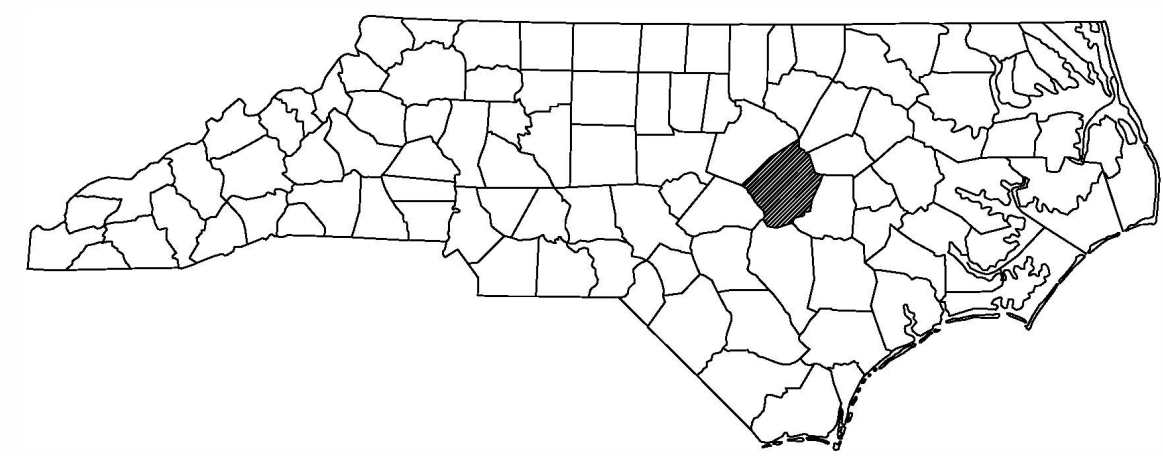


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with their signature on that page.**

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shall not be considered a certified document.**

**CONTRACT NO: DD00456 PROJECT: SS-6004AH**



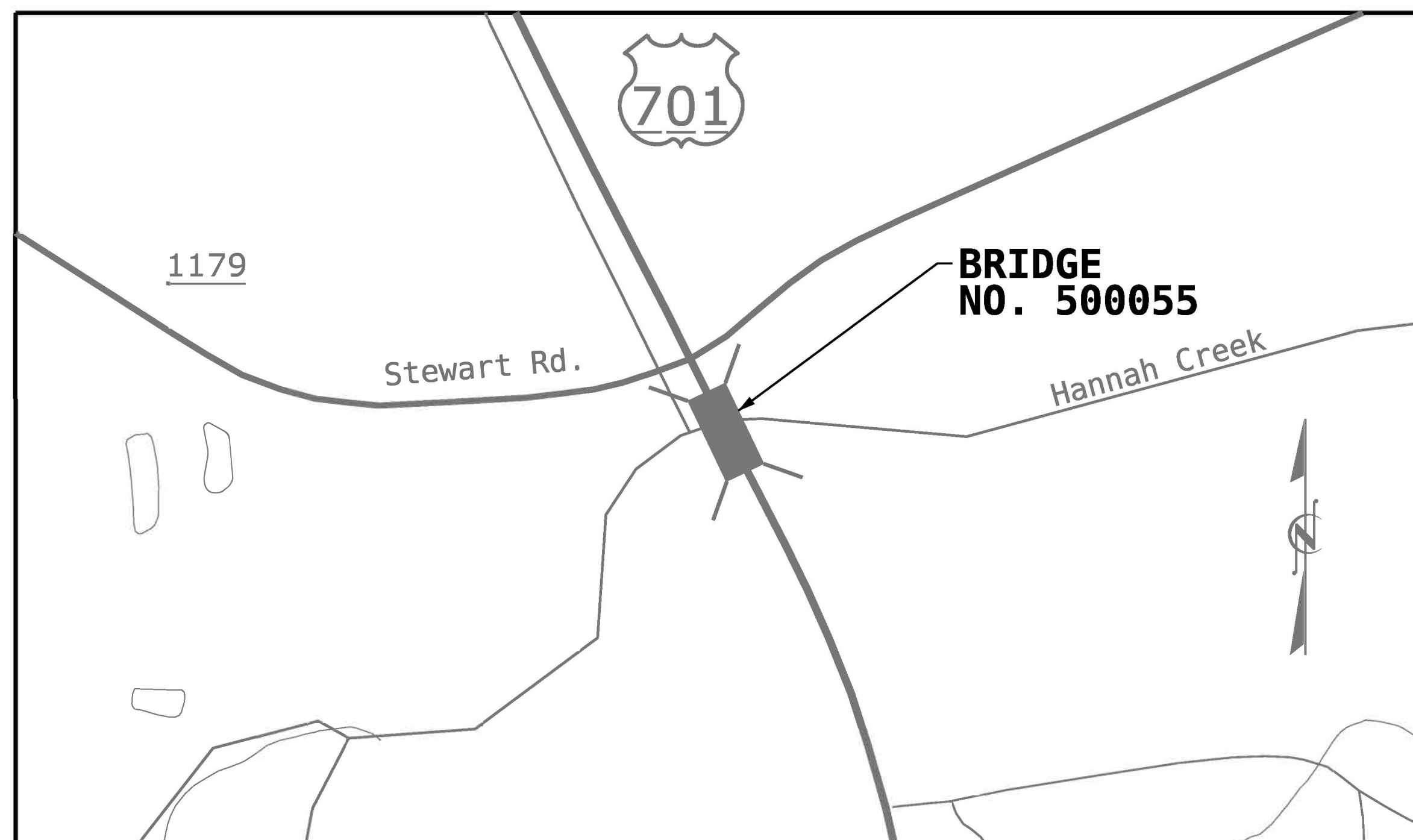
STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

**JOHNSTON COUNTY**

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	SS-6004AH	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
49532.3.1		P.E.	
49532.3.1		CONST.	

**LOCATION:** BRIDGE #500055 ON US 701 OVER HANNAH CREEK

**TYPE OF WORK:** BRIDGE PRESERVATION - CONCRETE BRIDGE DECK REHABILITATION BY SCARIFICATION, SHOTBLASTING AND PLACEMENT OF POLYMER CONCRETE, RECONSTRUCTION OF BRIDGE DECK JOINTS & SEALS; MILLING, AND RESURFACING APPROACH ROADWAY.



**VICINITY MAP**



**DESIGN DATA**

BRIDGE #500055 ADT (2019) = 4,700

**PROJECT LENGTH**

BRIDGE # 500055 = 0.0568 MILES

Prepared In the Office of:  
**DIVISION OF HIGHWAYS**  
STRUCTURES MANAGEMENT UNIT  
1000 BIRCH RIDGE DR.  
RALEIGH, N.C. 27610

2024 STANDARD SPECIFICATIONS

LETTING DATE:  
MARCH 26, 2024

Kristy W. Alford, P.E., CPM  
PROJECT ENGINEER

Aster G. Abraha, P.E.  
PROJECT DESIGN ENGINEER



LATITUDE	35°24'11.96"
LONGITUDE	78°22'31.0"
BRIDGE NO. 500055	

**LOCATION SKETCH**

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

**GENERAL NOTES:**

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.

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 OF ADDITIONAL COST INCURRED BASED ON DIFFERENCES BETWEEN WHAT IS 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 BRIDGE(S) SHALL BE PERFORMED SO AS NOT TO ALLOW DEBRIS TO FALL BELOW, EXCEPT WHERE THE CONTRACTOR PLANS TO 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 CONTRACTOR'S OPERATIONS, SHALL BE REPAIRED AS DIRECTED BY THE ENGINEER AND PERFORMED AT NO ADDITIONAL COST TO THE DEPARTMENT.

FOR CONTROL OF TRAFFIC AND LIMITS ON PHASING OF CONSTRUCTION, SEE TRANSPORTATION MANAGEMENT SPECIAL PROVISIONS.

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.

FOR OTHER DESIGN DATA AND GENERAL NOTES, SEE SHEET SN.

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.

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 POURABLE SILICONE JOINT SEALANT, SEE SPECIAL PROVISIONS.

FOR VOLUMETRIC MIXER, SEE SPECIAL PROVISIONS.

FOR OVERLAY SURFACE PREPARATION FOR POLYMER CONCRETE, SEE SPECIAL PROVISIONS.

FOR POLYMER CONCRETE DECK OVERLAY, SEE SPECIAL PROVISIONS.

ALL PAVEMENT MARKINGS WILL BE PERFORMED BY THE NCDOT.

