



**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.

**BRIDGE COORDINATES**

LAT: 35.90900°  
LONG: -82.55783°

**NOTES**

- 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 OF TRANSPORTATION FOR ANY DELAYS OR ADDITIONAL COST INCURRED BASED ON DIFFERENCES BETWEEN THAT SHOWN ON THE PLANS AND THE ACTUAL CONDITIONS AT THE PROJECT SITE.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO FOLLOW ALL STATE AND FEDERAL SAFETY REQUIREMENTS.
- WORK ON THE BRIDGES SHALL BE PERFORMED SO AS NOT TO ALLOW DEBRIS TO FALL BELOW. THE CONTRACTOR SHALL SUBMIT PLANS FOR CONSTRUCTION IN ACCORDANCE WITH ARTICLE 402-2 OF THE STANDARD SPECIFICATIONS AND THE PROJECT SPECIAL PROVISIONS.
- ANY DAMAGE TO EXISTING REINFORCING STEEL, DURING CONTRACTOR'S OPERATIONS, SHALL BE REPAIRED AS DIRECTED BY THE ENGINEER AND PERFORMED AT NO ADDITIONAL COST TO THE DEPARTMENT.
- PRIOR TO BEGINNING WORK, THE CONTRACTOR SHALL SUBMIT FOR REVIEW AND APPROVAL A COMPLETE SEQUENCE OF TASK FOR EACH OPERATION AFFECTING THE BRIDGE SURFACE AND/OR TRAFFIC.
- FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.
- FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.
- FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.
- FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.
- FOR TRAFFIC CONTROL AND LIMITS OF PHASING OF CONSTRUCTION, SEE TRAFFIC CONTROL SPECIAL PROVISIONS.
- EXISTING JOINTS AND DECK DRAINS SHALL BE SEALED PRIOR TO BEGINNING SURFACE PREPARATION OF BRIDGE DECK.
- FOR SCARIFYING BRIDGE DECK, HYDRO-DEMOLITION OF BRIDGE DECK, AND CLASS II SURFACE PREPARATION, SEE OVERLAY SURFACE PREPARATION SPECIAL PROVISION.
- THE CONTRACTOR SHALL PROVIDE A METHOD OF HANDLING UNEXPECTED BLOW THROUGH OF THE DECK DURING HYDRO-DEMOLITION.
- FOR PLACING AND FINISHING LATEX MODIFIED CONCRETE OVERLAY-EARLY STRENGTH (LMC-ES), SEE LATEX MODIFIED CONCRETE-EARLY STRENGTH SPECIAL PROVISIONS.
- LONGITUDINAL CONSTRUCTION JOINTS SHALL BE LOCATED ALONG THE CENTERLINE OR EDGE OF TRAVEL LANES.
- DURING CONSTRUCTION, BERMS OR APPROPRIATE MEASURES SHALL BE USED TO ENSURE HYDRO-DEMOLITION WATER DOES NOT MIGRATE INTO ACTIVE TRAVEL LANES.
- THE CONTRACTOR SHALL COLLECT, TREAT AND DISPOSE OF RUN-OFF WATER FROM THE HYDRO-DEMOLITION PROCESS, SEE OVERLAY SURFACE PREPARATION SPECIAL PROVISIONS.
- FOR BRIDGE JOINT DEMOLITION, SEE SPECIAL PROVISIONS.
- FOR FOAM JOINT SEAL FOR PRESERVATION, SEE SPECIAL PROVISIONS.
- FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.
- FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.
- FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.
- FOR PAINTING CONTAINMENT, POLLUTION CONTROL, AND CLEANING AND PAINTING EXISTING WEATHERING STEEL, SEE PAINTING EXISTING WEATHERING STEEL STRUCTURE, SEE SPECIAL PROVISIONS.
- FOR EPOXY COATING AND DEBRIS REMOVAL, SEE SPECIAL PROVISIONS.
- FOR ELASTOMERIC CONCRETE FOR PRESERVATION, SEE SPECIAL PROVISIONS.
- FOR CURB REPAIRS, SEE SPECIAL PROVISIONS.
- FOR VOLUMETRIC MIXER, SEE SPECIAL PROVISIONS.
- FOR CONCRETE FOR DECK REPAIR, SEE SPECIAL PROVISIONS.

PROJECT NO. I-5831A  
MADISON COUNTY  
 BRIDGE NO. 560551

SHEET 2 OF 2



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
**GENERAL DRAWING**  
 FOR BRIDGE ON  
 INTERSTATE 26  
 OVER SR 1346  
 (BEAR BRANCH ROAD)

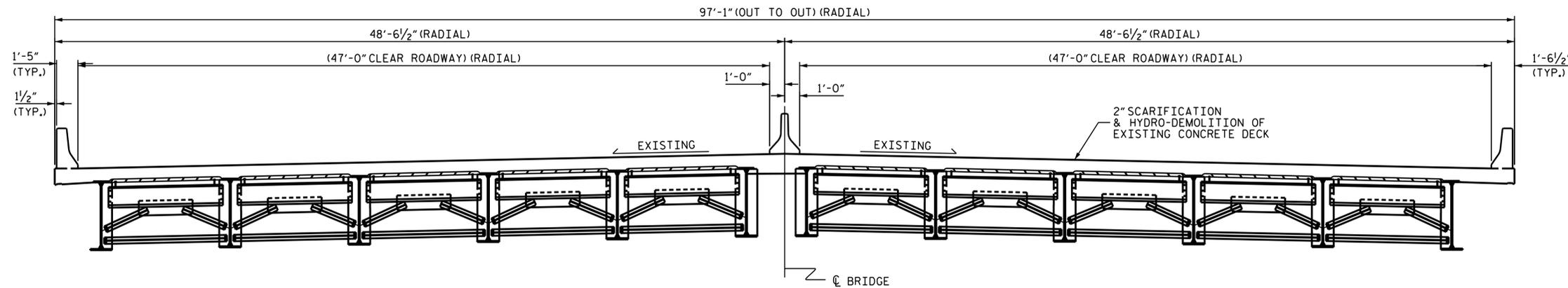
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2			4			8

DRAWN BY : M.ALINAGHIAN DATE : 06/2019  
 CHECKED BY : A.M.LEE, PE DATE : 02/2022

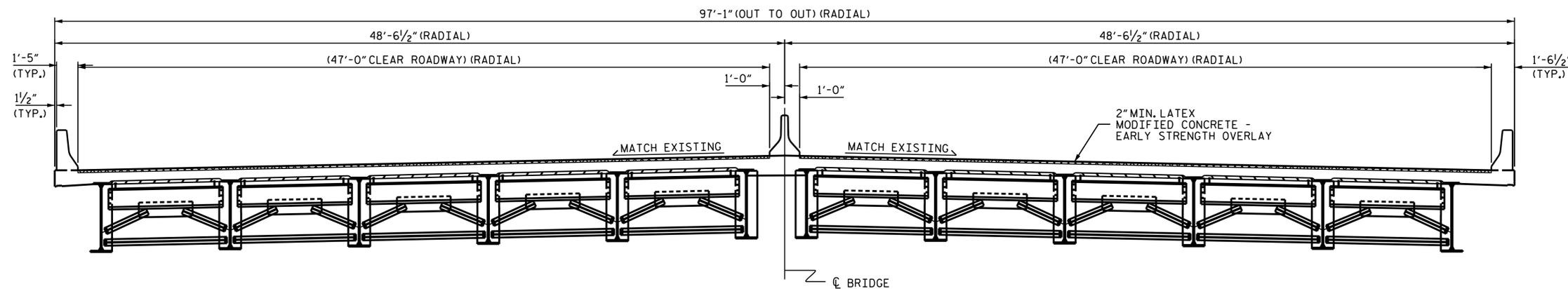
**NOTES**

PREVIOUSLY PLACED LMC-ES OVERLAY AT STAGED EDGES SHALL BE DEMOLISHED BACK A MINIMUM OF 4 INCHES AND RECAST WITH LMC-ES. SEE STAGED LMC-ES OVERLAY JOINT DETAIL.

