

TIP PROJECT: 17BP.2.P.19

CONTRACT: C203439



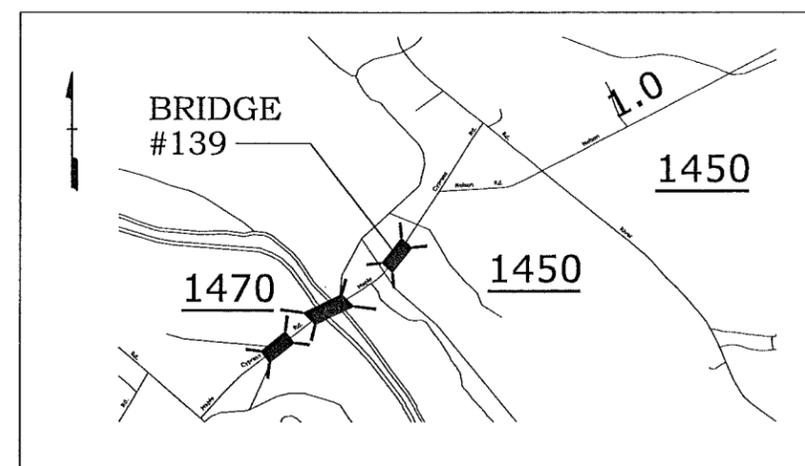
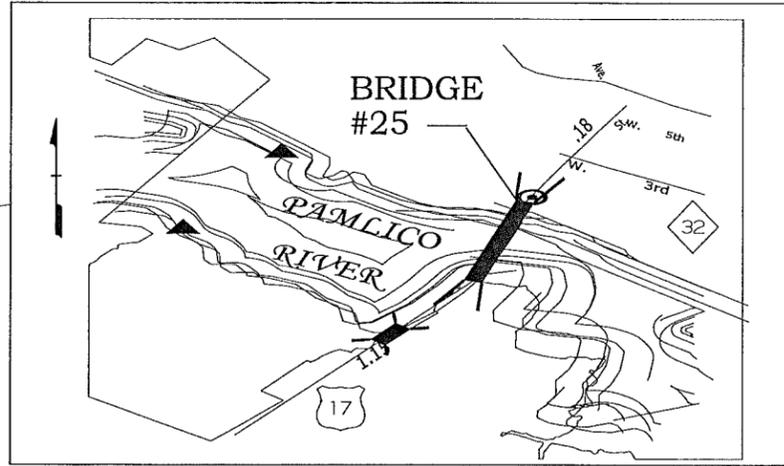
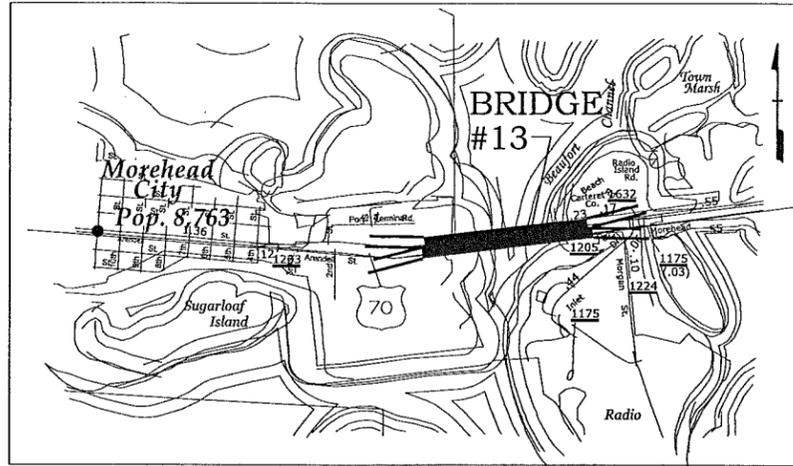
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	17BP.2.P.19	1	85
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
17BP.2.P.19	NA	P.E.	
17BP.2.P.19	NA	CONST.	

BEAUFORT, CARTERET & CRAVEN COUNTIES

- LOCATION:** BEAUFORT COUNTY BRIDGE #25 ON US 17 OVER PAMLICO RIVER
- TYPE OF WORK:** BRIDGE REHABILITATION - CLEANING AND PAINTING OF EXISTING BRIDGE, STEEL AND CONCRETE REPAIRS TO SUPERSTRUCTURE, CONCRETE AND SHOTCRETE REPAIRS TO SUBSTRUCTURE.
- LOCATION:** CARTERET COUNTY BRIDGE #13 ON US 70 OVER NEWPORT RIVER
- TYPE OF WORK:** BRIDGE REHABILITATION - CONCRETE AND SHOTCRETE REPAIRS
- LOCATION:** CRAVEN COUNTY BRIDGE #139 ON SR 1470 OVER NEUSE RIVER OVERFLOW
- TYPE OF WORK:** BRIDGE REHABILITATION - JACKETING OF STEEL PILES

VICINITY MAPS



DESIGN DATA	
CARTERET #13:	ADT 2008 = 20,000
BEAUFORT #25:	ADT 2008 = 18,000
CRAVEN #139:	ADT 2008 = 1,700

PROJECT LENGTH	
CARTERET #13:	0.62 MILES
BEAUFORT #25:	0.23 MILES
CRAVEN #139:	0.03 MILES

Prepared in the Office of:
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
STRUCTURES MANAGEMENT UNIT - PRESERVATION & REPAIR GROUP
1000 BIRCH RIDGE DR. RALEIGH, N.C. 27610

ROY GIROLAMI, P.E.
PROJECT ENGINEER

2012 STANDARD SPECIFICATIONS

LETTING DATE:
OCTOBER 15, 2013

ENGINEER

DANIEL MULLER, P.E.
PROJECT DESIGN ENGINEER

CONTRACT: C203439 TIP PROJECT: 17BP.2.P.19

STATE OF NORTH CAROLINA
 DIVISION OF HIGHWAYS

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	17BP.2.P.19	IA	85
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
17BP.2.P.19	NA	P.E.	
17BP.2.P.19	NA	CONST.	

BEAUFORT, CARTERET & CRAVEN COUNTIES

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- LOCATION:** CRAVEN COUNTY BRIDGE #139 ON SR 1470 OVER NEUSE RIVER OVERFLOW
- TYPE OF WORK:** BRIDGE REHABILITATION - JACKETING OF STEEL PILES

INDEX OF SHEETS

DESCRIPTION	SHEET NUMBER
TITLE SHEET	1
INDEX OF SHEETS	IA
SUMMARY OF QUANTITIES	2
STRUCTURE SHEETS	S-1 THRU S-67
TRAFFIC MANAGEMENT PLANS	TMP-1 THRU TMP-13



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COMPUTED BY: _____ DATE _____
 CHECKED BY: _____ DATE _____

STATE OF NORTH CAROLINA

DIVISION OF HIGHWAYS

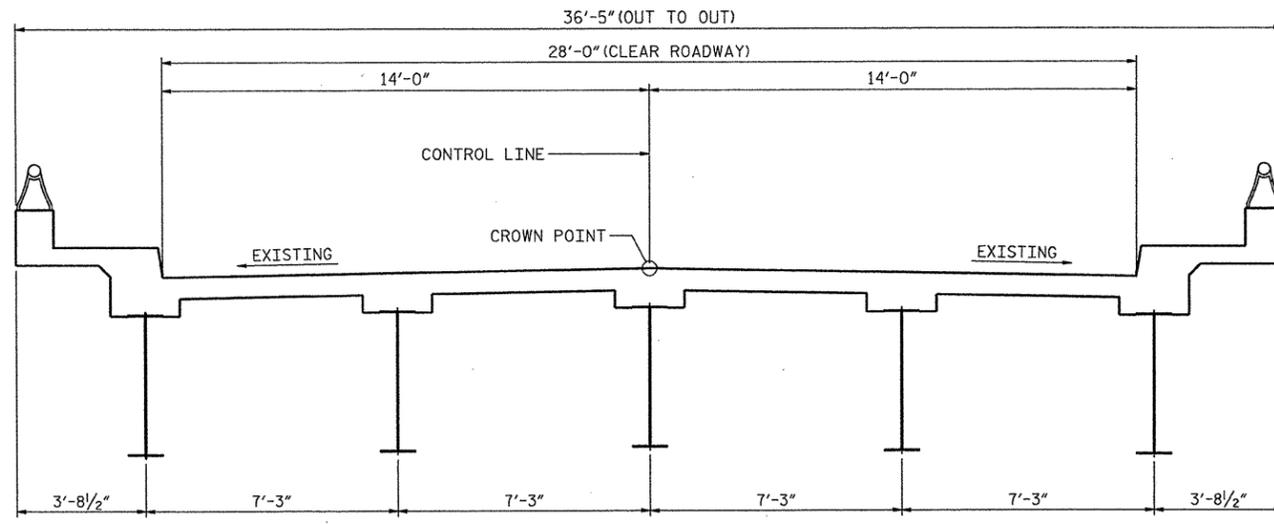
SUMMARY OF QUANTITIES

STATE OF NORTH CAROLINA
 DIVISION OF HIGHWAYS
 ROADWAY SUMMARY OF QUANTITIES FOR CONTRACT - C203439

ItemNumber	Sec #	Quantity	Unit	Description
0000100000-N	800	Lump Sum		MOBILIZATION
4400000000-E	1110	686	SF	WORK ZONE SIGNS (STATIONARY)
4405000000-E	1110	192	SF	WORK ZONE SIGNS (PORTABLE)
4410000000-E	1110	166	SF	WORK ZONE SIGNS (BARRICADE MOUNTED)
4415000000-N	1115	1	EA	FLASHING ARROW BOARD
4420000000-N	1120	6	EA	PORTABLE CHANGEABLE MESSAGE SIGN
4430000000-N	1130	80	EA	DRUMS
4435000000-N	1135	25	EA	CONES
4445000000-E	1145	368	LF	BARRICADES (TYPE III)
4450000000-N	1150	50	HR	FLAGGER
4480000000-N	1165	1	EA	TMA
8280000000-E	440	552	LS	APPROX LBS STRUCTURAL STEEL
8660000000-E	SP	18.9	CF	CONCRETE REPAIRS
8664000000-E	SP	629.8	CF	SHOTCRETE REPAIRS
8860000000-N	SP	Lump Sum		GENERIC STRUCTURE ITEM BRIDGE JACKING BRIDGE #13
8860000000-N	SP	Lump Sum		GENERIC STRUCTURE ITEM CLEANING AND REPAINTING BRIDGE #25
8860000000-N	SP	Lump Sum		GENERIC STRUCTURE ITEM POLLUTION CONTROL
8860000000-N	SP	Lump Sum		GENERIC STRUCTURE ITEM SPAN JACKING BRIDGE #25
8867000000-E	SP	144	LF	GENERIC STRUCTURE ITEM CONCRETE PILE JACKETS
8889000000-E	SP	876	LB	GENERIC STRUCTURE ITEM STRUCTURAL STEEL FOR GIRDER REPAIR BRIDGE #25
8897000000-N	SP	6	EA	GENERIC STRUCTURE ITEM BEAM JACKING BRIDGE #25
8897000000-N	SP	10	EA	GENERIC STRUCTURE ITEM BEARING REPLACEMENT

NOTES

- STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES (2012)
- EXISTING DIMENSIONS AND BRIDGE CONDITIONS ARE FROM THE BEST INFORMATION AVAILABLE. THE CONTRACTOR SHALL VERIFY THE INFORMATION SHOWN ON THE PLANS AND NOTIFY THE ENGINEER IF ACTUAL DIMENSIONS AND CONDITIONS DIFFER.
- THE LOCATION AND EXTENT OF REPAIRS SHOWN ON THE PLANS ARE GENERAL IN NATURE. THE ENGINEER WILL DETERMINE THE EXACT EXTENT OF REMOVAL IN THE FIELD BASED ON AN EVALUATION OF THE CONDITION OF THE EXPOSED SURFACES.
- CONSTRUCTION METHODS, PROCEDURES AND SEQUENCES ARE THE CONTRACTOR'S RESPONSIBILITY AND THE CONTRACTOR SHALL TAKE ALL THE NECESSARY MEANS TO MAINTAIN AND PROTECT THE STRUCTURAL INTEGRITY OF ALL CONSTRUCTION AT ALL STAGES.
- THE MANUFACTURER'S CERTIFIED DRAWINGS AND SPECIFICATION FOR EQUIPMENT ANCHORAGE AND DETAILS SHALL BE SUBMITTED FOR APPROVAL.
- FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.
- FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.
- FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.
- REPAIR AREAS INACCESSIBLE BY POWER TOOLS SHALL BE CLEANED WITH HAND TOOLS.
- FOR SHOTCRETE REPAIR, SEE SPECIAL PROVISIONS.
- FOR BRIDGE JACKING, SEE SPECIAL PROVISIONS.
- FOR CONCRETE REPAIR, SEE SPECIAL PROVISIONS.
- THE CONTRACTOR SHALL PROTECT THE BEARING FROM SHOTCRETE OVERSPRAY WHEN PERFORMING SHOTCRETE REPAIRS NEAR THE GIRDER ENDS.
- FOR "DIAPHRAGM REPAIR DETAIL", SEE DRAWING "SUPERSTRUCTURE REPAIR DETAILS".
- FOR "CONCRETE GIRDER REPAIR DETAIL", SEE DRAWING "SUPERSTRUCTURE REPAIR DETAILS".
- FOR "EXTERIOR GIRDER BUILD-UP REPAIR DETAIL" SEE DRAWING "SUPERSTRUCTURE REPAIR DETAILS".
- FOR "BENT CAP REPAIR DETAIL", SEE DRAWING "SUBSTRUCTURE REPAIR DETAILS".
- FOR "COLUMN AND STRUT REPAIR DETAIL", SEE DRAWING "SUBSTRUCTURE REPAIR DETAILS".
- FOR "PILE CAP REPAIR DETAIL", SEE DRAWING "SUBSTRUCTURE REPAIR DETAILS".



TYPICAL SECTION

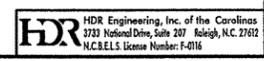
TOTAL BILL OF MATERIAL		
CONCRETE REPAIRS	SHOTCRETE REPAIRS	BRIDGE JACKING BRIDGE #13
CU. FT.	CU. FT.	LUMP SUM
8.9	582.8	LUMP SUM

PROJECT NO. 17BP.2.P.19
CARTERET COUNTY
 BRIDGE NO.: 13



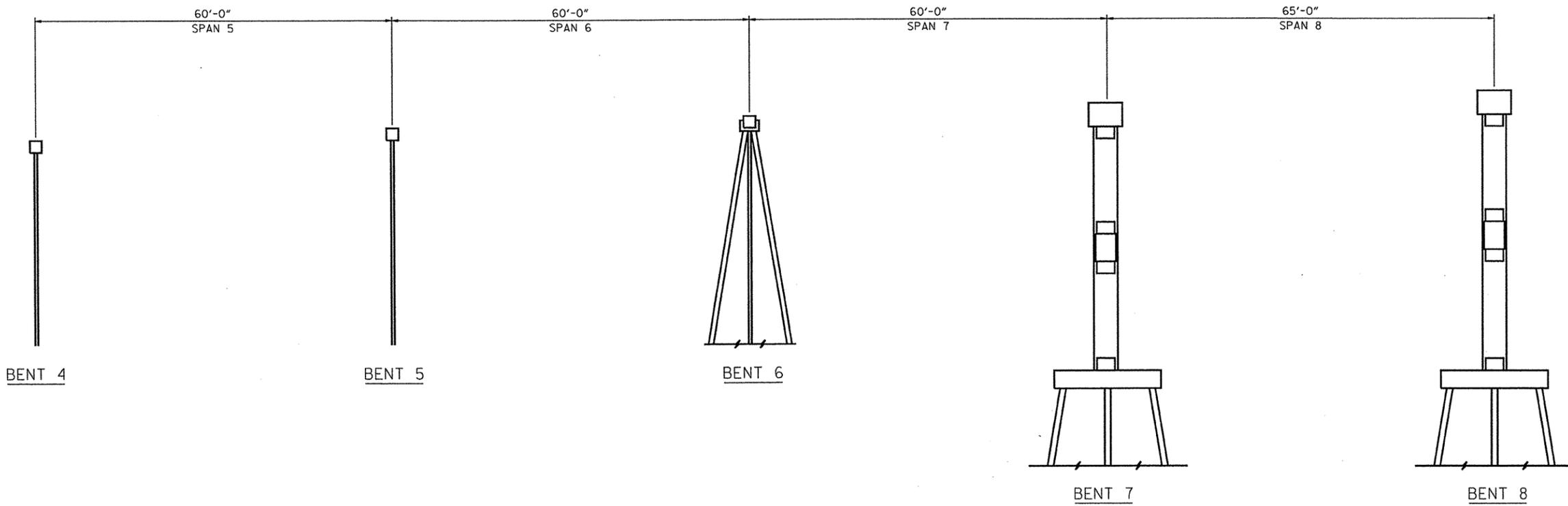
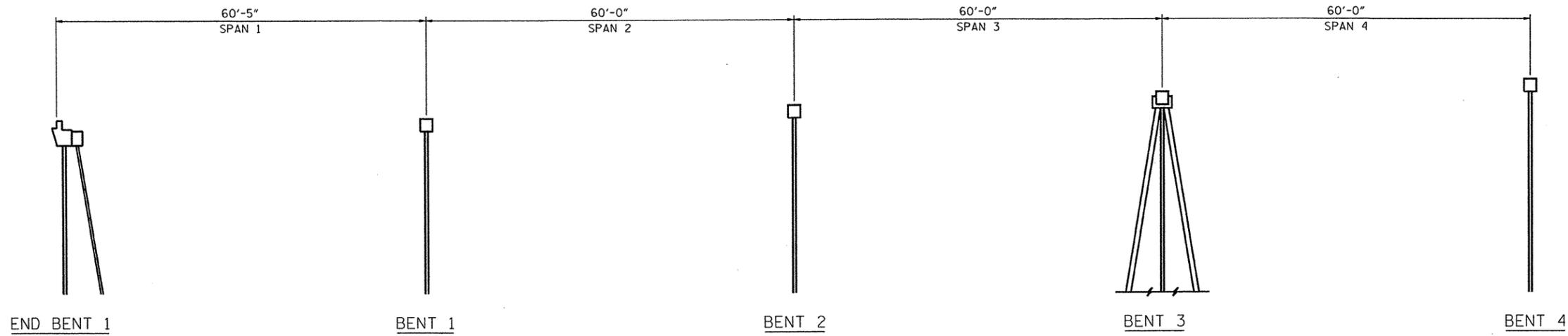
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
**TYPICAL SECTION
 SPANS 17-19**
 (US 70 OVER NEWPORT RIVER)

REVISIONS						SHEET NO. S-1 TOTAL SHEETS 48
NO.	BY:	DATE:	NO.	BY:	DATE:	
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2			4			



DRAWN BY : L. PATTERSON DATE : 05/2013
 CHECKED BY : M. MOYER DATE : 05/2013

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BRIDGE PROFILE
 SPANS 1-8
 ALL DIMENSIONS MEASURED ALONG CONTROL LINE

PROJECT NO. 17BP.2.P.19
CARTERET COUNTY
 BRIDGE NO.: 13



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

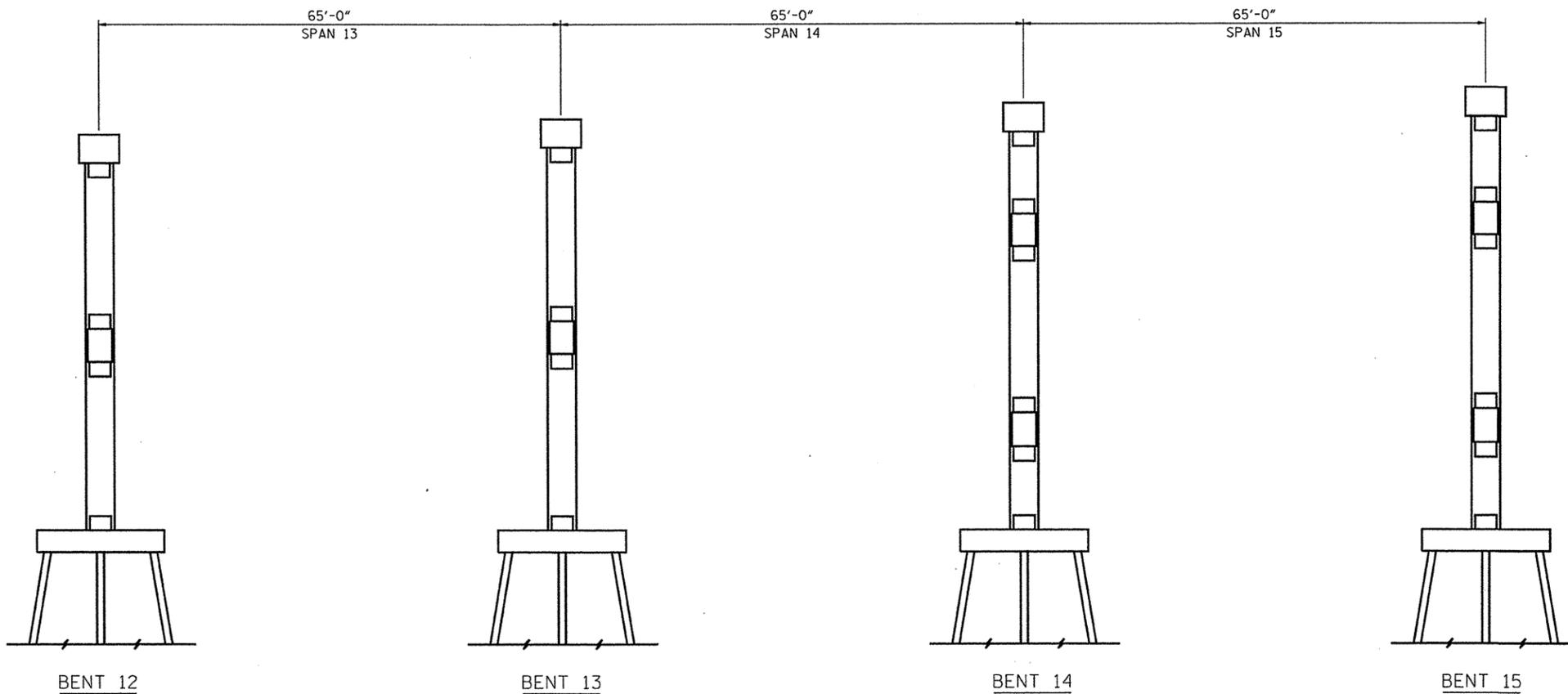
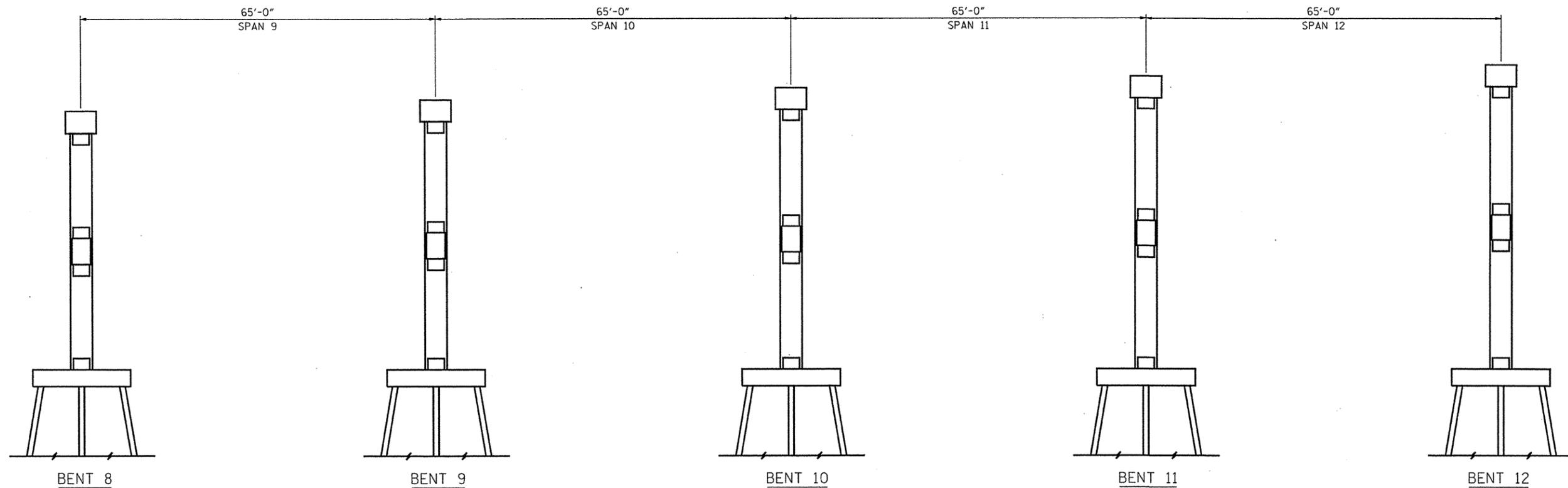
BRIDGE PROFILE
 SPANS 1-8

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BRIDGE PROFILE

SPANS 9-15
ALL DIMENSIONS MEASURED ALONG CONTROL LINE

PROJECT NO. 17BP.2.P.19
CARTERET COUNTY
 BRIDGE NO.: 13



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

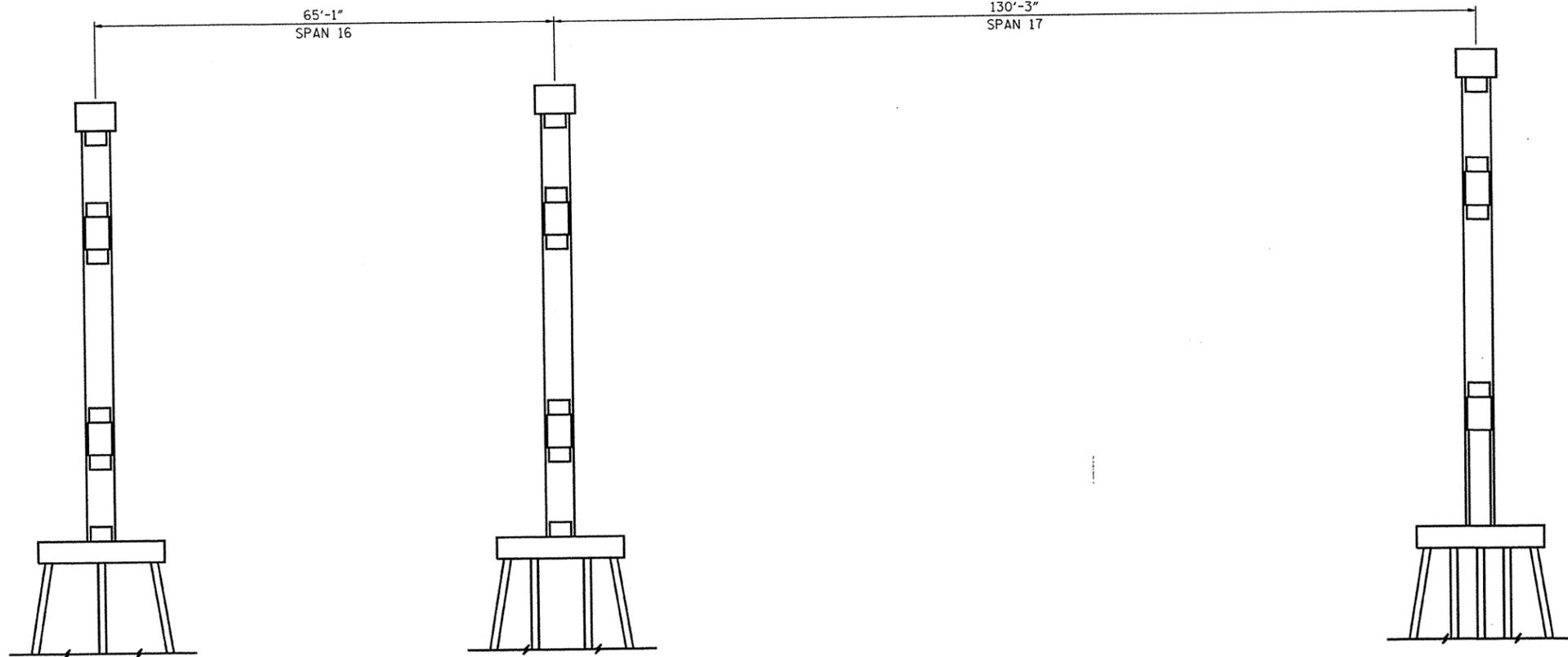
**BRIDGE PROFILE
 SPANS 9-15**

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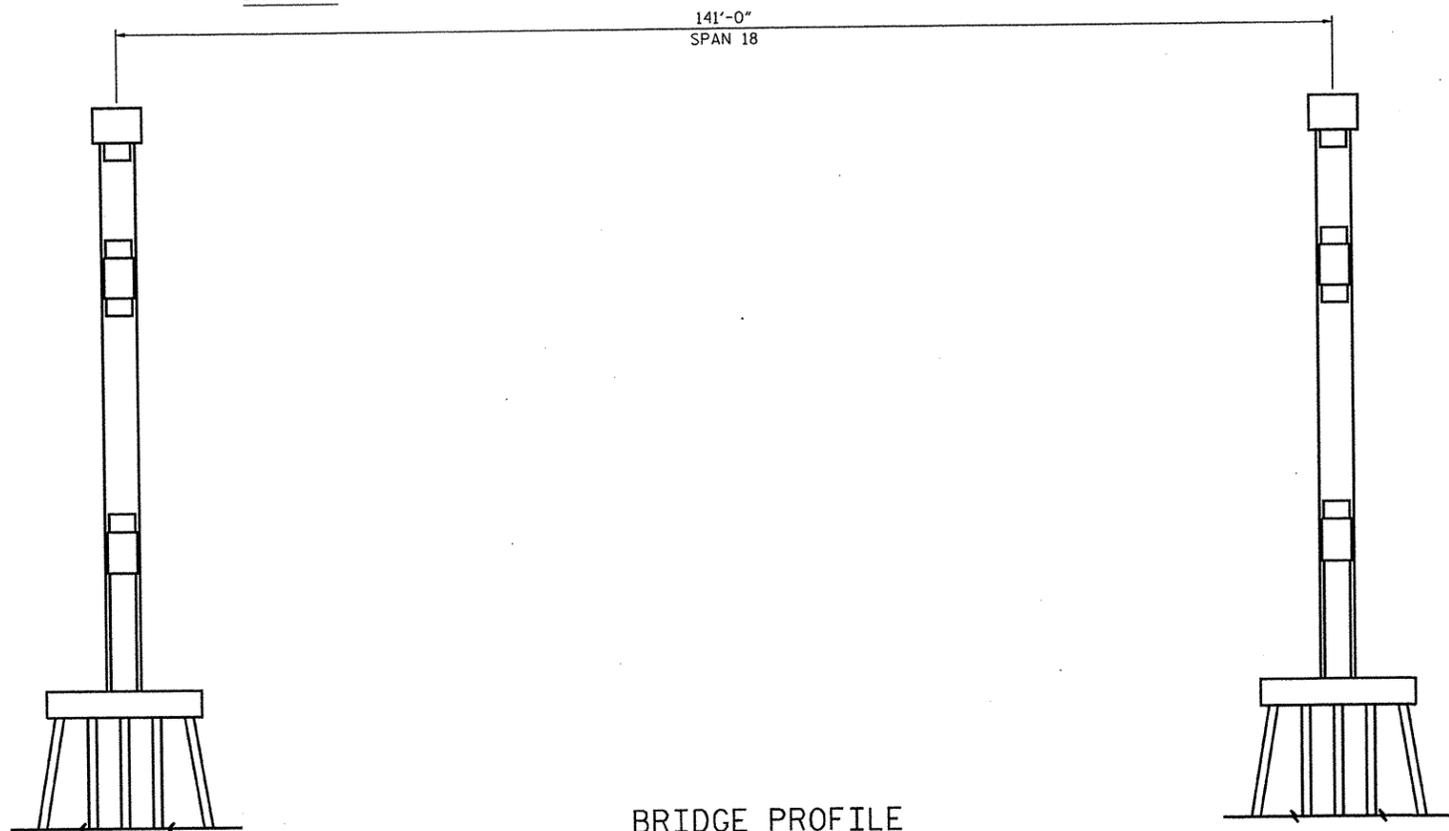
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BENT 15

BENT 16

BENT 17



BENT 17

BENT 18

BRIDGE PROFILE

SPANS 16-18
ALL DIMENSIONS MEASURED ALONG CONTROL LINE

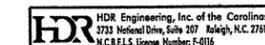
PROJECT NO. 17BP.2.P.19
CARTERET COUNTY
BRIDGE NO.: 13



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

BRIDGE PROFILE
SPANS 16-18

REVISIONS						SHEET NO. 5-4 TOTAL SHEETS 48
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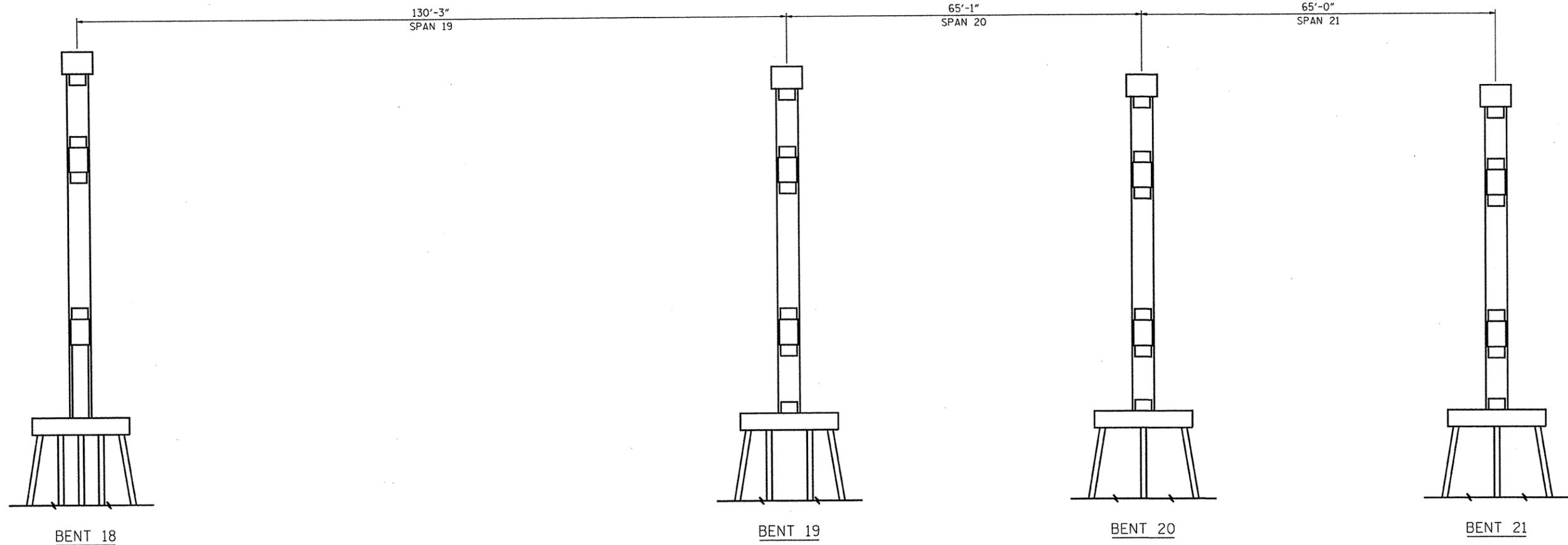


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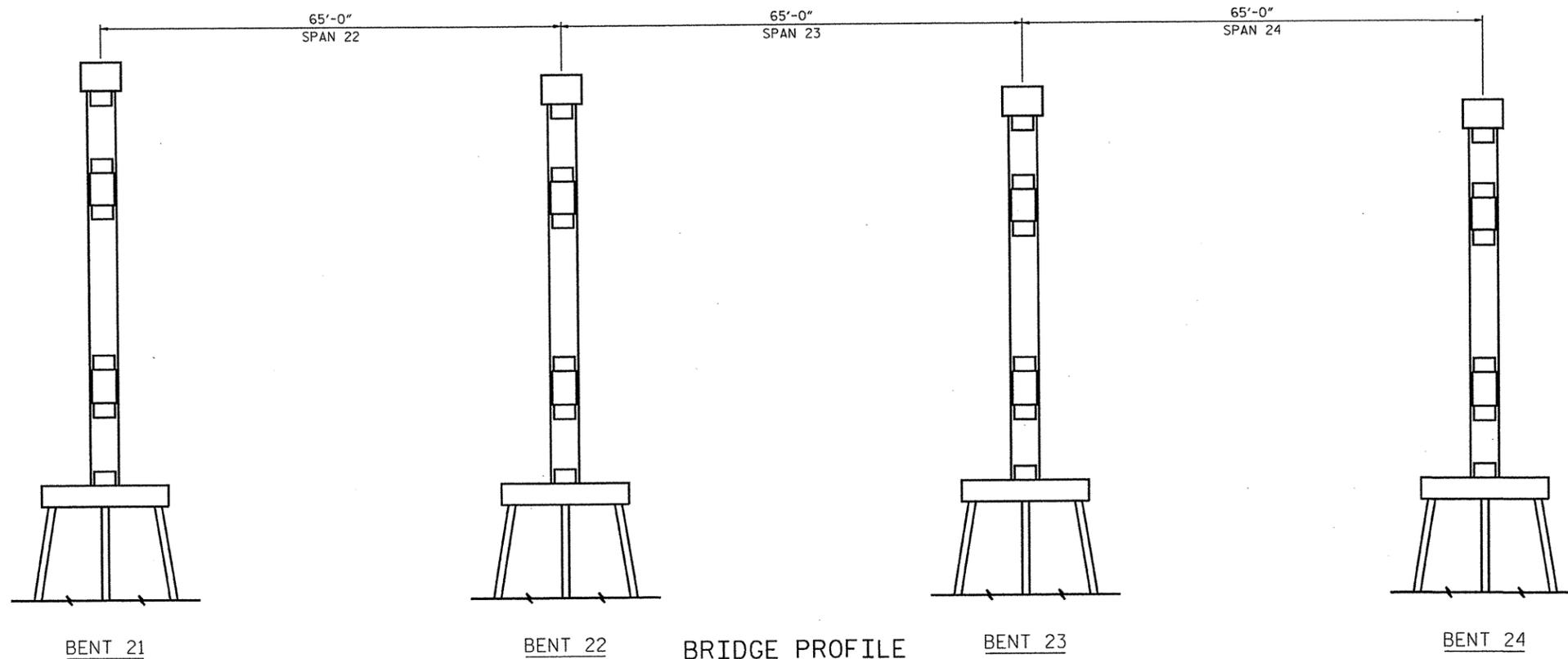


BENT 18

BENT 19

BENT 20

BENT 21



BENT 21

BENT 22

BENT 23

BENT 24

BRIDGE PROFILE

SPANS 19-24
ALL DIMENSIONS MEASURED ALONG CONTROL LINE

PROJECT NO. 17BP.2.P.19
CARTERET COUNTY
 BRIDGE NO.: 13



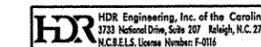
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STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

BRIDGE PROFILE
 SPANS 19-24

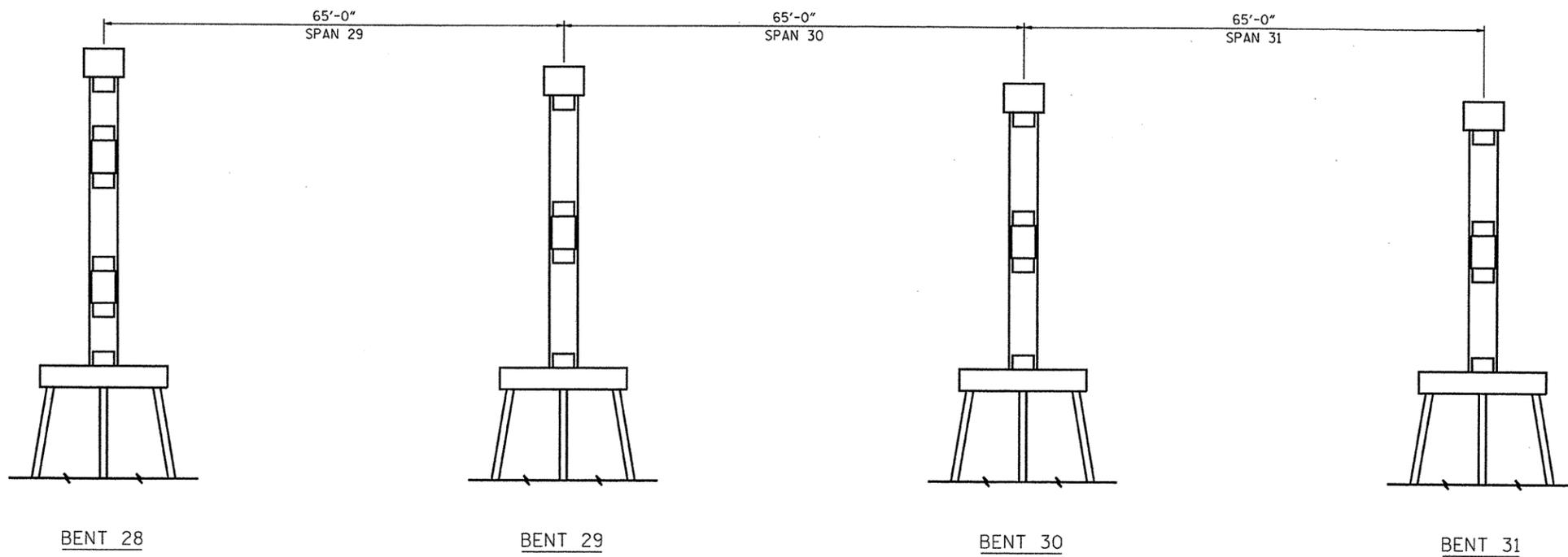
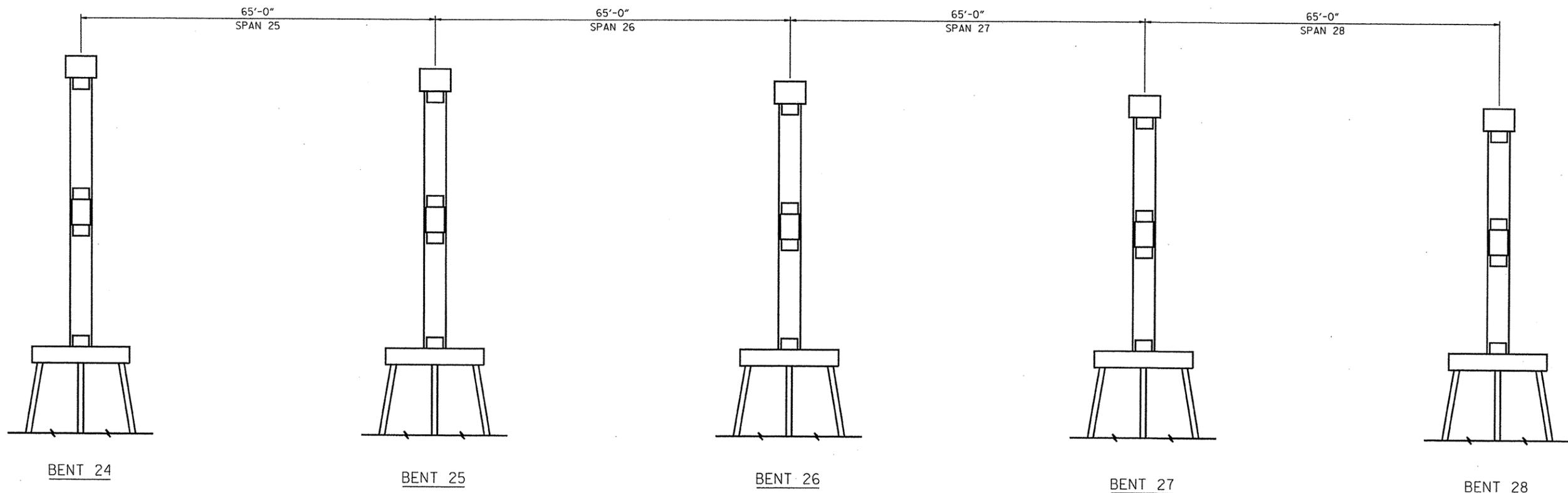
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PROJECT NO. 17BP.2.P.19
CARTERET COUNTY
 BRIDGE NO.: 13

BRIDGE PROFILE

SPANS 25-31
 ALL DIMENSIONS MEASURED ALONG CONTROL LINE



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

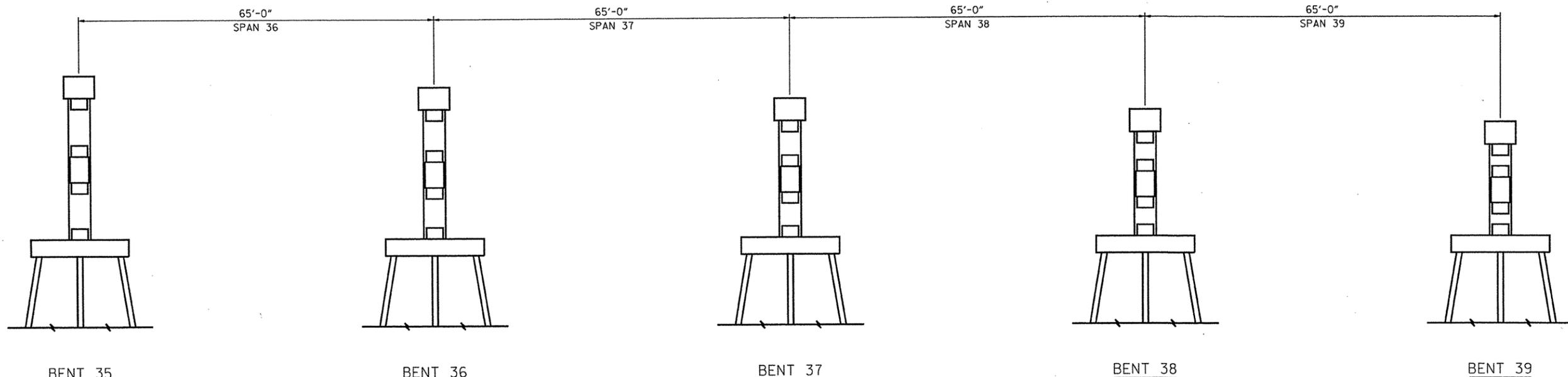
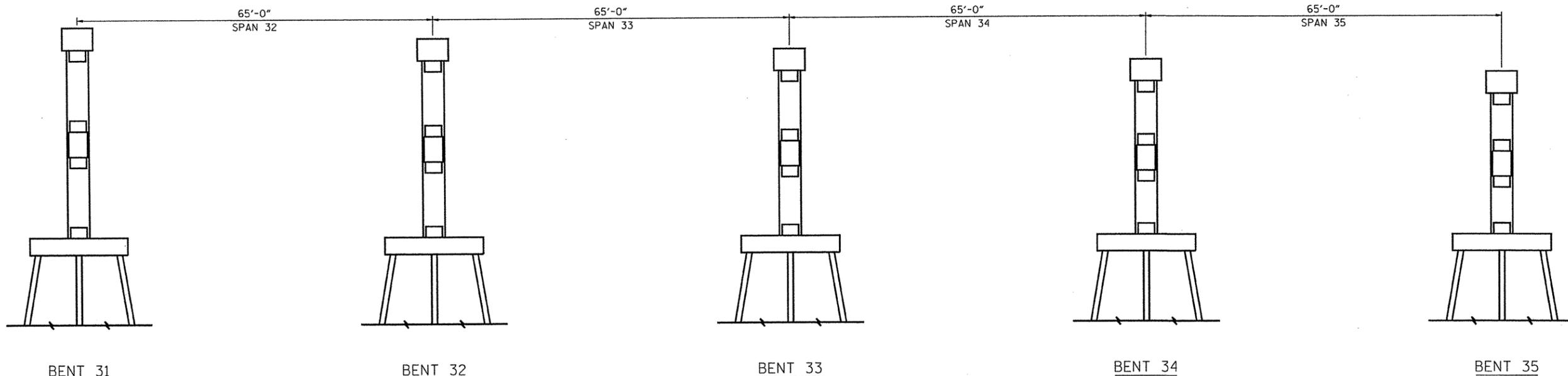
BRIDGE PROFILE
 SPANS 25-31

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 CHECKED BY : M. MOYER DATE : 05/2013

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 N.C. E.L.S. License Number: F-0116

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			48
2			4			48



PROJECT NO. 17BP.2.P.19
CARTERET COUNTY
 BRIDGE NO.: 13

BRIDGE PROFILE

SPANS 32-39
 ALL DIMENSIONS MEASURED ALONG CONTROL LINE

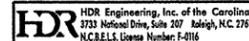


STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

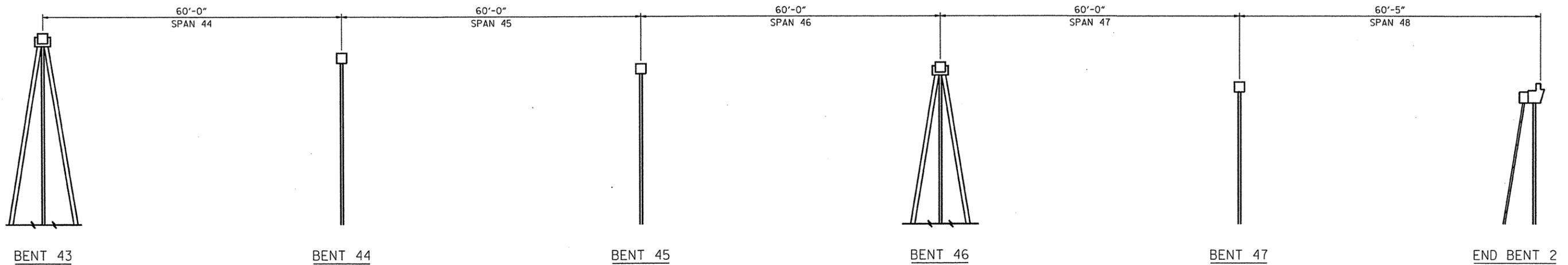
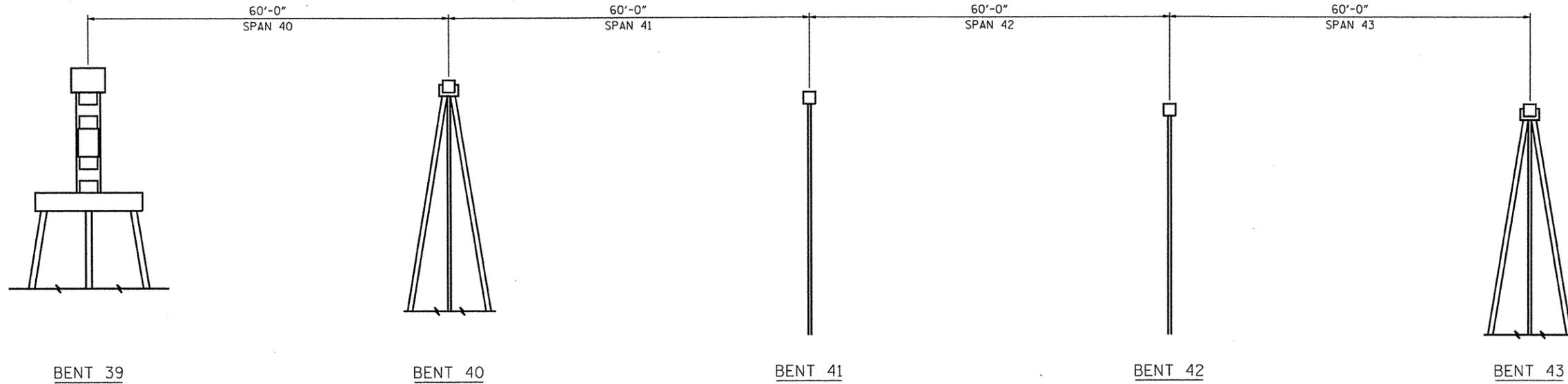
**BRIDGE PROFILE
 SPANS 32-39**

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BRIDGE PROFILE
SPANS 40-48
ALL DIMENSIONS MEASURED ALONG CONTROL LINE

PROJECT NO. 17BP.2.P.19
CARTERET COUNTY
BRIDGE NO.: 13



STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
BRIDGE PROFILE SPANS 40-48					
REVISIONS					
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2			4		
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					TOTAL SHEETS 48

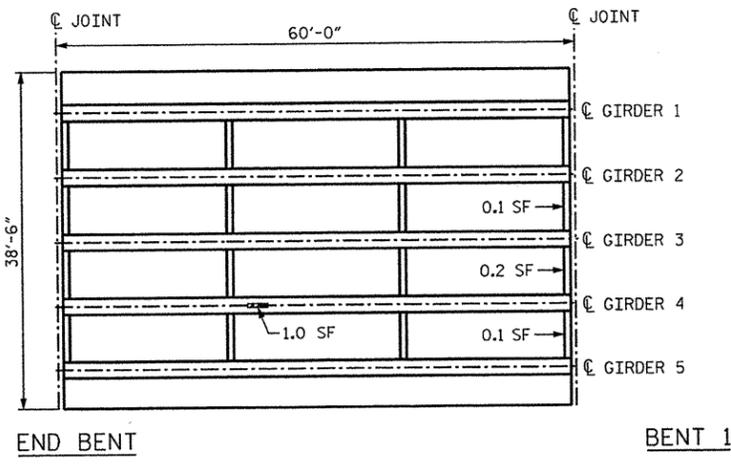
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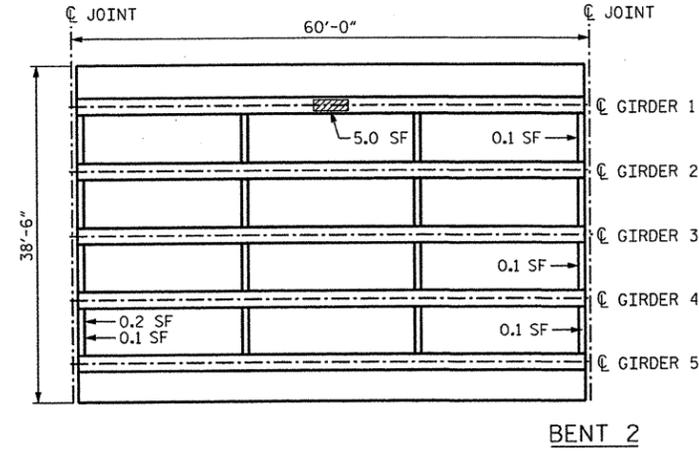
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BILL OF MATERIAL		
SPANS 1-4		
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SHOTCRETE REPAIR SPAN 3	CF	0.3
SHOTCRETE REPAIR SPAN 4	CF	0.4

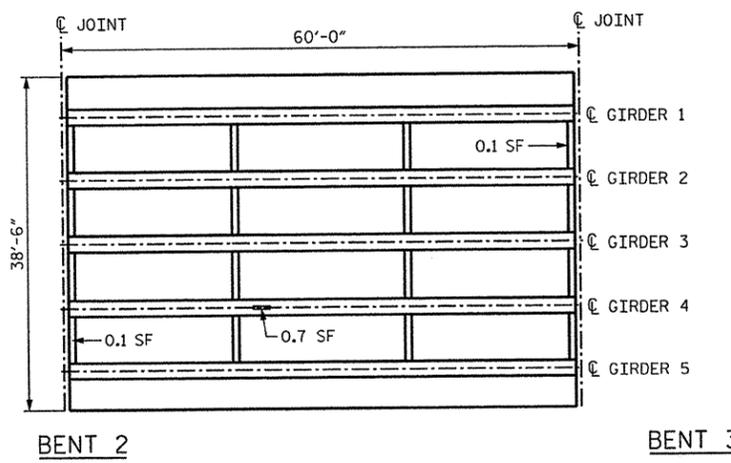
NOTES
FOR NOTES, SEE "TYPICAL SECTION SPANS 17-19".



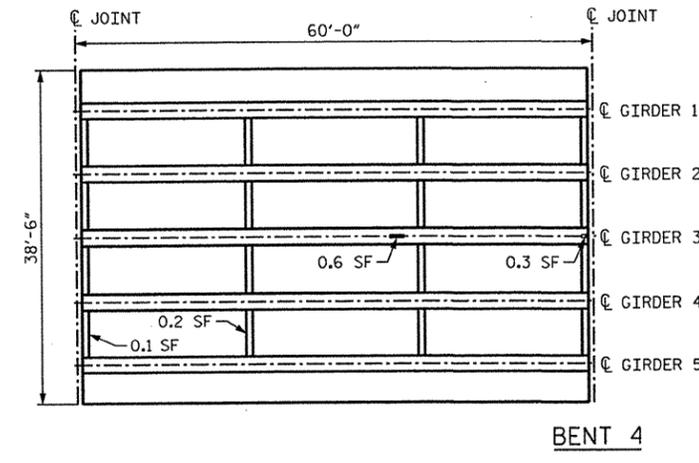
SPAN 1 - UNDERSIDE



SPAN 2 - UNDERSIDE



SPAN 3 - UNDERSIDE



SPAN 4 - UNDERSIDE

PROJECT NO. 17BP.2.P.19
CARTERET COUNTY
BRIDGE NO.: 13



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
**SUPERSTRUCTURE
REPAIR LOCATIONS
SPANS 1-4**

REVISIONS						SHEET NO. S-9
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 48
2			4			

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N.C. REG. LICENSE NUMBER: F-0116

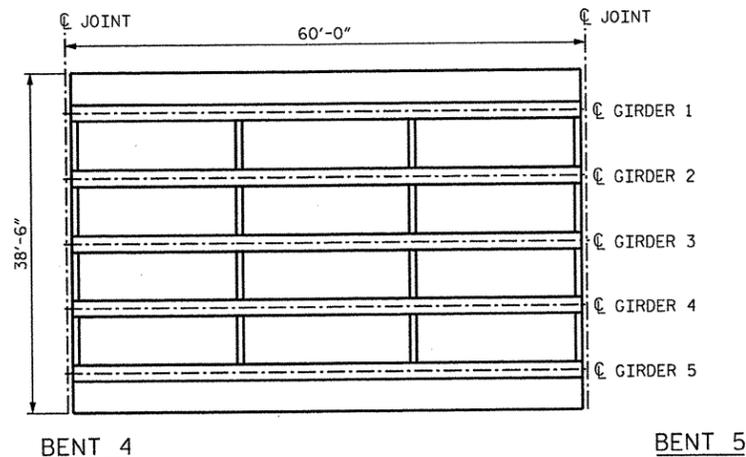
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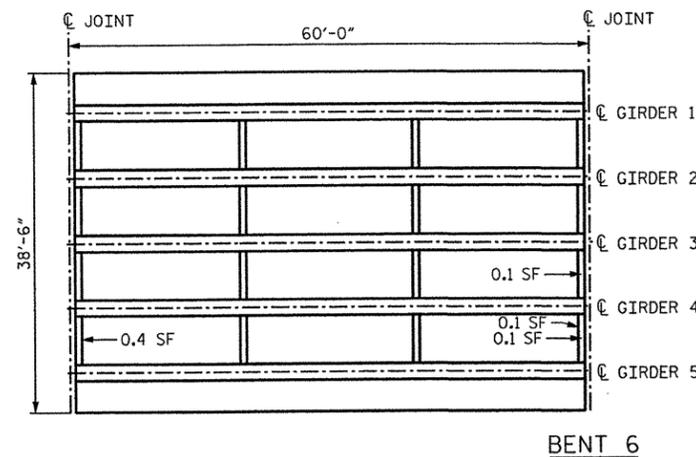
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SPANS 5-8		
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NOTES

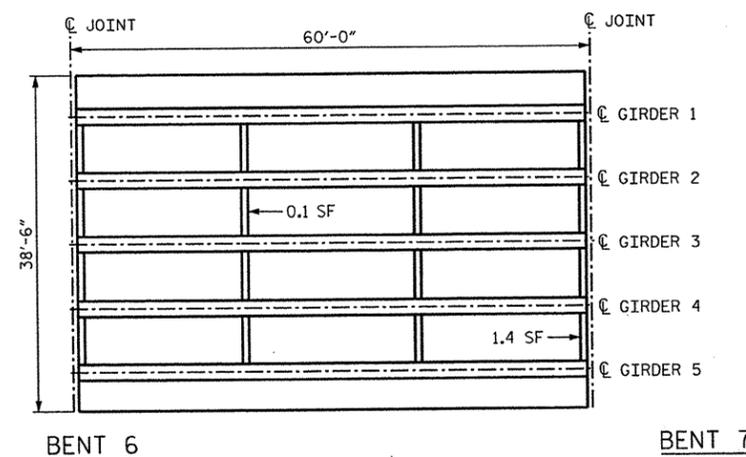
FOR NOTES, SEE 'TYPICAL SECTION SPANS 17-19'.



