPAIR DETAILS" SHEET.

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 CONTRACTOR SHALL SAW CUT THE REPAIR AREAS SO THAT THE CORNERS ARE SQUARE AS INDICATED ON THE DETAILS.  
 CLEAN AND REMOVE DEBRIS FROM THE TOP OF THE CAP AND APPLY EPOXY PROTECTIVE COATING. EPOXY COATING SHALL BE APPLIED TO THE TOP SURFACE OF THE CAP. THE CONTRACTOR SHALL NOT COAT THE AREA OF THE CAP BENEATH THE MASONRY PLATES. FOR EPOXY COATING, SEE SPECIAL PROVISIONS.  
 FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.  
 WHEN COLUMN REPAIRS ARE INDICATED TO GROUND LINE, EXTEND REPAIR ONE (1) FOOT MIN. BELOW GROUND LINE.

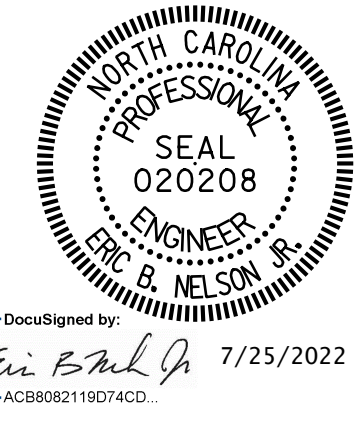
- SHOTCRETE REPAIR
- CONCRETE REPAIR (FORM & POUR)
- ERI - EPOXY RESIN INJECTION

PROJECT NO. I-5889B  
BUNCOMBE COUNTY  
 BRIDGE NO. 100339

SHEET 1 OF 2

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

BENT 2  
 SPAN B SIDE



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*Eric B. Nelson* 7/25/2022  
 AC80821190740D

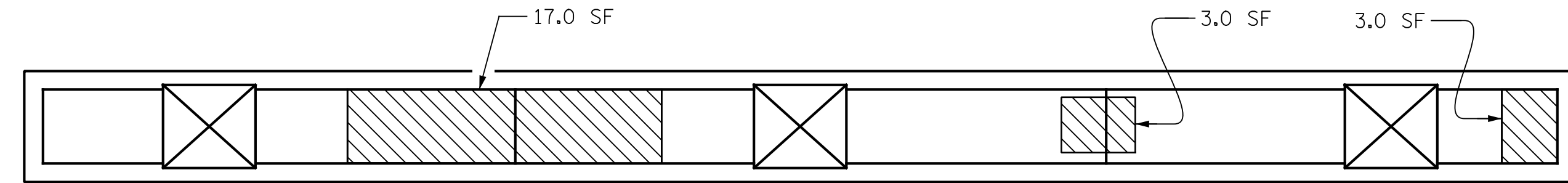


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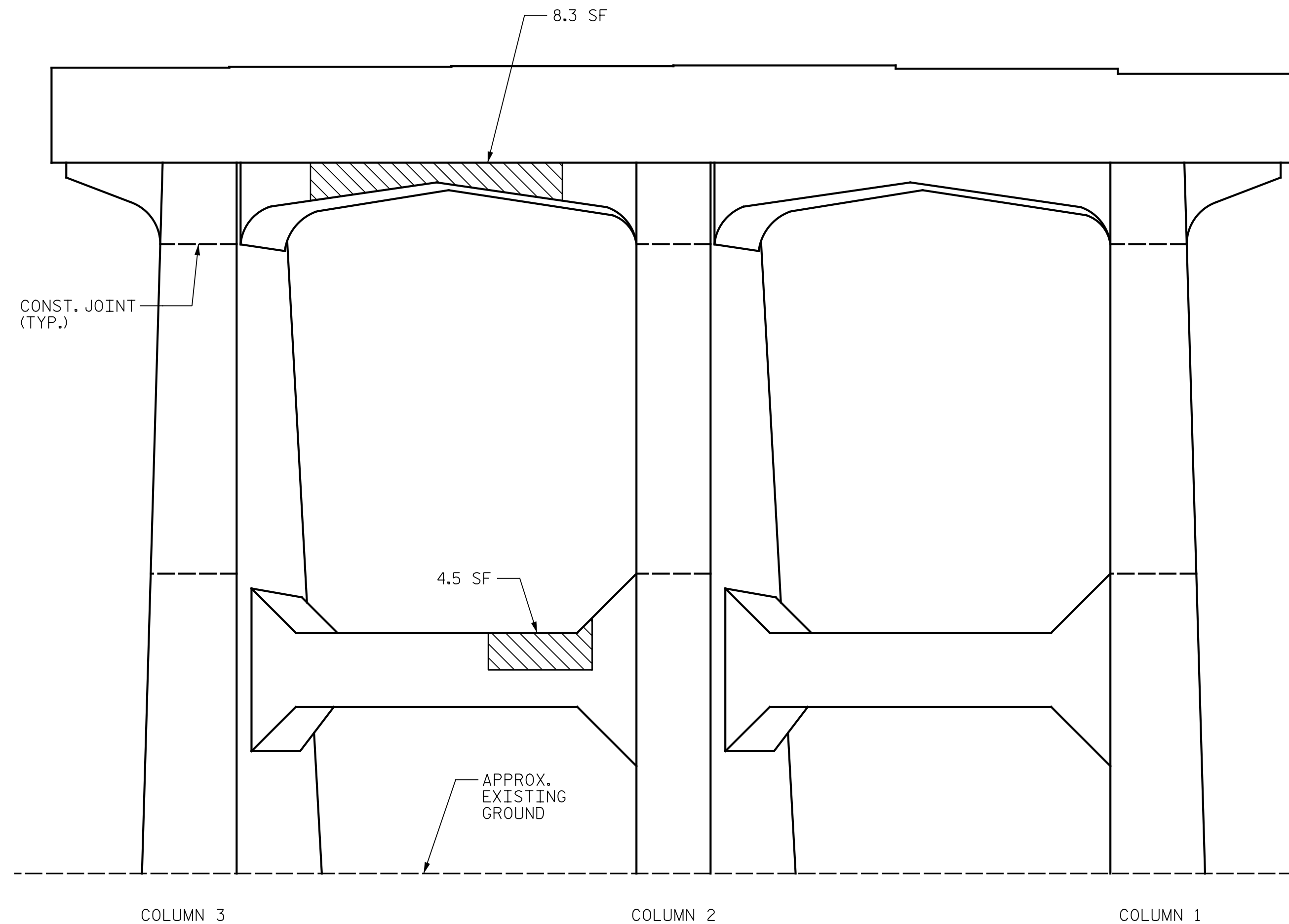
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 CHECKED BY : J. YANNAACONE DATE : 6/2022

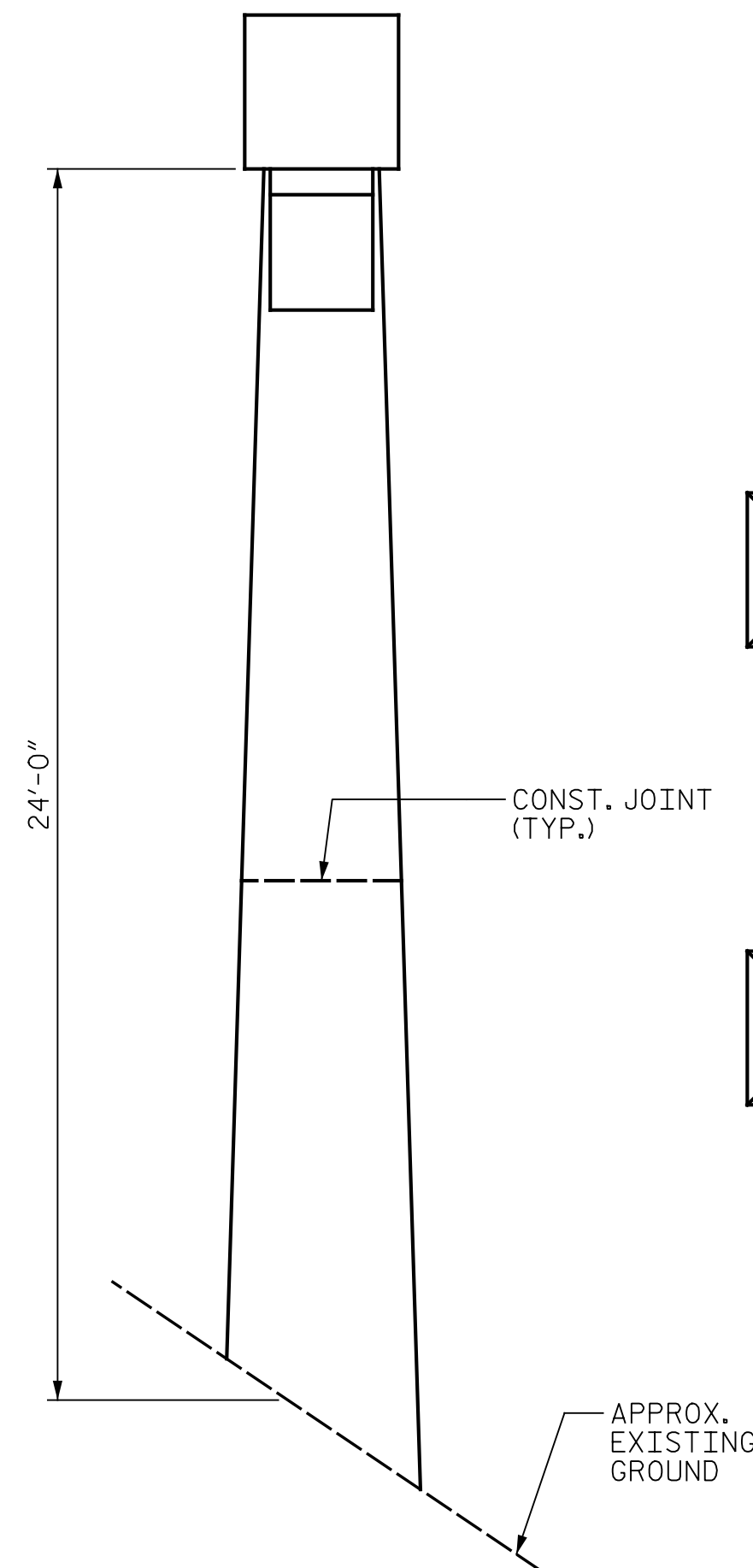
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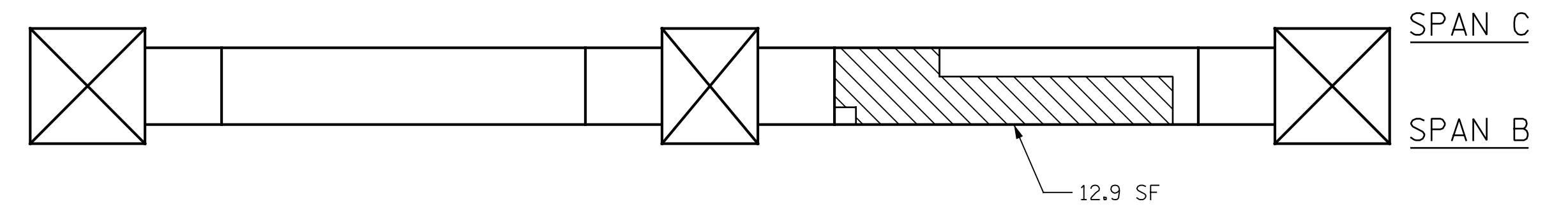
BOTTOM OF CAP



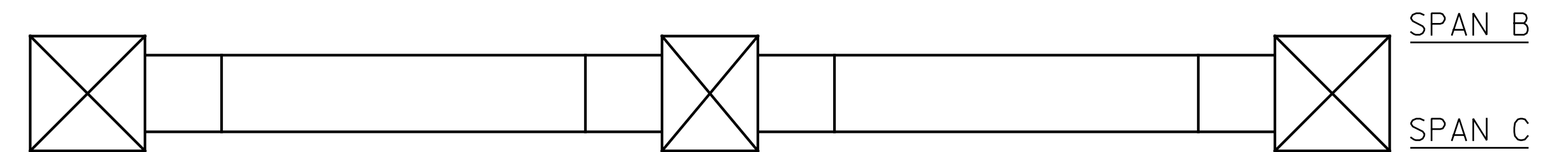
ELEVATION



END VIEW  
(COLUMN 1)



TOP OF STRUT



BOTTOM OF STRUT

**NOTES:**

REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE BASED ON THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER WILL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATIONS AND DESCRIPTION OF THE REPAIRS AND ENTER THE ACTUAL QUANTITIES INTO THE AS-BUILT REPAIR QUANTITY TABLE.

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FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

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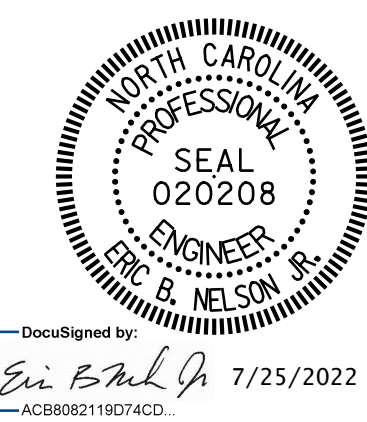
FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

WHEN COLUMN REPAIRS ARE INDICATED TO GROUND LINE, EXTEND REPAIR ONE (1) FOOT MIN. BELOW GROUND LINE.

- SHOTCRETE REPAIR
- CONCRETE REPAIR (FORM & POUR)
- ERI - EPOXY RESIN INJECTION

PROJECT NO. I-5889B  
BUNCOMBE COUNTY  
 BRIDGE NO. 100339

SHEET 2 OF 2



DocuSigned by:  
*Eric B. Nelson* 7/25/2022  
 ACB88921180740D

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**BENT 2  
 SPAN C SIDE**

DRAWN BY : J. MYA DATE : 6/2022  
 CHECKED BY : J. YANACCONO DATE : 6/2022

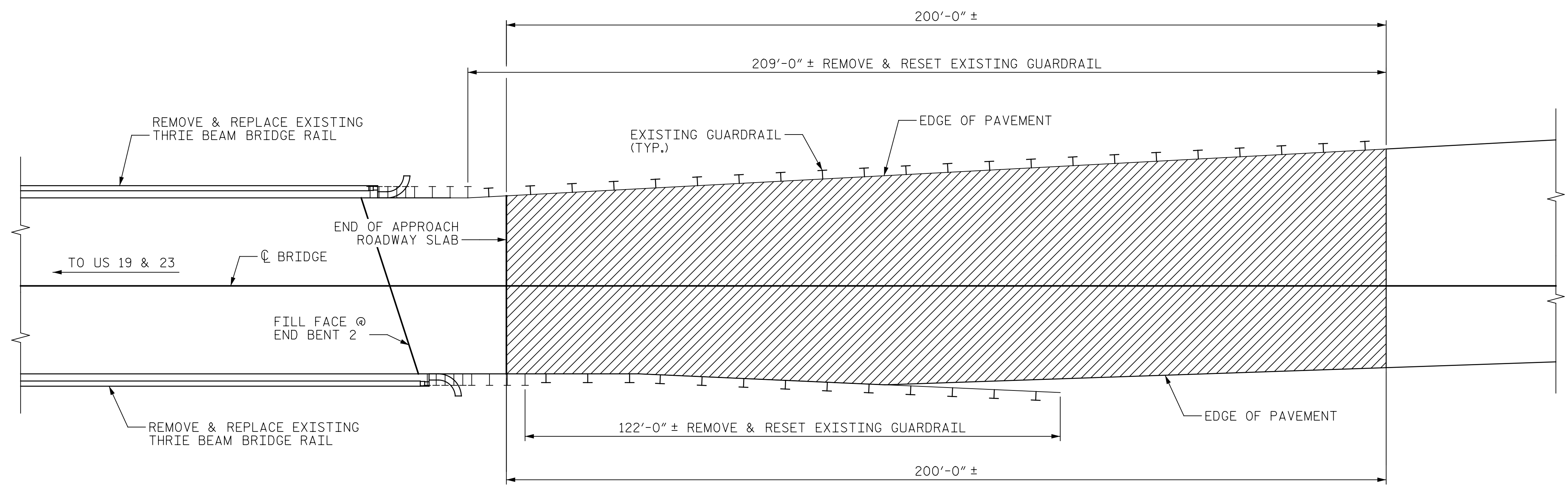


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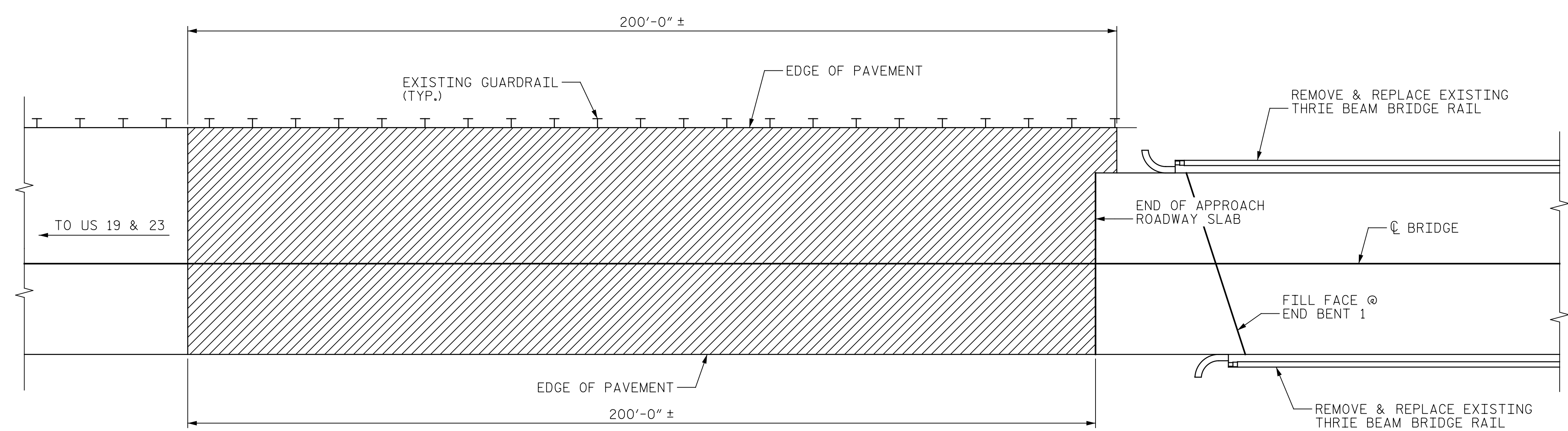
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PLAN  
(APPROACH END)



PLAN  
(EXIT END)

SUMMARY OF QUANTITIES		
DESCRIPTION	ESTIMATE	ACTUAL
FINE MILLING	2160 SY	
REMOVE & RESET EXISTING GUARDRAIL	331 LF	

**NOTES:**  
 FINE MILLING - EXISTING APPROACH ASPHALT PAVEMENT TO BE MILLED AS NECESSARY TO ATTAIN MINIMUM 1 1/2" DEPTH OF NEW ASPHALT PAVEMENT, NEW ASPHALT PAVEMENT SHALL BE OF THICKNESS NECESSARY TO CREATE A SMOOTH TRANSITION BETWEEN THE ROADWAY AND THE BRIDGE NECK, NEW ASPHALT PAVING THICKNESS MAY EXCEED 1 1/2" DUE TO THE SETTLEMENT OF THE EXISTING APPROACH.  
 FOR ADDITIONAL DETAILS ON ASPHALT SURFACE COURSE, REPLACEMENT OF GUARDRAIL AND EROSION CONTROL MEASURES, SEE ROADWAY PLANS.

FINE MILLING

PROJECT NO. I-5889B  
BUNCOMBE COUNTY  
 BRIDGE NO. 100339

SHEET 1 OF 2



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
**APPROACH MILLING  
 AND TYPICAL ROADWAY  
 SECTIONS**

DRAWN BY : L. STARNES/J. MYA DATE : 6/2022  
 CHECKED BY : J. YANACCONO DATE : 6/2022



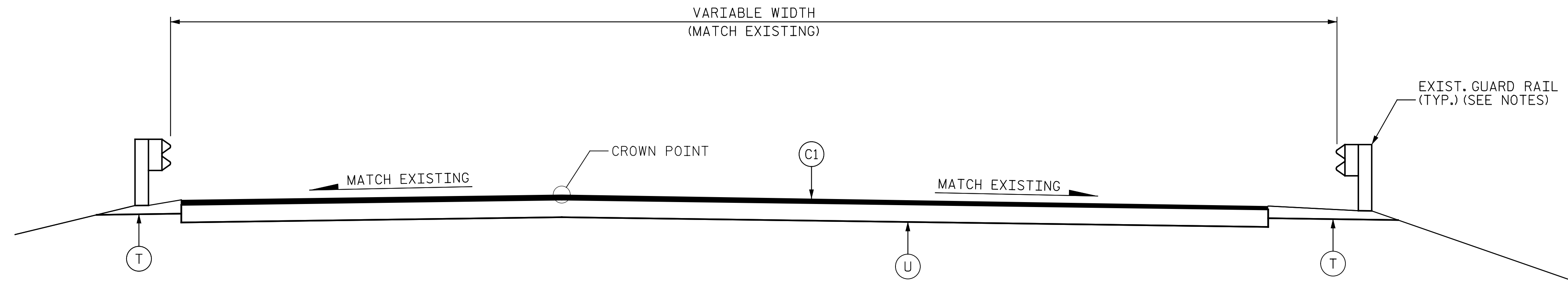
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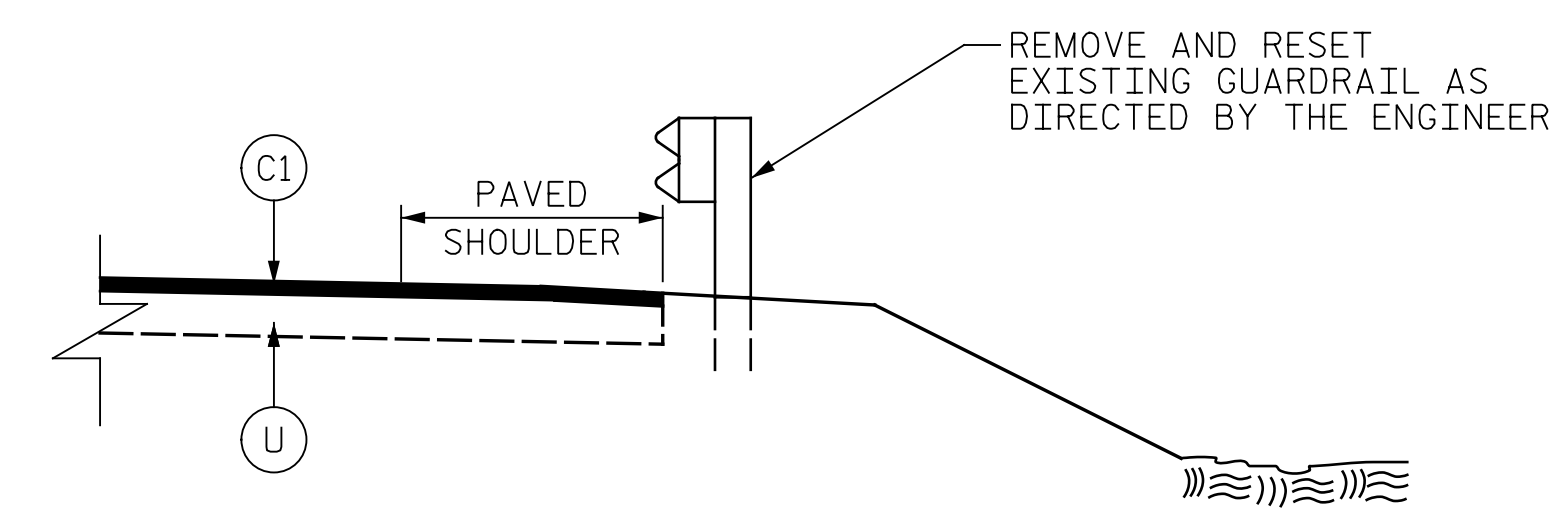
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PAVEMENT SCHEDULE	
C1	PROP. APPROX. 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5D, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
M	FINE MILLING
T	SHOULDER RECONSTRUCTION
U	EXISTING PAVEMENT

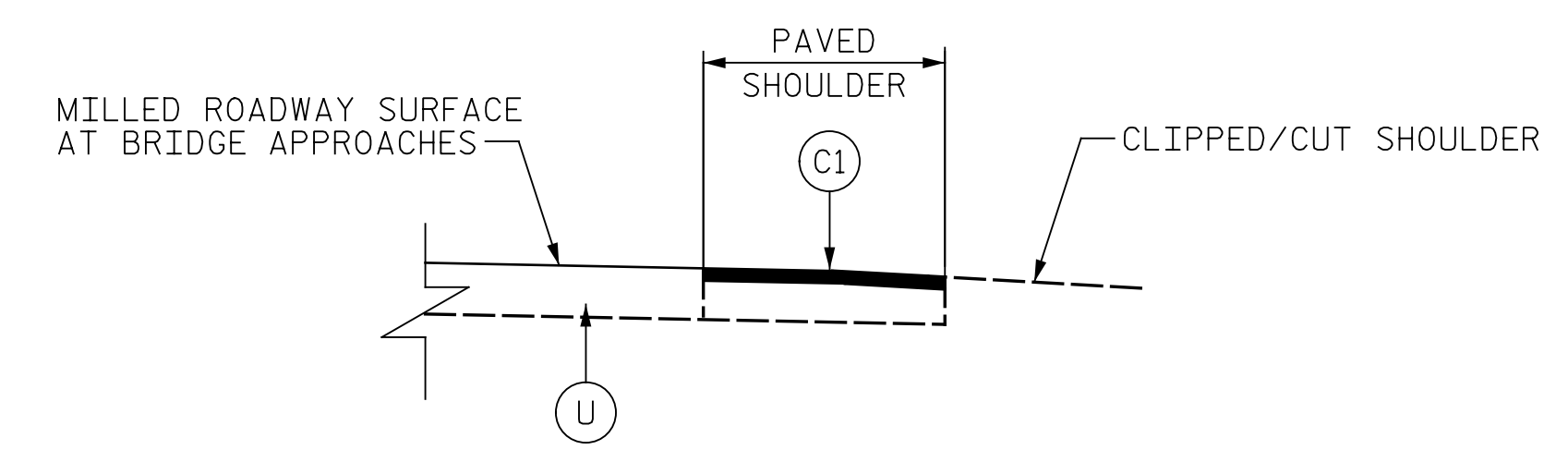
**NOTES:**  
 DETAIL DOES NOT APPLY TO OGAFD AND ULTRA-THIN BONDED WEARING COURSE.  
 BACKFILL SHOULDER WITH APPROVED MATERIAL.  
 REMOVE AND RESET EXISTING GUARDRAIL TO FACILITATE PLACEMENT OF ASPHALT PAVEMENT.  
 FOR ASPHALT CONCRETE SURFACE COURSE AND SHOULDER RECONSTRUCTION, SEE ROADWAY PLANS.



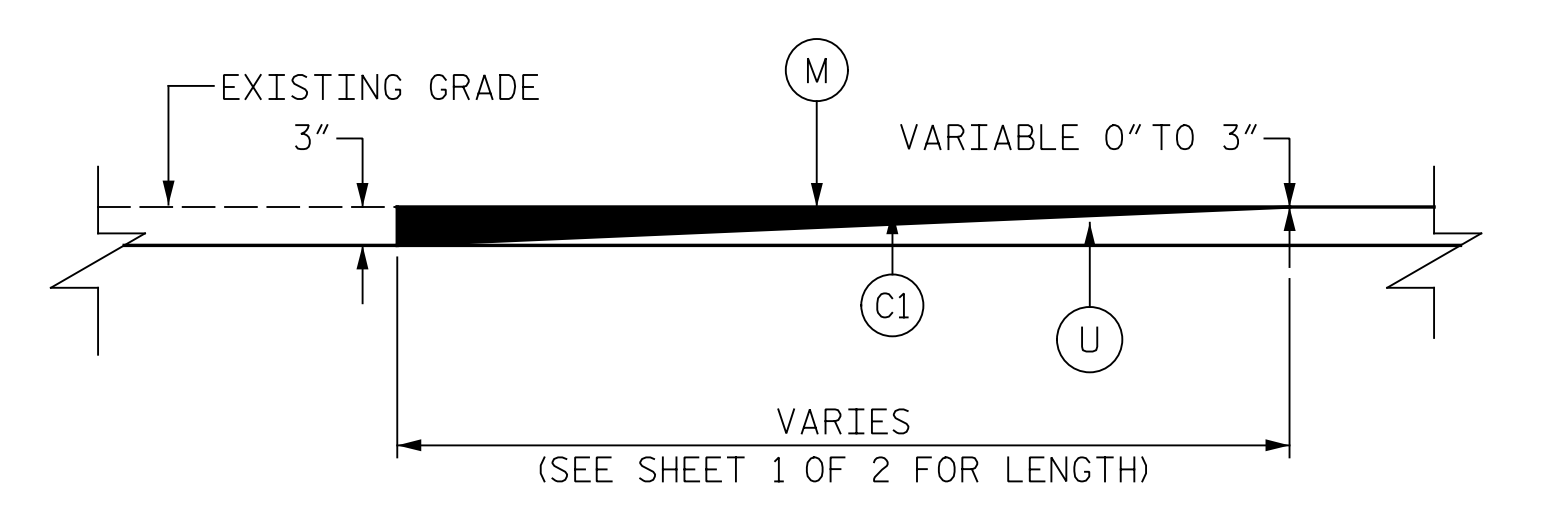
**TYPICAL SECTION**  
 CLIP/CUT/FILL SHOULDERS PER NCDOT STANDARD DRAWING 560.01 & 560.02 BEFORE RE-INSTALLING GUARDRAIL IN AREAS AS DIRECTED BY THE ENGINEER.



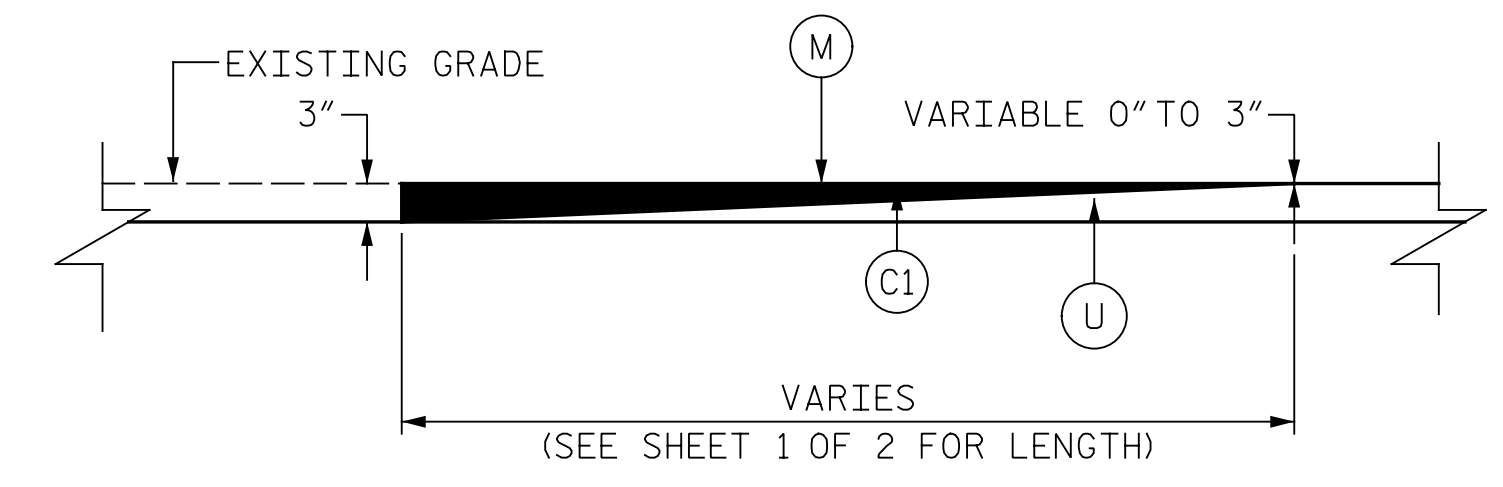
**GUARDRAIL DETAIL**  
 TO BE USED AT VARIOUS LOCATIONS



**SHOULDER DETAIL AT BRIDGE APPROACHES**  
 1. REMOVE PAVED SHOULDER MATERIAL.  
 2. COMPACT SUBGRADE.  
 3. PLACE SURFACE COURSE (S9.5D) ON COMPACTED SUBGRADE UP TO MILLED SURFACE FOR BRIDGE APPROACHES.  
 TYPICAL FOR BOTH SIDES OF ROADWAY.  
 PAYMENT FOR THE REMOVAL OF THE PAVED SHOULDER AND COMPACTION OF THE SUBGRADE IS INCIDENTAL TO THE PLACEMENT OF S9.5D.



**MILLING DETAIL AT BRIDGE APPROACH**



**DETAIL TO TIE INTO EXISTING PAVEMENT**  
 THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE FACT THAT HE WILL BE REQUIRED TO MILL THE EXISTING ASPHALT PAVEMENT TO ENSURE A PROPER TIE-IN WITH THE EXISTING SURFACE AT THE BEGINNING AND END OF EACH MAP TO BE RESURFACED WITH ASPHALT CONC. SURFACE COURSE, TYPE S9.5D.  
 THIS WILL BE PAID FOR AS FINE MILLING.

PROJECT NO. I-5889B  
BUNCOMBE COUNTY  
 BRIDGE NO. 100339  
 SHEET 2 OF 2

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**APPROACH MILLING AND TYPICAL ROADWAY SECTIONS**



DRAWN BY : L. STARNES/J. MYA DATE : 6/2022  
 CHECKED BY : J. YANACCONO DATE : 6/2022

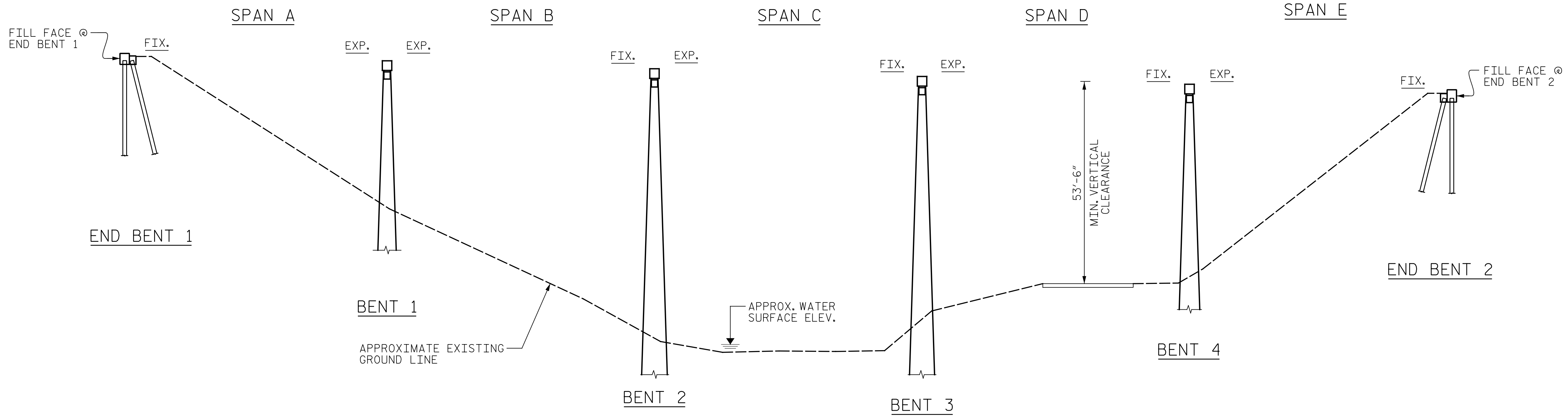


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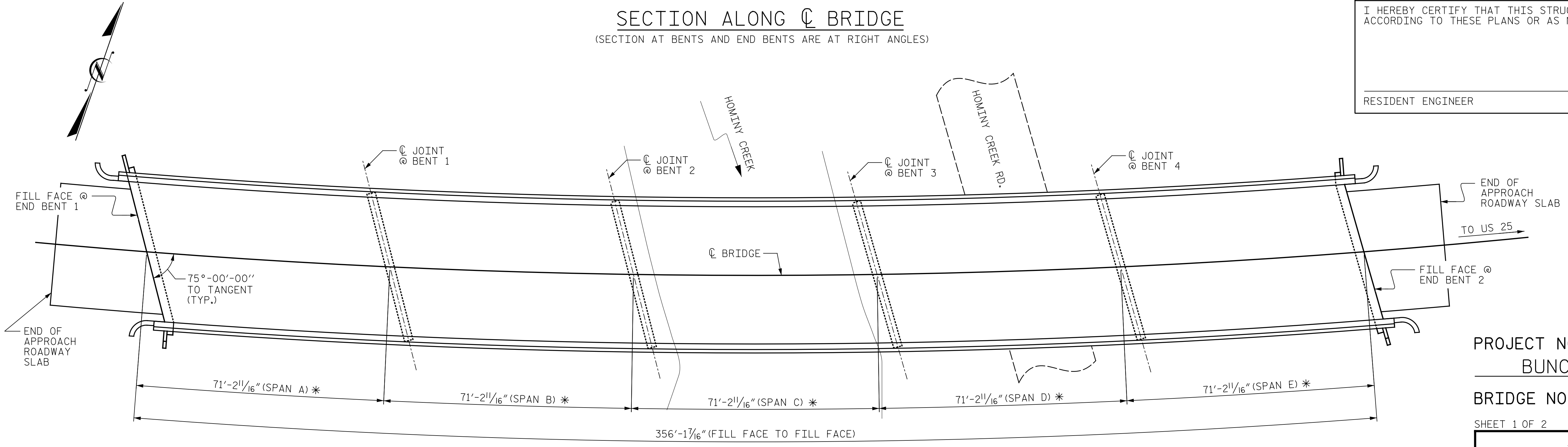
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**SECTION ALONG Q BRIDGE**  
 (SECTION AT BENTS AND END BENTS ARE AT RIGHT ANGLES)



**PLAN**  
 (PILES NOT SHOWN FOR CLARITY)

\* DIMENSIONS MEASURED ALONG ARC

**NOTE:**  
 GENERAL DRAWING INFORMATION IS TAKEN FROM THE ORIGINAL PLANS AND THE ROUTINE INSPECTION REPORT DATED 10/18/2019.  
 BRIDGE ORIENTATION CONFORMS TO THE EXISTING BRIDGE PLANS AND ROUTINE INSPECTION REPORT.

- SCOPE OF WORK**
- REMOVE ASPHALT WEARING SURFACE AND PARTIALLY REMOVE TOP OF BRIDGE DECK CONCRETE BY FINE MILLING AND HYDRO-DEMOLITION.
  - OVERLAY PREPARED TOP OF BRIDGE DECK WITH VERY EARLY STRENGTH LATEX MODIFIED CONCRETE (LMC-VES).
  - REMOVE EXISTING JOINT MATERIAL AND INSTALL FOAM JOINTS.
  - GROOVE LMC-VES BRIDGE DECK.
  - REMOVE AND REPLACE EXISTING TUBULAR TRIPLE CORRUGATED STEEL BEAM BRIDGE RAIL.
  - REMOVE AND REPLACE EXISTING STEEL BEAM GUARDRAIL AND GUARDRAIL ANCHOR UNITS.
  - MILL AND REPAVE ASPHALT APPROACH ROADWAYS.
  - REMOVE DEBRIS FROM TOP OF EXISTING BENT CAPS AND APPLY EPOXY COATING.
  - EPOXY RESIN INJECTION OF CONCRETE CRACKS.
  - REMOVE UNSOUND CONCRETE AND PROPERLY PREPARE EXISTING END BENT AND BENT AREAS FOR SHOTCRETE AND CONCRETE REPAIRS.

I HEREBY CERTIFY THAT THIS STRUCTURE WAS REHABILITATED ACCORDING TO THESE PLANS OR AS NOTED HEREIN.

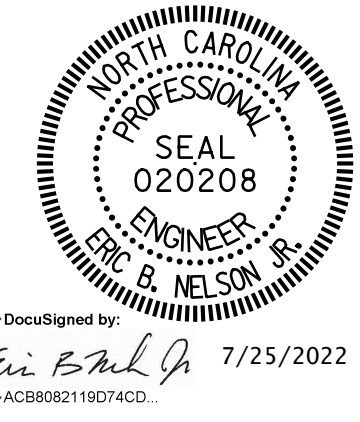
RESIDENT ENGINEER \_\_\_\_\_ DATE \_\_\_\_\_

PROJECT NO. I-5889B  
BUNCOMBE COUNTY  
 BRIDGE NO. 100344

SHEET 1 OF 2

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

GENERAL DRAWING  
 FOR BRIDGE ON I-40 EBL OVER  
 SR 3620 (HOMINY CREEK ROAD)  
 AND HOMINY CREEK



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 CHECKED BY : J. YANNACCONE DATE : 6/2022

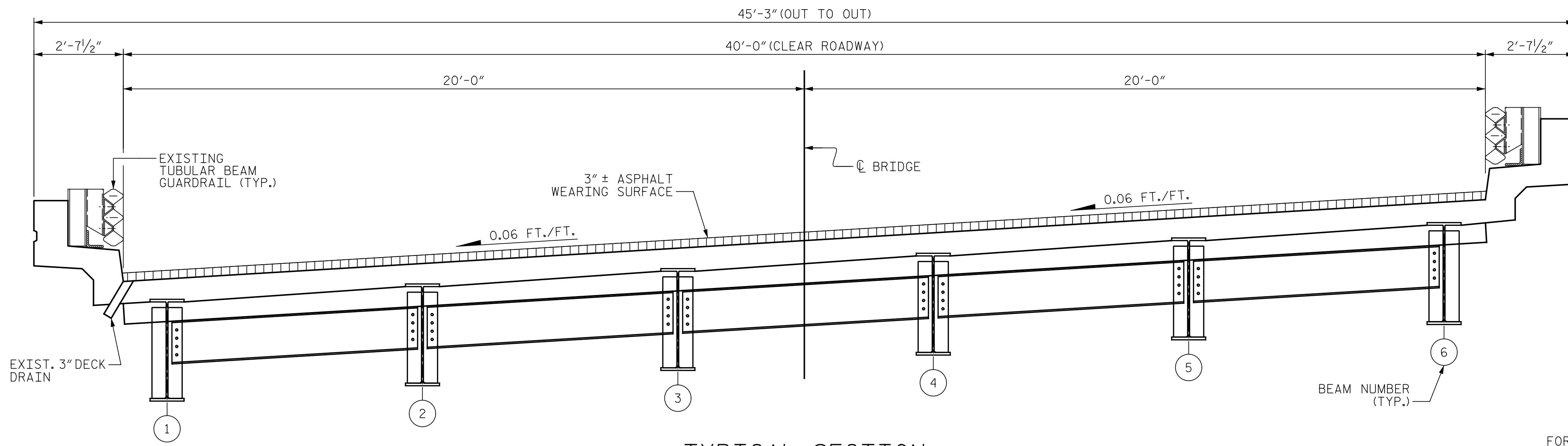
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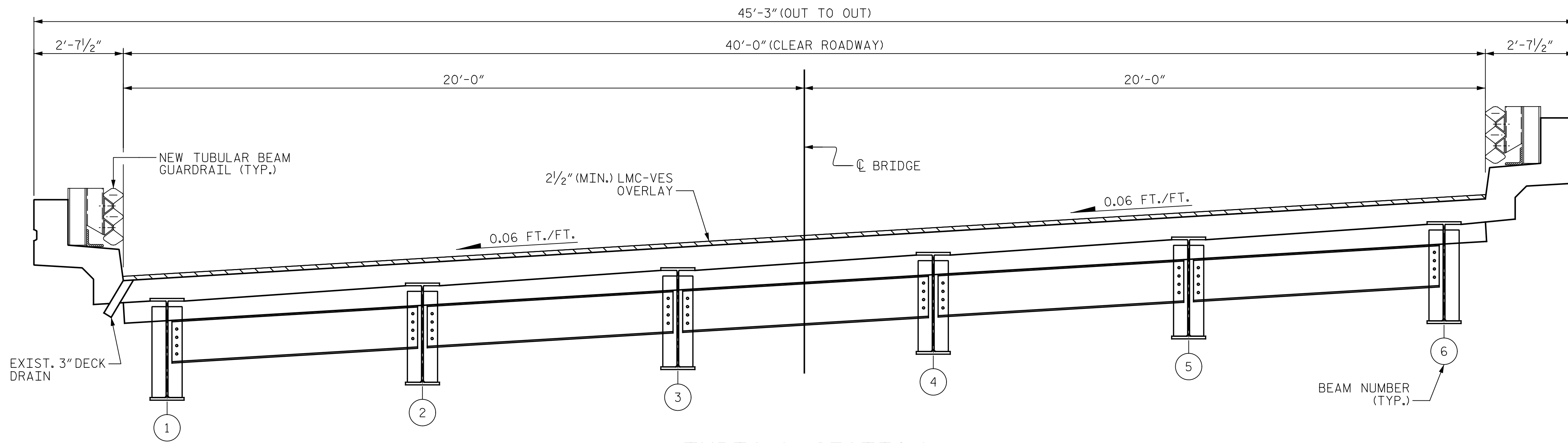




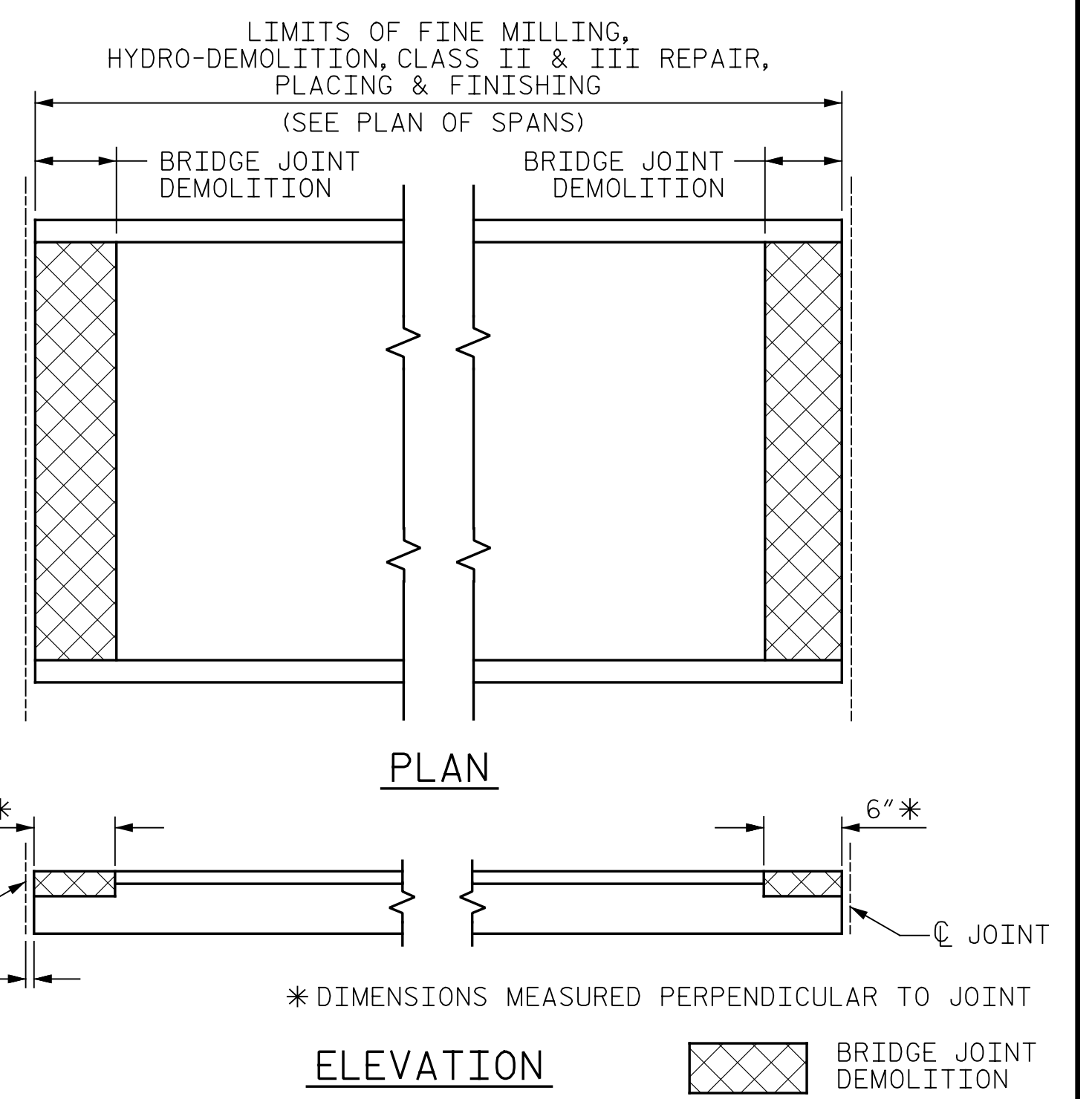
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**TYPICAL SECTION**  
(EXISTING)

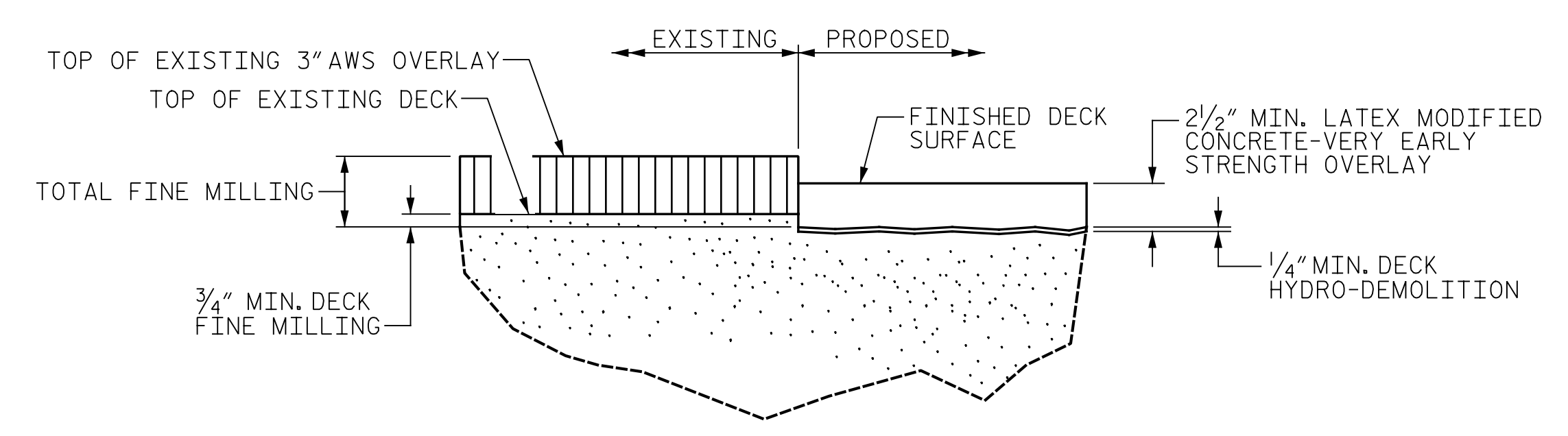


**TYPICAL SECTION**  
(PROPOSED)

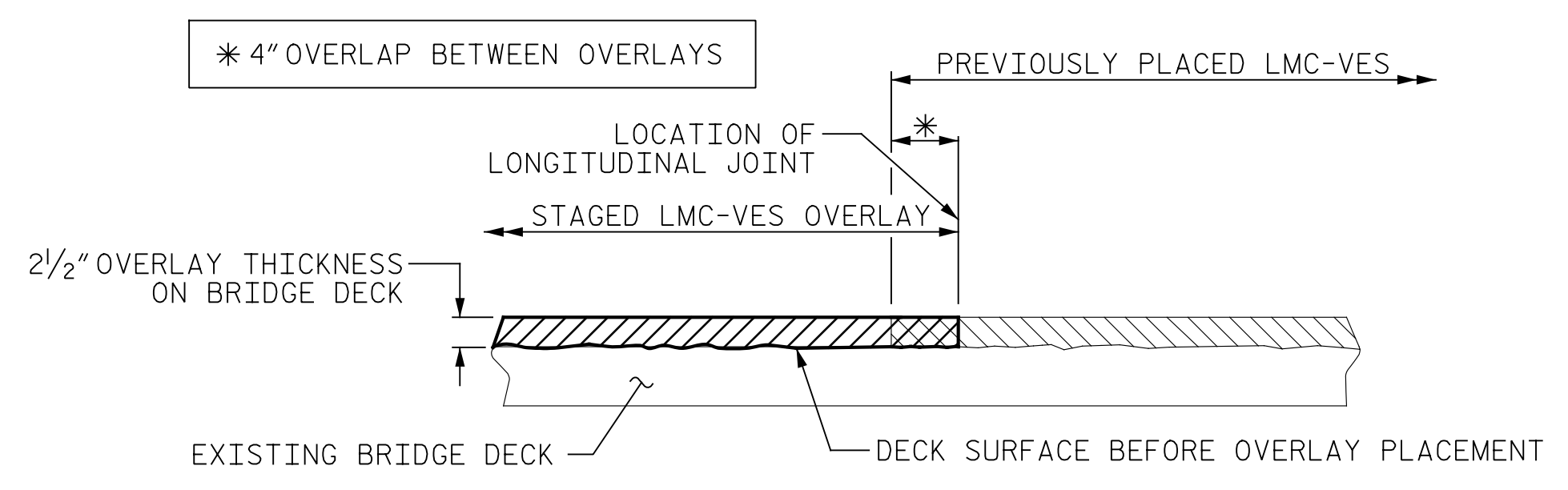


**PAY LIMITS FOR OVERLAY BID ITEMS**

**NOTES:**  
 SEE TRAFFIC MANAGEMENT PLANS FOR LANE WIDTHS, SEQUENCING, AND OTHER TRAFFIC CONTROL MEASURES FOR STAGING OF OVERLAY SURFACE PREPARATION AND LMC PLACEMENT.  
 WHEN PREPARING THE SURFACE FOR LMC-VES OVERLAY ADJACENT TO A PREVIOUSLY PLACED LMC-VES STAGE, THE PREVIOUSLY PLACED LMC-VES SHALL BE REMOVED FOR A DISTANCE OF 4 INCHES FROM THE LMC-VES EDGE. THE SURFACE OF THE NEW STAGE AREA, ALONG WITH THE 4 INCH OVERLAY AREA, SHALL BE PREPARED AS PER THE OVERLAY SURFACE PREPARATION SPECIAL PROVISIONS. NEW LMC-VES SHALL BE PLACED IN THE 4-INCH OVERLAP, AS PART OF THE NEW LMC-VES STAGE PLACEMENT.