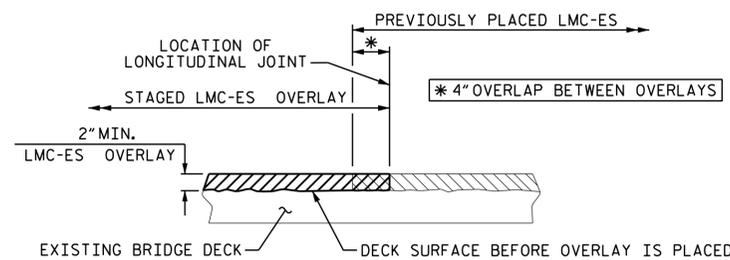
SEE TRAFFIC CONTROL SPECIAL PROVISIONS, FOR LANE WIDTHS, SEQUENCING, AND OTHER TRAFFIC CONTROL MEASURES FOR STAGING OF OVERLAY SURFACE PREPARATION AND LMC-ES OVERLAY PLACEMENT.



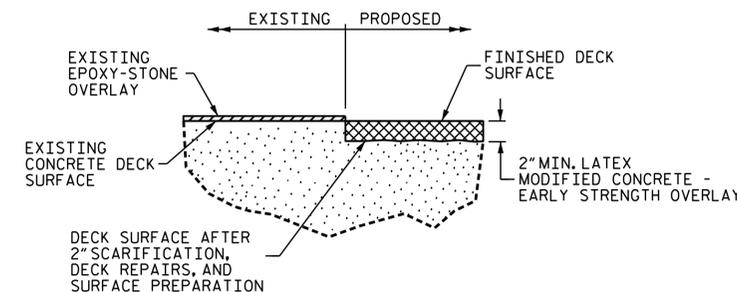
**TYPICAL SECTION**  
(EXISTING ASPHALT WEARING SURFACE)



**TYPICAL SECTION**  
(PROPOSED LMC WEARING SURFACE)



**SECTION THRU DECK**  
**STAGED LMC-ES OVERLAY JOINT**  
(AS NEEDED)



**DETAIL FOR LMC-ES OVERLAY**  
(FINISHED SURFACE OF THE LATEX MODIFIED CONCRETE - ES OVERLAY IS APPROXIMATE)

PROJECT NO. I-5831A  
MADISON COUNTY  
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STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH

**TYPICAL SECTION**



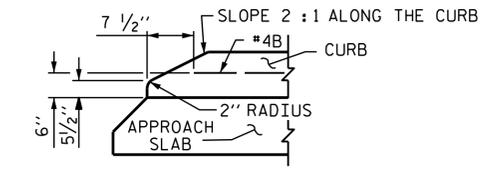
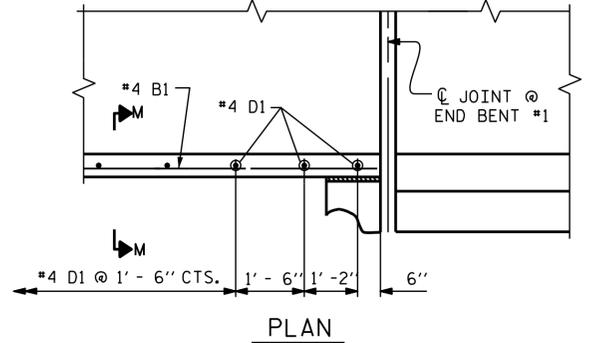
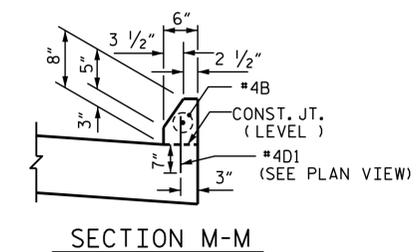
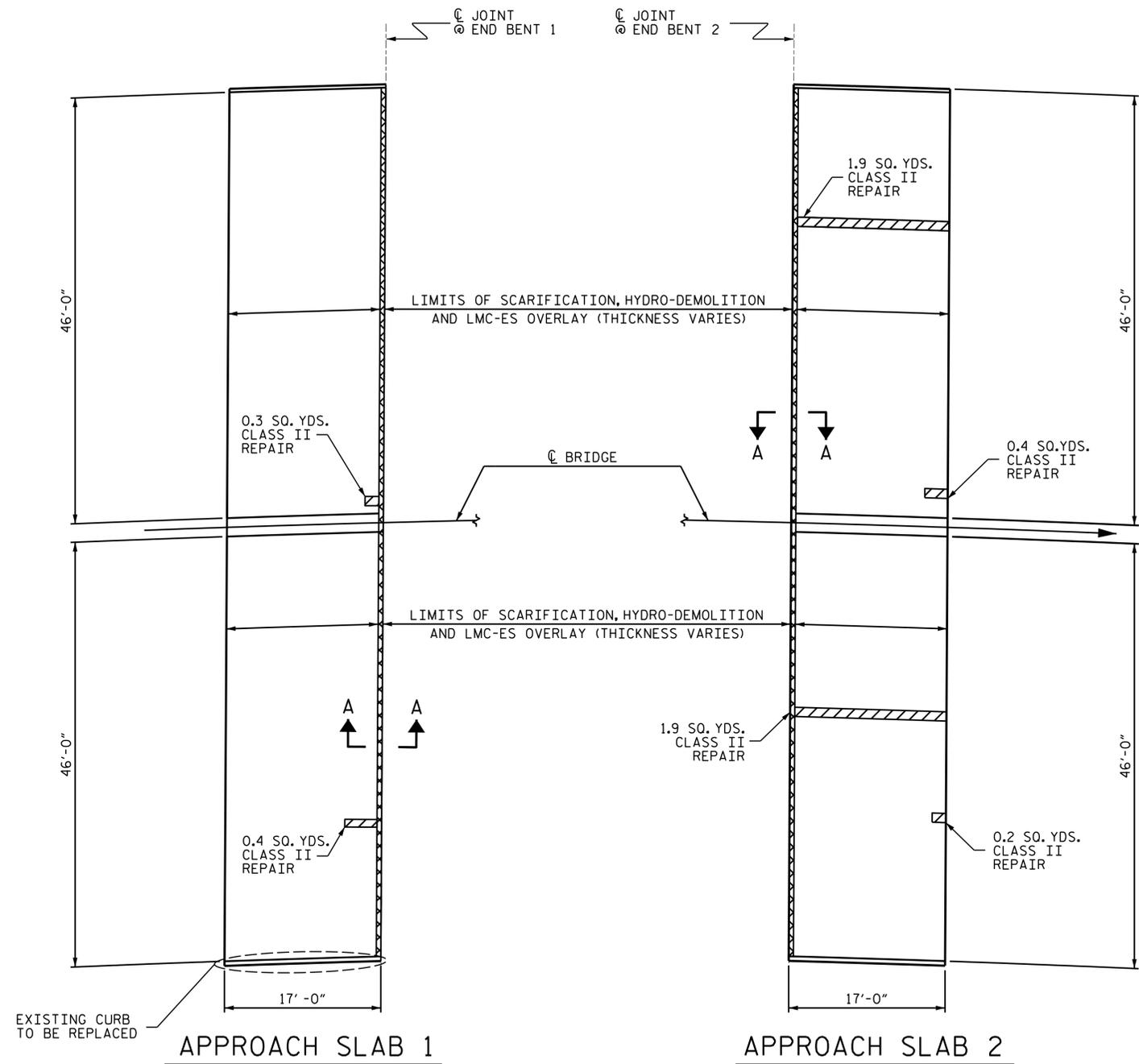
DocuSigned by:  
Amber M. Lee  
05/02/2022

DRAWN BY : CL BRIGHT DATE : 06/2019  
CHECKED BY : H. A. LOCKLEAR DATE : 02/2022

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BILL OF MATERIAL					
FOR CURB ON APPROACH SLAB #1					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
*B1	1	4	STR	15'-8"	11
*D1	11	4	STR	1'-0"	7
* EPOXY COATED REINFORCING STEEL				LBS.	18
CLASS AA CONCRETE				CU. YDS.	0.2



DETAIL AT END OF CURB WITHOUT SPECIAL DRAINAGE

THE JOINT REPLACEMENT SHALL BE COMPLETED PRIOR TO THE PLACING OF DOWELS OR CASTING OF THE CONCRETE CURB.

