

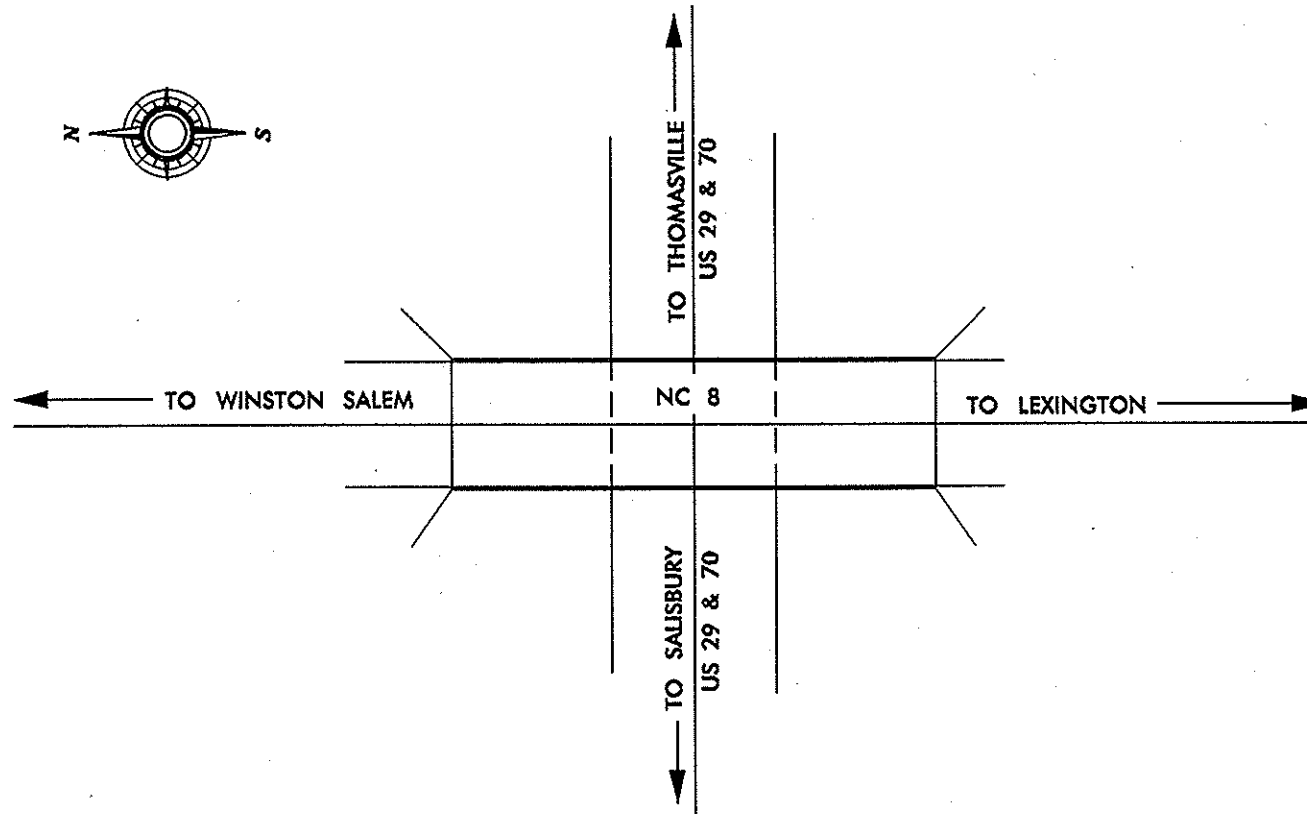
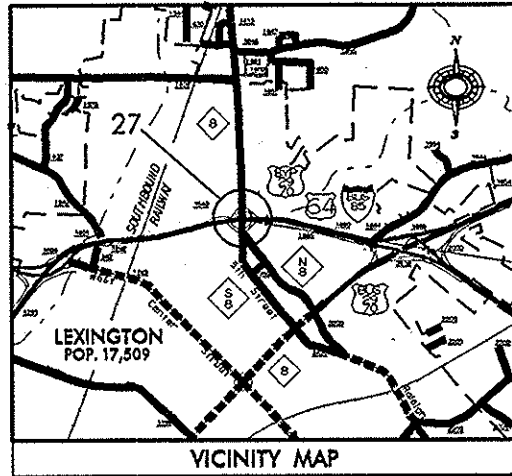
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

DAVIDSON COUNTY

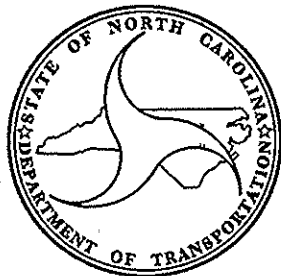
LOCATION: BRIDGE #27 ON NC 8 ACROSS US-29, US-70 & I-85BUS.LOOP

TYPE OF WORK: REPAIRS TO BRIDGE SUPERSTRUCTURE

STATE	STATE PROJECT REFERENCE NO.	PROJECT NO.	TOTAL SHEETS
N.C.			
STATE PROJECT NO.	F.A.PROJ.NO.	DESCRIPTION	
98.102913		PE CONSTR	



CONTRACT:



DESIGN DATA

#27 ADT 23000

PROJECT LENGTH

PROJECT LENGTH - 0.033 MI

Prepared in the Office of:
STRUCTURES MANAGEMENT UNIT
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

