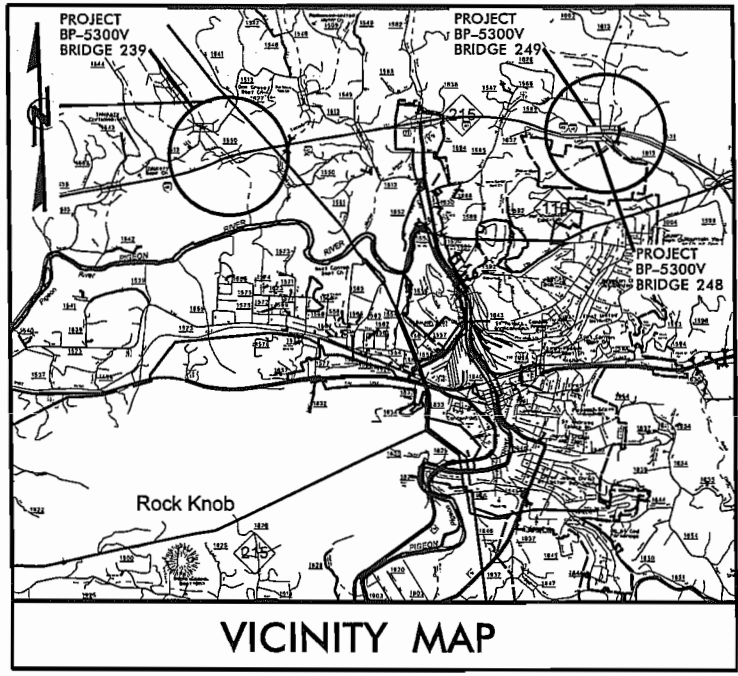


09/08/99
 3/16/2011
 U:\Structures\Bridge Group 2011\BP5300V\Bridge 239.Drwing\BP-5300V239_tsh_OVERALL.dgn
 brpalmer

TIP PROJECT: BP-5300V
CONTRACT: D000114



VICINITY MAP

STATE OF NORTH CAROLINA
 DIVISION OF HIGHWAYS

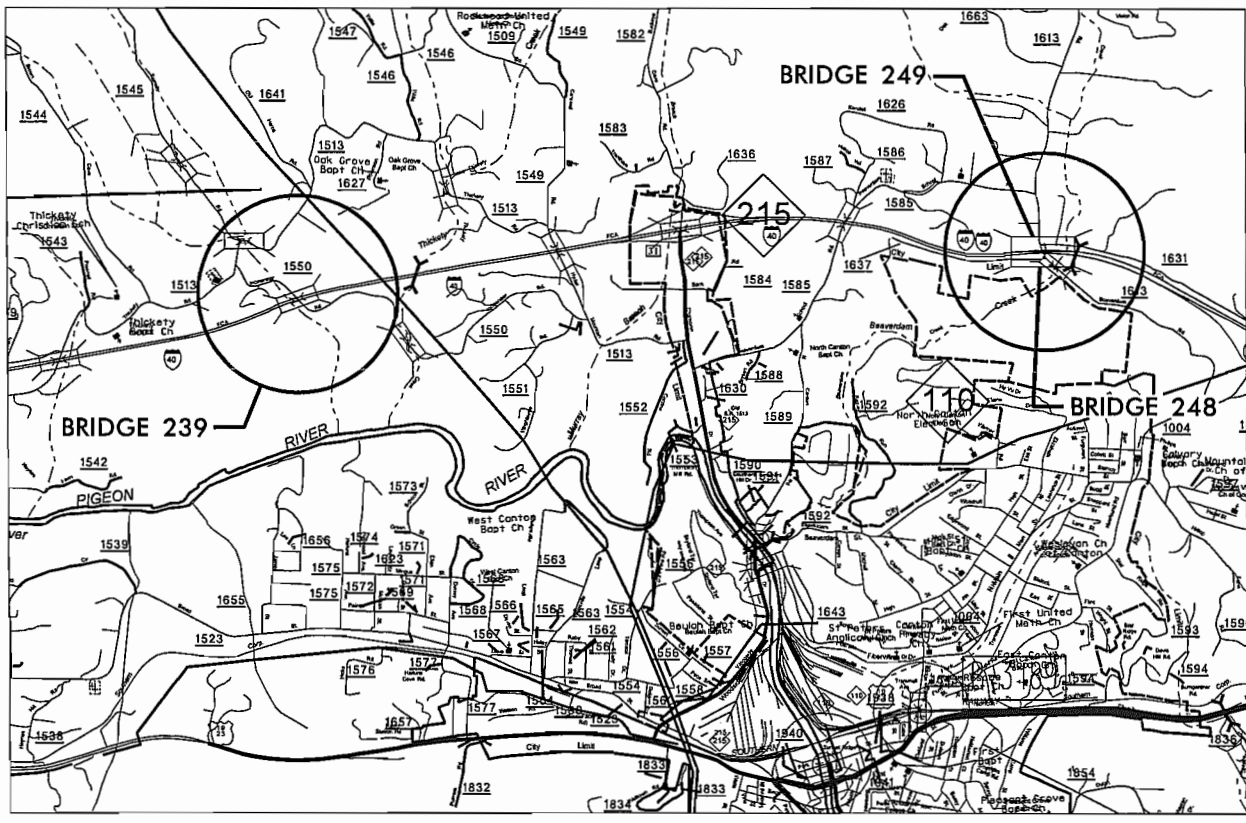
HAYWOOD COUNTY

**LOCATION: BRIDGE 239, I-40 EBL AND WBL OVER SR 1550,
 1.2 MILES WEST OF JUNCTION I40 AND NC 215**

**BRIDGE 248, I-40 EBL OVER SR 1613,
 1.1 MILES EAST OF JUNCTION I40 AND NC 215**

**BRIDGE 249, I-40 WBL OVER SR 1613,
 1.1 MILES EAST OF JUNCTION I40 AND NC 215**

**TYPE OF WORK: BRIDGE DECK PRESERVATION AND
 SUBSTRUCTURE REPAIR**




STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	BP-5300V	1	
WM NO.	F.A. PROJ. NO.	DESCRIPTION	
45438.1.1	BRNHS-0005(658)	PE	
45438.3.10		CONST.	

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S239-2	BRIDGE TYPICAL SECTION
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S239-4	DECK REPAIR DETAILS
S239-5	DECK REPAIR DETAILS
S239-6	EXPANSION JOINT REPAIR DETAILS
S239-7	END BENT JOINT SEAL DETAILS
S248-1	PLAN OF BRIDGE
S248-2	BRIDGE TYPICAL SECTION
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S248-5	DECK REPAIR DETAILS
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S248-7	END BENT JOINT SEAL DETAILS
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S249-3	DECK REPAIR DETAILS
S249-4	DECK REPAIR DETAILS
S249-5	DECK REPAIR DETAILS
S249-6	EXPANSION JOINT REPAIR DETAILS
S249-7	END BENT JOINT SEAL DETAILS
S249-8	BENT REPAIR
S249-9	END BENT REPAIR
TCP-1 THRU 5	TRAFFIC CONTROL PLANS

PROJECT LENGTH



PREPARED IN THE OFFICE OF:
 Stantec
 Stantec Consulting Services Inc.
 801 Jones Franklin Road
 Suite 500
 Raleigh, NC 27605
 Tel: (919) 551-0000
 Fax: (919) 551-7024
 www.stantec.com
 License No. F-0872

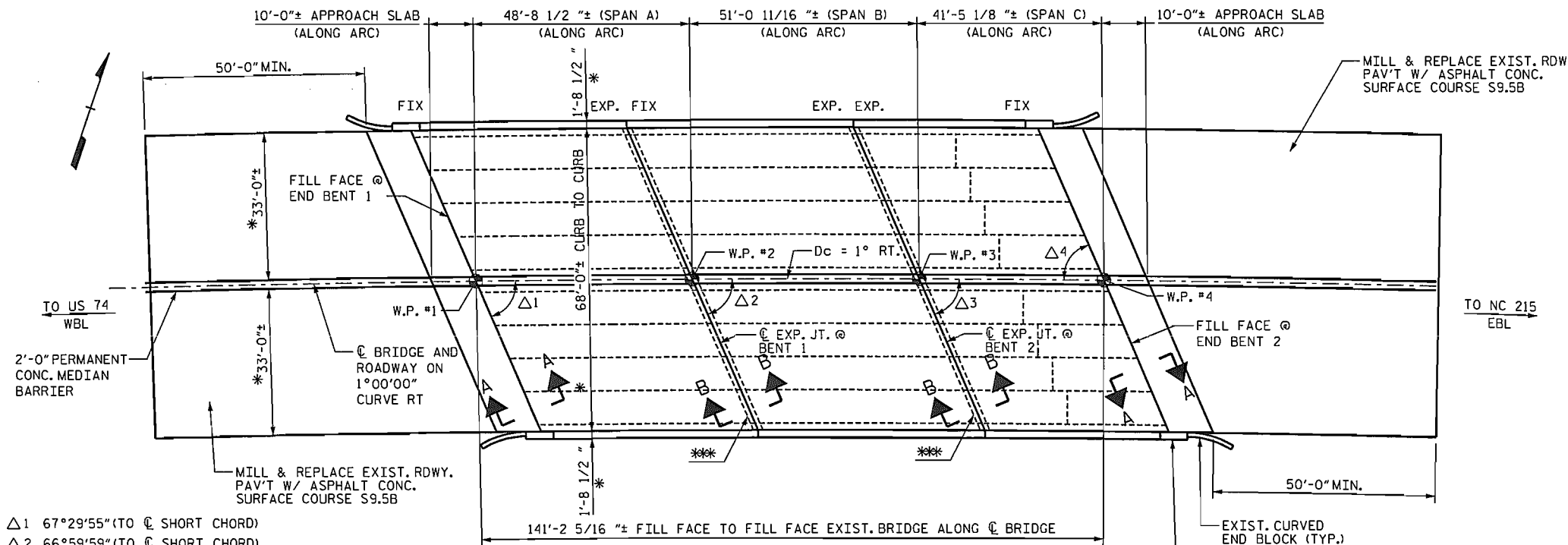
FOR THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
 2006 STANDARD SPECIFICATIONS
RIGHT OF WAY DATE: N.A.
LETTING DATE: APRIL 8, 2011
NCDOT CONTACT: MIKE SUMMERS
 BRIDGE MANAGEMENT PROJECT MANAGER

JOE KELVINGTON, PE
 PROJECT ENGINEER

RICK NELSON, PE
 DESIGN ENGINEER

DIVISION OF HIGHWAYS
 STATE OF NORTH CAROLINA



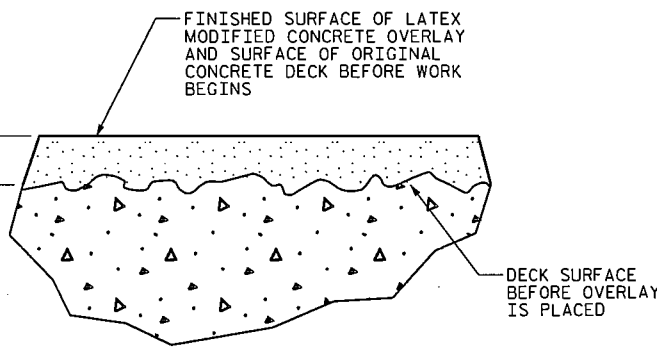


- Δ1 67°29'55" (TO C_L SHORT CHORD)
- Δ2 66°59'59" (TO C_L SHORT CHORD)
- Δ3 66°32'15" (TO C_L SHORT CHORD)
- Δ4 66°32'15" (TO C_L SHORT CHORD)

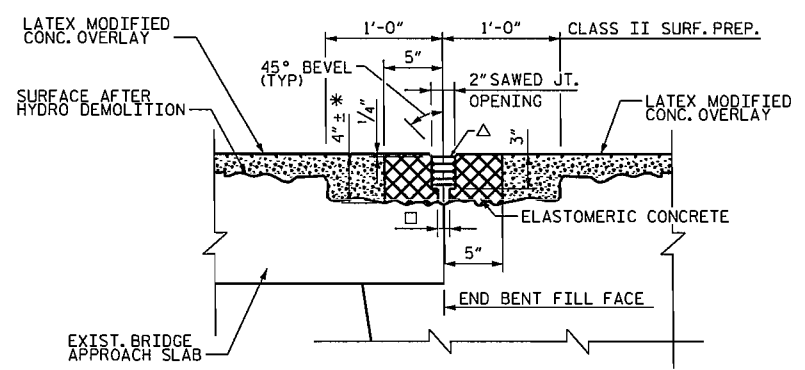
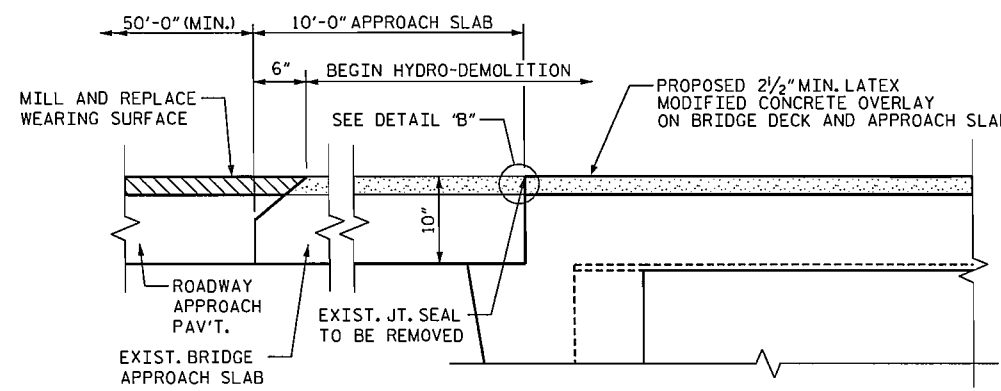
PLAN OF SPANS

*** EXIST. ELASTOMERIC EXP. JOINT SEAL DEVICE TO BE REMOVED (TYP. EA. BENT)
 NOTE: BARRIERS, END POSTS, AND BARRIER POST BRACKETS NOT SHOWN FOR CLARITY.

NOTES:
 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. THE CONTRACTOR SHALL PROVIDE A METHOD OF HANDLING UNEXPECTED BLOW THROUGH OF THE DECK. SEE DETAIL.
 LATEX MODIFIED CONCRETE SHALL BE LATEX MODIFIED CONCRETE - VERY EARLY STRENGTH.
 FOR LATEX MODIFIED CONCRETE - VERY EARLY STRENGTH, SEE SPECIAL PROVISIONS.
 FOR SECTION B-B, SEE SHEET NO. S239-7.
 * DENOTES RADIAL DIMENSION.
 FOR EVAZOTE JOINT SEAL, SEE SPECIAL PROVISIONS.
 THICKNESS OF LATEX MODIFIED CONCRETE OVERLAY SHOWN IS ESTIMATED. OVERLAY CONCRETE IS TO BE PLACED OVER EXISTING SOUND CONCRETE SURFACES TO MATCH EXISTING DECK SURFACE ELEVATIONS.



DETAIL FOR LATEX MODIFIED CONCRETE OVERLAY



DETAIL "B"

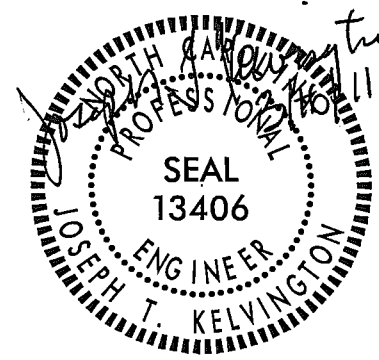
- Δ USE 2.50" X 2.00" UNCOMPRESSED SEAL MATERIAL
- 1" FORMED OPENING CENTERED ABOUT FILL FACE
- * NOMINAL DIMENSION. REMOVE ALL LOOSE, DETERIORATED MATERIAL INCLUDING EXISTING SEAL DEVICES AND HARDWARE TO SOUND CONCRETE. PRESERVE AND RETAIN ALL EXPOSED REINFORCING STEEL. ADJUST SAW CUT DEPTH AS REQUIRED TO PREVENT CUTS INTO EXISTING REINFORCING STEEL.

TOTAL BILL OF MATERIAL

DECK** SCARIFICATION	CLASS I* SURFACE PREPARATION	CLASS II* SURFACE PREPARATION	CLASS III* SURFACE PREPARATION	HYDRO-DEMOLITION	CLASS AA CONCRETE	LATEX MODIFIED CONCRETE VERY EARLY STRENGTH	PLACE & FINISH LMC VERY EARLY STRENGTH	EVAZOTE JOINT SEAL	GROOVING BRIDGE FLOORS	ASPHALT CONC. SURFACE COURSE TYPE S9.5B	UNDER DECK BENT AND DIAPHRAGM REPAIR
SO.YDS.	SO.YDS.	SO.YDS.	SO.YDS.	SO.YDS.	CU.YDS.	CU.YDS.	SO.YDS.	LUMP SUM	SO.FT.	TON	CF
2,092	1,008	75	64	1,147	7	86	1,147	LUMP SUM	9,020	100	70

* QUANTITIES ARE SHOWN 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.
 ** INCLUDES MILLING OF ROADWAY PAVEMENT.

PROJECT NO. BP-5300V
HAYWOOD COUNTY
 STATION: _____



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

PLAN OF SPANS FOR DECK REPAIR

DECK REHAB. FOR BRIDGE NO. 239

REVISIONS						TOTAL SHEETS
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			7
2			4			

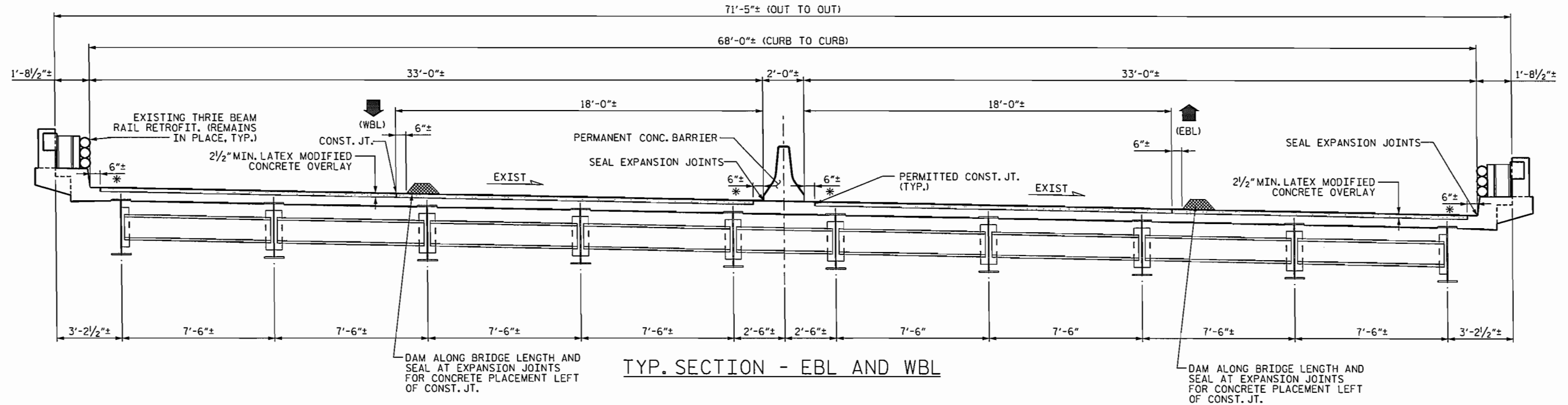
SHEET NO. S239-1

10:29:45 AM #USER#
 3/16/2011
 Structures\Bridges Group 201\BP5300V\Bridges 239\Drawing\BP-5300V239_DeckPlan.dgn

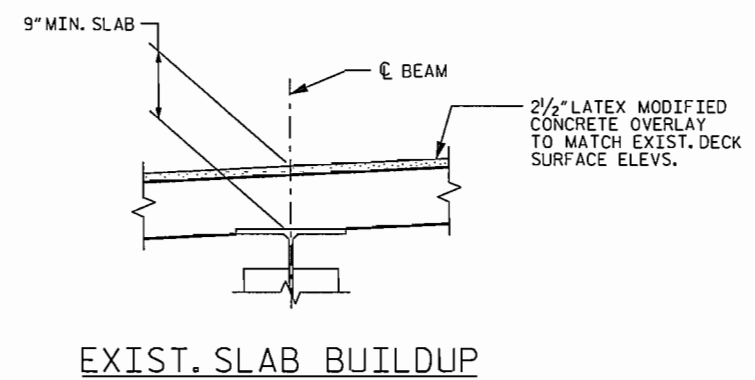


DRAWN BY: B.M. PALMER DATE: 2/11
 CHECKED BY: J.T. KELVINGTON DATE: 2/11

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.
 ALL HORIZONTAL DIMENSIONS SHOWN ARE RADIAL.
 FOR TRAFFIC CONTROL PHASING AND DETAILS, SEE TRAFFIC CONTROL PLANS TCP-1 THRU 5.
 * PERMITTED WIDTH OF EXISTING CONCRETE DECK SURFACE OVER FULL LENGTH OF BRIDGE AND APPROACH SLAB THAT MAY BE LEFT INTACT FOR SCREED SUPPORT. OTHERWISE, REPAIR DECK SURFACE FROM BARRIER TO BARRIER.

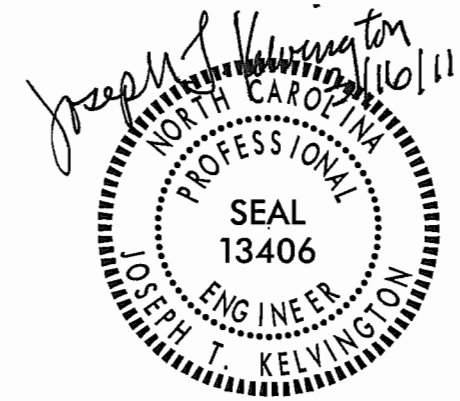


TYP. SECTION - EBL AND WBL



EXIST. SLAB BUILDUP

PROJECT NO. BP-5300V
HAYWOOD COUNTY
 STATION: _____



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

TYPICAL SECTION

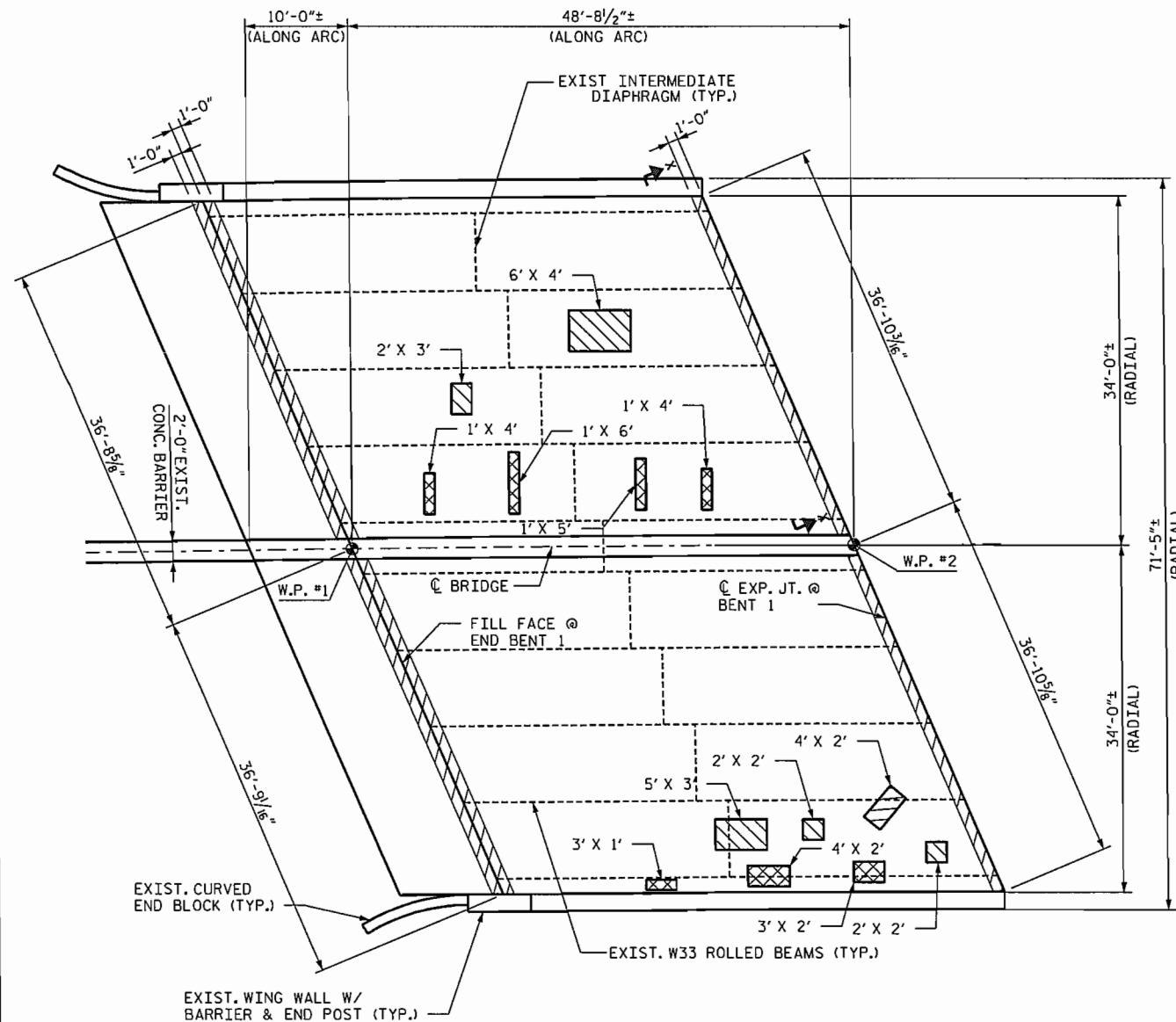
DECK REHAB. FOR BRIDGE NO. 239

REVISIONS						SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:	S239-2	
1			3			TOTAL SHEETS	
2			4			7	



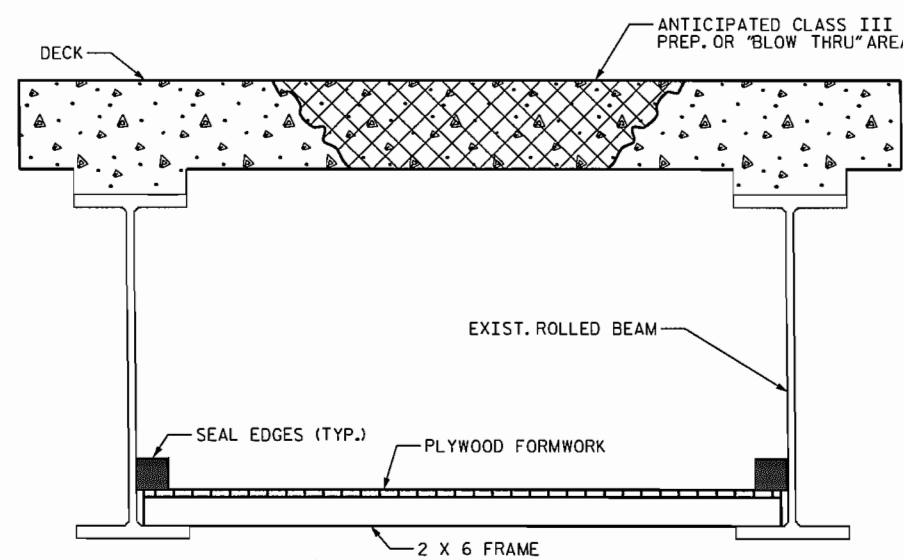
DRAWN BY: B.M. PALMER DATE: 2/11
 CHECKED BY: J.T. KELVINGTON DATE: 2/11

3/16/2011 10:03 AM #USER# \\structures\bridge_group\2011\BP5300V\bridge_239\drawing\BP-5300V239_TypSect.dgn



PLAN OF SPAN A - DECK REPAIRS

INCLUDES BRIDGE APPROACH SLAB AT END BENT 1
 NOTE: BARRIERS, END POSTS, AND BARRIER POST BRACKETS NOT SHOWN FOR CLARITY.

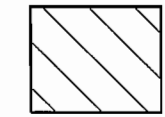


TYP. "BLOW THRU" CONTAINMENT AND FORMWORK

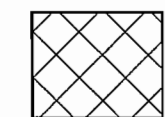
A METHOD TO CAPTURE WATER AND DEBRIS FROM BLOW THRU DURING HYDRO-DEMOLITION SHALL BE INSTALL IN AREAS INDICATED AS CLASS III SURFACE PREPARATION.
 SUBMIT DETAILS OF PROPOSED FORMWORK FOR APPROVAL PRIOR TO BEGINNING WORK.
 COSTS FOR INSTALLING AND REMOVING FORMWORK SHALL BE INCIDENTAL TO THE PRICE PER SQ. YARD OF HYDRO-DEMOLITION.
 CONTRACTOR, AT HIS OPTION, MAY CHOOSE TO MONITOR HYDRO-DEMOLITION WORK AND CONTROL TRAFFIC UNDER THE BRIDGE IN LIEU OF BLOW THRU CONTAINMENT. SEE TRAFFIC CONTROL PLANS.

NOTES:

CONTRACTOR SHALL FURNISH FORMWORK TO SUPPORT SLAB OVERHANG REGIONS WITH EXTENSIVE CLASS III SURFACE PREPARATION.
 SUBMIT DETAILS OF PROPOSED FORMWORK FOR APPROVAL PRIOR TO BEGINNING WORK.
 COSTS FOR INSTALLING AND REMOVING FORMWORK SHALL BE INCIDENTAL TO THE PRICE BID PER SQ. YD. OF CLASS III SURFACE PREPARATION.
 SEE HYDRO DEMOLITION SPECIAL PROVISIONS.
 FOR "BLOW THRU" CONTAINMENT FORMWORK DETAIL, SEE SHT. S239-3.
 SPALL CRACK AND DELAMINATED AREA DIMENSIONS ARE APPROXIMATE.
 REPAIR MATERIAL FOR DIAPHRAGM AND UNDER DECK REPAIR SHALL BE SHOTCRETE OR POLYMER MODIFIED CONCRETE.
 ALL DETERIORATED CONCRETE IN DIAPHRAGMS SHALL BE REMOVED TO SOUND CONCRETE AND AT LEAST 1" CLEAR BEHIND EXISTING REINFORCING STEEL.
 REPAIR MATERIALS SHALL BE PLACED TO MATCH ORIGINAL CONCRETE SURFACES.



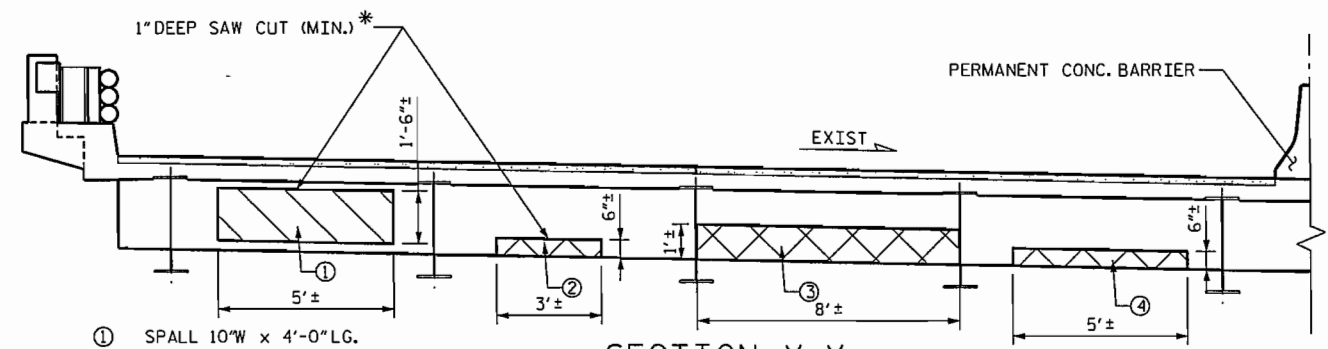
CLASS II SURFACE PREPARATION



CLASS III SURFACE PREPARATION

L' X W' = LENGTH OF AREA ALONG C BRIDGE X WIDTH OF AREA NORMAL TO C BRIDGE ±

SHOTCRETE OR POLYMER MODIFIED CONCRETE: EST. CONCRETE VOL. = 28 CF



**SECTION X-X
 CONCRETE DIAPHRAGM @ BENT 1**

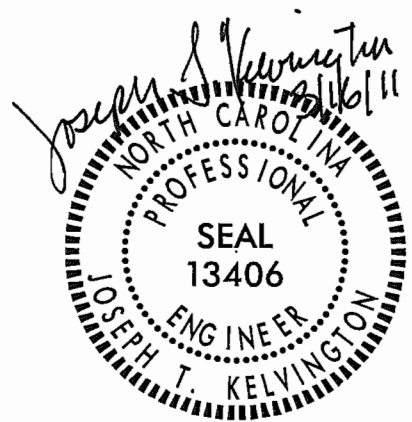
- ① SPALL 10"W x 4'-0" LG.
- ② CRACK/DELAM. 10"W x 2'-0" LG. x 3" HIGH
- ③ CRACK/DELAM. 10"W x 7'-0" LG. x 5" HIGH
- ④ CRACK/DELAM. 10"W x 4'-0" LG.