CURB REPAIR DETAILS

NOTES

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

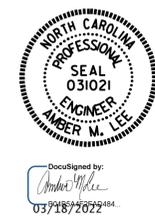
- FOR SECTION A-A, SEE JOINT DETAILS SHEET.
- FOR LMC-ES OVERLAY, SEE SPECIAL PROVISIONS.
- FOR BRIDGE JOINT DEMOLITION, SEE SPECIAL PROVISIONS.
- FOR CURB REPAIRS, SEE SPECIAL PROVISIONS.

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

- BRIDGE JOINT DEMOLITION
- CLASS II SURFACE PREPARATION

PROJECT NO. I-5831A  
MADISON COUNTY  
 BRIDGE NO. 560551

SHEET 1 OF 2



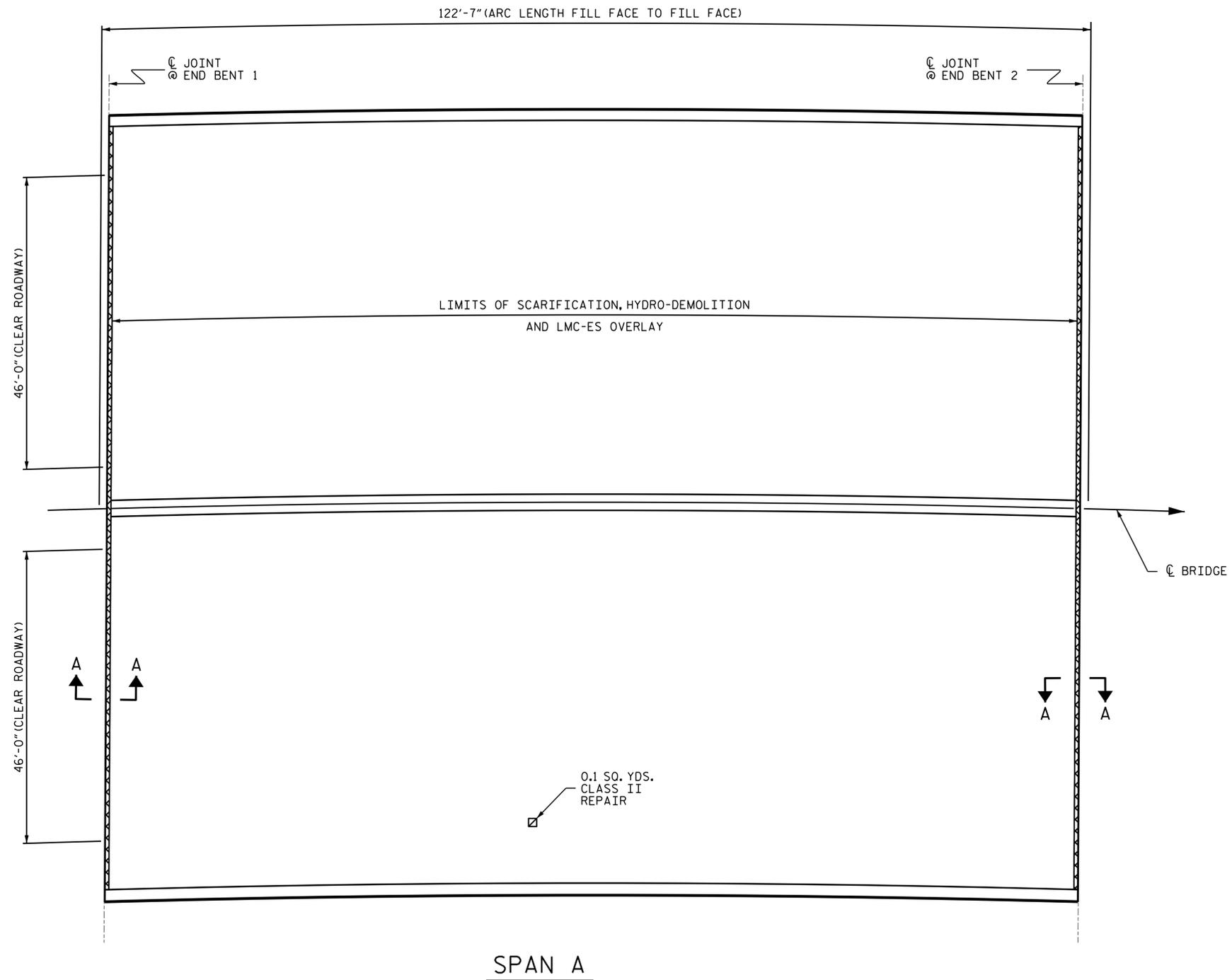
STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
 DECK SURFACE REPAIR  
 APPROACH SLABS

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2			4			

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AS-BUILT REPAIR QUANTITY TABLE					
DECK SURFACE REPAIR - APPROACH SLAB 1			DECK SURFACE REPAIR - APPROACH SLAB 2		
	ESTIMATE	ACTUAL		ESTIMATE	ACTUAL
CLASS II SURFACE PREPARATION	0.7 SQ. YDS.		CLASS II SURFACE PREPARATION	4.4 SQ. YDS.	
LATEX MODIFIED CONCRETE-EARLY STRENGTH	10.9 CU. YDS.		LATEX MODIFIED CONCRETE-EARLY STRENGTH	10.9 CU. YDS.	
PLACING AND FINISHING LMC-ES OVERLAY	174.0 SQ. YDS.		PLACING AND FINISHING LMC-ES OVERLAY	174.0 SQ. YDS.	
SCARIFYING BRIDGE DECK	174.0 SQ. YDS.		SCARIFYING BRIDGE DECK	174.0 SQ. YDS.	
HYDRO-DEMOLITION OF BRIDGE DECK	174.0 SQ. YDS.		HYDRO-DEMOLITION OF BRIDGE DECK	174.0 SQ. YDS.	
GROOVING BRIDGE FLOORS	1434.0 SQ. FT.		GROOVING BRIDGE FLOORS	1434.0 SQ. FT.	
CURB REPAIRS	17.0 LIN. FT.				

DRAWN BY : CL BRIGHT DATE : 02/2019  
 CHECKED BY : H.A. LOCKLEAR DATE : 02/2022



**NOTES**

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

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

FOR SECTION A-A, SEE JOINT DETAILS SHEET.

FOR LMC-ES OVERLAY, SEE SPECIAL PROVISIONS.

FOR BRIDGE JOINT DEMOLITION, SEE SPECIAL PROVISIONS.

FOR BRIDGE JOINT DEMOLITION QUANTITIES, SEE JOINT DETAILS SHEET.

