

05/08/09

TIP PROJECT: 17BP.6.P.4

CONTRACT: D000147

\$\$\$\$\$SYTIME\$\$\$\$\$
 \$\$\$DGN\$\$\$\$\$
 \$\$\$USERNAME\$\$\$\$\$



STATE OF NORTH CAROLINA
 DIVISION OF HIGHWAYS

CUMBERLAND COUNTY

LOCATION: BRIDGE 030 ON I-95 SBL ACROSS I-95 LOOP NBL & SR 2284
 BRIDGE 051 ON US 401 BUSINESS ACROSS NC 210

TYPE OF WORK: BRIDGE DECK PRESERVATION

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.		1A	
WS NO.	P.A. PROJ. NO.	DESCRIPTION	
17BP.6.P.4		PE	
17BP.6.P.4		CONST.	

INDEX OF SHEETS

DWG.	DESCRIPTION
1	TITLE SHEET
1A	INDEX OF SHEET
2	SUMMARY OF QUANTITIES
S-1 THRU S-8	STRUCTURE PLANS - BRIDGE 30
S-9 THRU S-16	STRUCTURE PLANS - BRIDGE 51
TMP-1 THRU TMP-5A	TRAFFIC MANAGEMENT PLANS

ROADWAY STANDARD DRAWINGS

2006 ROADWAY ENGLISH STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS APPEARING IN "ROADWAY STANDARD DRAWINGS" HIGHWAY DESIGN BRANCH -N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C. DATED JULY 18, 2006 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD. NO	TITLE
DIVISION 8 - INCIDENTALS	
846.01	CONCRETE CURB, GUTTER AND CURB & GUTTER

250030

PROJECT LENGTH



PREPARED IN THE OFFICE OF:

Stantec Consulting Services Inc.
 501 Jones Franklin Road
 Suite 300
 Raleigh, NC 27608
 Tel: (919) 851-6000
 Fax: (919) 851-7024
 www.stantec.com
 License No. F-0072

FOR THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:

N.A.

LETTING DATE:

DECEMBER 29, 2011

JOE KELVINGTON, PE

PROJECT ENGINEER

NCDOT CONTACT:

ZAKI Wafa, PE

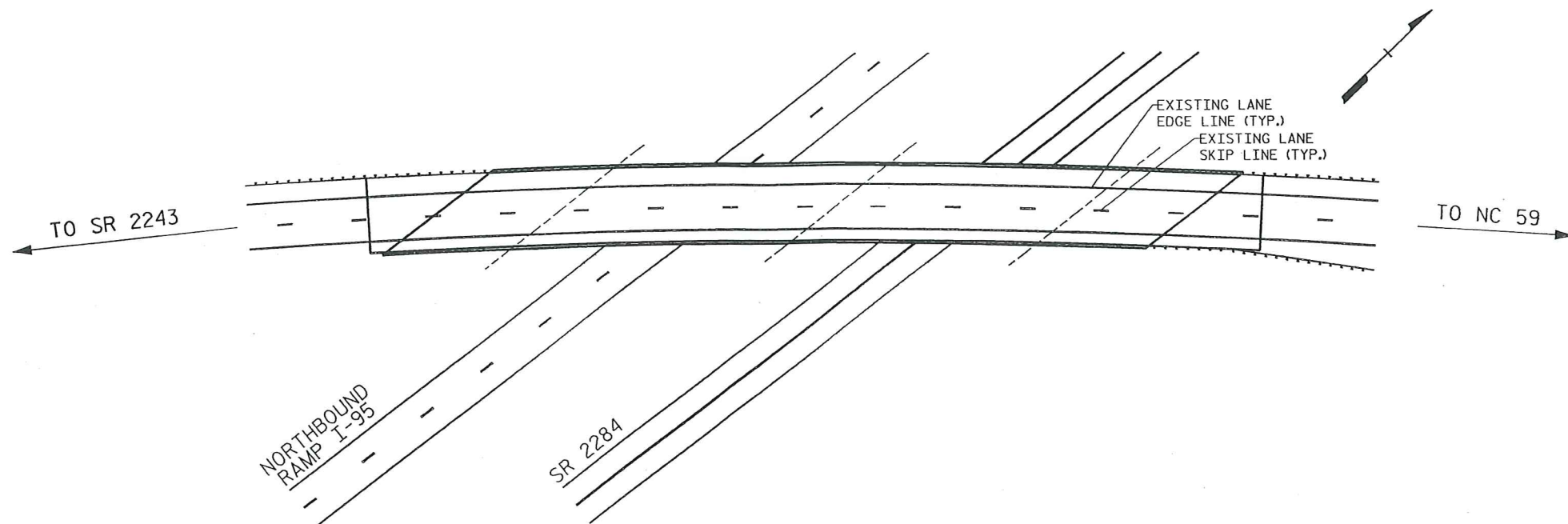
BRIDGE MANAGEMENT PROJECT MANAGER

RICK NELSON, PE

DESIGN ENGINEER

DIVISION OF HIGHWAYS
 STATE OF NORTH CAROLINA





BRIDGE 30 ON I-95 SOUTHBOUND
LOCATION: BRIDGE 250030, I-95 SOUTHBOUND OVER
I-95 NORTHBOUND RAMP & SR2284

TOTAL BILL OF MATERIAL

SCARIFYING BRIDGE DECK	CLASS I SURFACE PREPARATION	CLASS II SURFACE PREPARATION	CLASS III SURFACE PREPARATION	HYDRO- DEMOLITION	CLASS AA CONCRETE	LATEX MODIFIED CONCRETE-VERY EARLY STRENGTH	PLACING & FINISHING OF LATEX MODIFIED CONCRETE- VERY EARLY STRENGTH	EVAZOTE JOINT SEAL	GROOVING BRIDGE FLOORS	ASHPHALT CONC. SURF. COURSE TYPE S9.5C
SQ.YDS.	SQ.YDS.	SQ.YDS.	SQ.YDS.	SQ.YDS.	CU.YDS.	CU.YDS.	SQ.YDS.	LUMP SUM	SQ.FT.	TON
2921.0	0.0	11.0	0.0	2155.0	0.0	89.0	2155.0	LUMP SUM	18698.0	61.0

* QUANTITIES ARE ESTIMATES FROM BEST AVAILABLE DATA, AND SHOULD BE CONSIDERED FOR INFORMATIONAL PURPOSES ONLY. IF ANY CLASS III LOCATIONS ARE ENCOUNTERED PRIOR TO OR DURING HYDRO-DEMOLITION, SEE "TYP. BLOW THRU" CONTAINMENT AND FORMWORK" DETAIL. NO SEPARATE MEASUREMENT OR PAYMENT FOR THESE ITEMS WILL BE MADE. ALL COSTS FOR THIS WORK WILL BE INCLUDED IN THE UNIT PRICE BID FOR HYDRO-DEMOLITION.

