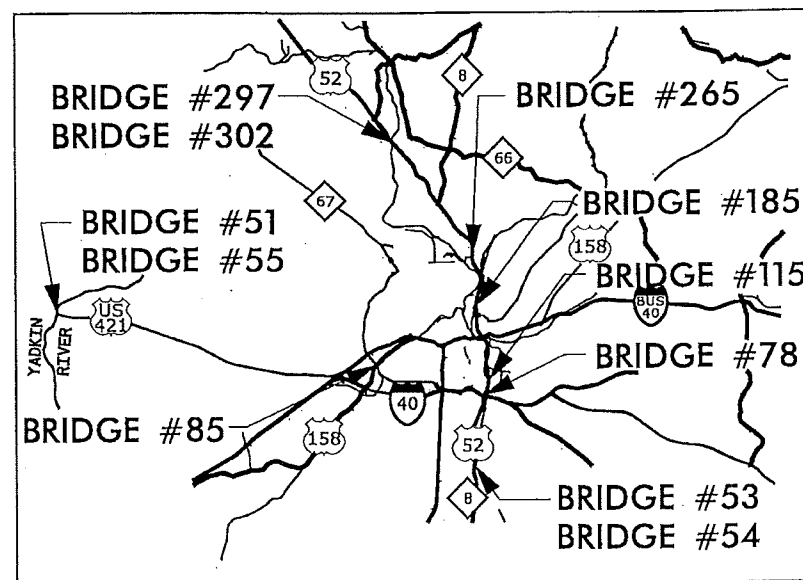
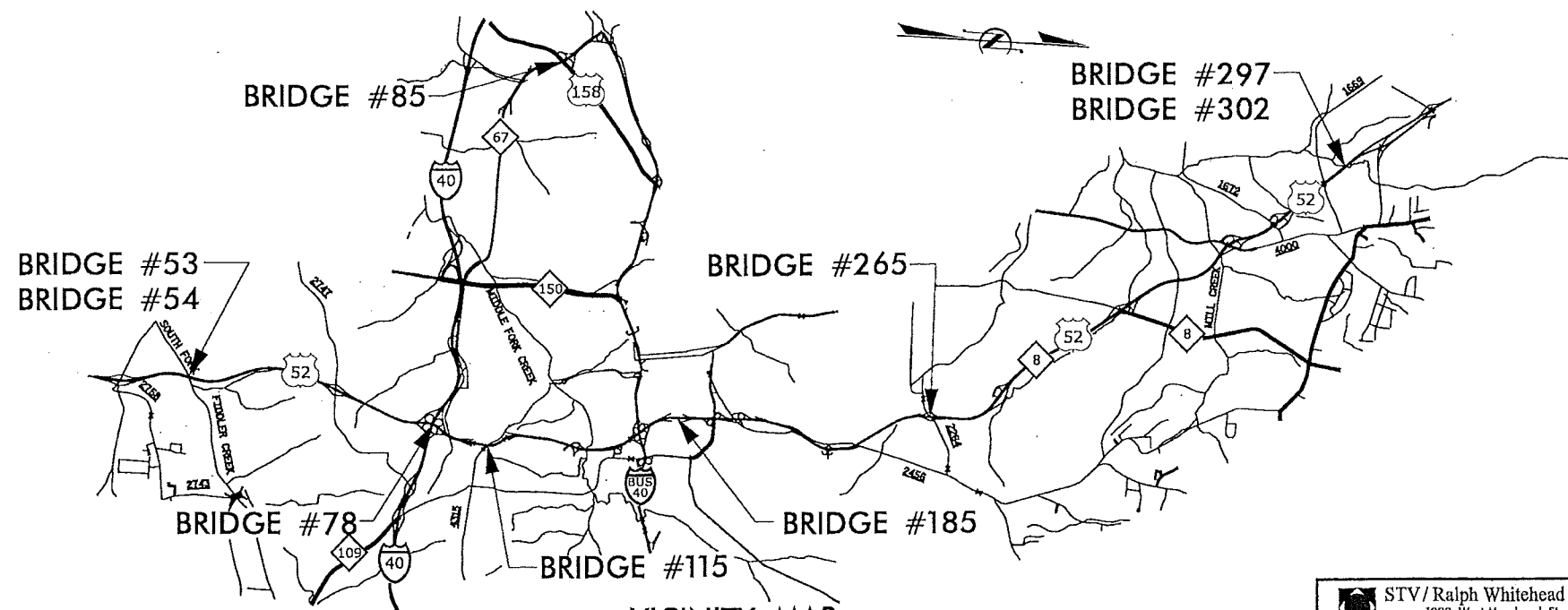


PROJECT: 17BP.9.P.1

CONTRACT: C202993



VICINITY MAP



BRIDGES #53, #54, #78, #85, #115, #185, #265, #297, & #302

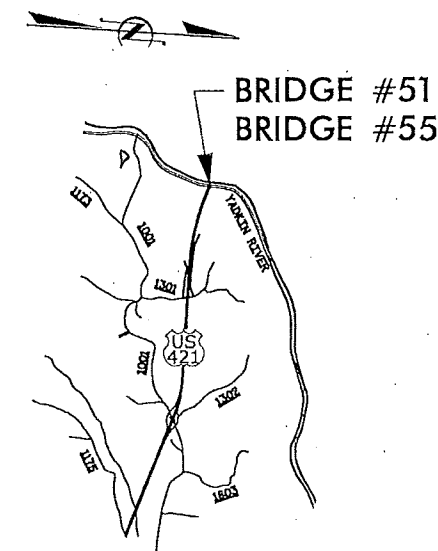
STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

**FORSYTH COUNTY**

LOCATION: BRIDGES #51 AND #55 ON US 421 OVER YADKIN RIVER.  
BRIDGES #53 AND #54 OVER SOUTH FORK FIDDLER CREEK.  
BRIDGE #78 ON US 52 OVER I-40.  
BRIDGE #85 ON US 158 OVER NC 67.  
BRIDGE #115 ON US 52 OVER SR 4315.  
BRIDGE #185 ON 3RD STREET OVER US 52.  
BRIDGE #265 ON SR 2264 OVER US 52.  
BRIDGES #297 AND #302 ON US 52 OVER SOUTHERN RR

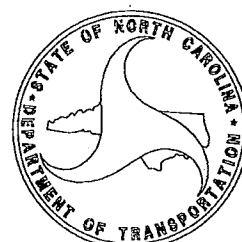
TYPE OF WORK: BRIDGE PRESERVATION: HYDRODEMOLITION, EPOXY OVERLAY, LMC & LMC-VES OVERLAY, METHACRYLATE-CRACK SEAL, SUPERSTRUCTURE REPAIR AND SUBSTRUCTURE REPAIR.

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	17BP.9.P.1	1	132
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
17BP.9.P.1	NA	PE	
17BP.9.P.1	NA	CONSTR.	



VICINITY MAP  
BRIDGES #51 & #55

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Charlotte, NC 28208  
NC LICENSE NO. F-0991



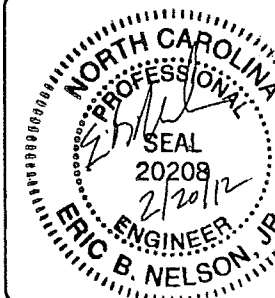
PROJECT LENGTH		
BRIDGE	LENGTH	STRUCTURE PROJECT
#51	.12 MILE	
#53	.04 MILE	
#54	.04 MILE	
#55	.12 MILE	
#78	.04 MILE	
#85	.04 MILE	
#115	.17 MILE	
#185	.03 MILE	
#265	.04 MILE	
#297	.05 MILE	
#302	.05 MILE	

Prepared For:  
**STRUCTURES MANAGEMENT UNIT**  
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

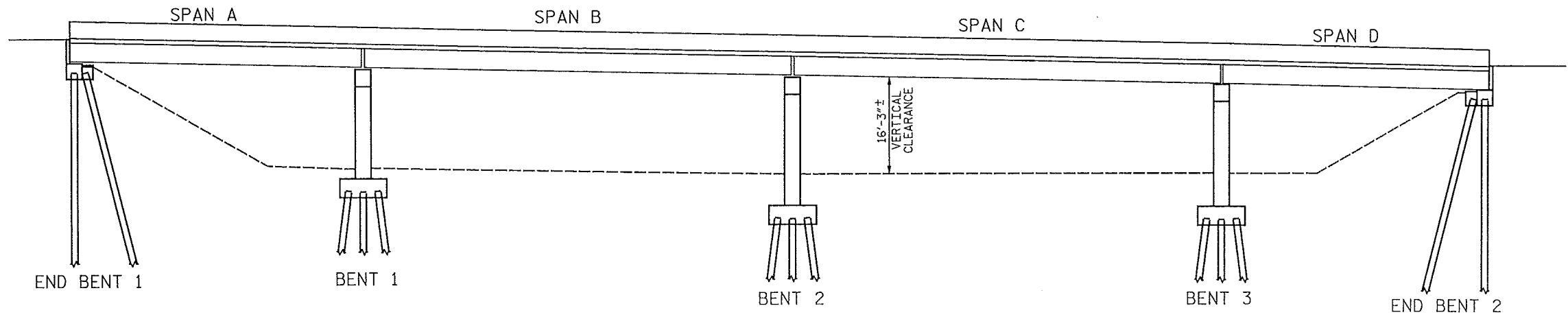
2012 STANDARD SPECIFICATIONS

LETTING DATE:  
APRIL 17, 2012

ENGINEER



I:\Projects\2515385\2515385\_0001\50\_Deliverables & Submittals\17BP.9.P.1\Structures\Final-12-12\17BP.9.P.1 Bridge 78 Bridge 078 Rehab Plans.dgn  
1/17/2012  
dlvayoc



ELEVATION

(SECTIONS AT BENTS AND END BENTS ARE AT RIGHT ANGLES)