- CLASS II SURFACE PREPARATION
- BRIDGE JOINT DEMOLITION

SPAN A

AS-BUILT REPAIR QUANTITY TABLE		
DECK SURFACE REPAIR- SPAN A		
	ESTIMATE	ACTUAL
CLASS II SURFACE PREPARATION	0.1 SQ. YDS.	
LATEX MODIFIED CONCRETE - EARLY STRENGTH	77.6 CU. YDS.	
PLACING AND FINISHING LMC-ES OVERLAY	1242.0 SQ. YDS.	
SCARIFYING BRIDGE DECK	1242.0 SQ. YDS.	
HYDRO-DEMOLITION OF BRIDGE DECK	1242.0 SQ. YDS.	
GROOVING BRIDGE FLOORS	10420.0 SQ. FT.	

PROJECT NO. I-5831A  
MADISON COUNTY  
 BRIDGE NO. 560551

SHEET 2 OF 2



DocuSigned by:  
 Meier M. Lee  
 03/18/2022

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**DECK SURFACE REPAIR  
 SPAN A**

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# AS-BUILT REPAIR QUANTITY TABLE

## UNDERSIDE OF DECK REPAIR - SPAN A

SHOTCRETE REPAIRS	ESTIMATE		ACTUAL	
	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
UNDERSIDE OF DECK	0.0	0.0		
END BENT DIAPHRAGM	0.0	0.0		
OVERHANG	0.0	0.0		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
UNDERSIDE OF DECK	0.0	0.0		
END BENT DIAPHRAGM	0.0	0.0		
OVERHANG	0.0	0.0		
EPOXY RESIN INJECTION	LIN. FT.		LIN. FT.	
UNDERSIDE OF DECK	0.0			
END BENT DIAPHRAGM	0.0			
OVERHANG	0.0			

VALUES IN CHART REPRESENT ESTIMATED REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MINIMUM OF 1" BEHIND REBAR AND MINIMUM 2" CLEARANCE TO SAWCUT. SEE "OVERHANG, DIAPHRAGM AND BRIDGE RAIL REPAIR DETAILS" SHEET.

FOR UNDERSIDE OF DECK REPAIRS. SEE "OVERHANG, DIAPHRAGM AND BRIDGE RAIL REPAIR DETAILS" SHEET.

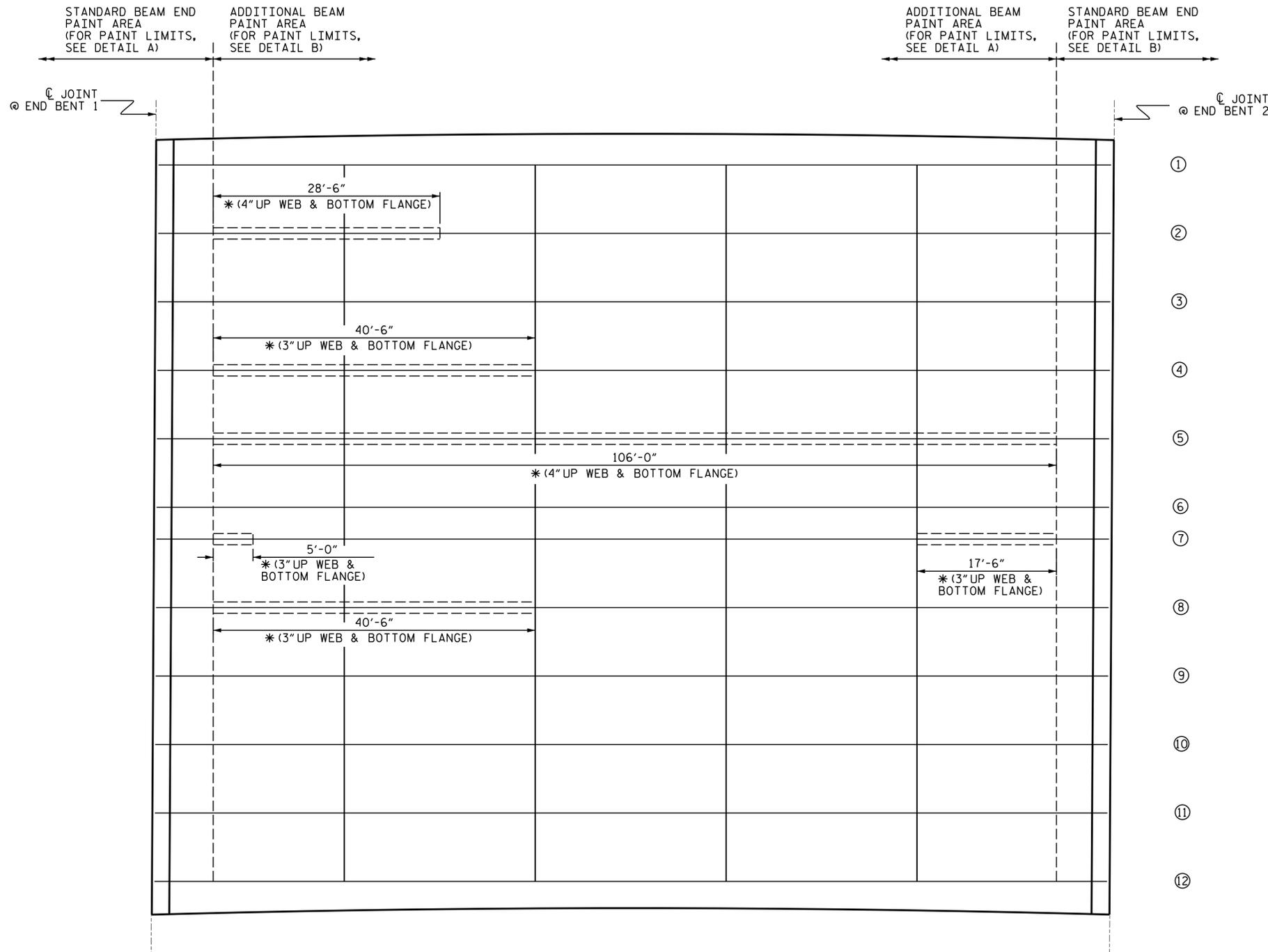
FOR OVERHANG REPAIRS. SEE "OVERHANG, DIAPHRAGM AND BRIDGE RAIL REPAIR DETAILS" SHEET.

FOR PAINTING EXISTING WEATHERING STEEL STRUCTURES, SEE SPECIAL PROVISIONS.

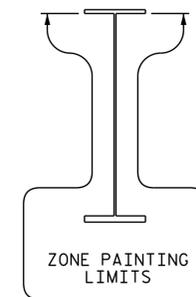
ADDITIONAL BEAM PAINTING WILL BE PAID FOR UNDER THE PAINTING EXISTING WEATHERING STEEL STRUCTURE PAY ITEM.

 SHOTCRETE REPAIR AREA

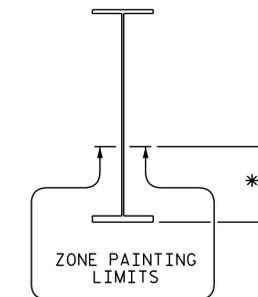
 ERI - EPOXY RESIN INJECTION



- ①
- ②
- ③
- ④
- ⑤
- ⑥
- ⑦
- ⑧
- ⑨
- ⑩
- ⑪
- ⑫



DETAIL A  
(STANDARD BEAM END)



DETAIL B  
(ADDITIONAL BEAM AREA)

### ZONE PAINTING LIMITS

PROJECT NO. I-5831A  
MADISON COUNTY  
 BRIDGE NO. 560551

### SPAN A



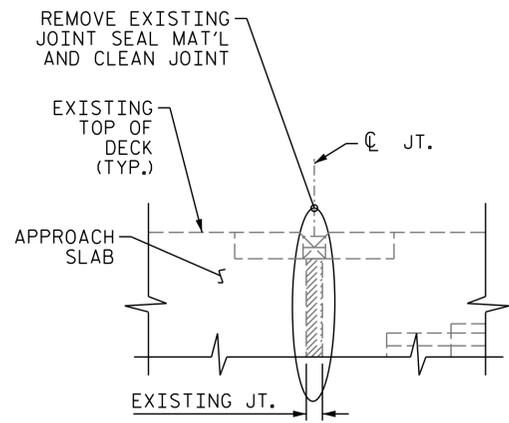
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 Meier M. Lee  
 03/18/2022

