

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

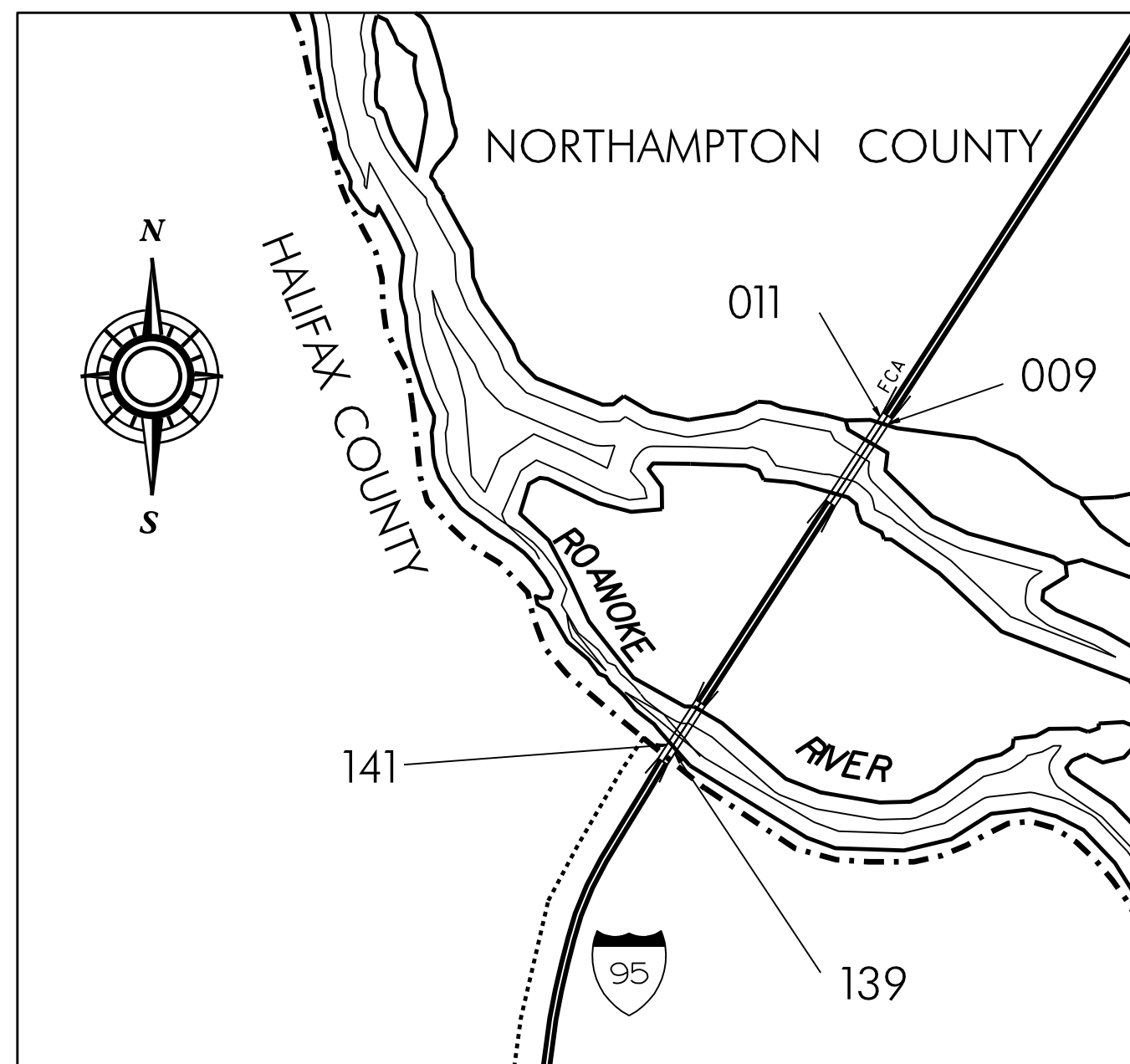


HALIFAX & NORTHAMPTON COUNTIES

**LOCATION: HALIFAX COUNTY: BRIDGE #139 ON I-95 NBL OVER ROANOKE RIVER
BRIDGE #141 ON I-95 SBL OVER ROANOKE RIVER**

**NORTHAMPTON COUNTY: BRIDGE #009 ON I-95 NBL OVER ROANOKE RIVER
BRIDGE #011 ON I-95 SBL OVER ROANOKE RIVER**

TYPE OF WORK: MODULAR JOINTS REPLACEMENT

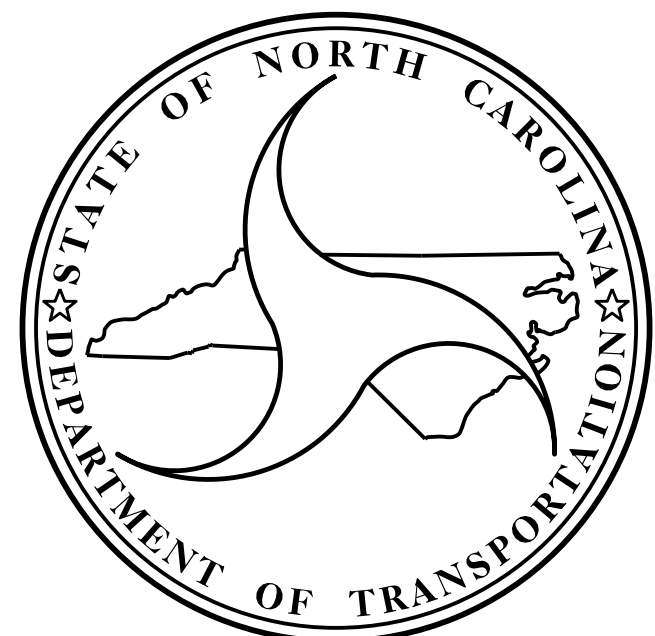


VICINITY MAP : HALIFAX COUNTY - NORTHAMPTON COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	I-5839	1	42
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
53045.3.1	NHPIM-0095(075)	P.E.	
53045.3.3	NHPIM-0095(075)	CONST.	

PROJECT: I-5839

CONTRACT: DD00326



DESIGN DATA

HALIFAX COUNTY

BRIDGE #139 ADT 2018 = 20,750
BRIDGE #141 ADT 2015 = 20,000

NORTHAMPTON COUNTY

BRIDGE #009 ADT 2015 = 20,000
BRIDGE #011 ADT 2017 = 24,500

PROJECT LENGTH

HALIFAX COUNTY

BRIDGE #139 = 0.035 MILES
BRIDGE #141 = 0.035 MILES

NORTHAMPTON COUNTY

BRIDGE #009 = 0.215 MILES
BRIDGE #011 = 0.215 MILES

Prepared in the Office of:
**DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS**

STRUCTURES MANAGEMENT UNIT
1000 BIRCH RIDGE DR. RALEIGH, N.C. 27610

KRISTY W. ALFORD, P.E.

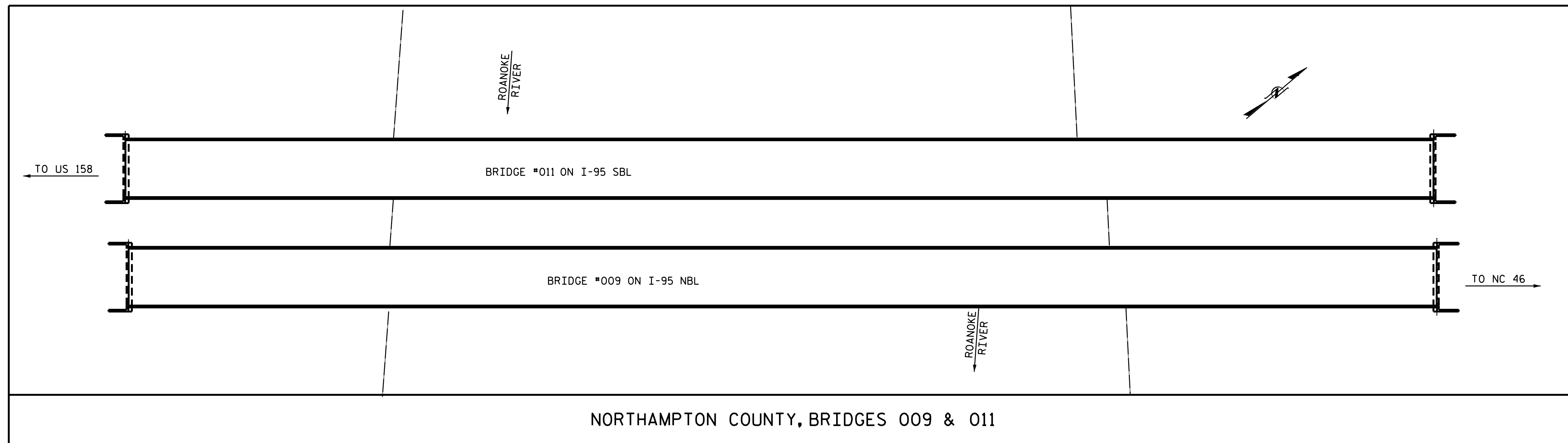
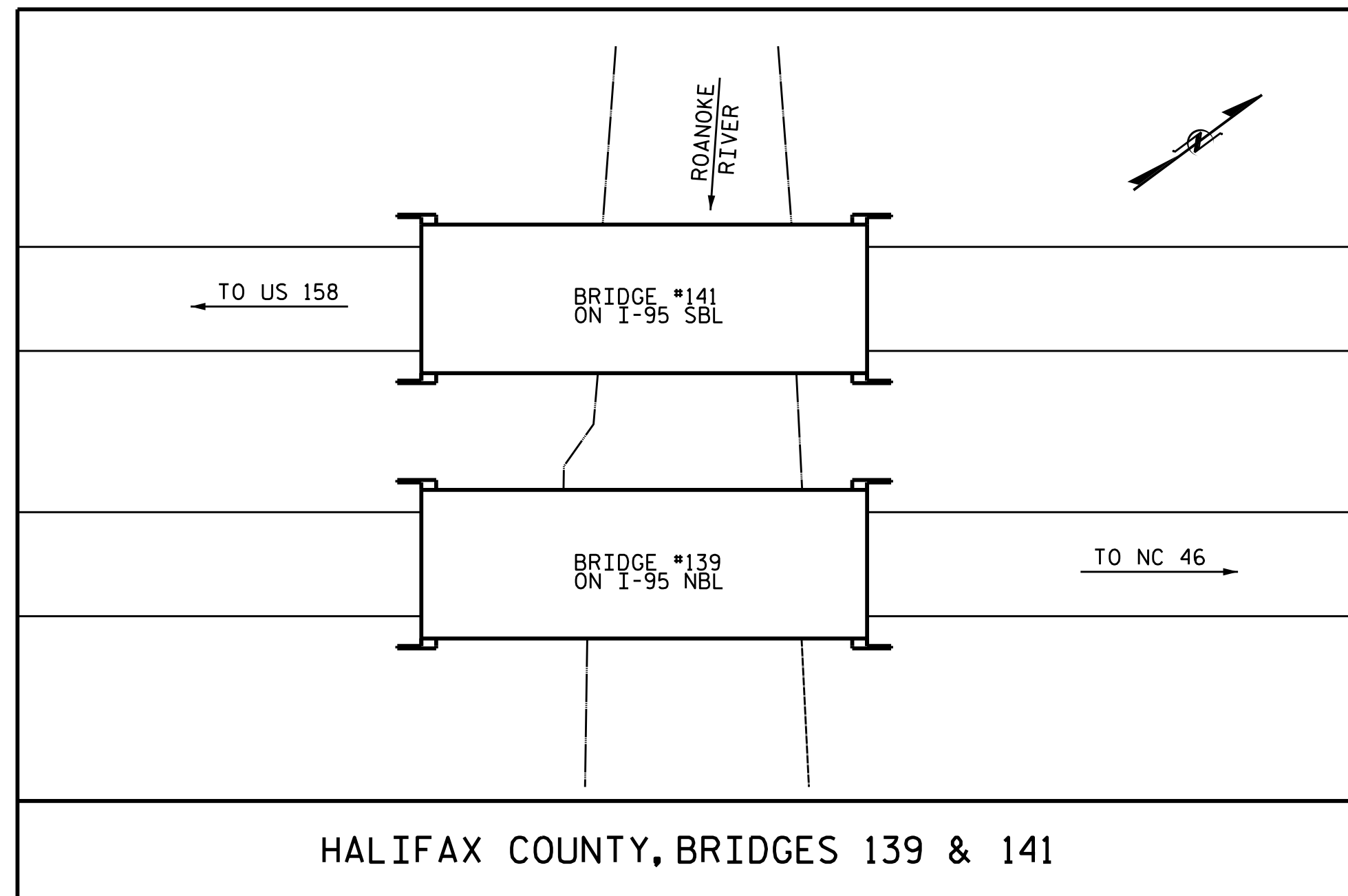
PROJECT ENGINEER

2018 STANDARD SPECIFICATIONS

LETTING DATE:
FEBRUARY 25, 2020



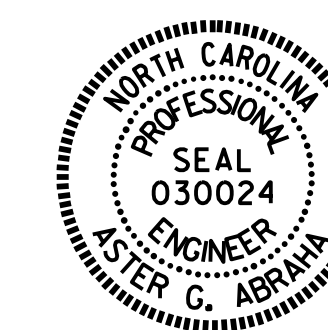
ASTER G. ABRAHA, P.E.
PROJECT DESIGN ENGINEER



LOCATION SKETCHES

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

PROJECT NO. I-5839
HALIFAX &
NORTHAMPTON COUNTIES
BRIDGE NO. 139, 141, 009
& 011



DocuSigned by:
Aster Abraha
 DDA09AAED5104FD
 1/24/2020

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
GENERAL DRAWING
 LOCATION SKETCHES

DRAWN BY : S. T. SANDOR/A. Y. GODFREY DATE : 01/2020
 CHECKED BY : W. C. SMITH/A. G. ABRAHA DATE : 01/2020

DOCUMENT NOT CONSIDERED
 FINAL UNLESS ALL
 SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-1
1			3			TOTAL SHEETS
2			4			9

TOTAL BILL OF MATERIAL						
COUNTY	BRIDGE NO.	DEPARTMENT FURNISHED STRIP SEALS	VOLUMETRIC MIXER	EPOXY COATED REINFORCING STEEL	GROOVING BRIDGE FLOORS	CONCRETE WORK FOR JOINT REPLACEMENT
		LUMP SUM	LUMP SUM	LBS.	SQ. FT.	SQ. FT.
HALIFAX	139	LUMP SUM	LUMP SUM	3,510.0	420.0	480.0
	141	LUMP SUM	LUMP SUM	3,510.0	420.0	480.0
NORTHAMPTON	009	LUMP SUM	LUMP SUM	5,189.0	630.0	720.0
	011	LUMP SUM	LUMP SUM	5,189.0	630.0	720.0
TOTAL		LUMP SUM	LUMP SUM	17,398.0	2,100.0	2,400.0

GENERAL NOTES:

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

EXISTING MODULAR JOINT AND DECK REINFORCING STEEL SHOWN IS BASED ON BEST INFORMATION AVAILABLE.