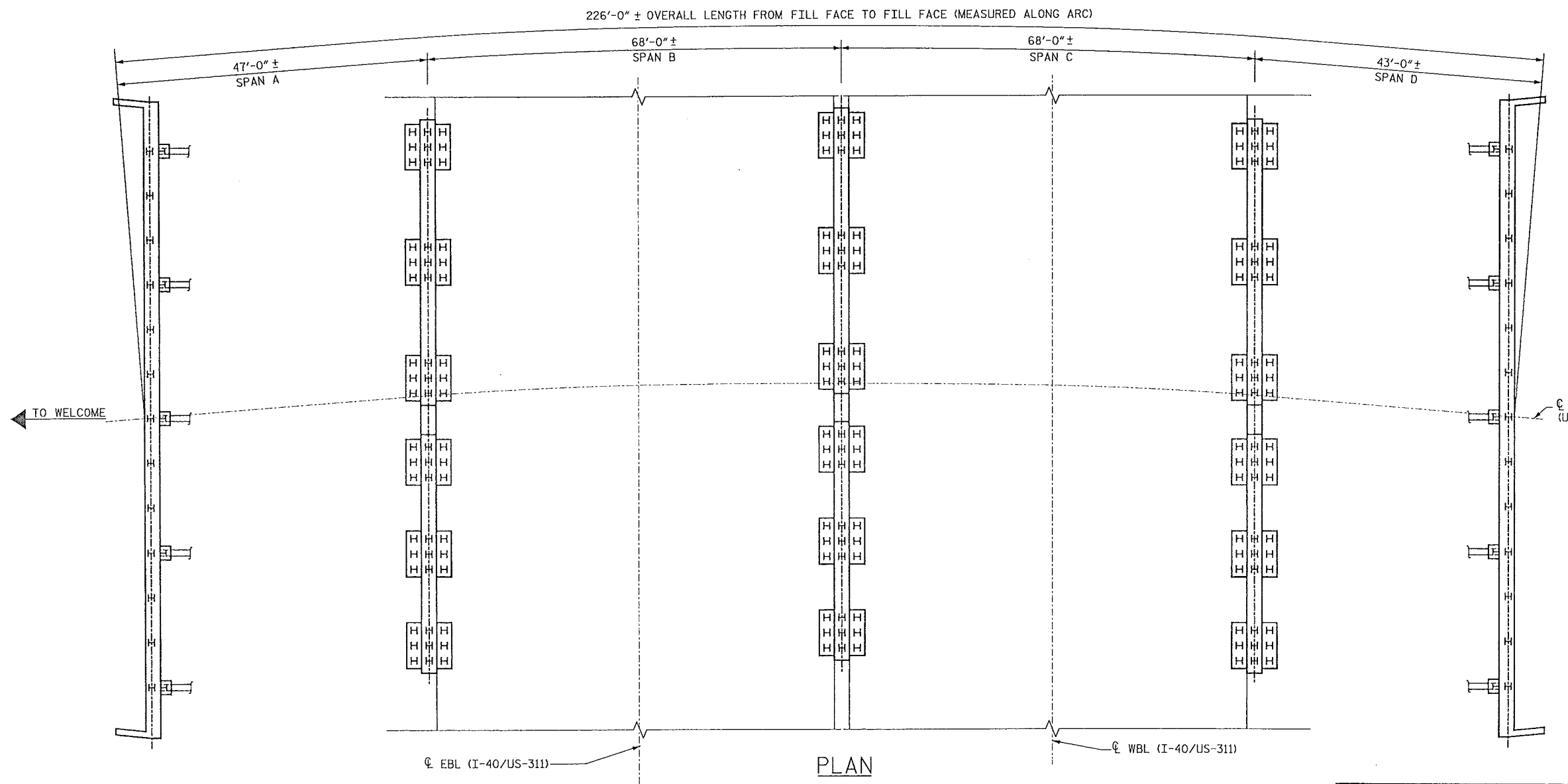
NOTES:

SEE SHEET S-1 OF S-109 FOR GENERAL NOTES.

SEE BRIDGE NO. 78 SHEETS 4, 5, 8, AND 9 OF 9 FOR ADDITIONAL NOTES.

EXISTING BRIDGE INFORMATION BASED ON AVAILABLE DATA.

AFTER ALL REPAIRS ON THE BRIDGE HAVE BEEN COMPLETED, AN EPOXY PROTECTIVE COATING SHALL BE APPLIED TO THE TOP SURFACE OF BENT CAPS, INCLUDING PEDESTALS, FOR EACH BENT BELOW A JOINT IN THE SUPERSTRUCTURE. CAP SURFACES SHALL BE GRIT BLASTED PRIOR TO EPOXY COATING. SEE STANDARD SPECIFICATIONS FOR EPOXY COATING. ALL COSTS ASSOCIATED WITH APPLYING EPOXY PROTECTIVE COATING SHALL BE INCLUDED IN THE SEVERAL PAY ITEMS FOR THE PROJECT. NO ADDITIONAL PAYMENT WILL BE MADE FOR THIS WORK.



PLAN

PROJECT NO. 17BP.9.P.1

FORSYTH COUNTY

BRIDGE NO.: 78

REHAB. OF BRIDGE NO. 78 SHEET 1 OF 9

STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH

GENERAL PLAN & ELEVATION

BRIDGE ON US-52/US-311  
OVER US-311/I-40

DRAWN BY : KMG DATE : 01-12  
CHECKED BY : AC DATE : 01-12

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Charlotte, NC 28208  
NC License No. F-3591

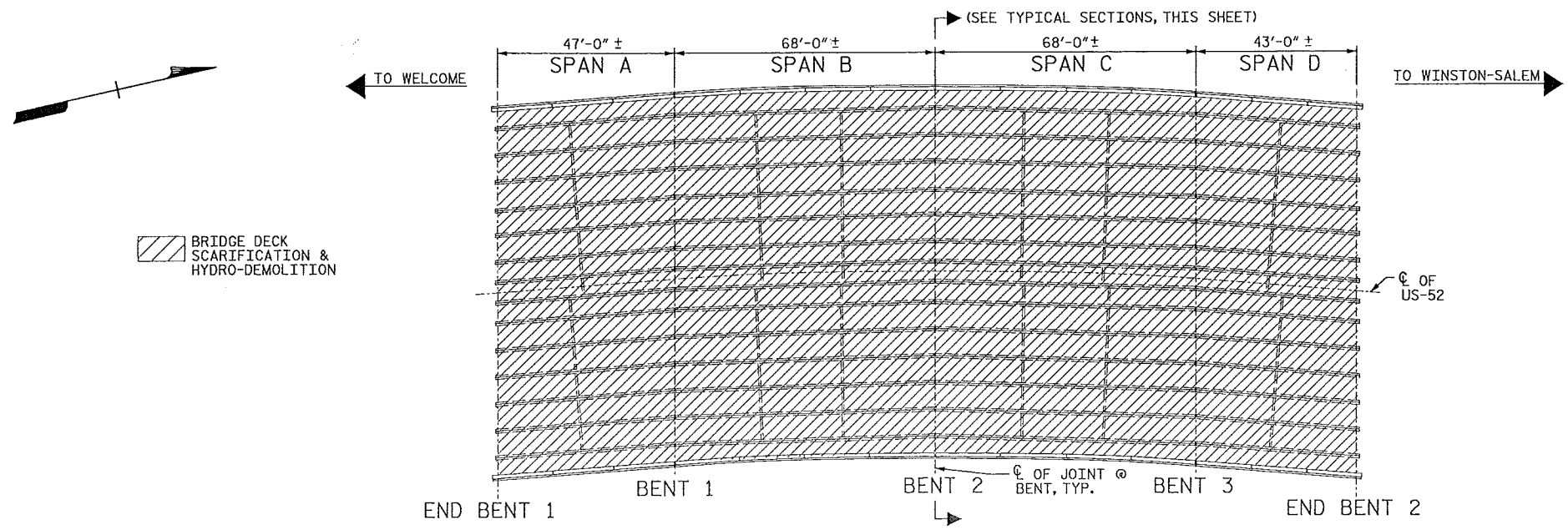
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NO.	BY:	DATE:	NO.	BY:	DATE:	
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2			4			TOTAL SHEETS S-109

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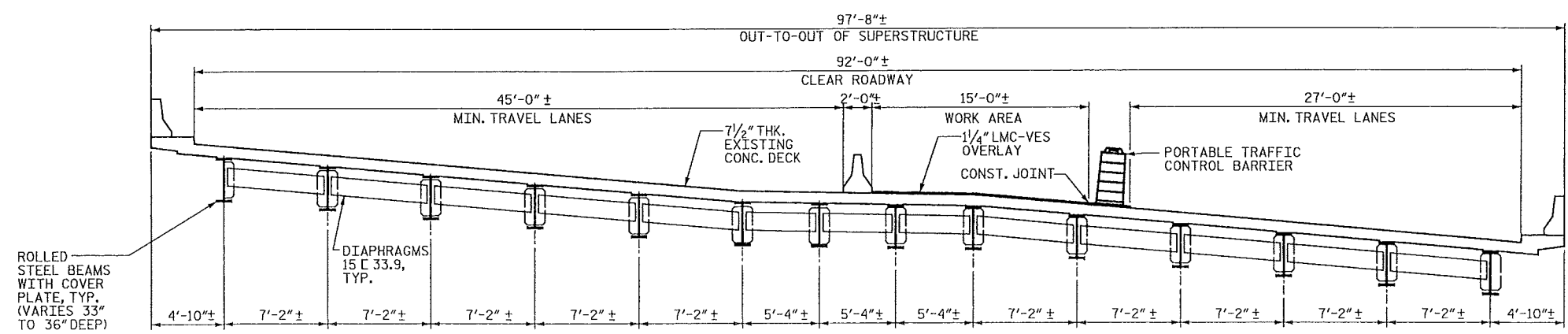
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1/17/2012

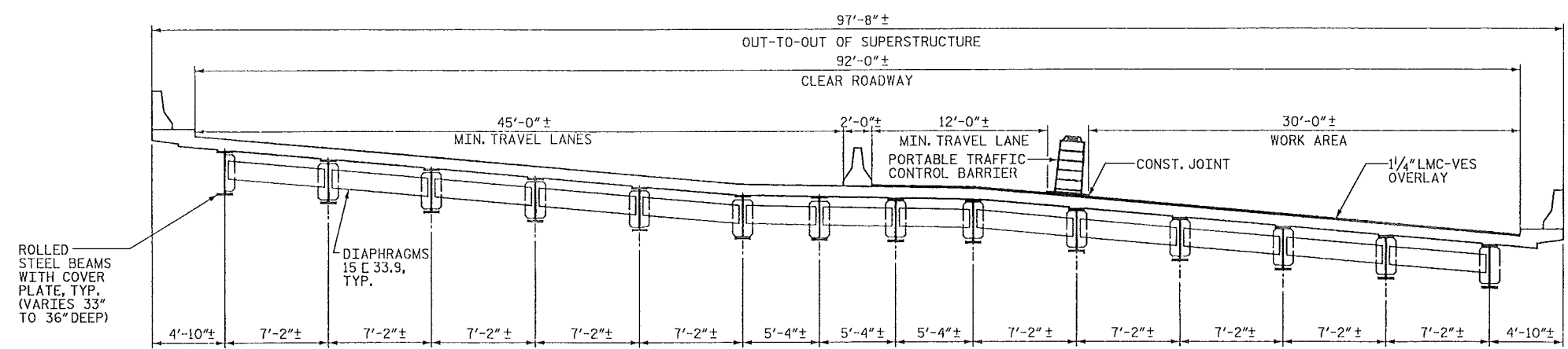
DRAWN BY : KMG DATE : 01-12  
CHECKED BY : AC DATE : 01-12



PLAN OF SPANS - DECK SCARIFICATION & HYDRO-DEMOLITION  
(CONCRETE BRIDGE FLOORS SHALL BE GROOVED IN ACCORDANCE WITH SECTION 420-14 OF THE STANDARD SPECIFICATION)



TYPICAL SECTION - STAGE 1



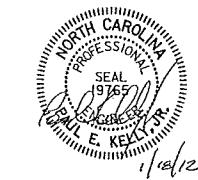
TYPICAL SECTION - STAGE 2

NOTE:  
PER EXISTING PLANS THE EXISTING DECK HAS 1 1/8" CONCRETE COVER OVER EXISTING REINFORCING STEEL.