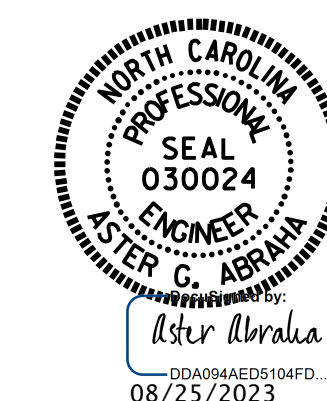
AT THE TIME OF PREPARATION OF THESE PLANS, IT WAS NOT ANTICIPATED THAT THE FOLLOWING ITEM(S) LISTED WOULD BE REQUIRED. HOWEVER, IT MAY BE DETERMINED IN THE FIELD THAT THE FOLLOWING ITEM(S) LISTED, OR OTHER WORK WILL BE NECESSARY TO PROPERLY COMPLETE THE INTENDED BRIDGE PRESERVATION/REHABILITATION WORK. THE CONTRACTOR SHALL BE PREPARED TO PERFORM SUCH WORK IN A TIMELY MANNER, AS DETERMINED IN THE FIELD. SUCH WORK SHALL BE CONSIDERED EXTRA WORK AND SHALL BE ADDRESSED AS PER ARTICLE 104-7 OF THE STANDARD SPECIFICATIONS. PROJECT SPECIAL PROVISIONS THAT OUTLINE REQUIREMENTS FOR THESE POTENTIAL ADDITIONAL WORK ITEMS HAVE BEEN PROVIDED IN THE PROJECT DOCUMENTS, BUT NO QUANTITIES HAVE BEEN LISTED. ACTUAL PAY ITEMS, QUANTITIES, AND COSTS WILL BE ESTABLISHED, AS REQUIRED IF EXTRA WORK IS ENCOUNTERED. UNANTICIPATED ITEMS

ITEM NO.	DESCRIPTION	UNIT
1	CLASS III SURFACE PREPARATION	SQ. YD.

**TOTAL BILL OF MATERIAL**

BRIDGE NO.	INCIDENTAL MILLING	ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C	ASPHALT BINDER FOR PLANT MIX	GROOVING BRIDGE FLOORS	CLASS II SURFACE PREPARATION	VOLUMETRIC MIXER	POURABLE SILICONE JOINT SEALANT	POLYESTER POLYMER CONCRETE MATERIALS	EPOXY POLYMER CONCRETE MATERIALS (ALTERNATE)	CONCRETE DECK REPAIR FOR PC OVERLAY	PLACING & FINISHING POLYMER CONCRETE OVERLAY	SCARIFYING BRIDGE DECK	SHOTBLASTING BRIDGE DECK
	SQ. YD.	TONS	TONS	SQ. FT.	SQ. YD.	LUMP SUM	LN. FT.	CU. YD.	CU. YD.	SQ. YD.	SQ. YD.	SQ. YD.	SQ. YD.
500055	466.7	40.0	5.0	3,700.1	12.5	LUMP SUM	140.0	31.5	31.5	12.5	453.2	453.2	453.2
TOTAL	466.7	40.0	5.0	3,700.1	12.5	LUMP SUM	140.0	31.5	31.5	12.5	453.2	453.2	453.2

PROJECT NO. **SS-6004AH**  
**JOHNSTON** COUNTIES  
 BRIDGE NO.: **500055**



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
**BILL OF MATERIAL,  
 LOCATION SKETCH,  
 AND GENERAL NOTES**

DRAWN BY : A. G. ABRAHA DATE : 8/2023  
 CHECKED BY : G. AYES / A. G. ABRAHA DATE : 8/2023

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

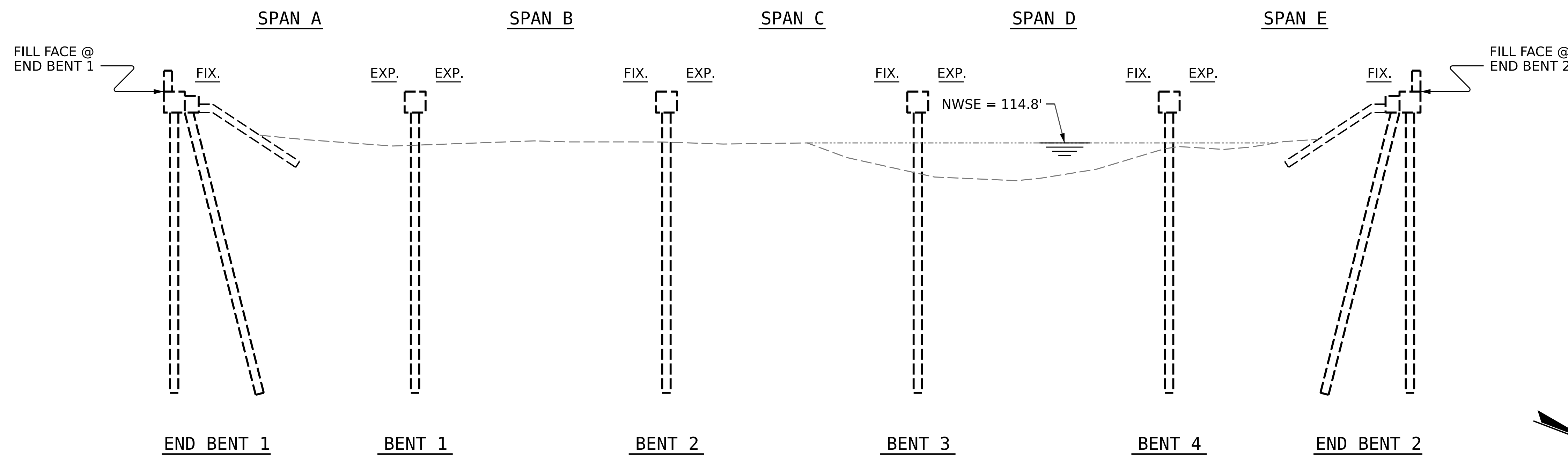
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-1
1			3			TOTAL SHEETS
2			4			

### NOTES

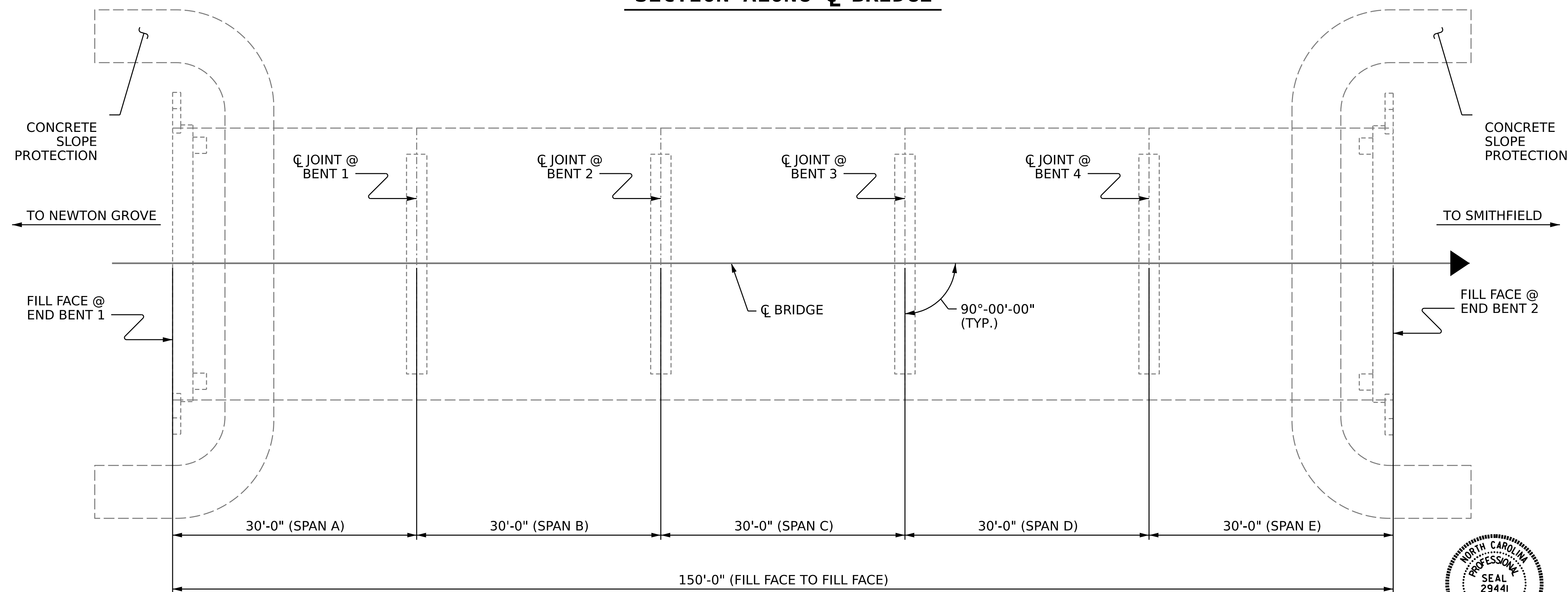
- PROFILE INFORMATION IS TAKEN FROM ORIGINAL PLANS AND INSPECTION REPORT DATED 2/1/2023.
- BRIDGE ORIENTATION CONFORMS TO EXISTING BRIDGE PLANS.
- FOR SCARIFYING BRIDGE DECK, SHOTBLASTING BRIDGE DECK, AND CLASS II SURFACE PREPARATION, SEE OVERLAY SURFACE PREPARATION FOR POLYMER CONCRETE SPECIAL PROVISION.