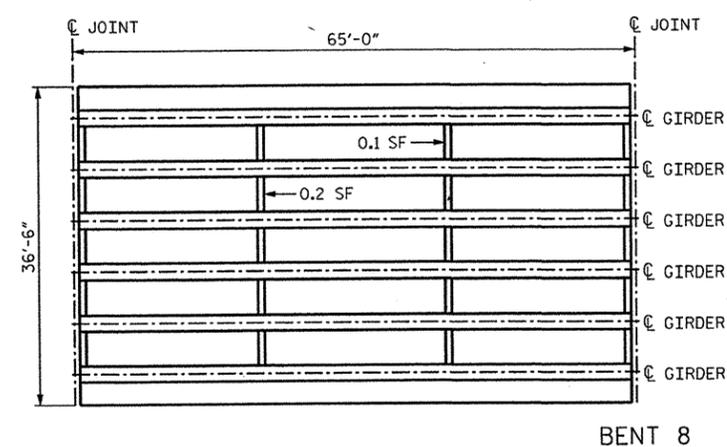
SPAN 5 - UNDERSIDE



SPAN 6 - UNDERSIDE



SPAN 7 - UNDERSIDE



SPAN 8 - UNDERSIDE

PROJECT NO. 17BP.2.P.19
CARTERET COUNTY
BRIDGE NO.: 13



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

**SUPERSTRUCTURE
REPAIR LOCATIONS
SPANS 5-8**

REVISIONS						SHEET NO. 5-18
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 48
2			4			

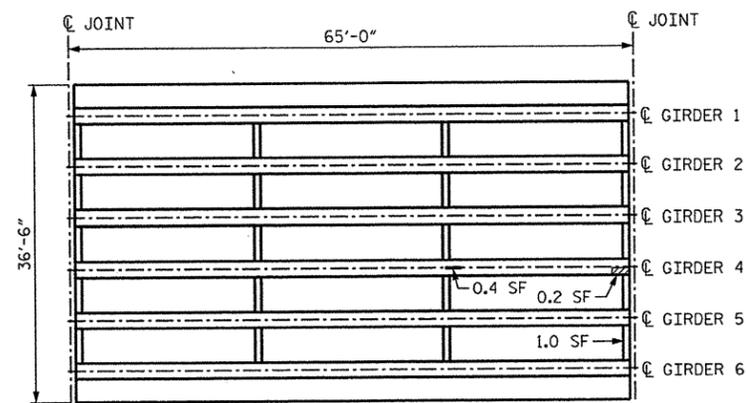
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3733 National Drive, Suite 207 Raleigh, N.C. 27612
N.C.E.L.E. License Number: F-4016

PLOT DRIVER: NCDOT_pcf_mono_eng_50.plt
USER: msellis DATE: 5/24/2013
FILE: ..\01V2.1.SD_CARTERET13_010.DGN
PENTABLE: Division.2 Carteret.tbl
TIME: 12:56:08 PM

BILL OF MATERIAL		
SPANS 9-12		
SHOTCRETE REPAIR SPAN 9	CF	0.6
SHOTCRETE REPAIR SPAN 10	CF	0.5
SHOTCRETE REPAIR SPAN 11	CF	0.5
SHOTCRETE REPAIR SPAN 12	CF	0.9

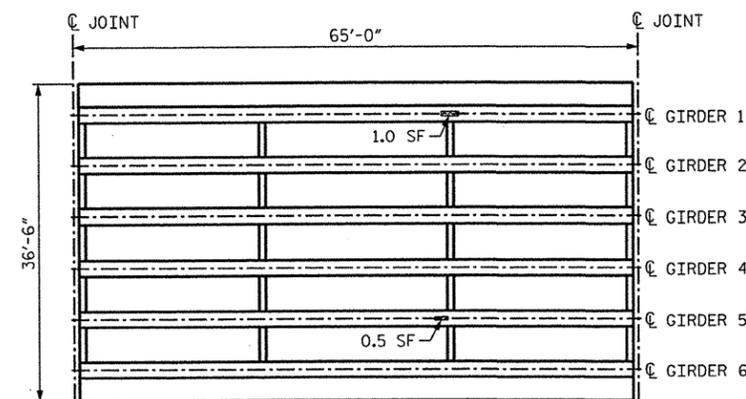
NOTES
FOR NOTES, SEE "TYPICAL SECTION SPANS 17-19".



BENT 8

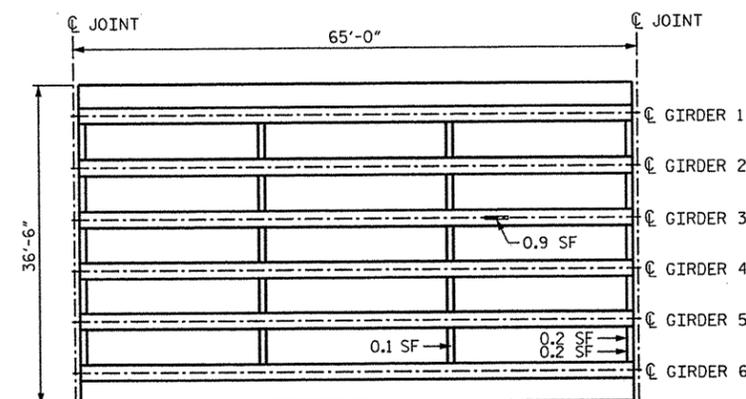
BENT 9

SPAN 9 - UNDERSIDE



BENT 10

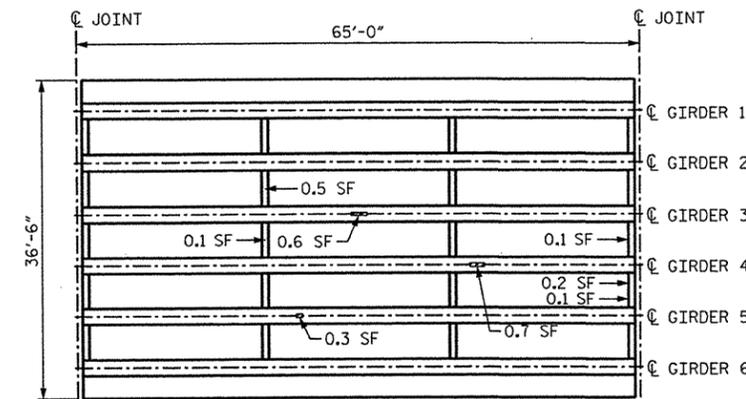
SPAN 10 - UNDERSIDE



BENT 10

BENT 11

SPAN 11 - UNDERSIDE



BENT 12

SPAN 12 - UNDERSIDE

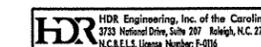
PROJECT NO. 17BP.2.P.19
CARTERET COUNTY
BRIDGE NO.: 13



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUPERSTRUCTURE
REPAIR LOCATIONS
SPANS 9-12

REVISIONS						SHEET NO. S-11
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 48
2			4			

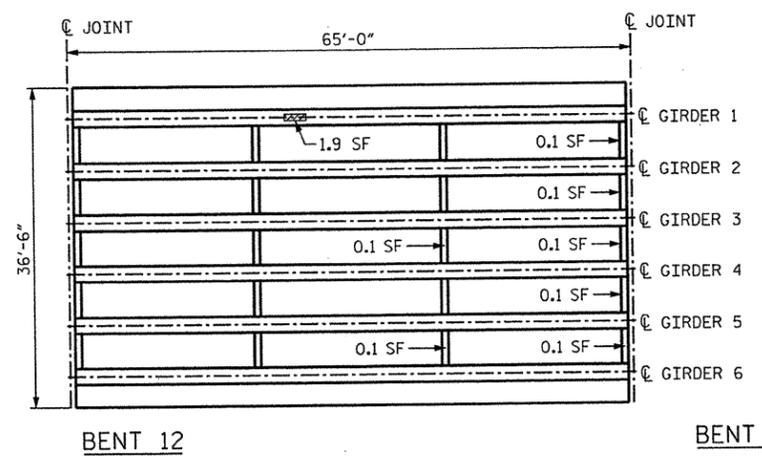


DRAWN BY : L. PATTERSON DATE : 05/2013
CHECKED BY : M. MOYER DATE : 05/2013

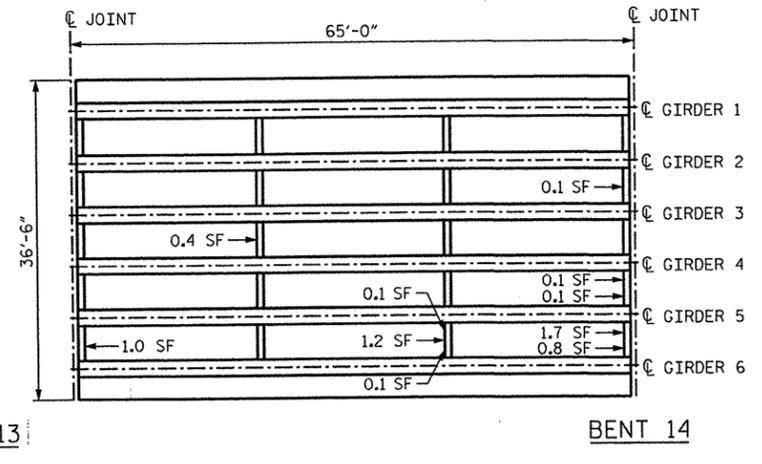
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USER: msellis DATE: 5/24/2013
FILE: ...DIV2\1.SD\CARTERET13-011.DGN

BILL OF MATERIAL		
SPANS 13-16		
SHOTCRETE REPAIR SPAN 13	CF	0.9
SHOTCRETE REPAIR SPAN 14	CF	1.9
SHOTCRETE REPAIR SPAN 15	CF	0.5
SHOTCRETE REPAIR SPAN 16	CF	1.7

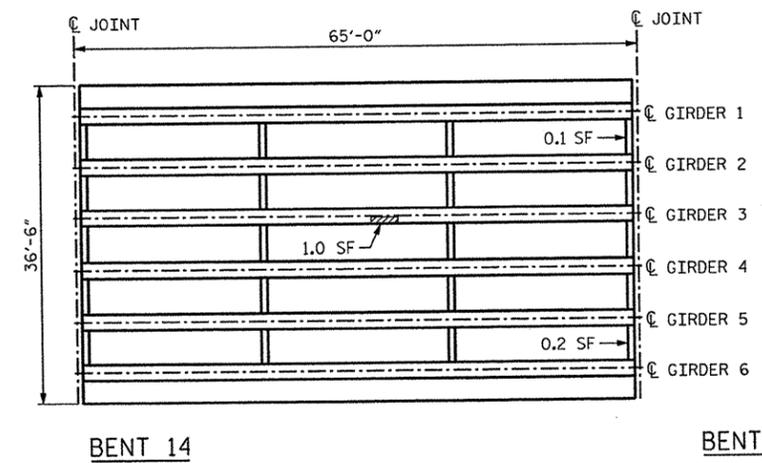
NOTES
FOR NOTES, SEE "TYPICAL SECTION SPANS 17-19".



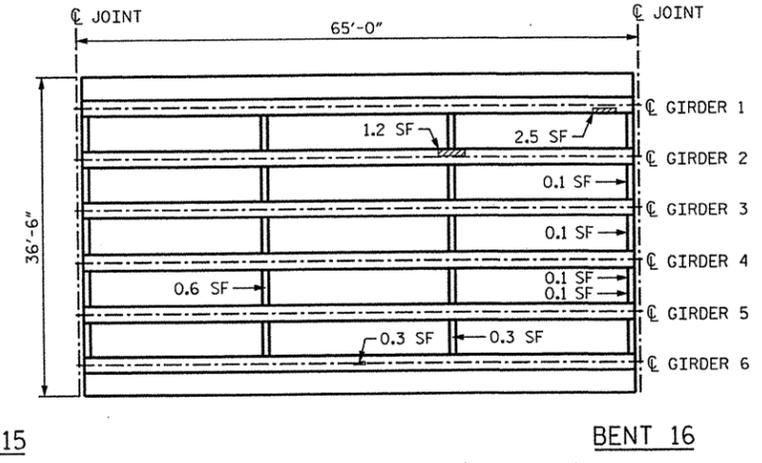
SPAN 13 - UNDERSIDE



SPAN 14 - UNDERSIDE



SPAN 15 - UNDERSIDE



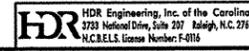
SPAN 16 - UNDERSIDE

PROJECT NO. 17BP.2.P.19
CARTERET COUNTY
BRIDGE NO.: 13



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
SUPERSTRUCTURE
REPAIR LOCATIONS
SPANS 13-16

REVISIONS						SHEET NO. S-12
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 48
2			4			

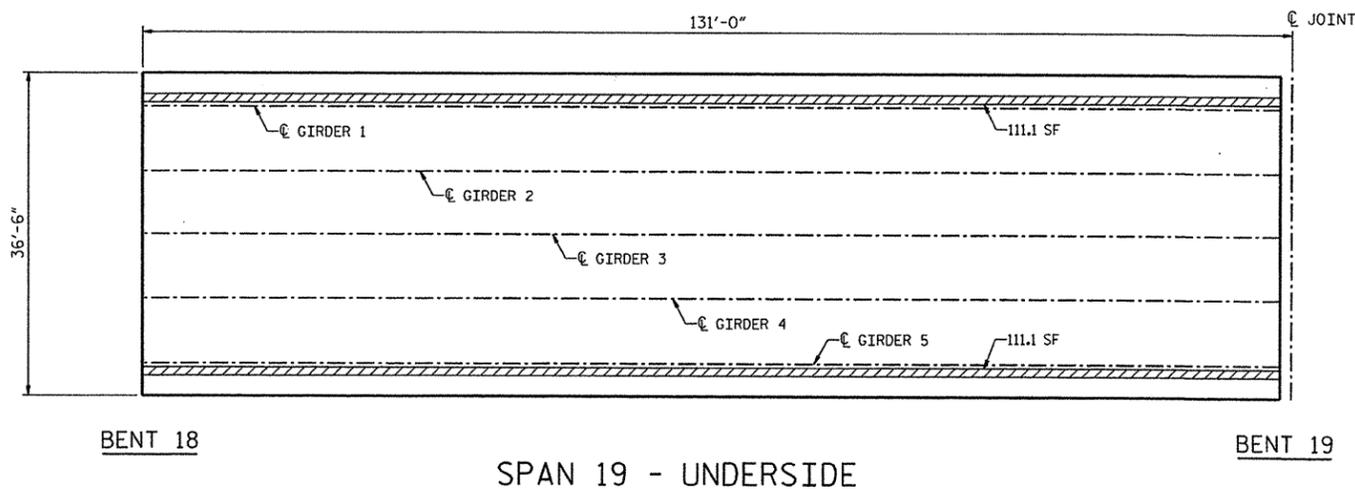
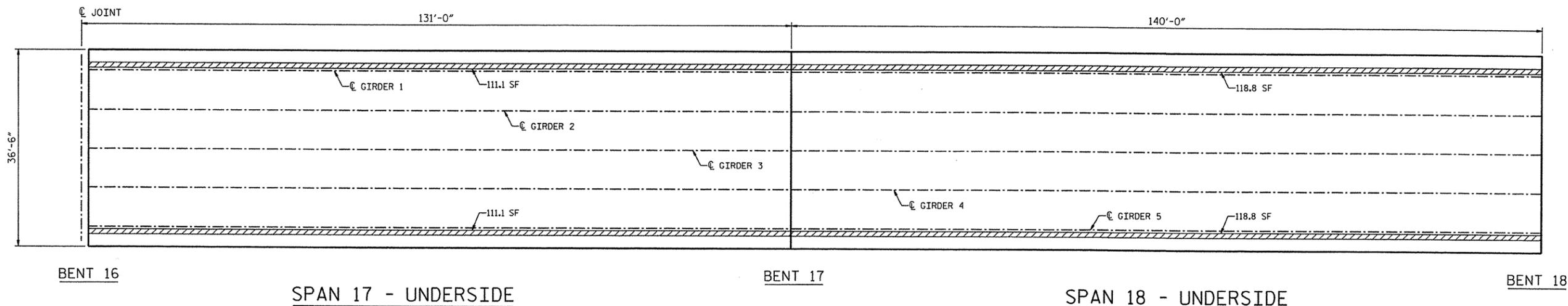


DRAWN BY : L. PATTERSON DATE : 05/2013
CHECKED BY : M. MOYER DATE : 05/2013

PLOT DRIVER: NODOT_pdf_mono_eng-50.plt
USER: me@is DATE: 5/24/2013
FILE: ...DIV2.1.SD_CARTERET13-012.DGN

BILL OF MATERIAL	
SPANS 17-19	
SHOTCRETE REPAIR SPAN 17	CF 157.1
SHOTCRETE REPAIR SPAN 18	CF 168.0
SHOTCRETE REPAIR SPAN 19	CF 157.1

NOTES
FOR NOTES, SEE "TYPICAL SECTION SPANS 17-19".



PROJECT NO. 17BP.2.P.19
CARTERET COUNTY
BRIDGE NO.: 13



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

**SUPERSTRUCTURE
REPAIR LOCATIONS
SPANS 17-19**

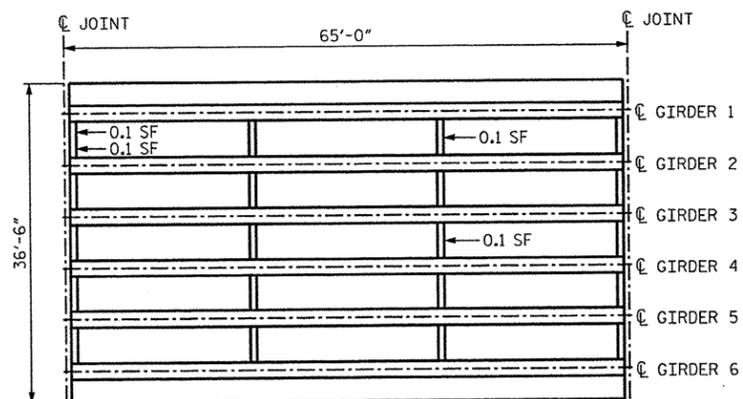
DRAWN BY : L. PATTERSON DATE : 05/2013
CHECKED BY : M. MOYER DATE : 05/2013

HDR HDR Engineering, Inc. of the Carolinas
3723 National Drive, Suite 207 Raleigh, N.C. 27612
N.C. REG. License Number: F-0116

REVISIONS						SHEET NO. S-13
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 48
2			4			

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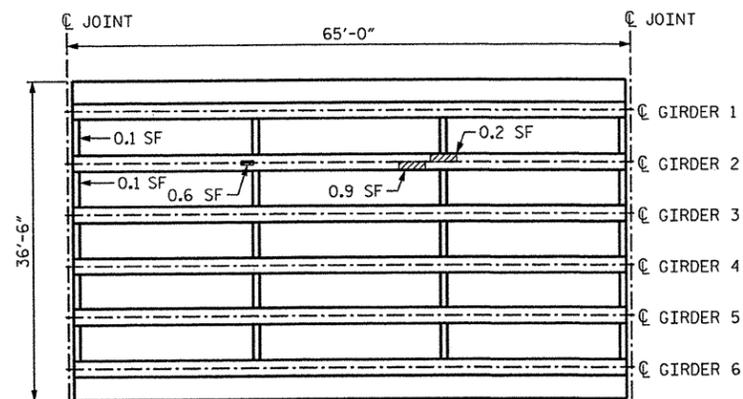
BILL OF MATERIAL		
SPANS 24-27		
SHOTCRETE REPAIR SPAN 24	CF	0.2
SHOTCRETE REPAIR SPAN 25	CF	0.7
SHOTCRETE REPAIR SPAN 26	CF	0
SHOTCRETE REPAIR SPAN 27	CF	0.8



BENT 23

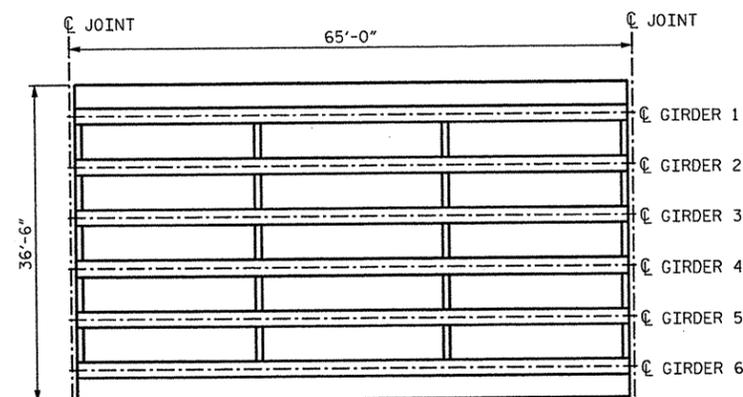
BENT 24

SPAN 24 - UNDERSIDE



BENT 25

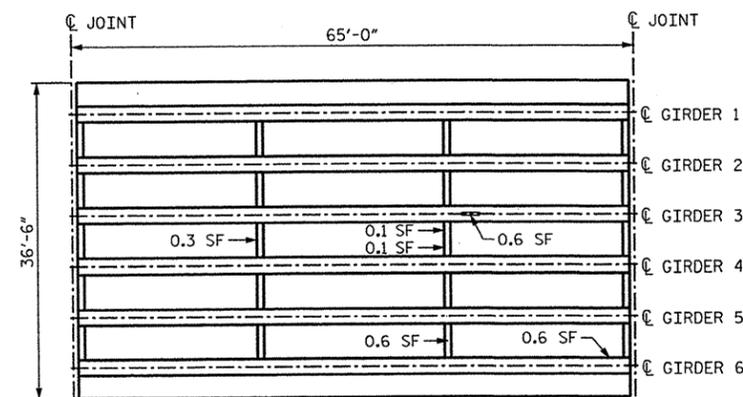
SPAN 25 - UNDERSIDE



BENT 25

BENT 26

SPAN 26 - UNDERSIDE



BENT 27

SPAN 27 - UNDERSIDE

NOTES

FOR NOTES, SEE "TYPICAL SECTION SPANS 17-19".

PROJECT NO. 17BP.2.P.19
CARTERET COUNTY
BRIDGE NO.: 13



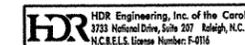
5-24-2013

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUPERSTRUCTURE
REPAIR LOCATIONS
SPANS 24-27

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

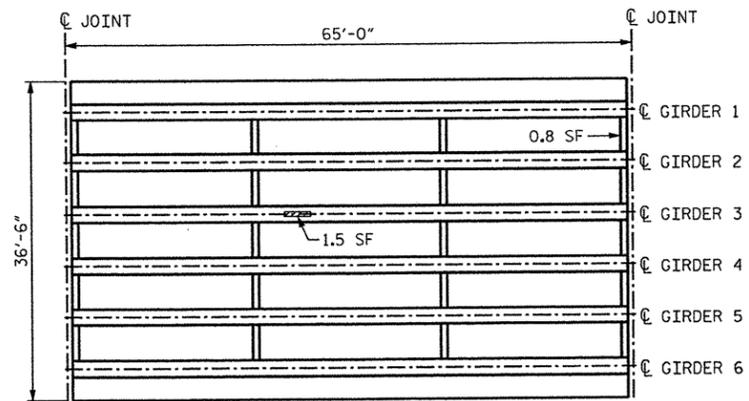
SHEET
NO. S-15
TOTAL
SHEETS
48



DRAWN BY : L. PATTERSON DATE : 05/2013
CHECKED BY : M. MOYER DATE : 05/2013

PLOT DRIVER: NCDOT_pdf_mono_eng_50.plt
USER: msells DATE: 5/24/2013
FILE: ..\DIV2\1-SD-CARTERET13-015.DGN

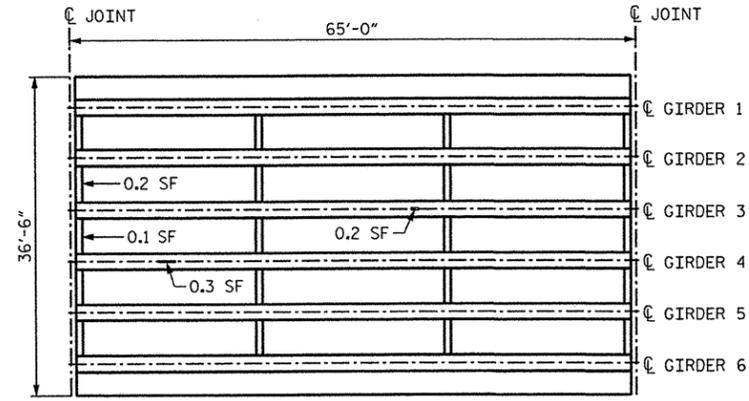
BILL OF MATERIAL		
SPANS 28-31		
SHOTCRETE REPAIR SPAN 28	CF	0.8
SHOTCRETE REPAIR SPAN 29	CF	0.3
SHOTCRETE REPAIR SPAN 30	CF	0.3
SHOTCRETE REPAIR SPAN 31	CF	0.9



BENT 27

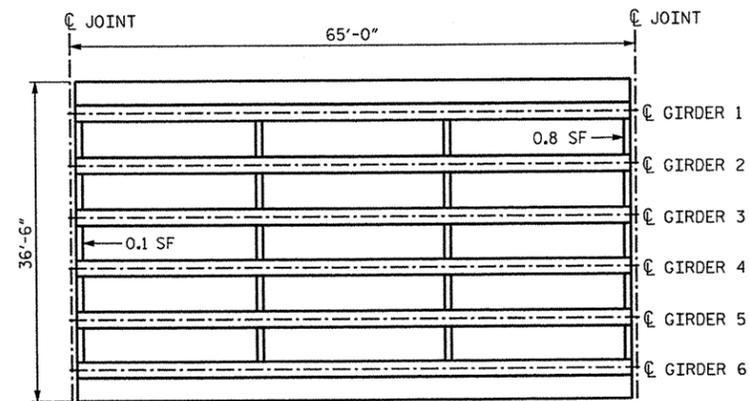
BENT 28

SPAN 28 - UNDERSIDE



BENT 29

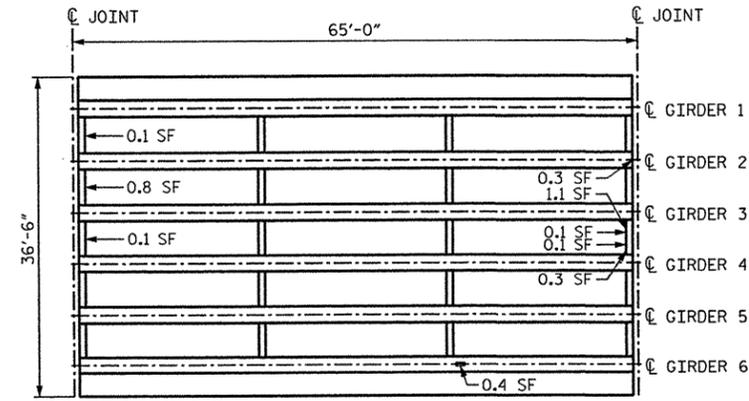
SPAN 29 - UNDERSIDE



BENT 29

BENT 30

SPAN 30 - UNDERSIDE



BENT 31

SPAN 31 - UNDERSIDE

NOTES

FOR NOTES, SEE "TYPICAL SECTION SPANS 17-19".

PROJECT NO. 17BP.2.P.19
CARTERET COUNTY
BRIDGE NO.: 13

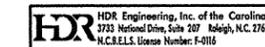


STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

**SUPERSTRUCTURE
REPAIR LOCATIONS
SPANS 28-31**

REVISIONS						SHEET NO. 5-16
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 48
2			4			

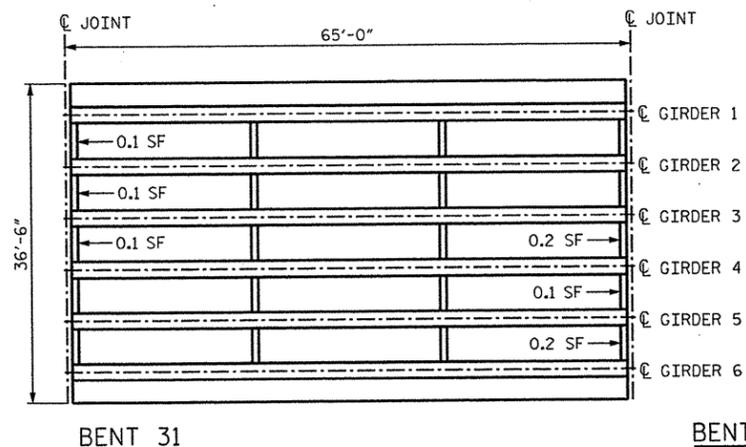
DRAWN BY : L. PATTERSON DATE : 05/2013
CHECKED BY : M. MOYER DATE : 05/2013



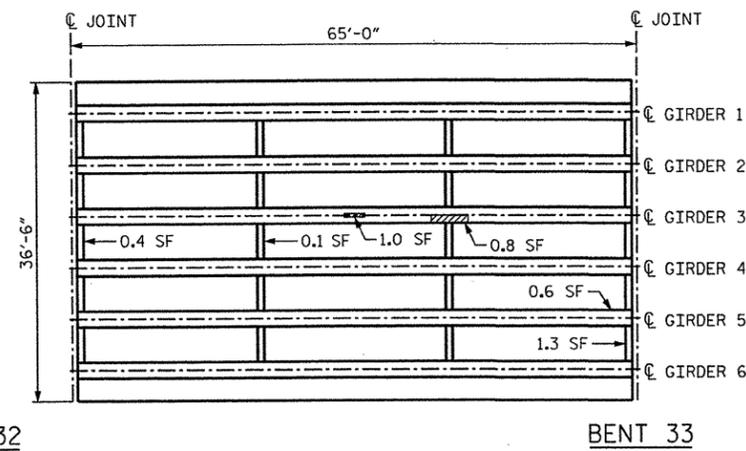
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USER: meolls DATE: 5/24/2013
FILE: ..\DIV2\1_SD_CARTERET\13_016.DGN
PENTABLE: DIVISION_2_Carteret.tbl
TIME: 12:57:26 PM

BILL OF MATERIAL		
SPANS 32-35		
SHOTCRETE REPAIR SPAN 32	CF	0.3
SHOTCRETE REPAIR SPAN 33	CF	1.4
SHOTCRETE REPAIR SPAN 34	CF	0.3
SHOTCRETE REPAIR SPAN 35	CF	0.6

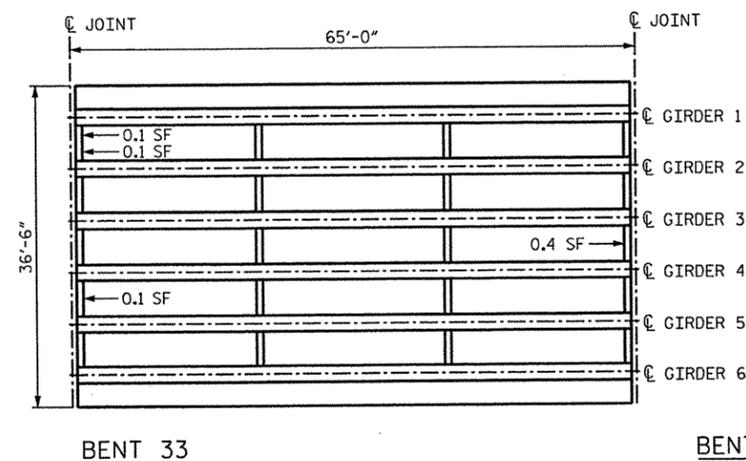
NOTES
FOR NOTES, SEE "TYPICAL SECTION SPANS 17-19".



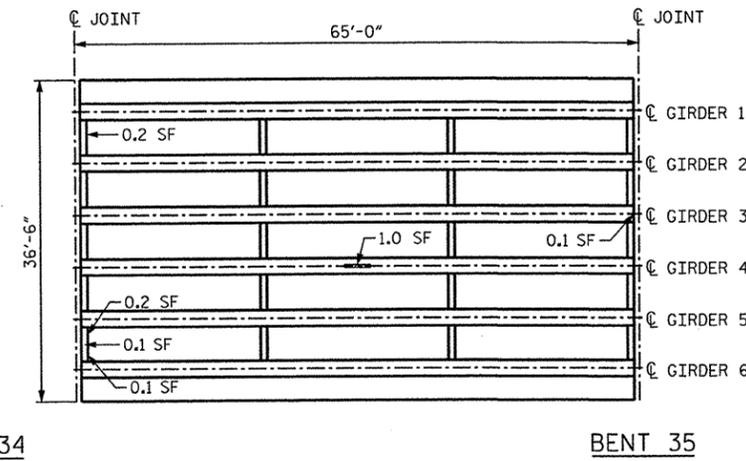
SPAN 32 - UNDERSIDE



SPAN 33 - UNDERSIDE



SPAN 34 - UNDERSIDE



SPAN 35 - UNDERSIDE

PROJECT NO. 17BP.2.P.19
CARTERET COUNTY
BRIDGE NO.: 13



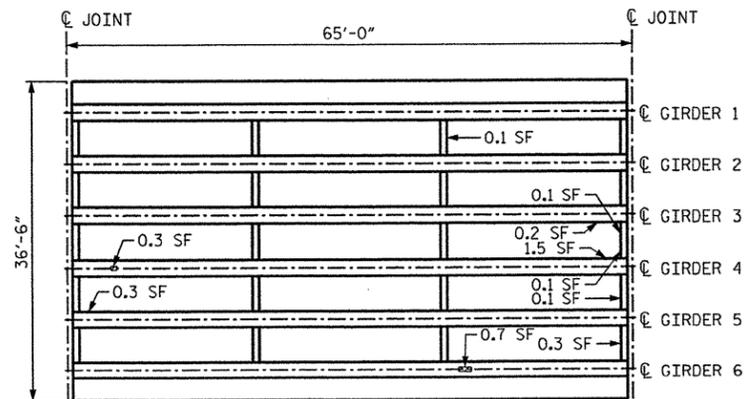
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
SUPERSTRUCTURE REPAIR LOCATIONS SPANS 32-35					
REVISIONS					SHEET NO. 5-17
NO.	BY:	DATE:	NO.	DATE:	
1			3		TOTAL SHEETS 48
2			4		

DRAWN BY : L. PATTERSON DATE : 05/2013
CHECKED BY : M. MOYER DATE : 05/2013



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TIME: 12:57:39 PM

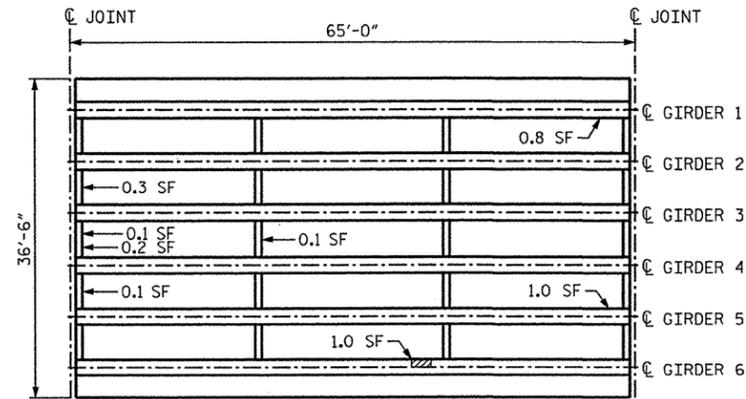
BILL OF MATERIAL			
SPANS 36-39			
SHOTCRETE REPAIR SPAN 36	CF	1.3	
SHOTCRETE REPAIR SPAN 37	CF	1.2	
SHOTCRETE REPAIR SPAN 38	CF	1.7	
SHOTCRETE REPAIR SPAN 39	CF	0.7	



BENT 35

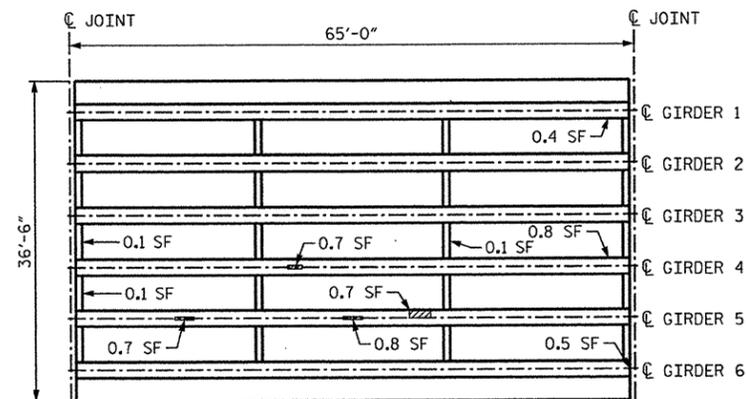
BENT 36

SPAN 36 - UNDERSIDE



BENT 37

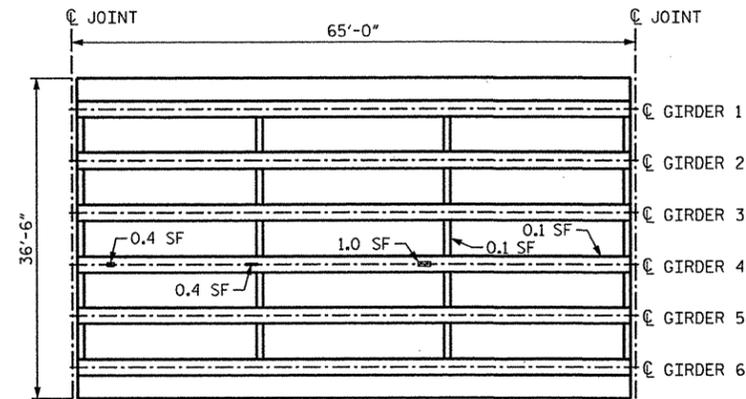
SPAN 37 - UNDERSIDE



BENT 37

BENT 38

SPAN 38 - UNDERSIDE



BENT 39

SPAN 39 - UNDERSIDE

NOTES

FOR NOTES, SEE "TYPICAL SECTION SPANS 17-19".

PROJECT NO. 17BP.2.P.19
CARTERET COUNTY
BRIDGE NO.: 13

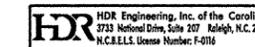


STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUPERSTRUCTURE
REPAIR LOCATIONS
SPANS 36-39

REVISIONS						SHEET NO. 5-18
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 48
2			4			

DRAWN BY : L. PATTERSON DATE : 05/2013
CHECKED BY : M. MOYER DATE : 05/2013

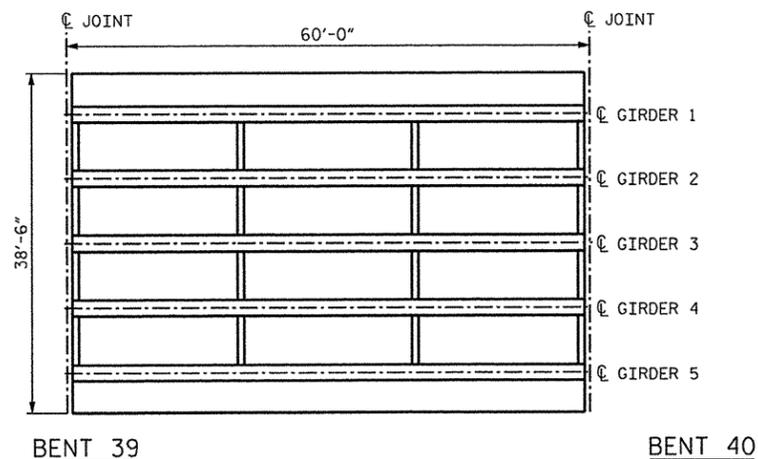


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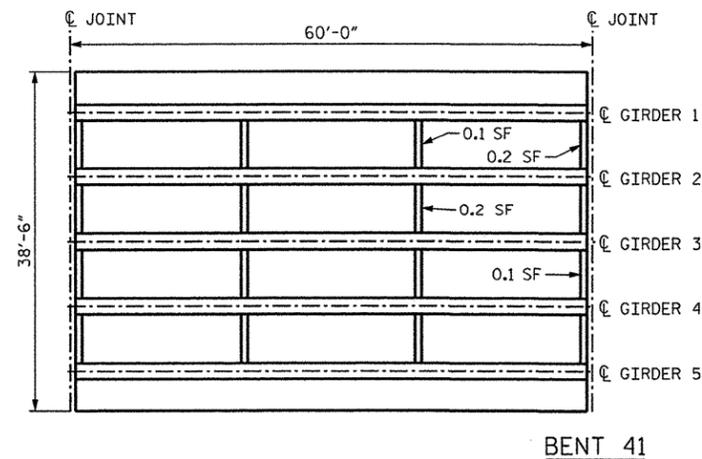
FILE: ...NDIV21.SD-CARTERET13_018.DGN

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SPANS 40-43			
SHOTCRETE REPAIR SPAN 40	CF	0	
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SHOTCRETE REPAIR SPAN 42	CF	3.8	
SHOTCRETE REPAIR SPAN 43	CF	0	

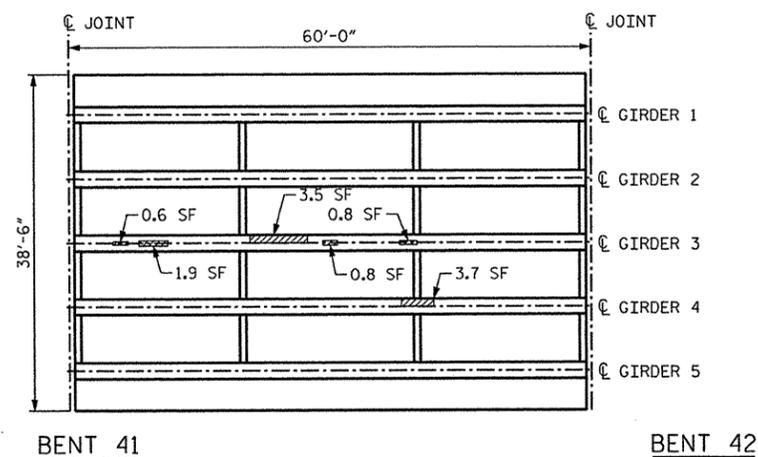
NOTES
FOR NOTES, SEE "TYPICAL SECTION SPANS 17-19".



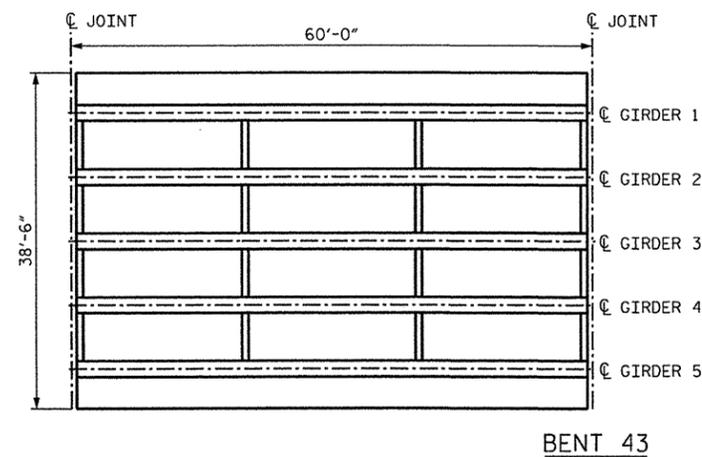
SPAN 40 - UNDERSIDE



SPAN 41 - UNDERSIDE



SPAN 42 - UNDERSIDE



SPAN 43 - UNDERSIDE

PROJECT NO. 17BP.2.P.19
CARTERET COUNTY
BRIDGE NO.: 13



5-24-2013

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
SUPERSTRUCTURE REPAIR LOCATIONS SPANS 40-43					
REVISIONS					SHEET NO. S-19
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
TOTAL SHEETS					48

DRAWN BY : L. PATTERSON DATE : 05/2013
CHECKED BY : M. MOYER DATE : 05/2013

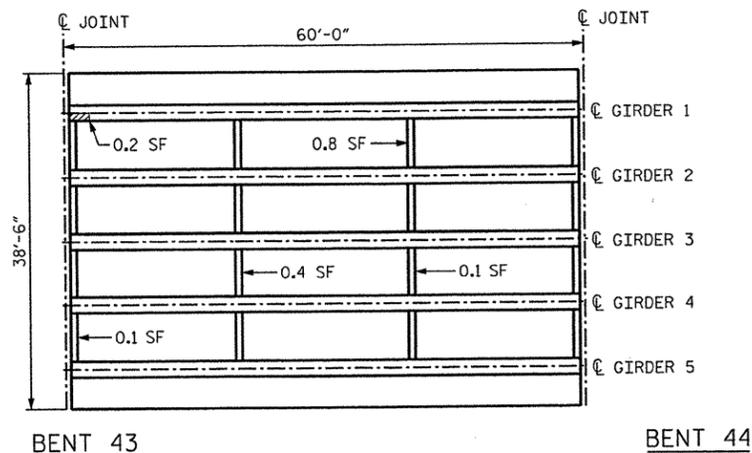
HDR HDR Engineering, Inc. of the Carolinas
3733 Medford Drive, Suite 207 Raleigh, N.C. 27612
N.C. E.L.S. License Number: F-0115

PLOT DRIVER: NCDOT_pdf_mono_eng_50.plt
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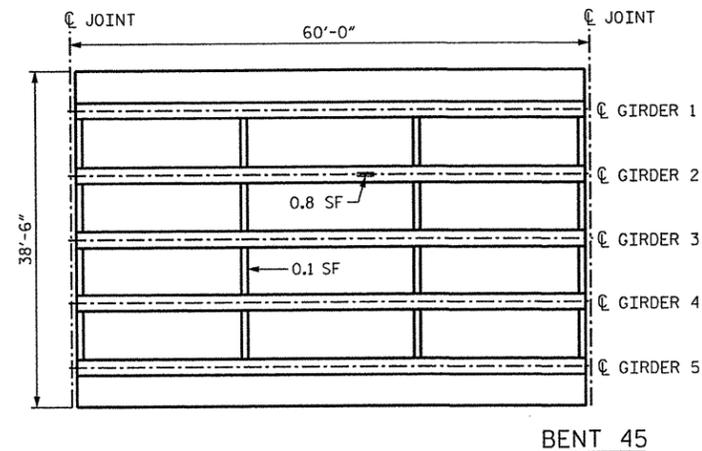
PENTABLE: Division_2_Carteret.tbl
TIME: 12:58:02 PM

BILL OF MATERIAL			
SPANS 44-47			
SHOTCRETE REPAIR SPAN 44	CF	0.6	
SHOTCRETE REPAIR SPAN 45	CF	0.3	
SHOTCRETE REPAIR SPAN 46	CF	0.7	
SHOTCRETE REPAIR SPAN 47	CF	0.1	

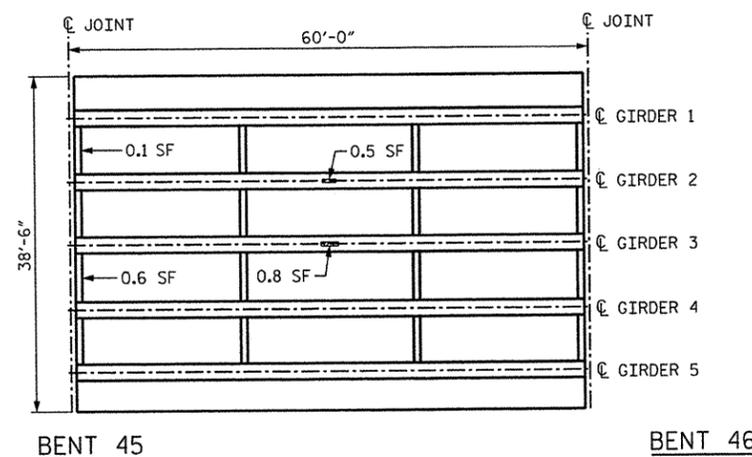
NOTES
FOR NOTES, SEE "TYPICAL SECTION SPANS 17-19".



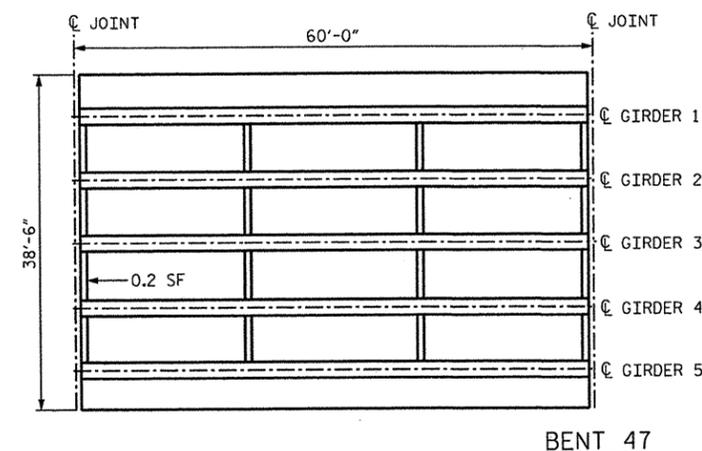
SPAN 44 - UNDERSIDE



SPAN 45 - UNDERSIDE



SPAN 46 - UNDERSIDE

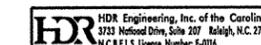


SPAN 47 - UNDERSIDE

PROJECT NO. 17BP.2.P.19
CARTERET COUNTY
BRIDGE NO.: 13



STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
SUPERSTRUCTURE REPAIR LOCATIONS SPANS 44-47					
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
					SHEET NO. 5-28
					TOTAL SHEETS 48

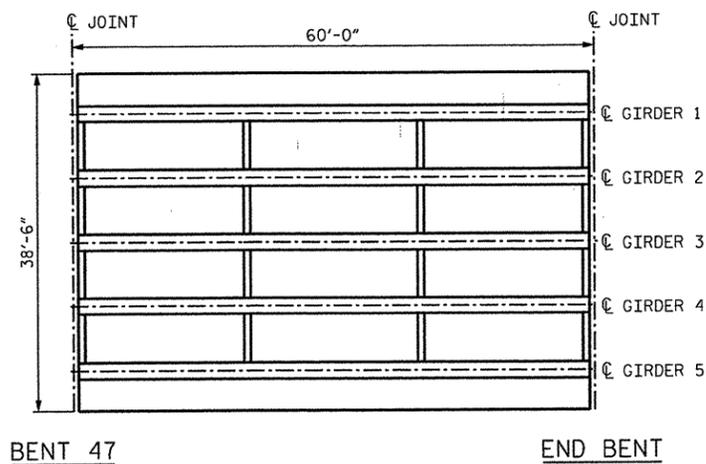


DRAWN BY : L. PATTERSON DATE : 05/2013
CHECKED BY : M. MOYER DATE : 05/2013

PLOT DRIVER: NCDOT_pdf_mono_eng_50.plt
USER: msells DATE: 5/24/2013
FILE: ..\DIV2\1.SD_CARTERET\13_020.DGN

BILL OF MATERIAL	
SPAN 48	
SHOTCRETE REPAIR SPAN 48	CF 0

NOTES
FOR NOTES, SEE "TYPICAL SECTION SPANS 17-19".



SPAN 48 - UNDERSIDE

PROJECT NO. 17BP.2.P.19
CARTERET COUNTY
BRIDGE NO.: 13



STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
SUPERSTRUCTURE REPAIR LOCATIONS SPAN 48					
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
					SHEET NO. 5-21
					TOTAL SHEETS 48

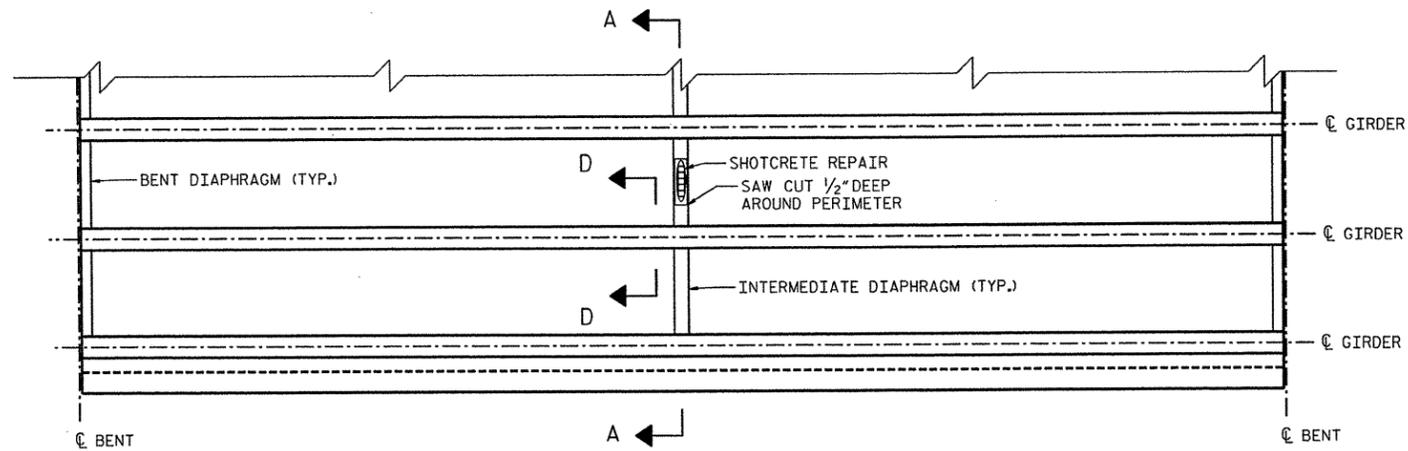
DRAWN BY : L. PATTERSON DATE : 05/2013
CHECKED BY : M. MOYER DATE : 05/2013

HDR HDR Engineering, Inc. of the Carolinas
3733 National Drive, Suite 207 Raleigh, N.C. 27612
N.C.B.E.L.S. License Number: F-0116

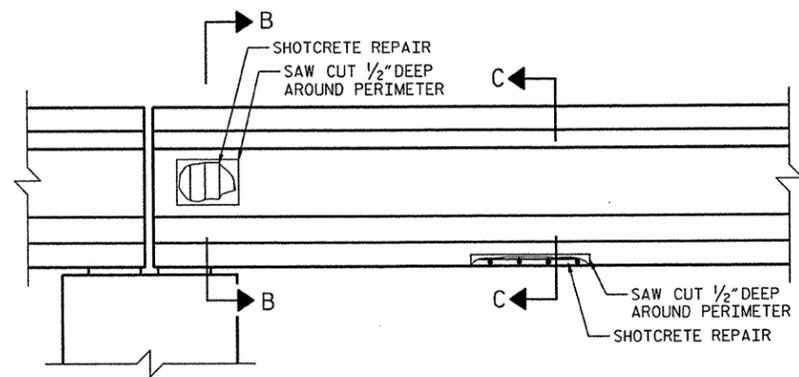
PLOT DRIVER: NCDDOT_pdf_mono_eng-50.plt
USER: msejls DATE: 5/24/2013
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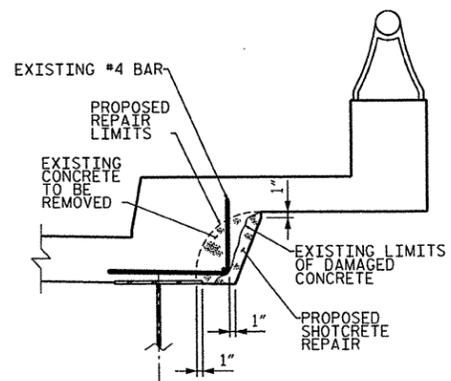
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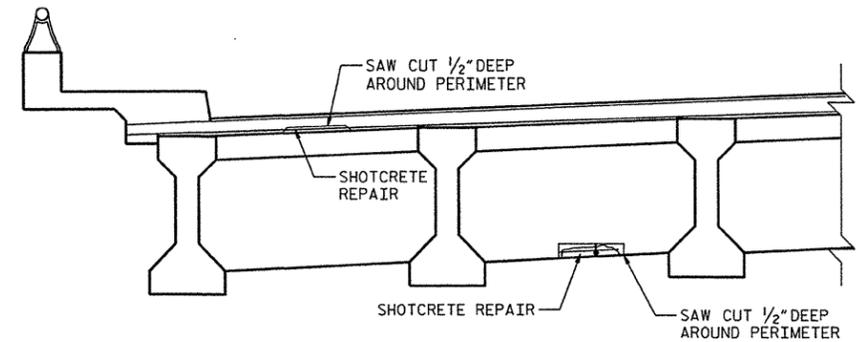
DIAPHRAGM REPAIR DETAIL



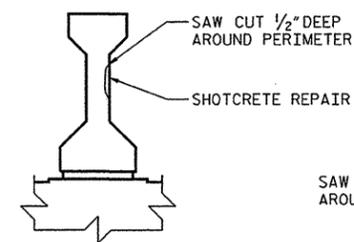
CONCRETE GIRDER REPAIR DETAIL



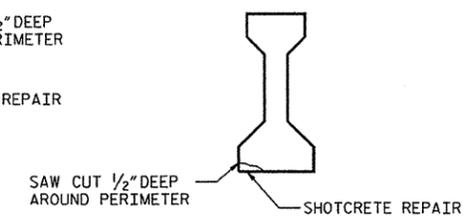
EXTERIOR GIRDER BUILD-UP REPAIR DETAIL



SECTION A-A



SECTION B-B



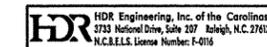
SECTION C-C

PROJECT NO. 17BP.2.P.19
 CARTERET COUNTY
 BRIDGE NO.: 13

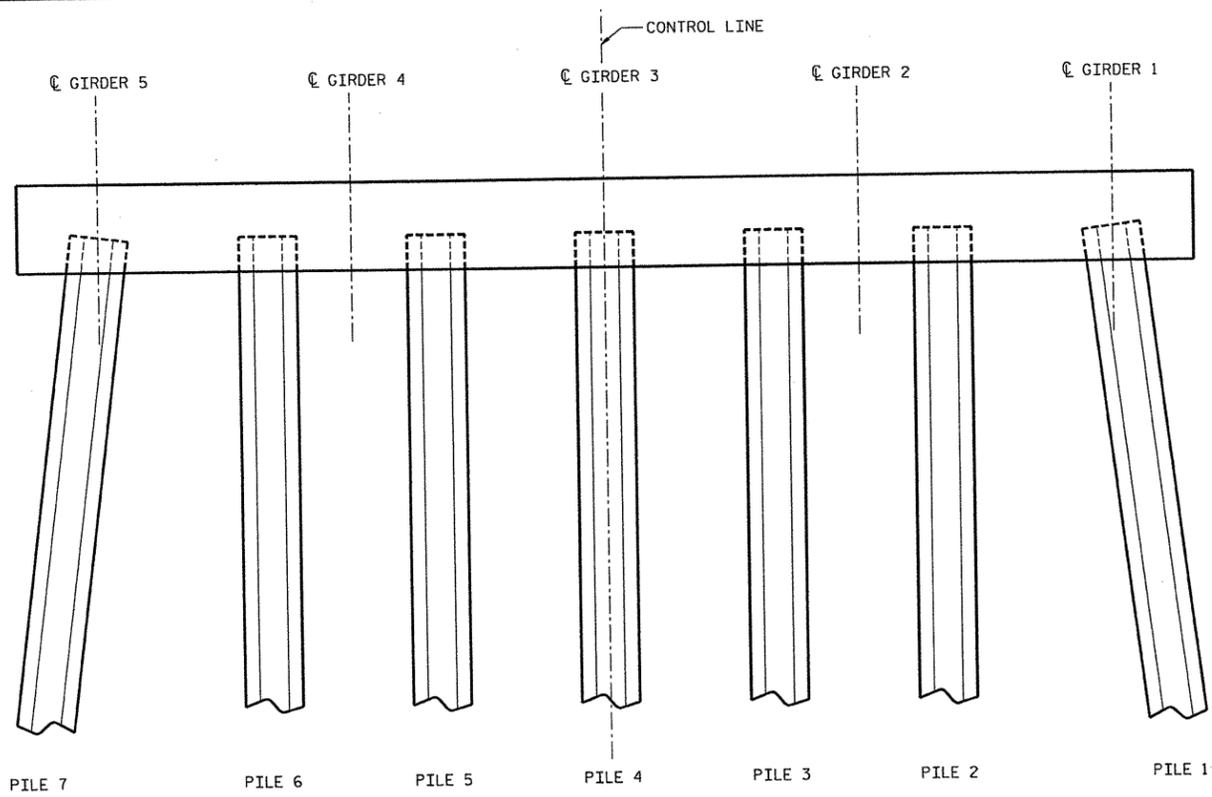


STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
SUPERSTRUCTURE REPAIR DETAILS					
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
					SHEET NO. 5-22 TOTAL SHEETS 48

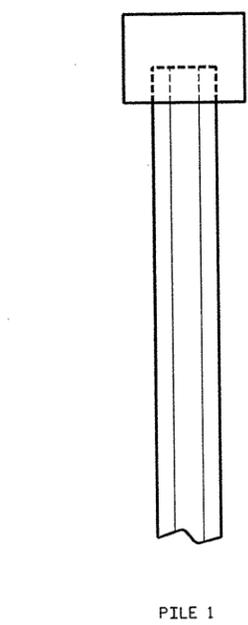
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 CHECKED BY : M. MOYER DATE : 05/2013



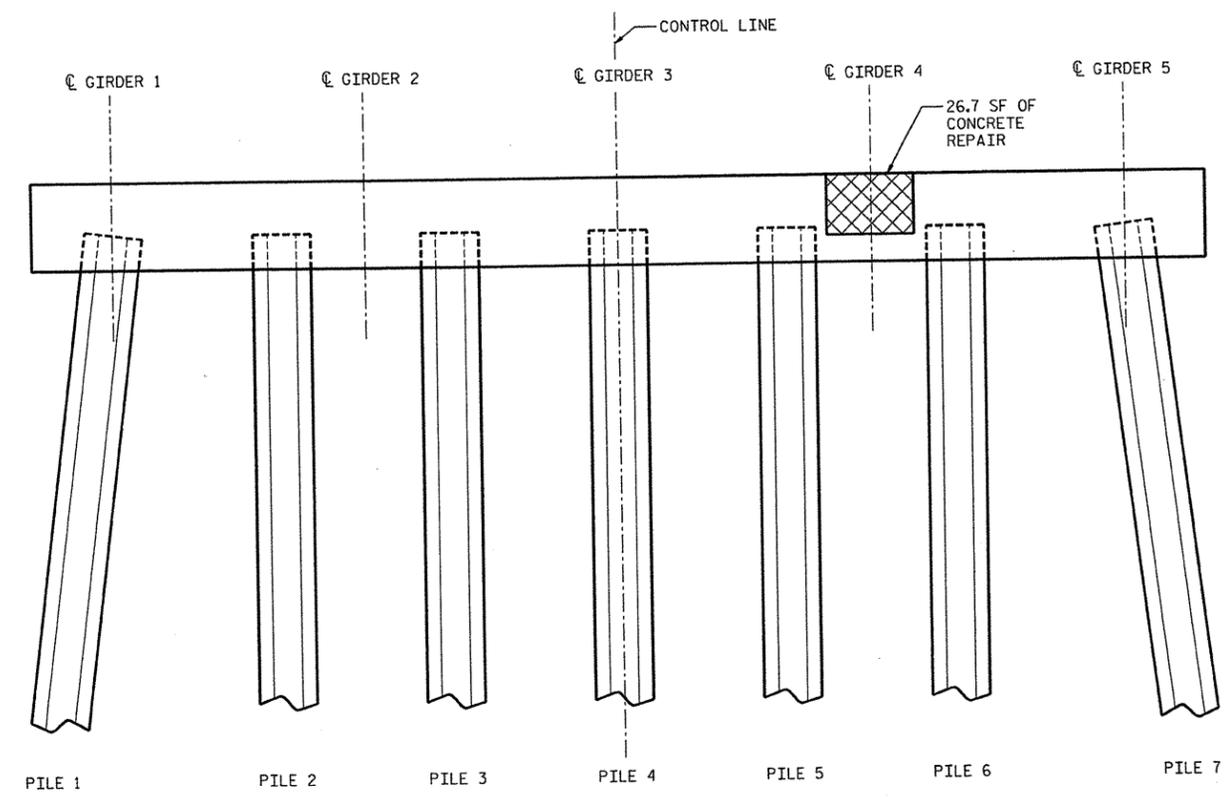
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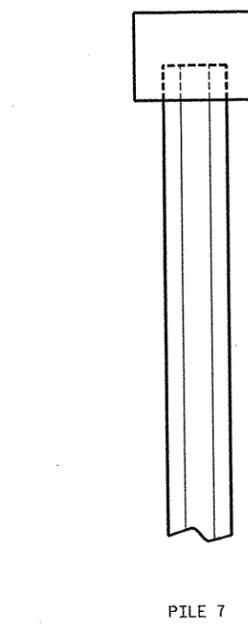
EAST ELEVATION



NORTH ELEVATION



WEST ELEVATION



SOUTH ELEVATION

NOTES

FOR NOTES, SEE "TYPICAL SECTION SPANS 17-19".
FOR REPAIR DETAILS SEE "SUBSTRUCTURE REPAIR BENT 4 DETAILS".