** INCLUDES MILLING OF ROADWAY PAVEMENT.

PROJECT NO. WBS 17BP.6.P.4
CUMBERLAND COUNTY
STATION: _____

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

LOCATION SKETCH
 AND TOTAL
 BILL OF MATERIAL

DECK REHAB. FOR BRIDGE NO. 30

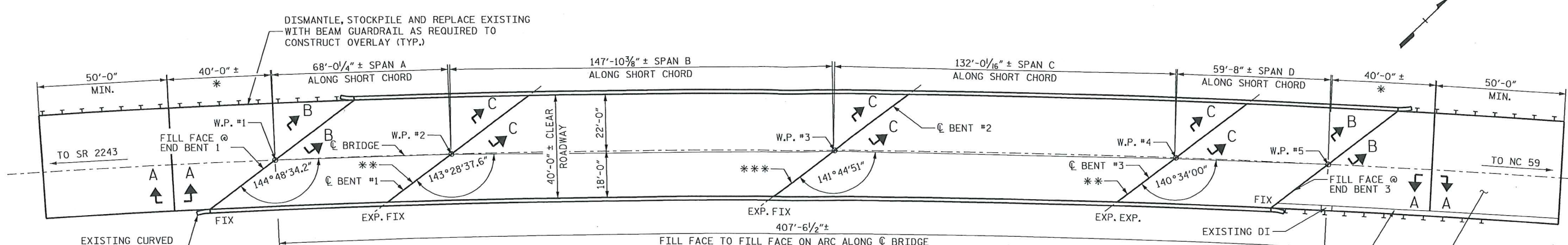
Joseph T. Kelvington
 12/2/11
 PROFESSIONAL ENGINEER
 SEAL 13406
 NORTH CAROLINA
 JOSEPH T. KELVINGTON

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-1
1			3			TOTAL SHEETS
2			4			16

12/2/2011 9:45:14 AM dlaton
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 License No. F-0872

DRAWN BY: A T LOPEZ DATE: 9/11
 CHECKED BY: J T KELVINGTON DATE: 9/11



PLAN VIEW OF SPANS A, B, C & D

* EXISTING CONC. APPROACH PAVEMENT. LENGTH IS APPROXIMATE.
 NOTE: ALL HORIZONTAL DIMENSIONS ARE RADIAL OR ARC DIMENSIONS UNLESS NOTED OTHERWISE
 ** EXISTING MODULAR EXP. JT. SEAL TO BE REMOVED
 *** EXISTING COMP. JT. SEAL MODIFICATION TO MODULAR EXP. JT. SEAL

NOTES:

EXISTING DECK DRAINS SHALL BE SEALED PRIOR TO BEGINNING REPAIR OF BRIDGE DECKS WITH LATEX MODIFIED CONCRETE. SEE SPECIAL PROVISIONS.

FOR HYDRO-DEMOLITION, SEE SPECIAL PROVISIONS.

THE CONTRACTOR MUST COLLECT, TREAT AND DISPOSE OF RUN-OFF WATER FROM THE HYDRO-DEMOLITION PROCESS. SEE SPECIAL PROVISIONS.

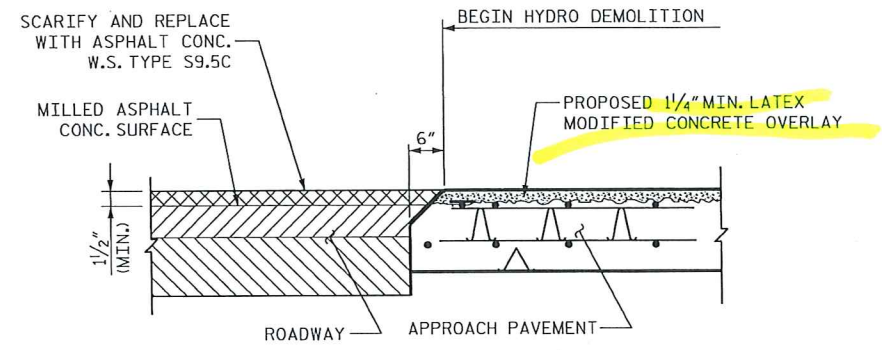
THE BOUNDARIES OF AREAS IDENTIFIED FOR CLASS III SURFACE PREPARATION ARE APPROXIMATE.

LATEX MODIFIED CONCRETE SHALL BE LATEX MODIFIED CONCRETE - VERY EARLY STRENGTH.

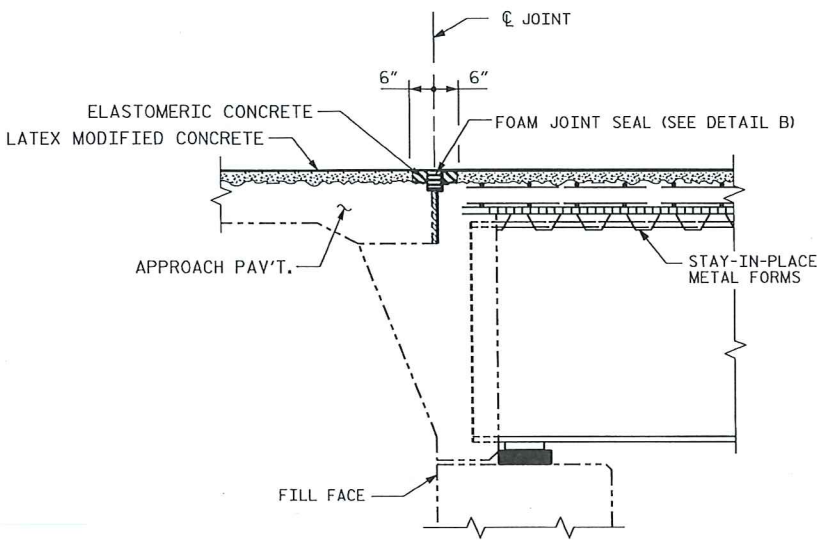
FOR LATEX MODIFIED CONCRETE - VERY EARLY STRENGTH, SEE SPECIAL PROVISIONS.

FOR EVAZOTE JOINT SEALS, SEE SPECIAL PROVISIONS.