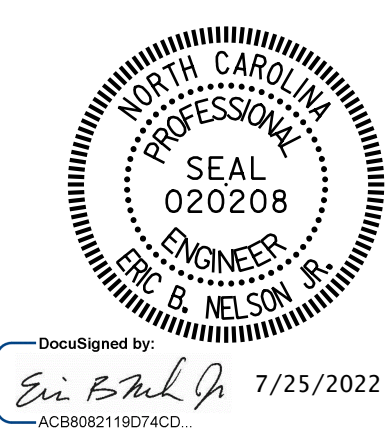


**DETAIL FOR LMC-VES OVERLAY**



**SECTION THRU DECK**  
**STAGED LMC-VES OVERLAY JOINT**

PROJECT NO. I-5889B  
BUNCOMBE COUNTY  
 BRIDGE NO. 100344



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
**TYPICAL SECTION AND SURFACE PREPARATION DETAILS**

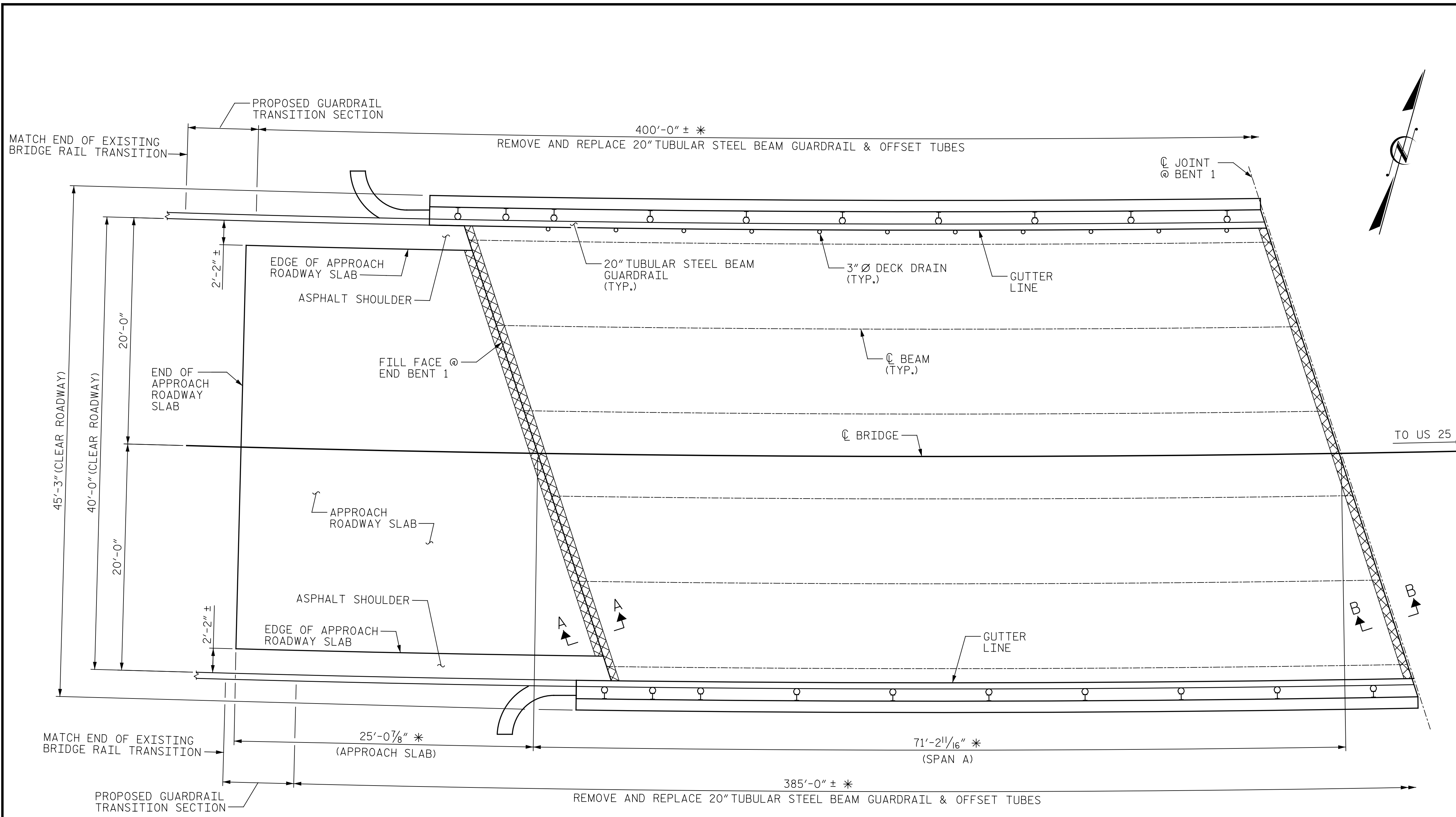
DRAWN BY: M. LEE/J. MYA DATE: 6/2022  
 CHECKED BY: J. YANACCONO DATE: 6/2022



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**NOTES:**

REPAIR LOCATIONS AND ESTIMATED QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER WILL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATIONS AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITY TABLE.

CONCRETE COVER FOR TOP BARS IN THE DECK SLAB IS 1 1/8\"/>

FOR SECTION A-A AND B-B, SEE "JOINT DETAILS" SHEET.

FOR FINE MILLING, SEE SPECIAL PROVISIONS.

THE CONTRACTOR SHALL REMOVE AND REPLACE THE 20\"/>

FOR DIMENSIONS OF TUBULAR BEAM GUARDRAIL, POST AND TUBES, SEE "TUBULAR BEAM GUARDRAIL DETAILS" SHEET.

BRIDGE RAIL QUANTITIES (FOR ENTIRE BRIDGE)	
REMOVE 20\"/>	805 LF
20\"/>	785 LF
REMOVE AND REPLACE W 6X9 POSTS	1 EA
W-TR STEEL BEAM GUARDRAIL TRANSITION SECTIONS	3 EA

- BRIDGE JOINT DEMOLITION
- APPROX. CLASS II SURFACE PREPARATION
- APPROX. CLASS III SURFACE PREPARATION
- UNDERSIDE OF DECK/OVERHANG REPAIR
- ERI EPOXY RESIN INJECTION

**APPROACH SLAB @ END BENT 1**

**SPAN A**

\* DIMENSIONS MEASURED ALONG ARC

REPAIR QUANTITY TABLE	UNDERSIDE OF DECK REPAIR								
	TOP OF DECK REPAIR		APPROACH SLAB 1		SPAN A		SHOTCRETE REPAIR		
	ESTIMATE	ACTUAL	ESTIMATE	ACTUAL	ESTIMATE	ACTUAL	ESTIMATE	ACTUAL	
FINE MILLING	97 SY		314 SY		UNDERSIDE OF DECK	0.0	0.0		
HYDRO-DEMOLITION OF BRIDGE DECK	97 SY		314 SY		OVERHANG DIAPHRAGMS	0.0	0.0		
CLASS II SURFACE PREPARATION	0.0 SY		0.0 SY		UNDERSIDE OF OVERHANG	0.0	0.0		
CLASS III SURFACE PREPARATION	0.0 SY		0.0 SY		INTERIOR DIAPHRAGMS	0.0	0.0		
LATEX MODIFIED CONCRETE - VES OVERLAY	7.6 CY		23.5 CY						
PLACING & FINISHING LMC - VES OVERLAY	97 SY		314 SY						
BRIDGE JOINT DEMOLITION	19 SF		41 SF						
GROOVING BRIDGE FLOORS	846 SF		2649 SF		UNDERSIDE EPOXY RESIN INJECTION	0.0 LF			

VALUES IN CHART REPRESENT ESTIMATED UNDERSIDE OF DECK REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MINIMUM OF 1\"/>

PAYMENT FOR CLASS II AND CLASS III SURFACE PREPARATION IS BASED ON THE SQUARE YARDS OF ADDITIONAL DEMOLITION REQUIRED FOLLOWING HYDRO-DEMOLITION OF THE BRIDGE DECK. SEE "OVERLAY SURFACE PREPARATION" SPECIAL PROVISION.

PROJECT NO. I-5889B  
BUNCOMBE COUNTY  
 BRIDGE NO. 100344

SHEET 1 OF 5



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
**PLAN OF SPANS  
 SPAN A AND  
 APPROACH SLAB**

DRAWN BY: J. MYA DATE: 6/2022  
 CHECKED BY: J. YANACCONO DATE: 6/2022

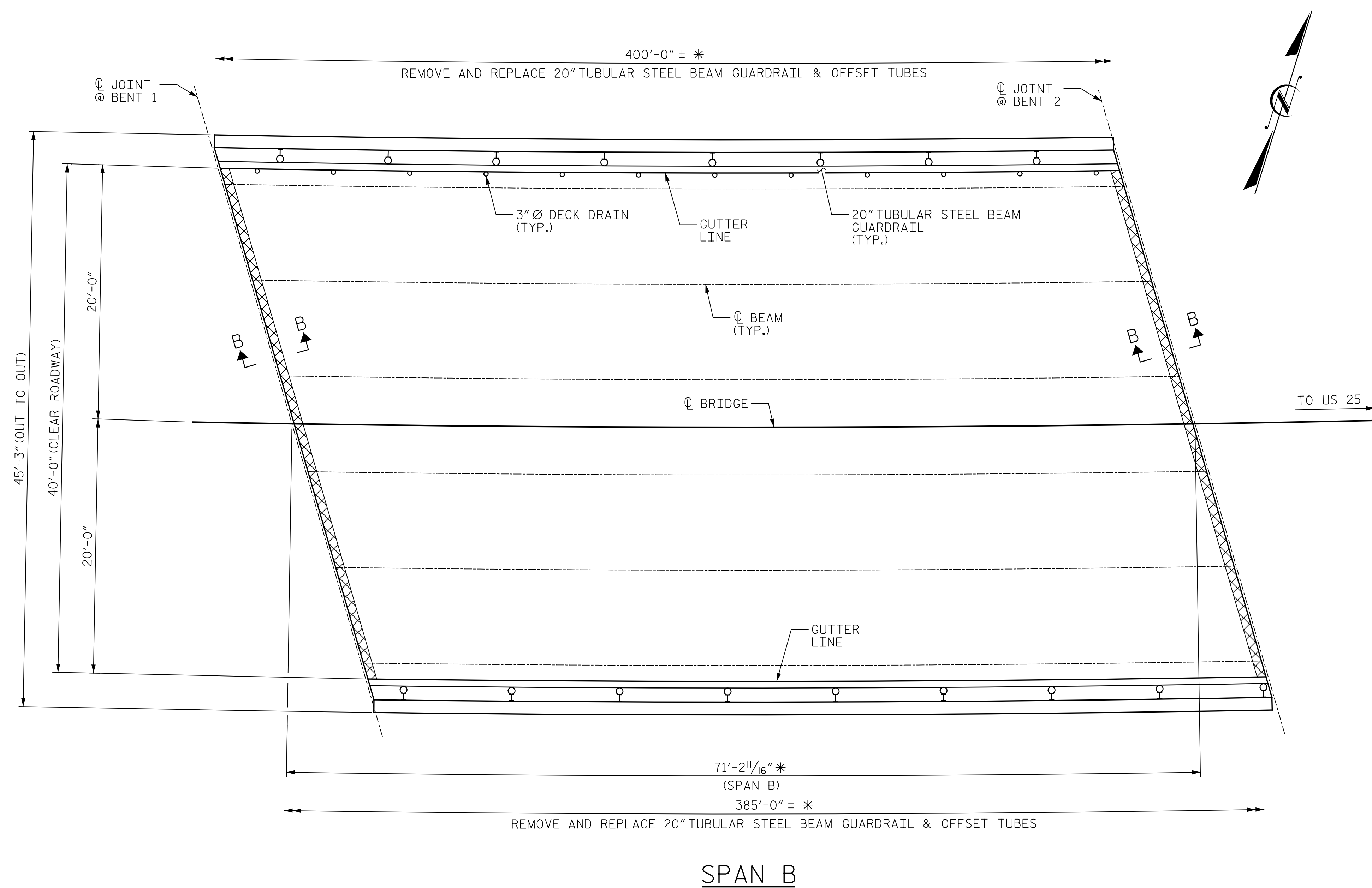


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\* DIMENSIONS MEASURED ALONG ARC

### SPAN B

#### NOTES:

- REPAIR LOCATIONS AND ESTIMATED QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER WILL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATIONS AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITY TABLE.
- CONCRETE COVER FOR TOP BARS IN THE DECK SLAB IS 1 7/16" PER THE EXISTING BRIDGE PLANS.
- FOR SECTION B-B, SEE "JOINT DETAILS" SHEET.
- FOR FINE MILLING, SEE SPECIAL PROVISIONS.
- THE CONTRACTOR SHALL REMOVE AND REPLACE THE 20" TUBULAR STEEL BEAM GUARDRAIL. THE ENGINEER WILL SELECT THOSE SECTIONS OF THE EXISTING GUARDRAIL SUITABLE FOR FUTURE USE AND TRANSPORT THEM TO A STOCKPILE FOR THE USE OF THE DEPARTMENT. THE REMAINING GUARDRAIL SECTIONS SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE PROJECT.
- FOR DIMENSIONS OF TUBULAR BEAM GUARDRAIL, POSTS AND TUBES, SEE "TUBULAR BEAM GUARDRAIL DETAILS" SHEET.

DRAWN BY : M. LEE/J. MYA DATE : 6/2022  
 CHECKED BY : J. YANNAACONE DATE : 6/2022

REPAIR QUANTITY TABLE			
TOP OF DECK REPAIR			
	ESTIMATE	ACTUAL	
FINE MILLING	312 SY		
HYDRO-DEMOLITION OF BRIDGE DECK	312 SY		
CLASS II SURFACE PREPARATION	0.0 SY		
CLASS III SURFACE PREPARATION	0.0 SY		
LATEX MODIFIED CONCRETE - VES OVERLAY	23.3 CY		
PLACING & FINISHING LMC - VES OVERLAY	312 SY		
BRIDGE JOINT DEMOLITION	41 SF		
GROOVING BRIDGE FLOORS	2649 SF		
UNDERSIDE OF DECK REPAIR			
SHOTCRETE REPAIRS	ESTIMATE	ACTUAL	
	AREA SF	VOLUME CF	AREA SF
UNDERSIDE OF DECK	0.0	0.0	
OVERHANG DIAPHRAGMS	0.0	0.0	
UNDERSIDE OF OVERHANG	0.0	0.0	
INTERIOR DIAPHRAGMS	0.0	0.0	
	ESTIMATE	ACTUAL	
UNDERSIDE EPOXY RESIN INJECTION	0.0 LF		

VALUES IN CHART REPRESENT ESTIMATED UNDERSIDE OF DECK REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MINIMUM OF 1" BEHIND REBAR AND MINIMUM 2" CLEAR TO SAWCUT. FOR REPAIR DETAILS, SEE "OVERHANG UNDERSIDE REPAIR DETAILS" SHEET.

PAYMENT FOR CLASS II AND CLASS III SURFACE PREPARATION IS BASED ON THE SQUARE YARDS OF ADDITIONAL DEMOLITION REQUIRED FOLLOWING HYDRO-DEMOLITION OF THE BRIDGE DECK. SEE "OVERLAY SURFACE PREPARATION" SPECIAL PROVISION.

- BRIDGE JOINT DEMOLITION
- APPROX. CLASS II SURFACE PREPARATION
- APPROX. CLASS III SURFACE PREPARATION
- UNDERSIDE OF DECK/OVERHANG REPAIR
- ERI EPOXY RESIN INJECTION

PROJECT NO. I-5889B  
BUNCOMBE COUNTY  
 BRIDGE NO. 100344

SHEET 2 OF 5

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

### PLAN OF SPANS SPAN B



DocuSigned by  
 Eric B. Nelson 7/25/2022  
 AC88092119574CD



One Glenwood Avenue  
 Suite 900  
 Raleigh, NC 27603  
 919-420-7660  
 NC Lic. No. F-0270

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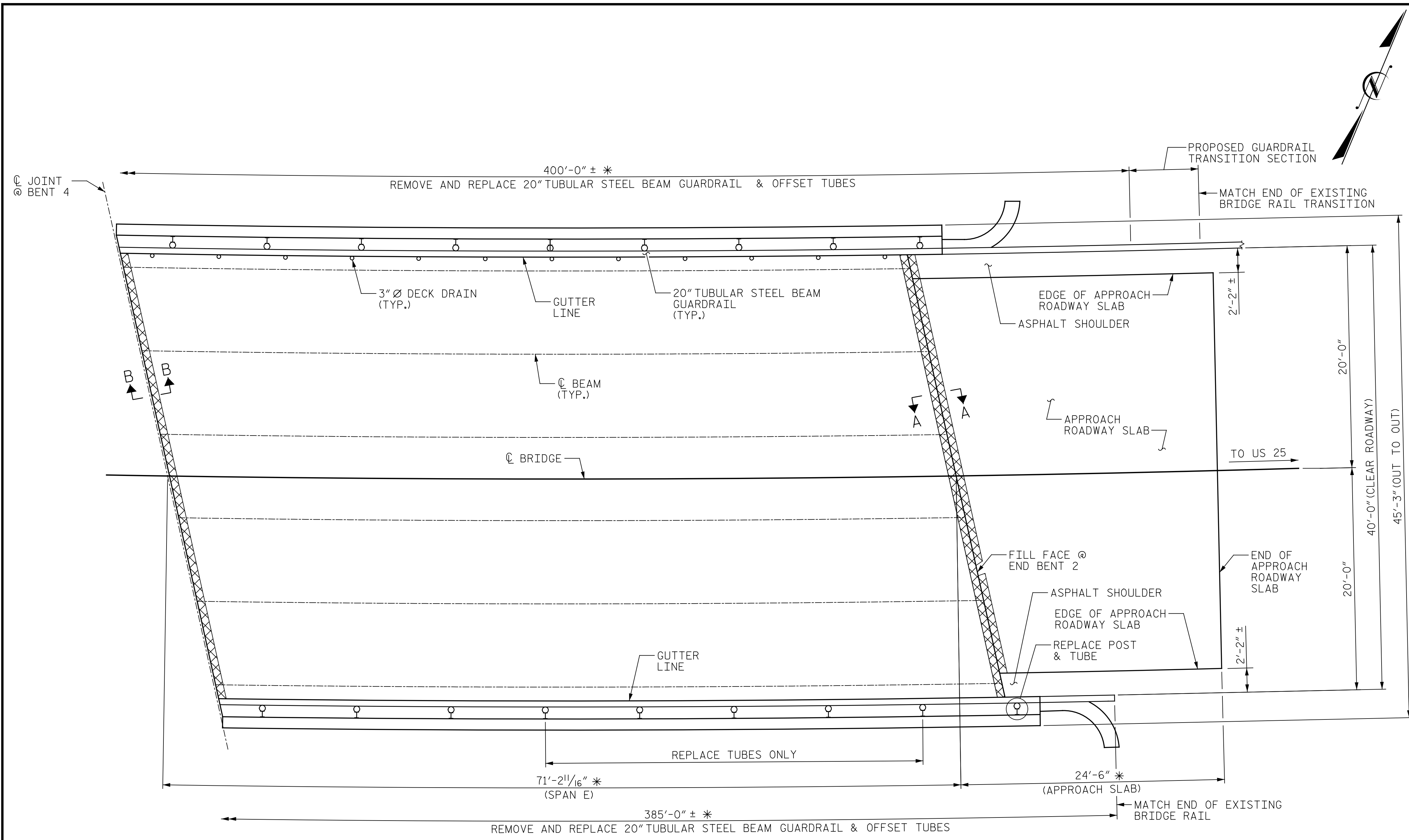
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**NOTES:**

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CONCRETE COVER FOR TOP BARS IN THE DECK SLAB IS 1 1/16" PER THE EXISTING BRIDGE PLANS.

FOR SECTION A-A AND B-B, SEE "JOINT DETAILS" SHEET.

FOR FINE MILLING, SEE SPECIAL PROVISIONS.

THE CONTRACTOR SHALL REMOVE AND REPLACE THE 20" TUBULAR STEEL BEAM GUARDRAIL. THE ENGINEER WILL SELECT THOSE SECTIONS OF THE EXISTING GUARDRAIL SUITABLE FOR FUTURE USE AND TRANSPORT THEM TO A STOCKPILE FOR THE USE OF THE DEPARTMENT. THE REMAINING GUARDRAIL SECTIONS SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE PROJECT.

FOR DIMENSIONS OF TUBULAR BEAM GUARDRAIL, POST AND TUBES, SEE "TUBULAR BEAM GUARDRAIL DETAILS" SHEET.

**SPAN E**

**APPROACH SLAB @ END BENT 2**

\* DIMENSIONS MEASURED ALONG ARC

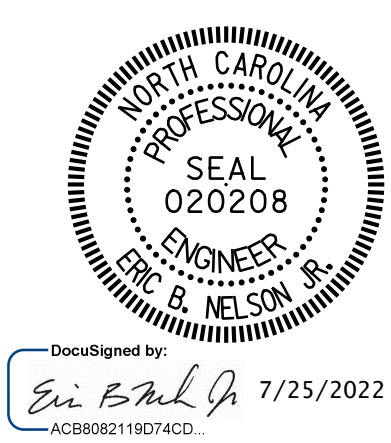
REPAIR QUANTITY TABLE					UNDERSIDE OF DECK REPAIR				
TOP OF DECK REPAIR	SPAN A		APPROACH SLAB 2		SHOTCRETE REPAIR	ESTIMATE		ACTUAL	
	ESTIMATE	ACTUAL	ESTIMATE	ACTUAL		AREA SF	VOLUMN CF	AREA SF	VOLUMN CF
FINE MILLING	314 SY		95 SY		UNDERSIDE OF DECK	0.0	0.0		
HYDRO-DEMOLITION OF BRIDGE DECK	314 SY		95 SY		OVERHANG DIAPHRAGMS	0.0	0.0		
CLASS II SURFACE PREPARATION	0.0 SY		0.0 SY		UNDERSIDE OF OVERHANG	0.0	0.0		
CLASS III SURFACE PREPARATION	0.0 SY		0.0 SY		INTERIOR DIAPHRAGMS	0.0	0.0		
LATEX MODIFIED CONCRETE - VES OVERLAY	23.5 CY		7.1 CY					ESTIMATE	ACTUAL
PLACING & FINISHING LMC - VES OVERLAY	314 SY		95 SY						
BRIDGE JOINT DEMOLITION	41 SF		19 SF		UNDERSIDE EPOXY RESIN INJECTION	0.0 LF			
GROOVING BRIDGE FLOORS	2649 SF		832 SF						

VALUES IN CHART REPRESENT ESTIMATED UNDERSIDE OF DECK REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MINIMUM OF 1" BEHIND REBAR AND MINIMUM 2" CLEAR TO SAWCUT. FOR REPAIR DETAILS, SEE "OVERHANG UNDERSIDE REPAIR DETAILS" SHEET.

PAYMENT FOR CLASS II AND CLASS III SURFACE PREPARATION IS BASED ON THE SQUARE YARDS OF ADDITIONAL DEMOLITION REQUIRED FOLLOWING HYDRO-DEMOLITION OF THE BRIDGE DECK. SEE "OVERLAY SURFACE PREPARATION" SPECIAL PROVISION.

PROJECT NO. I-5889B  
BUNCOMBE COUNTY  
 BRIDGE NO. 100344

SHEET 5 OF 5



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**PLAN OF SPANS  
 SPAN E AND  
 APPROACH SLAB**

DRAWN BY: M. LEE/J. MYA DATE: 6/2022  
 CHECKED BY: J. YANACCONO DATE: 6/2022

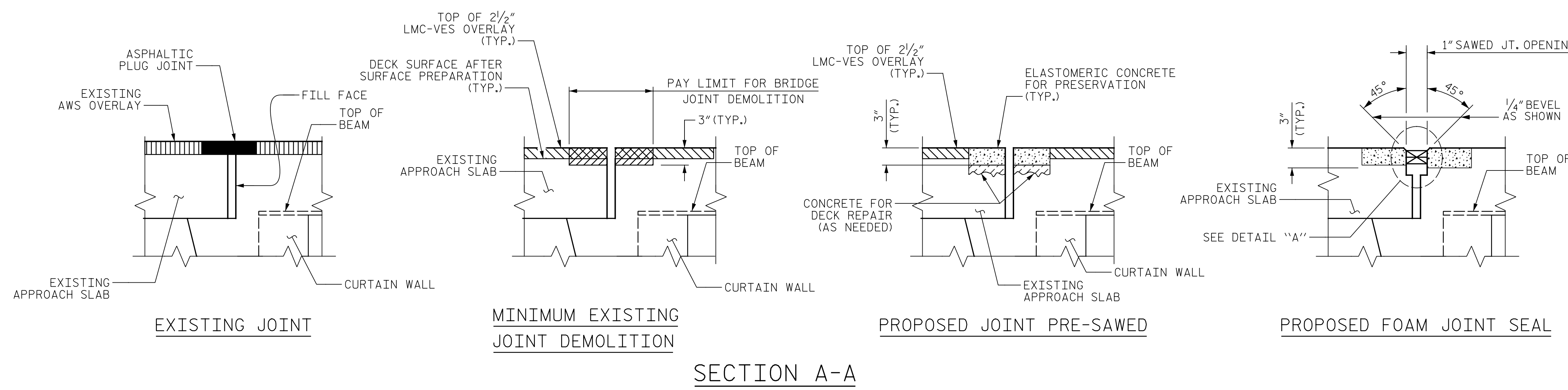


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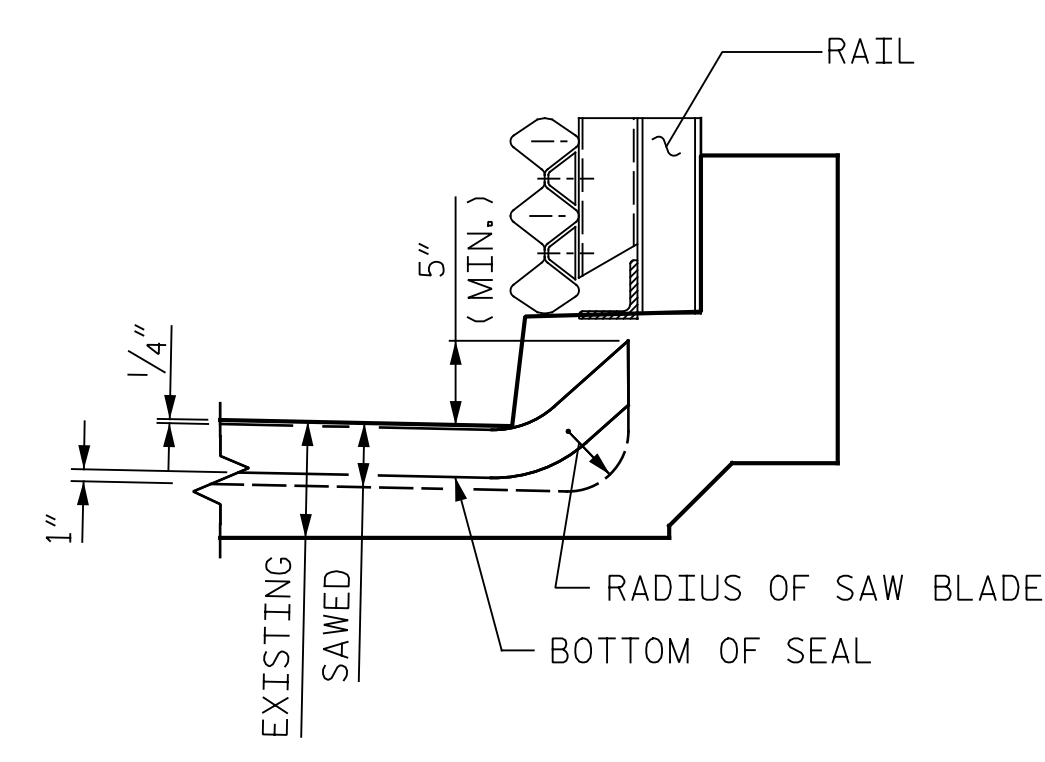
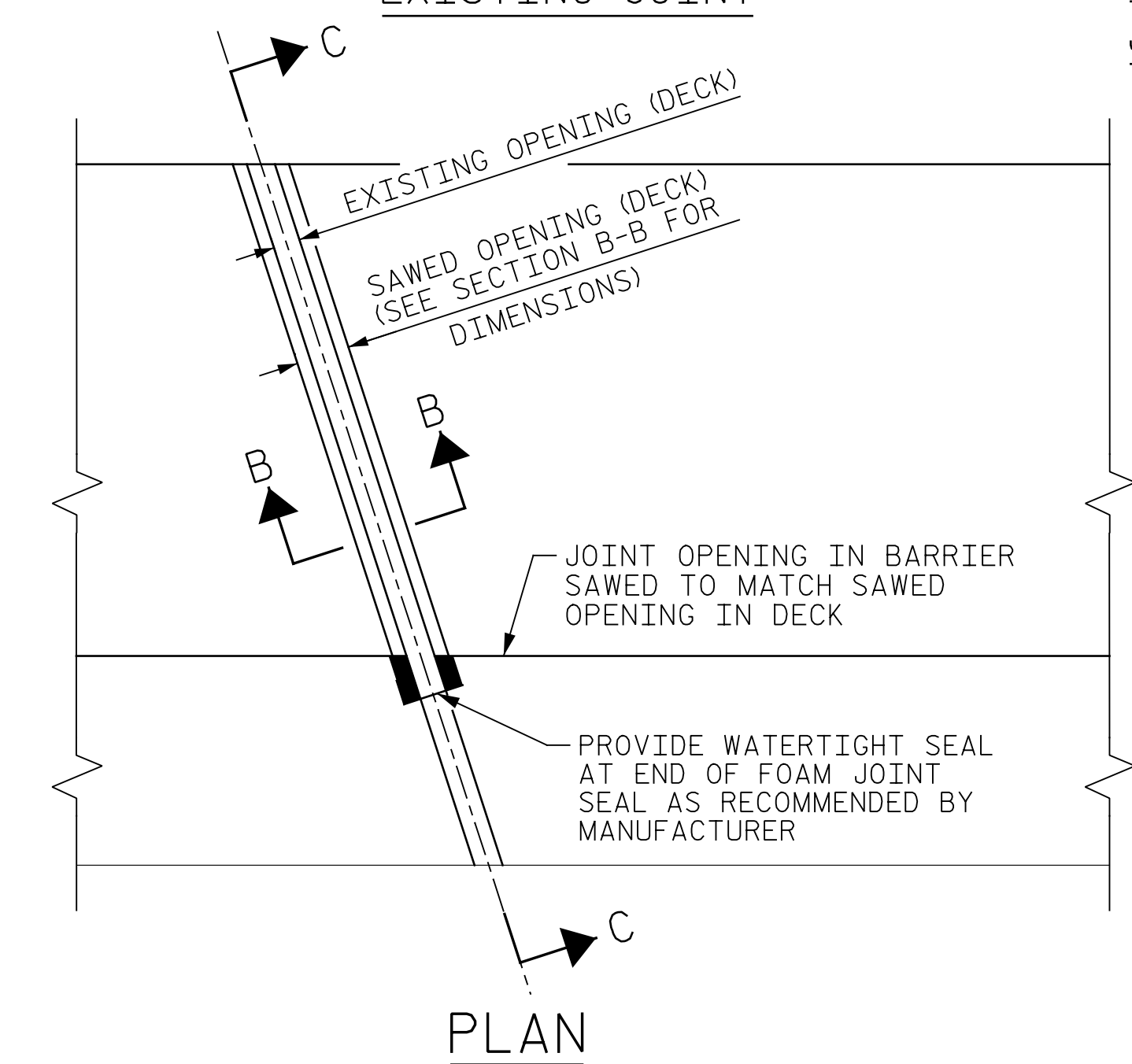
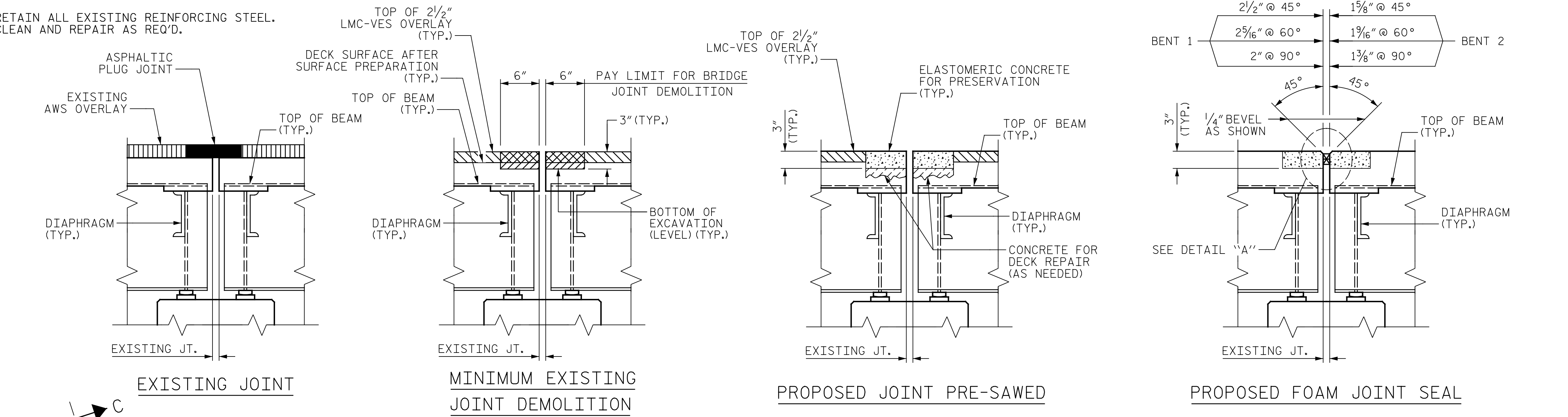
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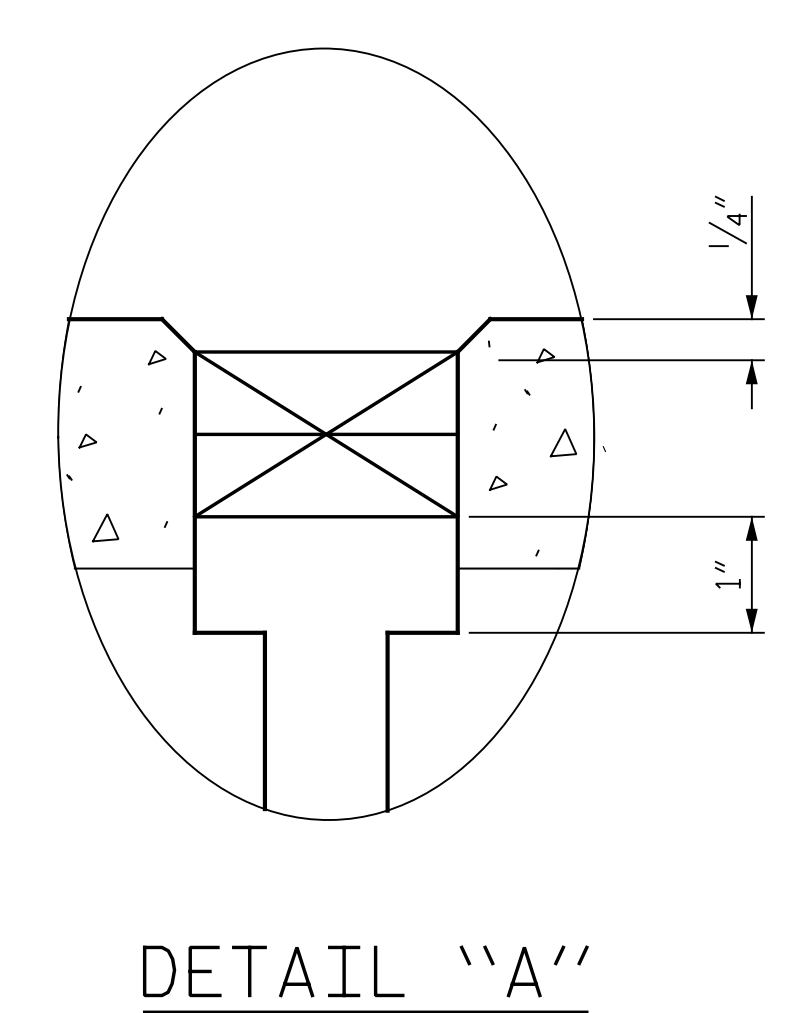
NOTE: RETAIN ALL EXISTING REINFORCING STEEL. CLEAN AND REPAIR AS REQ'D.



FOAM JOINT SEAL SHALL BE FACTORY FORMED OR CUT, HEAT WELDED AND TURNED UP PARALLEL TO SLOPED FACE OF CURB.

LOCATION	ELASTOMERIC CONCRETE FOR PRESERVATION	FOAM JOINT SEALS FOR PRESERVATION
	CU. FT.	LIN. FT.
END BENT 1	9.8	37.0
BENT 1	10.3	43.5
BENT 2	10.3	43.5
BENT 3	10.3	43.5
BENT 4	10.3	43.0
END BENT 2	9.8	37.0
* TOTAL	60.8	248.0

\* BASED ON MINIMUM BLOCKOUT SHOWN



**NOTES:**

FINAL JOINT SEALS SHALL NOT BE INSTALLED UNTIL THE OVERLAY OR SEALANT WORK IS COMPLETE.

THE CONTRACTOR SHALL FIELD VERIFY THE EXISTING JOINT OPENING PRIOR TO ORDERING JOINT SEAL MATERIAL. IF THE ACTUAL JOINT OPENING VARIES FROM THE OPENING INDICATED IN THE DETAILS BY MORE THAN 1/4", NOTIFY THE ENGINEER.

THE MANUFACTURER IS TO PROVIDE THE NOMINAL UNCOMPRESSED SEAL WIDTH OF THE FOAM JOINT SEAL FOR THE SIZE OF THE OPENING ON THE PLANS AND ACCOMMODATE THE MINIMUM EXPANSION SHOWN ON THE PLANS.

FOAM JOINTS SHALL BE INSTALLED AS PER THE MANUFACTURER'S RECOMMENDATIONS.

THE CONTRACTOR SHALL TAKE CARE DURING JOINT REHAB OPERATIONS NOT TO DROP ANY MATERIAL BELOW THE BRIDGE WITHOUT PROTECTIVE DEVICES BELOW TO CATCH THE MATERIAL. ANY MATERIAL THAT FALLS BELOW THE BRIDGE SHALL BE CONTAINED, REMOVED AND DISPOSED OF BY THE CONTRACTOR AT NO EXTRA COST TO THE DEPARTMENT. IF THE ENGINEER DETERMINES THAT THE PROTECTIVE DEVICES ARE NOT ADEQUATE OR NOT BEING EMPLOYED, THE WORK SHALL BE SUSPENDED UNTIL ADEQUATE PROTECTION IS PROVIDED.

FOR EXCAVATION BELOW THE BOTTOM OF THE PLANNED JOINT DEMOLITION, CONCRETE FOR DECK REPAIR SHALL BE PLACED IN THE EXCAVATED AREA TO THE ELEVATION AT THE BOTTOM OF THE PROPOSED ELASTOMERIC CONCRETE FOR PRESERVATION HEADERS AS SHOWN.

THE FINAL SURFACE OF THE JOINT DEMOLITION AREA PRIOR TO PLACEMENT OF CONCRETE REPAIR MATERIAL OR ELASTOMERIC CONCRETE SHOULD BE REASONABLY FLAT AND LEVEL. THE ENGINEER SHALL DETERMINE THE ACCEPTABILITY OF THE SURFACE PRIOR TO PLACEMENT OF REPAIR CONCRETE OR ELASTOMERIC CONCRETE.

THE CONTRACTOR WILL NOT BE PERMITTED TO FORM THE JOINT IN LIEU OF SAWING THE JOINT.

THE INSTALLED FOAM JOINTS SHALL BE WATERTIGHT.

THE CONTRACTOR SHALL SAW CUT TO A NOMINAL DEPTH OF 1/2" BUT REINFORCING STEEL SHALL NOT BE DAMAGED. CONTRACTOR SHALL REMOVE SURFACE CONCRETE TO VERIFY THAT SAWCUT DEPTH WILL NOT DAMAGE EXISTING REINFORCING STEEL.

QUANTITIES SHOWN IN THE ELASTOMERIC CONCRETE FOR PRESERVATION TABLE ARE BASED ON THE MINIMUM JOINT DEMOLITION SHOWN.

FOR BRIDGE JOINT DEMOLITION, SEE SPECIAL PROVISIONS.

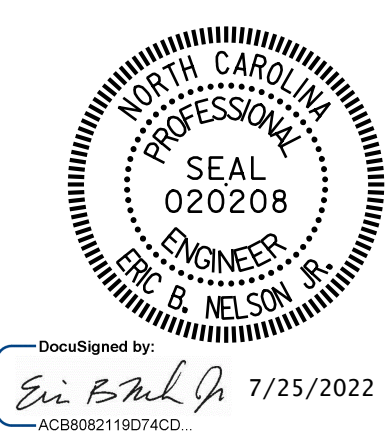
FOR ELASTOMERIC CONCRETE FOR PRESERVATION, SEE SPECIAL PROVISIONS.

FOR FOAM JOINT SEALS FOR PRESERVATION, SEE SPECIAL PROVISIONS.