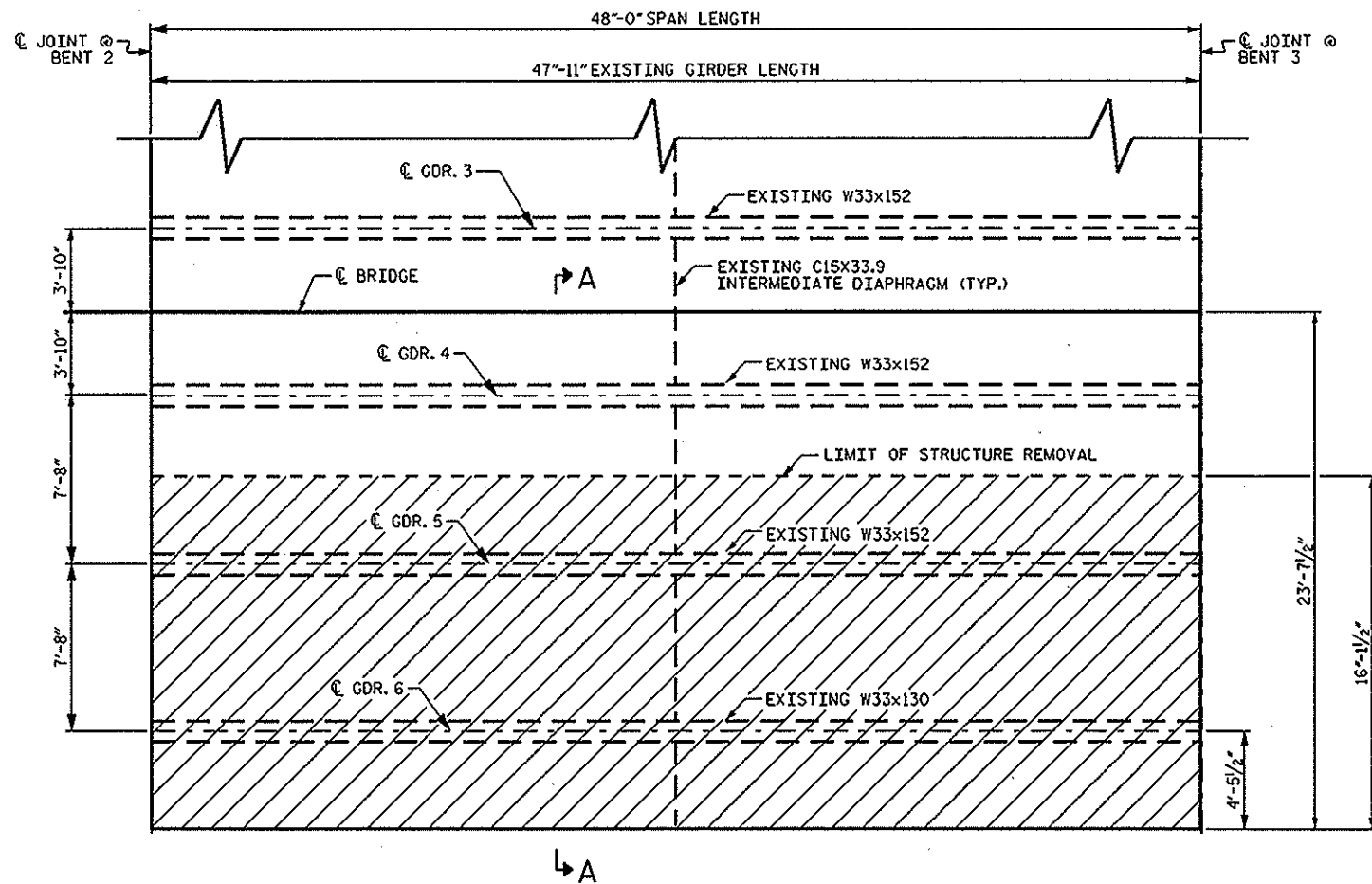
2012 STANDARD SPECIFICATIONS

LETTING DATE:
NOVEMBER 2, 2012

RICK NELSON, PE
PROJECT ENGINEER

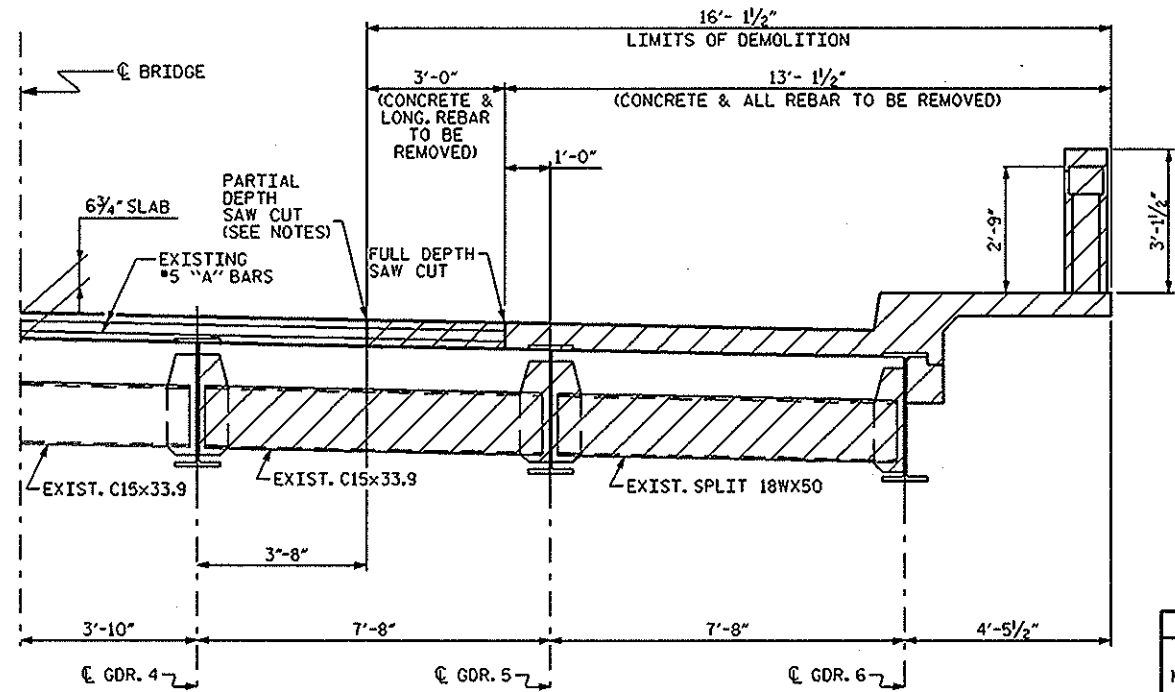


FARZIN ASEFNIA, PE
PROJECT DESIGN ENGINEER



AREA OF STRUCTURE TO BE REMOVED

SPAN C



SECTION A-A

NOTES

THE EXISTING BRIDGE AND REPAIR DETAILS SHOWN ON THE PLANS ARE FROM THE BEST INFORMATION AVAILABLE. SINCE THIS INFORMATION IS SHOWN FOR THE CONVENIENCE OF THE CONTRACTOR, THE CONTRACTOR SHALL HAVE NO CLAIM WHATSOEVER AGAINST THE DEPARTMENT OF TRANSPORTATION FOR ANY DELAYS OR ADDITIONAL COST INCURRED BASED ON DIFFERENCES BETWEEN THE EXISTING BRIDGE AND REPAIR DETAILS SHOWN ON THE PLANS AND THE ACTUAL CONDITIONS AT THE PROJECT SITE.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

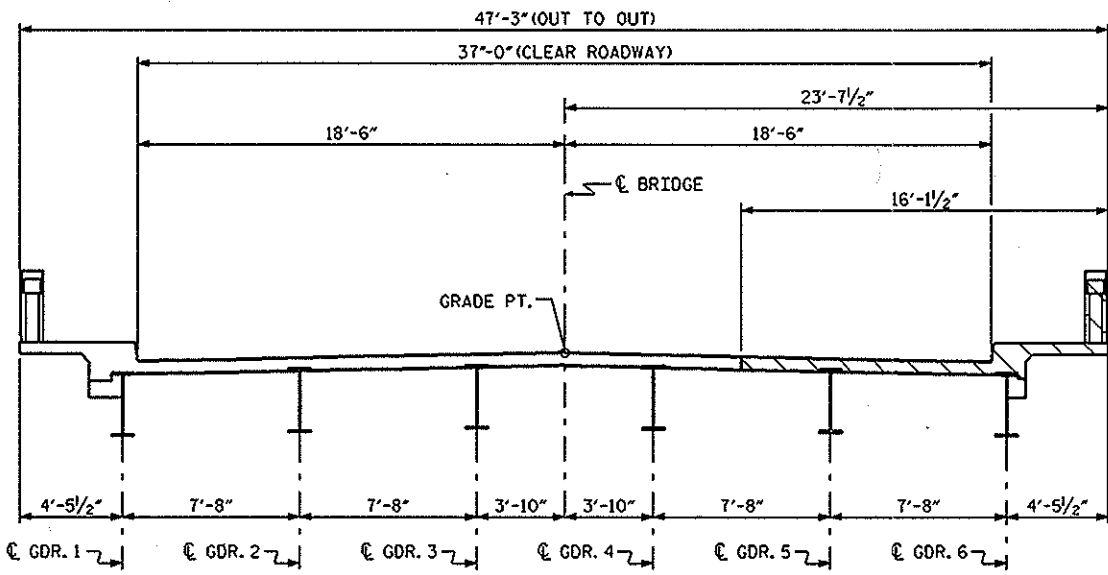
FOR MAINTENANCE AND PROTECTION OF TRAFFIC BENEATH STRUCTURE, SEE SPECIAL PROVISIONS.

FOR PARTIAL REMOVAL OF EXISTING STRUCTURE, SEE SPECIAL PROVISIONS.

FOR AREAS WHERE TRANSVERSE REINFORCING STEEL IS TO BE RETAINED, CONCRETE REMOVAL SHALL BE PERFORMED BY FIRST INTRODUCING A PARTIAL DEPTH SAW CUT (1" MAX. DEPTH) FOLLOWED BY CONCRETE REMOVAL WITH A CHIPPING HAMMER OR HYDRODEMOLITION. CARE SHALL BE TAKEN SO AS TO PREVENT DAMAGE TO THE EXISTING DECK REINFORCING STEEL.

FOR THE NEW PORTION OF THE BRIDGE DECK IN SPAN C, PLACE A NEW SYNTHETIC RUBBER EXPANSION SEAL AT BENTS 2 AND 3. THE NEW SEAL SHALL MATCH THE EXISTING SEAL AND SHALL BE TIED INTO OR SPLICED TO THE EXISTING SEAL AS RECOMMENDED BY THE MANUFACTURER.

FOR CONCRETE VERTICAL RAIL REPLACEMENT, SEE SHEET S-7.



