

#### 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 CONTAINTMENT, 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 560551 BRIDGE NO.\_\_

SHEET 2 OF 2

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

GENERAL DRAWING

FOR BRIDGE ON INTERSTATE 26 OVER SR 1346 (BEAR BRANCH ROAD)

DOCUMENT NOT CONSI

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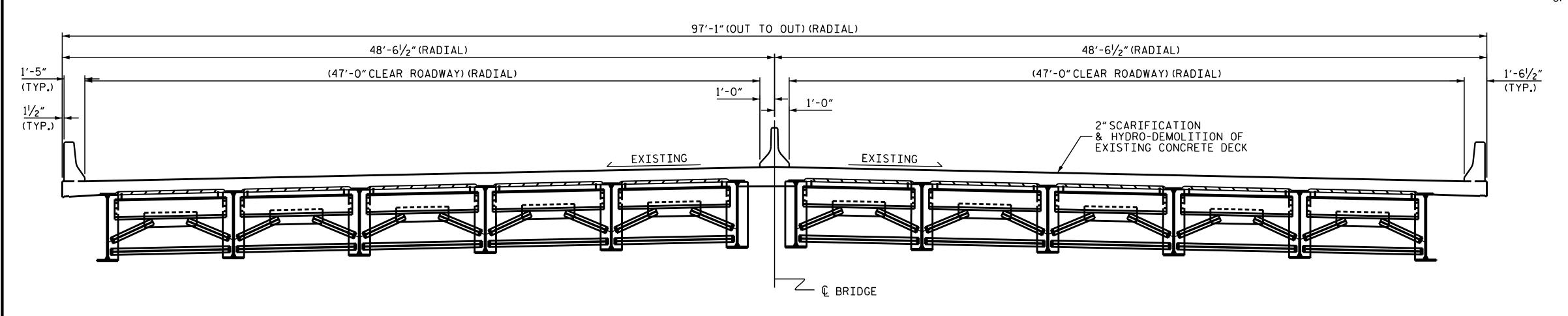
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Amhur Mdue 05/02/2022			REVI:	OIS	NS		SHEET NO
CUMENT NOT CONSIDERED	NO.	BY:	DATE:	NO.	BY:	DATE:	S7-02
FINAL UNLESS ALL	1			3			TOTAL SHEETS
SIGNATURES COMPLETED	2			4			8

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

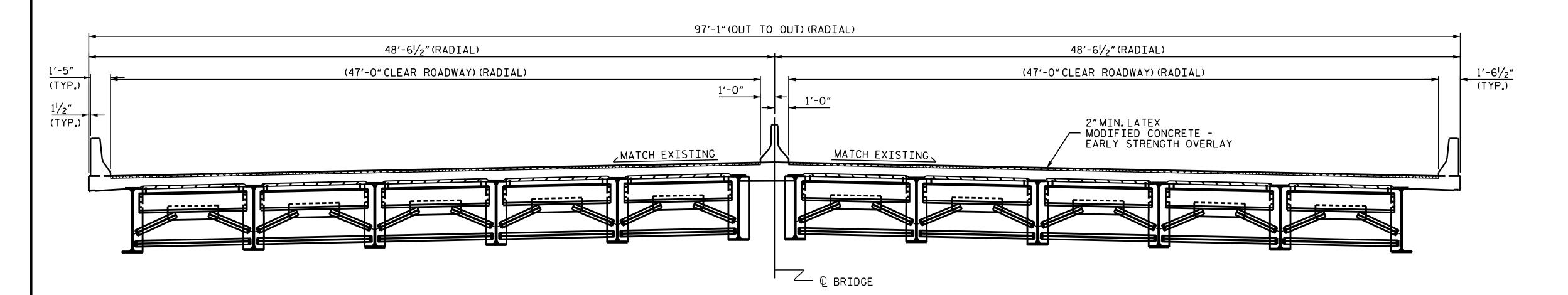


PREVIOUSLY PLACED LMC-ES OVERLAY AT STAGED EDGES SHALL BE DEMOLISHED BACK A MINIMUM OF 4 INCHES AND RECAST WITH LMC-ES. SEE STAGED LMC-ES OVERLAY JOINT DETAIL.

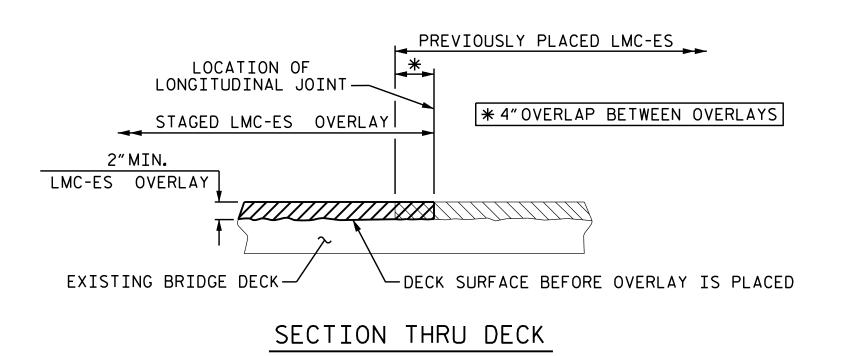
SEE TRAFFIC CONTROL SPECIAL PROVISIONS. FOR LANE WIDTHS, SEQUENCING, AND OTHER TRAFFIC CONTROL MEASURES FOR STAGING OF OVERLAY SURFACE PREPARATION AND LMC-ES OVERLAY PLACEMENT.



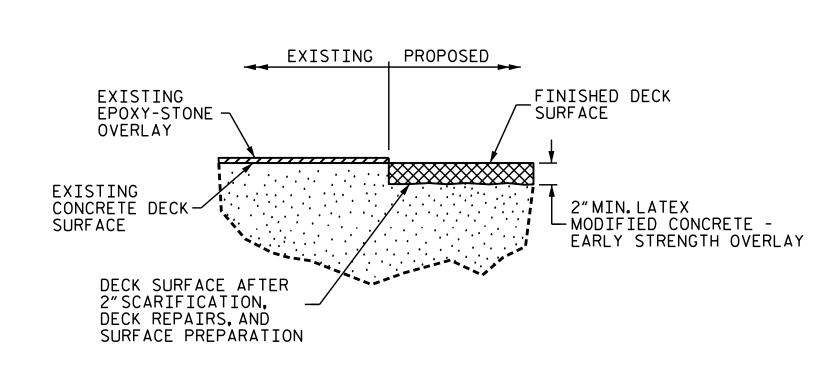
### TYPICAL SECTION (EXISTING ASPHALT WEARING SURFACE)