PROJECT NO. 17BP.9.P.1  
FORSYTH COUNTY  
BRIDGE NO.: 78

REHAB. OF BRIDGE NO. 78 SHEET 2 OF 9

STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH  
FRAMING PLAN & TYPICAL SECTIONS  
BRIDGE ON US-52/US-311 OVER US-311/I-40

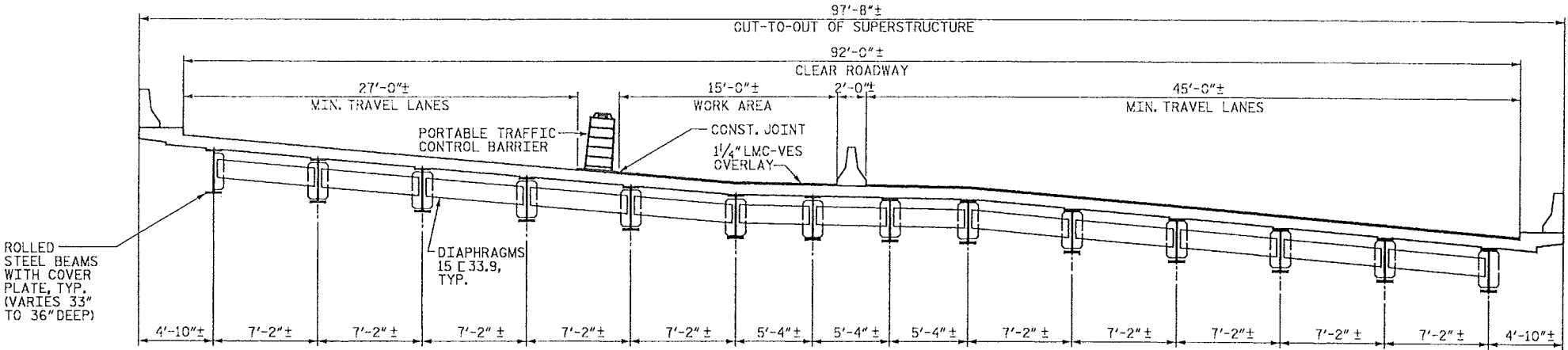


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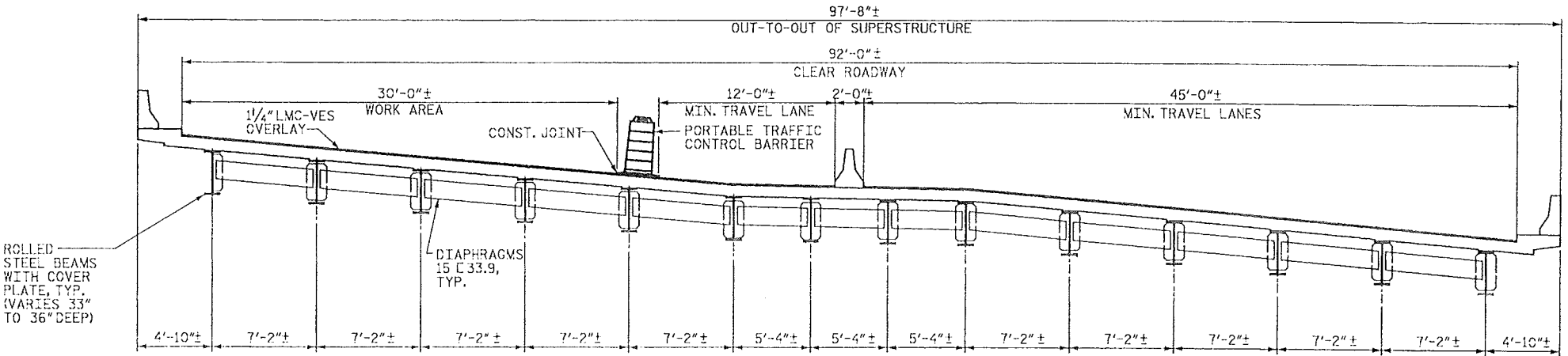
REVISIONS						SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:	S-37	TOTAL SHEETS
1			3				S-109
2			4				

TOTAL BILL OF MATERIAL											
DECK SCARIFICATION	* CLASS II SURFACE PREPARATION	HYDRO-DEMOLITION OF BRIDGE DECK	LATEX MODIFIED CONCRETE VERY EARLY STRENGTH OVERLAY	PLACING & FINISHING LATEX MODIFIED CONCRETE OVERLAY - VERY EARLY STRENGTH	FOAM JOINT SEAL	GROOVING BRIDGE FLOORS	CONCRETE REPAIRS	SHOTCRETE REPAIRS	EPOXY RESIN INJECTION	BRIDGE JACKING	REINFORCING STEEL
SQ. YDS.	SQ. YDS.	SQ. YDS.	CU. YDS.	SQ. YDS.	LUMP SUM	SQ. FT.	CU. FT.	CU. FT.	LIN. FT.	LUMP SUM	LBS
2461	9	2461	94	2461	LUMP SUM	22148	9	49	68	LUMP SUM	100

\* QUANTITIES FOR INFORMATION ONLY.  
■ REINFORCING STEEL FOR REPLACEMENT OF REBAR DAMAGED PRIOR TO ONSET OF PROJECT.



TYPICAL SECTION - STAGE 3



TYPICAL SECTION - STAGE 4

NOTE:  
PER EXISTING PLANS THE EXISTING DECK HAS 1 1/8" CONCRETE COVER OVER EXISTING REINFORCING STEEL.

PROJECT NO. 17BP.9.P.1  
FORSYTH COUNTY  
BRIDGE NO.: 78  
REHAB. OF BRIDGE NO. 78 SHEET 3 OF 9

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
TYPICAL SECTIONS					
BRIDGE ON US-52/US-311 OVER US-311/I-40					
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
SHEET NO. S-38					
TOTAL SHEETS S-109					

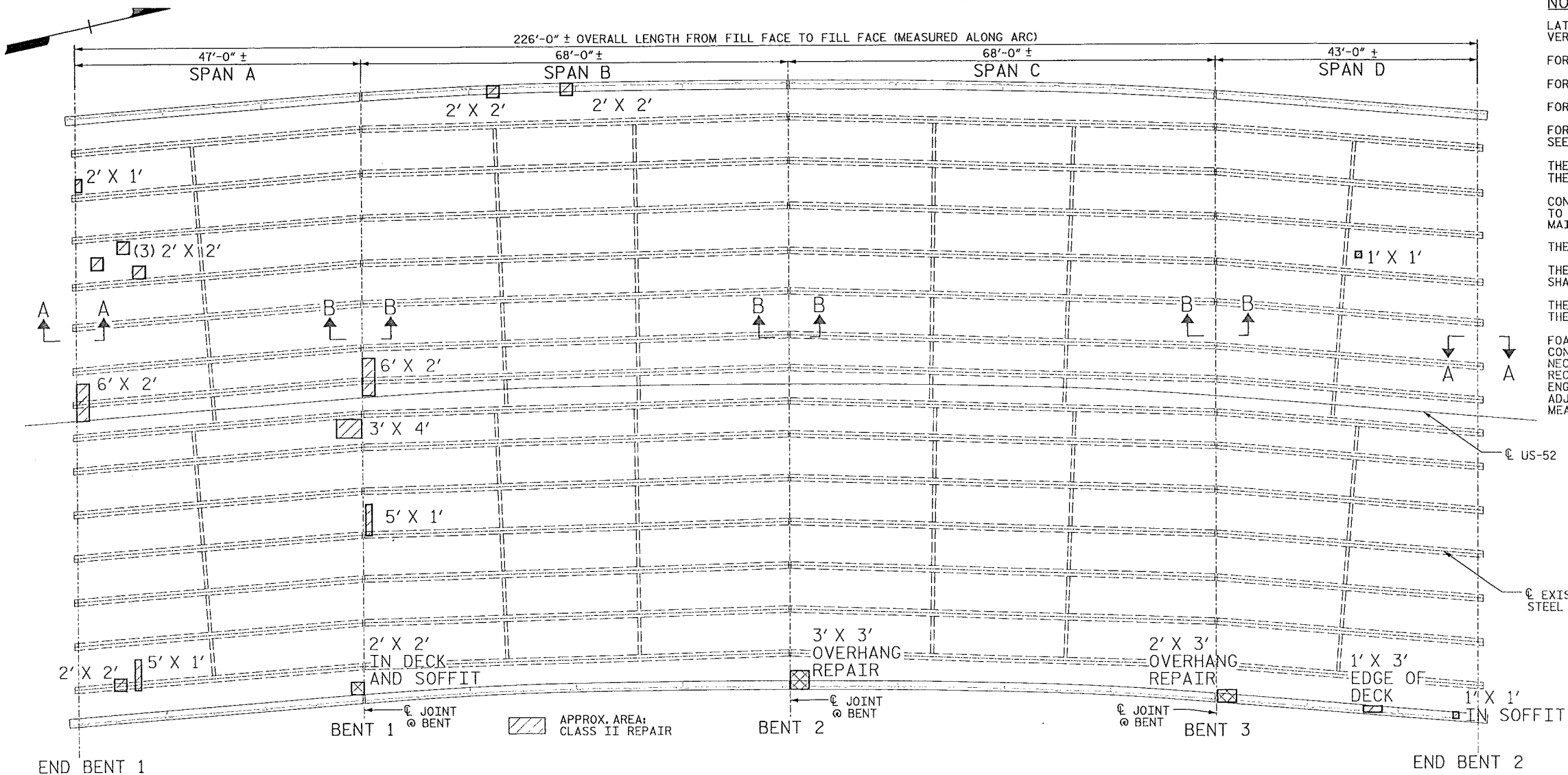
STV/Ralph Whitehead Associates, Inc.  
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NC License No. F-0991

DRAWN BY: KMG DATE: 01-12  
CHECKED BY: AC DATE: 01-12

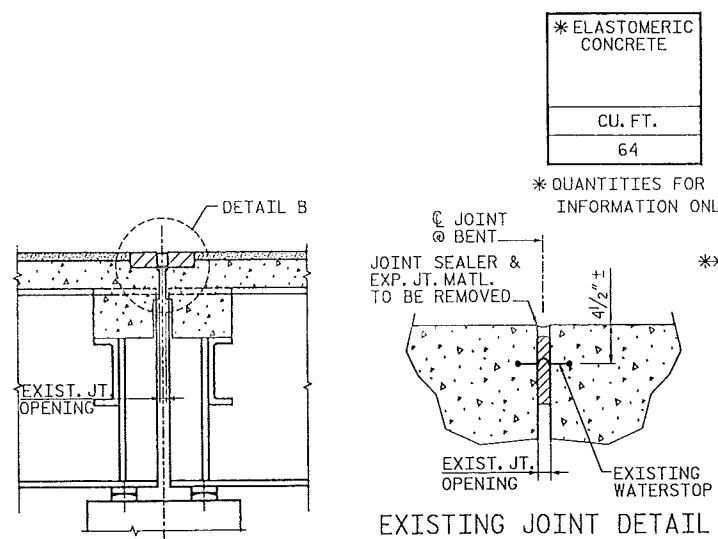
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17BP.9