TYPICAL SECTION

PROJECT NO. 9B.102913
 DAVIDSON COUNTY
 STATION: 136+42.7

SHEET OF

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 EXISTING SPAN 'C'
 PARTIAL PLAN
 & SECTION
 BRIDGE NO. 27

TOTAL BILL OF MATERIAL				
MOBILIZATION	PARTIAL REMOVAL OF EXISTING STRUCTURE	REPAIRS TO BRIDGE SUPERSTRUCTURE	EXPANSION JOINT SEAL	APPROX. 16,500 LBS STRUCTURAL STEEL
LUMP SUM	LUMP SUM	LUMP SUM	LUMP SUM	LUMP SUM

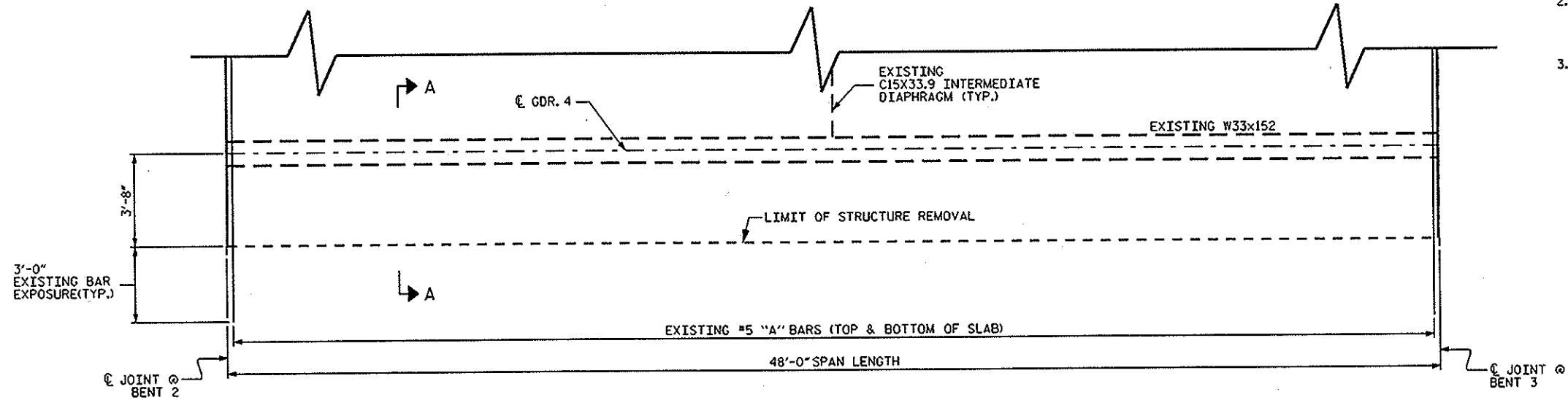


DRAWN BY: D. PLATICA DATE: 07/2012
 CHECKED BY: F. ASEFNIA DATE: 07/2012

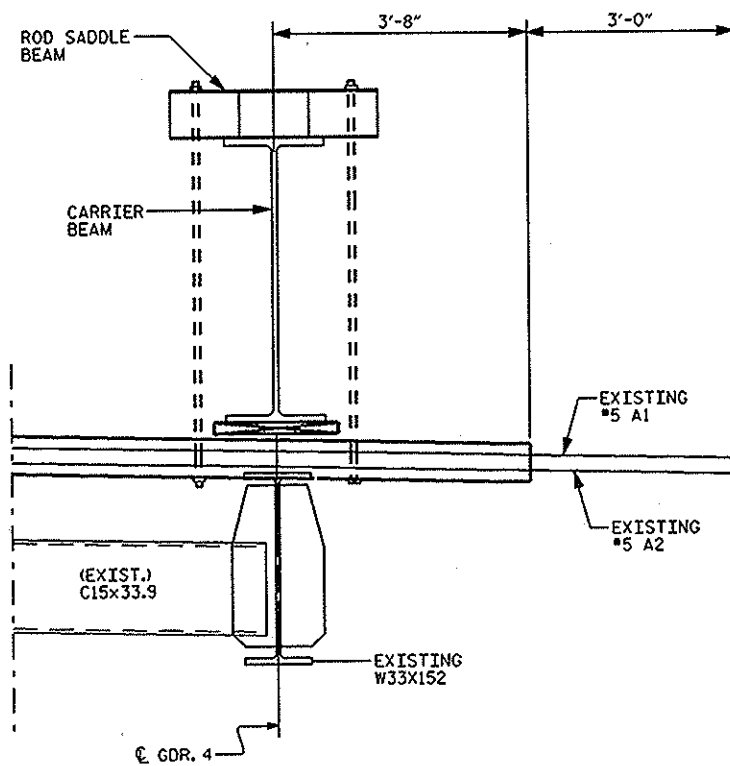
REVISIONS				SHEET NO. S-1
NO.	BY	DATE	TOTAL SHEETS	
1			3	7
2			4	

NOTES:

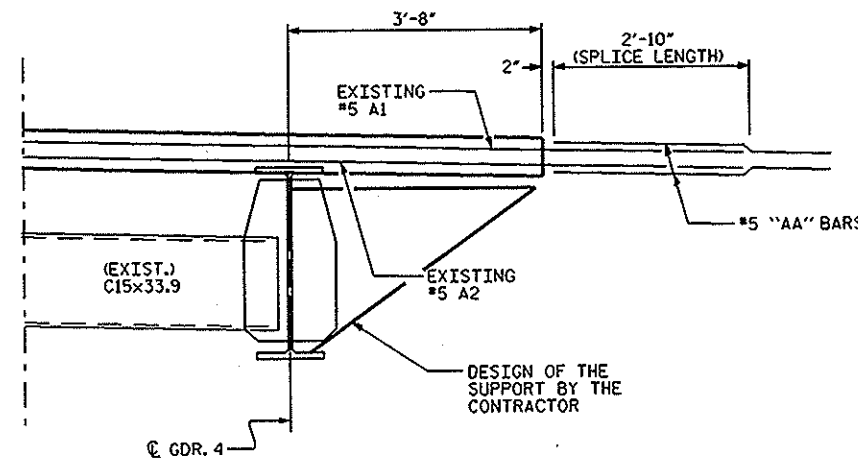
1. THE CARRIER BEAM SHALL BE IN PLACE PRIOR TO DECK REMOVAL.
2. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN OF THE TEMPORARY SUPPORT OF THE PARTIAL DECK AT BAY 4.
3. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN OF THE CARRIER BEAM ASSEMBLY.



PARTIAL PLAN SPAN C
(AFTER CONCRETE REMOVAL)



SECTION A-A
(AFTER CONCRETE REMOVAL)