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
**DECK UNDERSIDE  
 REPAIR  
 SPAN A**

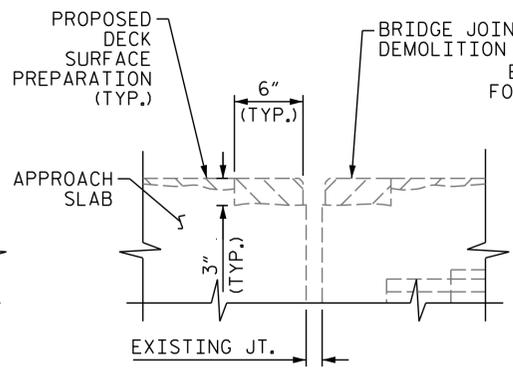
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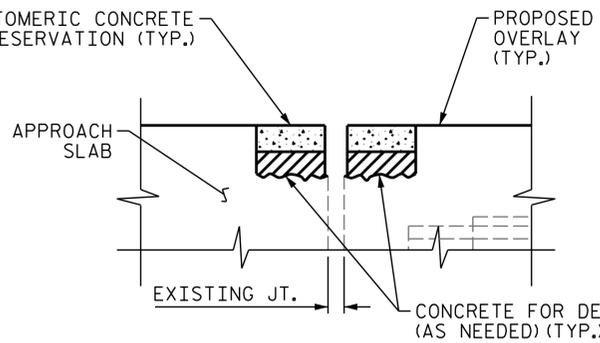
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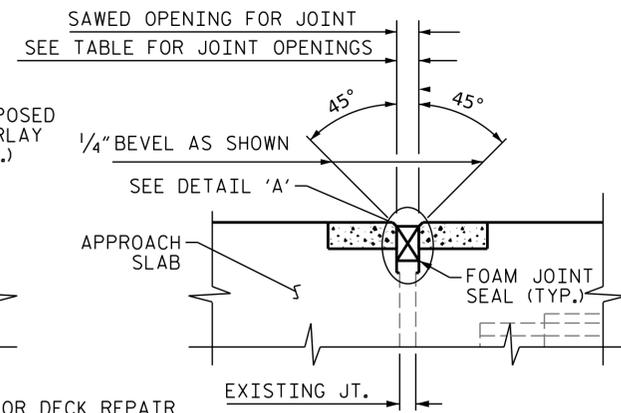
EXISTING JOINT SEAL



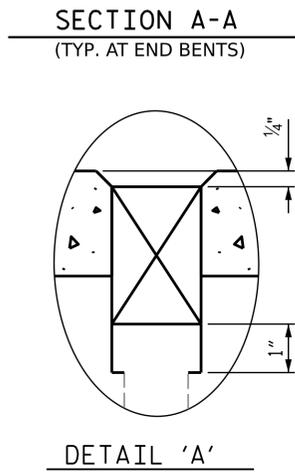
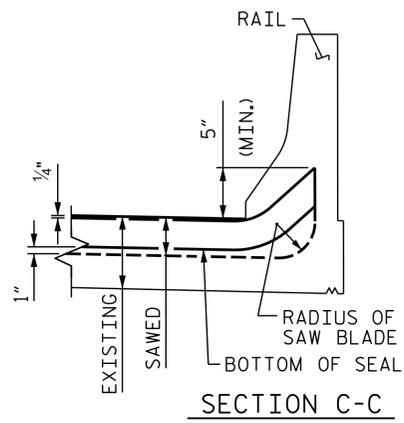
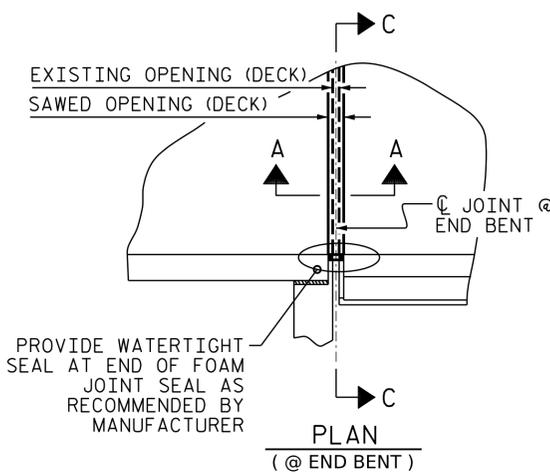
EXISTING JOINT AFTER JOINT DEMOLITION



PROPOSED JOINT PRIOR TO SAWING



PROPOSED FOAM JOINT SEAL



**SAWED JOINT OPENING TABLE**

LOCATION	SAWED JT. OPENING (PERPENDICULAR TO JT.)		
	AT 45°	AT 60°	AT 90°
END BENT 1	1 1/16"	1 3/16"	1 9/16"
END BENT 2	1 5/8"	1 1/16"	1 1/16"
TOTAL			

**ELASTOMERIC CONCRETE FOR PRESERVATION**

LOCATION	ESTIMATED (CU.FT.)	ACTUAL (CU.FT.)
END BENT 1	23.8	
END BENT 2	23.8	
TOTAL	47.6	

**BRIDGE JOINT DEMOLITION**

LOCATION	ESTIMATED (SQ.FT.)	ACTUAL (SQ.FT.)
END BENT 1	95.2	
END BENT 2	95.2	
TOTAL	190.4	

**JOINT REPAIR QUANTITY TABLE**

	ESTIMATED	ACTUAL
FOAM JOINT SEALS FOR PRESERVATION	199.7 FT.	

**NOTES**

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

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

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

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

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

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

THE INSTALLED FOAM JOINTS SHALL BE WATER TIGHT.

FOR FOAM JOINT SEALS FOR PRESERVATION, SEE SPECIAL PROVISIONS.

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

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

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

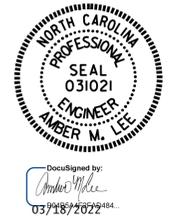
FINAL SURFACE OF THE JOINT DEMOLITION AREA PRIOR TO PLACEMENT OF CONCRETE REPAIR MATERIAL OR ELASTOMERIC CONCRETE SHOULD BE REASONABLY FLAT AND LEVEL. ENGINEER SHALL DETERMINE THE ACCEPTABILITY OF THE SURFACE PRIOR TO PLACEMENT OF REPAIR CONCRETE OR ELASTOMERIC CONCRETE.

FOR BRIDGE JOINT DEMOLITION, SEE SPECIAL PROVISIONS.

FOR ELASTOMERIC CONCRETE FOR PRESERVATION, SEE SPECIAL PROVISIONS.

FOR CONCRETE FOR DECK REPAIR, SEE SPECIAL PROVISIONS.