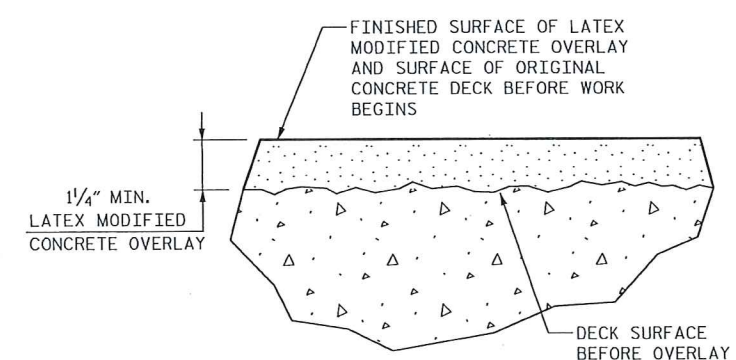
FOR SECTION C-C, SEE SHT. NO. S-8.



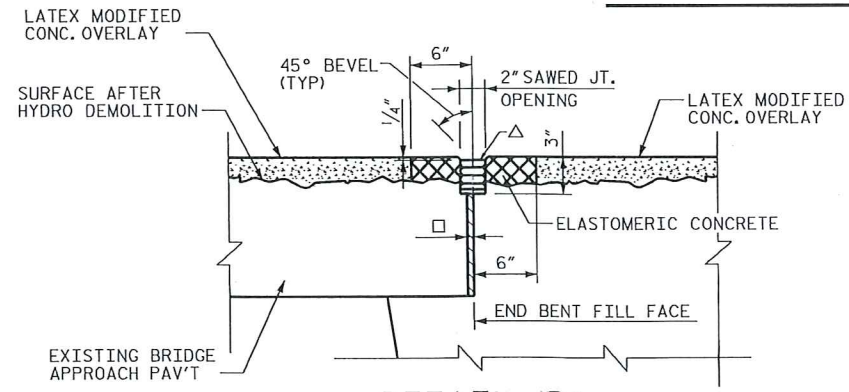
SECTION A-A
 HORIZONTAL DIMENSIONS ARE NORMAL TO THE JOINT



SECTION B-B



DETAIL FOR LATEX MODIFIED CONCRETE OVERLAY



DETAIL "B"

△ USE 2.50" X 2.00" UNCOMPRESSED SEAL MATERIAL
 □ ASSUMED 1/2" EXP. JT. MATERIAL

REMOVE ALL LOOSE, DETERIORATED MATERIAL, INCLUDING EXISTING SEAL DEVICES AND HARDWARE TO SOUND CONCRETE. PRESERVE AND RETAIN ALL EXPOSED REINFORCING STEEL. ADJUST SAW CUT DEPTH AS REQUIRED TO PREVENT CUTS INTO EXISTING REINFORCING STEEL.

PROJECT NO. WBS 17BP.6.P.4
CUMBERLAND COUNTY
 STATION: _____

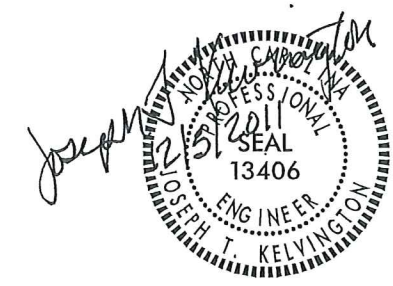
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

