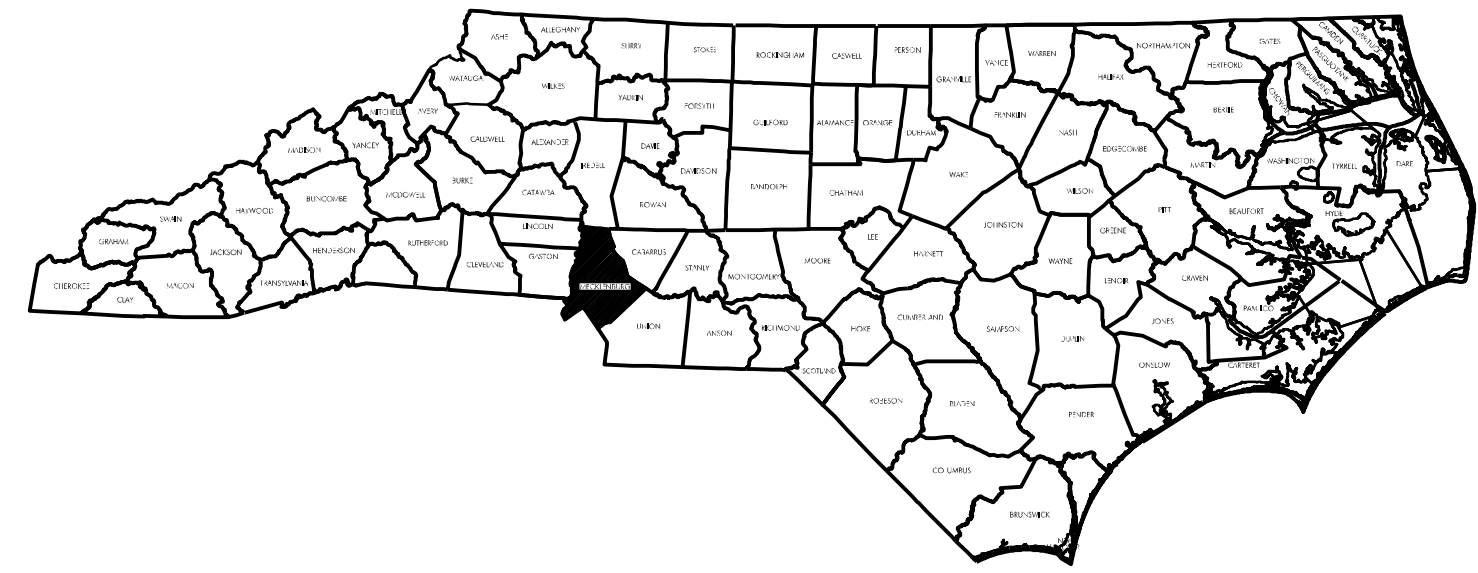


CONTRACT: DJ00489 TIP PROJECT: I-5838

STRUCTURES



STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

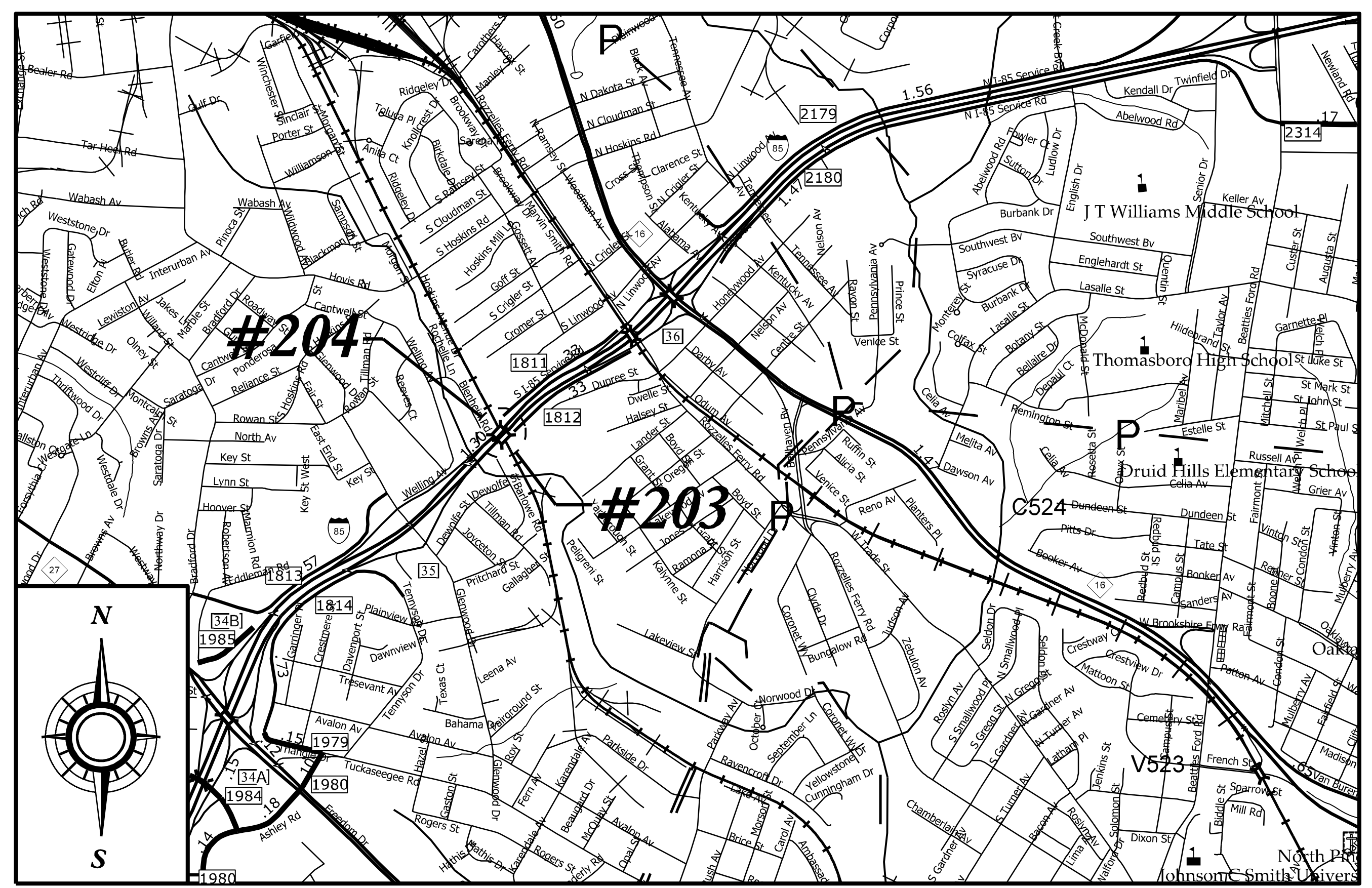
MECKLENBURG COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	I-5838	1	13
STATE PROJECT NO.	F. A. PROJ. NO.	DESCRIPTION	
53044.1.1	0085065	PE	
53044.3.1	0085065	CONSTR.	

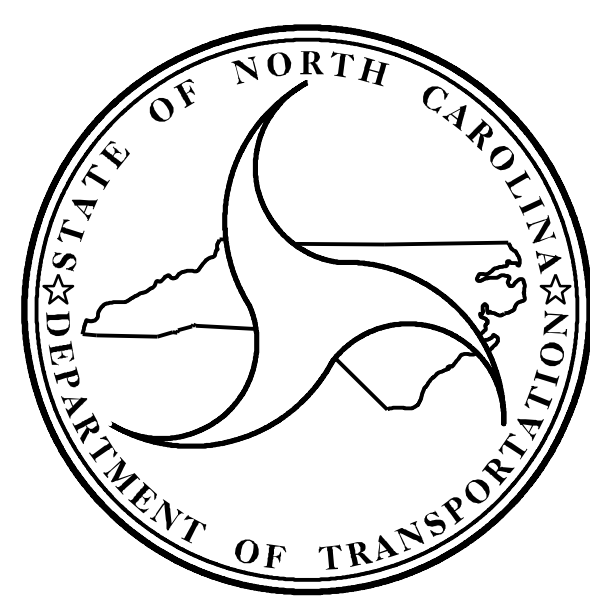
LOCATION: BRIDGE #590203 ON I-85 NBL 0.6 MILES SOUTH OF JUNCTION NC16 OVER SEABOARD COASTLINE RAILROAD

BRIDGE #590204 ON I-85 SBL 0.6 MILES SOUTH OF JUNCTION NC16 OVER SEABOARD COASTLINE RAILROAD

TYPE OF WORK: BRIDGE PRESERVATION - SILANE DECK TREATMENT, JOINT REPLACEMENT



VICINITY MAP - MECKLENBURG CO.



DESIGN DATA

BRIDGE #203 ADT 2018 = 68,500
BRIDGE #204 ADT 2013 = 62,000

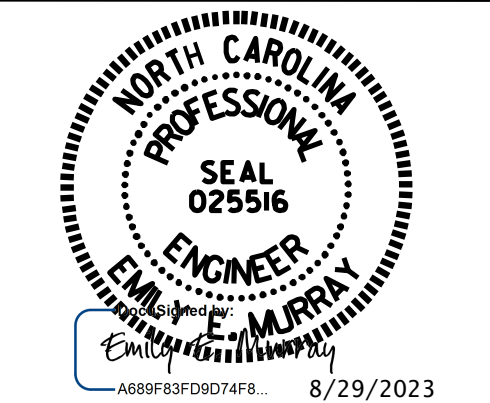
PROJECT LENGTH

PROJECT LENGTH #203 = 0.027 MI
PROJECT LENGTH #204 = 0.027 MI

NCDOT CONTACT: TIM SHERRILL, PE
PROJECT MANAGER

Prepared for:
STRUCTURES MANAGEMENT UNIT
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

2018 STANDARD SPECIFICATIONS
LETTING DATE:
OCTOBER 18, 2023

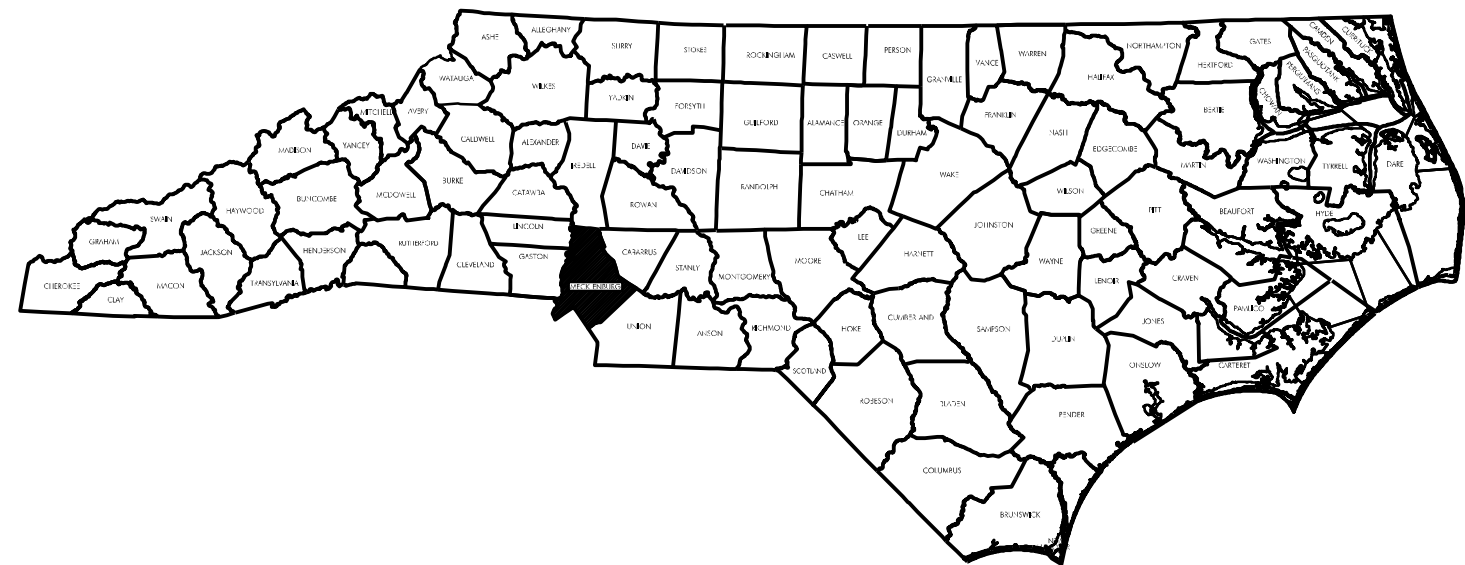


EMILY MURRAY, PE
PROJECT ENGINEER

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Raleigh, NC 27607
Tel. 919-854-0344 Fax. 919-854-0355
NC License No. F-0765

TIP PROJECT: I-5838

CONTRACT: DJ00489



**STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS**

MECKLENBURG COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	I-5838	1A	13
STATE PROJECT NO.	F. A. PROJ. NO.	DESCRIPTION	
53044.1.1	0085065	PE	
53044.3.1	0085065	CONSTR.	

LOCATION: BRIDGE #590203 ON I-85 NBL 0.6 MILES SOUTH OF JUNCTION NC16
OVER SEABOARD COASTLINE RAILROAD

BRIDGE #590204 ON I-85 SBL 0.6 MILES SOUTH OF JUNCTION NC16
OVER SEABOARD COASTLINE RAILROAD

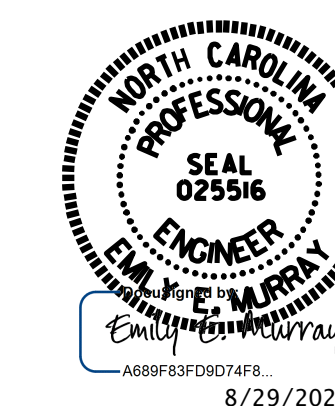
TYPE OF WORK: BRIDGE PRESERVATION - SILANE DECK TREATMENT, JOINT REPLACEMENT

INDEX OF SHEETS

STRUCTURE NO.	DESCRIPTION	SHEET NUMBER
	TITLE SHEET	
	INDEX OF SHEETS & SUMMARY OF QUANTITIES	
	LOCATION SKETCH	S-1
590203	BRIDGE ON I-85 NBL OVER SEABOARD COASTLINE RAILROAD	S-2 TO S-6
590204	BRIDGE ON I-85 SBL OVER SEABOARD COASTLINE RAILROAD	S-7 TO S-11
	JOINT REPAIR DETAILS	S-12 TO S-13
	STANDARD NOTES	SN

TOTAL BILL OF MATERIAL

BRIDGE NO.	FOAM JOINT SEALS FOR PRESERVATION	ELASTOMERIC CONCRETE FOR PRESERVATION	BRIDGE JOINT DEMOLITION	SILANE DECK TREATMENT	SHOTBLASTING BRIDGE DECK
	LIN. FT.	CU. FT.	SQ. FT.	SQ. YDS.	SQ. YDS.
590203	340.0	84.0	336.0	1427.1	1427.1
590204	340.0	84.0	336.0	1427.1	1427.1
TOTAL	680.0	168.0	672.0	2854.2	2854.2



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SIGNATURES COMPLETED

8/29/2023



BRIDGE NO.	LATITUDE	LONGITUDE
590203	35-15'-26.57"	80°-53'-7.07"
590204	35-15'-27.35"	80°-53'-7.59"

LOCATION SKETCH

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

NOTES

- 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.
- 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.
- 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.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO FOLLOW ALL STATE AND FEDERAL SAFETY REQUIREMENTS.
- WORK ON THE BRIDGES SHALL BE PERFORMED SO AS NOT TO ALLOW DEBRIS TO FALL BELOW, EXCEPT WHERE THE CONTRACTORS PLAN USE 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 CONTRACTORS OPERATIONS, SHALL BE REPAIRED AS DIRECTED BY THE ENGINEER AND PERFORMED AT NO ADDITIONAL COST TO THE DEPARTMENT.
- 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 SHOTBLASTING BRIDGE DECK AND SILANE DECK TREATMENT, SEE SILANE DECK TREATMENT SPECIAL PROVISION.
- FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.
- FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.
- FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.
- FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.
- FOR BRIDGE JOINT DEMOLITION, SEE SPECIAL PROVISIONS.
- FOR ELASTOMERIC CONCRETE FOR PRESERVATION, SEE SPECIAL PROVISIONS.
- FOR FOAM JOINT SEALS FOR PRESERVATION, SEE SPECIAL PROVISIONS.

SCOPE OF WORK

- PERFORM JOINT DEMOLITION AND RECONSTRUCT BRIDGE JOINTS.
- PERFORM SHOTBLASTING AND APPLY SILANE DECK TREATMENT.