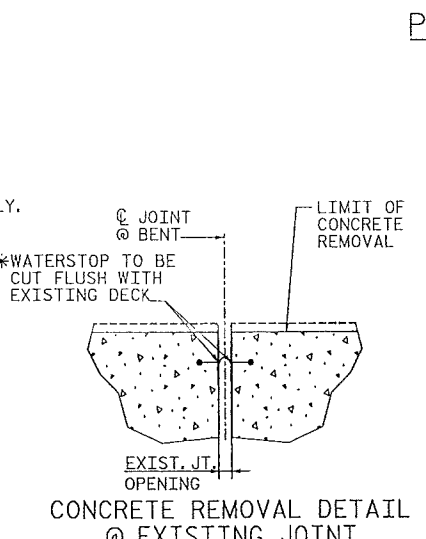
2/17/2012



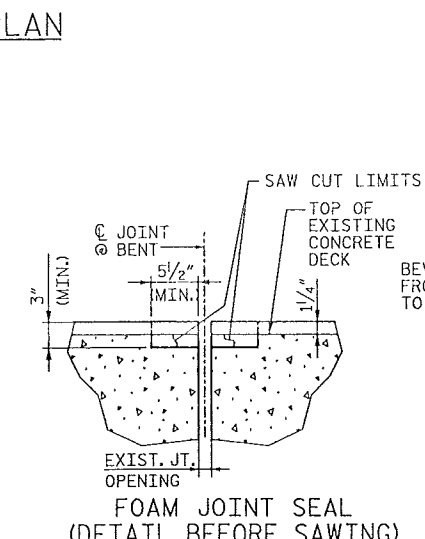
PLAN



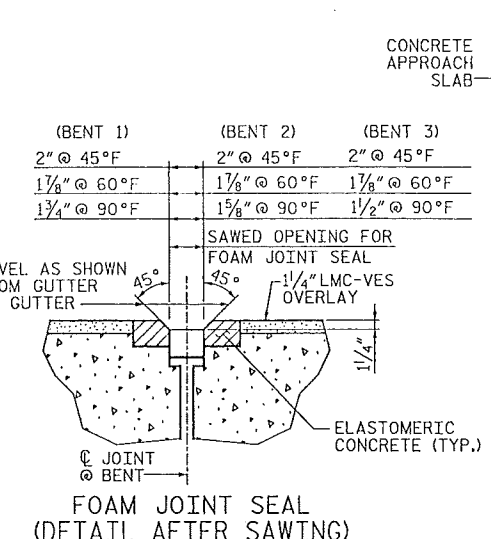
SECTION B-B  
(PROPOSED JOINT)  
(TYP. @ INTERIOR BENTS)



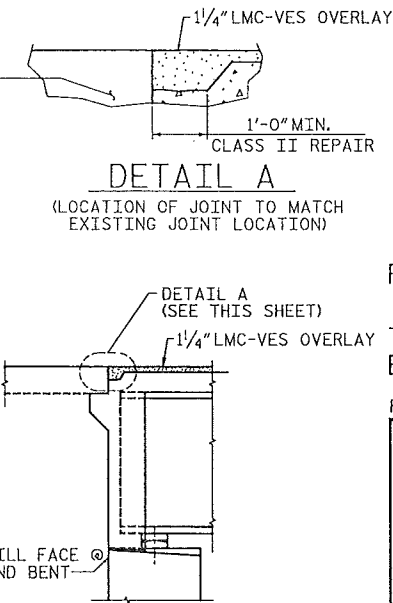
EXISTING JOINT DETAIL



FOAM JOINT SEAL  
(DETAIL BEFORE SAWING)



FOAM JOINT SEAL  
(DETAIL AFTER SAWING)



SECTION A-A  
(TYP. @ END BENT 1 AND 2)

**NOTES:**

LATEX MODIFIED CONCRETE SHALL BE LATEX MODIFIED CONCRETE VERY EARLY STRENGTH - SEE SPECIAL PROVISIONS.

FOR FOAM JOINT SEALS, SEE SPECIAL PROVISIONS.

FOR ELASTOMERIC CONCRETE, SEE SPECIAL PROVISIONS.

FOR OVERHANG REPAIR DETAILS, SEE SHEET 9 OF 9.

FOR TYPICAL "BLOW-THROUGH" CONTAINMENT AND FORMWORK DETAILS, SEE SHEET 9 OF 9.

THE ELASTOMERIC CONCRETE SHALL BE CONSIDERED INCIDENTAL TO THE FOAM JOINT SEAL PAY ITEM.

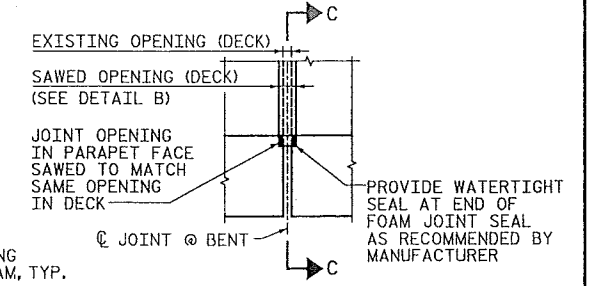
CONTRACTOR SHALL COVER AND PROTECT THE JOINT CONSTRUCTION TO PREVENT DAMAGE DURING CONCRETE CURING AND AS NEEDED TO MAINTAIN TRAFFIC, AS DIRECTED BY THE ENGINEER.

THE INSTALLED FOAM JOINT SEALS SHALL BE WATERTIGHT.

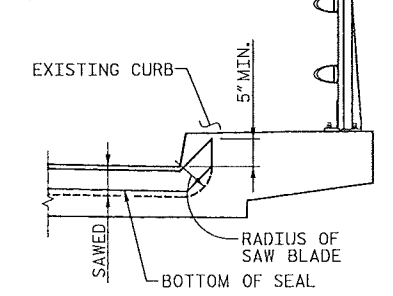
THE NOMINAL UNCOMPRESSED SEAL WIDTH OF THE FOAM JOINT SEAL SHALL BE 2 1/2".

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

FOAM JOINT OPENING WIDTHS SHALL BE CONFIRMED IN THE FIELD. CONTRACTOR SHALL MAKE ADJUSTMENTS TO FOAM JOINT SEALS, AS NECESSARY, TO MEET EXISTING CONDITIONS AND MANUFACTURER'S RECOMMENDATIONS. ANY CHANGES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL. ANY COST ASSOCIATED WITH THESE ADJUSTMENTS IS CONSIDERED INCIDENTAL AND NO SEPARATE MEASUREMENT OR PAYMENT WILL BE MADE.



PLAN OF JOINT SEAL  
AT PARAPET



SECTION C-C

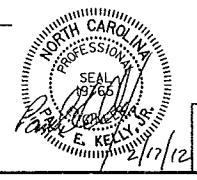
PROJECT NO. 17BP.9.P.1  
FORSYTH COUNTY  
BRIDGE NO.: 78  
REHAB. OF BRIDGE NO. 78 SHEET 4 OF 9

STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH

**PLAN  
DECK REPAIRS**

BRIDGE ON US-52/US-311  
OVER US-311/I-40

REVISIONS						SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:		
1			3			S-39	
2			4			S-109	



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NC License No. F-0591

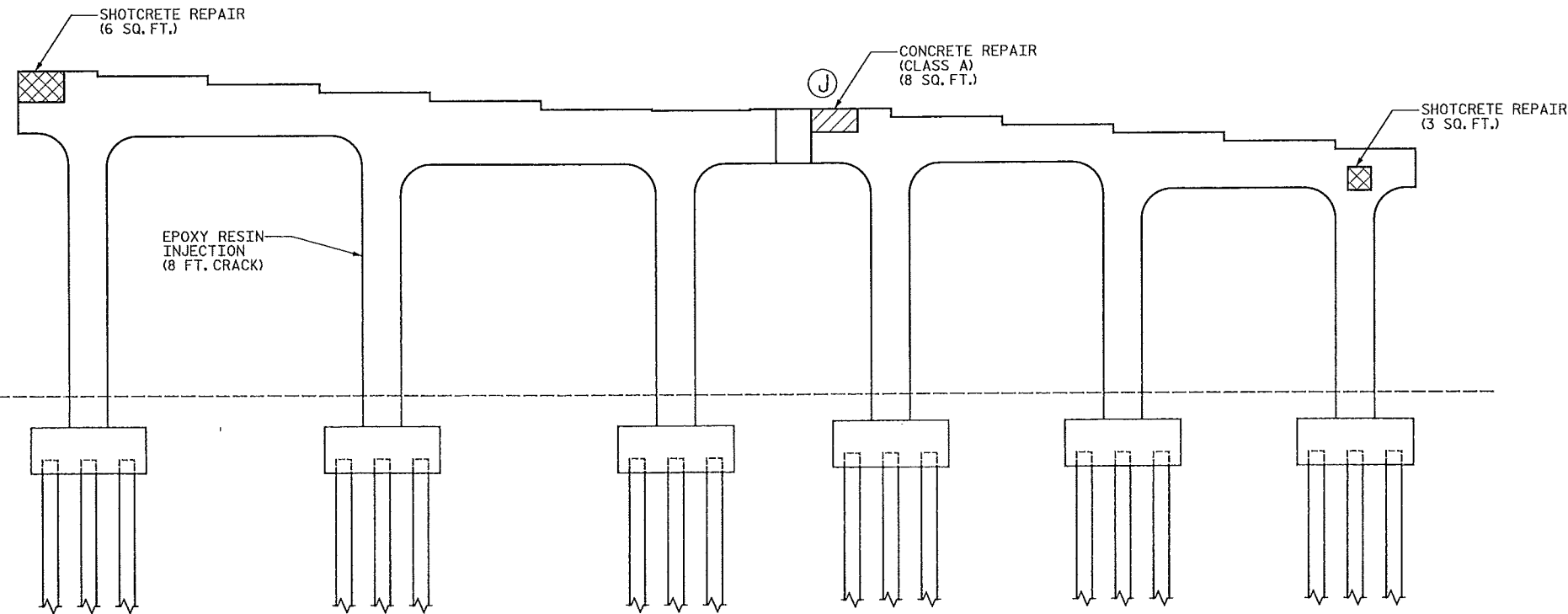
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CHECKED BY: AC DATE: 01-12

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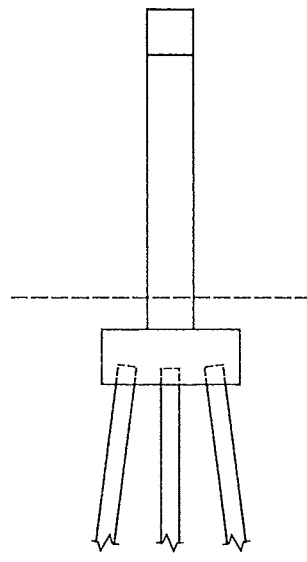
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2/22/2012