PLAN OF SPANS FOR DECK REPAIR

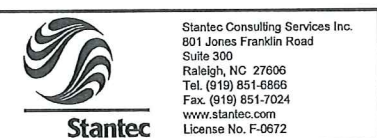
DECK REHAB. FOR BRIDGE NO. 30

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

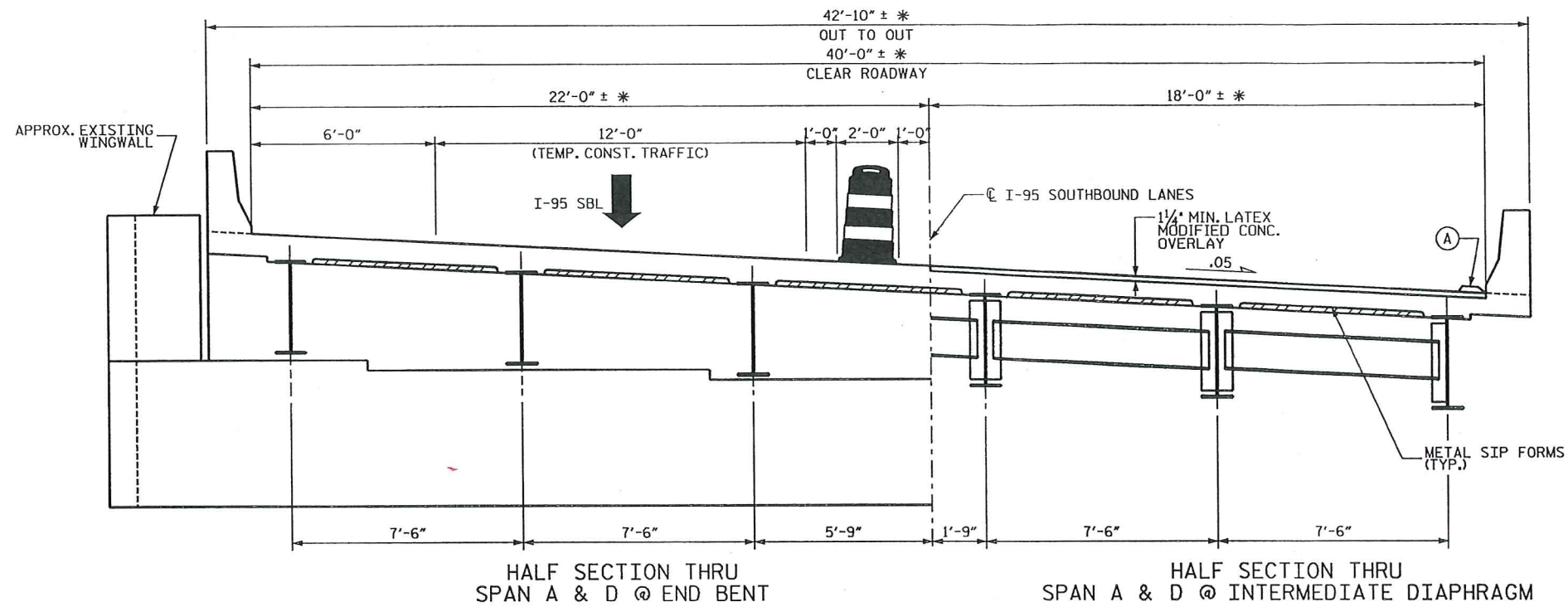
SHEET NO. S-2
 TOTAL SHEETS 16



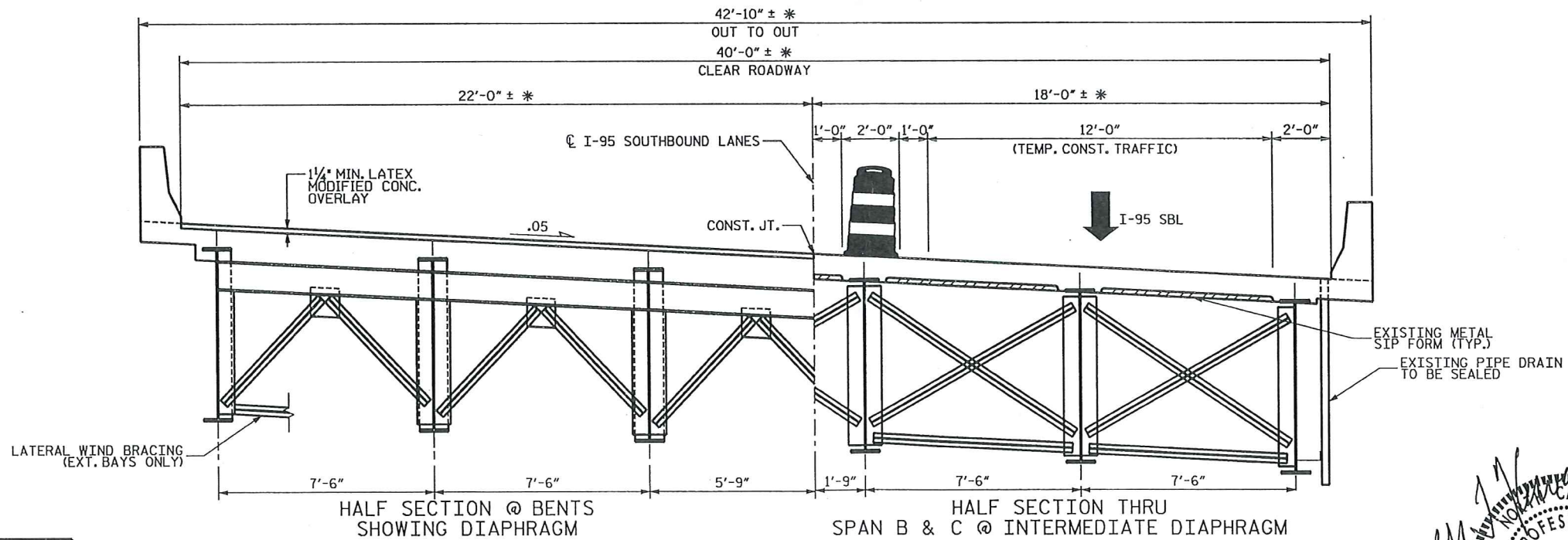
9:58:05 AM blaton 12/5/2011 30:\Drawing\BP30_Plan.dgn WBS 17BP.6.P.4 Cumberland Co.\Bridge 30



DRAWN BY: A T LOPEZ DATE: 9/11
 CHECKED BY: J T KELVINGTON DATE: 9/11



TYPICAL SECTION - SBL
ALL DIMENSIONS ARE APPROXIMATE



TYPICAL SECTION - SBL
ALL DIMENSIONS ARE APPROXIMATE

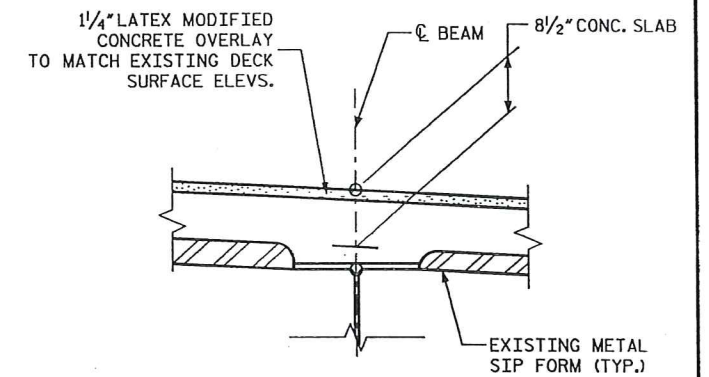
NOTES:

WATER & CONCRETE SLURRY FROM HYDRO-DEMOLITION SHALL NOT BE ALLOWED TO DRAIN ACROSS TRAVEL LANES. CONTRACTOR SHALL PROVIDE A METHOD TO CONTROL THE WATER.

FOR TRAFFIC CONTROL AND CONSTRUCTION PHASING, SEE TRANSPORTATION MANAGEMENT PLANS.

* RADIAL DIMENSION

(A) DAM IS REQ'D TO CONTROL WATER FROM HYDRO-DEMOLITION.



EXIST. SLAB BUILDUP

PROJECT NO. WBS 17BP.6.P.4

CUMBERLAND COUNTY

STATION: _____

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

DECK REPAIR DETAILS
FOR BRIDGE #030

DECK REHAB. FOR BRIDGE NO. 30

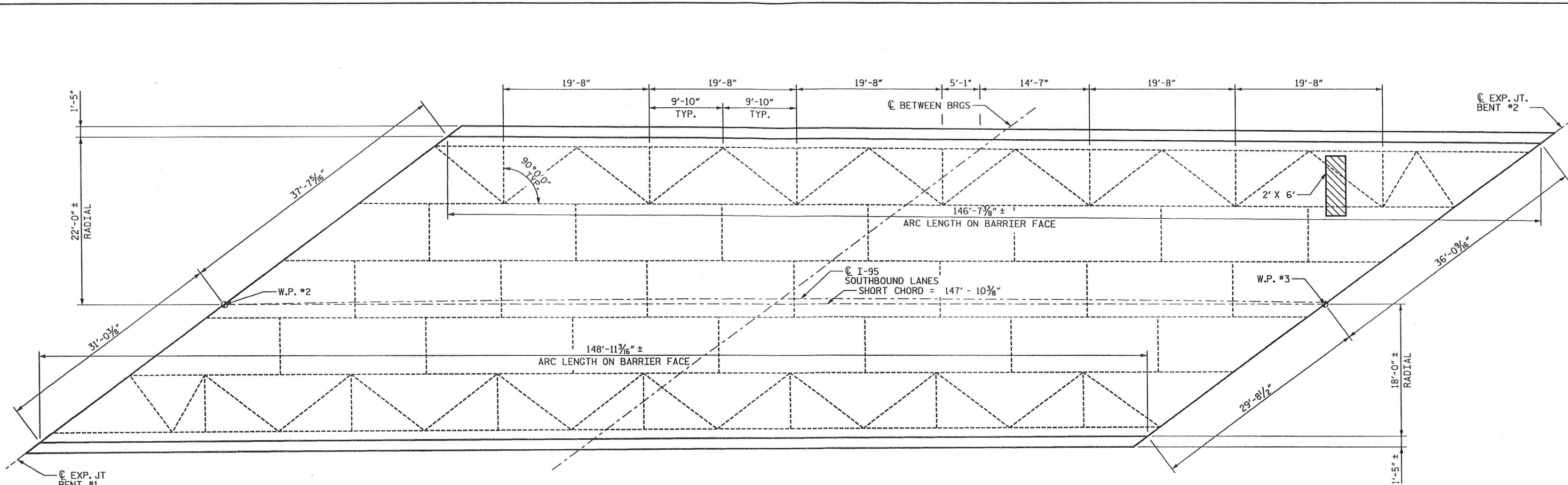
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-3
1			3			TOTAL SHEETS
2			4			16