PROJECT NO. I-5889B  
BUNCOMBE COUNTY  
 BRIDGE NO. 100344

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

JOINT DETAILS



DocuSigned by:  
 Eric B. Nelson  
 7/25/2022  
 AC88002119274CDD

DRAWN BY: J. MYA DATE: 6/2022  
 CHECKED BY: J. YANNAACONE DATE: 6/2022

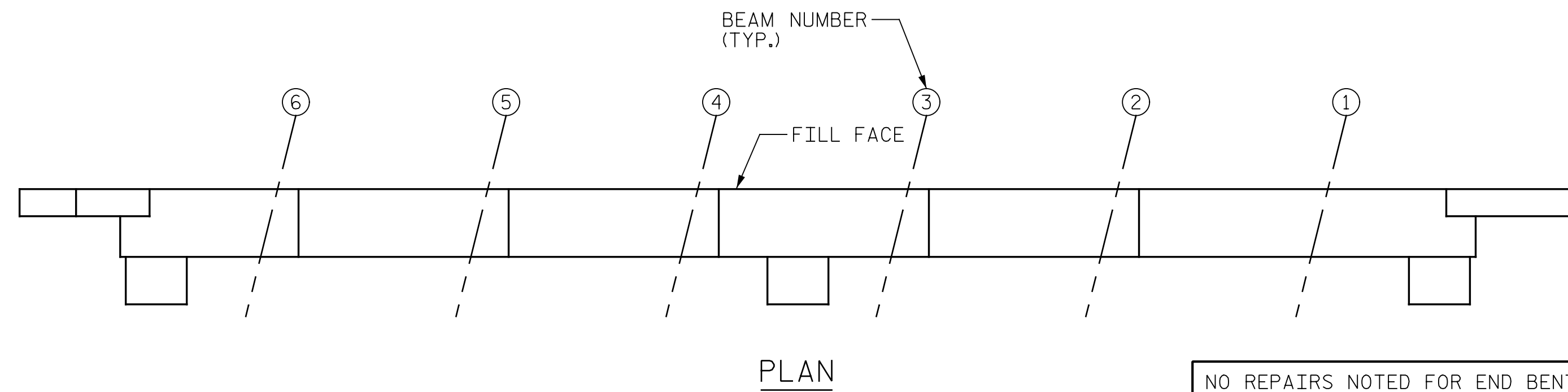


One Glenwood Avenue  
 Suite 900  
 Raleigh, NC 27603  
 919-420-7660  
 NC Lic. No. F-0270

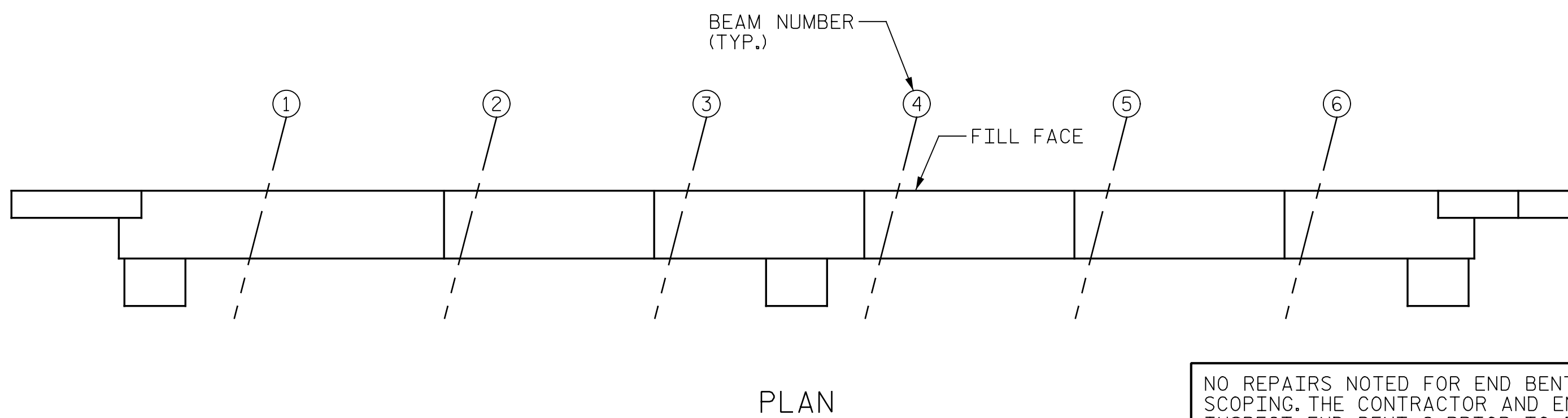
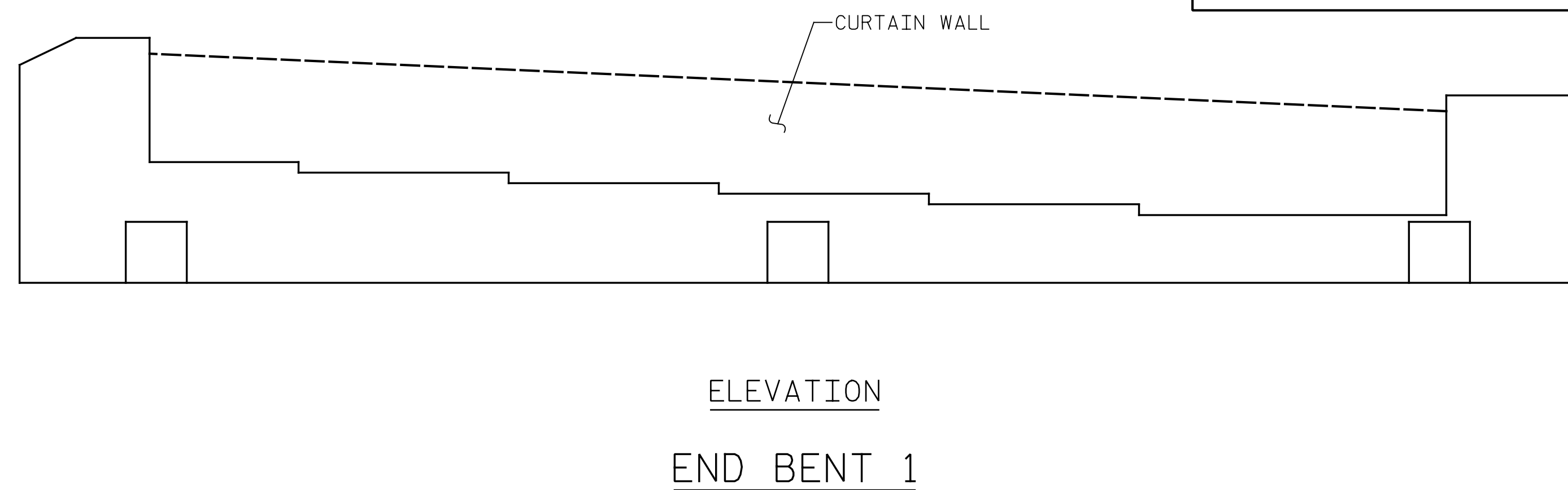
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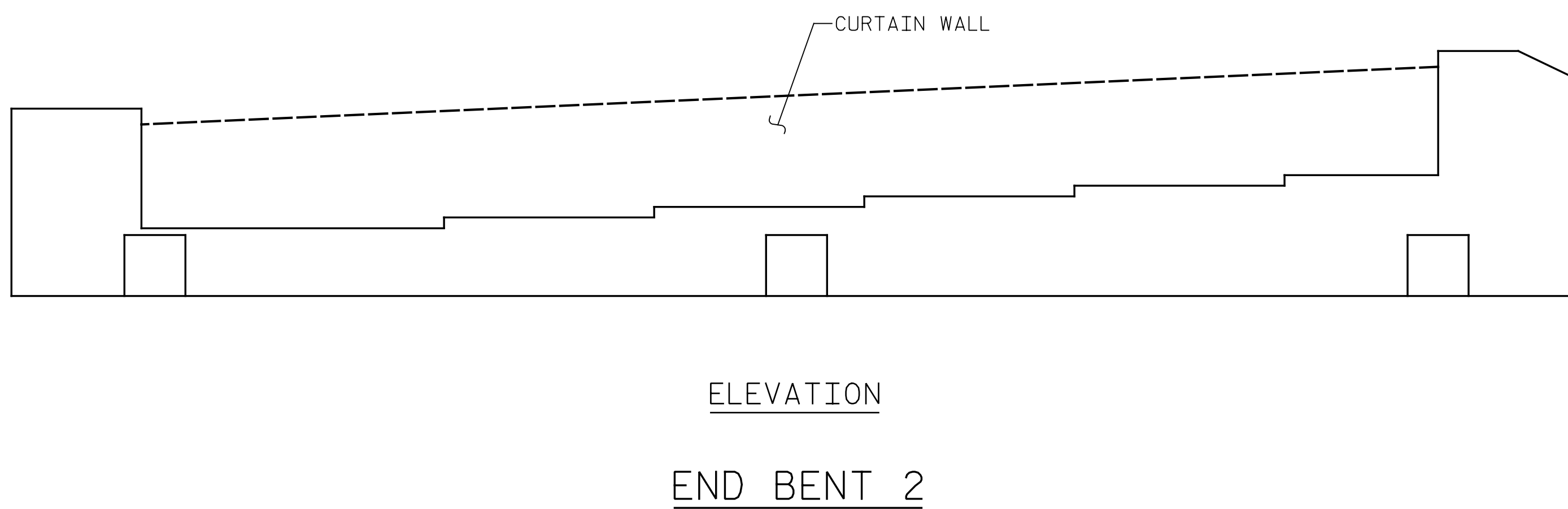
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NO REPAIRS NOTED FOR END BENT 1 DURING FIELD SCOPING. THE CONTRACTOR AND ENGINEER SHALL INSPECT END BENT 1 PRIOR TO BEGINNING WORK.



NO REPAIRS NOTED FOR END BENT 2 DURING FIELD SCOPING. THE CONTRACTOR AND ENGINEER SHALL INSPECT END BENT 2 PRIOR TO BEGINNING WORK.



- SHOTCRETE REPAIR
- CONCRETE REPAIR (FORM & POUR)
- ERI - EPOXY RESIN INJECTION

AS-BUILT REPAIR QUANTITY TABLE					
END BENT 1 REPAIRS	QUANTITIES				
	ESTIMATE		ACTUAL		
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF
CAP	0.0	0.0			
CURTAIN WALL	0.0	0.0			
CONCRETE REPAIRS	0.0	0.0			
EPOXY RESIN INJECTION	LENGTH LF		LENGTH LF		
CAP	0.0				
CURTAIN WALL	5.5				
EPOXY COATING	SQ. FT		SQ. FT		
TOP OF BENT CAP	0				
END BENT 2 REPAIRS	QUANTITIES				
	ESTIMATE		ACTUAL		
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF
CAP	0.0	0.0			
CURTAIN WALL	0.0	0.0			
CONCRETE REPAIRS	0.0	0.0			
EPOXY RESIN INJECTION	LENGTH LF		LENGTH LF		
CAP	0.0				
CURTAIN WALL	0.0				
EPOXY COATING	SQ. FT		SQ. FT		
TOP OF BENT CAP	0				

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MINIMUM OF 1" BEHIND REBAR AND MINIMUM OF 2" CLEARANCE TO SAWCUT. FOR REPAIR DETAILS, SEE "TYPICAL CAP REPAIR DETAILS" SHEET.

**NOTES:**

REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER WILL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUALITIES ENTERED INTO THE AS-BUILT REPAIR QUANTITY TABLE.

CONTRACTOR SHALL SAW CUT TO A MINIMUM DEPTH OF 1/2" BUT REINFORCING STEEL SHALL NOT BE DAMAGED

CONTRACTOR SHALL REMOVE SURFACE CONCRETE TO VERIFY THAT SAW CUT DEPTH WILL NOT DAMAGE EXISTING REINFORCING STEEL.

CONTRACTOR SHALL SAW CUT THE REPAIR AREAS SO THAT THE CORNERS ARE SQUARE AS INDICATED ON THE DETAILS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

SHOTCRETE REPAIRS MAY BE REPLACED WITH CONCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

PROJECT NO. I-5889B  
BUNCOMBE COUNTY  
 BRIDGE NO. 100344



DocuSigned by:  
*Eric B. Nelson* 7/25/2022  
 AC808211807ACD

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

END BENT 1 & 2

DRAWN BY : J. MYA DATE : 6/2022  
 CHECKED BY : J. YANACCONI DATE : 6/2022

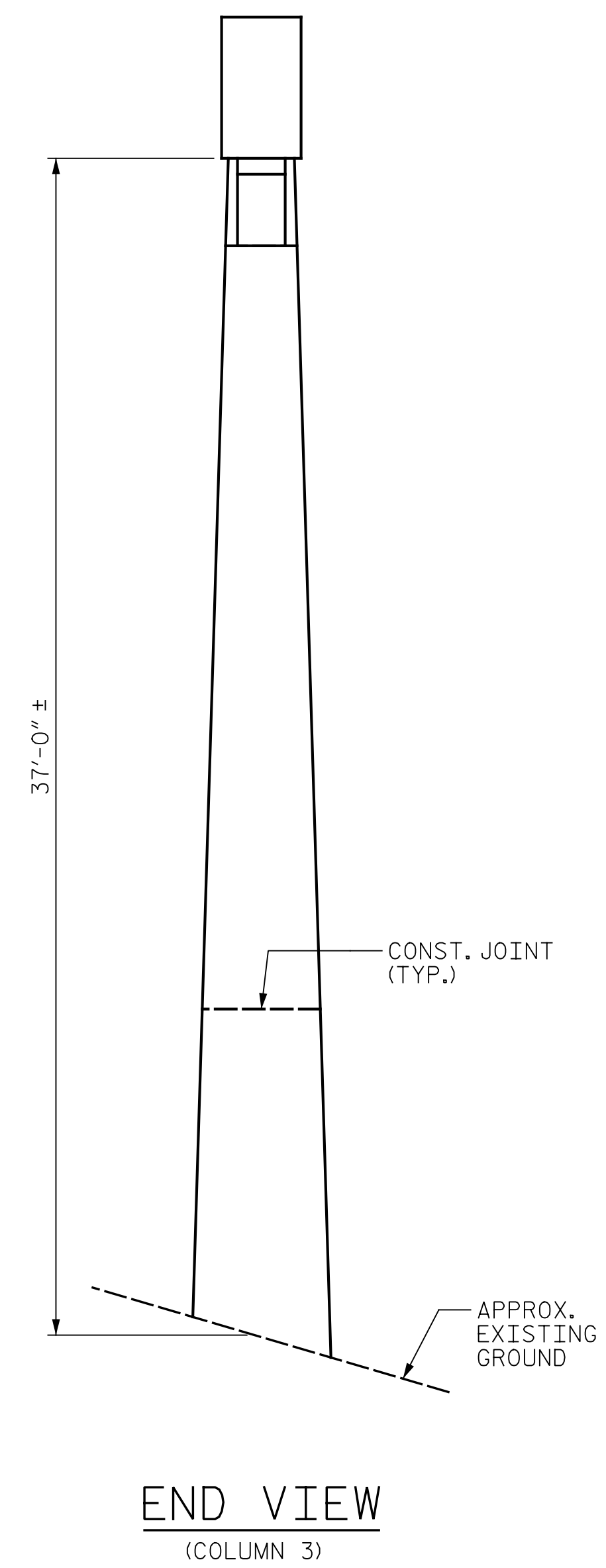
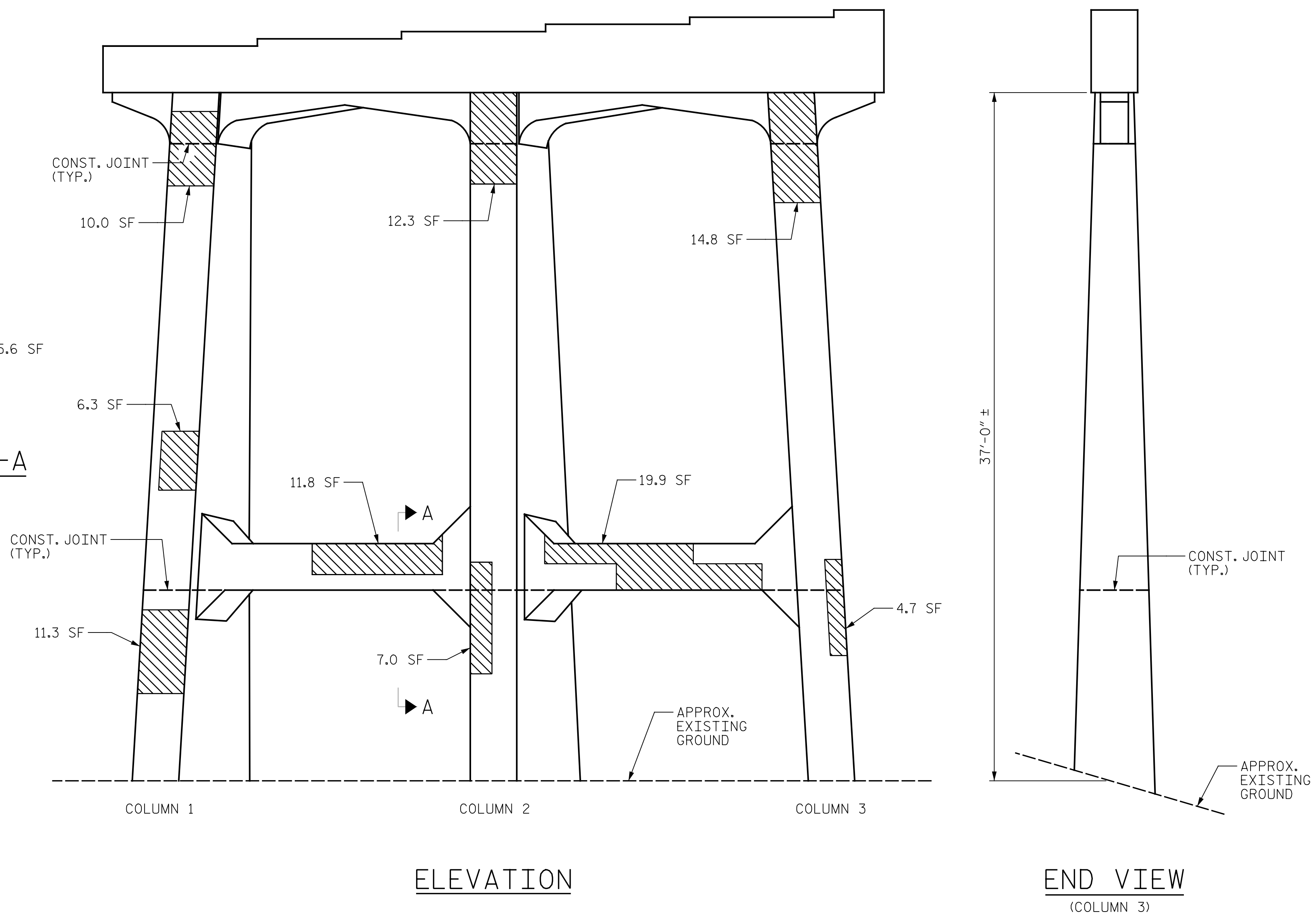
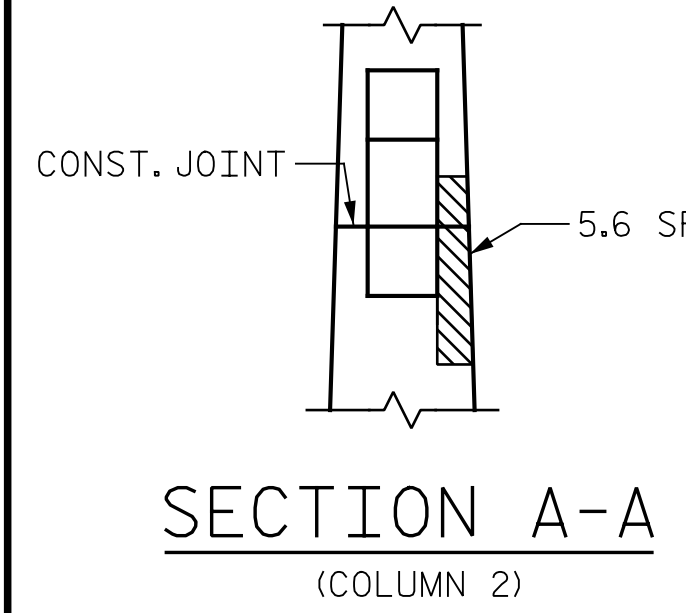
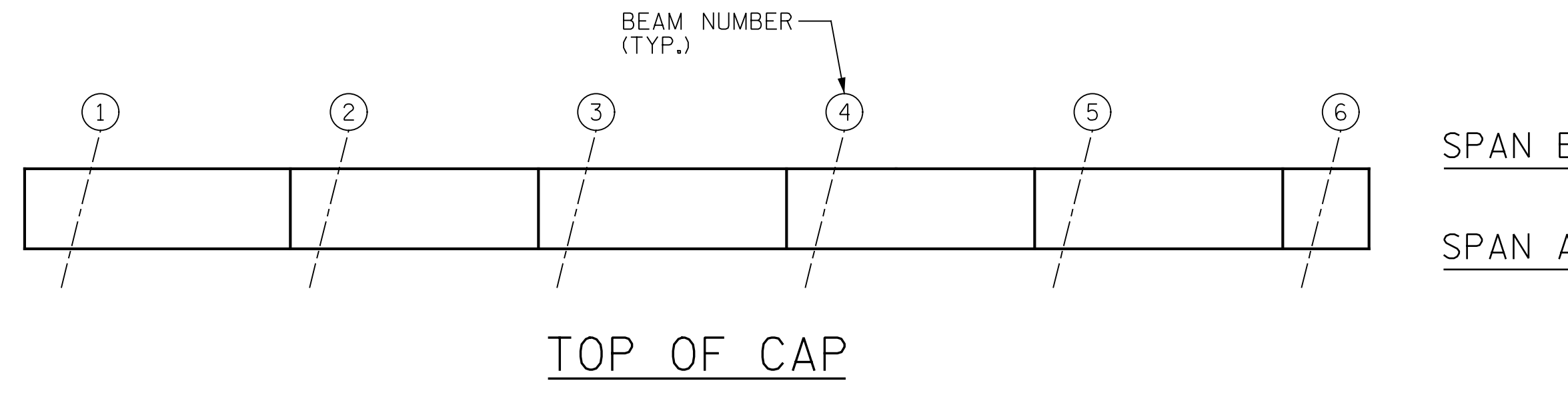


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AS-BUILT REPAIR QUANTITY TABLE					
BENT 1 REPAIRS	QUANTITIES				
	ESTIMATE		ACTUAL		
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF
CAP	0.0	0.0			
COLUMN	232.3	116.2			
STRUT	72.5	36.3			
CONCRETE REPAIRS	0.0	0.0			
EPOXY RESIN INJECTION		LENGTH LF	LENGTH LF		
CAP		0.0			
COLUMN		0.0			
STRUT		0.0			
EPOXY COATING		SQ. FT	SQ. FT		
TOP OF BENT CAP		91			

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MINIMUM OF 1" BEHIND REBAR AND MINIMUM OF 2" CLEARANCE TO SAWCUT. FOR REPAIR DETAILS, SEE "TYPICAL CAP AND COLUMN REPAIR DETAILS" SHEET.

**NOTES:**  
 REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE BASED ON THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER WILL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATIONS AND DESCRIPTION OF THE REPAIRS AND ENTER THE ACTUAL QUANTITIES INTO THE AS-BUILT REPAIR QUANTITY TABLE.

FOR REPAIRS, SEE "TYPICAL CAP AND COLUMN REPAIR DETAILS" SHEET.  
 FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.  
 FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.  
 SHOTCRETE REPAIRS MAY BE REPLACED WITH CONCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

CONTRACTOR SHALL SAW CUT TO A MINIMUM DEPTH OF 1/2" BUT REINFORCING STEEL SHALL NOT BE DAMAGED. CONTRACTOR SHALL REMOVE SURFACE CONCRETE TO VERIFY THAT SAW CUT DEPTH WILL NOT DAMAGE EXISTING REINFORCING STEEL.

CONTRACTOR SHALL SAW CUT THE REPAIR AREAS SO THAT THE CORNERS ARE SQUARE AS INDICATED ON THE DETAILS.

CLEAN AND REMOVE DEBRIS FROM THE TOP OF THE CAP AND APPLY EPOXY PROTECTIVE COATING. EPOXY COATING SHALL BE APPLIED TO THE TOP SURFACE OF THE CAP. THE CONTRACTOR SHALL NOT COAT THE AREA OF THE CAP BENEATH THE MASONRY PLATES. FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

WHEN COLUMN REPAIRS ARE INDICATED TO GROUND LINE, EXTEND REPAIR ONE (1) FOOT MIN. BELOW GROUND LINE.

- SHOTCRETE REPAIR
- CONCRETE REPAIR (FORM & POUR)
- ERI - EPOXY RESIN INJECTION

PROJECT NO. I-5889B  
BUNCOMBE COUNTY  
 BRIDGE NO. 100344

SHEET 1 OF 2



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**BENT 1  
 SPAN A SIDE**

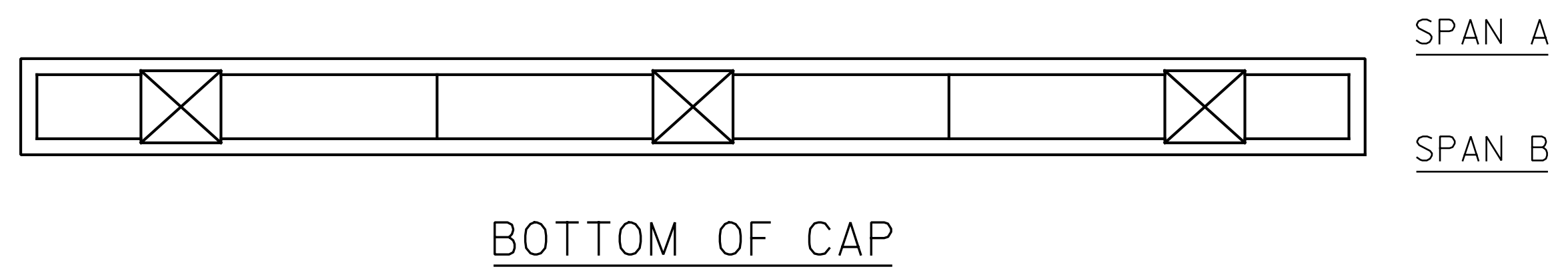
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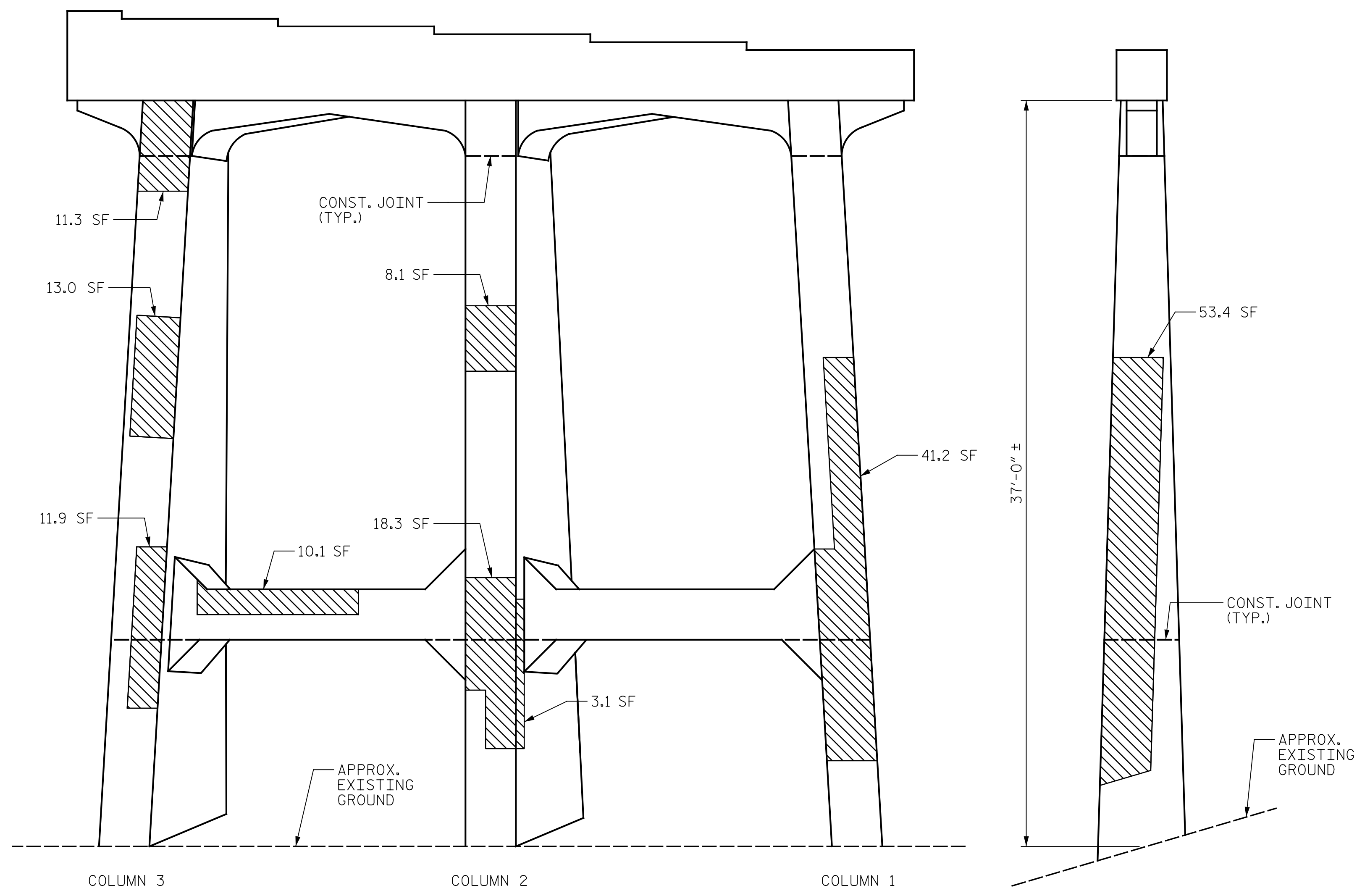
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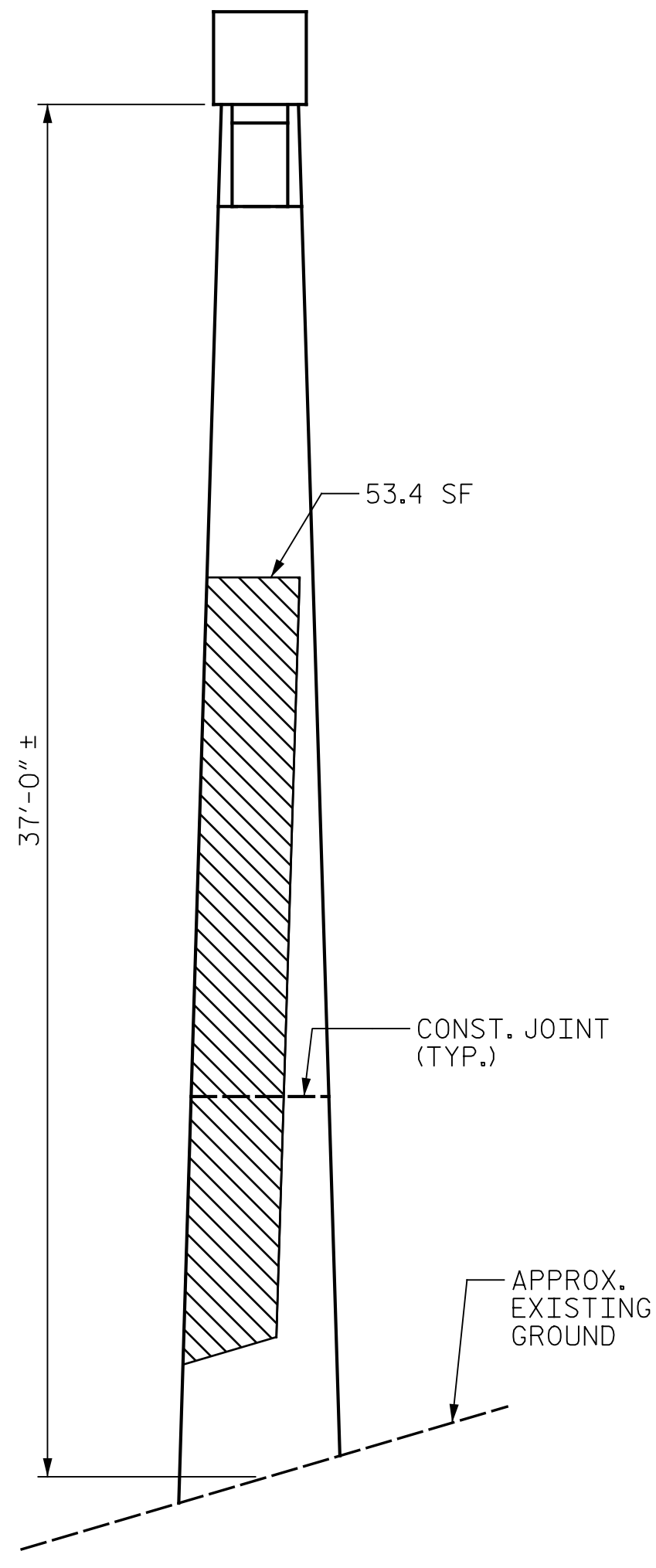
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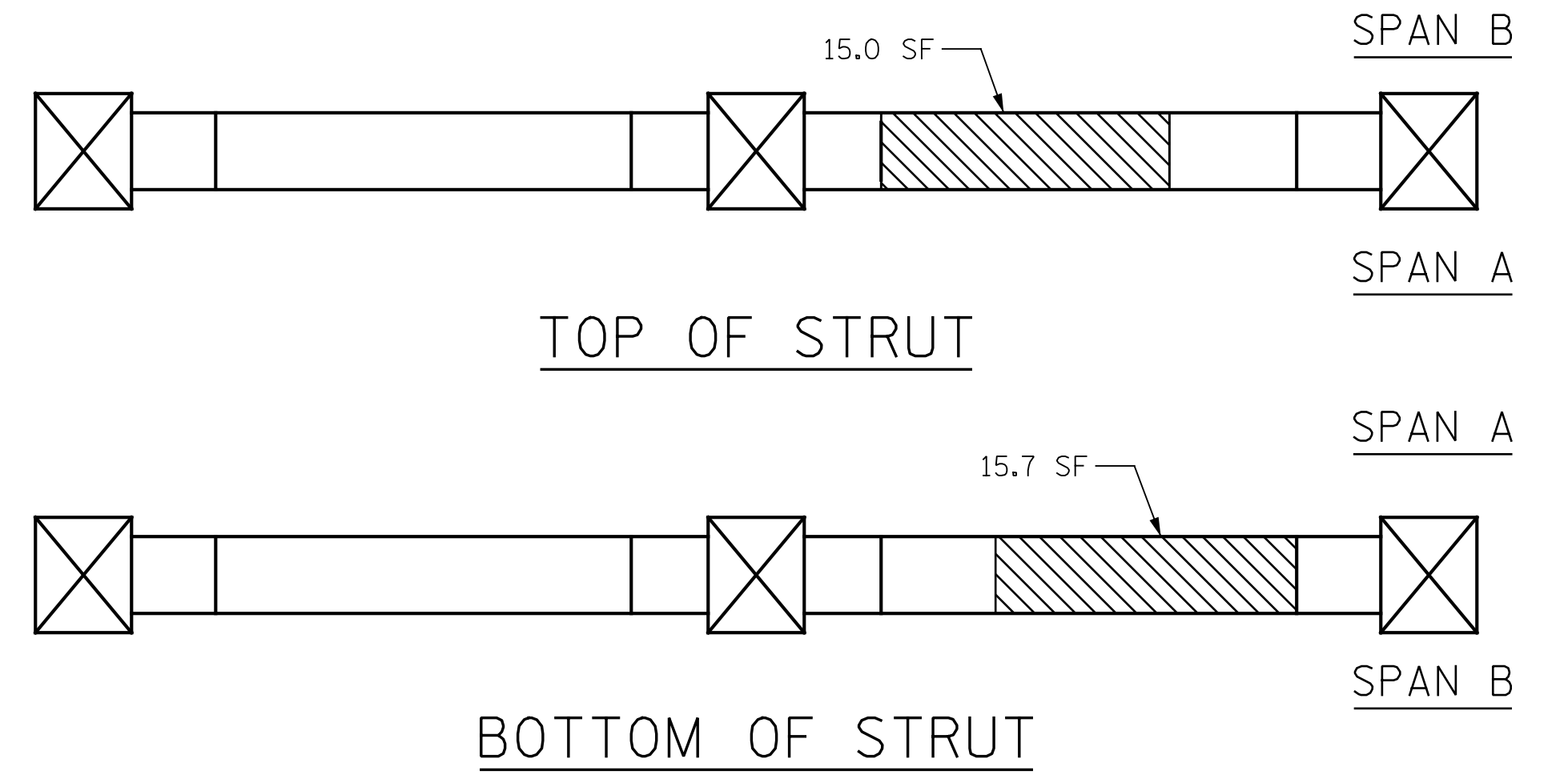
BOTTOM OF CAP



ELEVATION



END VIEW  
(COLUMN 1)



TOP OF STRUT

BOTTOM OF STRUT

**NOTES:**  
 REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE BASED ON THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER WILL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATIONS AND DESCRIPTION OF THE REPAIRS AND ENTER THE ACTUAL QUANTITIES INTO THE AS-BUILT REPAIR QUANTITY TABLE.  
 FOR REPAIRS, SEE "TYPICAL CAP AND COLUMN REPAIR DETAILS" SHEET.  
 FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.  
 FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.  
 SHOTCRETE REPAIRS MAY BE REPLACED WITH CONCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.  
 CONTRACTOR SHALL SAW CUT TO A MINIMUM DEPTH OF 1/2" BUT REINFORCING STEEL SHALL NOT BE DAMAGED. CONTRACTOR SHALL REMOVE SURFACE CONCRETE TO VERIFY THAT SAW CUT DEPTH WILL NOT DAMAGE EXISTING REINFORCING STEEL.  
 CONTRACTOR SHALL SAW CUT THE REPAIR AREAS SO THAT THE CORNERS ARE SQUARE AS INDICATED ON THE DETAILS.  
 CLEAN AND REMOVE DEBRIS FROM THE TOP OF THE CAP AND APPLY EPOXY PROTECTIVE COATING. EPOXY COATING SHALL BE APPLIED TO THE TOP SURFACE OF THE CAP. THE CONTRACTOR SHALL NOT COAT THE AREA OF THE CAP BENEATH THE MASONRY PLATES. FOR EPOXY COATING, SEE SPECIAL PROVISIONS.  
 FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.  
 CONCRETE REPAIRS TO THE BENT CAP MAY REQUIRE BRIDGE JACKING. FOR BRIDGE JACKING, SEE "JACKING DETAILS" SHEET.  
 WHEN COLUMN REPAIRS ARE INDICATED TO GROUND LINE, EXTEND REPAIR ONE (1) FOOT MIN. BELOW GROUND LINE.

- SHOTCRETE REPAIR
- CONCRETE REPAIR (FORM & POUR)
- ERI - EPOXY RESIN INJECTION

PROJECT NO. I-5889B  
BUNCOMBE COUNTY  
 BRIDGE NO. 100344

SHEET 2 OF 2

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**BENT 1  
 SPAN B SIDE**



DocuSigned by:  
*Eric B. Nelson* 7/25/2022



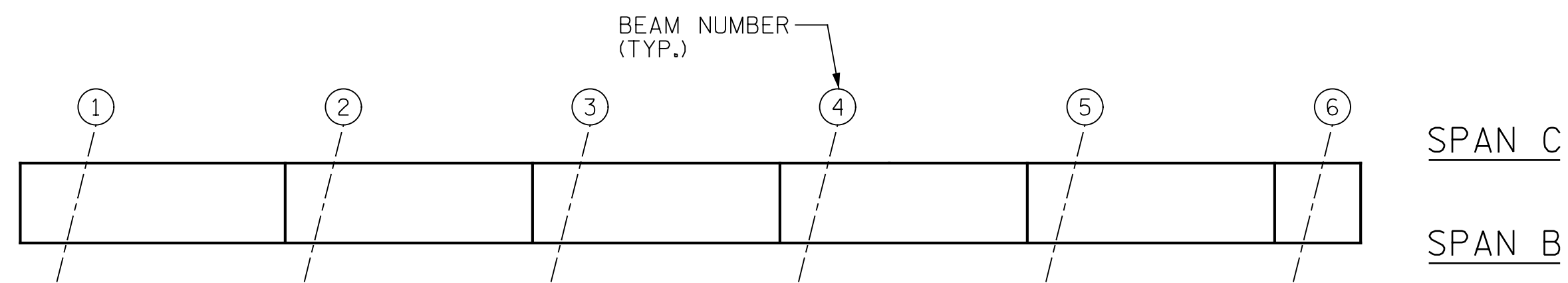
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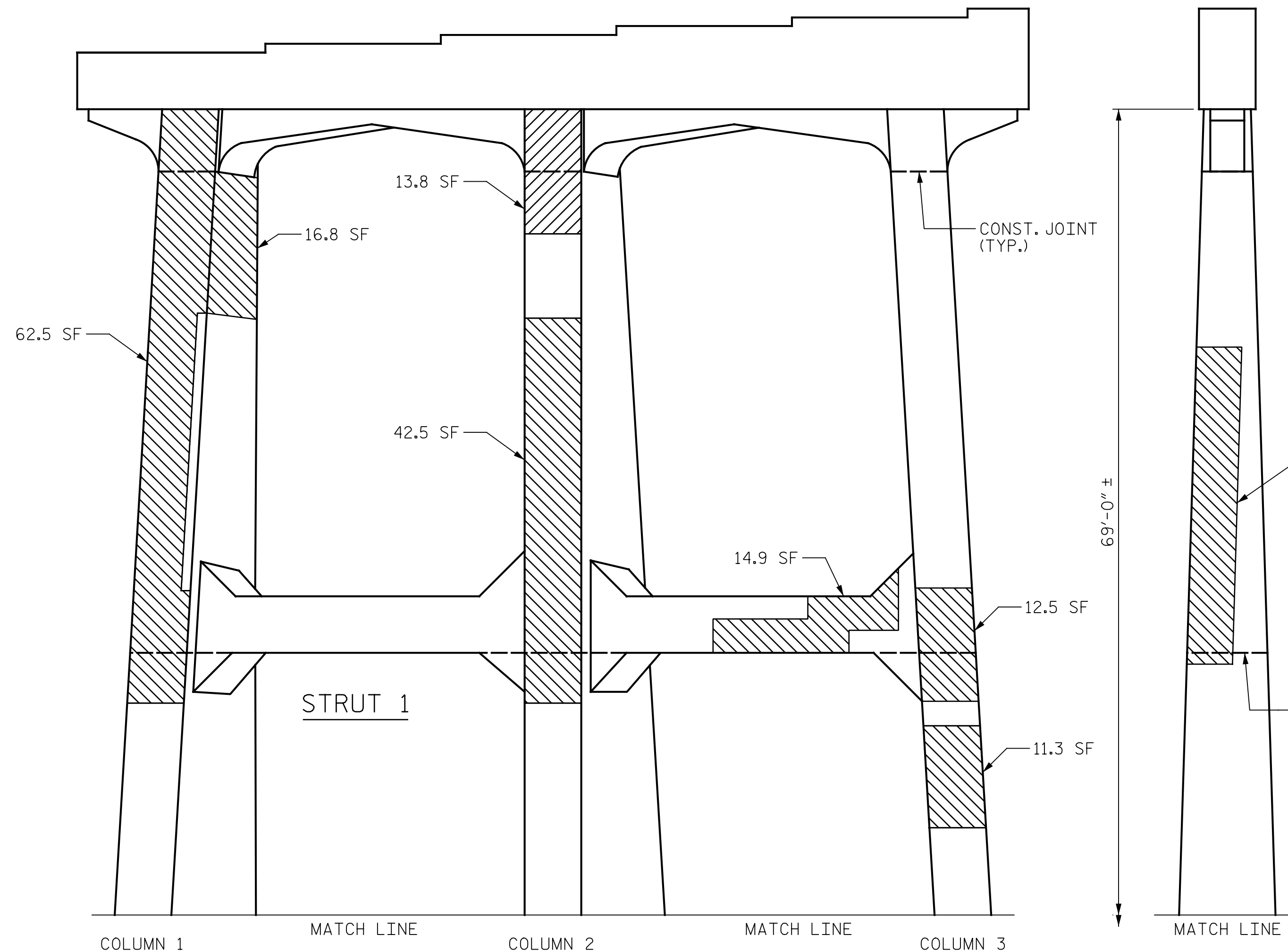
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 CHECKED BY : J. YANACCONI DATE : 6/2022



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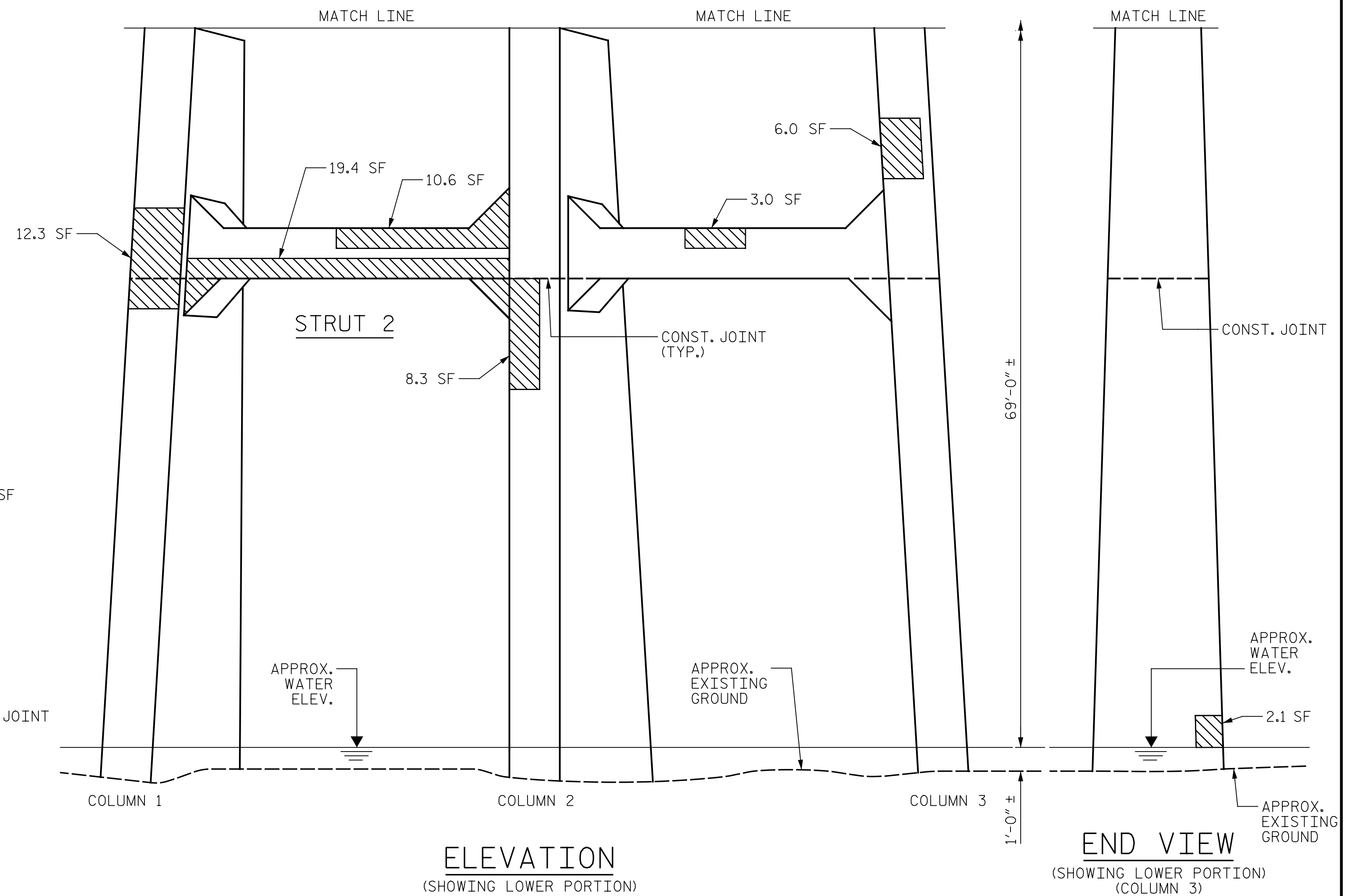


TOP OF CAP



ELEVATION  
(SHOWING UPPER PORTION)

END VIEW  
(SHOWING UPPER PORTION)  
(COLUMN 3)



ELEVATION  
(SHOWING LOWER PORTION)

END VIEW  
(SHOWING LOWER PORTION)  
(COLUMN 3)

- SHOTCRETE REPAIR
- CONCRETE REPAIR (FORM & POUR)
- ERI - EPOXY RESIN INJECTION

AS-BUILT REPAIR QUANTITY TABLE					
BENT 2 REPAIRS	QUANTITIES				
	ESTIMATE		ACTUAL		
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF
CAP	0.0	0.0			
COLUMN	433.6	216.8			
STRUT	118.9	59.5			
CONCRETE REPAIRS	0.0	0.0			
EPOXY RESIN INJECTION	LENGTH LF		LENGTH LF		
CAP	0.0				
COLUMN	0.0				
STRUT	0.0				
EPOXY COATING	SQ. FT		SQ. FT		
TOP OF BENT CAP	91				

NOTES:

REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE BASED ON THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER WILL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATIONS AND DESCRIPTION OF THE REPAIRS AND ENTER THE ACTUAL QUANTITIES INTO THE AS-BUILT REPAIR QUANTITY TABLE.

FOR REPAIRS, SEE "TYPICAL CAP AND COLUMN REPAIR DETAILS" SHEET.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

SHOTCRETE REPAIRS MAY BE REPLACED WITH CONCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

CONTRACTOR SHALL SAW CUT TO A MINIMUM DEPTH OF 1/2" BUT REINFORCING STEEL SHALL NOT BE DAMAGED. CONTRACTOR SHALL REMOVE SURFACE CONCRETE TO VERIFY THAT SAW CUT DEPTH WILL NOT DAMAGE EXISTING REINFORCING STEEL.

CONTRACTOR SHALL SAW CUT THE REPAIR AREAS SO THAT THE CORNERS ARE SQUARE AS INDICATED ON THE DETAILS.

CLEAN AND REMOVE DEBRIS FROM THE TOP OF THE CAP AND APPLY EPOXY PROTECTIVE COATING. EPOXY COATING SHALL BE APPLIED TO THE TOP SURFACE OF THE CAP. THE CONTRACTOR SHALL NOT COAT THE AREA OF THE CAP BENEATH THE MASONRY PLATES. FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

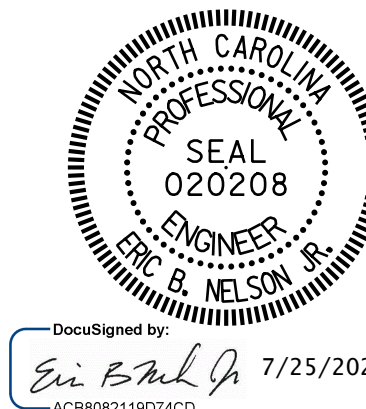
WHEN COLUMN REPAIRS ARE INDICATED TO GROUND LINE, EXTEND REPAIR ONE (1) FOOT MIN. BELOW GROUND LINE.

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MINIMUM OF 1" BEHIND REBAR AND MINIMUM OF 2" CLEARANCE TO SAWCUT. FOR REPAIR DETAILS, SEE "TYPICAL CAP AND COLUMN REPAIR DETAILS" SHEET.