*SET SAW CUT BOUNDARIES A MIN. OF 3" CLEAR FROM LIMITS OF CRACKS OR SPALLS SHOWN AT EACH LOCATION.

4/USER6
 10/11/21AM
 3/16/2011
 Structures\Bridges\Group 2011\BP5300V\Bridges\239\Drawings\BP5300V239-Repairs\PLAN.dgn

Stantec
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 Tel. (919) 851-6866
 Fax. (919) 851-7024
 www.stantec.com
 License No. F-0672

DRAWN BY: B.M. PALMER DATE: 2/11
 CHECKED BY: J.T. KELVINGTON DATE: 2/11



PROJECT NO. BP-5300V
HAYWOOD COUNTY
 STATION: _____

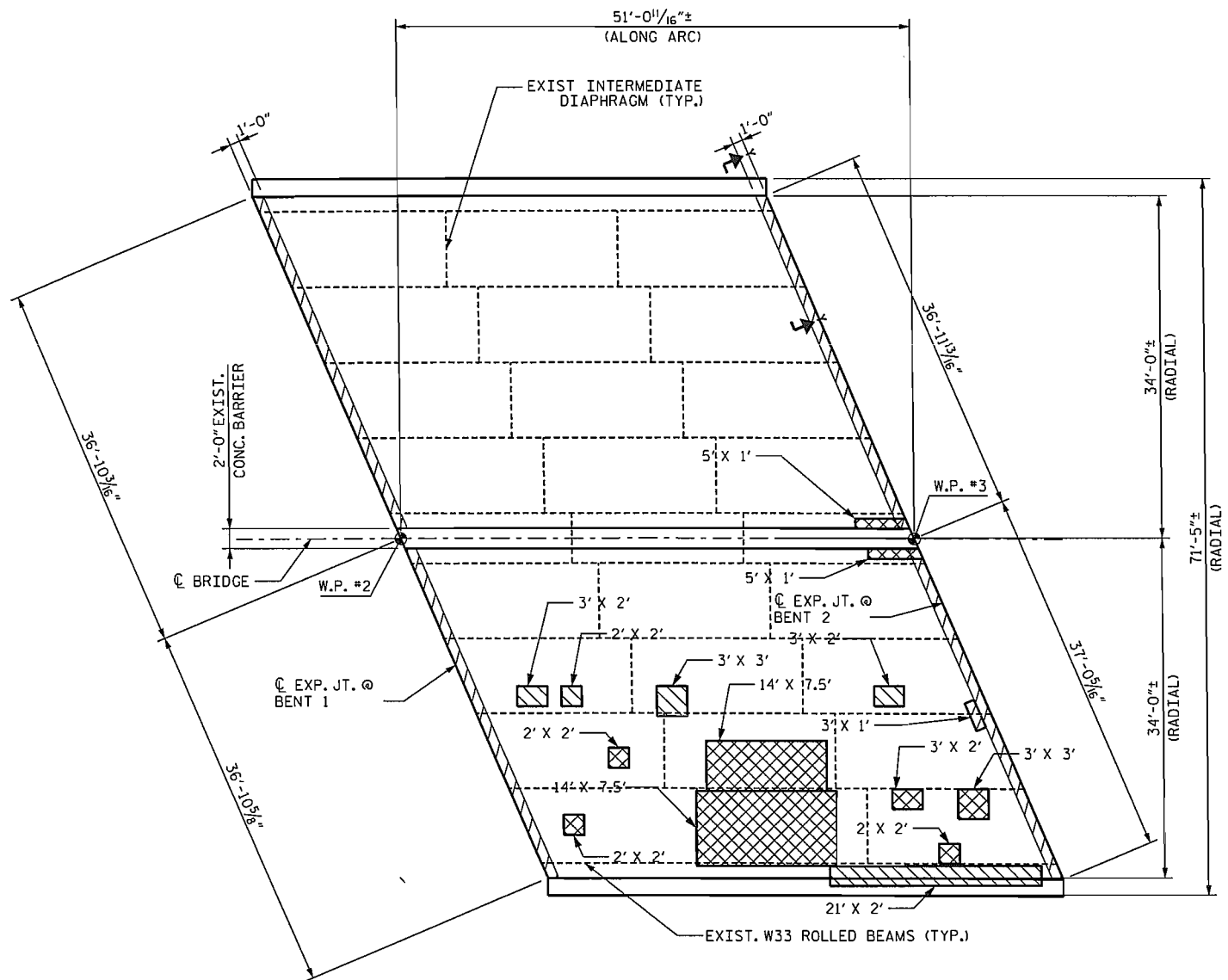
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

**DECK REPAIR DETAILS
 SPAN A**

DECK REHAB. FOR BRIDGE NO. 239

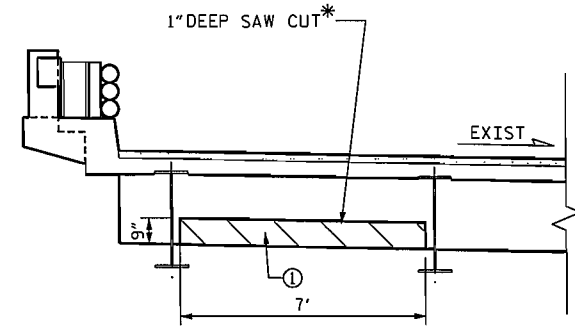
REVISIONS						SHEET NO.	
NO.	BY	DATE	NO.	BY	DATE	S239-3	
1			3			TOTAL SHEETS	7
2			4				

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PLAN OF SPAN B - DECK REPAIRS

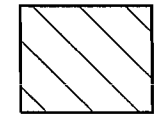
NOTE: BARRIERS, END POSTS, AND BARRIER POST BRACKETS NOT SHOWN FOR CLARITY.



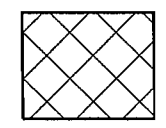
SECTION Y-Y
CONCRETE DIAPHRAGM @ BENT 2

① CRACK/SPALL 10'W x 7'-0" LG. x 4" HIGH

*SET SAW CUT BOUNDARIES A MIN. OF 3" CLEAR FROM LIMITS OF CRACKS OR SPALLS SHOWN AT EACH LOCATION.



CLASS II SURFACE PREPARATION



CLASS III SURFACE PREPARATION

L' X W' = LENGTH OF AREA ALONG @ BRIDGE X WIDTH OF AREA NORMAL TO @ BRIDGE ±

NOTES:

CONTRACTOR SHALL FURNISH FORMWORK TO SUPPORT SLAB OVERHANG REGIONS WITH EXTENSIVE CLASS III SURFACE PREPARATION.

SUBMIT DETAILS OF PROPOSED FORMWORK FOR APPROVAL PRIOR TO BEGINNING WORK.

COSTS FOR INSTALLING AND REMOVING FORMWORK SHALL BE INCIDENTAL TO THE PRICE BID PER SQ. YD. OF CLASS III SURFACE PREPARATION.

SEE HYDRO DEMOLITION SPECIAL PROVISIONS.

FOR "BLOW THRU" CONTAINMENT FORMWORK DETAIL, SEE SHT. S239-3.

SPALL CRACK AND DELAMINATED AREA DIMENSIONS ARE APPROXIMATE.

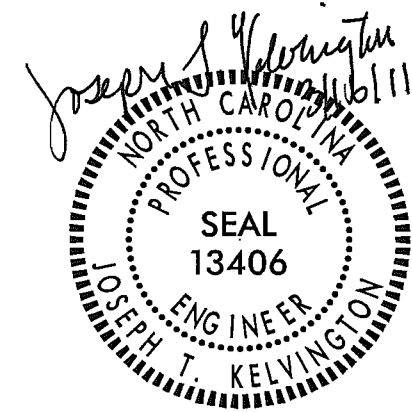
REPAIR MATERIAL FOR DIAPHRAGM AND UNDER DECK REPAIR SHALL BE SHOTCRETE OR POLYMER MODIFIED CONCRETE.

ALL DETERIORATED CONCRETE IN DIAPHRAGMS SHALL BE REMOVED TO SOUND CONCRETE AND AT LEAST 1" CLEAR BEHIND EXISTING REINFORCING STEEL.

REPAIR MATERIALS SHALL BE PLACED TO MATCH ORIGINAL CONCRETE SURFACES.

SHOTCRETE OR POLYMER MODIFIED CONC.:
EST. CONC. VOL. = 10 CF

PROJECT NO. BP-5300V
HAYWOOD COUNTY
STATION: _____

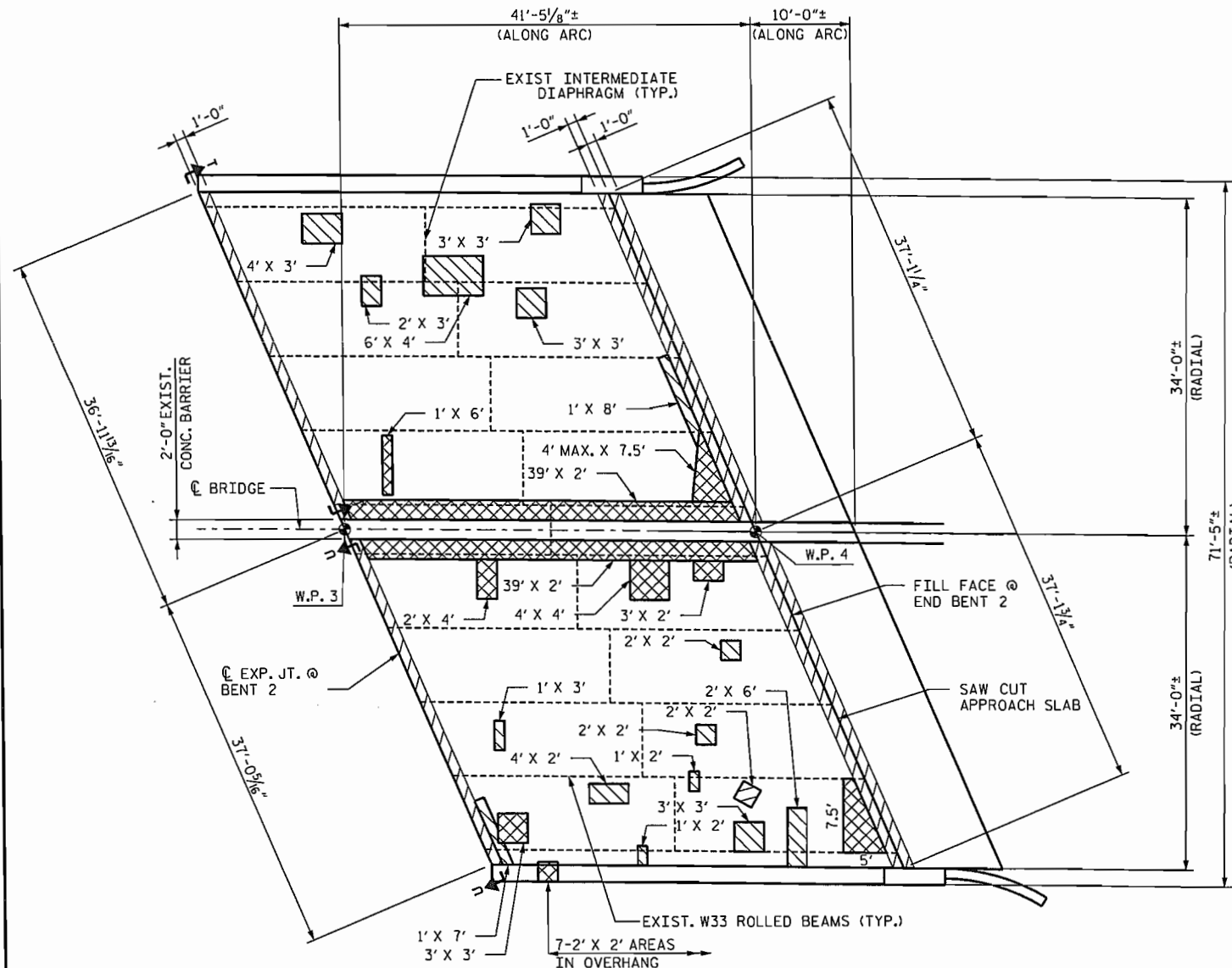


STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
DECK REPAIR DETAILS
SPAN B
DECK REHAB. FOR BRIDGE NO. 239

REVISIONS						SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:	S239-4	
1			3			TOTAL SHEETS	7
2			4				

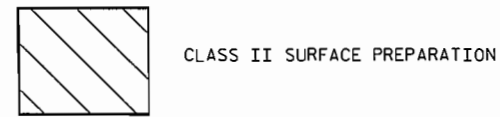


DRAWN BY: B. M. PALMER DATE: 2/11
CHECKED BY: J. T. KELVINGTON DATE: 2/11

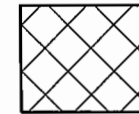


PLAN OF SPAN C - DECK REPAIRS

INCLUDES BRIDGE APPROACH SLAB AT END BENT 2
 NOTE: BARRIERS, END POSTS, AND BARRIER POST BRACKETS NOT SHOWN FOR CLARITY.



CLASS II SURFACE PREPARATION

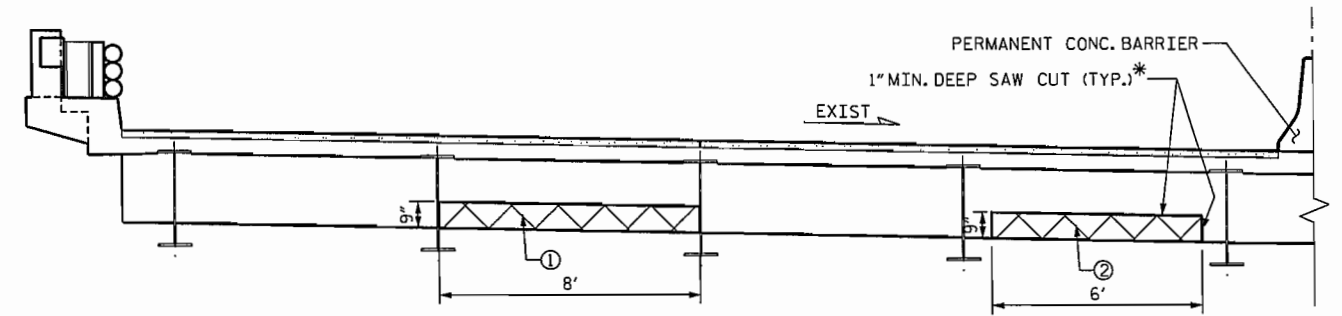


CLASS III SURFACE PREPARATION

L' X W' = LENGTH OF AREA ALONG C BRIDGE X
 WIDTH OF AREA NORMAL TO C BRIDGE ±

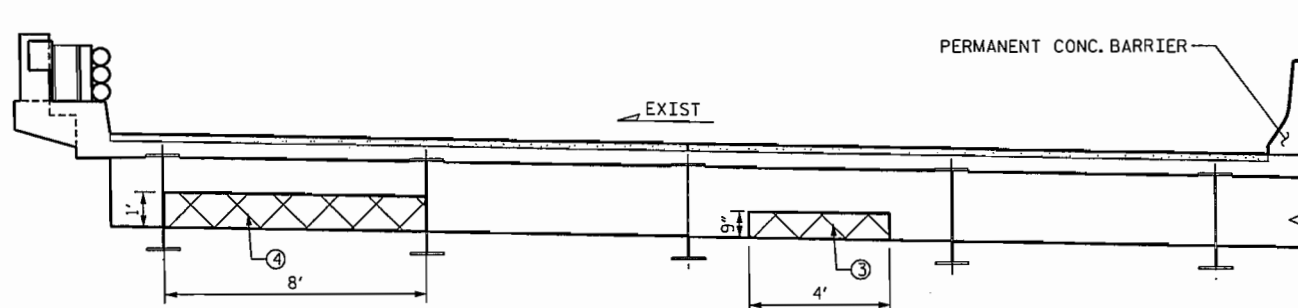
NOTES:

- CONTRACTOR SHALL FURNISH FORMWORK TO SUPPORT SLAB OVERHANG REGIONS WITH EXTENSIVE CLASS III SURFACE PREPARATION.
- SUBMIT DETAILS OF PROPOSED FORMWORK FOR APPROVAL PRIOR TO BEGINNING WORK.
- COSTS FOR INSTALLING AND REMOVING FORMWORK SHALL BE INCIDENTAL TO THE PRICE BID PER SQ. YD. OF CLASS III SURFACE PREPARATION.
- SEE HYDRO DEMOLITION SPECIAL PROVISIONS.
- FOR "BLOW THRU" CONTAINMENT FORMWORK DETAIL, SEE SHT. S239-3.
- SPALL CRACK AND DELAMINATED AREA DIMENSIONS ARE APPROXIMATE.
- REPAIR MATERIAL FOR DIAPHRAGM AND UNDER DECK REPAIR SHALL BE SHOTCRETE OR POLYMER MODIFIED CONCRETE.
- ALL DETERIORATED CONCRETE IN DIAPHRAGMS SHALL BE REMOVED TO SOUND CONCRETE AND AT LEAST 1" CLEAR BEHIND EXISTING REINFORCING STEEL.
- REPAIR MATERIALS SHALL BE PLACED TO MATCH ORIGINAL CONCRETE SURFACES.
- SHOTCRETE OR POLYMER MODIFIED CONCRETE:
EST. CONC. VOL. = 32 CF



SECTION T-T
CONCRETE DIAPHRAGM @ BENT 2

- ① CRACK/DELAM./SPALL 10"W x 7'-0" LG. x 6" HIGH
- ② CRACK/DELAM./SPALL 10"W x 5'-0" LG. x 6" HIGH
- *SET SAW CUT BOUNDARIES A MIN. OF 3" CLEAR FROM LIMITS OF CRACKS OR SPALLS SHOWN AT EACH LOCATION.



SECTION U-U
CONCRETE DIAPHRAGM @ BENT 2

- ③ CRACK/DELAM. 5" TO 6" W x 3'-0" LG. x 6" HIGH
- ④ CRACK/DELAM./SPALL 10"W x 7'-0" LG. x 7" HIGH

*SET SAW CUT BOUNDARIES A MIN. OF 3" CLEAR FROM LIMITS OF CRACKS OR SPALLS SHOWN AT EACH LOCATION.

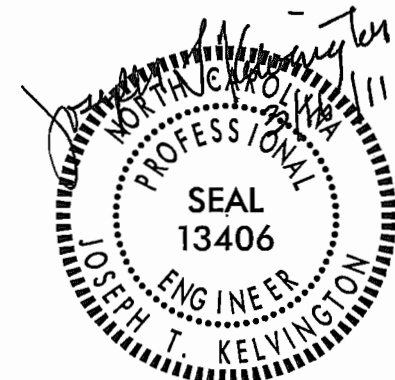
PROJECT NO. BP-5300V
HAYWOOD COUNTY
 STATION: _____

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

DECK REPAIR DETAILS
SPAN C

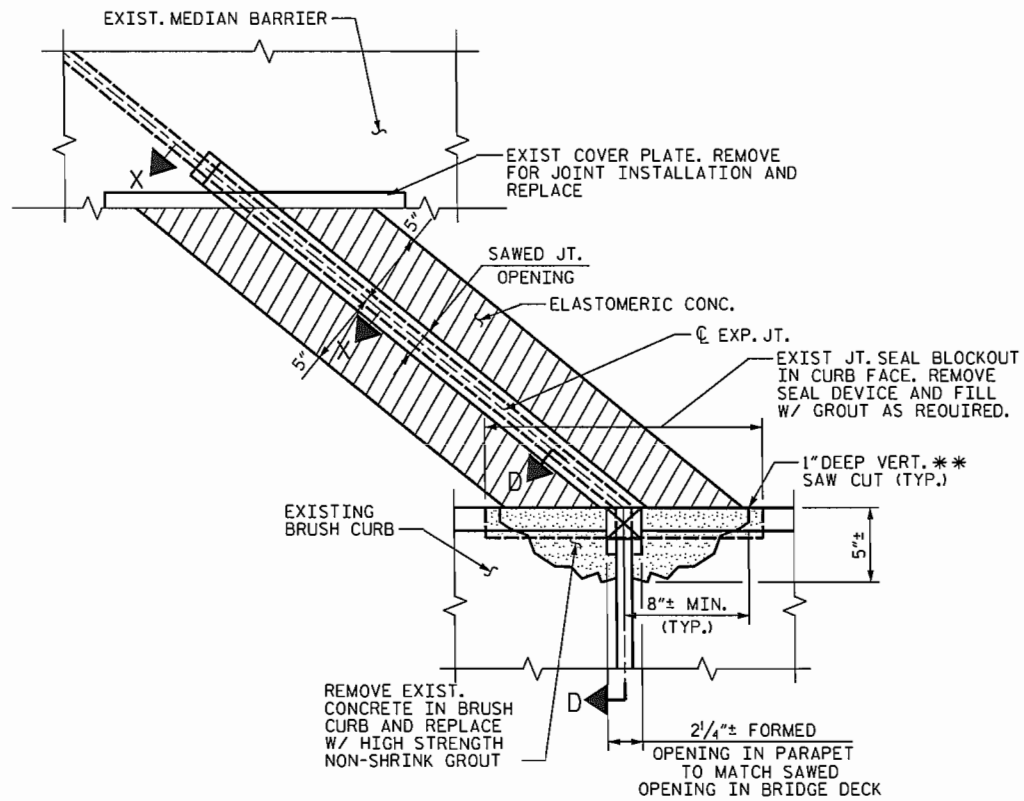
DECK REHAB. FOR BRIDGE NO. 239

REVISIONS						SHEET NO. S239-5
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 7
2			4			



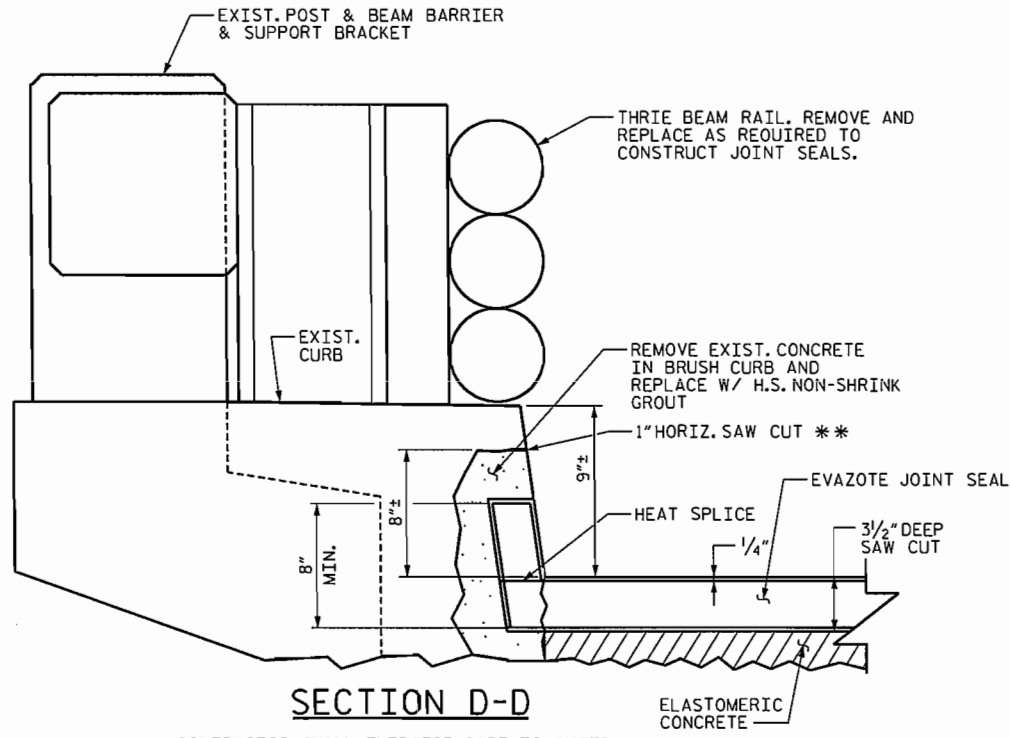
DRAWN BY: B M PALMER DATE: 2/11
 CHECKED BY: J T KELVINGTON DATE: 2/11

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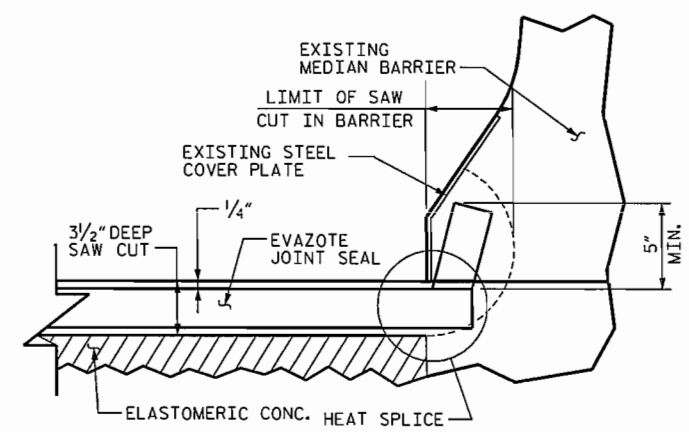
PARTIAL PLAN @ JOINT

** CUT ONLY WHEN LIMITS FOR CONC. REMOVAL SHOWN EXCEED LIMITS OF BLOCKOUT FOR EXIST. JOINT SEAL



SECTION D-D

CONTRACTOR SHALL EXERCISE CARE TO AVOID CUTTING OR DAMAGING EXISTING REINF. STEEL.
 FOR HIGH STRENGTH GROUT, SEE SPECIAL PROVISIONS.
 HIGH STRENGTH GROUT SHALL BE APPROVED BY THE ENGINEER.

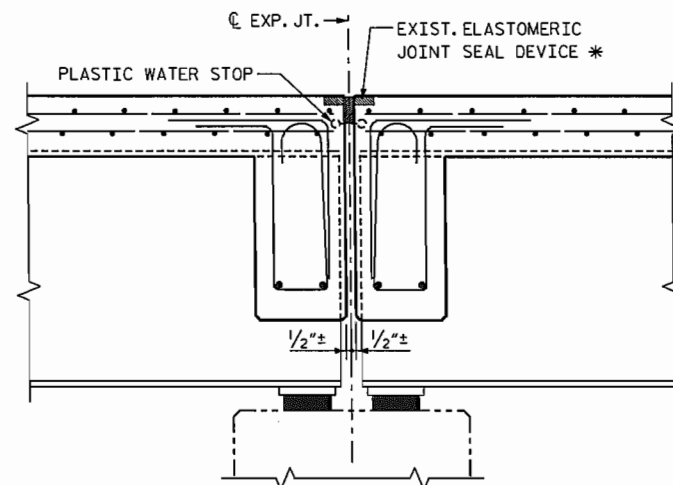


SECTION X-X

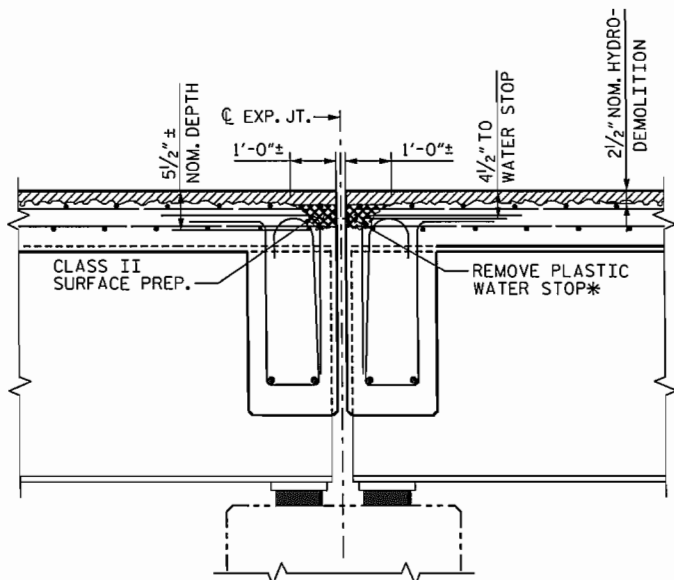
ELASTOMERIC CONCRETE

LOCATION	QTY
END BENT 1	17.8 C.F.
BENT 1	23.9 C.F.
BENT 2	24.0 C.F.
END BENT 2	18.0 C.F.

TOTAL ELASTOMERIC CONC. = 83.7 C.F.
 TOTAL ELASTOMERIC CONC. = 3.1 C.Y.

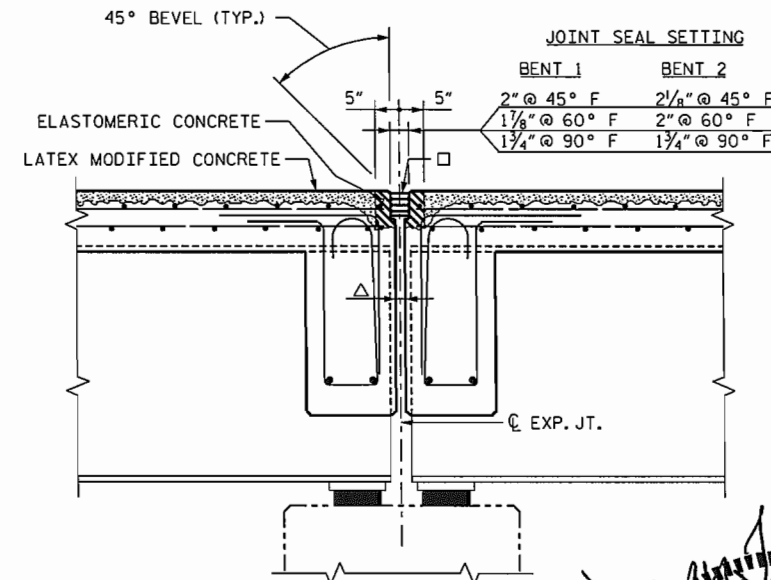


SECTION B-B (EXISTING JOINT)



SECTION B-B (MINIMUM EXISTING JOINT DEMOLITION)

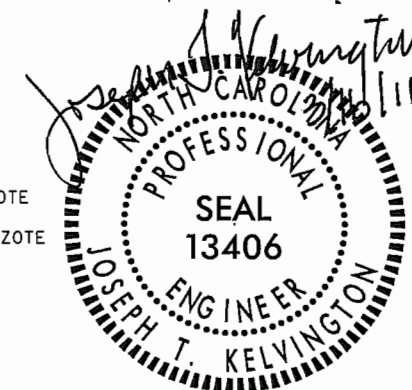
NOTE: RETAIN ALL EXIST. REINF. STEEL, CLEAN AND REPAIR AS REQ'D
 * REMOVE EXIST. ELASTOMERIC JT. SEAL DEVICE AS WELL AS EPOXY MORTAR, EMBEDDED STEEL HARDWARE, OR ASPHALT CONC. COMPLETELY FROM JOINT AREA.