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DRAWN BY : A T LOPEZ DATE : 9/11
CHECKED BY : J I KELVINGTON DATE : 9/11

Joseph T. Kelvington
12/2/11
SEAL
13406
PROFESSIONAL
ENGINEER
JOSEPH T. KELVINGTON



PLAN OF SPAN B - DECK REPAIRS

- CLASS II SURFACE PREPARATION
- CLASS III SURFACE PREPARATION

L' X W' = LENGTH OF AREA PARALLEL TO I-95.
WIDTH OF AREA PERPENDICULAR TO I-95 SBL.

NOTES:

- CONTRACTOR SHALL FURNISH FORMWORK TO SUPPORT SLAB OVERHANG REGIONS WITH EXTENSIVE CLASS III SURFACE PREPARATION.
- COSTS FOR INSTALLING AND REMOVING FORMWORK SHALL BE INCIDENTAL TO THE PRICE BID PER SQ. YD. OF HYDRO-DEMOLITION.
- SEE HYDRO-DEMOLITION SPECIAL PROVISIONS.
- CLASS II AND CLASS III SURFACE PREPARATION SHOWN IS REPRESENTATIVE AND DOES NOT REFLECT ACTUAL CONDITIONS THAT WILL BE ENCOUNTERED @ THE PROJECT SITE.
- A METHOD TO CAPTURE WATER AND DEBRIS FROM BLOW THRU DURING HYDRO-DEMOLITION SHALL BE INSTALLED IN AREAS INDICATED AS CLASS III SURFACE PREPARATION.
- SUBMIT DETAILS OF PROPOSED FORMWORK FOR APPROVAL PRIOR TO BEGINNING WORK.
- CONTRACTOR, AT HIS OPTION, MAY CHOOSE TO MONITOR HYDRO-DEMOLITION WORK IN LIEU OF BLOW THRU CONTAINMENT. SEE TRANSPORTATION MANAGEMENT PLANS.

PROJECT NO. WBS 17BP.6.P.4
CUMBERLAND COUNTY
STATION: _____

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Fax. (919) 851-7024
www.stantec.com
License No. F-0672

DRAWN BY : A.T. LOPEZ DATE : 9/11
CHECKED BY : J.T. KELVINGTON DATE : 9/11

Joseph T. Kelvington
12/2/11

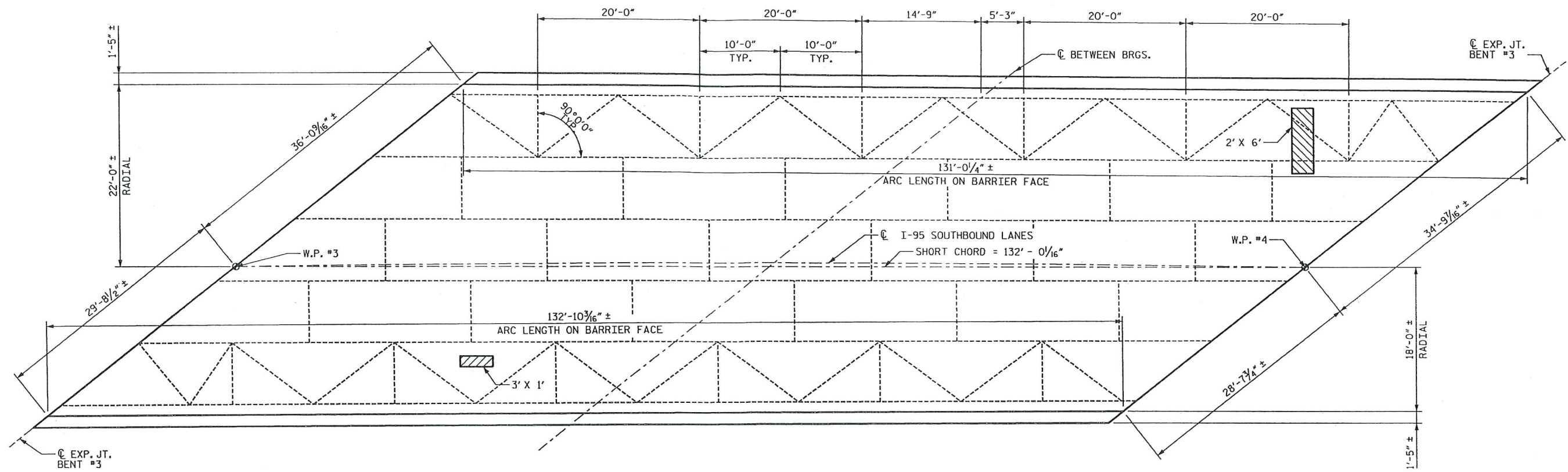
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

DECK REPAIR DETAILS



DECK REHAB. FOR BRIDGE NO. 30

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			16
2			4			

Group 2011WBS 17BP.6.P.4 Cumberland Co Bridge 30 Drawing\BP30_RepairPlanB.dgn 12/2/2011 9:45:24 AM blaton



PLAN OF SPAN C - DECK REPAIRS

 CLASS II SURFACE PREPARATION
 CLASS III SURFACE PREPARATION
 L' X W' = LENGTH OF AREA PARALLEL TO C I-95.
 WIDTH OF AREA PERPENDICULAR TO I-95 SBL.

NOTES:

- CONTRACTOR SHALL FURNISH FORMWORK TO SUPPORT SLAB OVERHANG REGIONS WITH EXTENSIVE CLASS III SURFACE PREPARATION.
- COSTS FOR INSTALLING AND REMOVING FORMWORK SHALL BE INCIDENTAL TO THE PRICE BID PER SQ. YD. OF HYDRO-DEMOLITION.
- SEE HYDRO-DEMOLITION SPECIAL PROVISIONS.
- CLASS II AND CLASS III SURFACE PREPARATION SHOWN IS REPRESENTATIVE AND DOES NOT REFLECT ACTUAL CONDITIONS THAT WILL BE ENCOUNTERED @ THE PROJECT SITE.
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- SUBMIT DETAILS OF PROPOSED FORMWORK FOR APPROVAL PRIOR TO BEGINNING WORK.
- CONTRACTOR, AT HIS OPTION, MAY CHOOSE TO MONITOR HYDRO-DEMOLITION WORK IN LIEU OF BLOW THRU CONTAINMENT. SEE TRANSPORTATION MANAGEMENT PLANS.