DRAWN BY: J. MYA DATE: 6/2022  
CHECKED BY: J. YANACCONI DATE: 6/2022



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BUNCOMBE COUNTY  
BRIDGE NO. 100344

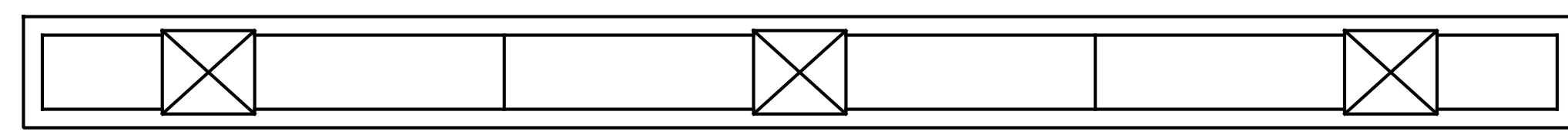
SHEET 1 OF 2

STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH

BENT 2  
SPAN B SIDE

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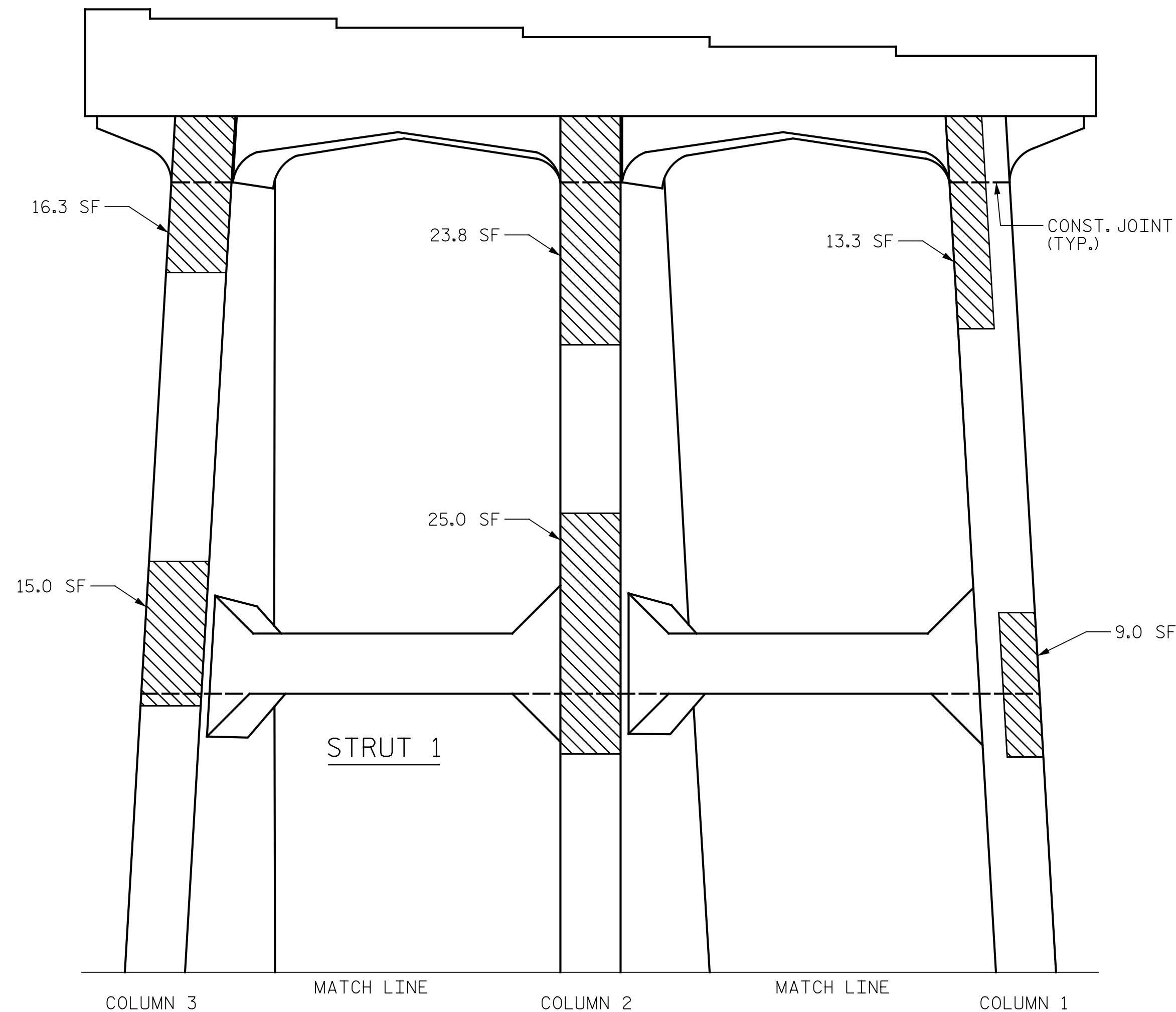
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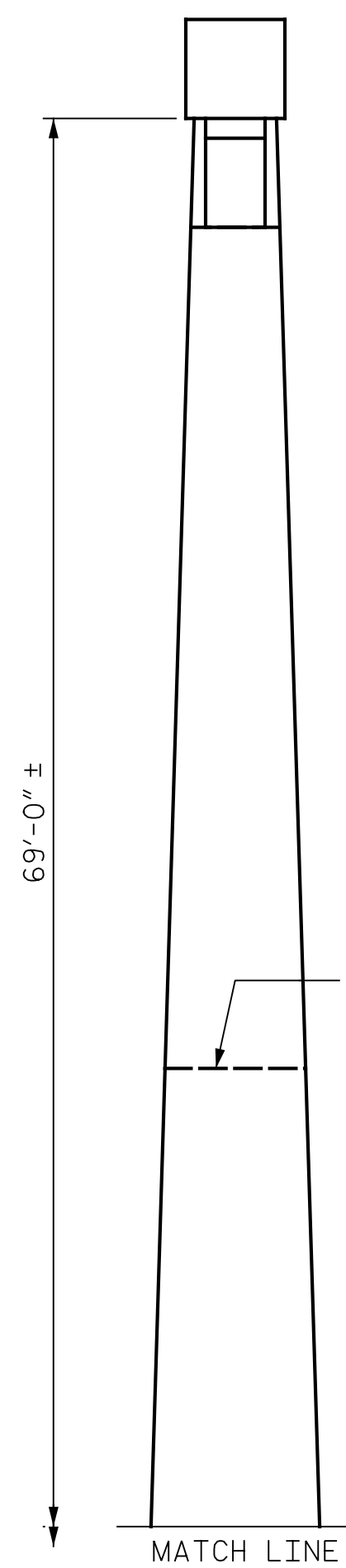
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SPAN C

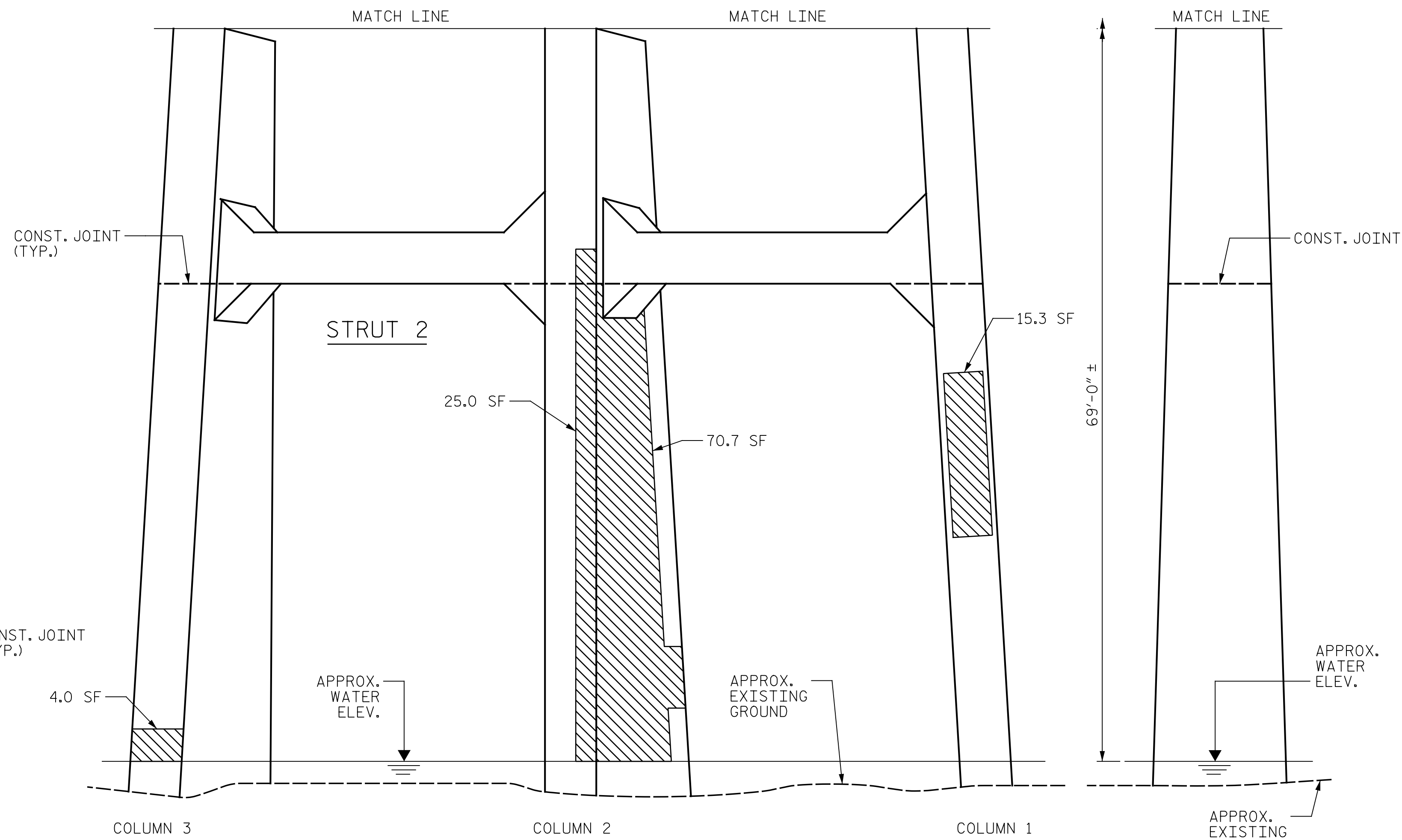
BOTTOM OF CAP



ELEVATION  
(SHOWING UPPER PORTION)

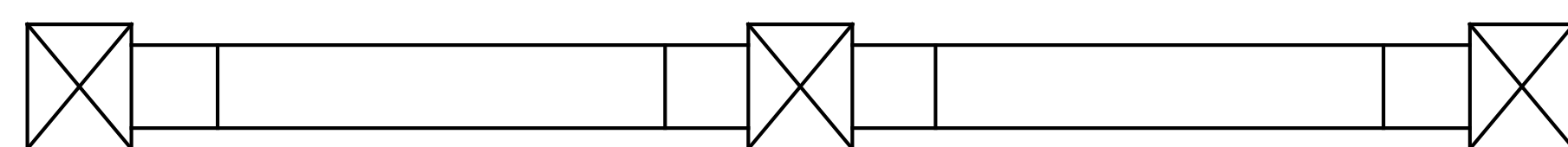


END VIEW  
(SHOWING UPPER PORTION)  
(COLUMN 1)



ELEVATION  
(SHOWING LOWER PORTION)

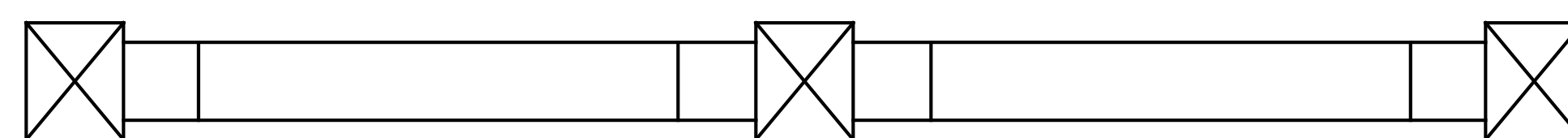
END VIEW  
(SHOWING LOWER PORTION)  
(COLUMN 1)



SPAN C

TOP OF STRUT 1

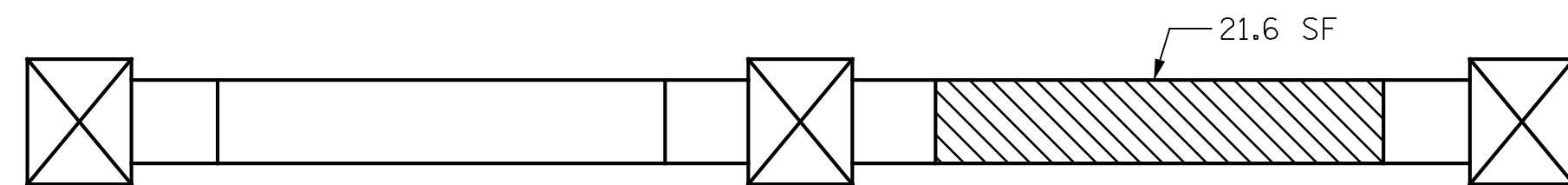
SPAN B



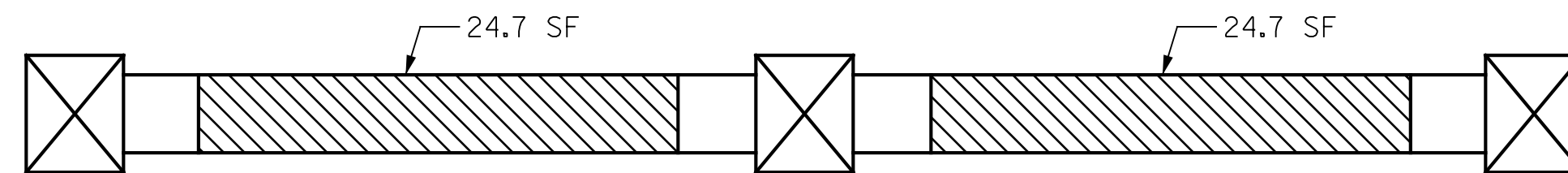
SPAN B

TOP OF STRUT 2

SPAN C



BOTTOM OF STRUT 1



BOTTOM OF STRUT 2

NOTES:

FOR ADDITIONAL NOTES, SEE SHEET 1 OF 2.

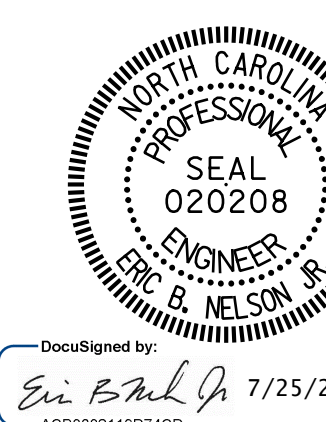
- SHOTCRETE REPAIR
- CONCRETE REPAIR (FORM & POUR)
- ERI - EPOXY RESIN INJECTION

PROJECT NO. I-5889B  
BUNCOMBE COUNTY  
 BRIDGE NO. 100344

SHEET 2 OF 2

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

BENT 2  
 SPAN C SIDE



DocuSigned by:  
 Eric B. Nelson 7/25/2022  
 AC38802116074C0D



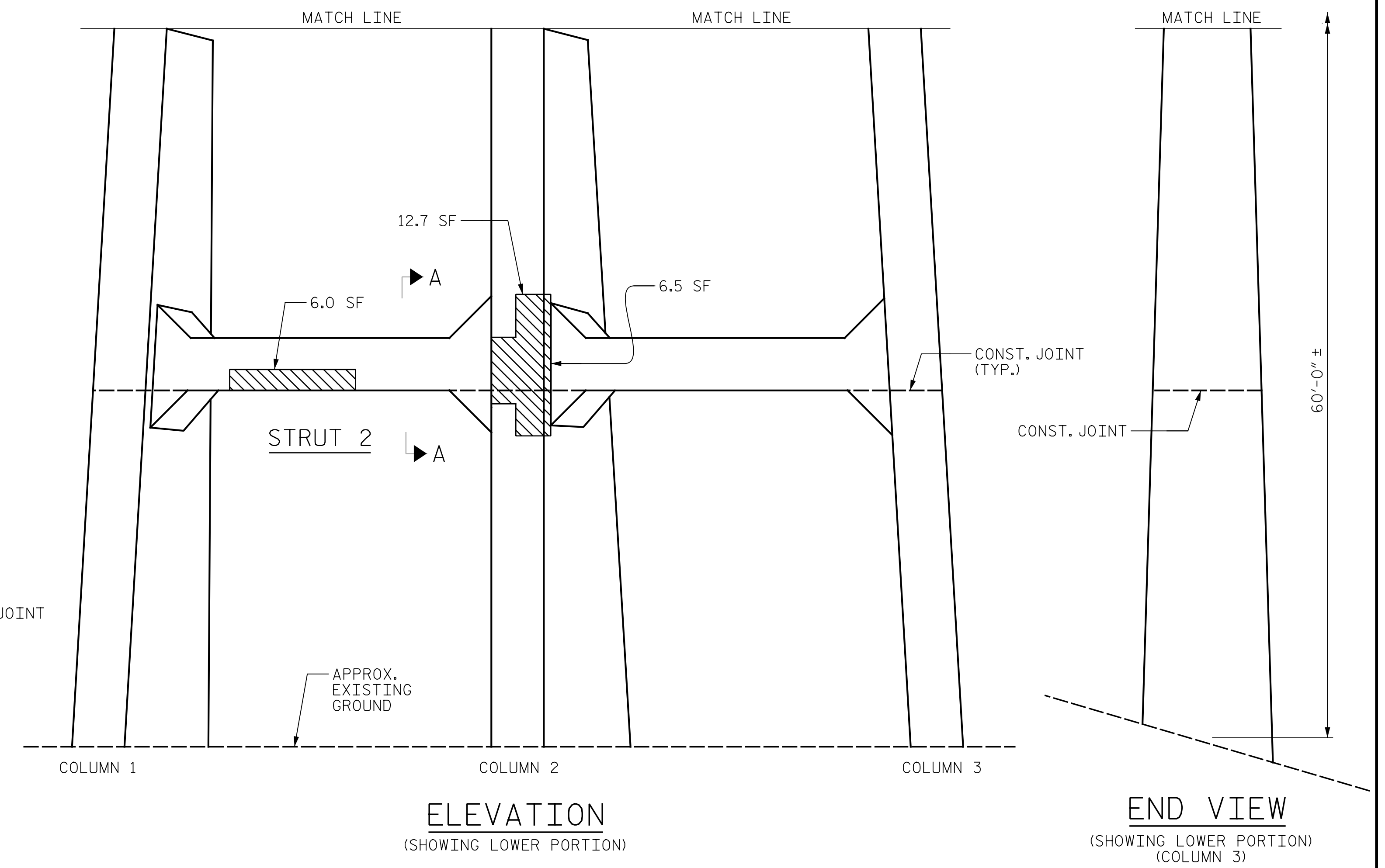
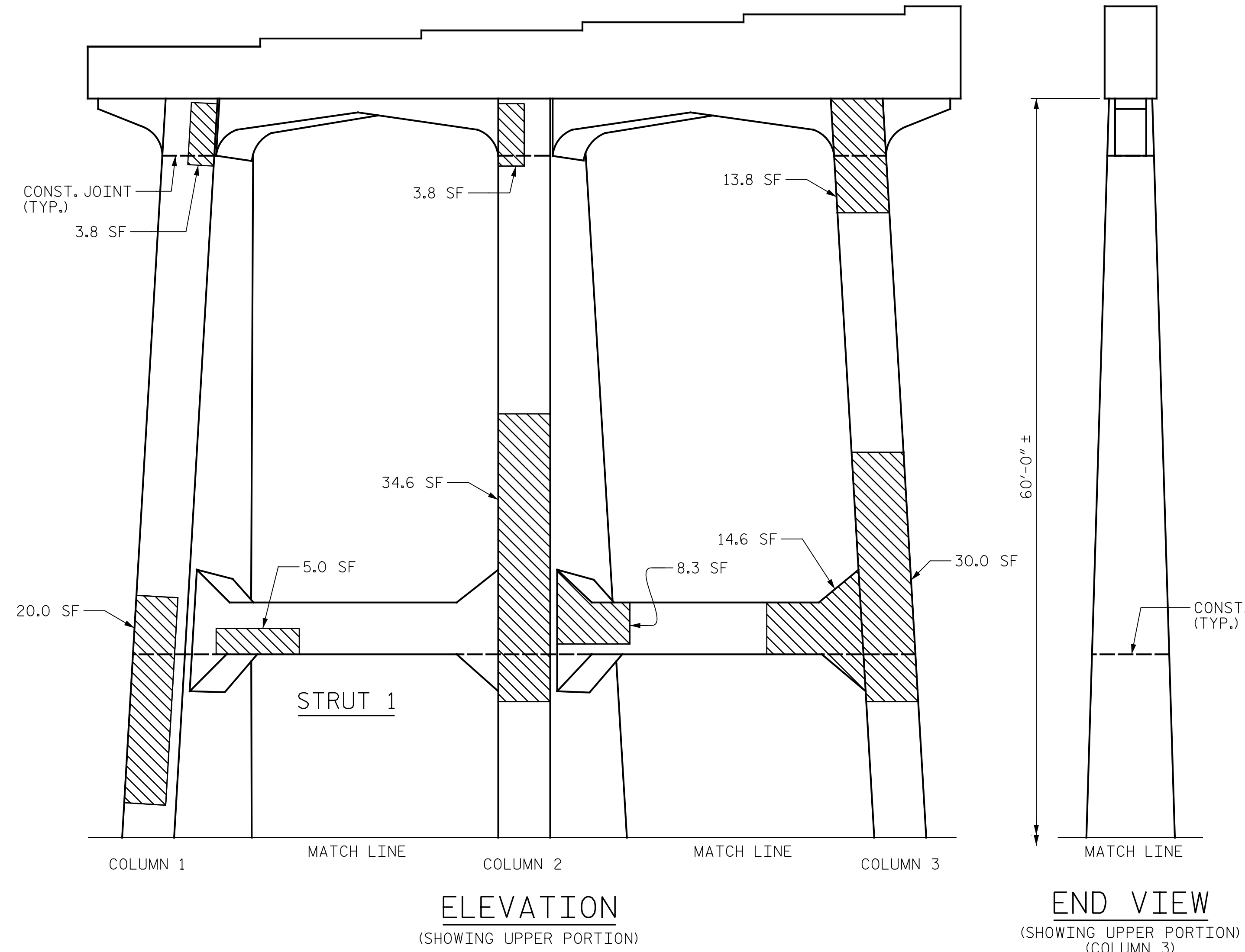
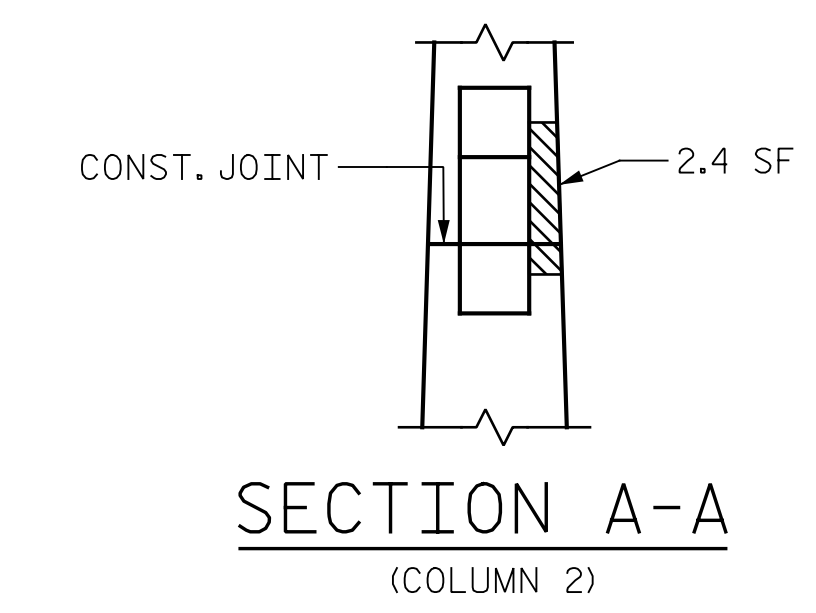
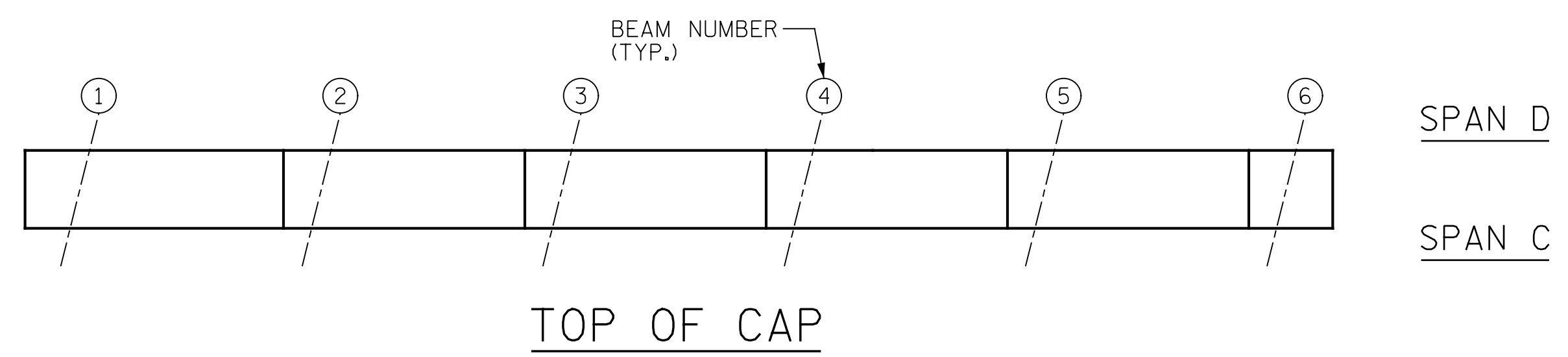
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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S3-14
1			3			TOTAL SHEETS
2			4			129

DRAWN BY: J. MYA DATE: 6/2022  
 CHECKED BY: J. YANACCONO DATE: 6/2022



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- SHOTCRETE REPAIR
- CONCRETE REPAIR (FORM & POUR)
- ERI - EPOXY RESIN INJECTION

AS-BUILT REPAIR QUANTITY TABLE					
BENT 3 REPAIRS	QUANTITIES				
	ESTIMATE		ACTUAL		
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF
CAP	0.0	0.0			
COLUMN	237.4	118.7			
STRUT	153.6	76.8			
CONCRETE REPAIRS	0.0	0.0			
EPOXY RESIN INJECTION	LENGTH LF		LENGTH LF		
CAP	0.0				
COLUMN	0.0				
STRUT	0.0				
EPOXY COATING	SQ. FT		SQ. FT		
TOP OF BENT CAP	91				

**NOTES:**

REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE BASED ON THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER WILL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATIONS AND DESCRIPTION OF THE REPAIRS AND ENTER THE ACTUAL QUANTITIES INTO THE AS-BUILT REPAIR QUANTITY TABLE.

FOR REPAIRS, SEE "TYPICAL CAP AND COLUMN REPAIR DETAILS" SHEET.

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CONTRACTOR SHALL SAW CUT THE REPAIR AREAS SO THAT THE CORNERS ARE SQUARE AS INDICATED ON THE DETAILS.

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FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

WHEN COLUMN REPAIRS ARE INDICATED TO GROUND LINE, EXTEND REPAIR ONE (1) FOOT MIN. BELOW GROUND LINE.

PROJECT NO. I-5889B  
BUNCOMBE COUNTY  
 BRIDGE NO. 100344



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**BENT 3  
 SPAN C SIDE**

DRAWN BY: J. MYA DATE: 6/2022  
 CHECKED BY: J. YANNAACONE DATE: 6/2022

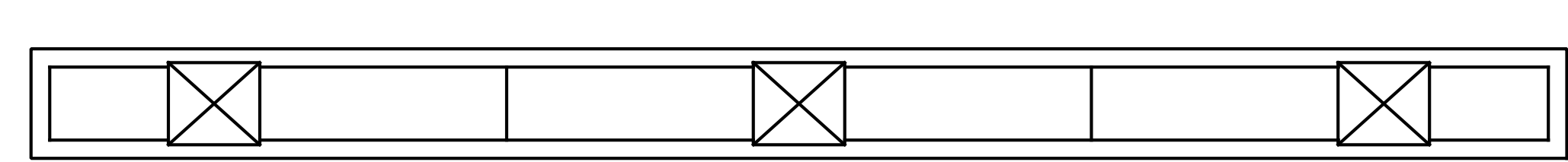
VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MINIMUM OF 1" BEHIND REBAR AND MINIMUM OF 2" CLEARANCE TO SAWCUT. FOR REPAIR DETAILS, SEE "TYPICAL CAP AND COLUMN REPAIR DETAILS" SHEET.



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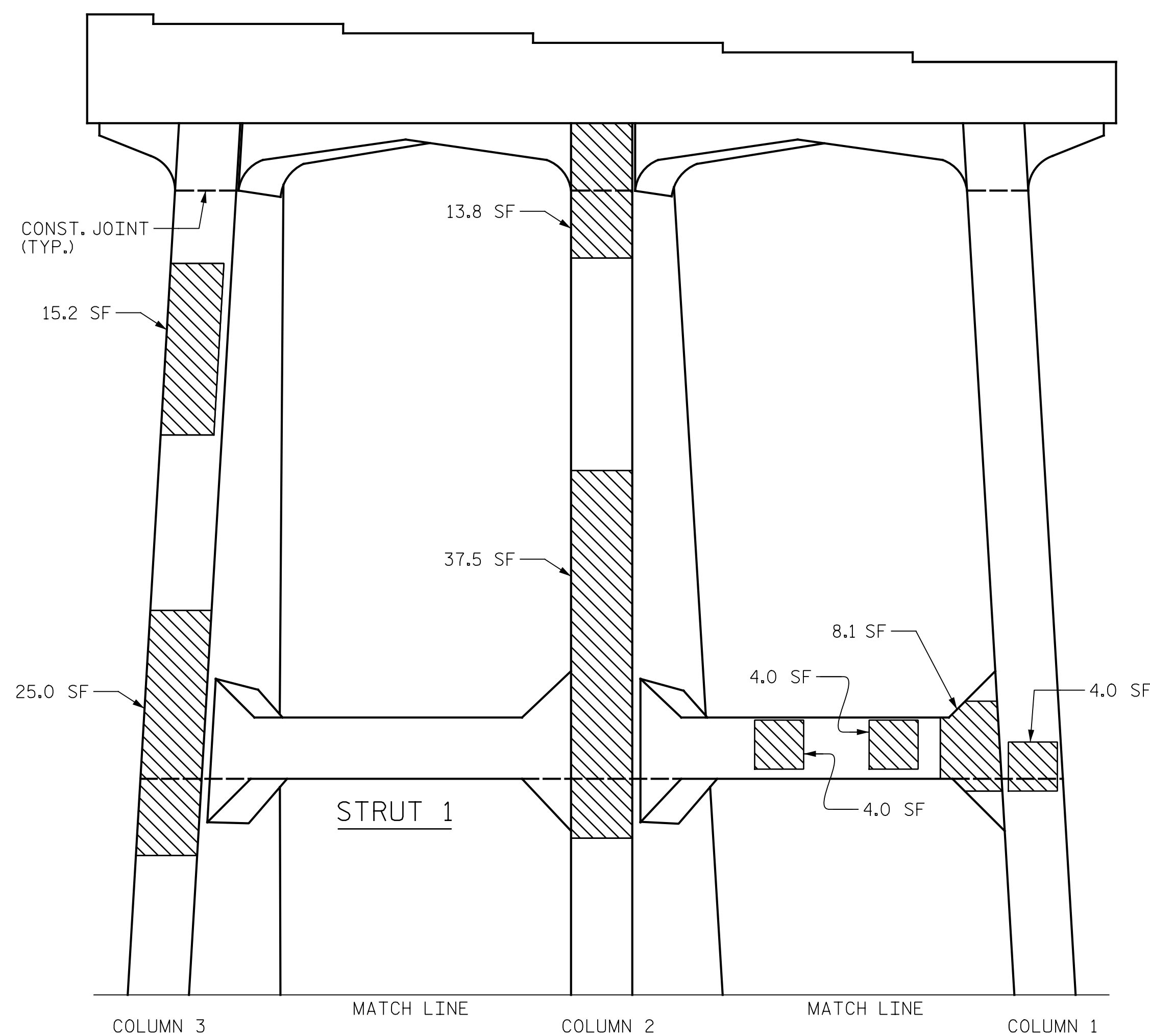
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NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
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2			4			

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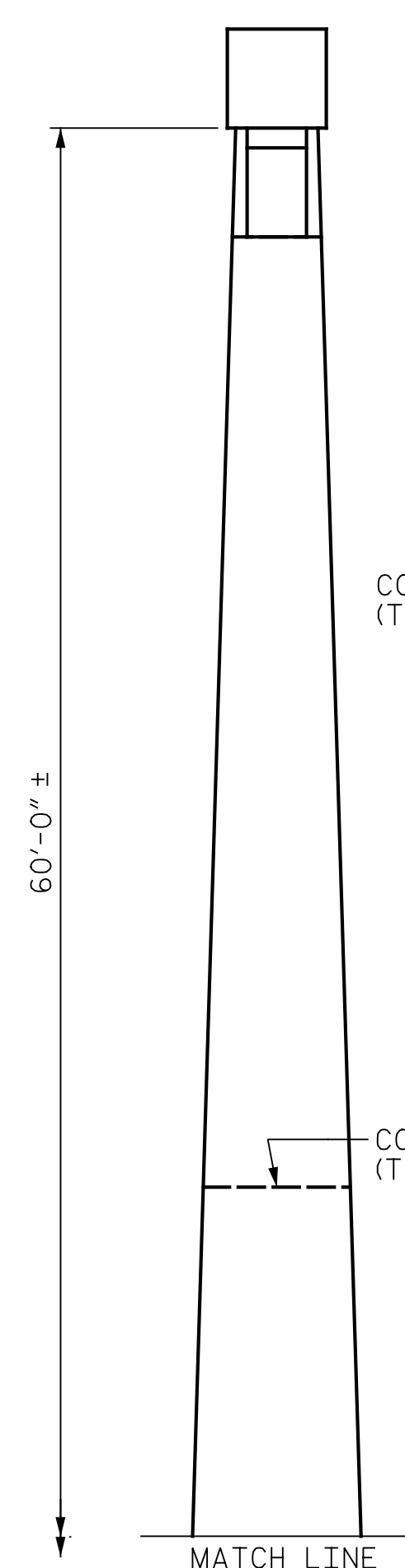


BOTTOM OF CAP

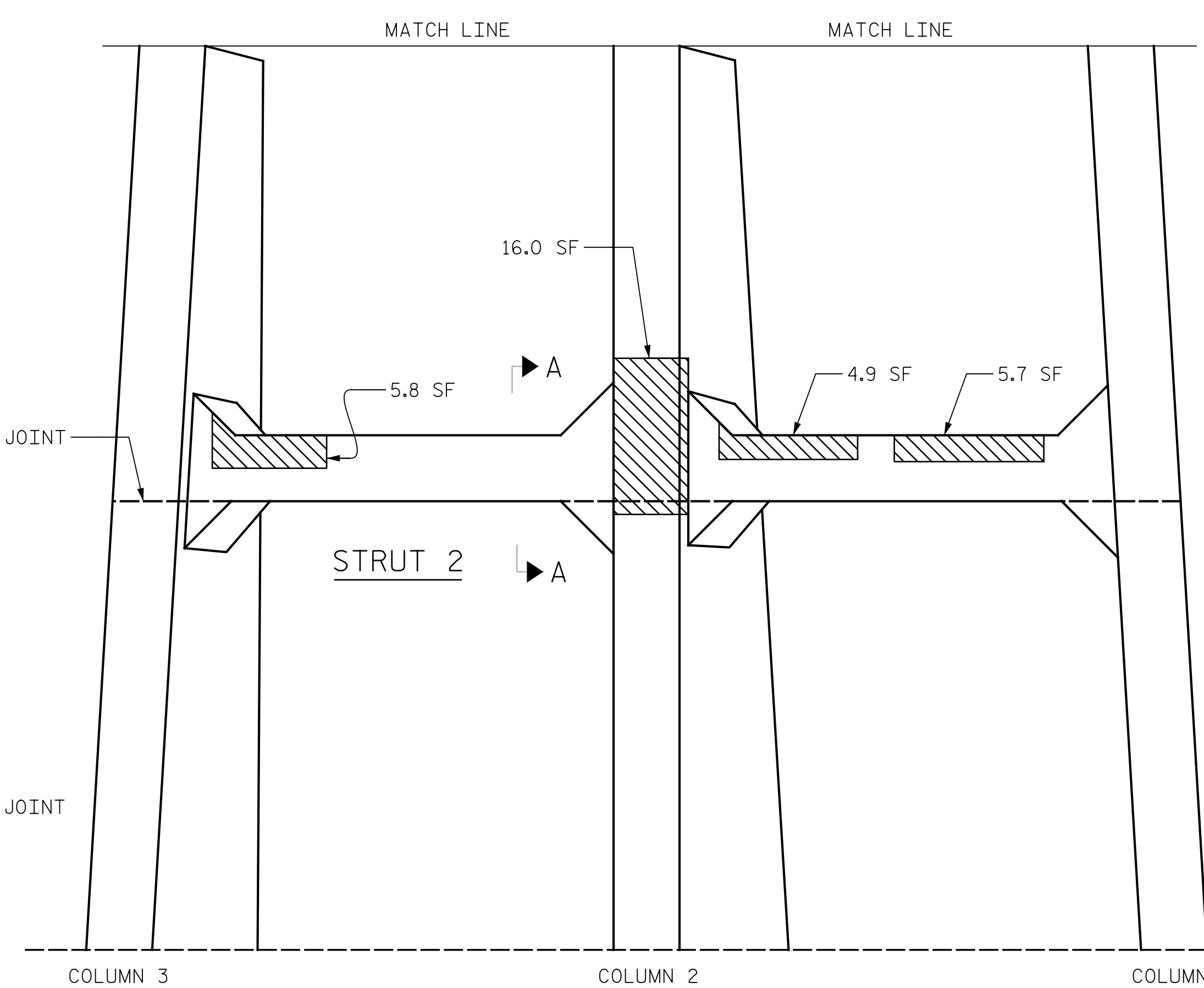
SPAN C  
SPAN D



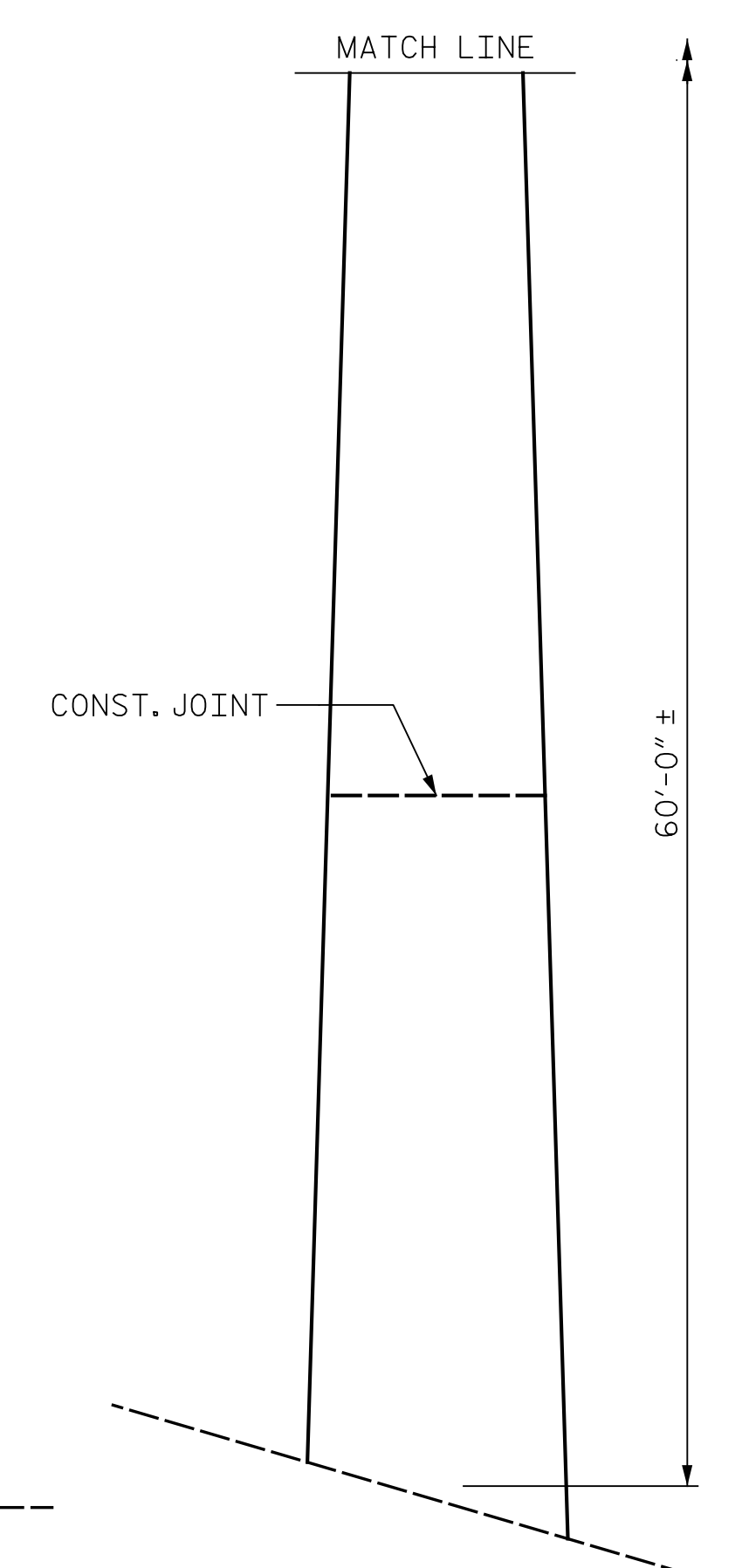
ELEVATION  
(SHOWING UPPER PORTION)



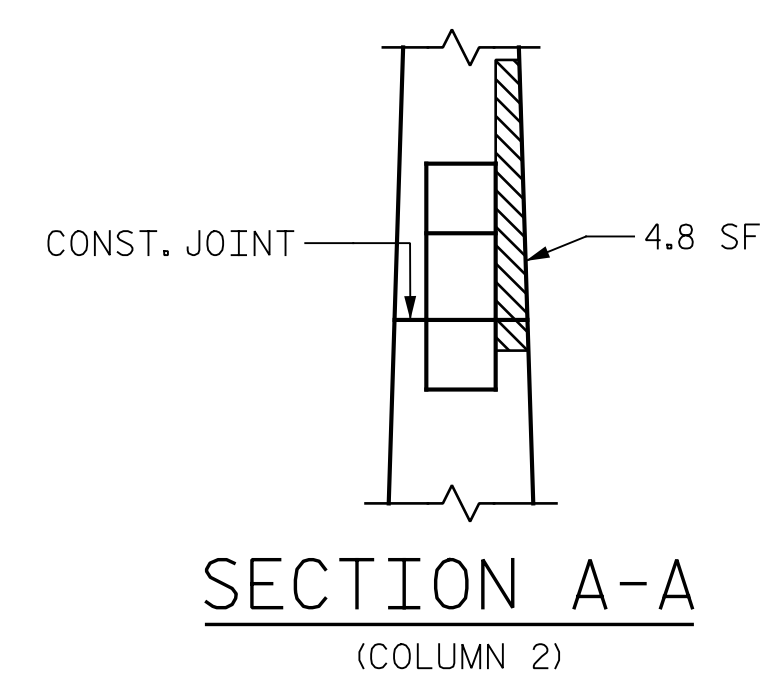
END VIEW  
(SHOWING UPPER PORTION)  
(COLUMN 1)



ELEVATION  
(SHOWING LOWER PORTION)

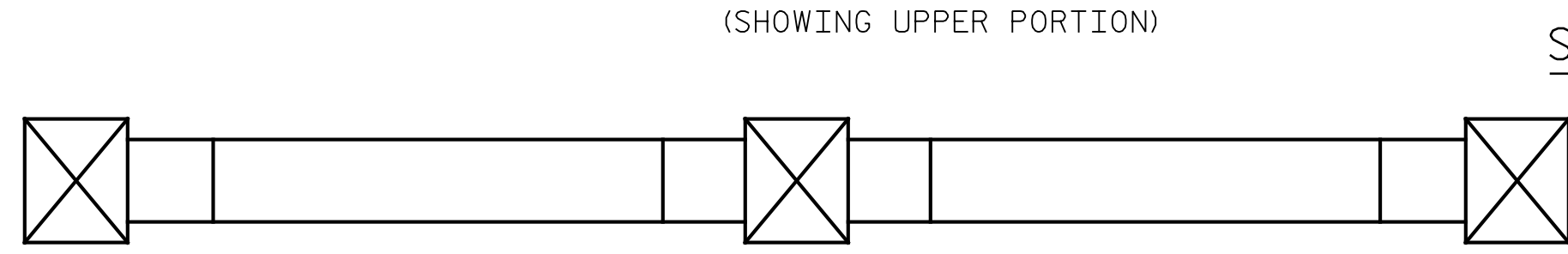


END VIEW  
(SHOWING LOWER PORTION)  
(COLUMN 1)

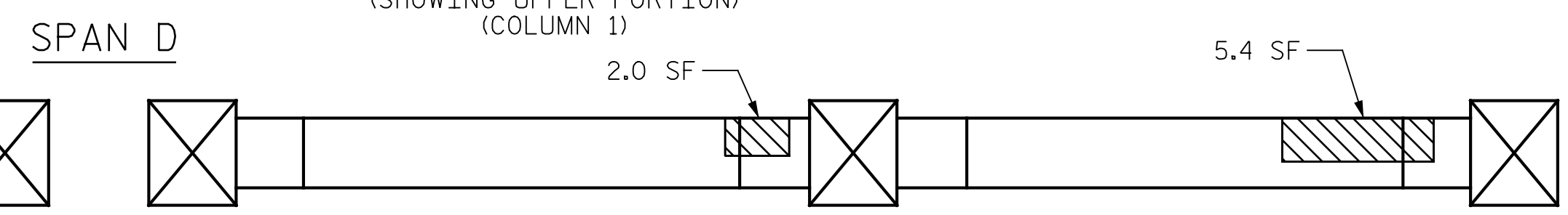


SECTION A-A  
(COLUMN 2)

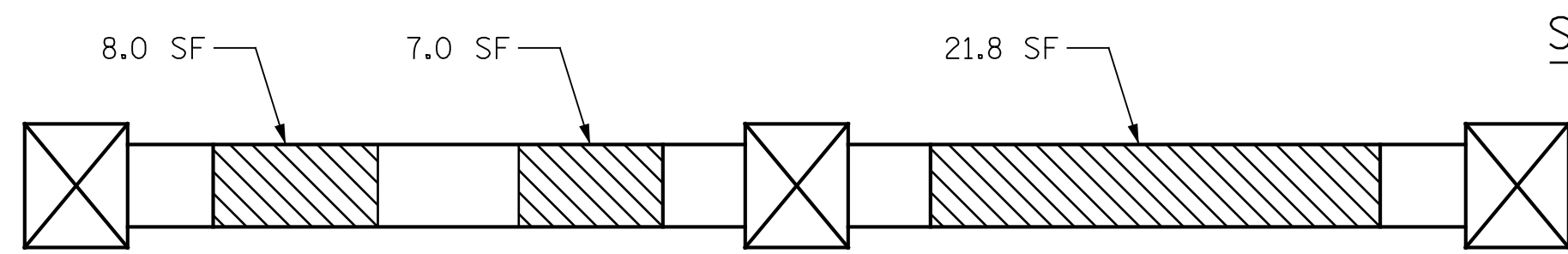
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FOR ADDITIONAL NOTES, SEE SHEET 1 OF 2.
- SHOTCRETE REPAIR
  - CONCRETE REPAIR (FORM & POUR)
  - ERI - EPOXY RESIN INJECTION



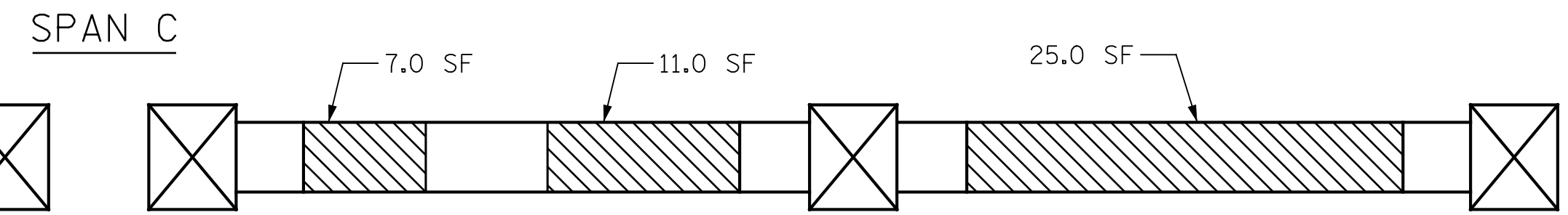
TOP OF STRUT 1



TOP OF STRUT 2



BOTTOM OF STRUT 1



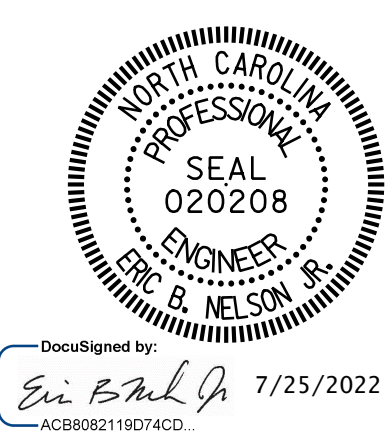
BOTTOM OF STRUT 2

PROJECT NO. I-5889B  
BUNCOMBE COUNTY  
 BRIDGE NO. 100344

SHEET 2 OF 2

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

BENT 3  
 SPAN D SIDE



DocuSigned by:  
 Eric B. Nelson  
 7/25/2022

DRAWN BY: J. MYA DATE: 6/2022  
 CHECKED BY: J. YANACCONO DATE: 6/2022

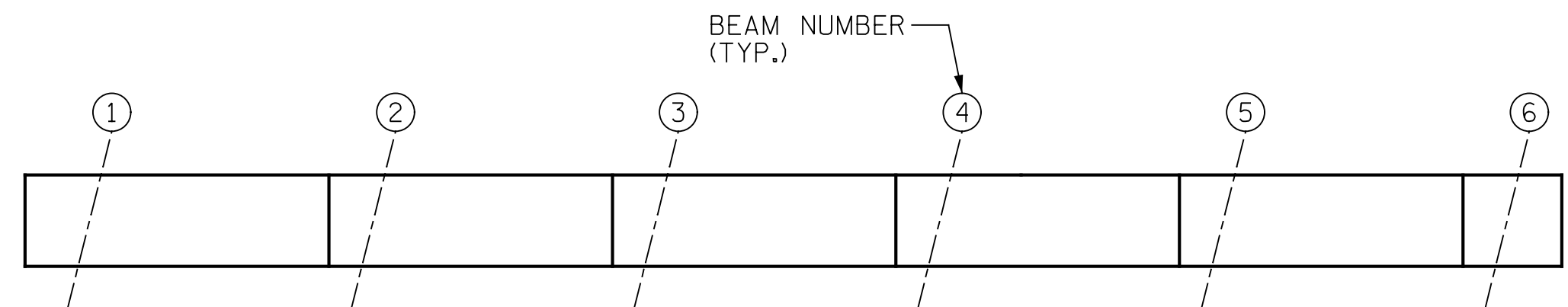


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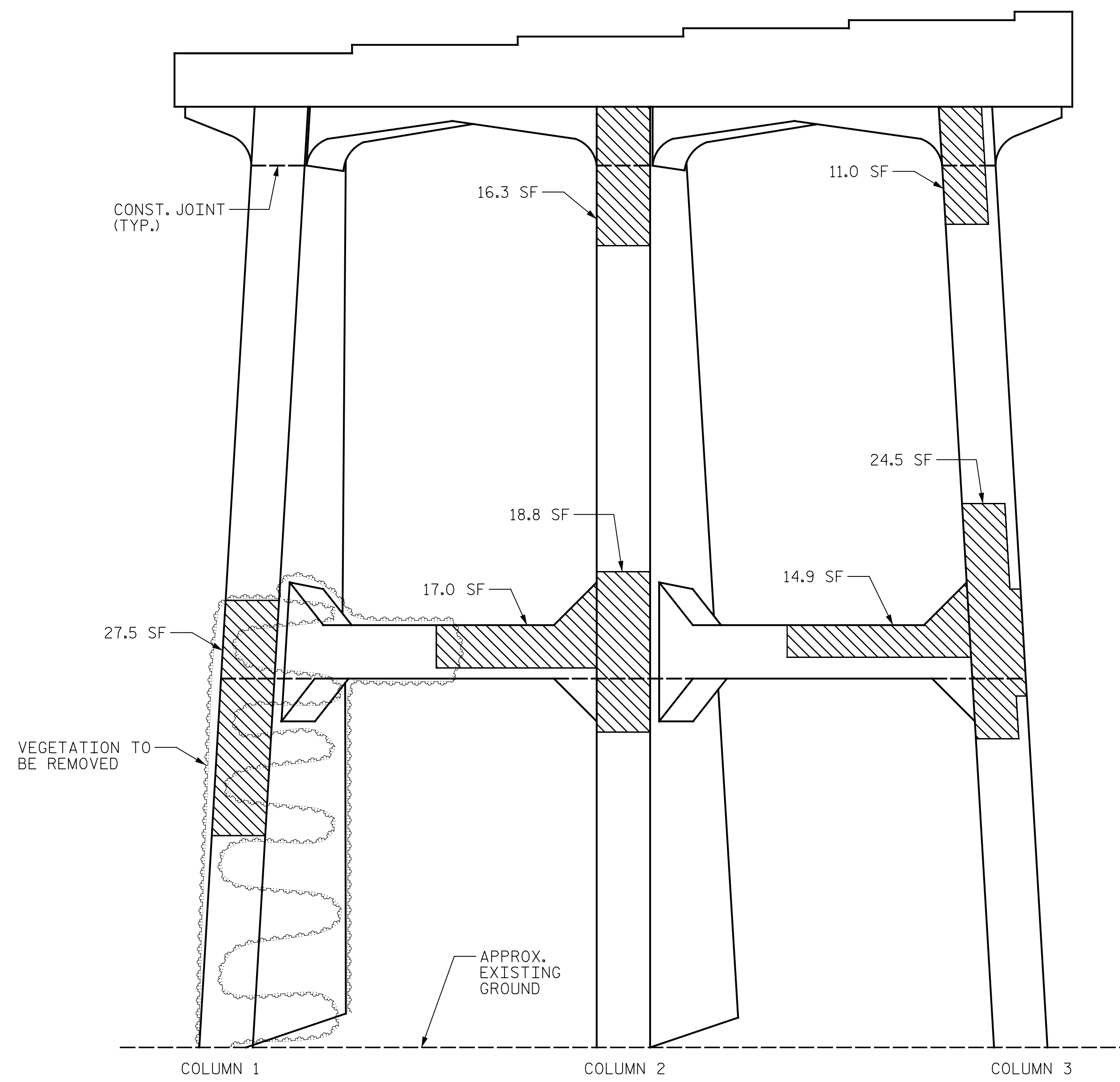
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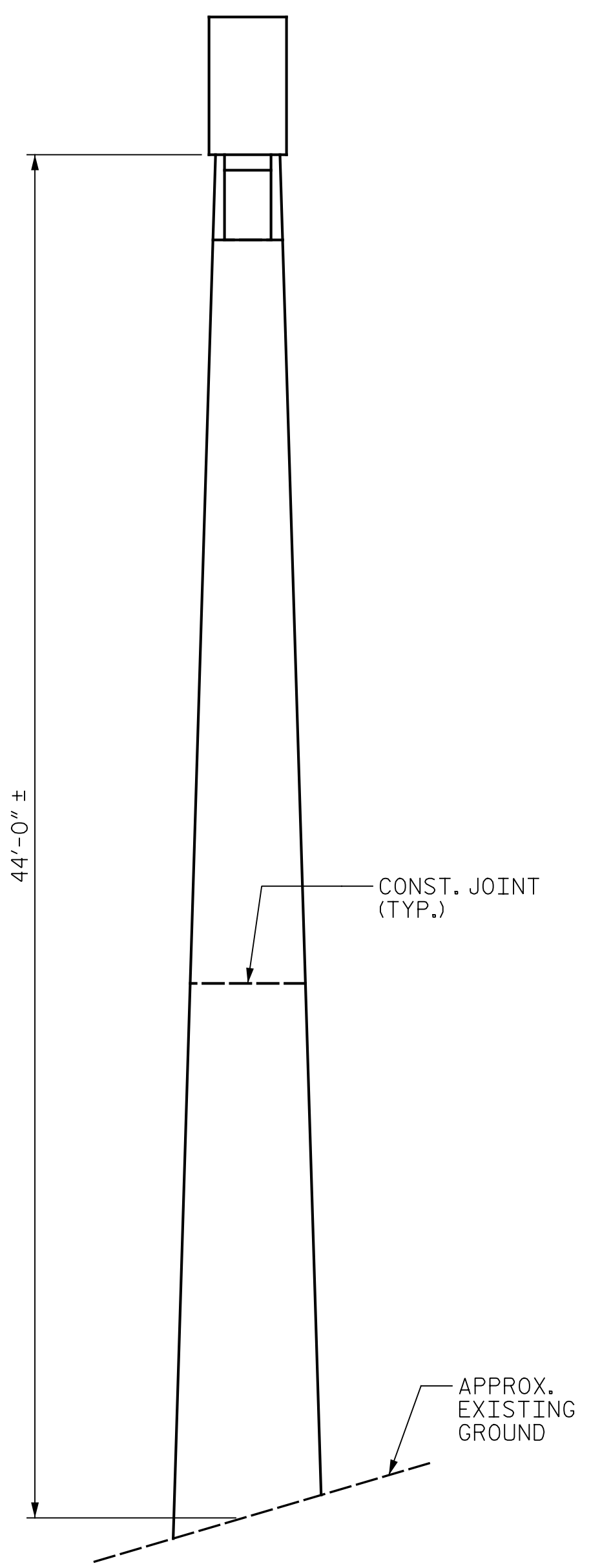
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TOP OF CAP



ELEVATION



END VIEW  
(COLUMN 3)

AS-BUILT REPAIR QUANTITY TABLE

BENT 4 REPAIRS	QUANTITIES				
	ESTIMATE		ACTUAL		
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF
CAP	0.0	0.0			
COLUMN	127.9	64.0			
STRUT	107.3	53.7			
CONCRETE REPAIRS	0.0	0.0			
EPOXY RESIN INJECTION		LENGTH LF	LENGTH LF		
CAP		0.0			
COLUMN		0.0			
STRUT		0.0			
EPOXY COATING		SQ. FT	SQ. FT		
TOP OF BENT CAP		91			

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MINIMUM OF 1" BEHIND REBAR AND MINIMUM OF 2" CLEARANCE TO SAWCUT. FOR REPAIR DETAILS, SEE "TYPICAL CAP AND COLUMN REPAIR DETAILS" SHEET.