### SCOPE OF WORK

- REMOVE EXISTING AWS AND PLUG JOINTS.
- PARTIALLY REMOVE TOP OF BRIDGE DECK CONCRETE BY SCARIFICATION AND SHOTBLASTING METHODS.
- DEMOLISH EXISTING BRIDGE DECK JOINTS WITH CLASS II SURFACE PREPARATION.
- PERFORM CONCRETE DECK REPAIRS IN PREPARED AREAS.
- OVERLAY PREPARED BRIDGE DECK WITH POLYMER CONCRETE (PC).
- RECONSTRUCT BRIDGE JOINTS WITH PC OVERLAY AND INSTALL BACKER ROD AND POURABLE SILICONE JOINT SEALANT.
- GROOVE CONCRETE BRIDGE DECK.
- MILL AND PAVE ASPHALT ROADWAY APPROACHES.



### SECTION ALONG Q BRIDGE



### PLAN

(FOOTINGS, COLUMNS & PILES NOT SHOWN IN PLAN VIEW FOR CLARITY)

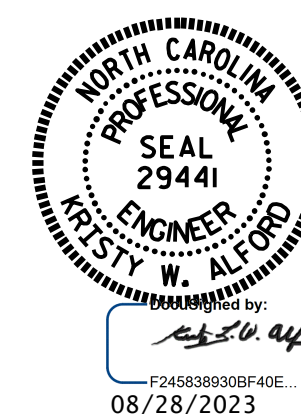
I HEREBY CERTIFY THESE PLANS ARE THE AS-BUILT PLANS

PROJECT NO. **SS-6004AH**  
**JOHNSTON** COUNTY  
 BRIDGE NO. **500055**

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

### GENERAL DRAWING

FOR BRIDGE OVER  
 HANNAH CREEK ON  
 US 701 BETWEEN NEWTON  
 GROVE AND SMITHFIELD



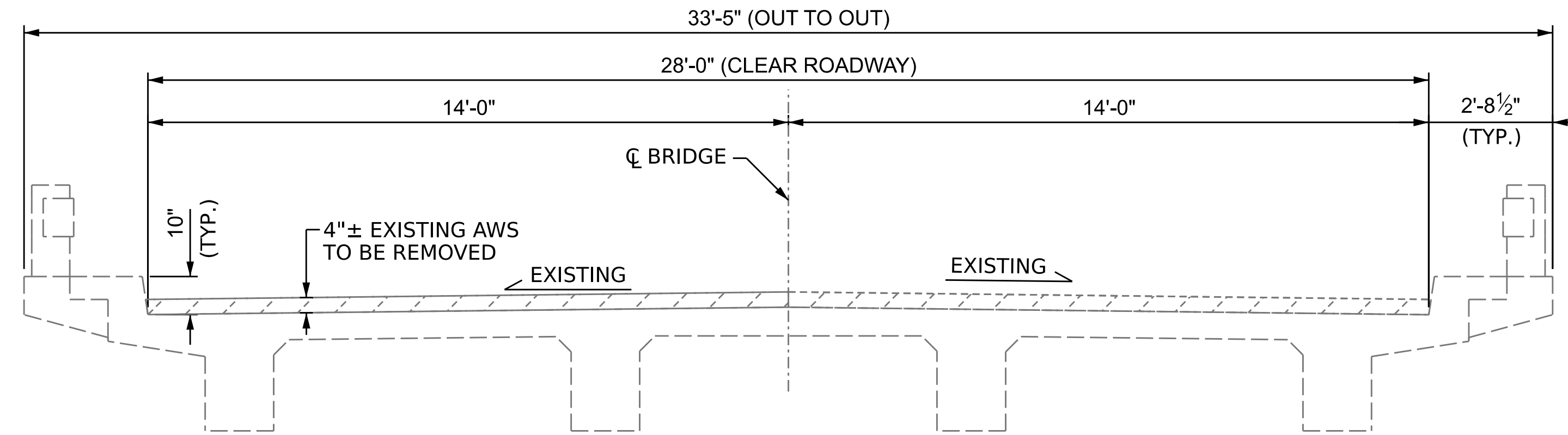
DRAWN BY : G. AYES DATE : 8/2023  
 CHECKED BY : A. G. ABRAHA / S. WANCE DATE : 8/2023

DOCUMENT NOT CONSIDERED  
 FINAL UNLESS ALL  
 SIGNATURES COMPLETED

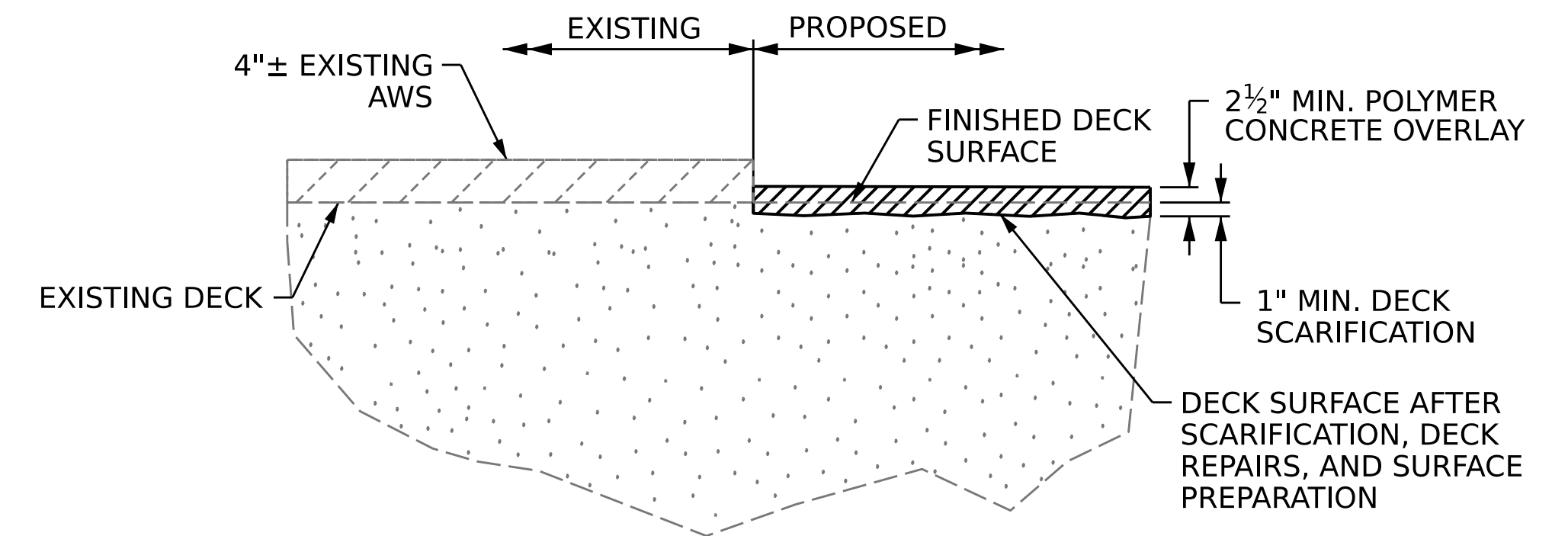
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NO.	BY:	DATE:	NO.	BY:	DATE:	S1-1
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2			4			6