SECTION B-B (JOINT SEAL DESIGN)

- USE 2.50" X 2.00" UNCOMPRESSED EVAZOTE JT. SEAL MATERIAL AT BENT 1
- USE 2.8125" X 2.50" UNCOMPRESSED EVAZOTE JT. SEAL MATERIAL AT BENT 2
- △ 1/4" FORMED OPENING

PROJECT NO. BP-5300V
HAYWOOD COUNTY
 STATION: _____



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
EXPANSION JOINT DETAILS

DECK REHAB. FOR BRIDGE NO. 239

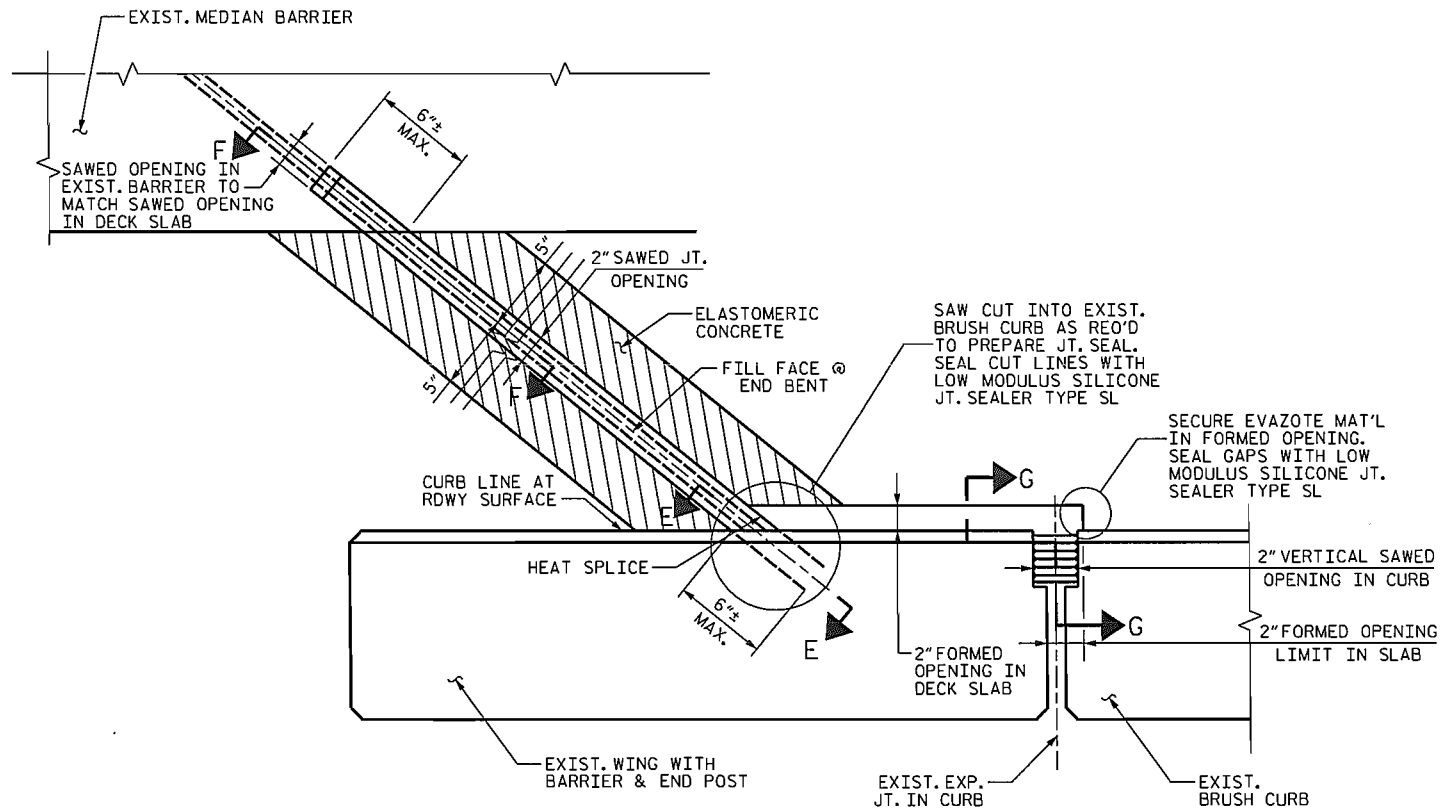
REVISIONS						SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:	S239-6	
1			3			TOTAL SHEETS	
2			4			7	

10/2/09 AM #USER* 3/16/2011 2011BP5300V-Bridge 239-Drawing-BP5300V239-DET.dgn

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 www.stantec.com
 License No. F-0672

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 CHECKED BY: J.T. KELVINGTON DATE: 2/11

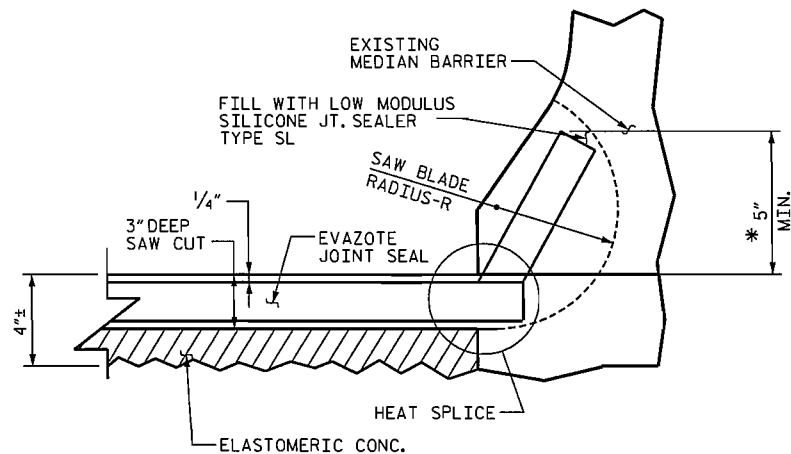
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PARTIAL PLAN @ END BENT #1

(END BENT #2 SIMILAR)

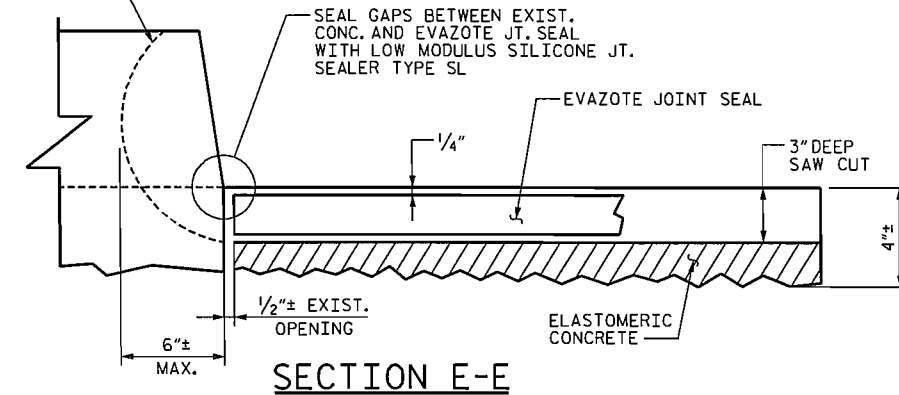
NOTE: BARRIER, END POSTS AND BARRIER POST BRACKETS NOT SHOWN FOR CLARITY.



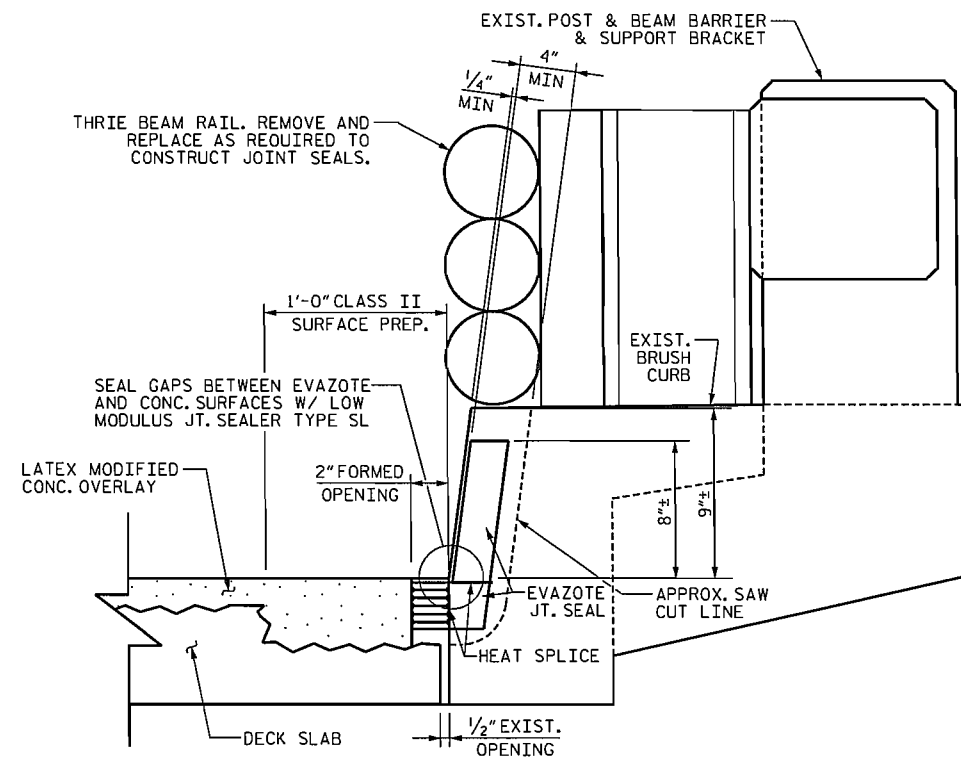
SECTION F-F

* PROVIDE LENGTH OF SEAL MAT'L SUFFICIENT TO FILL SAWED OPENING IN RAIL

SAW CUT ONLY AS DEEP AS NECESSARY TO PREPARE SURFACES FOR JOINT MAT'L

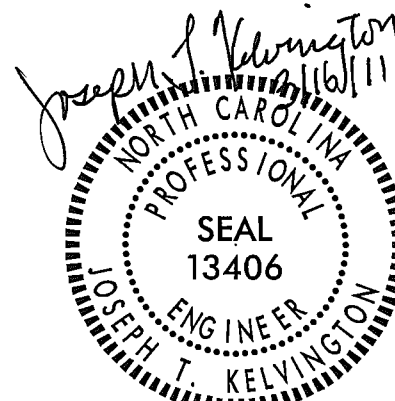


SECTION E-E



SECTION G-G

PROJECT NO. BP-5300V
HAYWOOD COUNTY
 STATION: _____



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

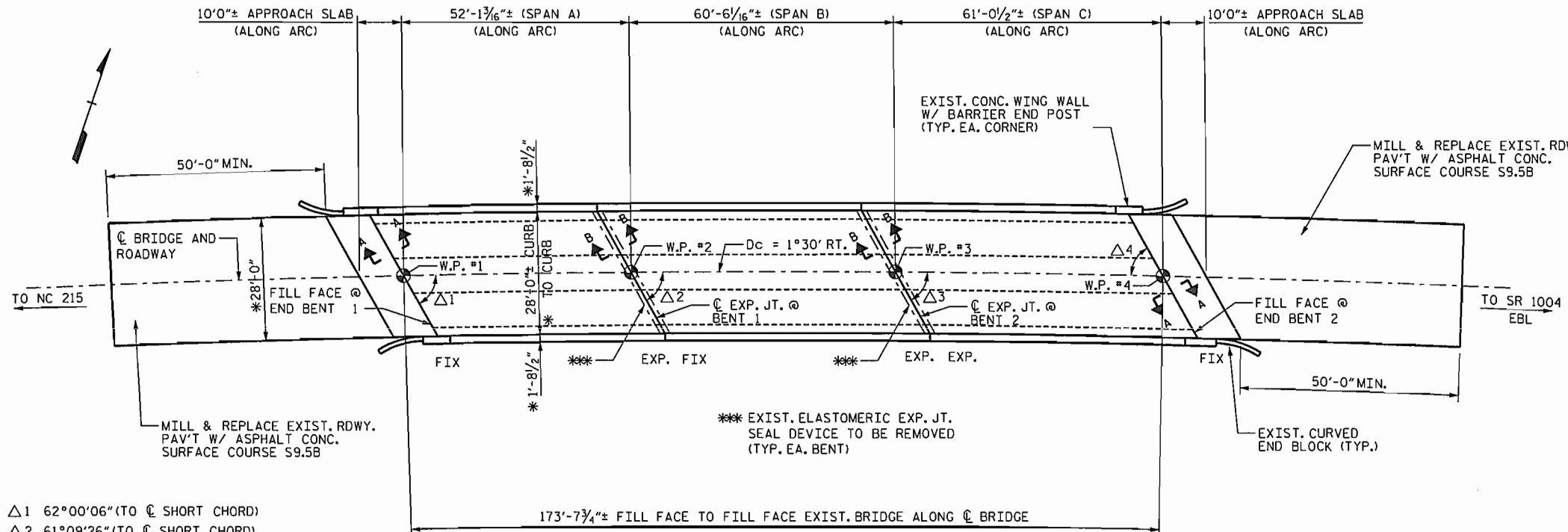
END BENT JOINT SEAL DETAILS

DECK REHAB. FOR BRIDGE NO. 239

REVISIONS						SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:	S239-7	
1			3			TOTAL SHEETS	
2			4			7	



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 CHECKED BY: J. T. KELVINGTON DATE: 2/11



- △ 1 62°00'06" (TO C SHORT CHORD)
- △ 2 61°09'26" (TO C SHORT CHORD)
- △ 3 60°14'43" (TO C SHORT CHORD)
- △ 4 60°14'43" (TO C SHORT CHORD)

PLAN OF SPANS

NOTE: BARRIERS, END POSTS, AND BARRIER POST BRACKETS NOT SHOWN FOR CLARITY.

NOTES:

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. THE CONTRACTOR SHALL PROVIDE A METHOD OF HANDLING UNEXPECTED BLOW THROUGH OF THE DECK. SEE DETAIL.

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

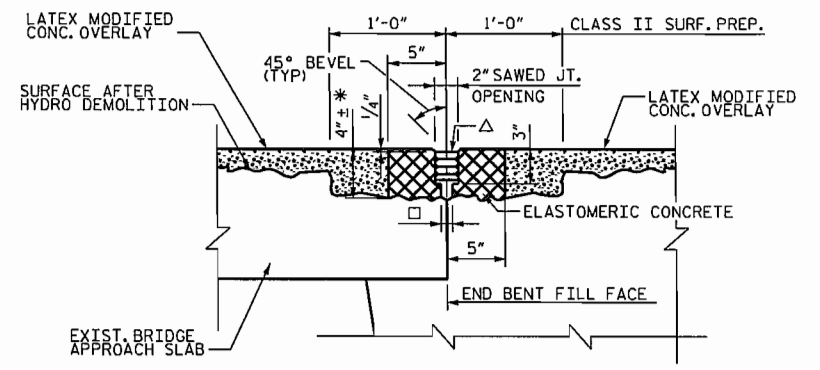
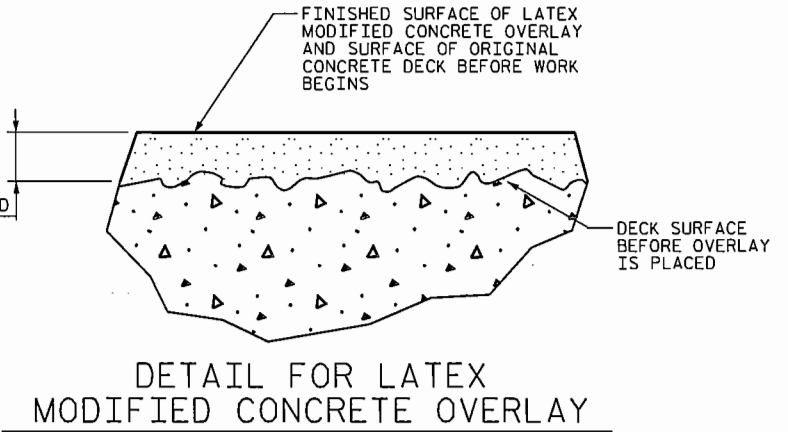
FOR LATEX MODIFIED CONCRETE - VERY EARLY STRENGTH, SEE SPECIAL PROVISIONS.

FOR SECTION B-B, SEE SHEET NO. S248-6.

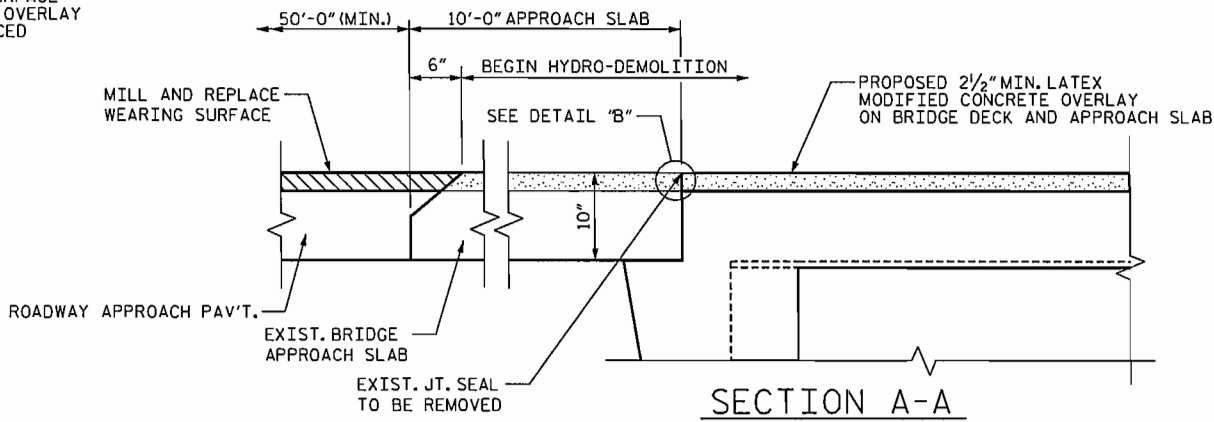
* DENOTES RADIAL DIMENSION.

FOR EVAZOTE JOINT SEAL, SEE SPECIAL PROVISIONS.

THICKNESS OF LATEX MODIFIED CONCRETE OVERLAY SHOWN IS ESTIMATED. OVERLAY CONCRETE IS TO BE PLACED OVER EXISTING SOUND CONCRETE SURFACES TO MATCH EXISTING DECK SURFACE ELEVATIONS.



- △ USE 2.50" X 2.00" UNCOMPRESSED SEAL MATERIAL
- 1" FORMED OPENING CENTERED ABOUT FILL FACE
- * NOMINAL DIMENSION. 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.



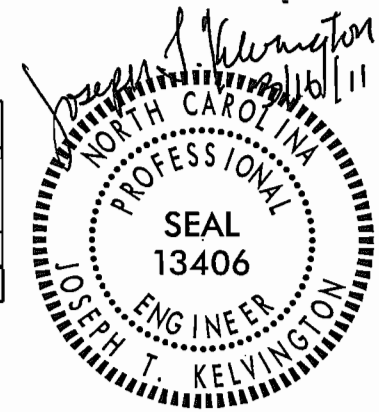
TOTAL BILL OF MATERIAL

DECK** SCARIFICATION	CLASS I* SURFACE PREPARATION	CLASS II* SURFACE PREPARATION	CLASS III* SURFACE PREPARATION	HYDRO-DEMOLITION	CLASS AA CONCRETE	LATEX MODIFIED CONCRETE VERY EARLY STRENGTH	PLACE & FINISH LMC VERY EARLY STRENGTH	EVAZOTE JOINT SEAL	GROOVING BRIDGE FLOORS	ASPHALT CONC. SURFACE COURSE TYPE S9.5B	UNDER DECK BENT AND DIAPHRAGM REPAIR
SO.YDS.	SO.YDS.	SO.YDS.	SO.YDS.	SO.YDS.	CU.YDS.	CU.YDS.	SO.YDS.	LUMP SUM	SQ.FT.	TQN	CF
941	513	54	15	581	2	44	582	LUMP SUM	4,556	38	148

* QUANTITIES ARE SHOWN 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.

** INCLUDES MILLING OF ROADWAY PAVEMENT.

PROJECT NO. BP-5300V
HAYWOOD COUNTY
 STATION: _____



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

**PLAN OF SPANS
 FOR DECK REPAIR**

DECK REHAB. FOR BRIDGE NO. 248

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			S248-1
2			4			9

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 3/16/2011
 Structures\Bridges Group 2011\BP5300V\Bridges 248\Drawing\BP-5300V248_DeckPlan.dgn

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 CHECKED BY: J. T. KELVINGTON DATE: 2/11

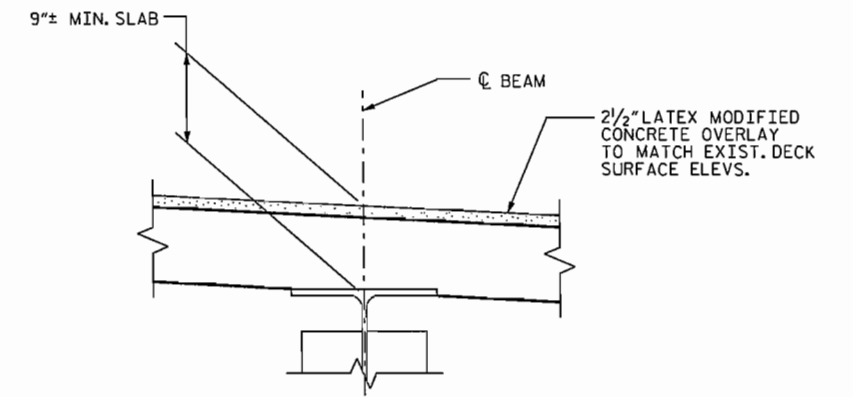
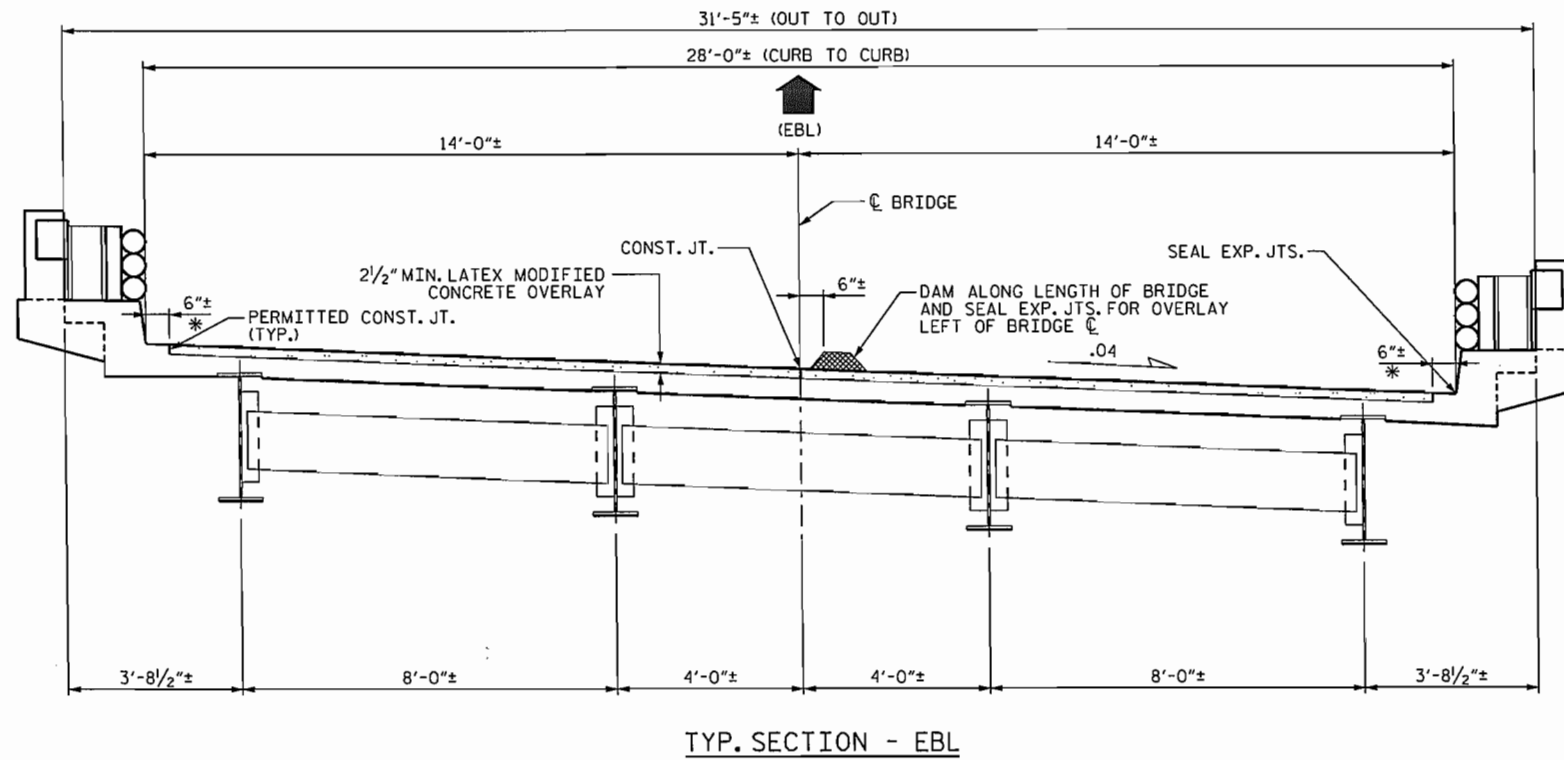
NOTES:

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

ALL HORIZONTAL DIMENSIONS SHOWN ARE RADIAL.

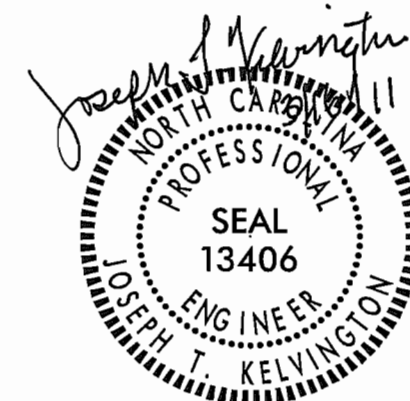
FOR TRAFFIC CONTROL PHASING AND DETAILS, SEE TRAFFIC CONTROL PLANS TCP-1 THRU 5.

* PERMITTED WIDTH OF EXISTING CONCRETE DECK SURFACE OVER FULL LENGTH OF BRIDGE AND APPROACH SLAB THAT MAY BE LEFT INTACT FOR SCREED SUPPORT. OTHERWISE, REPAIR DECK SURFACE FROM BARRIER TO BARRIER.



EXIST. SLAB BUILDUP

PROJECT NO. BP-5300V
HAYWOOD COUNTY
 STATION: _____



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

TYPICAL SECTION

DECK REHAB. FOR BRIDGE NO. 248

REVISIONS						SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:	S248-2	
1			3			TOTAL	9
2			4			SHEETS	



DRAWN BY : B. M. PALMER DATE : 2/11
 CHECKED BY : J. T. KELVINGTON DATE : 2/11

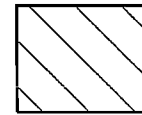
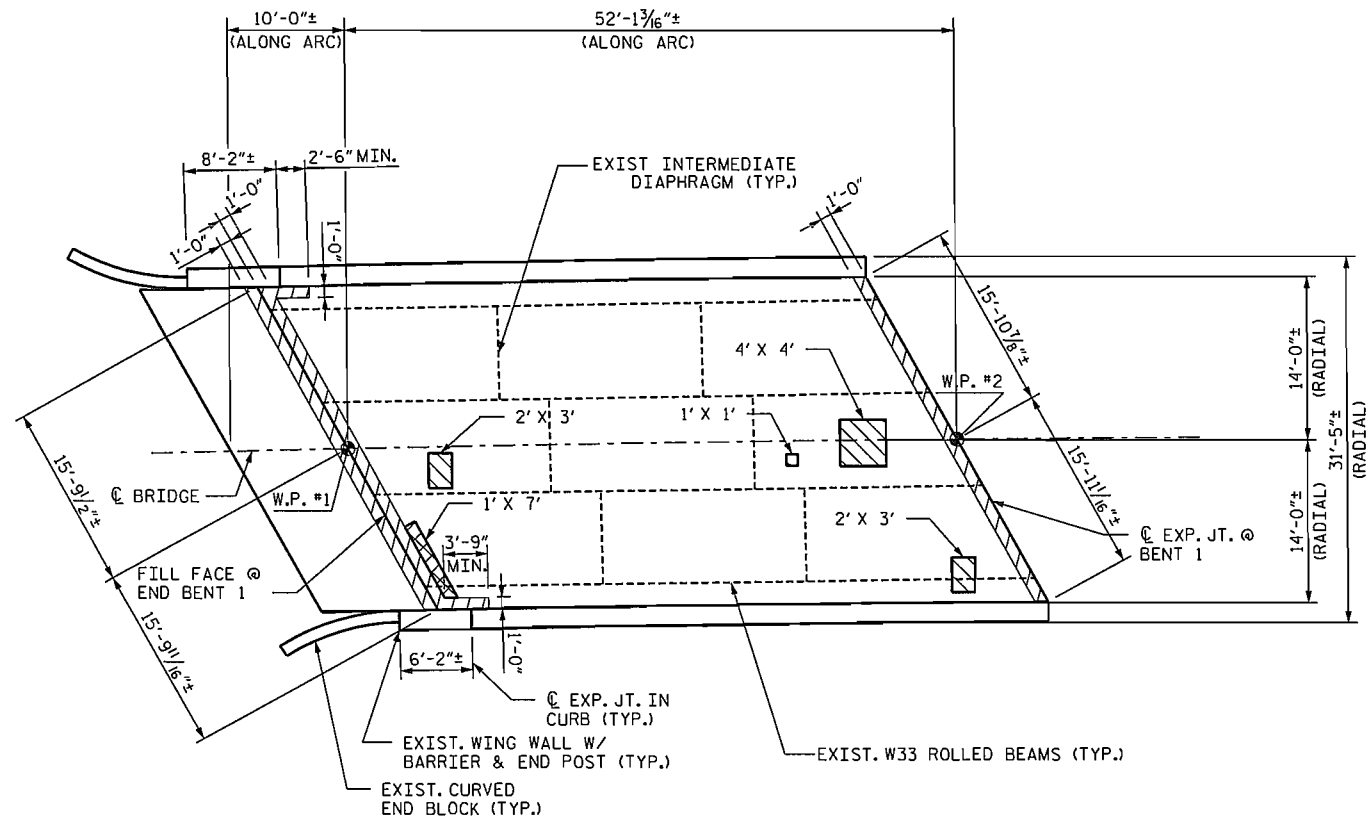
NOTES:

CONTRACTOR SHALL FURNISH FORMWORK TO SUPPORT SLAB OVERHANG REGIONS WITH EXTENSIVE CLASS III SURFACE PREPARATION.

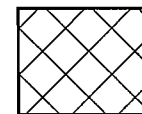
SUBMIT DETAILS OF PROPOSED FORMWORK FOR APPROVAL PRIOR TO BEGINNING WORK.

COSTS FOR INSTALLING AND REMOVING FORMWORK SHALL BE INCIDENTAL TO THE PRICE BID PER SQ. YD. OF CLASS III SURFACE PREPARATION.

SEE HYDRO DEMOLITION SPECIAL PROVISIONS.



CLASS II SURFACE PREPARATION



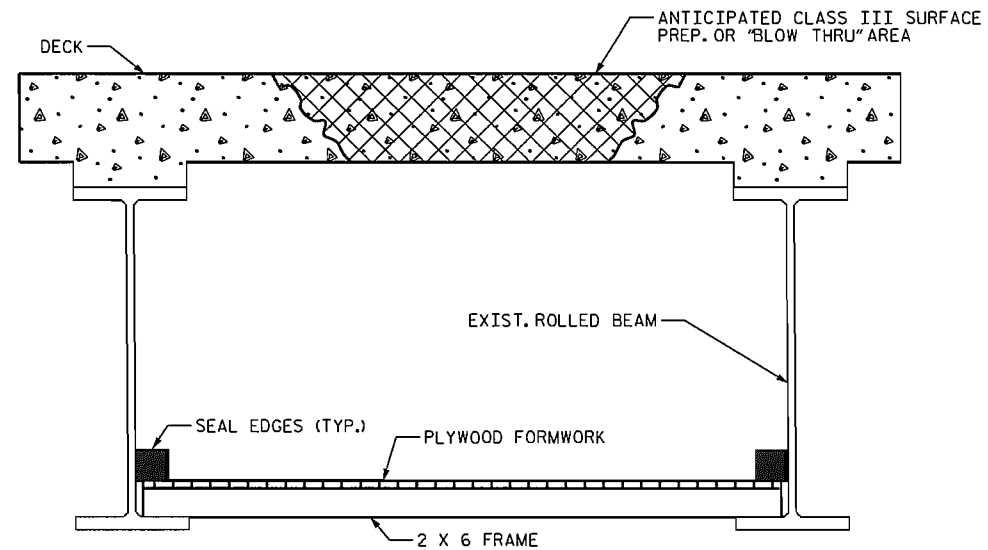
CLASS III SURFACE PREPARATION

L' X W' = LENGTH OF AREA ALONG C BRIDGE X WIDTH OF AREA NORMAL TO C BRIDGE ±

PLAN OF SPAN A - DECK REPAIRS

INCLUDES BRIDGE APPROACH SLAB AT END BENT 1

NOTE: BARRIERS, END POSTS, AND BARRIER POST BRACKETS NOT SHOWN FOR CLARITY.



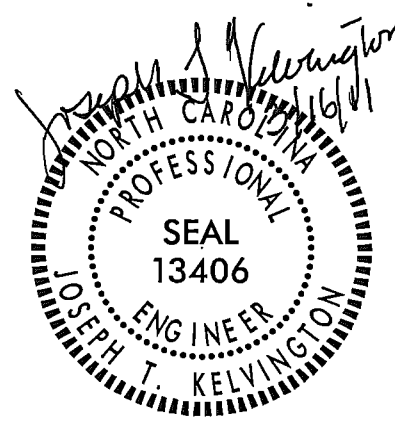
TYP. "BLOW THRU" CONTAINMENT AND FORMWORK

A METHOD TO CAPTURE WATER AND DEBRIS FROM BLOW THRU DURING HYDRO-DEMOLITION SHALL BE INSTALL IN AREAS INDICATED AS CLASS III SURFACE PREPARATION.