## TYPICAL SECTION (PROPOSED LMC WEARING SURFACE)



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 560551 BRIDGE NO.\_\_

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH

TYPICAL SECTION

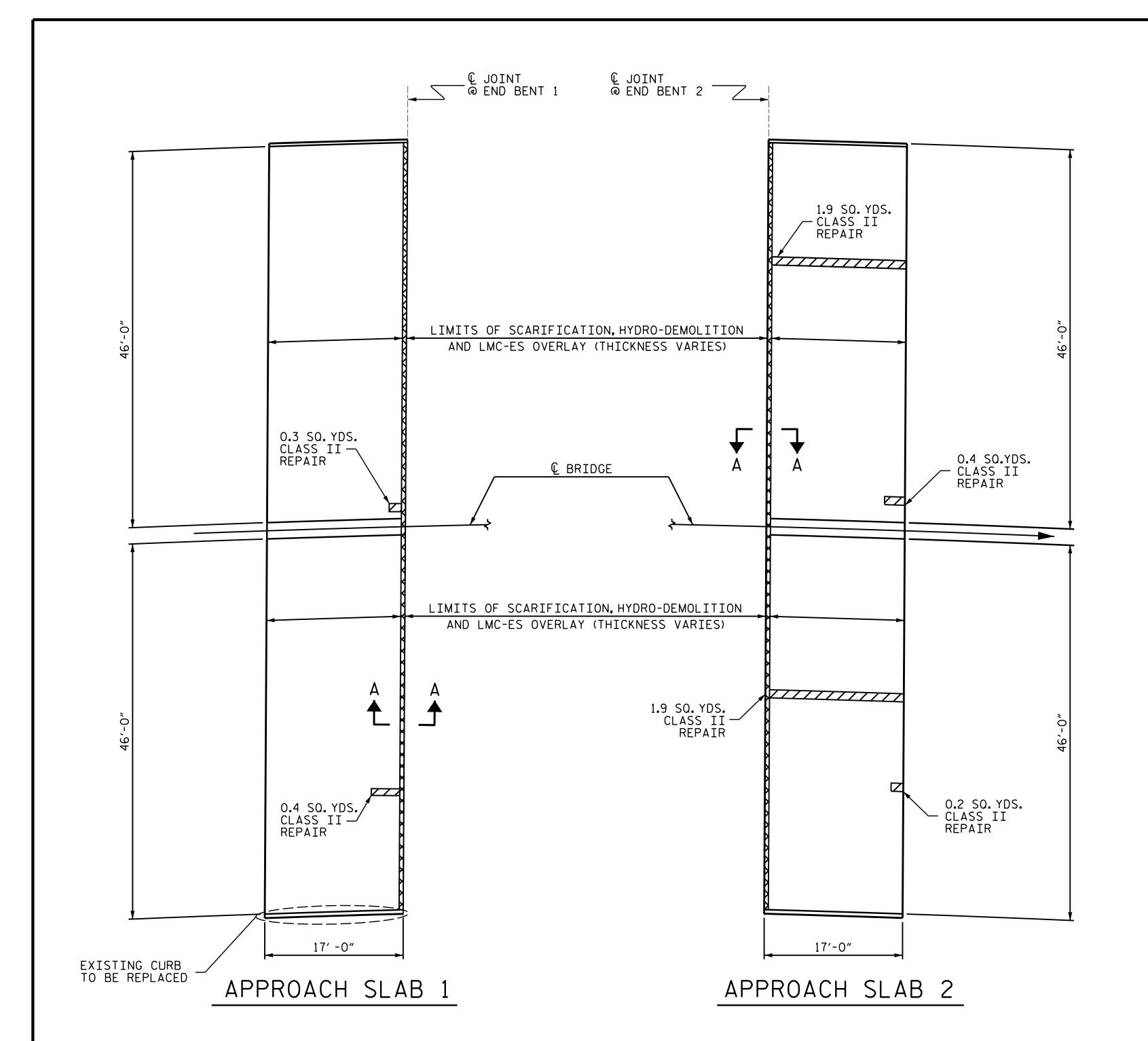
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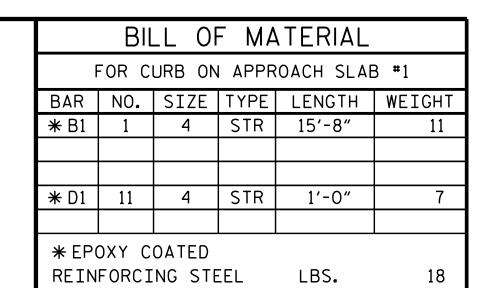
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CL BRIGHT \_ DATE : <u>06/2019</u> DRAWN BY : . H. A. LOCKLEAR DATE : 02/2022 CHECKED BY :

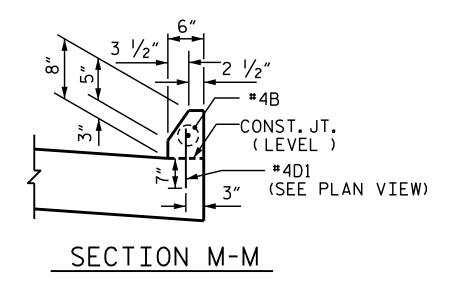
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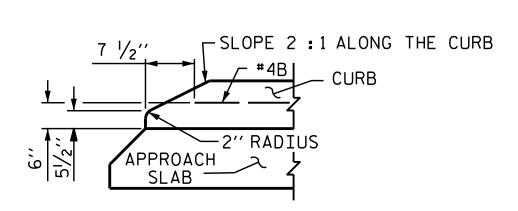


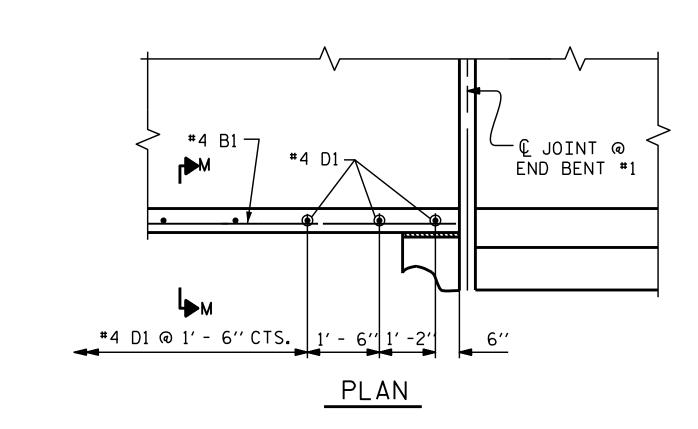


CU. YDS.