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

RESIDENT ENGINEER _____ DATE _____

PROJECT NO. I-5838
 MECKLENBURG COUNTY
 BRIDGE NO. 590203 & 590204



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

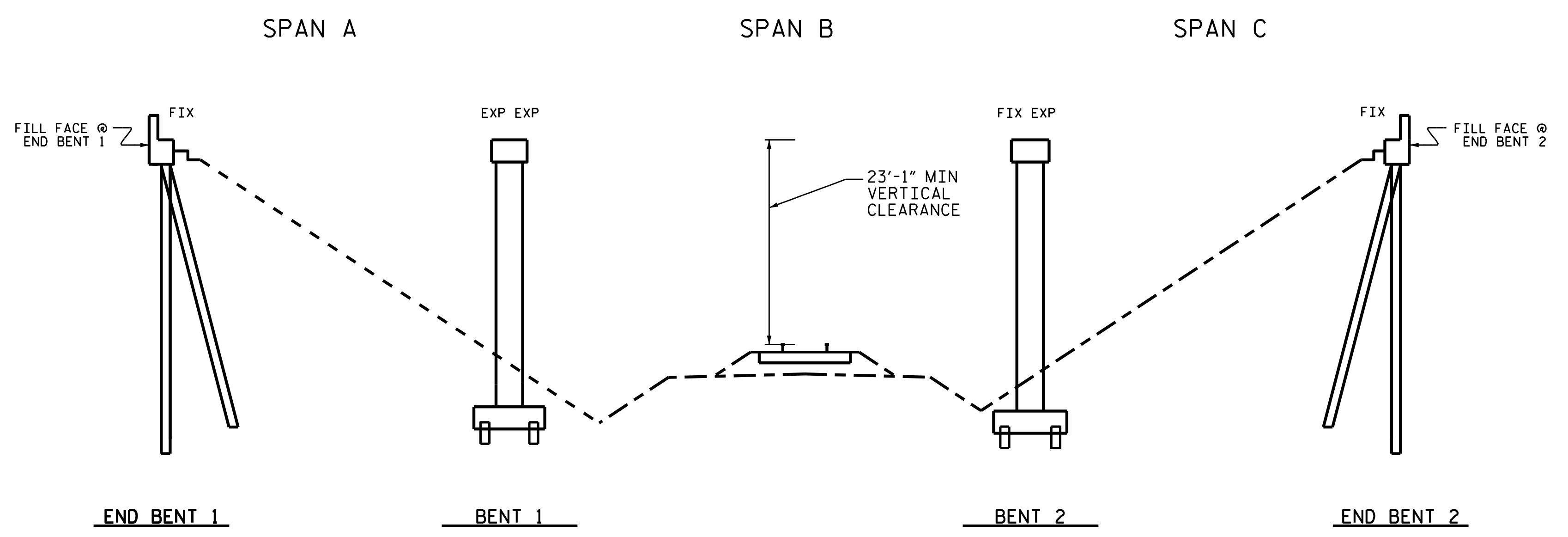
LOCATION SKETCH
 FOR BRIDGES ON I-85 OVER
 SEABOARD COASTLINE RAILROAD

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 5430 Wade Park Blvd, Suite 410
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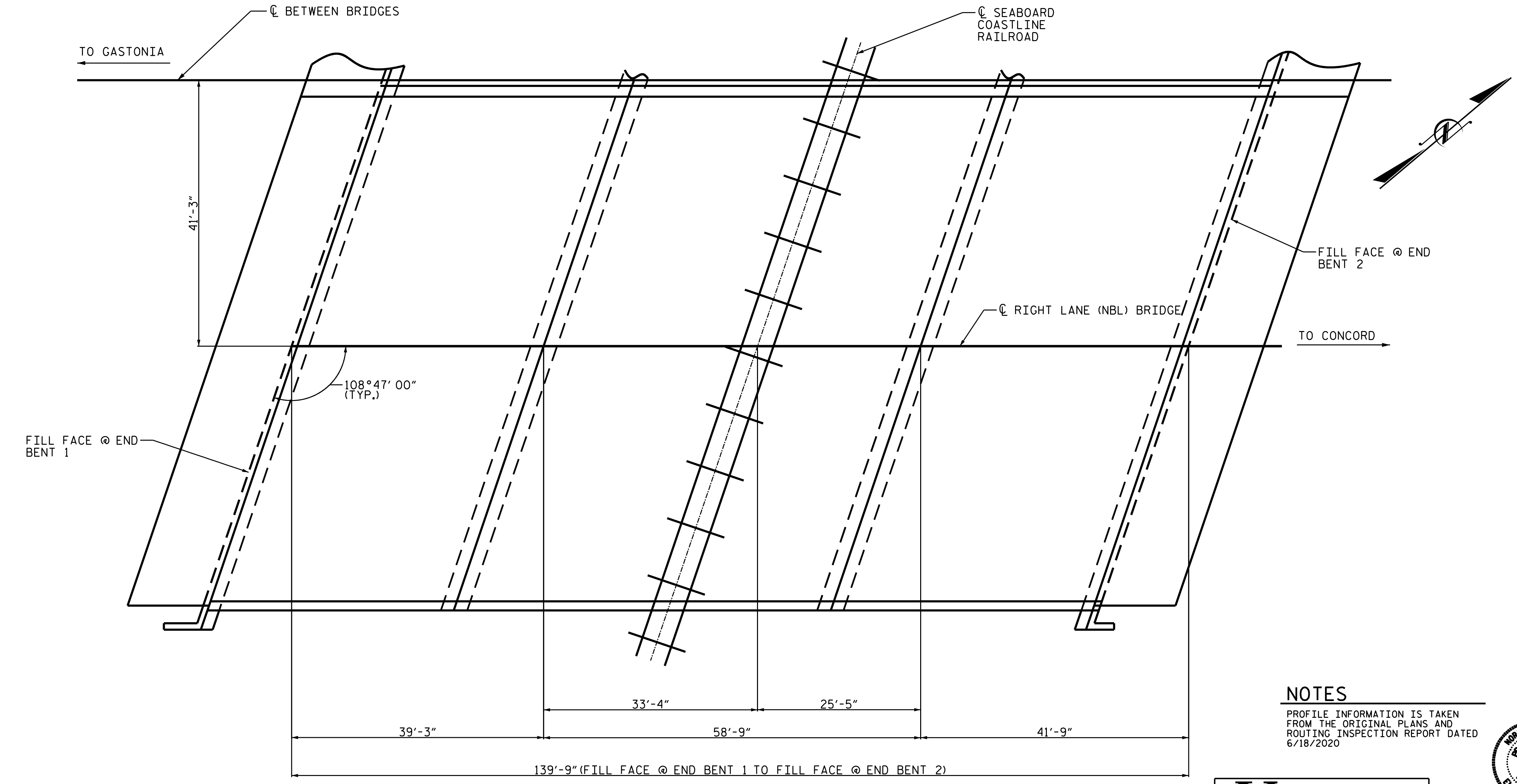
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-1
1			3			TOTAL SHEETS
2			4			52

DRAWN BY : Z.T.THORNTON DATE : 6/22
 CHECKED BY : E.E.MURRAY DATE : 7/22



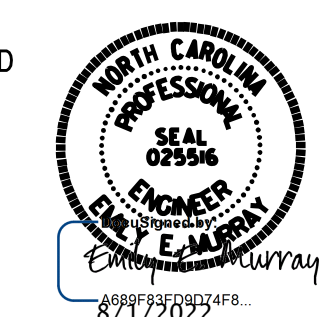
SECTION ALONG C RIGHT LANE (NBL) BRIDGE



PLAN OF NBL BRIDGE

NOTES

PROFILE INFORMATION IS TAKEN FROM THE ORIGINAL PLANS AND ROUTING INSPECTION REPORT DATED 6/18/2020



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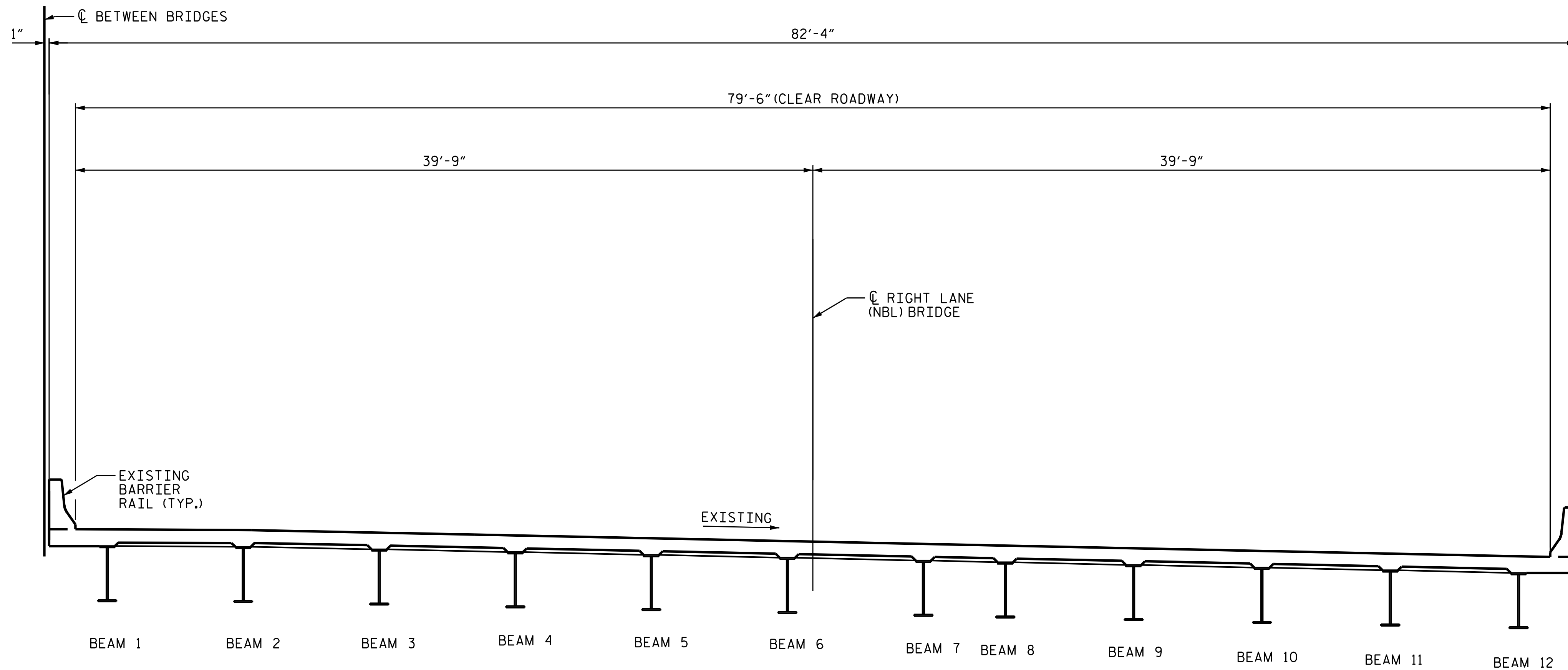
PROJECT NO. I-5838
MECKLENBURG COUNTY
 BRIDGE NO. 590203

SHEET 1 OF 2

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
GENERAL DRAWING
 FOR NBL BRIDGE ON I-85 OVER SEABOARD COASTLINE RAILROAD BETWEEN NC-16 AND NC-27

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			S-2
2			4			13

DRAWN BY : J.BRYANT DATE : 6/15
 CHECKED BY : D.A.GLADDEN DATE : 6/23



EXISTING TYPICAL SECTION

NOTES

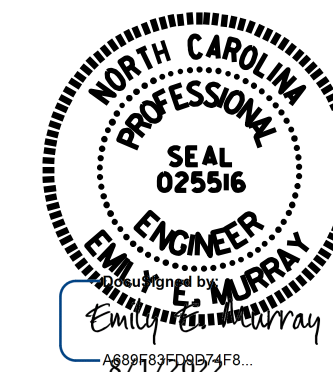
REPAIR LOCATIONS AND ESTIMATED QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE ENGINEER, THE ENGINEER WILL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATIONS AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES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

PROJECT NO. I-5838
MECKLENBURG COUNTY
 BRIDGE NO. 590203

SHEET 2 OF 2

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

TYPICAL SECTION
 RIGHT LANE (NBL)



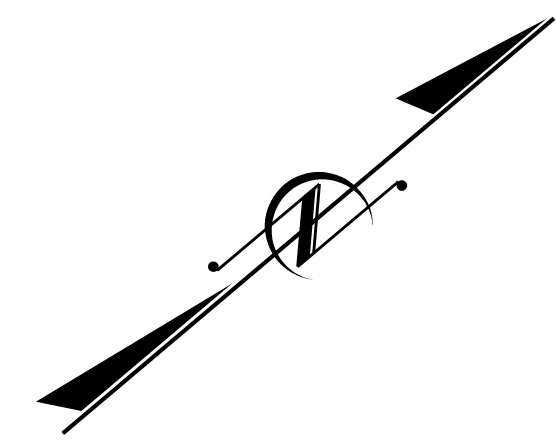
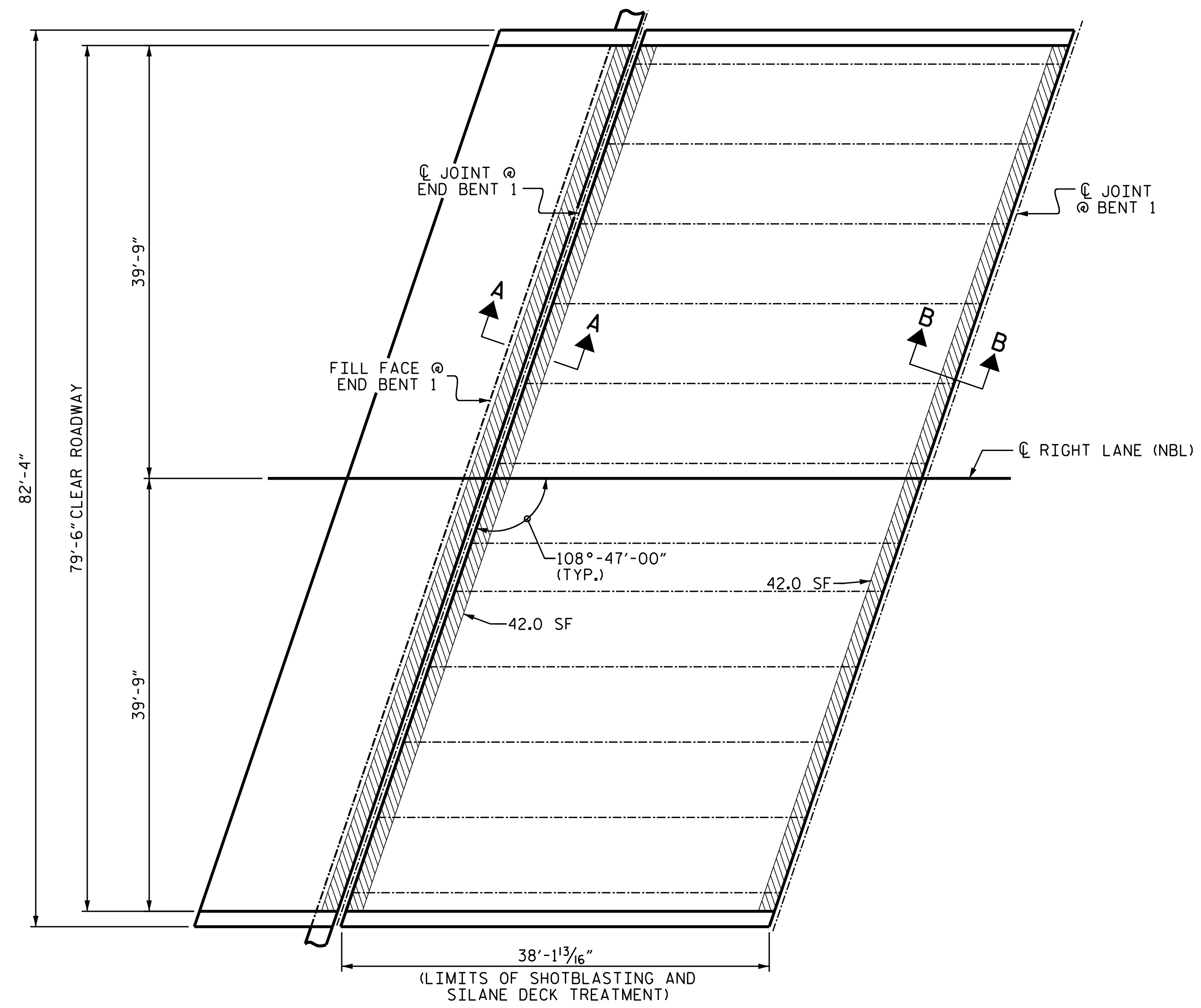
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 SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-3
1			3			TOTAL SHEETS
2			4			13

DRAWN BY : J.BRYANT DATE : 06/16
 CHECKED BY : D.A.GLADDEN DATE : 06/23



AS-BUILT REPAIR QUANTITY TABLE		
TOP OF DECK REPAIRS		
APPROACH SLAB		
	ESTIMATE	ACTUAL
BRIDGE JOINT DEMOLITION	42.0 SF	
SHOTBLASTING OF BRIDGE DECK	106.0 SY	
SILANE DECK TREATMENT	106.0 SY	
SPAN A		
	ESTIMATE	ACTUAL
BRIDGE JOINT DEMOLITION	84.0 SF	
SHOTBLASTING OF BRIDGE DECK	337.0 SY	
SILANE DECK TREATMENT	337.0 SY	

BRIDGE JOINT DEMOLITION

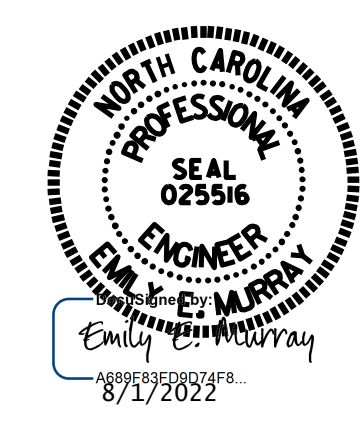
NOTES

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 AS-BUILT REPAIR QUANTITY TABLE.