SUBMIT DETAILS OF PROPOSED FORMWORK FOR APPROVAL PRIOR TO BEGINNING WORK.

COSTS FOR INSTALLING AND REMOVING FORMWORK SHALL BE INCIDENTAL TO THE PRICE PER SQ. YARD OF HYDRO-DEMOLITION.

CONTRACTOR, AT HIS OPTION, MAY CHOOSE TO MONITOR HYDRO-DEMOLITION WORK AND CONTROL TRAFFIC UNDER THE BRIDGE IN LIEU OF BLOW THRU CONTAINMENT. SEE TRAFFIC CONTROL PLANS.



PROJECT NO. BP-5300V
HAYWOOD COUNTY
STATION: _____

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

DECK REPAIR DETAILS
SPAN A

DECK REHAB. FOR BRIDGE NO. 248

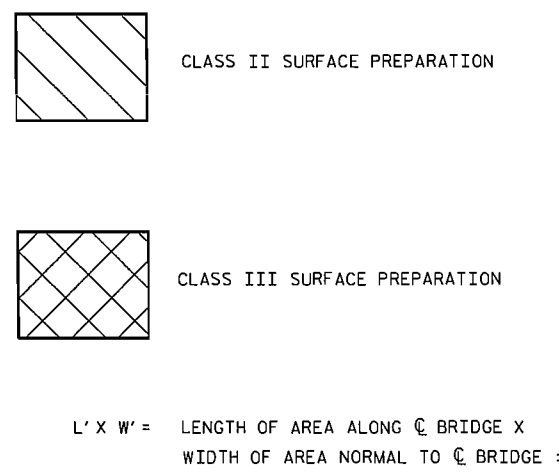
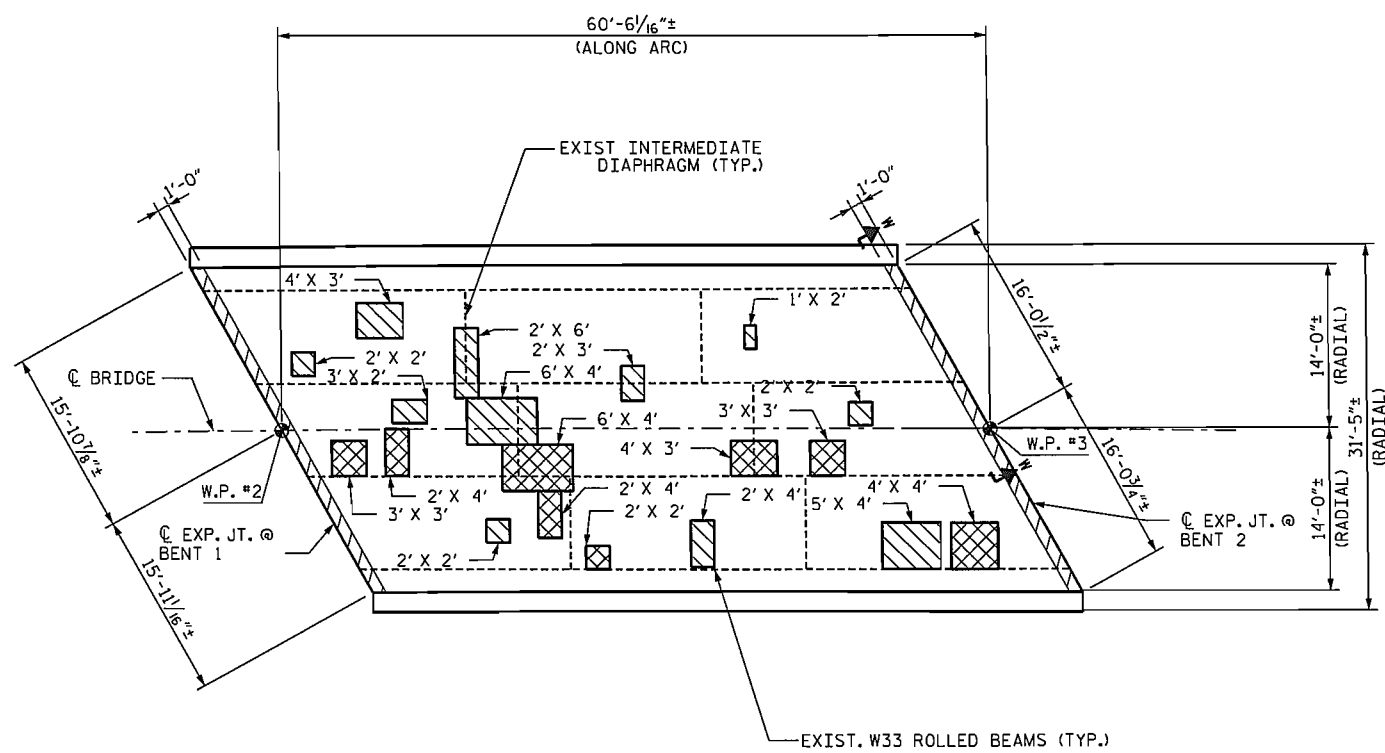
REVISIONS						SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:	S248-3	
1			3			TOTAL SHEETS	
2			4			9	

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CHECKED BY : J. T. KELVINGTON DATE : 2/11

10/3/10 AM #USERS
 3/16/2011
 2011BP5300V.Br-Idge 248.Drawing\BP5300V248.Repair.PLAN2.dgn



NOTES:

CONTRACTOR SHALL FURNISH FORMWORK TO SUPPORT SLAB OVERHANG REGIONS WITH EXTENSIVE CLASS III SURFACE PREPARATION.

SUBMIT DETAILS OF PROPOSED FORMWORK FOR APPROVAL PRIOR TO BEGINNING WORK.

COSTS FOR INSTALLING AND REMOVING FORMWORK SHALL BE INCIDENTAL TO THE PRICE BID PER SQ. YD. OF CLASS III SURFACE PREPARATION.

SEE HYDRO DEMOLITION SPECIAL PROVISIONS.

FOR 'BLOW THRU' CONTAINMENT FORMWORK DETAIL, SEE SHT. S248-3.

SPALL CRACK AND DELAMINATED AREA DIMENSIONS ARE APPROXIMATE.

REPAIR MATERIAL FOR DIAPHRAGM AND UNDER DECK REPAIR SHALL BE SHOTCRETE OR POLYMER MODIFIED CONCRETE.

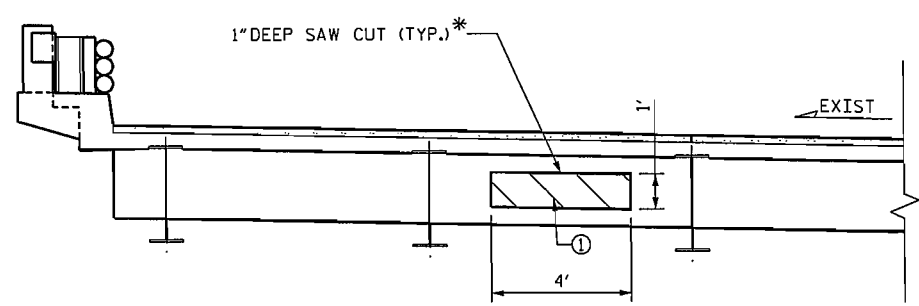
ALL DETERIORATED CONCRETE IN DIAPHRAGMS SHALL BE REMOVED TO SOUND CONCRETE AND AT LEAST 1" CLEAR BEHIND EXISTING REINFORCING STEEL.

REPAIR MATERIALS SHALL BE PLACED TO MATCH ORIGINAL CONCRETE SURFACES.

SHOTCRETE OR POLYMER MODIFIED CONCRETE:
EST. CONCRETE VOL. = 4 CF

PLAN OF SPAN B - DECK REPAIRS

NOTE: BARRIERS, END POSTS, AND BARRIER POST BRACKETS NOT SHOWN FOR CLARITY.

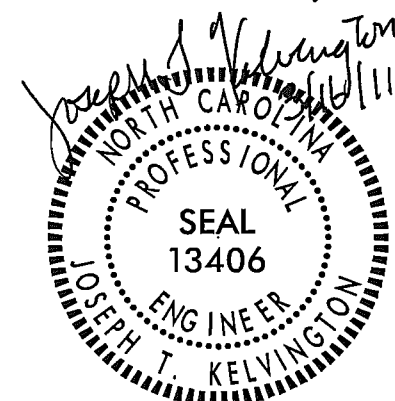


SECTION W-W
CONCRETE DIAPHRAGM @ BENT 2

① CONC. DIAPH. SPALLED 6" WIDE x 3' LONG

*SET SAW CUT BOUNDARIES A MIN. OF 3" CLEAR FROM LIMITS OF CRACKS OR SPALLS SHOWN AT EACH LOCATION.

PROJECT NO. BP-5300V
HAYWOOD COUNTY
 STATION: _____



STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
DECK REPAIR DETAILS SPAN B					
DECK REHAB. FOR BRIDGE NO. 248					
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
					SHEET NO. S248-4
					TOTAL SHEETS 9

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 CHECKED BY : J.T. KELVINGTON DATE : 2/11

NOTES:

CONTRACTOR SHALL FURNISH FORMWORK TO SUPPORT SLAB OVERHANG REGIONS WITH EXTENSIVE CLASS III SURFACE PREPARATION.

SUBMIT DETAILS OF PROPOSED FORMWORK FOR APPROVAL PRIOR TO BEGINNING WORK.

COSTS FOR INSTALLING AND REMOVING FORMWORK SHALL BE INCIDENTAL TO THE PRICE BID PER SQ. YD. OF CLASS III SURFACE PREPARATION.

SEE HYDRO DEMOLITION SPECIAL PROVISIONS.

FOR "BLOW THRU" CONTAINMENT FORMWORK DETAIL, SEE SHT. S248-3.

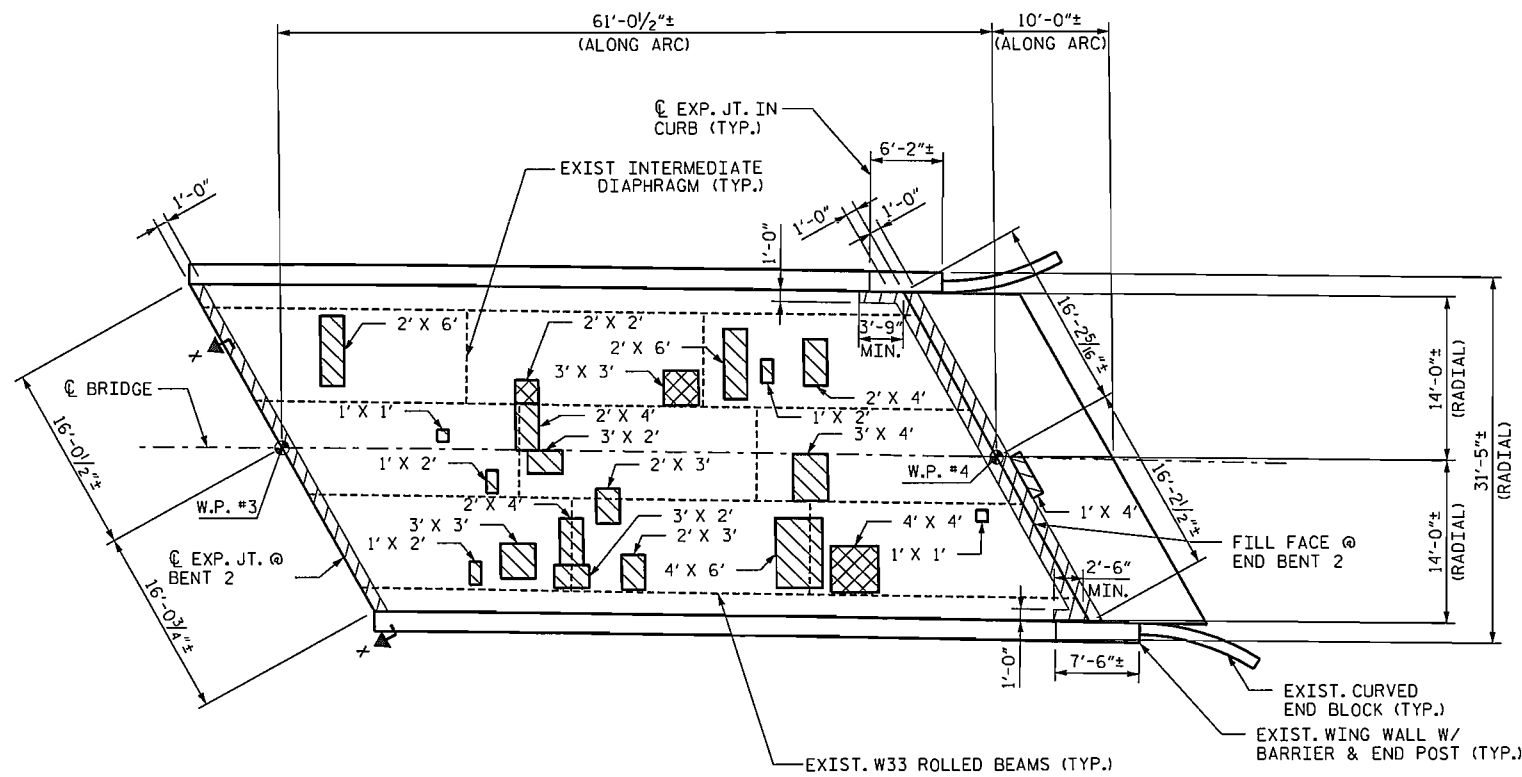
SPALL CRACK AND DELAMINATED AREA DIMENSIONS ARE APPROXIMATE.

REPAIR MATERIAL FOR DIAPHRAGM AND UNDER DECK REPAIR SHALL BE SHOTCRETE OR POLYMER MODIFIED CONCRETE.

ALL DETERIORATED CONCRETE IN DIAPHRAGMS SHALL BE REMOVED TO SOUND CONCRETE AND AT LEAST 1" CLEAR BEHIND EXISTING REINFORCING STEEL.

REPAIR MATERIALS SHALL BE PLACED TO MATCH ORIGINAL CONCRETE SURFACES.

SHOTCRETE OR POLYMER MODIFIED CONC.:
EST. CONCRETE VOL. = 4 CF



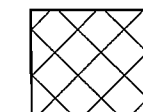
PLAN OF SPAN C - DECK REPAIRS

INCLUDES BRIDGE APPROACH SLAB AT END BENT 2

NOTE: BARRIERS, END POSTS, AND BARRIER POST BRACKETS NOT SHOWN FOR CLARITY.

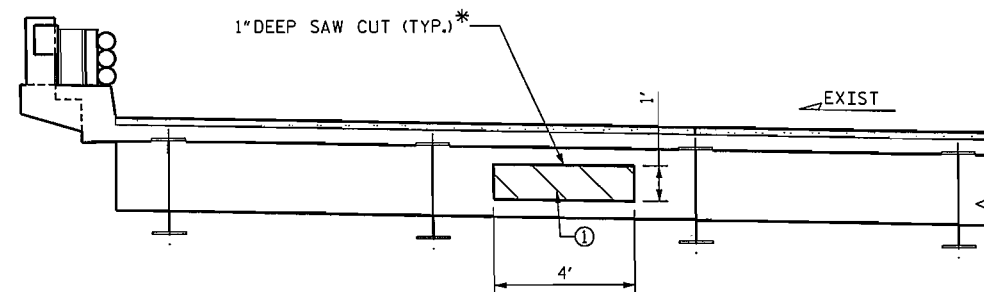


CLASS II SURFACE PREPARATION



CLASS III SURFACE PREPARATION

L' X W' = LENGTH OF AREA ALONG C BRIDGE X
WIDTH OF AREA NORMAL TO C BRIDGE ±



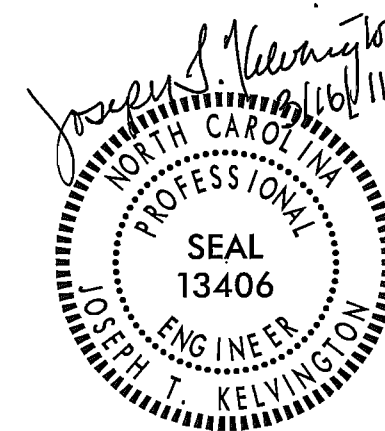
SECTION X-X

CONCRETE DIAPHRAGM @ BENT 2

① CONC. DIAPH. SPALLED 8" WIDE x 3' LONG

*SET SAW CUT BOUNDARIES A MIN. OF 3" CLEAR FROM LIMITS OF CRACKS OR SPALLS SHOWN AT EACH LOCATION.

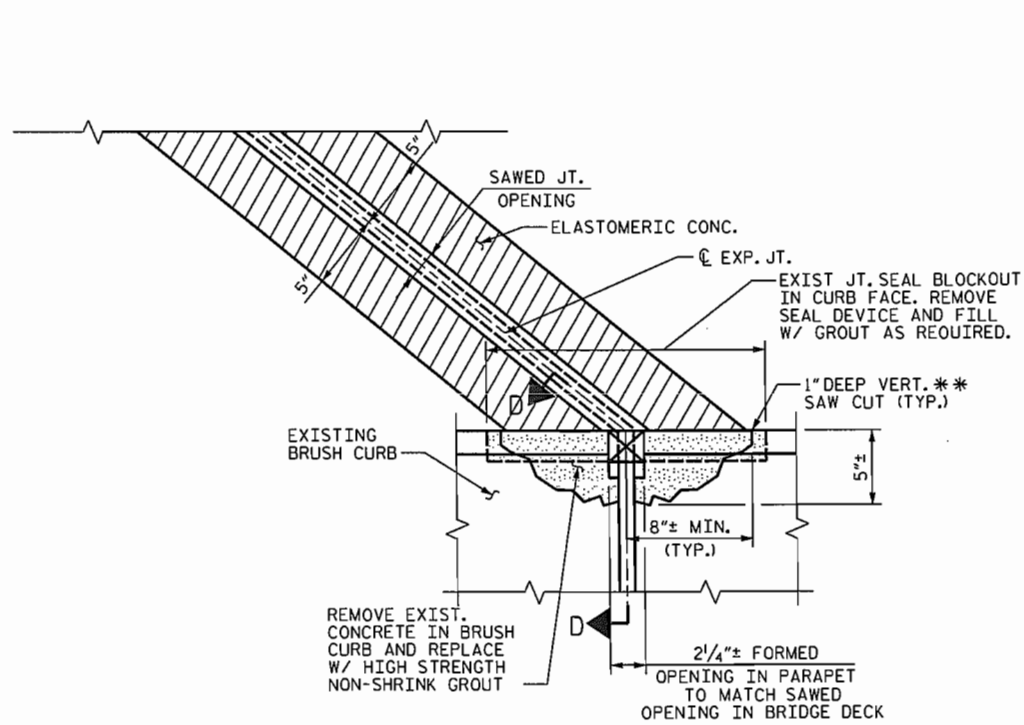
PROJECT NO. BP-5300V
HAYWOOD COUNTY
STATION: _____



STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
DECK REPAIR DETAILS SPAN C					
DECK REHAB. FOR BRIDGE NO. 248					
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
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					TOTAL SHEETS 9

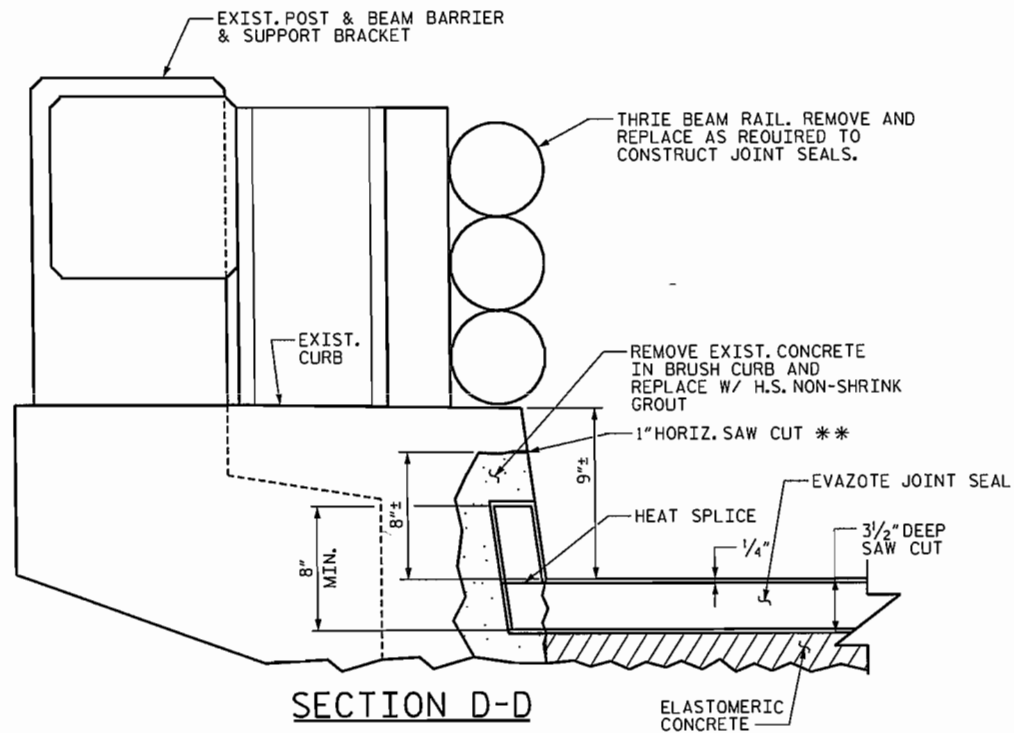


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CHECKED BY: J.T. KELVINGTON DATE: 2/11



PARTIAL PLAN @ JOINT

** CUT ONLY WHEN LIMITS FOR CONC. REMOVAL SHOWN EXCEED LIMITS OF BLOCKOUT FOR EXIST. JOINT SEAL



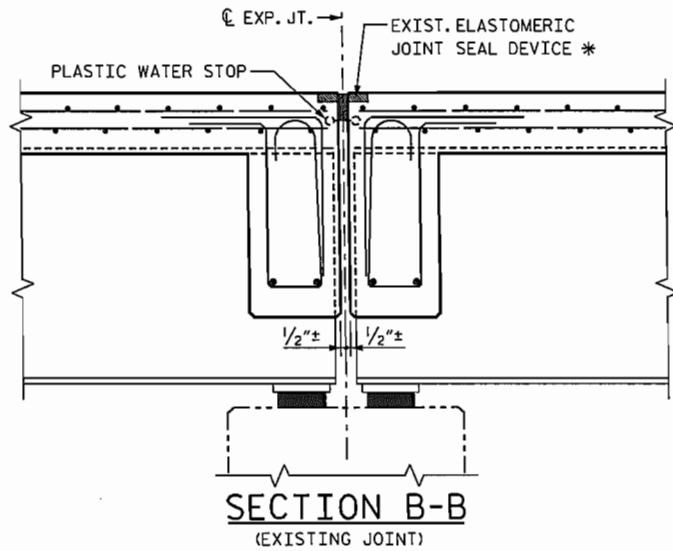
SECTION D-D

CONTRACTOR SHALL EXERCISE CARE TO AVOID CUTTING OR DAMAGING EXISTING REINF. STEEL.
FOR HIGH STRENGTH GROUT, SEE SPECIAL PROVISIONS.
HIGH STRENGTH GROUT SHALL BE APPROVED BY THE ENGINEER.

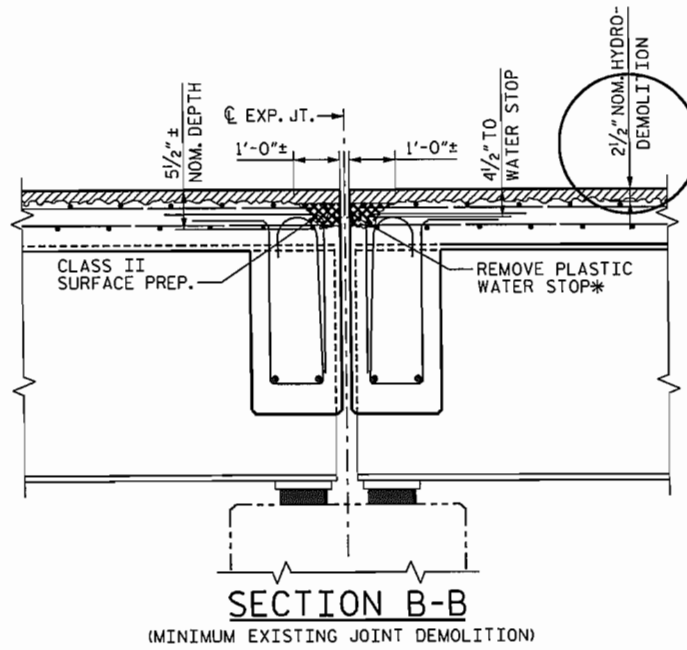
ELASTOMERIC CONCRETE

LOCATION	QTY
END BENT 1	9.5 C.F.
BENT 1	10.7 C.F.
BENT 2	10.8 C.F.
END BENT 2	9.7 C.F.

TOTAL ELASTOMERIC CONC. = 40.7 C.F.
TOTAL ELASTOMERIC CONC. = 1.5 C.Y.

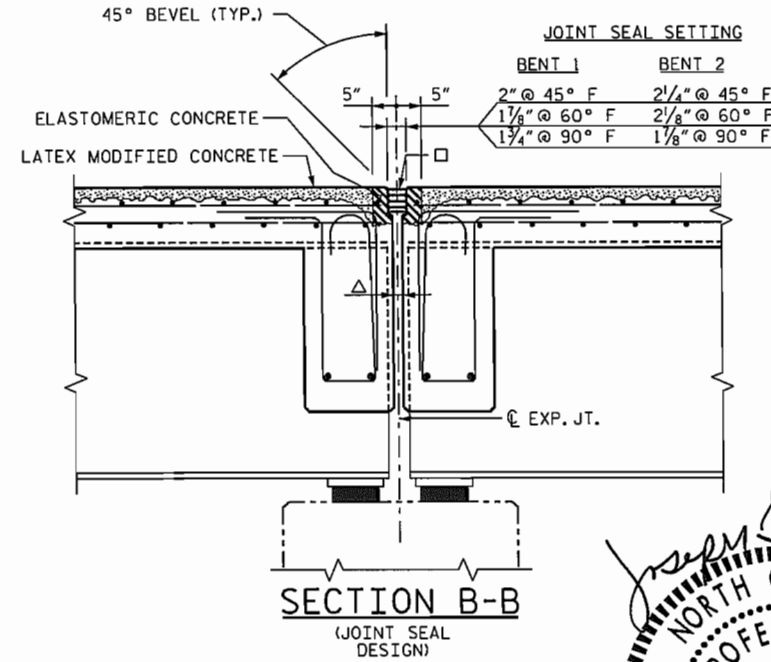


SECTION B-B
(EXISTING JOINT)



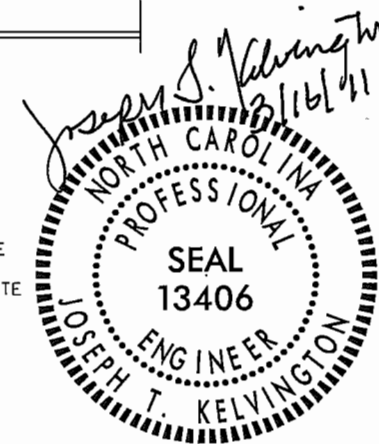
SECTION B-B
(MINIMUM EXISTING JOINT DEMOLITION)

NOTE: RETAIN ALL EXIST. REINF. STEEL. CLEAN AND REPAIR AS REQ'D
* REMOVE EXIST. ELASTOMERIC JT. SEAL DEVICE AS WELL AS EPOXY MORTAR, EMBEDDED STEEL HARDWARE, OR ASPHALT CONC. COMPLETELY FROM JOINT AREA.



SECTION B-B
(JOINT SEAL DESIGN)

- USE 2.50" X 2.00" UNCOMPRESSED EVAZOTE JT. SEAL MATERIAL AT BENT 1
- USE 2.8125" X 2.50" UNCOMPRESSED EVAZOTE JT. SEAL MATERIAL AT BENT 2
- △ 1/4" FORMED OPENING



PROJECT NO. BP-5300V
HAYWOOD COUNTY
STATION: _____

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
EXPANSION JOINT DETAILS
DECK REHAB. FOR BRIDGE NO. 248

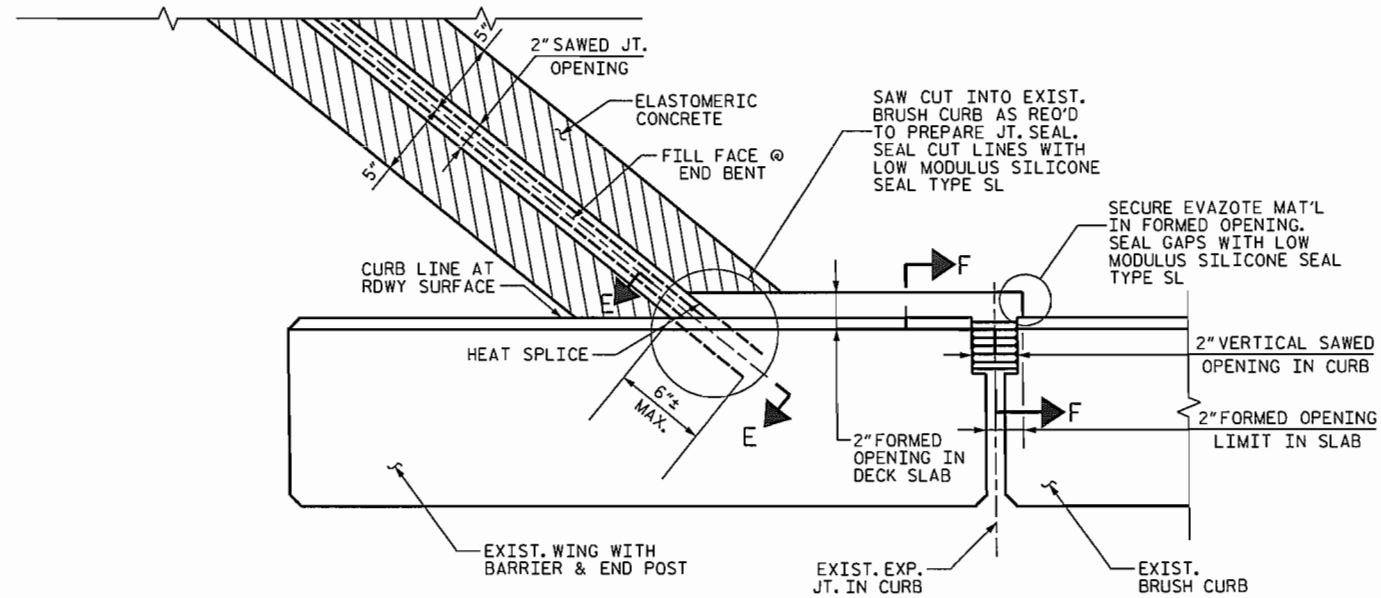
REVISIONS						SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS	
1			3			S248-6	
2			4			9	

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10/14/28 AM #USER# 3/16/2011 2011BP5300V\Bridg 248\Drawings\BP5300V248_Det2.dgn

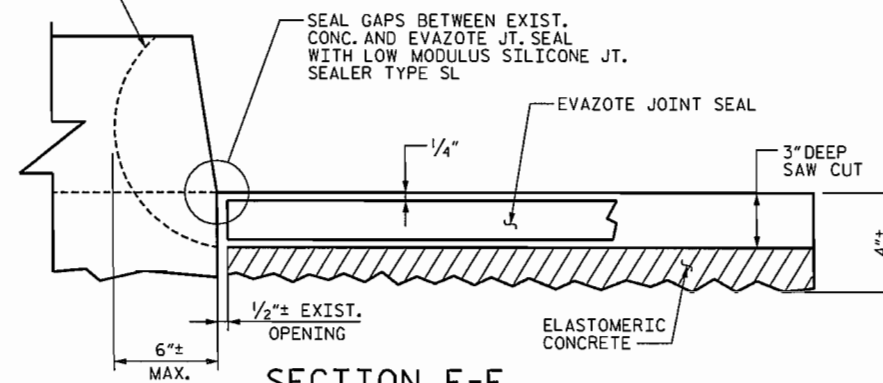


PARTIAL PLAN @ END BENT #1
(END BENT #2 SIMILAR)

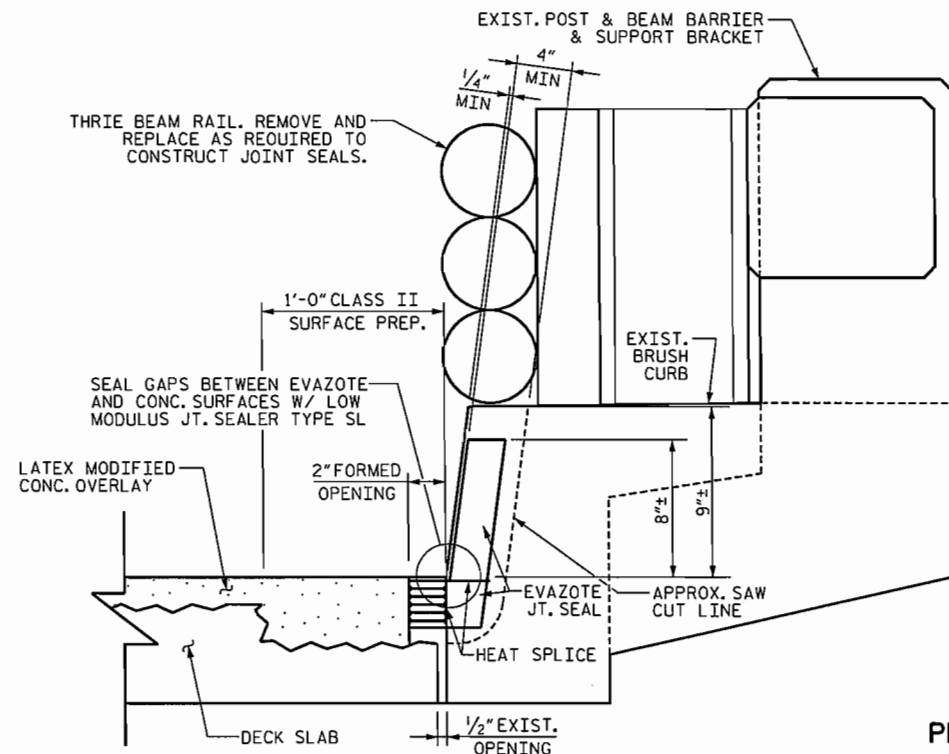
NOTE: BARRIER, END POSTS AND BARRIER POST BRACKETS NOT SHOWN FOR CLARITY.