CLASS AA CONCRETE







# 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

SEAL 031021

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DEPARTMENT OF TRANSPORTATION
RALEIGH

DECK SURFACE REPAIR APPROACH SLABS

REVISIONS

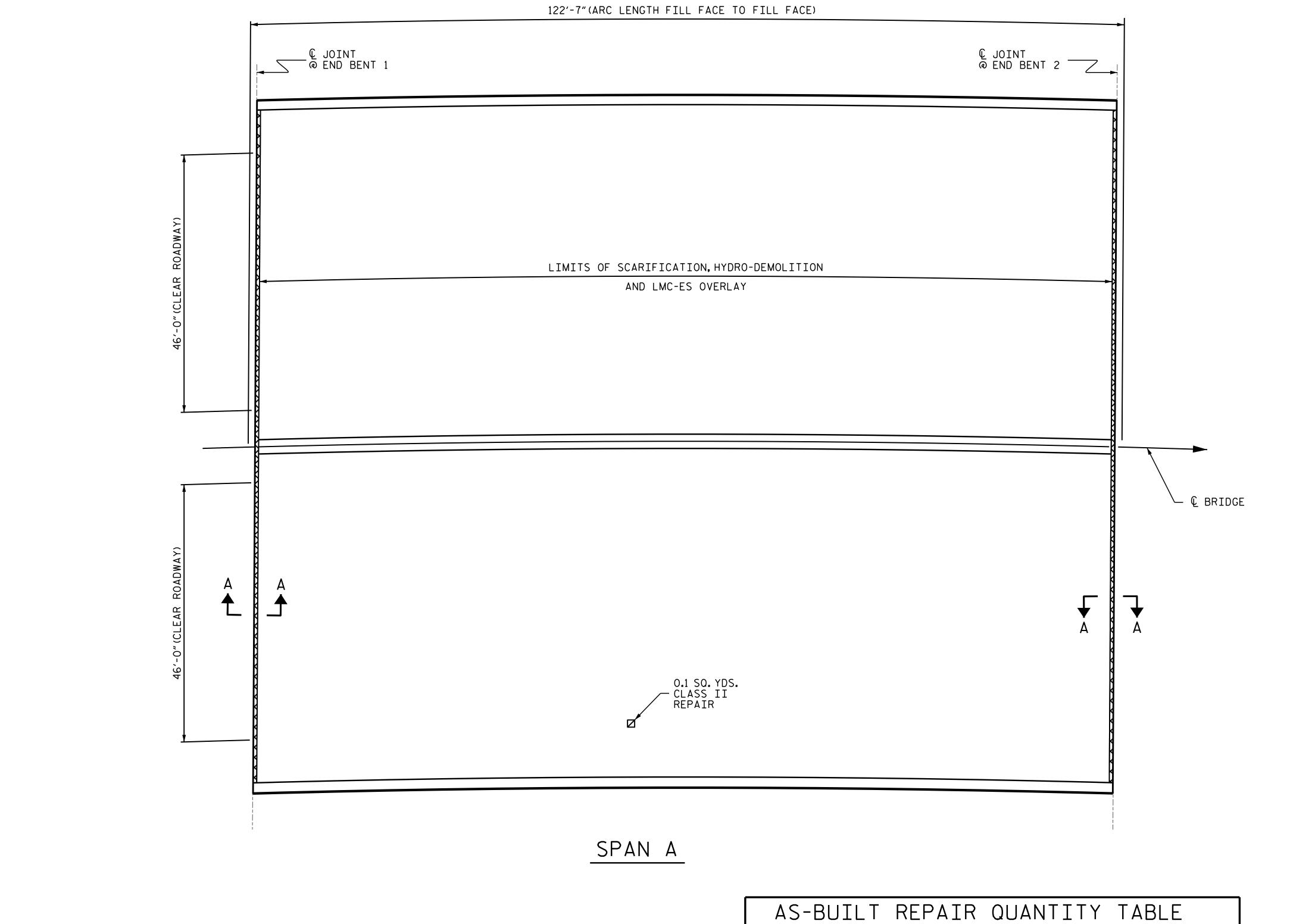
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AS-B	UILT REP	AIR QUA	ANTITY TABLE		
DECK SURFACE REPAIR - APPROACH SLAB 1		DECK SURFACE REPAIR - APPROACH SLAB 2			
	ESTIMATE	ACTUAL		ESTIMATE	ACTUAL
CLASS II SURFACE PREPARATION	0.7 SQ. YDS.		CLASS II SURFACE PREPARATION	4.4 SQ. YDS.	
LATEX MODIFIED 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

3/18/2022 R:\Structures\FinalPlans\407\_007\_I5831\_SMU\_DSR\_AS\_S7-04\_560551.dgn



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.

CL BRIGHT \_\_ DATE : <u>02/2019</u> DRAWN BY : \_ H. A. LOCKLEAR \_ DATE : <u>02/2022</u> CHECKED BY :

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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.

REPAIR LOCATIONS AND ESTIMATED QUANTITIES ARE BASED ON THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS

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.

NOTES

FOR LMC-ES OVERLAY, SEE SPECIAL PROVISIONS.

FOR BRIDGE JOINT DEMOLITION, SEE SPECIAL PROVISIONS.