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

PROJECT NO. I-5838
MECKLENBURG COUNTY
 BRIDGE NO. 590203

SHEET 1 OF 3



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

**PLAN OF SPAN A
 RIGHT LANE (NBL)**

DRAWN BY : J.BRYANT DATE : 6/06
 CHECKED BY : D.A.GLADDEN DATE : 6/22

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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-4
1			3			TOTAL SHEETS
2			4			13

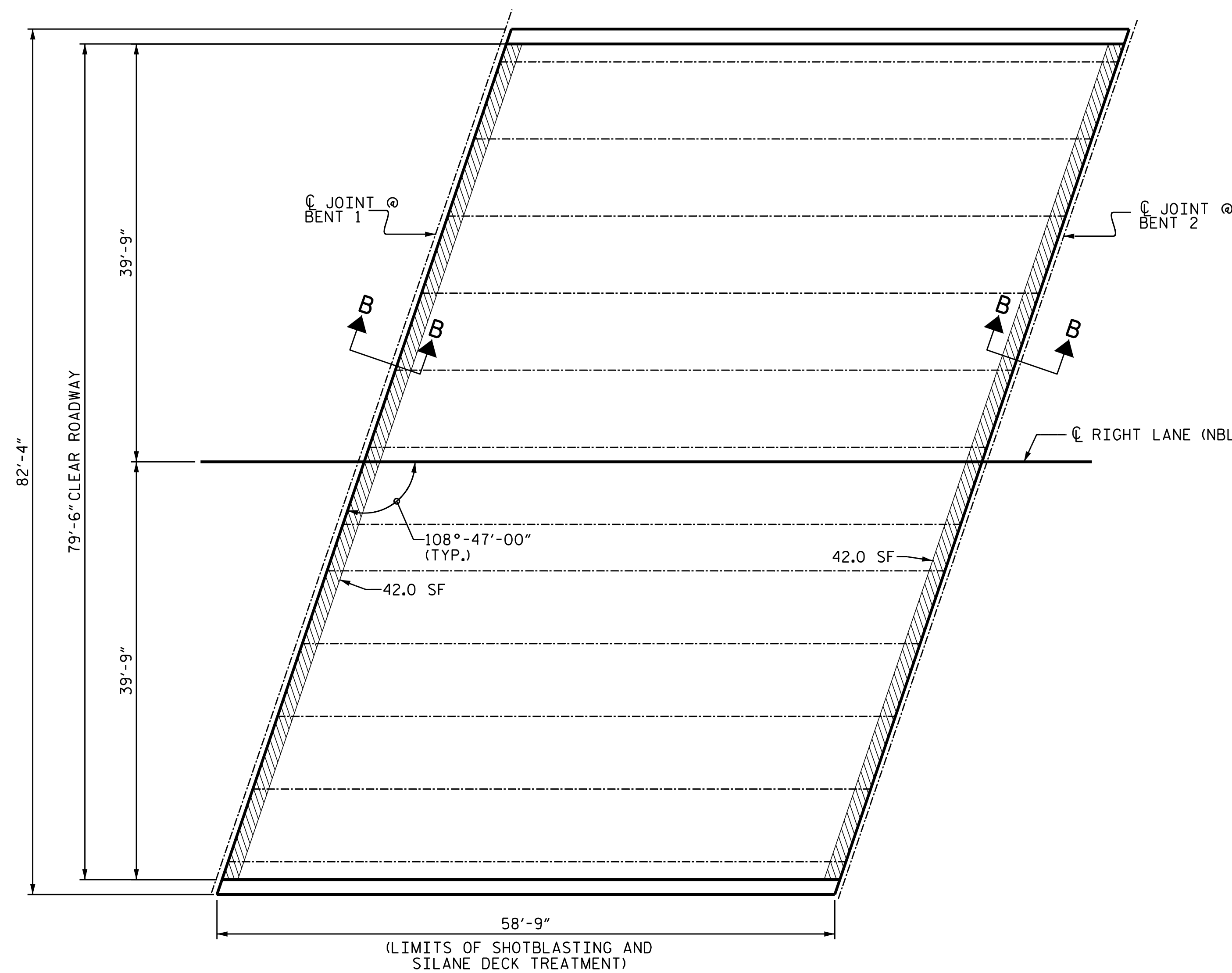
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

AS-BUILT REPAIR QUANTITY TABLE

TOP OF DECK REPAIRS

SPAN B

	ESTIMATE	ACTUAL
BRIDGE JOINT DEMOLITION	84.0 SF	
SHOTBLASTING OF BRIDGE DECK	519.0 SY	
SILANE DECK TREATMENT	519.0 SY	



BRIDGE JOINT DEMOLITION

PLAN OF 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 AS-BUILT REPAIR QUANTITY TABLE.

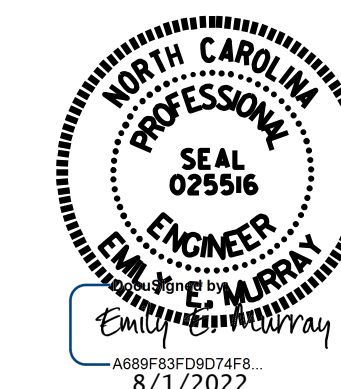
FOR SECTION A-A AND B-B, SEE "JOINT REPAIR DETAILS" SHEET.

PROJECT NO. I-5838
MECKLENBURG COUNTY
 BRIDGE NO. 590203

SHEET 2 OF 3

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

PLAN OF SPAN B
 RIGHT LANE (NBL)



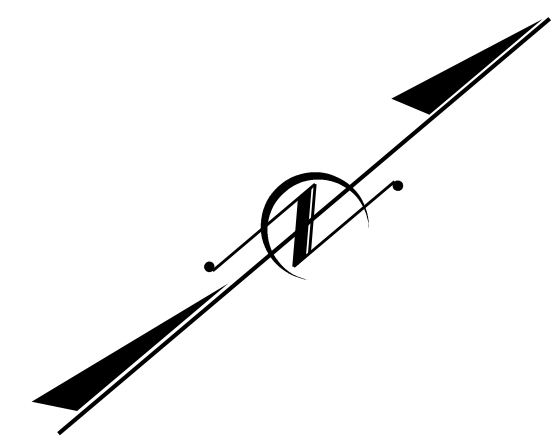
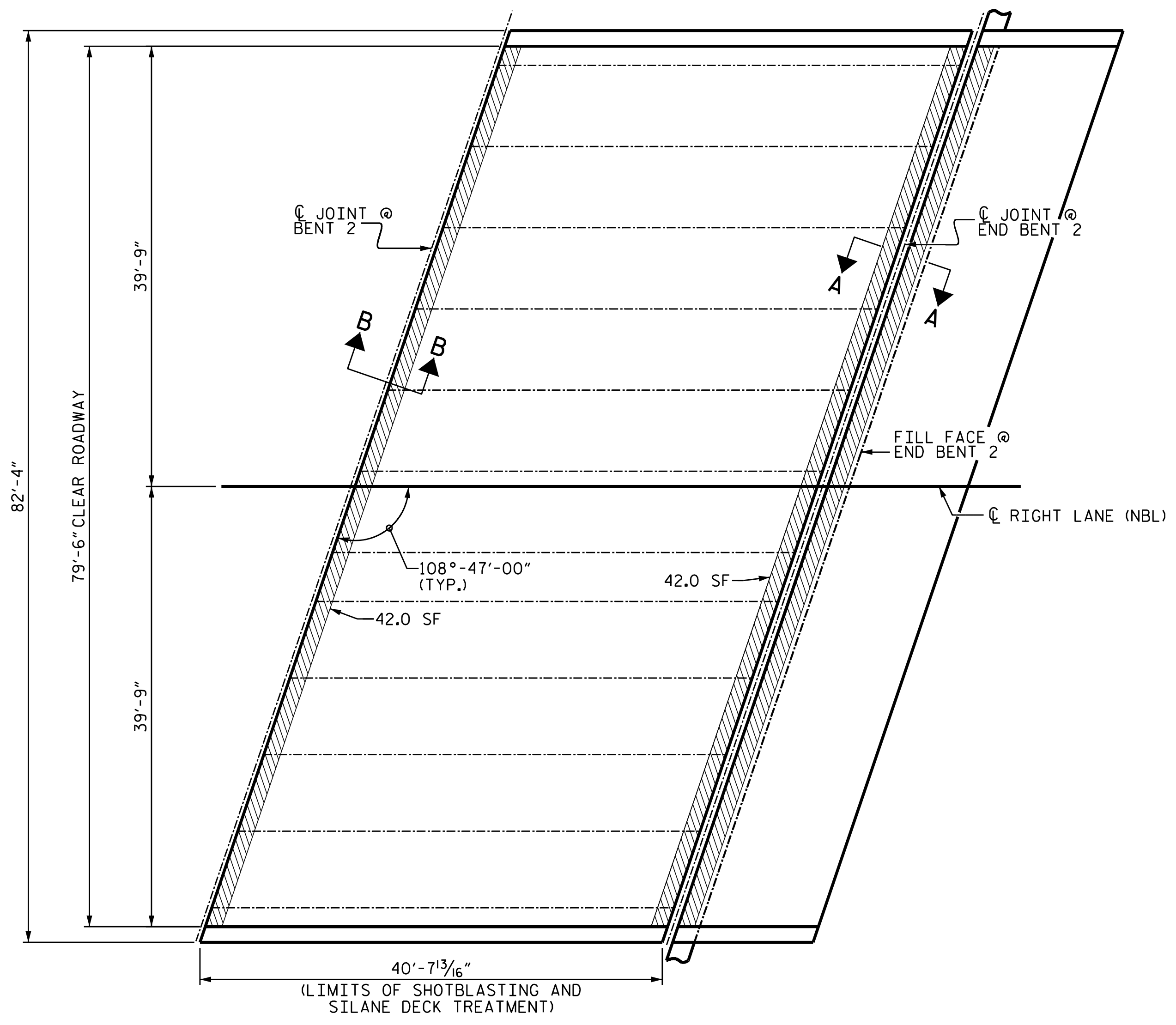
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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-5
1			3			TOTAL SHEETS
2			4			13

DRAWN BY : J.BRYANT DATE : 6/06
 CHECKED BY : D.A.GLADDEN DATE : 6/22



PLAN OF SPAN C

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 AS-BUILT REPAIR QUANTITY TABLE.
 FOR SECTION A-A AND B-B, SEE "JOINT REPAIR DETAILS" SHEET.

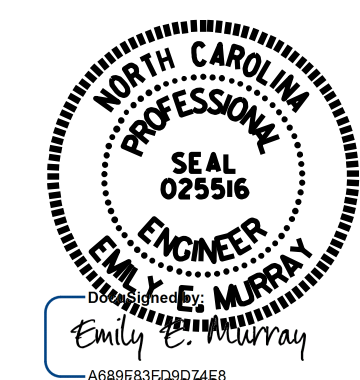
AS-BUILT REPAIR QUANTITY TABLE

TOP OF DECK REPAIRS		
SPAN C		
	ESTIMATE	ACTUAL
BRIDGE JOINT DEMOLITION	84.0 SF	
SHOTBLASTING OF BRIDGE DECK	359.1 SY	
SILANE DECK TREATMENT	359.1 SY	
APPROACH SLAB		
	ESTIMATE	ACTUAL
BRIDGE JOINT DEMOLITION	42.0 SF	
SHOTBLASTING OF BRIDGE DECK	106.0 SY	
SILANE DECK TREATMENT	106.0 SY	

BRIDGE JOINT DEMOLITION

PROJECT NO. I-5838
MECKLENBURG COUNTY
 BRIDGE NO. 590203

SHEET 3 OF 3



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

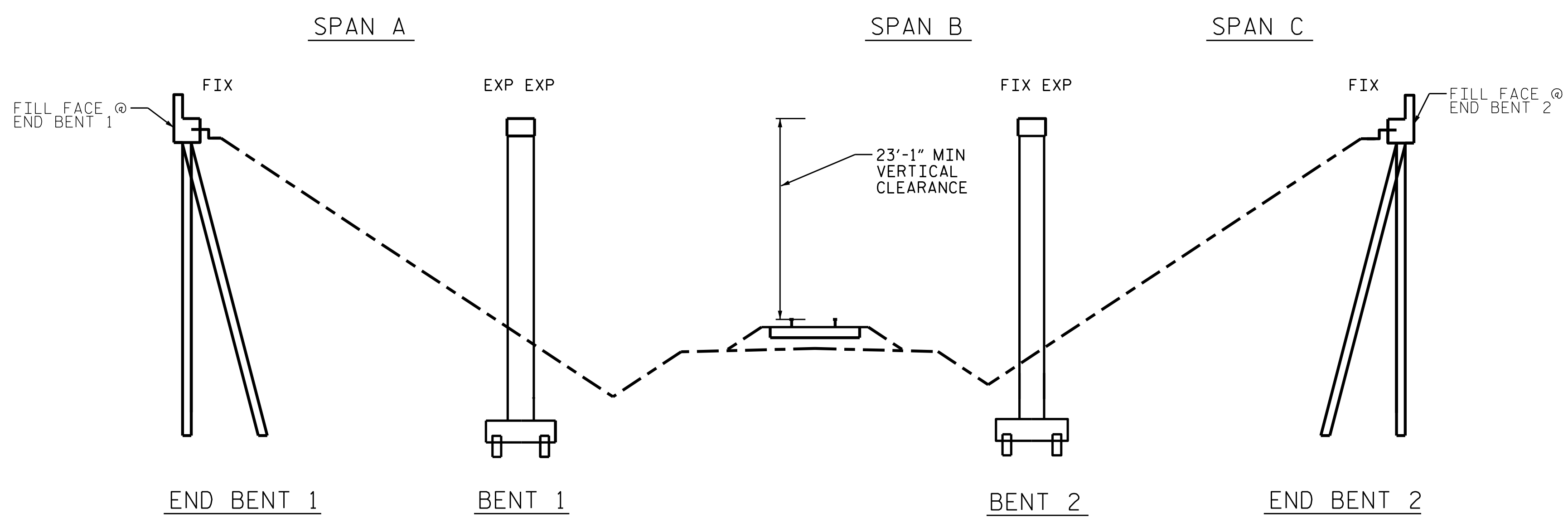
**PLAN OF SPAN C
 RIGHT LANE (NBL)**

DRAWN BY : J.BRYANT DATE : 6/06
 CHECKED BY : D.A.GLADDEN DATE : 6/22

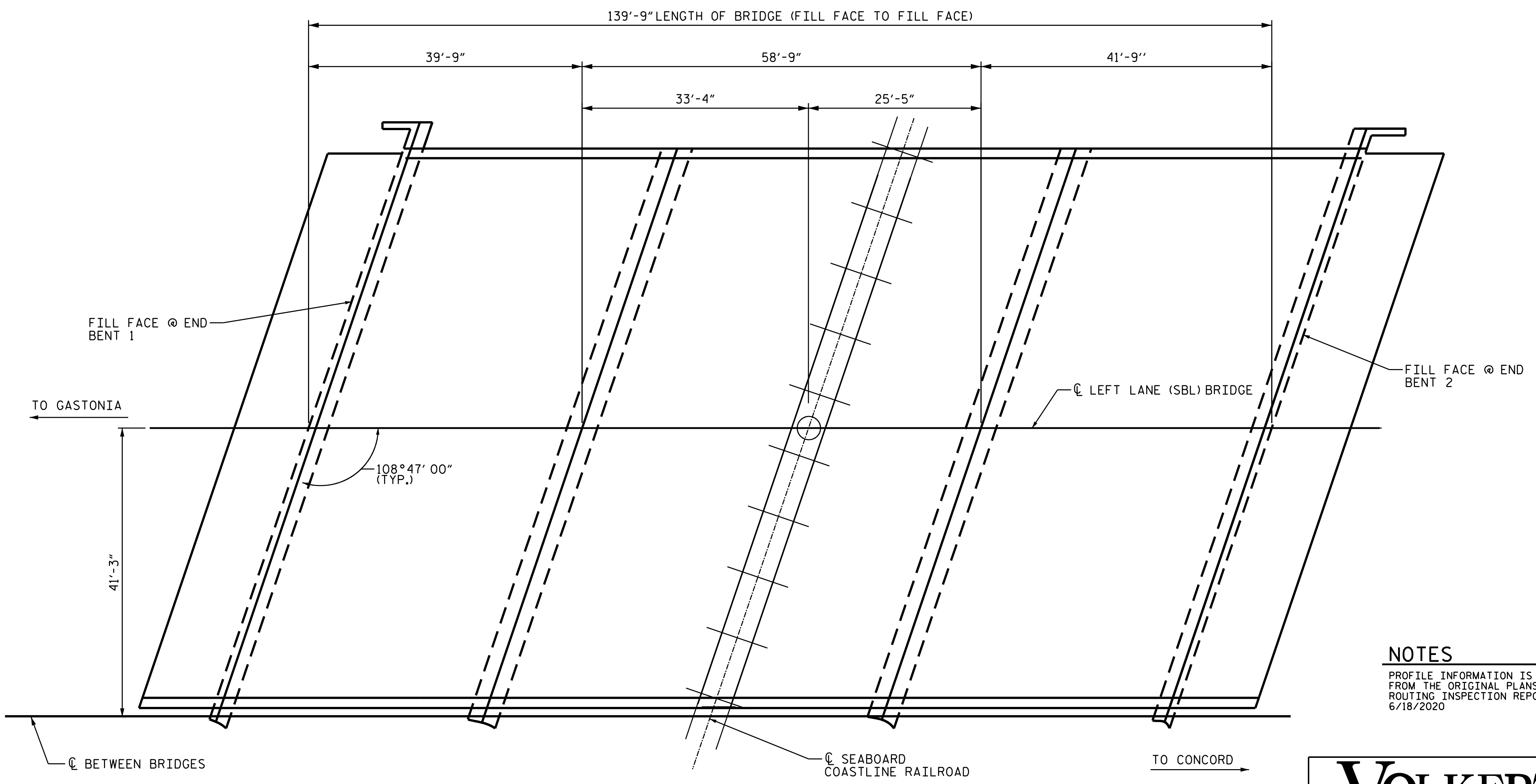
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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-6
1			3			TOTAL SHEETS
2			4			13