QUANTITIES INDICATED ARE FROM THE BEST INFORMATION AVAILABLE AND ANTICIPATE THAT REMOVAL OF UNSOUND CONCRETE WILL RESULT IN AREAS AND DEPTHS GREATER THAN THOSE EXHIBITED BY OBSERVATION.

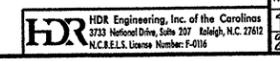
CONCRETE REPAIR

PROJECT NO. 17BP.2.P.19
CARTERET COUNTY
BRIDGE NO.: 13



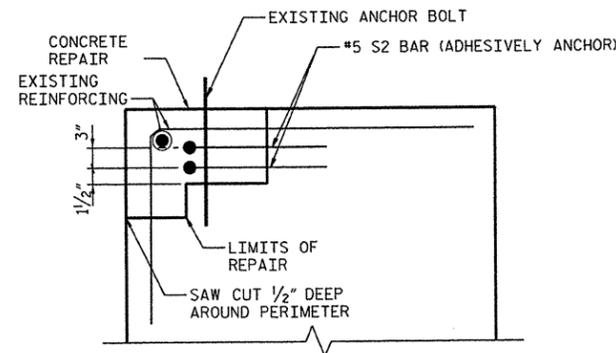
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
SUBSTRUCTURE REPAIRS
BENT 4

REVISIONS						SHEET NO. S-23
NO.	BY:	DATE:	NO.	BY:	DATE:	
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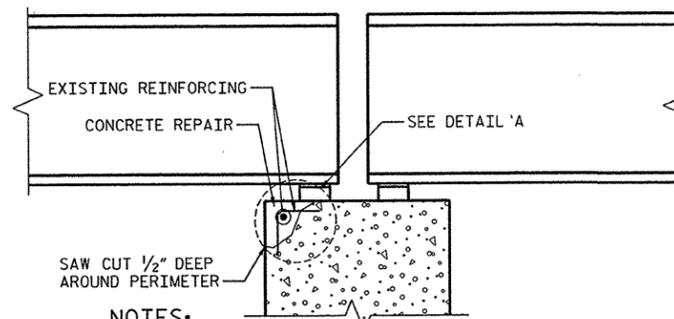


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CHECKED BY : M. MOYER DATE : 05/2013

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USER: msellis DATE: 5/24/2013
FILE: ... \DTV21.SD-CARTERET13.023.DGN
TIME: 12:59:01 PM



DETAIL A



NOTES:
 RAISE BEAMS 1/2" BY JACKING BEFORE REMOVING CONCRETE.
 DO NOT LOWER SUPERSTRUCTURE UNTIL REPAIR HAS CURED AND REACHED A COMPRESSIVE STRENGTH OF 3000 PSI.

TYPICAL REPAIR AT BEAM BEARING

SERVICE REACTIONS PER BEARING				
SUPPORT	DL (KIP)		LL+I (KIP)	
	BACK	AHEAD	BACK	AHEAD
END BENT 4	41	41	64	64

JACKING NOTES

A LIVE LOAD OF HS25 WAS USED TO CALCULATE THE JACKING LIVE LOADS.

JACKING SHALL BE CONDUCTED IN A MANNER SUCH THAT THE SUPERSTRUCTURE WILL NOT BE DAMAGED.

THE MAXIMUM ALLOWABLE VERTICAL JACKING DISPLACEMENT SHALL BE 1/2 INCH WITH RESPECT TO BEARINGS OF ADJACENT PIERS.

BEARING NUTS SHALL BE LOOSENEED TO PROVIDE A MINIMUM OF 5/16 INCH GAP TO ALLOW FOR JACKING.

ALL BEAMS AT A PIER SHALL BE JACKED SIMULTANEOUSLY AND SHALL BE RAISED THE SAME AMOUNT AND AT THE SAME RATE. THE HYDRAULIC PRESSURE OF THE JACKS SHALL BE ADJUSTED AS REQUIRED TO ALLOW FOR EQUAL MOVEMENTS. JACKING DEVICES SHALL BE EQUIPPED WITH LOCKING RINGS. USE BEVELED JACKING PLATES AS NEEDED TO PROVIDE A LEVEL JACKING SURFACE.

EFFECT OF VIBRATIONS FROM TRAFFIC SHOULD BE CONSIDERED DURING JACKING AND WHEN JACKS ARE LOCKED.

PROVISIONS SHALL BE MADE TO ACCOUNT FOR THERMAL MOVEMENTS DURING THE PERIOD THAT THE STRUCTURE IS RESTING ON TEMPORARY SUPPORTS.

THE BRIDGE SHALL BE INSPECTED PRIOR TO JACKING TO VERIFY THAT ITEMS CONNECTED TO THE SUPERSTRUCTURE OR SUBSTRUCTURE WILL NOT BE DAMAGED DURING THE JACKING AND BEARING REPLACEMENT PROCEDURE.

IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR PERFORMING THE JACKING TO DETERMINE A JACKING LOCATION AT EACH BEARING AND PROVIDE A DESIGN FOR THE JACKING LOADS. JACKS SHALL HAVE A MINIMUM SAFE LOAD CAPACITY OF 125% OF THE LOAD SPECIFIED IN THE JACKING LOAD TABLE. THE CONTRACTOR SHALL SUBMIT THE JACKING PLAN, DETAILS, PROCEDURES AND SUPPORTING CALCULATIONS TO THE ENGINEER FOR REVIEW AND APPROVAL.

PROJECT NO. 17BP.2.P.19
CARTERET COUNTY
 BRIDGE NO.: 13

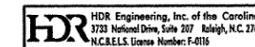


STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

SUBSTRUCTURE REPAIRS
 BENT 4 DETAILS

REVISIONS						SHEET NO. S-24 TOTAL SHEETS 48
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			
2			4			

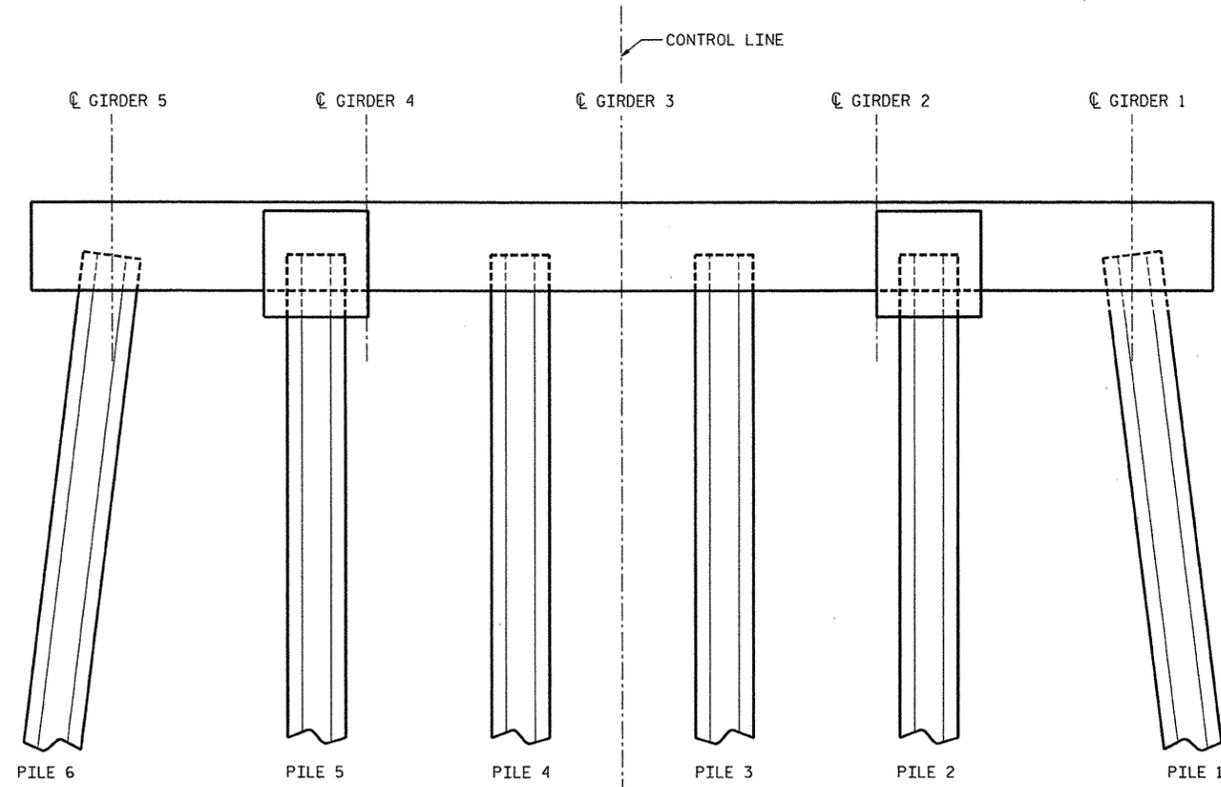
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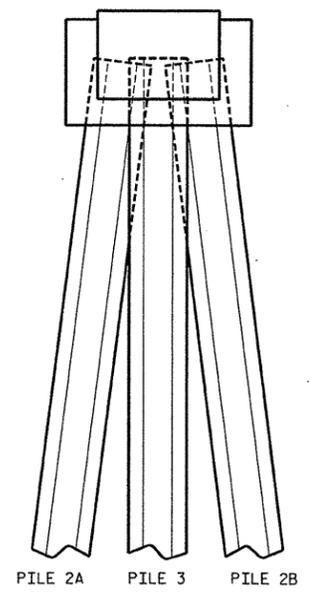
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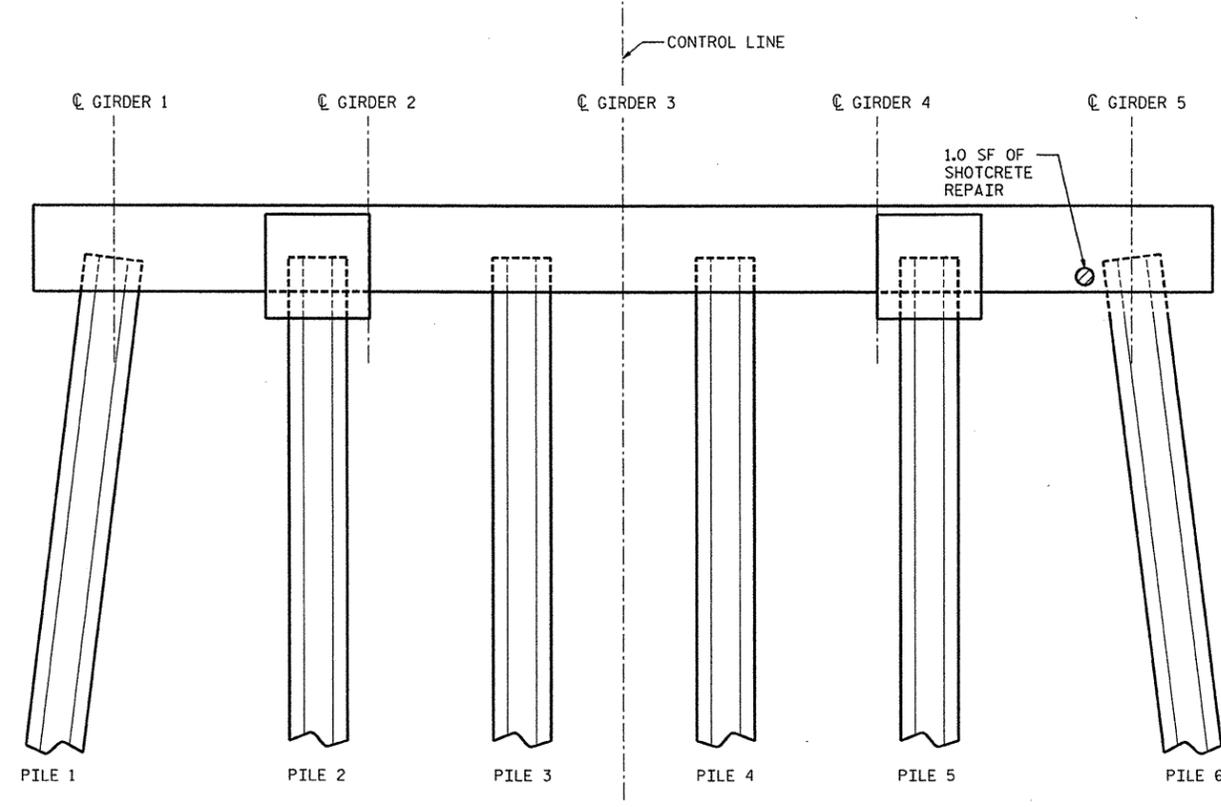
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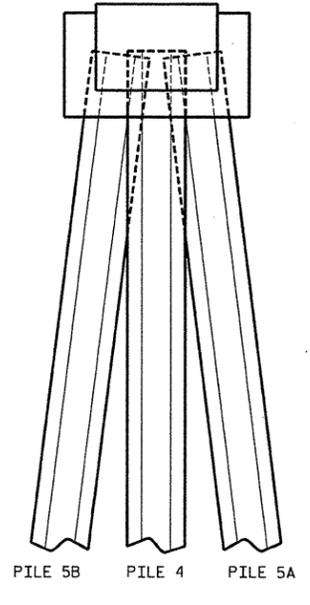
EAST ELEVATION



NORTH ELEVATION



WEST ELEVATION



SOUTH ELEVATION

NOTES
 FOR NOTES, SEE "TYPICAL SECTION SPANS 17-19".
 FOR REPAIR DETAILS SEE "SUBSTRUCTURE REPAIR DETAILS".
 QUANTITIES INDICATED ARE FROM THE BEST INFORMATION AVAILABLE AND ANTICIPATE THAT REMOVAL OF UNSOUND CONCRETE WILL RESULT IN AREAS AND DEPTHS GREATER THAN THOSE EXHIBITED BY OBSERVATION.

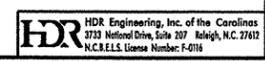
 SHOTCRETE REPAIR

PROJECT NO. 17BP.2.P.19
CARTERET COUNTY
 BRIDGE NO.: 13



STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
SUBSTRUCTURE REPAIRS BENT 6					
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
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					TOTAL SHEETS 48

DRAWN BY : L. PATTERSON DATE : 05/2013
 CHECKED BY : M. MOYER DATE : 05/2013



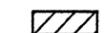
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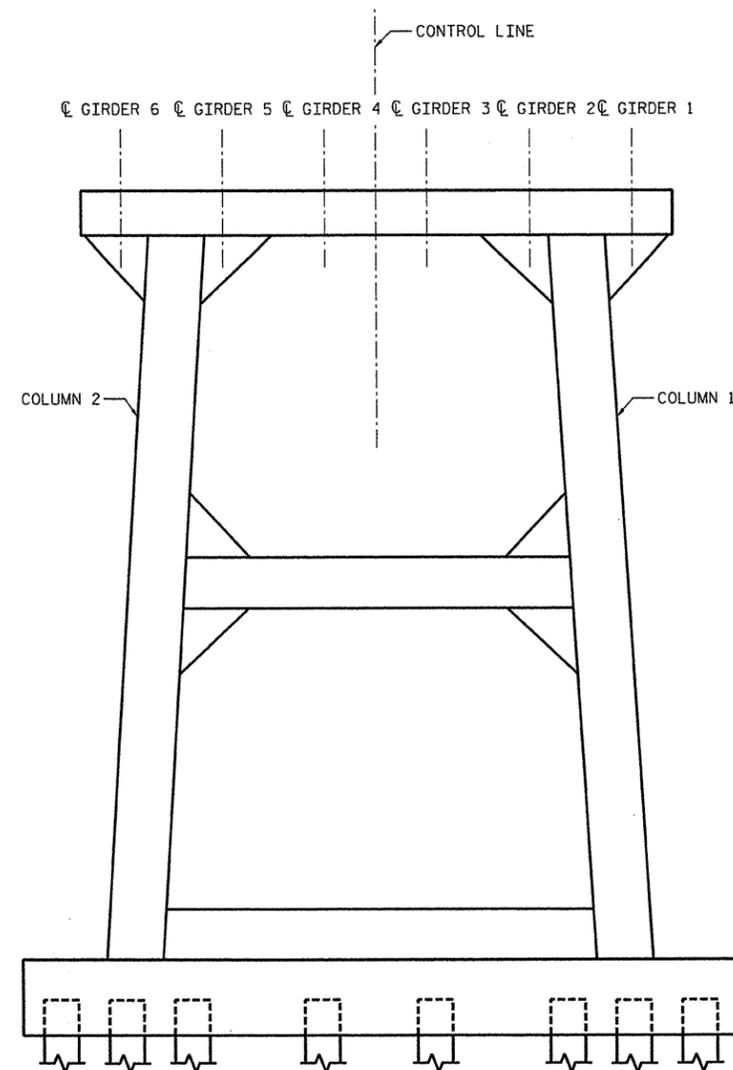
NOTES

FOR NOTES, SEE "TYPICAL SECTION SPANS 17-19".

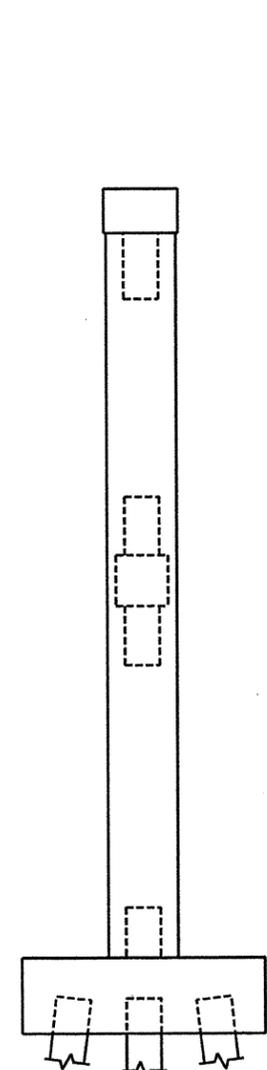
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QUANTITIES INDICATED ARE FROM THE BEST INFORMATION AVAILABLE AND ANTICIPATE THAT REMOVAL OF UNSOUND CONCRETE WILL RESULT IN AREAS AND DEPTHS GREATER THAN THOSE EXHIBITED BY OBSERVATION.

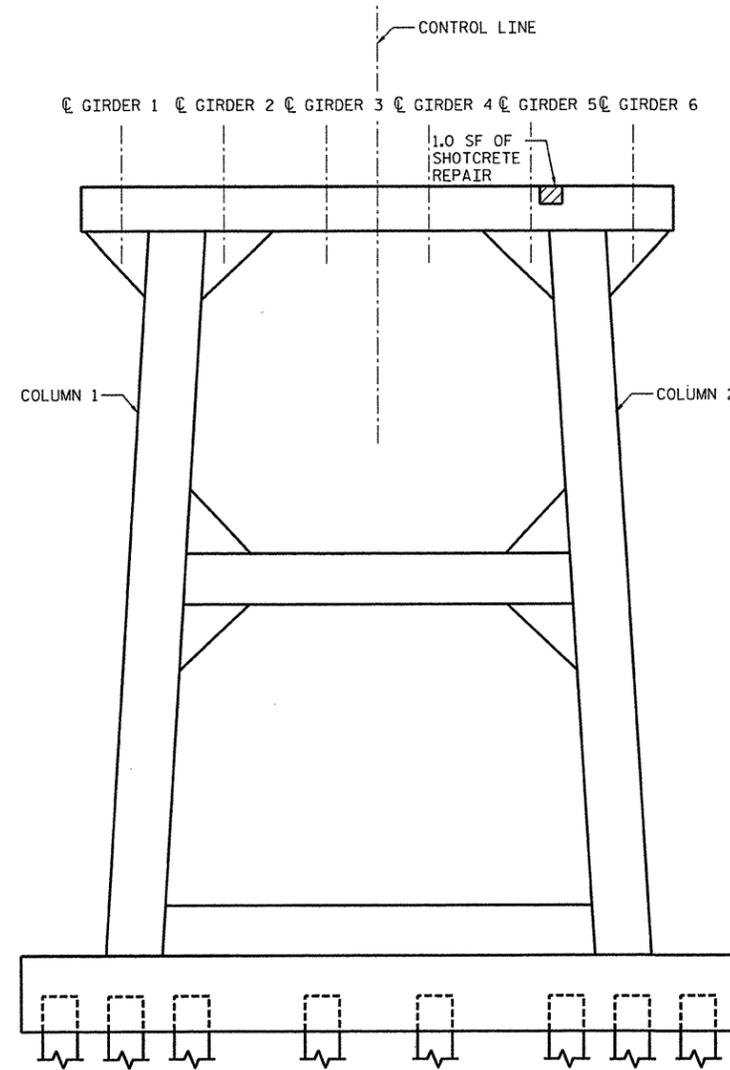
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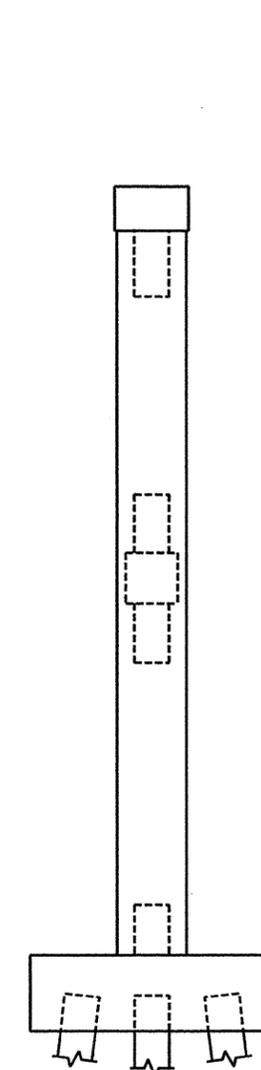
EAST ELEVATION



NORTH ELEVATION



WEST ELEVATION



SOUTH ELEVATION

PROJECT NO. 17BP.2.P.19
CARTERET COUNTY
BRIDGE NO.: 13



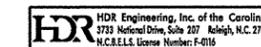
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
SUBSTRUCTURE REPAIRS
BENT 7

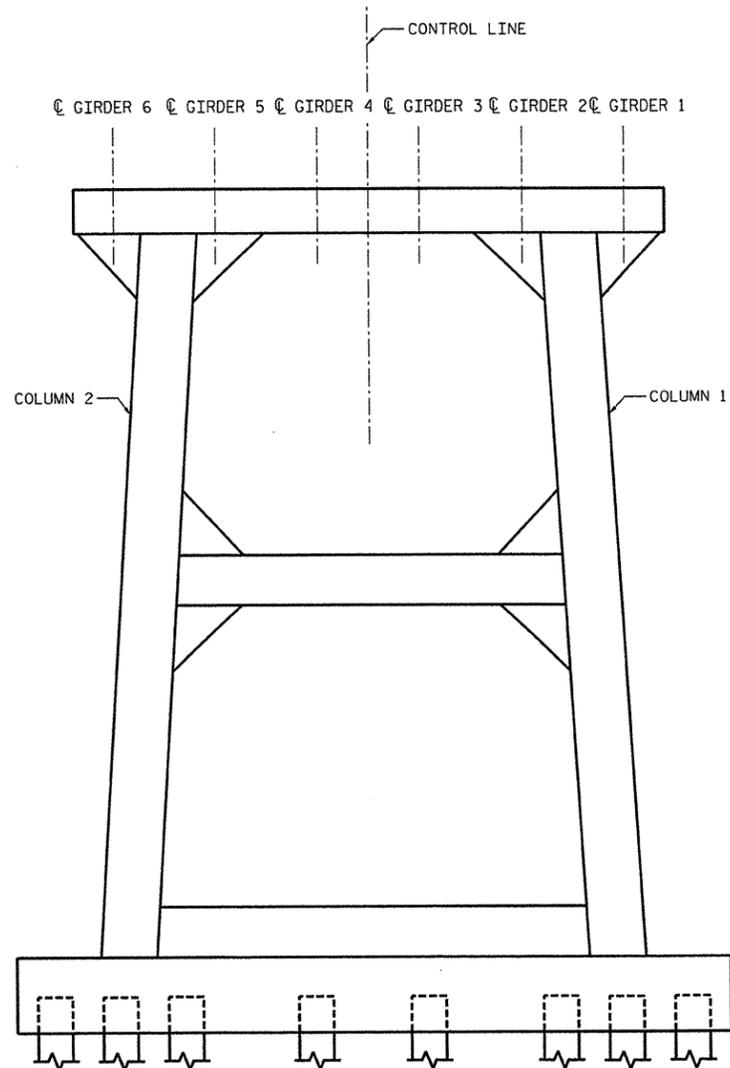
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NO.	BY:	DATE:	NO.	BY:	DATE:	
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2			4			

DRAWN BY : L. PATTERSON DATE : 05/2013
CHECKED BY : M. MOYER DATE : 05/2013

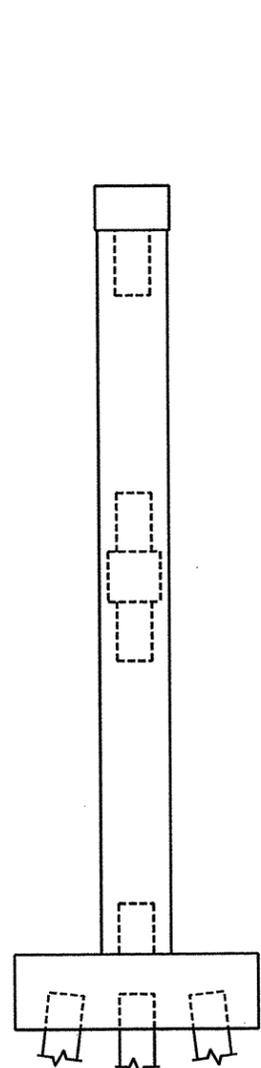
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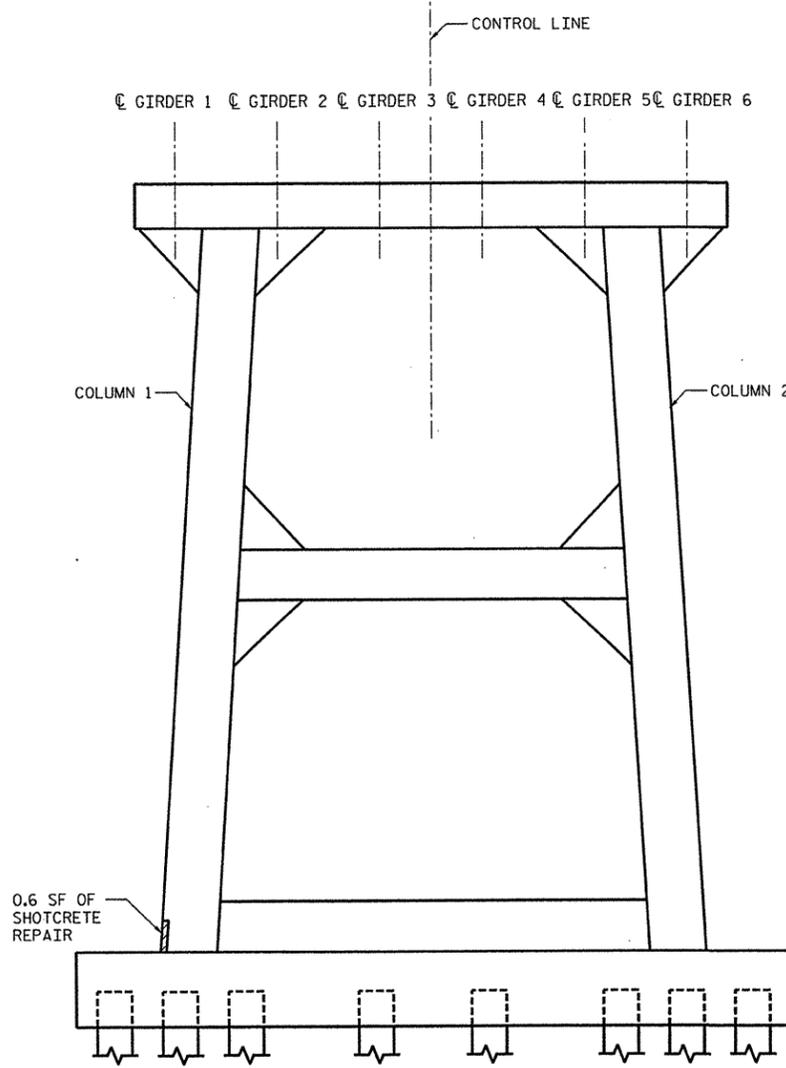




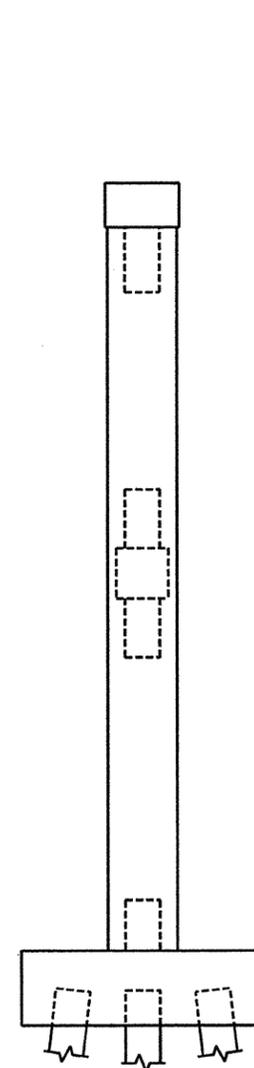
EAST ELEVATION



NORTH ELEVATION



WEST ELEVATION



SOUTH ELEVATION

NOTES

FOR NOTES, SEE "TYPICAL SECTION SPANS 17-19".

FOR REPAIR DETAILS SEE "SUBSTRUCTURE REPAIR DETAILS".

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 SHOTCRETE REPAIR

PROJECT NO. 17BP.2.P.19
 CARTERET COUNTY
 BRIDGE NO.: 13



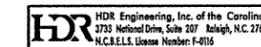
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 SUBSTRUCTURE REPAIRS
 BENT 8

REVISIONS						SHEET NO. 5-27
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 48
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 CHECKED BY : M. MOYER DATE : 05/2013

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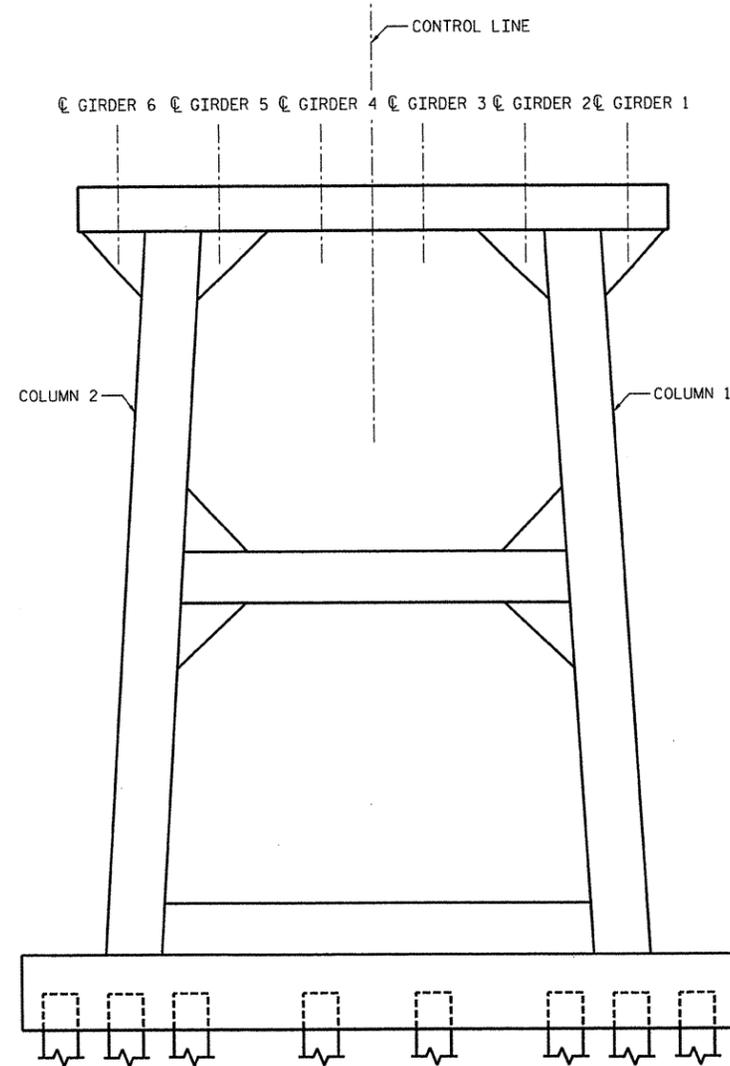
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FOR NOTES, SEE "TYPICAL SECTION SPANS 17-19".

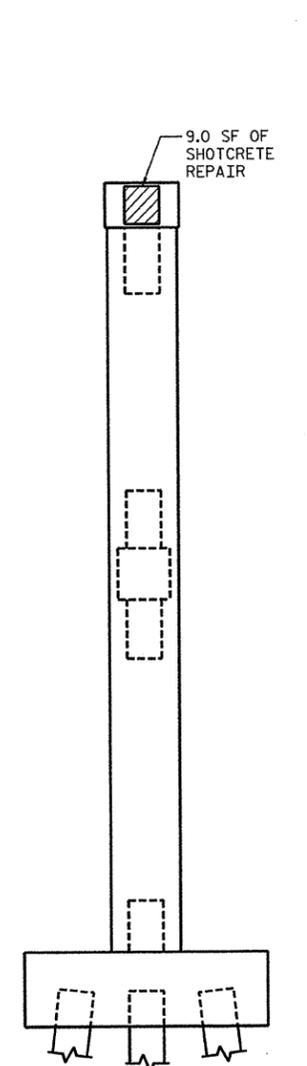
FOR REPAIR DETAILS SEE "SUBSTRUCTURE REPAIR DETAILS".

QUANTITIES INDICATED ARE FROM THE BEST INFORMATION AVAILABLE AND ANTICIPATE THAT REMOVAL OF UNSOUND CONCRETE WILL RESULT IN AREAS AND DEPTHS GREATER THAN THOSE EXHIBITED BY OBSERVATION.

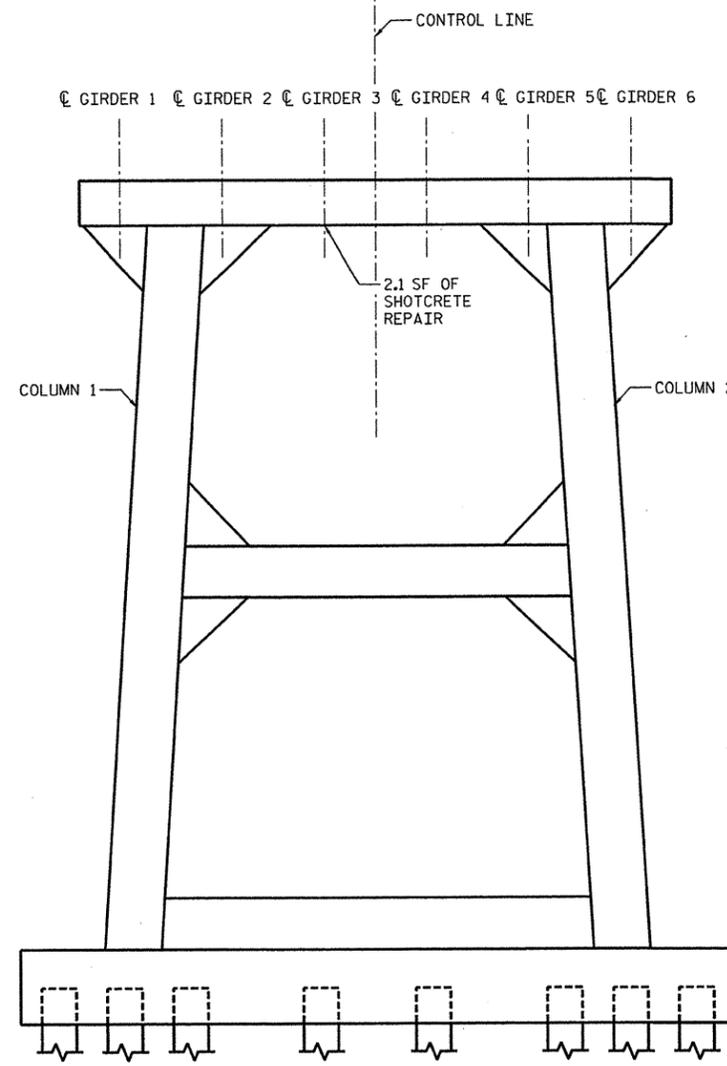
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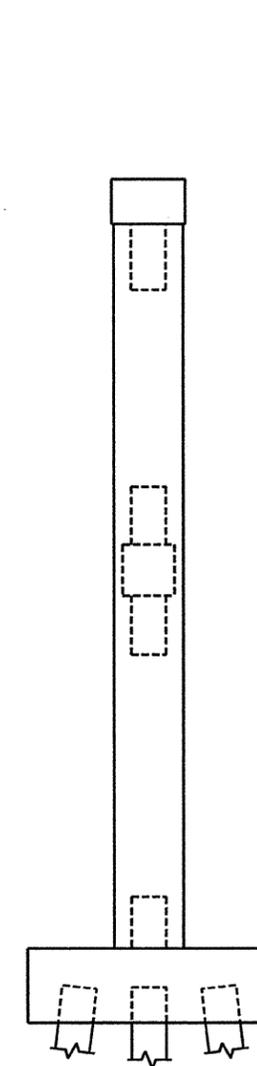
EAST ELEVATION



NORTH ELEVATION



WEST ELEVATION



SOUTH ELEVATION

PROJECT NO. 17BP.2.P.19
 CARTERET COUNTY
 BRIDGE NO.: 13



5-24-2013

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 SUBSTRUCTURE REPAIRS
 BENT 12

REVISIONS						SHEET NO. 5-28
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 48
2			4			

DRAWN BY : L. PATTERSON DATE : 05/2013
 CHECKED BY : M. MOYER DATE : 05/2013

HDR Engineering, Inc. of the Carolinas
 3733 National Drive, Suite 207 Raleigh, N.C. 27612
 N.C. E.L.T. License Number: F-4016

BILL OF MATERIAL	
BENT 13	
SHOTCRETE REPAIRS	CF 4.3

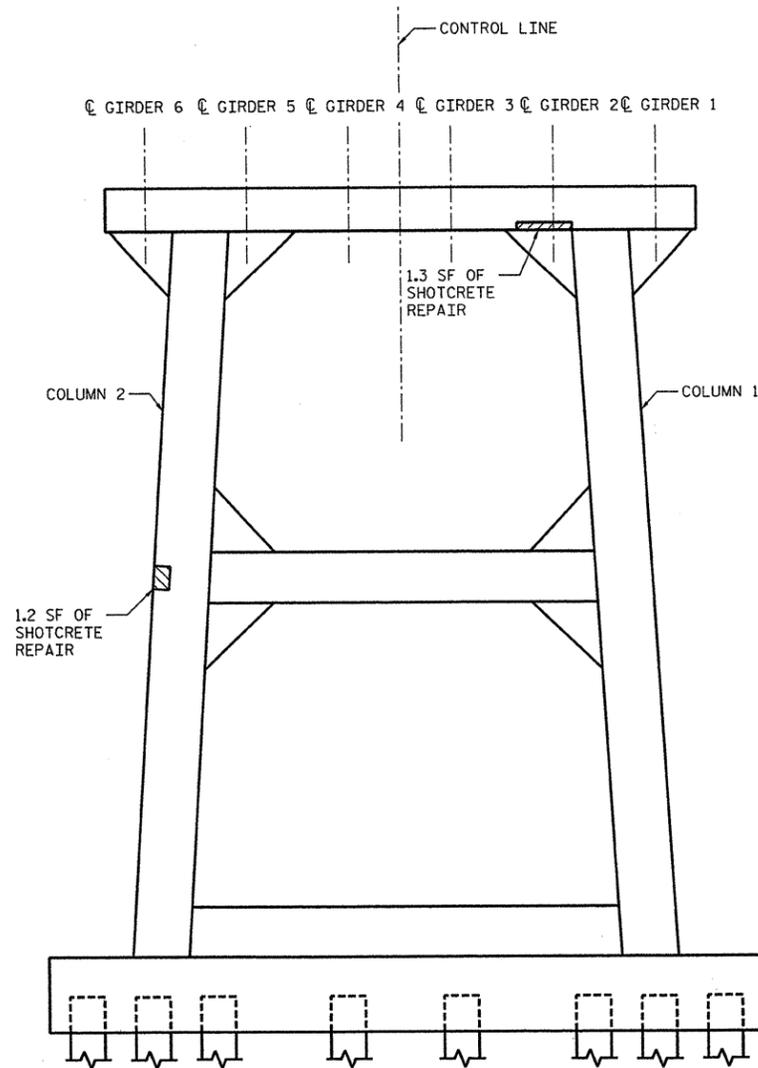
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FOR NOTES, SEE "TYPICAL SECTION SPANS 17-19".

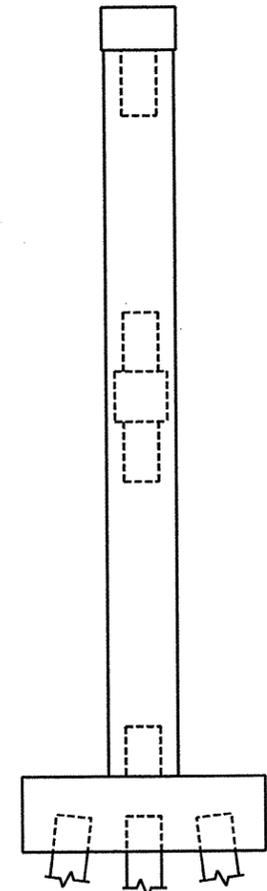
FOR REPAIR DETAILS SEE "SUBSTRUCTURE REPAIR DETAILS".

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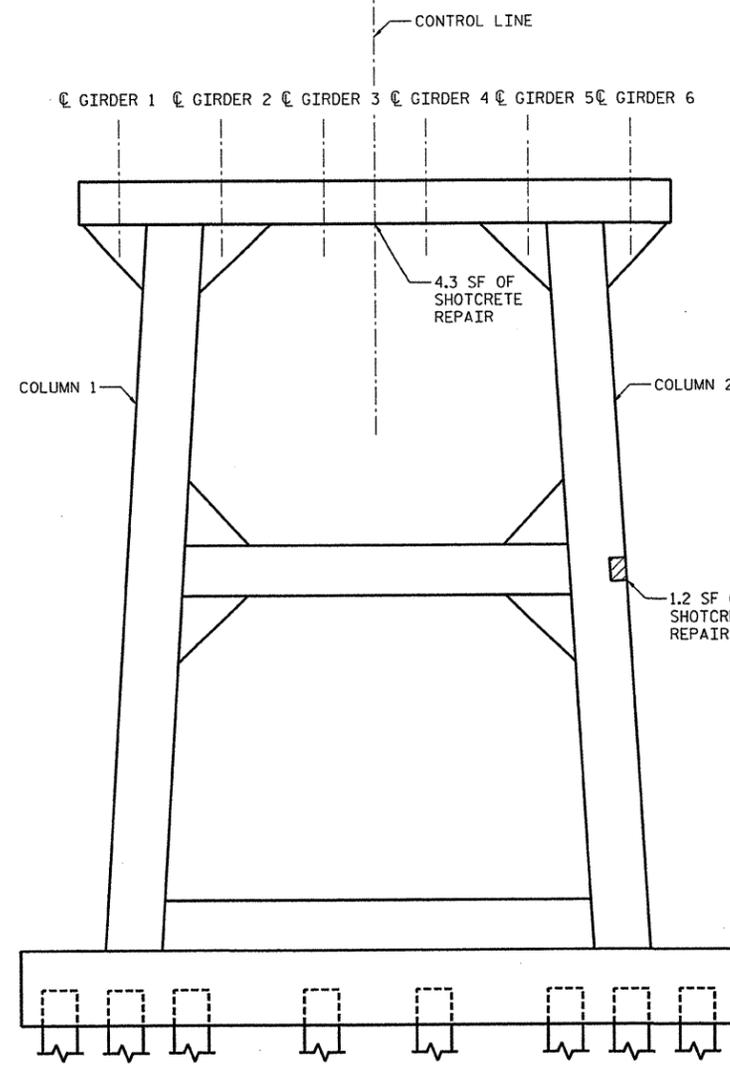
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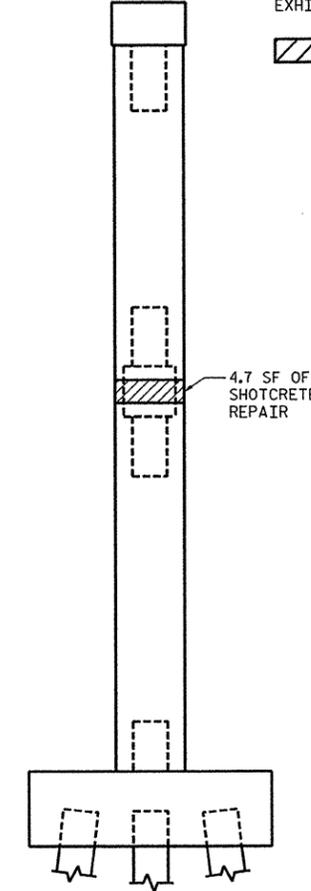
EAST ELEVATION



NORTH ELEVATION



WEST ELEVATION



SOUTH ELEVATION

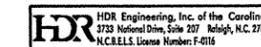
PROJECT NO. 17BP.2.P.19
CARTERET COUNTY
 BRIDGE NO.: 13



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 SUBSTRUCTURE REPAIRS
 BENT 13

REVISIONS						SHEET NO. 5-29
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 48
2			4			

DRAWN BY : L. PATTERSON DATE : 05/2013
 CHECKED BY : M. MOYER DATE : 05/2013



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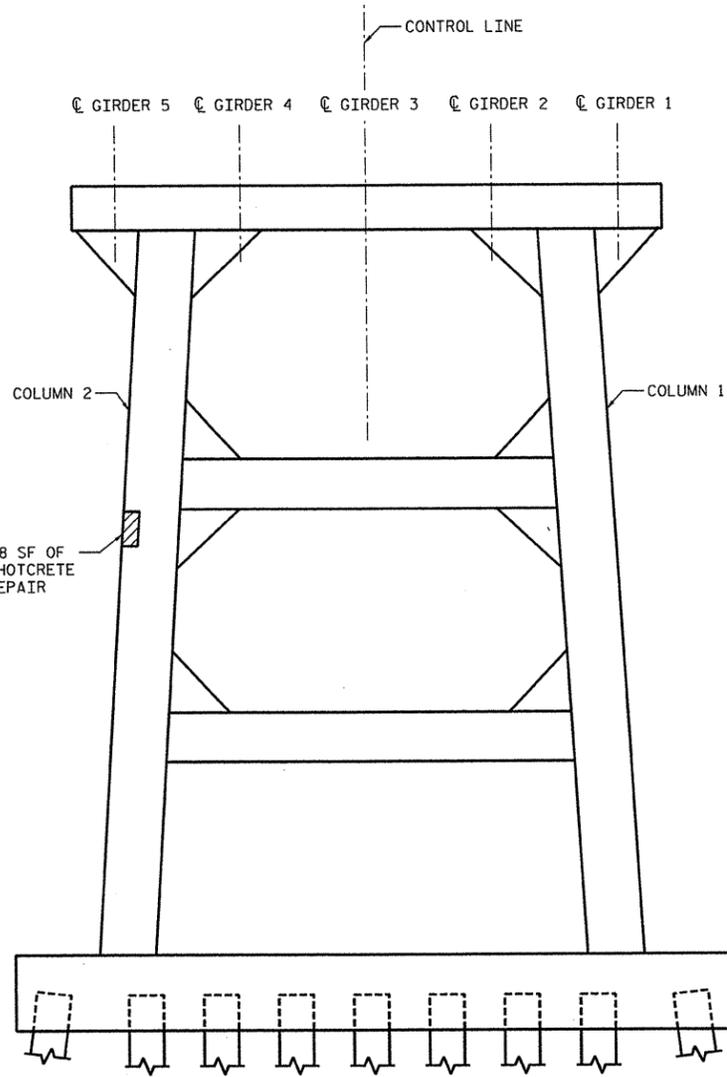
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FOR REPAIR DETAILS SEE "SUBSTRUCTURE REPAIR DETAILS".

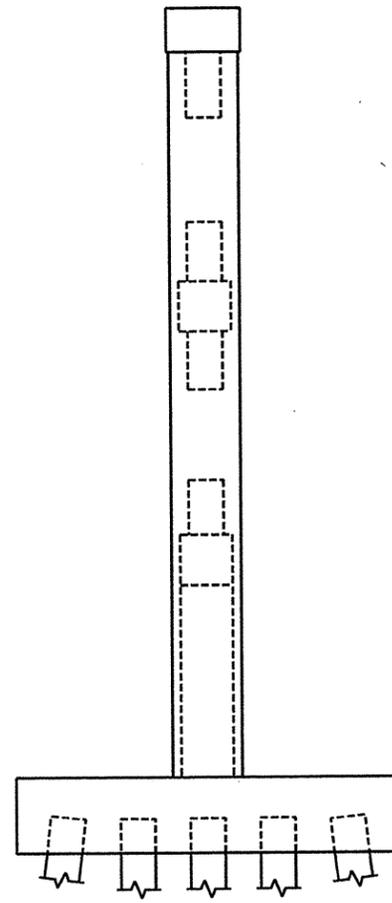
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 SHOTCRETE REPAIR

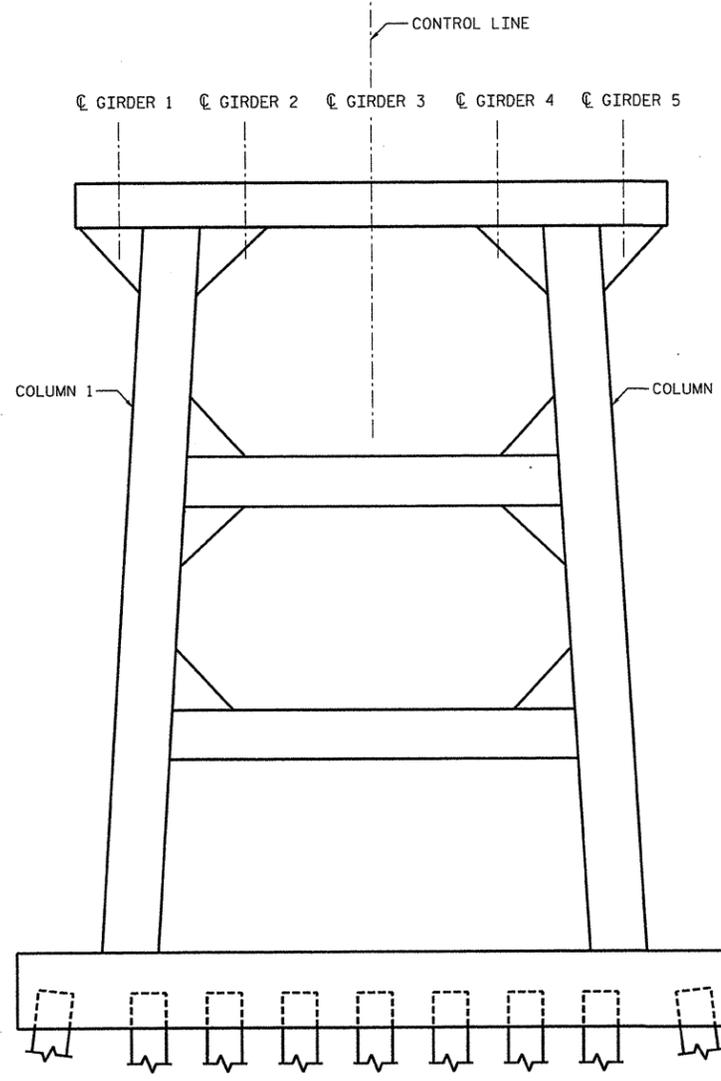
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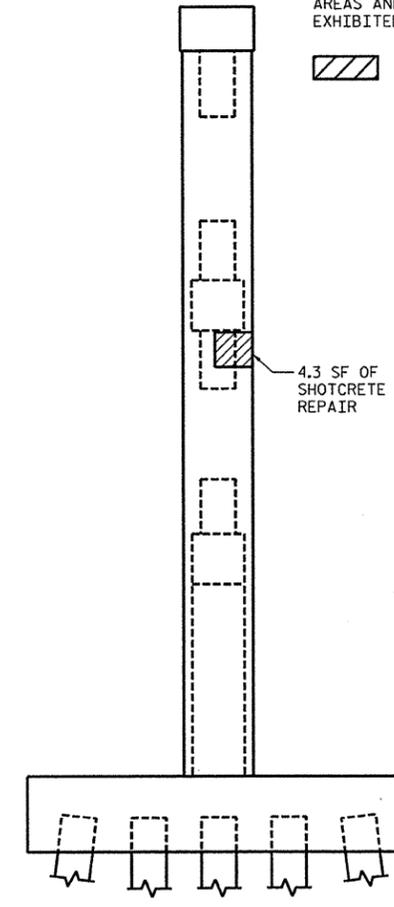
EAST ELEVATION



NORTH ELEVATION



WEST ELEVATION



SOUTH ELEVATION

PROJECT NO. 17BP.2.P.19
CARTERET COUNTY
BRIDGE NO.: 13



5-24-2013

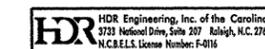
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
SUBSTRUCTURE REPAIRS
BENT 16

REVISIONS						SHEET NO. S-3B
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 48
2			4			

DRAWN BY : L. PATTERSON DATE : 05/2013
CHECKED BY : M. MOYER DATE : 05/2013

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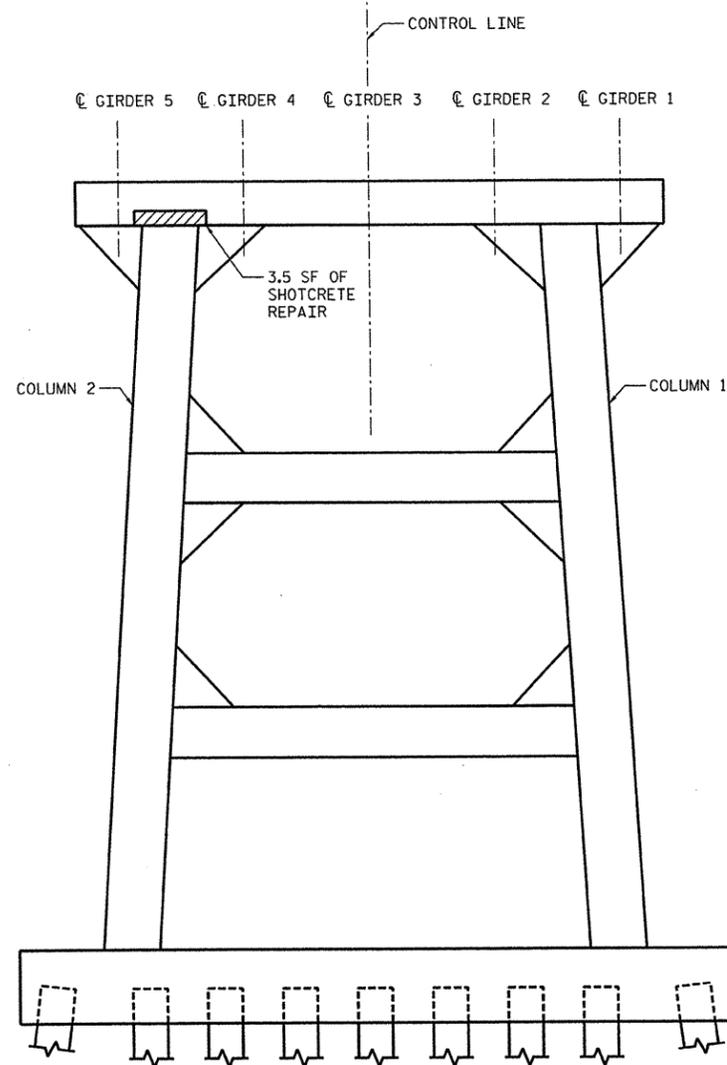


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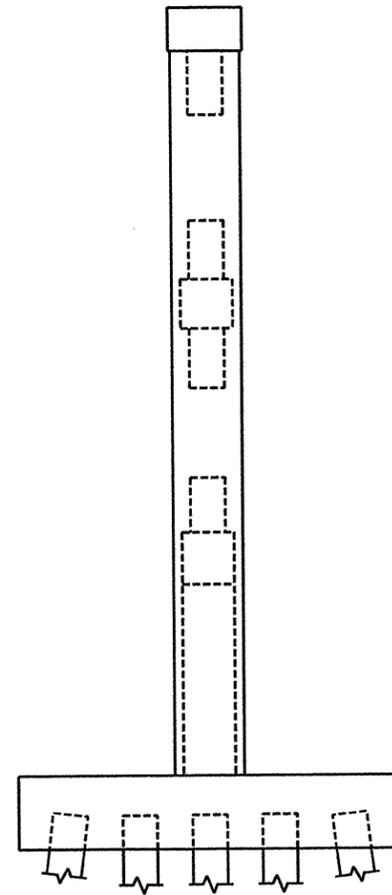
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 FOR REPAIR DETAILS SEE "SUBSTRUCTURE REPAIR DETAILS".

QUANTITIES INDICATED ARE FROM THE BEST INFORMATION AVAILABLE AND ANTICIPATE THAT REMOVAL OF UNSOUND CONCRETE WILL RESULT IN AREAS AND DEPTHS GREATER THAN THOSE EXHIBITED BY OBSERVATION.