FOR BRIDGE JOINT DEMOLITION QUANTITIES, SEE JOINT DETAILS

CLASS II SURFACE PREPARATION

BRIDGE JOINT DEMOLITION

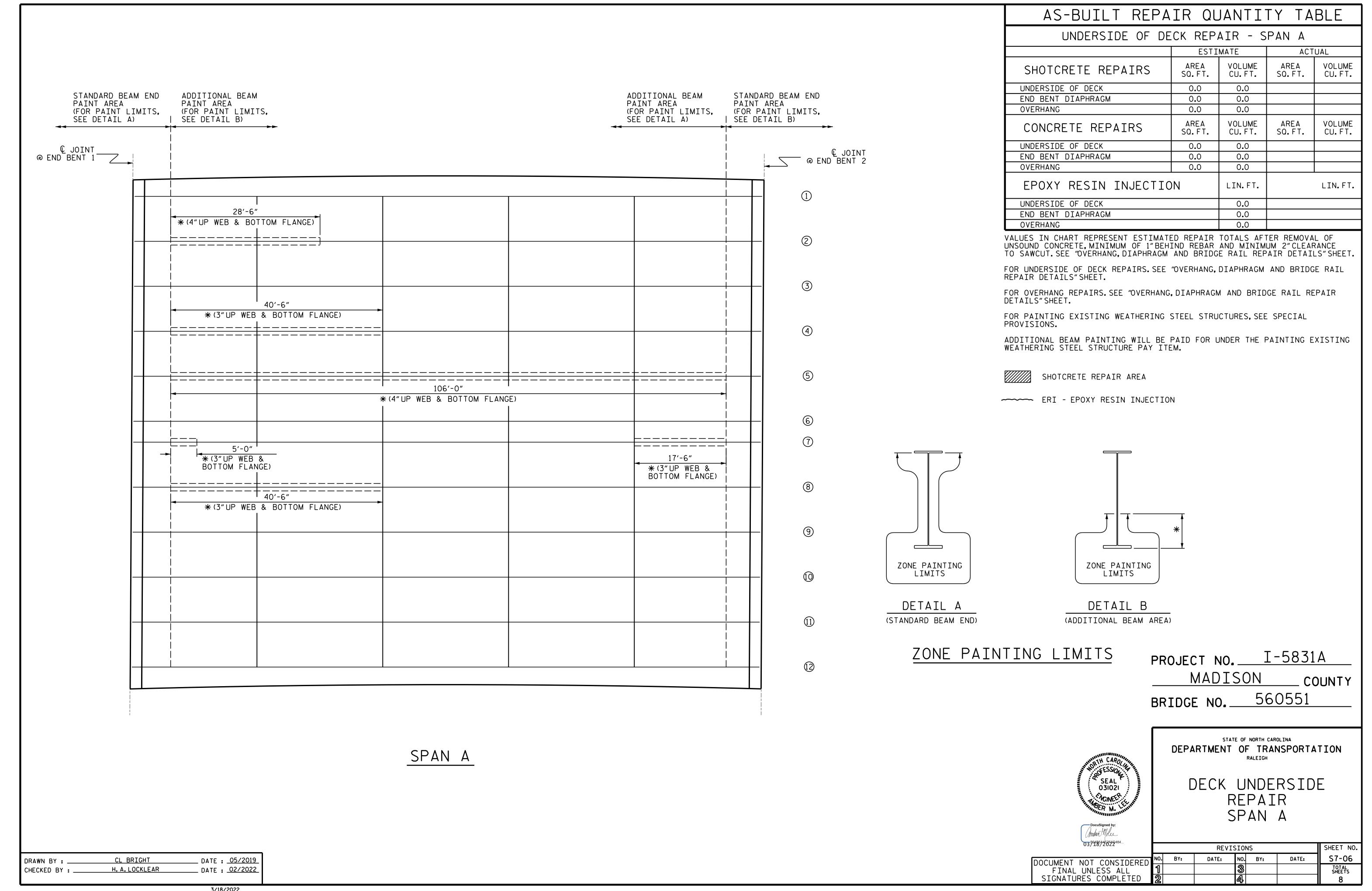
PROJECT NO. I-5831A MADISON COUNTY BRIDGE NO. 560551

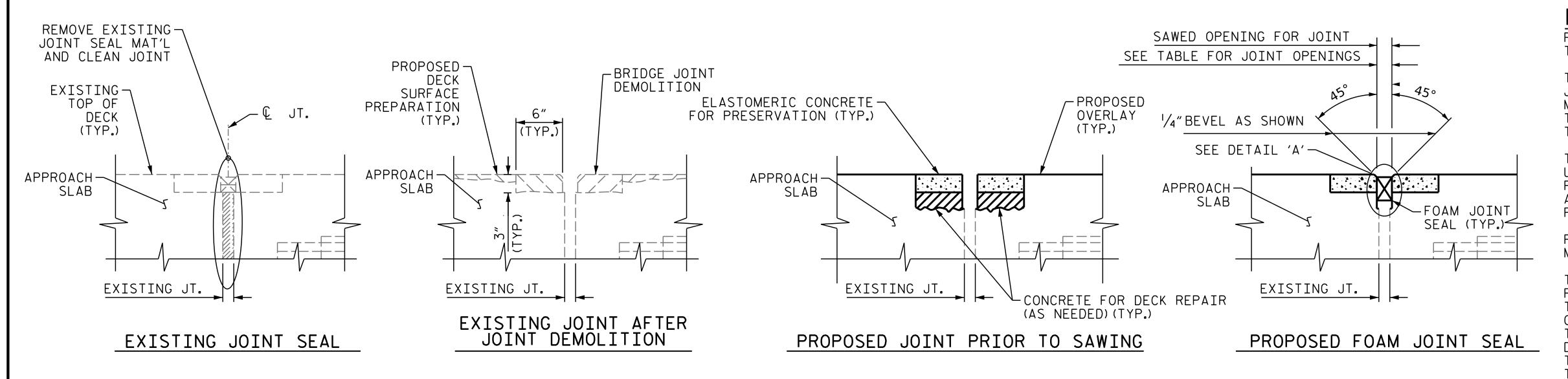
SHEET 2 OF 2

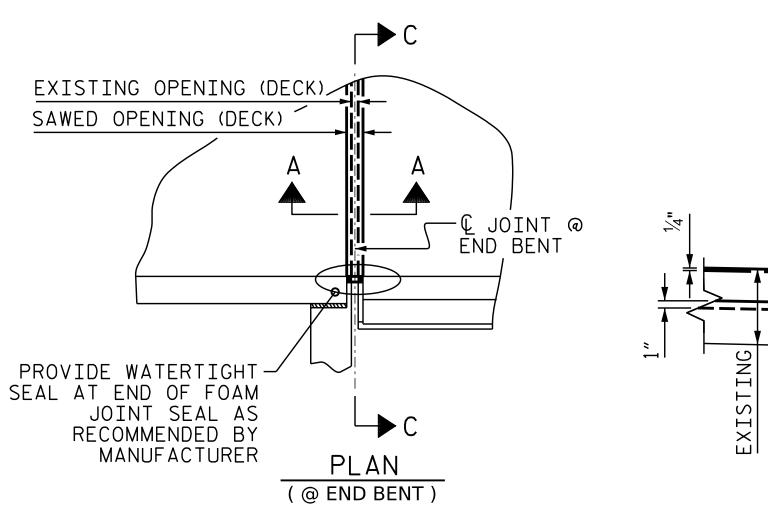
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