SECTION ALONG CL LEFT LANE (SBL) BRIDGE



PLAN OF SBL BRIDGE

NOTES
 PROFILE INFORMATION IS TAKEN FROM THE ORIGINAL PLANS AND ROUTING INSPECTION REPORT DATED 6/18/2020



PROJECT NO. I-5838
MECKLENBURG COUNTY
 BRIDGE NO. 590204

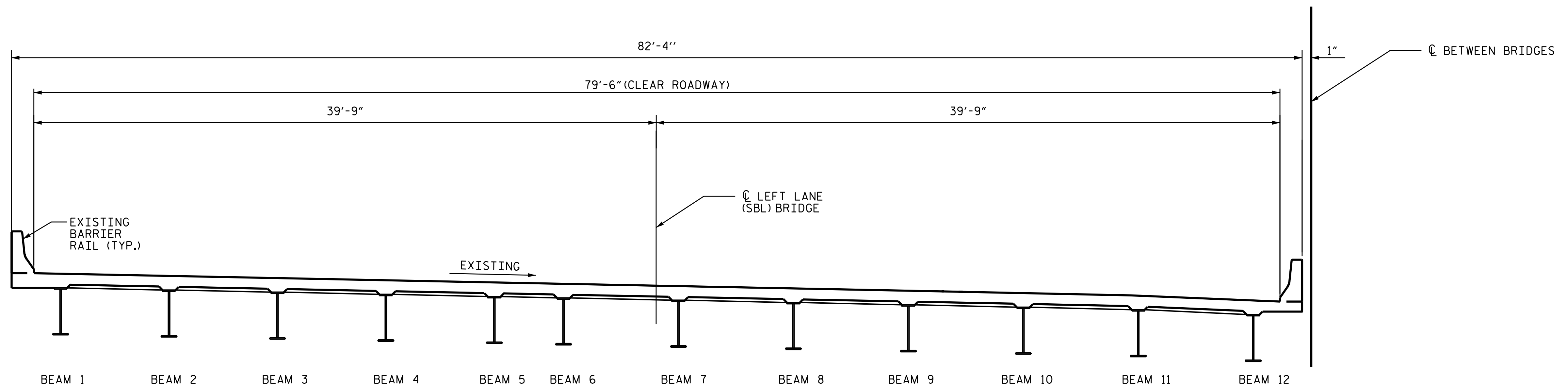
SHEET 1 OF 2
 STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
GENERAL DRAWING
 FOR SBL BRIDGE ON I-85 OVER SEABOARD COASTLINE RAILROAD BETWEEN NC-16 AND NC-27

DRAWN BY : T. MAZARURA DATE : 06/22
 CHECKED BY : D.A. GLADDEN DATE : 06/28

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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			13
2			4			

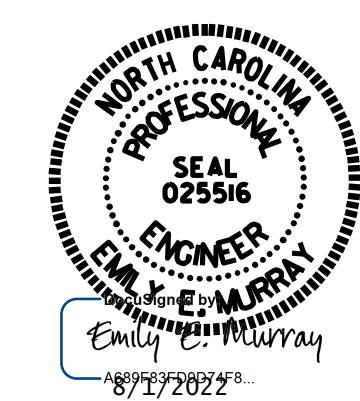


EXISTING TYPICAL SECTION

NOTES

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PROJECT NO. I-5838
MECKLENBURG COUNTY
STATION: 590204



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

TYPICAL SECTION
LEFT LANE (SBL)

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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			13

DRAWN BY : T. MAZARURA DATE : 06/22
CHECKED BY : D.A. GLADDEN DATE : 06/28

AS-BUILT REPAIR QUANTITY TABLE


TOP OF DECK REPAIRS

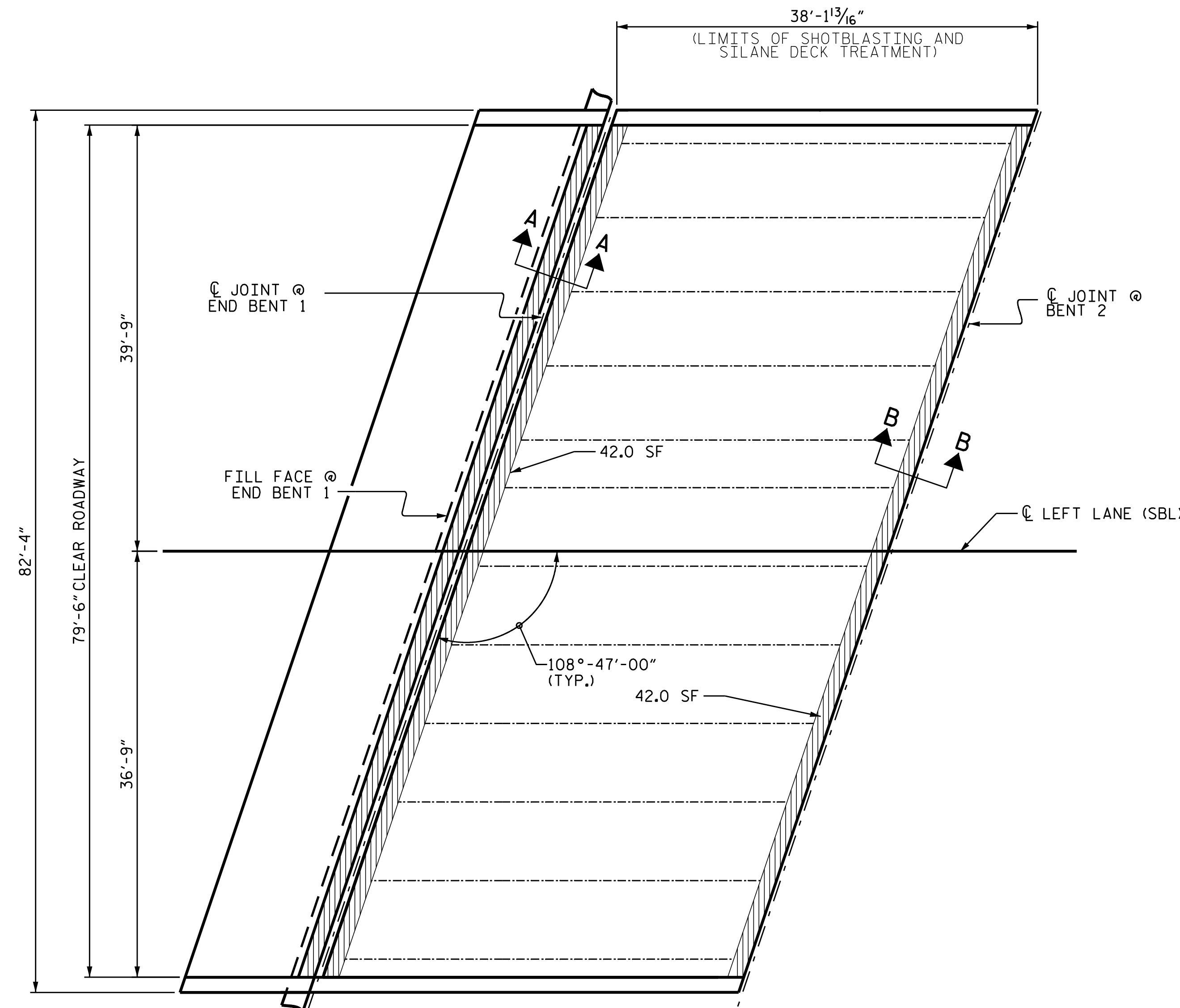
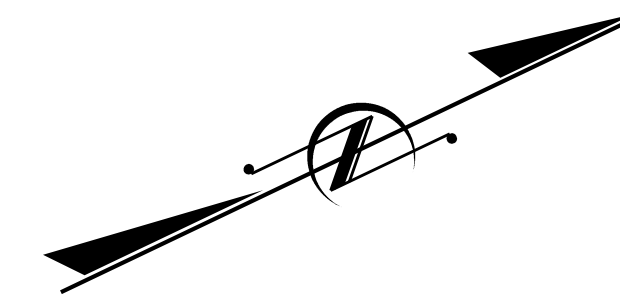
APPROACH SLAB @ END BENT 1

	ESTIMATE	ACTUAL
BRIDGE JOINT DEMOLITION	42.0 SF	
SILANE DECK TREATMENT	106.0 SY	
SHOTBLASTING OF BRIDGE DECK	106.0 SY	

SPAN A

	ESTIMATE	ACTUAL
BRIDGE JOINT DEMOLITION	84.0 SF	
SILANE DECK TREATMENT	337.0 SY	
SHOTBLASTING OF BRIDGE DECK	337.0 SY	

 BRIDGE JOINT DEMOLITION



PLAN OF SPAN A

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 QUINTITES ENTERED INTO THE AS-BUILT REPAIR QUANTITY TABLE.

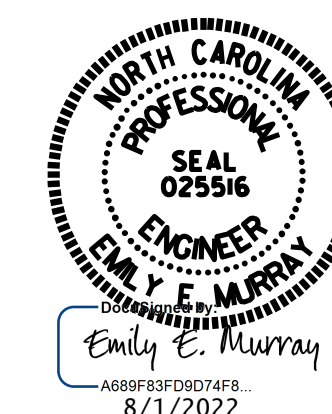
FOR SECTION A-A AND B-B, SEE "JOINT REPAIR DETAILS" SHEET.

PROJECT NO. I-5838
MECKLENBURG COUNTY
 BRIDGE NO. 590204

SHEET 1 OF 3

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

PLAN OF SPAN A
 LEFT LANE (SBL)



VOLKERT

5430 Wade Park Blvd, Suite 410
 Raleigh, NC 27607
 Tel. 919-854-0344 Fax. 919-854-0355
 NC License No. F-0765

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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-9
1			3			TOTAL SHEETS
2			4			13

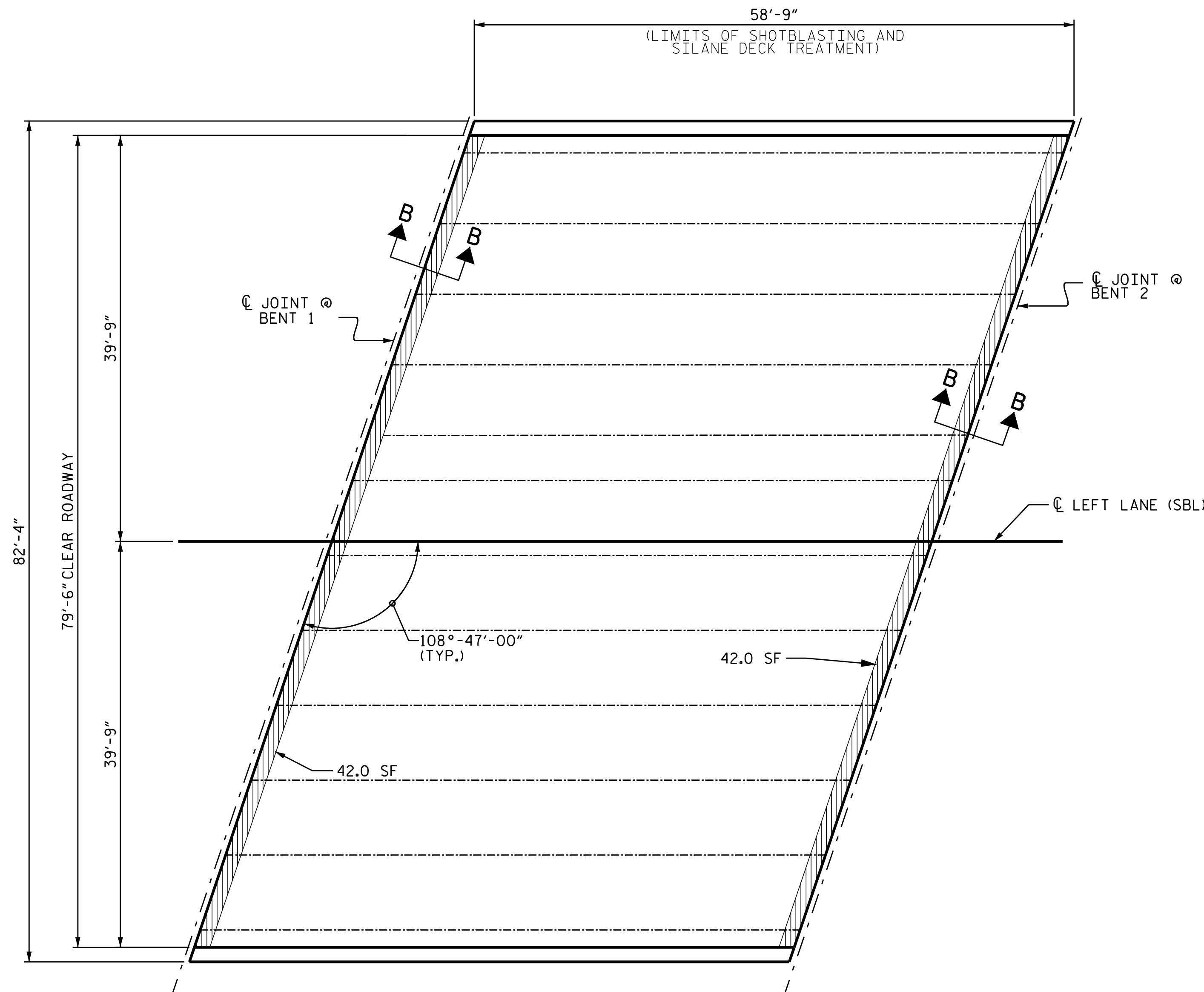
DRAWN BY : T.MAZARURA DATE : 6/15
 CHECKED BY : D.A.GLADDEN DATE : 6/22

AS-BUILT REPAIR QUANTITY TABLE

TOP OF DECK REPAIRS

SPAN B

	ESTIMATE	ACTUAL
BRIDGE JOINT DEMOLITION	84.0 SF	
SHOTBLASTING OF BRIDGE DECK	519.0 SY	
SILANE DECK TREATMENT	519.0 SY	



PLAN OF 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 QUINTITES ENTERED INTO THE AS-BUILT REPAIR QUANTITY TABLE.

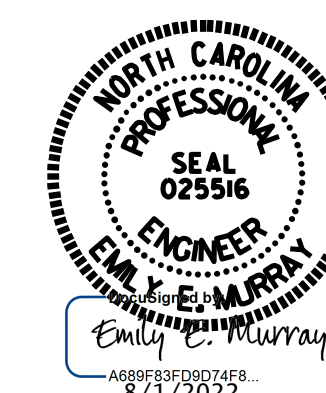
FOR SECTION A-A AND B-B, SEE "JOINT REPAIR DETAILS" SHEET

PROJECT NO. I-5838
MECKLENBURG COUNTY
 BRIDGE NO. 590204

SHEET 2 OF 3

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

PLAN OF SPAN B
 LEFT LANE (SBL)



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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-10
1			3			TOTAL SHEETS
2			4			13

DRAWN BY : T. MAZARURA DATE : 6/15
 CHECKED BY : D.A. GLADDEN DATE : 6/22

AS-BUILT REPAIR QUANTITY TABLE

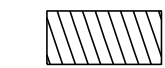
TOP OF DECK REPAIRS

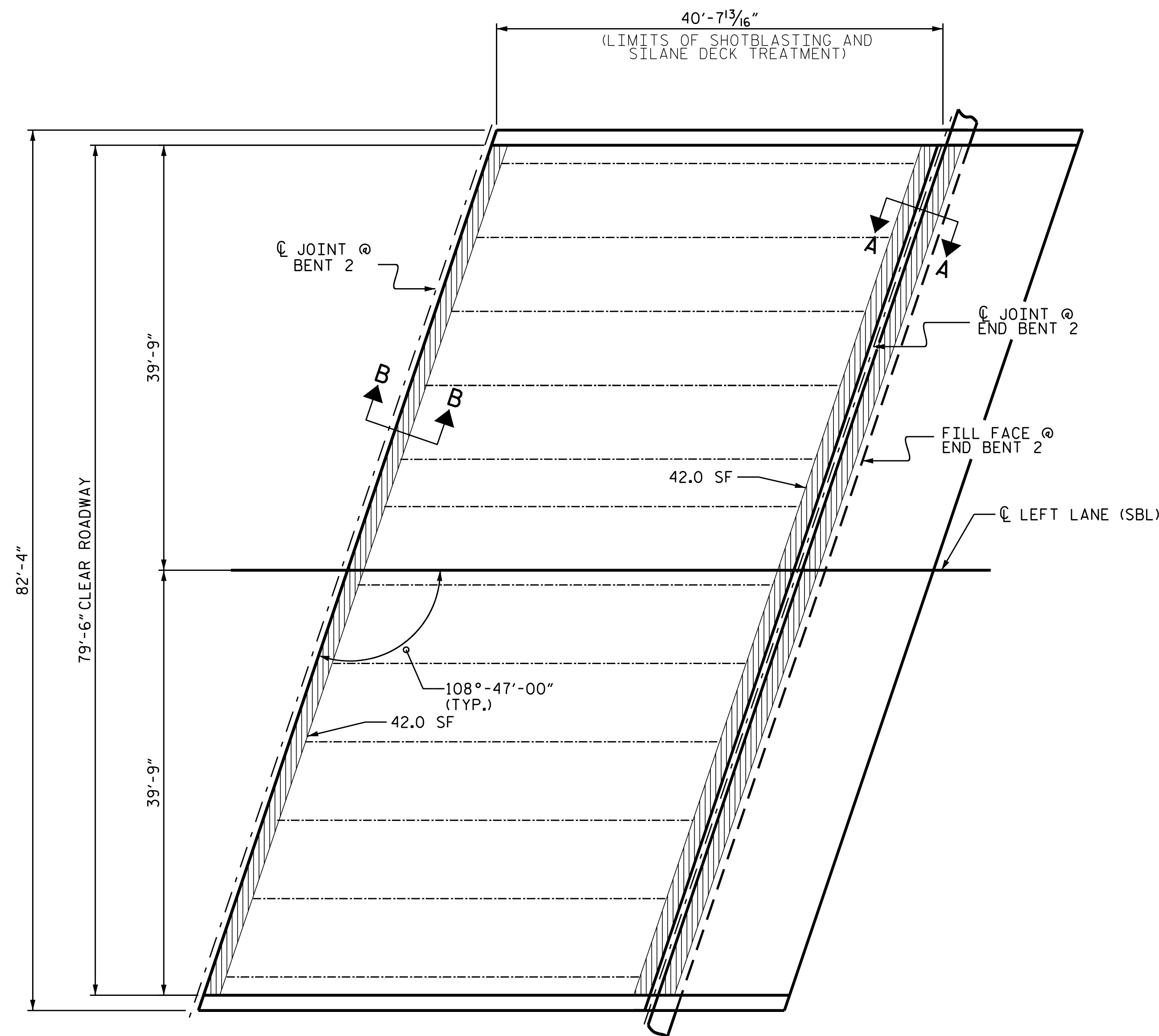
SPAN C

	ESTIMATE	ACTUAL
BRIDGE JOINT DEMOLITION	84.0 SF	
SILANE DECK TREATMENT	359.1 SY	
SHOTBLASTING OF BRIDGE DECK	359.1 SY	

APPROACH SLAB @ END BENT 2

	ESTIMATE	ACTUAL
BRIDGE JOINT DEMOLITION	42.0 SF	
SILANE DECK TREATMENT	106.0 SY	
SHOTBLASTING OF BRIDGE DECK	106.0 SY	

 BRIDGE JOINT DEMOLITION



PLAN OF SPAN C

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 QUINTITES ENTERED INTO THE AS-BUILT REPAIR QUANTITY TABLE.