REMOVE AND REPLACE EXISTING THRIE BEAM RAILS AS NECESSARY TO CONSTRUCT JT. SEALS.

SAW CUT ONLY AS DEEP AS NECESSARY TO PREPARE SURFACES FOR JOINT MAT'L



SECTION E-E



SECTION F-F

PROJECT NO. BP-5300V
HAYWOOD COUNTY
 STATION: _____

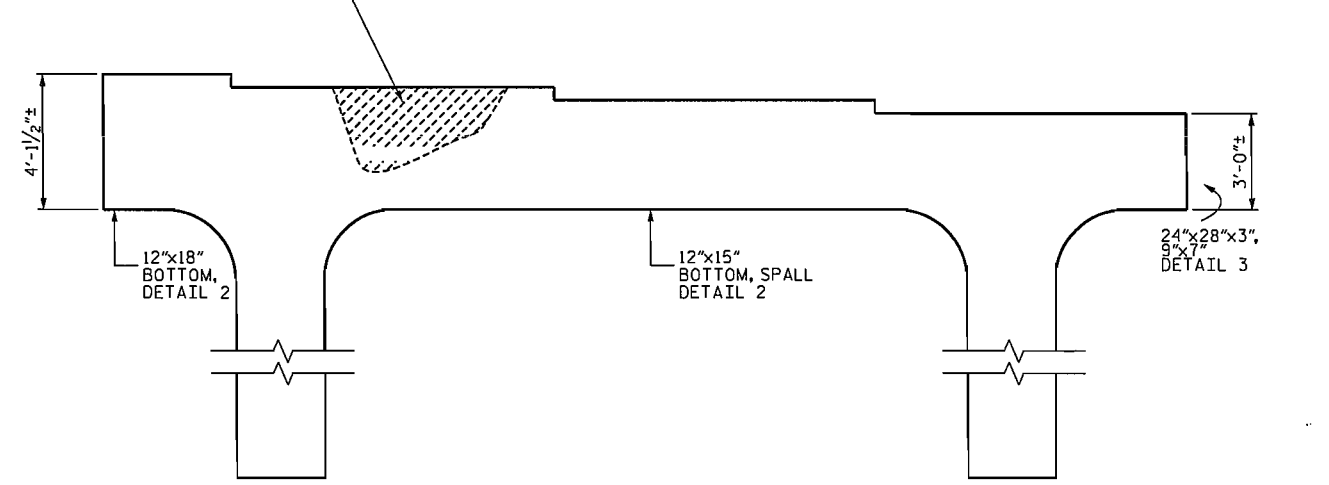
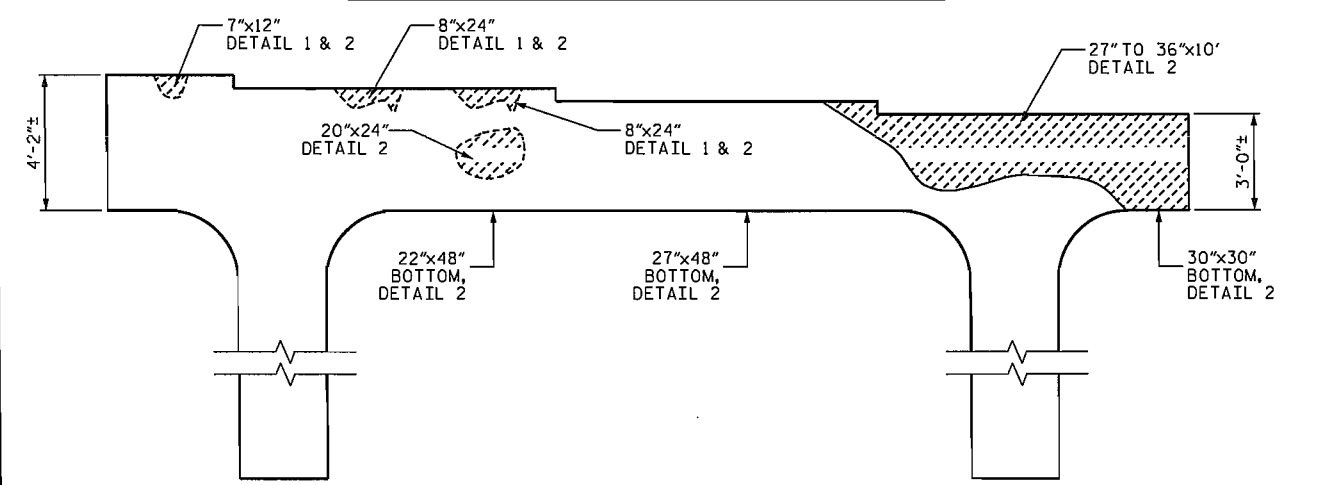
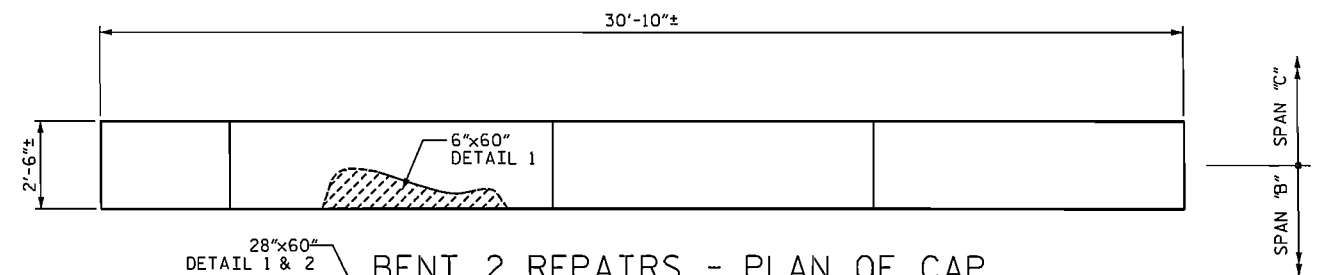
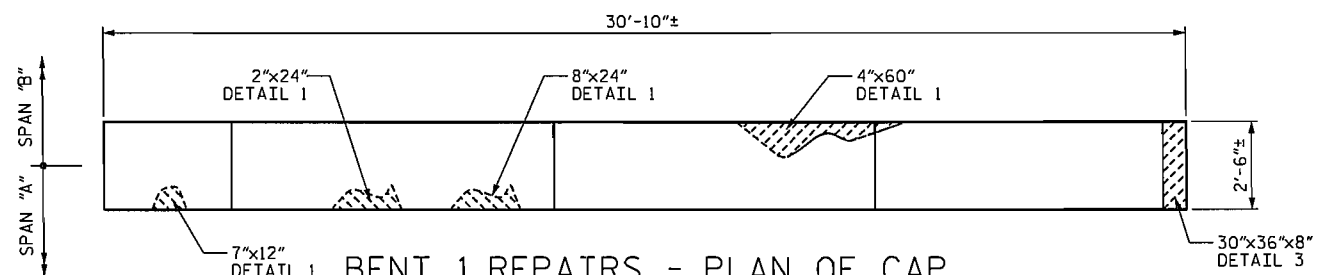


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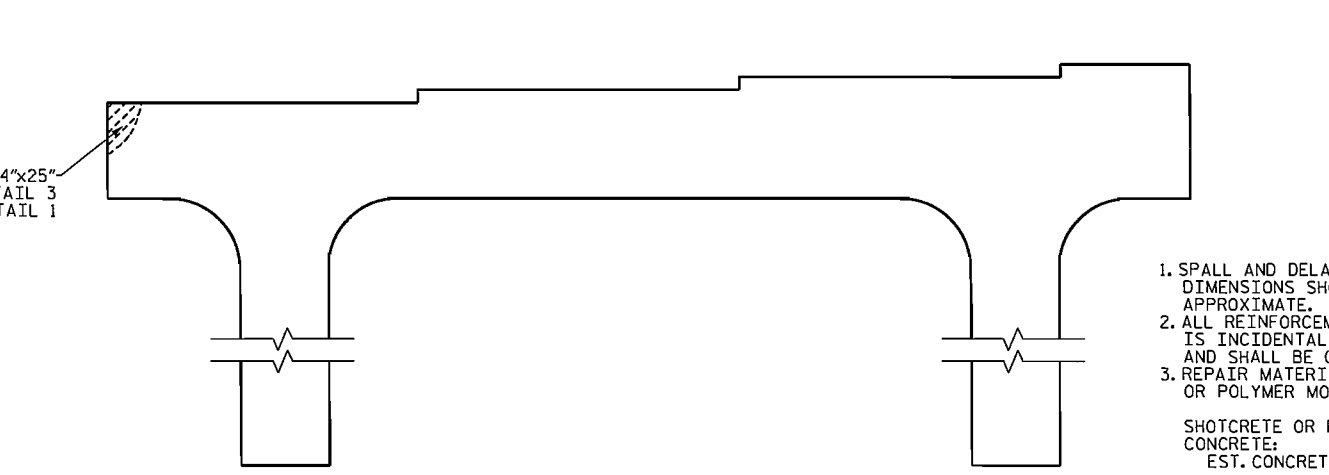
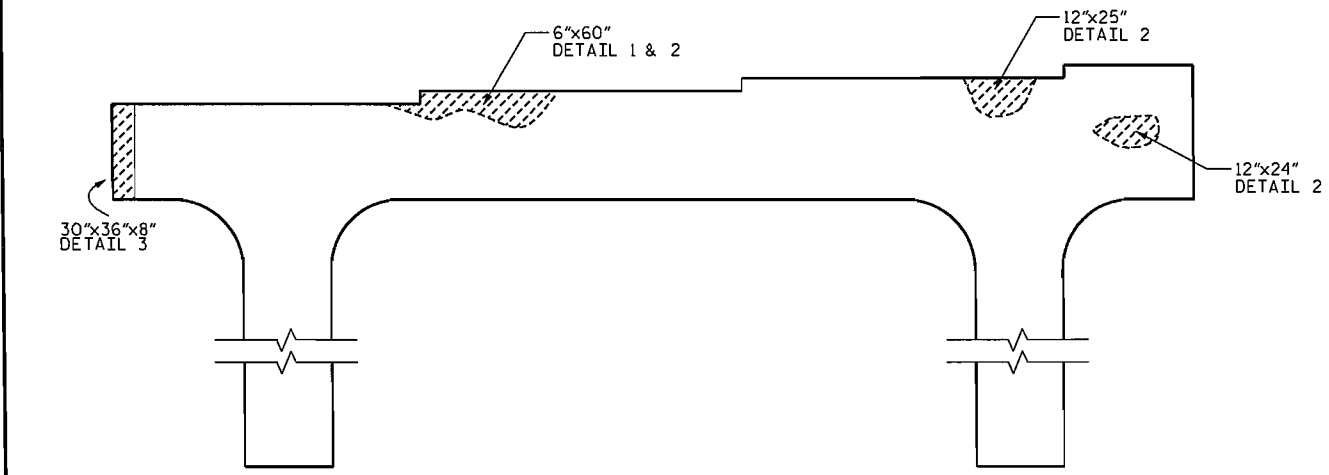
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
END BENT JOINT SEAL DETAILS					
DECK REHAB. FOR BRIDGE NO. 248					
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
					SHEET NO. S248-7
					TOTAL SHEETS 9

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BENT 1 REPAIRS - ELEVATION (SPAN A SIDE)

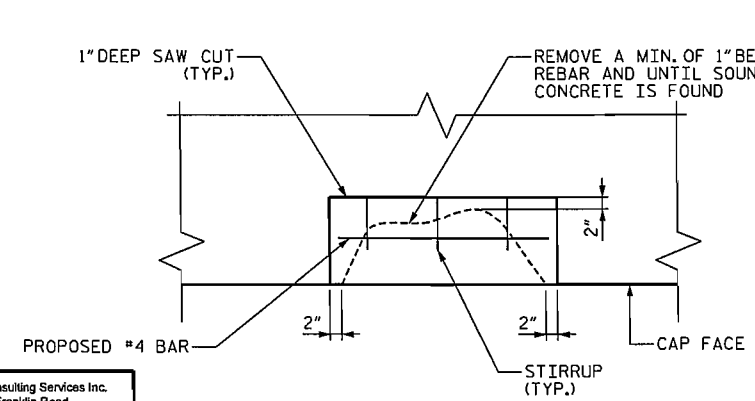
BENT 2 REPAIRS - ELEVATION (SPAN B SIDE)



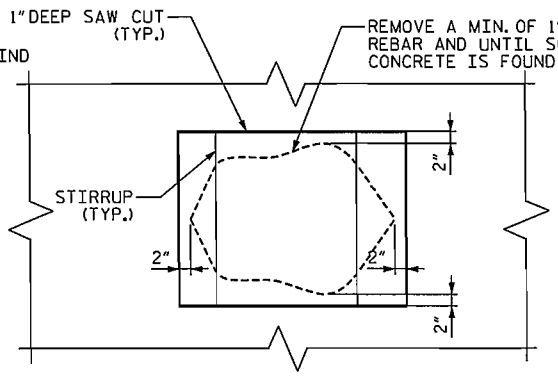
BENT 1 REPAIRS - ELEVATION (SPAN B SIDE)

BENT 2 REPAIRS - ELEVATION (SPAN C SIDE)

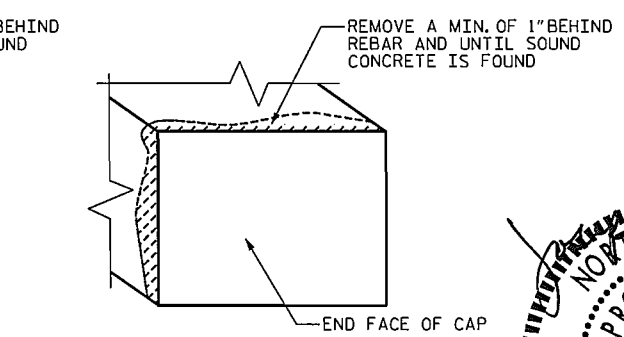
1. SPALL AND DELAMINATED AREA DIMENSIONS SHOWN ARE APPROXIMATE.
 2. ALL REINFORCEMENT TO BE PROVIDED IS INCIDENTAL TO SUBSTR. REPAIR AND SHALL BE GRADE 60.
 3. REPAIR MATERIAL SHALL BE SHOTCRETE OR POLYMER MODIFIED CONCRETE.
- SHOTCRETE OR POLYMER MODIFIED CONCRETE:
EST. CONCRETE VOL. = 84 CF



TYPICAL REPAIR DETAIL 1

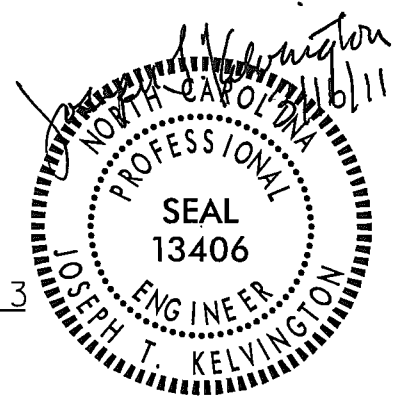


TYPICAL REPAIR DETAIL 2



TYPICAL REPAIR DETAIL 3

PROJECT NO. BP-5300V
HAYWOOD COUNTY
 STATION: _____




STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

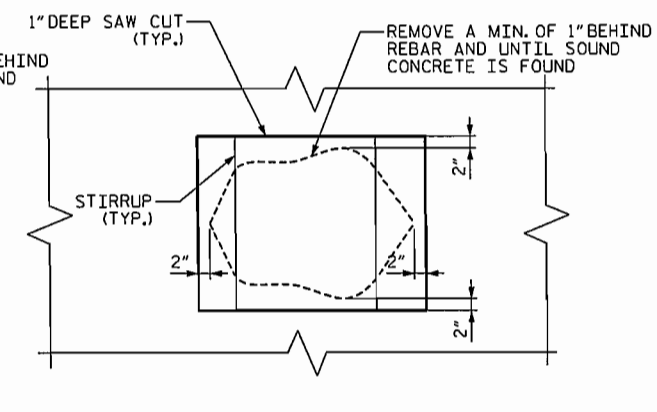
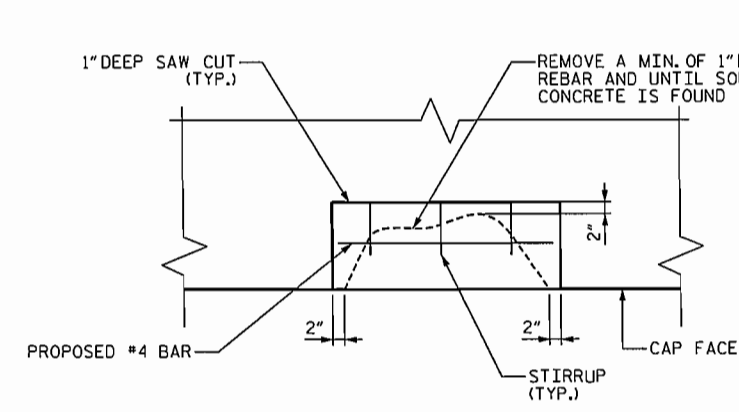
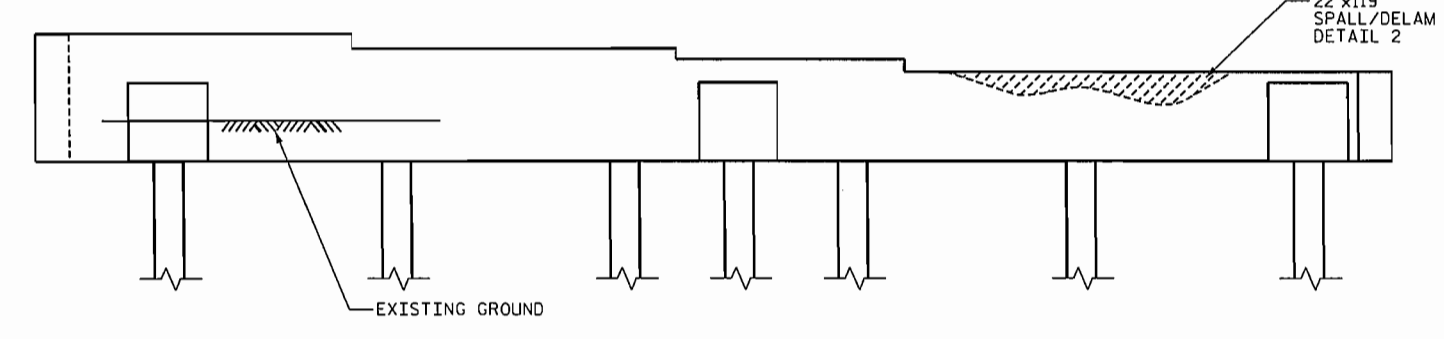
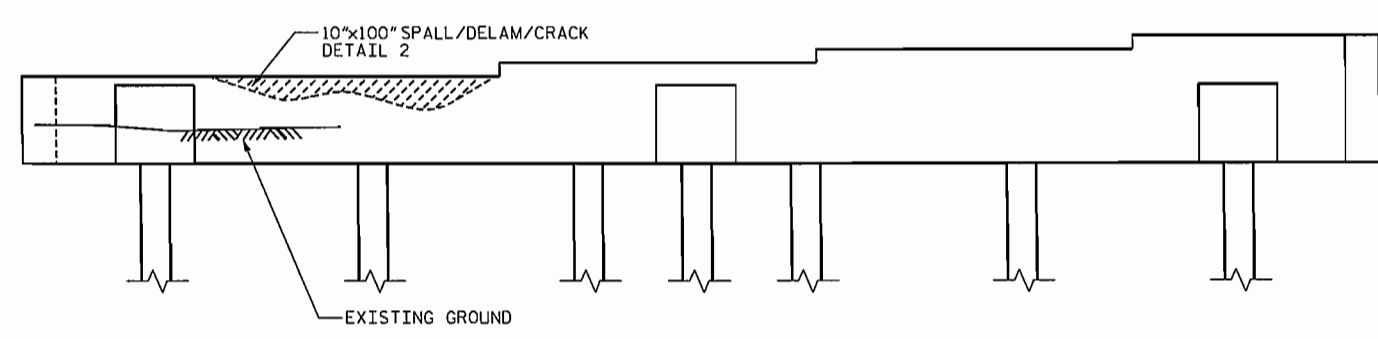
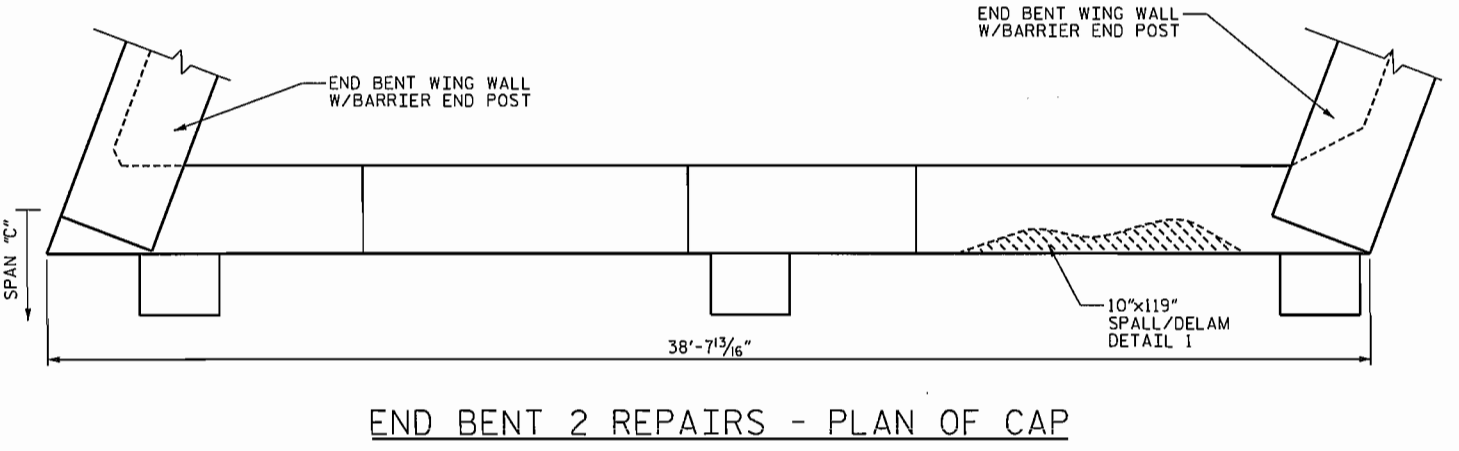
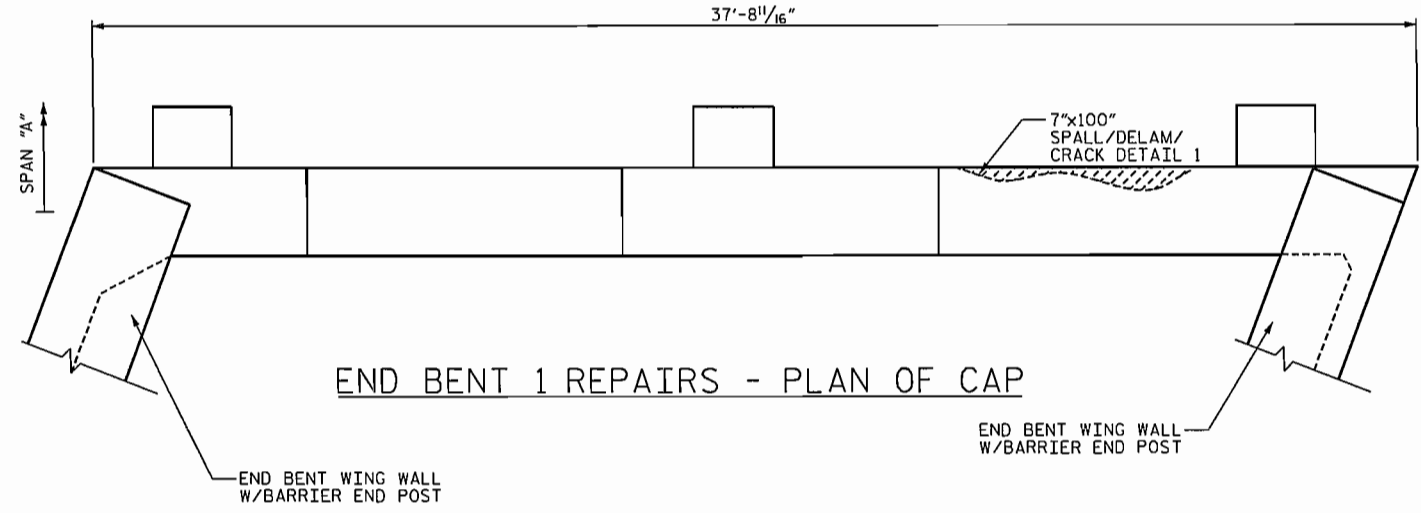
BENT 1 & BENT 2

DECK REHAB. FOR BRIDGE NO. 248

REVISIONS						SHEET NO.	
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1			3			TOTAL SHEETS	
2			4			9	


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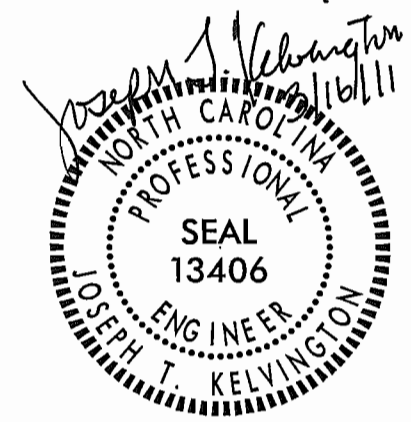


TYPICAL REPAIR DETAIL 1

TYPICAL REPAIR DETAIL 2

1. SPALL AND DELAMINATED AREA DIMENSIONS SHOWN ARE APPROXIMATE.
 2. ALL REINFORCEMENT TO BE PROVIDED IS INCIDENTAL TO SUBSTR. REPAIR AND SHALL BE GRADE 60.
 3. REPAIR MATERIAL SHALL BE SHOTCRETE OR POLYMER MODIFIED CONCRETE.
- SHOTCRETE OR POLYMER MODIFIED CONCRETE:
EST. CONCRETE VOL. = 56 CF

PROJECT NO. BP-5300V
HAYWOOD COUNTY
 STATION: _____



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

END BENT 1 & END BENT 2

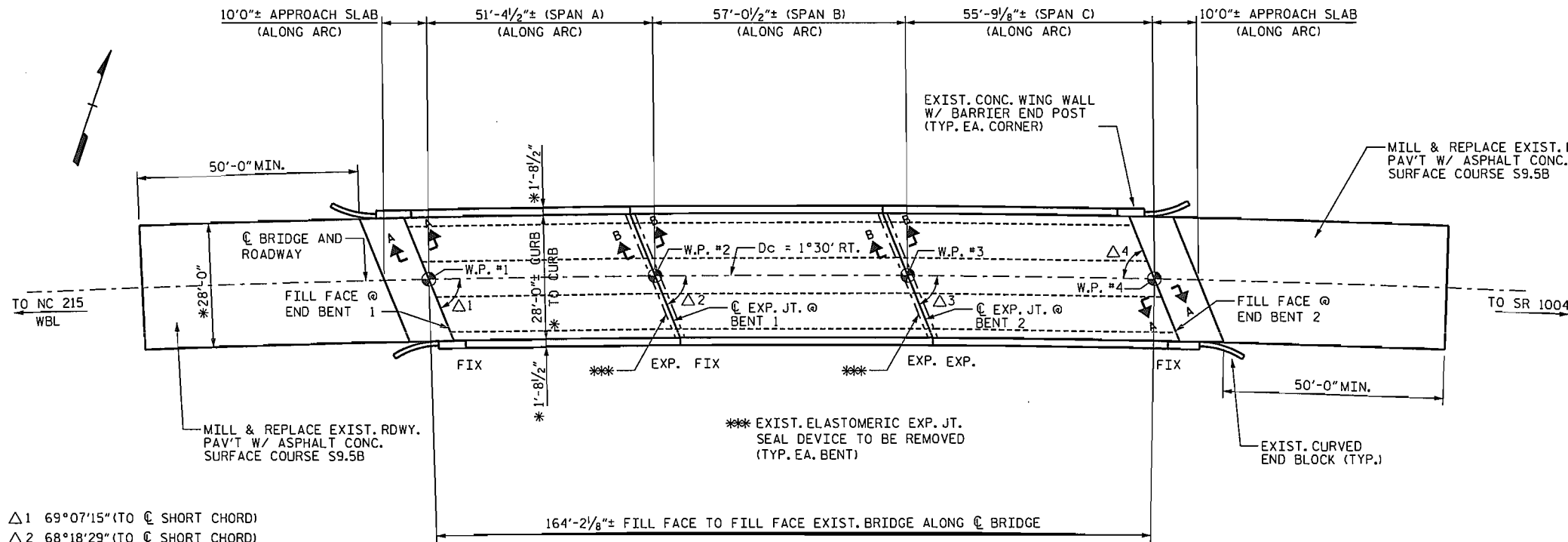
DECK REHAB. FOR BRIDGE NO. 248

REVISIONS						SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:	S248-9	
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2			4				

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 CHECKED BY : J. T. KELVINGTON DATE : 2/11

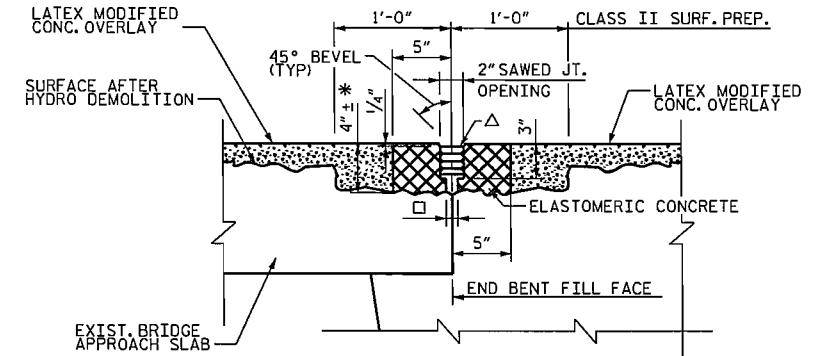


- △ 1 69°07'15" (TO C SHORT CHORD)
- △ 2 68°18'29" (TO C SHORT CHORD)
- △ 3 67°27'44" (TO C SHORT CHORD)
- △ 4 67°27'44" (TO C SHORT CHORD)

PLAN OF SPANS

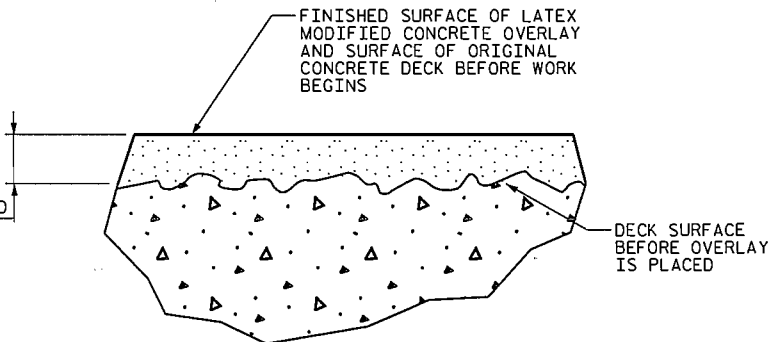
NOTE: BARRIERS, END POSTS, AND BARRIER POST BRACKETS NOT SHOWN FOR CLARITY.