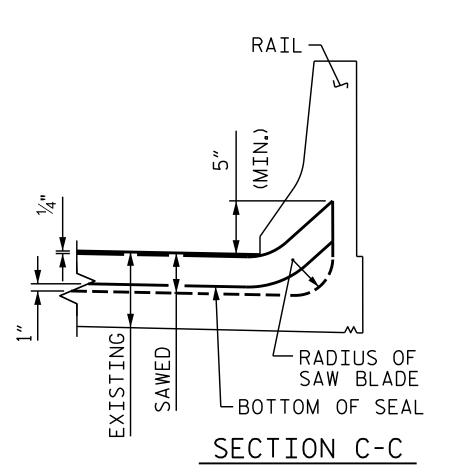
DECK SURFACE REPAIR SPAN A

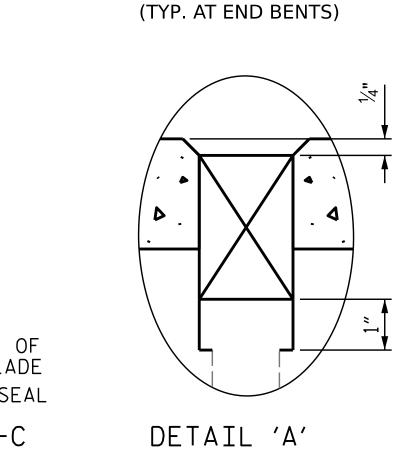
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SECTION A-A

SAWED	JOINT	<b>OPENI</b>	NG T	4BLE
		SAWED (PERPEND	) JT.OPE )ICULAR	
LOCATION		AT 45°	AT 60°	AT 90°
END BENT 1	_	1"/16"	1%6"	1 <sup>5</sup> / <sub>16</sub> "

END BENT 2

TOTAL

ELASTOME FOR PR	ERIC CON ESERVAT	
LOCATION	ESTIMATED (CU.FT.)	ACTUAL (CU.FT.)
END BENT 1	23.8	
END BENT 2	23.8	

47.6

1%"

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 QUANTI	TY TABI	LE
	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  $\frac{1}{2}$ "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.

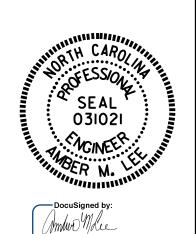
FINAL SURFACE OF THE JOINT DEMOLITION AREA PRIOR TO PLACEMENT OF CONCRETE REPAIR MATERIAL OR ELASTOMERIC CONCRETE SHOULD BE REASONABLY FLAT AND LEVEL. ENGINEER SHALL DETERMINE THE ACCEPTABLITIY OF THE SURFACE PRIOR TO PLACEMENT OF REPAIR CONCRETE OR ELASTOMERIC CONCRETE.

FOR BRIDGE JOINT DEMOLITION, SEE SPECIAL PROVISIONS.

FOR ELASTOMERIC CONCRETE FOR PRESERVATION, SEE SPECIAL PROVISIONS.

FOR CONCRETE FOR DECK REPAIR. SEE SPECIAL PROVISIONS.

> I-5831A PROJECT NO.\_ **MADISON** COUNTY 560551 BRIDGE NO.\_



DEPARTMENT OF TRANSPORTATION **STANDARDS** 

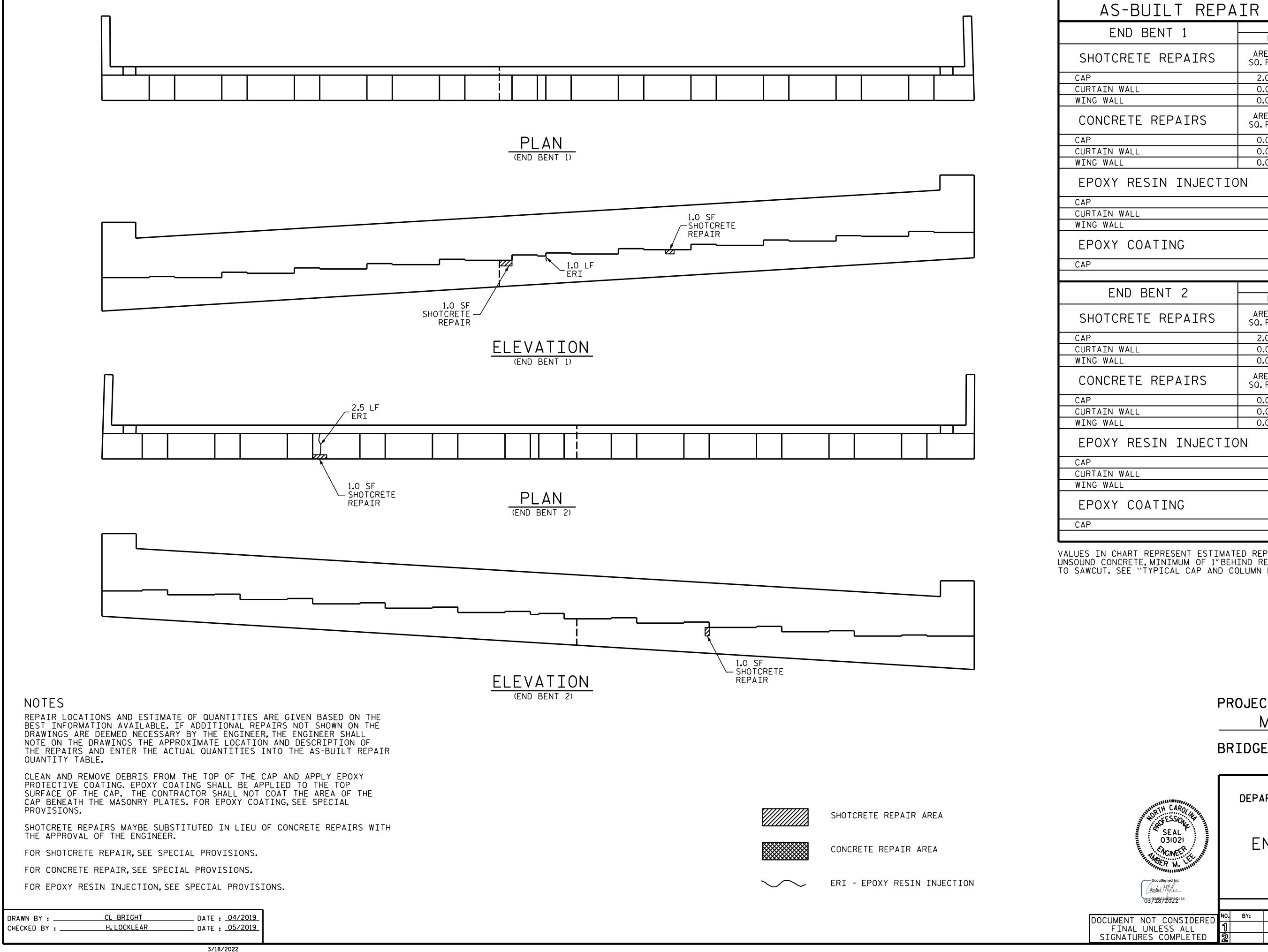
STATE OF NORTH CAROLINA

FOAM JOINT SEALS FOR PRESERVATION DETAILS

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

037485/2622<sup>484</sup> SHEET NO. **REVISIONS** S7-07 NO. DATE: DATE: BY: BY:

ASSEMBLED BY: A.M. LEE DATE: 2/2022 CHECKED BY: H. LOCKLEAR DATE: 2/2022 DRAWN BY: NAP 08/2018 CHECKED BY: -



AS-BUILT REPAIR QUANTITY TABLE QUANTITIES ESTIMATE ACTUAL AREA SQ.FT. VOLUME CU.FT. VOLUME SQ.FT. CU.FT. 2.0 1.0 0.0 0.0 0.0 0.0 AREA SQ.FT. VOLUME CU.FT. VOLUME CU.FT. AREA SQ.FT. 0.0 0.0 0.0 0.0 0.0 0.0 LIN.FT. LIN.FT. 1.0 0.0 0.0 SQ.FT. SQ.FT. 310.0 QUANTITIES ESTIMATE ACTUAL AREA SQ.FT. VOLUME CU.FT. VOLUME CU.FT. SQ.FT. 2.0 1.0 0.0 0.0 0.0 0.0 VOLUME CU.FT. VOLUME SQ.FT. SQ.FT. CU.FT. 0.0 0.0 0.0 0.0 0.0 0.0 LIN.FT. LIN.FT. 2.5 0.0 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 "TYPICAL CAP AND COLUMN REPAIR DETAILS" SHEET.

> PROJECT NO. I-5831A MADISON \_\_ COUNTY 560551 BRIDGE NO.\_\_\_

SQ.FT.

310.0

SQ.FT.

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH

END BENTS 1 & 2

SHEET NO.

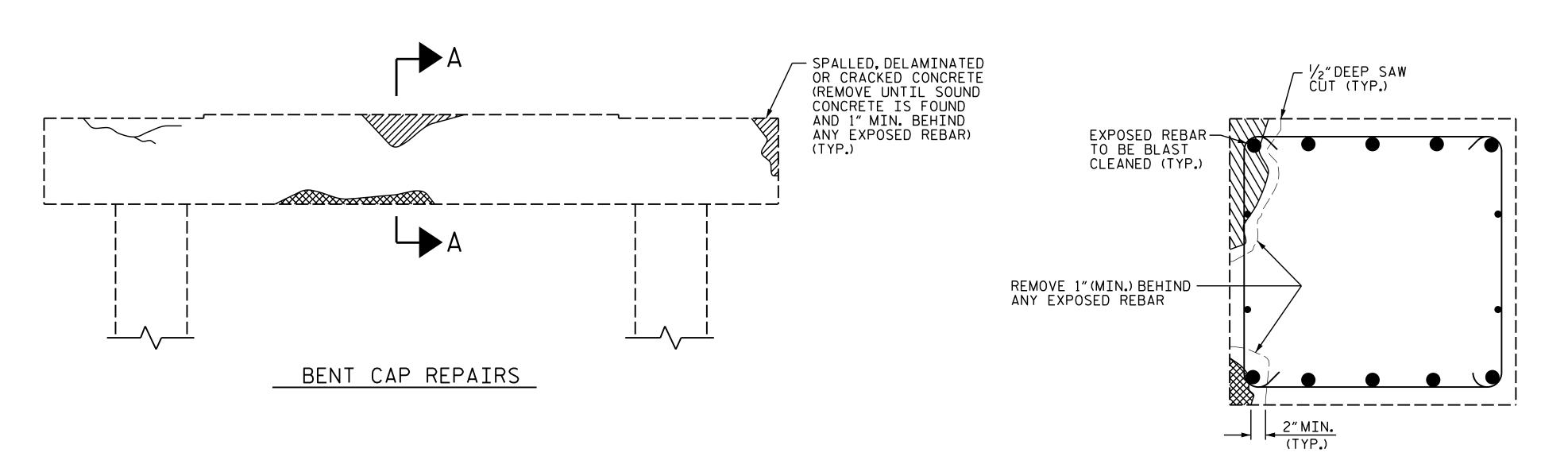
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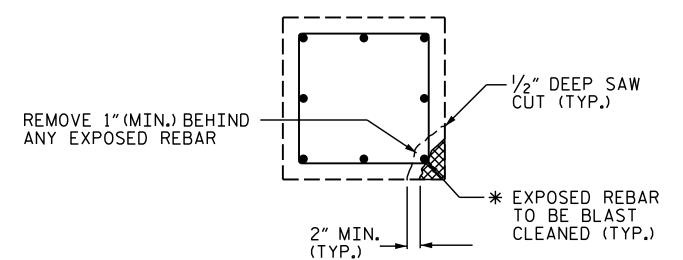
TOTAL SHEETS

DATE:

**REVISIONS** 

DATE: BY:

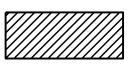




PLAN OF COLUMN

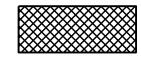
## REPAIR KEY

SECTION A-A



CONCRETE REPAIR AREA (FORM AND POUR)