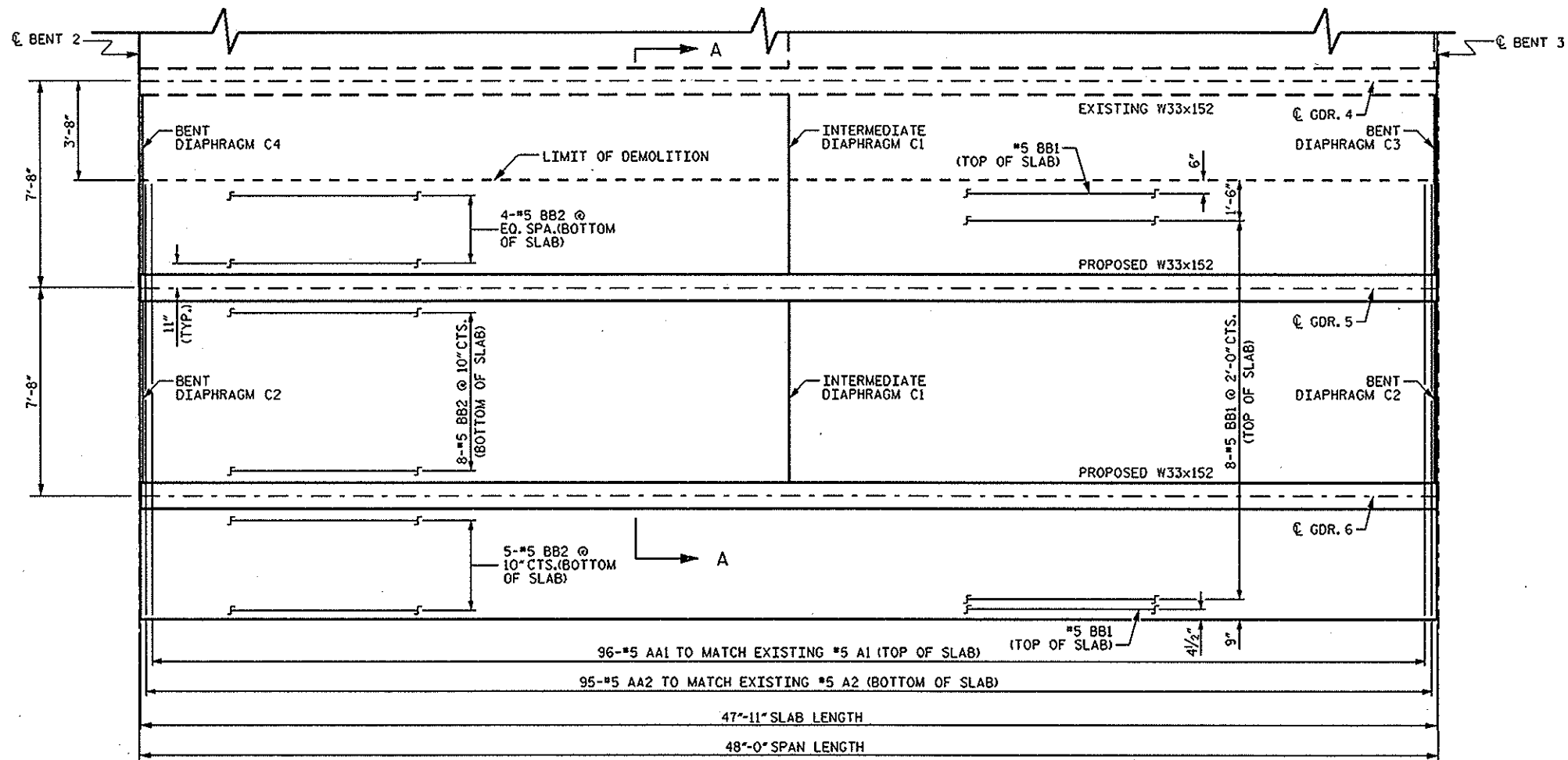
SECTION A-A
(SPlice DETAIL)

PROJECT NO. 9B.102913
DAVIDSON COUNTY
 STATION: 136+42.7

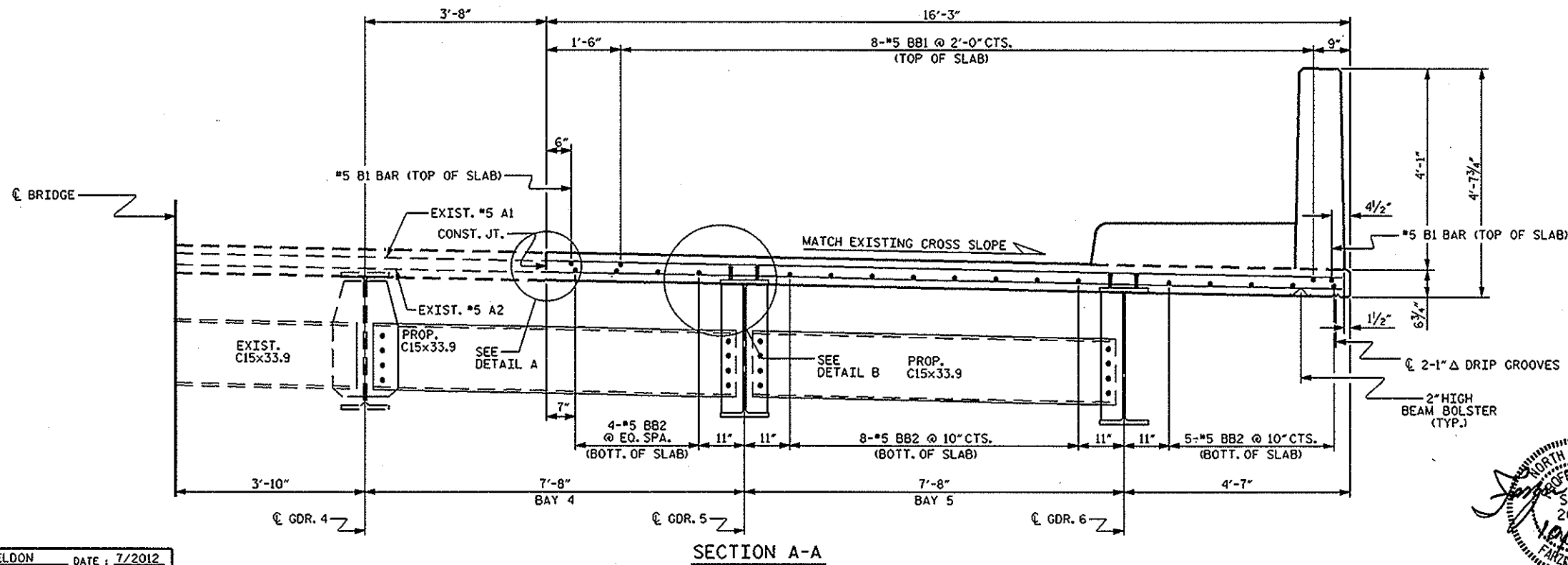
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
PARTIAL PLAN & SECTIONS SPAN 'C' DEMOLITION					
BRIDGE NO. 27					
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
					SHEET NO. S-2
					TOTAL SHEETS 7



DRAWN BY: M. WELDON DATE: 7/2012
 CHECKED BY: F. ASEFNIA DATE: 7/2012



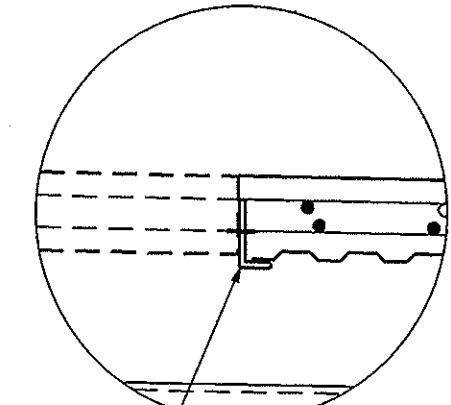
PARTIAL PLAN OF SPAN C



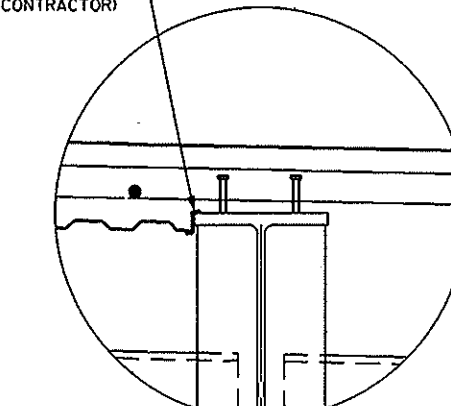
SECTION A-A

NOTES:

1. THE SIP SUPPORTS IN DETAILS A AND B ARE FOR ILLUSTRATION ONLY. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN OF THESE SUPPORTS OR ANY OTHER SUPPORTING SCHEME. A DETAILED DESIGN AND SHOP DRAWINGS SHALL BE SUBMITTED FOR REVIEW AND APPROVAL.
2. PLACING AND FINISHING THE BRIDGE DECK SHALL BE DONE IN ACCORDANCE WITH SECTION 420 OF THE STANDARD SPECIFICATIONS.