WORK ON BRIDGE SHALL BE PERFORMED SO AS NOT TO ALLOW DEBRIS TO FALL BELOW. THE CONTRACTOR SHALL SUBMIT PLANS FOR CONSTRUCTION IN ACCORDANCE TO ARTICLE 402-2 OF THE STANDARD SPECIFICATIONS AND THE PROJECT SPECIAL PROVISIONS.

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

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

CONTRACTOR SHALL DETERMINE EXTENT OF WORKING AREA, STAGING PROCESS, AND INSTALL COVER & ASSEMBLY AS NECESSARY TO MEET THE REQUIREMENTS OF TRAFFIC MANAGEMENT PLANS.

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

FOR EPOXY COATED REINFORCING STEEL, SEE 2018 NORTH CAROLINA STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES, SECTION 425.

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 SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

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

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

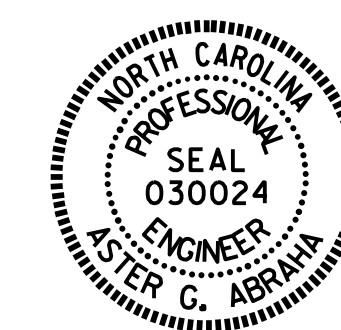
FOR POLLUTION CONTROL, SEE SPECIAL PROVISIONS.

FOR "CONCRETE WORK FOR JOINT REPLACEMENT", SEE SPECIAL PROVISIONS.

FOR STRIP SEALS, SEE SPECIAL PROVISIONS.

FOR VOLUMETRIC MIXER, SEE SPECIAL PROVISIONS.

PROJECT NO. I-5839
HALIFAX &
NORTHAMPTON COUNTIES
BRIDGE NO. 139, 141, 009,
& 011



DocuSigned by:
Aster Abrahams
 DD409AAED5104FD
 1/24/2020

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
GENERAL NOTES
 &
TOTAL BILL OF MATERIAL

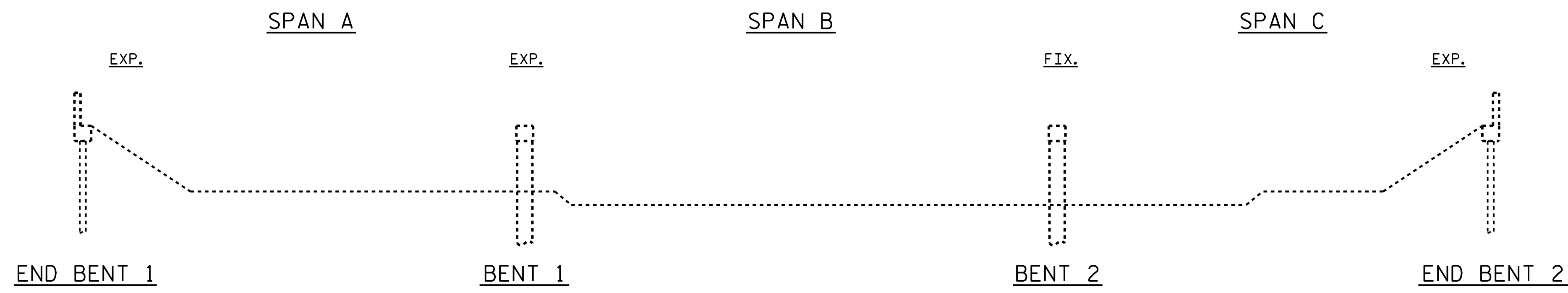
DRAWN BY : A. Y. GODFREY DATE : 01/2020
 CHECKED BY : A. G. ABRAHA DATE : 01/2020

DOCUMENT NOT CONSIDERED
 FINAL UNLESS ALL
 SIGNATURES COMPLETED

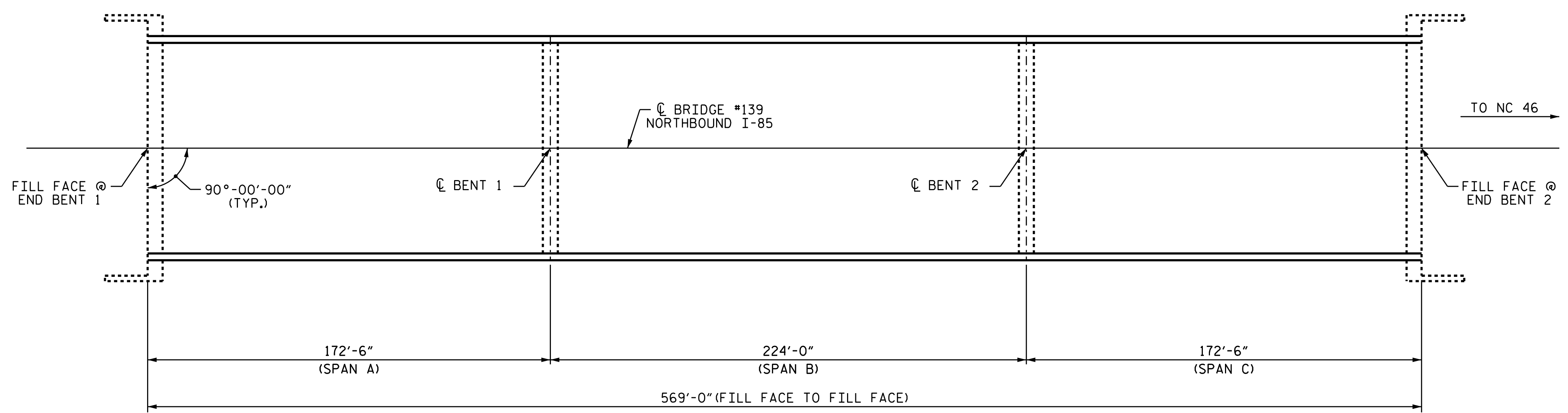
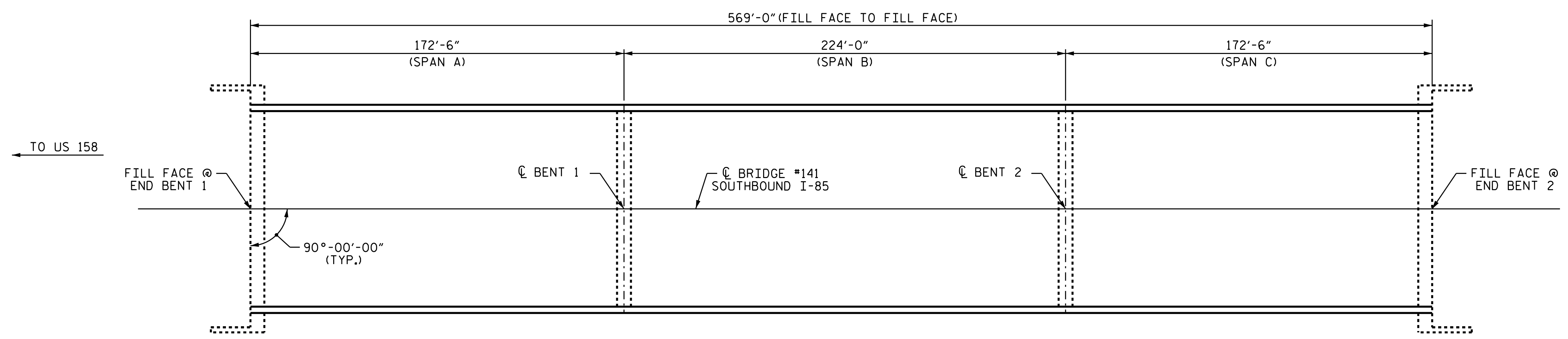
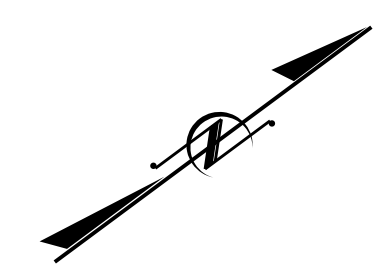
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			S-2
2			4			TOTAL SHEETS 9

SCOPE OF WORK

- MODULAR JOINT REPLACEMENT
- CONCRETE WORK FOR JOINT REPLACEMENT



ELEVATION
(SECTION ALONG C ROADWAY)



PLAN
(COLUMNS & FOOTINGS NOT SHOWN IN PLAN VIEW FOR CLARITY)

I hereby certify that this structure was rehabilitated according to these plans or as noted therein.

Resident Engineer _____ Date _____

PROJECT NO. I-5839
HALIFAX COUNTY
 BRIDGE No.: 410139 & 410141



DocuSigned by:
 Aster Abraha
 DD4094AED5104FD...
 1/24/2020

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
GENERAL DRAWING
 BRIDGES OVER ROANOKE RIVER ON I-95 BETWEEN US 158 & NC 46

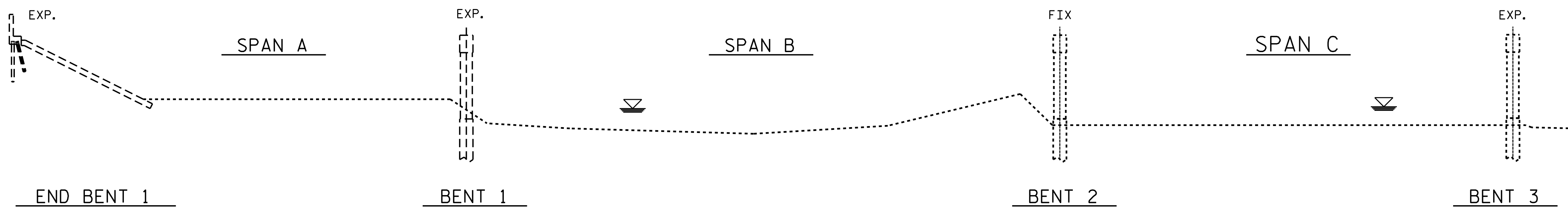
DRAWN BY : S. T. SANDOR/A. Y. GODFREY DATE : 01/2020
 CHECKED BY : W. C. SMITH/A. G. ABRAHA DATE : 01/2020

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	SHEET NO.
1			3			S-3
2			4			TOTAL SHEETS 9