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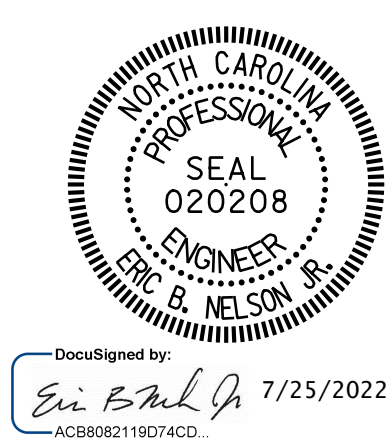
- SHOTCRETE REPAIR
- CONCRETE REPAIR (FORM & POUR)
- ERI - EPOXY RESIN INJECTION

PROJECT NO. I-5889B  
BUNCOMBE COUNTY  
 BRIDGE NO. 100344

SHEET 1 OF 2

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

BENT 4  
 SPAN D SIDE

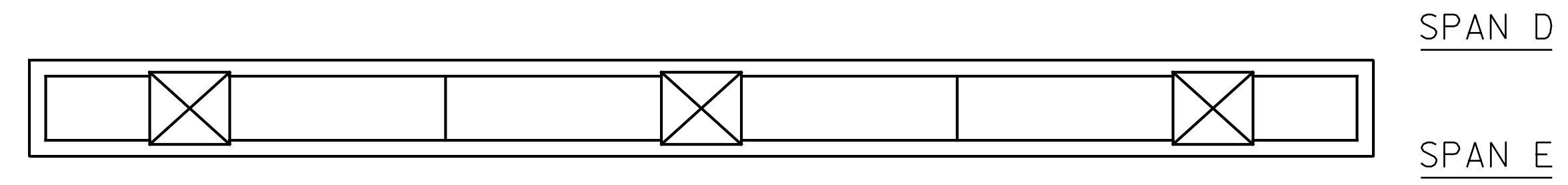


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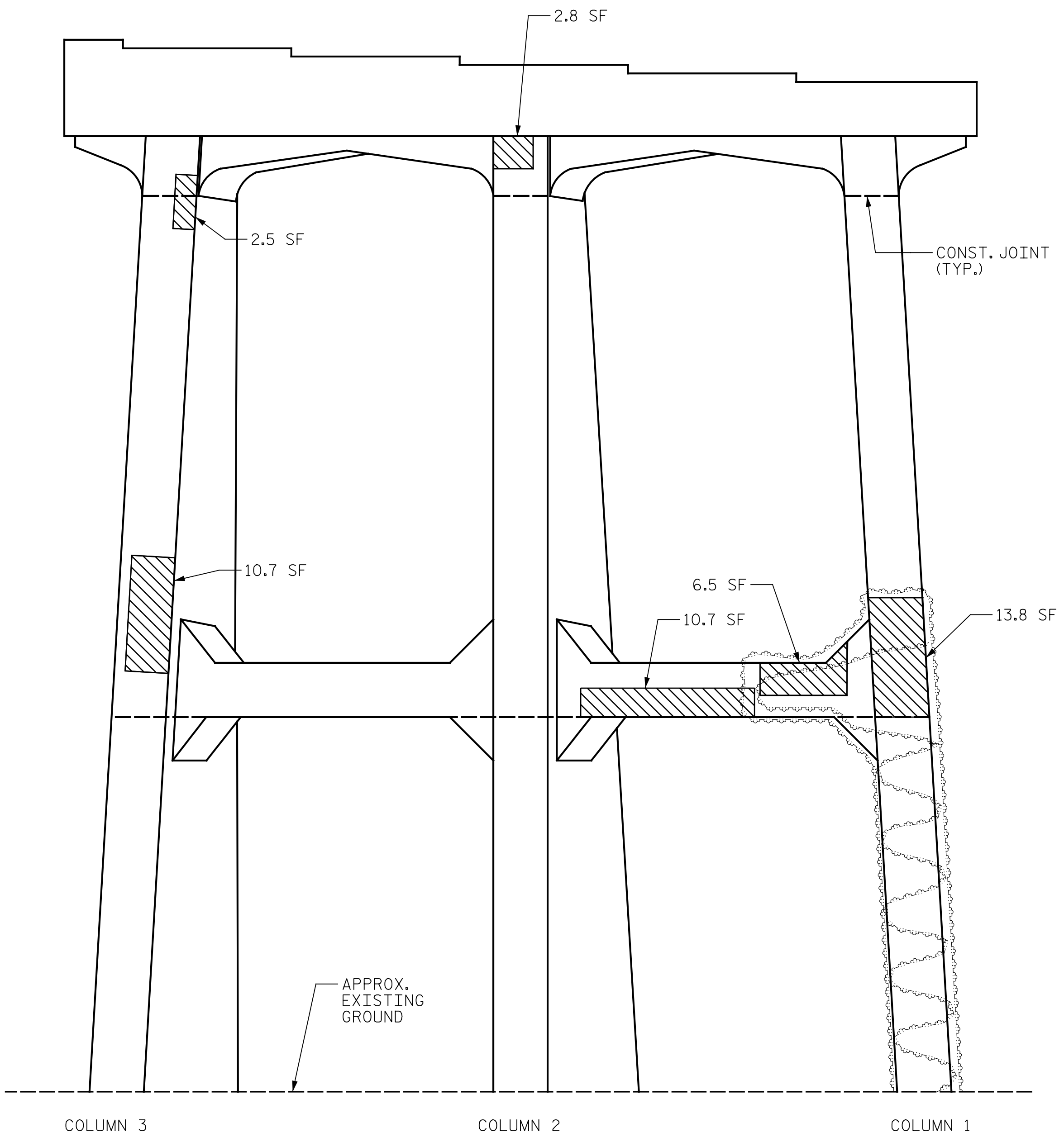
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NO.	BY:	DATE:	NO.	BY:	DATE:	
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2			4			129

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 CHECKED BY : J. YANACCONO DATE : 6/2022

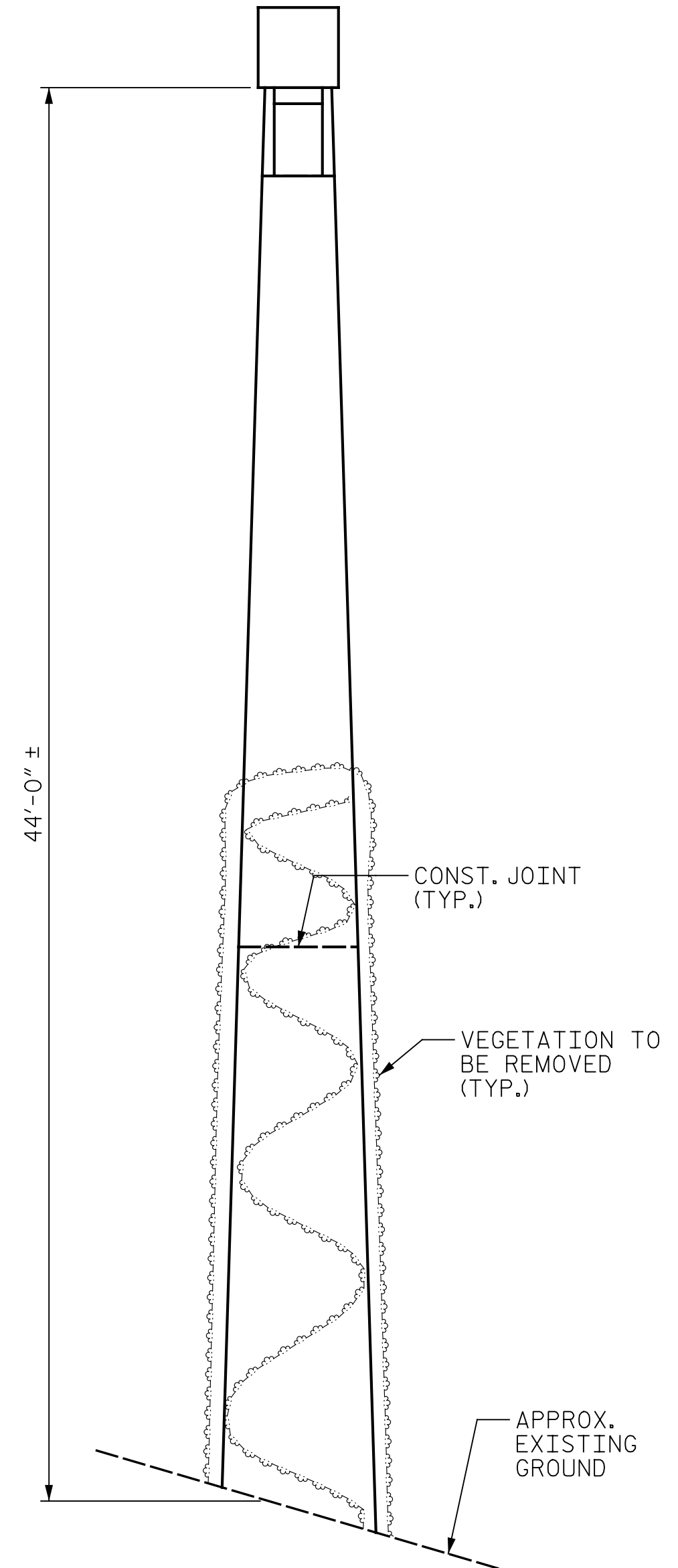
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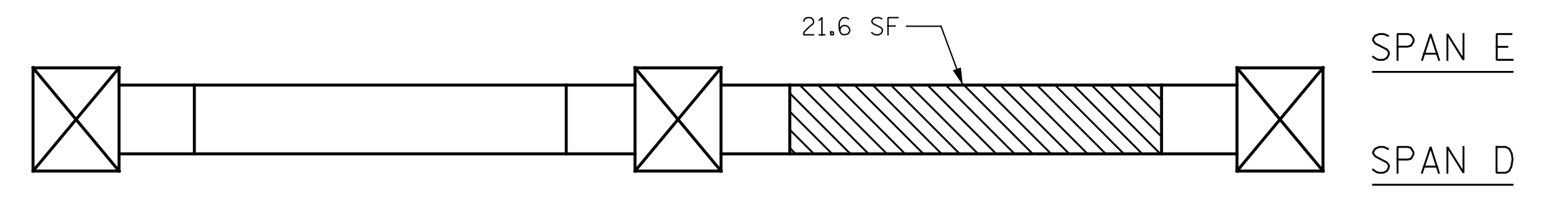
BOTTOM OF CAP



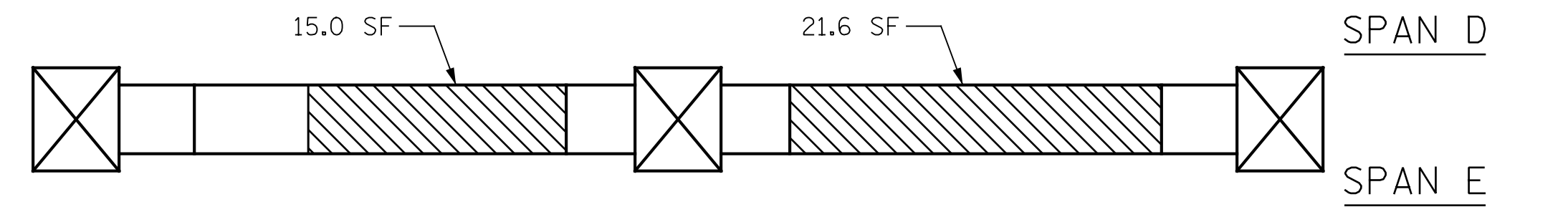
ELEVATION



END VIEW  
(COLUMN 1)






TOP OF STRUT



BOTTOM OF STRUT

**NOTES:**  
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 SHOTCRETE REPAIR  
 CONCRETE REPAIR (FORM & POUR)  
 ERI - EPOXY RESIN INJECTION

PROJECT NO. I-5889B  
BUNCOMBE COUNTY  
 BRIDGE NO. 100344

SHEET 2 OF 2

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**BENT 4**  
**SPAN E SIDE**

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			129
2			4			

S3-18



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*Eric B. Nelson* 7/25/2022  
 AC8882116074CD



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 CHECKED BY : J. YANACCONI DATE : 6/2022



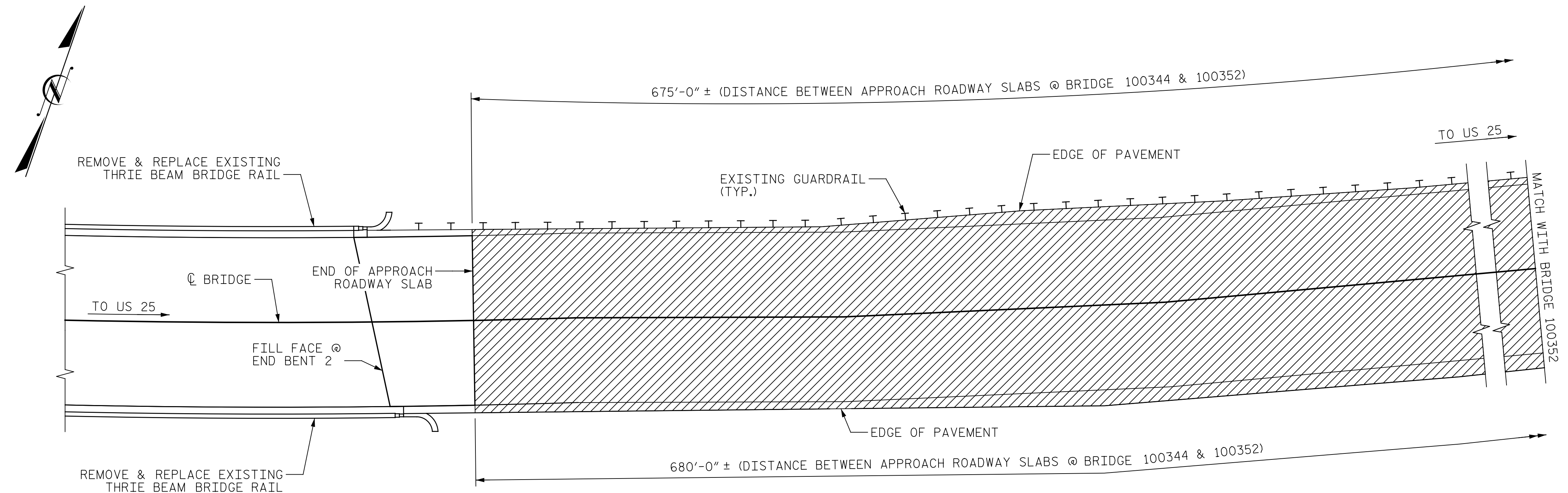
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SUMMARY OF QUANTITIES		
DESCRIPTION	ESTIMATE	ACTUAL
FINE MILLING	2560 SY	
REMOVE & RESET EXISTING GUARDRAIL	98 LF	

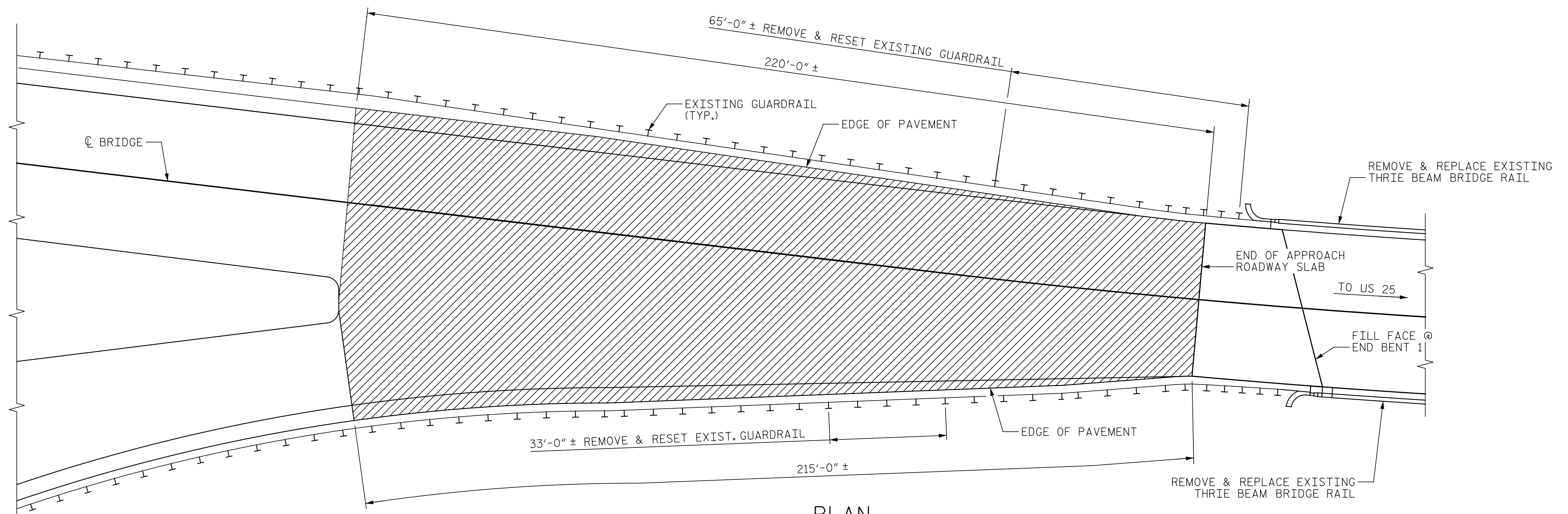
**NOTES:**  
 FINE MILLING - EXISTING APPROACH ASPHALT PAVEMENT TO BE MILLED AS NECESSARY TO ATTAIN MINIMUM 1 1/2" DEPTH OF NEW ASPHALT PAVEMENT, NEW ASPHALT PAVEMENT SHALL BE OF THICKNESS NECESSARY TO CREATE A SMOOTH TRANSITION BETWEEN THE ROADWAY AND THE BRIDGE NECK, NEW ASPHALT PAVING THICKNESS MAY EXCEED 1 1/2" DUE TO THE SETTLEMENT OF THE EXISTING APPROACH.

FOR ADDITIONAL DETAILS ON ASPHALT SURFACE COURSE, REPLACEMENT OF GUARDRAIL AND EROSION CONTROL MEASURES, SEE ROADWAY PLANS.

FINE MILLING



**PLAN**  
(EXIT END)



**PLAN**  
(APPROACH END)

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BUNCOMBE COUNTY  
 BRIDGE NO. 100344

SHEET 1 OF 2

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
  
**APPROACH MILLING  
 AND TYPICAL ROADWAY  
 SECTIONS**



DocuSigned by:  
*Eric B. Nelson* 7/25/2022  
 AC889211674CD



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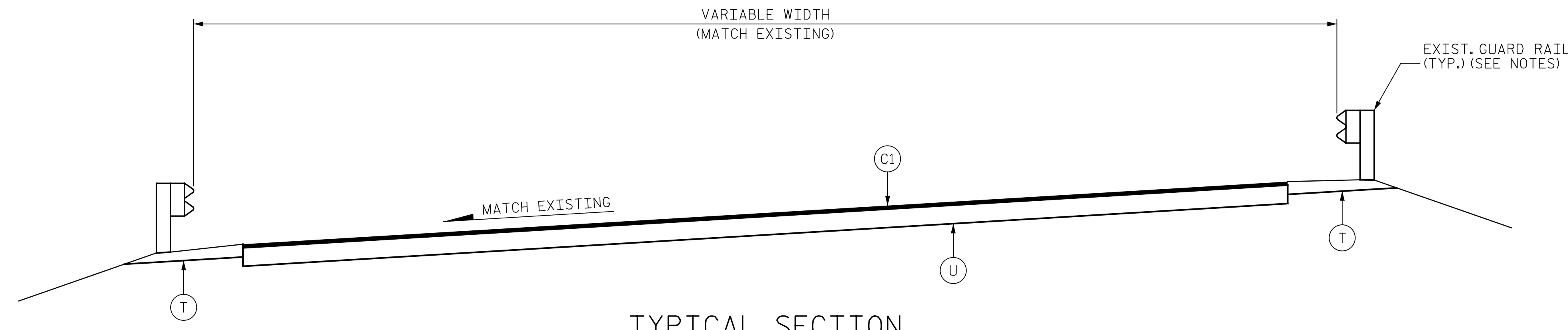
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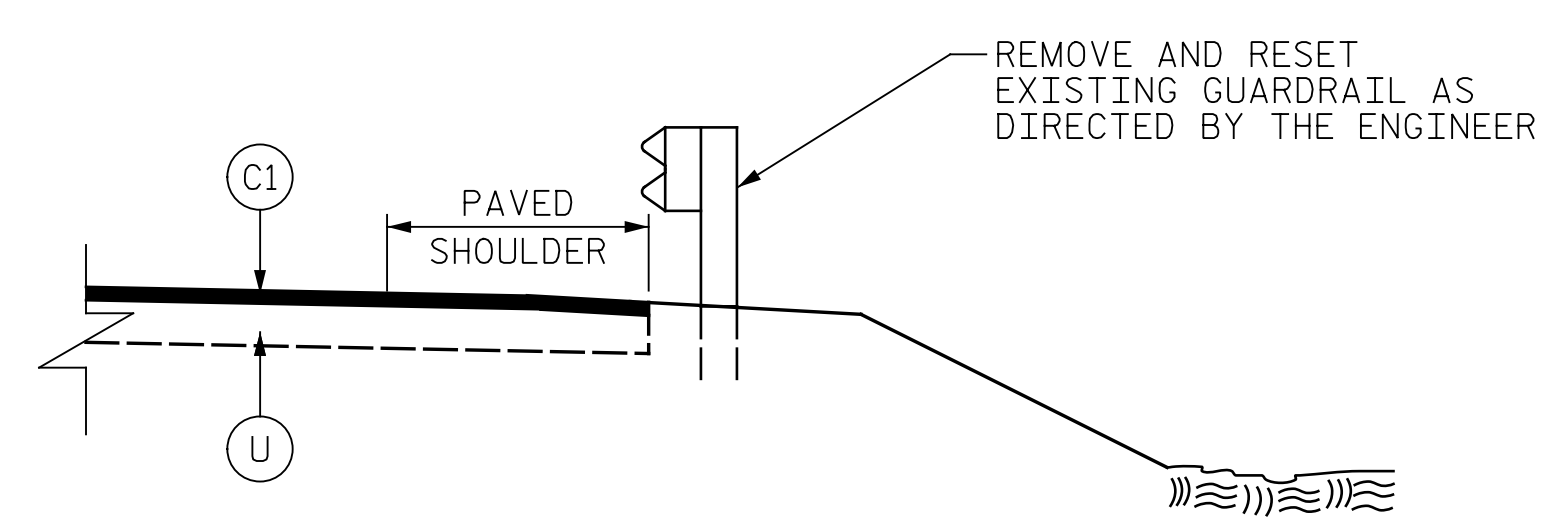
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PAVEMENT SCHEDULE	
C1	PROP. APPROX. 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5D, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
M	FINE MILLING
T	SHOULDER RECONSTRUCTION
U	EXISTING PAVEMENT

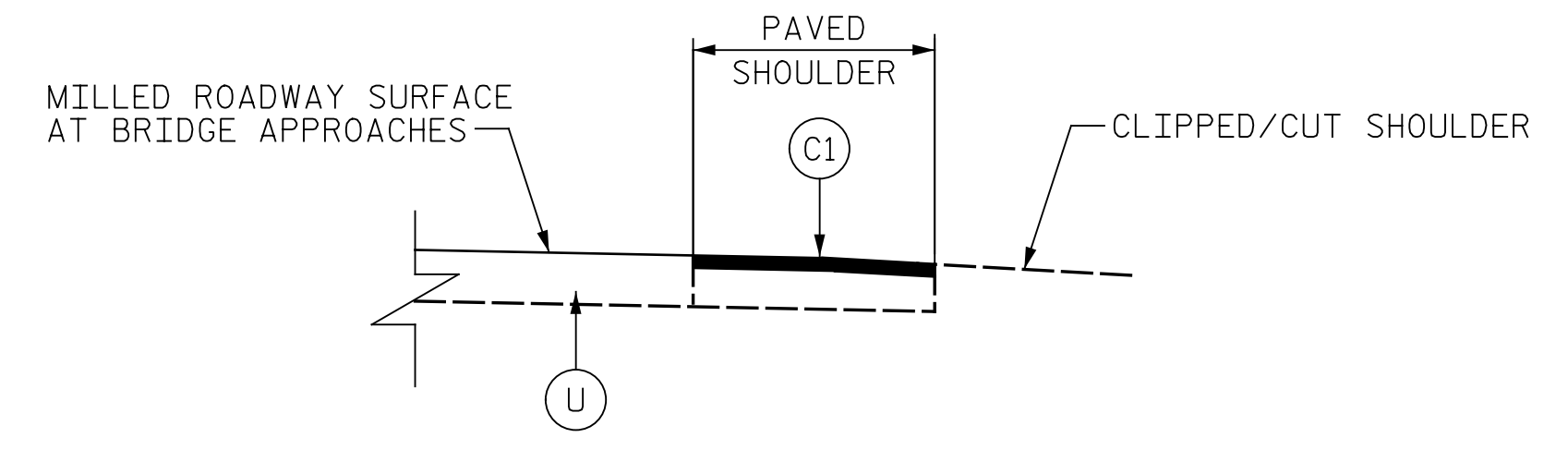
**NOTES:**  
 DETAIL DOES NOT APPLY TO OGAFD AND ULTRA-THIN BONDED WEARING COURSE.  
 BACKFILL SHOULDER WITH APPROVED MATERIAL.  
 REMOVE AND RESET EXISTING GUARDRAIL TO FACILITATE PLACEMENT OF ASPHALT PAVEMENT.  
 FOR ASPHALT CONCRETE SURFACE COURSE AND SHOULDER RECONSTRUCTION, SEE ROADWAY PLANS.



**TYPICAL SECTION**  
 CLIP/CUT/FILL SHOULDERS PER NCDOT STANDARD DRAWING 560.01 & 560.02 BEFORE RE-INSTALLING GUARDRAIL IN AREAS AS DIRECTED BY THE ENGINEER.

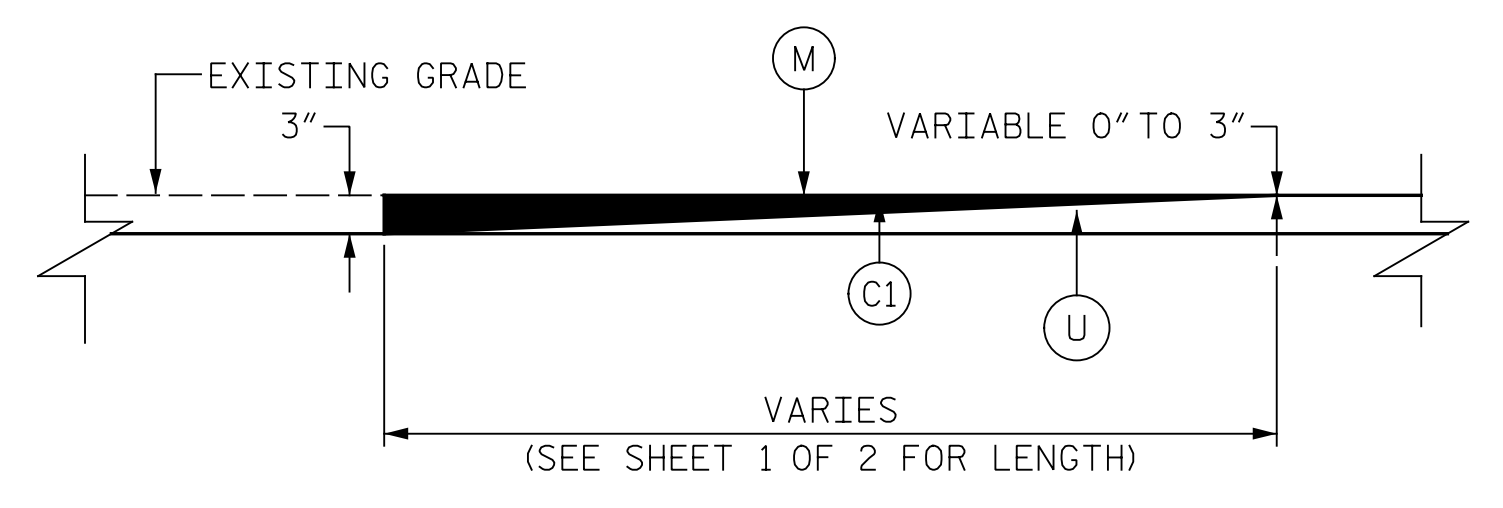


**GUARDRAIL DETAIL**  
 TO BE USED AT VARIOUS LOCATIONS

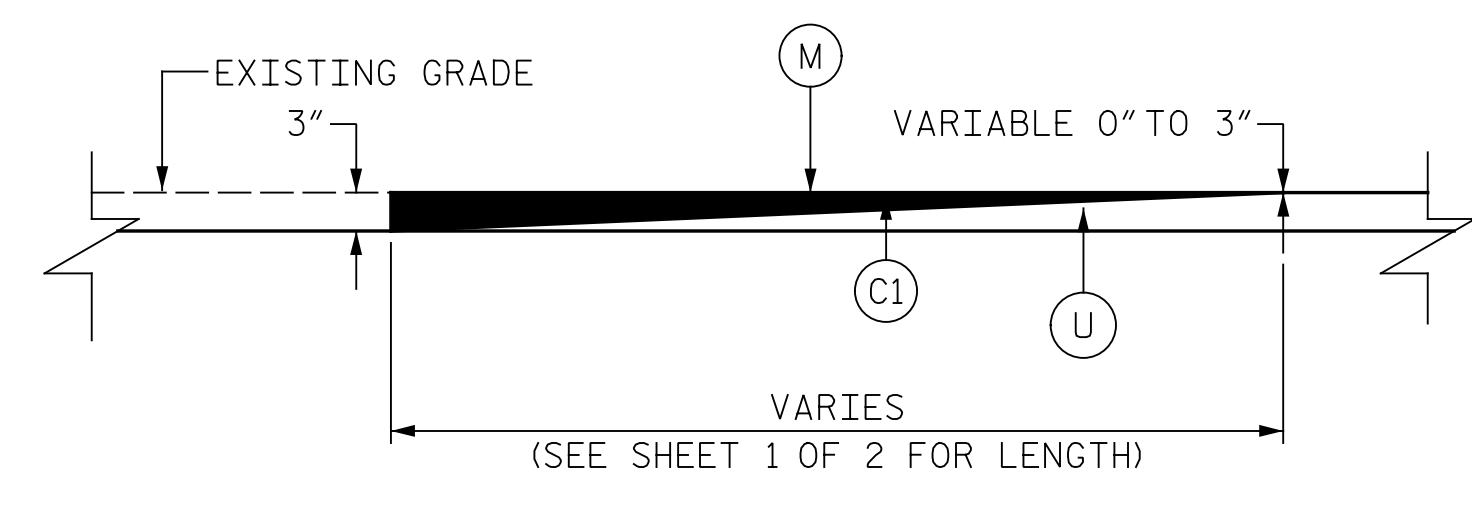


**SHOULDER DETAIL AT BRIDGE APPROACHES**

1. REMOVE PAVED SHOULDER MATERIAL.
  2. COMPACT SUBGRADE.
  3. PLACE SURFACE COURSE (S9.5D) ON COMPACTED SUBGRADE UP TO MILLED SURFACE FOR BRIDGE APPROACHES. TYPICAL FOR BOTH SIDES OF ROADWAY.
- PAYMENT FOR THE REMOVAL OF THE PAVED SHOULDER AND COMPACTION OF THE SUBGRADE IS INCIDENTAL TO THE PLACEMENT OF S9.5D.



**MILLING DETAIL AT BRIDGE APPROACH**

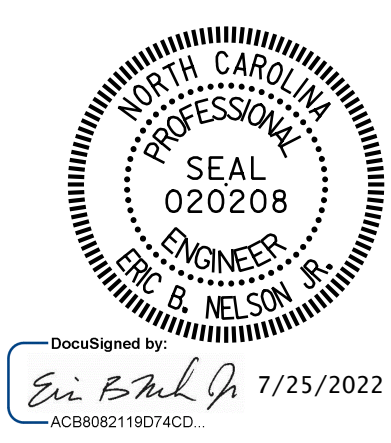


**DETAIL TO TIE INTO EXISTING PAVEMENT**

THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE FACT THAT HE WILL BE REQUIRED TO MILL THE EXISTING ASPHALT PAVEMENT TO ENSURE A PROPER TIE-IN WITH THE EXISTING SURFACE AT THE BEGINNING AND END OF EACH MAP TO BE RESURFACED WITH ASPHALT CONC. SURFACE COURSE, TYPE S9.5D. THIS WILL BE PAID FOR AS FINE MILLING.

PROJECT NO. I-5889B  
BUNCOMBE COUNTY  
 BRIDGE NO. 100344

SHEET 2 OF 2



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
**APPROACH MILLING  
 AND TYPICAL ROADWAY  
 SECTIONS**

DRAWN BY : J. HARRIS DATE : 6/2022  
 CHECKED BY : J. YANACCONO DATE : 6/2022

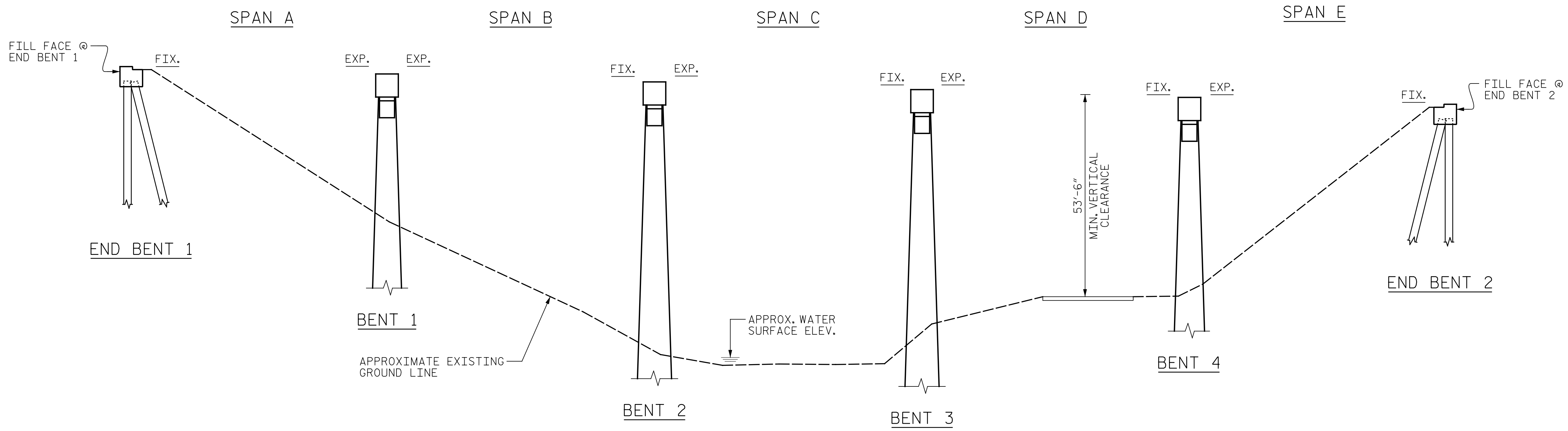


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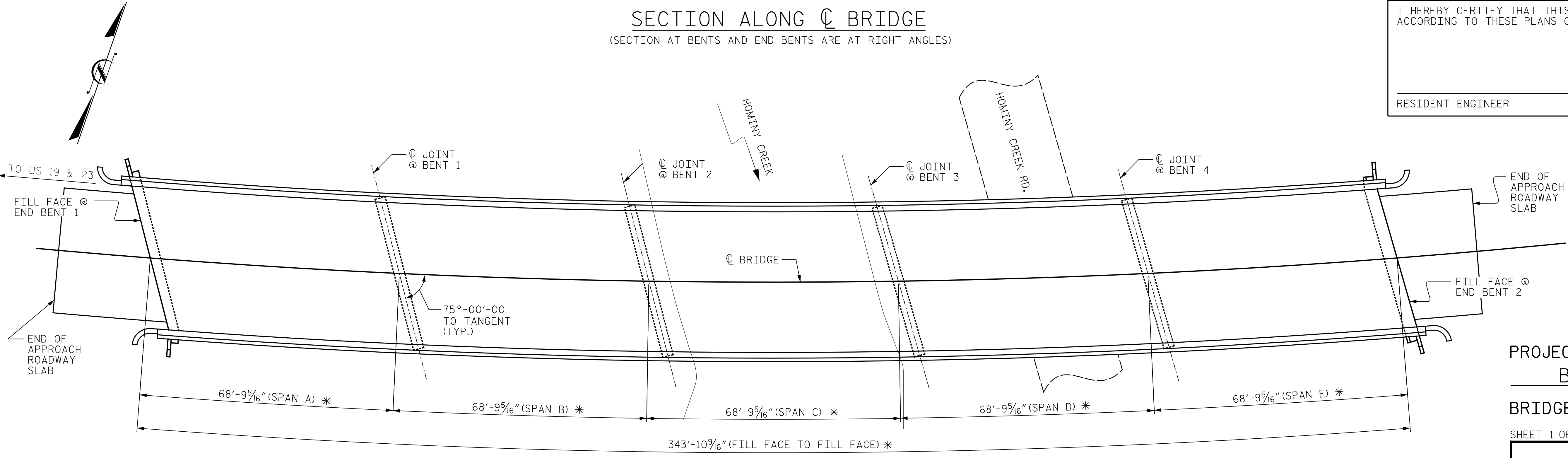
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**SECTION ALONG Q BRIDGE**  
 (SECTION AT BENTS AND END BENTS ARE AT RIGHT ANGLES)



**PLAN**  
 (PILES NOT SHOWN FOR CLARITY)

\* DIMENSIONS MEASURED ALONG ARC

**NOTE:**  
 GENERAL DRAWING INFORMATION IS TAKEN FROM THE ORIGINAL PLANS AND THE ROUTINE INSPECTION REPORT DATED 10/17/2019.  
 BRIDGE ORIENTATION CONFORMS TO THE EXISTING BRIDGE PLANS AND ROUTINE INSPECTION REPORT.

- SCOPE OF WORK**
- REMOVE ASPHALT WEARING SURFACE AND PARTIALLY REMOVE TOP OF BRIDGE DECK CONCRETE BY FINE MILLING AND HYDRO-DEMOLITION.
  - OVERLAY PREPARED TOP OF BRIDGE DECK WITH VERY EARLY STRENGTH LATEX MODIFIED CONCRETE (LMC-VES).
  - REMOVE EXISTING JOINT MATERIAL AND INSTALL FOAM JOINTS.
  - GROOVE LMC-VES BRIDGE DECK.
  - REMOVE AND REPLACE EXISTING TUBULAR TRIPLE CORRUGATED STEEL BEAM BRIDGE RAIL.
  - REMOVE AND REPLACE EXISTING STEEL BEAM GUARDRAIL AND GUARDRAIL ANCHOR UNITS.
  - MILL AND REPAVE ASPHALT APPROACH ROADWAYS.
  - REMOVE DEBRIS FROM TOP OF EXISTING BENT CAPS AND APPLY EPOXY COATING.
  - EPOXY RESIN INJECTION OF CONCRETE CRACKS.
  - REMOVE UNSOUND CONCRETE AND PROPERLY PREPARE EXISTING END BENT AND BENT AREAS FOR SHOTCRETE AND CONCRETE REPAIRS.

I HEREBY CERTIFY THAT THIS STRUCTURE WAS REHABILITATED ACCORDING TO THESE PLANS OR AS NOTED HEREIN.

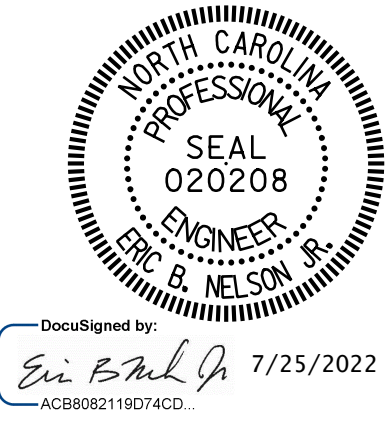
RESIDENT ENGINEER \_\_\_\_\_ DATE \_\_\_\_\_

PROJECT NO. I-5889B  
BUNCOMBE COUNTY  
 BRIDGE NO. 100347

SHEET 1 OF 2

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

GENERAL DRAWING  
 FOR BRIDGE ON I-40 WBL OVER  
 SR 3620 (HOMINY CREEK ROAD)  
 AND HOMINY CREEK



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DRAWN BY : M. LEE/J. MYA DATE : 6/2022  
 CHECKED BY : J. YANNAACONE DATE : 6/2022

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### LOCATION SKETCH

INFORMATION INDICATED ON THE LOCATION SKETCH SHALL BE CONSIDERED GENERAL INFORMATION ONLY. CONTRACTOR SHALL CONFIRM, THROUGH OTHER SOURCES, SPECIFIC INFORMATION REGARDING BRIDGES, ROADWAY, UTILITIES, THE SURROUNDING AREA, AND ANY OTHER ASPECTS THAT MAY BE NECESSARY TO PERFORM AND COMPLETE THE PROJECT.