DETAIL A



DETAIL B

PROJECT NO. 9.B102913
 DAVIDSON COUNTY
 STATION: 136+42.7 -L-

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

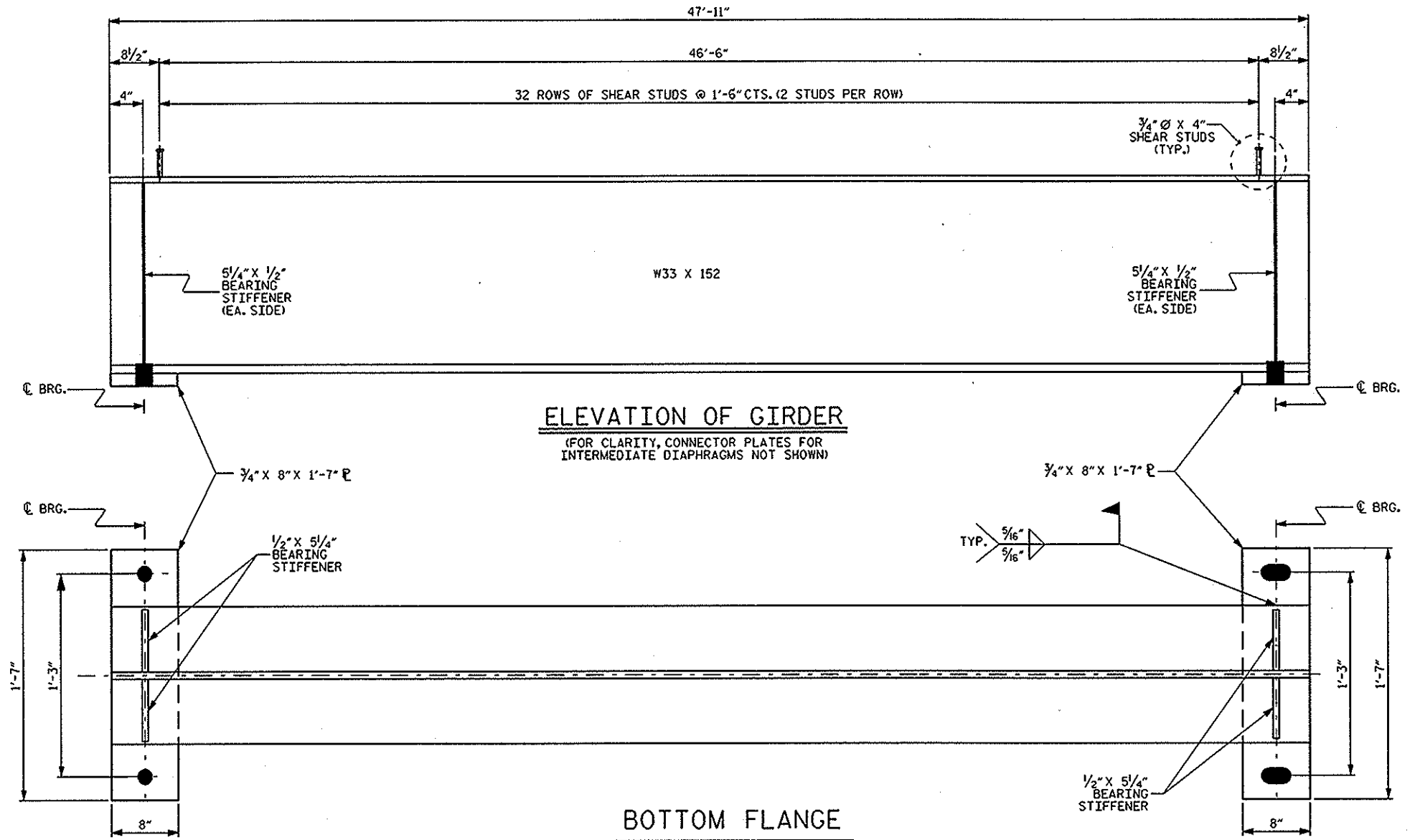
PARTIAL PLAN & SECTIONS
 SPAN 'C' REPAIRED

BRIDGE NO. 27

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

SHEET NO. S-3
 TOTAL SHEETS 7

DRAWN BY: M. WELDON DATE: 7/2012
 CHECKED BY: F. ASEFNIA DATE: 7/2012



NOTES

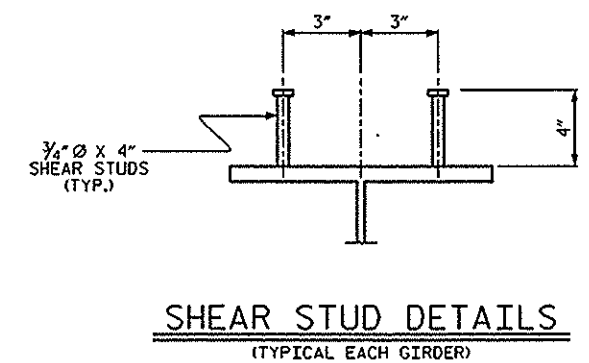
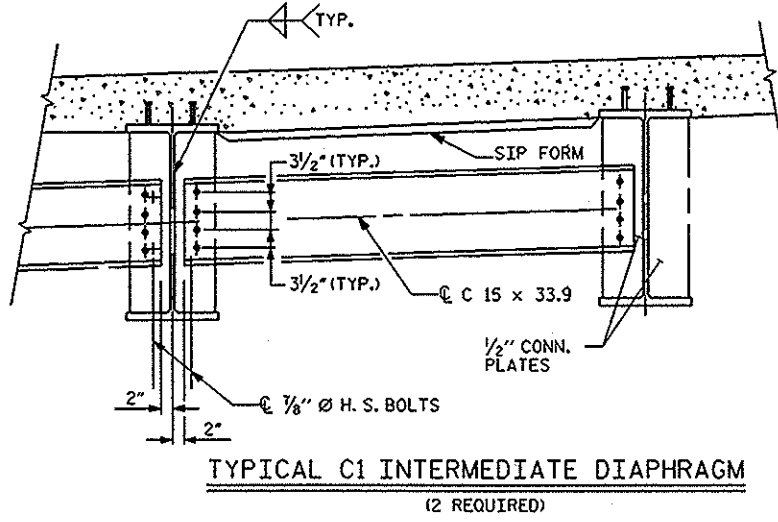
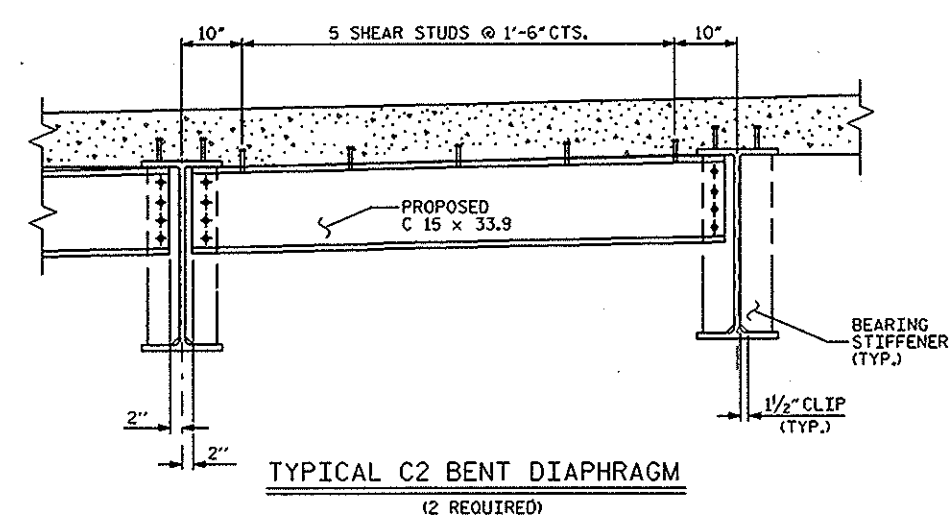
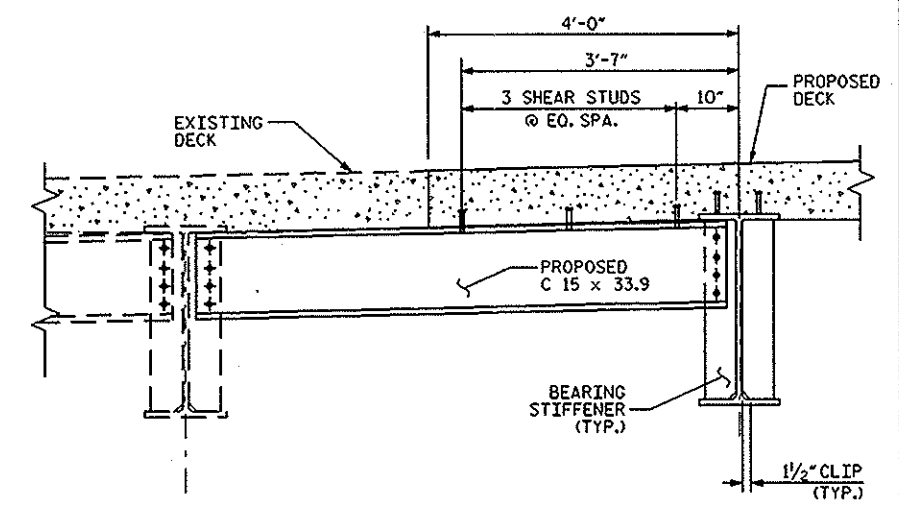
THE CONTRACTOR IS RESPONSIBLE FOR SUBMITTING SHOP DRAWINGS. SEE SPECIAL PROVISIONS.