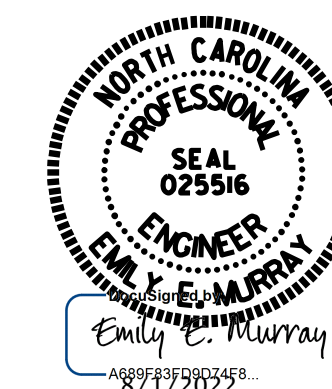
FOR SECTION A-A AND B-B, SEE "JOINT REPAIR DETAILS" SHEET.

PROJECT NO. I-5838
MECKLENBURG COUNTY
 BRIDGE NO. 590204

SHEET 3 OF 3

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

PLAN OF SPAN C
 LEFT LANE (SBL)



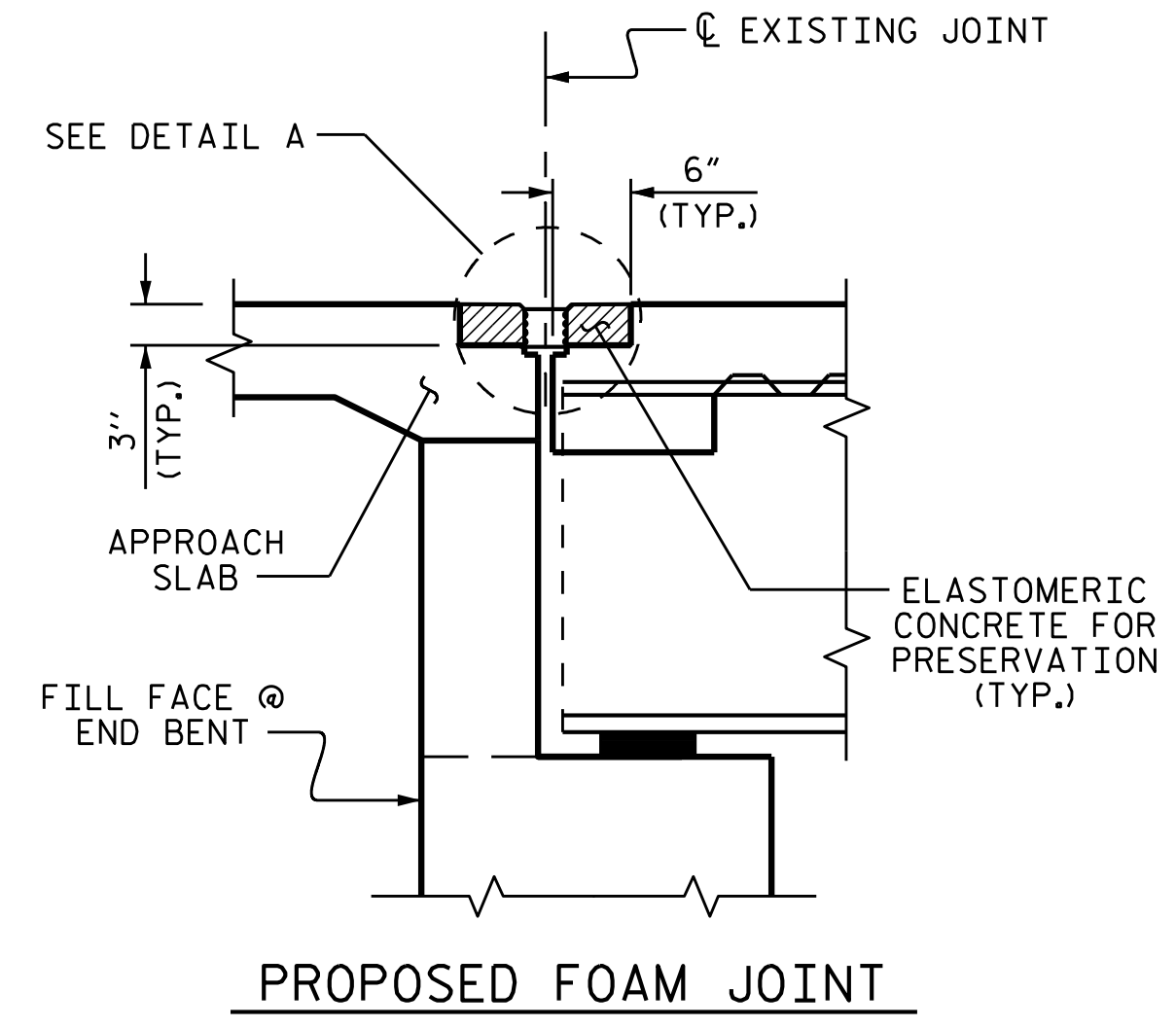
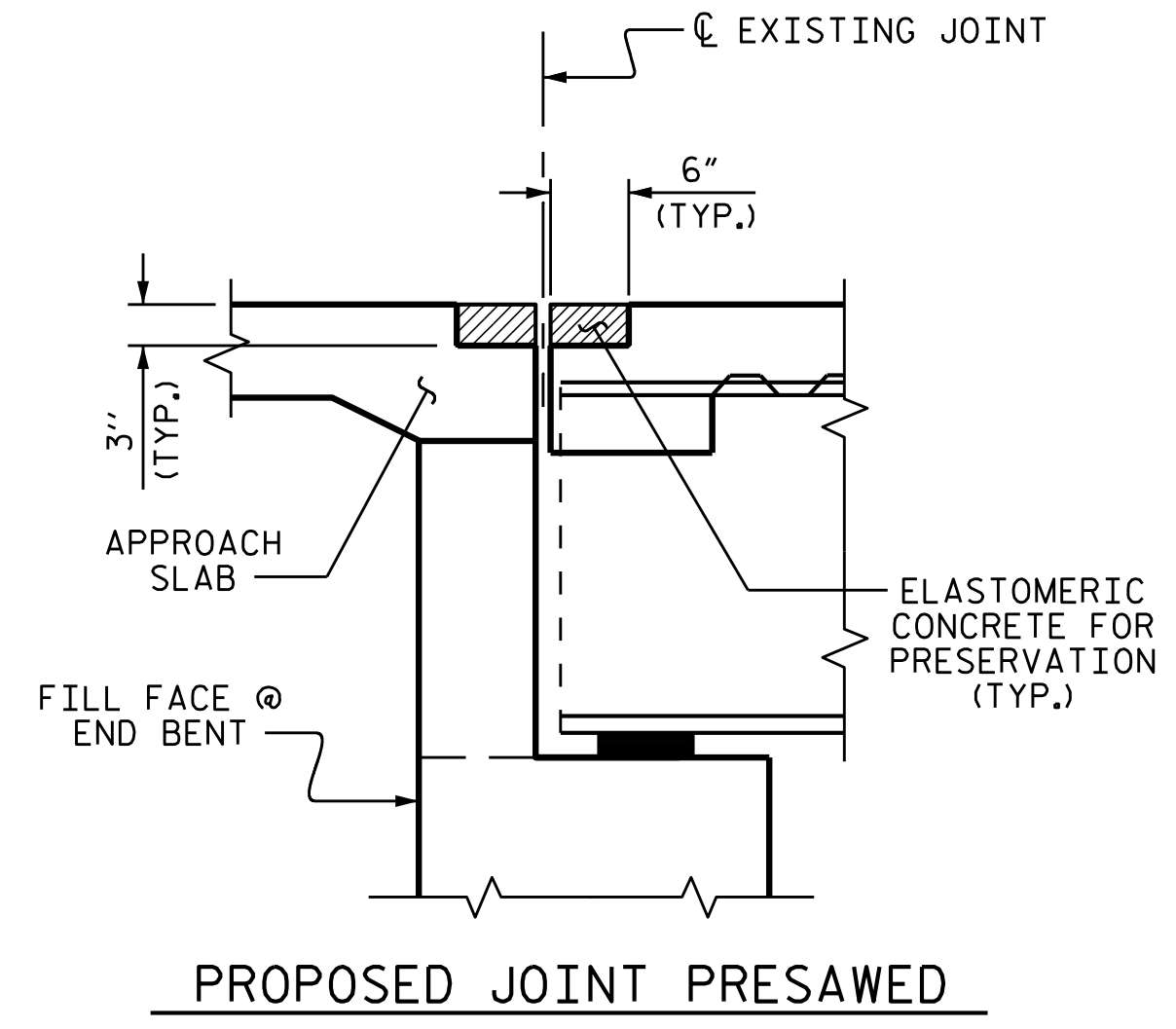
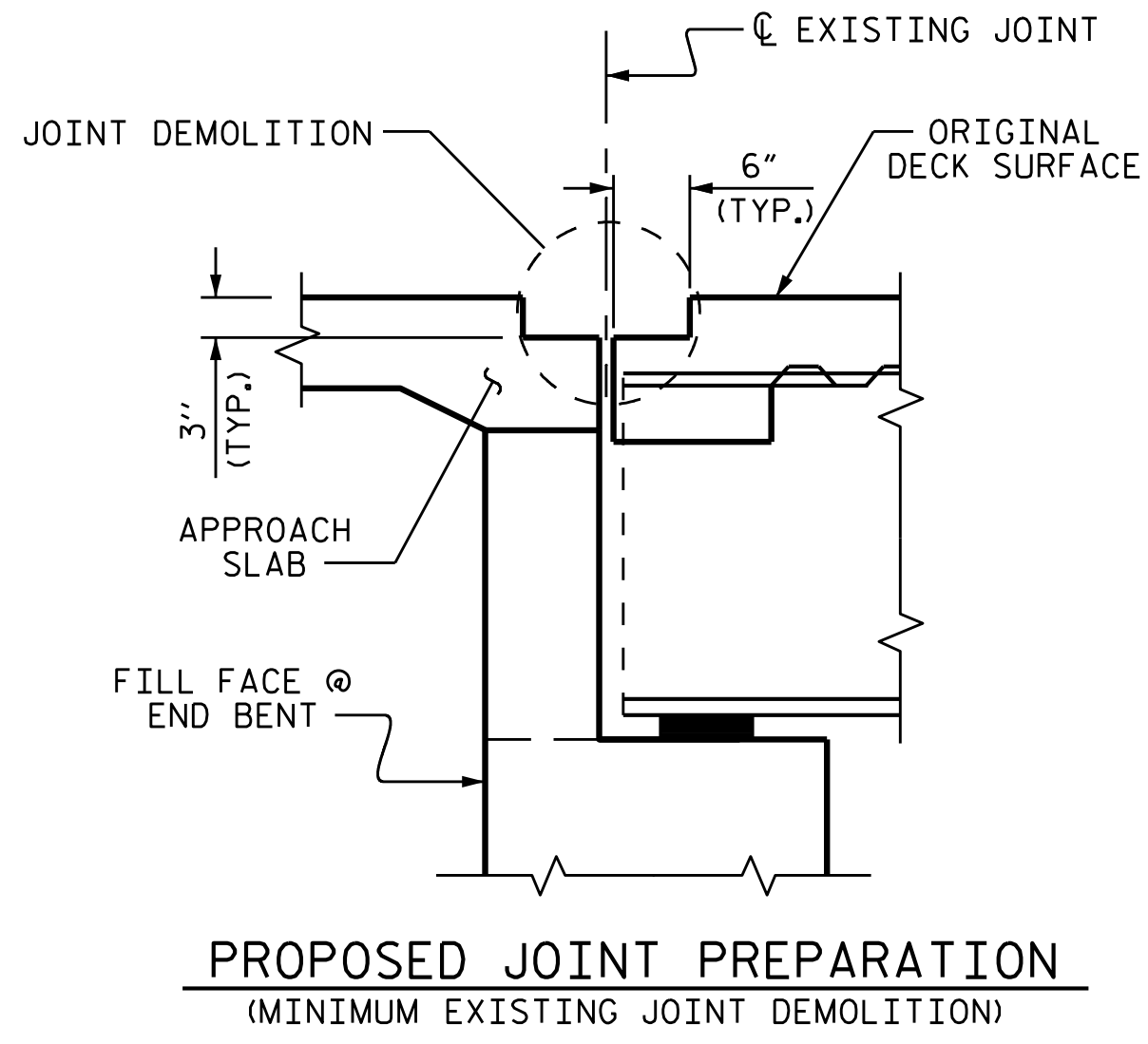
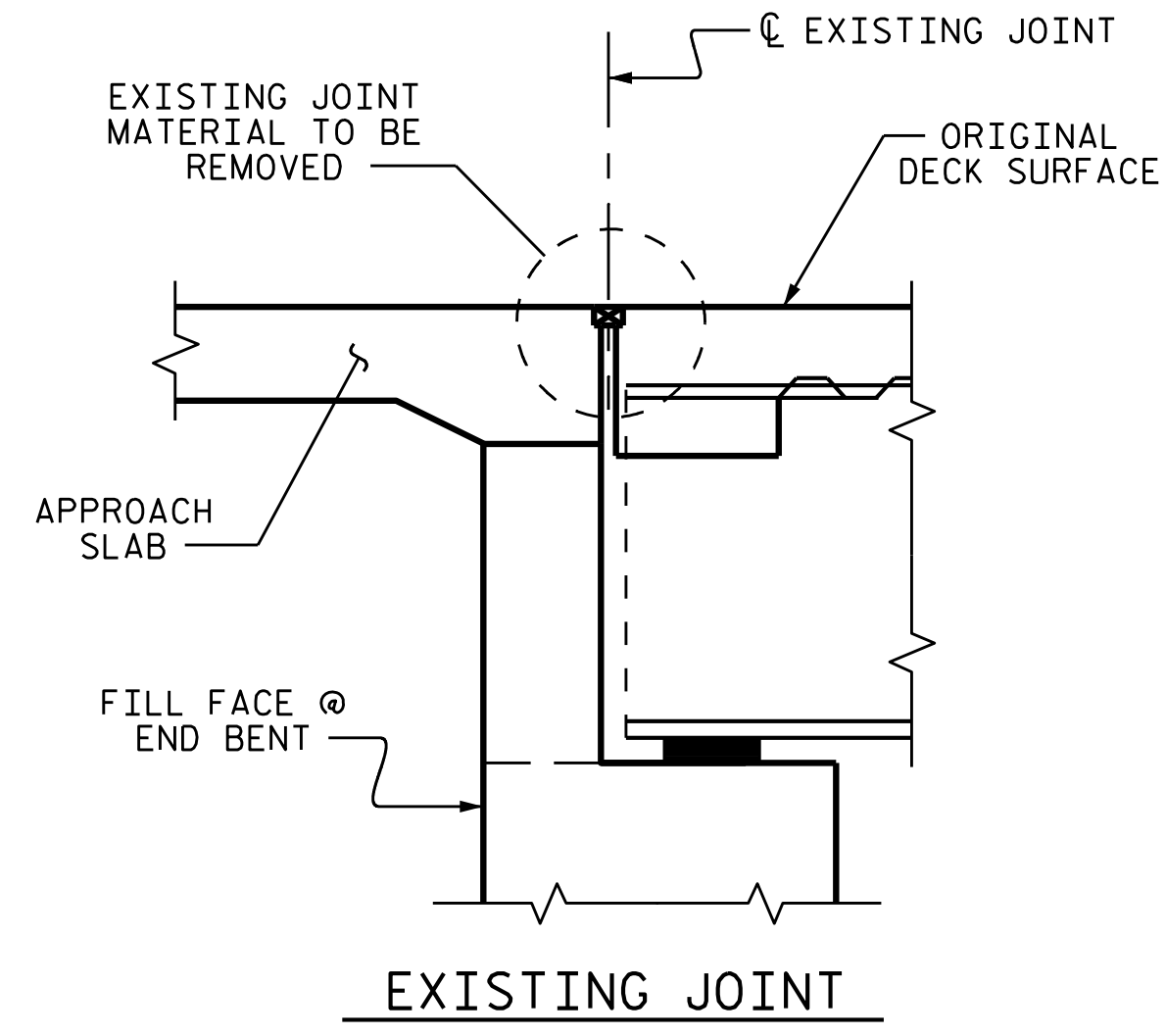
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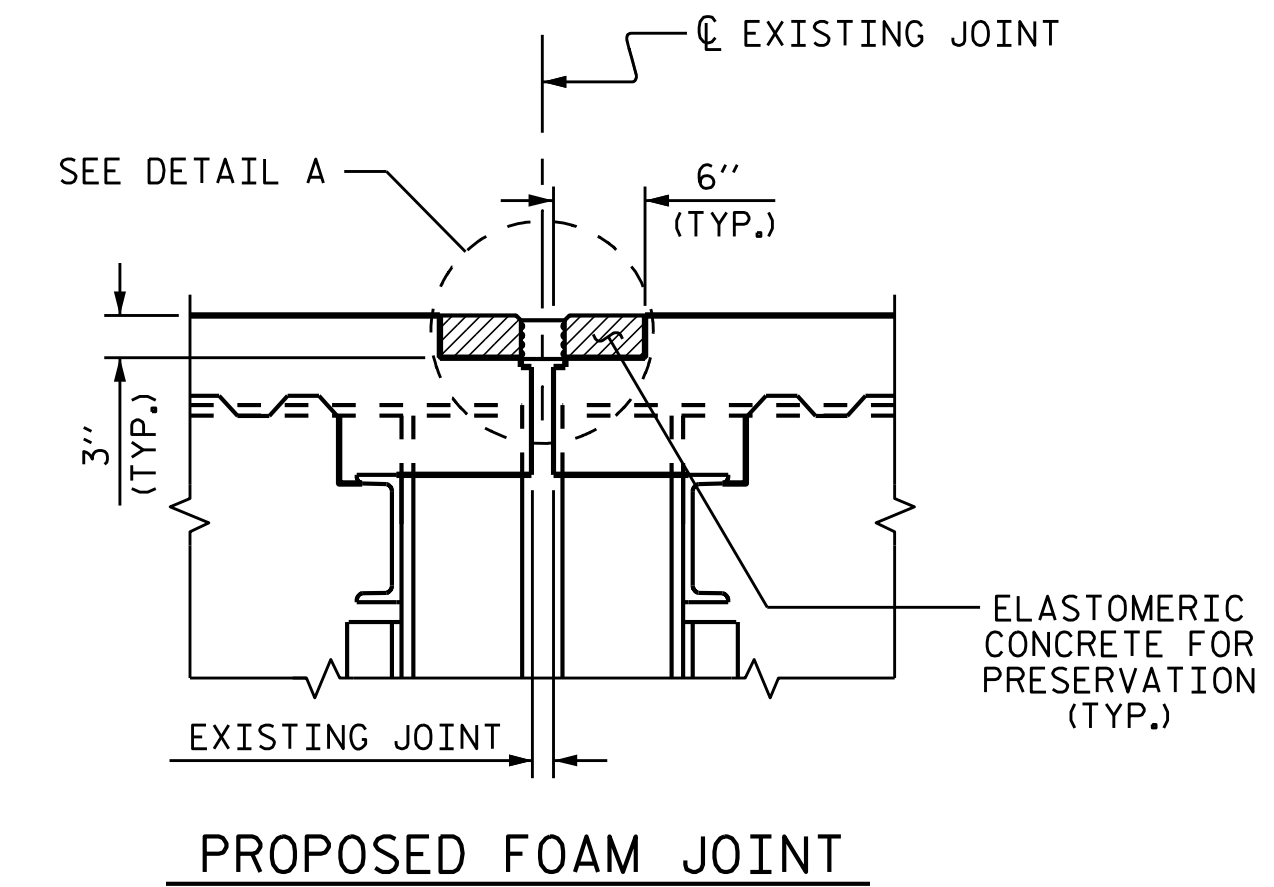
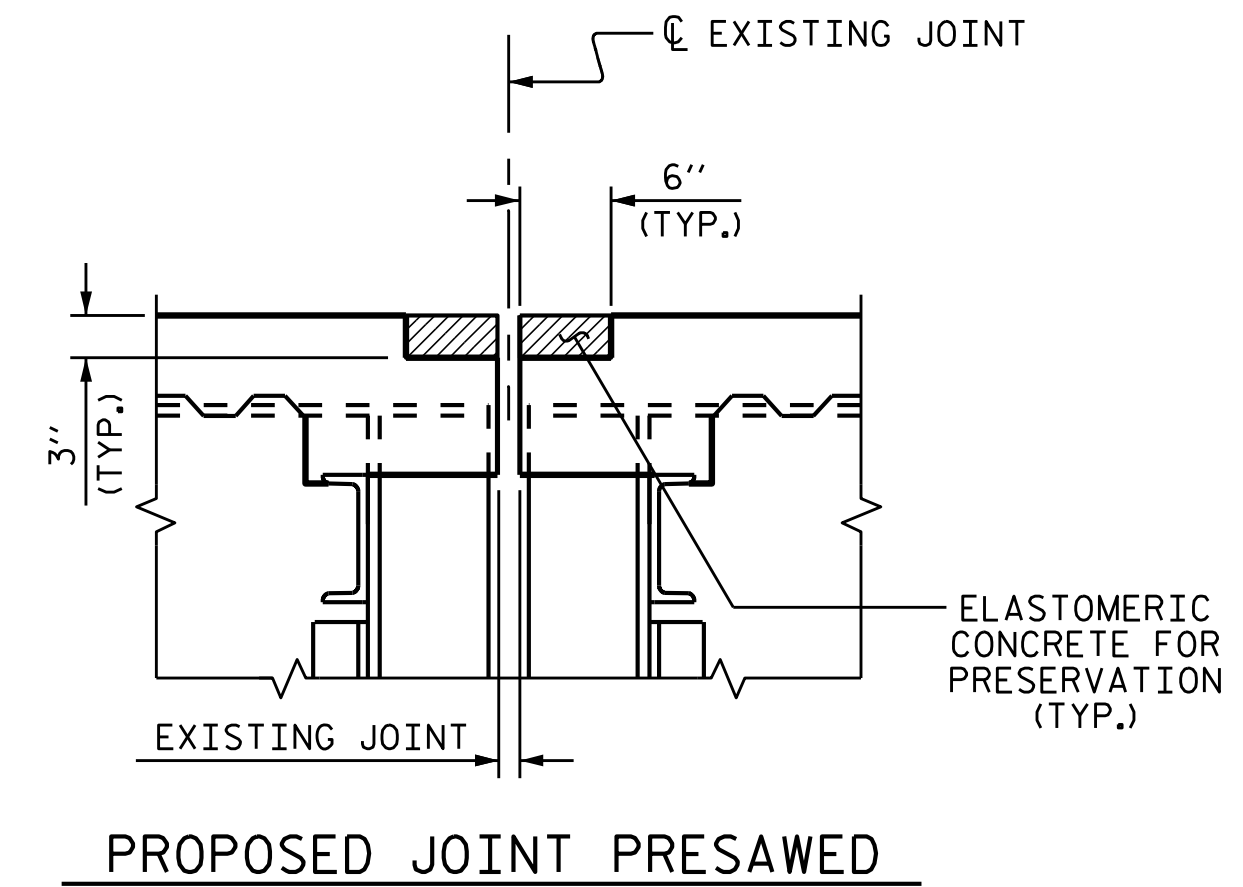
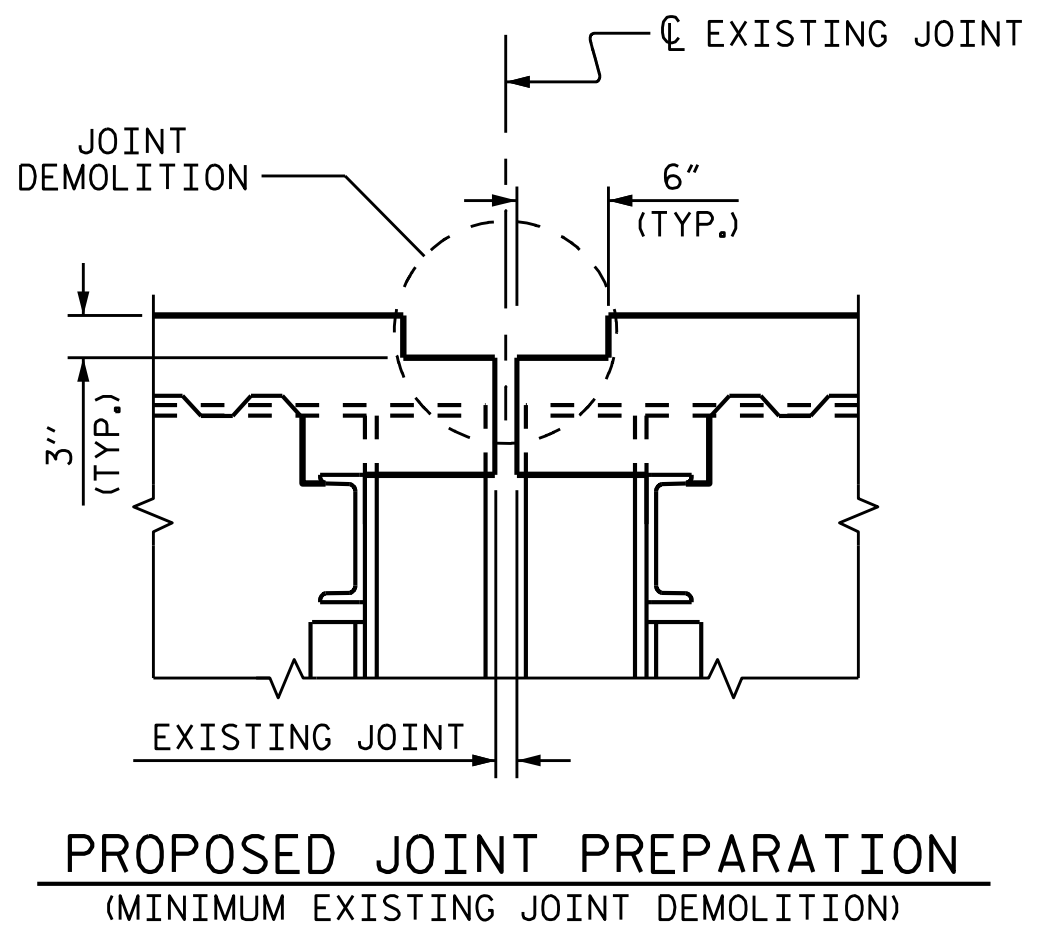
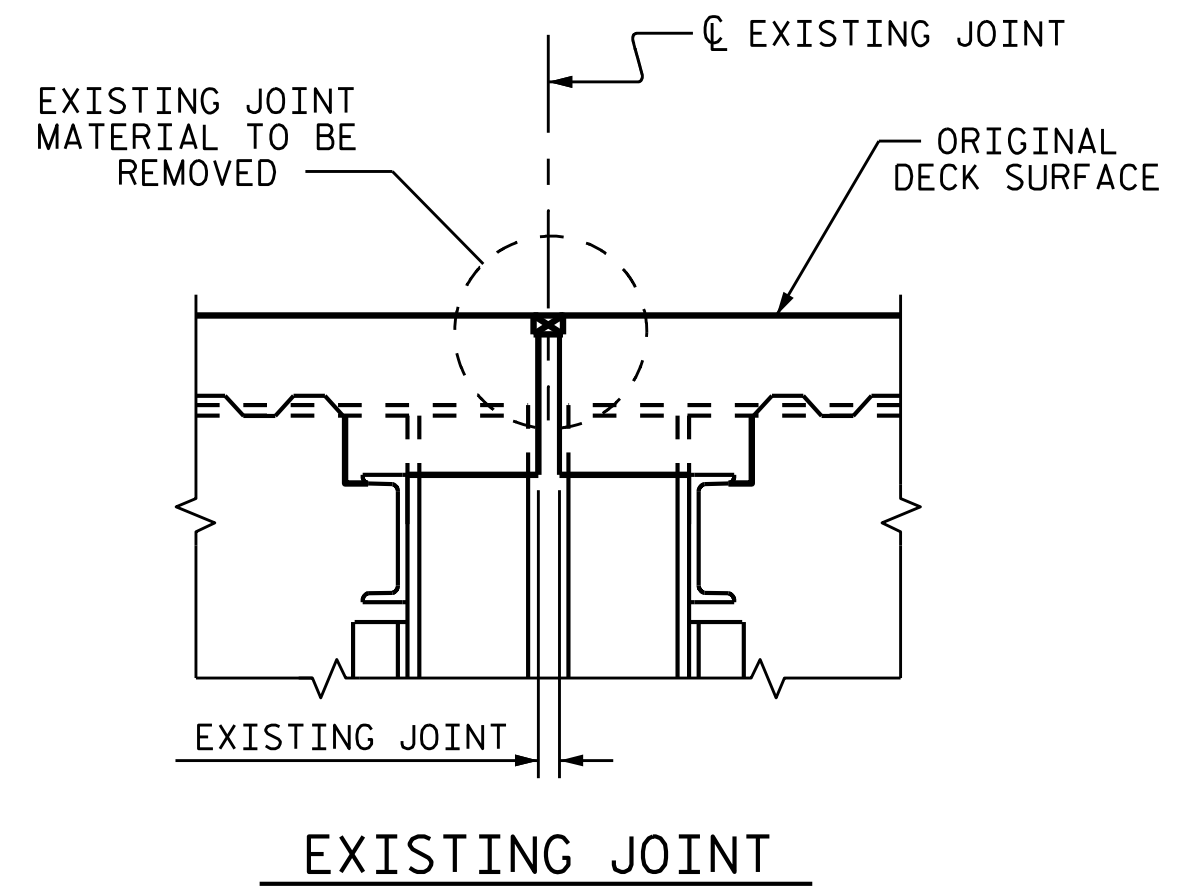
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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-11
1			3			TOTAL SHEETS
2			4			13