PROJECT NO. WBS 17BP.6.P.4
CUMBERLAND COUNTY
 STATION: _____

Joseph J. Kelvington
 12/2/11

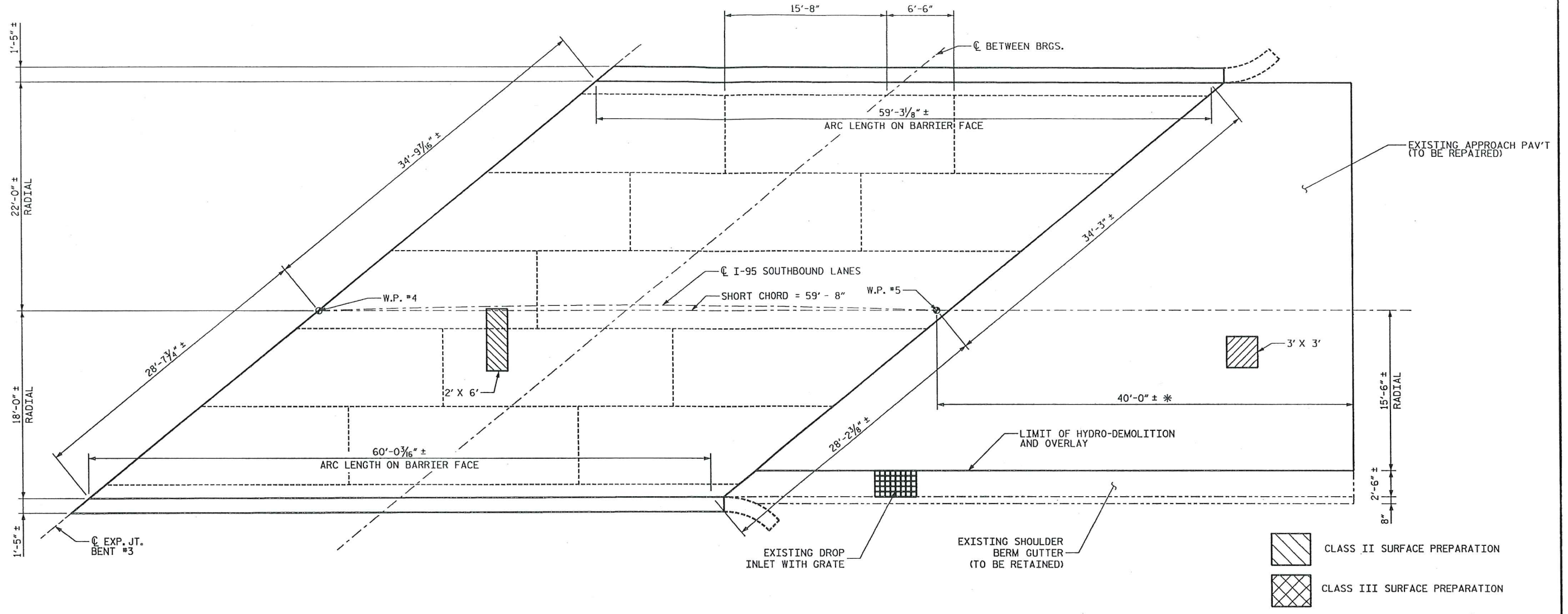

STATE OF NORTH CAROLINA					
DEPARTMENT OF TRANSPORTATION					
RALEIGH					
DECK REPAIR DETAILS					
DECK REHAB. FOR BRIDGE NO. 30					
REVISIONS					SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
TOTAL SHEETS					16


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 www.stantec.com
 License No. F-0872

DRAWN BY : A. T. LOPEZ DATE : 9/11
 CHECKED BY : J. J. KELVINGTON DATE : 9/11

Group 2011WBS 17BP.6.P.4 Cumberland Co. Bridge 30 Drawn by: JBP30.RepairPlanC.dgn 12/2/2011 9:45:25 AM blaton

Group: 2011\WBS 17BP.6.P.4 Cumberland Co Bridge 30\Drawings\BP30.RepairPlanD.dgn 12/2/2011 9:45:29 AM blaton



PLAN OF SPAN D - DECK REPAIRS

* ESTIMATED LENGTH

NOTES:

- CONTRACTOR SHALL FURNISH FORMWORK TO SUPPORT SLAB OVERHANG REGIONS WITH EXTENSIVE CLASS III SURFACE PREPARATION.
- COSTS FOR INSTALLING AND REMOVING FORMWORK SHALL BE INCIDENTAL TO THE PRICE BID PER SQ. YD. OF HYDRO-DEMOLITION.
- SEE HYDRO-DEMOLITION SPECIAL PROVISIONS.
- CLASS II AND CLASS III SURFACE PREPARATION SHOWN IS REPRESENTATIVE AND DOES NOT REFLECT ACTUAL CONDITIONS THAT WILL BE ENCOUNTERED @ THE PROJECT SITE.
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- SUBMIT DETAILS OF PROPOSED FORMWORK FOR APPROVAL PRIOR TO BEGINNING WORK.
- CONTRACTOR, AT HIS OPTION, MAY CHOOSE TO MONITOR HYDRO-DEMOLITION WORK IN LIEU OF BLOW THRU CONTAINMENT. SEE TRANSPORTATION MANAGEMENT PLANS.

CLASS II SURFACE PREPARATION
 CLASS III SURFACE PREPARATION
 L' X W' = LENGTH OF AREA PARALLEL TO I-95 SBL.
 WIDTH OF AREA PERPENDICULAR TO I-95 SBL.