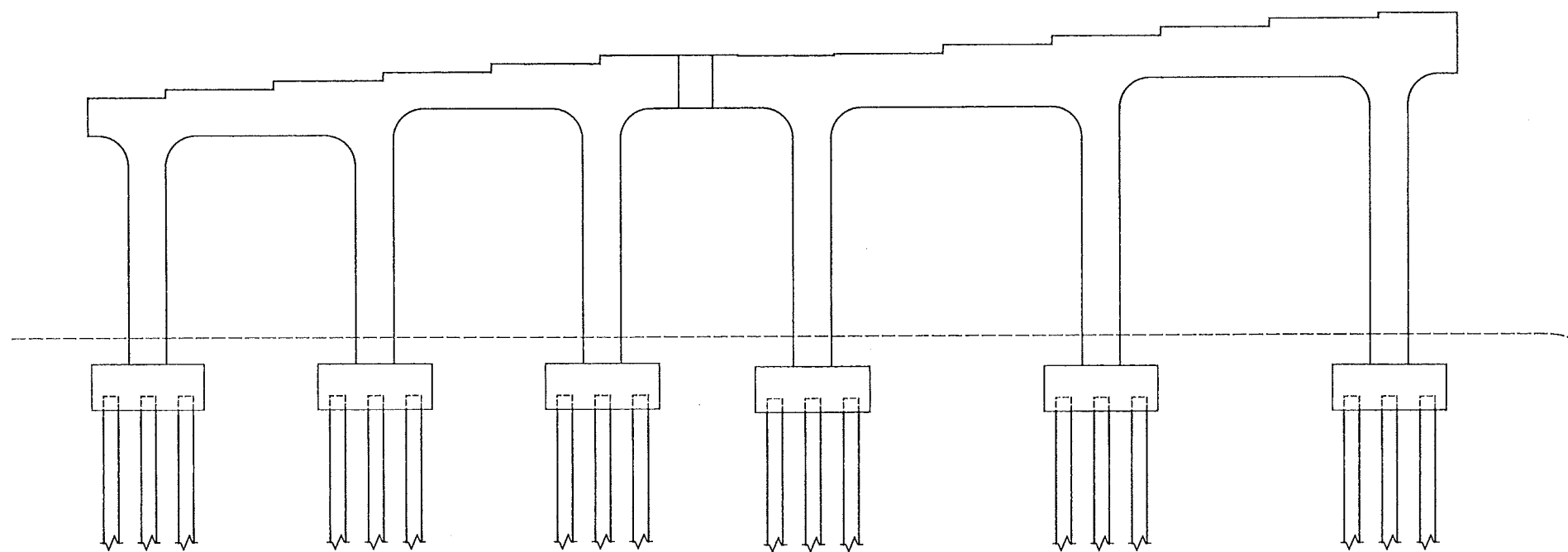
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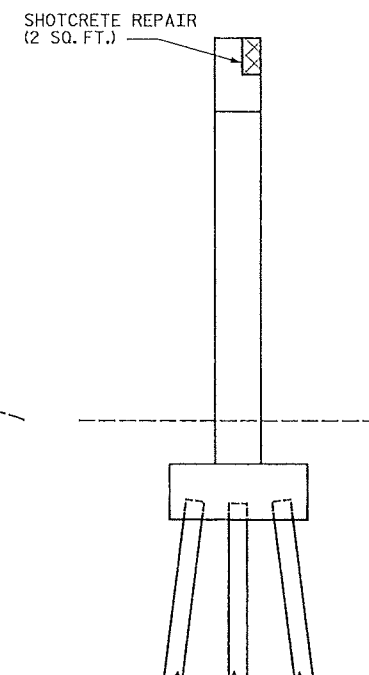
ELEVATION OF BENT 1 - LOOKING NORTH



END VIEW  
OF BENT 1  
LOOKING WEST



ELEVATION OF BENT 1 - LOOKING SOUTH



END VIEW  
OF BENT 1  
LOOKING EAST

#### NOTES:

FOR CONCRETE REPAIR DETAILS, SEE SHEET 9 OF 9.

CONCRETE SHALL BE SOUNDED TO DETERMINE THE EXTENT OF ALL CONCRETE REPAIRS.

FOR CRACKS REQUIRING EPOXY RESIN INJECTION, SOUNDING MAY PROVE THAT A CONCRETE REPAIR IS NECESSARY.

SPALL, CRACK, AND DELAMINATION DIMENSIONS SHOWN ARE APPROXIMATE. CONTRACTOR SHALL DETERMINE ACTUAL SPALL, CRACK, AND DELAMINATION DIMENSIONS PRIOR TO MAKING REPAIRS.

THE ENGINEER SHALL BE NOTIFIED OF ANY BARS DAMAGED DURING THE CONCRETE REMOVAL PROCESS. REPAIRS TO DAMAGED BARS SHALL BE DIRECTED BY THE ENGINEER AND COMPLETED AT NO ADDITIONAL COST.

DOWEL LENGTH SHALL BE BASED ON A 9" EMBEDMENT INTO EXISTING CONCRETE AND MAY BE ADJUSTED BASED ON THE MINIMUM EMBEDMENT SPECIFIED BY THE MANUFACTURER OF THE EPOXY ADHESIVE BONDING SYSTEM.

REINFORCING STEEL SHALL BE GRADE 60.

BENT CAP REPAIRS IN BEARING AREAS SHALL BE PERFORMED WITH CLASS A CONCRETE, SEE SHEET 9 OF 9.

BRIDGE JACKING IS REQUIRED FOR CONCRETE REPAIRS THAT EXTEND UNDER A BEARING PLATE. FOR JACKING DETAILS AND NOTES SEE SHEET 8 OF 9.

SUBSTRUCTURE REPAIRS SHALL PROVIDE A MINIMUM OF 2" CLEAR COVER TO REINFORCING STEEL. REPAIRED AREAS MAY BE BUILT OUT TO ACHIEVE CLEARANCE.

(J) - JACKING REQUIRED

----- APPROX. LENGTH:  
EPOXY RESIN INJECTION

XXXXXX APPROX. AREA:  
SHOTCRETE REPAIRS

XXXXXX APPROX. AREA:  
CONCRETE REPAIRS (CLASS A)

PROJECT NO. 17BP.9.P.1

FORSYTH COUNTY

BRIDGE NO.: 78

REHAB. OF BRIDGE NO. 78 SHEET 5 OF 9

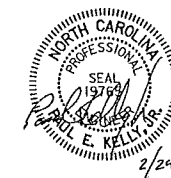
STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH

BENT 1  
SUBSTRUCTURE REPAIRS

BRIDGE ON US-52/US-311  
OVER US-311/I-40

#### REVISIONS

NO.	BY:	DATE:	NO.	BY:	DATE:	SHEET NO.
1			3			S-40
2			4			TOTAL SHEETS S-109



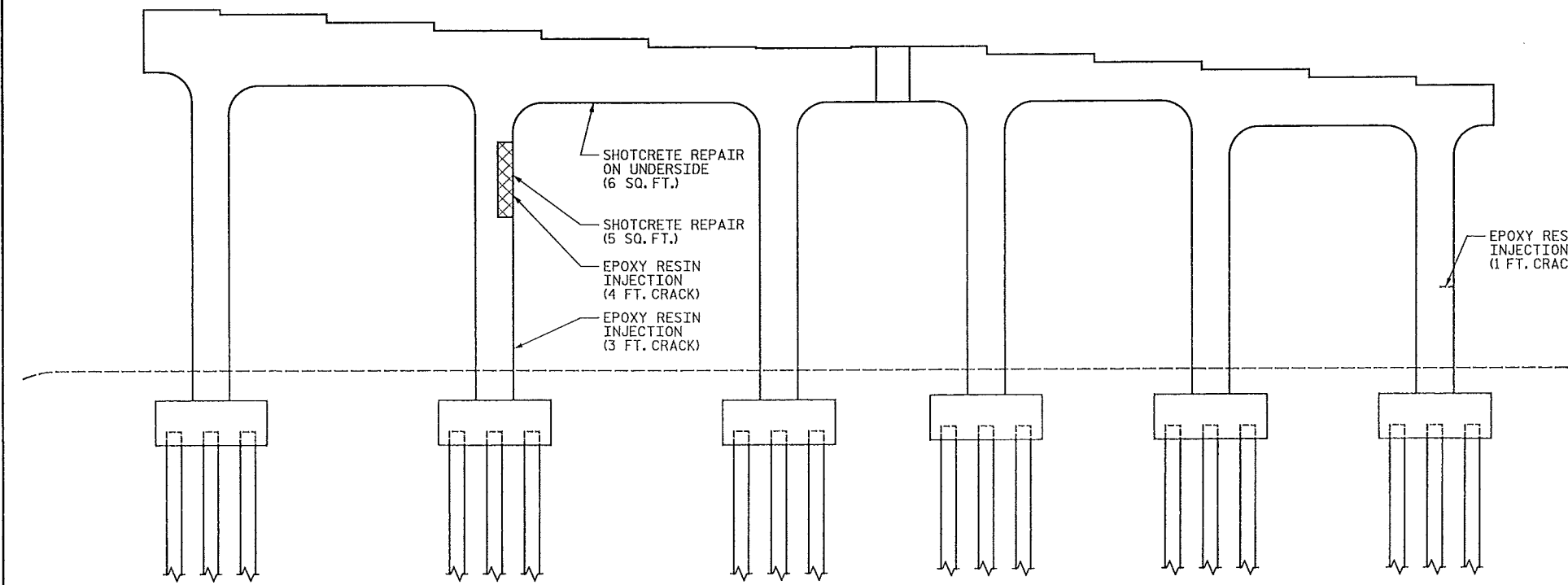
STV / Ralph Whitehead Associates, Inc.  
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Charlotte, NC 28208  
NC License No. F-0991

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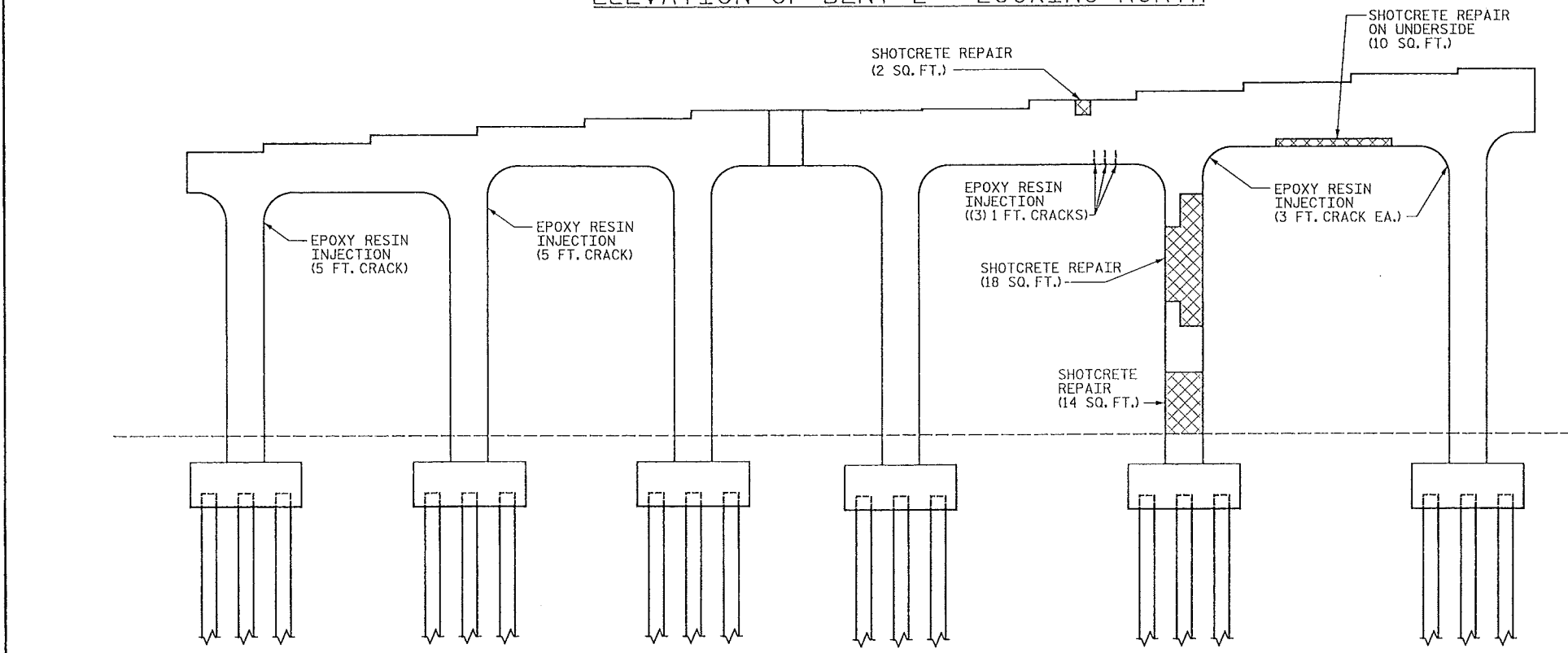
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2/23/2012