THE MINIMUM YIELD STRENGTH OF THE GIRDERS SHALL BE 50 KSI.

THE CONTRACTOR SHALL MAINTAIN A DECK THICKNESS OF 6 3/4" FOR NEW CONSTRUCTION.

FOR STRUCTURAL STEEL, SEE SECTION 440 OF THE STANDARD SPECIFICATIONS.

ALL STRUCTURAL STEEL COMPONENTS SHALL BE PAINTED IN ACCORDANCE WITH SECTION 442-8 OF THE STANDARD SPECIFICATIONS, SYSTEM 1.



PROJECT NO. 9B.102913
DAVIDSON COUNTY
STATION: 136+42.7 -L-

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

**SUPERSTRUCTURE
STRUCTURAL STEEL
DETAILS**

REVISIONS				SHEET NO.	
NO.	BY	DATE	NO.	BY	DATE
1			3		
2			4		

TOTAL SHEETS: 7

DRAWN BY: M. WELDON DATE: 7/2012
CHECKED BY: F. ASEFNIA DATE: 7/2012

NOTES

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

THE 2" Ø PIPE SLEEVE SHALL BE CUT FROM SCHEDULE 40 PVC PLASTIC PIPE. THE PVC PLASTIC PIPE SHALL MEET THE REQUIREMENTS OF ASTM D1785.

THE PAYMENT FOR THE PIPE SLEEVES SHALL BE INCLUDED IN THE SEVERAL PAY ITEMS.

SOLE PLATES, BOLTS, NUTS, AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH SECTION 1076 OF THE STANDARD SPECIFICATIONS OR PER ADHESIVE ANCHOR MANUFACTURERS' RECOMMENDATION.

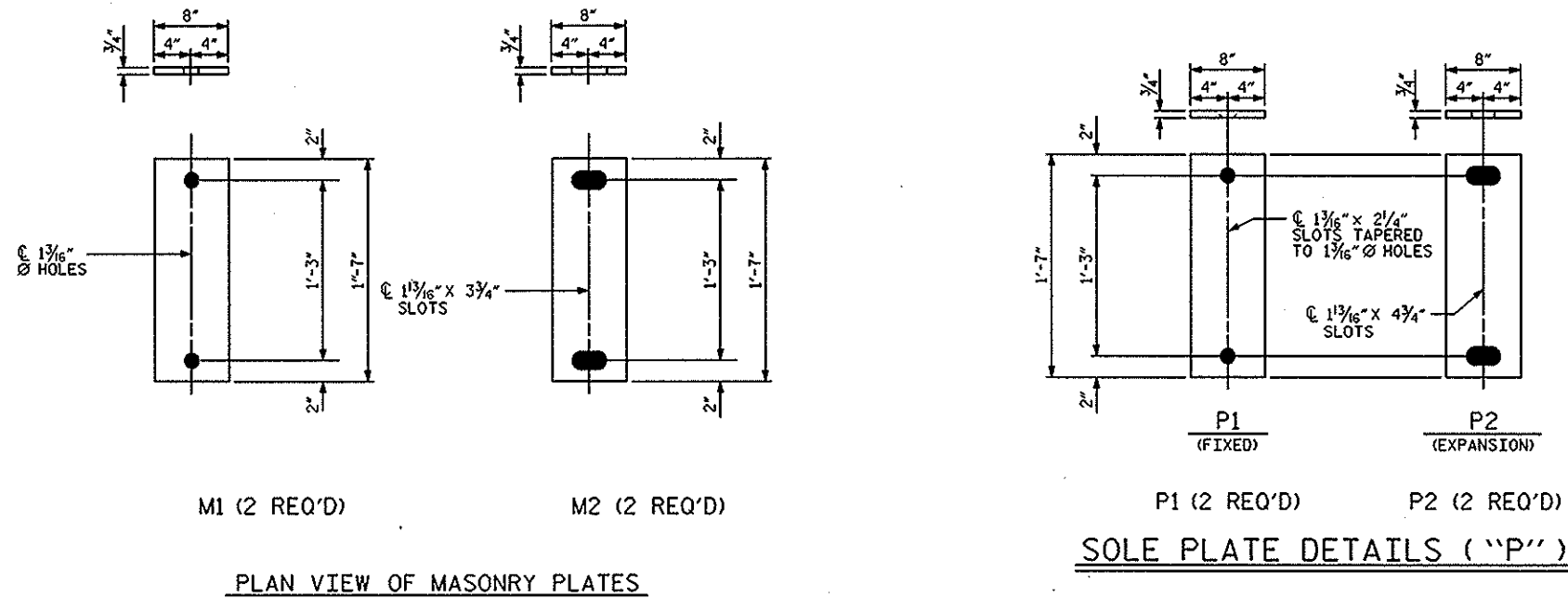
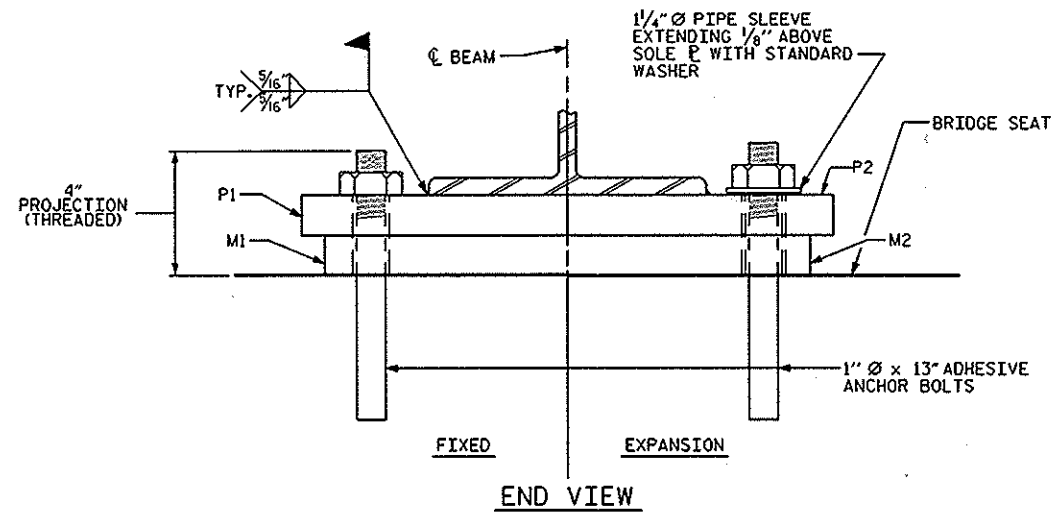
WHEN FIELD WELDING THE SOLE PLATE TO THE GIRDER FLANGE, USE TEMPERATURE INDICATING WAX PENS, OR OTHER SUITABLE MEANS, TO ENSURE THAT THE TEMPERATURE OF THE SOLE PLATE DOES NOT EXCEED 300°F. TEMPERATURES ABOVE THIS MAY DAMAGE THE ELASTOMER.

REMOVE GALVANIZING OR ANY OTHER COATING AT THE LOCATION OF FIELD WELDS AND PREPARE THE WELD AREAS AS PER ARTICLE 440-7 OF THE STANDARD SPECIFICATION.

AFTER COMPLETION OF FIELD WELDING, THE WELDS AND AREAS WHERE GALVANIZING HAS BEEN REMOVED OR DAMAGED SHALL BE REPAIRED IN ACCORDANCE WITH STANDARD SPECIFICATIONS.

ALL SURFACES OF BEARING PLATES SHALL BE SMOOTH AND STRAIGHT.

FOR HIGH STRENGTH BOLTS, SEE STANDARD SPECIFICATIONS.