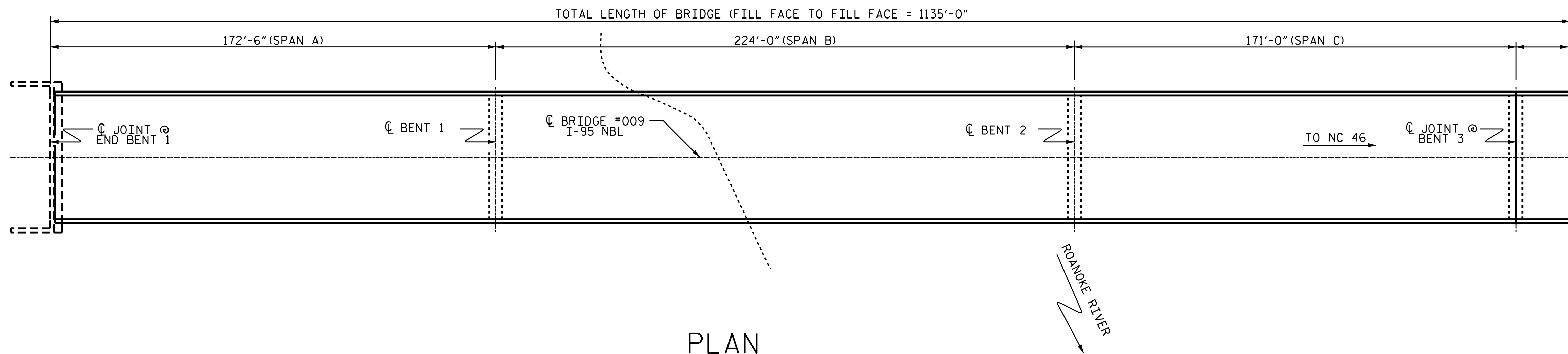
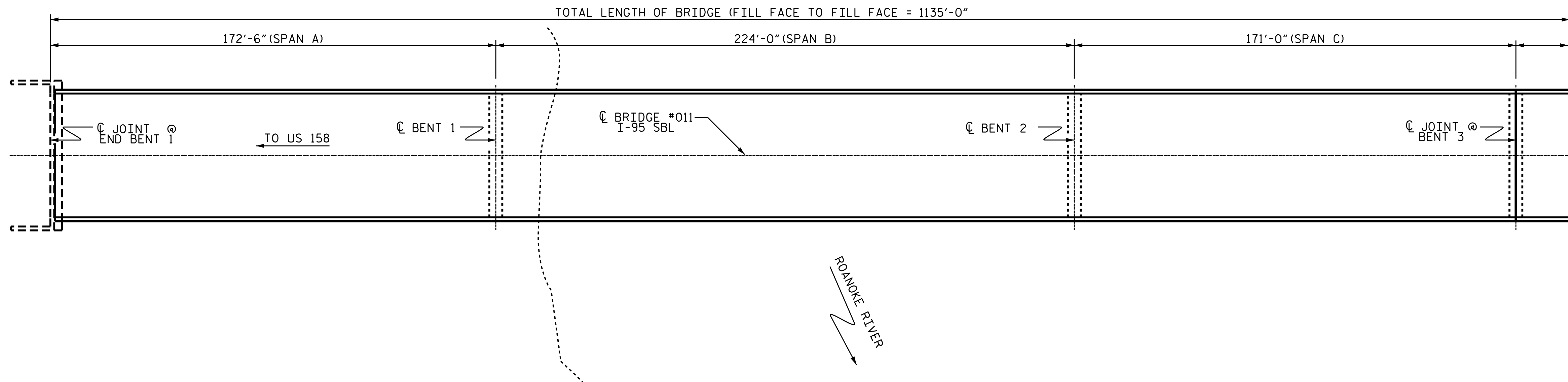
SCOPE OF WORK

- MODULAR JOINT REPLACEMENT
- CONCRETE WORK FOR JOINT REPLACEMENT



ELEVATION

(SECTION ALONG C OF ROADWAY)



PLAN

(COLUMNS AND FOOTINGS NOT SHOWN IN PLAN VIEW FOR CLARITY)

I hereby certify that this structure was rehabilitated according to these plans or as noted therein.

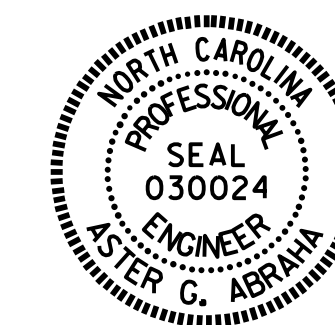
Resident Engineer _____ Date _____

PROJECT NO. I-5839
NORTHAMPTON COUNTY
 BRIDGE NO. 650009 & 650011
 SHEET 1 OF 2

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

GENERAL DRAWING

BRIDGES OVER ROANOKE RIVER ON I-95 BETWEEN US 158 AND NC 46



DocuSigned by:
 Aster Abraha
 DD409AAED5104FD...
 1/24/2020

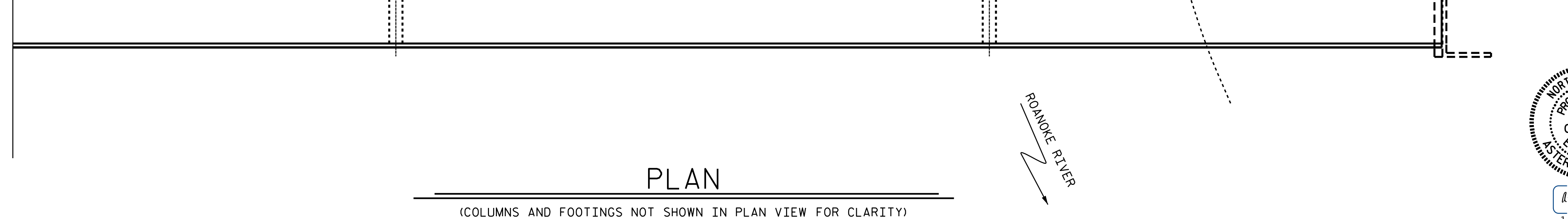
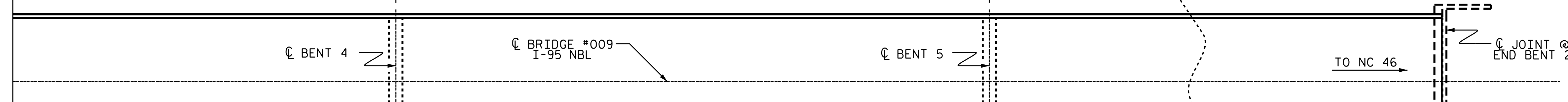
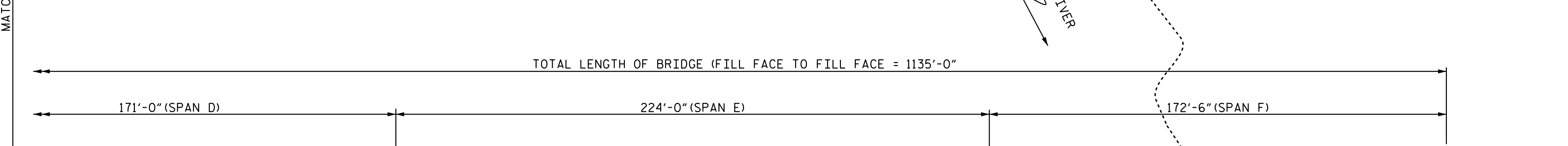
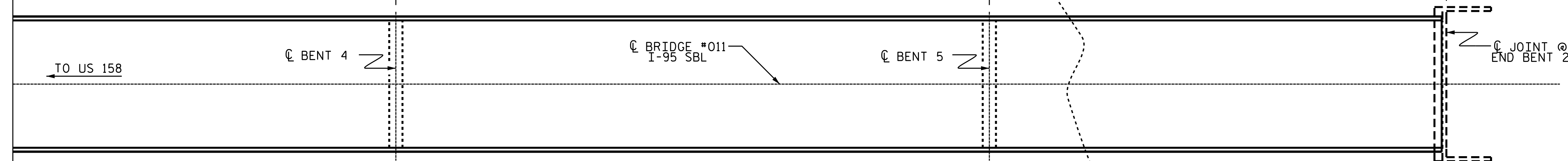
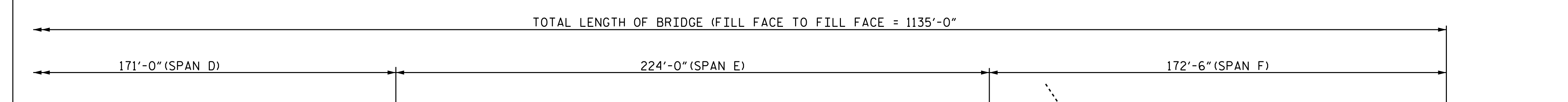
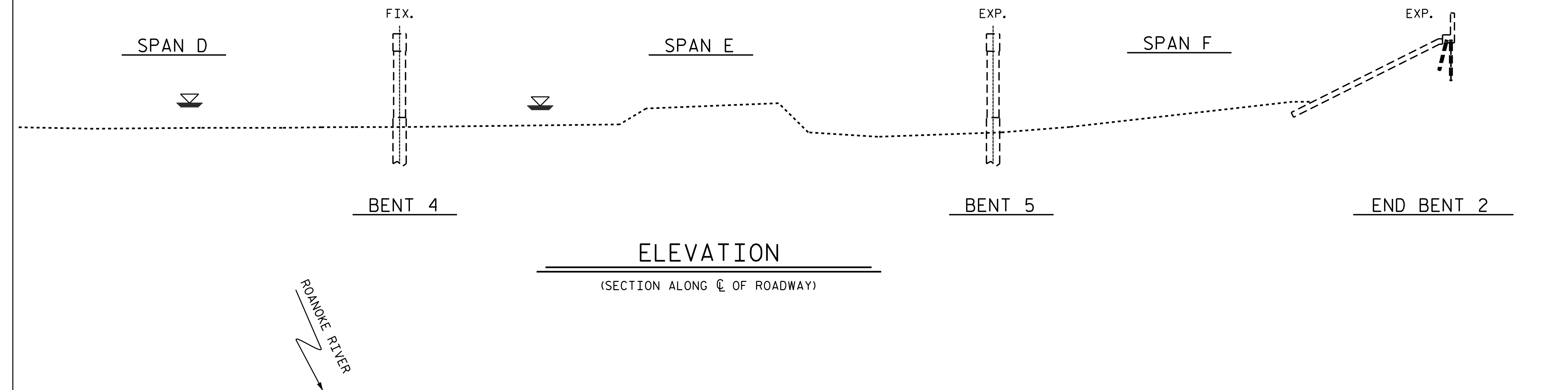
DRAWN BY : S.T.S/A. Y. GODFREY DATE : 01/2020
 CHECKED BY : W. C. SMITH/A. G. ABRAHA DATE : 01/2020

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-4
1			3			TOTAL SHEETS
2			4			9

SCOPE OF WORK

- MODULAR JOINT REPLACEMENT
- CONCRETE WORK FOR JOINT REPLACEMENT



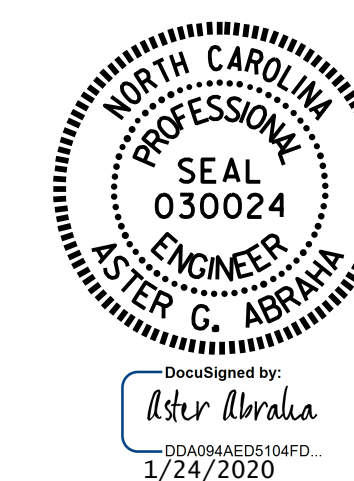
PROJECT NO. I-5839
NORTHAMPTON COUNTY
 BRIDGE NO. 650009 &
650011