DRAWN BY : T. MAZARURA DATE : 6/15
 CHECKED BY : D.A. GLADDEN DATE : 6/22



JOINT INSTALLATION SEQUENCE AT END BENTS (SECTION A-A)



JOINT INSTALLATION SEQUENCE AT BENTS (SECTION B-B)

PROJECT NO. I-5838
MECKLENBURG COUNTY
 BRIDGE NO. 59203 & 59204

SHEET 1 OF 2

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

JOINT REPAIR DETAILS



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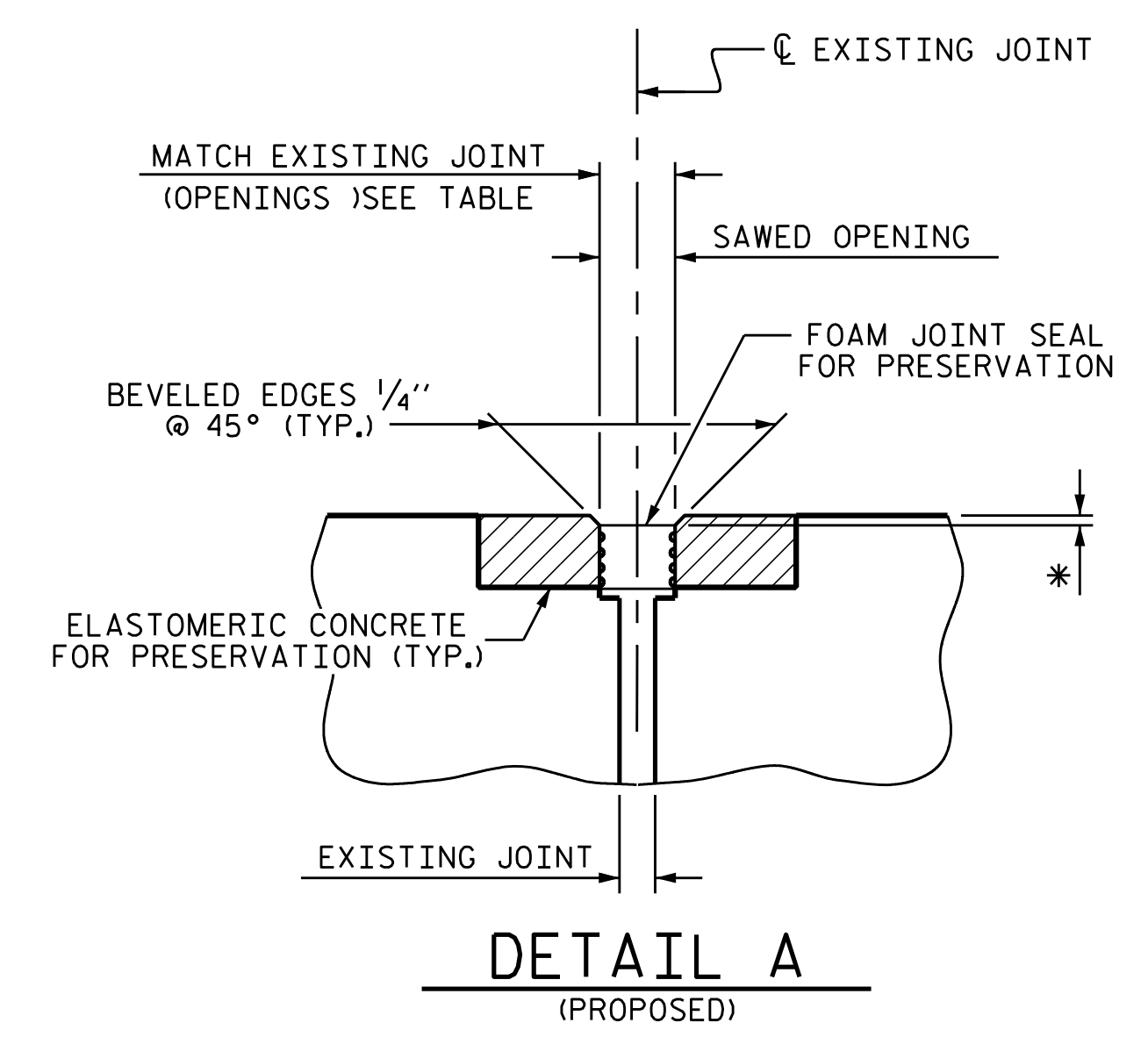
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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-12
1			3			TOTAL SHEETS
2			4			13

DRAWN BY : D. A. GLADDEN DATE : 6/22
 CHECKED BY : E. E. MURRAY DATE : 7/22

NOTES

- FINAL JOINT SEALS SHALL NOT BE INSTALLED UNTIL THE 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 ALLOWED BY THE JOINT SEAL MATERIAL, NOTIFY THE ENGINEER. REVISION TO THE JOINT SEAL SIZE AND TYPE MIGHT BE NECESSARY.
- THE CONTRACTOR WILL NOT BE PERMITTED TO FORM THE JOINTS FOR THE JOINT SEALS IN LIEU OF SAWING THE JOINTS.
- THE CONTRACTOR SHALL SAWCUT TO A NOMINAL DEPTH OF 1/2" BUT REINFORCING STEEL SHALL NOT BE DAMAGED. CONTRACTOR SHALL REMOVE SURFACE CONCRETE TO VERIFY THAT SAWCUT WILL NOT DAMAGE EXISTING REINFORCING STEEL.
- 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.
- QUANTITIES SHOWN IN THE ELASTOMERIC CONCRETE FOR PRESERVATION TABLE ARE BASED ON THE MINIMUM JOINT DEMOLITION SHOWN.
- THE MANUFACTURER IS TO PROVIDE THE NOMINAL UNCOMPRESSED SEAL WIDTH OF THE FOAM SEAL FOR THE SIZE OF THE OPENING THE ON PLANS AND ACCOMMODATE THE MINIMUM EXPANSION SHOWN ON THE PLANS.
- FOR FOAM JOINT SEALS FOR PRESERVATION, SEE SPECIAL PROVISIONS.
- FOAM JOINT SEALS FOR PRESERVATION SHALL BE INSTALLED AS PER MANUFACTURER'S RECOMMENDATION.
- THE INSTALLED FOAM JOINT SEALS FOR PRESERVATION SHALL BE WATER TIGHT.
- FOR ELASTOMERIC CONCRETE FOR PRESERVATION, SEE SPECIAL PROVISIONS.
- FOR LOCATION OF SECTIONS A-A AND B-B, SEE PLAN OF SPAN SHEET.