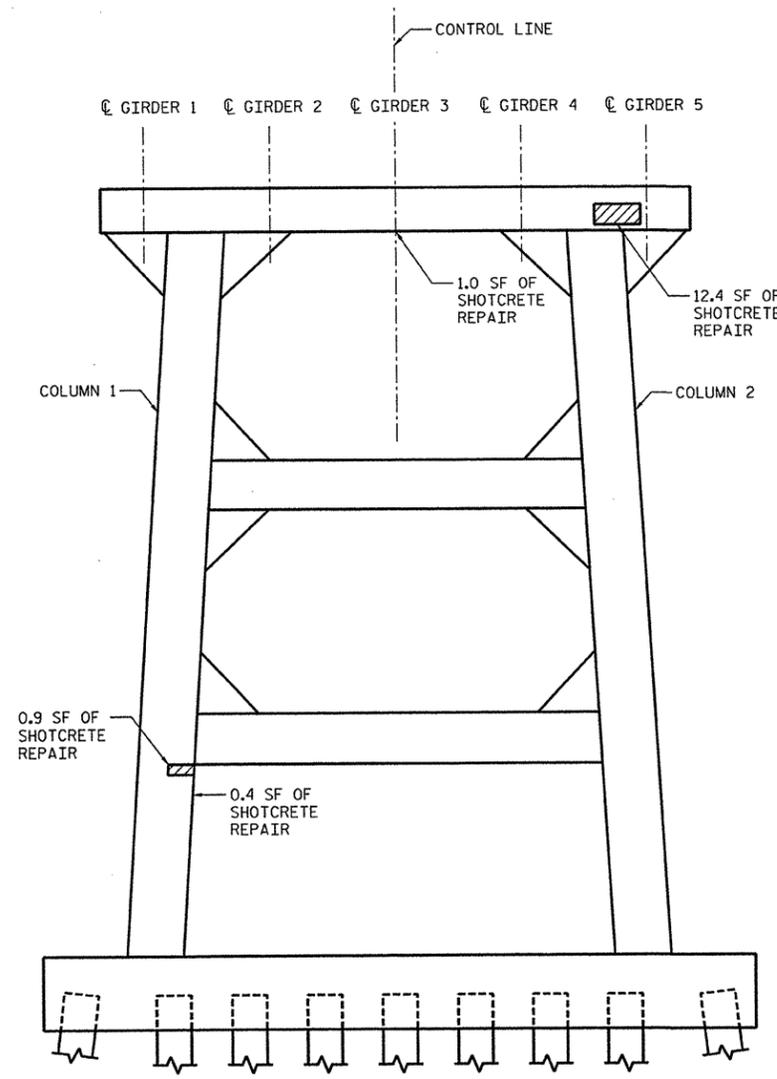
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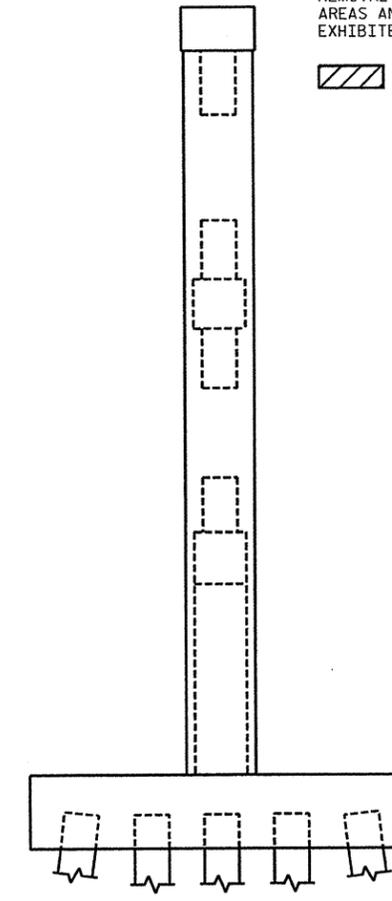
EAST ELEVATION



NORTH ELEVATION



WEST ELEVATION



SOUTH ELEVATION

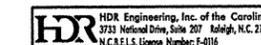
PROJECT NO. 17BP.2.P.19
 CARTERET COUNTY
 BRIDGE NO.: 13



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 SUBSTRUCTURE REPAIRS
 BENT 17

REVISIONS						SHEET NO. S-31
NO.	BY:	DATE:	NO.	BY:	DATE:	
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DRAWN BY : L. PATTERSON DATE : 05/2013
 CHECKED BY : M. MOYER DATE : 05/2013

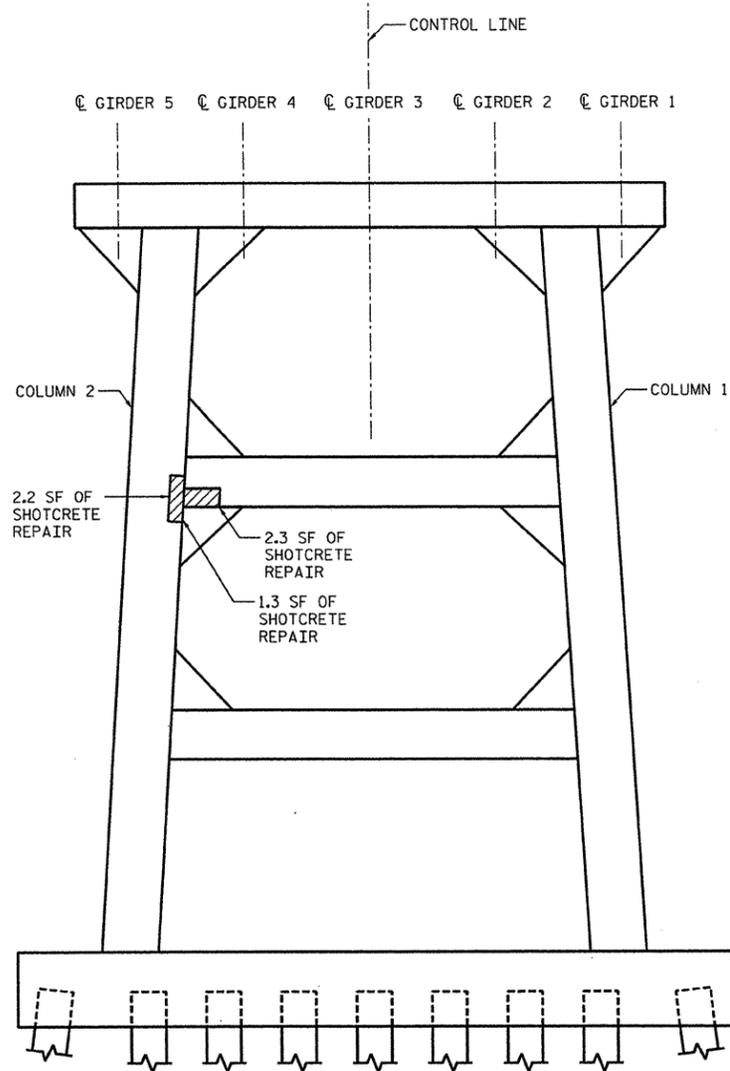


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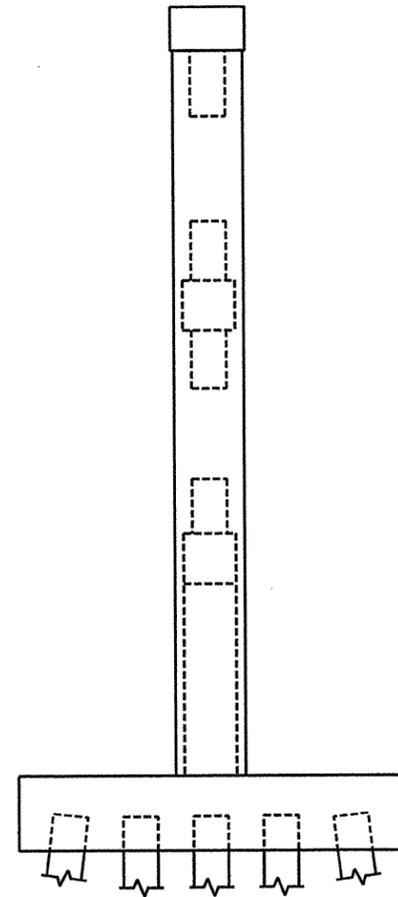
FOR NOTES, SEE "TYPICAL SECTION SPANS 17-19".
 FOR REPAIR DETAILS SEE "SUBSTRUCTURE REPAIR DETAILS".

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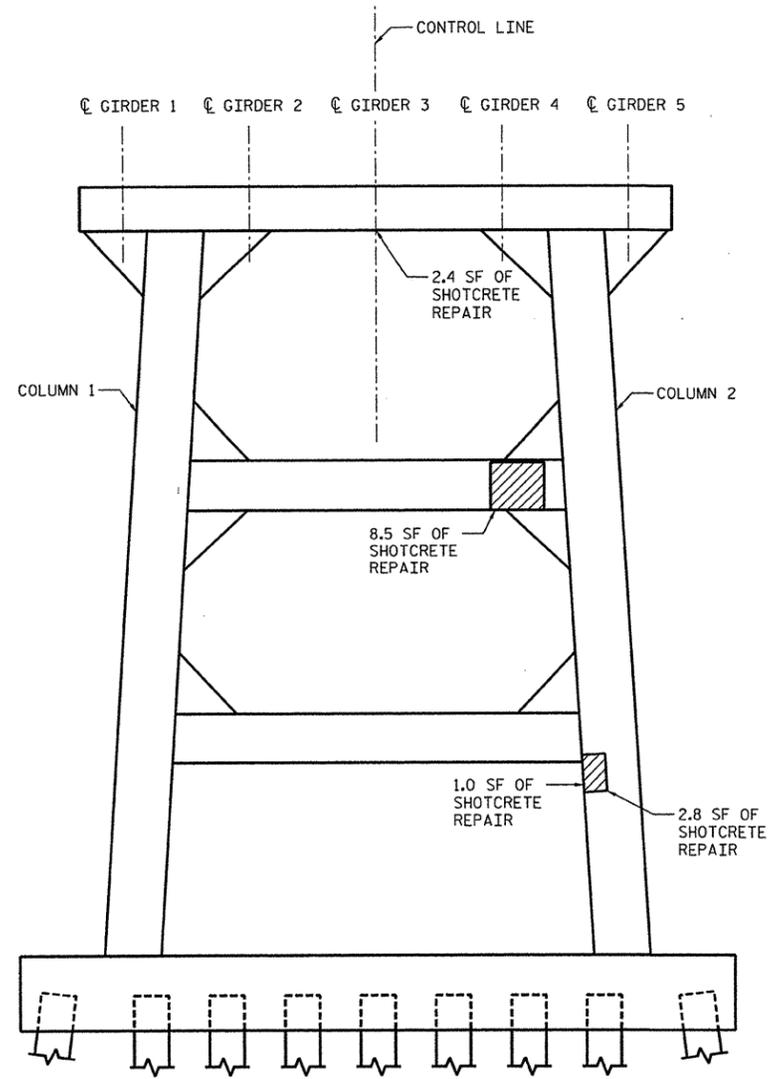
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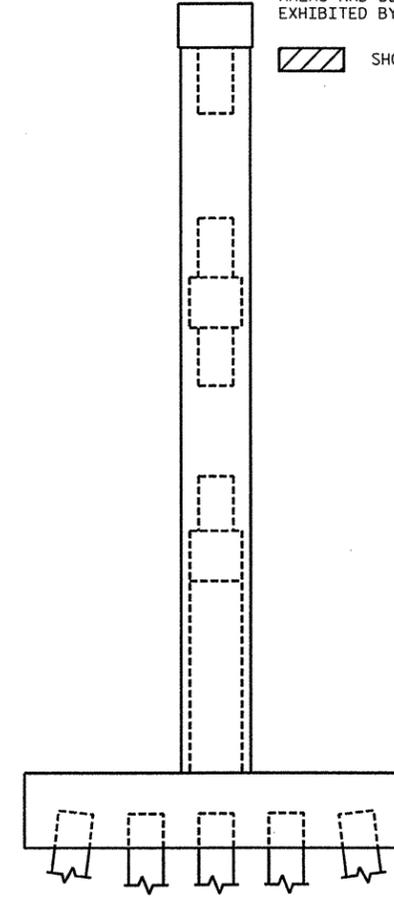
EAST ELEVATION



NORTH ELEVATION



WEST ELEVATION



SOUTH ELEVATION

PROJECT NO. 17BP.2.P.19
CARTERET COUNTY
 BRIDGE NO.: 13



5-24-2013

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 SUBSTRUCTURE REPAIRS
 BENT 18

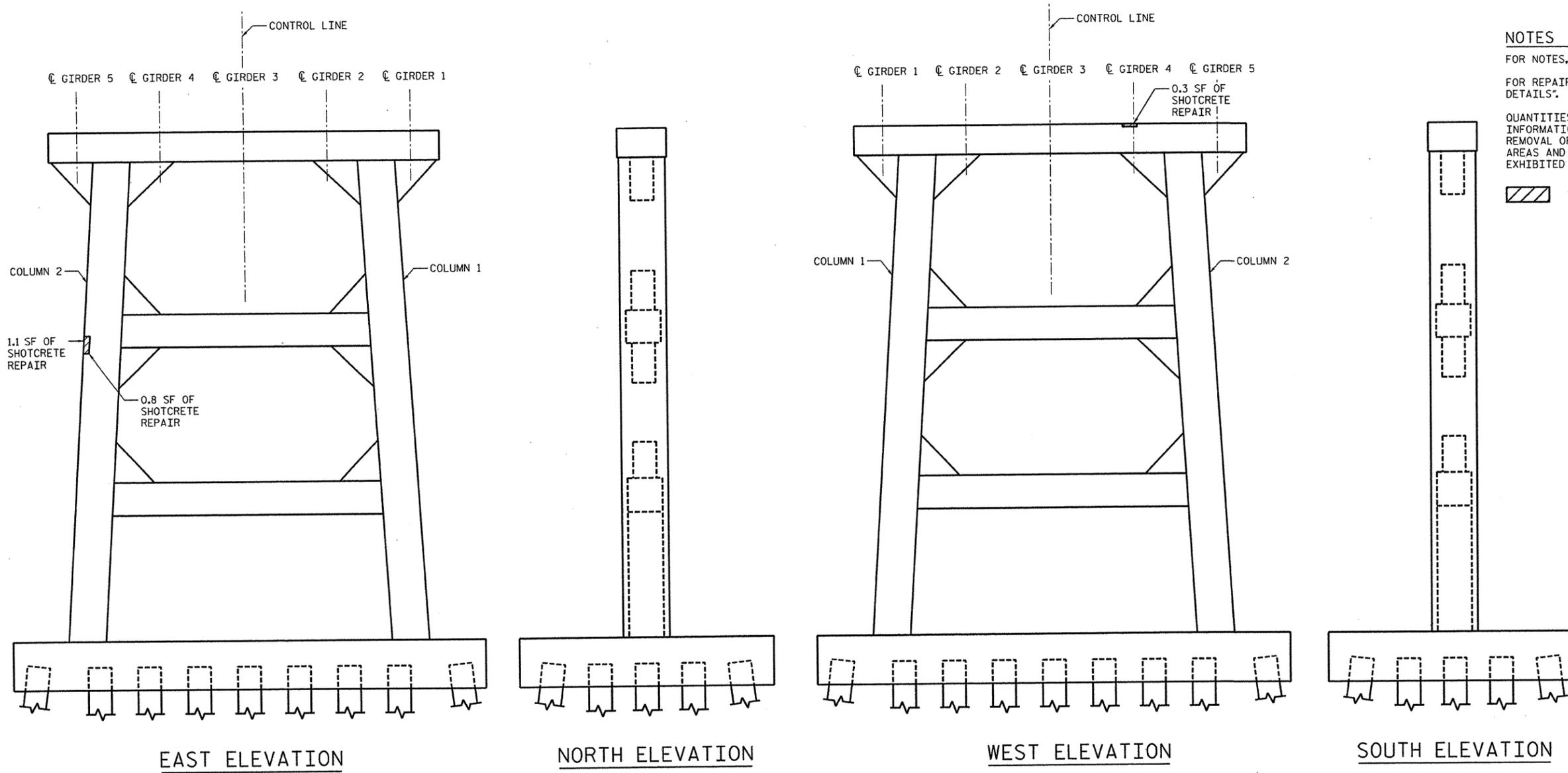
REVISIONS						SHEET NO. 5-32
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 48
2			4			

DRAWN BY : L. PATTERSON DATE : 05/2013
 CHECKED BY : M. MOYER DATE : 05/2013

PLOT DRIVER: NCDOT_pdf_mono_eng_50.plt
 PENTABLE: Division_2 Correret.tbl
 TIME: 11:00:43 PM

USER: msbills
 DATE: 5/24/2013
 FILE: ...\\DIV2\1\SD-CARTERET13-032.DGN

HDR HDR Engineering, Inc. of the Carolinas
 3733 National Drive, Suite 207 Raleigh, N.C. 27602
 N.C.E.L.S. License Number: F-2016



NOTES
 FOR NOTES, SEE "TYPICAL SECTION SPANS 17-19".
 FOR REPAIR DETAILS SEE "SUBSTRUCTURE REPAIR DETAILS".
 QUANTITIES INDICATED ARE FROM THE BEST INFORMATION AVAILABLE AND ANTICIPATE THAT REMOVAL OF UNSOUND CONCRETE WILL RESULT IN AREAS AND DEPTHS GREATER THAN THOSE EXHIBITED BY OBSERVATION.

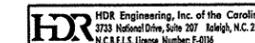
▨ SHOTCRETE REPAIR

PROJECT NO. 17BP.2.P.19
 CARTERET COUNTY
 BRIDGE NO.: 13



STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
SUBSTRUCTURE REPAIRS BENT 20					
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
					SHEET NO. 5-33
					TOTAL SHEETS 48

DRAWN BY : L. PATTERSON DATE : 05/2013
 CHECKED BY : M. MOYER DATE : 05/2013



PLOT DRIVER: NCDOT_pdef_mono_eng_50.plt
 USER: mse@is
 FILE: ..\DIV\1.L.SD.CARTERET13_033.DGN
 DATE: 5/24/2013
 TIME: 1:00:55 PM

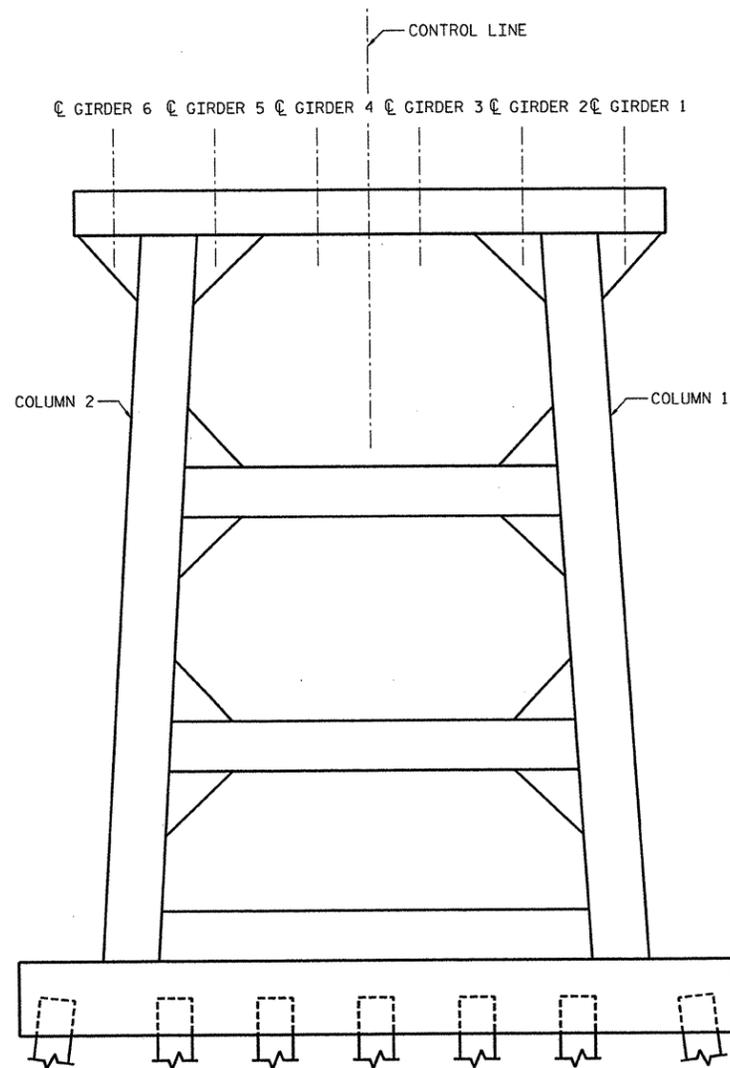
NOTES

FOR NOTES, SEE "TYPICAL SECTION SPANS 17-19".

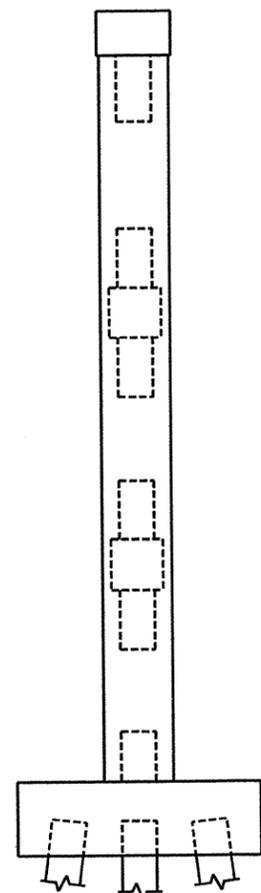
FOR REPAIR DETAILS SEE "SUBSTRUCTURE REPAIR DETAILS".

QUANTITIES INDICATED ARE FROM THE BEST INFORMATION AVAILABLE AND ANTICIPATE THAT REMOVAL OF UNSOUND CONCRETE WILL RESULT IN AREAS AND DEPTHS GREATER THAN THOSE EXHIBITED BY OBSERVATION.

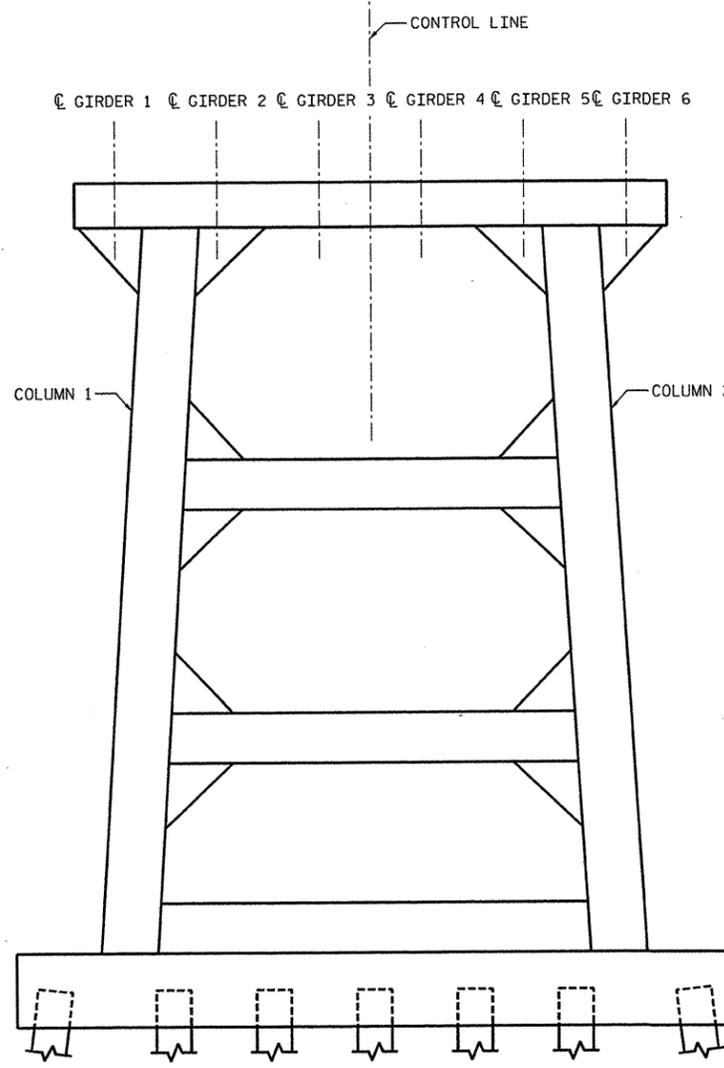
 SHOTCRETE REPAIR



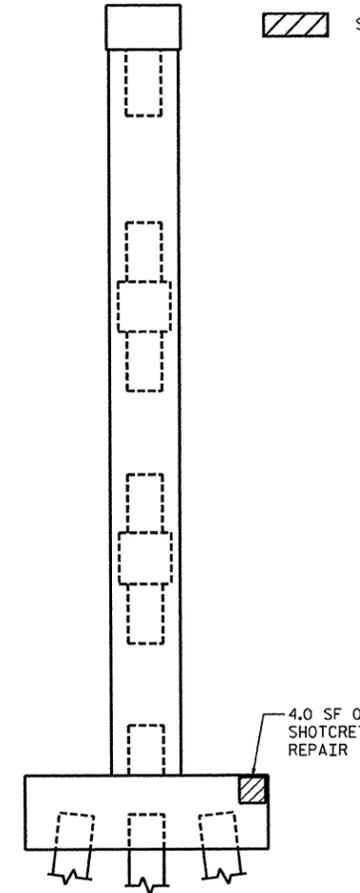
EAST ELEVATION



NORTH ELEVATION



WEST ELEVATION



SOUTH ELEVATION

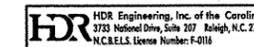
PROJECT NO. 17BP.2.P.19
 CARTERET COUNTY
 BRIDGE NO.: 13



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 SUBSTRUCTURE REPAIRS
 BENT 21

REVISIONS						SHEET NO. S-34
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 48
2			4			

DRAWN BY : L. PATTERSON DATE : 05/2013
 CHECKED BY : M. MOYER DATE : 05/2013



PLOT DRIVER: NCDOT_pdf_mono_eng_50.plt
 USER: meells DATE: 5/24/2013
 FILE: ..\DIV21.S0.CARTERET13_034.DGN

PENTABLE: Division_2_Carteret.tbl
 TIME: 10:06 PM

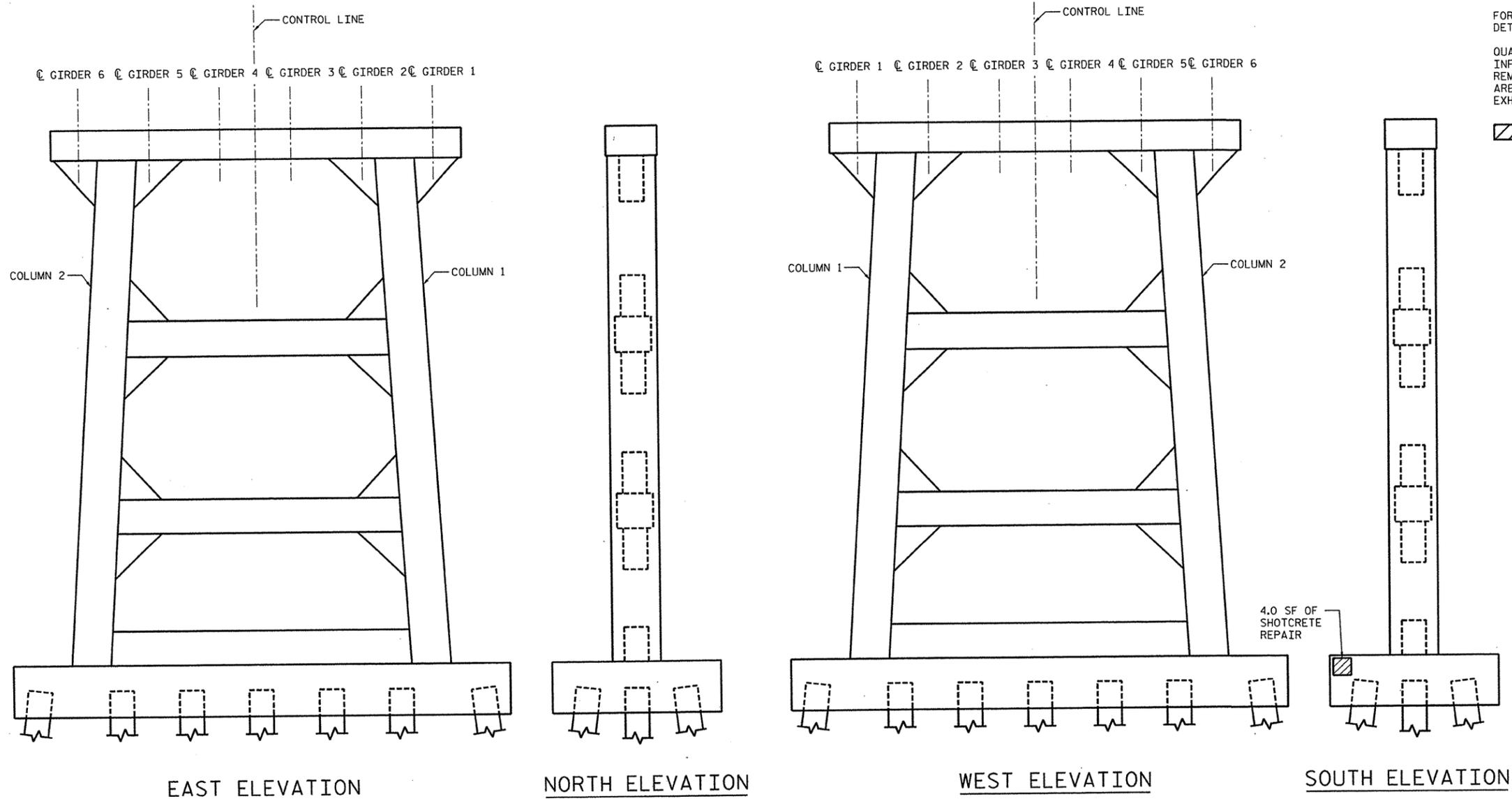
NOTES

FOR NOTES, SEE "TYPICAL SECTION SPANS 17-19".

FOR REPAIR DETAILS SEE "SUBSTRUCTURE REPAIR DETAILS".

QUANTITIES INDICATED ARE FROM THE BEST INFORMATION AVAILABLE AND ANTICIPATE THAT REMOVAL OF UNSOUND CONCRETE WILL RESULT IN AREAS AND DEPTHS GREATER THAN THOSE EXHIBITED BY OBSERVATION.

 SHOTCRETE REPAIR



PROJECT NO. 17BP.2.P.19
CARTERET COUNTY
 BRIDGE NO.: 13

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 SUBSTRUCTURE REPAIRS
 BENT 22



HDR Engineering, Inc. of the Carolinas
 3733 National Drive, Suite 207 Raleigh, N.C. 27612
 N.C.B.E.L. License Number: F-0116

REVISIONS						SHEET NO. S-35
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 48
2			4			

DRAWN BY : L. PATTERSON DATE : 05/2013
 CHECKED BY : M. MOYER DATE : 05/2013

PENTABLE: Division_2 Carteret.rbi
 TIME: 1:01:18 PM

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 USER: msells DATE: 5/24/2013
 FILE: ... \DIV2\1.SD.CARTERET13_035.DGN

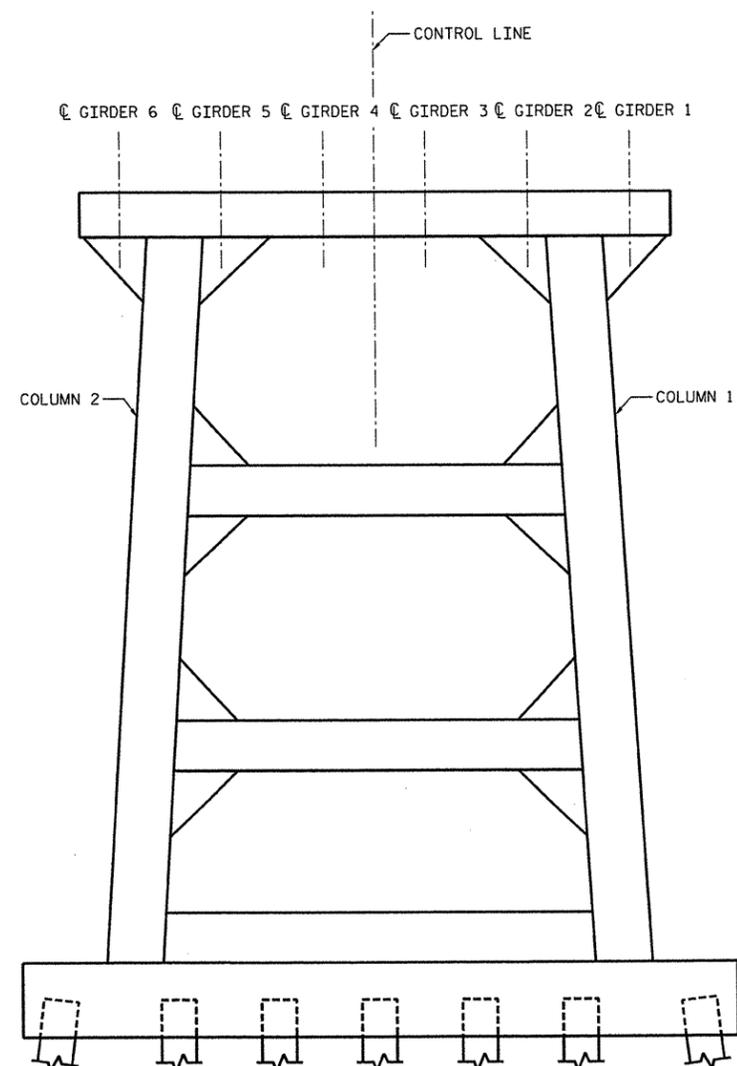
NOTES

FOR NOTES, SEE "TYPICAL SECTION SPANS 17-19".

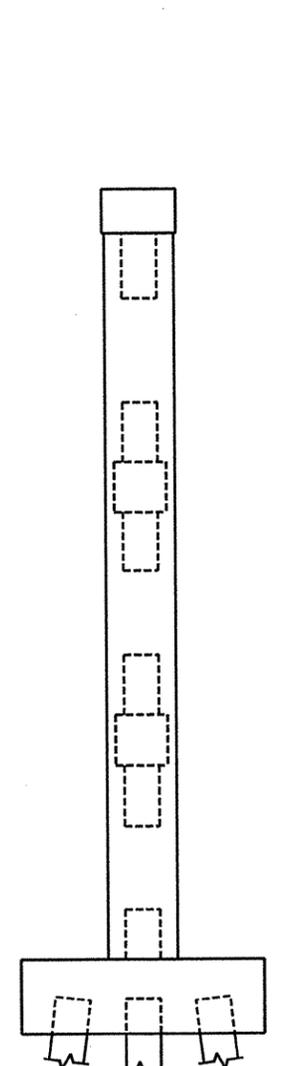
FOR REPAIR DETAILS SEE "SUBSTRUCTURE REPAIR DETAILS".

QUANTITIES INDICATED ARE FROM THE BEST INFORMATION AVAILABLE AND ANTICIPATE THAT REMOVAL OF UNSOUND CONCRETE WILL RESULT IN AREAS AND DEPTHS GREATER THAN THOSE EXHIBITED BY OBSERVATION.

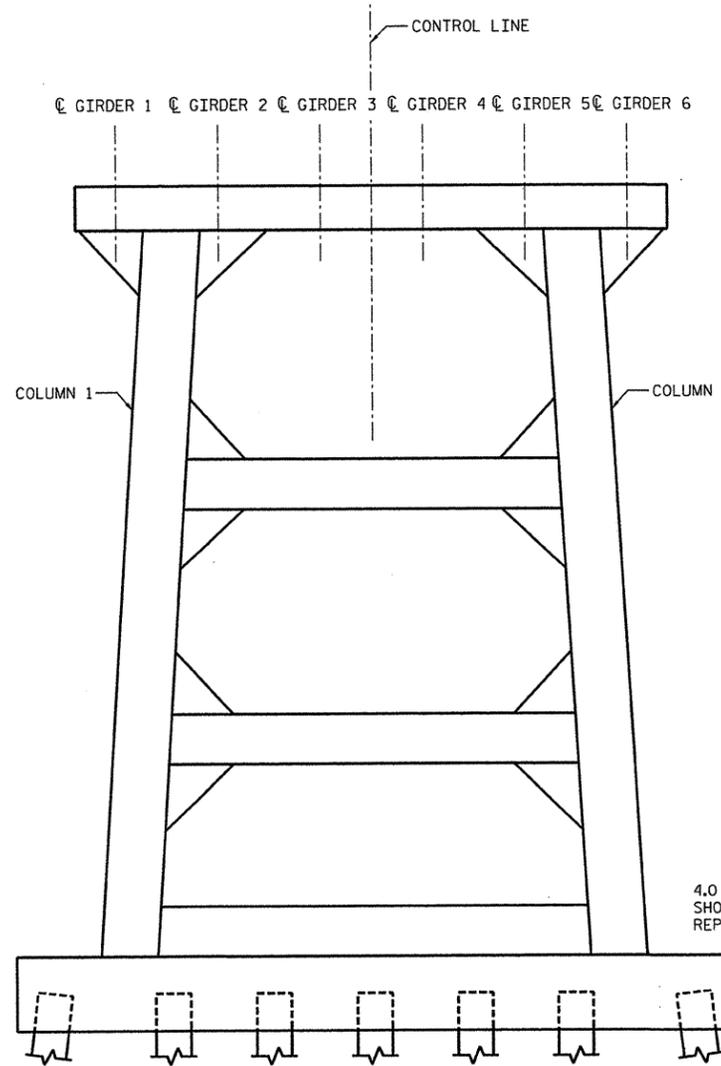
 SHOTCRETE REPAIR



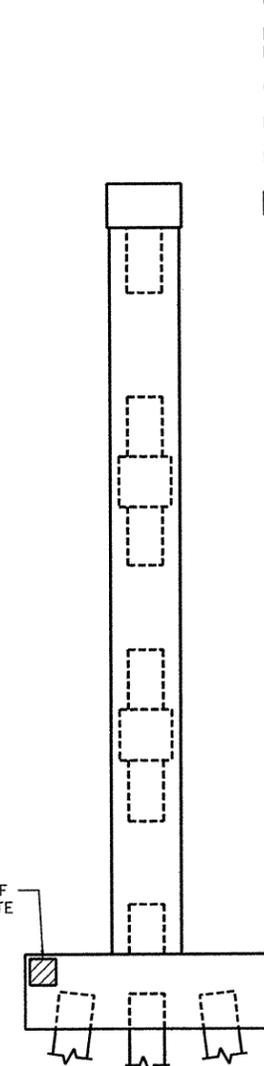
EAST ELEVATION



NORTH ELEVATION



WEST ELEVATION



SOUTH ELEVATION

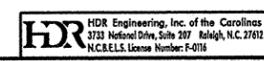
PROJECT NO. 17BP.2.P.19
 CARTERET COUNTY
 BRIDGE NO.: 13



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 SUBSTRUCTURE REPAIRS
 BENT 23

REVISIONS						SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:	5-36	
1			3			TOTAL SHEETS 48	
2			4				

DRAWN BY : L. PATTERSON DATE : 05/2013
 CHECKED BY : M. MOYER DATE : 05/2013



PLOT DRIVER: NCD01.pdf_mnnc_eng_50.plt
 USER: msells DATE: 5/24/2013
 FILE: ... \DIV2\1-SD\CARTERET13_036.DGN
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 TIME: 1:01:29 PM

BILL OF MATERIAL	
BENT 24	
SHOTCRETE REPAIRS	CF 7.0

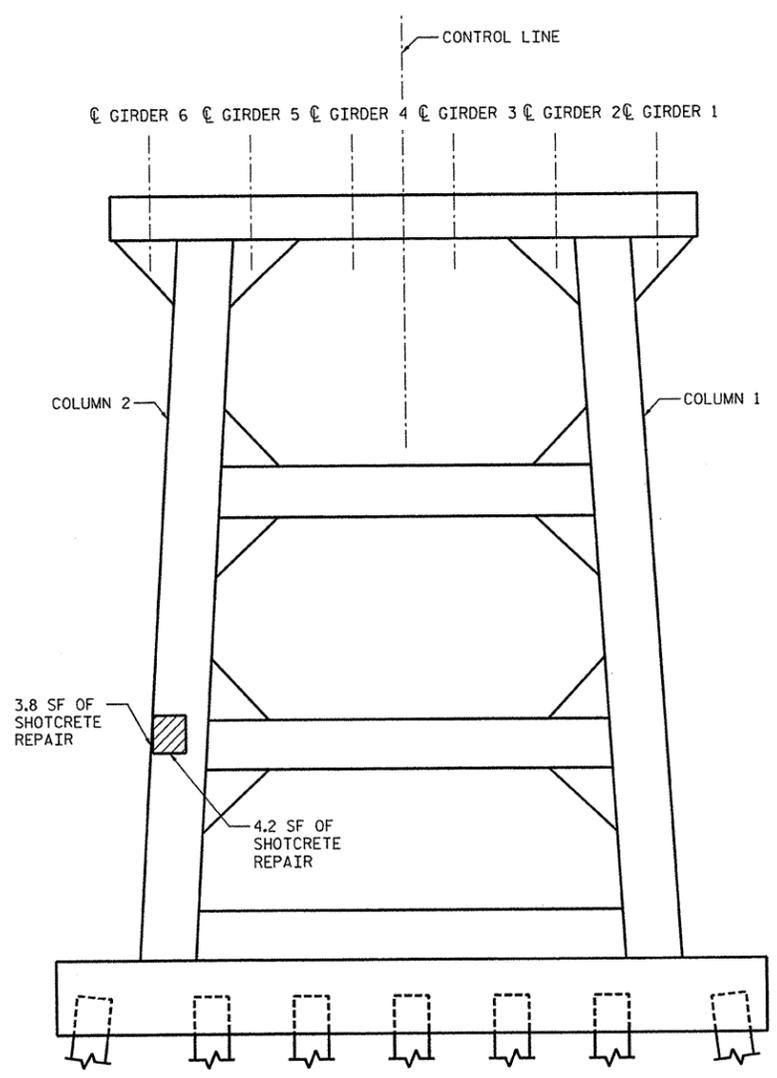
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FOR NOTES, SEE "TYPICAL SECTION SPANS 17-19".

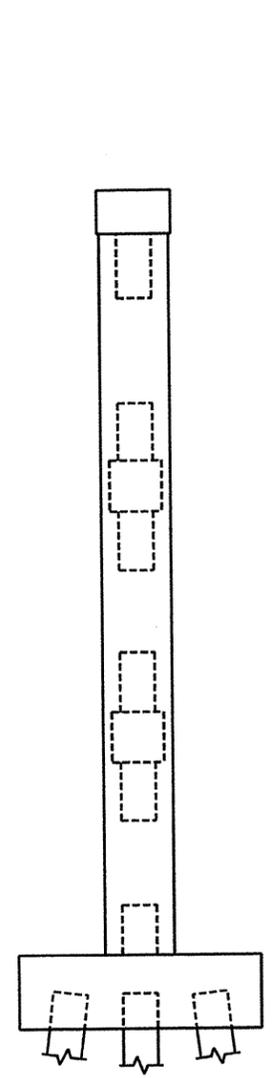
FOR REPAIR DETAILS SEE "SUBSTRUCTURE REPAIR DETAILS".

QUANTITIES INDICATED ARE FROM THE BEST INFORMATION AVAILABLE AND ANTICIPATE THAT REMOVAL OF UNSOUND CONCRETE WILL RESULT IN AREAS AND DEPTHS GREATER THAN THOSE EXHIBITED BY OBSERVATION.

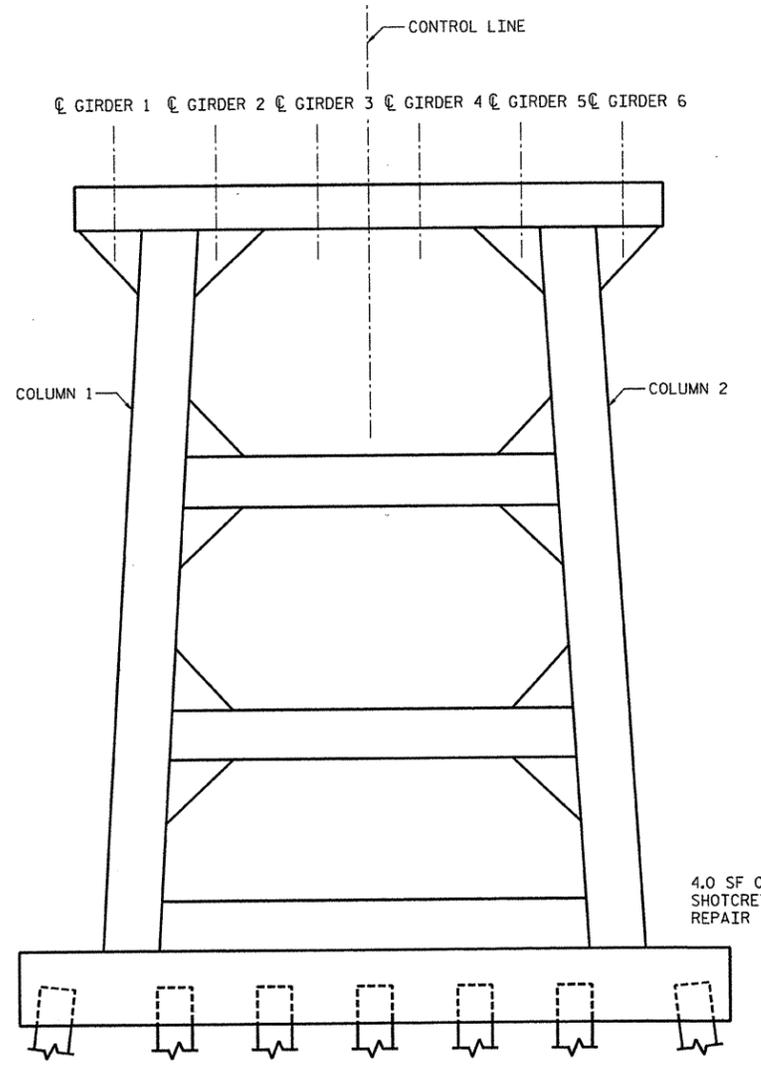
 SHOTCRETE REPAIR



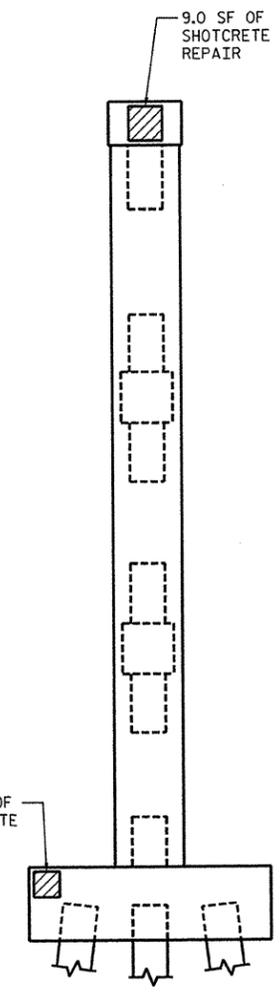
EAST ELEVATION



NORTH ELEVATION



WEST ELEVATION



SOUTH ELEVATION

PROJECT NO. 17BP.2.P.19
CARTERET COUNTY
 BRIDGE NO.: 13



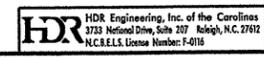
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

**SUBSTRUCTURE REPAIRS
 BENT 24**

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

SHEET NO. S-37
TOTAL SHEETS 46

DRAWN BY : L. PATTERSON DATE : 05/2013
 CHECKED BY : M. MOYER DATE : 05/2013



PLOT DRIVER: NCDOT_pdf_mono_eng_50.plt
 USER: msells DATE: 5/24/2013
 FILE: ...NDIV21_SD_CARTERET13_037.DGN
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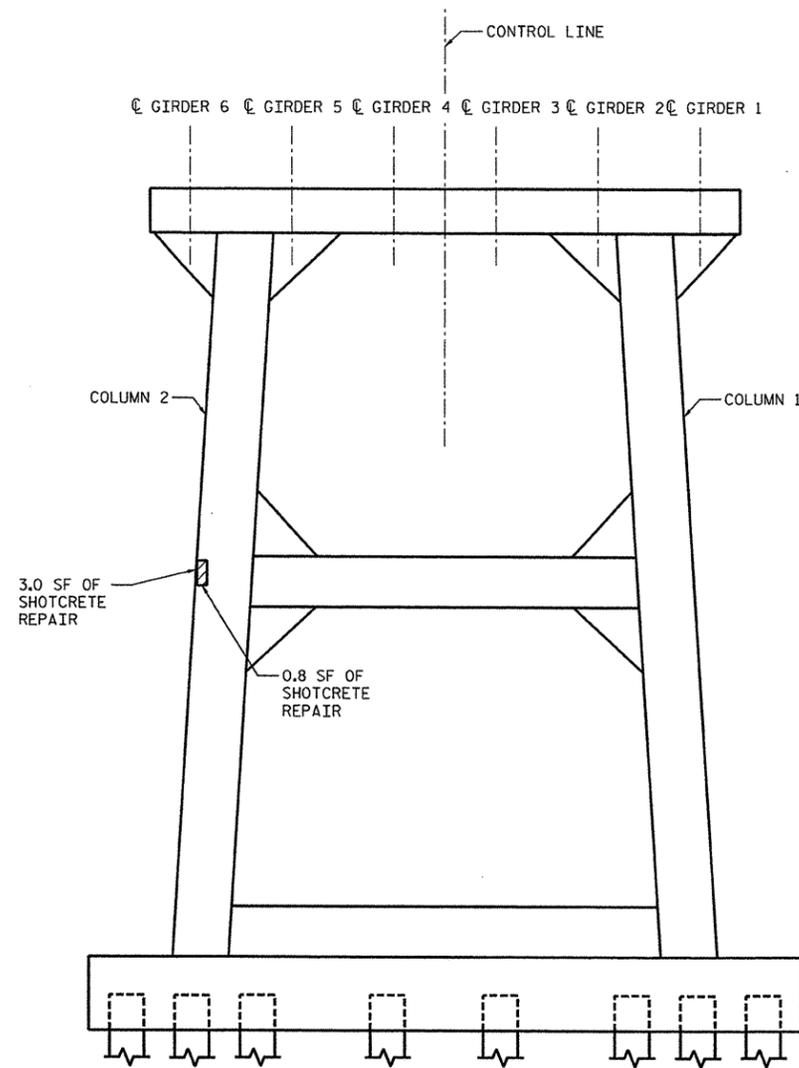
NOTES

FOR NOTES, SEE "TYPICAL SECTION SPANS 17-19".

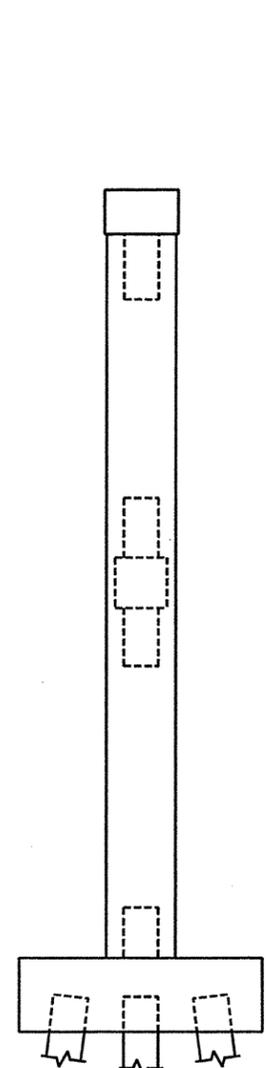
FOR REPAIR DETAILS SEE "SUBSTRUCTURE REPAIR DETAILS".

QUANTITIES INDICATED ARE FROM THE BEST INFORMATION AVAILABLE AND ANTICIPATE THAT REMOVAL OF UNSOUND CONCRETE WILL RESULT IN AREAS AND DEPTHS GREATER THAN THOSE EXHIBITED BY OBSERVATION.

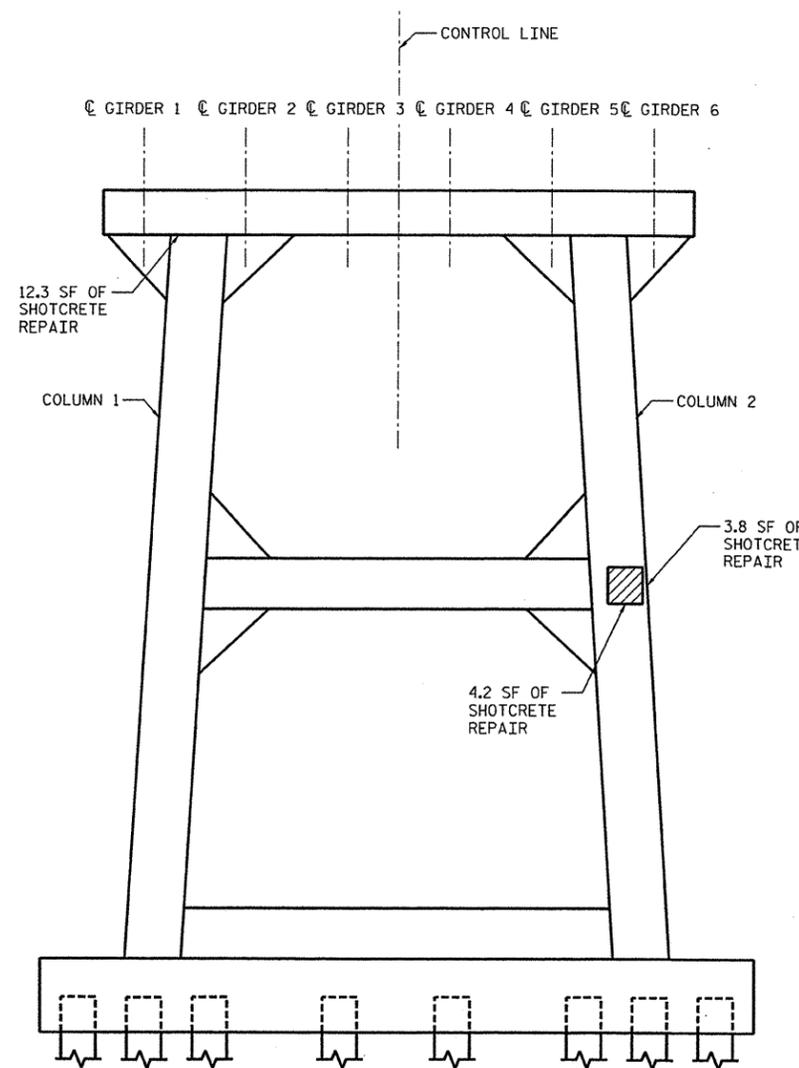
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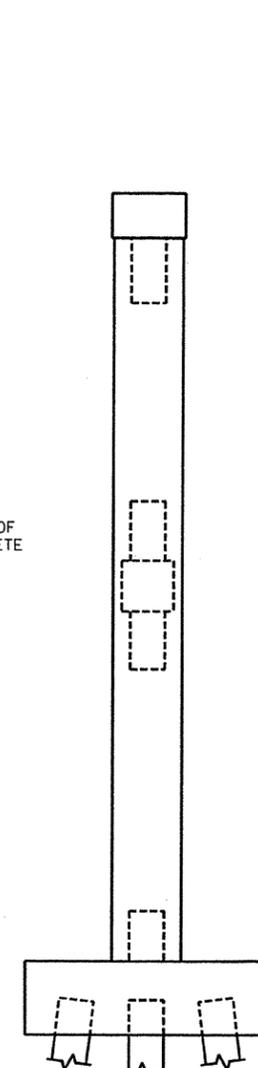
EAST ELEVATION



NORTH ELEVATION



WEST ELEVATION



SOUTH ELEVATION

PROJECT NO. 17BP.2.P.19

CARTERET COUNTY

BRIDGE NO.: 13

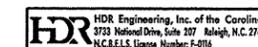


STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUBSTRUCTURE REPAIRS
BENT 25

REVISIONS						SHEET NO. S-3B
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 48
2			4			

DRAWN BY : L. PATTERSON DATE : 05/2013
CHECKED BY : M. MOYER DATE : 05/2013



PLOT DRIVER: NCDOT_pdf_memo_eng_50.plt
PENTABLE: Division_2_Carteret.tbl
USER: msells DATE: 5/24/2013
TIME: 1:01:57 PM

FILE: ...DIV21.50-CARTERET13_03B.dgn

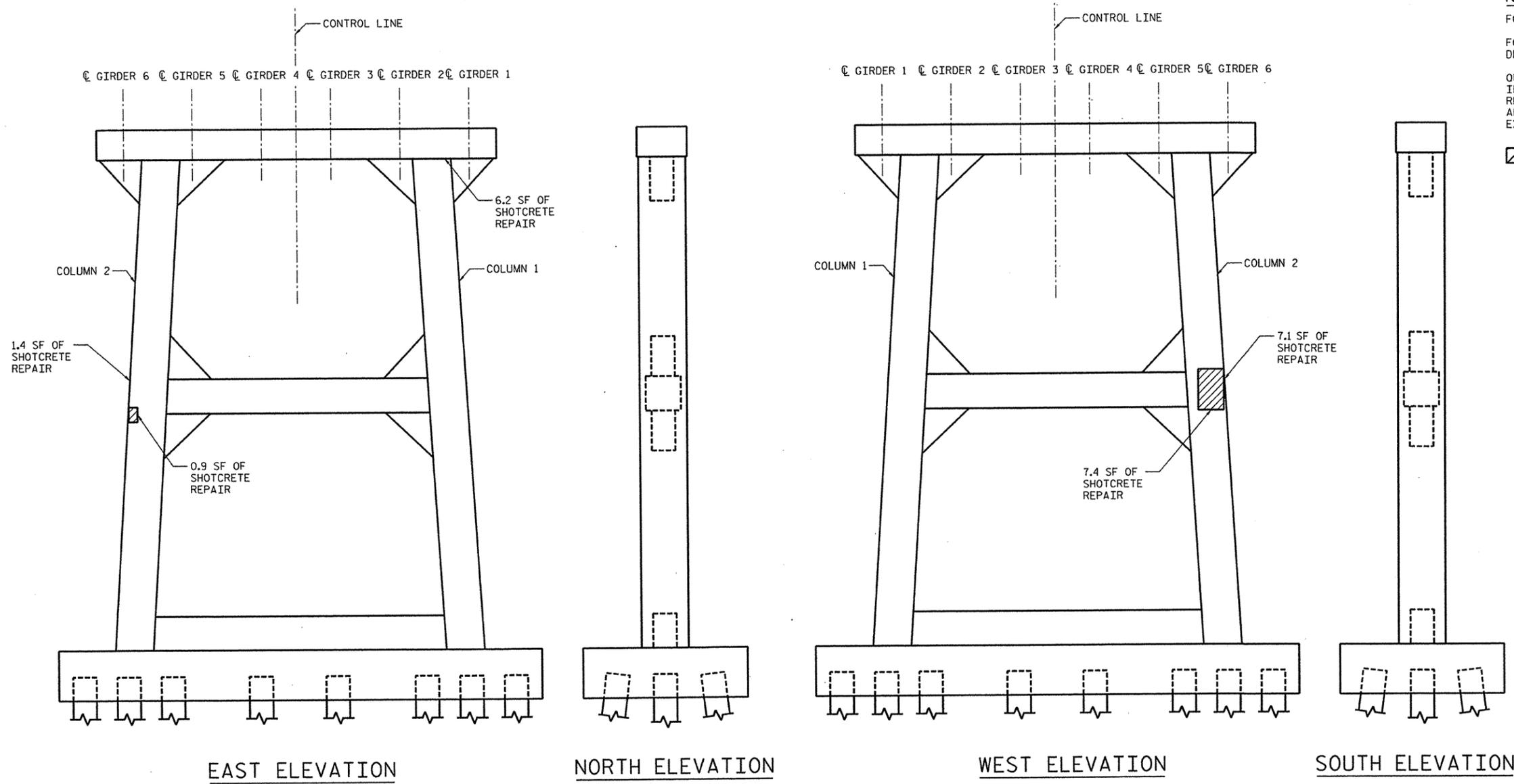
NOTES

FOR NOTES, SEE "TYPICAL SECTION SPANS 17-19".

FOR REPAIR DETAILS SEE "SUBSTRUCTURE REPAIR DETAILS".

QUANTITIES INDICATED ARE FROM THE BEST INFORMATION AVAILABLE AND ANTICIPATE THAT REMOVAL OF UNSOUND CONCRETE WILL RESULT IN AREAS AND DEPTHS GREATER THAN THOSE EXHIBITED BY OBSERVATION.