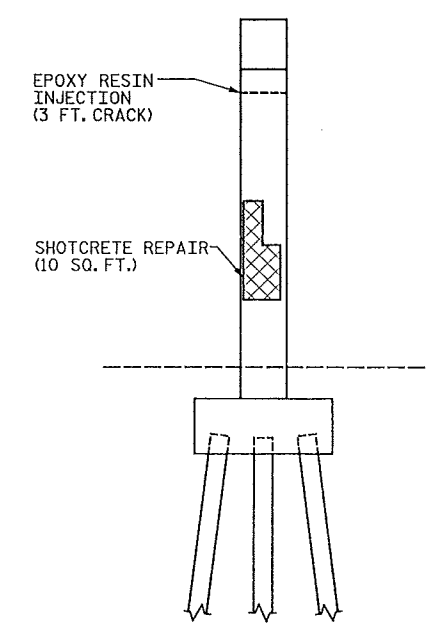
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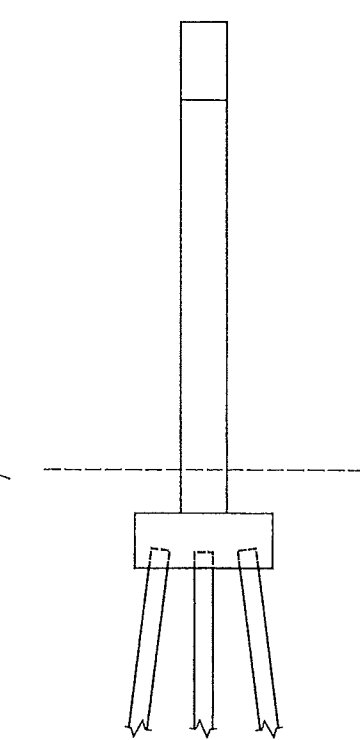
ELEVATION OF BENT 2 - LOOKING NORTH



ELEVATION OF BENT 2 - LOOKING SOUTH



END VIEW  
OF BENT 2  
LOOKING WEST



END VIEW  
OF BENT 2  
LOOKING EAST

REFERENCES:

FOR NOTES, SEE SHEET 5 OF 9.

(J) - JACKING REQUIRED

----- APPROX. LENGTH:  
EPOXY RESIN INJECTION

XXXXX APPROX. AREA:  
SHOTCRETE REPAIRS

PROJECT NO. 17BP.9.P.1

FORSYTH COUNTY

BRIDGE NO.: 78

REHAB. OF BRIDGE NO. 78 SHEET 6 OF 9

STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH  
**BENT 2  
SUBSTRUCTURE REPAIRS**  
BRIDGE ON US-52/US-311  
OVER US-311/I-40



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NC License No. F-0991

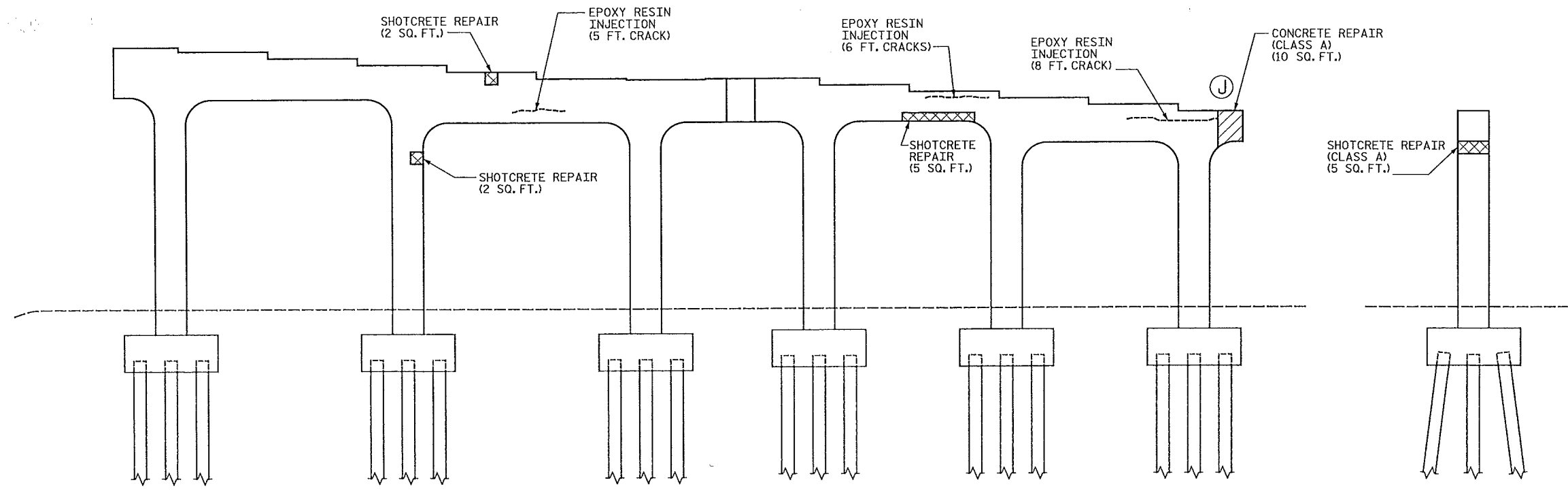
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NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS S-109
2			4			

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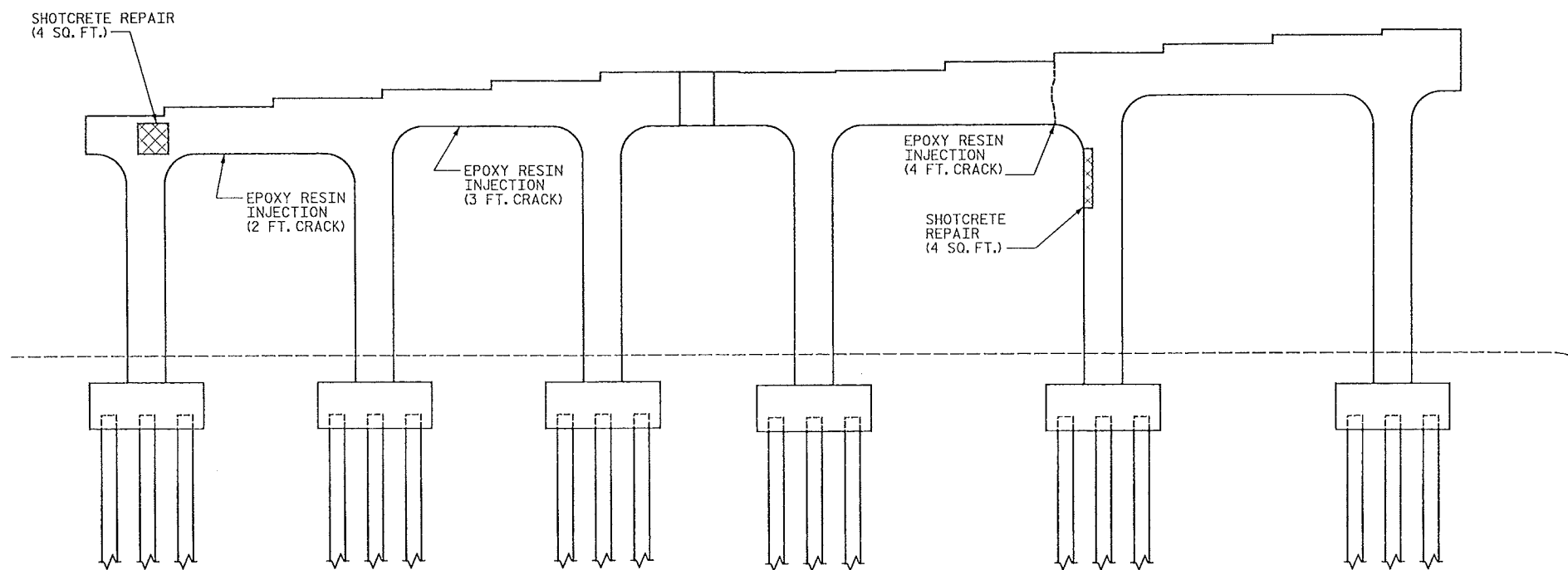
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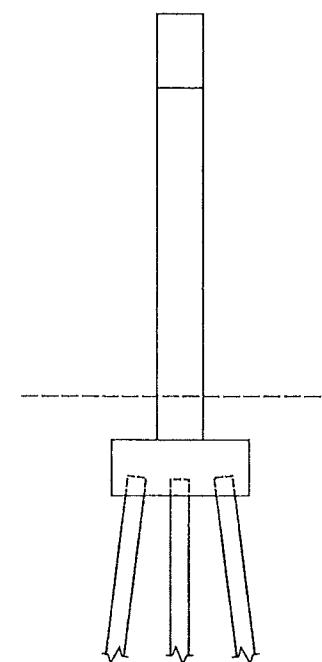


ELEVATION OF BENT 3 - LOOKING NORTH

END VIEW  
OF BENT 3  
LOOKING WEST



ELEVATION OF BENT 3 - LOOKING SOUTH



END VIEW  
OF BENT 3  
LOOKING EAST

REFERENCES:

FOR NOTES, SEE SHEET 5 OF 9.