PROJECT NO. I-5831A  
MADISON COUNTY  
 BRIDGE NO. 560551



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
 STANDARDS  
 FOAM JOINT SEALS  
 FOR PRESERVATION  
 DETAILS

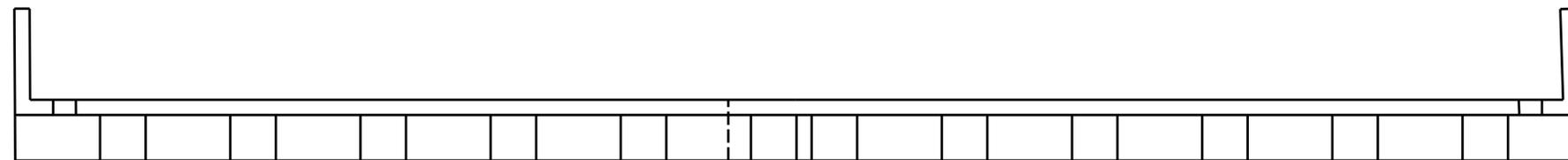
ASSEMBLED BY : A.M. LEE DATE : 2/2022  
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 CHECKED BY : -

REVISIONS

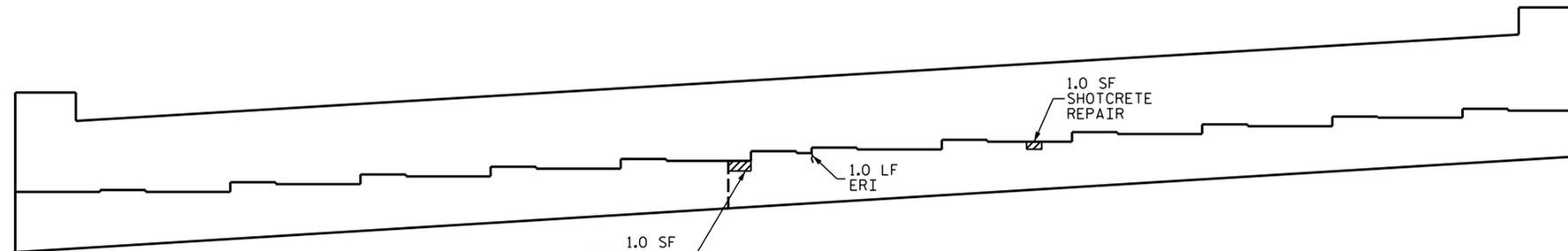
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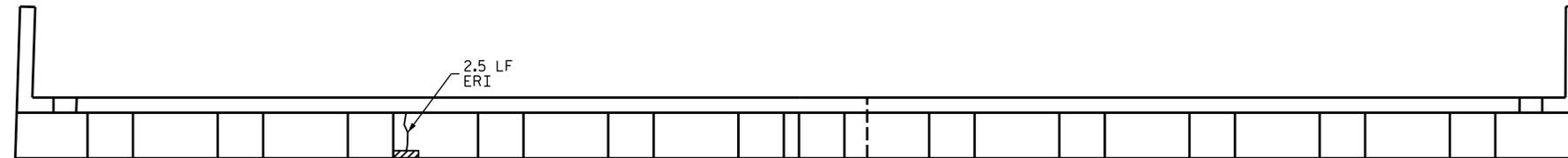
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 TOTAL SHEETS 8



PLAN  
(END BENT 1)



ELEVATION  
(END BENT 1)



PLAN  
(END BENT 2)



ELEVATION  
(END BENT 2)

NOTES

REPAIR LOCATIONS AND ESTIMATE OF QUANTITIES ARE GIVEN BASED ON 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 ENTER THE ACTUAL QUANTITIES INTO THE AS-BUILT REPAIR QUANTITY TABLE.

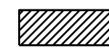
CLEAN AND REMOVE DEBRIS FROM THE TOP OF THE CAP AND APPLY EPOXY PROTECTIVE COATING. EPOXY COATING SHALL BE APPLIED TO THE TOP SURFACE OF THE CAP. THE CONTRACTOR SHALL NOT COAT THE AREA OF THE CAP BENEATH THE MASONRY PLATES. FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

SHOTCRETE REPAIRS MAYBE SUBSTITUTED IN LIEU OF CONCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

FOR SHOTCRETE REPAIR, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIR, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

-  SHOTCRETE REPAIR AREA
-  CONCRETE REPAIR AREA
-  ERI - EPOXY RESIN INJECTION

DRAWN BY : CL BRIGHT DATE : .04/2019  
 CHECKED BY : H. LOCKLEAR DATE : .05/2019

AS-BUILT REPAIR QUANTITY TABLE

END BENT 1	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	2.0	1.0		
CURTAIN WALL	0.0	0.0		
WING WALL	0.0	0.0		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
CURTAIN WALL	0.0	0.0		
WING WALL	0.0	0.0		
EPOXY RESIN INJECTION	LIN. FT.		LIN. FT.	
CAP	1.0			
CURTAIN WALL	0.0			
WING WALL	0.0			
EPOXY COATING	SQ. FT.		SQ. FT.	
CAP	310.0			

END BENT 2	QUANTITIES			
	ESTIMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	2.0	1.0		
CURTAIN WALL	0.0	0.0		
WING WALL	0.0	0.0		
CONCRETE REPAIRS	AREA SQ. FT.	VOLUME CU. FT.	AREA SQ. FT.	VOLUME CU. FT.
CAP	0.0	0.0		
CURTAIN WALL	0.0	0.0		
WING WALL	0.0	0.0		
EPOXY RESIN INJECTION	LIN. FT.		LIN. FT.	
CAP	2.5			
CURTAIN WALL	0.0			
WING WALL	0.0			
EPOXY COATING	SQ. FT.		SQ. FT.	
CAP	310.0			

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

PROJECT NO. I-5831A  
 MADISON COUNTY  
 BRIDGE NO. 560551



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

END BENTS 1 & 2

NO.	REVISIONS			SHEET NO.
	BY:	DATE:		
1			3	S7-08 TOTAL SHEETS 8
2			4	

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**NOTES**

TYPICAL BENT CAP REPAIRS ARE SHOWN. REPAIR DETAILS SIMILAR FOR END BENT CAPS AND STRUTS.

THE METHOD USED TO DELINEATE THE AREAS OF UNSOUND CONCRETE TO BE REPAIRED SHALL NOT PERMANENTLY MARK THE CONCRETE, LEAVE ANY RESIDUE AFTER REMOVAL OR REQUIRE HARSH CHEMICALS TO REMOVE.

THE CONTRACTOR SHALL REMOVE THE DETERIORATED CONCRETE IN ACCORDANCE WITH THE GUIDELINES SET IN THESE NOTES, IN THE SPECIAL PROVISIONS AND THE STANDARD SPECIFICATIONS.

REMOVE UNSOUND CONCRETE TO THE EXTENT NECESSARY, MINIMUM OF 1" BEHIND REBAR AND MINIMUM OF 2" CLEARANCE TO SAWCUT.

NO MORE THAN ONE-THIRD OF THE CAP OR COLUMN CROSS SECTIONAL AREA SHALL BE REMOVED AT ONE TIME. SHOULD IT BECOME NECESSARY TO REMOVE MORE THAN 30% OF A CAP OR COLUMN CROSS SECTIONAL AREA, NOTIFY THE ENGINEER PRIOR TO PROCEEDING.

SIMULTANEOUS REMOVAL OF UNSOUND CONCRETE MAY BE PERMITTED ON MORE THAN ONE FACE OF A CAP AND/OR COLUMN, IF THE AREAS OF REMOVAL ARE NOT ADJACENT TO OR DIRECTLY OPPOSITE ONE ANOTHER. IF REMOVAL EXTENDS MORE THAN 1 1/2" BEHIND THE MAIN REINFORCING BARS, NOTIFY THE ENGINEER PRIOR TO PROCEEDING.

REINFORCING STEEL WHICH IS DETERMINED BY THE ENGINEER TO BE REPLACED, SHALL BE REMOVED TO A POINT WHERE IT IS SOUND. THE PATCH SHALL EXTEND A SUFFICIENT DISTANCE BEYOND THIS POINT TO DEVELOP A SPLICE LENGTH SPECIFIED IN THE TABLE ON THIS SHEET.

THE #4 "U" DOWELS ARE REQUIRED ONLY AROUND THE ANCHOR BOLTS. THE EXISTING REINFORCING STEEL IN THE PEDESTAL WALL SHALL BE CLEANED, STRAIGHTENED AND REMAIN IN PLACE.

FOR ADHESIVELY ANCHORED ANCHOR BOLTS OR DOWELS, SEE STANDARD SPECIFICATIONS.