SHEET 2 OF 2

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

GENERAL DRAWING

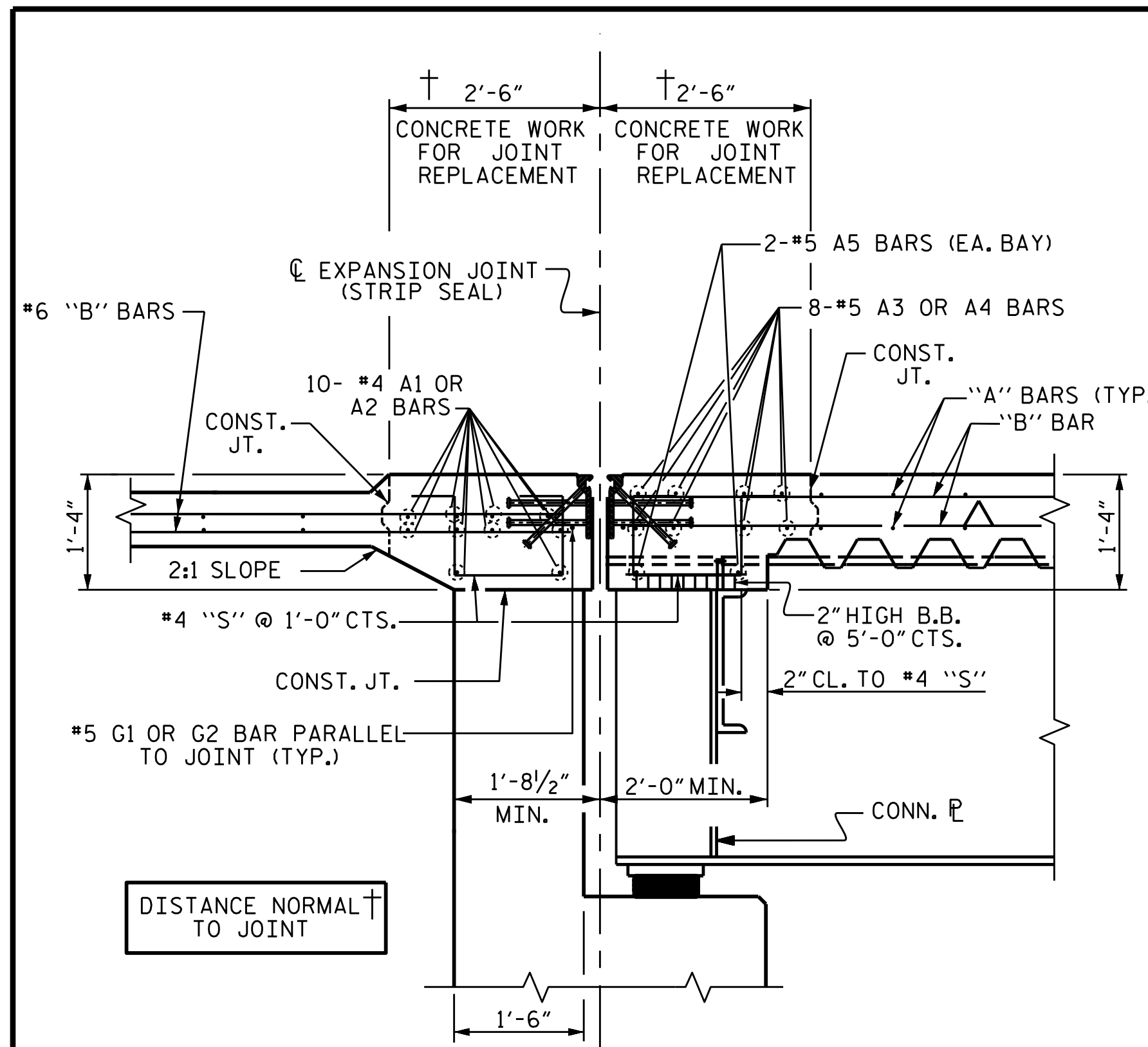
BRIDGES OVER ROANOKE
 RIVER ON I-95 BETWEEN
 US 158 AND NC 46



DOCUMENT NOT CONSIDERED
 FINAL UNLESS ALL
 SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			9
2			4			

DRAWN BY : S.T.S /A. Y. GODFREY DATE : 01/2020
 CHECKED BY : W.C. SMITH /A. G. ABRAHA DATE : 01/2020

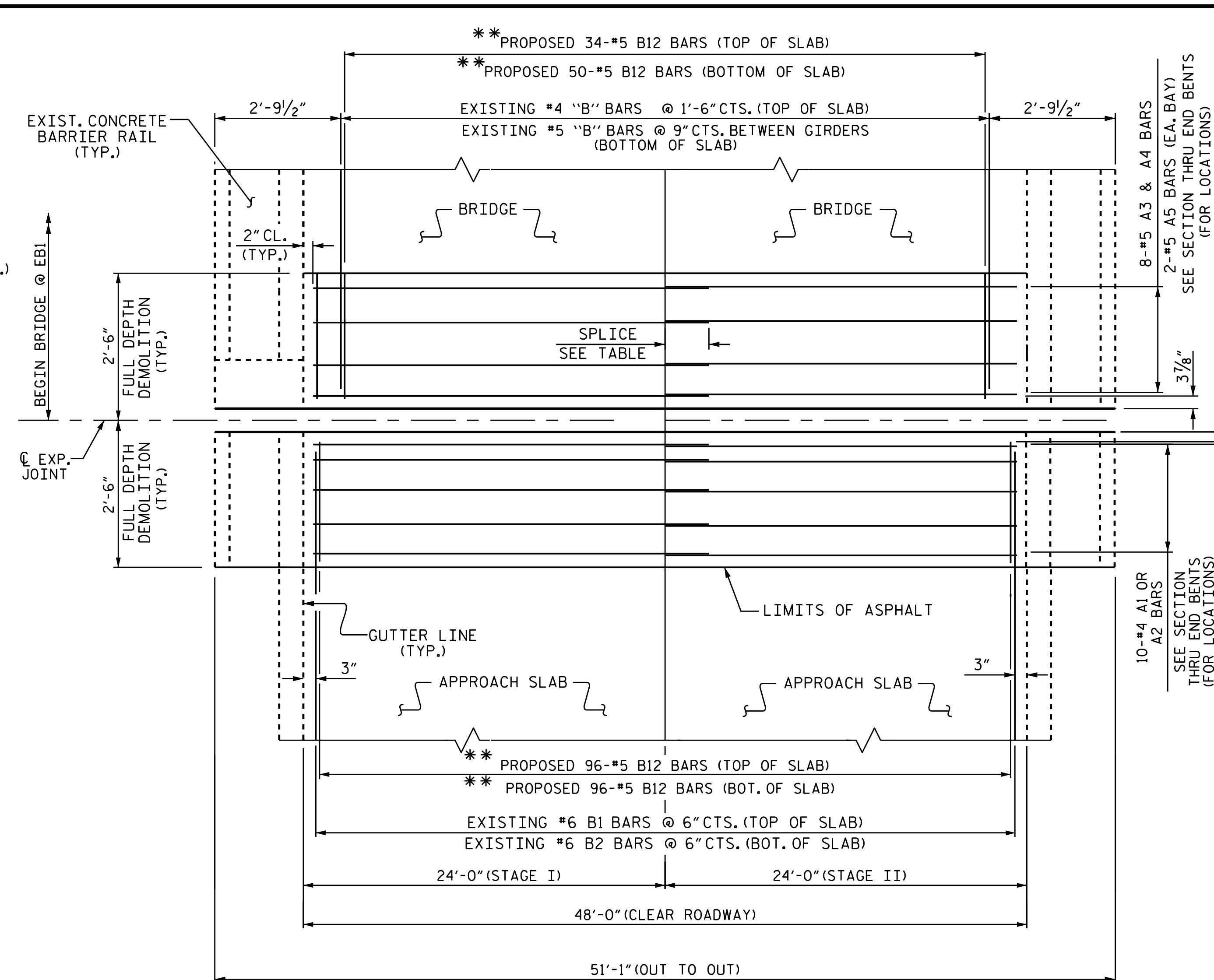


SECTION THRU END BENTS

EXP. JOINT STRIP SEALS @ EB1 & EB2

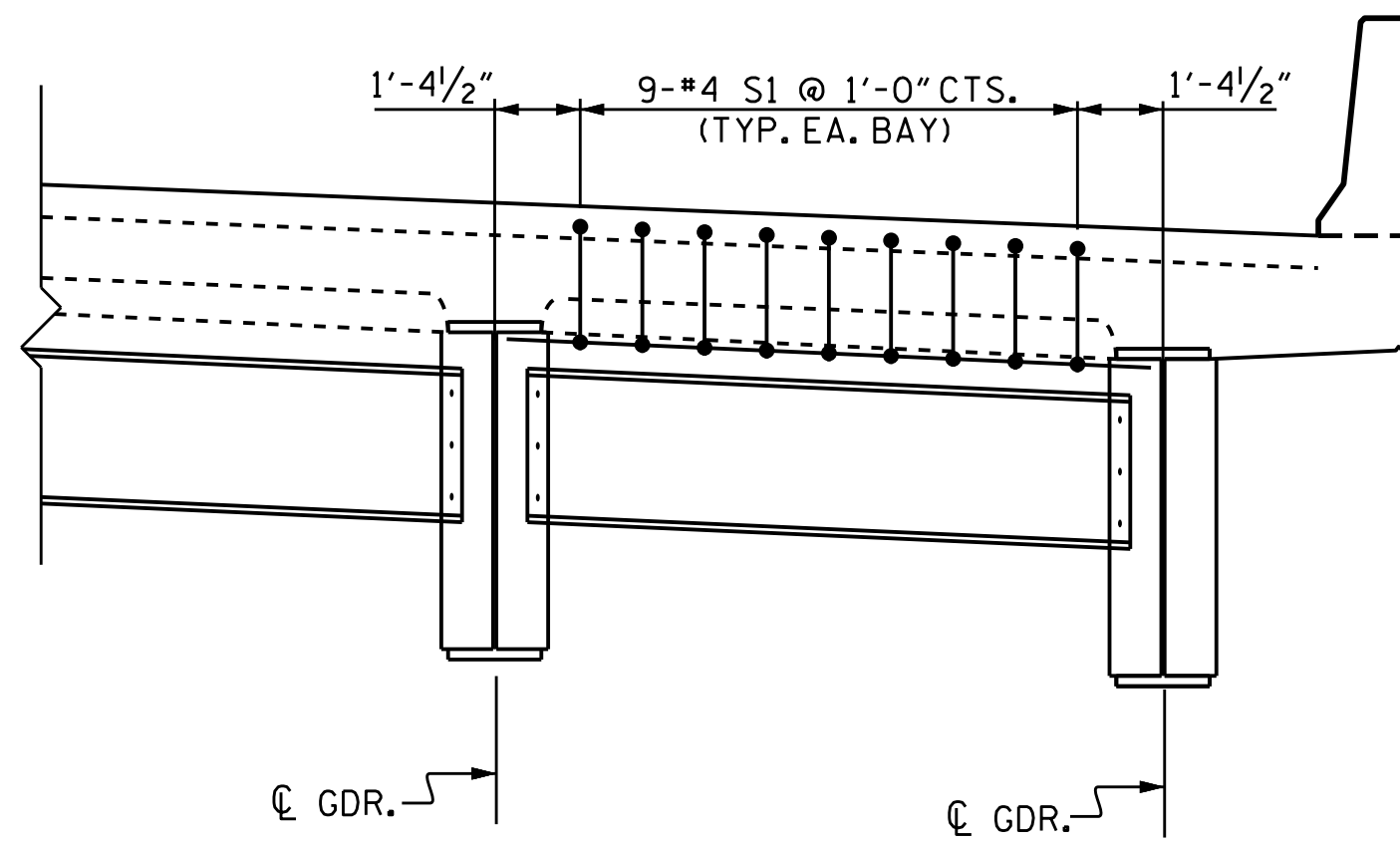
SUPERSTRUCTURE REINFORCING STEEL LENGTHS ARE BASED ON THE FOLLOWING MINIMUM SPLICE LENGTHS

BAR SIZE	SUPERSTRUCTURE EXCEPT APPROACH SLABS, PARAPET, AND BARRIER RAIL		APPROACH SLABS		PARAPET AND BARRIER RAIL
	EPOXY COATED	UNCOATED	EPOXY COATED	UNCOATED	
#4	2'-0"	1'-9"	2'-0"	1'-9"	2'-9"
#5	2'-6"	2'-2"	2'-6"	2'-2"	3'-5"
#6	3'-0"	2'-7"	3'-10"	2'-7"	4'-4"



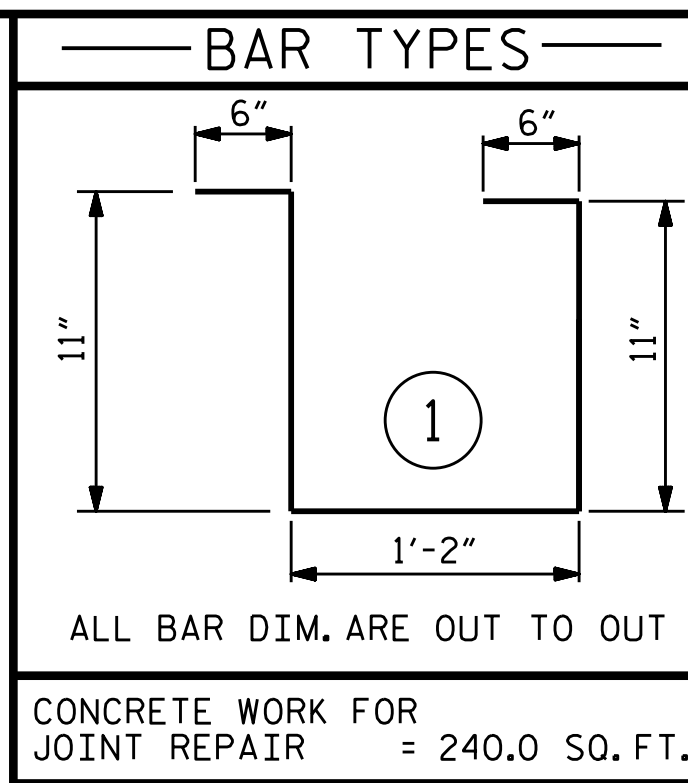
TYPICAL PROPOSED JOINT @ END BENTS

E1 SHOWN E2 SIMILAR BY ROTATION, S1 BARS ARE NOT SHOWN FOR CLARITY.
 ** B12 BARS SHALL BE TIED TO THE EXISTING BARS.



DETAIL OF "S" BAR LAYOUT

EXTERIOR BAY SHOWN, INTERIOR BAYS SIMILAR.



BILL OF MATERIAL					
FOR ONE JOINT @ END BENT					
STAGE I					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
* A1	10	#4	STR	26'-0"	174
* A3	8	#5	STR	26'-4"	220
* A5	4	#5	STR	10'-2"	43
* B12	138	#5	STR	2'-2"	312
* G1	2	#5	STR	26'-0"	54
* S1	36	#4	1	4'-0"	96
				* EPOXY COATED REINF. STEEL =	899 LBS.
				CLASS AA CONCRETE =	5.2 CU. YDS.
STAGE II					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
* A2	10	#4	STR	23'-8"	158
* A4	8	#5	STR	23'-8"	198
* A5	4	#5	STR	10'-2"	43
* B12	138	#5	STR	2'-2"	312
* G2	2	#5	STR	23'-8"	49
* S1	36	#4	1	4'-0"	96
				* EPOXY COATED REINF. STEEL =	856 LBS.
				CLASS AA CONCRETE =	5.2 CU. YDS.

NOTES:

THE ENGINEER WILL REVIEW EXISTING DECK CONDITIONS. THE CONTRACTOR SHALL REMOVE THE CONCRETE WITHIN THE BOUNDARIES AS SHOWN IN THE SECTION ABOVE, OR AS DIRECTED BY THE ENGINEER.