(J) - JACKING REQUIRED

----- APPROX. LENGTH:  
EPOXY RESIN INJECTION

XXXXX APPROX. AREA:  
SHOTCRETE REPAIRS

XXXXX APPROX. AREA:  
CONCRETE REPAIRS (CLASS A)

PROJECT NO. 17BP.9.P.1

FORSYTH COUNTY

BRIDGE NO.: 78

REHAB. OF BRIDGE NO. 78 SHEET 7 OF 9

STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH

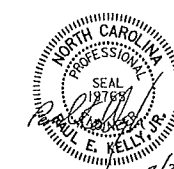
BENT 3  
SUBSTRUCTURE REPAIRS

BRIDGE ON US-52/US-311  
OVER US-311/I-40

REVISIONS

NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

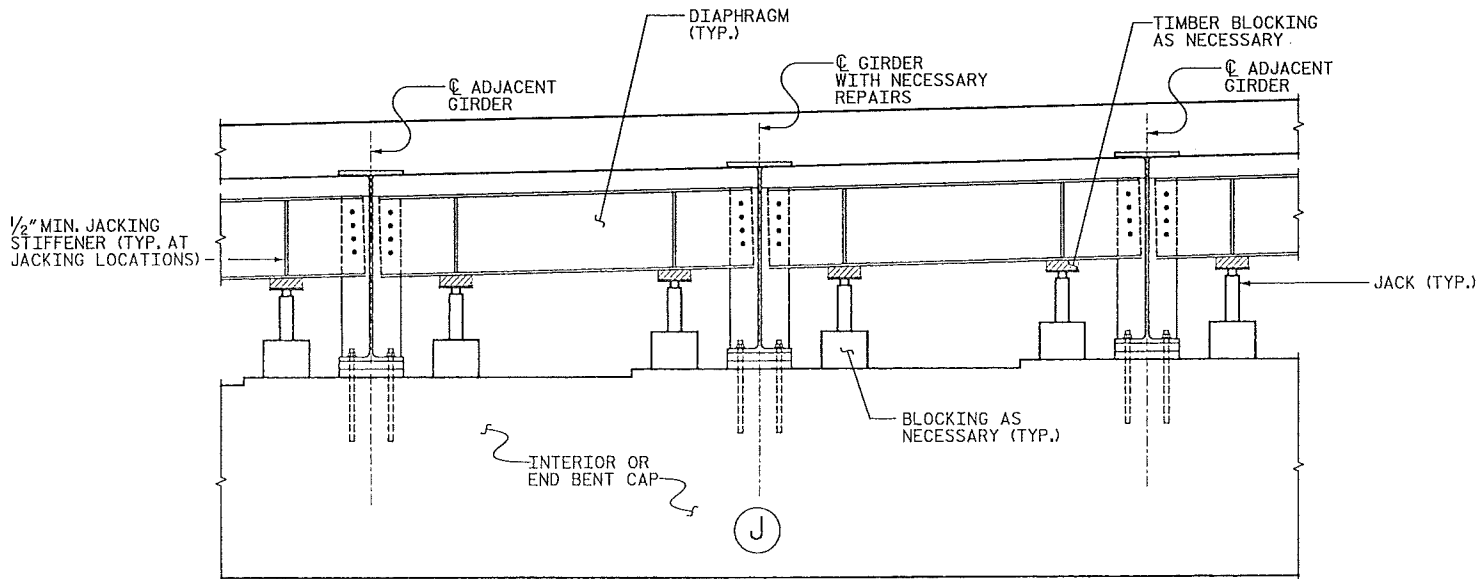
SHEET NO.  
S-42  
TOTAL  
SHEETS  
S-109



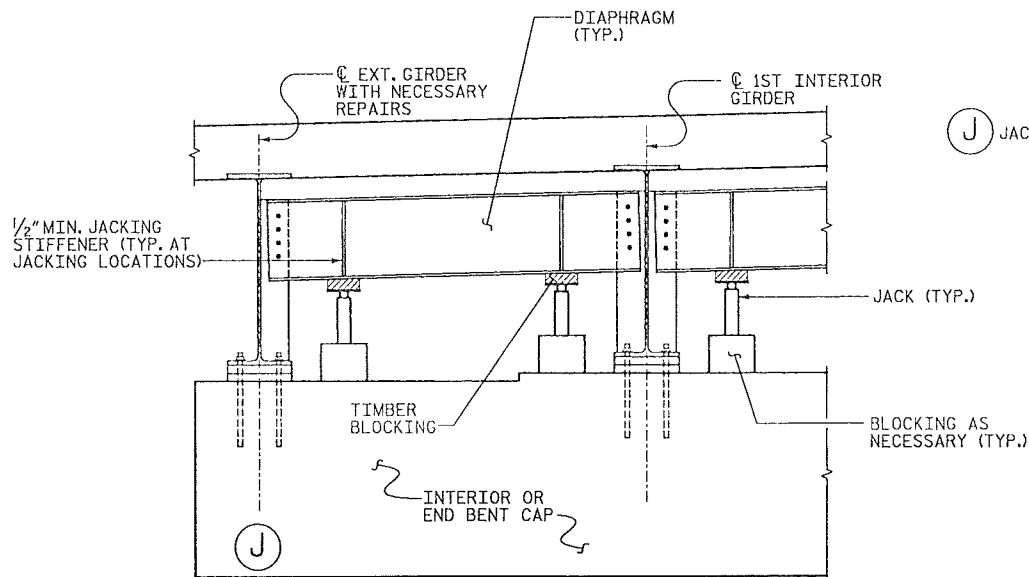
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Charlotte, NC 28208  
NC License No. F-0991



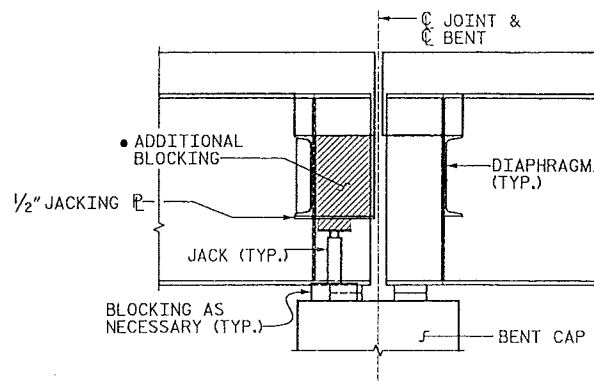
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GIRDER JACKING DETAIL AT INTERIOR GIRDER

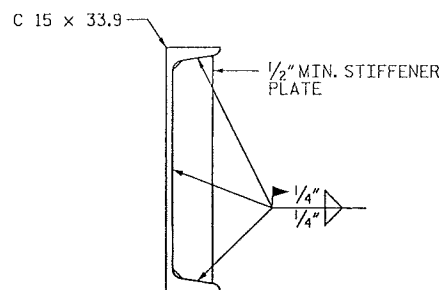


GIRDER JACKING DETAIL AT EXTERIOR GIRDER



TYPICAL SECTION @ JACKING LOCATION

- BLOCKING SHALL BE FULL WIDTH FROM BACK OF DIAPHRAGM CHANNEL TO THE END OF THE DECK TURN DOWN. BLOCKING SHALL BE INSTALLED THE FULL DEPTH OF THE DIAPHRAGM SUCH THAT THE BLOCKING WILL BE LIFTED SIMULTANEOUSLY WITH THE EXISTING DIAPHRAGM.



JACKING STIFFENER DETAIL

CONSTRUCTION SEQUENCE:

1. INSTALL JACKS AND BLOCKING AT LOCATIONS SHOWN ON PLAN.
  2. REMOVE NECESSARY NUTS ON ANCHOR BOLTS.
  3. JACK GIRDERS A MAXIMUM OF 1/8" IN ORDER TO RELIEVE LOAD ON BENT CAP UNDER BEARING.
  4. MECHANICALLY LOCK ALL JACKS AT BENT.
  5. PERFORM CONCRETE REPAIRS AT SPECIFIED LOCATIONS.
  6. ONCE ALL REPAIRS ARE COMPLETE, LOWER BRIDGE. CONTRACTOR SHALL NOT LOWER BRIDGE UNTIL CONCRETE REPAIR MATERIAL HAS REACHED A COMPRESSIVE STRENGTH OF 3,000 PSI.
- NOTE: THE CONTRACTOR HAS THE OPTION TO PROPOSE AN ALTERNATE CONSTRUCTION SEQUENCE FOR THE APPROVAL OF THE ENGINEER.

NOTES:

JACKING DETAILS SHOWN ARE CONCEPTUAL AND CONSIDERED A MINIMUM. THE CONTRACTOR SHALL PROVIDE JACKING PLANS FOR ALL GIRDERS LIFTED FOR APPROVAL BY THE ENGINEER PRIOR TO ANY JACKING OPERATIONS. JACKING SHALL BE PERFORMED SUCH THAT BRIDGE CAN REMAIN OPEN TO TRAFFIC DURING JACKING OPERATIONS.

JACKING PLANS SHALL BE SIGNED AND SEALED BY LICENSED PROFESSIONAL ENGINEER REGISTERED IN NORTH CAROLINA.

THE CONTRACTOR SHALL PROVIDE BLOCKING FOR ALL JACKS AS NECESSARY. A BLOCKING PLAN SHALL BE INCLUDED AS PART OF THE JACKING PLAN.

THE CONTRACTOR SHALL JACK GIRDERS ON AN INDIVIDUAL BENT SIMULTANEOUSLY BY MEANS OF A DUAL-FLOW PRESSURIZED PUMP CONTROLLING THE JACKS.

THE CONTRACTOR SHALL MONITOR THE PLAN LOCATION OF THE GIRDERS FROM INITIAL JACKING UNTIL GIRDERS ARE SECURED ON THEIR PERMANENT BEARINGS. IF THE PLAN LOCATION OF THESE GIRDERS SHIFT FROM ITS ORIGINAL POSITION, THE CONTRACTOR SHALL SECURE FROM ADDITIONAL MOVEMENT IMMEDIATELY. NOTIFY ENGINEER PRIOR TO PROCEEDING WORK OPERATIONS.

EACH JACK SHALL HAVE A MINIMUM SAFE WORKING CAPACITY OF 75 TONS.

PRIOR TO JACKING THE CONTRACTOR SHALL ENSURE THERE ARE NO OBSTACLES PREVENTING THE SPAN FROM BEING LIFTED.

ONCE SPAN HAS BEEN JACKED, CONTRACTOR SHALL INSTALL A MECHANICAL LOCKING DEVICE TO ENSURE THAT GIRDER WILL NOT BE LOWERED DURING CURING OF CONCRETE.

CONTRACTOR TO TAKE APPROPRIATE MEANS TO REMOVE NUT ON ANCHOR BOLT WITHOUT DAMAGING THE ANCHOR BOLT. CONTRACTOR SHALL SUBMIT NUT REMOVAL METHOD TO INCLUDE PROCEDURES THAT WILL LOOSEN BOND BETWEEN INTERLOCKING THREADS TO ENGINEER FOR APPROVAL PRIOR TO REMOVING ANCHOR BOLT NUTS.

IN NO CIRCUMSTANCES SHOULD THE JACKING BY SOLELY SUPPORTED BY THE DIAPHRAGM. JACKS SHOULD BE CENTERED UNDER DIAPHRAGM AND ADDITIONAL BLOCKING.