**NOTES**

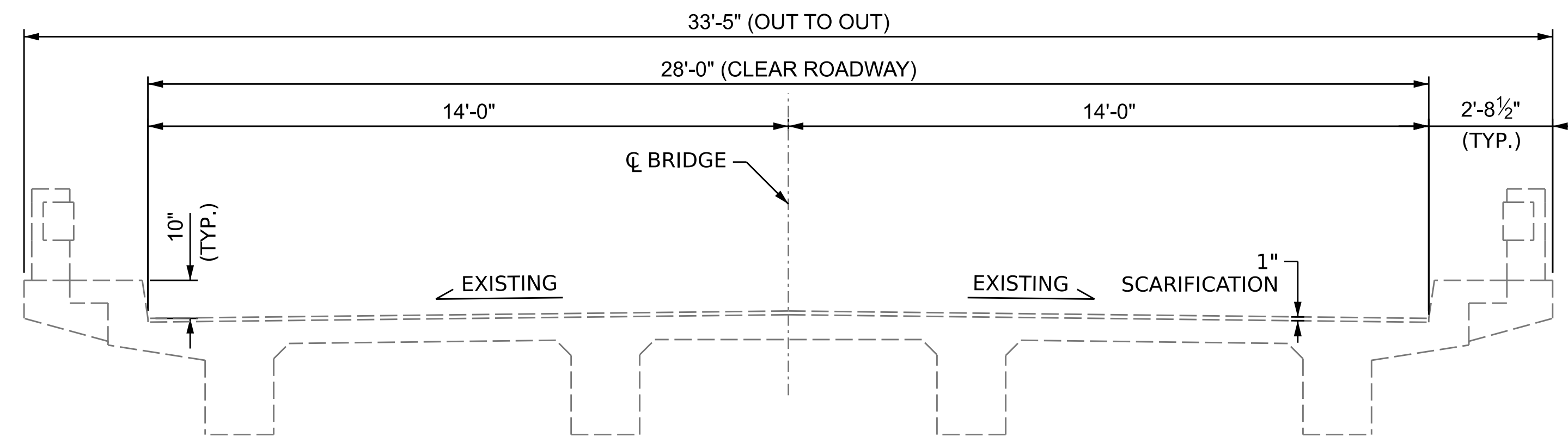
SEE TRAFFIC MANAGEMENT PLANS FOR LANE WIDTHS, SEQUENCING AND OTHER TRAFFIC CONTROL MEASURES FOR STAGING OF OVERLAY SURFACE PREPARATION AND PC OVERLAY PLACEMENT.



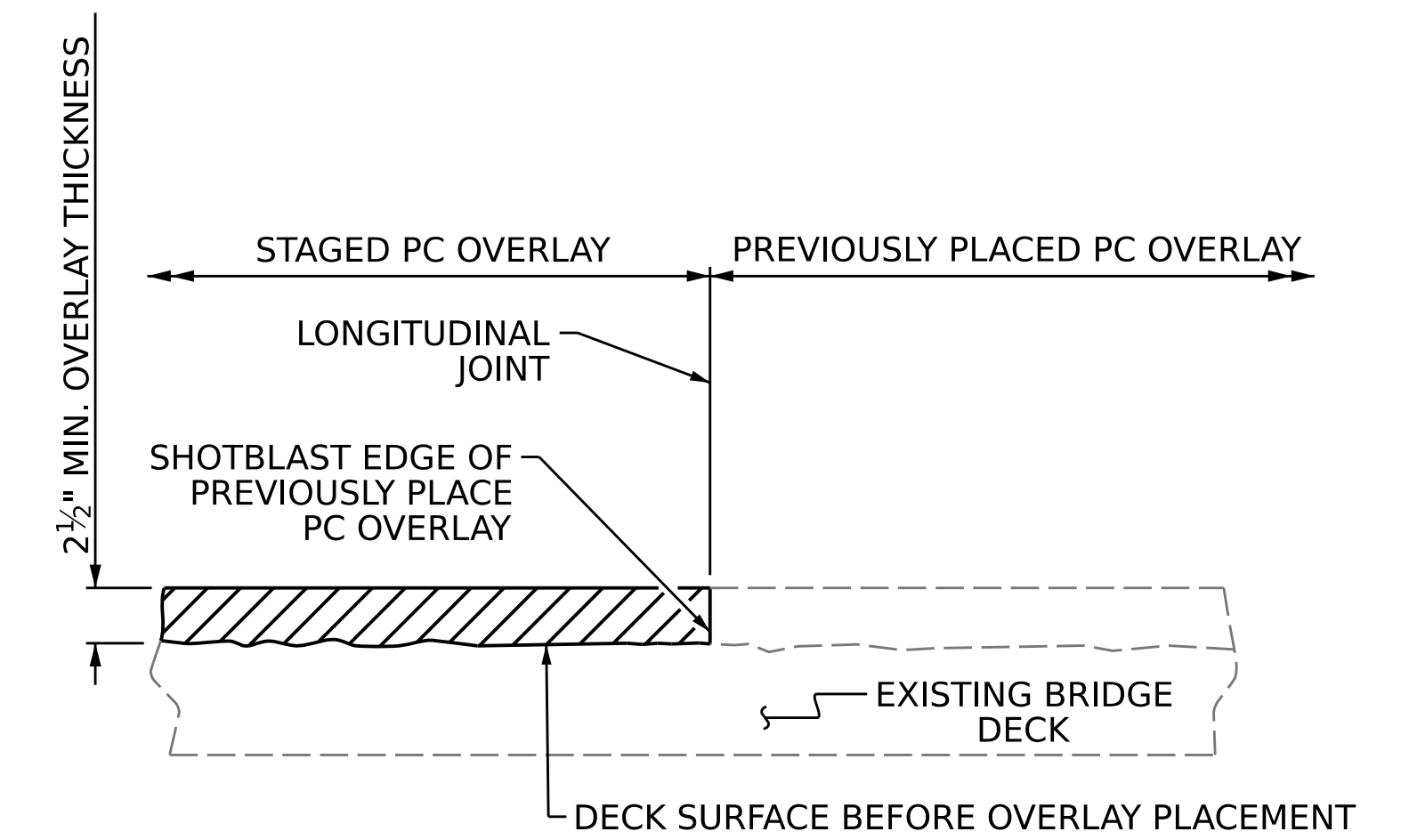
**TYPICAL SECTION**  
(EXISTING)



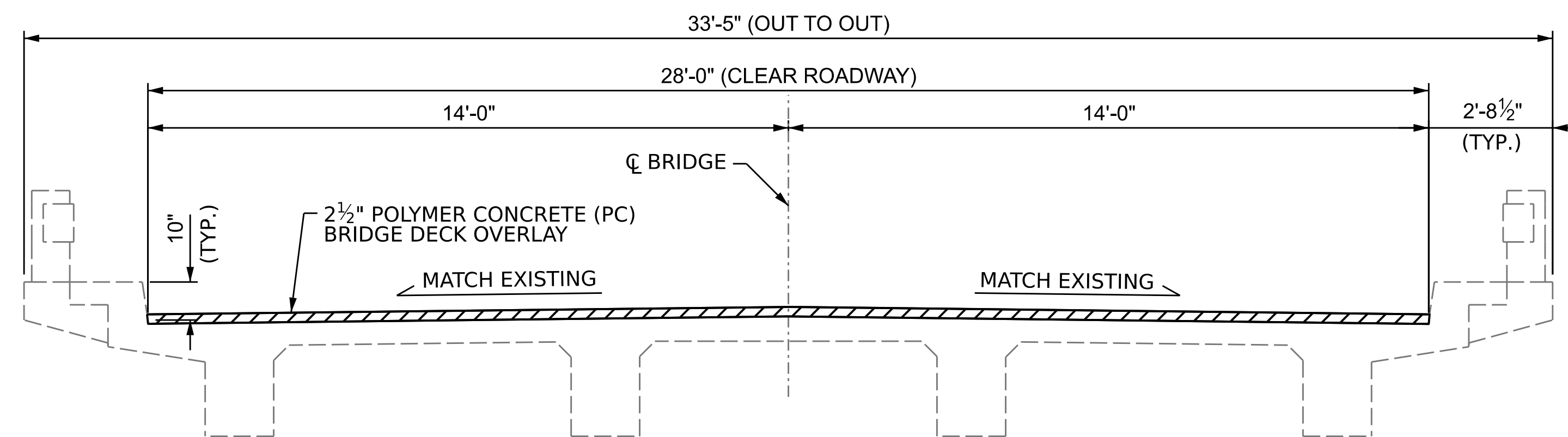
**DETAIL FOR POLYMER CONCRETE (PC) OVERLAY**



**TYPICAL SECTION**  
(DECK PREPARATION)



**STAGED PC OVERLAY JOINT**



**TYPICAL SECTION**  
(PROPOSED)

PROJECT NO. **SS-6004AH**  
**JOHNSTON** COUNTY  
 BRIDGE NO. **500055**



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**TYPICAL SECTION AND SURFACE PREPARATION DETAILS**

DRAWN BY : **A. ABRAHA** DATE : **8/2023**  
 CHECKED BY : **S. WANCE** DATE : **8/2023**  
 DESIGN ENGINEER OF RECORD: DATE :