 SHOTCRETE REPAIR



PROJECT NO. 17BP.2.P.19
 CARTERET COUNTY
 BRIDGE NO.: 13

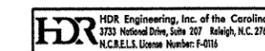


5-24-2013

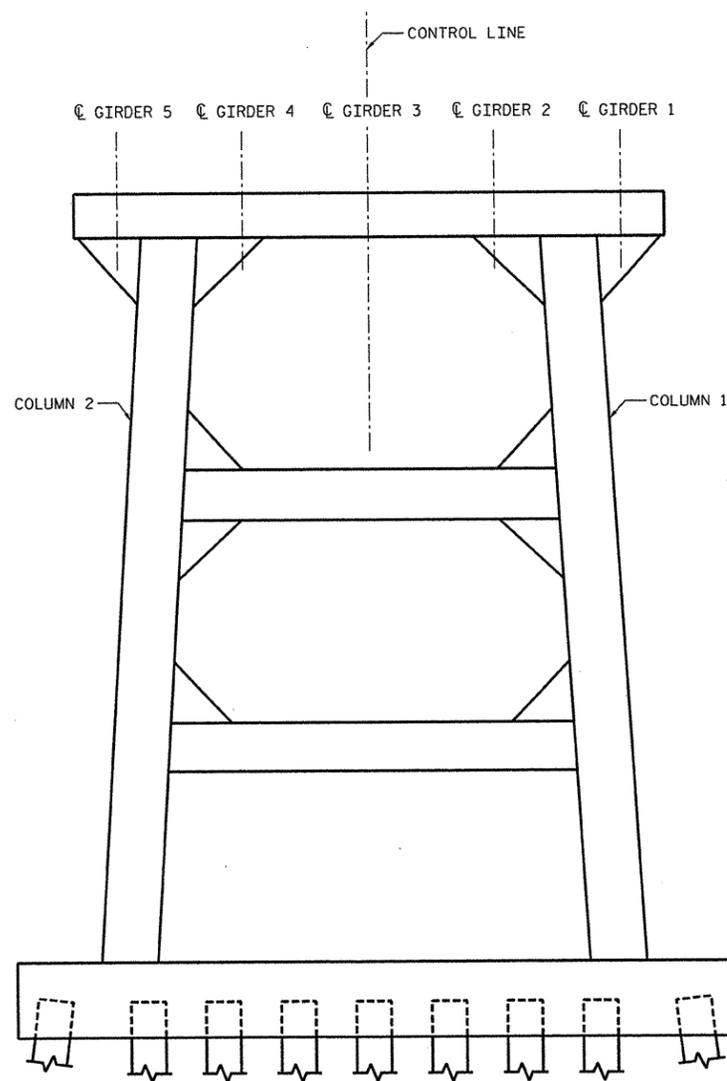
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 SUBSTRUCTURE REPAIRS
 BENT 27

REVISIONS						SHEET NO. S-39
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 48
2			4			

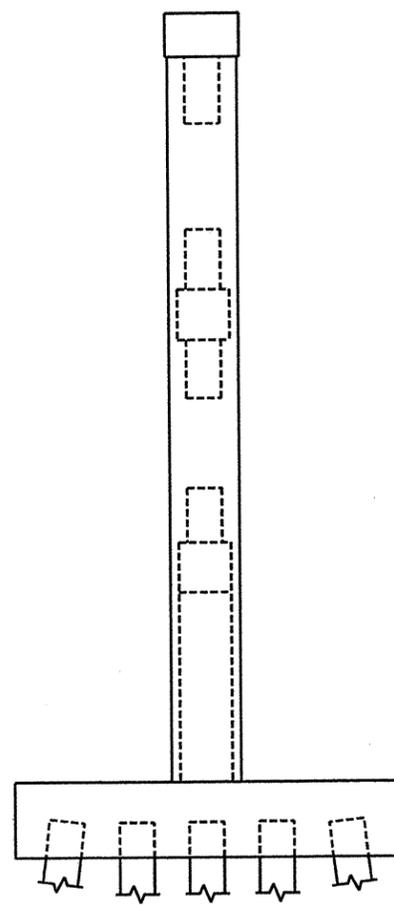
DRAWN BY : L. PATTERSON DATE : 05/2013
 CHECKED BY : M. MOYER DATE : 05/2013



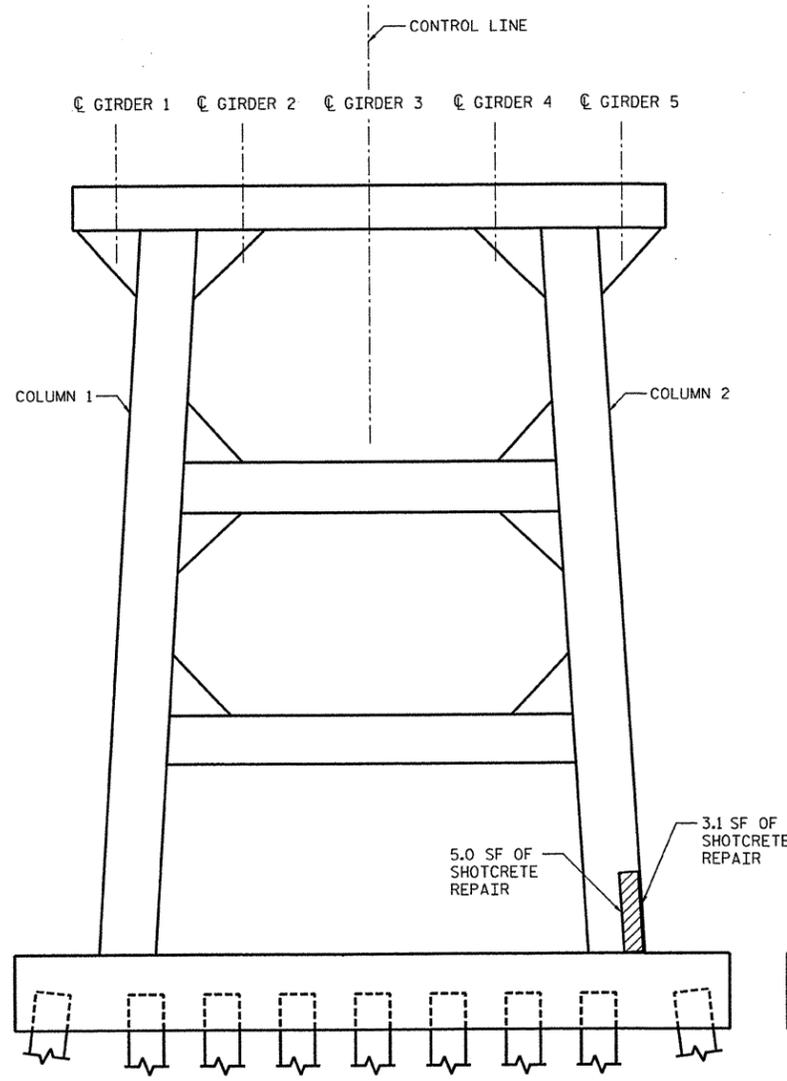
PLOT DRIVER: NCDOT_dpaf_mono_eng_50.plt
 USER: msells DATE: 5/24/2013
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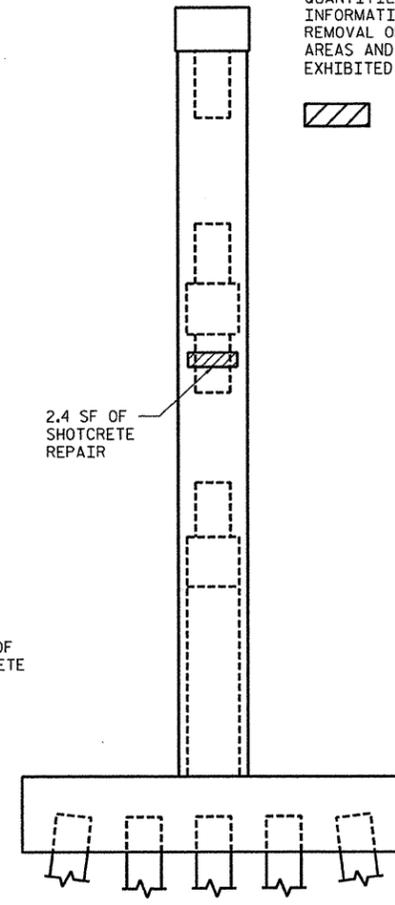
EAST ELEVATION



NORTH ELEVATION



WEST ELEVATION



SOUTH ELEVATION

NOTES

FOR NOTES, SEE "TYPICAL SECTION SPANS 17-19".

FOR REPAIR DETAILS SEE "SUBSTRUCTURE REPAIR DETAILS".

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 SHOTCRETE REPAIR

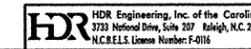
PROJECT NO. 17BP.2.P.19
 CARTERET COUNTY
 BRIDGE NO.: 13



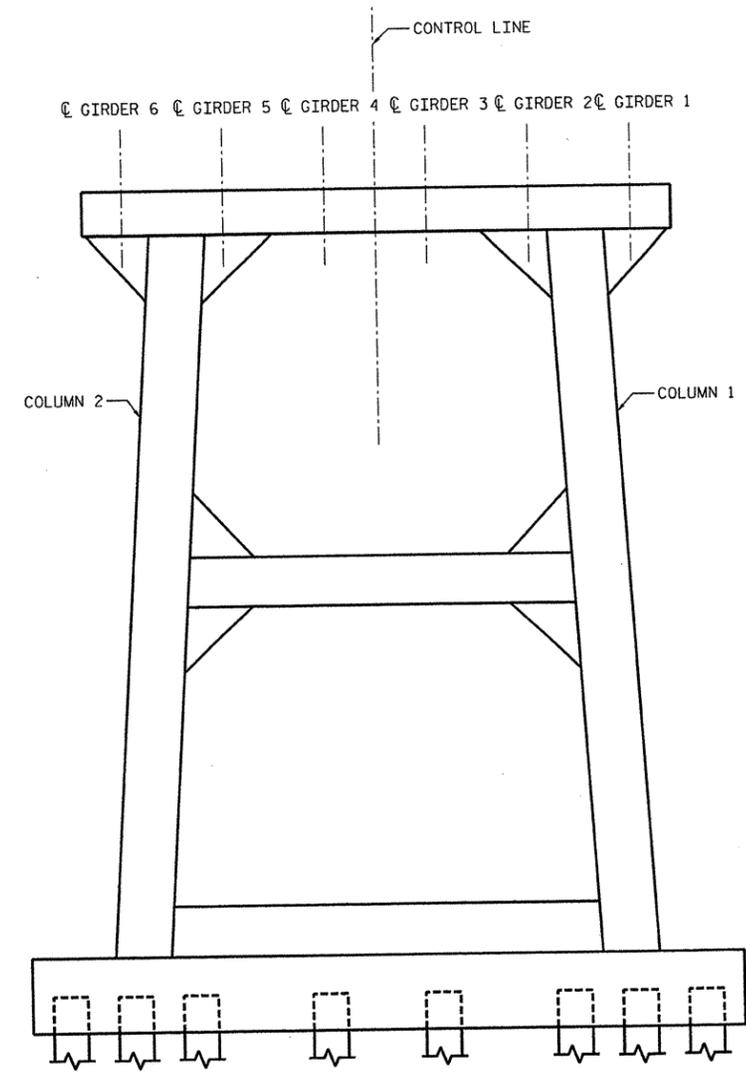
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 SUBSTRUCTURE REPAIRS
 BENT 28

REVISIONS						SHEET NO. S-40
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 48
2			4			

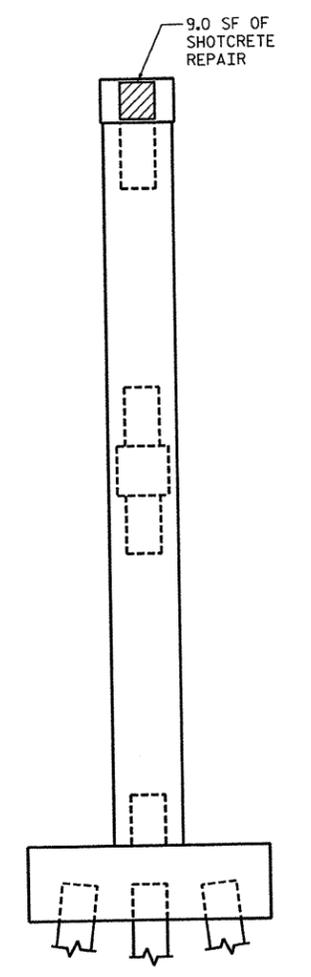
DRAWN BY : L. PATTERSON DATE : 05/2013
 CHECKED BY : M. MOYER DATE : 05/2013



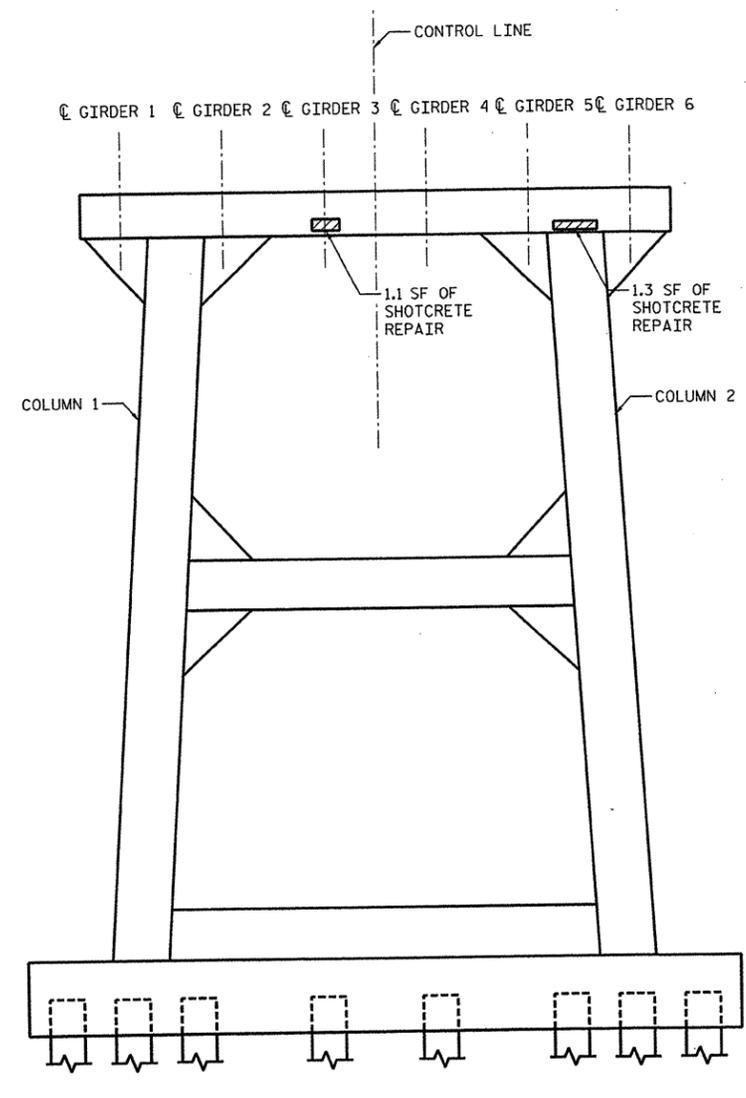
BILL OF MATERIAL	
BENT 30	
SHOTCRETE REPAIRS	CF 3.8



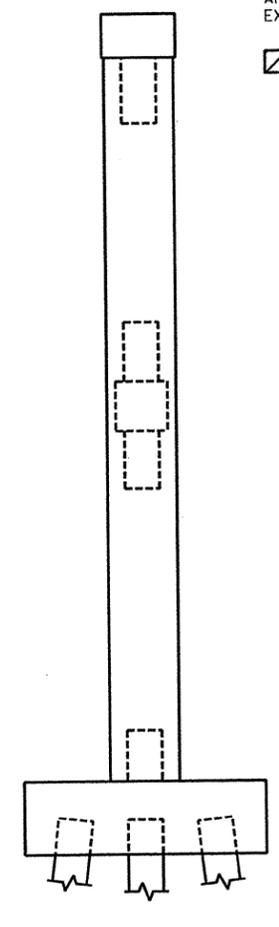
EAST ELEVATION



NORTH ELEVATION



WEST ELEVATION



SOUTH ELEVATION

NOTES

FOR NOTES, SEE "TYPICAL SECTION SPANS 17-19".
 FOR REPAIR DETAILS SEE "SUBSTRUCTURE REPAIR DETAILS".

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SHOTCRETE REPAIR

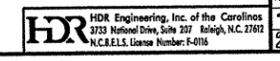
PROJECT NO. 17BP.2.P.19
CARTERET COUNTY
 BRIDGE NO.: 13



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

**SUBSTRUCTURE REPAIRS
 BENT 30**

REVISIONS						SHEET NO. S-41
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 48
2			4			



DRAWN BY : L. PATTERSON DATE : 05/2013
 CHECKED BY : M. MOYER DATE : 05/2013

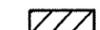
PLOT DRIVER: NCD01_pdf_mono_eng_50.plt
 USER: msells DATE: 5/24/2013
 FILE: ...DIV2.1_SD-CARTERET13_041.DGN
 PENTABLE: DIVISION_2_Carteret.tbl
 TIME: 1:02:35 PM

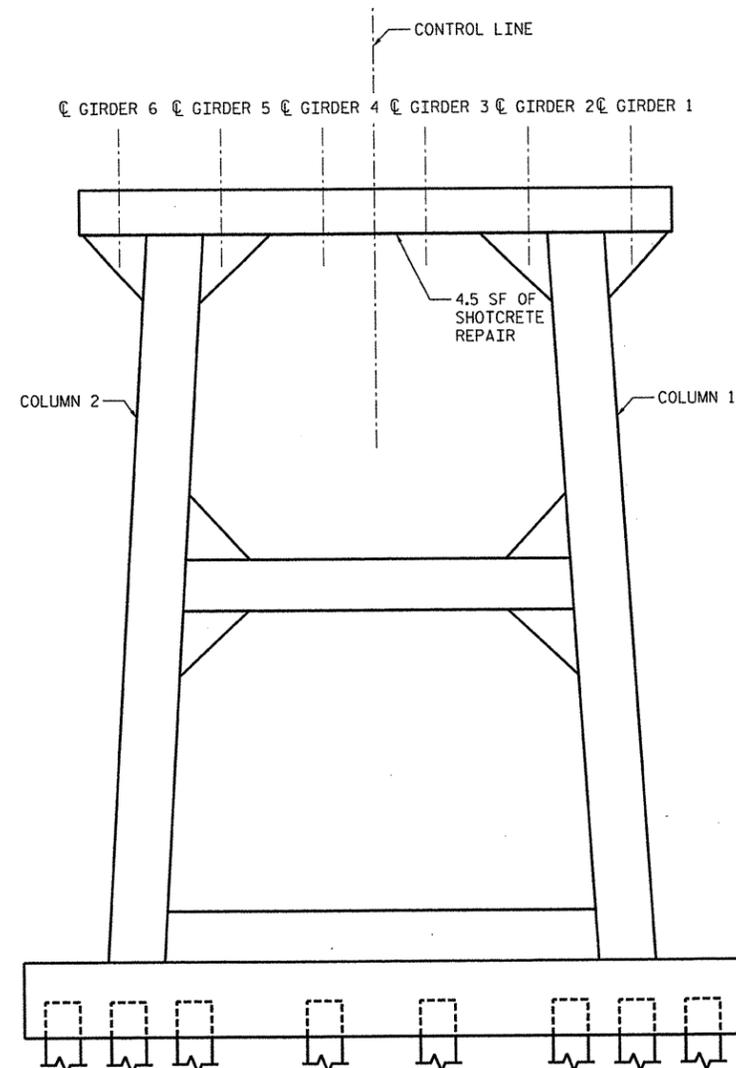
NOTES

FOR NOTES, SEE "TYPICAL SECTION SPANS 17-19".

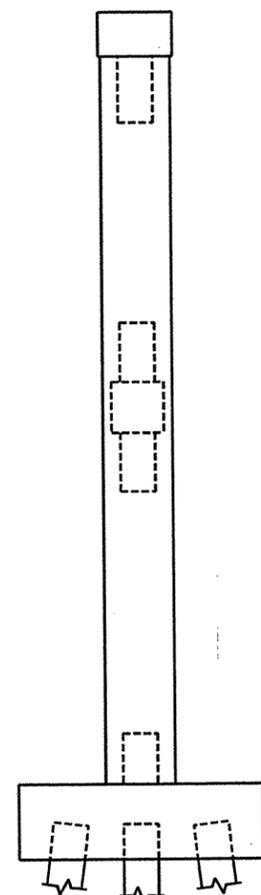
FOR REPAIR DETAILS SEE "SUBSTRUCTURE REPAIR DETAILS".

QUANTITIES INDICATED ARE FROM THE BEST INFORMATION AVAILABLE AND ANTICIPATE THAT REMOVAL OF UNSOUND CONCRETE WILL RESULT IN AREAS AND DEPTHS GREATER THAN THOSE EXHIBITED BY OBSERVATION.

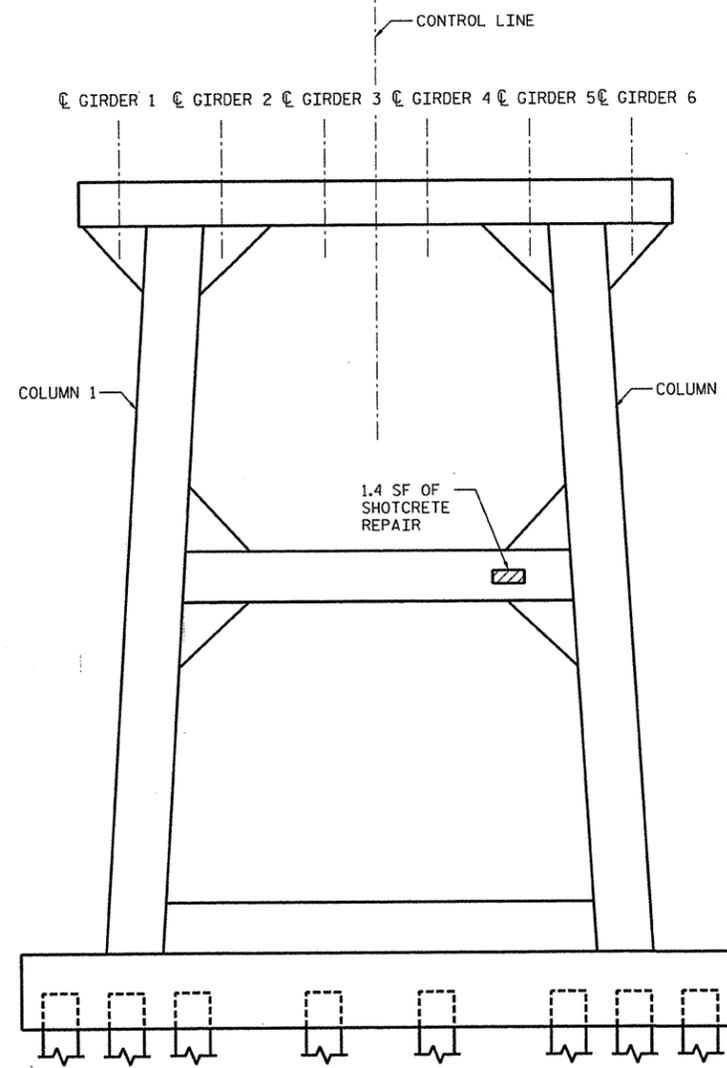
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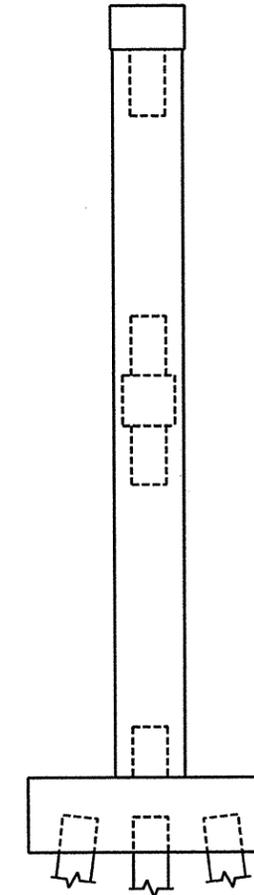
EAST ELEVATION



NORTH ELEVATION



WEST ELEVATION



SOUTH ELEVATION

PROJECT NO. 17BP.2.P.19
 CARTERET COUNTY
 BRIDGE NO.: 13



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 SUBSTRUCTURE REPAIRS
 BENT 31

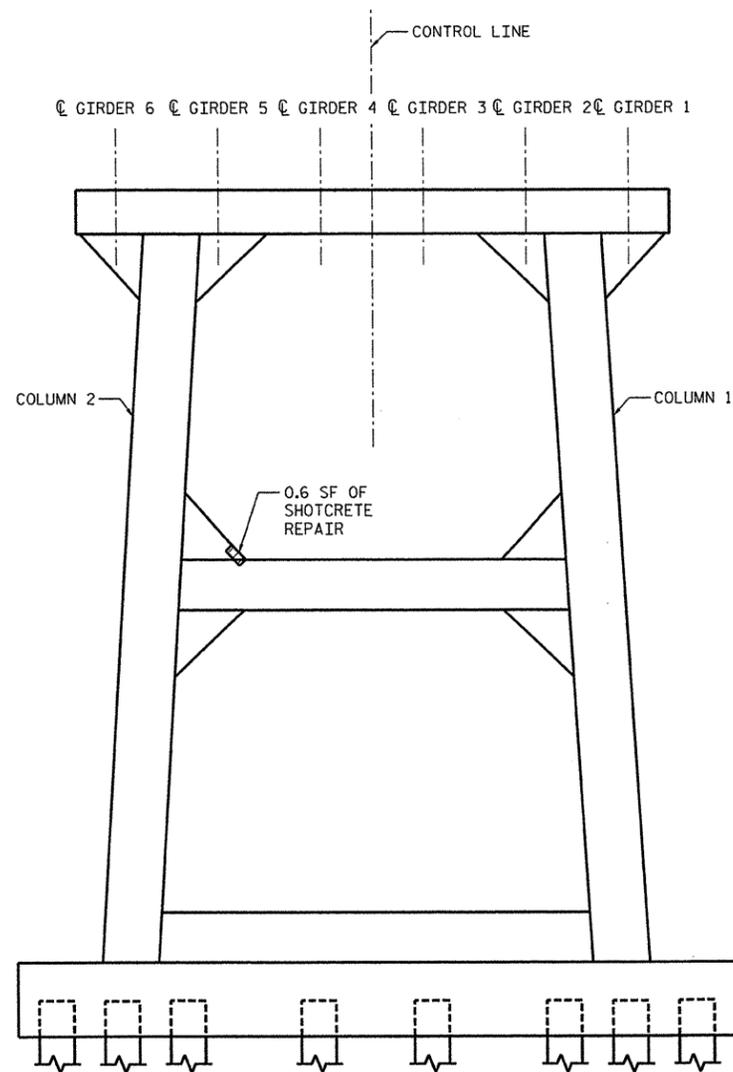
REVISIONS						SHEET NO. S-42
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 48
2			4			

DRAWN BY : L. PATTERSON DATE : 05/2013
 CHECKED BY : M. MOYER DATE : 05/2013

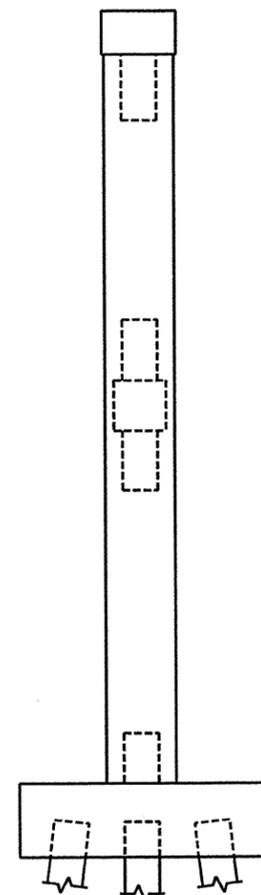
PENTABLE: D:\vision-2\carteret.tbi
 USER: meells DATE: 5/24/2013
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 FILE: ...DIV21.SD_CARTERET13_042.DGN

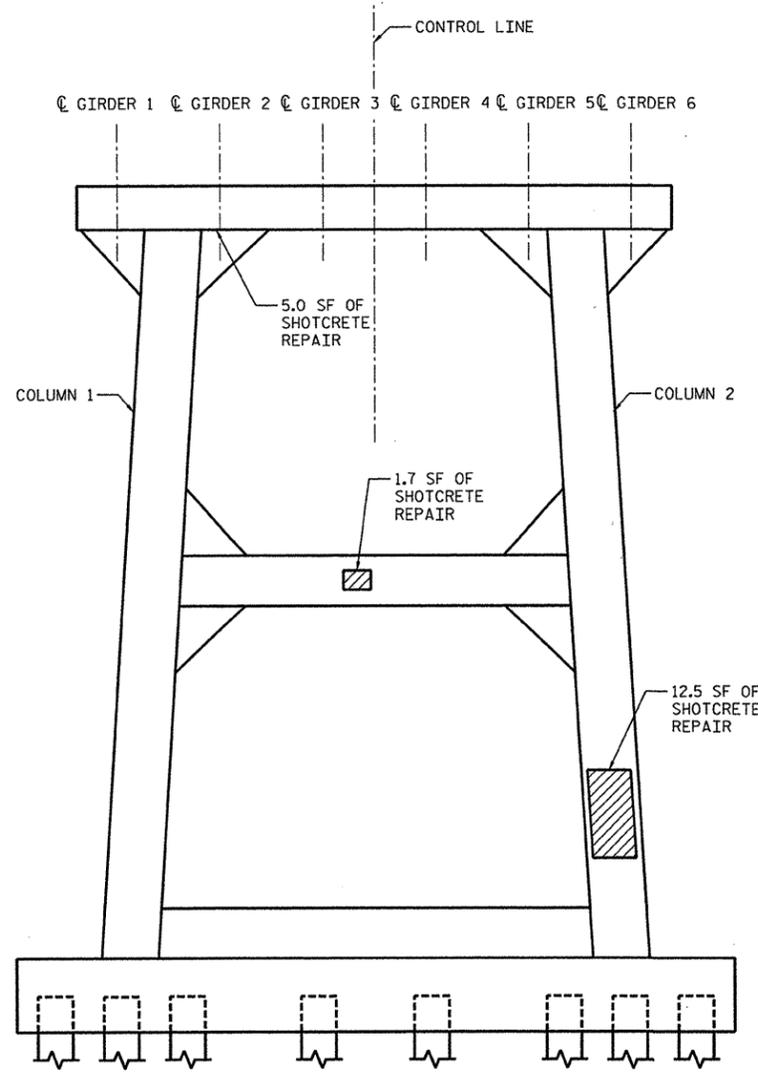
HDR HDR Engineering, Inc. of the Carolinas
 8728 Woodland Drive, Suite 207 Raleigh, N.C. 27612
 N.C.E.L.S. License Number: F-0116



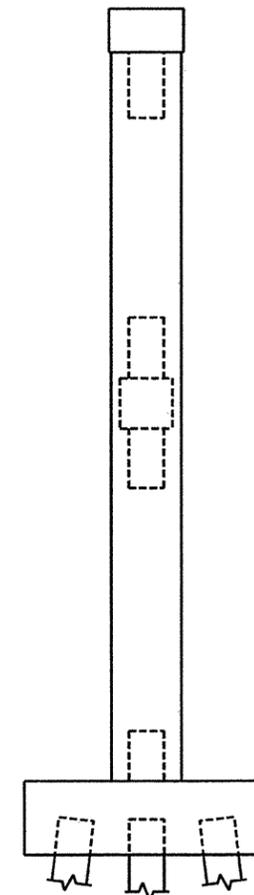
EAST ELEVATION



NORTH ELEVATION



WEST ELEVATION



SOUTH ELEVATION

NOTES

FOR NOTES, SEE "TYPICAL SECTION SPANS 17-19".

FOR REPAIR DETAILS SEE "SUBSTRUCTURE REPAIR DETAILS".

QUANTITIES INDICATED ARE FROM THE BEST INFORMATION AVAILABLE AND ANTICIPATE THAT REMOVAL OF UNSOUND CONCRETE WILL RESULT IN AREAS AND DEPTHS GREATER THAN THOSE EXHIBITED BY OBSERVATION.

SHOTCRETE REPAIR

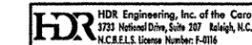
PROJECT NO. 17BP.2.P.19
 CARTERET COUNTY
 BRIDGE NO.: 13



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 SUBSTRUCTURE REPAIRS
 BENT 32

REVISIONS						SHEET NO. 5-43
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 48
2			4			

DRAWN BY: L. PATTERSON DATE: 05/2013
 CHECKED BY: M. MOYER DATE: 05/2013



PENTABLE: Division_2 Carteret.tbl
 TIME: 1:02:59 PM

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 USER: msells DATE: 5/24/2013
 FILE: ..\DIV2\1.SD.CARTERET\13_043.DGN

BILL OF MATERIAL	
BENT 36	
SHOTCRETE REPAIRS	CF 0.4

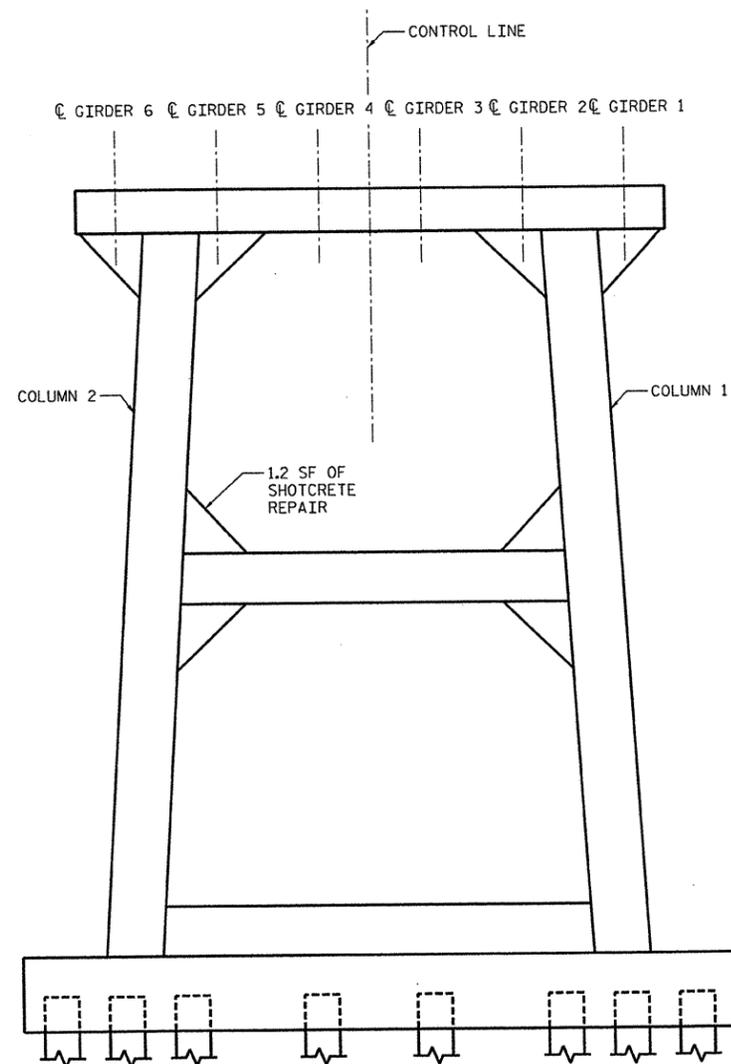
NOTES

FOR NOTES, SEE "TYPICAL SECTION SPANS 17-19".

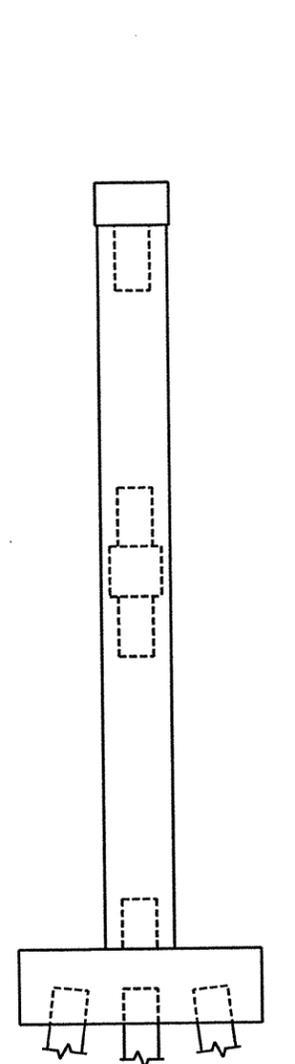
FOR REPAIR DETAILS SEE "SUBSTRUCTURE REPAIR DETAILS".

QUANTITIES INDICATED ARE FROM THE BEST INFORMATION AVAILABLE AND ANTICIPATE THAT REMOVAL OF UNSOUND CONCRETE WILL RESULT IN AREAS AND DEPTHS GREATER THAN THOSE EXHIBITED BY OBSERVATION.

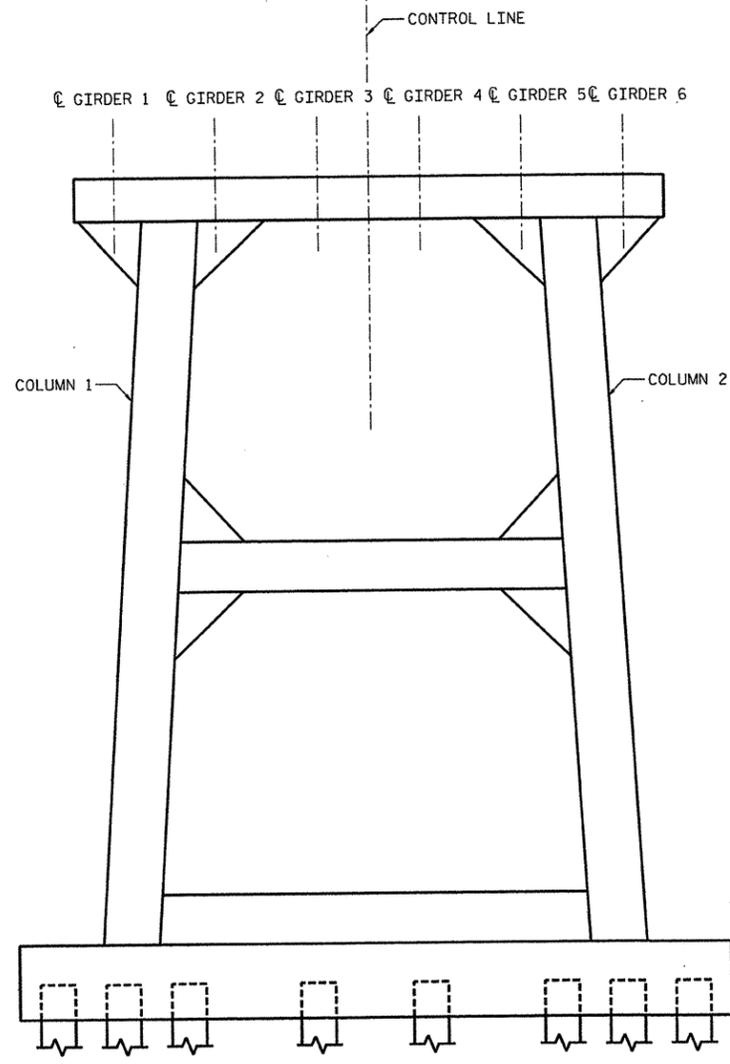
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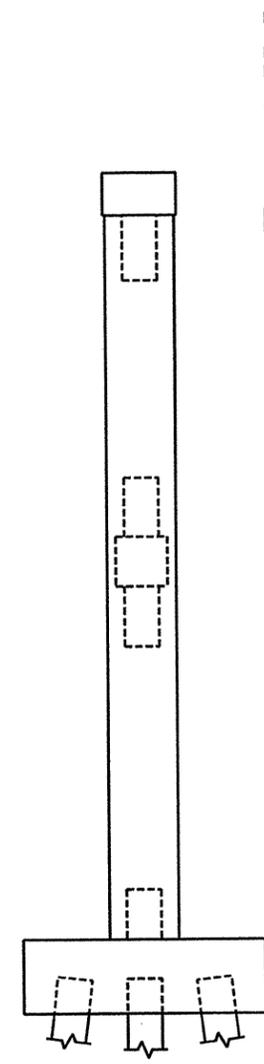
EAST ELEVATION



NORTH ELEVATION



WEST ELEVATION



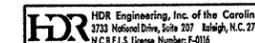
SOUTH ELEVATION

PROJECT NO. 17BP.2.P.19
CARTERET COUNTY
 BRIDGE NO.: 13



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 SUBSTRUCTURE REPAIRS
 BENT 36

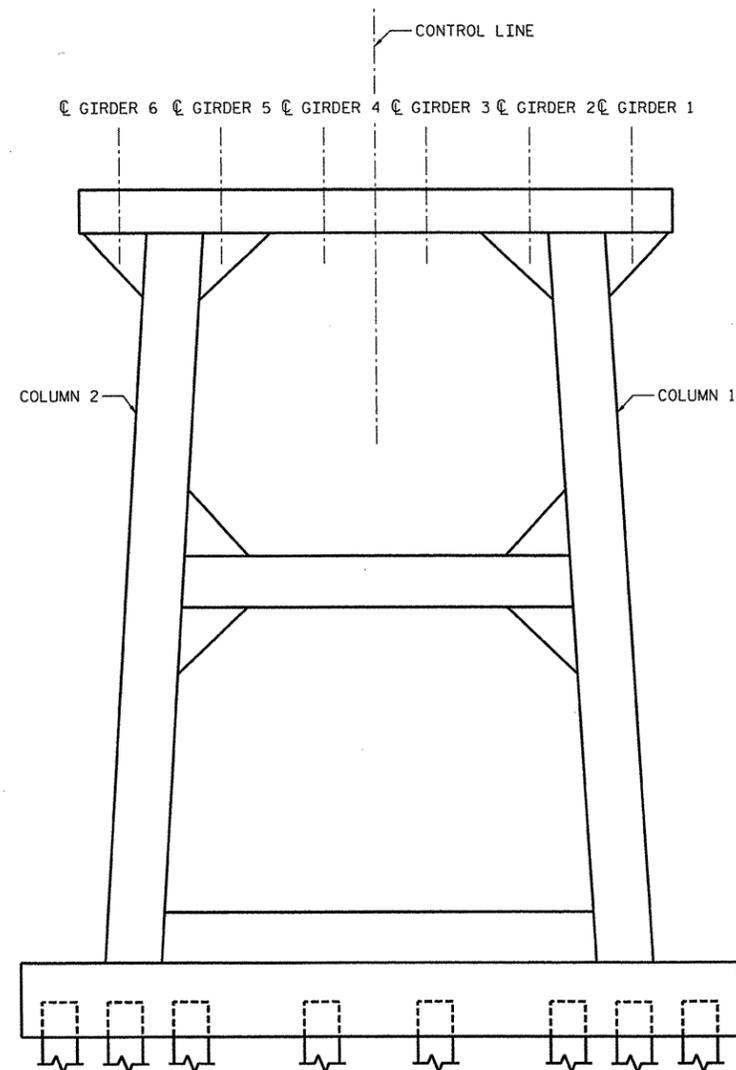
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NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 46
2			4			



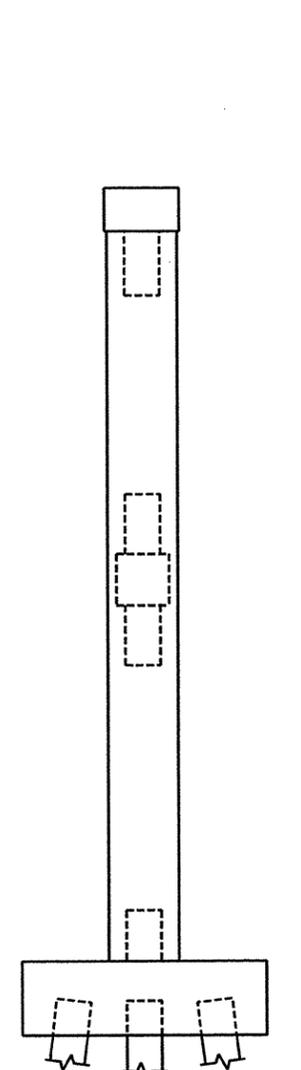
DRAWN BY : L. PATTERSON DATE : 05/2013
 CHECKED BY : M. MOYER DATE : 05/2013

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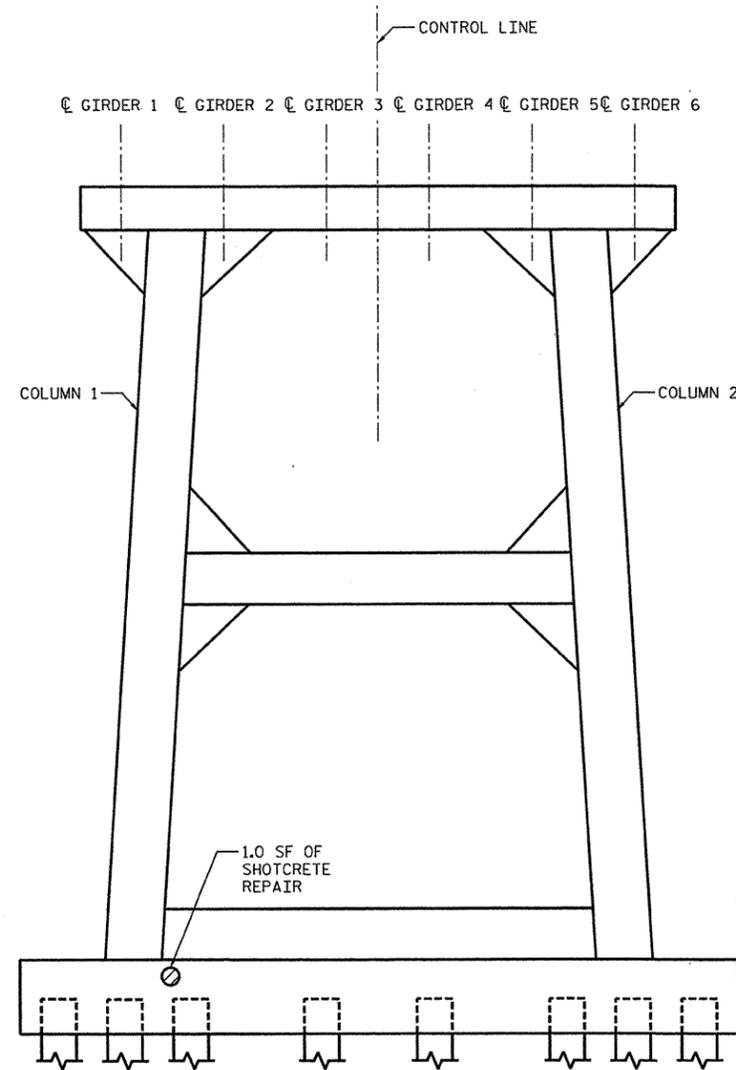
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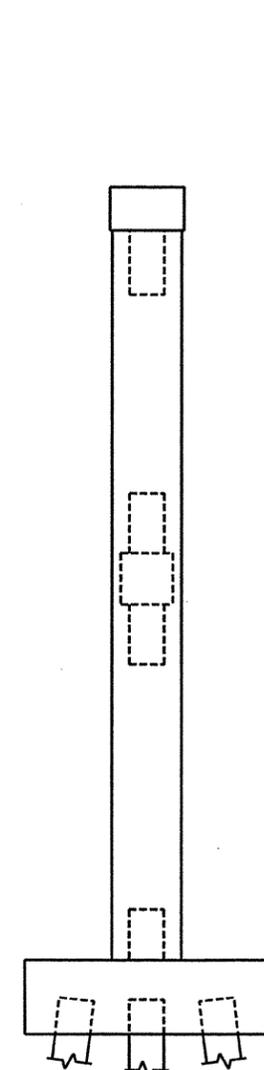
EAST ELEVATION



NORTH ELEVATION



WEST ELEVATION



SOUTH ELEVATION

NOTES

FOR NOTES, SEE "TYPICAL SECTION SPANS 17-19".

FOR REPAIR DETAILS SEE "SUBSTRUCTURE REPAIR DETAILS".

QUANTITIES INDICATED ARE FROM THE BEST INFORMATION AVAILABLE AND ANTICIPATE THAT REMOVAL OF UNSOUND CONCRETE WILL RESULT IN AREAS AND DEPTHS GREATER THAN THOSE EXHIBITED BY OBSERVATION.

 SHOTCRETE REPAIR

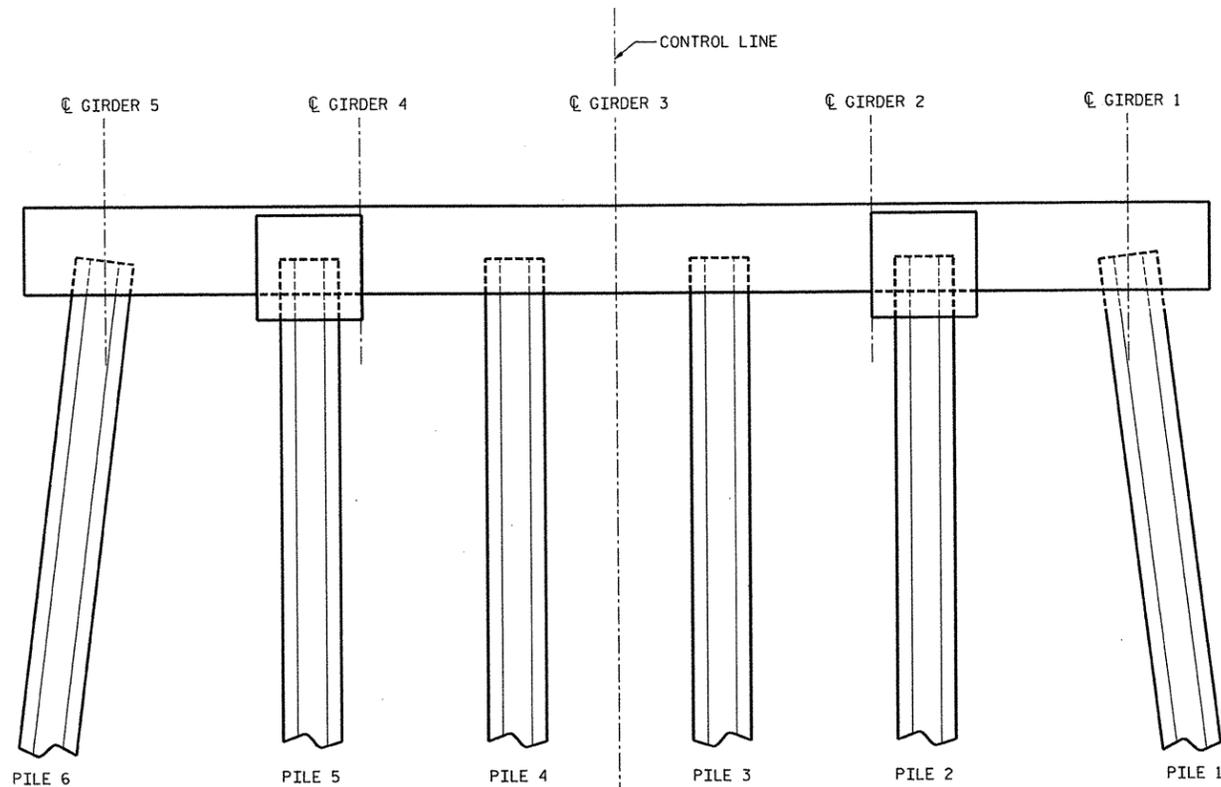
PROJECT NO. 17BP.2.P.19
 CARTERET COUNTY
 BRIDGE NO.: 13



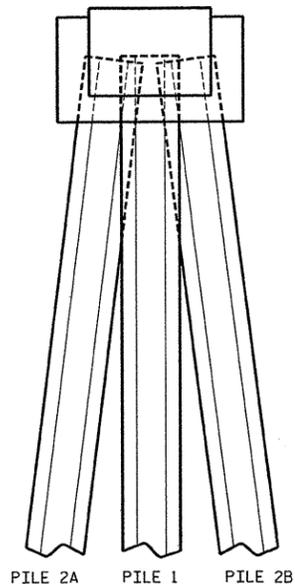
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 SUBSTRUCTURE REPAIRS
 BENT 38

REVISIONS						SHEET NO. S-45
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 48
2			4			

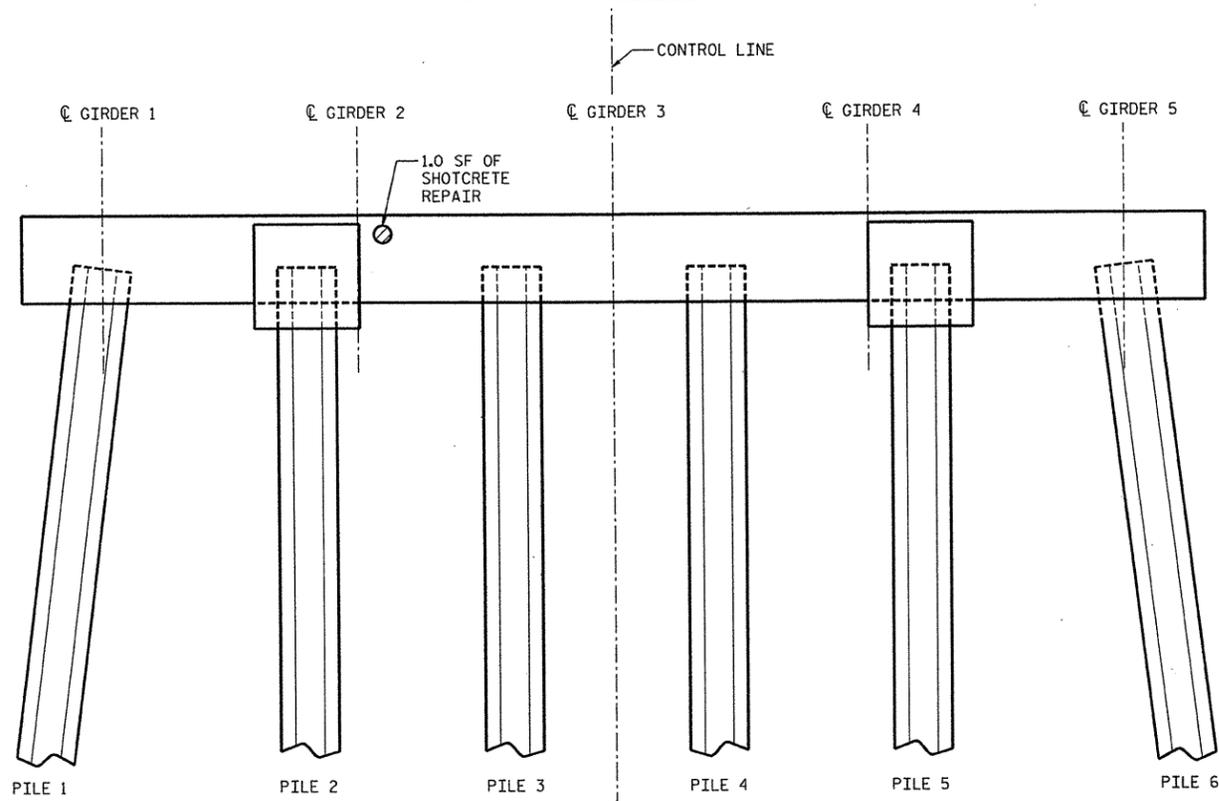
DRAWN BY : L. PATTERSON DATE : 05/2013
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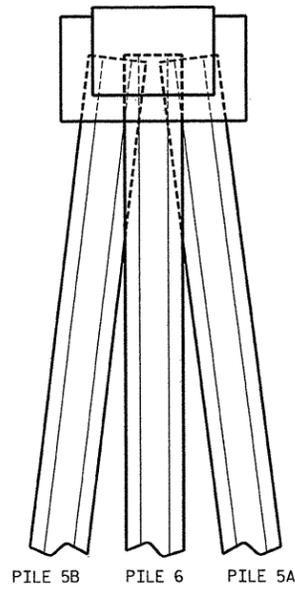
EAST ELEVATION



NORTH ELEVATION



WEST ELEVATION



SOUTH ELEVATION

NOTES

FOR NOTES, SEE "TYPICAL SECTION SPANS 17-19".

FOR REPAIR DETAILS SEE "SUBSTRUCTURE REPAIR DETAILS".

QUANTITIES INDICATED ARE FROM THE BEST INFORMATION AVAILABLE AND ANTICIPATE THAT REMOVAL OF UNSOUND CONCRETE WILL RESULT IN AREAS AND DEPTHS GREATER THAN THOSE EXHIBITED BY OBSERVATION.

SHOTCRETE REPAIR

PROJECT NO. 17BP.2.P.19
CARTERET COUNTY
BRIDGE NO.: 13

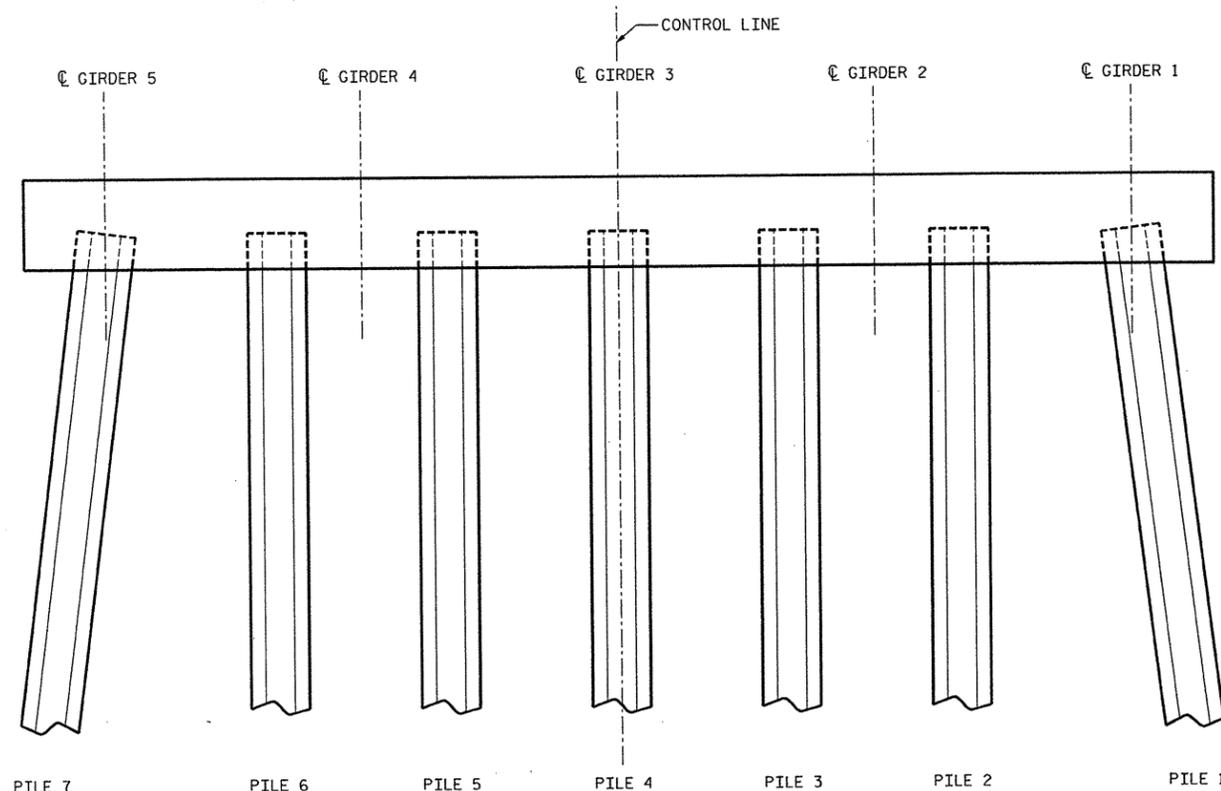


STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
SUBSTRUCTURE REPAIRS
BENT 43

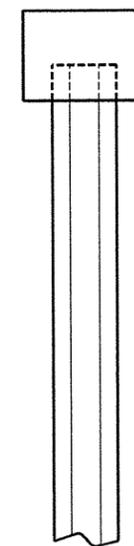
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DRAWN BY : L. PATTERSON DATE : 05/2013
CHECKED BY : M. MOYER DATE : 05/2013

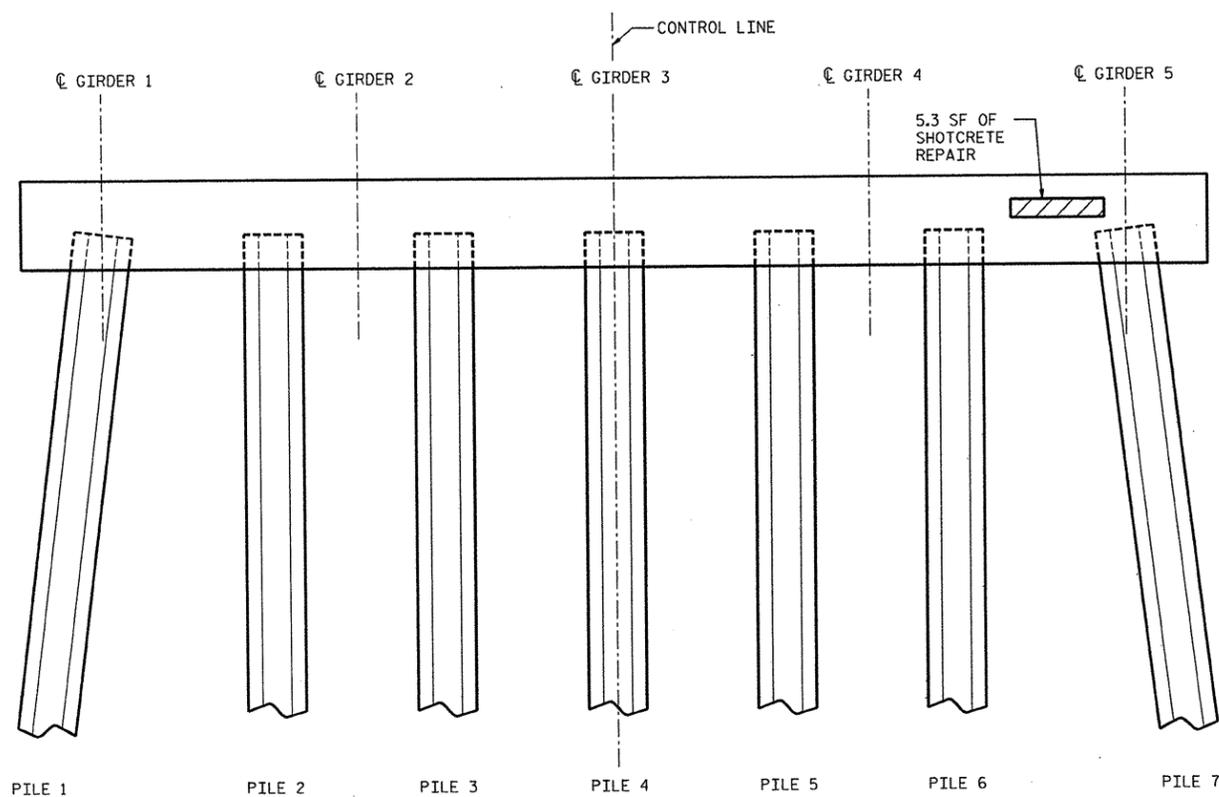
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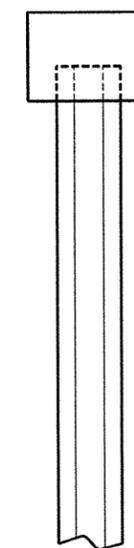
EAST ELEVATION



NORTH ELEVATION



WEST ELEVATION



SOUTH ELEVATION

NOTES

FOR NOTES, SEE "TYPICAL SECTION SPANS 17-19".