PROJECT NO. 17BP.9.P.1

FORSYTH COUNTY

BRIDGE NO.: 78

REHAB. OF BRIDGE NO. 78 SHEET 8 OF 9

STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH

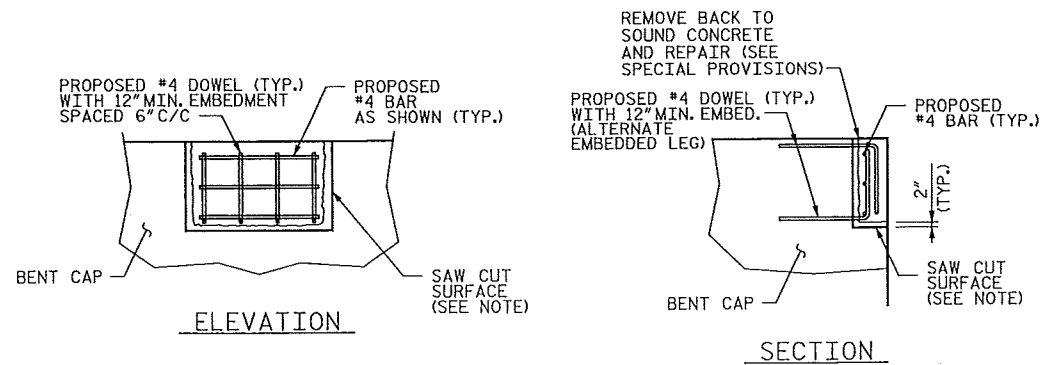
JACKING DETAILS

BRIDGE ON US-52/US-311  
OVER US-311/I-40

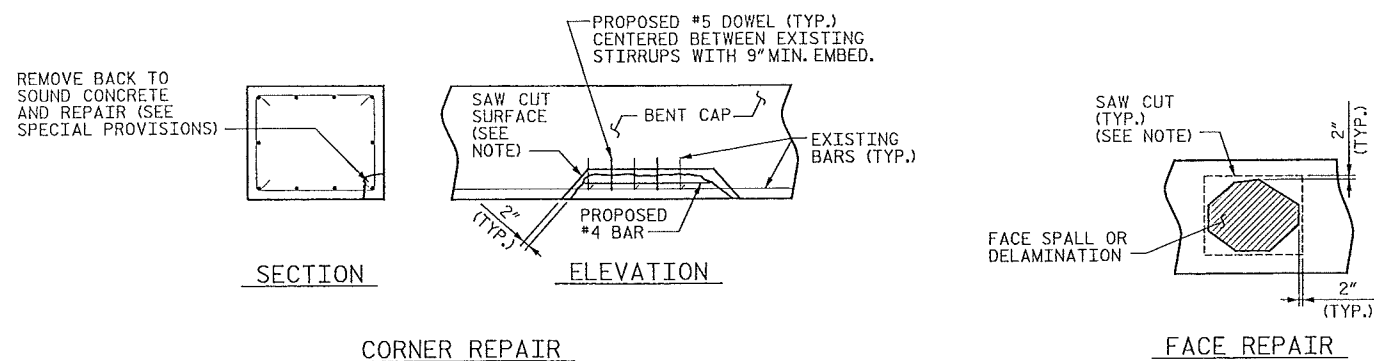
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Charlotte, NC 28208  
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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			S-43
2			4			TOTAL SHEETS S-109

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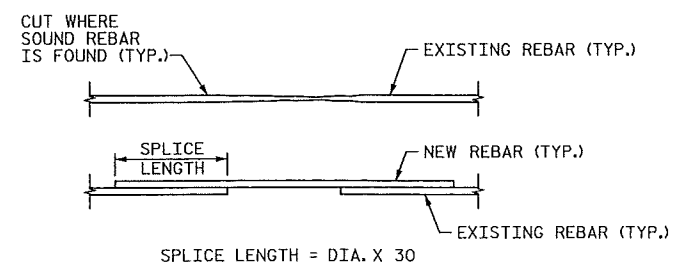


CONCRETE REPAIRS AT BEARING LOCATIONS



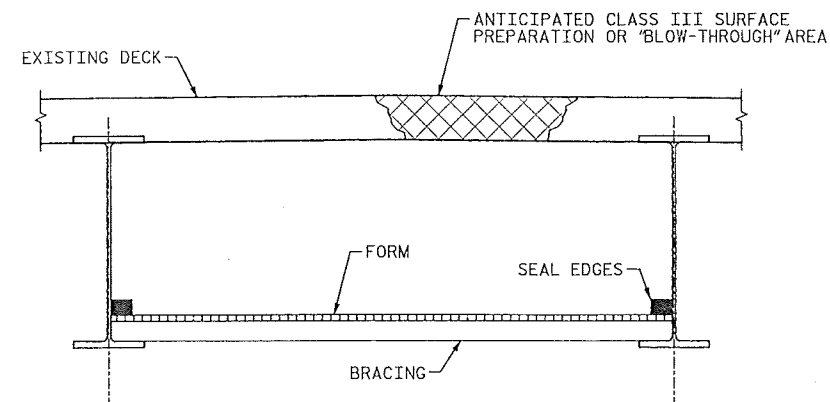
TYPICAL SUBSTRUCTURE REPAIR DETAILS

(DOWEL LENGTH SHALL BE BASED ON A 9" EMBEDMENT INTO EXISTING CONCRETE AND MAY BE ADJUSTED BASED ON THE MINIMUM EMBEDMENT SPECIFIED BY THE MANUFACTURER OF THE EPOXY ADHESIVE BONDING SYSTEM)



DAMAGED REBAR REPAIR DETAILS

(DAMAGED REBAR AFTER REMOVAL OF MATERIAL AND BLAST CLEANING SHALL BE REPLACED AS NEEDED, AS SHOWN)

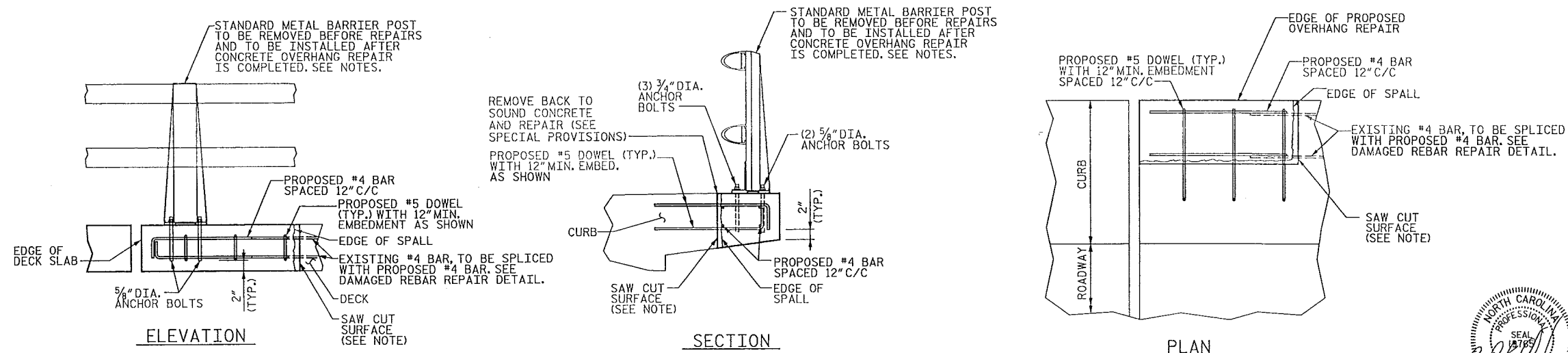


TYP. "BLOW-THROUGH" CONTAINMENT AND FORMWORK

A METHOD TO CAPTURE WATER AND DEBRIS FROM BLOW THRU DURING HYDRO-DEMOLITION SHALL BE INSTALLED IN AREAS INDICATED AS CLASS III SURFACE PREPARATION.

SUBMIT DETAILS OF PROPOSED FORMWORK FOR APPROVAL PRIOR TO BEGINNING WORK.

COSTS FOR INSTALLING AND REMOVING FORMWORK SHALL BE INCIDENTAL TO THE PRICE PER SQ. YARD OF HYDRO-DEMOLITION.



TYPICAL OVERHANG REPAIR DETAILS

NOTES:

CONCRETE SHALL BE SOUNDED TO DETERMINE THE EXTENT OF ALL CONCRETE REPAIRS.

FOR CRACKS REQUIRING EPOXY RESIN INJECTION, SOUNDING MAY PROVE THAT A CONCRETE REPAIR IS NECESSARY.

SPALL, CRACK, AND DELAMINATION DIMENSIONS SHOWN ARE APPROXIMATE. CONTRACTOR SHALL DETERMINE ACTUAL SPALL, CRACK, AND DELAMINATION DIMENSIONS PRIOR TO MAKING REPAIRS.

THE ENGINEER SHALL BE NOTIFIED OF ANY BARS DAMAGED DURING THE CONCRETE REMOVAL PROCESS. REPAIRS TO DAMAGED BARS SHALL BE DIRECTED BY THE ENGINEER AND COMPLETED AT NO ADDITIONAL COST.

REINFORCING STEEL SHALL BE GRADE 60.

OVERHANG REPAIRS SHALL USE CLASS AA CONCRETE WITH FORMWORK USED DURING POURING AND THE COST SHALL BE INCLUDED IN THE CONCRETE REPAIRS PAY ITEM.

FOR DECK OVERHANG REPAIRS, CONTRACTOR SHALL INSTALL A METHOD OF CONTAINMENT TO CAPTURE DEBRIS & TO ENSURE CONTAINMENT OF REPAIR MATERIALS.

ANCHOR BOLTS AT METAL RAILING TO BE STAINLESS STEEL ASTM A449 WITH A MINIMUM 70,000 PSI ULTIMATE STRENGTH.

ANCHOR BOLTS AT METAL RAILING TO HAVE MINIMUM 7" EMBEDMENT INTO CONCRETE.

METAL RAILING POST IS TO BE REMOVED DURING OVERHANG REPAIRS. TEMPORARY CONCRETE BARRIERS SHALL BE INSTALLED AND SECURED AROUND THE AREA OF REPAIR TO PROTECT ON-COMING TRAFFIC.

CONTRACTOR SHALL SAW CUT TO A MAXIMUM DEPTH OF 1". THIS DEPTH SHALL BE REDUCED TO PREVENT DAMAGE TO EXISTING REINFORCEMENT, BUT SHALL BE NO LESS THAN 1/2". CONTRACTOR SHALL REMOVE SURFACE CONCRETE TO VERIFY THAT SAW CUT DEPTH WILL NOT DAMAGE EXISTING REINFORCING STEEL.

AS-BUILT PLANS INDICATE THE PRESENCE OF CONDUITS IN THE CURB OF THE SUPERSTRUCTURE. CONTRACTOR SHALL LOCATE AND ENSURE THAT CONDUITS ARE PROTECTED PRIOR TO REPAIR WORK.

PROJECT NO. 17BP.9.P.1  
FORSYTH COUNTY  
BRIDGE NO.: 78

REHAB. OF BRIDGE NO. 78 SHEET 9 OF 9

STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH

TYPICAL DETAILS

BRIDGE ON US-52/US-311  
OVER US-311/I-40



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REVISIONS						SHEET NO.
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1			3			S-44
2			4			TOTAL SHEETS S-109

DRAWN BY : KMG DATE : 01-12  
CHECKED BY : AC DATE : 01-12