BRIDGE COORDINATES	
LATITUDE	LONGITUDE
35°-33'-29.10"	82°-35'-45.40"

### GENERAL NOTES

- SEE TRANSPORTATION MANAGEMENT PLANS FOR LANE WIDTHS, SEQUENCING AND OTHER TRAFFIC CONTROL MEASURES FOR STAGING OF OVERLAY SURFACE PREPARATION AND LATEX MODIFIED CONCRETE - VERY EARLY STRENGTH (LMC-VES) PLACEMENT.
- FOR NEW ASPHALT PLACEMENT, SEE STANDARD SPECIFICATIONS.
- THE CONTRACTOR'S ATTENTION IS CALLED TO THE FACT THAT DUE TO THE NATURE OF PRESERVATION PROJECTS, THE EXTENT OF WORK CANNOT ALWAYS BE ACCURATELY DETERMINED PRIOR TO COMMENCEMENT OF WORK. REPAIR LOCATIONS AND ESTIMATES OF QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS.
- EXISTING DIMENSIONS AND BRIDGE CONDITION ARE FROM THE BEST INFORMATION AVAILABLE. THE CONTRACTOR SHALL FIELD VERIFY THE INFORMATION SHOWN ON THE PLANS AND NOTIFY THE ENGINEER IF ACTUAL DIMENSIONS AND CONDITIONS DIFFER.
- THE CONTRACTOR SHALL HAVE NO CLAIM WHATSOEVER AGAINST THE DEPARTMENT FOR ANY DELAYS OR ADDITIONAL COST INCURRED BASED ON DIFFERENCES BETWEEN WHAT IS SHOWN ON THE PLANS AND THE ACTUAL CONDITIONS AT THE PROJECT SITE.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO FOLLOW ALL STATE AND FEDERAL SAFETY REQUIREMENTS.
- WORK ON THE BRIDGE SHALL BE PERFORMED SO AS NOT TO ALLOW DEBRIS TO FALL BELOW, EXCEPT WHERE THE CONTRACTOR'S PLAN USES PLATFORMS, NETS, SCREENS OR OTHER PROTECTIVE DEVICES TO CATCH THE MATERIAL. THE CONTRACTOR SHALL SUBMIT PLANS FOR CONSTRUCTION IN ACCORDANCE WITH ARTICLE 402-2 OF THE STANDARD SPECIFICATIONS AND THE PROJECT SPECIAL PROVISIONS.
- THE CONTRACTOR SHALL PERFORM ALL WORK WITH CARE SO THAT THE EXISTING STRUCTURE WHICH IS TO REMAIN IN PLACE WILL NOT BE DAMAGED. IF THE CONTRACTOR DAMAGES ANY PART OF THE EXISTING STRUCTURE WHICH IS TO REMAIN IN PLACE, THE DAMAGED AREA SHALL BE REPAIRED OR REPLACED IN A MANNER SATISFACTORY TO THE ENGINEER AT NO ADDITIONAL COST TO THE DEPARTMENT.
- ANY DAMAGE TO EXISTING REINFORCING STEEL, DURING CONTRACTOR'S OPERATIONS, SHALL BE REPAIRED AS DIRECTED BY THE ENGINEER AND PERFORMED AT NO ADDITIONAL COST TO THE DEPARTMENT.
- FOR CONTROL OF TRAFFIC AND LIMITS ON PHASING OF CONSTRUCTION, SEE TRANSPORTATION MANAGEMENT PLANS.
- PRIOR TO BEGINNING WORK, THE CONTRACTOR SHALL SUBMIT FOR REVIEW AND APPROVAL A COMPLETE SEQUENCE OF TASKS FOR EACH OPERATION AFFECTING THE BRIDGE SURFACE AND/OR TRAFFIC.
- FOR OTHER DESIGN DATA AND GENERAL NOTES, SEE SHEET SN.
- FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.
- FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.
- FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.
- FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.
- FOR FLOWABLE FILL, SEE SPECIAL PROVISIONS.
- THE ELEVATION(S) AND CLEARANCE(S) SHOWN ON THE PLANS AT THE POINT(S) OF MINIMUM VERTICAL CLEARANCE ARE FROM THE BEST INFORMATION AVAILABLE. PRIOR TO BEGINNING BRIDGE CONSTRUCTION, VERIFY THE ELEVATION(S) ON THE EXISTING PAVEMENT AND CHECK THE CLEARANCE. REPORT ANY VARIATIONS TO THE ENGINEER. ANY PLAN REVISIONS NECESSARY TO ACHIEVE THE REQUIRED MINIMUM VERTICAL CLEARANCE WILL BE PROVIDED BY THE DEPARTMENT.
- ALL PAVEMENT MARKING WILL BE IN ACCORDANCE WITH THE TRANSPORTATION MANAGEMENT PLANS.
- EXISTING JOINTS AND DECK DRAINS SHALL BE SEALED PRIOR TO BEGINNING SURFACE PREPARATIONS OF THE BRIDGE DECK. THE CONTRACTOR SHALL TAKE CARE THAT ANY CONSTRUCTION DEBRIS THAT COLLECTS IN THE DRAINS IS CONTAINED. DRAINS IN SHOULDERS OF ADJACENT TRAVEL LANE(S) SHALL BE KEPT FREE AND CLEAR OF DEBRIS.
- FOR LATEX MODIFIED CONCRETE - VERY EARLY STRENGTH AND PLACING AND FINISHING LATEX MODIFIED CONCRETE - VERY EARLY STRENGTH, SEE LATEX MODIFIED CONCRETE - VERY EARLY STRENGTH SPECIAL PROVISION.
- FOR FINE MILLING BRIDGE DECK, HYDRO-DEMOLITION OF BRIDGE DECK, CLASS II AND CLASS III SURFACE PREPARATION, SEE LMC OVERLAY SURFACE PREPARATION SPECIAL PROVISION.
- FOR LMC OVERLAY SURFACE PREPARATION, SEE SPECIAL PROVISIONS.
- THE CONTRACTOR MUST COLLECT, TREAT AND DISPOSE OF RUN-OFF WATER FROM THE HYDRO-DEMOLITION PROCESS, SEE LMC OVERLAY SURFACE PREPARATION SPECIAL PROVISION.
- THE CONTRACTOR SHALL TAKE CARE DURING JOINT REHAB OPERATIONS NOT TO DROP ANY MATERIAL BELOW THE BRIDGE WITHOUT PROTECTIVE DEVICES BELOW TO CATCH THE MATERIAL. ANY MATERIAL THAT FALLS BELOW THE BRIDGE SHALL BE CONTAINED, REMOVED AND DISPOSED OF BY THE CONTRACTOR AT NO EXTRA COST TO THE DEPARTMENT. IF THE ENGINEER DETERMINES THAT PROTECTIVE DEVICES ARE NOT ADEQUATE OR NOT BEING EMPLOYED, THE WORK SHALL BE SUSPENDED UNTIL ADEQUATE PROTECTION IS PROVIDED.
- FOR ELASTOMERIC CONCRETE FOR PRESERVATION, SEE SPECIAL PROVISIONS.
- FOR BRIDGE JOINT DEMOLITION, SEE SPECIAL PROVISIONS.
- FOR FOAM JOINT SEALS FOR PRESERVATION, SEE SPECIAL PROVISIONS.
- FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.
- FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.
- FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.
- FOR EPOXY COATING AND DEBRIS REMOVAL, SEE SPECIAL PROVISIONS.
- FOR FINE MILLING, SEE SPECIAL PROVISIONS.
- FOR REMOVAL AND REPLACEMENT OF TUBULAR BEAM GUARDRAIL, SEE SPECIAL PROVISIONS.

PROJECT NO. I-5889B  
BUNCOMBE COUNTY  
 BRIDGE NO. 100347

SHEET 2 OF 2  
 STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
  
 GENERAL DRAWING  
 FOR BRIDGE ON I-40 WBL OVER  
 SR 3620 (HOMINY CREEK ROAD)  
 AND HOMINY CREEK



DocuSigned by:  
*Eric B. Nelson* 7/25/2022  
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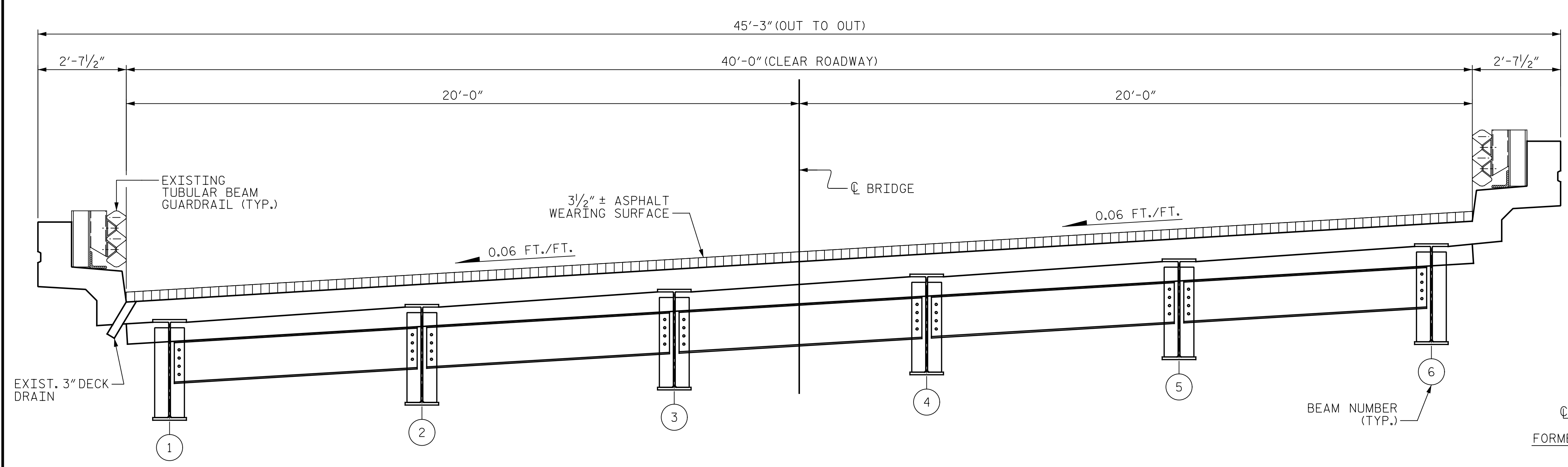
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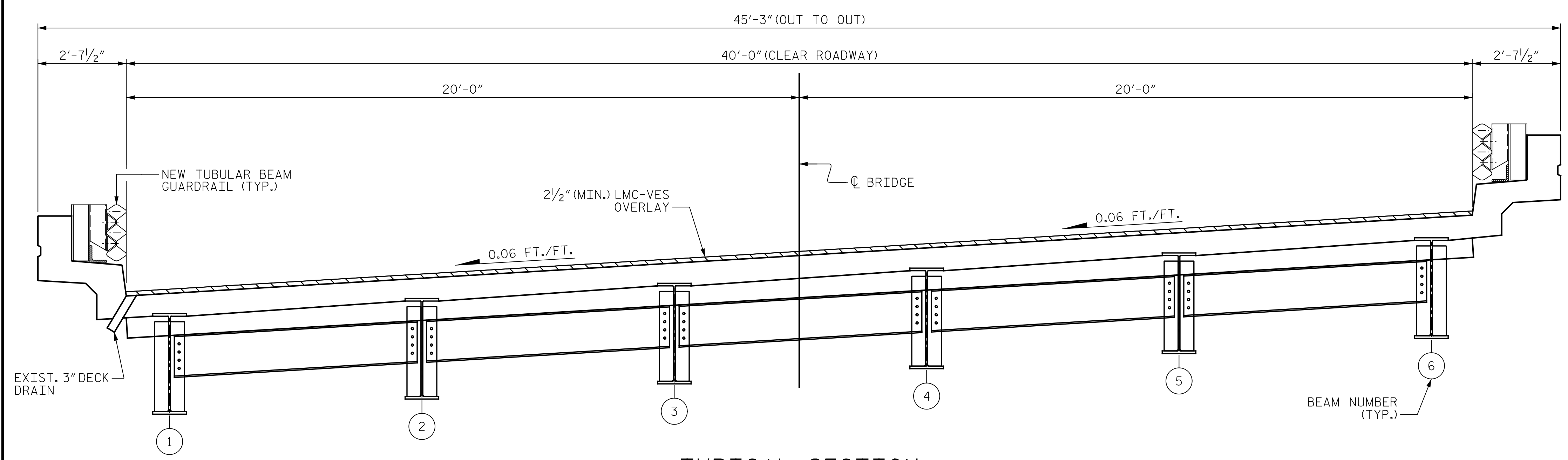
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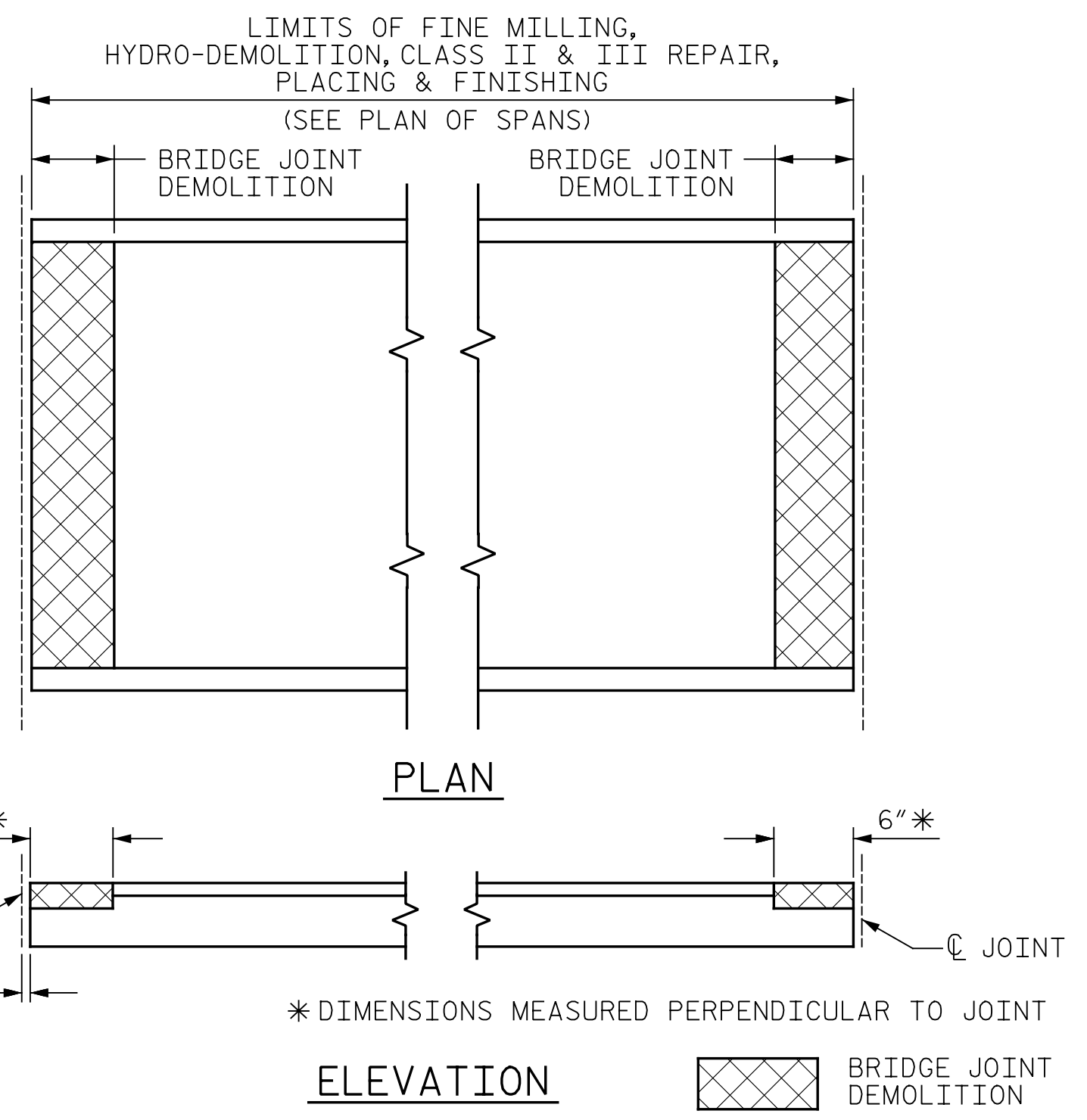
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TYPICAL SECTION  
(EXISTING)



TYPICAL SECTION  
(PROPOSED)

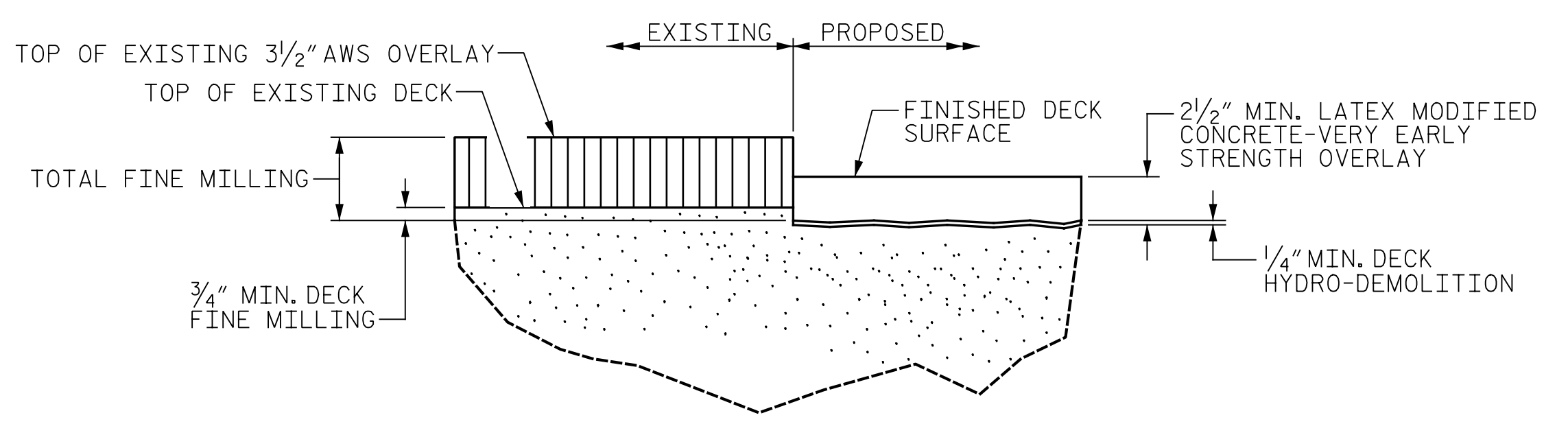


PAY LIMITS FOR OVERLAY BID ITEMS

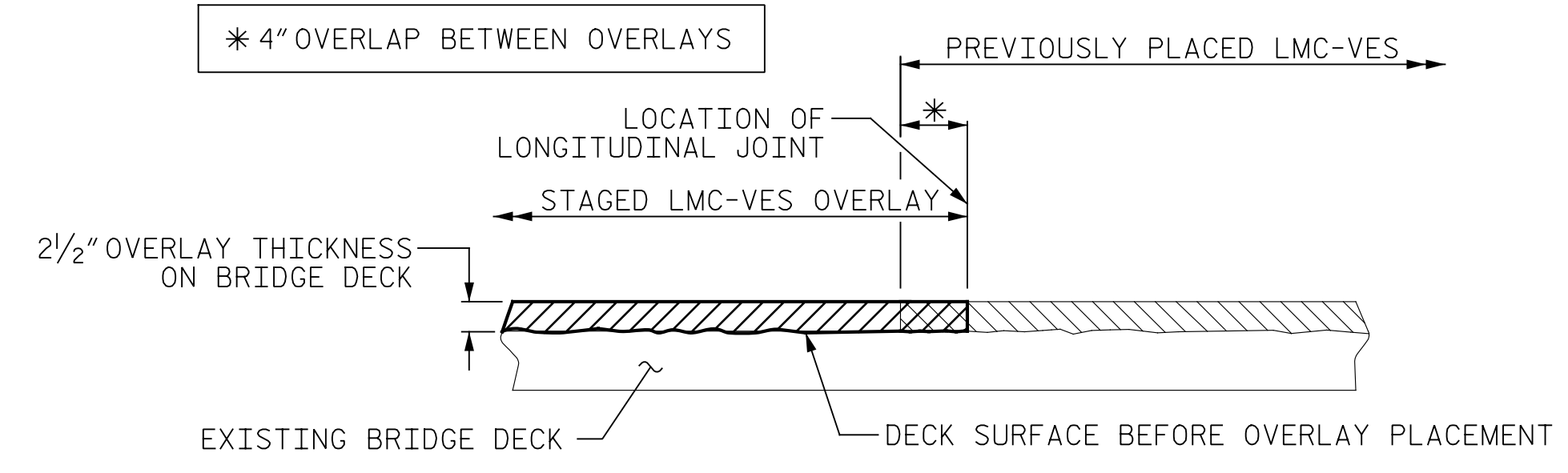
NOTES:

SEE TRAFFIC MANAGEMENT PLANS FOR LANE WIDTHS, SEQUENCING, AND OTHER TRAFFIC CONTROL MEASURES FOR STAGING OF OVERLAY SURFACE PREPARATION AND LMC PLACEMENT.

WHEN PREPARING THE SURFACE FOR LMC-VES OVERLAY ADJACENT TO A PREVIOUSLY PLACED LMC-VES STAGE, THE PREVIOUSLY PLACED LMC-VES SHALL BE REMOVED FOR A DISTANCE OF 4 INCHES FROM THE LMC-VES EDGE. THE SURFACE OF THE NEW STAGE AREA, ALONG WITH THE 4 INCH OVERLAY AREA, SHALL BE PREPARED AS PER THE OVERLAY SURFACE PREPARATION SPECIAL PROVISIONS. NEW LMC-VES SHALL BE PLACED IN THE 4-INCH OVERLAP, AS PART OF THE NEW LMC-VES STAGE PLACEMENT.



DETAIL FOR LMC-VES OVERLAY



SECTION THRU DECK  
STAGED LMC-VES OVERLAY JOINT

PROJECT NO. I-5889B  
 BUNCOMBE COUNTY  
 BRIDGE NO. 100347



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

TYPICAL SECTION AND  
 SURFACE PREPARATION  
 DETAILS

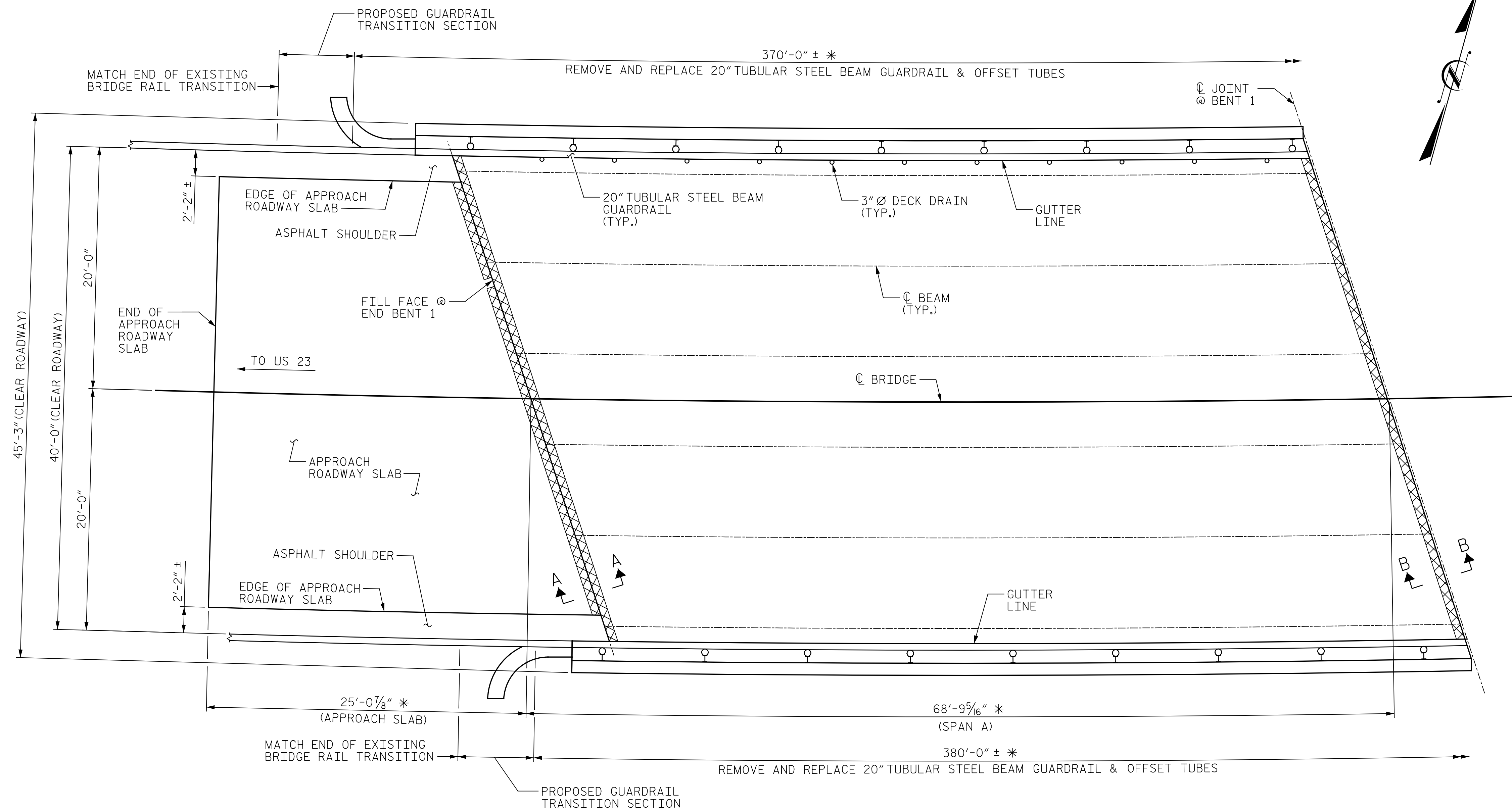
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**NOTES:**

REPAIR LOCATIONS AND ESTIMATED QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER WILL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATIONS AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITY TABLE.

CONCRETE COVER FOR TOP BARS IN THE DECK SLAB IS 1 1/8" PER THE EXISTING BRIDGE PLANS.

FOR SECTION A-A AND B-B, SEE "JOINT DETAILS" SHEET.

FOR FINE MILLING, SEE SPECIAL PROVISIONS.

THE CONTRACTOR SHALL REMOVE AND REPLACE THE 20" TUBULAR STEEL BEAM GUARDRAIL. THE ENGINEER WILL SELECT THOSE SECTIONS OF THE EXISTING GUARDRAIL SUITABLE FOR FUTURE USE AND TRANSPORT THEM TO A STOCKPILE FOR THE USE OF THE DEPARTMENT. THE REMAINING GUARDRAIL SECTIONS SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE PROJECT.

FOR DIMENSIONS OF TUBULAR BEAM GUARDRAIL, POST AND TUBES, SEE "TUBULAR BEAM GUARDRAIL DETAILS" SHEET.

BRIDGE RAIL QUANTITIES (FOR ENTIRE BRIDGE)	
REMOVE 20" TUBULAR STEEL BEAM GUARDRAIL	795 LF
20" TUBULAR STEEL BEAM GUARDRAIL	770 LF
REMOVE AND REPLACE W 6X9 POSTS	0 EA
W-TR STEEL BEAM GUARDRAIL TRANSITION SECTIONS	4 EA

- BRIDGE JOINT DEMOLITION
- APPROX. CLASS II SURFACE PREPARATION
- APPROX. CLASS III SURFACE PREPARATION
- UNDERSIDE OF DECK/OVERHANG REPAIR
- ERI EPOXY RESIN INJECTION

**APPROACH SLAB @ END BENT 1**                      **SPAN A**

\* DIMENSIONS MEASURED ALONG ARC

TOP OF DECK REPAIR	APPROACH SLAB 1		SPAN A		UNDERSIDE OF DECK REPAIR				
	ESTIMATE	ACTUAL	ESTIMATE	ACTUAL	SHOTCRETE REPAIR		ESTIMATE	ACTUAL	
FINE MILLING	99 SY		306 SY		UNDERSIDE OF DECK	0.0	0.0		
HYDRO-DEMOLITION OF BRIDGE DECK	99 SY		306 SY		OVERHANG DIAPHRAGMS	0.0	0.0		
CLASS II SURFACE PREPARATION	0.0 SY		0.0 SY		UNDERSIDE OF OVERHANG	0.0	0.0		
CLASS III SURFACE PREPARATION	0.0 SY		0.0 SY		INTERIOR DIAPHRAGMS	0.0	0.0		
LATEX MODIFIED CONCRETE - VES OVERLAY	7.2 CY		22.3 CY					ESTIMATE	ACTUAL
PLACING & FINISHING LMC - VES OVERLAY	99 SY		306 SY						
BRIDGE JOINT DEMOLITION	19 SF		41 SF		UNDERSIDE EPOXY RESIN INJECTION	0.0	0.0		
GROOVING BRIDGE FLOORS	853 SF		2492 SF						

VALUES IN CHART REPRESENT ESTIMATED UNDERSIDE OF DECK REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MINIMUM OF 1" BEHIND REBAR AND MINIMUM 2" CLEAR TO SAWCUT. FOR REPAIR DETAILS, SEE "OVERHANG UNDERSIDE REPAIR DETAILS" SHEET.

PAYMENT FOR CLASS II AND CLASS III SURFACE PREPARATION IS BASED ON THE SQUARE YARDS OF ADDITIONAL DEMOLITION REQUIRED FOLLOWING HYDRO-DEMOLITION OF THE BRIDGE DECK. SEE "OVERLAY SURFACE PREPARATION" SPECIAL PROVISION.

PROJECT NO. I-5889B  
BUNCOMBE COUNTY  
 BRIDGE NO. 100347

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**PLAN OF SPANS  
 SPAN A AND  
 APPROACH SLAB**

SHEET 1 OF 5

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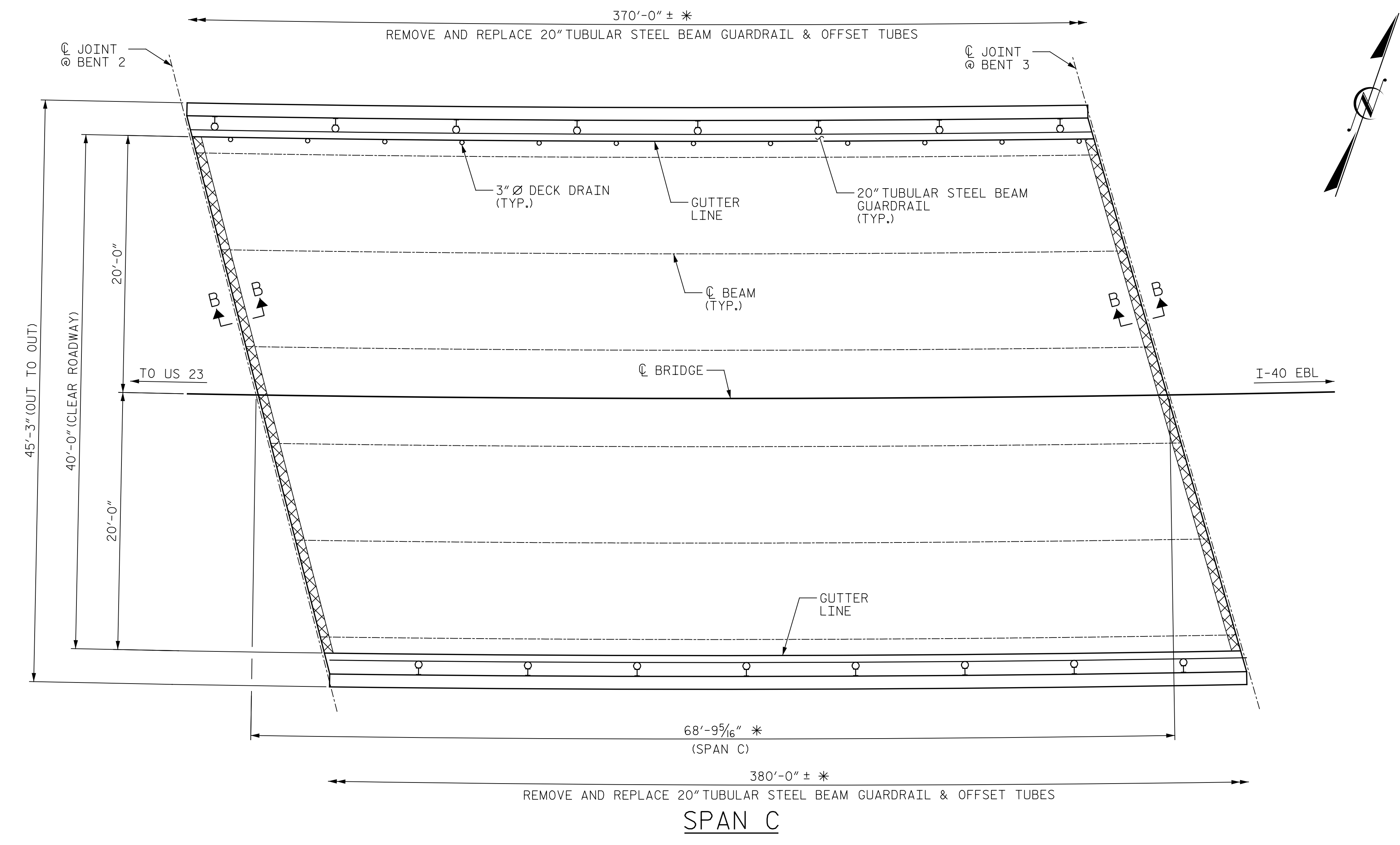
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\* DIMENSIONS MEASURED ALONG ARC

**NOTES:**

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CONCRETE COVER FOR TOP BARS IN THE DECK SLAB IS 1 1/16" PER THE EXISTING BRIDGE PLANS.

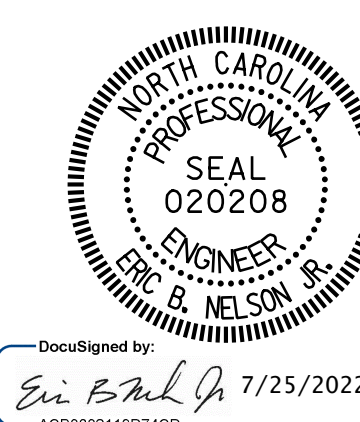
FOR SECTION B-B, SEE "JOINT DETAILS" SHEET.

FOR FINE MILLING, SEE SPECIAL PROVISIONS.

THE CONTRACTOR SHALL REMOVE AND REPLACE THE 20" TUBULAR STEEL BEAM GUARDRAIL. THE ENGINEER WILL SELECT THOSE SECTIONS OF THE EXISTING GUARDRAIL SUITABLE FOR FUTURE USE AND TRANSPORT THEM TO A STOCKPILE FOR THE USE OF THE DEPARTMENT. THE REMAINING GUARDRAIL SECTIONS SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE PROJECT.

FOR DIMENSIONS OF TUBULAR BEAM GUARDRAIL, POSTS AND TUBES, SEE "TUBULAR BEAM GUARDRAIL DETAILS" SHEET.

DRAWN BY : M. LEE/J. MYA DATE : 6/2022  
 CHECKED BY : J. YANNAACONE DATE : 6/2022



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REPAIR QUANTITY TABLE				
TOP OF DECK REPAIR				
	ESTIMATE	ACTUAL		
FINE MILLING	305 SY			
HYDRO-DEMOLITION OF BRIDGE DECK	305 SY			
CLASS II SURFACE PREPARATION	0.0 SY			
CLASS III SURFACE PREPARATION	0.0 SY			
LATEX MODIFIED CONCRETE - VES OVERLAY	22.3 CY			
PLACING & FINISHING LMC - VES OVERLAY	305 SY			
BRIDGE JOINT DEMOLITION	41 SF			
GROOVING BRIDGE FLOORS	2490 SF			
UNDERSIDE OF DECK REPAIR				
SHOTCRETE REPAIRS	ESTIMATE		ACTUAL	
	AREA SF	VOLUME CF	AREA SF	VOLUME CF
UNDERSIDE OF DECK	0.0	0.0		
OVERHANG DIAPHRAGMS	0.0	0.0		
UNDERSIDE OF OVERHANG	0.0	0.0		
INTERIOR DIAPHRAGMS	0.0	0.0		
	ESTIMATE		ACTUAL	
UNDERSIDE EPOXY RESIN INJECTION	0.0 LF			

VALUES IN CHART REPRESENT ESTIMATED UNDERSIDE OF DECK REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MINIMUM OF 1" BEHIND REBAR AND MINIMUM 2" CLEAR TO SAWCUT. FOR REPAIR DETAILS, SEE "OVERHANG UNDERSIDE REPAIR DETAILS" SHEET.

PAYMENT FOR CLASS II AND CLASS III SURFACE PREPARATION IS BASED ON THE SQUARE YARDS OF ADDITIONAL DEMOLITION REQUIRED FOLLOWING HYDRO-DEMOLITION OF THE BRIDGE DECK. SEE "OVERLAY SURFACE PREPARATION" SPECIAL PROVISION.

- BRIDGE JOINT DEMOLITION
- APPROX. CLASS II SURFACE PREPARATION
- APPROX. CLASS III SURFACE PREPARATION
- UNDERSIDE OF DECK/OVERHANG REPAIR
- ERI EPOXY RESIN INJECTION

PROJECT NO. I-5889B  
BUNCOMBE COUNTY  
 BRIDGE NO. 100347

SHEET 3 OF 5

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

PLAN OF SPANS  
 SPAN C

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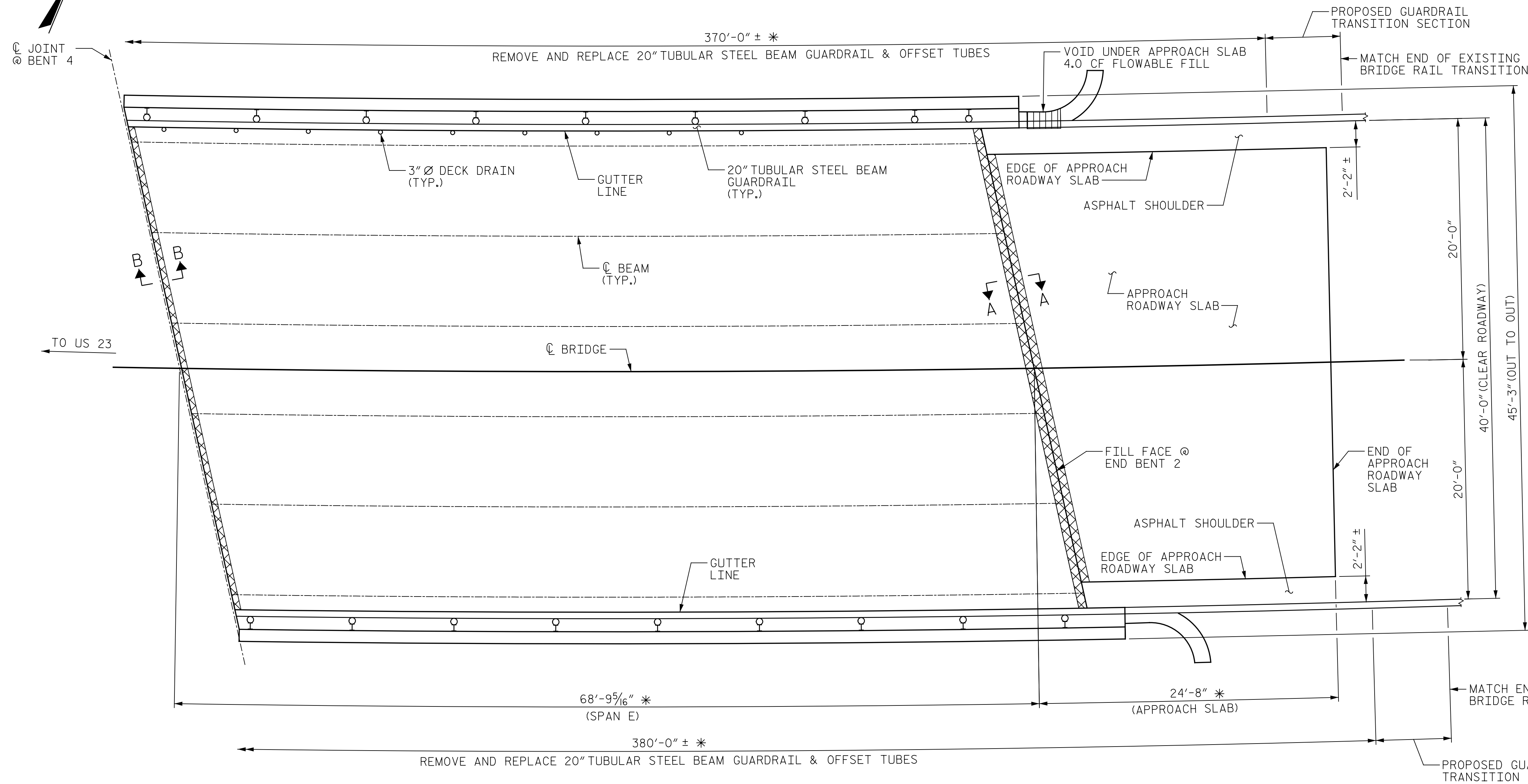




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 CONCRETE COVER FOR TOP BARS IN THE DECK SLAB IS 1 1/16" PER THE EXISTING BRIDGE PLANS.  
 FOR SECTION A-A AND B-B, SEE "JOINT DETAILS" SHEET.  
 FOR FINE MILLING, SEE SPECIAL PROVISIONS.  
 THE CONTRACTOR SHALL REMOVE AND REPLACE THE 20" TUBULAR STEEL BEAM GUARDRAIL. THE ENGINEER WILL SELECT THOSE SECTIONS OF THE EXISTING GUARDRAIL SUITABLE FOR FUTURE USE AND TRANSPORT THEM TO A STOCKPILE FOR THE USE OF THE DEPARTMENT. THE REMAINING GUARDRAIL SECTIONS SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE PROJECT.  
 FOR DIMENSIONS OF TUBULAR BEAM GUARDRAIL, POST AND TUBES, SEE "TUBULAR BEAM GUARDRAIL DETAILS" SHEET.



\* DIMENSIONS MEASURED ALONG ARC

**SPAN E**

**APPROACH SLAB @ END BENT 2**

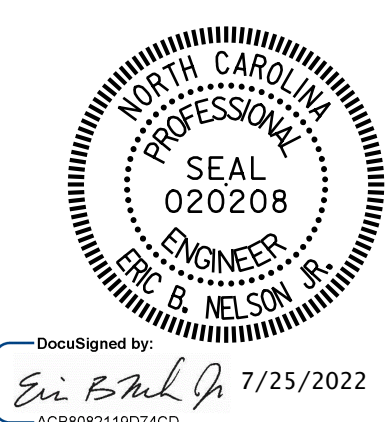
- FLOWABLE FILL
- BRIDGE JOINT DEMOLITION
- APPROX. CLASS II SURFACE PREPARATION
- APPROX. CLASS III SURFACE PREPARATION
- UNDERSIDE OF DECK/OVERHANG REPAIR
- ERI EPOXY RESIN INJECTION

REPAIR QUANTITY TABLE					UNDERSIDE OF DECK REPAIR				
TOP OF DECK REPAIR	SPAN E		APPROACH SLAB 2		SHOTCRETE REPAIR	ESTIMATE		ACTUAL	
	ESTIMATE	ACTUAL	ESTIMATE	ACTUAL		AREA SF	VOLUME CF	AREA SF	VOLUME CF
FINE MILLING	306 SY		98 SY		UNDERSIDE OF DECK	0.0	0.0		
HYDRO-DEMOLITION OF BRIDGE DECK	306 SY		98 SY		OVERHANG DIAPHRAGMS	0.0	0.0		
CLASS II SURFACE PREPARATION	0.0 SY		0.0 SY		UNDERSIDE OF OVERHANG	0.0	0.0		
CLASS III SURFACE PREPARATION	0.0 SY		0.0 SY		INTERIOR DIAPHRAGMS	0.0	0.0		
LATEX MODIFIED CONCRETE - VES OVERLAY	22.3 CY		7.1 CY					ESTIMATE	ACTUAL
PLACING & FINISHING LMC - VES OVERLAY	306 SY		98 SY						
BRIDGE JOINT DEMOLITION	41 SF		19 SF		UNDERSIDE EPOXY RESIN INJECTION	0.0 LF			
GROOVING BRIDGE FLOORS	2492 SF		839 SF						

VALUES IN CHART REPRESENT ESTIMATED UNDERSIDE OF DECK REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MINIMUM OF 1" BEHIND REBAR AND MINIMUM 2" CLEAR TO SAWCUT. FOR REPAIR DETAILS, SEE "OVERHANG UNDERSIDE REPAIR DETAILS" SHEET.  
 PAYMENT FOR CLASS II AND CLASS III SURFACE PREPARATION IS BASED ON THE SQUARE YARDS OF ADDITIONAL DEMOLITION REQUIRED FOLLOWING HYDRO-DEMOLITION OF THE BRIDGE DECK. SEE "OVERLAY SURFACE PREPARATION" SPECIAL PROVISION.

PROJECT NO. I-5889B  
BUNCOMBE COUNTY  
 BRIDGE NO. 100347

SHEET 5 OF 5



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
**PLAN OF SPANS  
 SPAN E AND  
 APPROACH SLAB**

DRAWN BY: M. LEE/J. MYA DATE: 6/2022  
 CHECKED BY: J. YANACCONO DATE: 6/2022

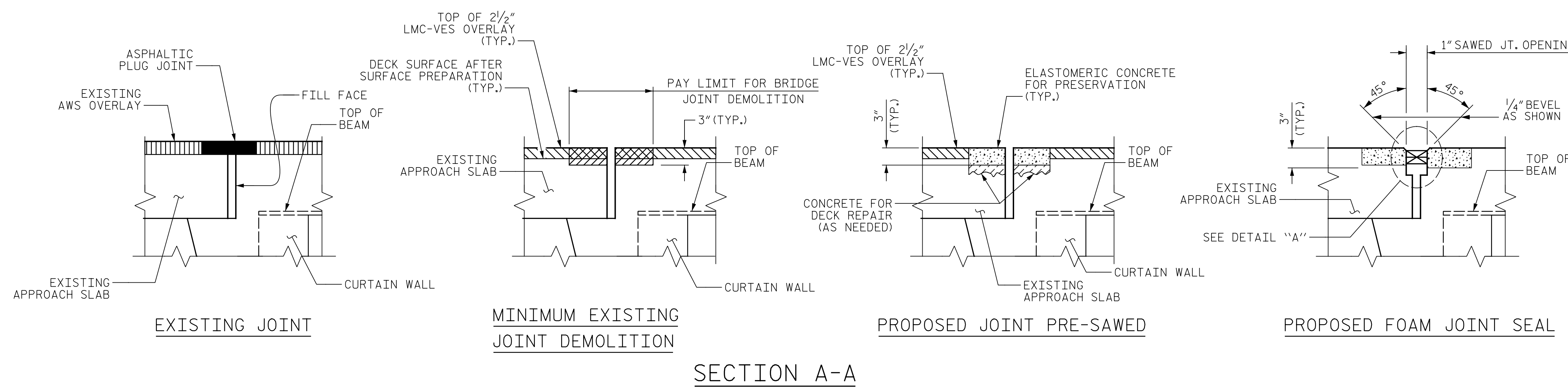


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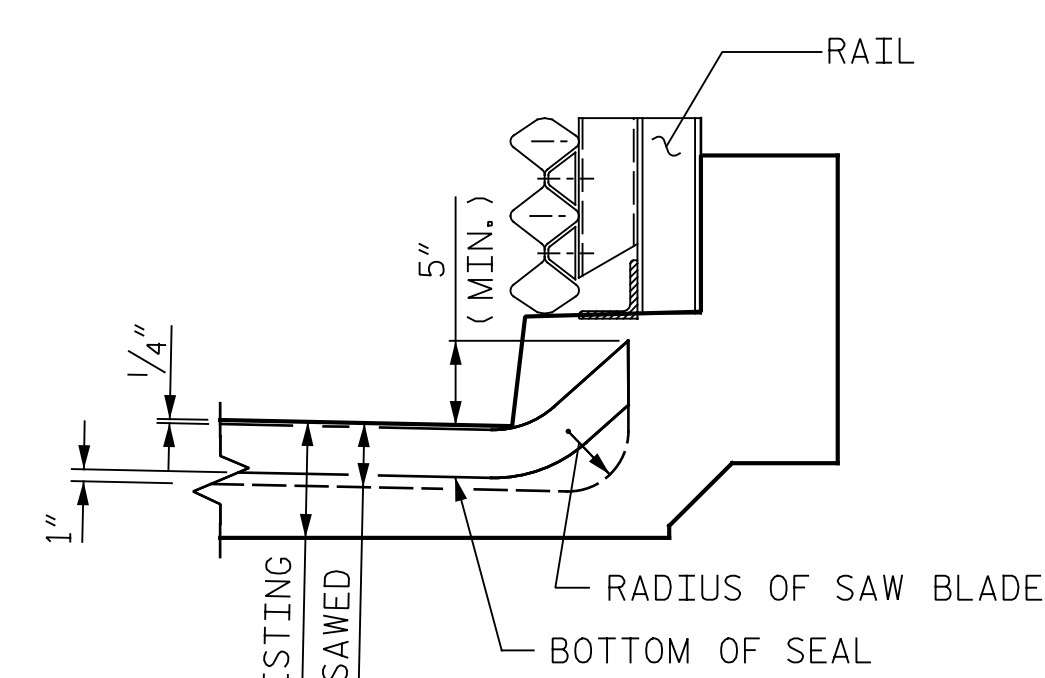
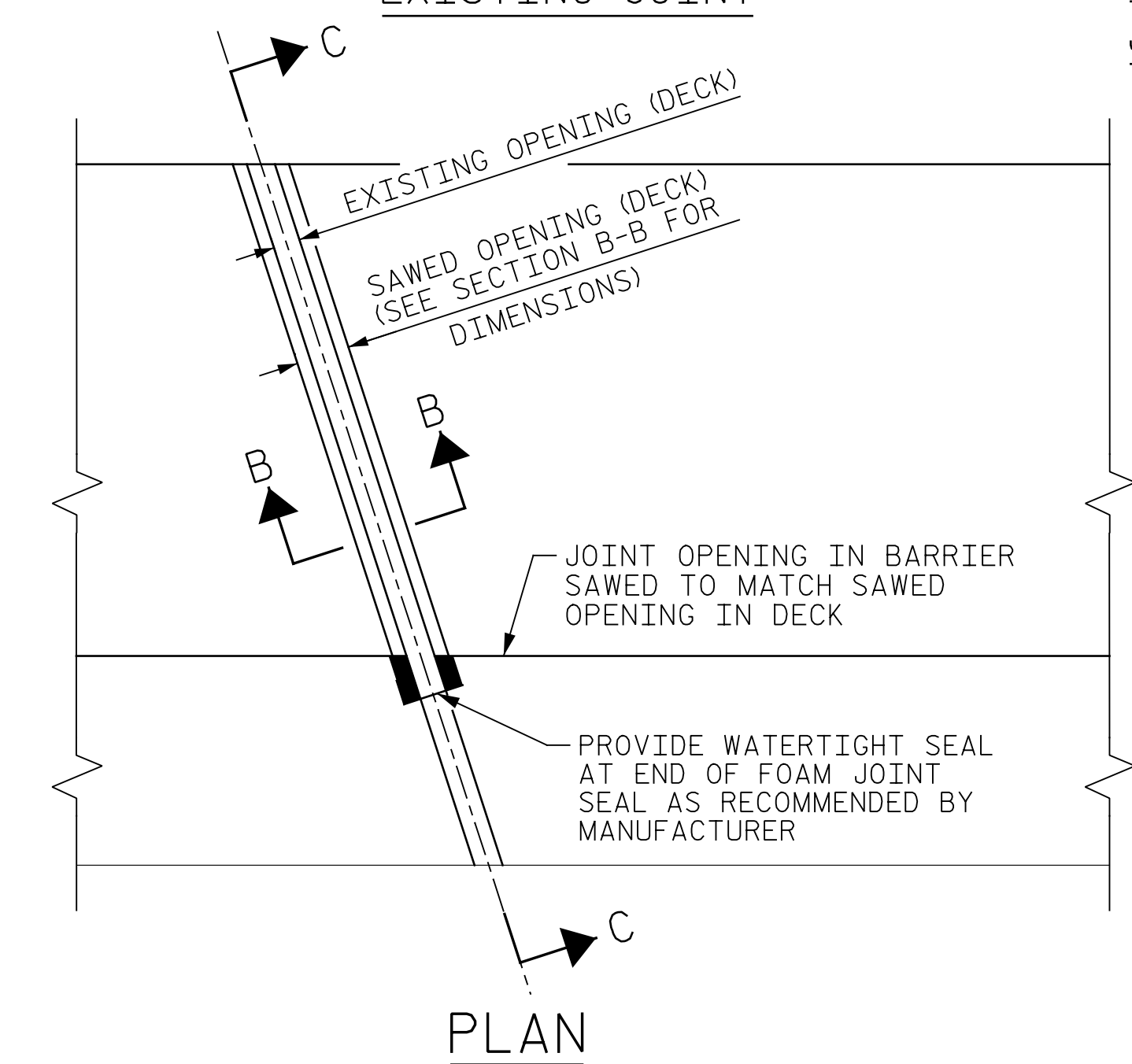
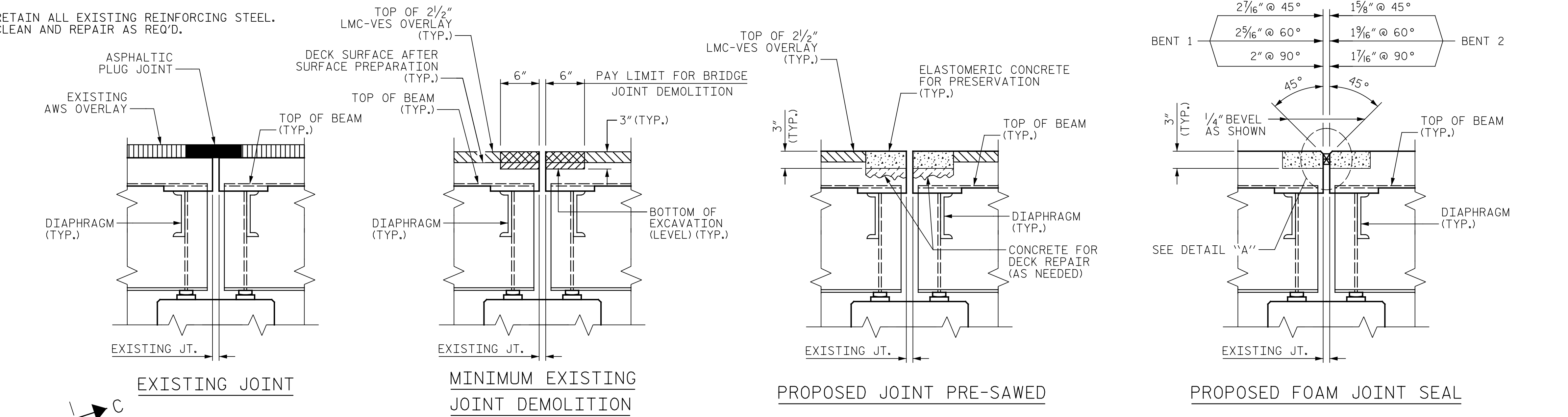
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2			4			TOTAL SHEETS 133



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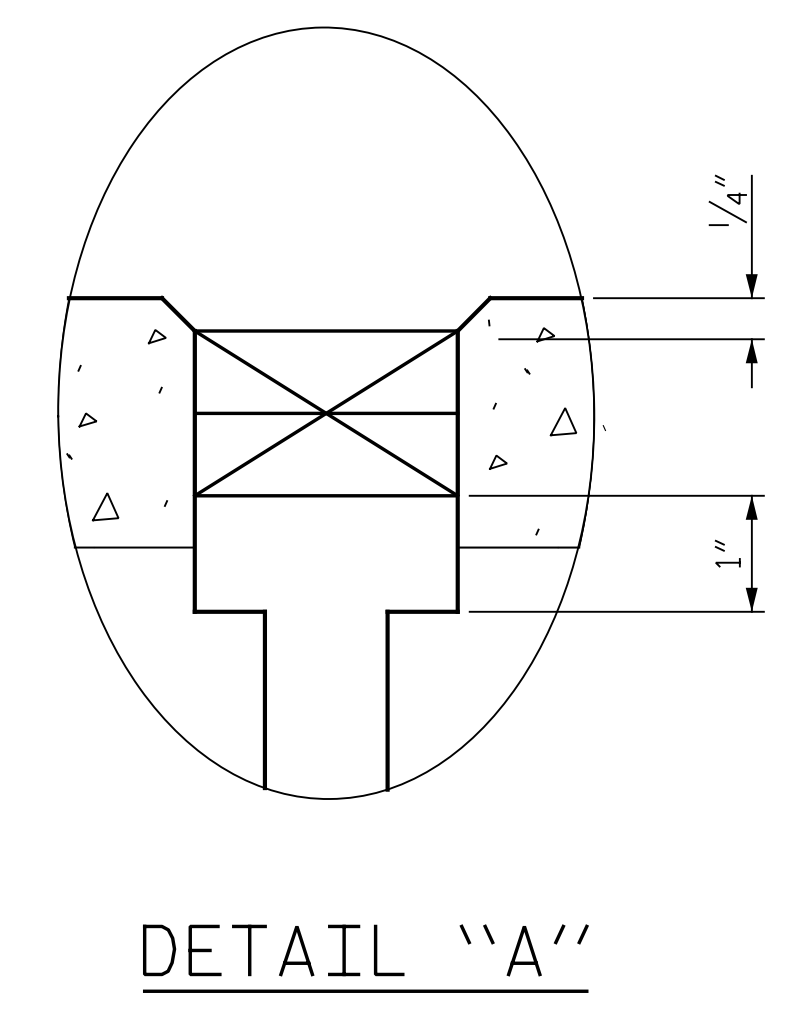
NOTE: RETAIN ALL EXISTING REINFORCING STEEL. CLEAN AND REPAIR AS REQ'D.