COAT ALL REPAIR SURFACE AREAS ON THE TOP OF CAPS, INCLUDING CHAMFERS, WITH EPOXY PROTECTIVE COATING, OVERLAPPING THE REPAIR AREA BY A MINIMUM OF 3" ON ALL POSSIBLE SIDES.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR EPOXY PROTECTIVE COATING, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTION (ERI), SEE SPECIAL PROVISIONS.

PROJ. NO. I-5831A  
MADISON COUNTY  
 BRIDGE NO. 560547, 560551

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

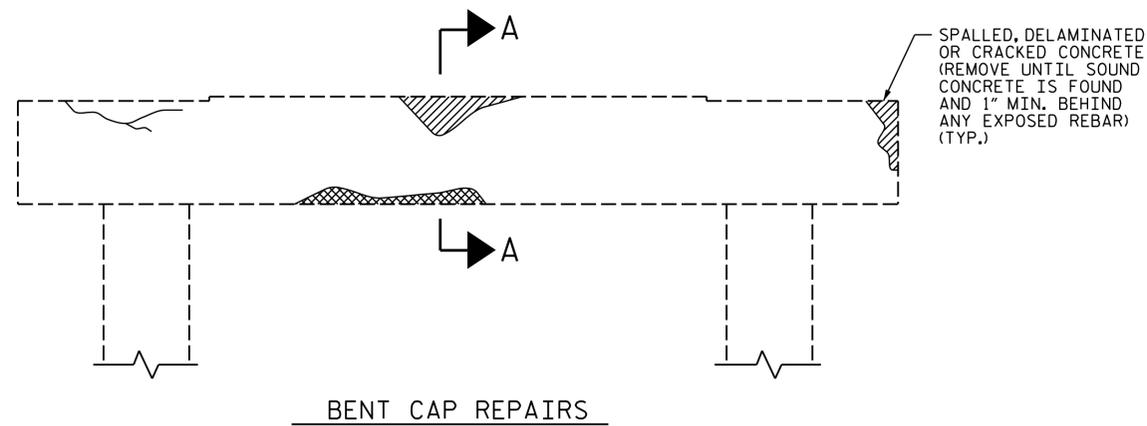
STANDARD  
 TYPICAL CAP  
 AND COLUMN  
 REPAIR DETAILS



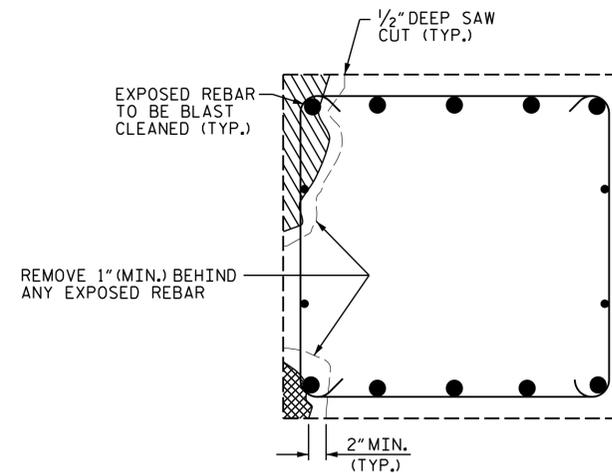
DocuSigned by:  
 Amber M. Lee  
 03/18/2022

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	SD-01
1			3			TOTAL SHEETS
2			4			2

DOCUMENT NOT CONSIDERED  
 FINAL UNLESS ALL  
 SIGNATURES COMPLETED

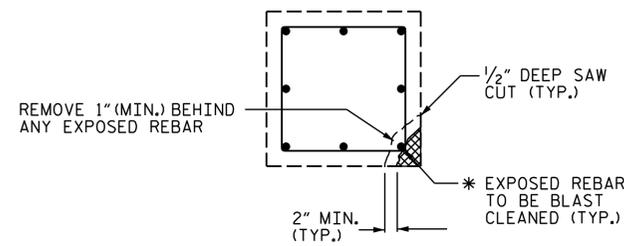


**BENT CAP REPAIRS**



**SECTION A-A**

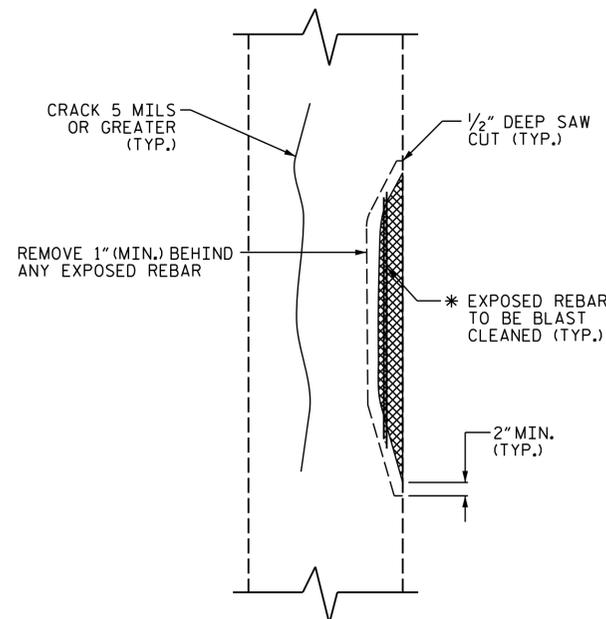
**CAP REPAIR**



**PLAN OF COLUMN**

**REPAIR KEY**

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

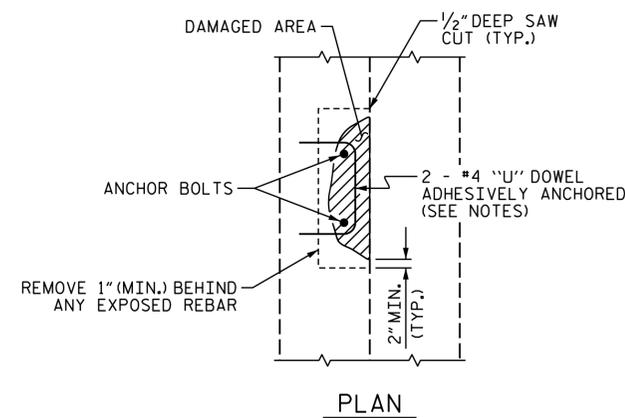


**ELEVATION OF COLUMN**

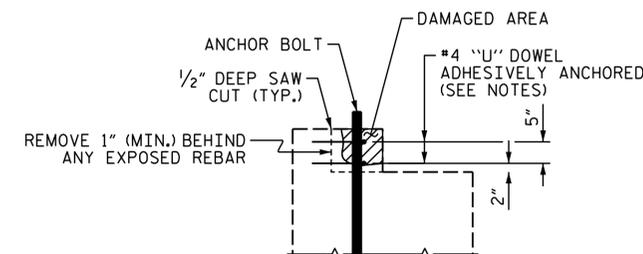
**COLUMN REPAIR**

\* REPAIR LENGTH SHALL NOT EXCEED 10 FEET.