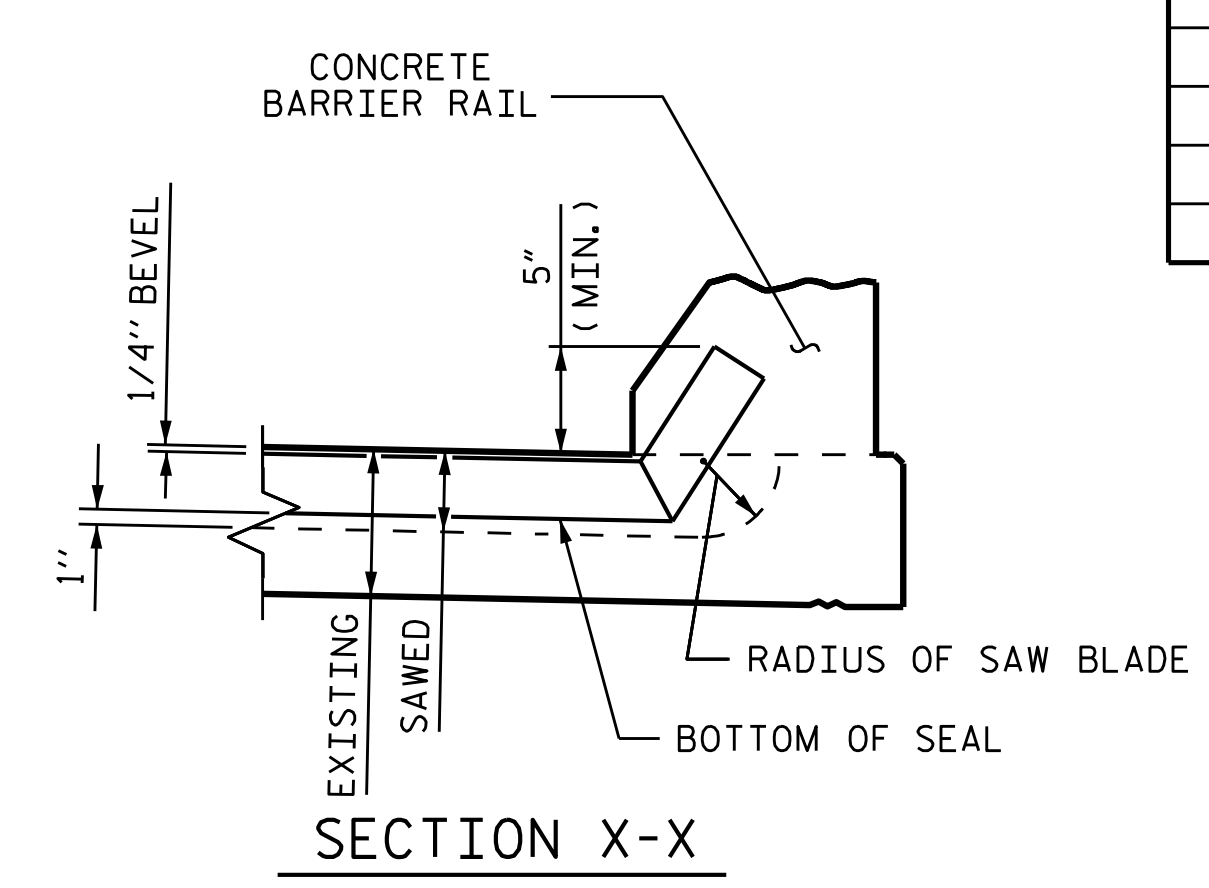
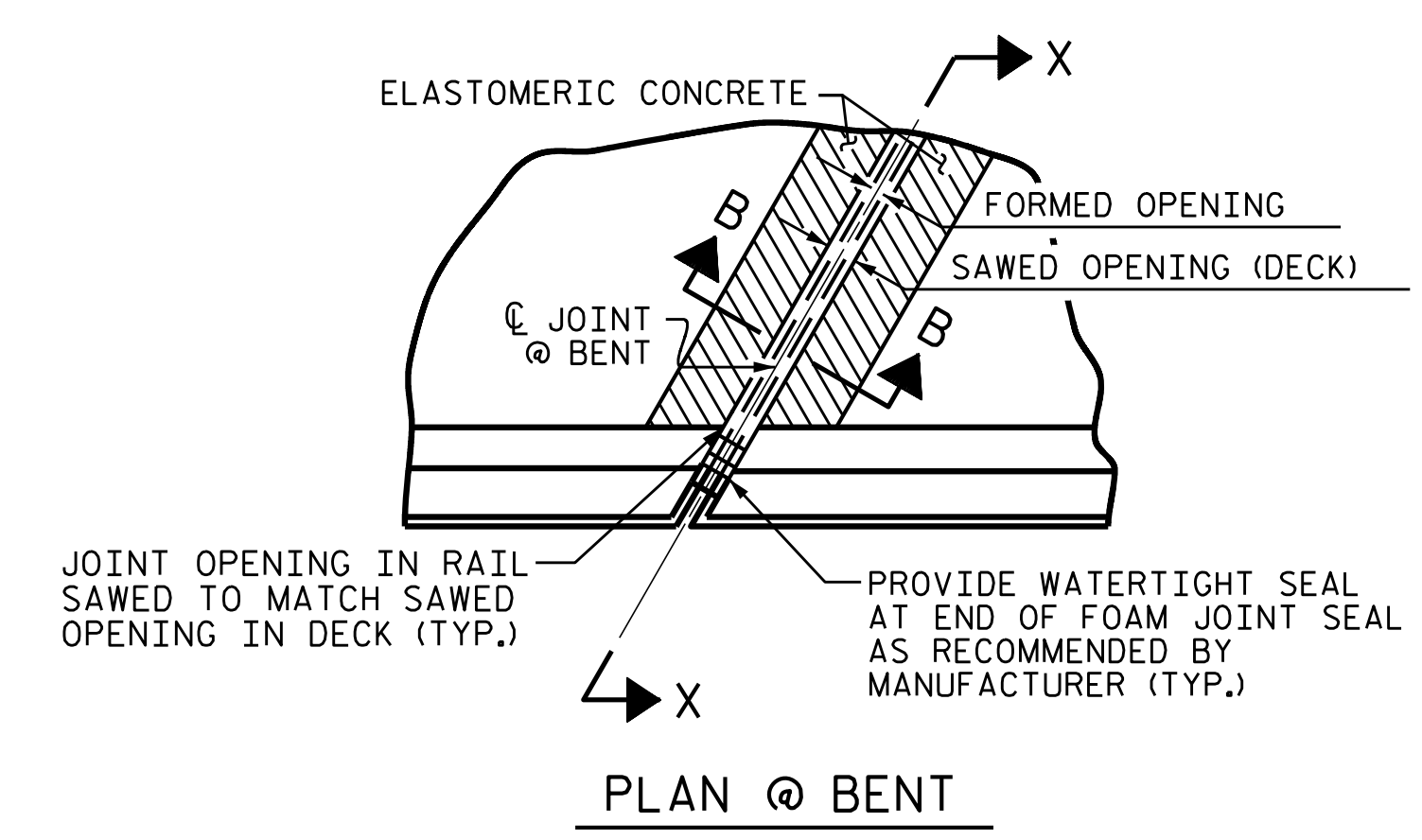
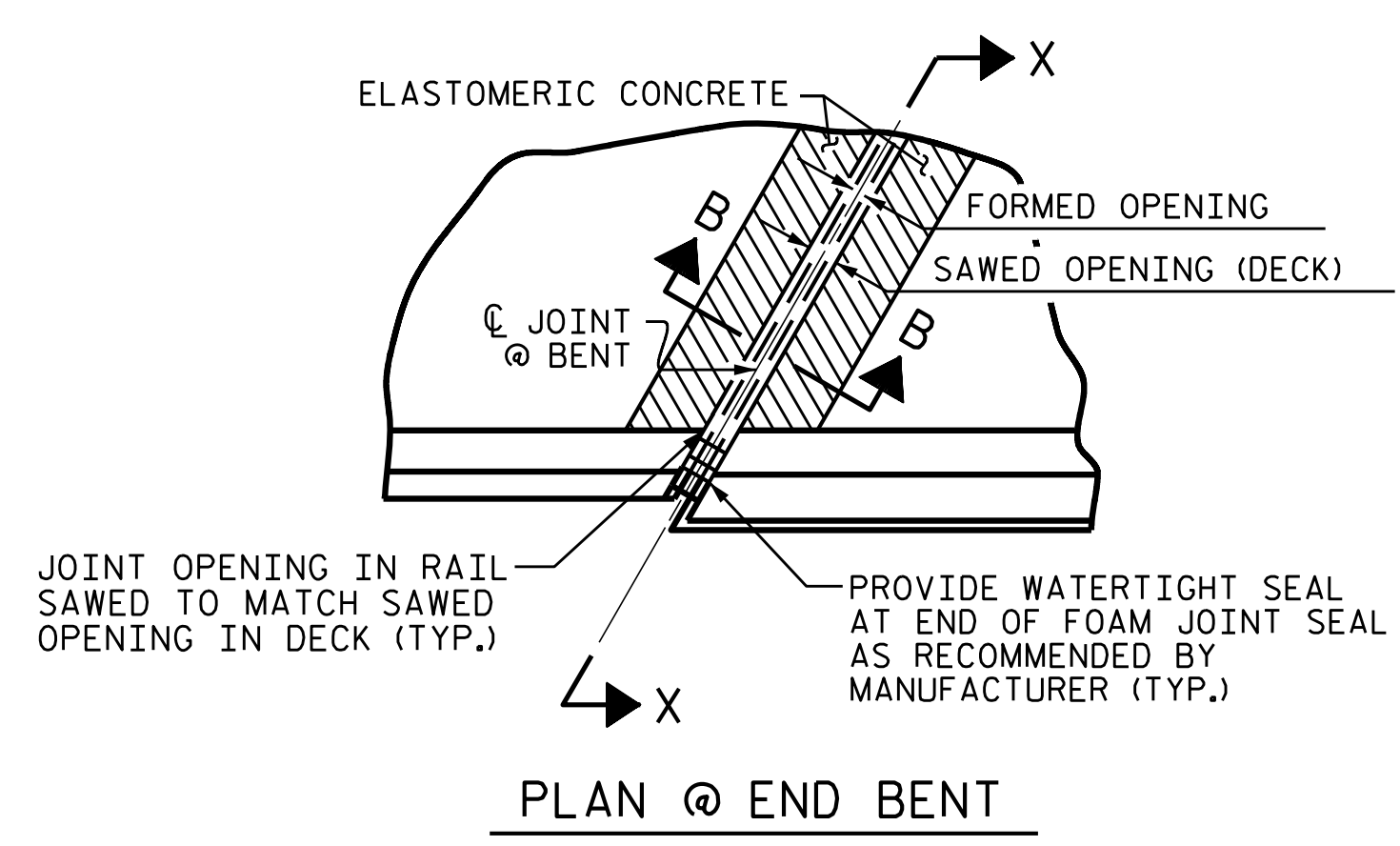
* FOAM JOINT SEALS FOR PRESERVATION SHALL BE RECESSED AS PER MANUFACTURER'S RECOMMENDATIONS.

SAWED JOINT OPENING TABLE									
BRIDGE 59203					BRIDGE 59204				
LOCATION	SKEW ANGLE	PERPENDICULAR JOINT OPENING AT 30°	PERPENDICULAR JOINT OPENING AT 60°	PERPENDICULAR JOINT OPENING AT 90°	LOCATION	SKEW ANGLE	PERPENDICULAR JOINT OPENING AT 30°	PERPENDICULAR JOINT OPENING AT 60°	PERPENDICULAR JOINT OPENING AT 90°
END BENT 1	108°-47'-00"	2"	2"	2"	END BENT 1	108°-47'-00"	2"	2"	2"
BENT 1	108°-47'-00"	2 1/2"	2 5/16"	1 7/8"	BENT 1	108°-47'-00"	2 1/2"	2 5/16"	1 7/8"
BENT 2	108°-47'-00"	2 1/4"	2"	1 3/4"	BENT 2	108°-47'-00"	2 1/4"	2"	1 3/4"
END BENT 2	108°-47'-00"	2"	2"	2"	END BENT 2	108°-47'-00"	2"	2"	2"

FROM EXISTING PLANS

FOAM JOINT SEALS FOR PRESERVATION				
	BRIDGE 59203		BRIDGE 59204	
	ESTIMATED (LIN. FT.)	ACTUAL (LIN. FT.)	ESTIMATED (LIN. FT.)	ACTUAL (LIN. FT.)
END BENT 1	85.0		85.0	
BENT 1	85.0		85.0	
BENT 2	85.0		85.0	
END BENT 2	85.0		85.0	
TOTAL	340.0		340.0	

ELASTOMERIC CONCRETE FOR PRESERVATION				
	BRIDGE 59203		BRIDGE 59204	
	ESTIMATED (CU. FT.)	ACTUAL (CU. FT.)	ESTIMATED (CU. FT.)	ACTUAL (CU. FT.)
END BENT 1	21.0		21.0	
BENT 1	21.0		21.0	
BENT 2	21.0		21.0	
END BENT 2	21.0		21.0	
TOTAL	84.0		84.0	



JOINT SEAL DETAILS @ BENT

FOAM JOINT SEAL TO BE CUT, HEAT WELDED AND TURNED UP PARALLEL TO SLOPED FACE OF THE BARRIER RAIL.

PROJECT NO. I-5838
MECKLENBURG COUNTY
 BRIDGE NO. 59203 & 59204

SHEET 2 OF 2



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

JOINT REPAIR DETAILS

DRAWN BY : D. A. GLADDEN DATE : 6/22
 CHECKED BY : E. E. MURRAY DATE : 7/22

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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-13
1			3			TOTAL SHEETS
2			4			13

STANDARD NOTES

DESIGN DATA:

SPECIFICATIONS	- - - - -	A.A.S.H.T.O. (CURRENT)
LIVE LOAD	- - - - -	SEE PLANS
IMPACT ALLOWANCE	- - - - -	SEE A.A.S.H.T.O.
STRESS IN EXTREME FIBER OF STRUCTURAL STEEL - AASHTO M270 GRADE 36	- -	20,000 LBS. PER SQ. IN.
- AASHTO M270 GRADE 50W	- -	27,000 LBS. PER SQ. IN.
- AASHTO M270 GRADE 50	- -	27,000 LBS. PER SQ. IN.
REINFORCING STEEL IN TENSION - GRADE 60	- - -	24,000 LBS. PER SQ. IN.
CONCRETE IN COMPRESSION	- - - - -	1,200 LBS. PER SQ. IN.
CONCRETE IN SHEAR	- - - - -	SEE A.A.S.H.T.O.
STRUCTURAL TIMBER - TREATED OR UNTREATED EXTREME FIBER STRESS	- - -	1,800 LBS. PER SQ. IN.
COMPRESSION PERPENDICULAR TO GRAIN OF TIMBER	- - - - -	375 LBS. PER SQ. IN.
EQUIVALENT FLUID PRESSURE OF EARTH	- - - - -	30 LBS. PER CU. FT. (MINIMUM)

MATERIAL AND WORKMANSHIP:

EXCEPT AS MAY OTHERWISE BE SPECIFIED ON PLANS OR IN THE SPECIAL PROVISIONS, ALL MATERIAL AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE 2018 "STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES" OF THE N.C. DEPARTMENT OF TRANSPORTATION.

STEEL SHEET PILING FOR PERMANENT OR TEMPORARY APPLICATIONS SHALL BE HOT ROLLED.

CONCRETE:

UNLESS OTHERWISE REQUIRED ON PLANS, CLASS A CONCRETE SHALL BE USED FOR ALL PORTIONS OF ALL STRUCTURES WITH THE EXCEPTION THAT: CLASS AA CONCRETE SHALL BE USED IN BRIDGE SUPERSTRUCTURES, ABUTMENT BACKWALLS, AND APPROACH SLABS; AND CLASS B CONCRETE SHALL BE USED FOR SLOPE PROTECTION AND RIP RAP.

CONCRETE CHAMFERS:

UNLESS OTHERWISE NOTED ON THE PLANS, ALL EXPOSED CORNERS ON STRUCTURES SHALL BE CHAMFERED 3/4" WITH THE FOLLOWING EXCEPTIONS: TOP CORNERS OF CURBS MAY BE ROUNDED TO 1/2" RADIUS WHICH IS BUILT INTO CURB FORMS; CORNERS OF TRANSVERSE FLOOR EXPANSION JOINTS SHALL BE ROUNDED WITH A 1/4" FINISHING TOOL UNLESS OTHERWISE REQUIRED ON PLANS; AND CORNERS OF EXPANSION JOINTS IN THE ROADWAY FACES AND TOPS OF CURBS AND SIDEWALKS SHALL BE ROUNDED TO A 1/4" RADIUS WITH A FINISHING STONE OR TOOL UNLESS OTHERWISE REQUIRED ON PLANS.