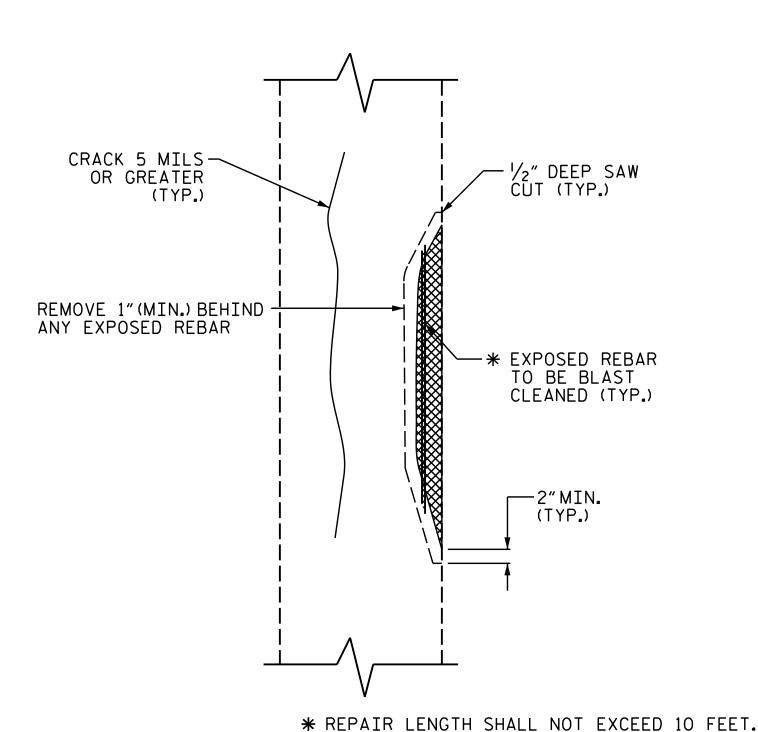
CAP REPAIR



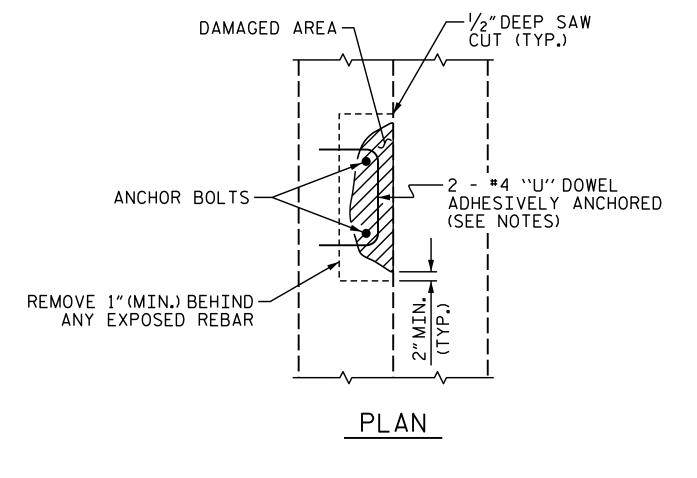
SHOTCRETE REPAIR AREA

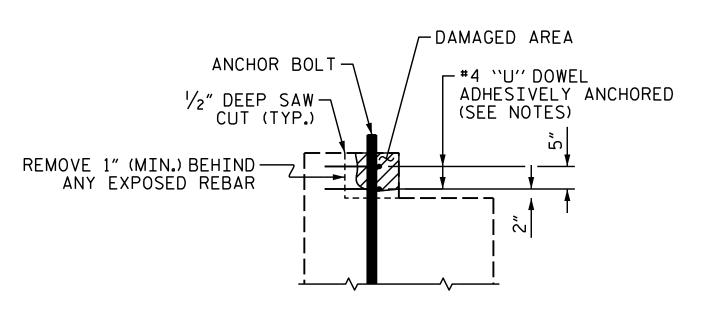


EPOXY RESIN INJECTION (ERI)



<b>SPLICE</b>	LENGTH TABLE
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"





ELEVATION

PEDESTAL WALL REPAIR

# 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  $1\frac{1}{2}$ " 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.

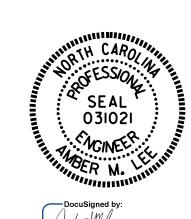
FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

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



DEPARTMENT OF TRANSPORTATION RALEIGH STANDARD TYPICAL CAP AND COLUMN REPAIR DETAILS

STATE OF NORTH CAROLINA

Amber Mace 039485/20522484

SHEET NO **REVISIONS** SD-01 DATE: DATE: BY: BY: DOCUMENT NOT CONSIDERED FINAL UNLESS ALL TOTAL SHEETS SIGNATURES COMPLETED