NOTES:
 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. THE CONTRACTOR SHALL PROVIDE A METHOD OF HANDLING UNEXPECTED BLOW THROUGH OF THE DECK. SEE DETAIL.
 LATEX MODIFIED CONCRETE SHALL BE LATEX MODIFIED CONCRETE - VERY EARLY STRENGTH.
 FOR LATEX MODIFIED CONCRETE - VERY EARLY STRENGTH, SEE SPECIAL PROVISIONS.
 FOR SECTION B-B, SEE SHEET NO. S249-6.
 * DENOTES RADIAL DIMENSION.
 FOR EVAZOTE JOINT SEAL, SEE SPECIAL PROVISIONS.
 THICKNESS OF LATEX MODIFIED CONCRETE OVERLAY SHOWN IS ESTIMATED. OVERLAY CONCRETE IS TO BE PLACED OVER EXISTING SOUND CONCRETE SURFACES TO MATCH EXISTING DECK SURFACE ELEVATIONS.

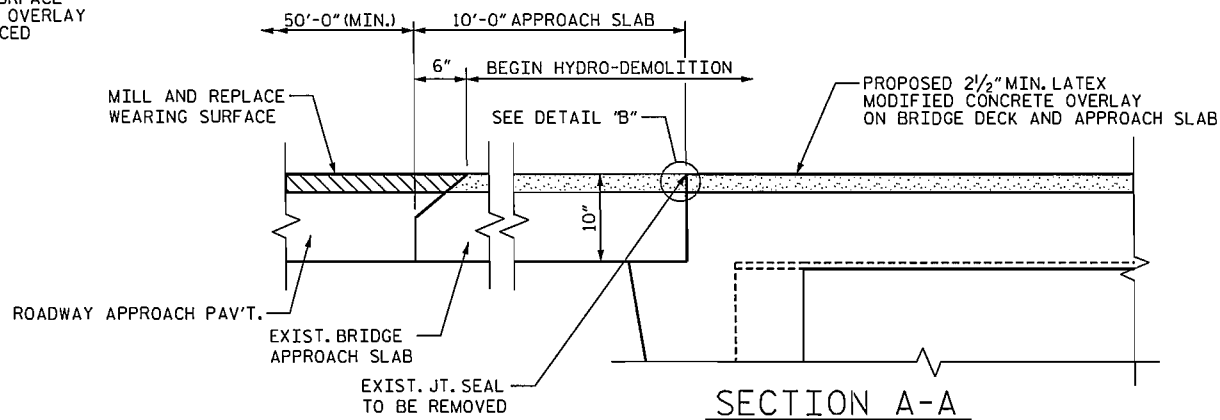


DETAIL "B"

- △ USE 2.50" X 2.00" UNCOMPRESSED SEAL MATERIAL
- 1" FORMED OPENING CENTERED ABOUT FILL FACE
- * NOMINAL DIMENSION. 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.



DETAIL FOR LATEX MODIFIED CONCRETE OVERLAY

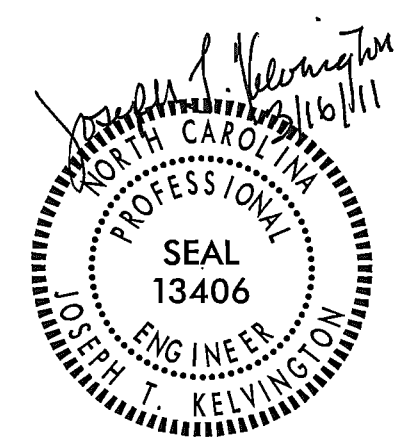


SECTION A-A

PROJECT NO. BP-5300V
HAYWOOD COUNTY
 STATION: _____

TOTAL BILL OF MATERIAL												
DECK** SCARIFICATION	CLASS I* SURFACE PREPARATION	CLASS II* SURFACE PREPARATION	CLASS III* SURFACE PREPARATION	HYDRO-DEMOLITION	CLASS AA CONCRETE	LATEX MODIFIED CONCRETE - VERY EARLY STRENGTH	PLACE & FINISH LMC - VERY EARLY STRENGTH	EVAZOTE JOINT SEAL	GROOVING BRIDGE FLOORS	ASPHALT CONC. SURFACE COURSE TYPE S9.5B	UNDER DECK BENT AND DIAPH REPAIR	
SO.YDS.	SO.YDS.	SO.YDS.	SO.YDS.	SO.YDS.	CU.YDS.	CU.YDS.	SO.YDS.	LUMP SUM	SO.FT.	TON	C.F.	
899	499	35	19	553	2	41	553	LUMP SUM	4,335	37	202	

* QUANTITIES ARE SHOWN 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.
 ** INCLUDES MILLING OF ROADWAY PAVEMENT.



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

PLAN OF SPANS FOR DECK REPAIR

DECK REHAB. FOR BRIDGE NO. 249

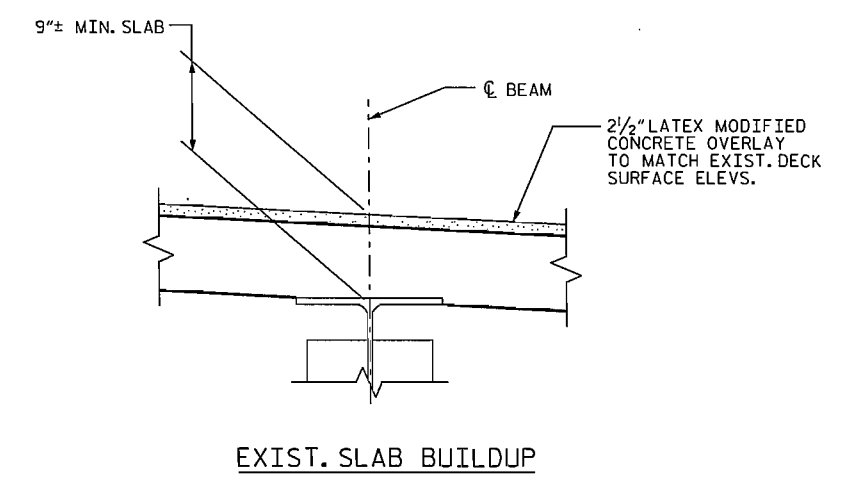
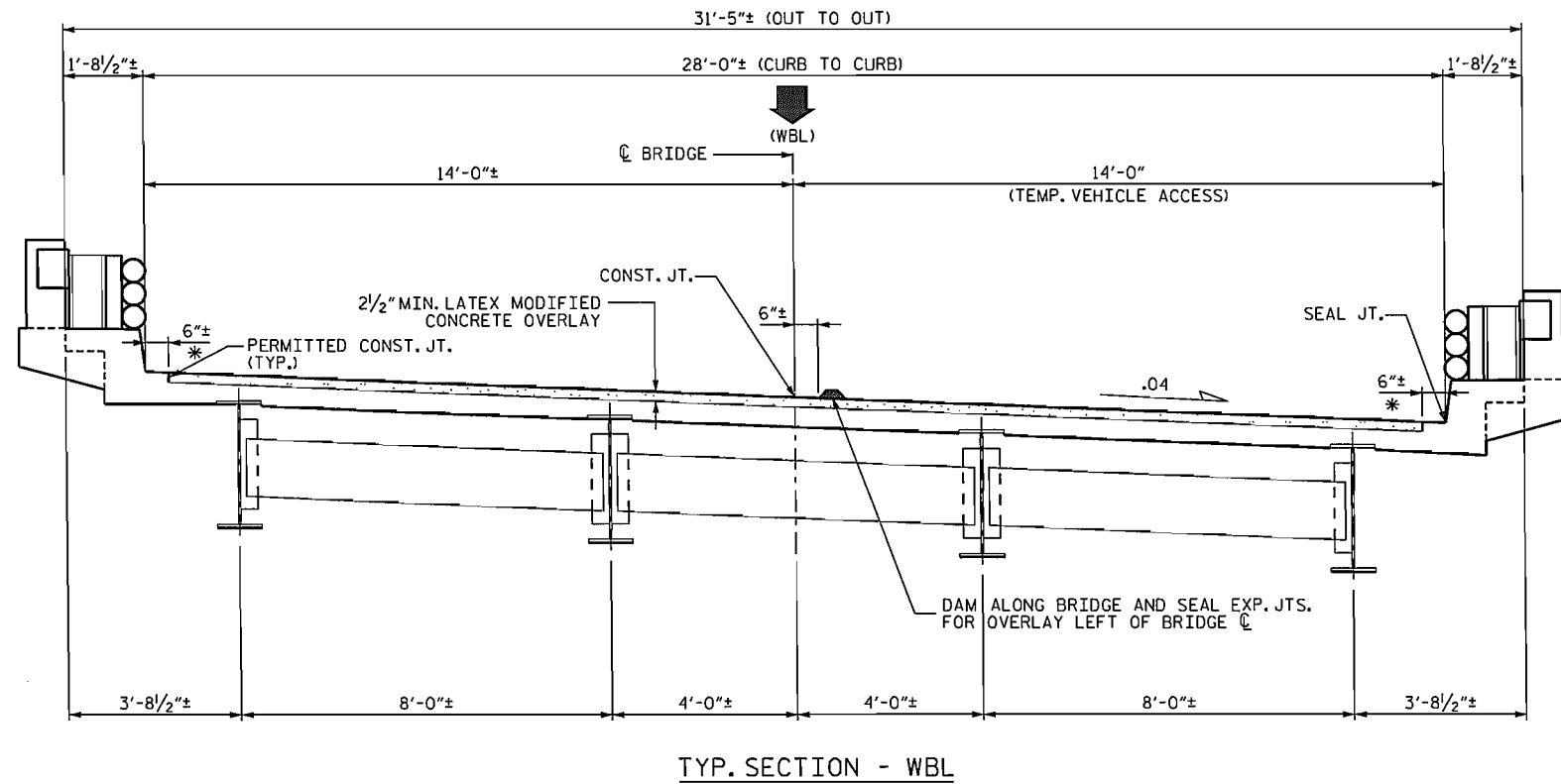
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NO.	BY:	DATE:	NO.	BY:	DATE:	S249-1
1			3			TOTAL SHEETS
2			4			9

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 3/16/2011
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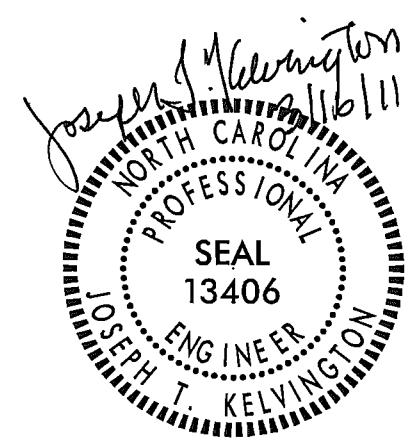
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NOTES:
 WATER & CONCRETE SLURRY FROM HYDRO-DEMOLITION SHALL NOT BE ALLOWED TO DRAIN ACROSS TRAVEL LANES. CONTRACTOR SHALL PROVIDE A METHOD TO CONTROL THE WATER.
 ALL HORIZONTAL DIMENSIONS SHOWN ARE RADIAL.
 FOR TRAFFIC CONTROL PHASING AND DETAILS, SEE TRAFFIC CONTROL PLANS TCP-1 THRU 5.
 * PERMITTED WIDTH OF EXISTING CONCRETE DECK SURFACE OVER FULL LENGTH OF BRIDGE AND APPROACH SLAB THAT MAY BE LEFT INTACT FOR SCREED SUPPORT. OTHERWISE, REPAIR DECK SURFACE FROM BARRIER TO BARRIER.



PROJECT NO. BP-5300V
HAYWOOD COUNTY
 STATION: _____



STATE OF NORTH CAROLINA
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TYPICAL SECTION

DECK REHAB. FOR BRIDGE NO. 249

REVISIONS						SHEET NO.	
NO.	BY	DATE	NO.	BY	DATE	S249-2	
1			3			TOTAL SHEETS	
2			4			9	

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NOTES:

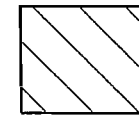
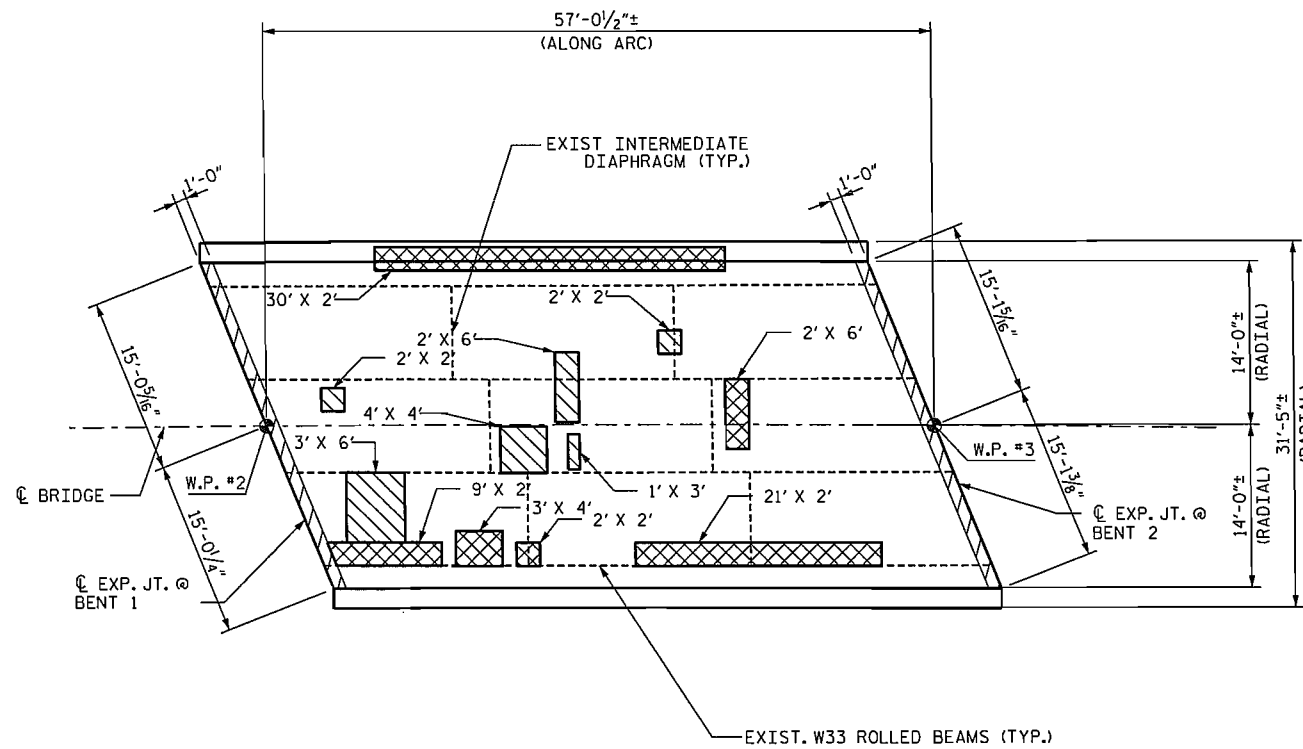
CONTRACTOR SHALL FURNISH FORMWORK TO SUPPORT SLAB OVERHANG REGIONS WITH EXTENSIVE CLASS III SURFACE PREPARATION.

SUBMIT DETAILS OF PROPOSED FORMWORK FOR APPROVAL PRIOR TO BEGINNING WORK.

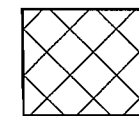
COSTS FOR INSTALLING AND REMOVING FORMWORK SHALL BE INCIDENTAL TO THE PRICE BID PER SQ. YD. OF CLASS III SURFACE PREPARATION.

SEE HYDRO DEMOLITION SPECIAL PROVISIONS.

FOR "BLOW THRU" CONTAINMENT FORMWORK DETAIL, SEE SHT. S-3.



CLASS II SURFACE PREPARATION



CLASS III SURFACE PREPARATION

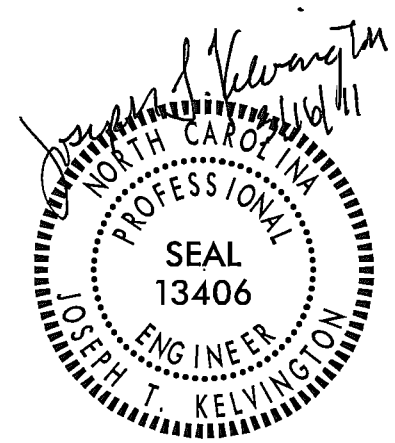
L' X W' = LENGTH OF AREA ALONG C BRIDGE X WIDTH OF AREA NORMAL TO C BRIDGE ±

PLAN OF SPAN B - DECK REPAIRS

NOTE: BARRIERS, END POSTS, AND BARRIER POST BRACKETS NOT SHOWN FOR CLARITY.

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PROJECT NO. BP-5300V
HAYWOOD COUNTY
 STATION: _____



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
**DECK REPAIR DETAILS
 SPAN B**
 DECK REHAB. FOR BRIDGE NO. 249

REVISIONS						SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:	S249-4	
1			3			TOTAL SHEETS	9
2			4				

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NOTES:

CONTRACTOR SHALL FURNISH FORMWORK TO SUPPORT SLAB OVERHANG REGIONS WITH EXTENSIVE CLASS III SURFACE PREPARATION.

SUBMIT DETAILS OF PROPOSED FORMWORK FOR APPROVAL PRIOR TO BEGINNING WORK.

COSTS FOR INSTALLING AND REMOVING FORMWORK SHALL BE INCIDENTAL TO THE PRICE BID PER SQ. YD. OF CLASS III SURFACE PREPARATION.

SEE HYDRO DEMOLITION SPECIAL PROVISIONS.

FOR "BLOW THRU" CONTAINMENT FORMWORK DETAIL, SEE SHT. S249-3.

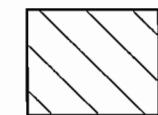
SPALL CRACK AND DELAMINATED AREA DIMENSIONS ARE APPROXIMATE.

REPAIR MATERIAL FOR DIAPHRAGM AND UNDER DECK REPAIR SHALL BE SHOTCRETE OR POLYMER MODIFIED CONCRETE.

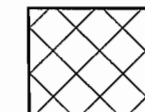
ALL DETERIORATED CONCRETE IN DIAPHRAGMS SHALL BE REMOVED TO SOUND CONCRETE AND AT LEAST 1" CLEAR BEHIND EXISTING REINFORCING STEEL.

REPAIR MATERIALS SHALL BE PLACED TO MATCH ORIGINAL CONCRETE SURFACES.

SHOTCRETE OR POLYMER MODIFIED CONC.:
EST. CONCRETE VOL. = 8 CF

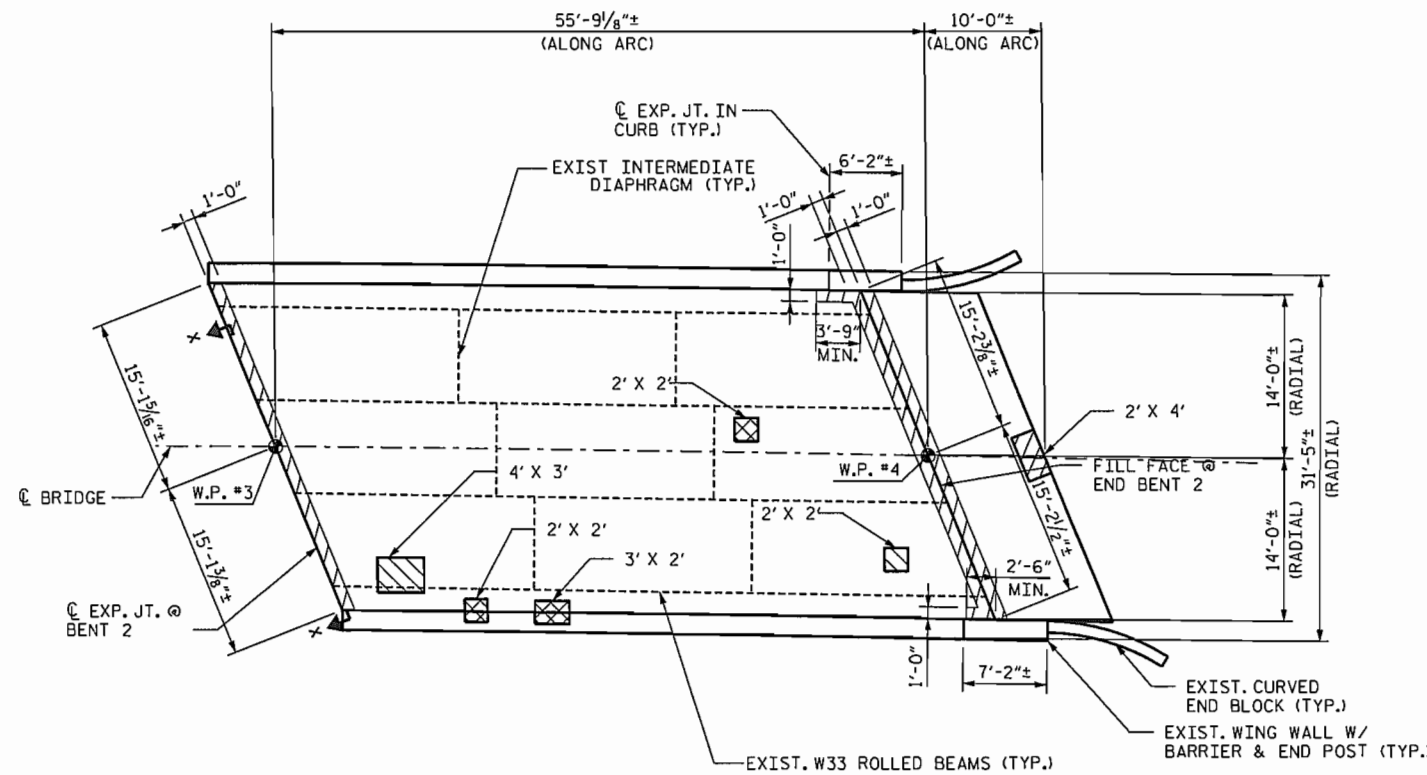


CLASS II SURFACE PREPARATION



CLASS III SURFACE PREPARATION

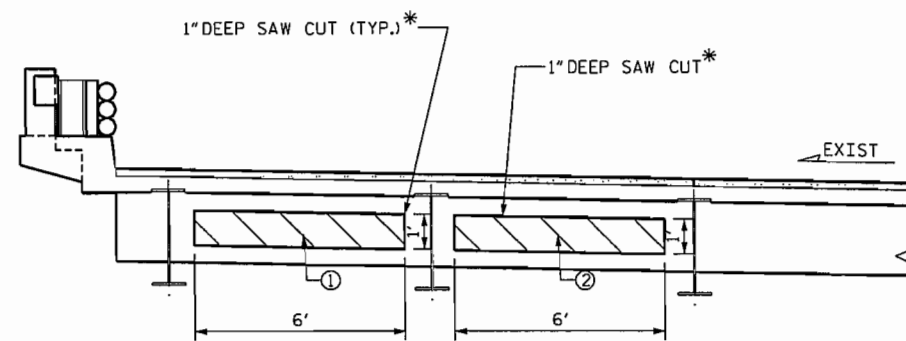
L' X W' = LENGTH OF AREA ALONG C BRIDGE X
WIDTH OF AREA NORMAL TO C BRIDGE ±



PLAN OF SPAN C - DECK REPAIRS

INCLUDES BRIDGE APPROACH SLAB AT END BENT 2

NOTE: BARRIERS, END POSTS, AND BARRIER POST BRACKETS NOT SHOWN FOR CLARITY.



SECTION X-X
CONCRETE DIAPHRAGM @ BENT 2

- ① CONC. DIAPH. CRACKED AND SPALLED 6" TO 8" WIDE x 5' LONG
- ② CONC. DIAPH. CRACKED AND SPALLED 6" WIDE x 5' LONG

*SET SAW CUT BOUNDARIES A MIN. OF 3" CLEAR FROM LIMITS OF CRACKS OR SPALLS SHOWN AT EACH LOCATION.

PROJECT NO. BP-5300V
HAYWOOD COUNTY
STATION: _____

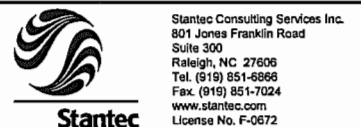


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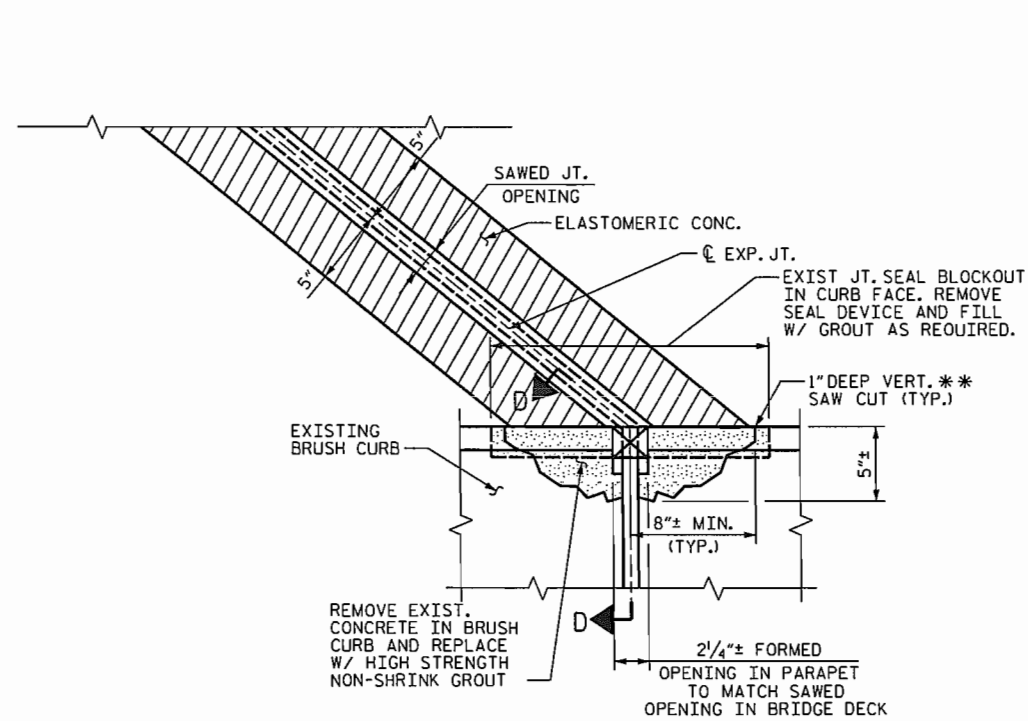
DECK REPAIR DETAILS
SPAN C

DECK REHAB. FOR BRIDGE NO. 249

REVISIONS						SHEET NO. S249-5
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 9
2			4			

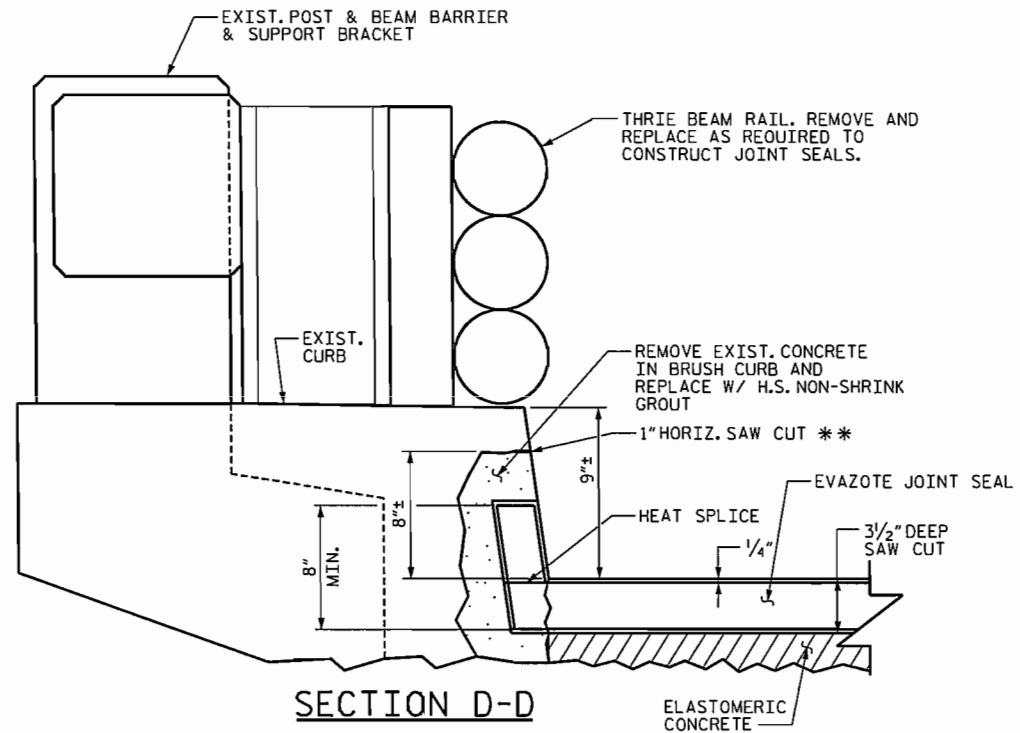


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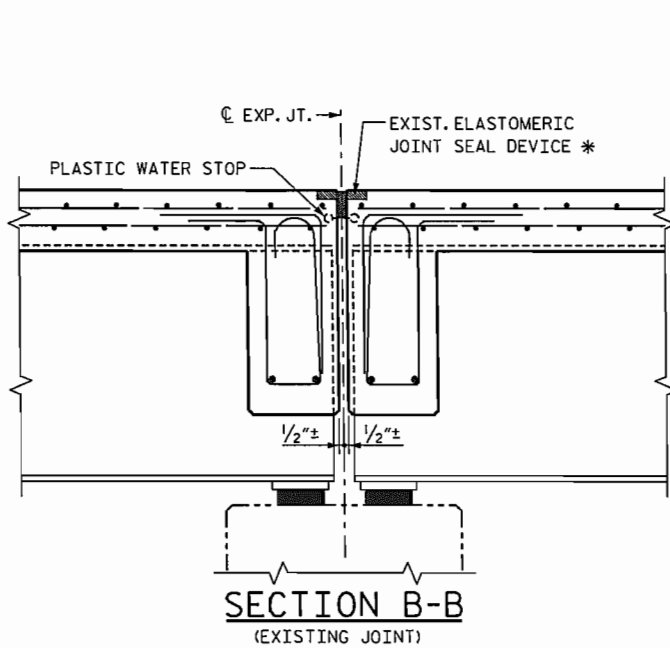
PARTIAL PLAN @ JOINT

** CUT ONLY WHEN LIMITS FOR CONC. REMOVAL SHOWN EXCEED LIMITS OF BLOCKOUT FOR EXIST. JOINT SEAL

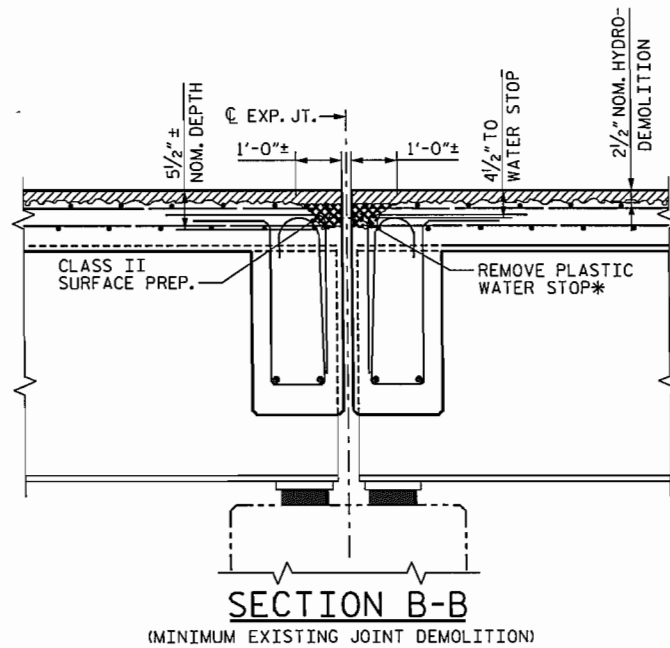


SECTION D-D

CONTRACTOR SHALL EXERCISE CARE TO AVOID CUTTING OR DAMAGING EXISTING REINF. STEEL.
FOR HIGH STRENGTH GROUT, SEE SPECIAL PROVISIONS.
HIGH STRENGTH GROUT SHALL BE APPROVED BY THE ENGINEER.