DOWELS:

DOWELS WHEN INDICATED ON PLANS AS FOR CULVERT EXTENSIONS, SHALL BE EMBEDDED AT LEAST 12" INTO THE OLD CONCRETE AND GROUTED INTO PLACE WITH 1:2 CEMENT MORTAR.

ALLOWANCE FOR DEAD LOAD DEFLECTION, SETTLEMENT, ETC. IN CASTING SUPERSTRUCTURES:

BRIDGES SHALL BE BUILT ON THE GRADE OR VERTICAL CURVE SHOWN ON PLANS. SLABS, CURBS AND PARAPETS SHALL CONFORM TO THE GRADE OR CURVE.

ALL DIMENSIONS WHICH ARE GIVEN IN SECTION AND ARE AFFECTED BY DEAD LOAD DEFLECTIONS ARE DIMENSIONS AT CENTER LINE OF BEARING UNLESS OTHERWISE NOTED ON PLANS. IN SETTING FORMS FOR STEEL BEAM BRIDGES AND PRESTRESSED CONCRETE GIRDER BRIDGES, ADJUSTMENTS SHALL BE MADE DUE TO THE DEAD LOAD DEFLECTIONS FOR THE ELEVATIONS SHOWN. WHERE BLOCKS ARE SHOWN OVER BEAMS FOR BUILDING UP TO THE SLAB, THE VERTICAL DIMENSIONS OF THE BLOCKS SHALL BE ADJUSTED BETWEEN BEARINGS TO COMPENSATE FOR DEAD LOAD DEFLECTIONS, VERTICAL CURVE ORDINATE, AND ACTUAL BEAM CAMBER. WHERE BOTTOM OF SLAB IS IN LINE WITH BOTTOM OF TOP FLANGES, DEPTH OF SLAB BETWEEN BEARINGS SHALL BE ADJUSTED TO COMPENSATE FOR DEAD LOAD DEFLECTION, VERTICAL CURVE ORDINATE, AND ACTUAL BEAM CAMBER.

IN SETTING FALSEWORK AND FORMS FOR REINFORCED CONCRETE SPANS, AN ALLOWANCE SHALL BE MADE FOR DEAD LOAD DEFLECTIONS, SETTLEMENT OF FALSEWORK, AND PERMANENT CAMBER WHICH SHALL BE PROVIDED FOR IN ADDITION TO THE ELEVATIONS SHOWN. AFTER REMOVAL OF THE FALSEWORK, THE FINISHED STRUCTURES SHALL CONFORM TO THE PROFILE AND ELEVATIONS SHOWN ON THE PLANS AND CONSTRUCTION ELEVATIONS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR FALSEWORK OR FORMS FOR BRIDGE SUPERSTRUCTURE AND ANY STRUCTURE OR PARTS OF A STRUCTURE AS NOTED ON THE PLANS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL BEFORE CONSTRUCTION OF THE FALSEWORK OR FORMS IS STARTED.

REINFORCING STEEL:

ALL REINFORCING STEEL SHALL BE DEFORMED. DIMENSIONS RELATIVE TO PLACEMENT OF REINFORCING ARE TO CENTERS OF BARS UNLESS OTHERWISE INDICATED IN THE PLANS. DIMENSIONS ON BAR DETAILS ARE TO CENTERS OF BARS OR ARE OUT TO OUT AS INDICATED ON PLANS.

WIRE BAR SUPPORTS SHALL BE PROVIDED FOR REINFORCING STEEL WHERE INDICATED ON THE PLANS. WHEN BAR SUPPORT PIECES ARE PLACED IN CONTINUOUS LINES, THEY SHALL BE SO PLACED THAT THE ENDS OF THE SUPPORTING WIRES SHALL BE LAPPED TO LOCK LEGS ON ADJOINING PIECES.

STRUCTURAL STEEL:

AT THE CONTRACTOR'S OPTION, HE MAY SUBSTITUTE 7/8" Ø SHEAR STUDS FOR THE 3/4" Ø STUDS SPECIFIED ON THE PLANS. THIS SUBSTITUTION SHALL BE MADE AT THE RATE OF 3 - 7/8" Ø STUDS FOR 4 - 3/4" Ø STUDS, AND STUD SPACING CHANGES SHALL BE MADE AS NECESSARY TO PROVIDE THE SAME EQUIVALENT NUMBER OF 7/8" Ø STUDS ALONG THE BEAM AS SHOWN FOR 3/4" Ø STUDS BASED ON THE RATIO OF 3 - 7/8" Ø STUDS FOR 4 - 3/4" Ø STUDS. STUDS OF THE LENGTH SPECIFIED ON THE PLANS MUST BE PROVIDED. THE MAXIMUM SPACING SHALL BE 2'-0".

EXCEPT AT THE INTERIOR SUPPORTS OF CONTINUOUS BEAMS WHERE THE COVER PLATE IS IN CONTACT WITH BEARING PLATE, THE CONTRACTOR MAY, AT HIS OPTION, SUBSTITUTE FOR THE COVER PLATES DESIGNATED ON THE PLANS COVER PLATES OF THE EQUIVALENT AREA PROVIDED THESE PLATES ARE AT LEAST 3/16" IN THICKNESS AND DO NOT EXCEED A WIDTH EQUAL TO THE FLANGE WIDTH LESS 2" OR A THICKNESS EQUAL TO 2 TIMES THE FLANGE THICKNESS. THE SIZE OF FILLET WELDS SHALL CONFORM TO THE REQUIREMENTS OF THE CURRENT ANSI/AASHTO/AWS "BRIDGE WELDING CODE". ELECTROSLAG WELDING WILL NOT BE PERMITTED.

WITH THE SOLE EXCEPTION OF EDGES AT SURFACES WHICH BEAR ON OTHER SURFACES, ALL SHARP EDGES AND ENDS OF SHAPES AND PLATES SHALL BE SLIGHTLY ROUNDED BY SUITABLE MEANS TO A RADIUS OF APPROXIMATELY 1/16" INCH OR EQUIVALENT FLAT SURFACE AT A SUITABLE ANGLE PRIOR TO PAINTING, GALVANIZING, OR METALLIZING.

HANDRAILS AND POSTS:

METAL STANDARDS AND FACES OF THE CONCRETE END POSTS FOR THE METAL RAIL SHALL BE SET NORMAL TO THE GRADE OF THE CURB, UNLESS OTHERWISE SHOWN ON PLANS. THE METAL RAIL AND TOPS OF CONCRETE POSTS USED WITH THE ALUMINUM RAIL SHALL BE BUILT PARALLEL TO THE GRADE OF THE CURB.

METAL HANDRAILS SHALL BE IN ACCORDANCE WITH THE PLANS. RAILS SHALL BE AS MANUFACTURED FOR BRIDGE RAILING. CASTINGS SHALL BE OF A UNIFORM APPEARANCE. FINIS AND OTHER DEFORMATIONS RESULTING FROM CASTING OR OTHERWISE SHALL BE REMOVED IN A MANNER SO THAT A UNIFORM COLORING OF THE COMPLETED CASTING SHALL BE OBTAINED. CASTINGS WITH DISCOLORATIONS OR OF NON-UNIFORM COLORING WILL NOT BE ACCEPTED. CERTIFIED MILL REPORTS ARE REQUIRED FOR METAL RAILS AND POSTS.

SPECIAL NOTES:

GENERALLY, IN CASE OF DISCREPANCY, THIS STANDARD SHEET OF NOTES SHALL GOVERN OVER THE SPECIFICATIONS, BUT THE REMAINDER OF THE PLANS SHALL GOVERN OVER NOTES HEREON, AND SPECIAL PROVISIONS SHALL GOVERN OVER ALL. SEE SPECIFICATIONS ARTICLE 105-4.

ENGLISH

JANUARY, 1990

STD. NO. SN

CONTRACT: DJ00489 **TIP PROJECT: I-5838**

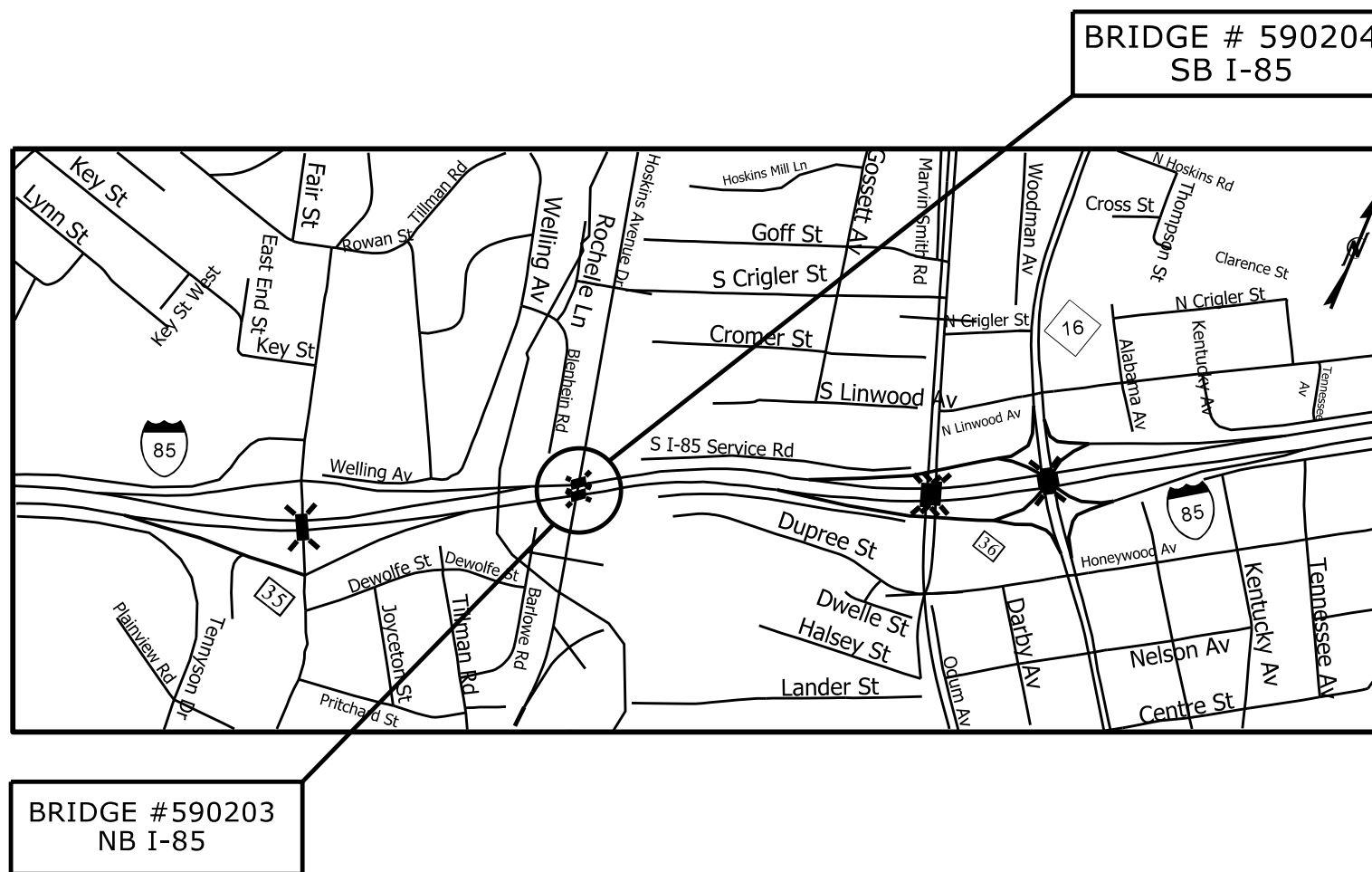
STATE OF NORTH CAROLINA
 DIVISION OF HIGHWAYS

MECKLENBURG COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	I-5838	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
53044.1.1		P.E.	
53044.3.1	0085065	CONST.	

LOCATION: *I-85 NORTH AND SOUTH BOUND DIRECTIONS
 OVER SEABOARD COASTLINE RAILROAD AT MP 35.77*

TYPE OF WORK: *BRIDGE REHABILITATION, SILANE DECK TREATMENT,
 JOINT REPAIR*



DESIGN DATA

ADT 2020 = 108,000
 K = %
 D = %
 T = % *
 V = 60 MPH
 * TTST = DUAL

PROJECT LENGTH

LENGTH OF STRUCTURAL TIP PROJECT 53044.3.1 = 0.11 MILES

 TOTAL LENGTH OF TIP PROJECT 53044.3.1 = 0.11 MILES

Prepared in the Office of
DIVISION OF HIGHWAYS
 DIVISION 10

2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
 N/A

LETTING DATE:
 OCTOBER 4, 2023

JOHN H. EDMONDS
 PROJECT ENGINEER

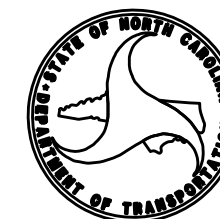
TIM SHERRILL, PE
 PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

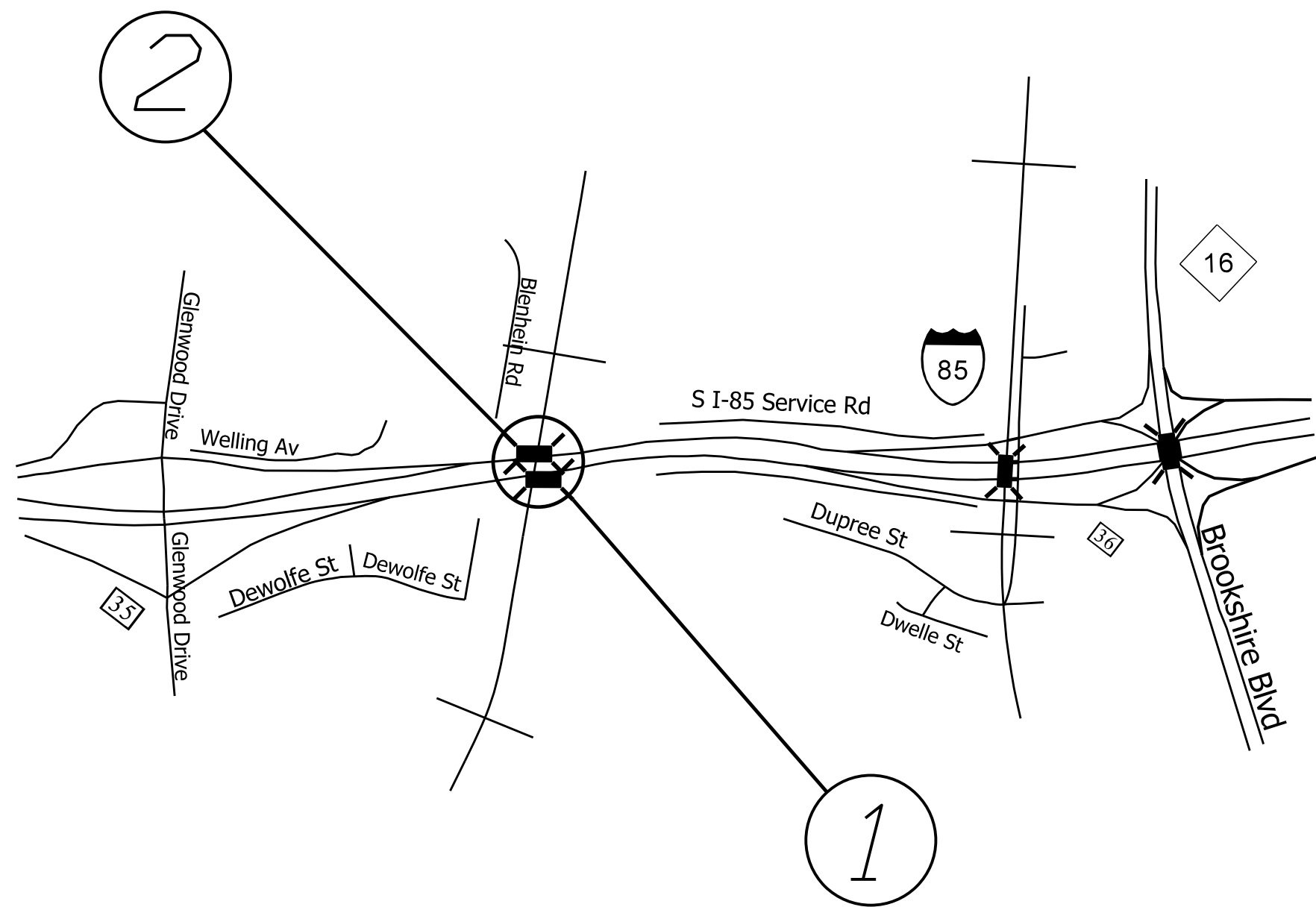
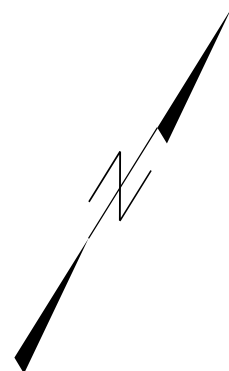
SIGNATURE: _____ P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE: _____ P.E.



STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.	I-5838		
WBS NO.	53044.3.I		



MAP

DESCRIPTION

1 NB I-85 BRIDGE #590203

FROM BEGIN BRIDGE DECK TO END BRIDGE DECK

2 SB I-85 BRIDGE #590204

FROM BEGIN BRIDGE DECK TO END BRIDGE DECK

I-5838 I-85 BRIDGE REHABILITATION MECKLENBURG COUNTY		
SCALE	-1A-	REVISIONS
DATE	3/22	
DWG. BY	JHE	
DESIGN BY	JHE	
APPROVED		