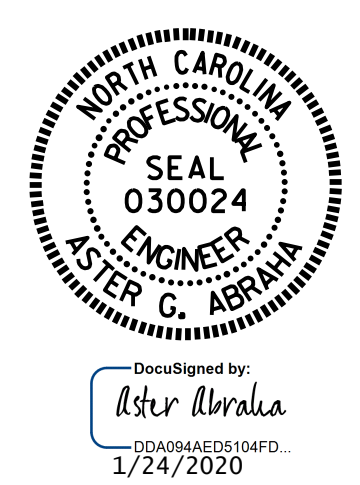
REMOVE BRIDGE DECK CONCRETE TO THE EXTENT NECESSARY. INTRODUCE A PARTIAL DEPTH SAWCUT NOT EXCEEDING 1" IN DEPTH, FOLLOWED BY CONCRETE REMOVAL WITHOUT DAMAGE TO EXISTING REINFORCING STEEL AND EXISTING GIRDERS.

RETAIN BRIDGE DECK REINFORCING STEEL (B-BARS AND PARTIAL A-BARS). STRAIGHTEN AND REPAIR ALL REINFORCING STEEL RETAINED. B12 BARS SHALL BE FIELD CUT TO FIT AS NEEDED.

THE CONTRACTOR SHALL CONSTRUCT THE OPENING FOR THE STRIP SEAL EXPANSION JOINT SEAL. INSTALL THE JOINT AS PER THE MANUFACTURER'S RECOMMENDATIONS.

ALL EXPOSED ENDS OF THE CUT BARS IF ANY SHALL BE COATED WITH EPOXY PRIOR TO THE PROPOSED JOINT INSTALLATION.

PROJECT NO. I-5839
 HALIFAX/NORTHAMPTON COUNTY
 BRIDGE NO. 139, 141, 009 & 011



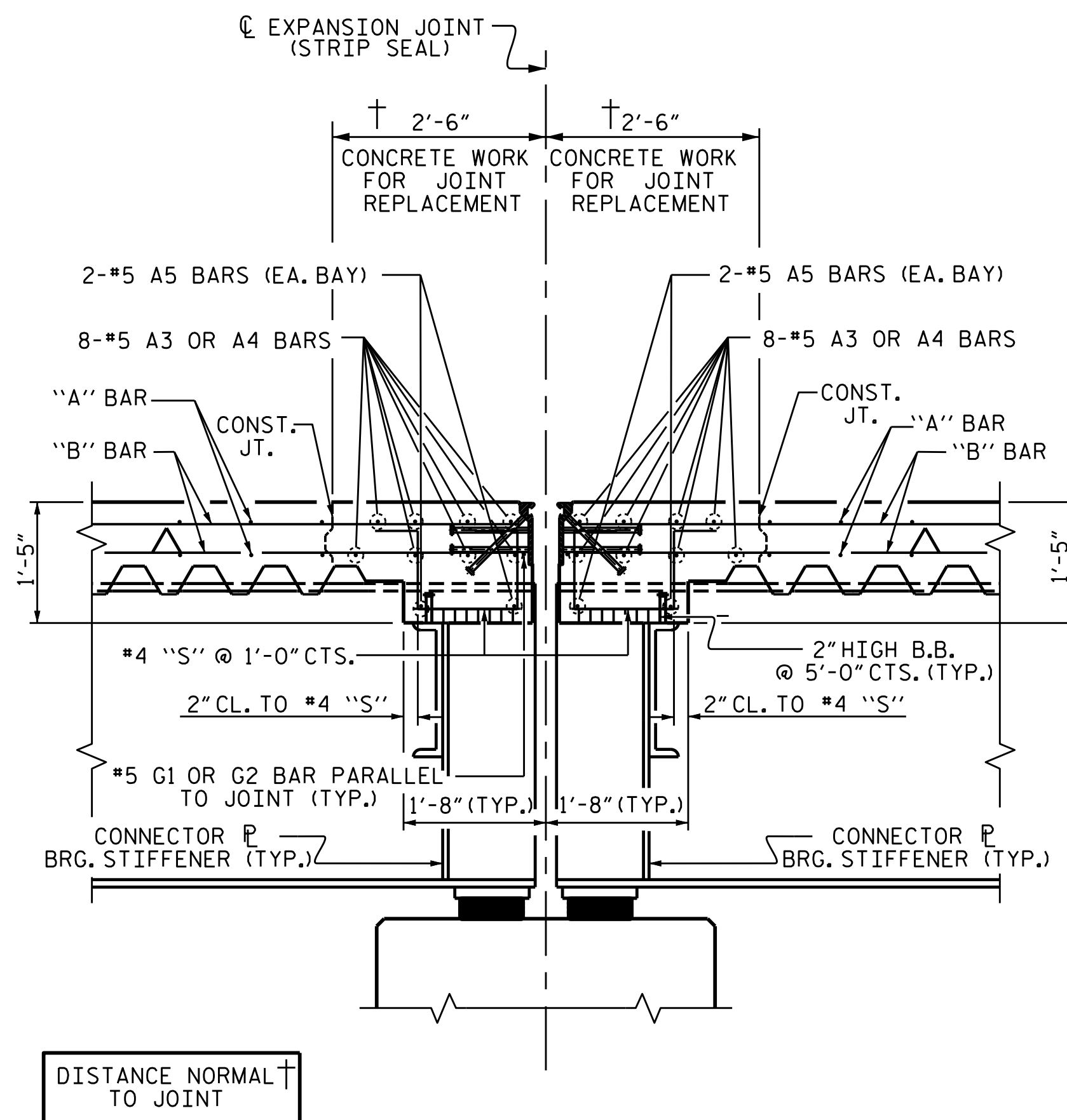
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

**END BENT 1 & 2
 MODULAR JOINT
 REPLACEMENT**

DRAWN BY : M. M. AHMED / S.T.S/ A. Y. GODFREY DATE : 01/2020
 CHECKED BY : A. G. ABRAHA DATE : 01/2020

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
2			3			S-6
			4			TOTAL SHEETS 9

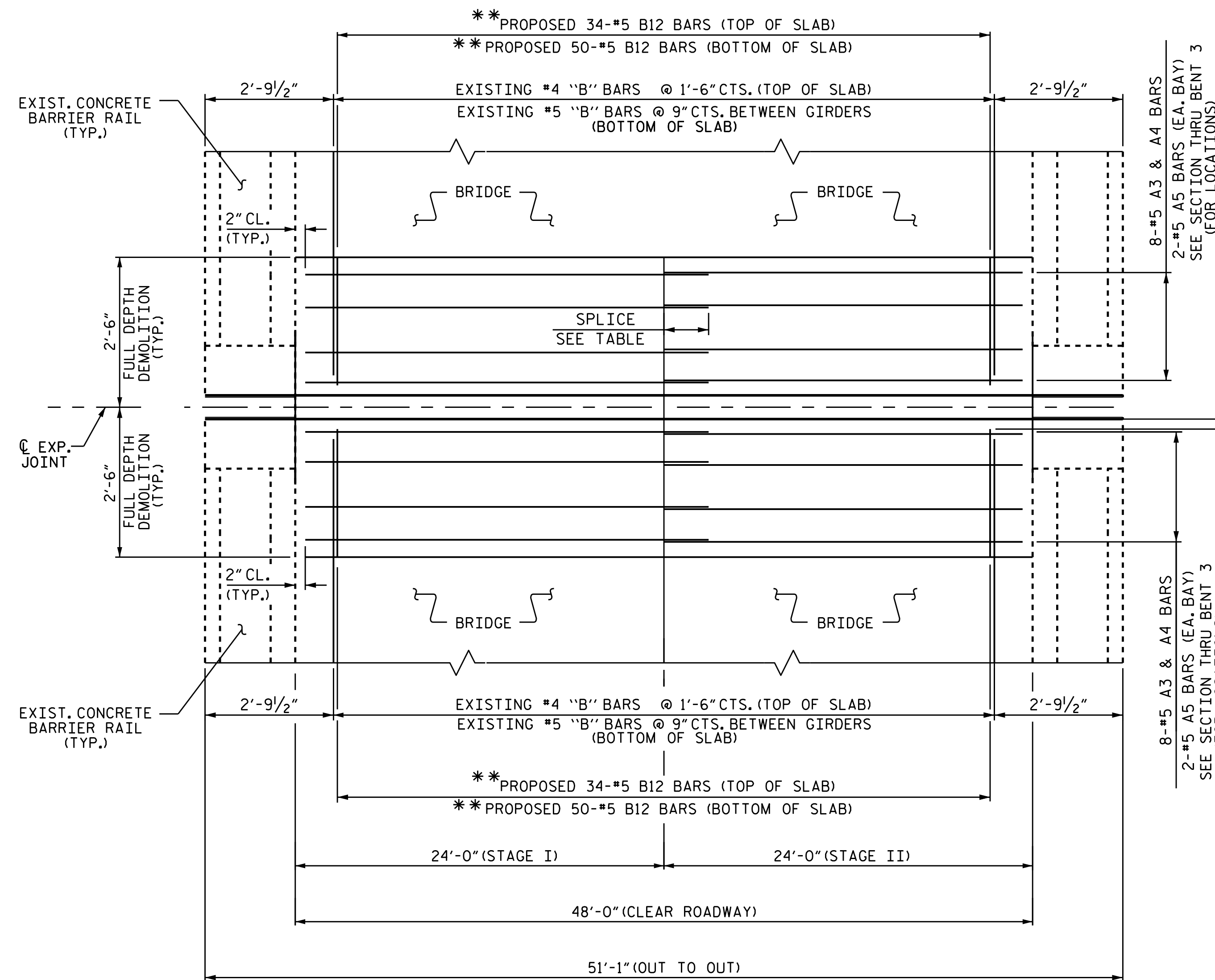
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