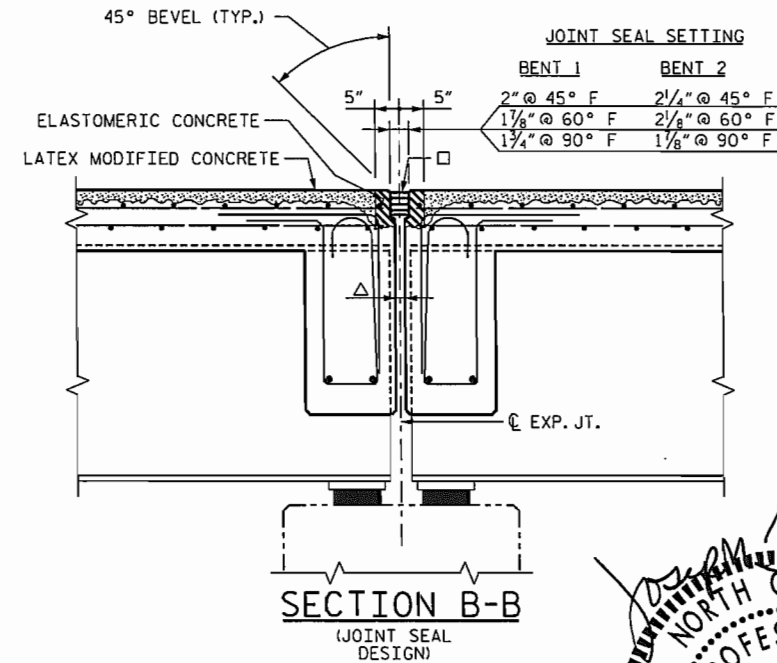


**SECTION B-B
(EXISTING JOINT)**



**SECTION B-B
(MINIMUM EXISTING JOINT DEMOLITION)**

NOTE: RETAIN ALL EXIST. REINF. STEEL. CLEAN AND REPAIR AS REQ'D
* REMOVE EXIST. ELASTOMERIC JT. SEAL DEVICE AS WELL AS EPOXY MORTAR, EMBEDDED STEEL HARDWARE, OR ASPHALT CONC. COMPLETELY FROM JOINT AREA.



**SECTION B-B
(JOINT SEAL DESIGN)**

- USE 2.50" X 2.00" UNCOMPRESSED EVAZOTE JT. SEAL MATERIAL AT BENT 1
- USE 2.8125" X 2.50" UNCOMPRESSED EVAZOTE JT. SEAL MATERIAL AT BENT 2
- △ 1/4" FORMED OPENING

ELASTOMERIC CONCRETE

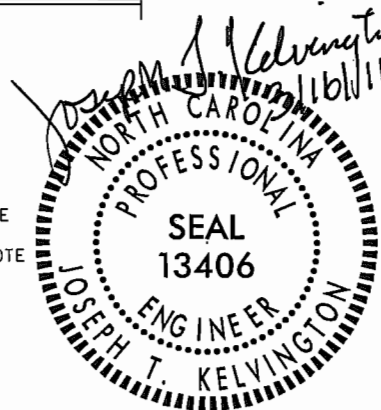
LOCATION	QTY
END BENT 1	9.1 C.F.
BENT 1	10.1 C.F.
BENT 2	10.1 C.F.
END BENT 2	9.2 C.F.

TOTAL ELASTOMERIC CONC. = 38.5 C.F.
TOTAL ELASTOMERIC CONC. = 1.4 C.Y.

PROJECT NO. BP-5300V
HAYWOOD COUNTY
STATION: _____

Stantec Consulting Services Inc.
801 Jones Franklin Road
Suite 300
Raleigh, NC 27606
Tel. (919) 851-6856
Fax. (919) 851-7024
www.stantec.com
License No. F-0572

DRAWN BY: B.M. PALMER DATE: 2/11
CHECKED BY: J.T. KELVINGTON DATE: 2/11



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

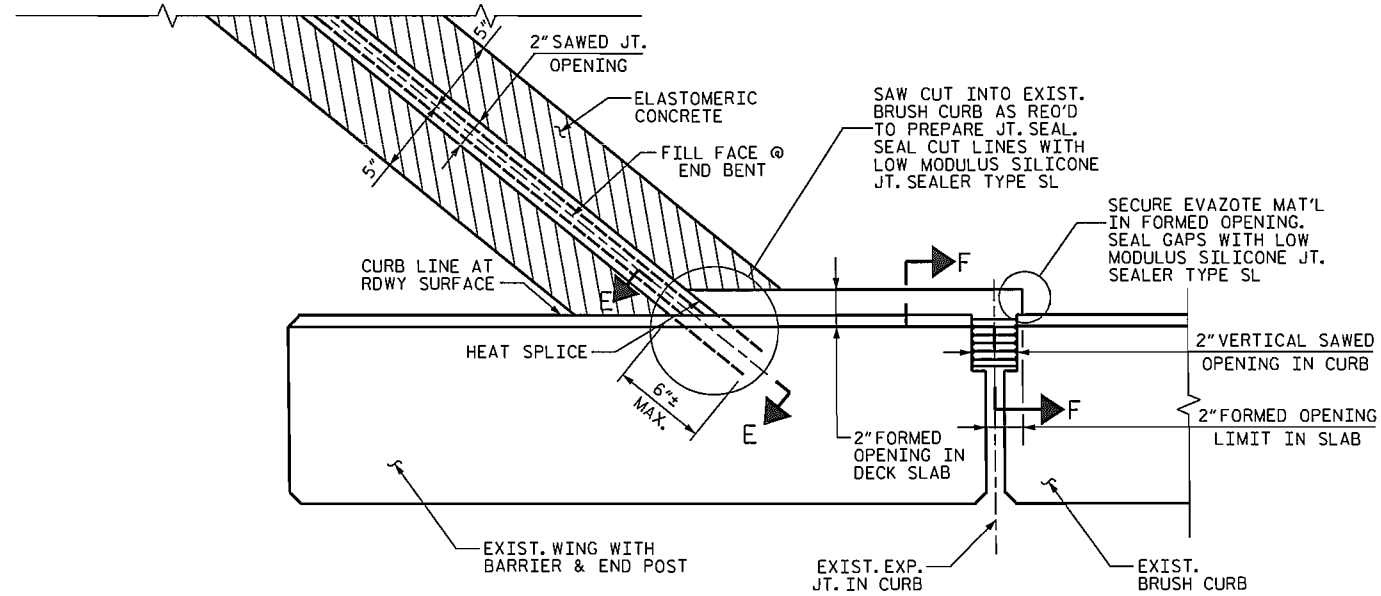
EXPANSION JOINT DETAILS

DECK REHAB. FOR BRIDGE NO. 249

REVISIONS						TOTAL SHEETS
NO.	BY:	DATE:	NO.	BY:	DATE:	9
1			3			
2			4			

U:\S\Structures\Bridges Group 201\BP5300V\Bridg 249\Drawings\BP5300V249 Det.dgn 3/16/2011 10:16:43 AM \$USER\$

U:\Structures\Bridges Group 2011\BP5300V\Bridg 249.Dr-awing\BP5300V249_Det2.dgn 3/16/2011 10:02 AM #USER6

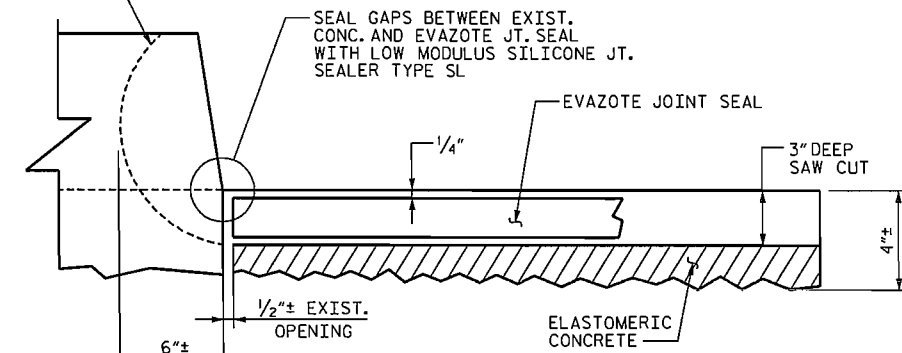


PARTIAL PLAN @ END BENT #1
(END BENT #2 SIMILAR)

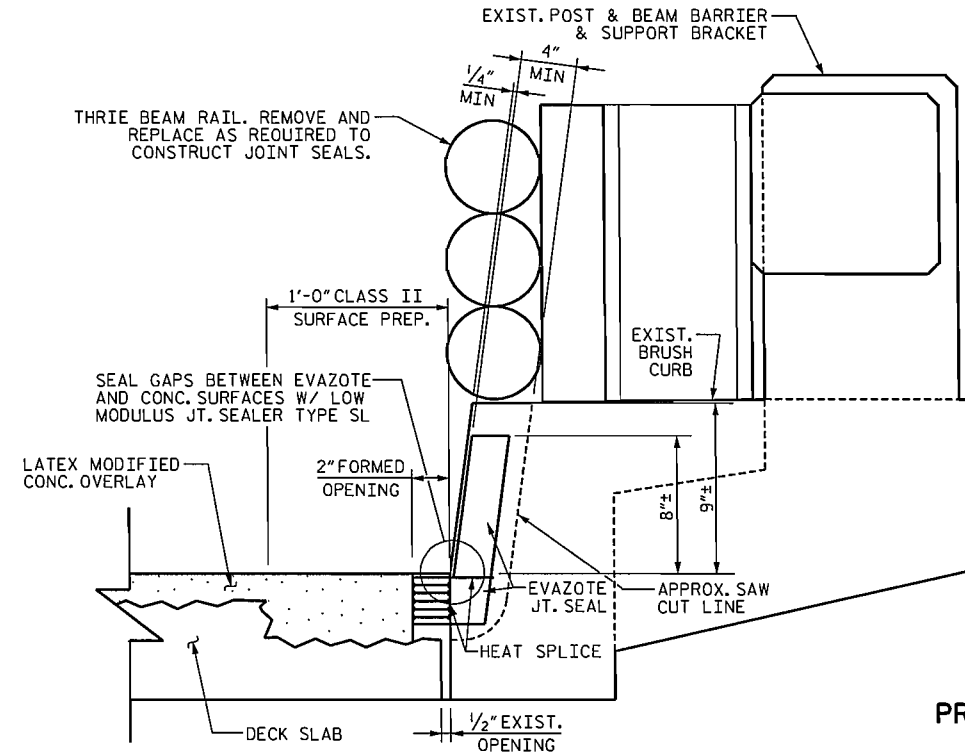
NOTE: BARRIER, END POSTS AND BARRIER POST BRACKETS NOT SHOWN FOR CLARITY.

REMOVE AND REPLACE EXISTING THREE BEAM RAILS AS NECESSARY TO CONSTRUCT JOINT SEALS.

SAW CUT ONLY AS DEEP AS NECESSARY TO PREPARE SURFACES FOR JOINT MAT'L

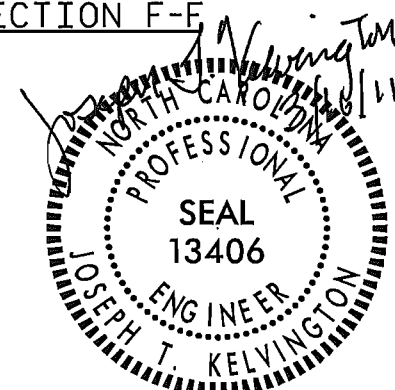


SECTION E-E



SECTION F-F

PROJECT NO. BP-5300V
HAYWOOD COUNTY
 STATION: _____



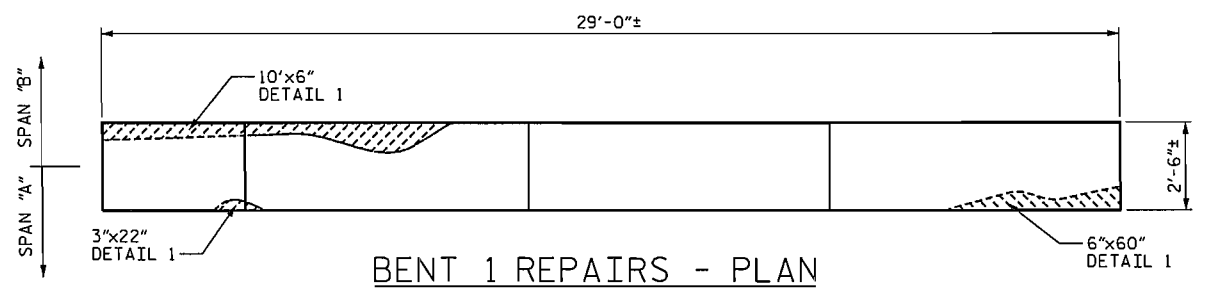
DRAWN BY: B.M. PALMER DATE: 2/11
 CHECKED BY: J.T. KELVINGTON DATE: 2/11

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
**END BENT JOINT SEAL
 DETAILS**

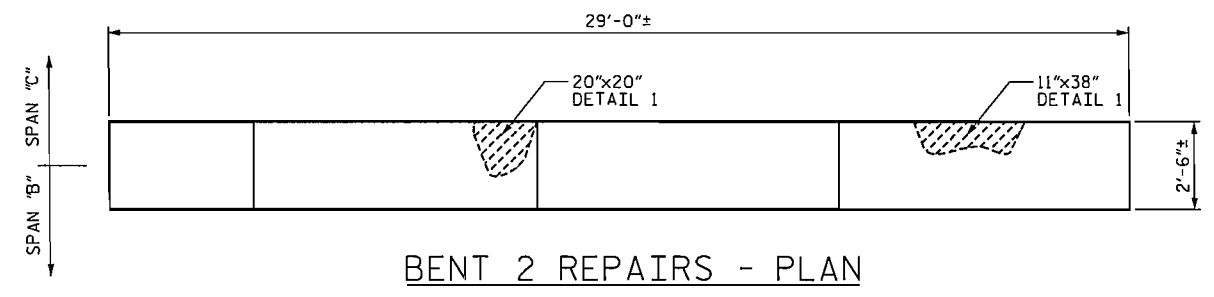
DECK REHAB. FOR BRIDGE NO. 249

REVISIONS						SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:	S249-7	
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2			4			9	

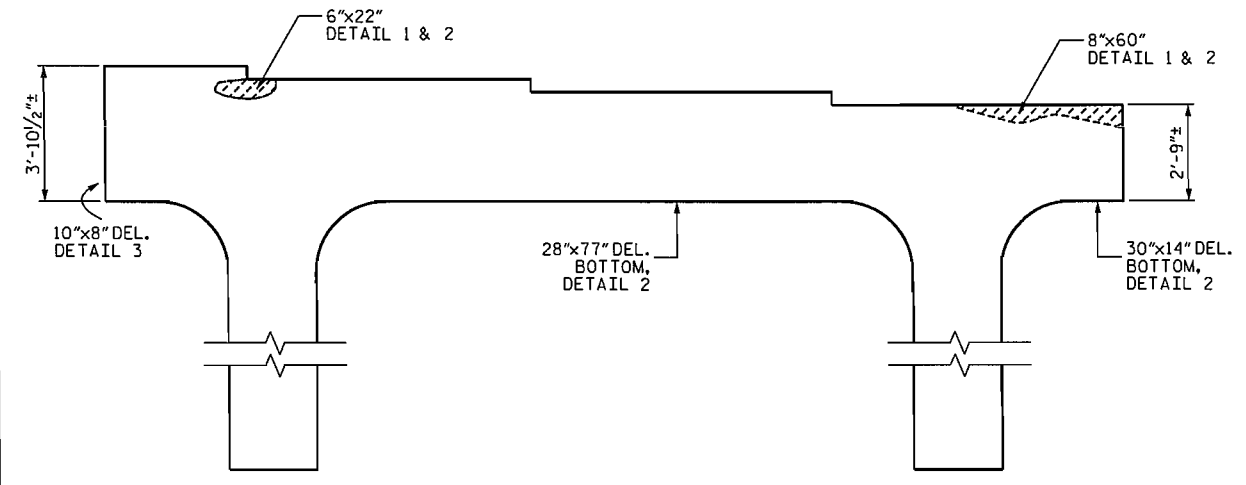
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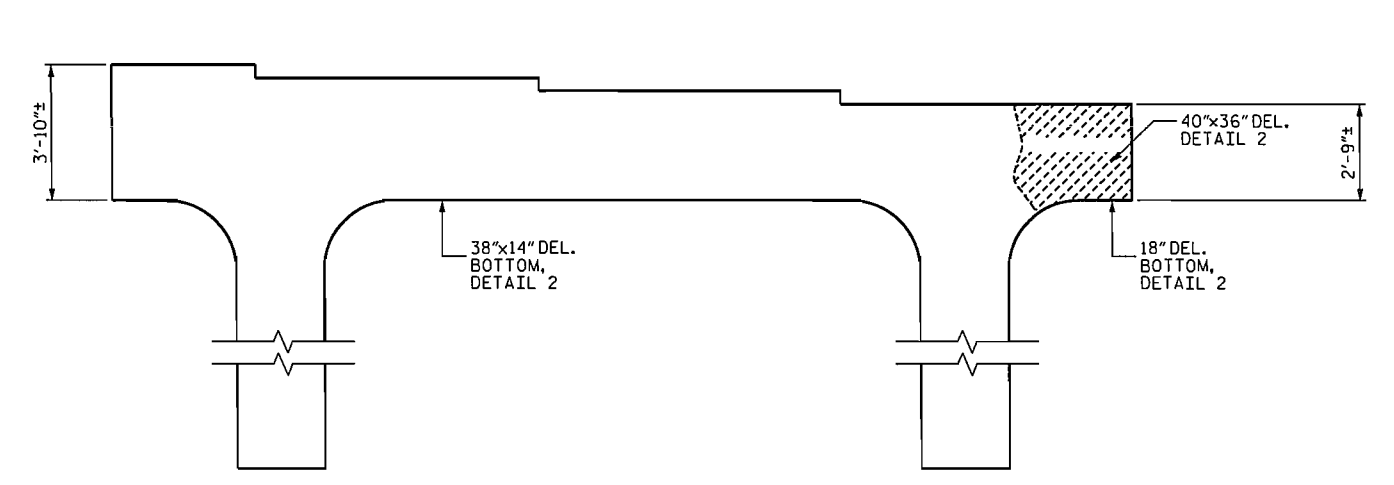
BENT 1 REPAIRS - PLAN



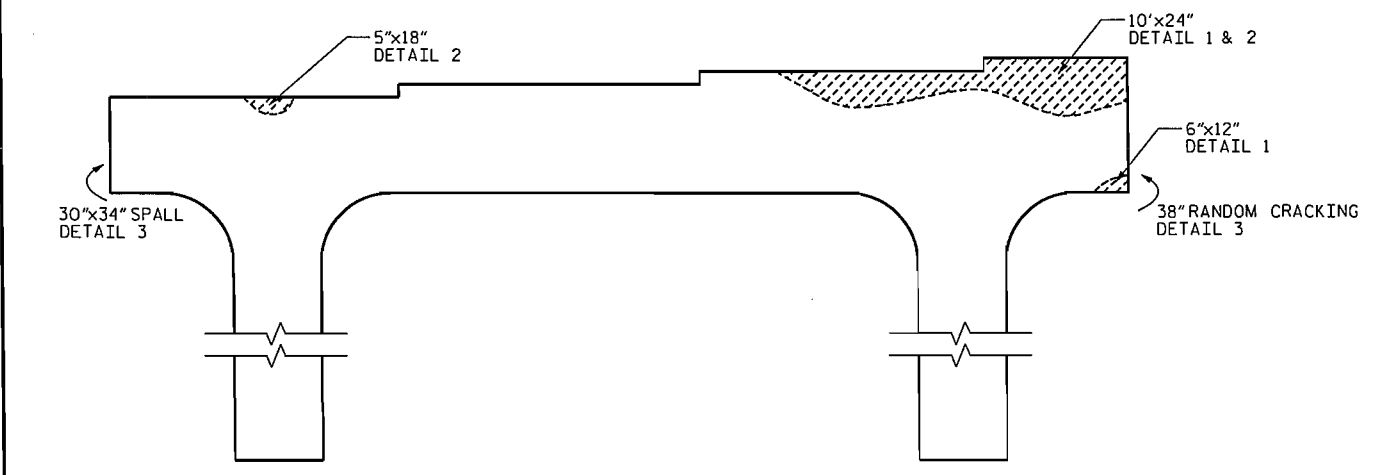
BENT 2 REPAIRS - PLAN



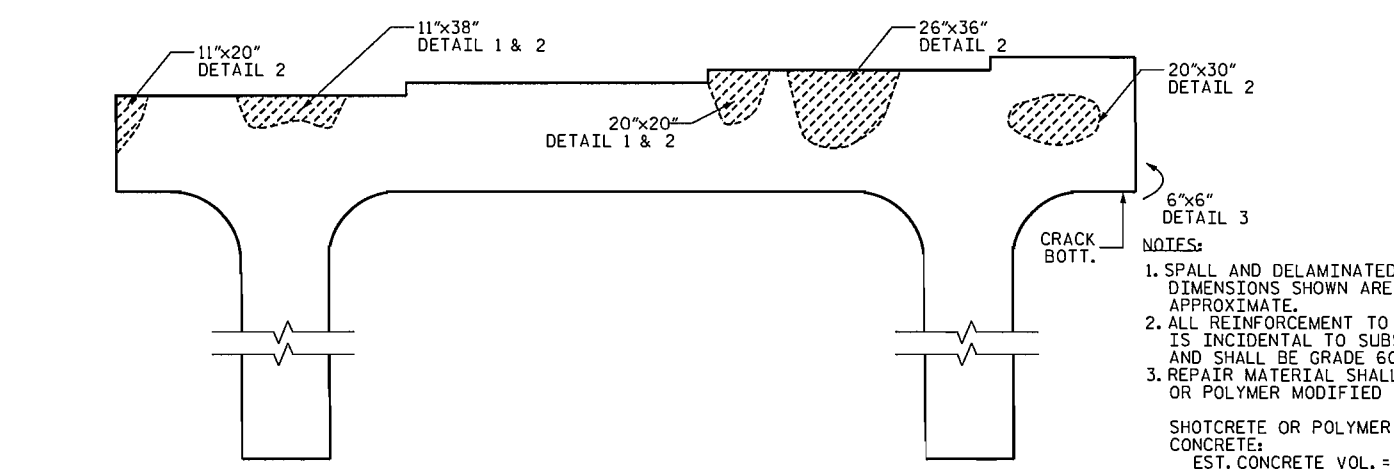
BENT 1 REPAIRS - ELEVATION (SPAN A SIDE)



BENT 2 REPAIRS - ELEVATION (SPAN B SIDE)

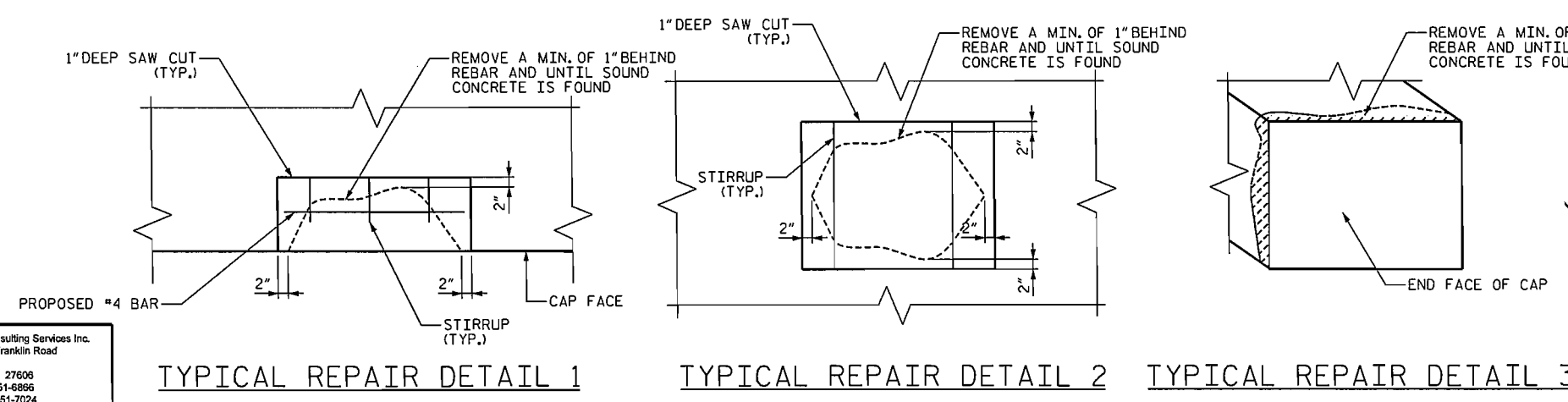


BENT 1 REPAIRS - ELEVATION (SPAN B SIDE)



BENT 2 REPAIRS - ELEVATION (SPAN C SIDE)

- NOTES:**
1. SPALL AND DELAMINATED AREA DIMENSIONS SHOWN ARE APPROXIMATE.
 2. ALL REINFORCEMENT TO BE PROVIDED IS INCIDENTAL TO SUBSTR. REPAIR AND SHALL BE GRADE 60.
 3. REPAIR MATERIAL SHALL BE SHOTCRETE OR POLYMER MODIFIED CONCRETE.
- SHOTCRETE OR POLYMER MODIFIED CONCRETE:
EST. CONCRETE VOL. = 116 CF

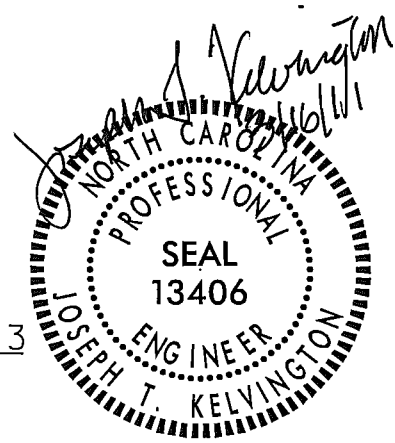


TYPICAL REPAIR DETAIL 1

TYPICAL REPAIR DETAIL 2

TYPICAL REPAIR DETAIL 3

PROJECT NO. BP-5300V
HAYWOOD COUNTY
 STATION: 1215+88.69 - "L"



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BENT 1 & BENT 2

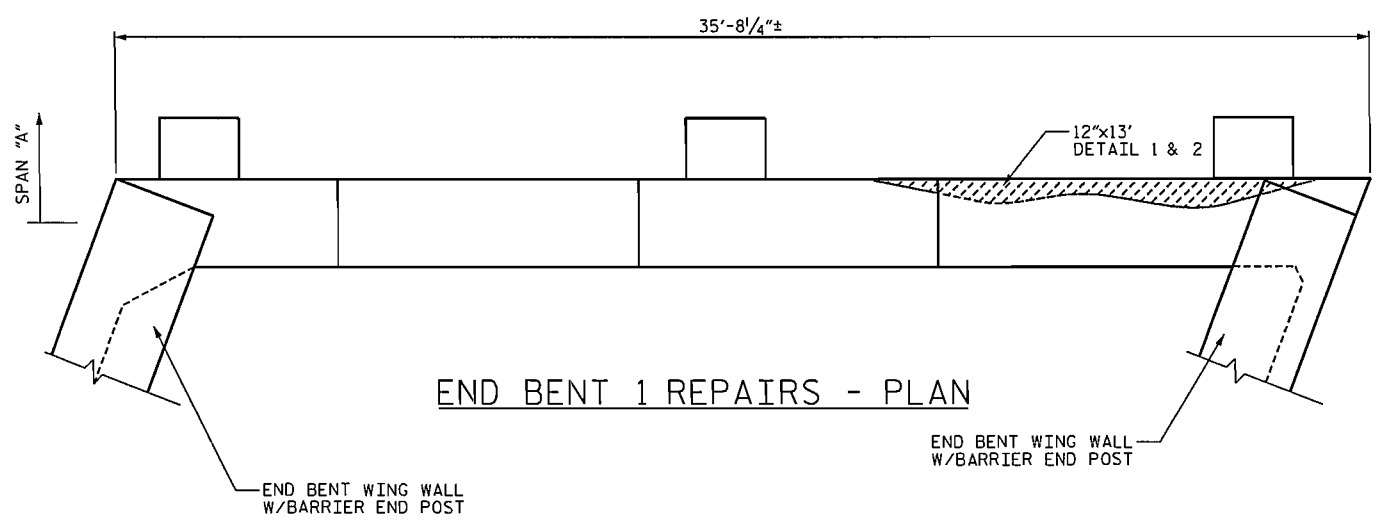
DECK REHAB. FOR BRIDGE NO. 249

REVISIONS						SHEET NO.	
NO.	BY	DATE	NO.	BY	DATE	S249-8	
1			3			TOTAL SHEETS	
2			4			9	

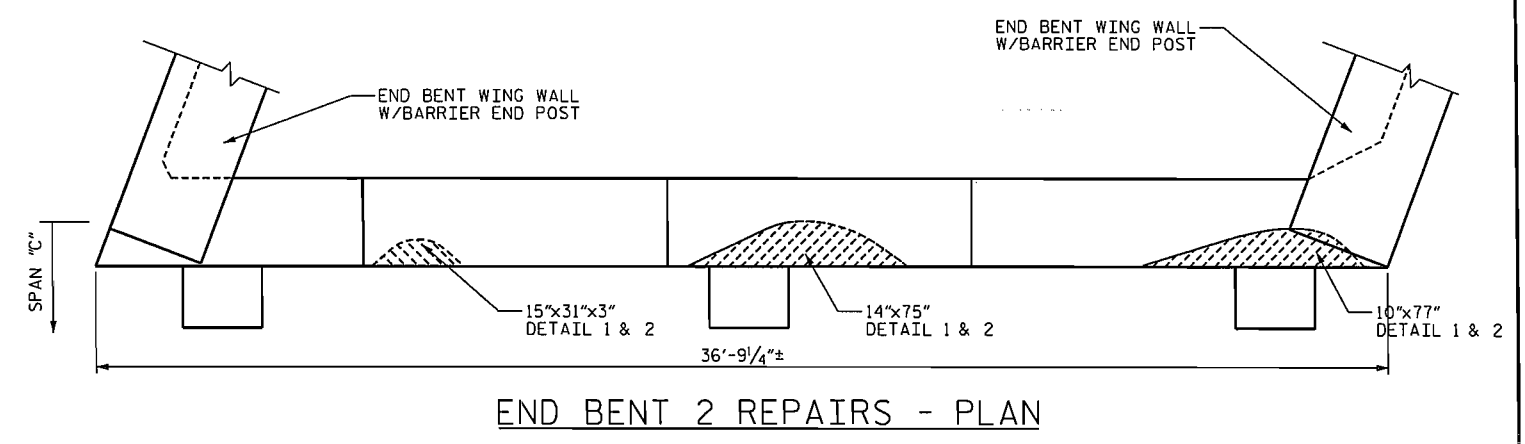
Stantec Consulting Services Inc.
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 www.stantec.com
 License No. F-0872