8/25/2023  
 S:\DPG1\Division4\500055\401.003.49532.SMU.TS.S1-2.dgn  
 aabraha

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

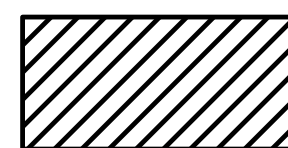
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NO.	BY:	DATE:	NO.	BY:	DATE:	S1-2
1			3			TOTAL SHEETS
2			4			6

8/26/21

### REPAIR KEY



- SHOTBLASTING AND SCARIFICATION OF BRIDGE DECK FOR PC OVERLAY



- CLASS II SURFACE PREPARATION

### NOTES

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

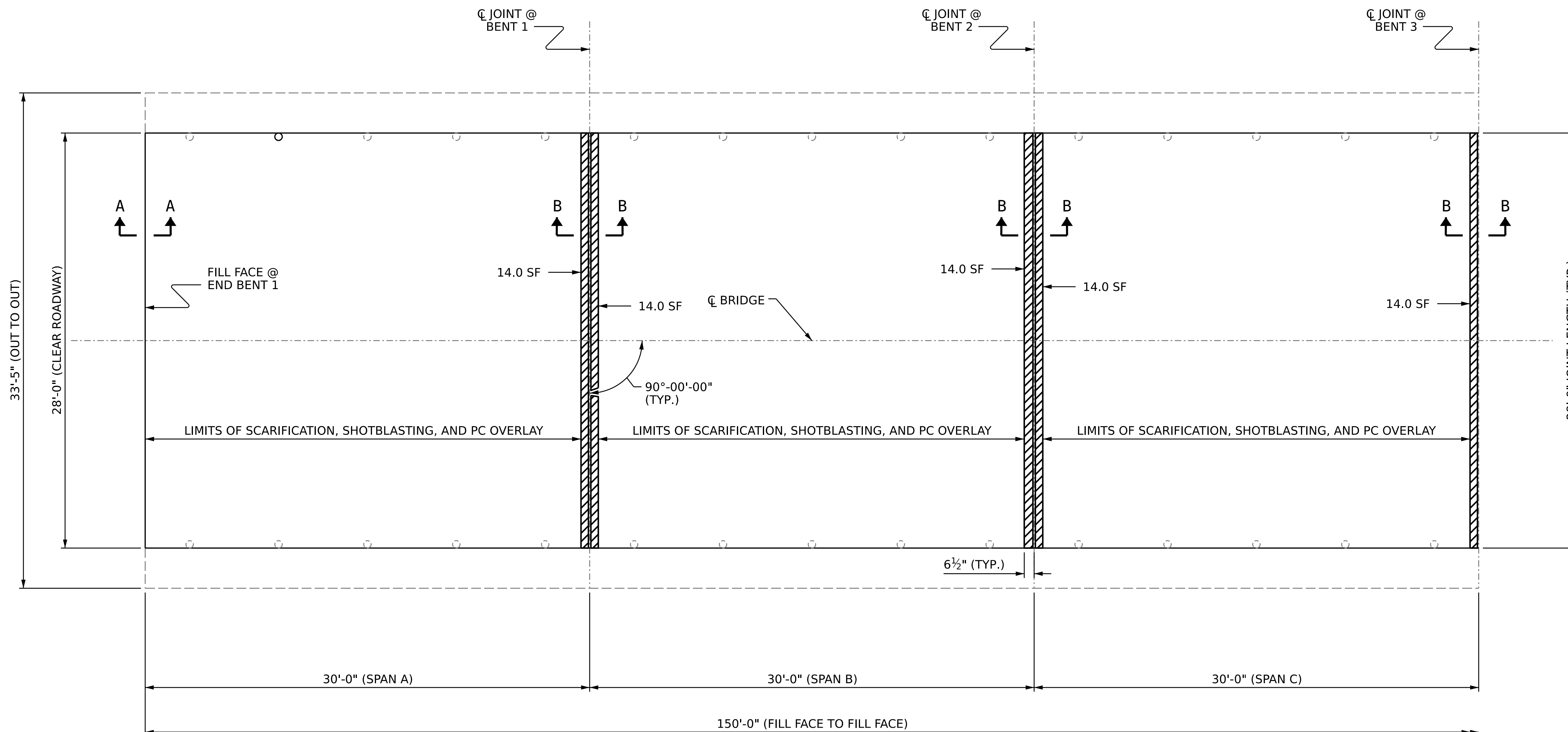
FOR POLYMER CONCRETE BRIDGE DECK OVERLAY, SEE SPECIAL PROVISIONS.

POURABLE SILICONE JOINT SEALS SHALL NOT BE INSTALLED UNTIL THE OVERLAY IS COMPLETE.

FOR SECTION A-A AND B-B, SEE JOINT REPAIR DETAILS SHEET S1-5.

### SUMMARY OF QUANTITIES FOR SPANS A, B, & C

	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	271.6 SY	
POLYESTER POLYMER CONCRETE MATERIALS	18.9 CY	
EPOXY POLYMER CONCRETE MATERIALS (ALTERNATE)	18.9 CY	
SHOTBLASTING BRIDGE DECK	271.6 SY	
PLACING & FINISHING PC OVERLAY	271.6 SY	
CLASS II SURFACE PREPARATION	7.8 SY	
GROOVING BRIDGE FLOORS	2,218.8 SF	
CONCRETE DECK REPAIR FOR PC OVERLAY	7.8 SY	



### PLAN OF SPANS A, B, & C

PROJECT NO. **SS-6004AH**  
**JOHNSTON** COUNTY  
 BRIDGE NO. **500055**

SHEET 1 OF 2



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

### SURFACE PREPARATION SPANS A, B, & C

DRAWN BY : G. AYES DATE : 8/2023  
 CHECKED BY : A. G. ABRAHA / S. WANCE DATE : 8/2023

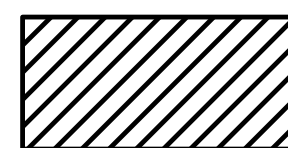
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REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S1-3
1			3			TOTAL SHEETS
2			4			6

**REPAIR KEY**



- SHOTBLASTING AND SCARIFICATION OF BRIDGE DECK FOR PC OVERLAY



- CLASS II SURFACE PREPARATION

**NOTES**

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

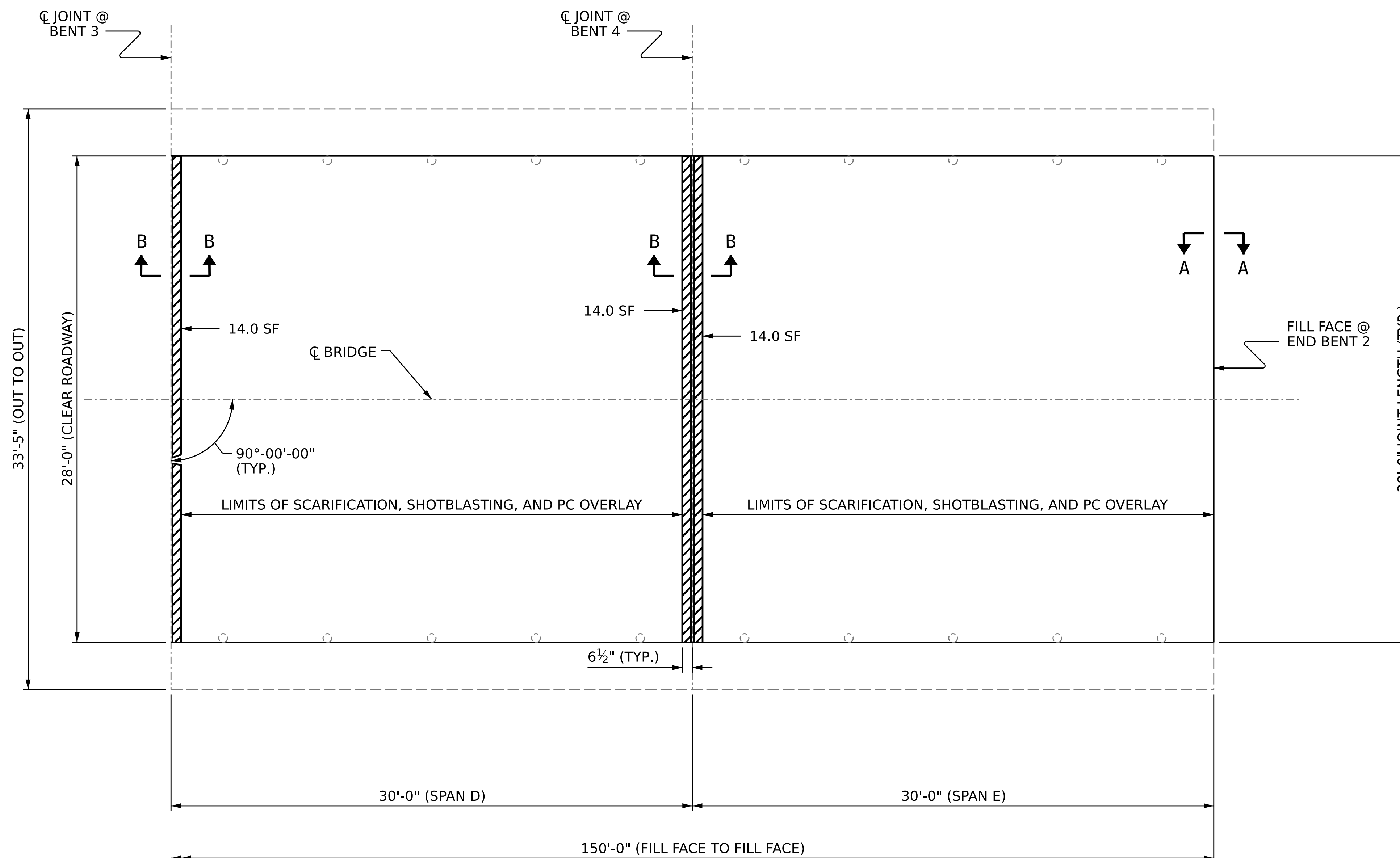
FOR POLYMER CONCRETE BRIDGE DECK OVERLAY, SEE SPECIAL PROVISIONS.