DISTANCE NORMAL TO JOINT

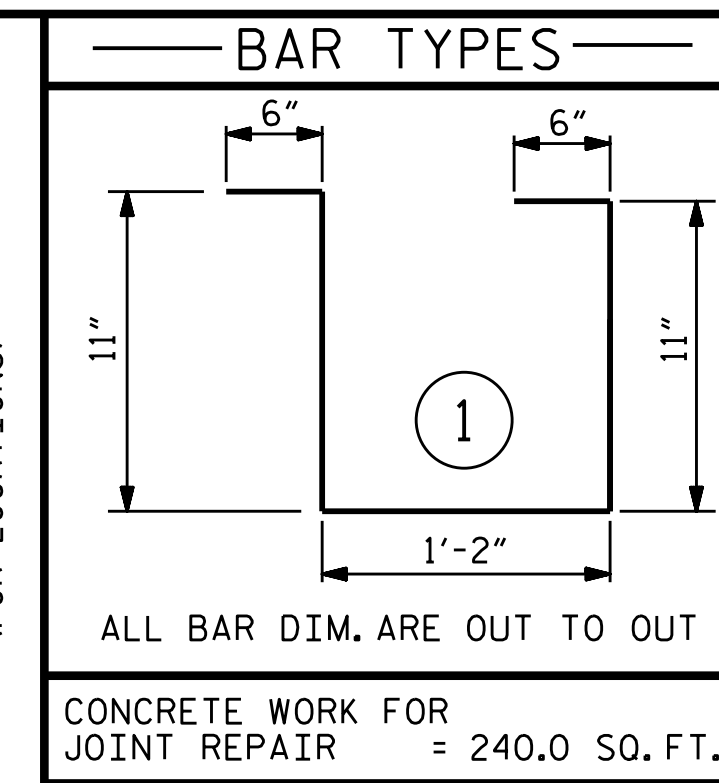
BENT 3 JOINT DETAILS

FOR STEEL SUPERSTRUCTURE WITH STRIP SEAL EXPANSION JOINT



TYPICAL PROPOSED JOINT @ BENT 3

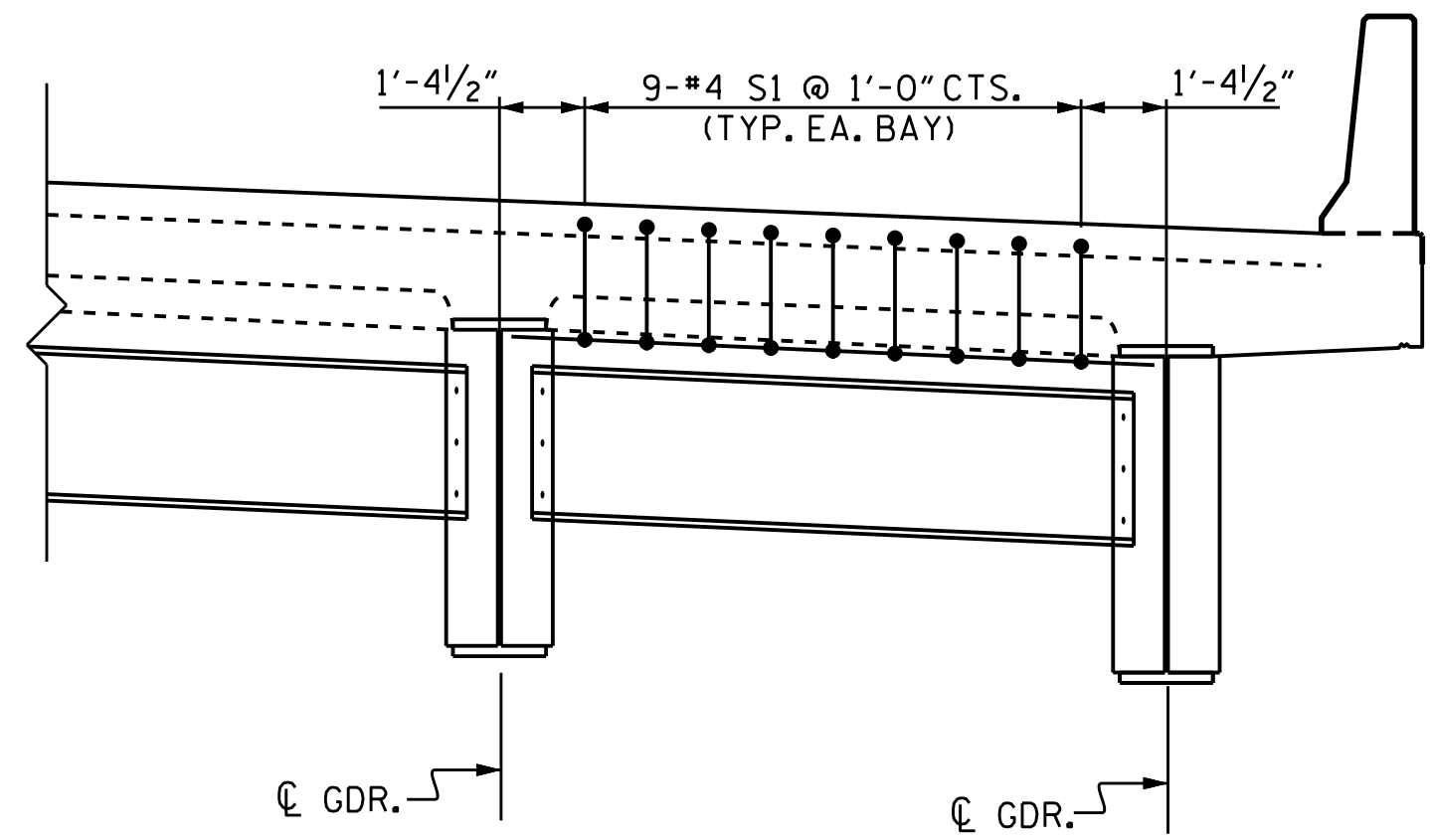
S1 BARS ARE NOT SHOWN FOR CLARITY. **B12 BARS SHALL BE TIED TO THE EXISTING BARS.



BILL OF MATERIAL						
FOR ONE JOINT @ BENT 3						
STAGE I						
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT	
* A3	16	#5	STR	26'-4"	439	
* A5	8	#5	STR	10'-2"	85	
* B12	84	#5	STR	2'-2"	190	
* G1	2	#5	STR	26'-0"	54	
* S1	36	#4	1	4'-0"	96	
				*EPOXY COATED REINF. STEEL = 864 LBS.		
				CLASS AA CONCRETE = 5.2 CU. YDS.		
STAGE II						
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT	
* A4	16	#5	STR	23'-8"	395	
* A5	8	#5	STR	10'-2"	85	
* B12	84	#5	STR	2'-2"	190	
* G2	2	#5	STR	23'-8"	49	
* S1	36	#4	1	4'-0"	96	
				*EPOXY COATED REINF. STEEL = 815 LBS.		
				CLASS AA CONCRETE = 5.2 CU. YDS.		

NOTES:

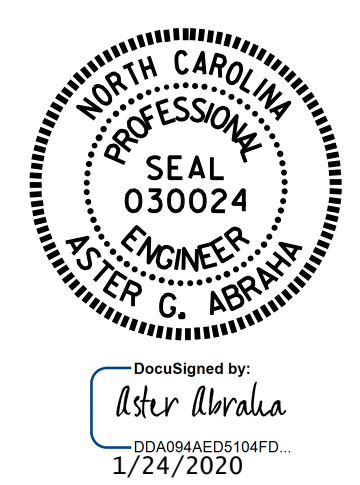
- THE ENGINEER WILL REVIEW EXISTING DECK CONDITIONS. THE CONTRACTOR SHALL REMOVE THE CONCRETE WITHIN THE BOUNDARIES AS SHOWN IN THE SECTION ABOVE, OR AS DIRECTED BY THE ENGINEER.
- REMOVE BRIDGE DECK CONCRETE TO THE EXTENT NECESSARY. INTRODUCE A PARTIAL DEPTH SAWCUT NOT EXCEEDING 1" IN DEPTH, FOLLOWED BY CONCRETE REMOVAL WITHOUT DAMAGE TO EXISTING REINFORCING STEEL AND EXISTING GIRDERS.
- RETAIN BRIDGE DECK REINFORCING STEEL (B-BARS AND PARTIAL A-BARS). STRAIGHTEN AND REPAIR ALL REINFORCING STEEL RETAINED. B12 BARS SHALL BE FIELD CUT TO FIT AS NEEDED.
- THE CONTRACTOR SHALL CONSTRUCT THE OPENING FOR THE STRIP SEAL EXPANSION JOINT SEAL. INSTALL THE JOINT AS PER THE MANUFACTURER'S RECOMMENDATIONS.
- ALL EXPOSED ENDS OF THE CUT BARS IF ANY SHALL BE COATED WITH EPOXY PRIOR TO THE PROPOSED JOINT INSTALLATION.



DETAIL OF "S" BAR LAYOUT

EXTERIOR BAY SHOWN, INTERIOR BAYS SIMILAR.

BAR SIZE	SUPERSTRUCTURE EXCEPT APPROACH SLABS, PARAPET, AND BARRIER RAIL		APPROACH SLABS		PARAPET AND BARRIER RAIL
	EPOXY COATED	UNCOATED	EPOXY COATED	UNCOATED	
#4	2'-0"	1'-9"	2'-0"	1'-9"	2'-9"
#5	2'-6"	2'-2"	2'-6"	2'-2"	3'-5"
#6	3'-0"	2'-7"	3'-10"	2'-7"	4'-4"



PROJECT NO. I-5839
 HALIFAX/NORTHAMPTON COUNTY
 BRIDGE NO. 009 & 011

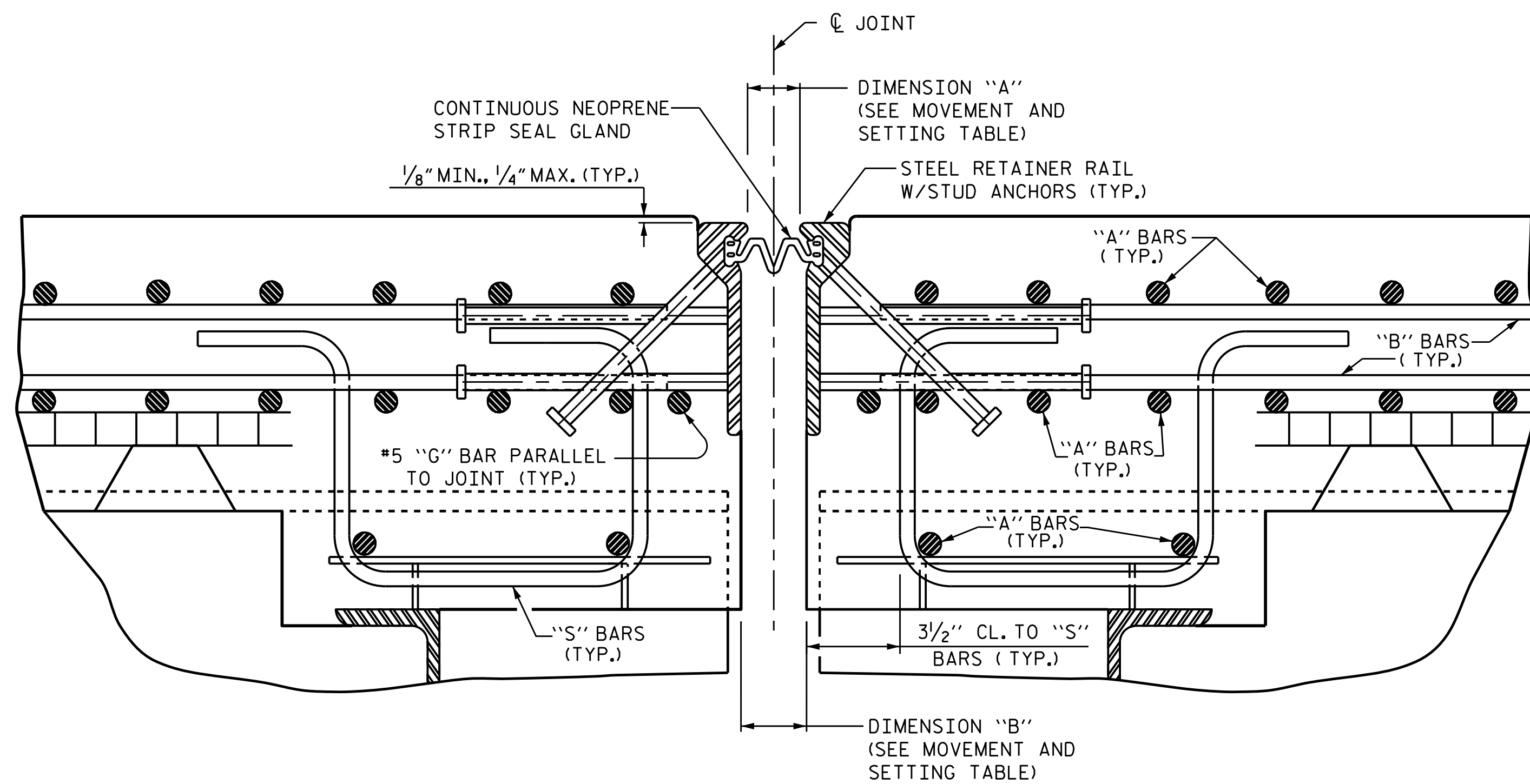
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

**BENT 3
 MODULAR JOINT
 REPLACEMENT**

DRAWN BY : M. M. AHMED / S. T. SANDOR DATE : 02/2019
 CHECKED BY : A. G. ABRAHA DATE : 02/2019

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			S-7
2			4			TOTAL SHEETS 9