FOR REPAIR DETAILS SEE "SUBSTRUCTURE REPAIR DETAILS".

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 SHOTCRETE REPAIR

PROJECT NO. 17BP.2.P.19
CARTERET COUNTY
 BRIDGE NO.: 13



5-24-2013

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

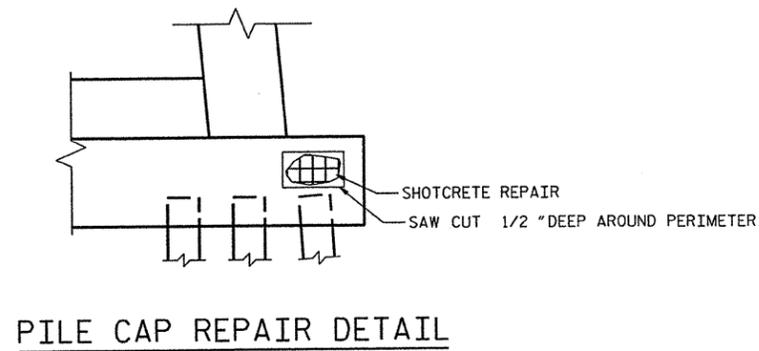
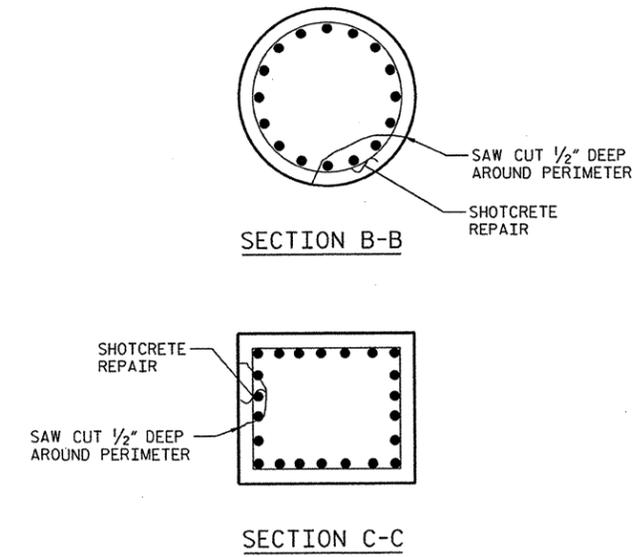
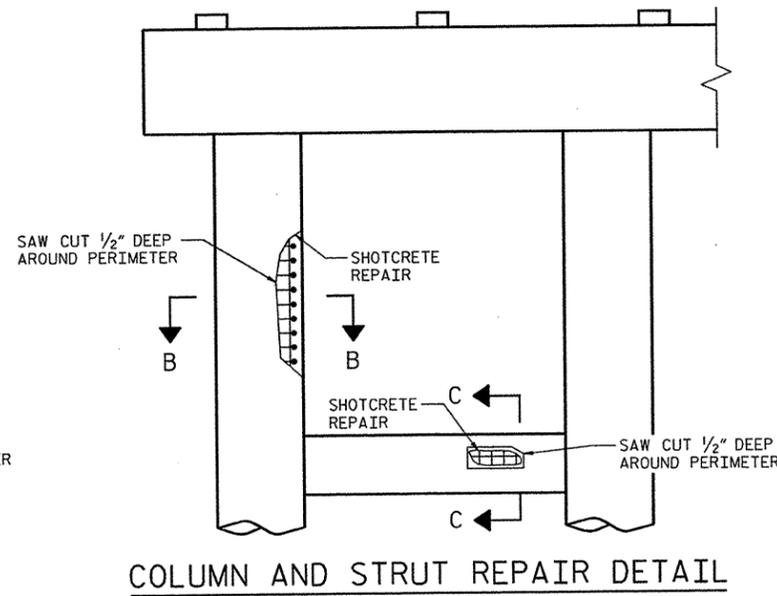
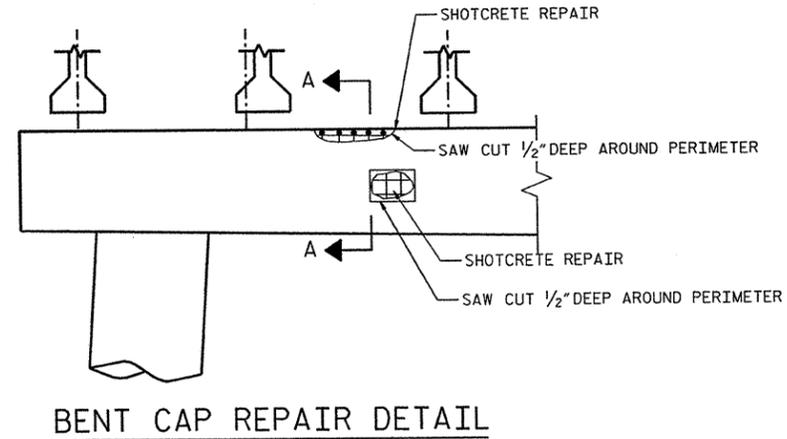
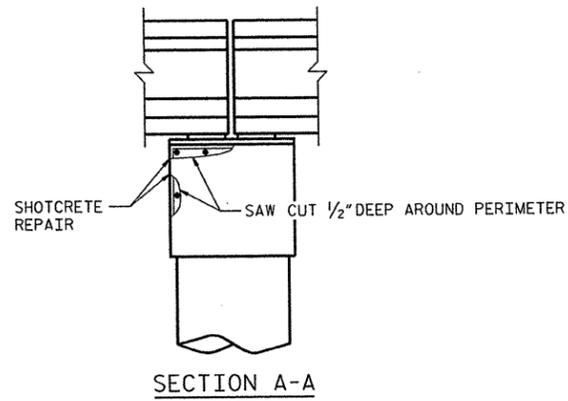
SUBSTRUCTURE REPAIRS
 BENT 45

REVISIONS						SHEET NO. S-47
NO.	BY:	DATE:	NO.	BY:	DATE:	
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2			4			

DRAWN BY : L. PATTERSON DATE : 05/2013
 CHECKED BY : M. MOYER DATE : 05/2013

PLOT DRIVER: NCC00T.pdf_mono_eng_50.pit
 USER: meells DATE: 5/24/2013
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NOTES
 FOR NOTES, "SEE TYPICAL SECTION SPANS 17-19".

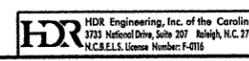


PROJECT NO. 17BP.2.P.19
CARTERET COUNTY
 BRIDGE NO.: 13

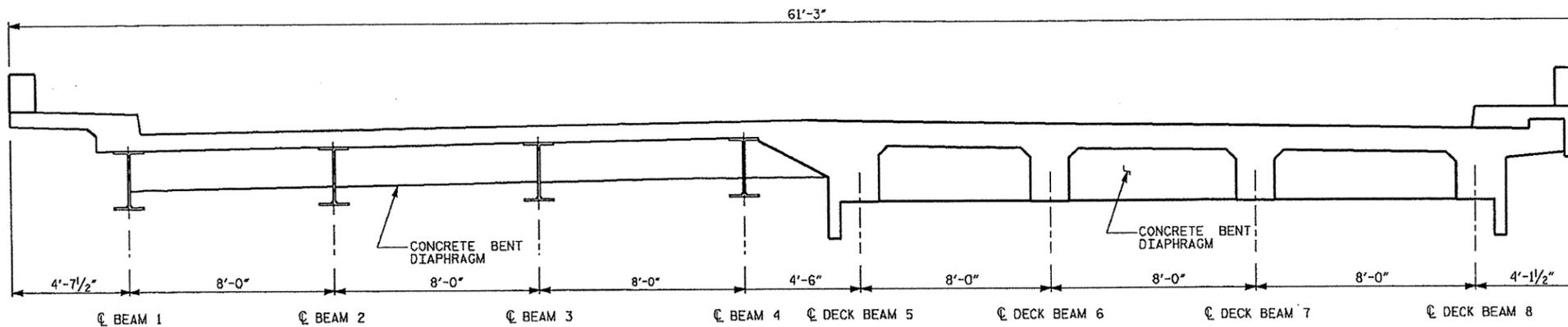


STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
SUBSTRUCTURE REPAIR DETAILS					
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
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					TOTAL SHEETS 48

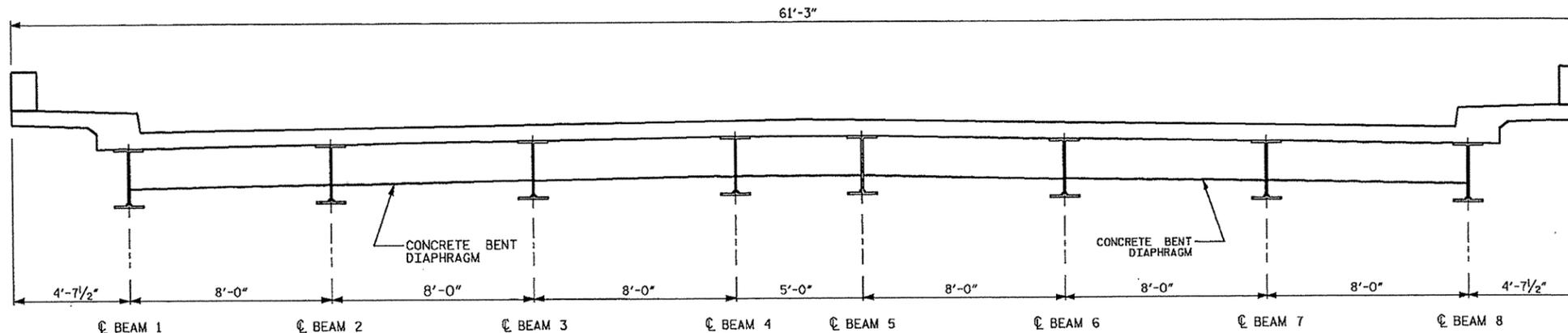
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 CHECKED BY : M. MOYER DATE : 05/2013



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TYPICAL SECTION
SPANS 1 - 21 AND 27 - 34



TYPICAL SECTION
SPANS 22 AND 26

JACKING NOTES:

THE CONTRACTOR SHALL SUBMIT JACKING PLANS AND CALCULATIONS FOR REVIEW AND APPROVAL PRIOR TO MATERIAL PURCHASE OR FABRICATION OF THE JACKING SYSTEM.

BEFORE THE JACKING OPERATION BEGINS, THE ONE BAR METAL RAIL SHALL BE DISCONNECTED IN ORDER TO AVOID DAMAGE TO THE RAILING SYSTEM.

EXCEPT AT BENT 21, THE CONTRACTOR MAY ELECT TO JACK ONLY THE OUTSIDE GIRDERS PROVIDED THE NUTS ON THE REST OF THE STEEL GIRDERS AT THE BENT ARE LOOSENED TO PREVENT DAMAGE TO THE CONCRETE DECK.

AT BENT 21, THE CONTRACTOR SHALL JACK ALL GIRDERS ALONG THE BEARING LINE SIMULTANEOUSLY. JACKING HEIGHT SHOULD BE LIMITED TO THAT REQUIRED TO CLEAR THE BEARINGS IN ORDER TO PREVENT DAMAGE AT THE DIAPHRAGM AT BENT 22.

THE EXISTING CONDITION OF THE CONCRETE CAP AND CONCRETE DIAPHRAGM AT BENT #21 IS SUCH THAT JACKING FROM ABOVE UTILIZING A CARRIER BEAM TYPE FRAME MAY BE THE BEST POSSIBLE METHOD. A BRIDGE CLOSURE PERIOD HAS BEEN PROVIDED SPECIFICALLY FOR THIS REPAIR. SEE THE TRAFFIC MANAGEMENT PLANS.

ALL JACKING SHALL BE ACCOMPLISHED BY MEANS OF A DUAL-FLOW PRESSURIZED PUMP CONTROLLING THE JACKS.

THE SPAN SHALL BE LIFTED ENOUGH THAT THE BEAMS CLEAR THE BEARINGS AND ALL LOAD IS SUPPORTED BY THE JACKS. AFTER JACKING IS COMPLETE THE CONTRACTOR SHALL PROVIDE A METHOD TO SUPPORT THE SPAN FOR DEAD AND LIVE LOADS AND REMOVE THE JACKS DURING BEAM REPAIR OR IF JACKS REMAIN IN PLACE DURING THE ENTIRE JACKING AND REPAIR OPERATION IT SHALL HAVE MECHANICAL LOCK OFF CAPABILITIES.

IF DURING THE JACKING PROCESS OR WHILE THE SPAN IS BEING SUPPORTED THE BEAMS SHIFT FROM THEIR ORIGINAL POSITION, ALL WORK WILL CEASE AND THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY.

PRIOR TO JACKING, THE CONTRACTOR SHALL ENSURE THERE ARE NO OBSTACLES PREVENTING THE SPAN FROM BEING LIFTED.

ALL ADJACENT BEARINGS OF BEAMS NOT BEING JACKED MAY BE LOOSEN TO DECREASE THE RESISTANCE OF THE DECK SLAB DURING JACKING. ALL BEARINGS LOOSEN SHALL BE TIGHTEN BACK AFTER THE BEAMS ARE REPAIRED AND THE JACKS AND BLOCKING HAVE BEEN REMOVED.

PAYMENT OF INDIVIDUAL BEAM JACKING WILL BE MADE AT THE UNIT PRICE BID FOR BEAM JACKING. SUCH PRICE WILL BE FULL COMPENSATION FOR ALL MATERIALS, EQUIPMENT, TOOLS, LABOR, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK AT EACH JACKING LOCATION.

PAYMENT OF SPAN BEAM JACKING AT BENT #21 WILL BE MADE AT THE LUMP SUM PRICE BID FOR SPAN JACKING. SUCH PRICE WILL BE FULL COMPENSATION FOR ALL MATERIALS, EQUIPMENT, TOOLS, LABOR AND INCIDENTALS NECESSARY TO COMPLETE THE WORK.

SERVICE REACTIONS PER BEARING

DEAD LOAD:	19.0 KIPS
LIVE LOAD + IMPACT:	47.0 KIPS
TOTAL:	66.0 KIPS

NOTE: JACKS SHALL HAVE A MINIMUM SAFE LOAD OF 125% OF THE SERVICE LOADS SPECIFIED.

TOTAL BILL OF MATERIAL

CLEANING & REPAINTING OF BRIDGE #25	POLLUTION CONTROL	SPAN JACKING BRIDGE #25	BEAM JACKING BRIDGE #25	STRUCTURAL STEEL FOR GIRDER REPAIR BRIDGE #25	BEARING REPLACEMENT	SHOTCRETE REPAIRS	CONCRETE REPAIRS	STRUCTURAL STEEL
LUMP SUM	LUMP SUM	LUMP SUM	EA.	LBS.	EA.	C.F.	C.F.	APPROX. LBS
			6	876	10	47	10	552

GENERAL NOTES:

INASMUCH AS THE PAINT SYSTEM ON THE EXISTING STRUCTURAL STEEL CONTAINS LEAD, THE CONTRACTOR'S ATTENTION IS DIRECTED TO ARTICLE 107-1 OF THE STANDARD SPECIFICATIONS. ANY COST RESULTING FROM COMPLIANCE WITH APPLICABLE STATE OR FEDERAL REGULATIONS PERTAINING TO HANDLING OF MATERIALS CONTAINING LEAD BASED PAINT SHALL BE INCLUDED IN THE LUMP SUM BID PRICE FOR THIS PROJECT.

IT IS THE CONTRACTOR'S RESPONSIBILITY TO FOLLOW ALL OSHA AND STATE SAFETY REQUIREMENTS.

DIMENSIONS IN THESE PLANS ARE BASED ON ORIGINAL PLANS, THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS PRIOR TO STARTING WORK.

EXISTING BRIDGE AND REPAIR DETAILS INDICATED ON THE PLANS ARE FROM THE BEST INFORMATION AVAILABLE. SINCE THIS INFORMATION IS SHOWN FOR THE CONVENIENCE OF THE CONTRACTOR, THE CONTRACTOR SHALL HAVE NO CLAIM AGAINST THE DEPARTMENT OF TRANSPORTATION FOR ANY DELAYS OR ADDITIONAL COST INCURRED BASED ON DIFFERENCES BETWEEN THE EXISTING BRIDGE AND REPAIR DETAILS SHOWN ON THE PLANS AND THE ACTUAL CONDITION ON THE SITE.

WORK ON THIS BRIDGE SHALL BE PERFORMED SO AS NOT TO ALLOW DEBRIS TO FALL BELOW. THE CONTRACTOR SHALL SUBMIT PLANS FOR CONSTRUCTION ACCESS IN ACCORDANCE WITH ARTICLE 402-2 OF THE STANDARD SPECIFICATIONS AND THE PROJECT SPECIAL PROVISIONS.

ALL VISUAL AND NON-DESTRUCTIVE TESTING WILL BE PERFORMED BY NCDOT.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

FOR HANDLING OF BRIDGE WASH WATER, SEE SPECIAL PROVISIONS.

FOR PAINTING OF EXISTING STRUCTURES, SEE SPECIAL PROVISIONS.

DRAWN BY: D. MULLER DATE: 7/2012
CHECKED BY: P. SROUSE DATE: 7/2012

18-AUG-2013 13:00
S:\PRG\POC\Squad C\Preservation_Proj\17BP.2.P.19\Reorg\17BP.2.P.19.BEAUFORT25_SD_SHT49-60.dgn
cmiller

PROJECT NO. 17BP.2.P.19

BEAUFORT COUNTY

BRIDGE NO. 25

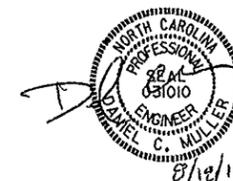
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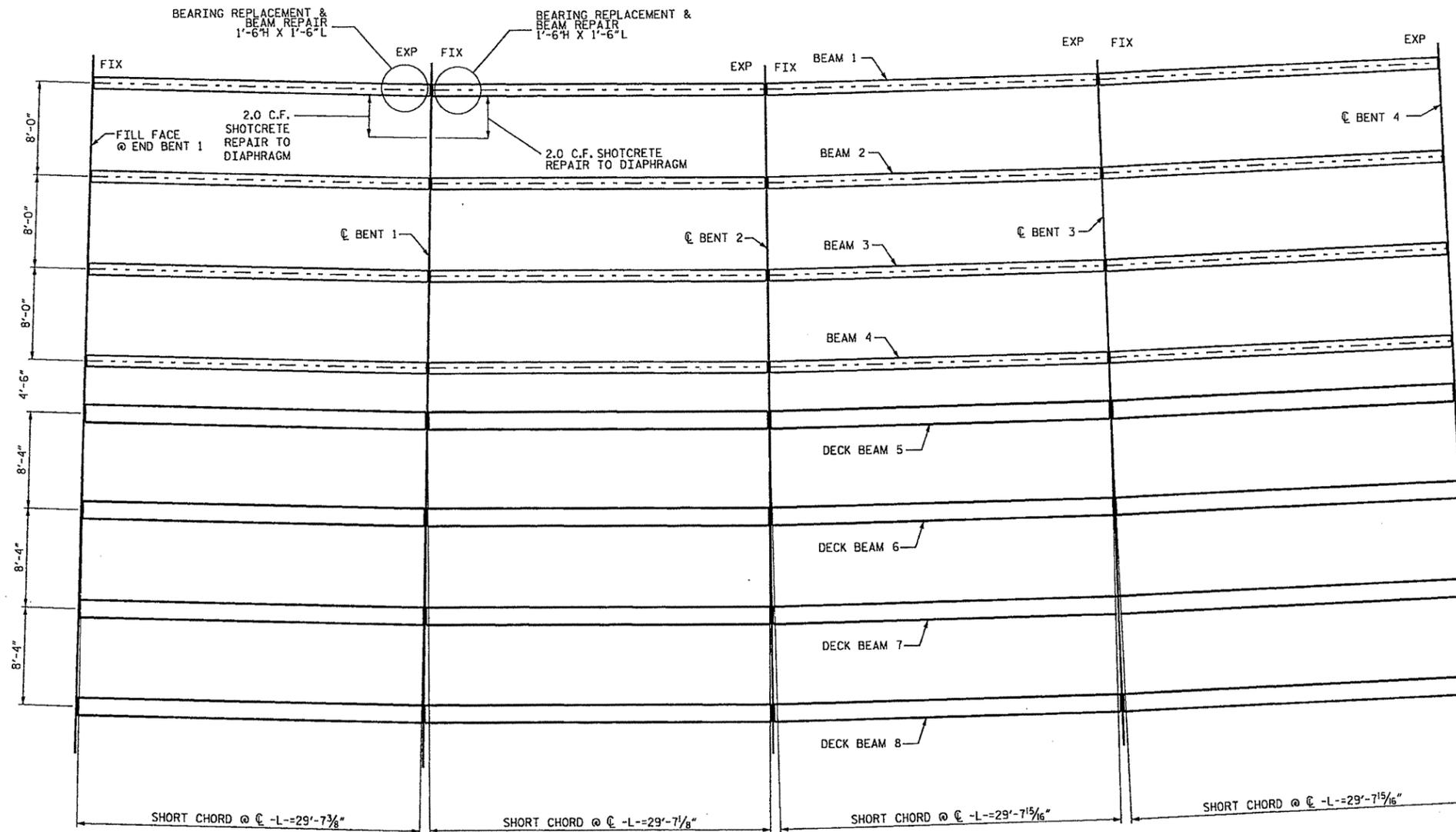
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

TYPICAL SECTION, NOTES AND
BILL OF MATERIAL

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

TOTAL SHEETS: 67





SPAN 1

SPAN 2

SPAN 3

SPAN 4

FRAMING PLAN

NOTES:

THE LOCATION AND EXTENT OF REPAIRS SHOWN ON THE PLANS ARE GENERAL IN NATURE, THE ENGINEER WILL DETERMINE THE EXACT EXTENT OF THE REPAIRS IN THE FIELD BASED ON AN EVALUATION OF THE EXPOSED SURFACES.

SEE SHEET S-57 FOR STEEL BEAM END REPAIR DETAILS.

SEE SHEET S-60 FOR TYPICAL SHOTCRETE REPAIRS TO CONCRETE DIAPHRAGMS.

PROJECT NO. 17BP.2.P.19
BEAUFORT COUNTY
 BRIDGE NO: 25

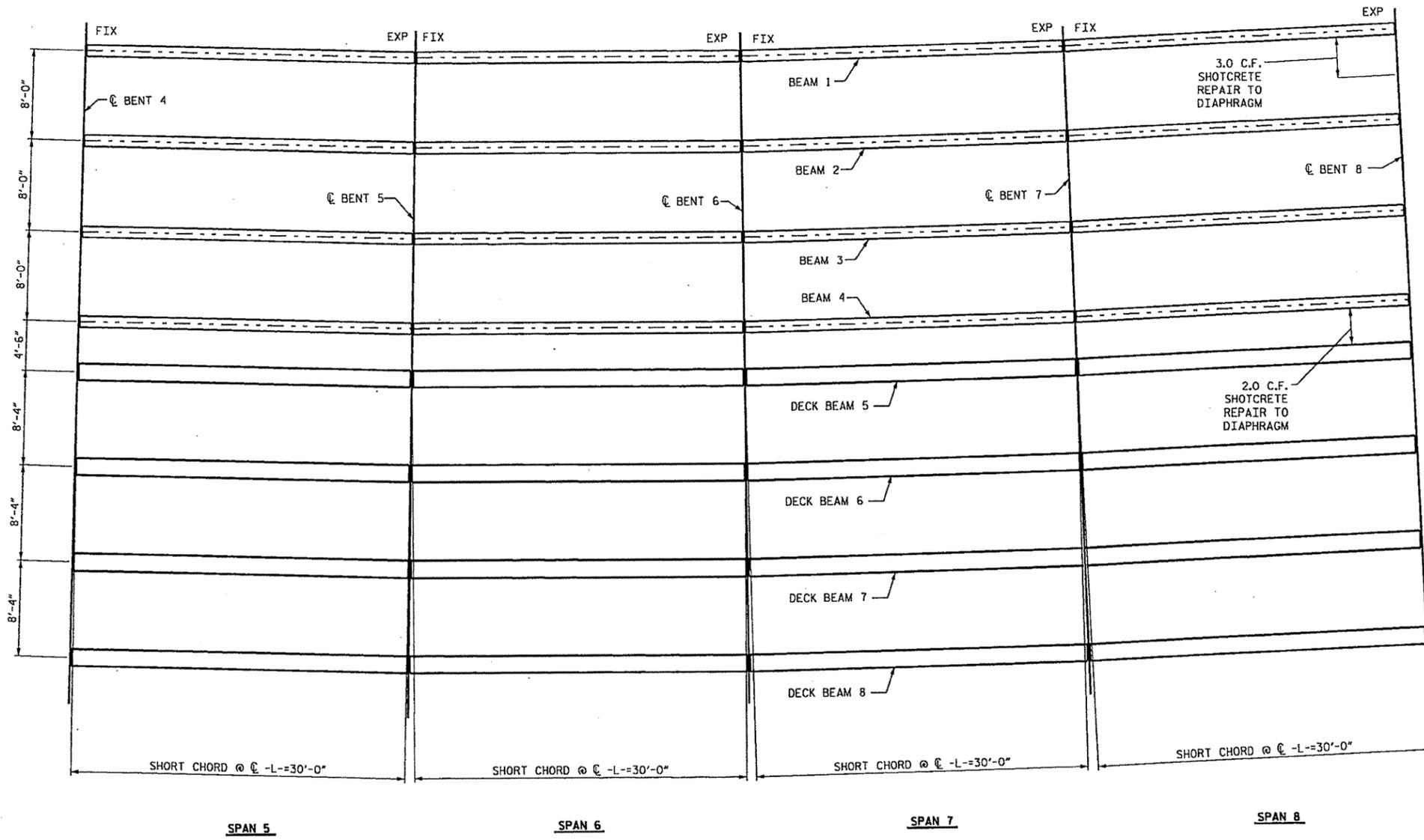
SHEET - OF -

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 PARTIAL FRAMING
 PLAN & REPAIRS TO
 SUPERSTRUCTURE
 (SPANS 1-4)



SUMMARY OF QUANTITIES						
SPANS 1-4						
BEAM END REPAIRS						
BEAM #	SPAN	BENT	H	L	LBS.	
1	1	1	1'-6"	1'-6"	85	
1	2	1	1'-6"	1'-6"	85	
TOTAL WEIGHT					170	
# OF BEARING REPLACEMENTS					2	
TOTAL SHOTCRETE REPAIR					4 CF	
DRAWN BY: <u>D. MULLER</u>		DATE: <u>7/2012</u>				
CHECKED BY: <u>P. SPROUSE</u>		DATE: <u>7/2012</u>				

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-50
1			3			TOTAL SHEETS
2			4			67



FRAMING PLAN

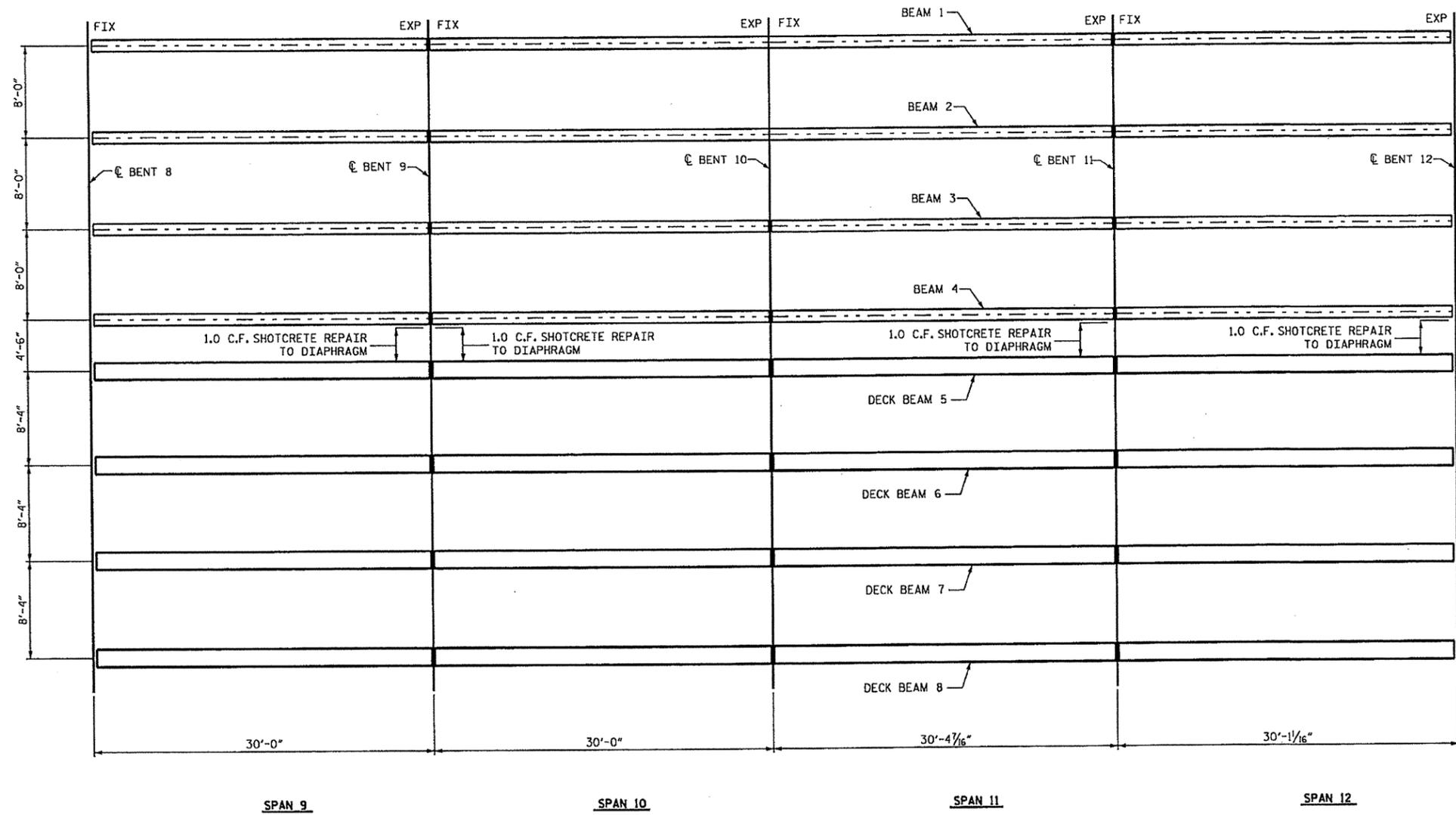
PROJECT NO. 17BP.2.P.19
BEAUFORT COUNTY
 BRIDGE NO. 25
 SHEET OF

SUMMARY OF QUANTITIES						
SPANS 5-8						
BEAM END REPAIRS						
BEAM #	SPAN	BENT	H	L	LBS.	
TOTAL WEIGHT					0	
# OF BEARING REPLACEMENTS					0	
TOTAL SHOTCRETE REPAIR					5 C.F.	
DRAWN BY: <u>D. MULLER</u> DATE: <u>7/2012</u>						
CHECKED BY: <u>P. SPROUSE</u> DATE: <u>7/2012</u>						

NOTES:
 THE LOCATION AND EXTENT OF REPAIRS SHOWN ON THE PLANS ARE GENERAL IN NATURE, THE ENGINEER WILL DETERMINE THE EXACT EXTENT OF THE REPAIRS IN THE FIELD BASED ON AN EVALUATION OF THE EXPOSED SURFACES.
 SEE SHEET S-57 FOR STEEL BEAM END REPAIR DETAILS.
 SEE SHEET S-60 FOR TYPICAL SHOTCRETE REPAIRS TO CONCRETE DIAPHRAGMS.



STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
PARTIAL FRAMING PLAN & REPAIRS TO SUPERSTRUCTURE (SPANS 5-8)					
REVISIONS					SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
					TOTAL SHEETS 67



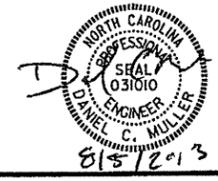
FRAMING PLAN

NOTES:
 THE LOCATION AND EXTENT OF REPAIRS SHOWN ON THE PLANS ARE GENERAL IN NATURE, THE ENGINEER WILL DETERMINE THE EXACT EXTENT OF THE REPAIRS IN THE FIELD BASED ON AN EVALUATION OF THE EXPOSED SURFACES.
 SEE SHEET S-57 FOR STEEL BEAM END REPAIR DETAILS.
 SEE SHEET S-60 FOR TYPICAL SHOTCRETE REPAIRS TO CONCRETE DIAPHRAGMS.

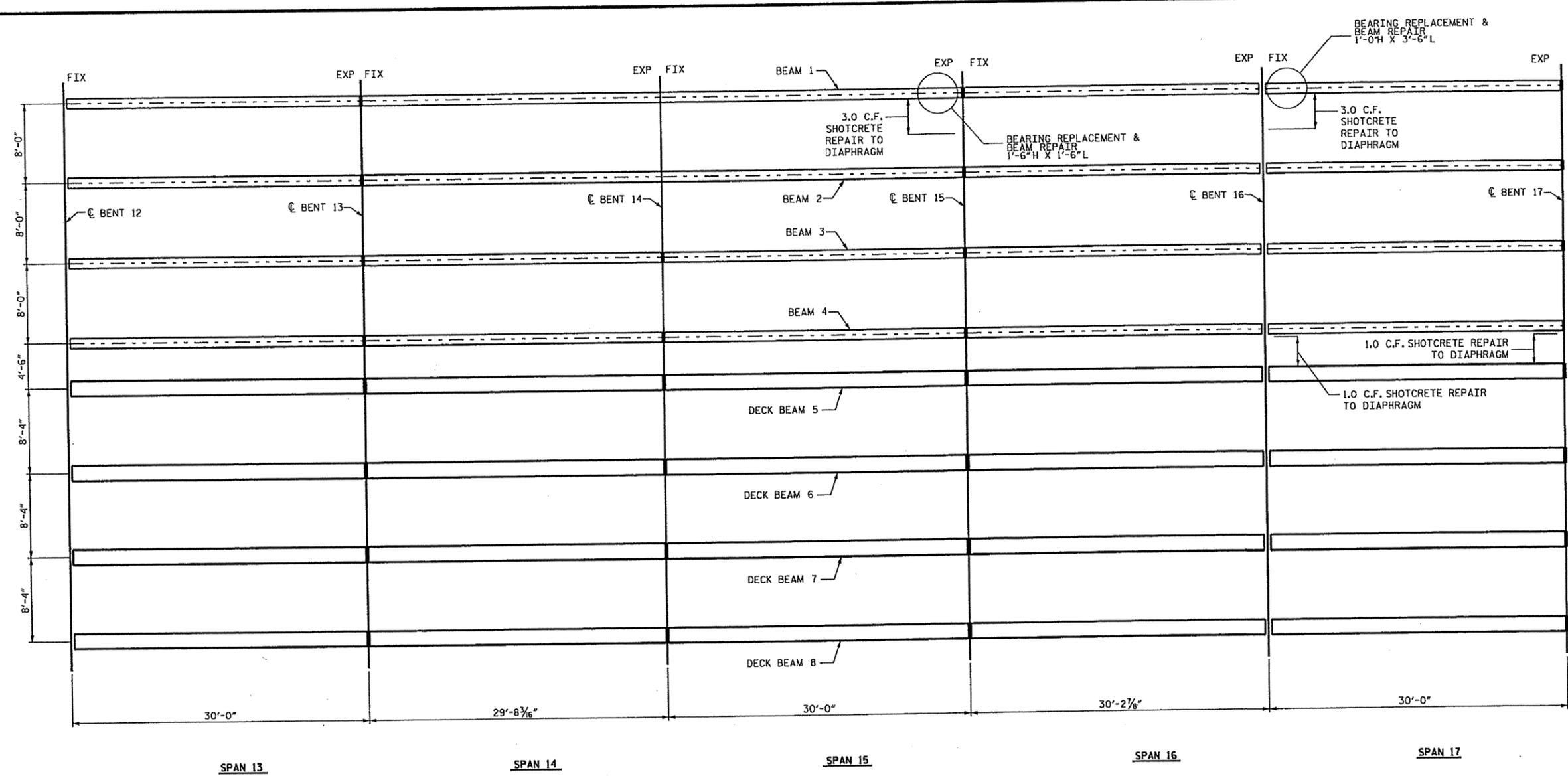
PROJECT NO. 17BP.2.P.19
BEAUFORT COUNTY
 BRIDGE NO. 25
 SHEET OF

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 PARTIAL FRAMING
 PLAN & REPAIRS TO
 SUPERSTRUCTURE
 (SPANS 9-12)

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1			3			67
2			4			



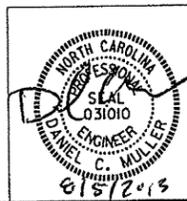
SUMMARY OF QUANTITIES						
SPANS 9-12						
BEAM END REPAIRS						
BEAM #	SPAN	BENT	H	L	LBS.	
TOTAL WEIGHT					0	
# OF BEARING REPLACEMENTS					0	
TOTAL SHOTCRETE REPAIR					4 CF	
DRAWN BY: <u>D. MULLER</u> DATE: <u>7/2012</u>						
CHECKED BY: <u>P. SPROUSE</u> DATE: <u>7/2012</u>						



FRAMING PLAN

PROJECT NO. 17BP.2.P.19
BEAUFORT COUNTY
 BRIDGE NO. 25
 SHEET OF

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH							
PARTIAL FRAMING PLAN & REPAIRS TO SUPERSTRUCTURE (SPANS 13-17)							
REVISIONS				SHEET NO.			
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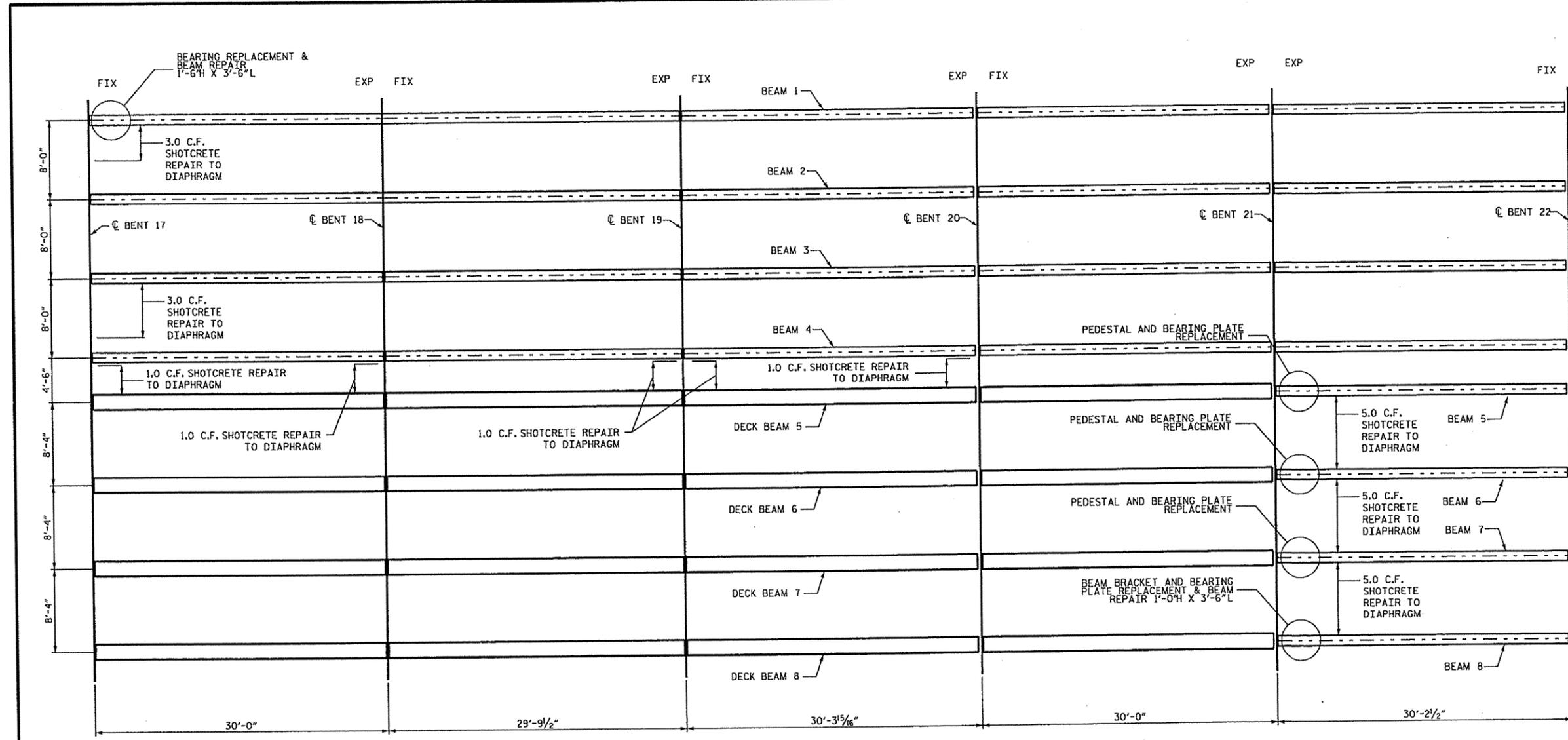


SUMMARY OF QUANTITIES						
SPANS 13-17						
BEAM END REPAIRS						
BEAM #	SPAN	BENT	H	L	LBS.	
1	15	15	1'-6"	1'-6"	85	
1	17	16	1'-0"	3'-0"	135	
TOTAL WEIGHT					220	
# OF BEARING REPLACEMENTS						2
TOTAL SHOTCRETE REPAIR						8 CF

NOTES:
 THE LOCATION AND EXTENT OF REPAIRS SHOWN ON THE PLANS ARE GENERAL IN NATURE, THE ENGINEER WILL DETERMINE THE EXACT EXTENT OF THE REPAIRS IN THE FIELD BASED ON AN EVALUATION OF THE EXPOSED SURFACES.
 SEE SHEET S-57 FOR STEEL BEAM END REPAIR DETAILS.
 SEE SHEET S-60 FOR TYPICAL SHOTCRETE REPAIRS TO CONCRETE DIAPHRAGMS.

DRAWN BY: D. MULLER DATE: 7/2012
 CHECKED BY: P. SPROUSE DATE: 7/2012

05-AUG-2013 09:31
 S:\PRSV\POC\Squad CV\Preservation\Projects\17BP.2.P.19\Reorganize\2.P.19_BEAUFORT25_SD_SHT49-60.dgn
 ssandar

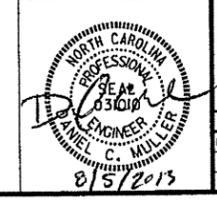


FRAMING PLAN

SUMMARY OF QUANTITIES					
SPANS 18-22					
BEAM END REPAIRS					
BEAM #	SPAN	BENT	H	L	LBS.
1	18	17	1'-6"	3'-6"	193
8	22	21	1'-0"	3'-6"	158
TOTAL WEIGHT					351
# OF BEARING REPLACEMENTS					5
# OF PEDESTAL REPLACEMENTS					3
# OF BRACKET REPLACEMENTS					1
TOTAL SHOTCRETE REPAIR					26 CF
DRAWN BY : <u>D. MULLER</u> DATE : <u>7/2012</u>					
CHECKED BY : <u>P. SPROUSE</u> DATE : <u>7/2012</u>					

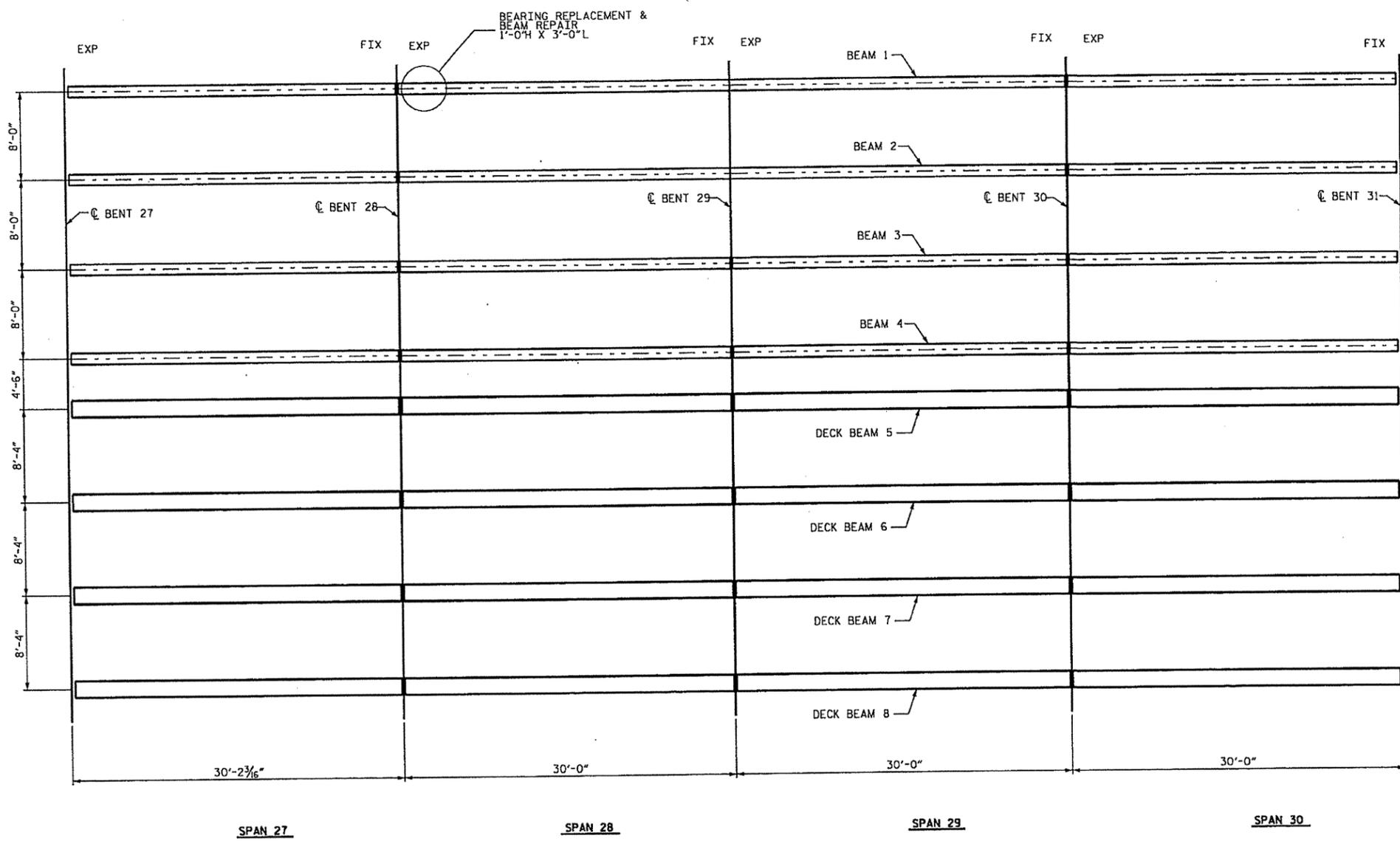
NOTES:
 THE LOCATION AND EXTENT OF REPAIRS SHOWN ON THE PLANS ARE GENERAL IN NATURE, THE ENGINEER WILL DETERMINE THE EXACT EXTENT OF THE REPAIRS IN THE FIELD BASED ON AN EVALUATION OF THE EXPOSED SURFACES.
 SEE SHEET S-57 FOR STEEL BEAM END REPAIR DETAILS.
 SEE SHEET S-60 FOR TYPICAL SHOTCRETE REPAIRS TO CONCRETE DIAPHRAGMS.

PROJECT NO. 17BP.2.P.19
BEAUFORT COUNTY
 BRIDGE NO. 25
 SHEET OF



STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
PARTIAL FRAMING PLAN & REPAIRS TO SUPERSTRUCTURE (SPANS 18-22)					
REVISIONS					SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
TOTAL SHEETS					67

SPAN 23 THROUGH SPAN 26
NOT SHOWN. NO STEEL
REPAIRS REQUIRED.
FOR PAINTING
REQUIREMENTS, SEE
SPECIAL PROVISIONS



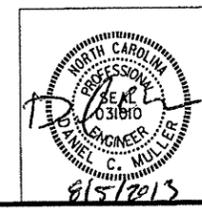
FRAMING PLAN

PROJECT NO. 17BP.2.P.19
BEAUFORT COUNTY
 BRIDGE NO. 25
 SHEET OF

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 PARTIAL FRAMING
 PLAN & REPAIRS TO
 SUPERSTRUCTURE
 (SPANS 27-30)

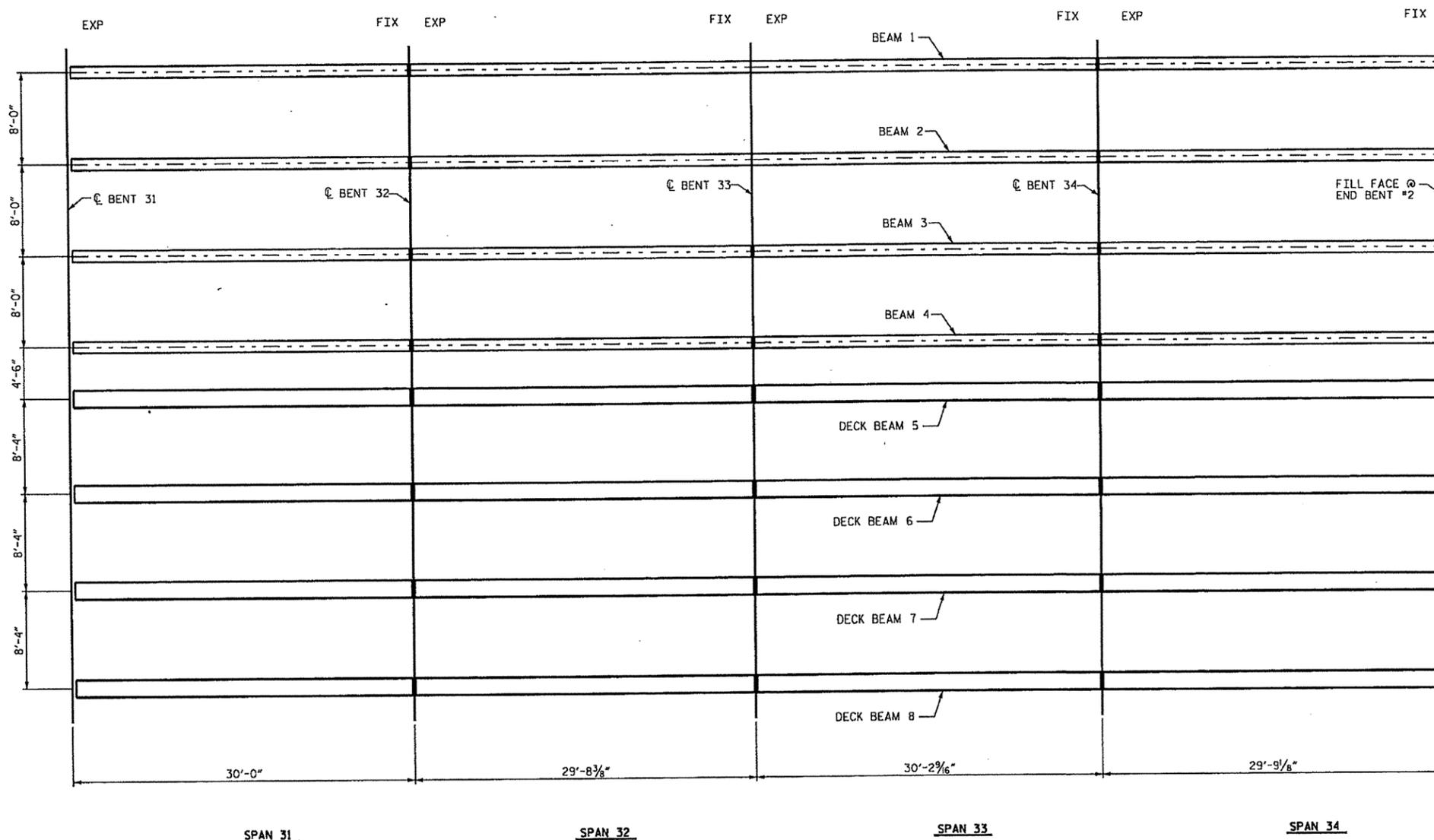
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-55
1			3			TOTAL SHEETS 67
2			4			

8/5/2013



SUMMARY OF QUANTITIES						
SPANS 27-30						
BEAM END REPAIRS						
BEAM #	SPAN	BENT	H	L	LBS.	
1	28	28	1'-0"	3'-0"	135	
1						
TOTAL WEIGHT					135	
* OF BEARING REPLACEMENTS					1	
TOTAL SHOTCRETE REPAIR					0 CF	
DRAWN BY : <u>D. MULLER</u> DATE : <u>7/2012</u>						
CHECKED BY : <u>P. SPROUSE</u> DATE : <u>7/2012</u>						

NOTES:
 THE LOCATION AND EXTENT OF REPAIRS SHOWN ON THE PLANS ARE GENERAL IN NATURE, THE ENGINEER WILL DETERMINE THE EXACT EXTENT OF THE REPAIRS IN THE FIELD BASED ON AN EVALUATION OF THE EXPOSED SURFACES.
 SEE SHEET S-57 FOR STEEL BEAM END REPAIR DETAILS.
 SEE SHEET S-60 FOR TYPICAL SHOTCRETE REPAIRS TO CONCRETE DIAPHRAGMS.



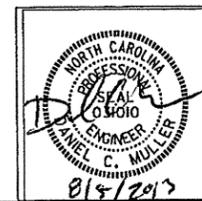
FRAMING PLAN

PROJECT NO. 17BP.2.P.19
BEAUFORT COUNTY
 BRIDGE NO. 25
 SHEET OF

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

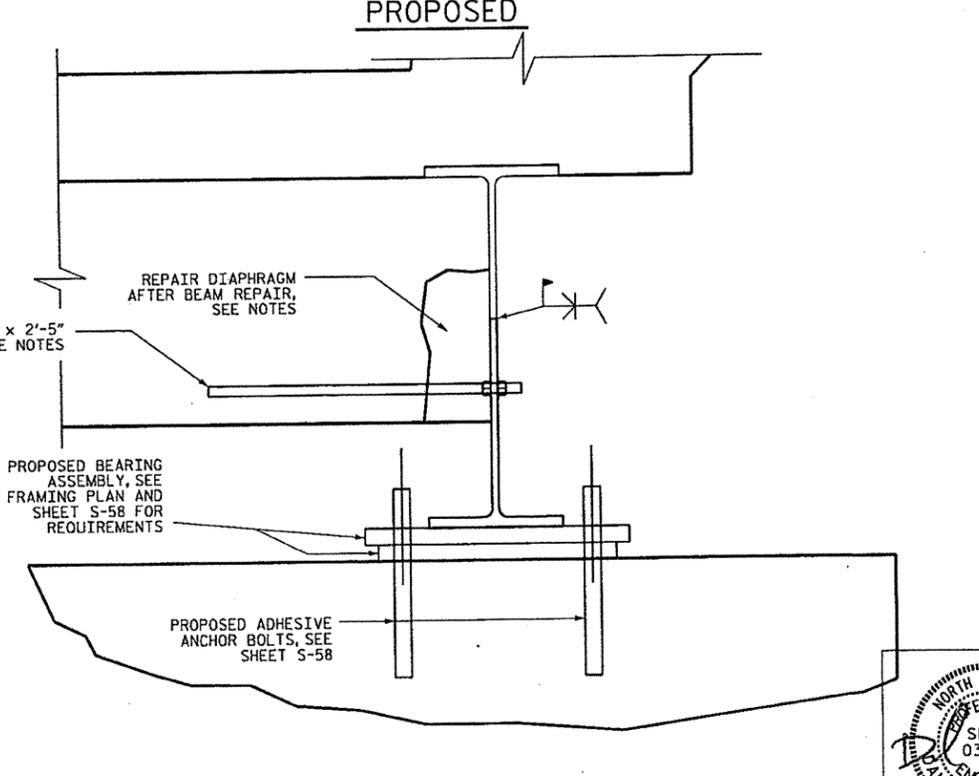
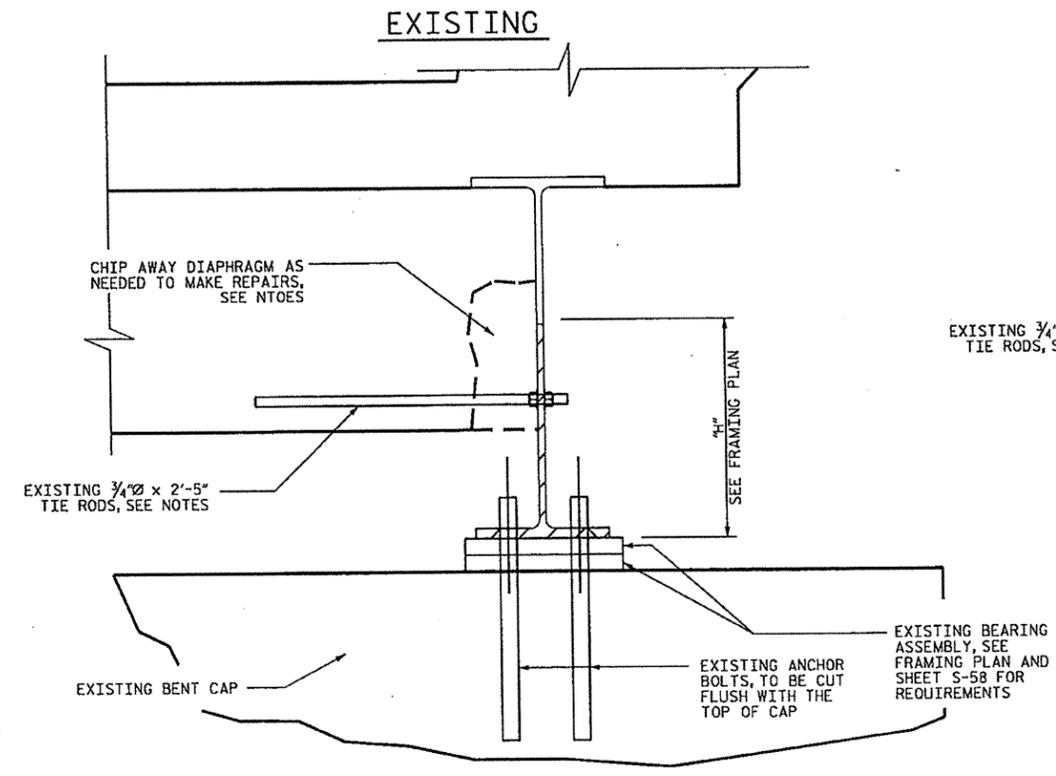
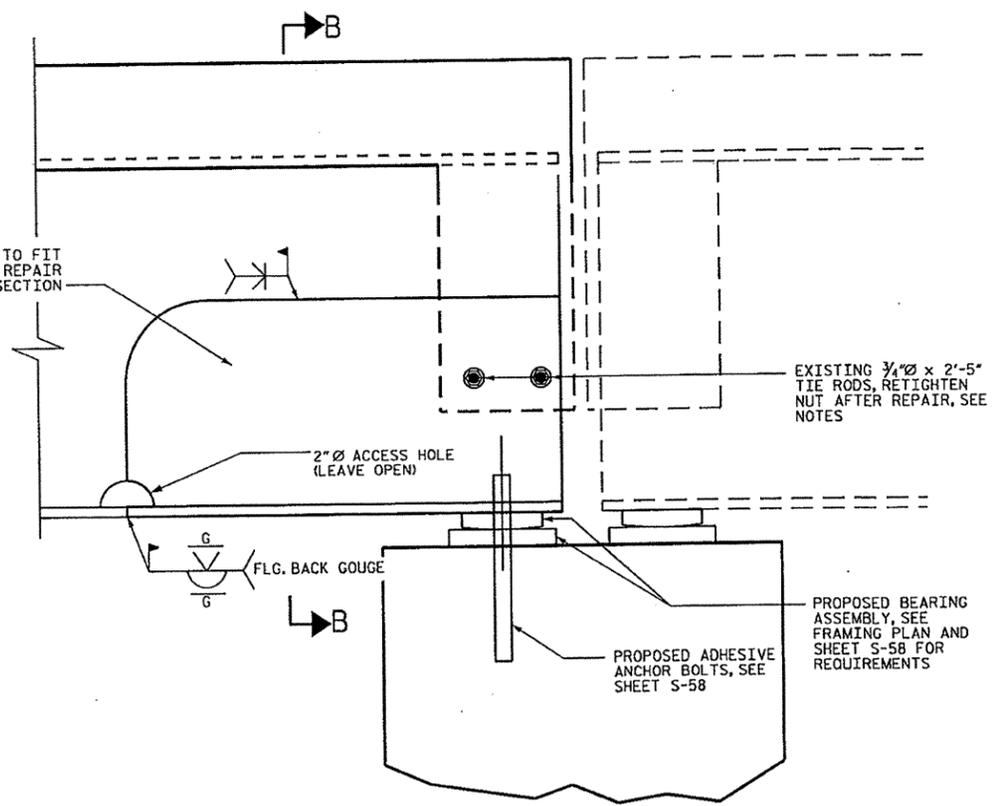
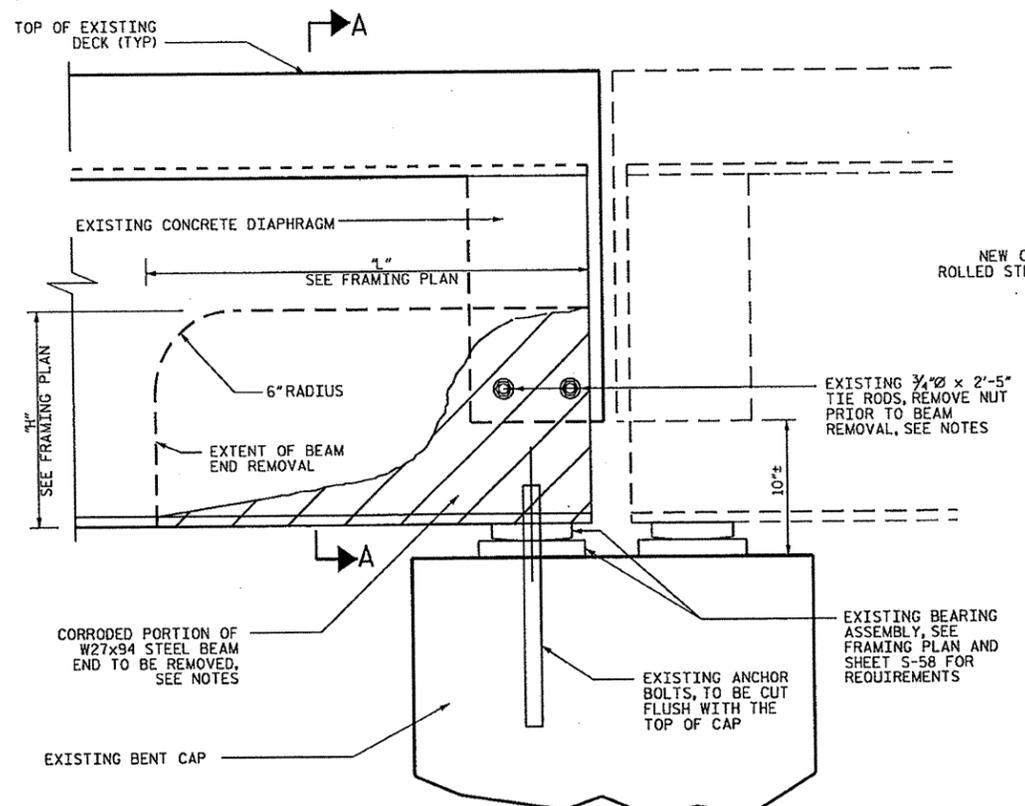
**PARTIAL FRAMING
 PLAN & REPAIRS TO
 SUPERSTRUCTURE
 (SPANS 31-34)**

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-56
1			3			TOTAL SHEETS
2			4			67



SUMMARY OF QUANTITIES						
SPANS 31-34						
BEAM END REPAIRS						
BEAM #	SPAN	BENT	H	L	LBS.	
TOTAL WEIGHT					0	
# OF BEARING REPLACEMENTS					0	
TOTAL SHOTCRETE REPAIR					0 CF	
DRAWN BY: <u>D. MULLER</u> DATE: <u>7/2012</u>						
CHECKED BY: <u>P. SPROUSE</u> DATE: <u>7/2012</u>						

NOTES:
 THE LOCATION AND EXTENT OF REPAIRS SHOWN ON THE PLANS ARE GENERAL IN NATURE, THE ENGINEER WILL DETERMINE THE EXACT EXTENT OF THE REPAIRS IN THE FIELD BASED ON AN EVALUATION OF THE EXPOSED SURFACES.
 SEE SHEET S-57 FOR STEEL BEAM END REPAIR DETAILS.
 SEE SHEET S-60 FOR TYPICAL SHOTCRETE REPAIRS TO CONCRETE DIAPHRAGMS.