DRAWN BY: B.M. PALMER DATE: 2/11
 CHECKED BY: J.T. KELVINGTON DATE: 2/11

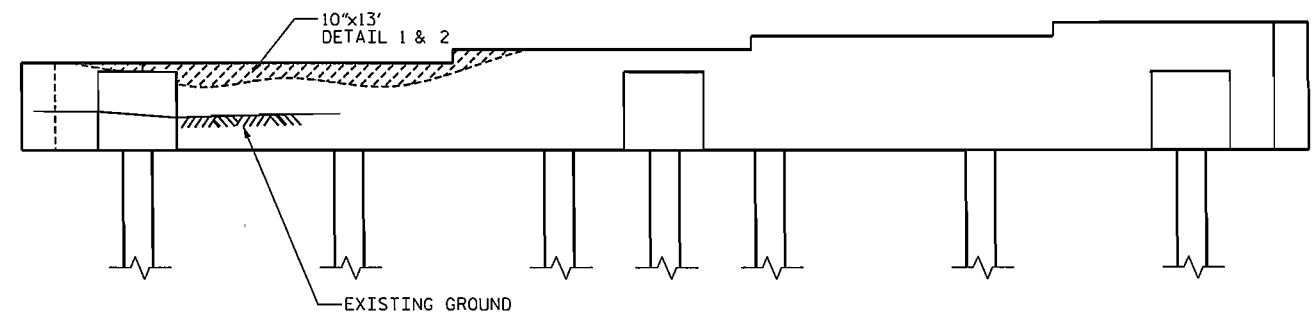
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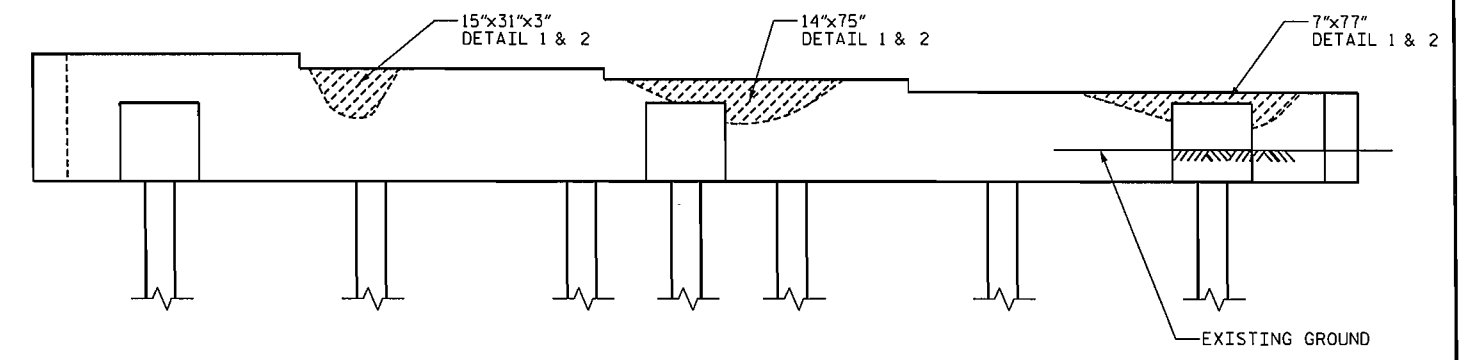
END BENT 1 REPAIRS - PLAN



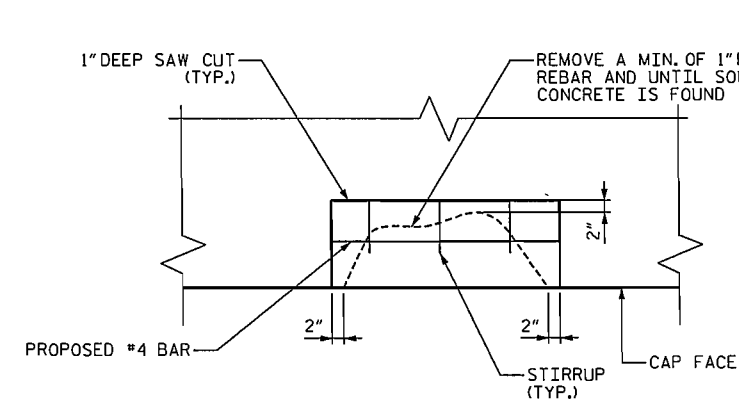
END BENT 2 REPAIRS - PLAN



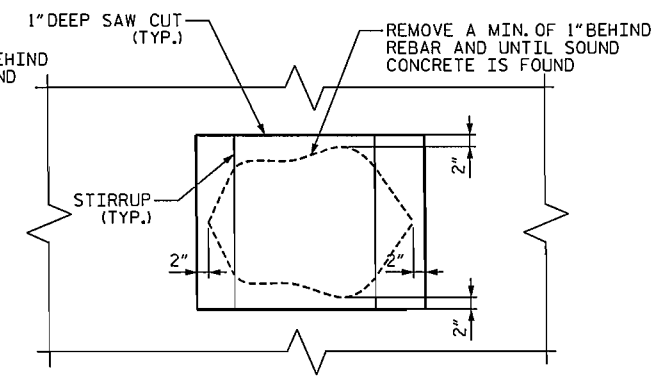
END BENT 1 REPAIRS - ELEVATION (SPAN A SIDE)
WING WALLS NOT SHOWN FOR CLARITY



BENT 2 REPAIRS - ELEVATION (SPAN C SIDE)
WING WALLS NOT SHOWN FOR CLARITY



TYPICAL REPAIR DETAIL 1



TYPICAL REPAIR DETAIL 2

1. SPALL AND DELAMINATED AREA DIMENSIONS SHOWN ARE APPROXIMATE.
 2. ALL REINFORCEMENT TO BE PROVIDED IS INCIDENTAL TO SUBSTR. REPAIR AND SHALL BE GRADE 60.
 3. REPAIR MATERIAL SHALL BE SHOTCRETE OR POLYMER MODIFIED CONCRETE.
- SHOTCRETE OR POLYMER MODIFIED CONCRETE:
EST. CONCRETE VOL. = 78 CF

PROJECT NO. BP-5300V
HAYWOOD COUNTY
 STATION: _____



STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
END BENT 1 & END BENT 2					
DECK REHAB. FOR BRIDGE NO. 249					
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
					SHEET NO. S249-9
					TOTAL SHEETS 9



DRAWN BY : B. M. PALMER DATE : 2/11
 CHECKED BY : J. T. KELVINGTON DATE : 2/11

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

**PLAN FOR PROPOSED
TRAFFIC CONTROL**

HAYWOOD COUNTY

LOCATION: BRIDGE NO.S 239, 248 & 249

TYPE OF WORK: TRAFFIC CONTROL FOR BRIDGE REHABILITATION

WBS 45438.1.1

PROJECT: BP-5300V

LEGEND

- GENERAL**
- DIRECTION OF TRAFFIC FLOW
 - NORTH ARROW
 - WORK AREA

TRAFFIC CONTROL DEVICES

- TYPE III BARRICADE
- CONE
- DRUM SKINNY DRUM
- FLASHING ARROW PANEL (TYPE C)
- STATIONARY SIGN
- PORTABLE SIGN
- STATIONARY OR PORTABLE SIGN
- PORTABLE CONCRETE BARRIER
- TEMPORARY CRASH CUSHION
- CHANGEABLE MESSAGE SIGN
- TRUCK MOUNTED IMPACT ATTENUATOR (TMIA)
- LAW ENFORCEMENT (LAW)
- FLAGGER

ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARD DRAWINGS AS APPEAR IN "ROADWAY STANDARD DRAWINGS" - PROJECT SERVICES UNIT - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JULY 2006 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD. NO.	TITLE
1101.02	TEMPORARY LANE CLOSURES
1101.04	TEMPORARY SHOULDER CLOSURES
1101.05	WORK ZONE VEHICLE ACCESSES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1110.02	PORTABLE WORK ZONE SIGNS
1115.01	FLASHING ARROW PANELS
1130.01	DRUMS
1135.01	CONES
1150.01	FLAGGING DEVICES
1165.01	TRUCK MOUNTED IMPACT ATTENUATOR
1205.01	PAVEMENT MARKINGS - LINE TYPES & OFFSETS
1205.02	PAVEMENT MARKINGS - 2 LANE & MULTILANE ROADWAYS

INDEX OF SHEETS

SHEET NO.	TITLE
TCP-1	LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS, LEGEND, & INDEX OF SHEETS
TCP-2	GENERAL NOTES
TCP-3	TRAFFIC CONTROL PHASING & BRIDGE SECTION VIEWS
TCP-4	RIGHT LANE CLOSURES WITH LANE SHIFTS

APPROVED: DATE: 3/17/11	PLAN PREPARED BY:	 Stantec Consulting Services Inc. Suite 300, 801 Jones Franklin Road Raleigh, NC 27608 Tel. 919.851.6866 Fax. 919.851.7024 www.stantec.com
	BETSY L. WATSON, PE TRAFFIC CONTROL ENGINEER GEORGE KARAGEORGE TRAFFIC CONTROL DESIGNER	

GENERAL NOTES

THE FOLLOWING GENERAL NOTES APPLY AT ALL TIMES FOR THE DURATION OF THE PROJECT EXCEPT WHEN OTHERWISE NOTED IN THE PLAN OR DIRECTED BY THE ENGINEER.

CHANGES MAY BE REQUIRED WHEN PHYSICAL DIMENSIONS IN THE DETAIL DRAWINGS, STANDARD DETAILS, AND ROADWAY DETAILS ARE NOT ATTAINABLE TO MEET FIELD CONDITIONS OR RESULT IN DUPLICATE OR UNDESIRED OVERLAPPING OF DEVICES. MODIFICATION MAY INCLUDE: MOVING, SUPPLEMENTING, COVERING, OR REMOVAL OF DEVICES AS DIRECTED BY THE ENGINEER.

LANE CLOSURE TIME RESTRICTIONS

A) DO NOT CLOSE OR NARROW TRAVEL LANES AS FOLLOWS:

ROAD NAME	DAY AND TIME RESTRICTIONS
	<u>BEFORE MAY 26, 2011:</u> 6:00 A.M.-8:00 P.M. MONDAY-THURSDAY AND SATURDAY 6:00 A.M.-9:00 P.M. FRIDAY AND SUNDAY
	<u>BEGINNING ON MAY 26, 2011 AND FOR THE REMAINING DURATION OF THE CONTRACT TIME:</u> 6:00 A.M.- 9:00 P.M. MONDAY THRU THURSDAY AND 6:00 A.M. FRIDAY THRU 9:00 P.M. SUNDAY (NO WEEKEND CLOSURES)

B) DO NOT CLOSE OR NARROW TRAVEL LANES DURING HOLIDAYS AND SPECIAL EVENTS AS FOLLOWS:

- | ROAD NAME | HOLIDAY |
|-----------|---------|
| ALL ROADS | |
- 1) FOR ANY UNEXPECTED OCCURRENCE THAT CREATES UNUSUALLY HIGH TRAFFIC VOLUMES, AS DIRECTED BY THE ENGINEER.
 - 2) FOR NEW YEAR'S, BETWEEN THE HOURS OF 6:00 A.M. DECEMBER 31st TO 9:00 P.M. JANUARY 2nd. IF NEW YEAR'S DAY IS ON A FRIDAY, SATURDAY, SUNDAY, OR MONDAY THEN UNTIL 9:00 P.M. THE FOLLOWING TUESDAY.
 - 3) FOR EASTER, BETWEEN THE HOURS OF 6:00 A.M. THURSDAY AND 9:00 P.M. MONDAY.
 - 4) FOR MEMORIAL DAY, BETWEEN THE HOURS OF 6:00 A.M. FRIDAY TO 9:00 P.M. TUESDAY.
 - 5) FOR INDEPENDENCE DAY, BETWEEN THE HOURS OF 6:00 A.M. THE DAY BEFORE INDEPENDENCE DAY AND 9:00 P.M. THE DAY AFTER INDEPENDENCE DAY. IF INDEPENDENCE DAY IS ON A FRIDAY, SATURDAY, SUNDAY OR MONDAY; THEN BETWEEN THE HOURS OF 6:00 A.M. THE THURSDAY BEFORE INDEPENDENCE DAY AND 9:00 P.M. THE TUESDAY AFTER INDEPENDENCE DAY.
 - 6) FOR LABOR DAY, BETWEEN THE HOURS OF 6:00 A.M. FRIDAY AND 9:00 P.M. TUESDAY.
 - 7) FOR THANKSGIVING DAY, BETWEEN THE HOURS OF 6:00 A.M. TUESDAY TO 9:00 P.M. MONDAY.
 - 8) FOR CHRISTMAS, BETWEEN THE HOURS OF 6:00 A.M. THE FRIDAY BEFORE THE WEEK OF CHRISTMAS DAY AND 9:00 P.M. THE FOLLOWING TUESDAY AFTER THE WEEK OF CHRISTMAS.

LANE AND SHOULDER CLOSURE REQUIREMENTS

- C) LANE CLOSURES ARE REQUIRED WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN ANY PORTION OF A TRAVEL LANE. CONDUCT THE WORK SO THAT ALL PERSONNEL AND/OR EQUIPMENT REMAIN WITHIN THE CLOSED TRAVEL LANE.
- D) INSTALL ALL LANE CLOSURES ACCORDING TO THE TRAFFIC CONTROL PLAN, ROADWAY STANDARD DRAWINGS (1101.02), OR AS DIRECTED BY THE ENGINEER.
- E) REMOVE LANE CLOSURE DEVICES FROM THE LANE WHEN WORK IS NOT BEING PERFORMED BEHIND THE LANE CLOSURE OR WHEN A LANE CLOSURE IS NO LONGER NEEDED OR AS DIRECTED BY THE ENGINEER.
- F) INSTALL LANE CLOSURES WITH THE TRAFFIC FLOW, BEGINNING WITH DEVICES ON THE UPSTREAM SIDE OF TRAFFIC. REMOVE LANE CLOSURES AGAINST THE TRAFFIC FLOW, BEGINNING WITH DEVICES ON THE DOWNSTREAM SIDE OF TRAFFIC.
- G) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN 15 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN SHOULDER USING ROADWAY STANDARD DRAWING NO. 1101.04 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL OR A LANE CLOSURE IS INSTALLED.
- H) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO AN UNDIVIDED FACILITY AND WITHIN 5 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.
- I) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO A DIVIDED FACILITY AND WITHIN 10 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.
- J) UNLESS OTHERWISE SHOWN IN THE PLANS, PLACE ARROW PANELS ON THE ROADWAY SHOULDER. IF SHOULDERS DO NOT EXIST, PLACE ARROW PANELS WITHIN THE MERGE TAPER BEHIND THE CHANNELIZING DEVICES OF THE LANE CLOSURE. IF NEEDED, EXTEND LANE CLOSURES TO PROVIDE STOPPING SIGHT DISTANCE TO THE ARROW PANEL (REFER TO ROADWAY STANDARD DRAWING 1101.11 SHEET 2).
- K) PLACE LANE CLOSURE DRUMS IN TAPERS AT A MAXIMUM SPACING EQUAL IN FEET TO THE POSTED SPEED LIMIT (MPH). ALONG BUFFER SPACES AND WORK AREAS SPACE DRUMS AT A MAXIMUM SPACING EQUAL IN FEET TO TWICE THE POSTED SPEED LIMIT (MPH). IN ALL CASES, CHANNELIZING DEVICES ARE TO BE SPACED IN SUCH A MANNER AS TO POSITIVELY ACHIEVE THE INTENDED VISUAL CHANNELIZATION. CHANNELIZING DEVICES SHOULD BE LATERALLY OFFSET 3 FT INSIDE THE CLOSED LANE AS ROOM PERMITS.
- L) DO NOT EXCEED LANE CLOSURES LENGTHS LONGER THAN 2 MILES MEASURED FROM THE ARROW PANEL TO WHERE THE LANE CLOSURE ENDS, UNLESS OTHERWISE ALLOWED BY THE ENGINEER.

PAVEMENT MARKING

- M) REPLACE PAVEMENT MARKINGS OBLITERATED FROM CONSTRUCTION OPERATIONS WITH 2 APPLICATIONS OF PAINT.


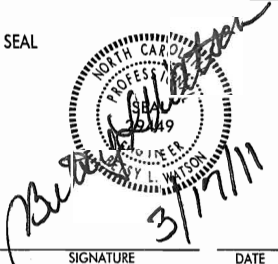
MISCELLANEOUS

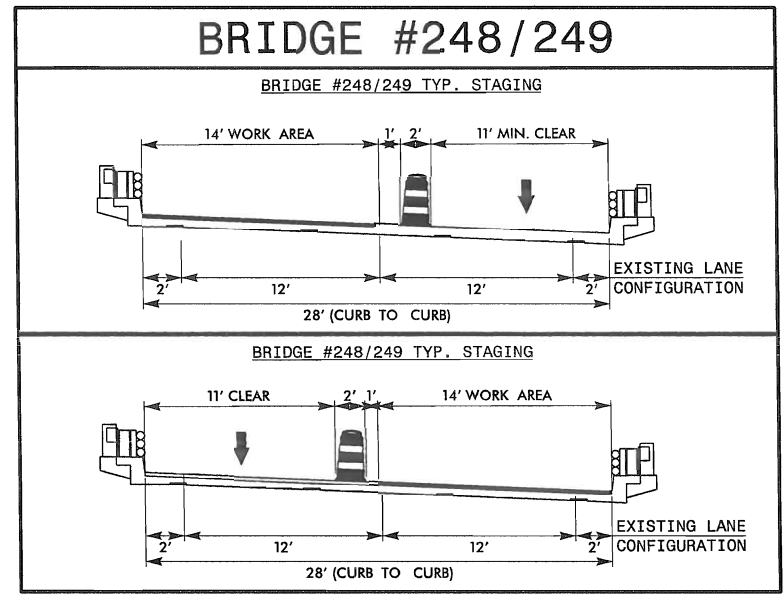
- N) LAW ENFORCEMENT MAY BE USED TO MAINTAIN TRAFFIC THROUGH THE WORK AREA AND/OR INTERSECTIONS AS DIRECTED BY THE ENGINEER.
- O) ALL DIMENSIONS AND STATIONS IN THE TRAFFIC CONTROL PLAN AND PHASING ARE APPROXIMATE (+/-); FIELD ADJUST AS NECESSARY OR AS DIRECTED BY THE ENGINEER.
- P) MAINTAIN DRIVEWAY ACCESS AT ALL TIMES, UNLESS OTHERWISE DIRECTED BY ENGINEER.
- Q) COMPLETE ONLY THE AMOUNT OF HYDRO-DEMOLITION THAT CAN BE OVERLAYED TO FINAL ELEVATION BEFORE LANES ARE RE-OPENED TO TRAFFIC.

WIDE LOAD VEHICLE DETOURS

- R) PROVIDE OFF SITE DETOUR ROUTE SIGNS AND CHANGEABLE MESSAGE SIGNS FOR RE-ROUTING WIDE LOAD VEHICLES. COVER OR REMOVE SIGNING WHEN THE DETOUR IS NOT IN OPERATION.
- S) DURING BRIDGE REHABILITATION OPERATIONS WHEN A 14' CLEAR LANE CANNOT BE PROVIDED AND WHEN DIRECTED BY THE ENGINEER, RE-ROUTE WIDE LOAD VEHICLES 10' WIDTH AND WIDER. DETOUR VIA I-26, I-81 (JOHNSON CITY, TENNESSEE) AND BACK TO I-40 EAST OF KNOXVILLE, TN. POSITION SIGNS AND CHANGEABLE MESSAGE SIGNS AT THESE LOCATIONS AS DIRECTED BY THE ENGINEER.
- T) ENSURE THE OVERSIZE/OVERWEIGHT PERMIT UNIT (919) 733-4740 HAS BEEN ADVISED OF THE ONGOING TRAFFIC OPERATIONS THROUGH THE DIVISION OFFICE.

nt-01\TCP\BP-5300V\5/20/11\Highwood 239 243 248 249\Plan Sheets\BP-5300V-tp-psh02.dgn

 Stantec Stantec Consulting Services Inc. 801 Jones Franklin Road Suite 300 Raleigh, NC 27606 Tel. (919) 851-6866 Fax. (919) 851-7024 www.stantec.com License No. F-0672	SEAL		<h2 style="margin: 0;">GENERAL NOTES</h2>								
	SCALE: NONE DATE: JAN. 2011 DWG. BY: GK DESIGN BY: GK REVIEWED BY: BLW			<table border="1" style="width: 100%;"> <thead> <tr> <th colspan="2">REVISIONS</th> </tr> </thead> <tbody> <tr> <td style="width: 50%;"> </td> <td style="width: 50%;"> </td> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> </tbody> </table>	REVISIONS						
REVISIONS											



TRAFFIC CONTROL PHASING

SIMULTANEOUS WORK ON BRIDGES IN BOTH DIRECTIONS OF I-40 WILL BE ALLOWED. INSTALL ONLY ONE LANE CLOSURE PER DIRECTION OF I-40 AT A MAXIMUM LENGTH OF 2 MILES, UNLESS OTHERWISE ALLOWED BY THE ENGINEER.

INCORPORATE WIDE LOAD DETOUR IN ACCORDANCE WITH THE GENERAL NOTES.

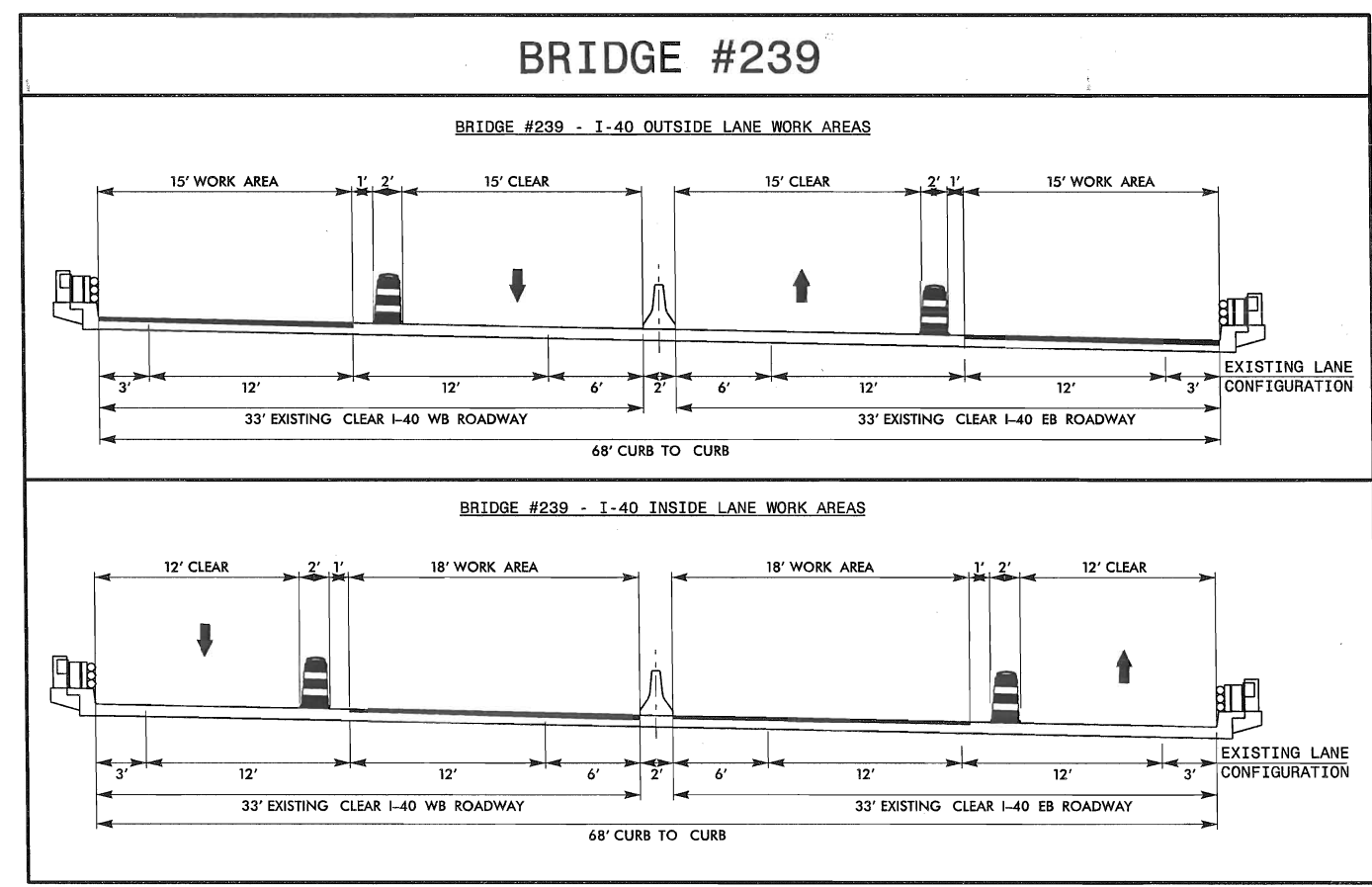
DURING BRIDGE REHABILITATION WORK ON I-40, USE RIGHT LANE CLOSURES WITH LANE SHIFTS AS FOLLOWS:

BRIDGE # 239

REFER TO SHEET TCP-4. USE FLAGGER CONTROLLED LANE CLOSURES ON INCINERATOR RD. UNDER THE BRIDGE DURING HYDRO-DEMOLITION AND SUBSTRUCTURE REPAIRS. REFER TO RDWY. STD. DWG. 1101.02, SHEET 1.

BRIDGE # 248/249

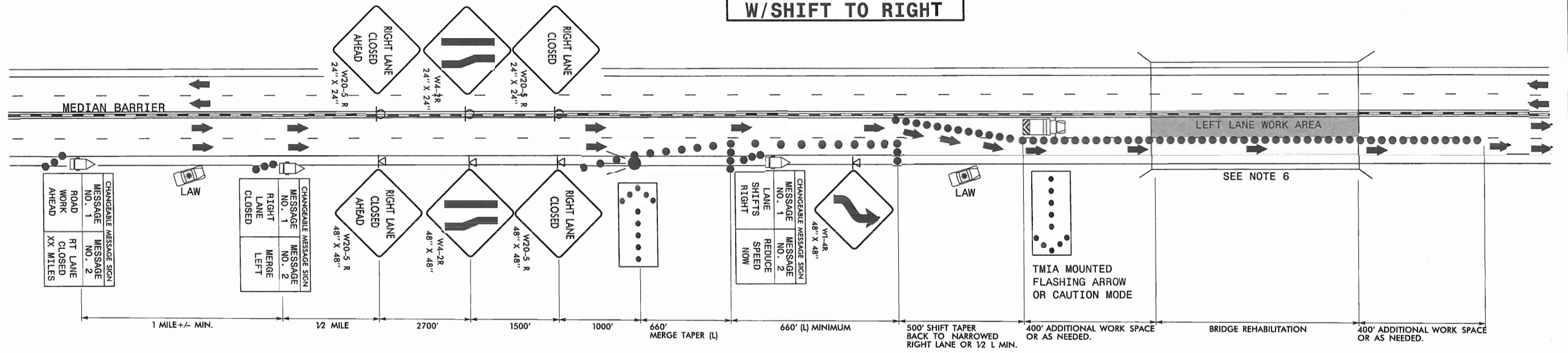
REFER TO SHEET TCP-4. USE FLAGGER CONTROLLED LANE CLOSURES ON BEAVER DAM RD. UNDER THE BRIDGE DURING PERIODS DURING HYDRO-DEMOLITION AND SUBSTRUCTURE REPAIRS. REFER TO RDWY. STD. DWG. 1101.02, SHEET 1.



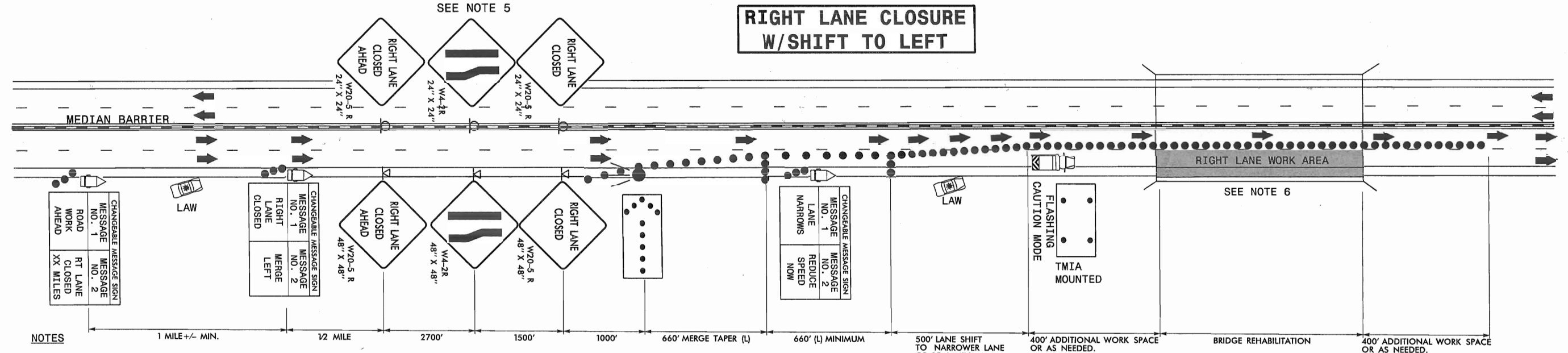
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 3/15/2011
 gkarageorge

 Stantec <small>Stantec Consulting Services Inc. 801 Jones Franklin Road Suite 300 Raleigh, NC 27606 Tel. (919) 851-8866 Fax. (919) 851-7024 www.stantec.com License No. F-0672</small>	SEAL 	TRAFFIC CONTROL PHASING & BRIDGE SECTION VIEWS									
	SIGNATURE 	DATE 3/17/11	SCALE: NONE DATE: JAN. 2011 DWG. BY: GK DESIGN BY: GK REVIEWED BY: BLW	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2">REVISIONS</th> </tr> </thead> <tbody> <tr> <td style="width: 50%;"> </td> <td style="width: 50%;"> </td> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> </tbody> </table>	REVISIONS						
REVISIONS											

**RIGHT LANE CLOSURE
W/SHIFT TO RIGHT**



**RIGHT LANE CLOSURE
W/SHIFT TO LEFT**



NOTES

1. INSTALL LANE CLOSURES WITH THE TRAFFIC FLOW, BEGINNING WITH DEVICES ON THE UPSTREAM SIDE OF TRAFFIC. REMOVE LANE CLOSURES AGAINST THE TRAFFIC FLOW, BEGINNING WITH DEVICES ON THE DOWNSTREAM SIDE OF TRAFFIC. REMOVE LANE CLOSURE DEVICES FROM THE LANE WHEN WORK IS NOT BEING PERFORMED BEHIND THE LANE CLOSURE OR WHEN A LANE CLOSURE IS NO LONGER NEEDED OR AS DIRECTED BY THE ENGINEER.
2. PLACE ARROW PANELS ON THE ROADWAY SHOULDER. IF SHOULDERS DO NOT EXIST, PLACE ARROW PANELS WITHIN THE MERGE TAPER BEHIND THE CHANNELIZING DEVICES OF THE LANE CLOSURE. IF NEEDED, EXTEND LANE CLOSURES TO PROVIDE STOPPING SIGHT DISTANCE TO THE ARROW PANEL (REFER TO ROADWAY STANDARD DRAWING 1101.11 SHEET 2).
3. PLACE LANE CLOSURE DRUMS IN TAPERS AT A MAXIMUM SPACING EQUAL IN FEET TO THE POSTED SPEED LIMIT (MPH). ALONG BUFFER SPACES AND WORK AREAS SPACE DRUMS AT A MAXIMUM SPACING EQUAL IN FEET TO TWICE THE POSTED SPEED LIMIT (MPH). IN ALL CASES, CHANNELIZING DEVICES ARE TO BE SPACED IN SUCH A MANNER AS TO POSITIVELY ACHIEVE THE INTENDED VISUAL CHANNELIZATION. CHANNELIZING DEVICES SHOULD BE LATERALLY OFFSET 3 FT INSIDE THE CLOSED LANE AS ROOM PERMITS.
4. PLACE CHANGEABLE MESSAGE SIGN (CMS) ON THE OUTSIDE OF THE TRAVELWAY AS DIRECTED BY THE ENGINEER. PLACE CMS APPROXIMATELY 1/2 MILE IN ADVANCE OF THE W20-5 SIGNS. IF TRAFFIC BACKS UP TO WHERE THE CMS IS INITIALLY PLACED, RELOCATE CMS 1/2 MILE FROM ANTICIPATED BACKUP. CONTINUE TO MONITOR TRAFFIC AND MOVE CMS APPROXIMATELY 1/2 MILE IN CONJUNCTION WITH ANTICIPATED BACKUP. CHANGEABLE MESSAGE SIGN MESSAGES SHOWN ARE EXAMPLES. OTHER MESSAGES MAY BE USED AS CONDITIONS WARRANT. ALL MESSAGES AND LOCATIONS MUST BE APPROVED BY THE ENGINEER PRIOR TO INCORPORATING.
5. WHERE SIGNS ARE TO BE LOCATED ON CONCRETE MEDIAN BARRIER USE CLAMPING OR OTHER METHODS APPROVED BY THE ENGINEER. USE 24"X24" SIGNS SUCH THAT THE SIGNS DO NOT PROTRUDE INTO THE TRAVEL LANE. THE MEDIAN SIGNS MAY BE OMITTED IF THERE IS INSUFFICIENT ROOM, OR INSTALLATION IS UNSAFE.
6. DURING OPERATIONS WHERE DEBRIS MAY BE FALLING ON THE ROADWAY BELOW THE BRIDGE, SUCH AS DURING HYDRO-DEMOLITION, USE A FLAGGER CONTROLLED LANE CLOSURE ON THE ROADWAY BELOW THE BRIDGE PER RDWY. STD. DWG. 1101.02, SHEET 1.

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SEAL
NORTH CAROLINA
PROFESSIONAL ENGINEER
31/17/11

**RIGHT LANE CLOSURES
WITH LANE SHIFTS**

SCALE:	NONE		<table border="1"> <tr> <th colspan="2">REVISIONS</th> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> </table>	REVISIONS							
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DATE:	JAN. 2011										
DESIGN BY:	GK										
REVIEWED BY:	BLW										