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

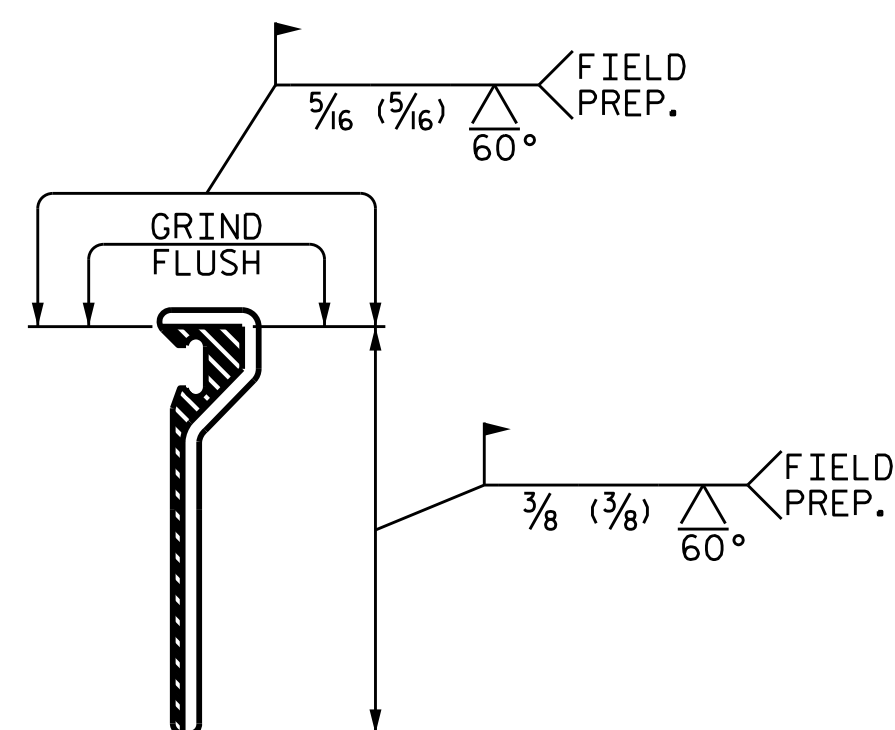


**SECTION A-A
STRIP SEAL EXPANSION JOINT DETAILS**

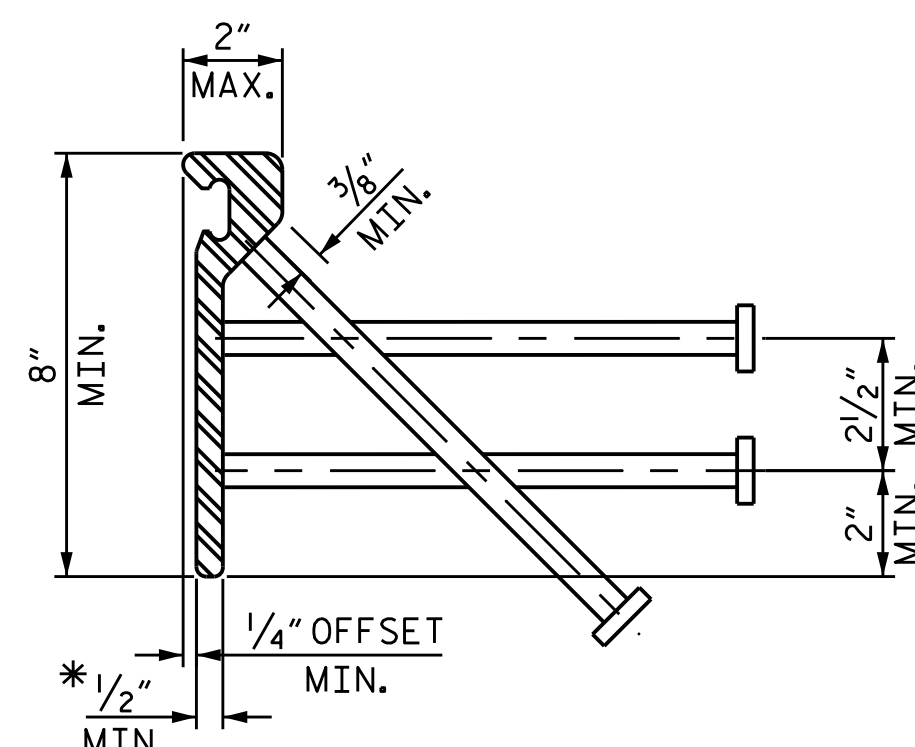
SECTION NORMAL TO JOINT -- STEEL SUPERSTRUCTURE

MOVEMENT AND SETTING TABLE

LOCATION	SKEW ANGLE	TOTAL MOVEMENT (ALONG CL. RDWY)	DIMENSION "A"			DIMENSION "B"		
			PERPENDICULAR JOINT OPENING AT 45° F	PERPENDICULAR JOINT OPENING AT 60° F	PERPENDICULAR JOINT OPENING AT 90° F	PERPENDICULAR JOINT OPENING AT 45° F	PERPENDICULAR JOINT OPENING AT 60° F	PERPENDICULAR JOINT OPENING AT 90° F
END BENT 1	90°-00'-00"	3 1/16"	3"	2 9/16"	1 5/8"	3 1/2"	3 1/16"	2 1/8"
BENT 3	90°-00'-00"	2 11/16"	2 3/4"	2 5/16"	1 9/16"	3 1/4"	2 13/16"	2 1/16"
END BENT 2	90°-00'-00"	3 1/16"	3"	2 9/16"	1 5/8"	3 1/2"	3 1/16"	2 1/8"



**STEEL RETAINER RAIL
(FIELD SPLICE DETAIL)**



**TYPICAL SECTION
STEEL RETAINER RAIL**

*DIMENSION "B" BASED ON STEEL RETAINER RAIL TOP OFFSET TO FACE OF RAIL OF 1/4" MINIMUM. IF ACTUAL OFFSET IS GREATER ADJUST DIMENSION "B" AS REQUIRED.

JOINT INSTALLATION PROCEDURE:

1. INSTALL THE STRIP SEAL EXPANSION JOINT AS RECOMMENDED BY THE STRIP SEAL EXPANSION JOINT MANUFACTURER.
2. A MANUFACTURER'S REPRESENTATIVE IS TO BE PRESENT DURING INSTALLATION OF THE JOINT.
3. PLACE STEEL RETAINER RAILS IN JOINT OPENING. PROPERLY ALIGN THE RAILS BOTH HORIZONTALLY AND VERTICALLY.
4. SHIFT SLIGHTLY, AS NECESSARY, CONFLICTING REINFORCING STEEL.
5. DECK SLAB CONCRETE PLACEMENT OPERATIONS SHALL COMMENCE PER THE POURING SEQUENCE AFTER FINAL JOINT ALIGNMENT IS SET.
6. CARE MUST BE TAKEN DURING THE CONCRETE POUR TO PROTECT THE STEEL RETAINER RAILS FROM BEING FOULED BY CONCRETE SPILLOVER.
7. ON APPROACH SLAB SIDE OF JOINT, RE-LEVEL AND RE-ALIGN STEEL RETAINER RAIL AS REQUIRED.
8. PLACE APPROACH SLAB CONCRETE.
9. ONCE THE CONCRETE HAS HARDENED SUFFICIENTLY ON BOTH SIDES OF JOINT, STEEL RETAINER RAILS SHALL BE CLEANED THOROUGHLY AND SEAL CHANNELS SHALL BE INSPECTED TO ASCERTAIN THE ABSENCE OF CONCRETE AND DEBRIS.
10. COAT THE STRIP SEAL LUGS WITH LUBRICANT-ADHESIVE AND INSTALL THE NEOPRENE STRIP SEAL GLAND AS RECOMMENDED BY THE STRIP SEAL EXPANSION JOINT MANUFACTURER.

GENERAL NOTES

STEEL RETAINER RAILS SHALL CONFORM TO AASHTO M270 GRADE 36 OR GRADE 50W STEEL. ALL STUD ANCHORS SHALL CONFORM TO AASHTO M169, GRADES 1010 THRU 1020 OR APPROVED EQUAL. ALL CONCRETE INSERTS SHALL BE CLOSEEND AND SHALL CONFORM TO AASHTO M169, GRADE 12L14. TENSILE CAPACITY SHALL BE 3000 LBS. MIN.

ONLY STEEL RETAINER RAILS OF ONE-PIECE CONSTRUCTION ARE PERMITTED. STEEL RETAINER RAILS CONSISTING OF TWO OR MORE COMPONENTS WELDED TOGETHER TO OBTAIN THEIR FINAL CROSS-SECTIONAL SHAPE ARE NOT PERMITTED.

NEOPRENE STRIP SEAL GLAND SHALL BE CONTINUOUS THROUGHOUT THE JOINT AND SHALL BE COMPATIBLE WITH THE STEEL RETAINER RAILS.

STUD ANCHORS SHALL BE SHOP WELDED AND SHALL BE ELECTRIC ARC END WELDED WITH COMPLETE FUSION.

SURFACES COMING IN CONTACT WITH STRIP SEAL GLAND SHALL BE GROUND SMOOTH PRIOR TO METALLIZING.

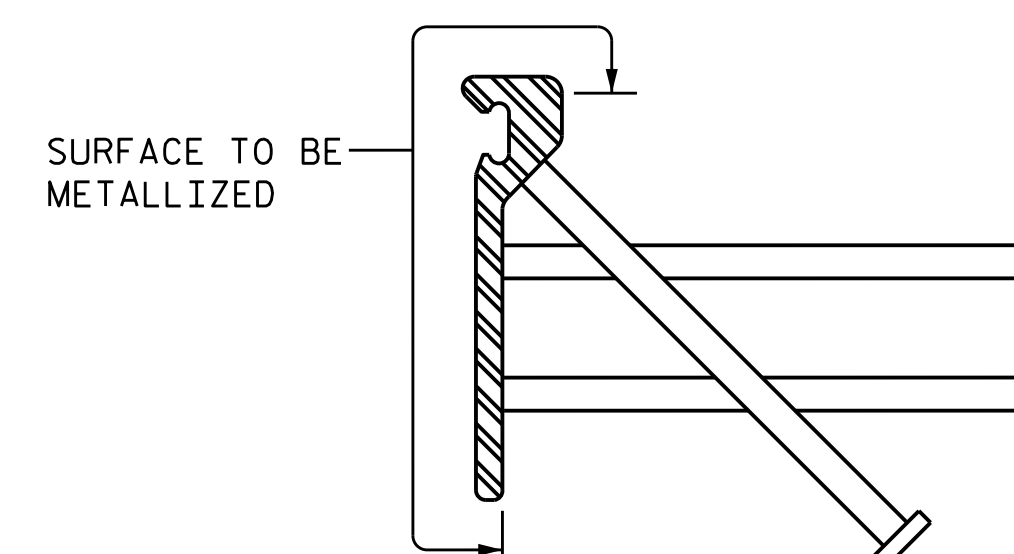
UPON COMPLETION OF SHOP FABRICATION, THE STEEL RETAINER RAILS SHALL BE METALLIZED AS SHOWN IN THE "METALLIZING DETAIL". SEE SPECIAL PROVISIONS FOR THERMAL SPRAYED COATINGS (METALLIZATION).

INSTALLED STEEL RETAINER RAILS SHALL FOLLOW THE ROADWAY SLOPE.

FIELD SPLICES OF THE RETAINER RAILS SHALL BE KEPT TO A MINIMUM. CONTRACTOR SHALL FURNISH DETAILED PLANS SHOWING PROPOSED SPLICE LOCATIONS FOR APPROVAL.

NO ALTERNATE JOINT DETAILS SHALL BE PERMITTED IN LIEU OF THOSE SHOWN ON THESE PLANS.

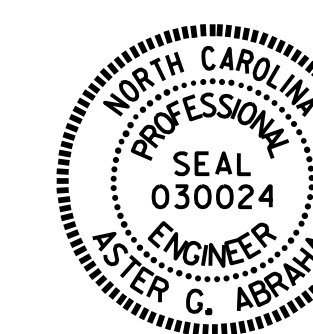
THE CONTRACTOR MAY, AT HIS OPTION, USE ADHESIVELY ANCHORED ANCHOR BOLTS IN PLACE OF CONCRETE INSERTS FOR COVER PLATES. THE YIELD LOAD OF THE 3/4" Ø BOLT IS 10 KIPS. FIELD TESTING OF THE ADHESIVE BONDING SYSTEM IS NOT REQUIRED.