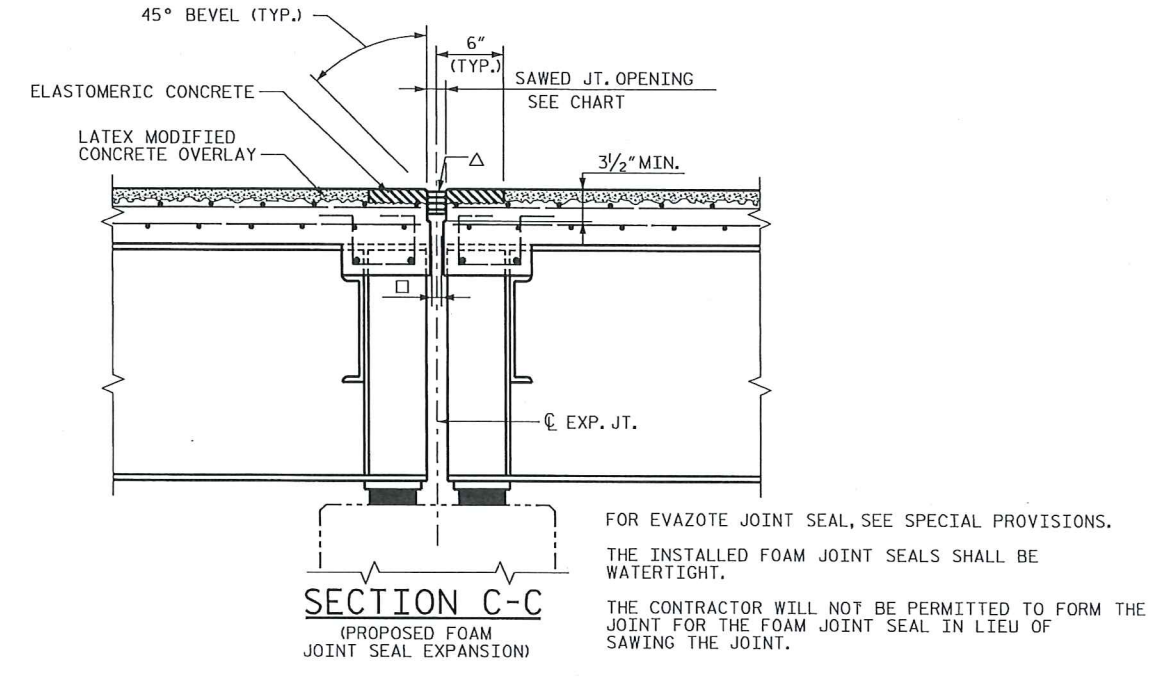
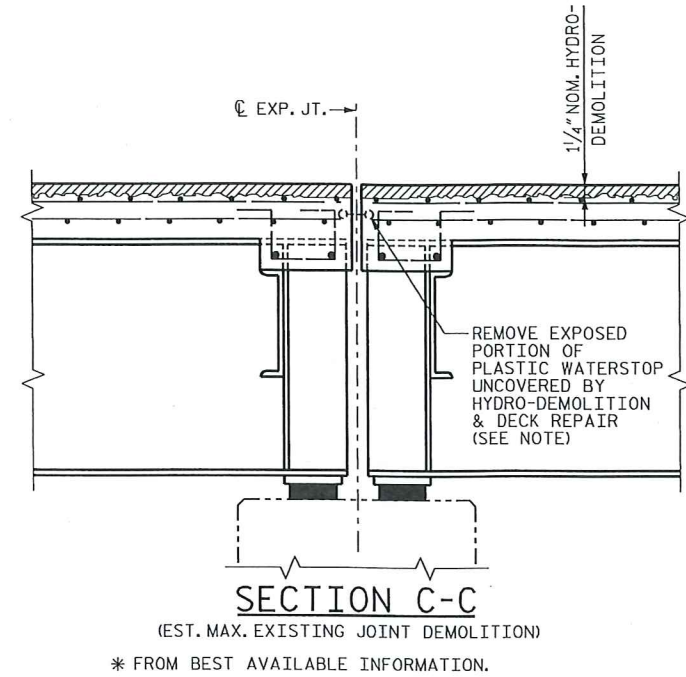
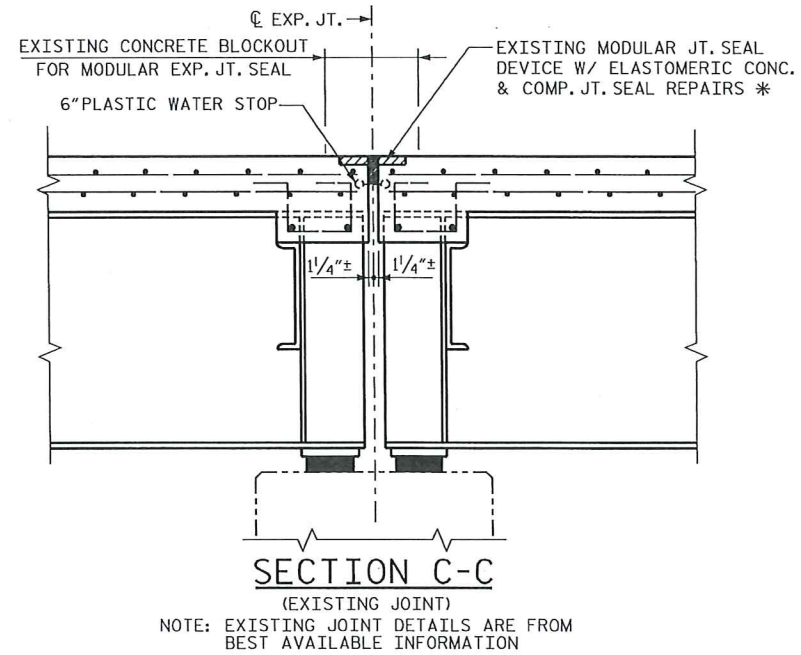
PROJECT NO. WBS 17BP.6.P.4
CUMBERLAND COUNTY
 STATION: _____

Joseph T. Kelvington
 12/19/11
 NORTH CAROLINA PROFESSIONAL ENGINEER
 SEAL 13406
 JOSEPH T. KELVINGTON

STATE OF NORTH CAROLINA					
DEPARTMENT OF TRANSPORTATION					
RALEIGH					
DECK REPAIR DETAILS					
DECK REHAB. FOR BRIDGE NO. 30					
REVISIONS					SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
TOTAL SHEETS					16