FOAM JOINT SEAL SHALL BE FACTORY FORMED OR CUT, HEAT WELDED AND TURNED UP PARALLEL TO SLOPED FACE OF CURB.

LOCATION	ELASTOMERIC CONCRETE FOR PRESERVATION	FOAM JOINT SEALS FOR PRESERVATION
	CU. FT.	LIN. FT.
END BENT 1	9.8	37.0
BENT 1	10.4	43.5
BENT 2	10.4	43.5
BENT 3	10.4	43.5
BENT 4	10.4	43.5
END BENT 2	9.8	37.0
* TOTAL	61.2	248.0

\* BASED ON MINIMUM BLOCKOUT SHOWN



**NOTES:**

FINAL JOINT SEALS SHALL NOT BE INSTALLED UNTIL THE OVERLAY OR SEALANT WORK IS COMPLETE.

THE CONTRACTOR SHALL FIELD VERIFY THE EXISTING JOINT OPENING PRIOR TO ORDERING JOINT SEAL MATERIAL. IF THE ACTUAL JOINT OPENING VARIES FROM THE OPENING INDICATED IN THE DETAILS BY MORE THAN 1/4", NOTIFY THE ENGINEER.

THE MANUFACTURER IS TO PROVIDE THE NOMINAL UNCOMPRESSED SEAL WIDTH OF THE FOAM JOINT SEAL FOR THE SIZE OF THE OPENING ON THE PLANS AND ACCOMMODATE THE MINIMUM EXPANSION SHOWN ON THE PLANS.

FOAM JOINTS SHALL BE INSTALLED AS PER THE MANUFACTURER'S RECOMMENDATIONS.

THE CONTRACTOR SHALL TAKE CARE DURING JOINT REHAB OPERATIONS NOT TO DROP ANY MATERIAL BELOW THE BRIDGE WITHOUT PROTECTIVE DEVICES BELOW TO CATCH THE MATERIAL. ANY MATERIAL THAT FALLS BELOW THE BRIDGE SHALL BE CONTAINED, REMOVED AND DISPOSED OF BY THE CONTRACTOR AT NO EXTRA COST TO THE DEPARTMENT. IF THE ENGINEER DETERMINES THAT THE PROTECTIVE DEVICES ARE NOT ADEQUATE OR NOT BEING EMPLOYED, THE WORK SHALL BE SUSPENDED UNTIL ADEQUATE PROTECTION IS PROVIDED.

FOR EXCAVATION BELOW THE BOTTOM OF THE PLANNED JOINT DEMOLITION, CONCRETE FOR DECK REPAIR SHALL BE PLACED IN THE EXCAVATED AREA TO THE ELEVATION AT THE BOTTOM OF THE PROPOSED ELASTOMERIC CONCRETE FOR PRESERVATION HEADERS AS SHOWN.

THE FINAL SURFACE OF THE JOINT DEMOLITION AREA PRIOR TO PLACEMENT OF CONCRETE REPAIR MATERIAL OR ELASTOMERIC CONCRETE SHOULD BE REASONABLY FLAT AND LEVEL. THE ENGINEER SHALL DETERMINE THE ACCEPTABILITY OF THE SURFACE PRIOR TO PLACEMENT OF REPAIR CONCRETE OR ELASTOMERIC CONCRETE.

THE CONTRACTOR WILL NOT BE PERMITTED TO FORM THE JOINT IN LIEU OF SAWING THE JOINT.

THE INSTALLED FOAM JOINTS SHALL BE WATERTIGHT.

THE CONTRACTOR SHALL SAW CUT TO A NOMINAL DEPTH OF 1/2" BUT REINFORCING STEEL SHALL NOT BE DAMAGED. CONTRACTOR SHALL REMOVE SURFACE CONCRETE TO VERIFY THAT SAWCUT DEPTH WILL NOT DAMAGE EXISTING REINFORCING STEEL.

QUANTITIES SHOWN IN THE ELASTOMERIC CONCRETE FOR PRESERVATION TABLE ARE BASED ON THE MINIMUM JOINT DEMOLITION SHOWN.

FOR BRIDGE JOINT DEMOLITION, SEE SPECIAL PROVISIONS.

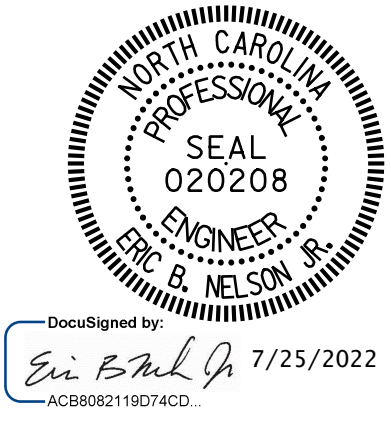
FOR ELASTOMERIC CONCRETE FOR PRESERVATION, SEE SPECIAL PROVISIONS.

FOR FOAM JOINT SEALS FOR PRESERVATION, SEE SPECIAL PROVISIONS.

PROJECT NO. I-5889B  
 COUNTY BUNCOMBE  
 BRIDGE NO. 100347

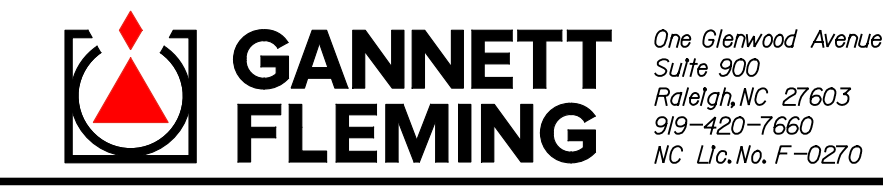
STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

JOINT DETAILS



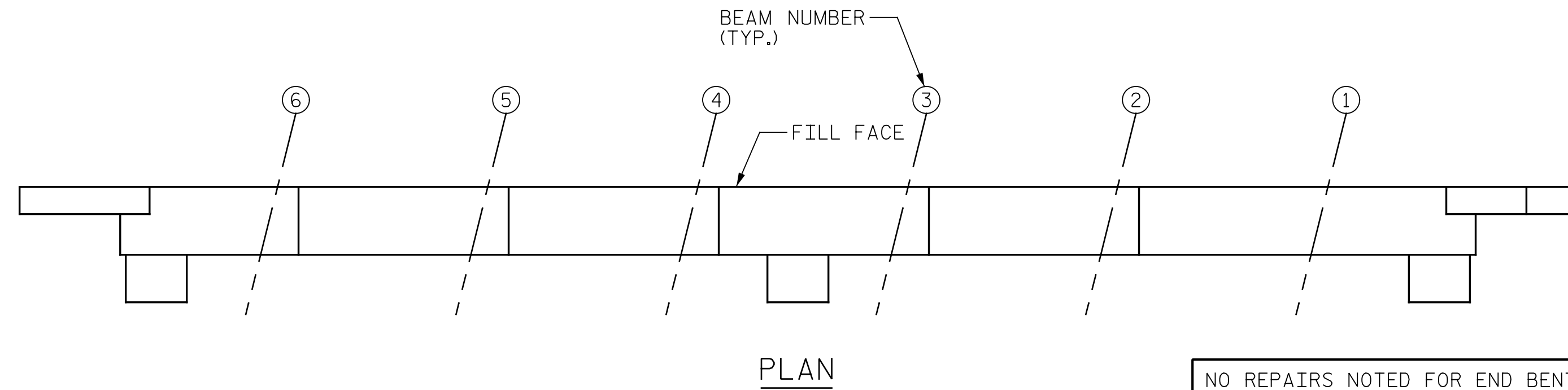
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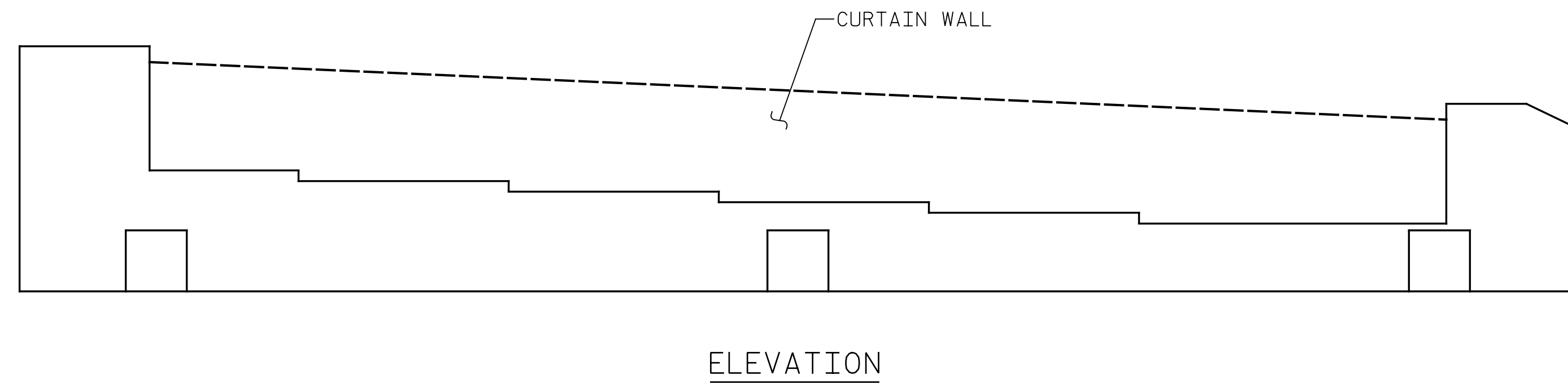


DRAWN BY: J. MYA DATE: 6/2022  
 CHECKED BY: J. YANNAACONE DATE: 6/2022

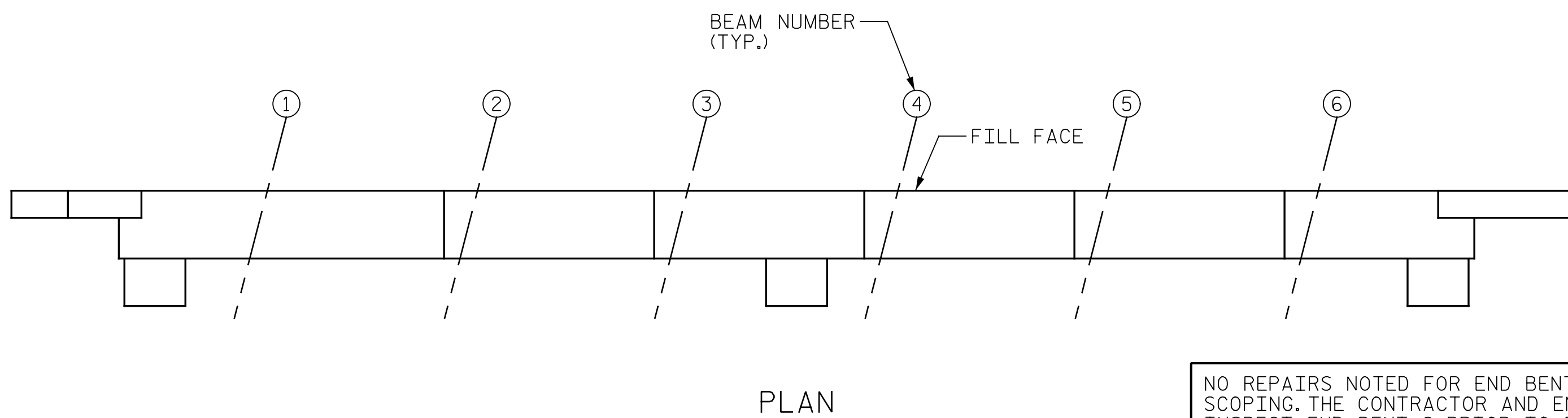
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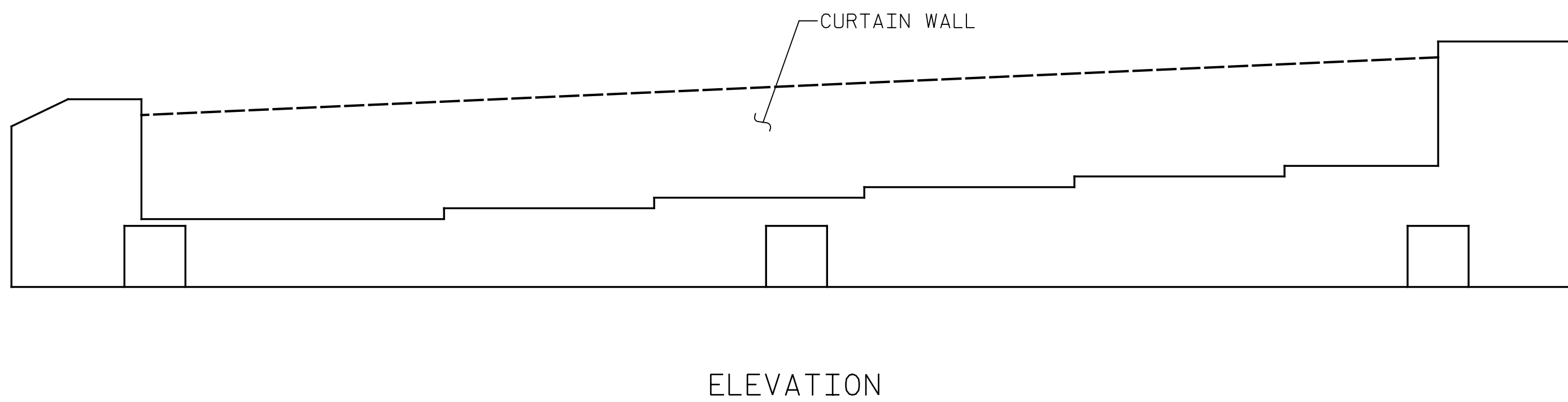
NO REPAIRS NOTED FOR END BENT 1 DURING FIELD SCOPING. THE CONTRACTOR AND ENGINEER SHALL INSPECT END BENT 1 PRIOR TO BEGINNING WORK.



END BENT 1



NO REPAIRS NOTED FOR END BENT 2 DURING FIELD SCOPING. THE CONTRACTOR AND ENGINEER SHALL INSPECT END BENT 2 PRIOR TO BEGINNING WORK.



END BENT 2

- SHOTCRETE REPAIR
- CONCRETE REPAIR (FORM & POUR)
- ERI - EPOXY RESIN INJECTION

AS-BUILT REPAIR QUANTITY TABLE					
END BENT 1 REPAIRS	QUANTITIES				
	ESTIMATE		ACTUAL		
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF
CAP	0.0	0.0			
CURTAIN WALL	0.0	0.0			
CONCRETE REPAIRS	0.0	0.0			
EPOXY RESIN INJECTION		LENGTH LF	LENGTH LF		
CAP	0.0				
CURTAIN WALL	0.0				

END BENT 2 REPAIRS	QUANTITIES				
	ESTIMATE		ACTUAL		
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF
CAP	0.0	0.0			
CURTAIN WALL	0.0	0.0			
CONCRETE REPAIRS	0.0	0.0			
EPOXY RESIN INJECTION		LENGTH LF	LENGTH LF		
CAP	0.0				
CURTAIN WALL	0.0				

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MINIMUM OF 1" BEHIND REBAR AND MINIMUM OF 2" CLEARANCE TO SAWCUT. FOR REPAIR DETAILS, SEE "TYPICAL CAP REPAIR DETAILS" SHEET.

**NOTES:**

REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER WILL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUALITIES ENTERED INTO THE AS-BUILT REPAIR QUANTITY TABLE.

CONTRACTOR SHALL SAW CUT TO A MINIMUM DEPTH OF 1/2" BUT REINFORCING STEEL SHALL NOT BE DAMAGED

CONTRACTOR SHALL REMOVE SURFACE CONCRETE TO VERIFY THAT SAW CUT DEPTH WILL NOT DAMAGE EXISTING REINFORCING STEEL.

CONTRACTOR SHALL SAW CUT THE REPAIR AREAS SO THAT THE CORNERS ARE SQUARE AS INDICATED ON THE DETAILS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

SHOTCRETE REPAIRS MAY BE REPLACED WITH CONCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

PROJECT NO. I-5889B  
BUNCOMBE COUNTY  
 BRIDGE NO. 100347



DocuSigned by:  
*Eric B. Nelson* 7/25/2022  
 AC88052119274CDD

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

END BENT 1 & 2

DRAWN BY : J. MYA DATE : 6/2022  
 CHECKED BY : J. YANNAACONE DATE : 6/2022

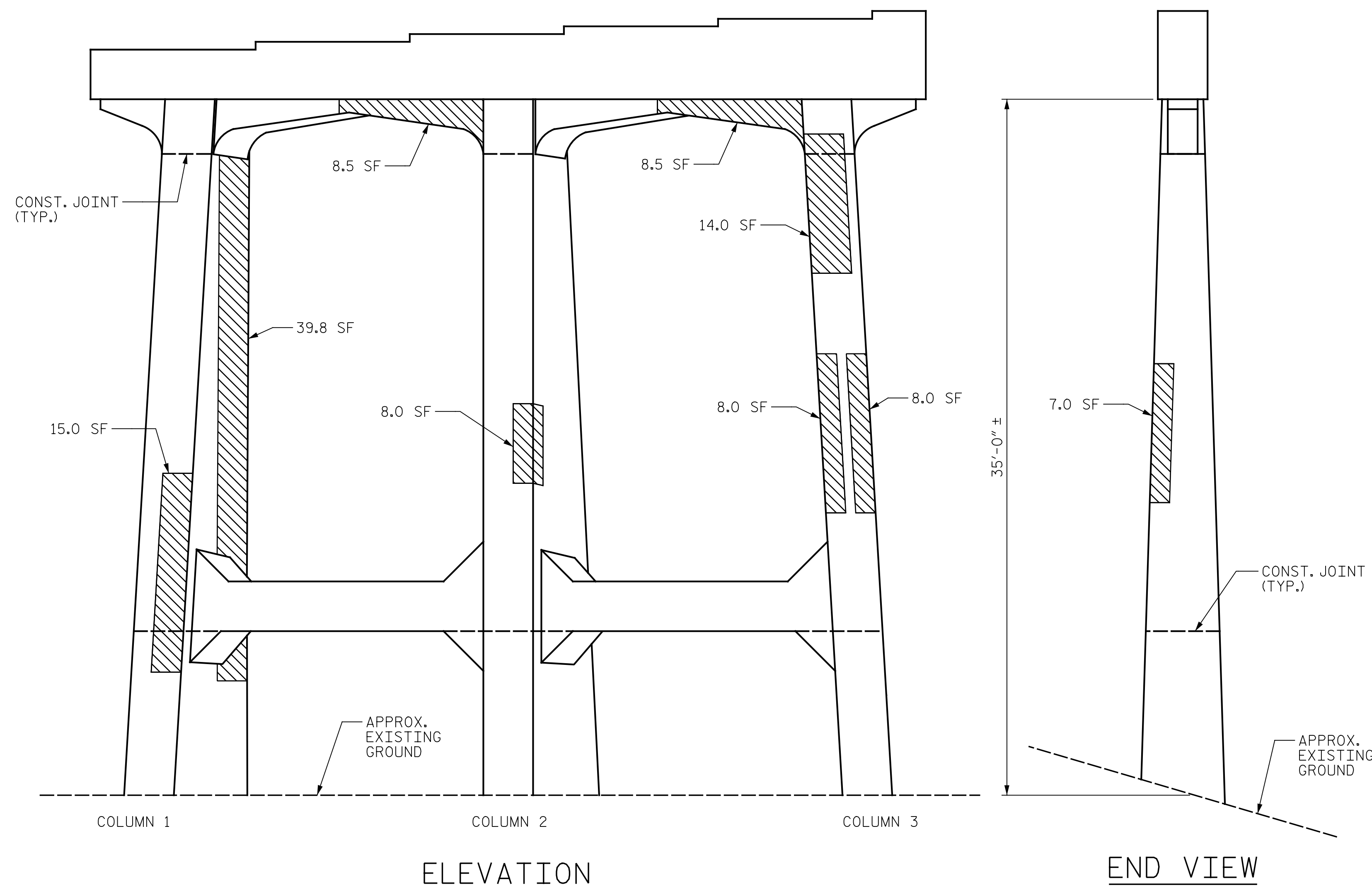
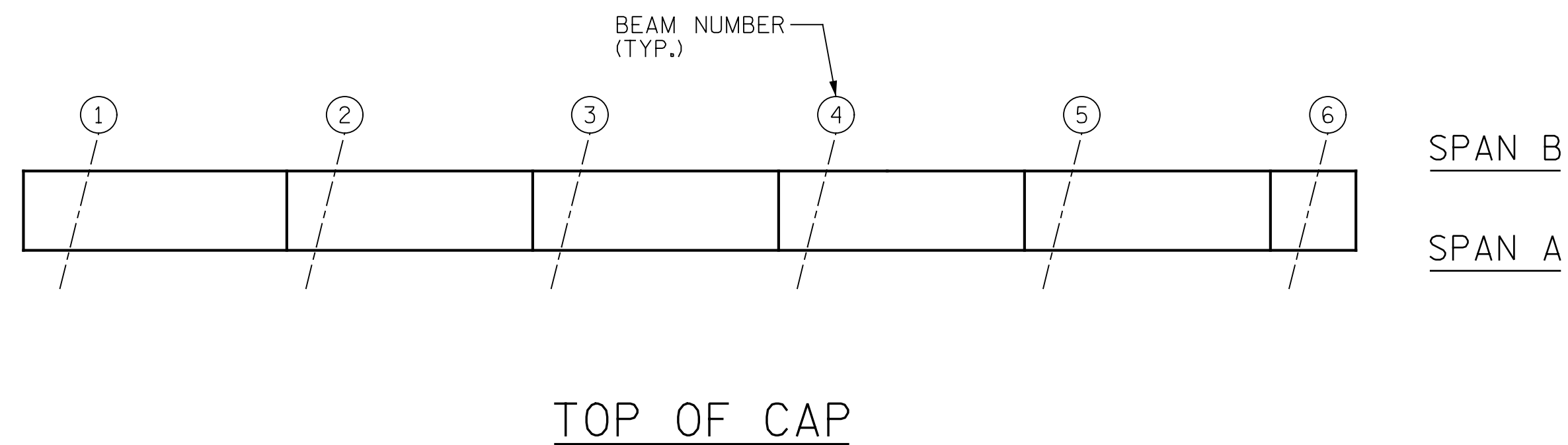


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AS-BUILT REPAIR QUANTITY TABLE					
BENT 1 REPAIRS	QUANTITIES				
	ESTIMATE		ACTUAL		
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF
CAP	31.6	15.8			
COLUMN	249.4	124.7			
STRUT	47.1	23.6			
CONCRETE REPAIRS	0.0	0.0			
EPOXY RESIN INJECTION		LENGTH LF	LENGTH LF		
CAP		0.0			
COLUMN		0.0			
STRUT		0.0			
EPOXY COATING		SQ. FT	SQ. FT		
TOP OF BENT CAP		91			

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MINIMUM OF 1" BEHIND REBAR AND MINIMUM OF 2" CLEARANCE TO SAWCUT. FOR REPAIR DETAILS, SEE "TYPICAL CAP AND COLUMN REPAIR DETAILS" SHEET.

**NOTES:**

REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE BASED ON THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER WILL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATIONS AND DESCRIPTION OF THE REPAIRS AND ENTER THE ACTUAL QUANTITIES INTO THE AS-BUILT REPAIR QUANTITY TABLE.

FOR REPAIRS, SEE "TYPICAL CAP AND COLUMN REPAIR DETAILS" SHEET.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

SHOTCRETE REPAIRS MAY BE REPLACED WITH CONCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.




CONTRACTOR SHALL SAW CUT TO A MINIMUM DEPTH OF 1/2" BUT REINFORCING STEEL SHALL NOT BE DAMAGED. CONTRACTOR SHALL REMOVE SURFACE CONCRETE TO VERIFY THAT SAW CUT DEPTH WILL NOT DAMAGE EXISTING REINFORCING STEEL.

CONTRACTOR SHALL SAW CUT THE REPAIR AREAS SO THAT THE CORNERS ARE SQUARE AS INDICATED ON THE DETAILS.

CLEAN AND REMOVE DEBRIS FROM THE TOP OF THE CAP AND APPLY EPOXY PROTECTIVE COATING. EPOXY COATING SHALL BE APPLIED TO THE TOP SURFACE OF THE CAP. THE CONTRACTOR SHALL NOT COAT THE AREA OF THE CAP BENEATH THE MASONRY PLATES. FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

WHEN COLUMN REPAIRS ARE INDICATED TO GROUND LINE, EXTEND REPAIR ONE (1) FOOT MIN. BELOW GROUND LINE.

 SHOTCRETE REPAIR  
 CONCRETE REPAIR (FORM & POUR)  
 ERI - EPOXY RESIN INJECTION

PROJECT NO. I-5889B  
BUNCOMBE COUNTY  
 BRIDGE NO. 100347

SHEET 1 OF 2

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**BENT 1  
 SPAN A SIDE**



DocuSigned by:  
*Eric B. Nelson Jr.* 7/25/2022  
 AC58982118D7ACD

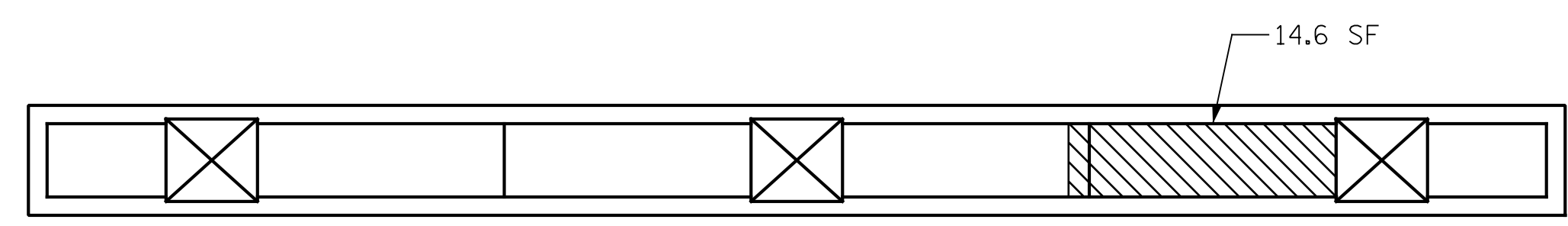


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 CHECKED BY : J. YANNACCONE DATE : 6/2022

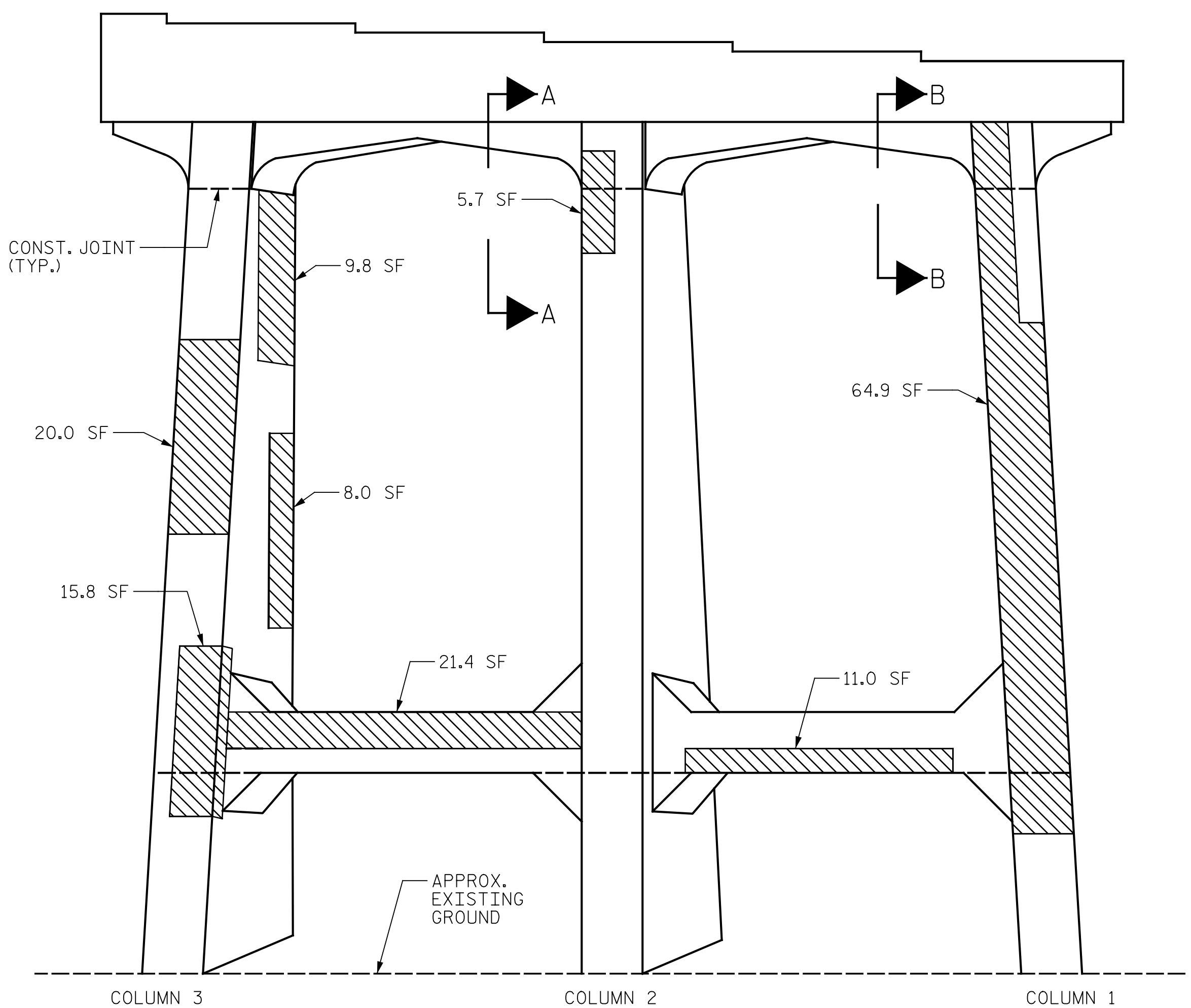
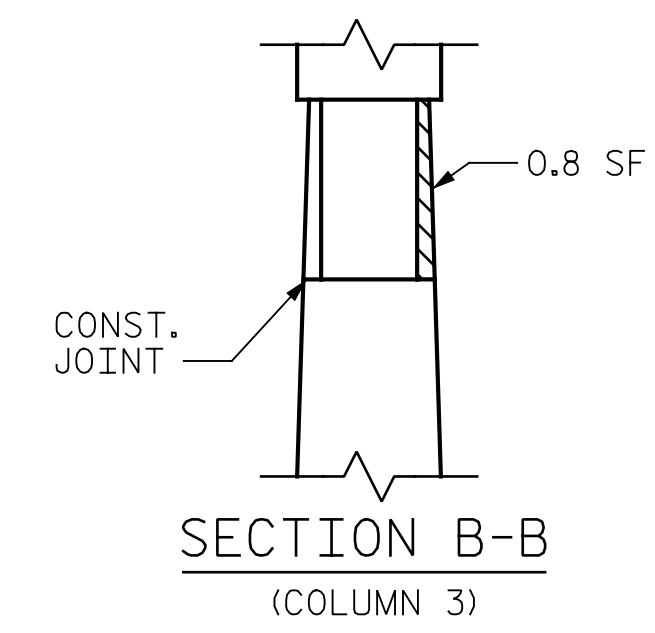
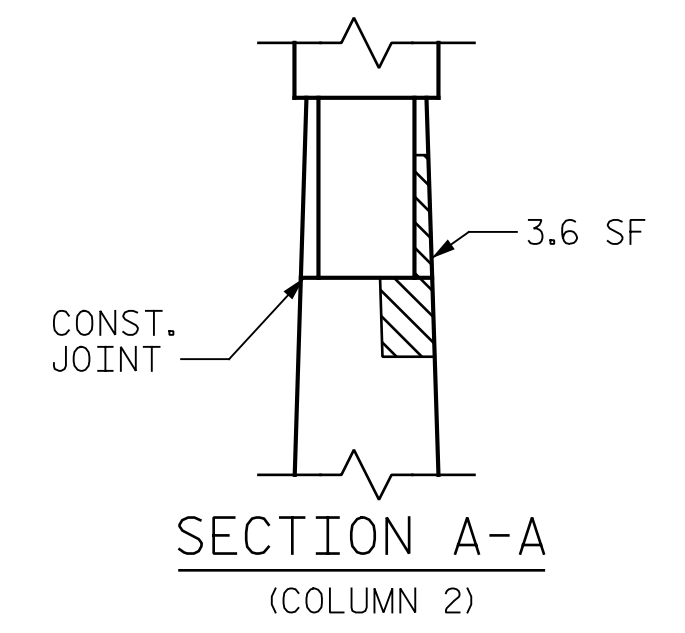
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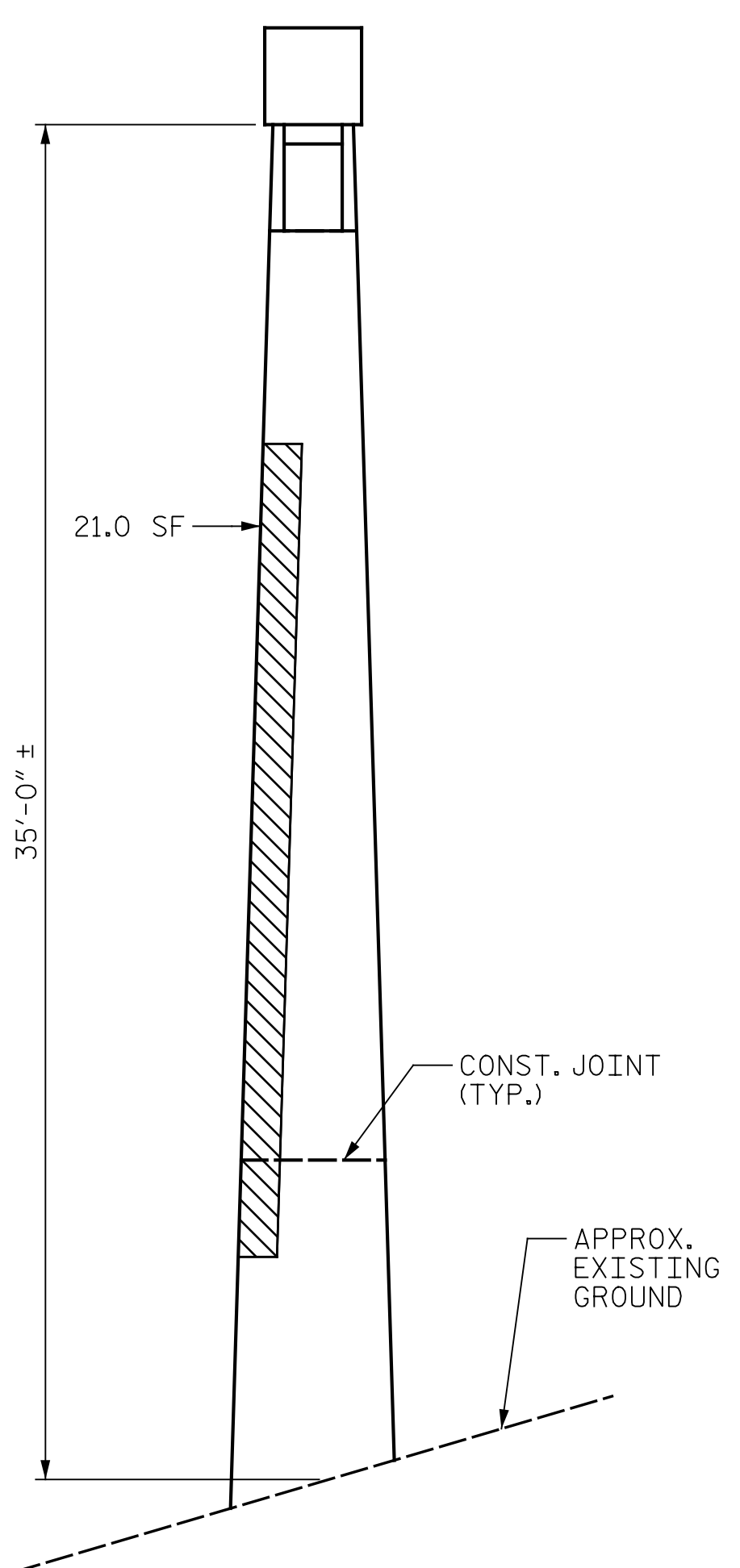


BOTTOM OF CAP

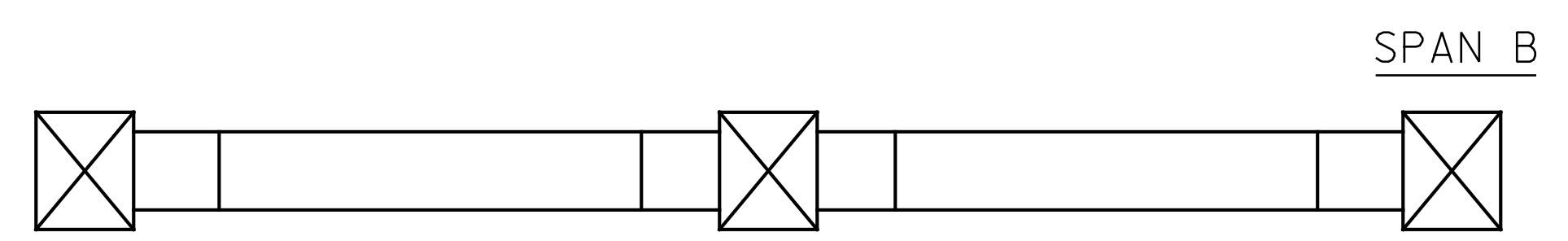
SPAN A  
SPAN B



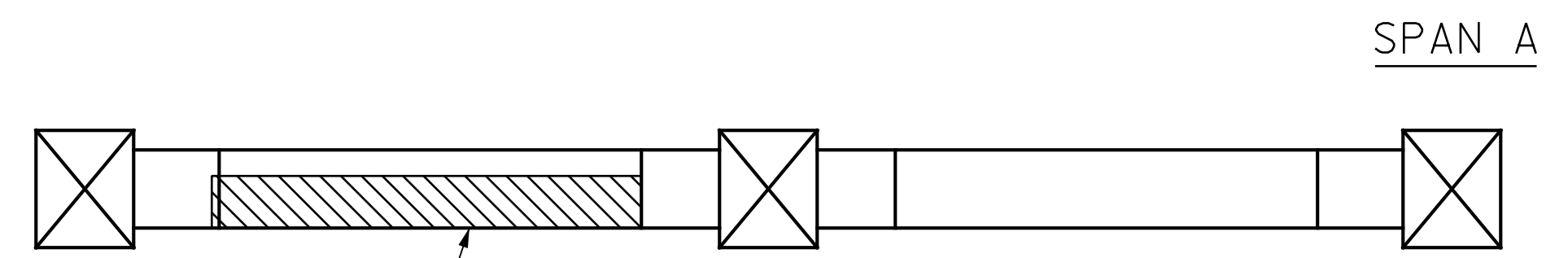
ELEVATION



END VIEW  
(COLUMN 1)



TOP OF STRUT



BOTTOM OF STRUT

NOTES:

REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE BASED ON THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER WILL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATIONS AND DESCRIPTION OF THE REPAIRS AND ENTER THE ACTUAL QUANTITIES INTO THE AS-BUILT REPAIR QUANTITY TABLE.

FOR REPAIRS, SEE "TYPICAL CAP AND COLUMN REPAIR DETAILS" SHEET.  
 FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.  
 FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.  
 SHOTCRETE REPAIRS MAY BE REPLACED WITH CONCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

CONTRACTOR SHALL SAW CUT TO A MINIMUM DEPTH OF 1/2" BUT REINFORCING STEEL SHALL NOT BE DAMAGED. CONTRACTOR SHALL REMOVE SURFACE CONCRETE TO VERIFY THAT SAW CUT DEPTH WILL NOT DAMAGE EXISTING REINFORCING STEEL.

CONTRACTOR SHALL SAW CUT THE REPAIR AREAS SO THAT THE CORNERS ARE SQUARE AS INDICATED ON THE DETAILS.

CLEAN AND REMOVE DEBRIS FROM THE TOP OF THE CAP AND APPLY EPOXY PROTECTIVE COATING. EPOXY COATING SHALL BE APPLIED TO THE TOP SURFACE OF THE CAP. THE CONTRACTOR SHALL NOT COAT THE AREA OF THE CAP BENEATH THE MASONRY PLATES. FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

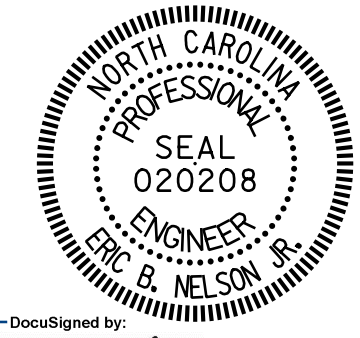
FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

WHEN COLUMN REPAIRS ARE INDICATED TO GROUND LINE, EXTEND REPAIR ONE (1) FOOT MIN. BELOW GROUND LINE.