METALLIZING DETAIL

PROJECT NO. I-5839
HALIFAX/NORTHAMPTON COUNTY
 BRIDGE NO. 139, 141, 009 & 011

SHEET 1 OF 2



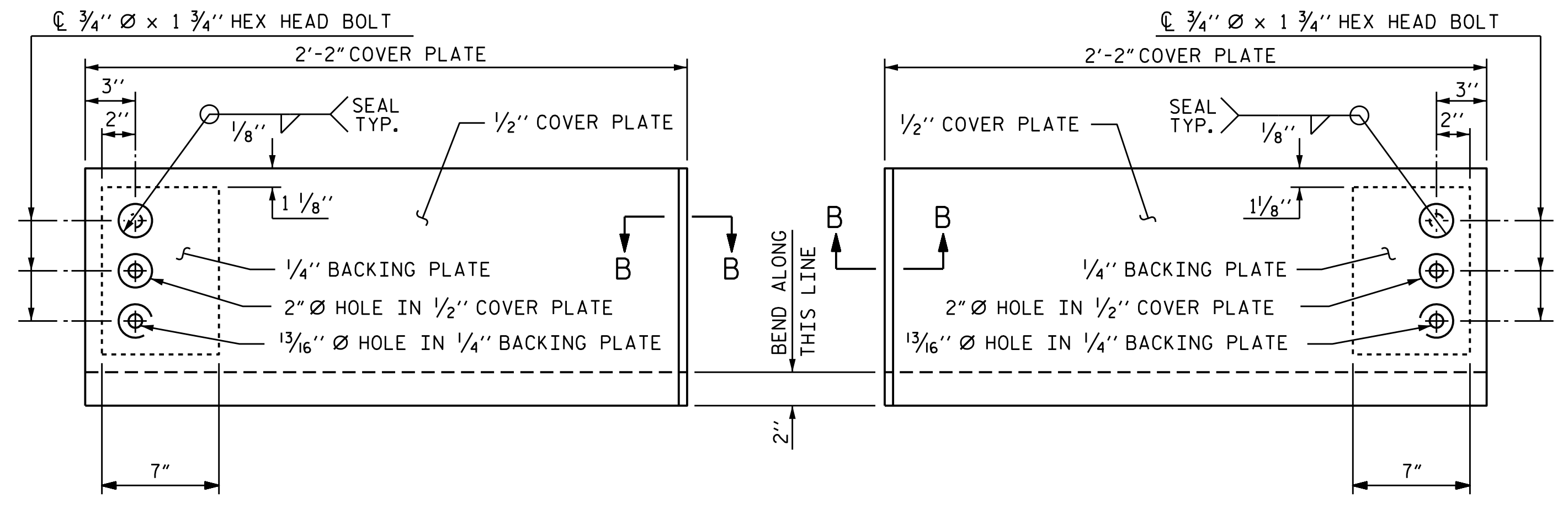
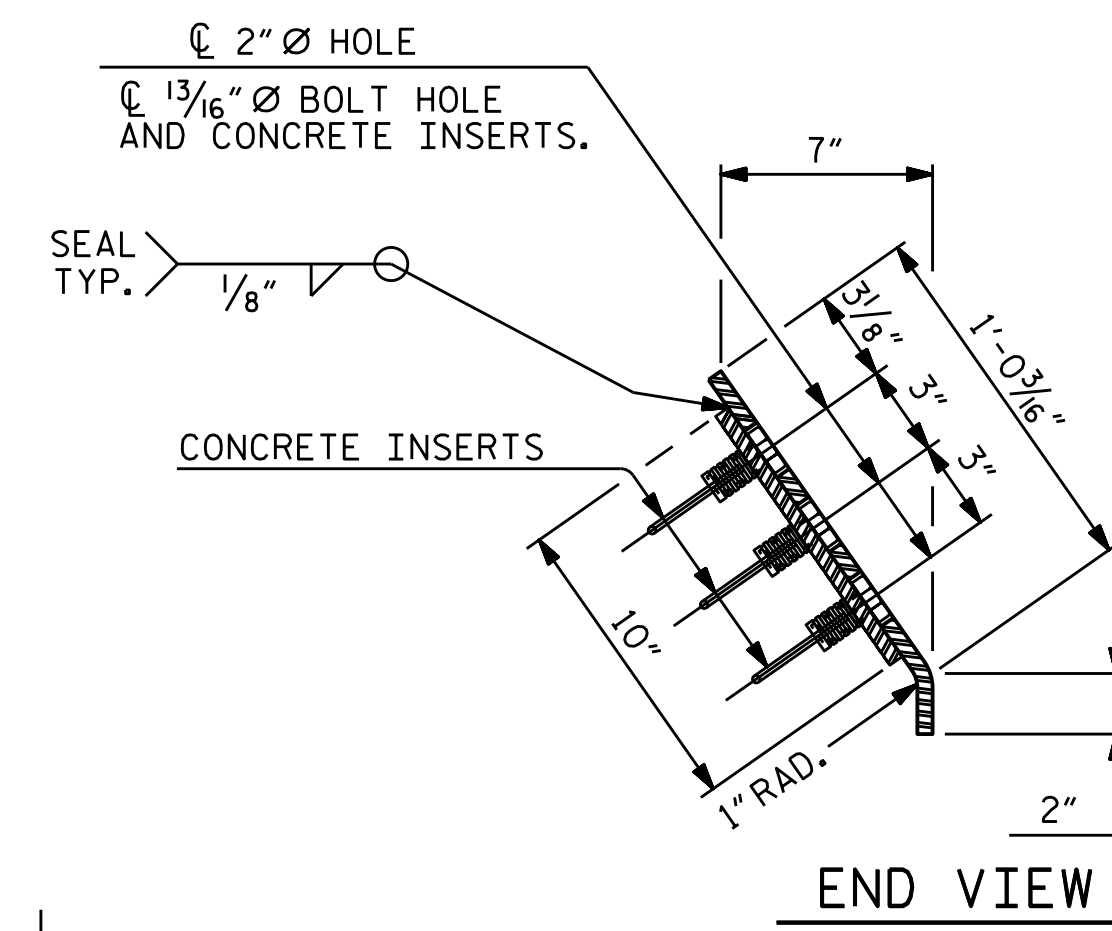
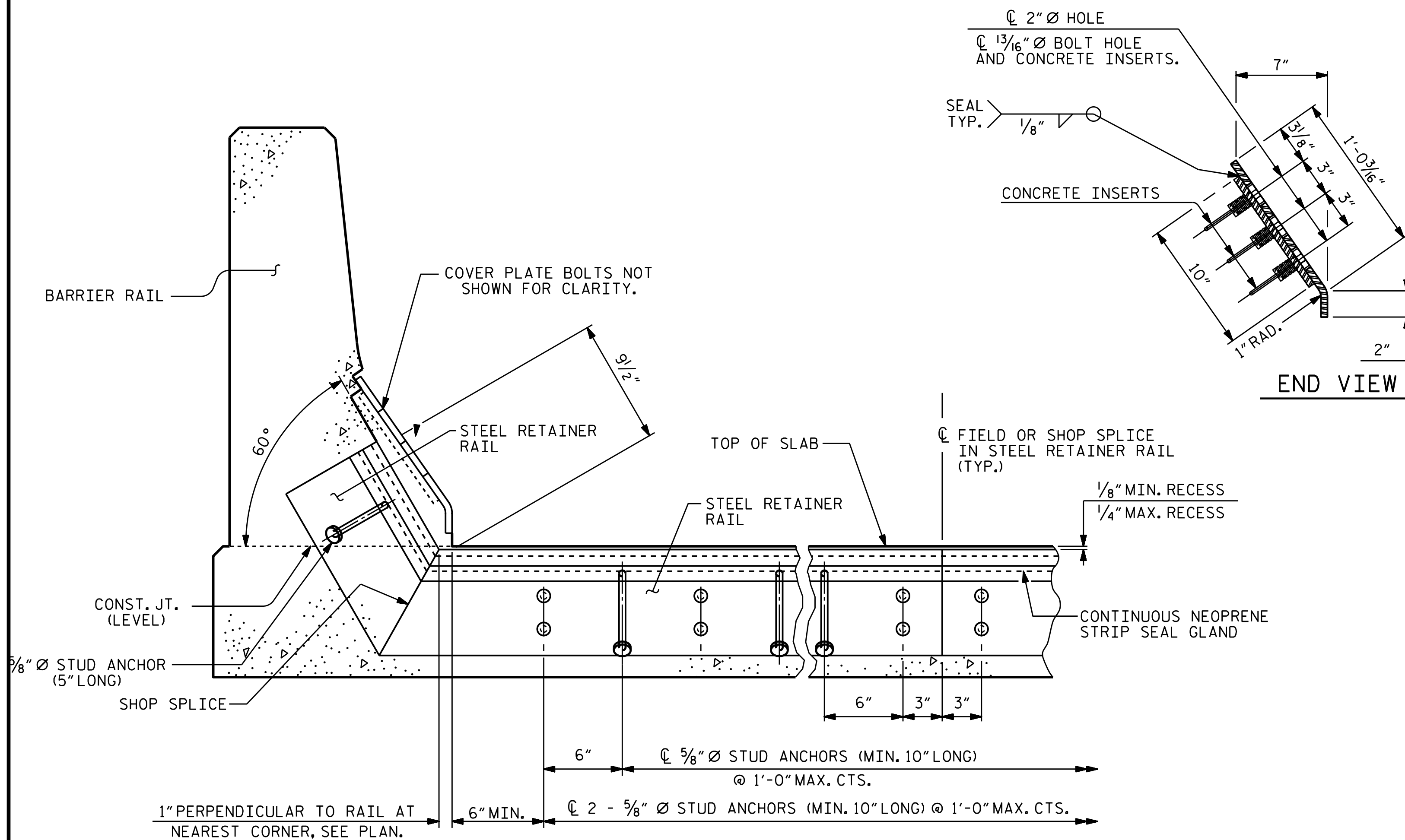
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 STANDARD
**STRIP SEAL EXPANSION
 JOINT DETAILS**

ASSEMBLED BY : M. AHMED/A. Y. GODFREY DATE : 01/2020
 CHECKED BY : ASTER ABRAHA, P.E. DATE : 01/2020

DRAWN BY : MAA 6/17
 CHECKED BY : BNB 6/17

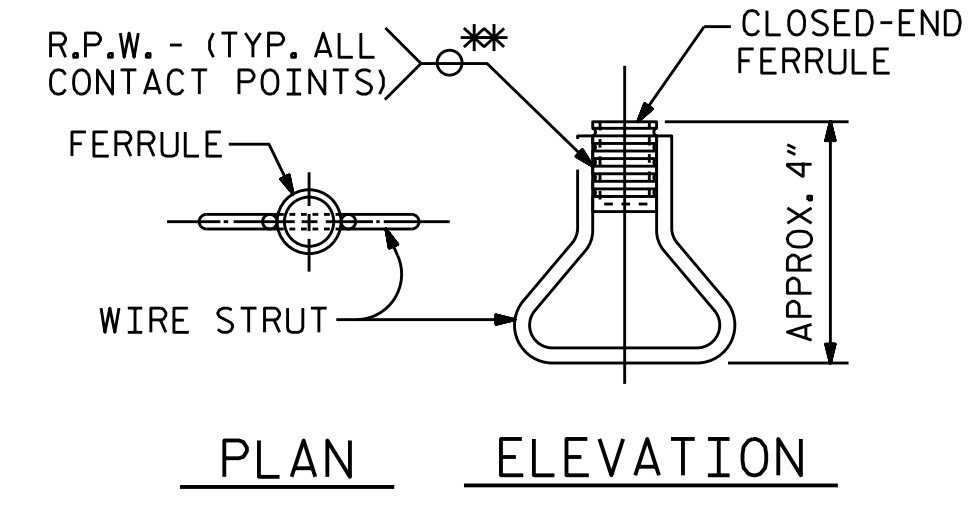
DOCUMENT NOT CONSIDERED
 FINAL UNLESS ALL
 SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-8
1			3			TOTAL SHEETS
2			4			9



TYPE I - ELEVATION VIEW TYPE II - ELEVATION VIEW

COVER PLATE DETAILS

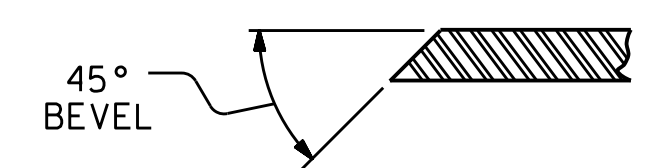
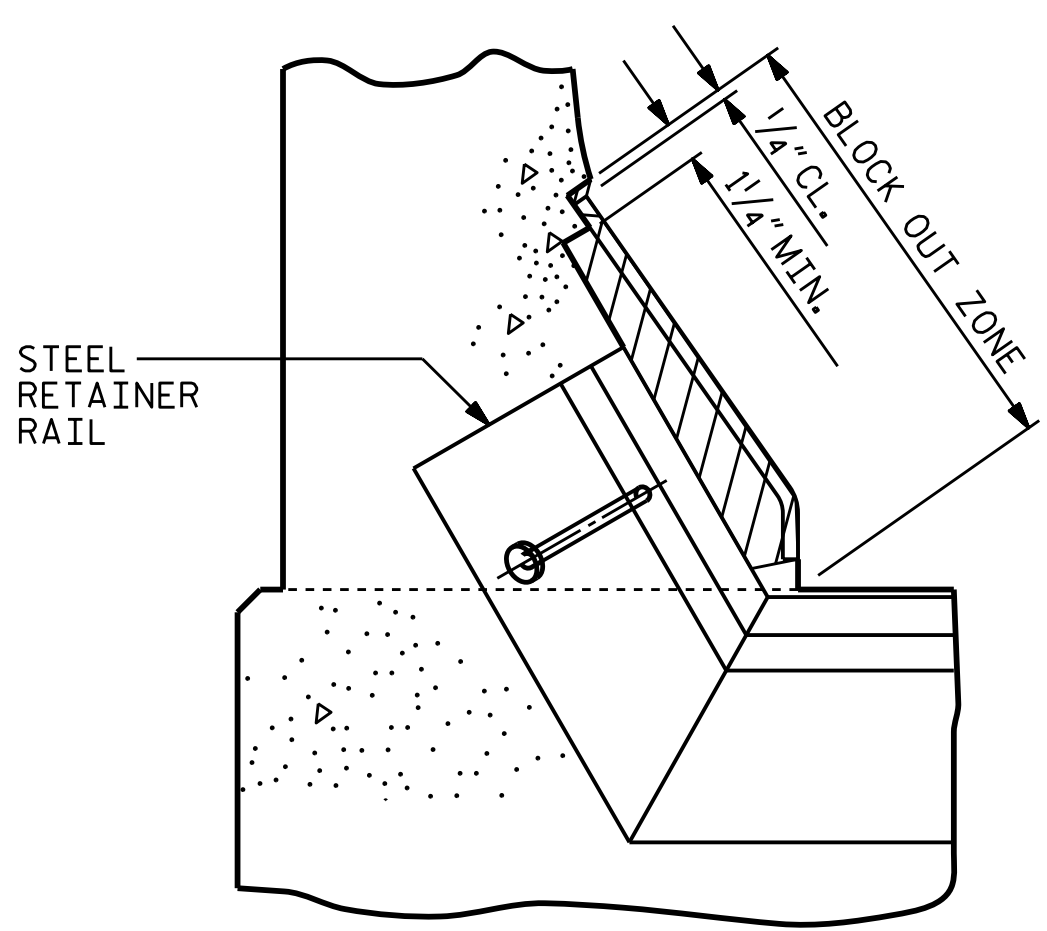


* EACH WELDED ATTACHMENT OF WIRE TO FERRULE SHALL DEVELOP THE TENSILE STRENGTH OF THE WIRE.

SECTION THRU RAIL NORMAL TO JOINT

PLAN ELEVATION

CONCRETE INSERT

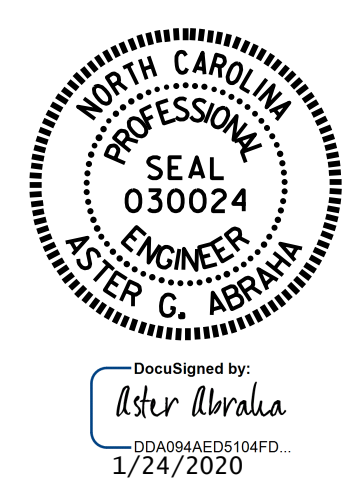


BLOCK OUT DETAIL

SECTION B - B

PROJECT NO. I-5839
HALIFAX/NORTHAMPTON COUNTY
BRIDGE NO. 139, 141, 009 & 011

SHEET 2 OF 2



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 STANDARD
 STRIP SEAL EXPANSION
 JOINT DETAILS
 FOR BARRIER RAIL

ASSEMBLED BY : M. AHMED/ A. Y. GODFREY DATE : 01/2020
 CHECKED BY : ASTER ABRAHA, P.E. DATE : 01/2020
 DRAWN BY : MAA 6/17
 CHECKED BY : BNB 6/17

DOCUMENT NOT CONSIDERED
 FINAL UNLESS ALL
 SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-9
1			3			TOTAL SHEETS
2			4			9