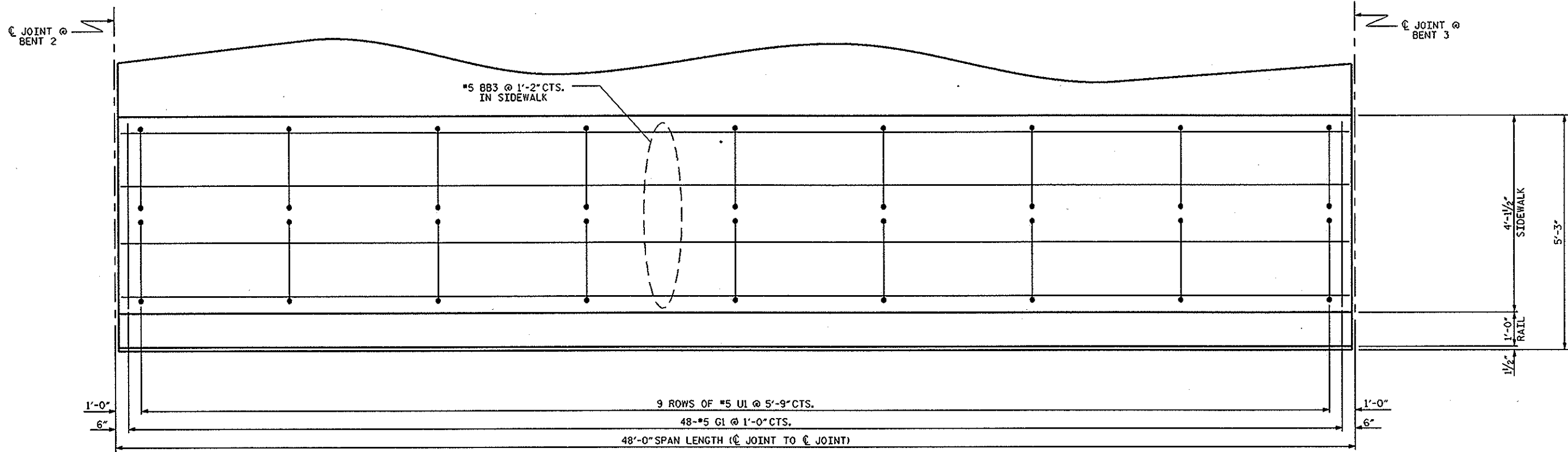


PROJECT NO. 9B.102913
DAVIDSON COUNTY
 STATION: 135+42.7 -L-

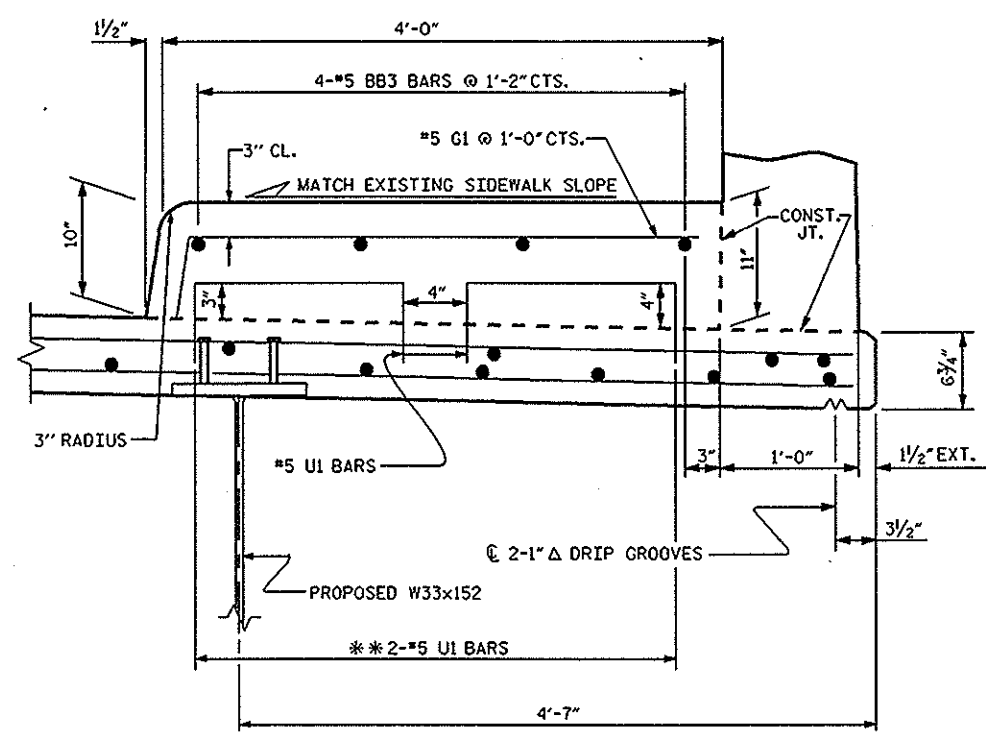
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
BEARING DETAILS					
BRIDGE NO. 27					
REVISIONS					SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
					S-5
					TOTAL SHEETS 7

DRAWN BY : M. WELDON DATE : 07/12
 CHECKED BY : F. ASEFNIA DATE : 07/12





PLAN OF SIDEWALK



SECTION THRU SIDEWALK

** UI BARS MAY BE PUSHED INTO GREEN CONCRETE AFTER SPAN HAS BEEN SCREEDED OFF.

NOTES

THE SIDEWALK SHALL NOT BE CAST UNTIL ALL SLAB CONCRETE IN THE UNIT HAS BEEN CAST AND HAS REACHED A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI.

FOR SIDEWALK REINFORCEMENT AND CONCRETE QUANTITIES, SEE "BILL OF MATERIAL" SHEET.

GROOVED CONTRACTION JOINTS, 1/2" IN DEPTH, SHALL BE TOOLED IN ALL EXPOSED FACES OF THE SIDEWALK IN ACCORDANCE WITH ARTICLE 825-101(B) OF THE STANDARD SPECIFICATIONS. THE CONTRACTION JOINTS SHALL BE LOCATED AT A SPACING OF 8 FEET TO 10 FEET BETWEEN EXPANSION JOINTS. NO CONTRACTION JOINTS WILL BE REQUIRED FOR SEGMENTS LESS THAN 10 FEET IN LENGTH.

PROJECT NO. 9B.102913
 DAVIDSON COUNTY
 STATION: 136+42.7 -L-

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

SUPERSTRUCTURE
 SIDEWALK DETAILS
 BRIDGE NO. 27

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-6
1			3			TOTAL SHEETS
2			4			7