COLUMN REPAIR

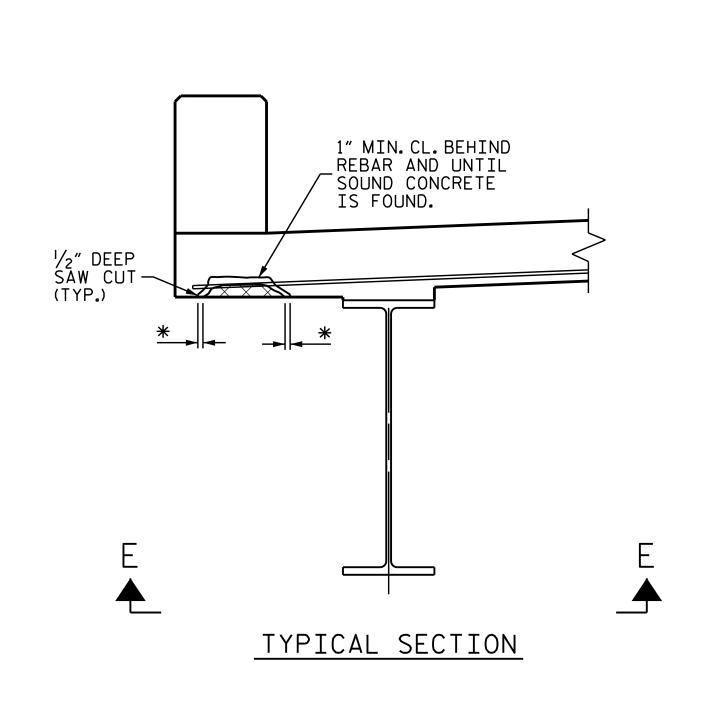
ELEVATION OF COLUMN

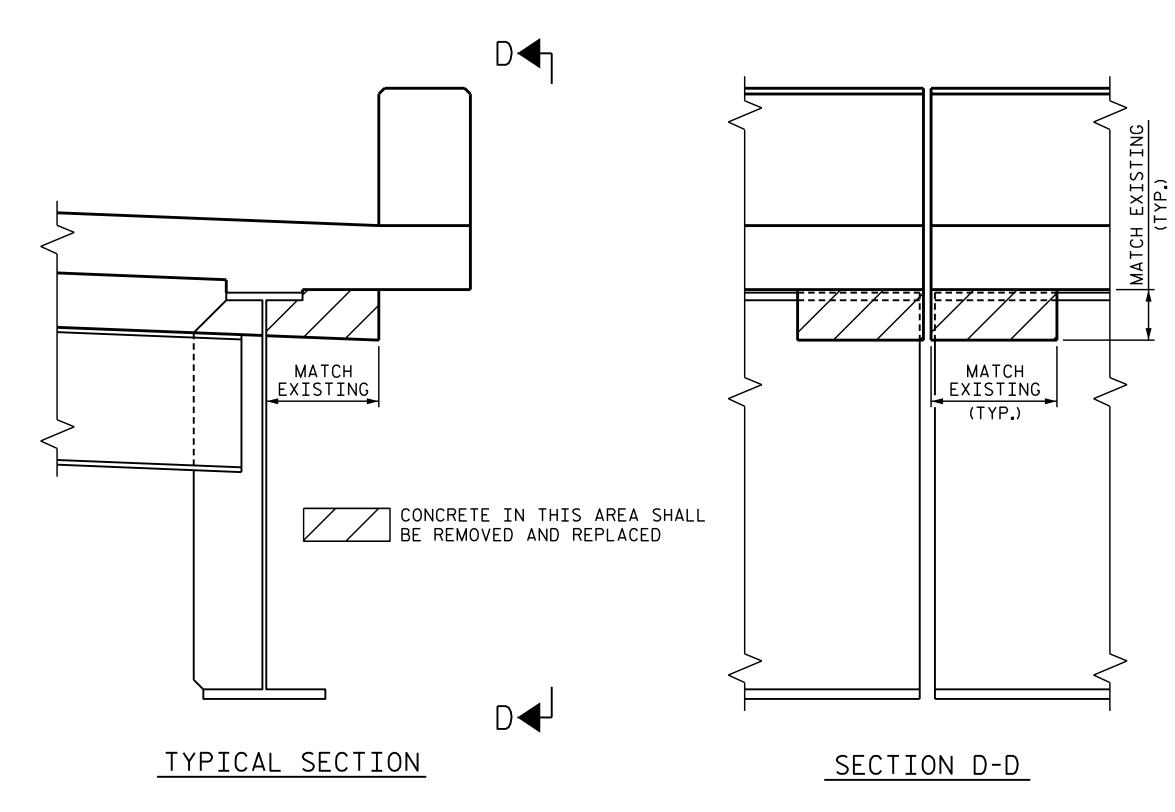
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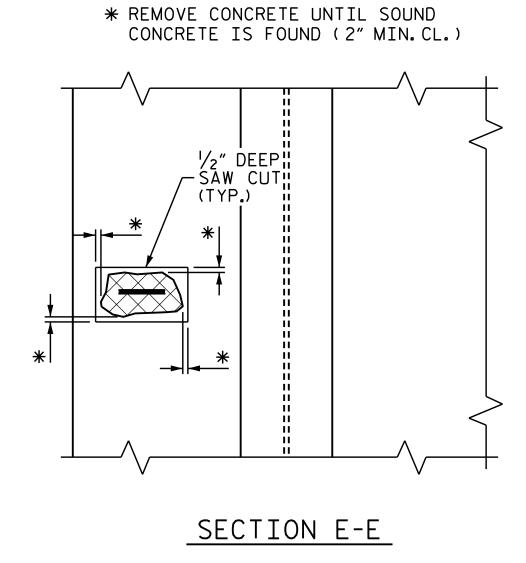
NOTE: OVERHANG DIAPHRAGMS TO BE REMOVED AND REPLACED, ARE SHOWN ON "PLAN OF SPAN" SHEETS.

OVERHANG DIAPHRAGMS SHALL BE REMOVED PRIOR TO CLEANING AND PAINTING OF BEAMS AND REPLACED AFTER BEAM REPAIRS AND PAINTING ARE COMPLETE.



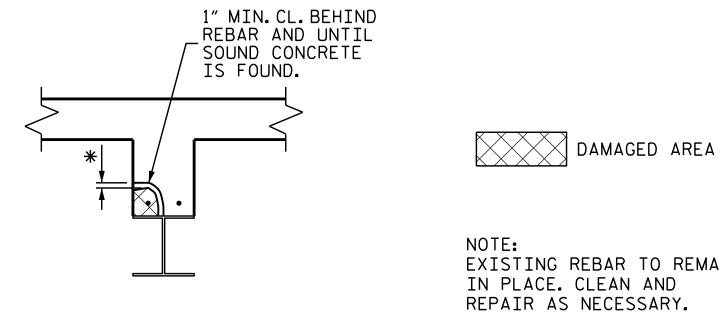


OVERHANG DIAPHRAGM REPLACEMENT DETAILS



OVERHANG DETAILS

R.L.PUTEK \_ DATE : <u>08/2018</u> DRAWN BY : \_ A.M. LEE, PE \_ DATE : <u>08/2018</u> CHECKED BY : \_\_



SECTION F-F

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

−½″ DEEP SAW CUT

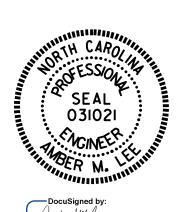
(TYP.)

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

INTERIOR DIAPHRAGM REPAIR DETAILS

TYPICAL SECTION

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



STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
RALEIGH

OVERHANG, DIAPHRAGM AND BRIDGE RAIL REPAIR DETAILS

amber Mace

REVISIONS SHEET NO. NO. BY: DATE: SD-02 DATE: DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED TOTAL SHEETS

3/18/2022 R:\Structures\FinalPlans\407\_097\_I5831\_SMU\_0DBR\_SD-02.dgn

## 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 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. ---- 30 LBS.PER CU.FT. EQUIVALENT FLUID PRESSURE OF EARTH

#### 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.

(MINIMUM)

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 11/2" 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  $\frac{1}{8}$ " Ø SHEAR STUDS FOR THE  $\frac{3}{4}$ " Ø STUDS SPECIFIED ON THE PLANS. THIS SUBSTITUTION SHALL BE MADE AT THE RATE OF 3 -  $\frac{1}{8}$ " Ø STUDS FOR 4 -  $\frac{3}{4}$ " Ø STUDS, AND STUD SPACING CHANGES SHALL BE MADE AS NECESSARY TO PROVIDE THE SAME EQUIVALENT NUMBER OF  $\frac{1}{8}$ " Ø STUDS ALONG THE BEAM AS SHOWN FOR  $\frac{3}{4}$ " Ø STUDS BASED ON THE RATIO OF 3 -  $\frac{1}{8}$ " Ø STUDS FOR 4 -  $\frac{3}{4}$ " 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 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. FINS 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