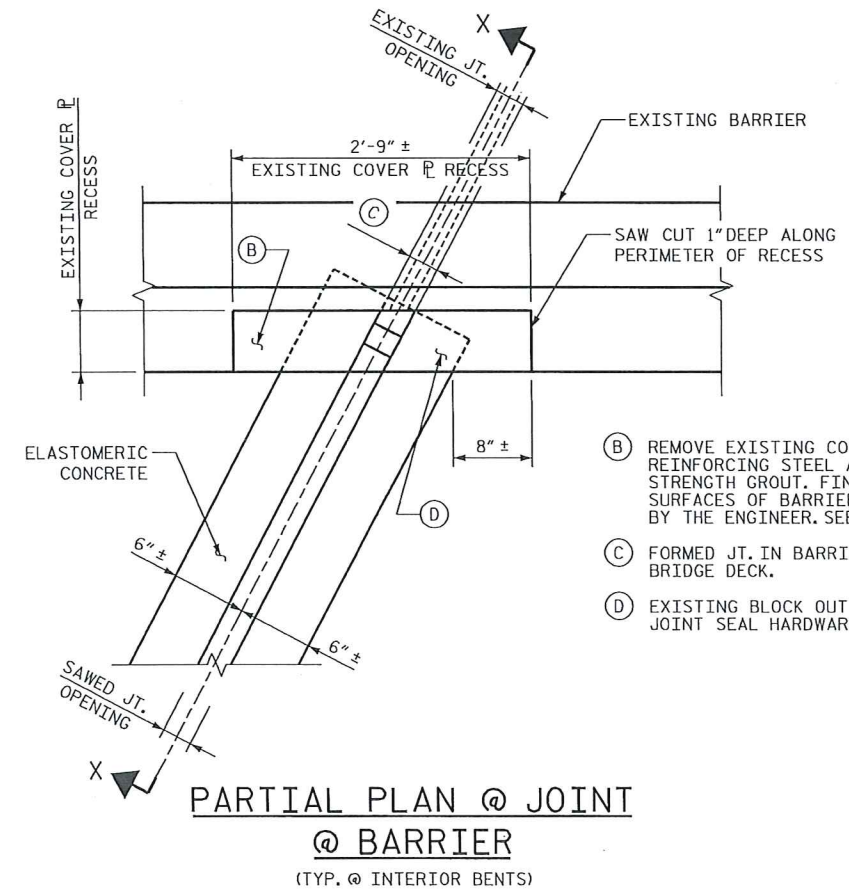
DRAWN BY : A. T. LOPEZ DATE : 9/11
 CHECKED BY : J. T. KELVINGTON DATE : 9/11



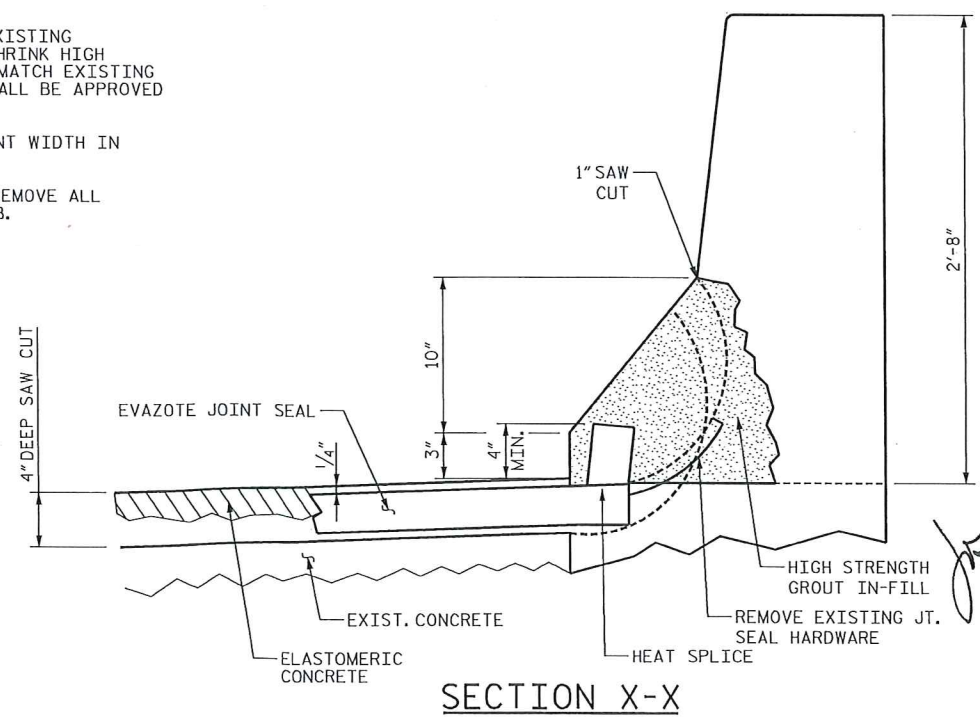
NOTE: ALL LOOSE AND UNSOUND CONCRETE SHALL BE REMOVED. IF THE EMBEDDED PORTION OF THE EXISTING PLASTIC WATERSTOP IS EXPOSED DURING REMOVAL OF UNSOUND CONCRETE, THE ENTIRE WATERSTOP SHALL BE REMOVED.
 RETAIN ALL EXIST. REINF. STEEL. CLEAN AND REPAIR AS REQ'D.

EXPANSION JOINT SEAL DATA									
JOINT SEAL CONSTRUCTION DIMENSIONS									
BENT NO.	EXIST. JT. OPENING (IN.)	FORMED JT. OPENING □ (IN.)	SAWED JOINT WIDTH			Δ EVAZOTE JT. SEAL ** SIZE	WIDTH (IN.)	DEPTH (IN.)	ELASTOMERIC CONCRETE VOLUME (C.F.)
			W (IN.)	W (IN.)	W (IN.)				
END BENT 1	1	1/4	2	2	2	E2.8125	2 13/16	2 1/2	8.0
BENT 1	2 1/2	3	3 3/8	3 1/4	3 1/8	E3.75	3 3/4	3	6.6
BENT 2	2 1/2	3	3 5/8	3 1/2	3 1/4	E4.375	4 3/8	3	6.3
BENT 3	2 1/2	3	3 3/4	3 5/8	3 1/4	E4.375	4 3/8	3	6.1
END BENT 2	1	1/4	2	2	2	E2.8125	2 13/16	2 1/2	7.2
TOTAL ELASTOMERIC CONCRETE									34.2 C.F.
TOTAL ELASTOMERIC CONCRETE									1.3 C.Y.

** NOMINAL UNCOMPRESSED SEAL DIMENSIONS



- (B) REMOVE EXISTING CONCRETE TO AT LEAST 1" BEYOND EXISTING REINFORCING STEEL AND FILL W/ NON METALIC, NON SHRINK HIGH STRENGTH GROUT. FINISHED SURFACE OF GROUT SHALL MATCH EXISTING SURFACES OF BARRIER RAIL. HIGH STRENGTH GROUT SHALL BE APPROVED BY THE ENGINEER. SEE SPECIAL PROVISIONS.
- (C) FORMED JT. IN BARRIER RAIL SHALL MATCH SAWED JOINT WIDTH IN BRIDGE DECK.
- (D) EXISTING BLOCK OUT W/ EMBEDDED JT. SEAL DEVICE. REMOVE ALL JOINT SEAL HARDWARE IN BLOCKOUT AND IN DECK SLAB.



PROJECT NO. WBS 17BP.6.P.4
CUMBERLAND COUNTY
 STATION: _____

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 EXPANSION JOINT DETAILS
 DECK REHAB. FOR BRIDGE NO. 30

REVISIONS						SHEET NO. S-8
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 16
2			4			

9:58:37 AM b1aton 12/15/2011 30\Drawing\BP30_DET.dgn



DRAWN BY: A. T. LOPEZ DATE: 9/11
 CHECKED BY: J. T. KELVINGTON DATE: 9/11