REPAIR SEQUENCE:

GIRDER REPAIR DETAILS AND DIMENSIONS PROVIDED IN PLANS MAY BE MODIFIED BASED ON FIELD CONDITIONS BY THE ENGINEER.

SECTION LOSS AND FINAL EXTENT OF REQUIRED REPAIR (H \times L) IS TO BE VERIFIED IN THE FIELD BY THE ENGINEER.

CHIP AWAY CONCRETE FROM BENT DIAPHRAGMS AS NEEDED TO DETERMINE LIMITS OF REPAIR. MECHANICALLY CLEAN RUST, SCALE & EXISTING PAINT TO AT LEAST 4" BEYOND REPAIR AREA LIMITS.

DETERMINE CUT-TO-FIT STEEL SECTION NEEDED TO REPAIR SECTION LOSS.

REPLACEMENT BEAM SECTION SHALL BE CUT FROM A W 27 X 94 ROLLED BEAM AND SHALL BE AASHTO M270 GRADE 36, OR APPROVED EQUIVALENT.

INSTALL CUT-TO-FIT SECTION, FULLY WELD ALONG TOP AND SIDES OF PLATE.

IN ACCORDANCE WITH THE SPECIAL PROVISIONS, AFTER REPAIR GRIND ALL WELDS FLUSH, THOROUGHLY CLEAN AREA TO REMOVE DEBRIS AND OILS FROM REPAIR PROCESS, CLEAN AND PAINT STRUCTURAL STEEL.

ALL WELDS WILL BE INSPECTED AND TESTED BY THE NCDOT MATERIALS AND TEST UNIT IN ACCORDANCE WITH THE CURRENT AWS BRIDGE WELDING CODE AND STANDARD SPECIFICATIONS.

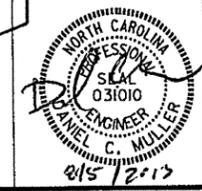
AFTER GIRDERS ARE REPAIRED AND PAINTED THE PORTION OF THE CONCRETE REMOVED FROM THE BENT DIAPHRAGMS SHALL BE REPAIRED. ANY REINFORCING STEEL CUT DURING THE REMOVAL PROCESS SHALL BE SPLICED WITH A SIMILAR SIZE BAR WITH AT LEAST A ONE FOOT SPLICE TO THE EXISTING STEEL. NO SEPARATE PAYMENT SHALL BE MADE FOR CONCRETE AND REINFORCING STEEL AS THIS IS CONSIDERED INCIDENTAL TO THE PAY ITEM "GIRDER REPAIR".

FOR "GIRDER REPAIR", SEE SPECIAL PROVISIONS.

ALL WELDING SHALL BE IN ACCORDANCE WITH CURRENT APPLICABLE AWS AND NCDOT STANDARD SPECIFICATIONS.

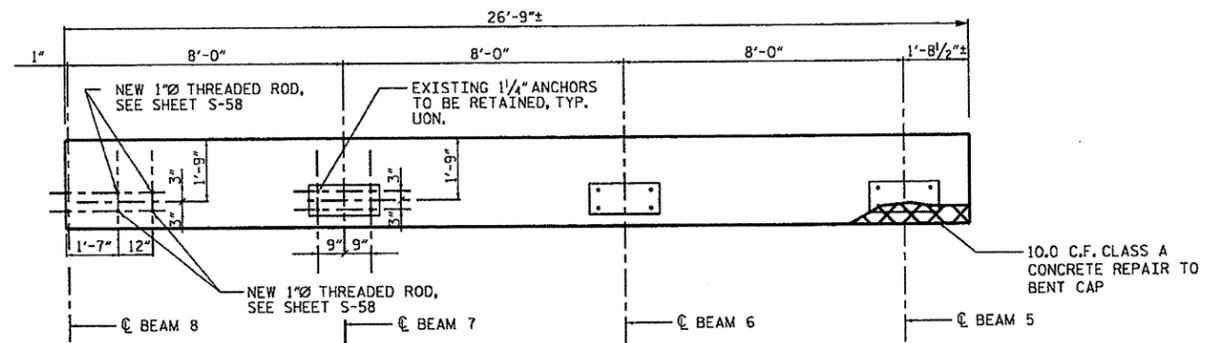
FOR JACKING NOTES, SEE SHEET S-49.

PROJECT NO. 17BP.2.P.19
BEAUFORT COUNTY
 BRIDGE NO. 25
 SHEET OF

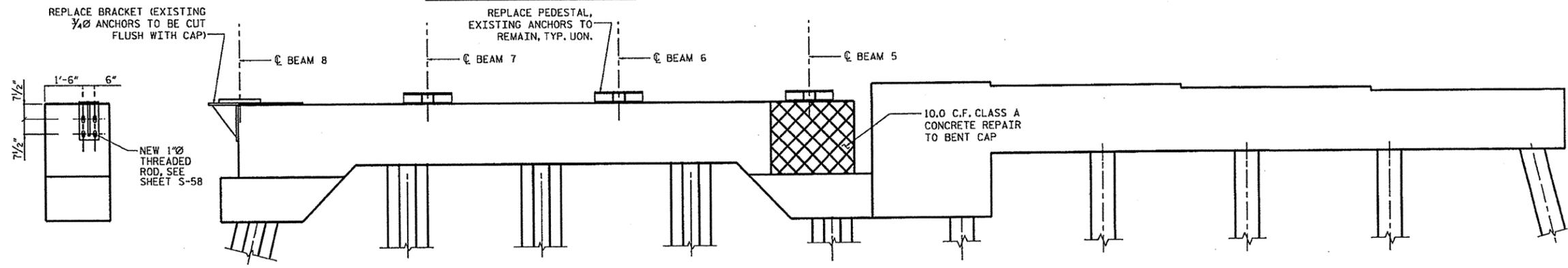


REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	S-57
1			3			TOTALS
2			4			67

DRAWN BY: D. MULLER DATE: 7/2012
 CHECKED BY: P. SPROUSE DATE: 7/2012

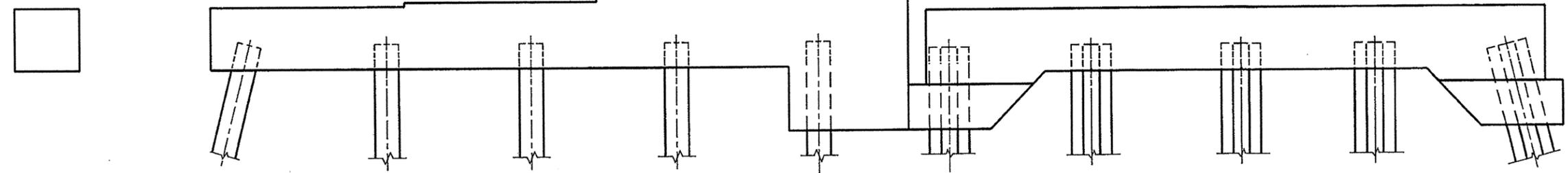


PARTIAL PLAN



WEST END ELEVATION

NORTH ELEVATION



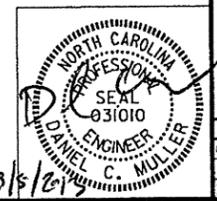
EAST END ELEVATION

SOUTH ELEVATION

NOTES

- THE LOCATION AND EXTENT OF REPAIRS SHOWN ARE GENERAL IN NATURE. THE ENGINEER WILL DETERMINE THE EXACT EXTENT OF THE REMOVAL BASED ON AN EVALUATION OF THE CONDITION OF THE EXPOSED SURFACES.
- CONSTRUCTION METHODS, PROCEDURES, AND SEQUENCES ARE THE CONTRACTOR'S RESPONSIBILITY AND THE CONTRACTOR SHALL TAKE ALL THE NECESSARY MEANS TO MAINTAIN AND PROTECT THE STRUCTURAL INTEGRITY OF ALL CONSTRUCTION AT ALL STAGES.
- ANY DISCREPANCIES BETWEEN THE CONSTRUCTION DOCUMENTS AND THE ACTUAL FIELD CONDITIONS SHALL BE REPORTED TO THE ENGINEER.
- STEEL BEAMS SHALL NOT BE LOWERED ONTO BEARINGS UNTIL CONCRETE REPAIR MATERIAL HAS ACHIEVED STRENGTH.
- FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.
- FOR TYPICAL CONCRETE REPAIR DETAILS, SEE SHEET S-60.

PROJECT NO. 17BP.2.P.19
 BEAUFORT COUNTY
 BRIDGE NO. 25
 SHEET - OF -

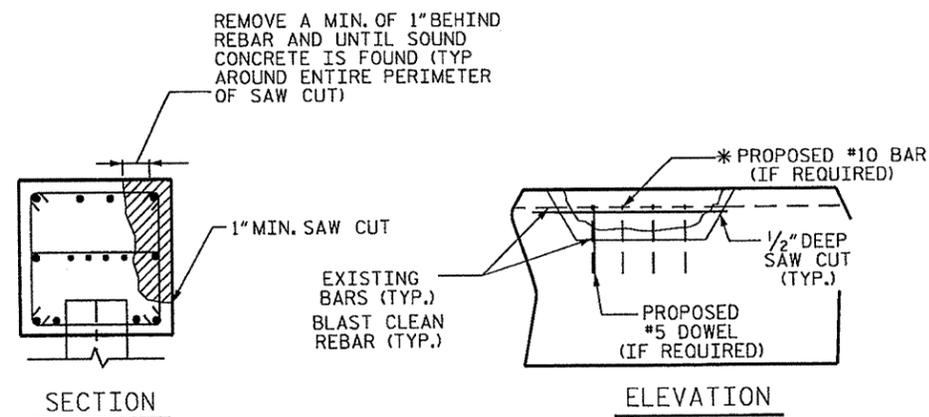


STATE OF NORTH CAROLINA						SHEET NO. S-59
DEPARTMENT OF TRANSPORTATION						
RALEIGH						TOTAL SHEETS 67
REPAIRS AT BENT 21						
REVISIONS						
NO.	BY	DATE	NO.	BY	DATE	
1			3			
2			4			

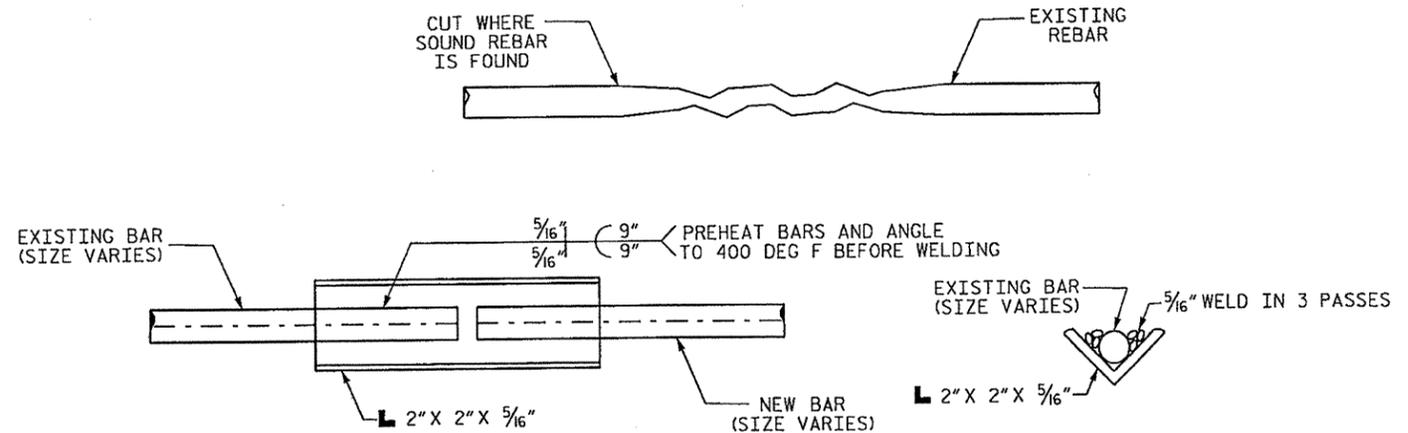
DRAWN BY: D. MULLER DATE: 7/2012
 CHECKED BY: P. SPROUSE DATE: 7/2012

NOTES:

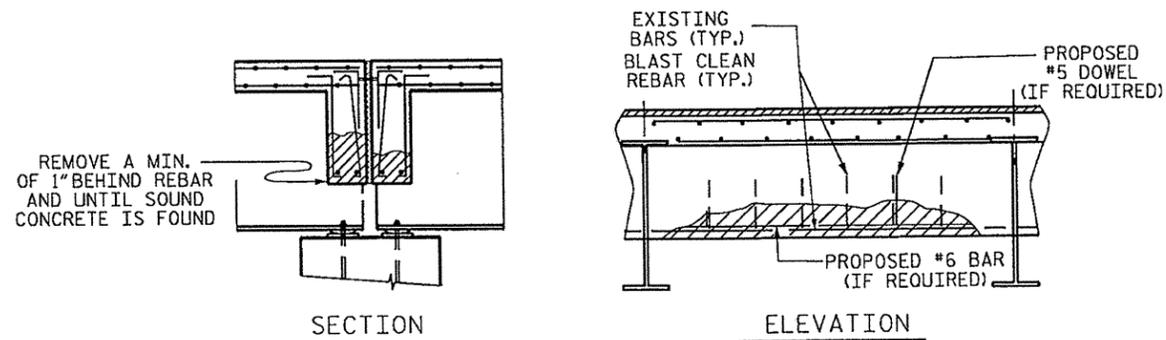
REPAIR AREAS ARE APPROXIMATE
 PROPOSED MATERIALS AND METHODS SHALL BE SUBMITTED TO ENGINEER FOR APPROVAL PRIOR TO BEGINNING WORK.
 FOR SHOTCRETE & CONCRETE REPAIRS REFER TO SPECIAL PROVISIONS
 DAMAGED REBAR TO BE REMOVED AND REPLACED SEE "SPlice DETAILS" AND SPECIAL PROVISIONS FOR SHOTCRETE AND CONCRETE REPAIRS.



CONCRETE CAP REPAIR DETAIL



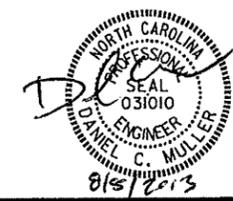
SPlice DETAIL
(IF REQUIRED)



TYPICAL SHOTCRETE DIAPHRAGM REPAIR DETAIL

PROJECT NO. 17BP.2.P.19
 BEAUFORT COUNTY
 BRIDGE NO: 25
 SHEET _ OF _

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
CONCRETE REPAIR DETAILS					
REVISIONS					SHEET NO. S-60
NO.	BY	DATE	NO.	BY	DATE
1			3		
2			4		
TOTAL SHEETS					67



DRAWN BY: D. MULLER DATE: 07/12
 CHECKED BY: P. SPROUSE DATE: 07/12

NOT TO SCALE

NOTES:

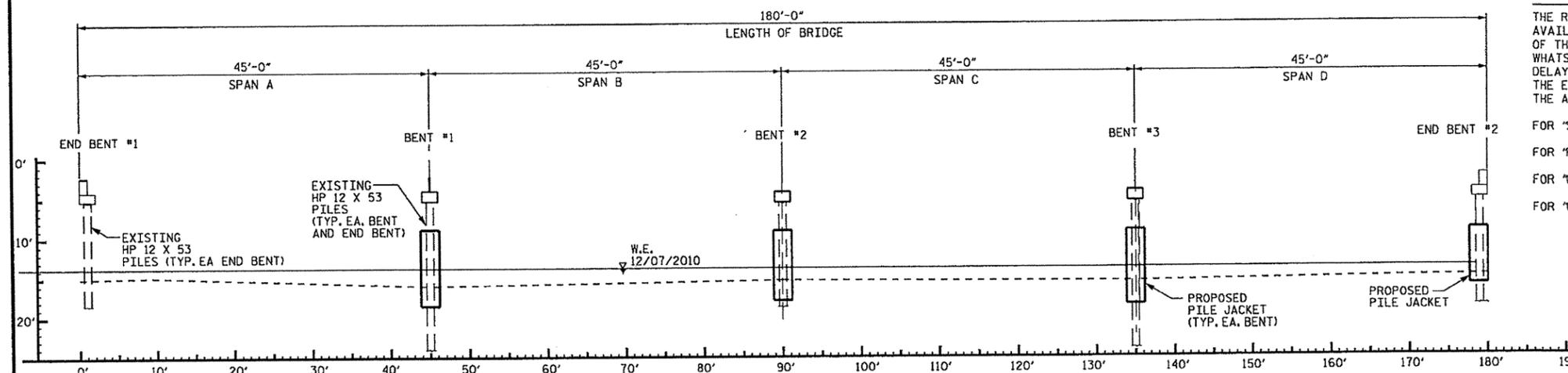
THE REPAIRS SHOWN ON THE PLANS ARE FROM THE BEST INFORMATION AVAILABLE. SINCE THIS INFORMATION IS SHOWN FOR THE CONVENIENCE OF THE CONTRACTOR, THE CONTRACTOR SHALL HAVE NO CLAIM WHATSOEVER AGAINST THE DEPARTMENT OF TRANSPORTATION FOR ANY DELAYS OR ADDITIONAL COST INCURRED BASED ON DIFFERENCES BETWEEN THE EXISTING BRIDGE SUBSTRUCTURE SHOWN ON THE PLANS AND THE ACTUAL CONDITIONS AT THE PROJECT SITE.

FOR 'SUBMITTAL OF WORKING DRAWINGS', SEE SPECIAL PROVISIONS.

FOR 'FALSEWORK AND FORMWORK', SEE SPECIAL PROVISIONS.

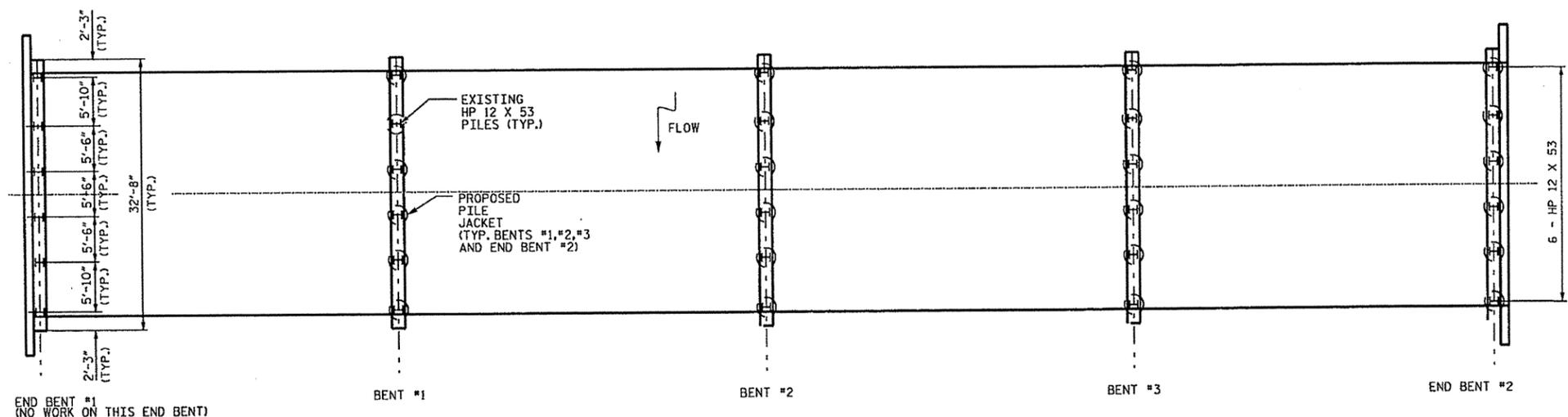
FOR 'CRANE SAFETY', SEE SPECIAL PROVISIONS.

FOR 'GROUT FOR STRUCTURES', SEE SPECIAL PROVISIONS.



ELEVATION

TOP OF GUARDRAIL ASSUMED TO BE ELEVATION 0'.



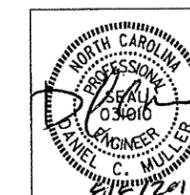
PLAN VIEW

PROJECT NO. 17BP.2.P.19
CRAVEN COUNTY
 BRIDGE NO.: 139

TOTAL BILL OF MATERIAL		
	MOBILIZATION	CONCRETE PILE JACKETS
BRIDGE	LUMP SUM	LF
NO. 139	LUMP SUM	144.0 (±)
TOTAL	LUMP SUM	144.0 (±)

DRAWN BY : S. T. SANDOR DATE : 08/12
 CHECKED BY : P. SPROUSE DATE : 09/12

05-AUG-2013 09:17
 S:\P\SP\DC\Squad CV\Preservation_Projects\17BP.2.P.19\Reorganize\Craven_CD_Sht61.dgn
 sandor



STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

PLAN & ELEVATION OF
 BRIDGE #139

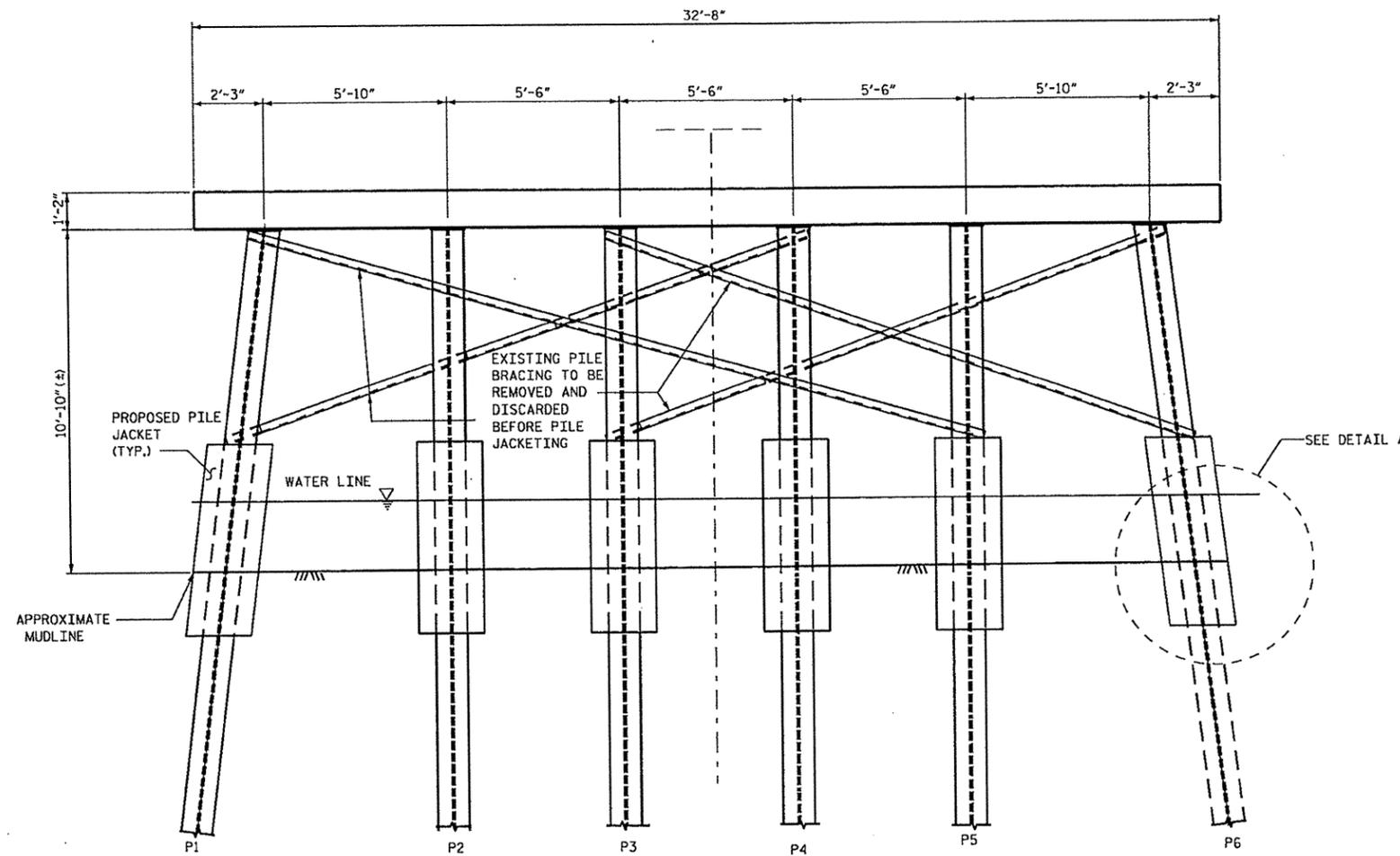
REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	S-61
1			3			TOTAL SHEETS
2			4			67

NC005

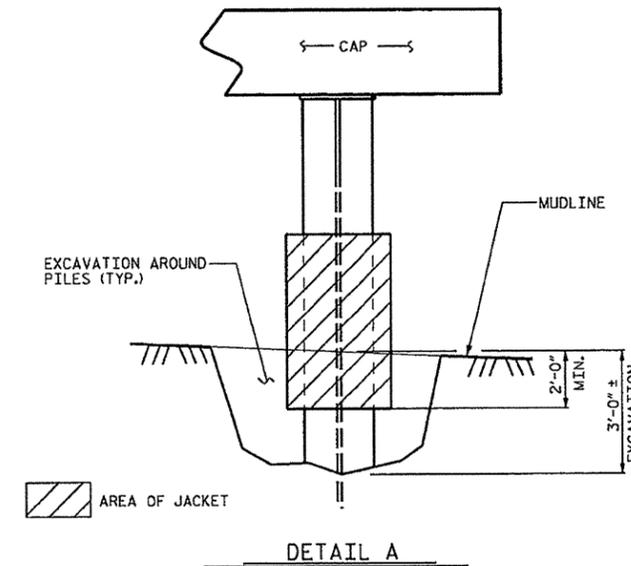
NOTES

EXISTING PILES ARE HP 12 X 53 STEEL PILES.
 JACKET PILES TO A MINIMUM OF 2'-0" BELOW THE MUD LINE.
 JACKET PILES TO A MINIMUM OF 1'-0" ABOVE THE DAMAGED AREA.
 FOR 'PILE JACKET', SEE SPECIAL PROVISIONS.
 PILE JACKET LENGTHS ARE MINIMUM 4'-0". LIMITS SHALL BE FIELD VERIFIED.
 FOR PILE JACKET DETAILS SEE SHEETS S-66 & S-67.
 REPAIR OF BRIDGE SHALL BE PERFORMED SO AS NOT TO ALLOW DEBRIS TO FALL INTO THE WATER.

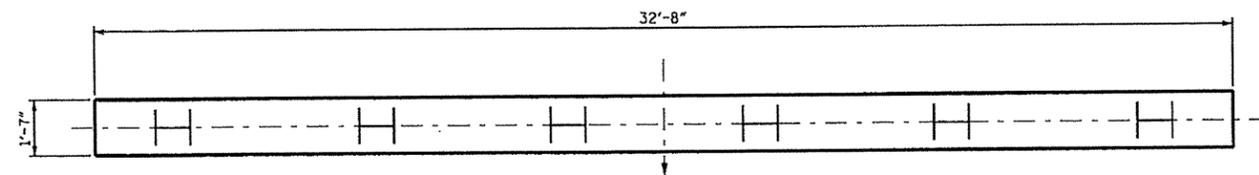
EXCAVATE 3'-0" (±) DEEP AROUND EXISTING PILES. CLEAN EXPOSED PILE BELOW EXISTING MUDLINE. AFTER CLEANING AND TREATING THE HP PILES, BACKFILL EXCAVATED AREA AROUND EACH PILE. SEE DETAIL A.



ELEVATION VIEW
BENT NO. 1



DETAIL A



PLAN VIEW
BENT NO. 1

BENT.	PILE
#1	P1*
#1	P2*
#1	P3*
#1	P4*
#1	P5*
#1	P6*

*PILE JACKET LENGTHS VARY BETWEEN 6'-6" (±) AND 7'-6" (±) LENGTHS AND REPAIR LIMITS SHALL BE FIELD VERIFIED.

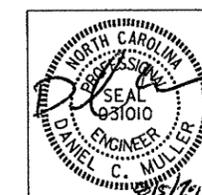
PROJECT NO. 17BP.2.P.19
CRAVEN COUNTY
 BRIDGE NO.: 139

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

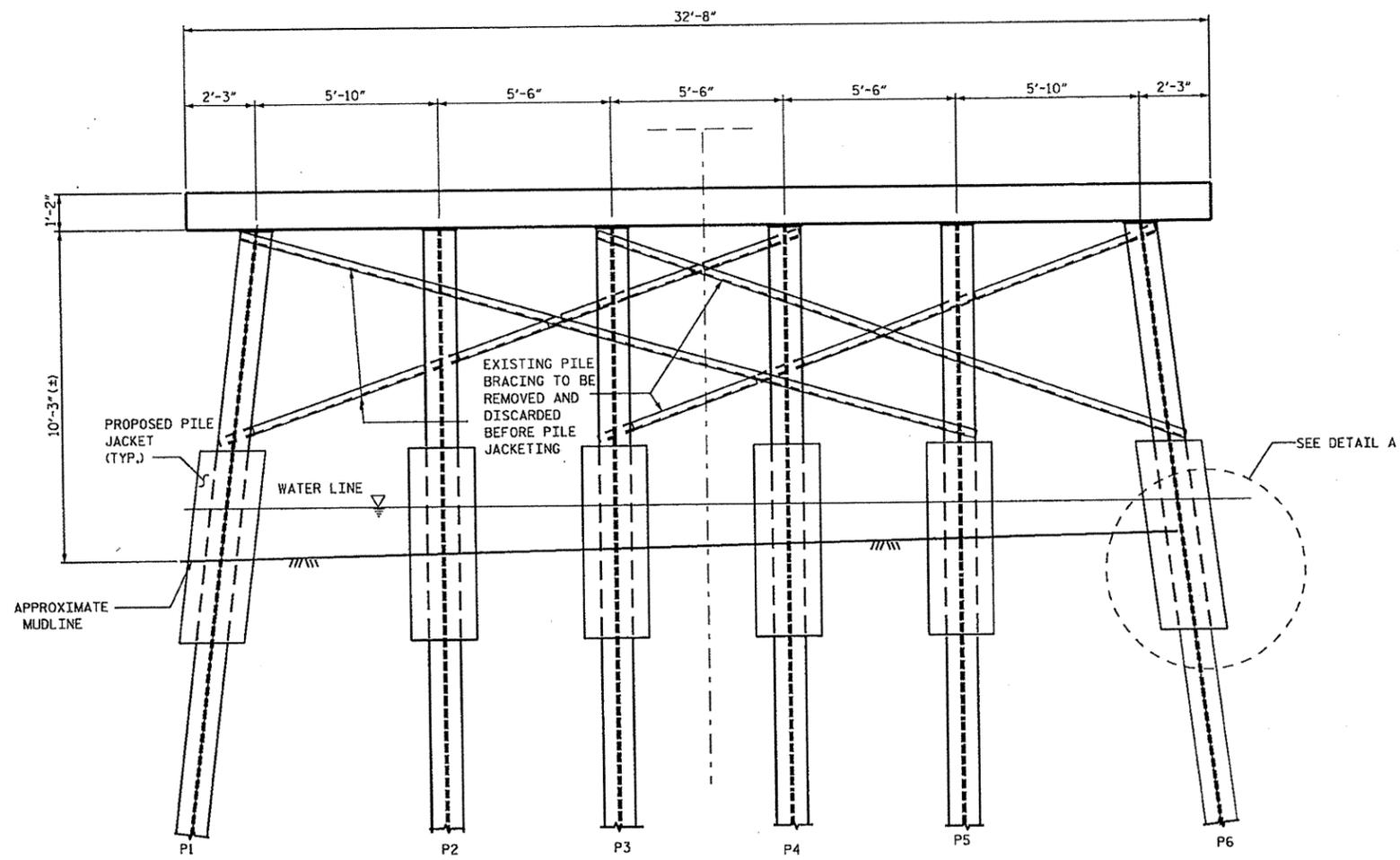
**SUBSTRUCTURE
 PILE JACKET
 REPAIR**

(BENT 1)

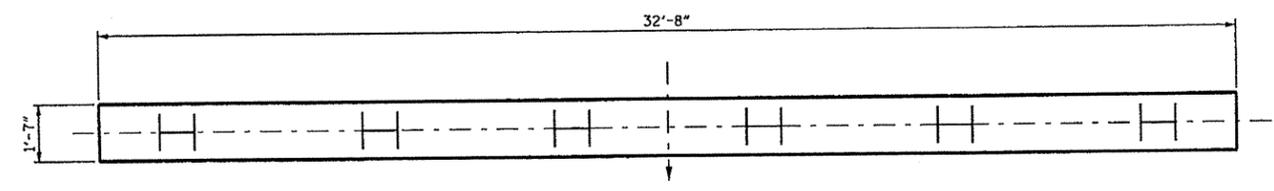
REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	S-62
1			3			TOTAL SHEETS
2			4			67



DRAWN BY: S. T. SANDOR DATE: 07/2012
 CHECKED BY: P. SPROUSE DATE: 08/2012



ELEVATION VIEW
BENT NO. 2



PLAN VIEW
BENT NO. 2

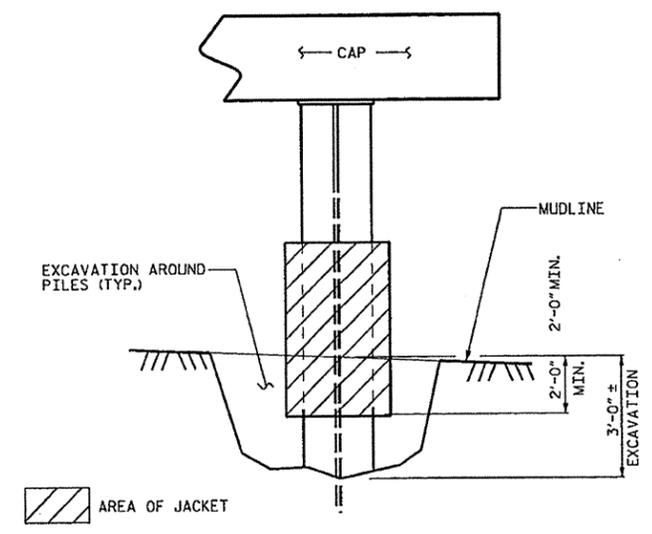
BENT	PILE
#2	P1*
#2	P2*
#2	P3*
#2	P4*
#2	P5*
#2	P6*

*PILE JACKET LENGTHS VARY BETWEEN 6'-0" (±) AND 7'-6" (±) LENGTHS AND REPAIR LIMITS SHALL BE FIELD VERIFIED.

NOTES

- EXISTING PILES ARE HP 12 X 53 STEEL PILES.
- JACKET PILES TO A MINIMUM OF 2'-0" BELOW THE MUD LINE.
- JACKET PILES TO A MINIMUM OF 1'-0" ABOVE THE DAMAGED AREA.
- FOR "PILE JACKET", SEE SPECIAL PROVISIONS.
- PILE JACKET LENGTHS ARE MINIMUM 4'-0". LIMITS SHALL BE FIELD VERIFIED.
- FOR PILE JACKET DETAILS SEE SHEETS S-66 & S-67.
- REPAIR OF BRIDGE SHALL BE PERFORMED SO AS NOT TO ALLOW DEBRIS TO FALL INTO THE WATER.

EXCAVATE 3'-0" (±) DEEP AROUND EXISTING PILES. CLEAN EXPOSED PILE BELOW EXISTING MUDLINE. AFTER CLEANING AND TREATING THE HP PILES, BACKFILL EXCAVATED AREA AROUND EACH PILE. SEE DETAIL A.

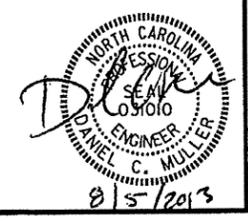


DETAIL A

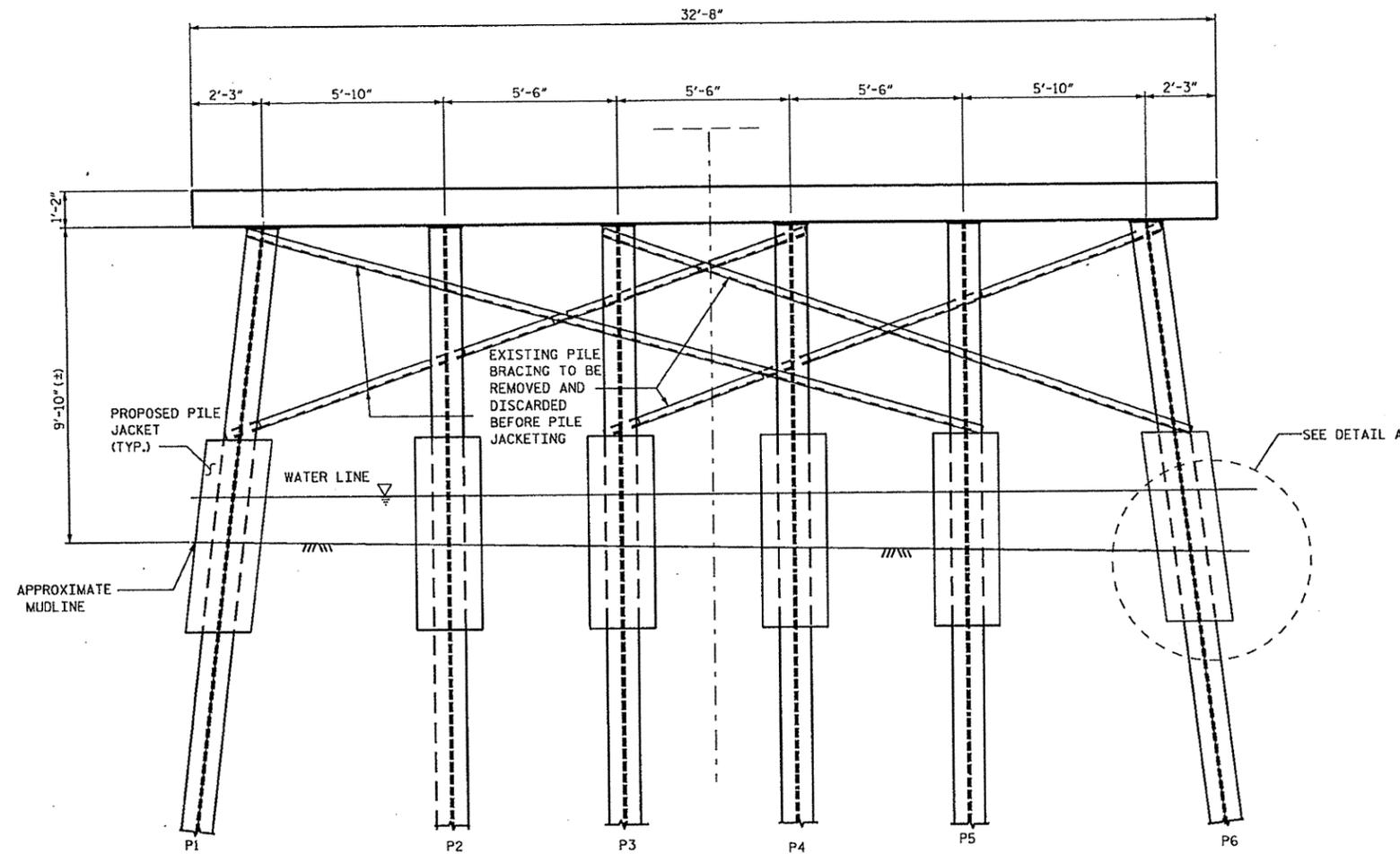
PROJECT NO. 17BP.2.P.19
CRAVEN COUNTY
 BRIDGE NO.: 139

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 SUBSTRUCTURE
 PILE JACKET
 REPAIR
 (BENT 2)

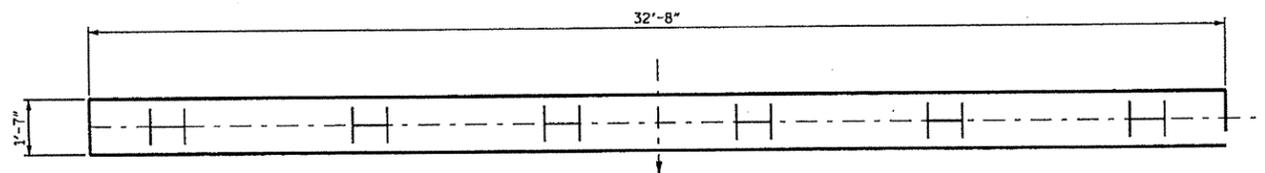
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-63
1			3			TOTAL SHEETS
2			4			67



DRAWN BY : S. T. SANDOR DATE : 08/2012
 CHECKED BY : P. SPROUSE DATE : 09/2012



ELEVATION VIEW
BENT NO. 3



PLAN VIEW
BENT NO. 3

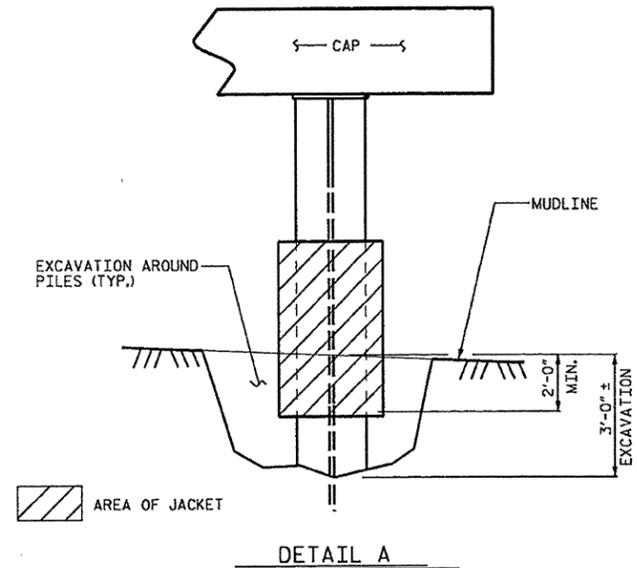
BENT	PILE
#3	P1*
#3	P2*
#3	P3*
#3	P4*
#3	P5*
#3	P6*

*PILE JACKET LENGTHS VARY BETWEEN 6'-0" (±) AND 7'-6" (±) LENGTHS AND REPAIR LIMITS SHALL BE FIELD VERIFIED.

NOTES

- EXISTING PILES ARE HP 12 X 53 STEEL PILES.
- JACKET PILES TO A MINIMUM OF 2'-0" BELOW THE MUD LINE.
- JACKET PILES TO A MINIMUM OF 1'-0" ABOVE THE DAMAGED AREA.
- FOR "PILE JACKET", SEE SPECIAL PROVISIONS.
- PILE JACKET LENGTHS ARE MINIMUM 4'-0". LIMITS SHALL BE FIELD VERIFIED.
- FOR PILE JACKET DETAILS SEE SHEETS S-66 & S-67.
- REPAIR OF BRIDGE SHALL BE PERFORMED SO AS NOT TO ALLOW DEBRIS TO FALL INTO THE WATER.

EXCAVATE 3'-0" (±) DEEP AROUND EXISTING PILES. CLEAN EXPOSED PILE BELOW EXISTING MUDLINE. AFTER CLEANING AND TREATING THE HP PILES, BACKFILL EXCAVATED AREA AROUND EACH PILE. SEE DETAIL A.

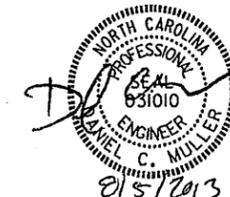


PROJECT NO. 17BP.2.P.19
 CRAVEN COUNTY
 BRIDGE NO.: 139

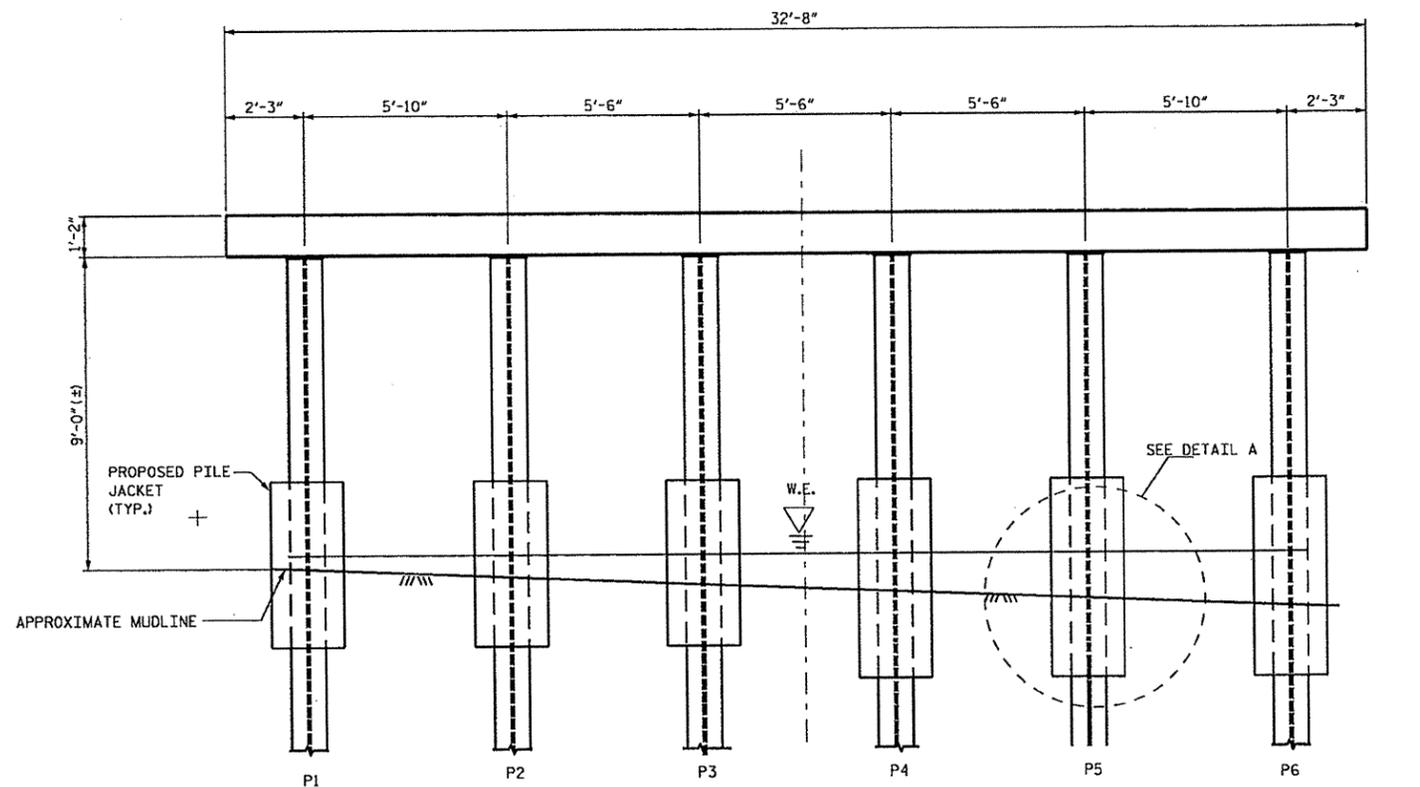
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

**SUBSTRUCTURE
 PILE JACKET
 REPAIR
 (BENT 3)**

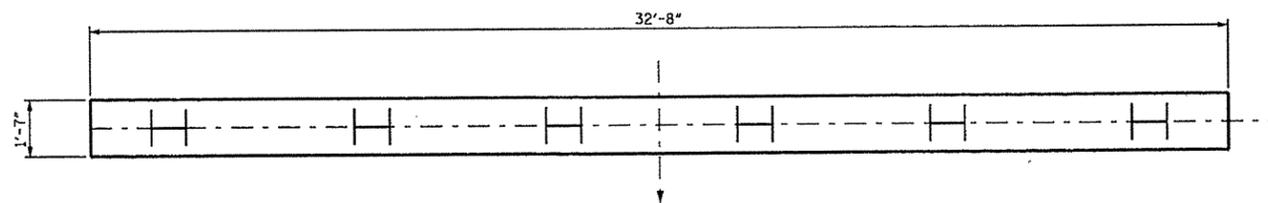
REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	S-64
1			3			TOTAL SHEETS
2			4			67



DRAWN BY: S. T. SANDOR DATE: 08/2012
 CHECKED BY: P. SPROUSE DATE: 09/2012



ELEVATION VIEW
END BENT #2



PLAN VIEW
END BENT #2

PILE JACKET LOCATIONS

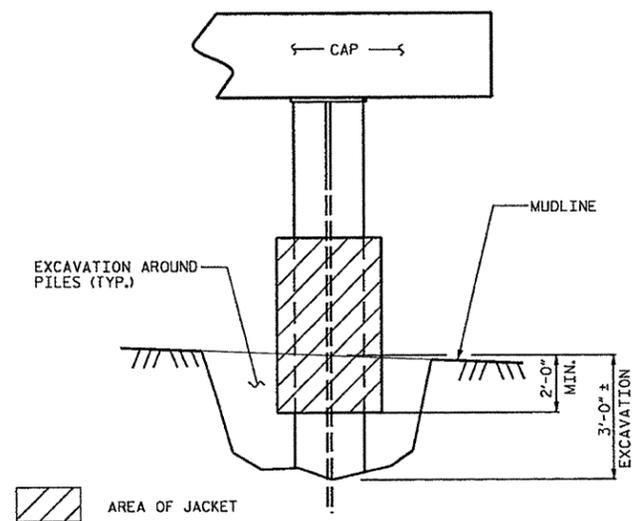
END BENT	PILE
#2	P1*
#2	P2*
#2	P3*
#2	P4*
#2	P5*
#2	P6*

*PILE JACKET LENGTHS VARY BETWEEN 5'-6" (±) AND 7'-6" (±) LENGTHS AND REPAIR LIMITS SHALL BE FIELD VERIFIED.

NOTES

- EXISTING PILES ARE HP 12 X 53 STEEL PILES.
- JACKET PILES TO A MINIMUM OF 2'-0" BELOW THE MUD LINE.
- JACKET PILES TO A MINIMUM OF 1'-0" ABOVE THE DAMAGED AREA.
- FOR "PILE JACKET", SEE SPECIAL PROVISIONS.
- PILE JACKET LENGTHS ARE MINIMUM 4'-0". LIMITS SHALL BE FIELD VERIFIED.
- FOR PILE JACKET DETAILS SEE SHEETS S-66 & S-67.
- REPAIR OF BRIDGE SHALL BE PERFORMED SO AS NOT TO ALLOW DEBRIS TO FALL INTO THE WATER.

EXCAVATE 3'-0" (±) DEEP AROUND EXISTING PILES. CLEAN EXPOSED PILE BELOW EXISTING MUDLINE. AFTER CLEANING AND TREATING THE HP PILES, BACKFILL EXCAVATED AREA AROUND EACH PILE. SEE DETAIL A.



DETAIL A

PROJECT NO. 17BP.2.P.19
CRAVEN COUNTY
 BRIDGE NO.: 139

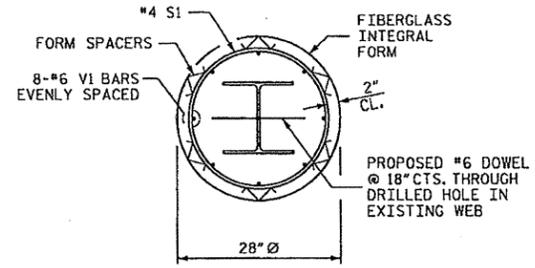
STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

SUBSTRUCTURE
PILE JACKET REPAIR
 (END BENT #2)

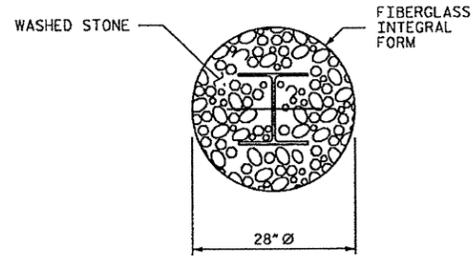
REVISIONS						SHEET NO.	
NO.	BY	DATE	NO.	BY	DATE	S-65	
1			3			TOTAL SHEETS	
2			4			67	



DRAWN BY : S. T. SANDOR DATE : 08/2012
 CHECKED BY : P. SPROUSE DATE : 09/2012



JACKET DETAIL



BOTTOM DETAIL

JACKET NOTES:

CONCRETE AND BAR REINFORCEMENT SHALL BE IN ACCORDANCE WITH REQUIREMENTS OF THE STANDARD SPECIFICATION SECTIONS.

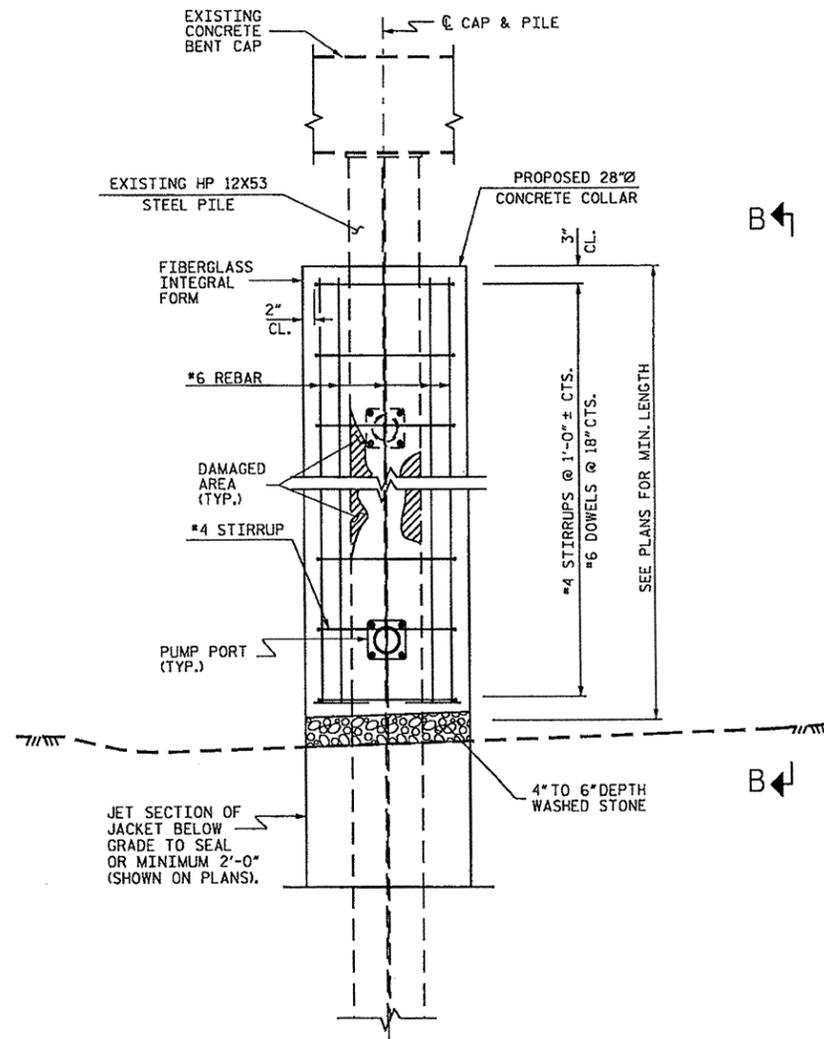
ALL REINFORCING BARS SHALL BE ASTM GRADE 60.

SURFACES OF PILES TO BE ENCASED IN CONCRETE SHALL BE CLEANED AS DESCRIBED IN SPECIAL PROVISIONS. CLEANING MUST BE DONE IMMEDIATELY BEFORE FORMS ARE INSTALLED.

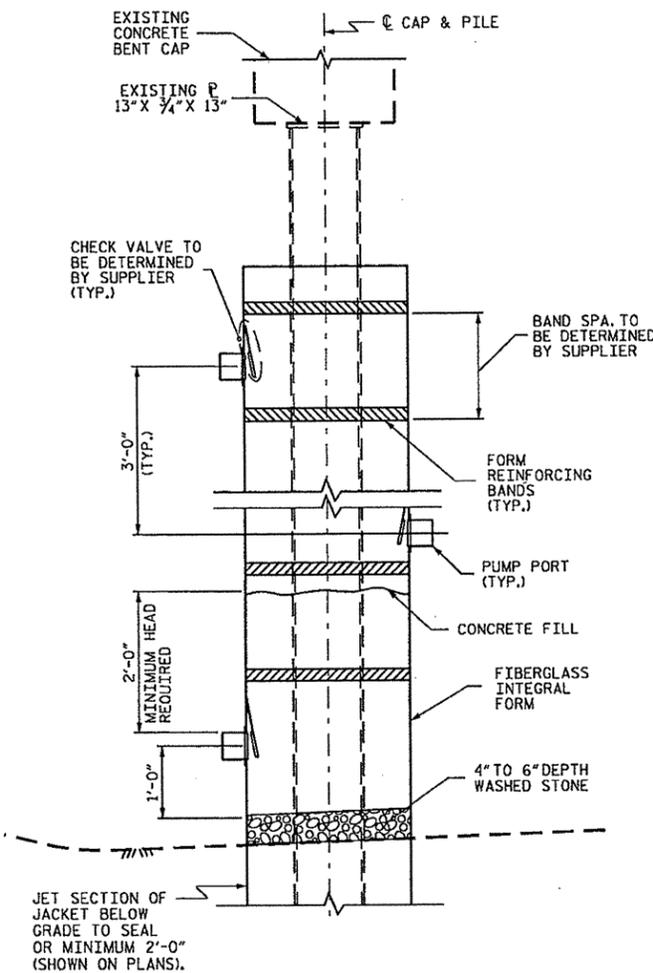
SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL SHOWING ALL FASTENING DETAILS, STANDOFFS, FORMS AND ANY OTHER DEVICES NECESSARY TO SECURE THE FORMS SO THAT CONCRETE MAY BE PLACED IN A CONTINUOUS OPERATION COMPLETELY ENCAPSULATING THE PILES.