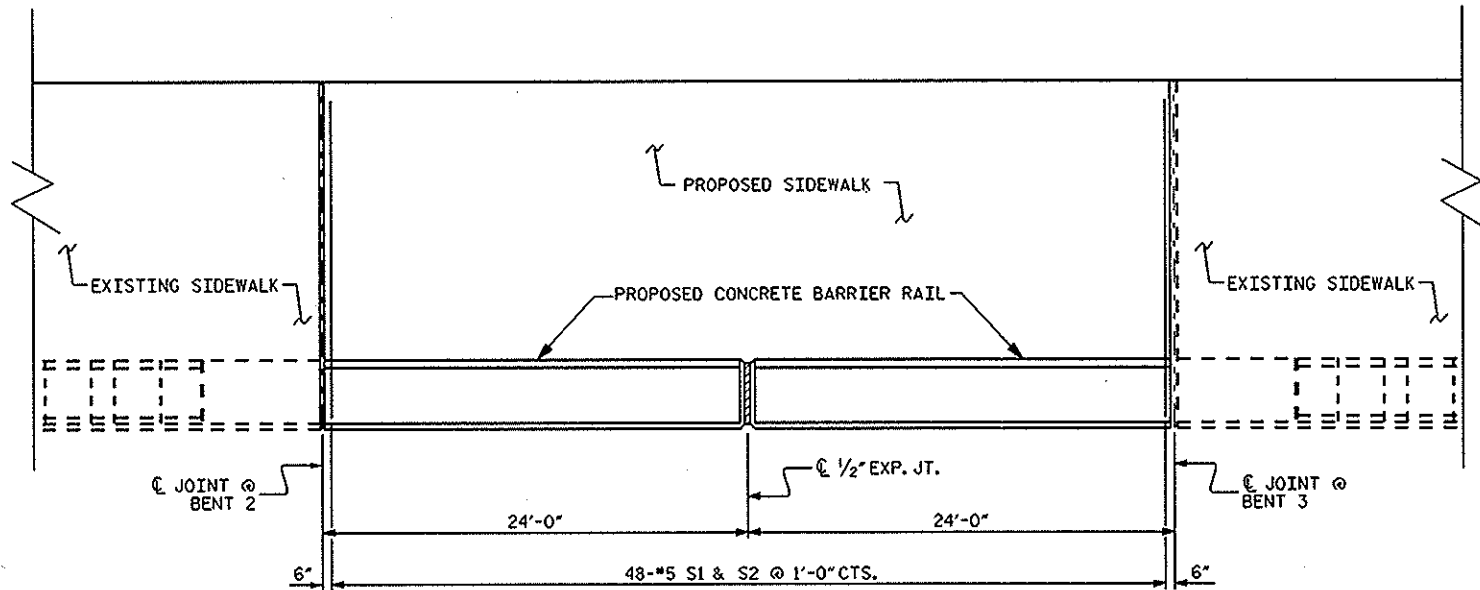
DRAWN BY: D.V. JOYNER DATE: 8/2012
 CHECKED BY: F. ASEFNIA DATE: 8/2012



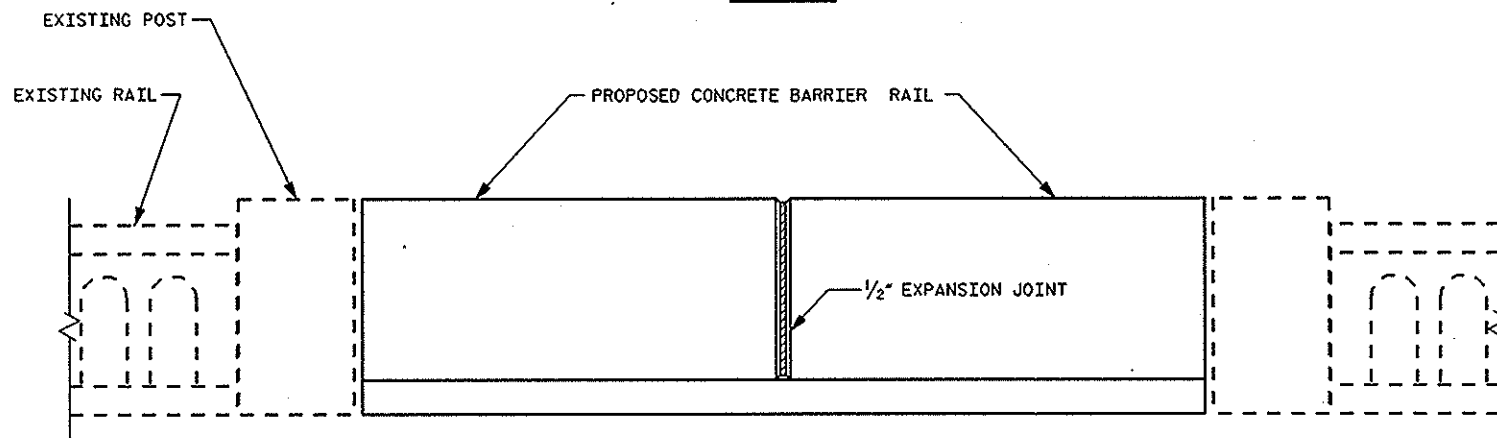
NOTES

THE BARRIER RAIL IN SPAN C SHALL NOT BE CAST UNTIL ALL SLAB CONCRETE IN THAT SPAN HAS BEEN CAST AND HAS REACHED A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI.

GROOVED CONTRACTION JOINTS, 1/2" IN DEPTH, SHALL BE TOOLED IN ALL EXPOSED FACES OF THE BARRIER RAIL AND IN ACCORDANCE WITH ARTICLE 825-10(B) OF THE STANDARD SPECIFICATIONS. THE CONTRACTION JOINT SHALL BE LOCATED AT EACH THIRD POINT BETWEEN BARRIER RAIL EXPANSION JOINTS. ONLY ONE CONTRACTION JOINT IS REQUIRED AT MIDPOINT OF BARRIER RAIL SEGMENTS LESS THAN 20 FEET IN LENGTH AND NO CONTRACTION JOINTS ARE REQUIRED FOR THOSE SEGMENTS LESS THAN 10 FEET IN LENGTH.



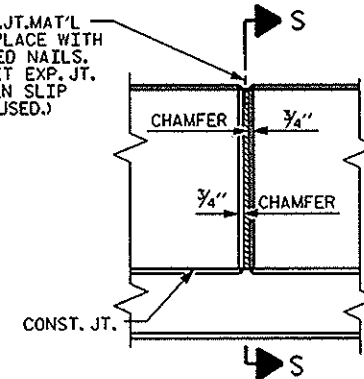
PLAN



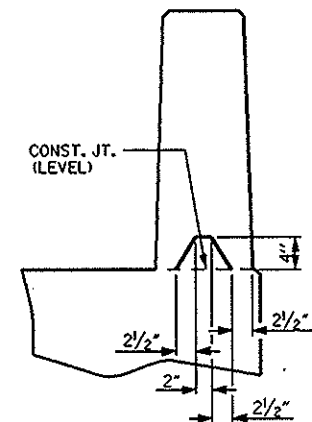
ELEVATION

BAR TYPES						BAR TYPES					
ALL BAR DIMENSIONS ARE OUT TO OUT						ALL BAR DIMENSIONS ARE OUT TO OUT					
BILL OF MATERIAL											
FOR DECK SLAB AND SIDEWALK											
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT						
AA1	96	#5	STR	15'-11"	1594						
AA2	95	#5	STR	15'-11"	1577						
BB1	10	#5	STR	47'-7"	496						
BB2	17	#5	STR	47'-7"	844						
BB3	4	#5	STR	47'-7"	199						
SI	48	#5	1	6'-7"	330						
S2	48	#5	2	8'-2"	409						
UI	18	#5	4	2'-8"	50						
REINFORCING STEEL					4973 LBS.	REINFORCING STEEL					1231 LBS.
CLASS "AA" CONCRETE					22.8 CU. YDS.	CLASS "AA" CONCRETE					6.6 CU. YDS.

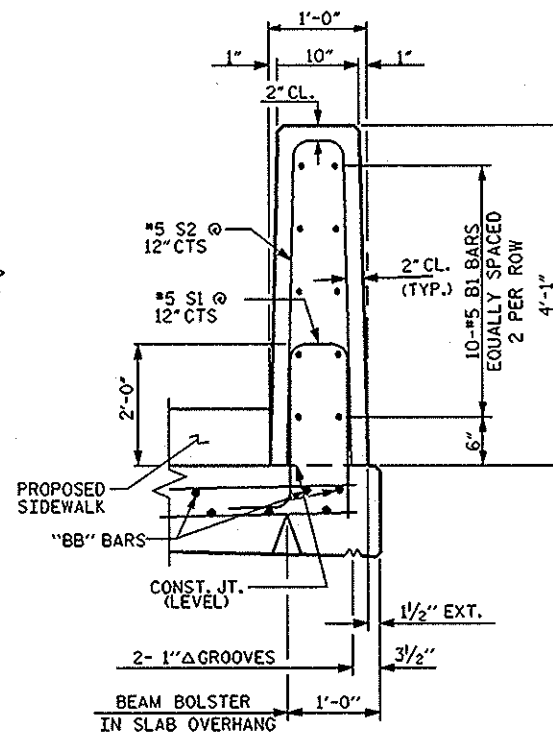
1/2" EXP. JT. MAT'L HELD IN PLACE WITH GALVANIZED NAILS. (NOTE: OMIT EXP. JT. MAT'L WHEN SLIP FORM IS USED.)



BARRIER RAIL EXPANSION JT.



SECTION S-S
AT DAM IN OPEN JOINT
(THIS IS TO BE USED ONLY WHEN SLIP FORM IS USED)



SECTION THRU RAIL

PROJECT NO. 9B.102913
DAVIDSON COUNTY
STATION: 136+42.7 -L-

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

VERTICAL CONCRETE BARRIER RAIL AND BILL OF MATERIAL BRIDGE NO. 27

SHEET NO.	
S-7	TOTAL SHEETS
7	7

ASSEMBLED BY: D. PLATICA	DATE: 8/2012
CHECKED BY: F. ASEFMA	DATE: 8/2012
DRAWN BY: MAA 5/10	ADDED 5/6/10
CHECKED BY: GM 5/10	REV. 10/1/11
	REV. 12/5/11