POURABLE SILICONE JOINT SEALS SHALL NOT BE INSTALLED UNTIL THE OVERLAY IS COMPLETE.

FOR SECTION A-A AND B-B, SEE JOINT REPAIR DETAILS SHEET S1-5.

**SUMMARY OF QUANTITIES FOR SPANS D & E**

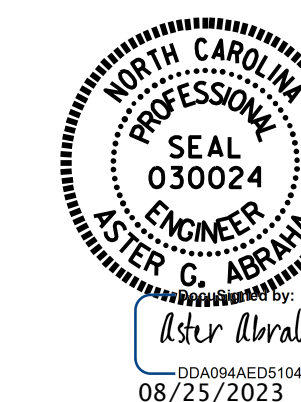
	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	181.6 SY	
POLYESTER POLYMER CONCRETE MATERIALS	12.6 CY	
EPOXY POLYMER CONCRETE MATERIALS (ALTERNATE)	12.6 CY	
SHOTBLASTING BRIDGE DECK	181.6 SY	
PLACING & FINISHING PC OVERLAY	181.6 SY	
CLASS II SURFACE PREPARATION	4.7 SY	
GROOVING BRIDGE DECK	1,481.3 SF	
CONCRETE DECK REPAIR FOR PC OVERLAY	4.7 SY	



**PLAN OF SPANS D & E**

PROJECT NO. **SS-6004AH**  
**JOHNSTON** COUNTY  
 BRIDGE NO. **500055**

SHEET 2 OF 2



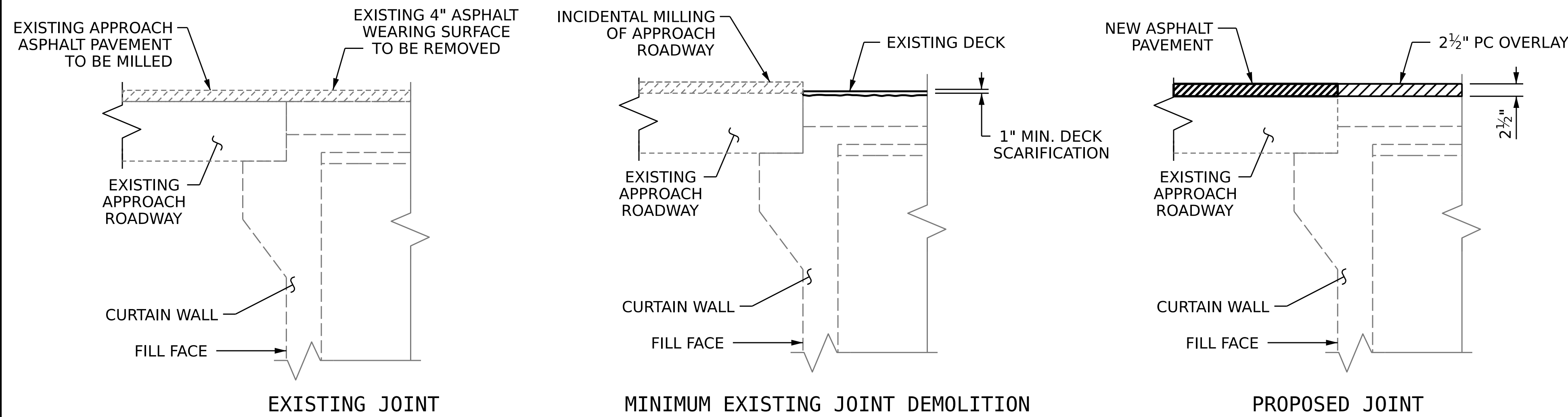
STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**SURFACE PREPARATION SPANS D & E**

DRAWN BY : G. AYES DATE : 8/2023  
 CHECKED BY : A. G. ABRAHA / S. WANCE DATE : 8/2023

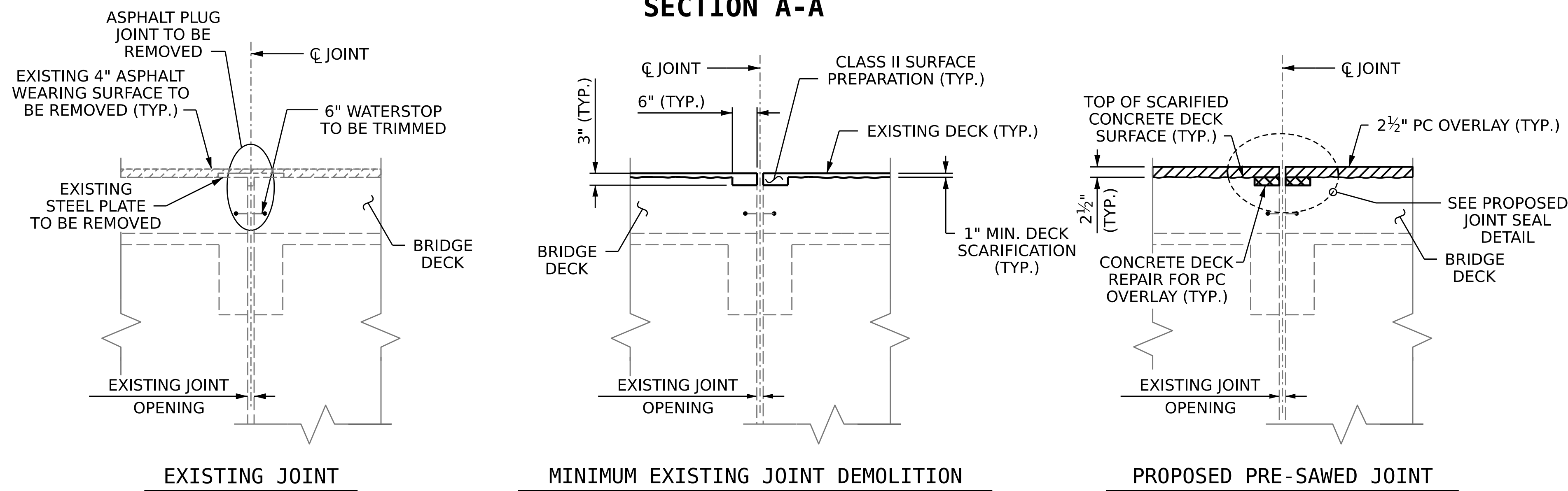
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 FINAL UNLESS ALL  
 SIGNATURES COMPLETED

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1			3			TOTAL SHEETS
2			4			6