- SHOTCRETE REPAIR
- CONCRETE REPAIR (FORM & POUR)
- ERI - EPOXY RESIN INJECTION

PROJECT NO. I-5889B  
BUNCOMBE COUNTY  
 BRIDGE NO. 100347

SHEET 2 OF 2



DocuSigned by:  
 Eric B. Nelson 7/25/2022

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
 BENT 1  
 SPAN B SIDE

DRAWN BY: J. MYA DATE: 6/2022  
 CHECKED BY: J. YANACCONO DATE: 6/2022

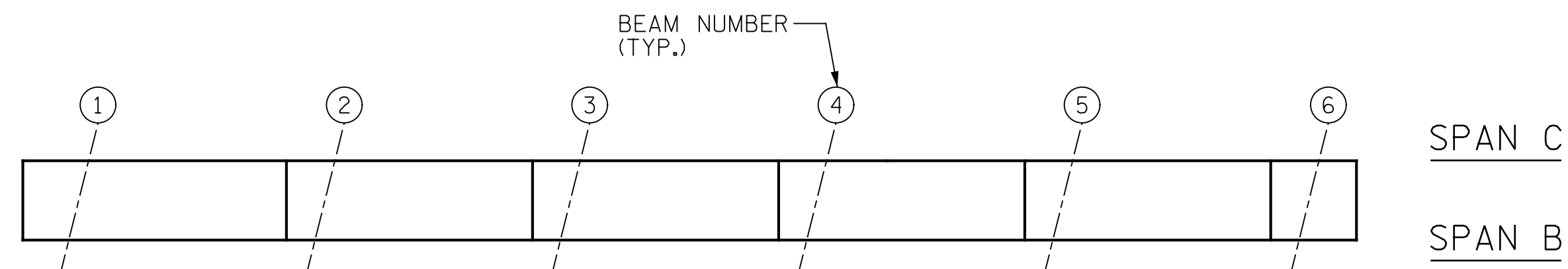


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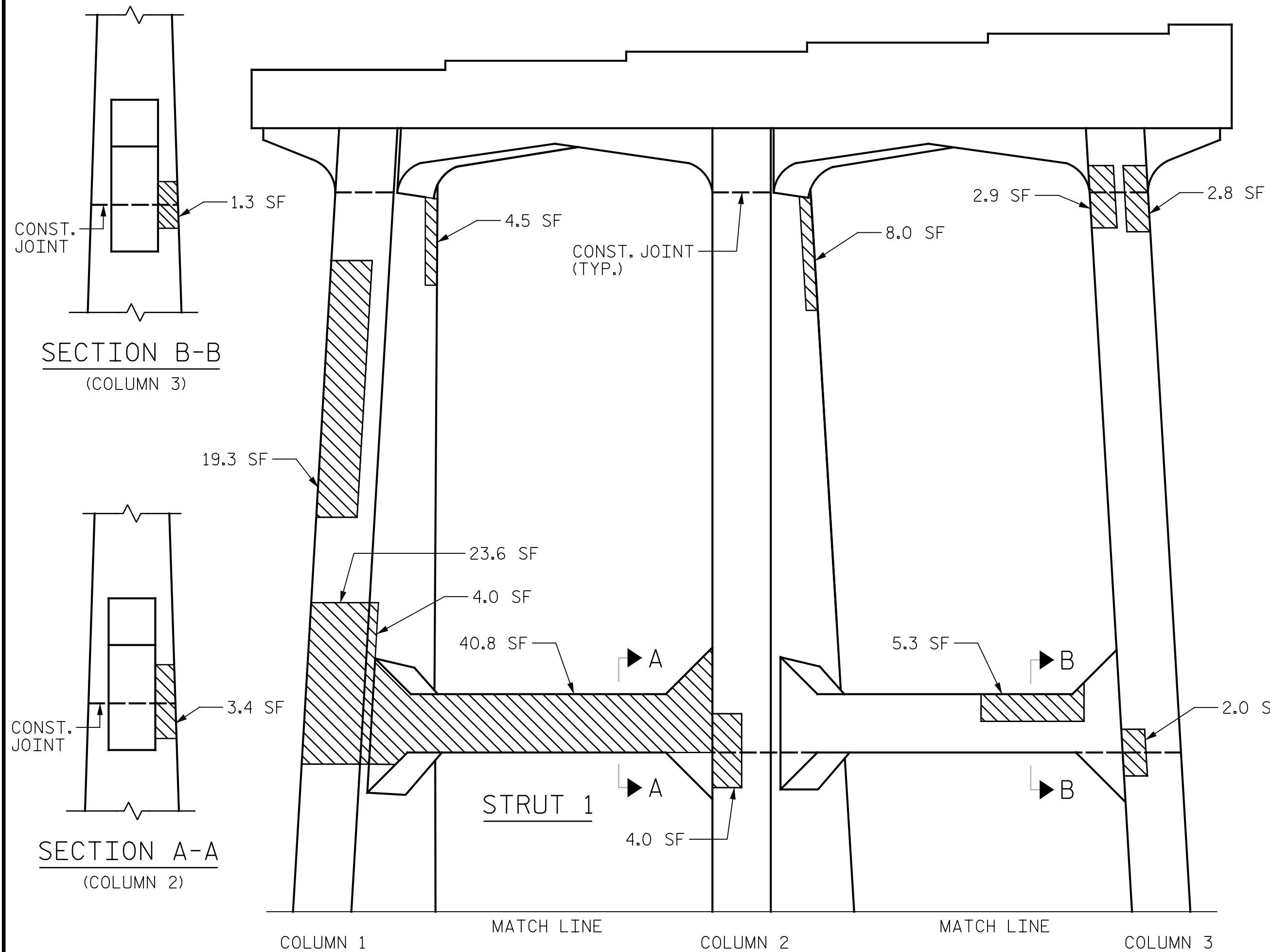
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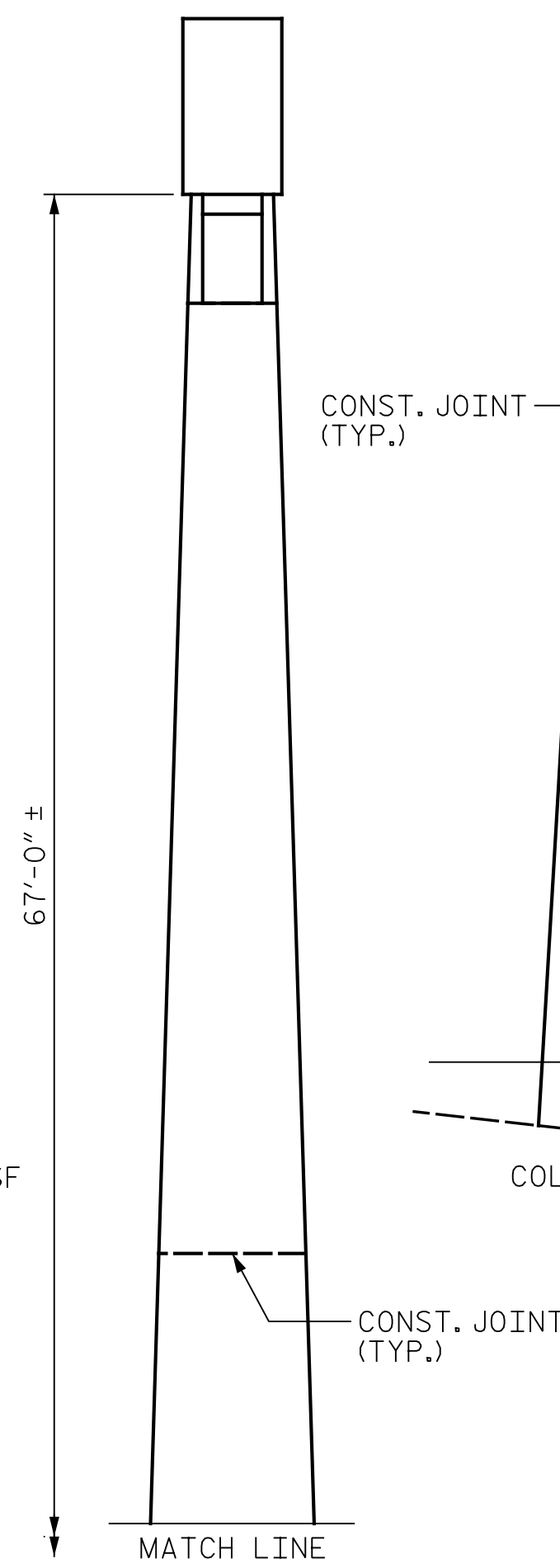
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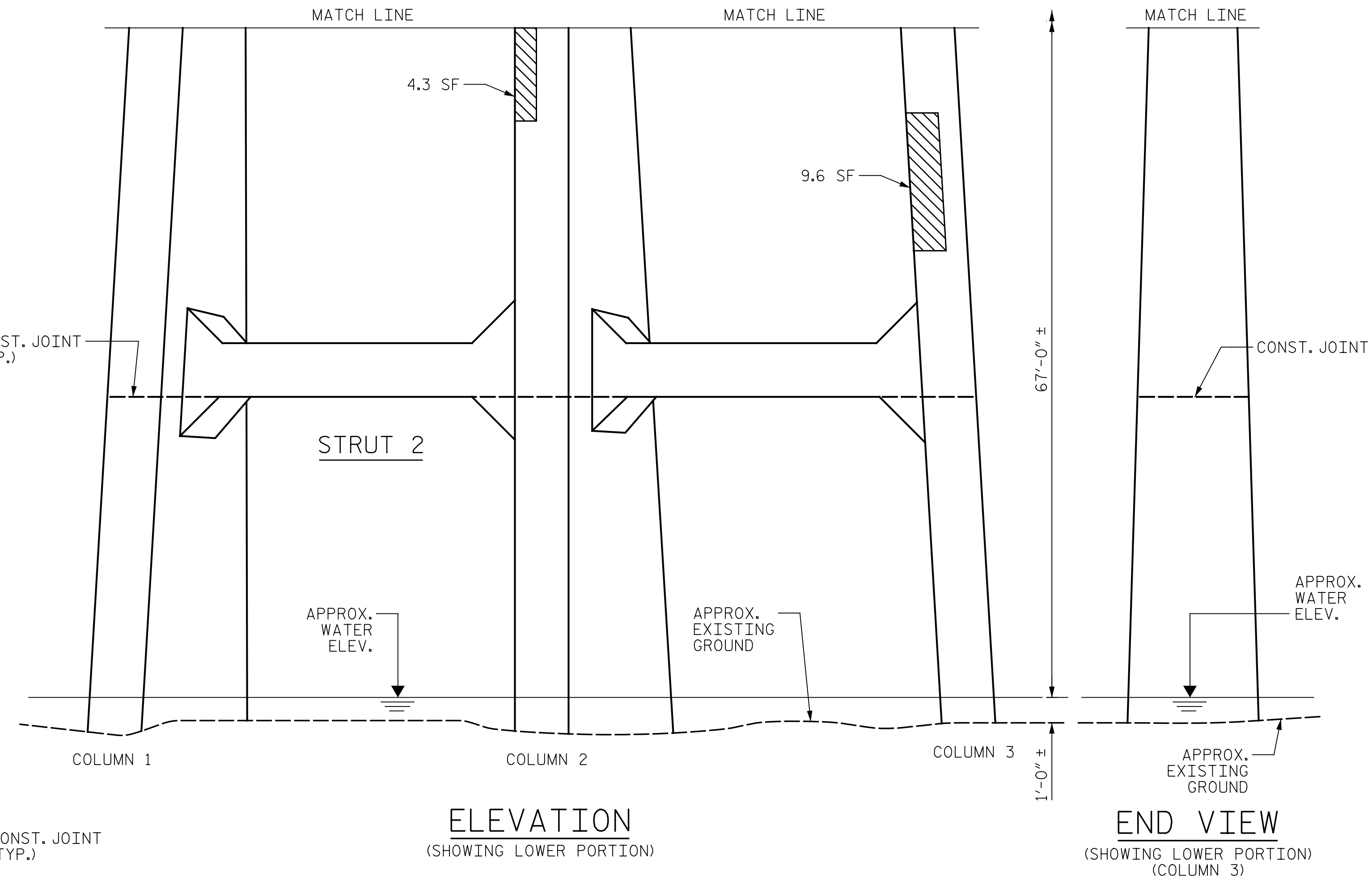
TOP OF CAP



ELEVATION  
(SHOWING UPPER PORTION)



END VIEW  
(SHOWING UPPER PORTION)  
(COLUMN 3)



ELEVATION  
(SHOWING LOWER PORTION)

END VIEW  
(SHOWING LOWER PORTION)  
(COLUMN 3)

- SHOTCRETE REPAIR
- CONCRETE REPAIR (FORM & POUR)
- ERI - EPOXY RESIN INJECTION

AS-BUILT REPAIR QUANTITY TABLE					
BENT 2 REPAIRS	QUANTITIES				
	ESTIMATE		ACTUAL		
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF
CAP	0.0	0.0			
COLUMN	343.7	171.9			
STRUT	117.2	58.6			
CONCRETE REPAIRS	0.0	0.0			
EPOXY RESIN INJECTION	LENGTH LF		LENGTH LF		
CAP	0.0				
COLUMN	0.0				
STRUT	0.0				
EPOXY COATING	SQ. FT		SQ. FT		
TOP OF BENT CAP	91				

NOTES:

REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE BASED ON THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER WILL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATIONS AND DESCRIPTION OF THE REPAIRS AND ENTER THE ACTUAL QUANTITIES INTO THE AS-BUILT REPAIR QUANTITY TABLE.

FOR REPAIRS, SEE "TYPICAL CAP AND COLUMN REPAIR DETAILS" SHEET.

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PROJECT NO. I-5889B  
BUNCOMBE COUNTY  
 BRIDGE NO. 100347

SHEET 1 OF 2

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

BENT 2  
 SPAN B SIDE



DocuSigned by:  
*Eric B. Nelson* 7/25/2022  
 AC98982116274C2D

DRAWN BY: J. MYA DATE: 6/2022  
 CHECKED BY: J. YANACCONE DATE: 6/2022

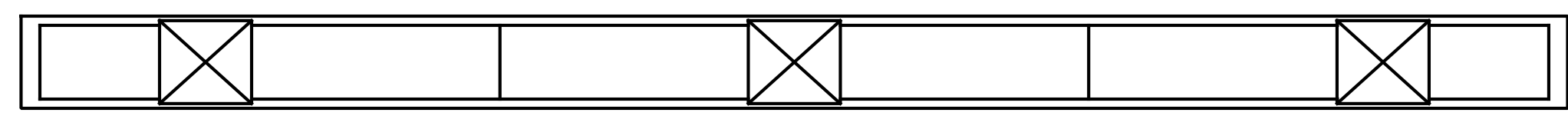
VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MINIMUM OF 1" BEHIND REBAR AND MINIMUM OF 2" CLEARANCE TO SAWCUT. FOR REPAIR DETAILS, SEE "TYPICAL CAP AND COLUMN REPAIR DETAILS" SHEET.



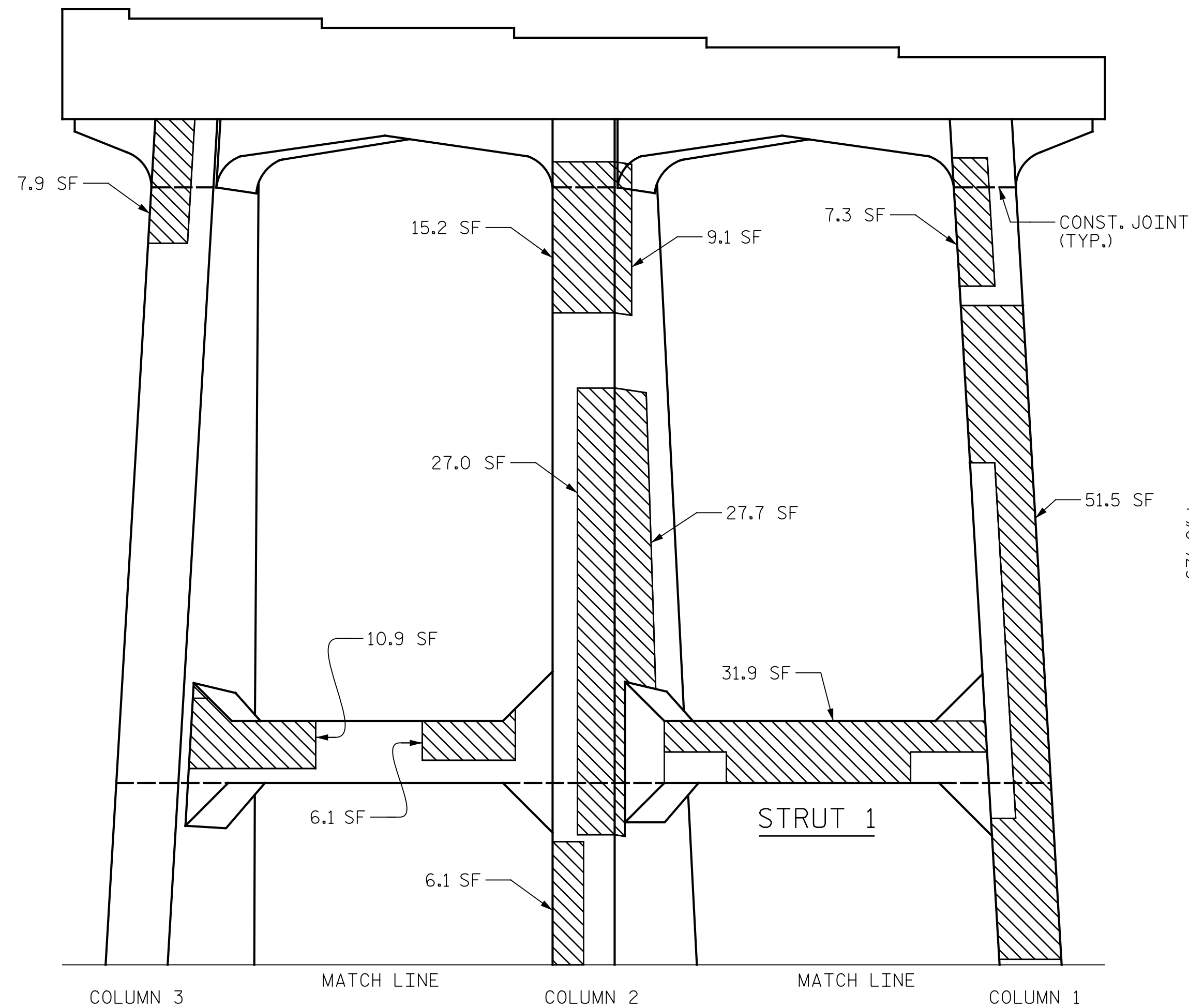
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2			4			129

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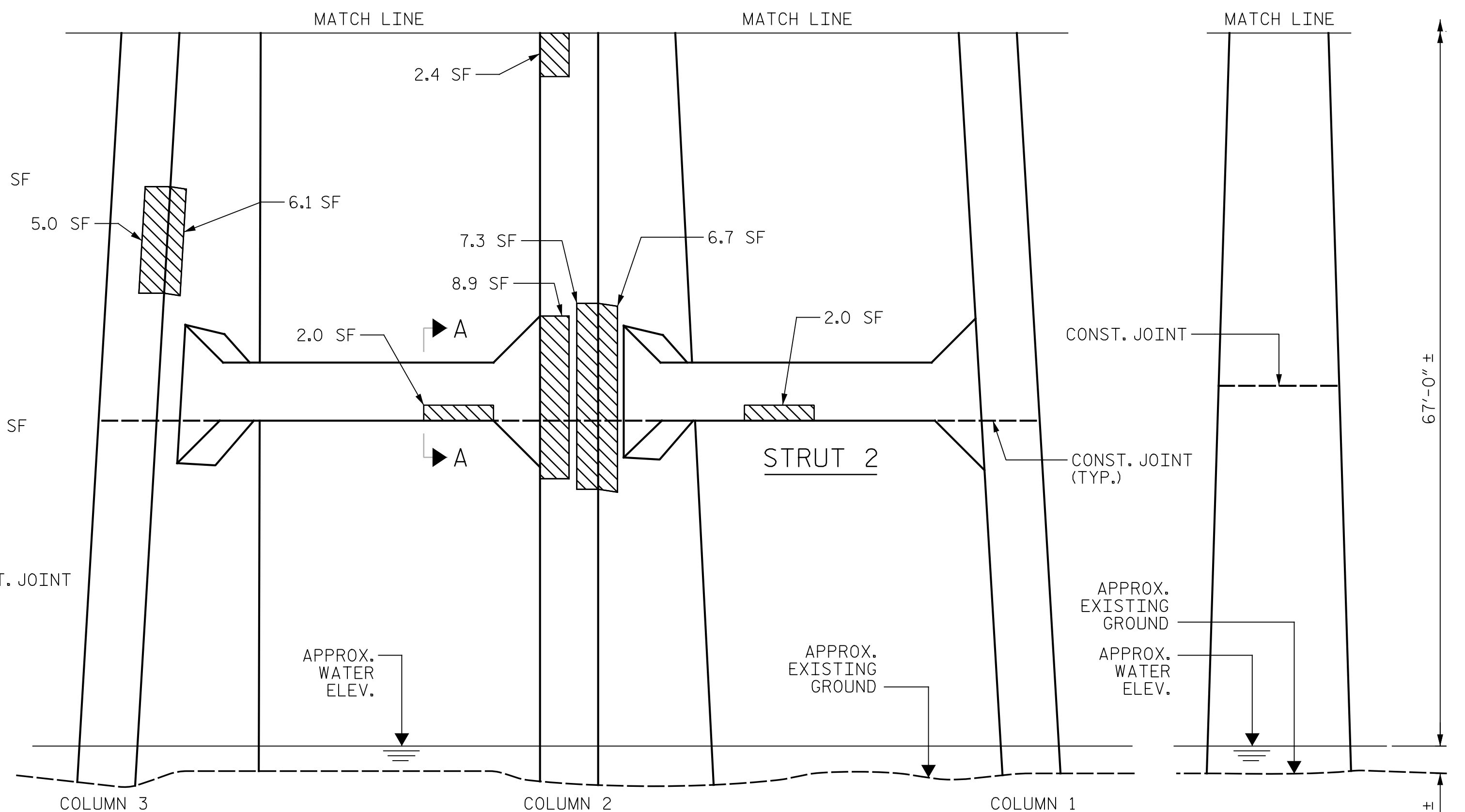


BOTTOM OF CAP



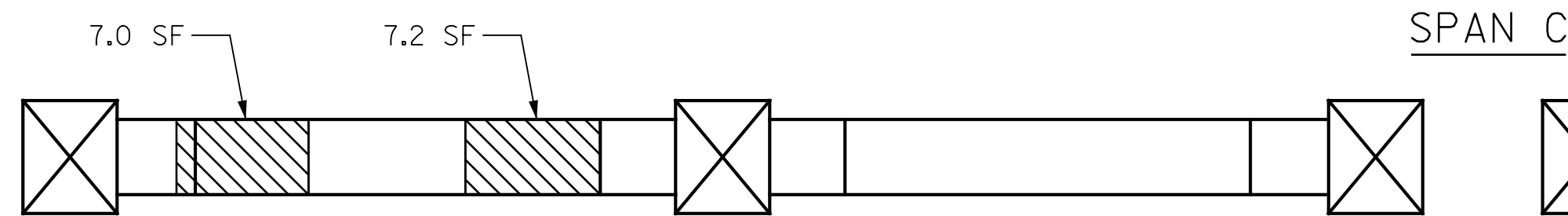
ELEVATION  
(SHOWING UPPER PORTION)

END VIEW  
(SHOWING UPPER PORTION)  
(COLUMN)

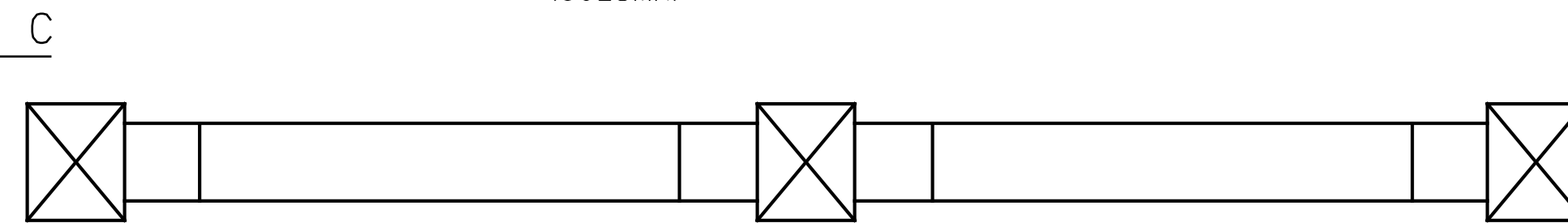


ELEVATION  
(SHOWING LOWER PORTION)

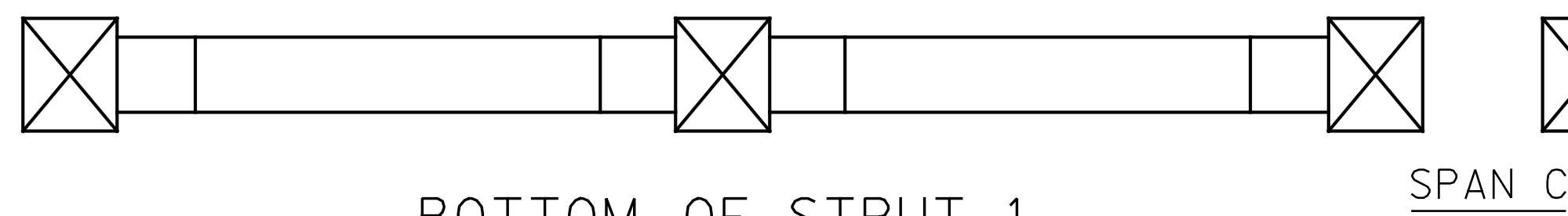
END VIEW  
(SHOWING LOWER PORTION)  
(COLUMN 1)



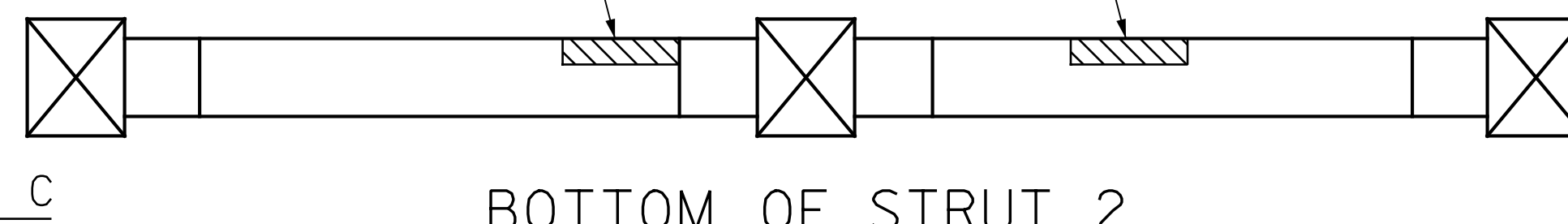
TOP OF STRUT 1



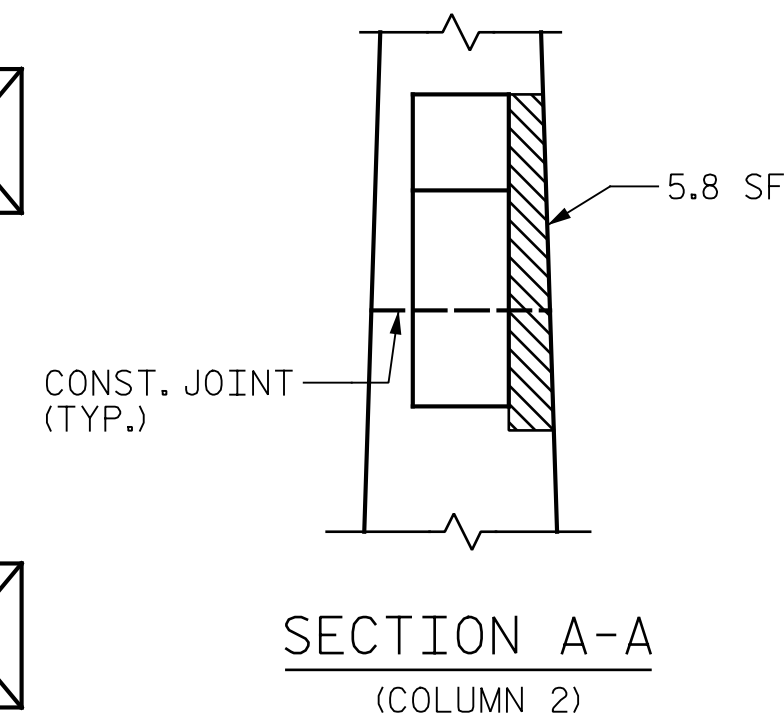
TOP OF STRUT 2



BOTTOM OF STRUT 1



BOTTOM OF STRUT 2



SECTION A-A  
(COLUMN 2)

NOTES:

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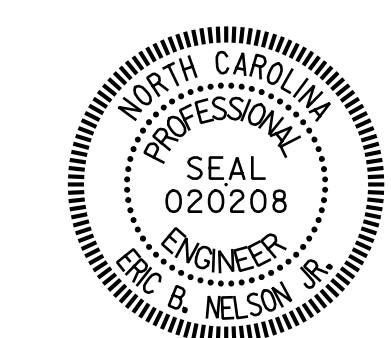
- SHOTCRETE REPAIR
- CONCRETE REPAIR (FORM & POUR)
- ERI - EPOXY RESIN INJECTION

PROJECT NO. I-5889B  
BUNCOMBE COUNTY  
 BRIDGE NO. 100347

SHEET 2 OF 2

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

BENT 2  
 SPAN C SIDE



DocuSigned by:  
*Eric B. Nelson* 7/25/2022  
 AC98082116174CD

DRAWN BY: J. MYA DATE: 6/2022  
 CHECKED BY: J. YANACCONE DATE: 6/2022

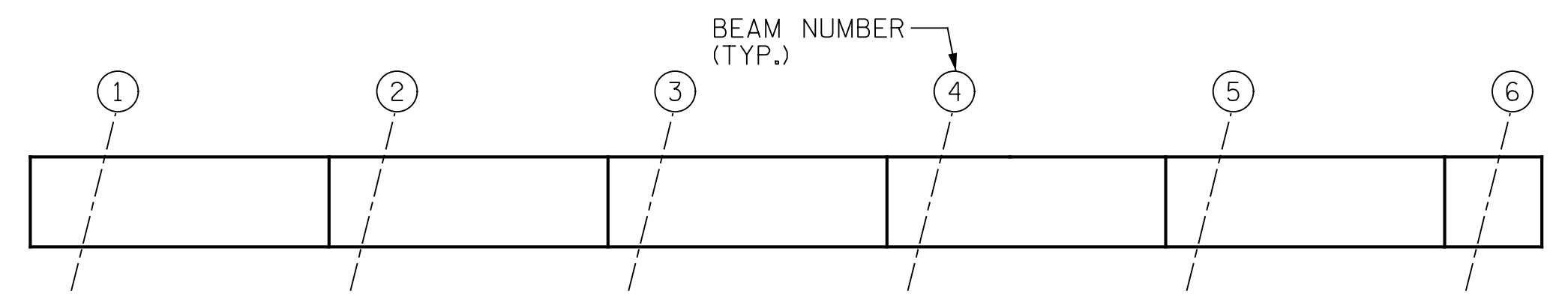


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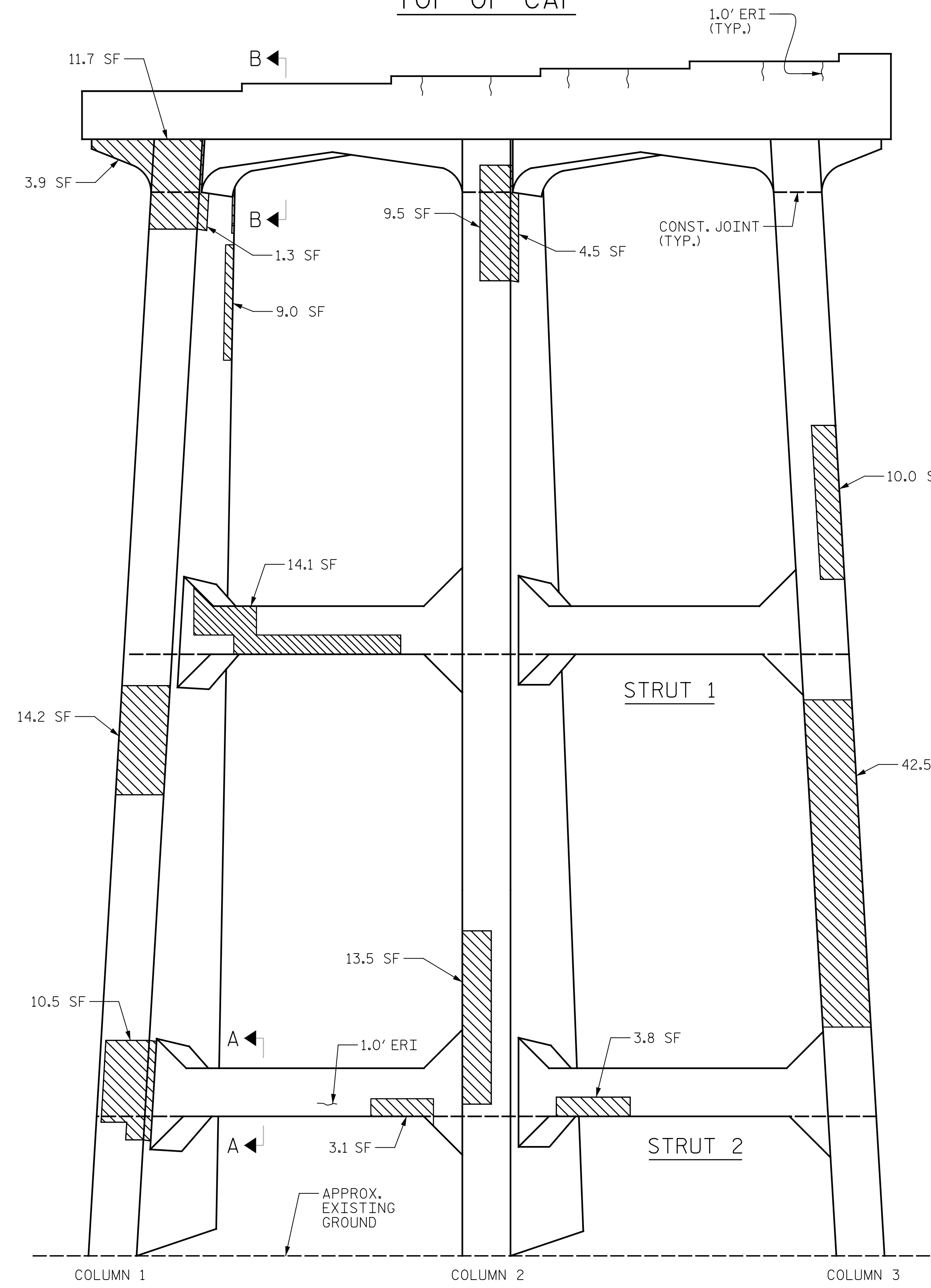


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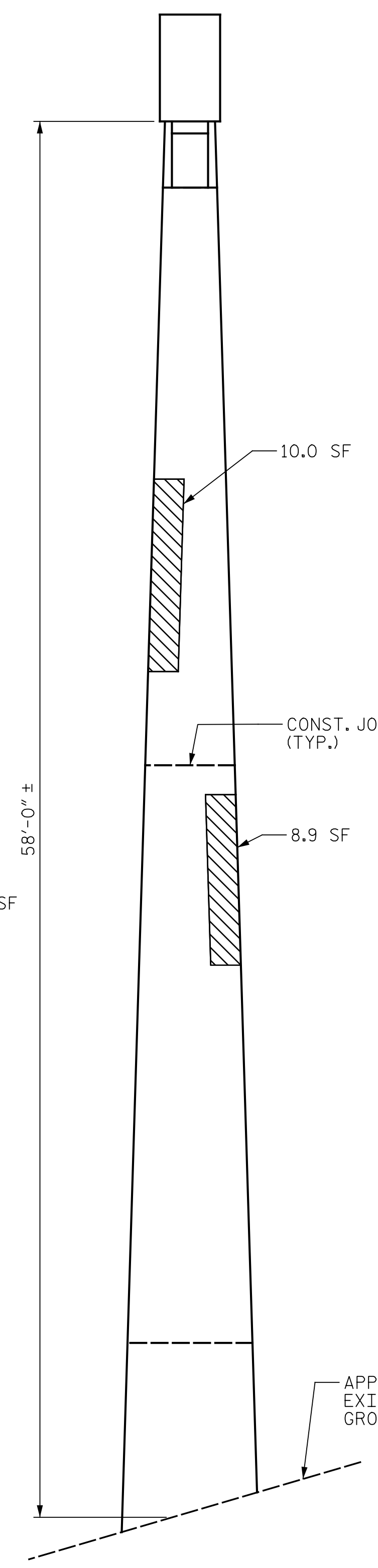


SPAN D  
SPAN C

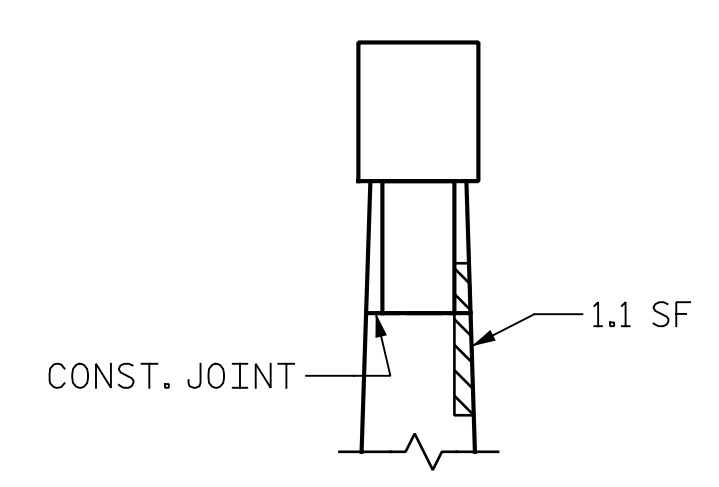
TOP OF CAP



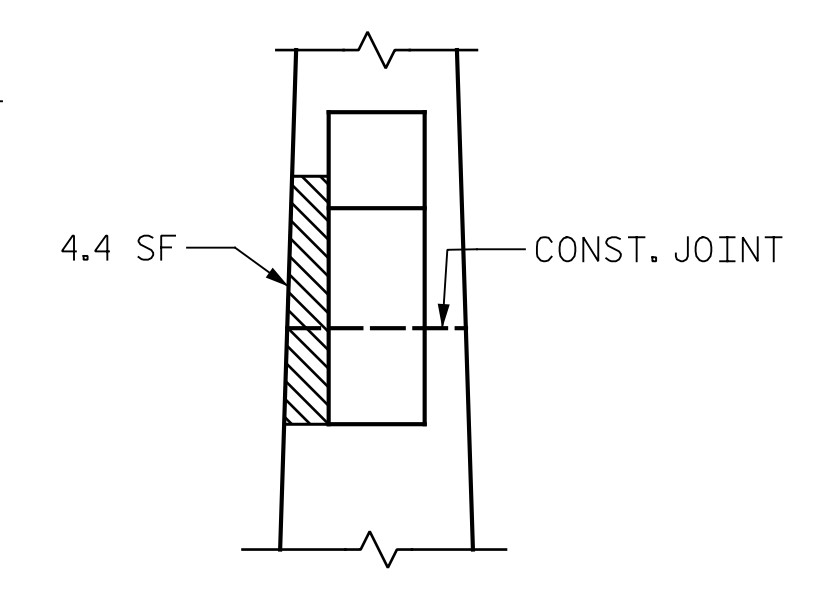
ELEVATION



END VIEW  
(COLUMN 3)



SECTION B-B  
(COLUMN 1)



SECTION A-A  
(COLUMN 1)

AS-BUILT REPAIR QUANTITY TABLE					
BENT 3 REPAIRS	QUANTITIES				
	ESTIMATE		ACTUAL		
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF
CAP	3.9	2.0			
COLUMN	309.2	154.6			
STRUT	72.4	36.2			
CONCRETE REPAIRS	0.0	0.0			
EPOXY RESIN INJECTION		LENGTH LF	LENGTH LF		
CAP		11.0			
COLUMN		0.0			
STRUT		1.0			
EPOXY COATING		SQ. FT	SQ. FT		
TOP OF BENT CAP		91			

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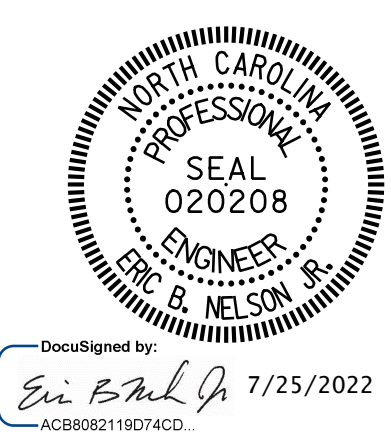
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PROJECT NO. I-5889B  
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SHEET 1 OF 2



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**BENT 3  
SPAN C SIDE**

DRAWN BY : J. MYA DATE : 6/2022  
 CHECKED BY : J. YANNACCONE DATE : 6/2022

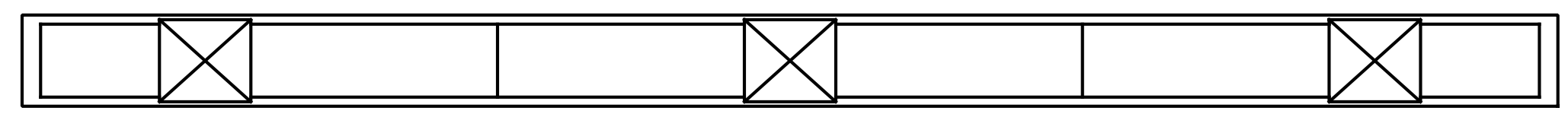


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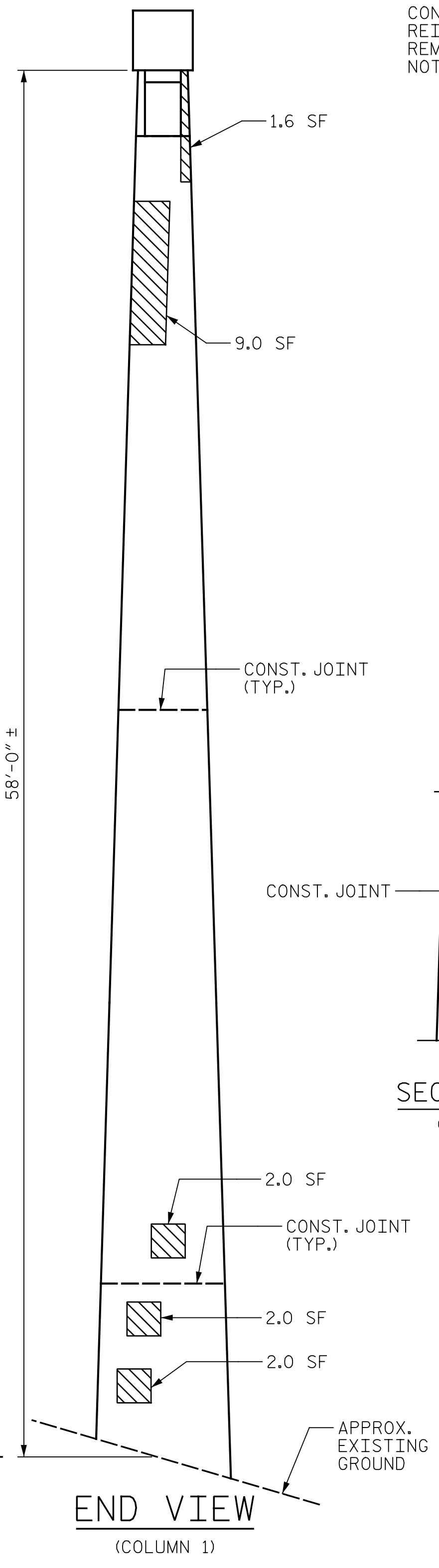
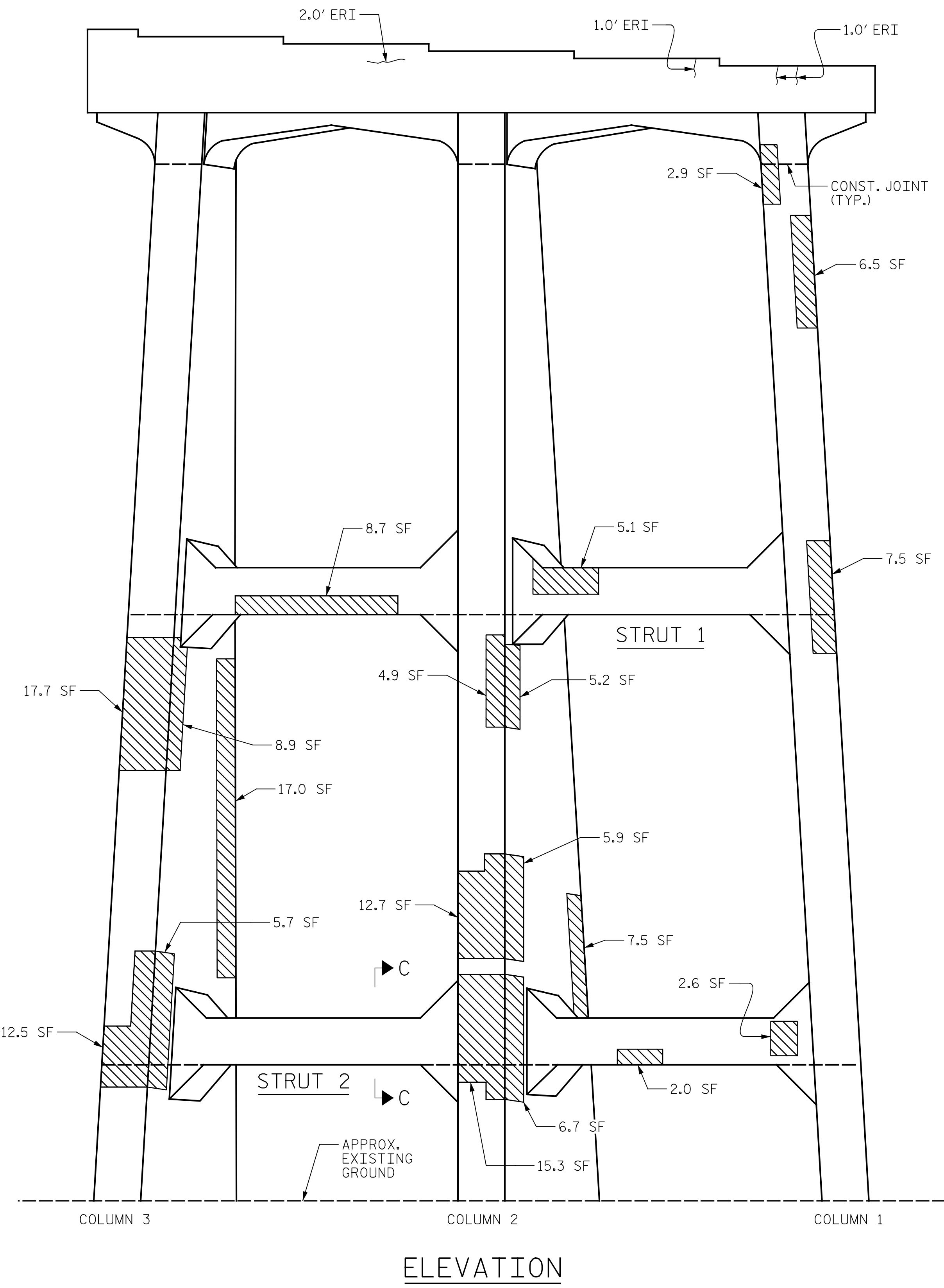
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SPAN C  
SPAN D



**BOTTOM OF CAP**



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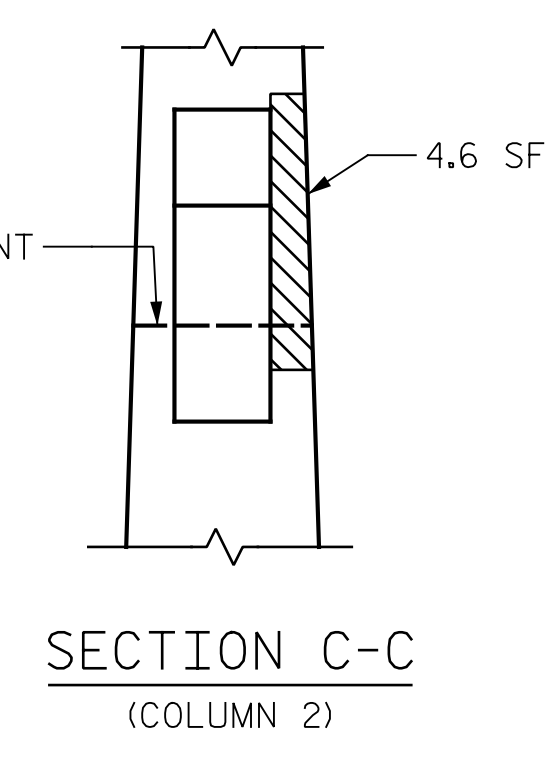
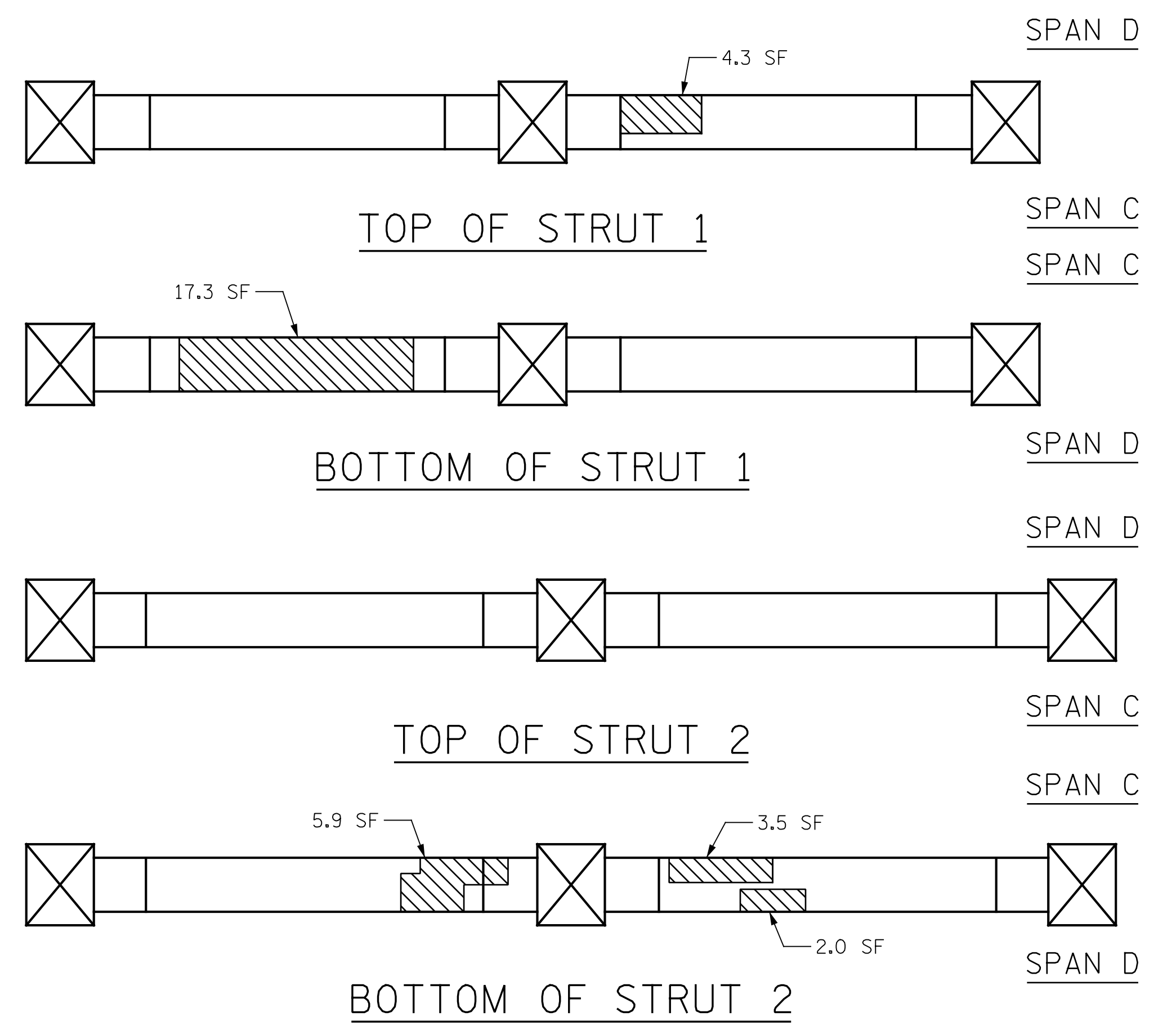
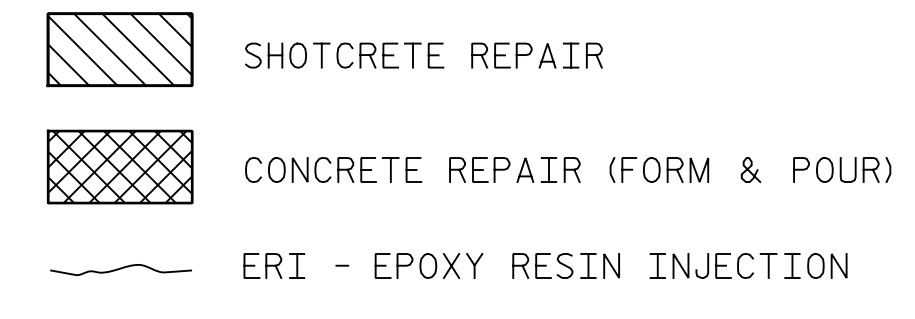
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PROJECT NO. I-5889B  
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SHEET 2 OF 2



STATE OF NORTH CAROLINA  
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 RALEIGH

**BENT 3  
 SPAN D SIDE**

DRAWN BY: J. MYA DATE: 6/2022  
 CHECKED BY: J. YANACCONI DATE: 6/2022



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