BAR SIZE	MIN. SPLICE LENGTH
#4	2'-4"
#5	2'-9"
#6	4'-0"
#7	5'-3"
#8	6'-9"
#9	8'-6"
#10	10'-11"
#11	13'-4"



**PLAN**

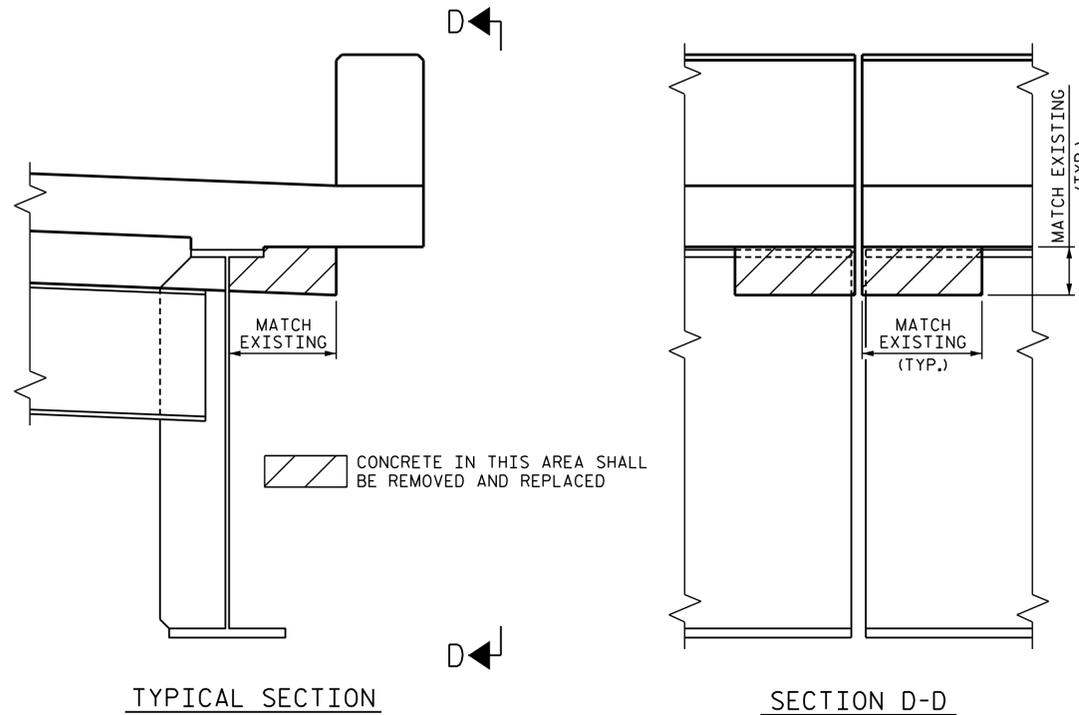
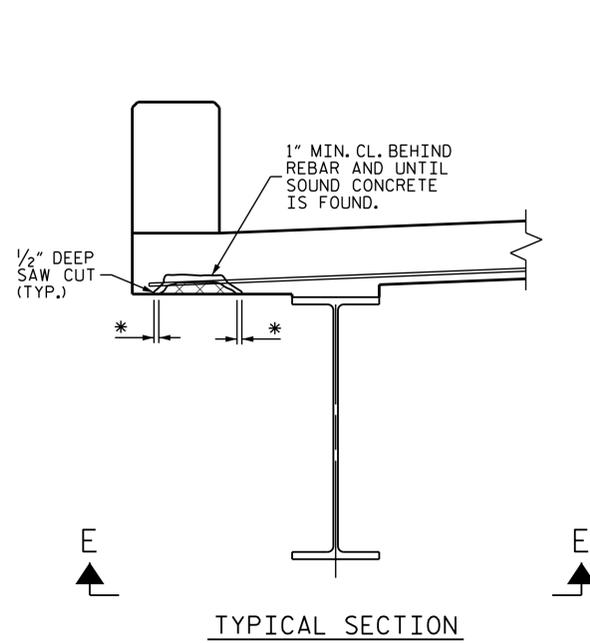


**ELEVATION**

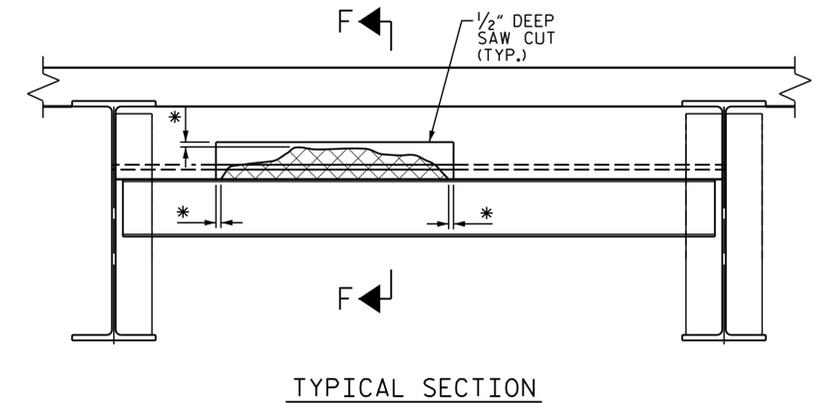
**PEDESTAL WALL REPAIR**

ASSEMBLED BY : R. SAHA DATE : 02/2022  
 CHECKED BY : H.A. LOCKLEAR DATE : 02/2022  
 DRAWN BY : NAP 8/18  
 CHECKED BY :

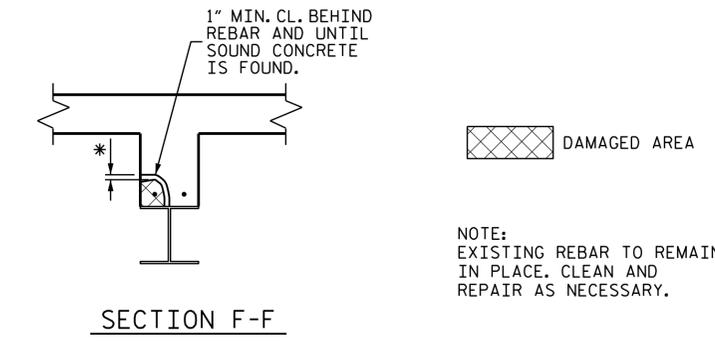
NOTE: OVERHANG DIAPHRAGMS TO BE REMOVED AND REPLACED, ARE SHOWN ON "PLAN OF SPAN" SHEETS. OVERHANG DIAPHRAGMS SHALL BE REMOVED PRIOR TO CLEANING AND PAINTING OF BEAMS AND REPLACED AFTER BEAM REPAIRS AND PAINTING ARE COMPLETE.



OVERHANG DIAPHRAGM REPLACEMENT DETAILS

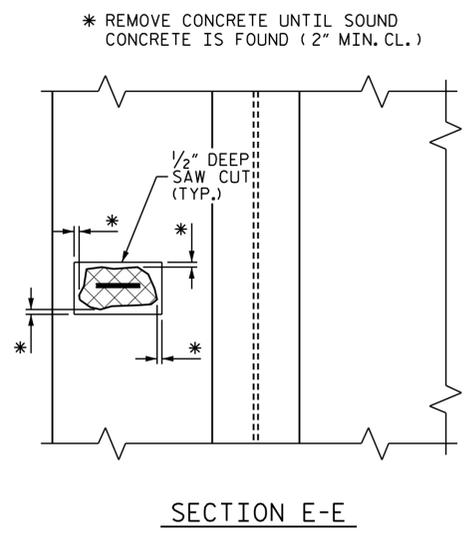


\* REMOVE CONCRETE UNTIL SOUND CONCRETE IS FOUND (2" MIN. CL.)



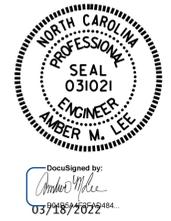
NOTE: EXISTING REBAR TO REMAIN IN PLACE. CLEAN AND REPAIR AS NECESSARY.

INTERIOR DIAPHRAGM REPAIR DETAILS



OVERHANG DETAILS

PROJ. NO. I-5831  
MADISON COUNTY  
 BRIDGE NO. 560547



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
**OVERHANG, DIAPHRAGM  
 AND BRIDGE RAIL  
 REPAIR DETAILS**

DRAWN BY : R.L. PUTEK DATE : 08/2018  
 CHECKED BY : A.M. LEE, PE DATE : 08/2018

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	SD-02
1			3			TOTAL SHEETS
2			4			2

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