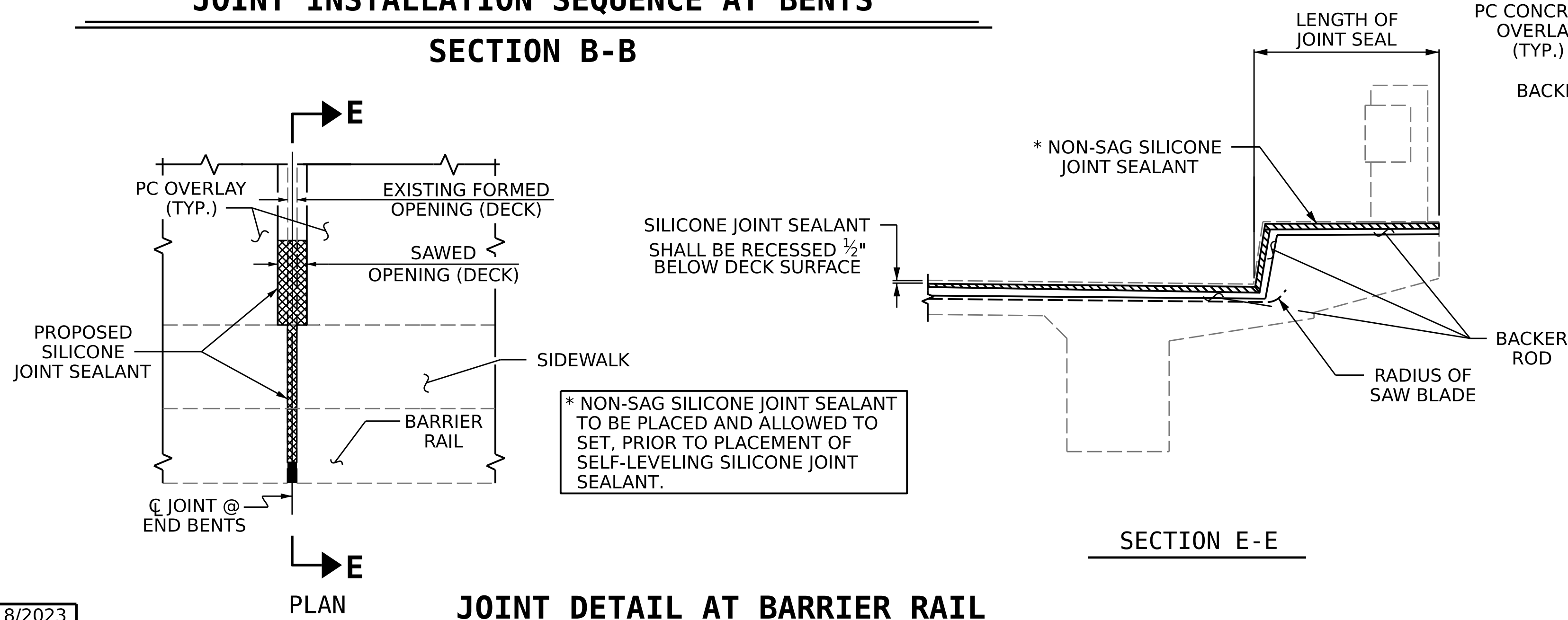
**JOINT INSTALLATION SEQUENCE AT END BENTS**

**SECTION A-A**



**JOINT INSTALLATION SEQUENCE AT BENTS**

**SECTION B-B**



IF THE EMBEDDED PORTION OF THE EXISTING PLASTIC WATERSTOP IS EXPOSED DURING REMOVAL OF UNSOUND CONCRETE, OR IF UNSOUND CONCRETE IS REMOVED WITHIN 2" OF THE WATERSTOP, THE ENTIRE CONCRETE DEPTH TO THE WATERSTOP SHALL BE REMOVED. REPAIR CONCRETE SHALL BE PLACED IN THE EXCAVATED AREA TO THE ELEVATION OF THE SCARIFIED SURFACE.

\* NON-SAG SILICONE JOINT SEALANT TO BE PLACED AND ALLOWED TO SET, PRIOR TO PLACEMENT OF SELF-LEVELING SILICONE JOINT SEALANT.

SILICONE JOINT SEALANT SHALL BE RECESSED 1/2" BELOW DECK SURFACE

**NOTES**

CONTRACTOR SHALL FIELD VERIFY THE EXISTING FORMED OPENING PRIOR TO OBTAINING JOINT MATERIAL. IF ACTUAL JOINT OPENINGS VARIES FROM THE OPENING INDICATED IN DETAIL MORE THAN 1/4" NOTIFY ENGINEER. REVISION TO THE JOINT SEAL SIZE MAY BE NECESSARY.

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.

UNLESS NOTED OTHERWISE RETAIN ALL EXISTING REINFORCING STEEL. CLEAN AND REPAIR AS NEEDED.

ALL EXPOSED ENDS OF CUT BARS SHALL BE COATED WITH EPOXY PRIOR TO THE NEW JOINT MATERIAL INSTALLATION.

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

FOR POURABLE SILICONE EXPANSION JOINT SEALS, SEE SPECIAL PROVISIONS.

SILICONE JOINT SEALANT AND BACKER ROD SHALL BE INSTALLED AS PER MANUFACTURER'S RECOMMENDATION.

THE INSTALLATION OF JOINT SEAL SHALL BE WATERTIGHT.

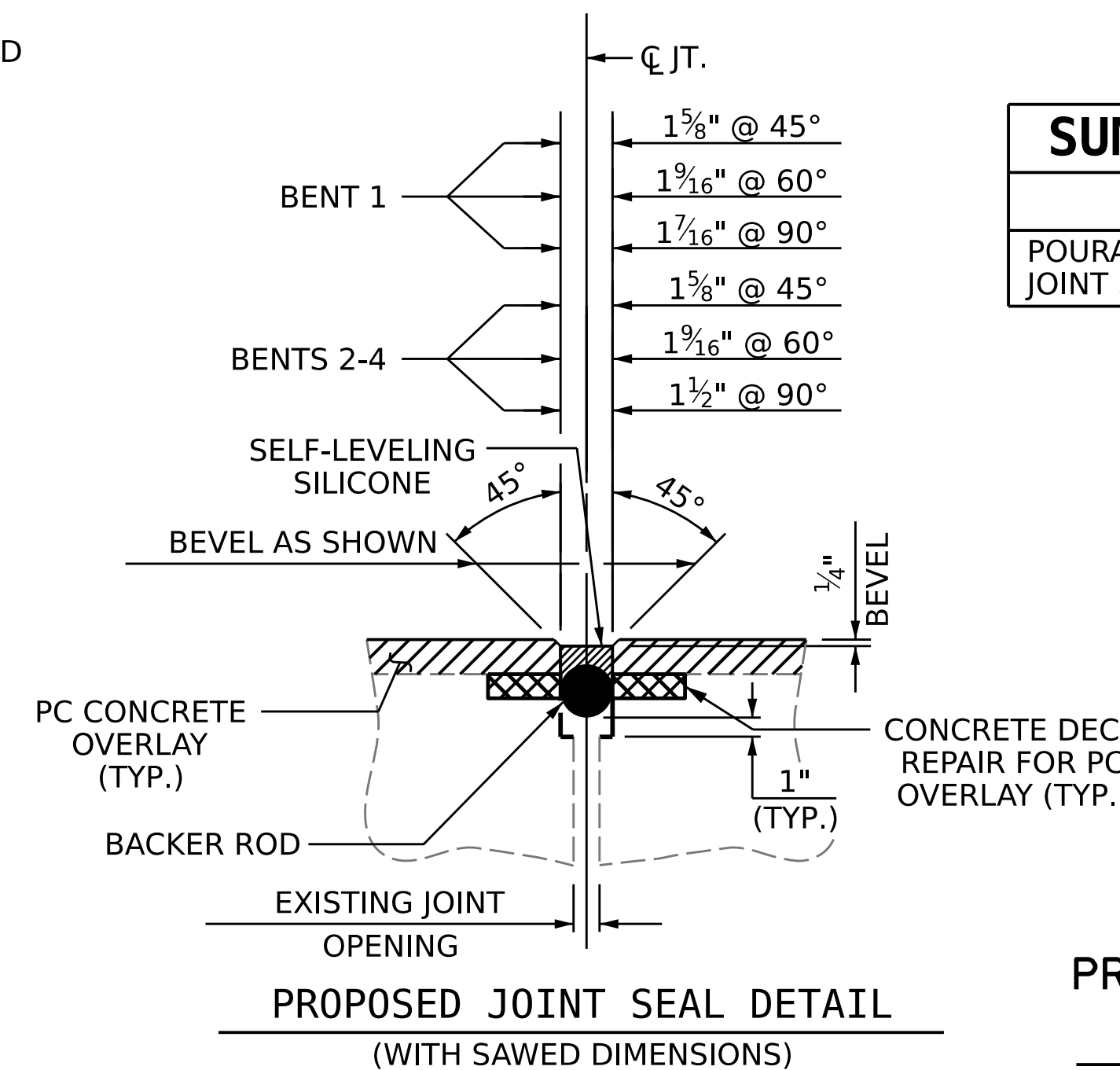
FINAL JOINT SEALS SHALL NOT BE INSTALLED UNTIL THE OVERLAY IS COMPLETE.

DURING JOINT INSTALLATION PROCEDURE, THE JOINT AND SURROUNDING AREA SHALL BE KEPT CLEAN AND FREE OF DEBRIS.

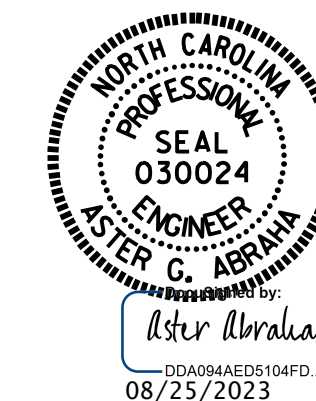
FOR EXCAVATION BELOW THE BOTTOM OF THE PLANNED JOINT DEMOLITION, CONCRETE FOR DECK REPAIR FOR PC OVERLAY SHALL BE PLACED IN THE EXCAVATED AREA TO THE ELEVATION OF THE SCARIFIED SURFACE.

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.

SUMMARY OF QUANTITIES		
	ESTIMATE	ACTUAL
POURABLE SILICONE JOINT SEALANT	140.0 LF	



PROJECT NO. **SS-6004AH**  
**JOHNSTON** COUNTY  
 BRIDGE NO. **500055**



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**JOINT REPAIR DETAILS**

DRAWN BY: G. AYES DATE: 8/2023  
 CHECKED BY: A. G. ABRAHAMA / S. WANCE DATE: 8/2023

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS				SHEET NO.
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S1-5  
 TOTAL SHEETS: 6

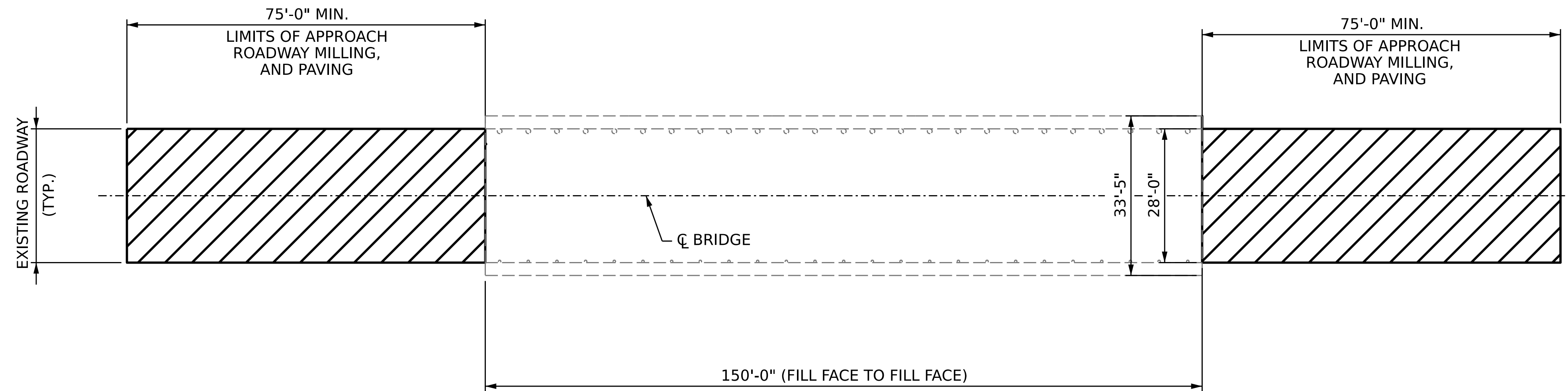


**NOTES**

INCIDENTAL MILLING - EXISTING APPROACH ASPHALT PAVING TO BE MILLED AS NECESSARY TO ATTAIN MINIMUM 1½" DEPTH OF NEW ASPHALT PAVING. NEW ASPHALT PAVEMENT SHALL BE OF THICKNESS AND GRADE NECESSARY TO PROVIDE A SMOOTH TRANSITION BETWEEN THE ROADWAY AND THE BRIDGE DECK. THE NEW ASPHALT PAVEMENT THICKNESS MAY EXCEED 1½" DUE TO SETTLEMENT OF THE EXISTING APPROACH.

**SUMMARY OF QUANTITIES**

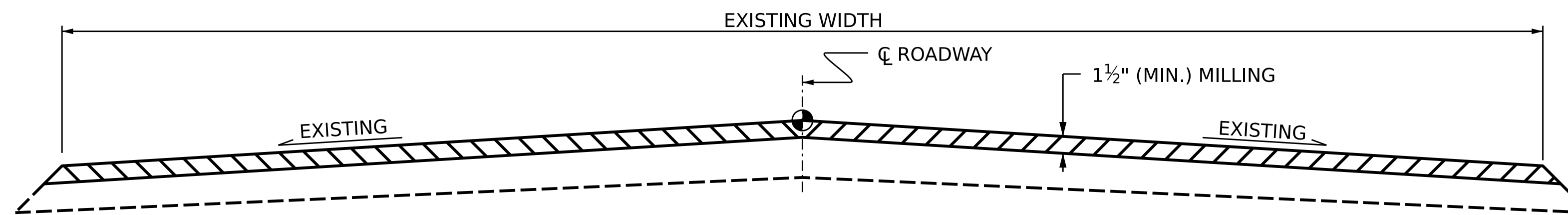
	ESTIMATE	ACTUAL
INCIDENTAL MILLING	466.7 SQ. YDS.	
ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C	40.0 TONS	
ASPHALT BINDER FOR PLANT MIXER	5.0 TONS	



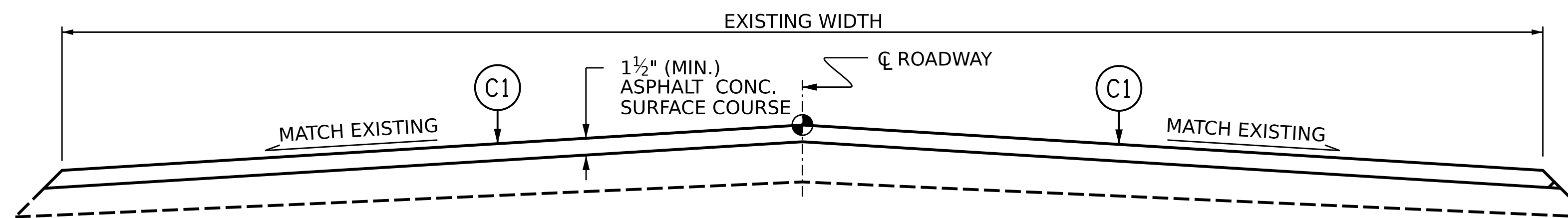
**PLAN**

C1 PROPOSED VARIABLE DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5C, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 1½" IN DEPTH OR GREATER THAN 2" DEPTH.

 INCIDENTAL MILLING AND PAVING



**ROADWAY MILLING TYPICAL SECTION**



**PROPOSED ROADWAY TYPICAL SECTION**

PROJECT NO. **SS-6004AH**  
**JOHNSTON** COUNTY  
 BRIDGE NO. **500055**



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**APPROACH MILLING AND ROADWAY TYPICAL SECTIONS**

DRAWN BY : **A. G. ABRAHA** DATE : **8/2023**  
 CHECKED BY : **S. WANCE** DATE : **8/2023**

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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

S1-6  
TOTAL SHEETS  
6

## STANDARD NOTES

### DESIGN DATA:

SPECIFICATIONS .....	AASHTO (CURRENT)
LIVE LOAD .....	SEE PLANS
IMPACT ALLOWANCE .....	SEE AASHTO
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 AASHTO
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 2024 "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  $\frac{3}{4}$ " WITH THE FOLLOWING EXCEPTIONS: TOP CORNERS OF CURBS MAY BE ROUNDED TO  $1\frac{1}{2}$ " RADIUS WHICH IS BUILT INTO CURB FORMS; CORNERS OF TRANSVERSE FLOOR EXPANSION JOINTS SHALL BE ROUNDED WITH A  $\frac{1}{4}$ " 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  $\frac{1}{4}$ " 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  $\frac{7}{8}$ "  $\emptyset$  SHEAR STUDS FOR THE  $\frac{3}{4}$ "  $\emptyset$  STUDS SPECIFIED ON THE PLANS. THIS SUBSTITUTION SHALL BE MADE AT THE RATE OF 3 -  $\frac{7}{8}$ "  $\emptyset$  STUDS FOR 4 -  $\frac{3}{4}$ "  $\emptyset$  STUDS, AND STUD SPACING CHANGES SHALL BE MADE AS NECESSARY TO PROVIDE THE SAME EQUIVALENT NUMBER OF  $\frac{7}{8}$ "  $\emptyset$  STUDS ALONG THE BEAM AS SHOWN FOR  $\frac{3}{4}$ "  $\emptyset$  STUDS BASED ON THE RATIO OF 3 -  $\frac{7}{8}$ "  $\emptyset$  STUDS FOR 4 -  $\frac{3}{4}$ "  $\emptyset$  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  $\frac{5}{16}$ " 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  $\frac{1}{16}$ " 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.