FORMS FOR JACKET SHALL BE INSTALLED IN ACCORDANCE WITH APPROVED SHOP DRAWINGS. BOTTOM SEAL SHALL BE MORTAR TIGHT.

CONCRETE AT THE TOP OF THE JACKET SHALL BE DOMED TO PREVENT PONDING. THE INTERFACE OF THE PILE AND THE CONCRETE AT THIS LOCATION SHALL BE SEALED WITH APPROVED SEALANT.



COLLAR ELEVATION



SECTION B-B

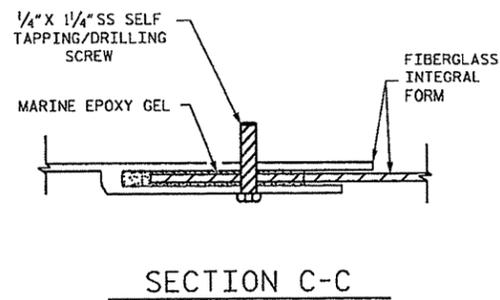
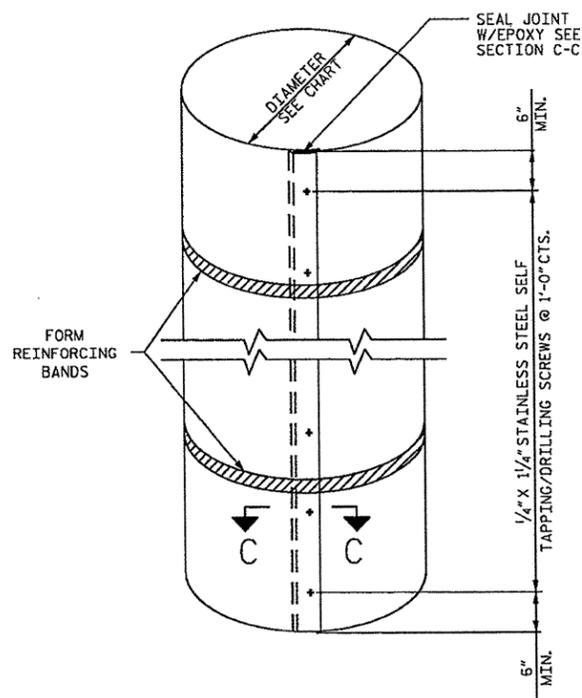
PILE JACKET W/ PUMP PORTS
(BELOW GRADE REPAIR)

PROJECT NO. 17BP.2.P.15
 CRAVEN COUNTY
 BRIDGE NO.: 139

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
PILE JACKET REPAIR BELOW GRADE					
REVISIONS					
NO.	BY	DATE	NO.	BY	DATE
1			3		
2			4		
					SHEET NO. S-66
					TOTAL SHEETS 67



DRAWN BY: S.T. SANDOR DATE: 09/2012
 CHECKED BY: P. SPROUSE DATE: 09/2012

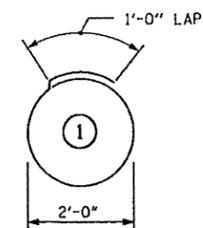


FIBERGLASS INTEGRAL FORM

REPAIR SEQUENCE

- 1) COMPLETELY REMOVE ALL RUST, OIL, GREASE, AND OTHER CONTAMINANTS. PREPARE STEEL USING ACCEPTABLE MECHANICAL MEANS AND STEEL CLEANERS AND DEGREASERS AS NECESSARY TO OBTAIN CLEAN, SOUND SURFACES. STEEL PILE SURFACES SHOULD BE SOUND AND FREE OF CONTAMINATION. WHERE MARINE GROWTH OR OTHER CONTAMINANTS EXIST, INCLUDING VISIBLE SIGNS OF CORROSION, A HIGH PRESSURE WATER BLAST SHOULD BE UTILIZED TO ENSURE A CLEAN, SOUND, CONTAMINANT-FREE SURFACE.
- 2) COMPLETE REPAIRS AS INDICATED IN SHEET NO. S-6.
- 3) DETERMINE FIBERGLASS INTEGRAL FORM LENGTH. MINIMUM LENGTH IS 2' ABOVE AND BELOW CLEAN, SOUND, CONTAMINANT-FREE SURFACE.
- 4) BUILD THE REBAR CAGE BY PLACING THE #4 STIRRUPS AND VERTICAL REINFORCING STEEL IN ACCORDANCE WITH THE PROJECT DRAWING.
- 5) INSTALL FORM SPACERS TO INSURE ADEQUATE CONCRETE COVER AT ALL PARTS OF THE SLEEVE.
- 6) INSTALL THE SLEEVE- IN PLACE FIBERGLASS FORM (ALSO CALLED JACKET OR COLLAR). THE DIAMETER OF THE JACKET SHOULD BE LARGE ENOUGH TO IN- CIRCLE THE PILE WHILE PROVIDING A MINIMUM OF 5" TOTAL CLEARANCE, 2" OF CLEARANCE BETWEEN THE PILE AND THE REINFORCING STEEL AND 2" OF CLEARANCE BETWEEN THE REINFORCING STEEL AND THE FORM. (SEE JACKET SIZING CHART)
- 7) INSERT CONCRETE PUMP HOSE THRU TOP OF JACKET AND EXTEND TO JUST ABOVE THE BOTTOM AND PUMP AT A FLOW RATE TO THE DESIRED FILL ELEVATION. IF SITE CONDITIONS PROHIBIT INSERTING PUMP HOSE THRU TOP OF JACKET THEN INSTALL PUMP PORTS AND PLACE CONCRETE AS SHOWN IN THE DETAILS.
- 8) PLACE CONCRETE FILL. INSTALL PUMP PORT(S) IN JACKET FOR UNDERWATER APPLICATIONS. PORTS SHOULD HAVE A CHECK VALVE TO KEEP BACK FLOW OF CONCRETE ONCE PUMP NOZZLE IS REMOVED. FOR CONCRETE PLACEMENTS GREATER THAN 5' USE MULTIPLE PORTS SPACED 3' VERTICALLY AND ALTERNATING 180° FROM PREVIOUS PORT. A MINIMUM OF 2' OF CONCRETE HEAD IS NEEDED ABOVE PORT PRIOR TO CHANGING PORTS.
- 9) REMOVE FORM WORK AFTER 24 HOURS.

BAR TYPES



ALL BAR DIMENSIONS ARE OUT TO OUT.

REINFORCING STEEL AND CLASS A CONCRETE ARE PAID FOR IN THE PAY ITEM - PILE JACKETS

BILL OF MATERIAL

REINFORCING STEEL (TYPICAL EACH BENT OR END BENT 2)					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
V1	24	#6	STR	±5'-0"	180
V2	24	#6	STR	±7'-0"	252
S1	36	#4	I	7'-4"	176
S2	24	#6	STR	1'-4"	48
REINFORCING STEEL TOTAL =					656 LBS
CONCRETE					
CLASS A				VOLUME (CU. YDS)	
				6.03	

JACKET SIZING CHART

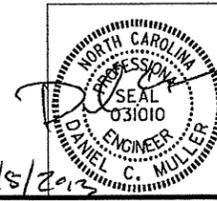
PILE/ COLUMN SIZE	RECOMMENDED JACKET SIZE
	ROUND
12" SQUARE	28" Ø

PROJECT NO. 17BP.2.P.15
 CRAVEN COUNTY
 BRIDGE NO.: 139

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

**PILE JACKET
 DETAILS**

REVISIONS						SHEET NO.
NO.	BY	DATE	NO.	BY	DATE	S-67
1			3			TOTAL SHEETS
2			4			67



DRAWN BY : S. T. SANDOR DATE : 08/2012
 CHECKED BY : P. SPROUSE DATE : 08/2012

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

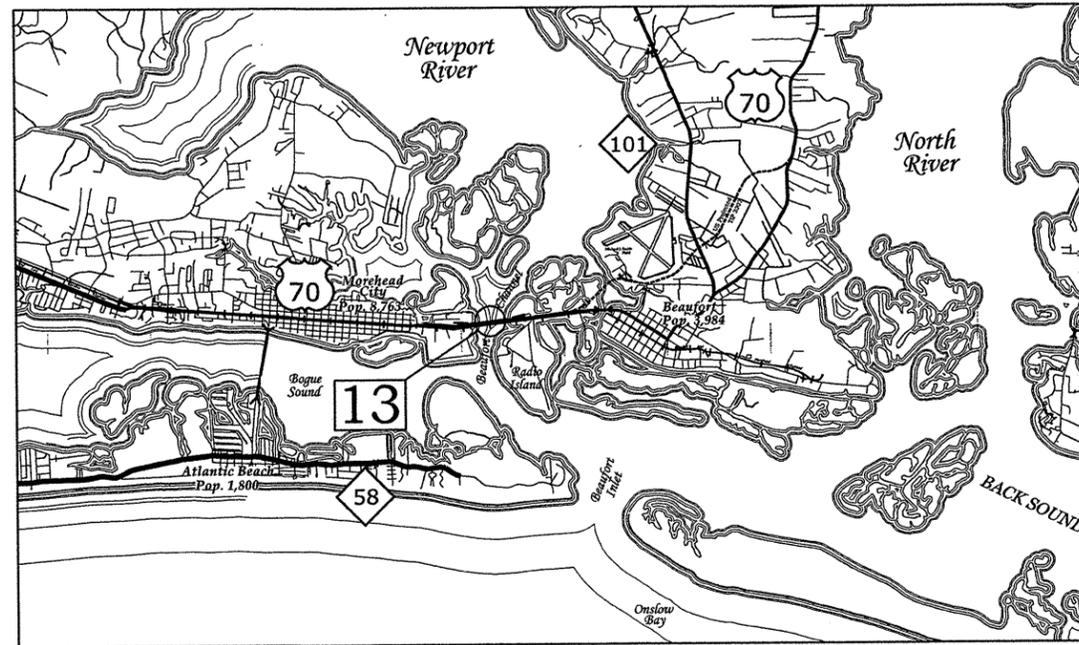
TRANSPORTATION MANAGEMENT PLAN

CARTERET COUNTY



LOCATIONS: BRIDGE 13 ON US 70 OVER THE NEWPORT RIVER

TYPE OF WORK: SHOTCRETE REPAIR AND CONCRETE REPAIR



INDEX OF SHEETS

SHEET NO.	TITLE
TMP-1	TITLE SHEET AND INDEX OF SHEETS
TMP-1A	LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS AND LEGEND
TMP-2	GENERAL NOTES AND PHASING

SHEET NO.

TMP-1

17BP.2.P.19

PROJECT:

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N.C.D.O.T. WORK ZONE TRAFFIC CONTROL
 1561 MAIL SERVICE CENTER (MSC) RALEIGH, NC 27699-1561
 750 N. GREENFIELD PARKWAY, GARNER, NC 27529 (DELIVERY)
 PHONE: (919) 773-2800 FAX: (919) 771-2745

J. S. BOURNE, P.E. STATE TRAFFIC MANAGEMENT ENGINEER
MATTHEW MOYER, P.E. PROJECT MANAGER
MICHELLE WARD, P.E. TRAFFIC CONTROL PROJECT DESIGN ENGINEER
MICHELLE WARD, P.E. TRAFFIC CONTROL DESIGN ENGINEER



PLAN PREPARED BY:
HDR HDR Engineering, Inc. of the Carolinas
 3733 National Drive, Suite 207 Raleigh, N.C. 27612
 N.C.B.E.L.S. License Number: F-0116

SEAL

 MICHELLE WARD 5/23/13

ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS SHOWN IN "ROADWAY STANDARD DRAWINGS" - PROJECT SERVICES UNIT - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANUARY 2012 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

<u>STD. NO.</u>	<u>TITLE</u>
1101.02	TEMPORARY LANE CLOSURES
1101.04	TEMPORARY SHOULDER CLOSURES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1110.02	PORTABLE WORK ZONE SIGNS
1130.01	DRUM
1135.01	CONES
1150.01	FLAGGING DEVICES
1180.01	SKINNY DRUMS

LEGEND

GENERAL

-  DIRECTION OF TRAFFIC FLOW
-  DIRECTION OF PEDESTRIAN TRAFFIC FLOW
-  EXIST. PVMT.
-  NORTH ARROW
-  PROPOSED PVMT.

-  WORK AREA

TRAFFIC CONTROL DEVICES

-  BARRICADE (TYPE III)
-  CONE
-  DRUM  SKINNY DRUM  TUBULAR MARKER
-  TEMPORARY CRASH CUSHION
-  FLASHING ARROW PANEL (TYPE C)
-  FLAGGER
-  LAW ENFORCEMENT
-  TRUCK MOUNTED IMPACT ATTENUATOR (TMIA)
-  CHANGEABLE MESSAGE SIGN

TEMPORARY SIGNING

-  PORTABLE SIGN
-  STATIONARY SIGN
-  STATIONARY OR PORTABLE SIGN

SIGNALS

-  EXISTING
-  PROPOSED
-  TEMPORARY

PAVEMENT MARKINGS

-  EXISTING LINES
-  TEMPORARY LINES

PAVEMENT MARKERS

-  CRYSTAL/CRYSTAL
-  CRYSTAL/RED
-  YELLOW/YELLOW

PAVEMENT MARKING SYMBOLS

-  PAVEMENT MARKING SYMBOLS

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		<p>ROADWAY STANDARD DRAWINGS & LEGEND</p>
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GENERAL NOTES

PROJ. REFERENCE NO.	SHEET NO.
17BP.2.P.19	TMP-2
 HDR Engineering, Inc. of the Carolinas 3733 National Drive, Suite 207 Raleigh, N.C. 27612 N.C.B.E.L.S. License Number: F-0116	

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. MODIFICATIONS MAY INCLUDE: MOVING, SUPPLEMENTING, COVERING, OR REMOVAL OF DEVICES AS DIRECTED BY THE ENGINEER.

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

TIME RESTRICTIONS

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

ROAD NAMES	DAY & TIME RESTRICTIONS
US 70	MONDAY-SUNDAY: 5:00 AM TO 11:00 PM

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

ROAD NAMES
US 70

- 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 5 A.M. DECEMBER 31ST TO 11 P.M. JANUARY 2ND. IF NEW YEARS DAY IS ON A FRIDAY, SATURDAY, SUNDAY, OR MONDAY THEN UNTIL 11 P.M. THE FOLLOWING TUESDAY.
- 3) FOR EASTER, BETWEEN THE HOURS OF 5 A.M. THURSDAY AND 11 P.M. MONDAY.
- 4) FOR MEMORIAL DAY, BETWEEN THE HOURS OF 5 A.M. FRIDAY AND 11 P.M. TUESDAY
- 5) FOR INDEPENDENCE DAY, BETWEEN THE HOURS OF 5 A.M. THE DAY BEFORE INDEPENDENCE DAY AND 11 P.M. THE DAY AFTER INDEPENDENCE DAY. IF INDEPENDENCE DAY IS ON A FRIDAY, SATURDAY, SUNDAY, OR MONDAY THEN BETWEEN THE HOURS OF 5 A.M. THE THURSDAY BEFORE INDEPENDENCE DAY AND 11 P.M. THE TUESDAY AFTER INDEPENDENCE DAY.
- 6) FOR LABOR DAY, BETWEEN THE HOURS OF 5 A.M. FRIDAY AND 11 P.M. TUESDAY.
- 7) FOR THANKSGIVING DAY, BETWEEN THE HOURS OF 5 A.M. TUESDAY AND 11 P.M. MONDAY.
- 8) FOR CHRISTMAS, BETWEEN THE HOURS OF 5 A.M. THE FRIDAY BEFORE THE WEEK OF CHRISTMAS DAY AND 11 P.M. THE FOLLOWING TUESDAY AFTER THE WEEK OF CHRISTMAS.

LANE AND SHOULDER CLOSURE REQUIREMENTS

- C) 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.
- D) 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.
- E) 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 USING ROADWAY STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.
- F) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN A LANE OF TRAVEL OF AN UNDIVIDED OR DIVIDED FACILITY, CLOSE THE LANE ACCORDING TO THE TRAFFIC CONTROL PLANS, ROADWAY STANDARD DRAWINGS, OR AS DIRECTED BY THE ENGINEER. CONDUCT THE WORK SO THAT ALL PERSONNEL AND/OR EQUIPMENT REMAIN WITHIN THE CLOSED TRAVEL LANE.
- G) DO NOT INSTALL MORE THAN 1/4 MILE OF LANE CLOSURE ON US 70 MEASURED FROM THE BEGINNING OF THE MERGE TAPER TO THE END OF THE LANE CLOSURE.
- H) DO NOT INSTALL MORE THAN ONE LANE CLOSURE IN ANY ONE DIRECTION ON US 70.

SIGNING

- I) INSTALL ADVANCE WORK ZONE WARNING SIGNS WHEN WORK IS WITHIN 40 FT. FROM THE EDGE OF THE TRAVEL LANE AND NO MORE THAN THREE (3) DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION.
- J) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERNING ANY TRAFFIC PATTERN.

TRAFFIC CONTROL DEVICES

- K) WHEN LANE CLOSURES ARE NOT IN EFFECT, SPACE CHANNELIZING DEVICES IN WORK AREAS NO GREATER IN FEET THAN TWICE THE POSTED SPEED LIMIT (MPH) EXCEPT, 10 FT. ON-CENTER IN RADII, AND 3 FT. OFF THE EDGE OF AN OPEN TRAVELWAY. REFER TO STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES SECTIONS 1130 (DRUMS), 1135 (CONES), AND 1180 (SKINNY DRUMS) FOR ADDITIONAL REQUIREMENTS.

MISCELLANEOUS

- L) LAW ENFORCEMENT MAY BE USED TO MAINTAIN TRAFFIC THROUGH THE WORK AREA AND/OR INTERSECTIONS AS DIRECTED BY THE ENGINEER.
- M) MAINTAIN PEDESTRIAN ACCESS AT ALL TIMES.
- N) ENSURE THAT THE OVERSIZE/OVERWEIGHT PERMIT UNIT (919-733-4740) HAS BEEN ADVISED OF THE ONGOING TRAFFIC OPERATIONS THROUGH THE DIVISION OFFICE.
- O) ADVISE RESIDENTS AND/OR BUSINESSES AFFECTED BY THE LANE CLOSURE ABOUT METHODS OF SAFE INGRESS AND EGRESS FROM DRIVEWAYS DURING FLAGGING AND PILOT CAR OPERATIONS.

PHASING

- STEP 1: INSTALL ADVANCED WORK ZONE WARNING SIGNS AS SHOWN ON RSD 1101.01, SHEET 3 OF 3. (SEE GENERAL NOTE I)
- STEP 2: USING RSD 1101.02, SHEET 1 OF 15, AS NEEDED FOR MATERIAL DELIVERY, PERFORM WORK ON THE BRIDGE AS SHOWN ON THE STRUCTURE PLANS.

NOTE: WHEN SIGHT DISTANCE BETWEEN FLAGGERS CANNOT BE ACHIEVED, USE PILOT CAR AS DESCRIBED ON RSD 1101.02, SHEET 1 OF 15, AND AS DIRECTED BY THE ENGINEER.
- STEP 3: ONCE ALL WORK HAS BEEN COMPLETED, REMOVE ALL REMAINING TRAFFIC CONTROL DEVICES.

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		GENERAL NOTES & PHASING
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STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

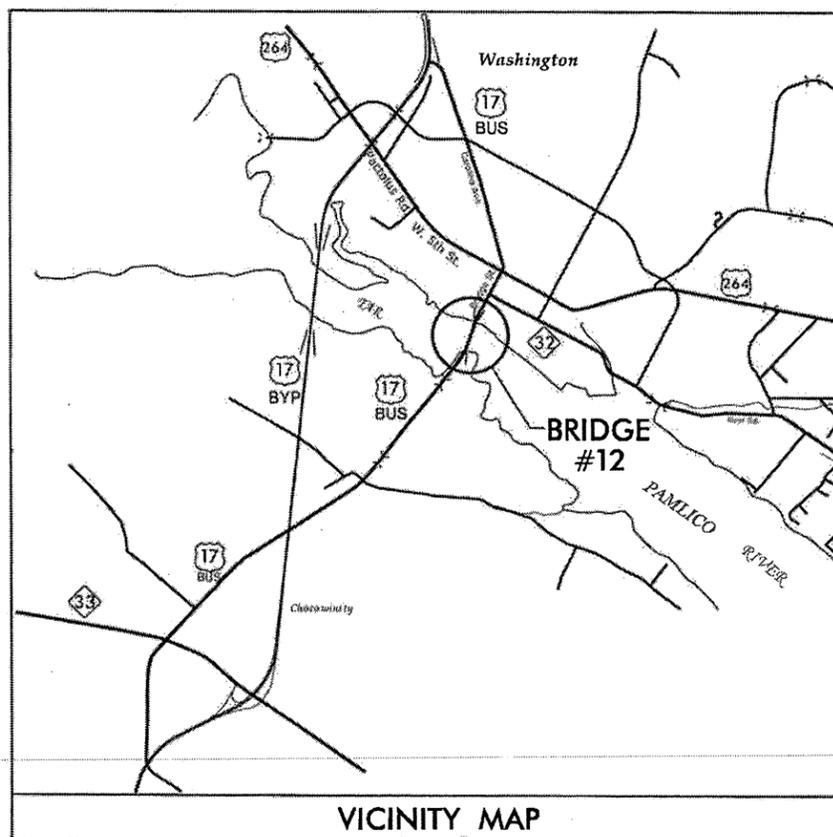
TRANSPORTATION MANAGEMENT PLAN

BEAUFORT COUNTY

DIVISION 2



BRIDGE #25 - US 17 Business over Tar/Pamlico River



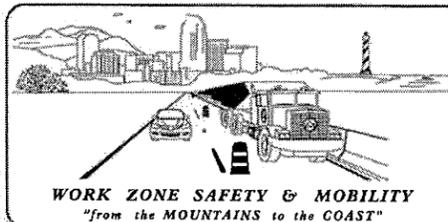
INDEX OF SHEETS

SHEET NO.	TITLE
TMP-3	TITLE SHEET AND INDEX OF SHEETS
TMP-3A	LEGEND AND LIST OF ROADWAY STANDARD DRAWINGS
TMP-4	GENERAL NOTES & PHASING
TMP-5	BRIDGE CLOSURE & DETOUR ROUTE OVERVIEW MAP
TMP-6	NC 33/US 17 BUS SIGNING DURING BRIDGE CLOSURE
TMP-7	BRAGAW LN./US 17 BUS SIGNING DURING BRIDGE CLOSURE
TMP-8	NC 33/US 17 BYP SIGNING DURING BRIDGE CLOSURE
TMP-9	WHICHARDS BEACH RD./US 17 BUS SIGNING DURING BRIDGE CLOSURE
TMP-10	US 17 BUS NB ROAD CLOSURE AT BRIDGE
TMP-11	US 17 BUS SB ROAD CLOSURE AT BRIDGE
TMP-12	US 264/US 17 BUS SIGNING DURING BRIDGE CLOSURE
TMP-13	US 264/US 17 BYP SIGNING DURING BRIDGE CLOSURE

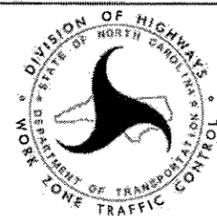
TRAFFIC MANAGEMENT STRATEGY

PROPOSED BRIDGE WORK WILL BE PERFORMED USING TIME RESTRICTED LANE CLOSURES AND A TIME RESTRICTED ROAD CLOSURE. REFER TO SHEET TMP-4 FOR PHASING.

8/19/2013 C:\Traffic\TrafficControl\WBS 17BP.2.P.19 Beaufort 25\10\Plan Sheets\WBS 17BP.2.P.12, IC.TMP.03.TITLE.dwg



PLAN PREPARED FOR NCDOT STRUCTURES MANAGEMENT UNIT
RALEIGH, NC



PLAN PREPARED BY:
Stantec Consulting Services Inc.
801 Jones Franklin Road-Suite 300
Raleigh, NC 27606
Tel: 919.851.6866
Fax: 919.851.7024
www.stantec.com

BETSY L. WATSON, P.E. TRAFFIC ENGINEER
GEORGE KARAGEORGE SR. TRANSPORTATION DESIGNER

APPROVED: *Betsy L. Watson*
DATE: 8/19/13



SHEET NO.
TMP-3

WBS 17BP.2.P.19

LEGEND

- DIRECTION OF TRAFFIC FLOW
- DIRECTION OF PEDESTRIAN TRAFFIC FLOW
- WORK AREA
- PAVEMENT REMOVAL
- NORTH ARROW

- TYPE III BARRICADE
- CONE
- DRUM SKINNY DRUM TUBULAR MARKER
- CHANGEABLE MESSAGE SIGN (CMS)
- FLAGGER
- AUTOMATED FLAGGER ASSISTANCE DEVICE (AFAD)
- FLASHING ARROW BOARD (TYPE C)
- LAW ENFORCEMENT
- TRUCK MOUNTED ATTENUATOR (TMA)

- PORTABLE CONCRETE BARRIER (PCB)
- TEMPORARY CRASH CUSHION
- TEMPORARY SHORING
- WORK ZONE SIGN-PORTABLE
- WORK ZONE SIGN-STATIONARY
- WORK ZONE SIGN-STATIONARY OR PORTABLE

- ### SIGNALS
- EXISTING
 - PROPOSED
 - TEMPORARY

- ### PAVEMENT MARKINGS
- EXISTING PAVEMENT MARKING (GRAY)
 - SKIP LINES
 - MINI-SKIP LINES
 - SOLID LINES

- ### PAVEMENT MARKING SYMBOLS
- PAVEMENT MARKING SYMBOLS
 - EXISTING PAVEMENT MARKING SYMBOLS (HOLLOW)
 - ONLY PAVEMENT MARKING ALPHANUMERIC CHARACTERS

- ### PAVEMENT MARKERS
- CRYSTAL/CRYSTAL
 - CRYSTAL/RED
 - YELLOW/YELLOW

ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS" - PROJECT SERVICES UNIT - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANUARY 2012 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD. NO.	TITLE
1101.01	WORK ZONE ADVANCE WARNING SIGNS
1101.02	TEMPORARY LANE CLOSURES
1101.04	TEMPORARY SHOULDER CLOSURES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1110.02	PORTABLE WORK ZONE SIGNS
1115.01	FLASHING ARROW BOARDS
1130.01	DRUMS
1145.01	BARRICADES
1165.01	WORK VEHICLE LIGHTING SYSTEMS AND TMA DELINEATION

8/19/2013
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 Cullen

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 801 Jones Franklin Road
 Suite 300
 Raleigh, NC 27606
 Tel: (919) 851-6966
 Fax: (919) 851-7024
 www.stantec.com
 License No. F-0572

APPROVED: _____ DATE: _____

SEAL

8/19/13

DIVISION OF HIGHWAYS
 DEPARTMENT OF TRANSPORTATION
 STATE OF NORTH CAROLINA
 WORK ZONE TRAFFIC CONTROL

**LEGEND
&
ROADWAY STANDARD DRAWINGS**

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.

- A) DO NOT CLOSE OR NARROW A LANE OF TRAFFIC, DETAIN AND/OR ALTER THE TRAFFIC FLOW ON OR DURING HOLIDAYS, HOLIDAY WEEKENDS, OR ANY OTHER TIME WHEN TRAFFIC IS UNUSUALLY HEAVY, INCLUDING THE FOLLOWING SCHEDULES:

ROAD NAME
US 17 BUSINESS

HOLIDAY & HOLIDAY WEEKEND LANE CLOSURE TIME RESTRICTIONS

- 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 7:00 P.M. JANUARY 2ND. IF NEW YEAR'S DAY IS ON A FRIDAY, SATURDAY, SUNDAY, OR MONDAY THEN UNTIL 7:00 P.M. THE FOLLOWING TUESDAY.
- 3) FOR EASTER, BETWEEN THE HOURS OF 6:00 A.M. THURSDAY AND 7:00 P.M. MONDAY.
- 4) FOR MEMORIAL DAY, BETWEEN THE HOURS OF 6:00 A.M. FRIDAY TO 7:00 P.M. TUESDAY.
- 5) FOR INDEPENDENCE DAY, BETWEEN THE HOURS OF 6:00 A.M. THE DAY BEFORE INDEPENDENCE DAY AND 7:00 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 7:00 P.M. THE TUESDAY AFTER INDEPENDENCE DAY.
- 6) FOR LABOR DAY, BETWEEN THE HOURS OF 6:00 A.M. FRIDAY AND 7:00 P.M. TUESDAY.
- 7) FOR THANKSGIVING DAY, BETWEEN THE HOURS OF 6:00 A.M. TUESDAY TO 7:00 P.M. MONDAY.
- 8) FOR CHRISTMAS, BETWEEN THE HOURS OF 6:00 A.M. THE FRIDAY BEFORE THE WEEK OF CHRISTMAS DAY AND 7:00 P.M. THE FOLLOWING TUESDAY AFTER THE WEEK OF CHRISTMAS.

- B) DO NOT CLOSE US 17 BUSINESS DURING THE FOLLOWING TIMES:

ONE ROAD CLOSURE PERIOD OF SEVEN (7) CONSECUTIVE CALENDAR DAYS WILL BE ALLOWED IN ORDER TO PERFORM REPAIRS TO THE SUPERSTRUCTURE AND SUBSTRUCTURE AT BENT #21. THE ROAD CLOSURE SHALL ADHERE TO THE FOLLOWING DAY AND TIME RESTRICTIONS:

US 17 BUSINESS DAY AND TIME ROAD CLOSURE RESTRICTIONS

DO NOT CLOSE US 17 BUSINESS BRIDGE #25 FROM 6:00 A.M. THE FRIDAY BEFORE MEMORIAL DAY TO 11:00 P.M. THE TUESDAY AFTER LABOR DAY.

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 PLANS, 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. COVER OR LAY DOWN SIGNS, AND TURN OFF ARROW BOARDS AND MESSAGE BOARDS.
- F) 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.
- G) 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.

ROAD CLOSURES

- H) NOTIFY THE ENGINEER TWENTY ONE (21) CALENDAR DAYS PRIOR TO ANY ROAD CLOSURE.
- I) FURNISH AND INSTALL SIGNING AND DEVICES FOR ROAD CLOSURES ACCORDING TO THE TRAFFIC MANAGEMENT PLAN. COVER OR REMOVE ALL SIGNS AND DEVICES FOR ROAD CLOSURES WHEN NOT IN EFFECT.
- J) FURNISH AND INSTALL OFFSITE-DETOUR ROUTE SIGNING AS SHOWN IN THE TRAFFIC MANAGEMENT PLAN. COVER OR REMOVE OFFSITE-DETOUR SIGNING WHEN THE DETOUR IS NOT IN OPERATION, UNLESS OTHERWISE ALLOWED BY THE ENGINEER. ALL DETOUR ROUTES MUST BE APPROVED BY THE ENGINEER PRIOR TO IMPLEMENTING.
- K) WHEN CLOSING A ROADWAY OR DRIVEWAY PLACE TYPE III BARRICADES COMPLETELY ACROSS THE ROADWAY OR FROM CURB TO CURB. ATTACH BARRICADE MOUNTED "ROAD CLOSED" SIGN R11-2 AT ALL CLOSURE LOCATIONS. IF LOCAL TRAFFIC IS TO BE MAINTAINED STAGGER THE BARRICADES TO ALLOW ACCESS.
- L) INSTALL SIGNS BEFORE BARRICADES WHEN CLOSING A ROADWAY TO TRAFFIC. REMOVE BARRICADES BEFORE SIGNS WHEN OPENING A ROADWAY TO TRAFFIC. INSTALL/REMOVE ROAD CLOSURE SIGNS AND BARRICADES IN A CONTINUOUS OPERATION AND WITHIN THE SAME CALENDAR DAY.

MISCELLANEOUS

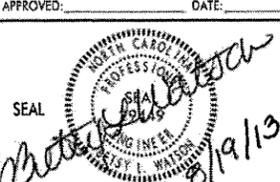
- M) ALL DIMENSIONS AND STATIONS IN THE TRANSPORTATION MANAGEMENT PLAN AND PHASING ARE APPROXIMATE (+/-); FIELD ADJUST AS NECESSARY OR AS DIRECTED BY THE ENGINEER.
- N) CHANGEABLE MESSAGE SIGN MESSAGES SHOWN ARE EXAMPLES. OTHER MESSAGES MAY BE USED AS CONDITIONS WARRANT. ALL MESSAGES AND LOCATIONS MUST BE APPROVED BY THE ENGINEER PRIOR TO INCORPORATING.
- O) ENSURE THE OVERSIZE/OVERWEIGHT PERMIT UNIT (919) 733-4740 HAS BEEN ADVISED OF THE ONGOING TRAFFIC OPERATIONS THROUGH THE DIVISION OFFICE.

PHASING

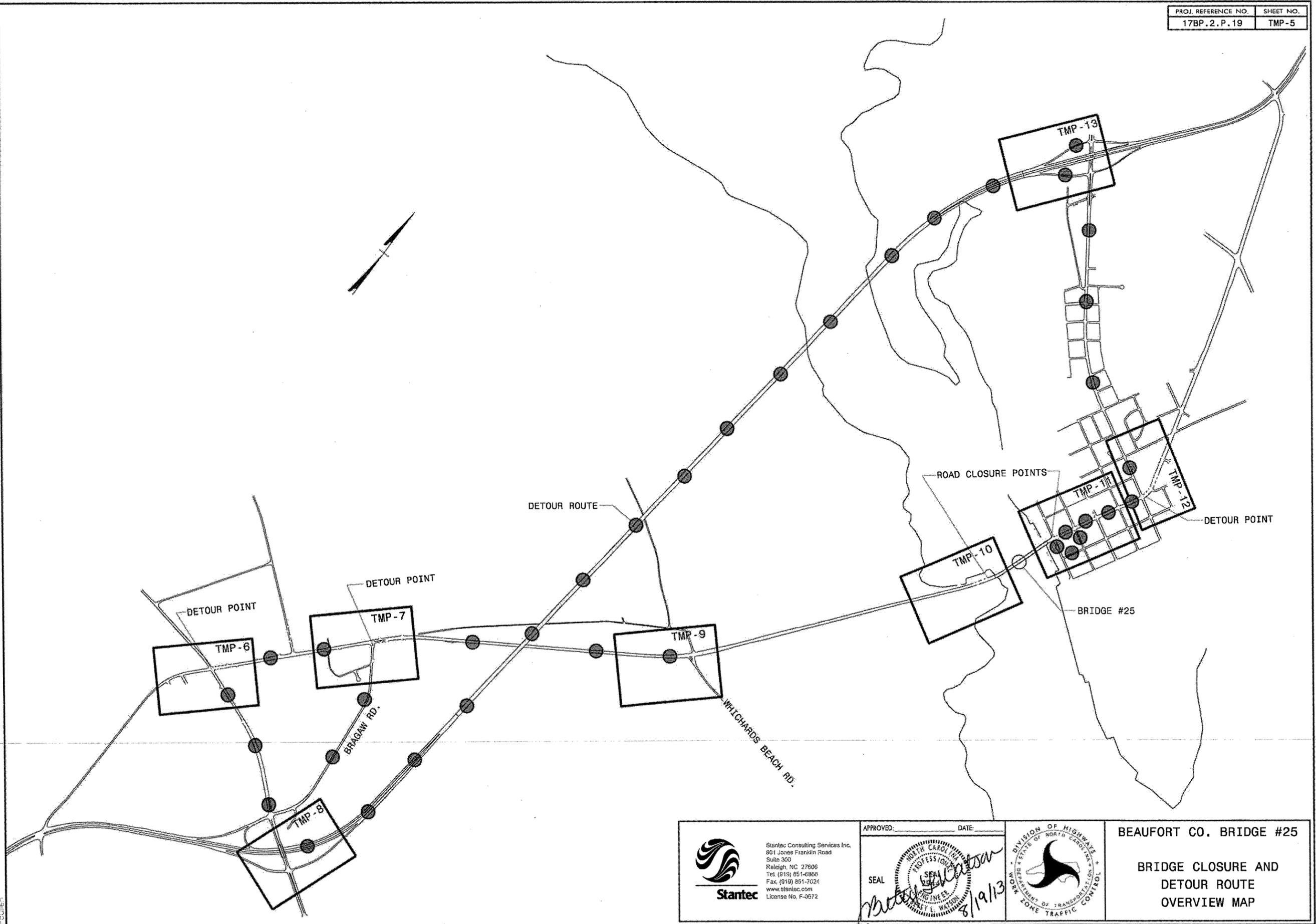
FOR LANE CLOSURES REFER TO ROADWAY STANDARD DRAWING 1101.02, SHEET 4.

FOR ROAD CLOSURE AND OFF-SITE DETOUR FOR BRIDGE #25 REFER TO SHEETS TMP 5-13.

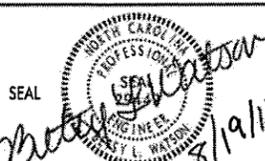
8/19/2013 10:51:12 AM US17TrafficControlPlan.dwg 17BP.2.P.12 @oufor + 25\T\CP\Plan Sheet 4.dwg 17BP.2.P.12.TC.TMP.04 GENERAL NOTES PHASING.dgn

 <p>Stantec Consulting Services Inc. 801 Jones Franklin Road Suite 500 Raleigh, NC 27606 Tel. (919) 851-4386 Fax (919) 851-7024 www.stantec.com License No. F-0672</p>	<p>APPROVED: _____ DATE: _____</p>			<p>GENERAL NOTES & PHASING</p>
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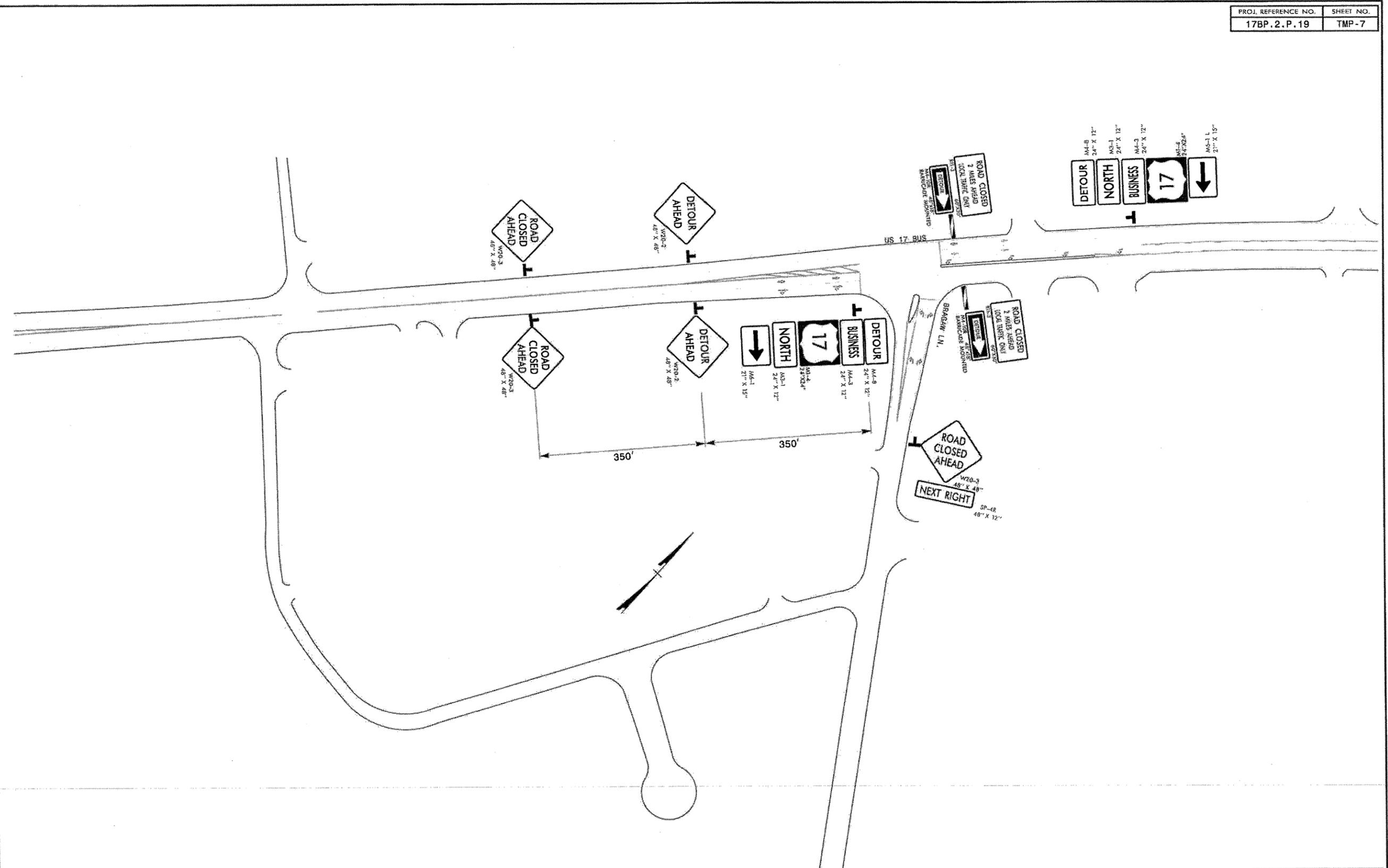

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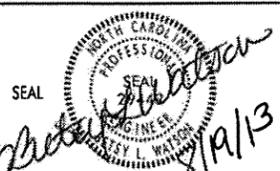
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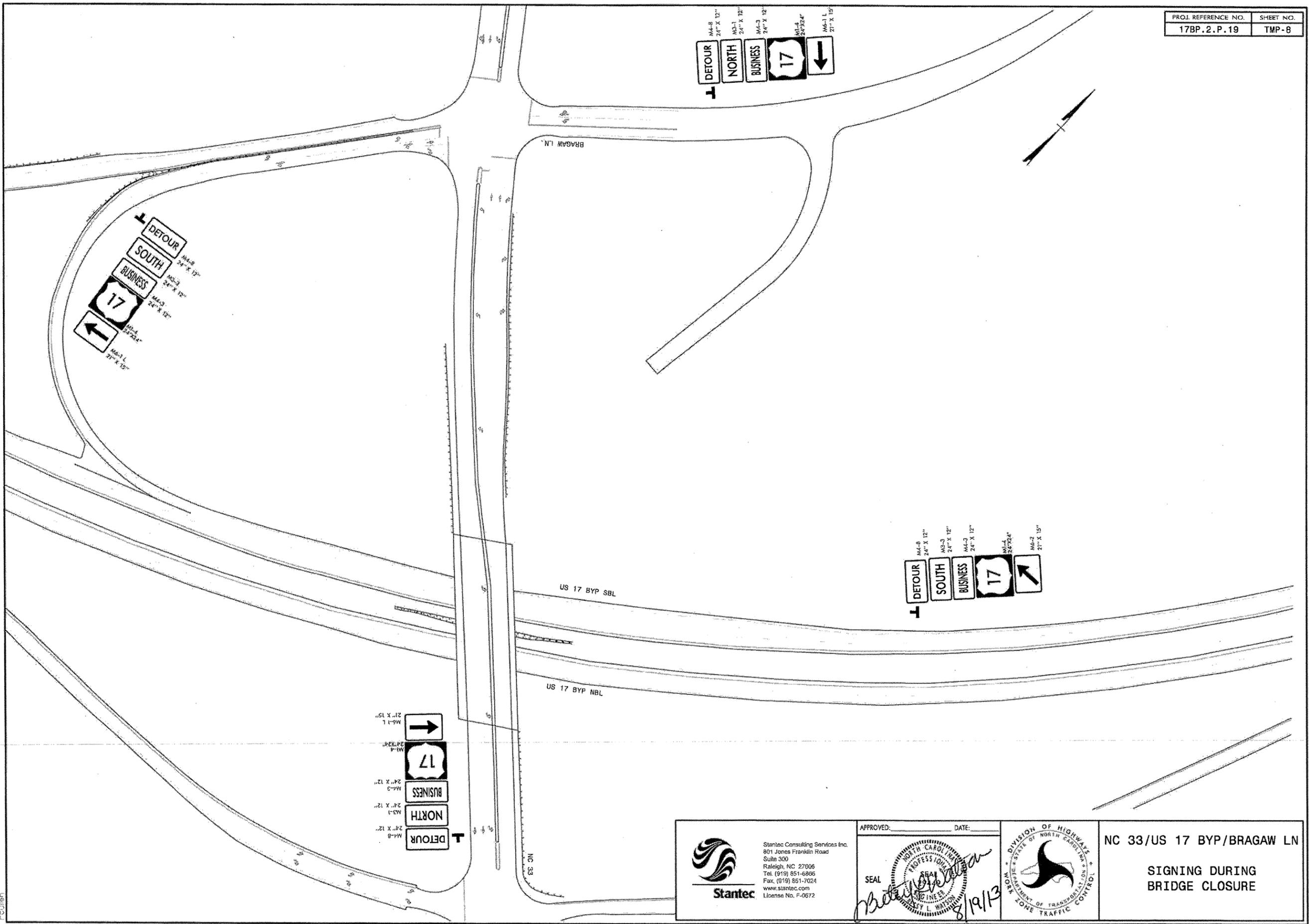
BEAUFORT CO. BRIDGE #25
BRIDGE CLOSURE AND
DETOUR ROUTE
OVERVIEW MAP

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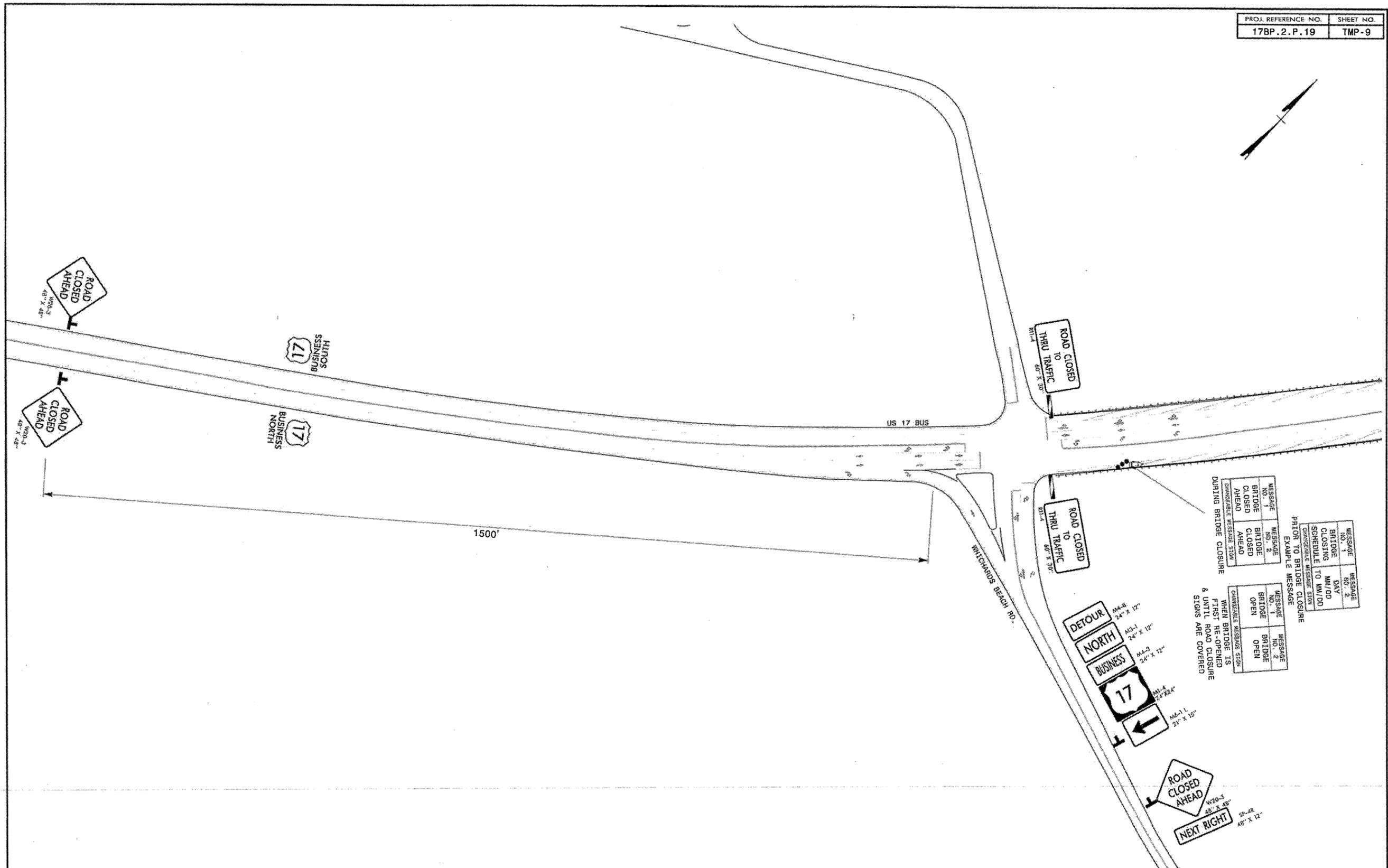


 <p>Stantec Consulting Services Inc. 801 Jones Franklin Road Suite 300 Raleigh, NC 27606 Tel. (919) 851-6866 Fax. (919) 851-7024 www.stantec.com License No. F-0672</p>	APPROVED: _____ DATE: _____ 		BRAGAW LN./US 17 BUS SIGNING DURING BRIDGE CLOSURE
	SEAL _____ _____ _____		

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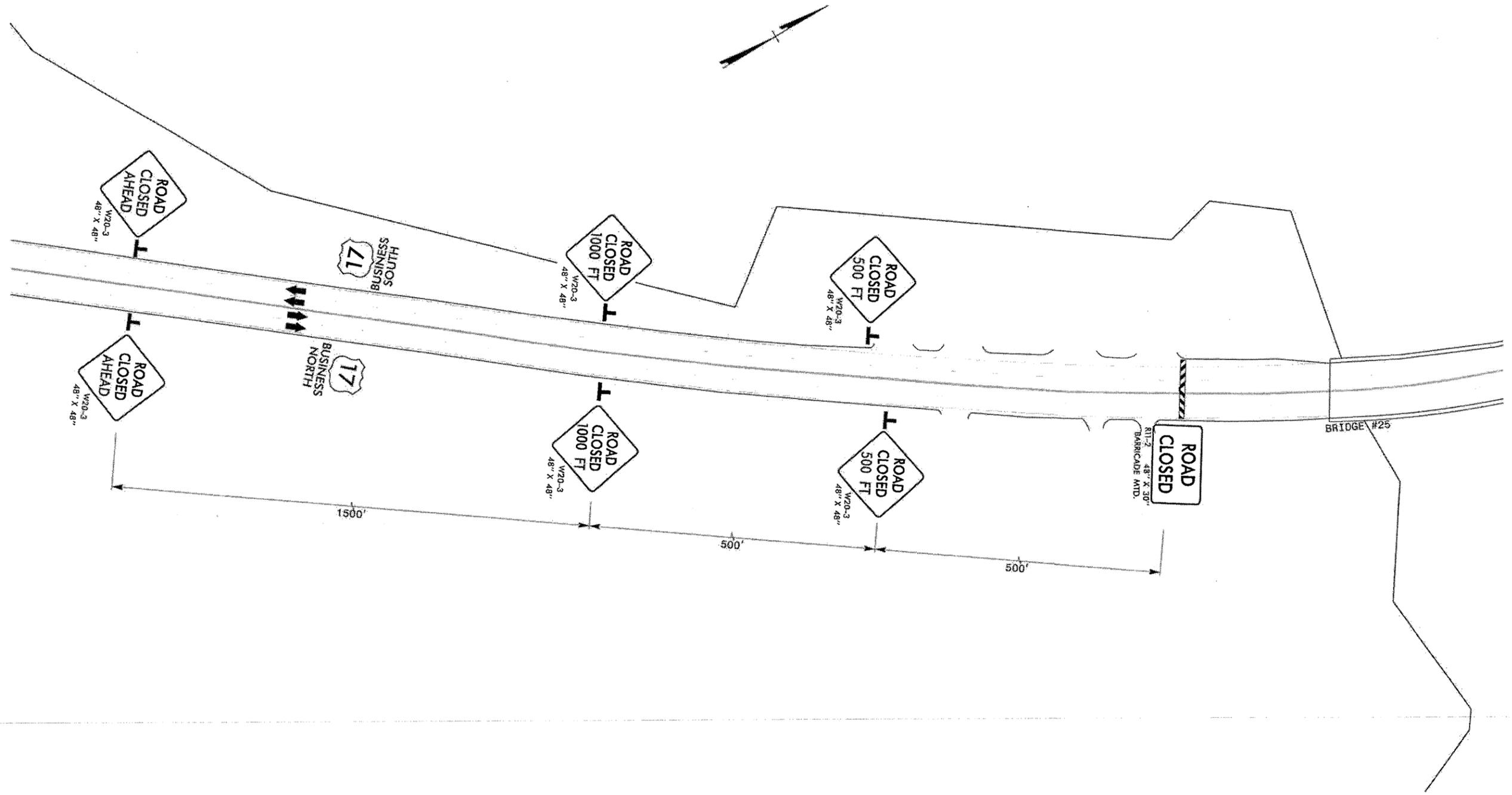


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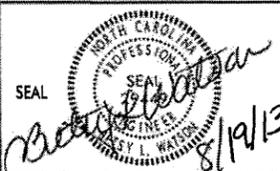


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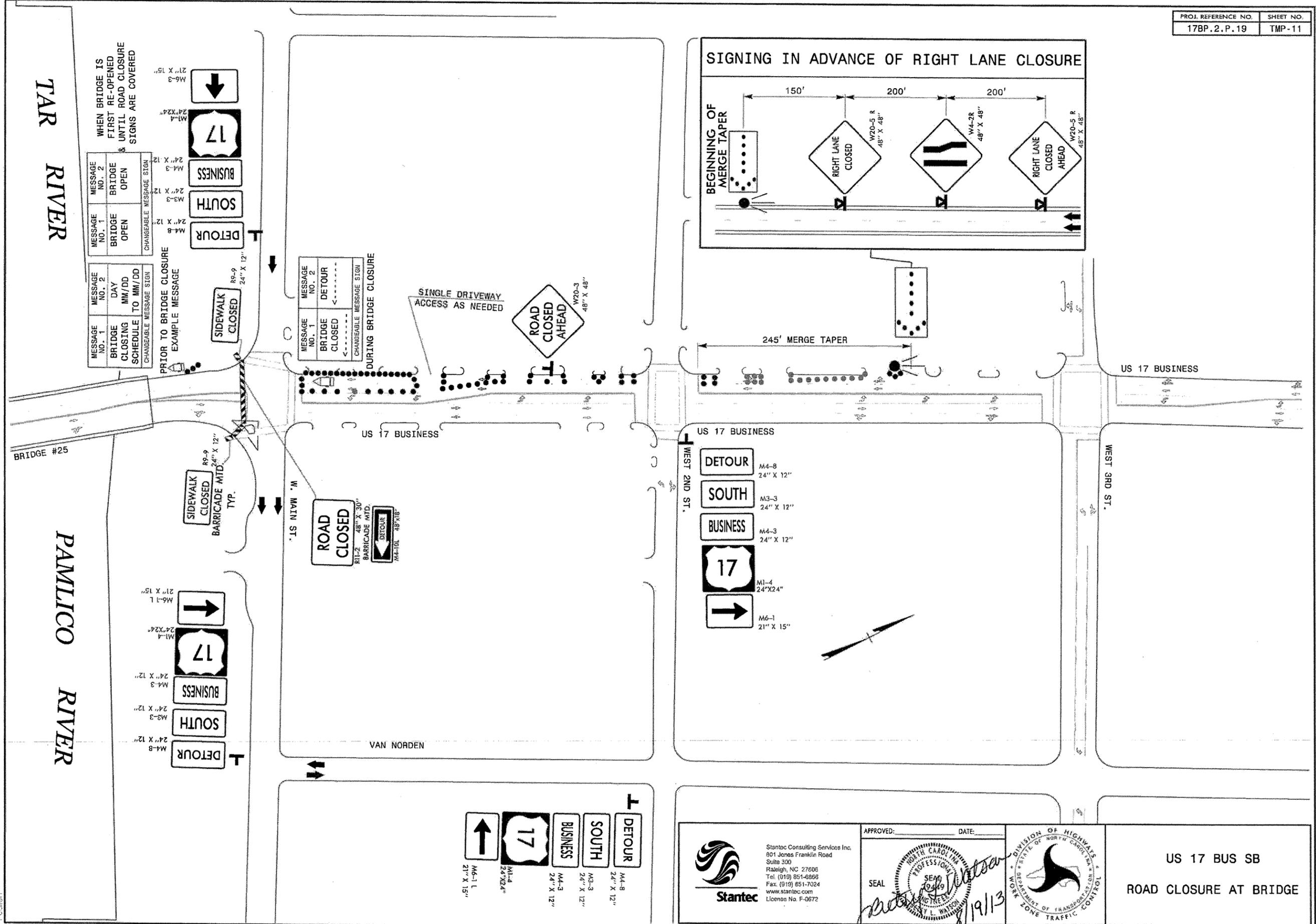
<p>Stantec Consulting Services Inc. 801 Jones Franklin Road Suite 300 Raleigh, NC 27605 Tel: (919) 851-6826 Fax: (919) 851-7024 www.stantec.com License No. P-0372</p>	APPROVED: _____ DATE: _____ 		WHICHARDS BEACH RD./US 17 BUS SIGNING DURING BRIDGE CLOSURE
	SEAL <i>Shelby L. Watson</i> 8/19/13		



8/19/13
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 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-0572	APPROVED: _____ DATE: _____  SEAL GREGORY L. WATSON 8/19/13		<p align="center"> US 17 BUS NB ROAD CLOSURE AT BRIDGE </p>

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WHEN BRIDGE IS FIRST RE-OPENED UNTIL ROAD CLOSURE SIGNS ARE COVERED

MESSAGE NO. 1	BRIDGE OPEN	CHANGABLE MESSAGE SIGN	M4-B	24" X 12"
MESSAGE NO. 2	BRIDGE OPEN	CHANGABLE MESSAGE SIGN	M3-3	24" X 12"
MESSAGE NO. 3	BRIDGE OPEN	CHANGABLE MESSAGE SIGN	M4-3	24" X 12"
MESSAGE NO. 4	BRIDGE OPEN	CHANGABLE MESSAGE SIGN	M4-3	24" X 12"
MESSAGE NO. 5	BRIDGE OPEN	CHANGABLE MESSAGE SIGN	M4-3	24" X 12"

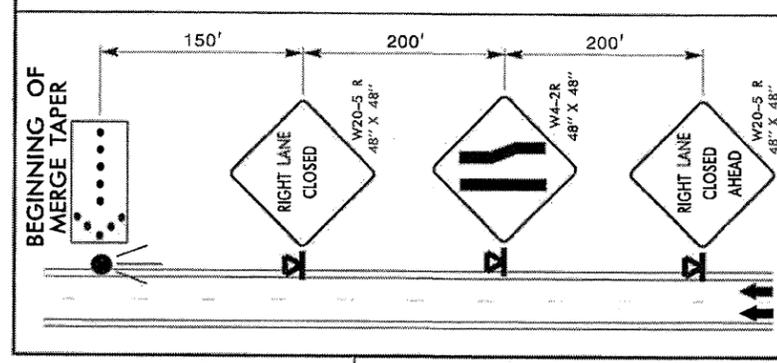
PRIOR TO BRIDGE CLOSURE EXAMPLE MESSAGE

MESSAGE NO. 1	BRIDGE CLOSING SCHEDULE TO MM/DD	CHANGABLE MESSAGE SIGN	R9-9	24" X 12"
MESSAGE NO. 2	BRIDGE DAY MM/DD	CHANGABLE MESSAGE SIGN	R9-9	24" X 12"

DURING BRIDGE CLOSURE

MESSAGE NO. 1	BRIDGE CLOSED	CHANGABLE MESSAGE SIGN	M4-B	24" X 12"
MESSAGE NO. 2	DETOUR	CHANGABLE MESSAGE SIGN	M3-3	24" X 12"

SIGNING IN ADVANCE OF RIGHT LANE CLOSURE



US 17 BUSINESS

WEST 2ND ST.

- DETOUR M4-B 24" X 12"
- SOUTH M3-3 24" X 12"
- BUSINESS M4-3 24" X 12"
- 17 M1-4 24" X 24"
- M6-1 21" X 15"

US 17 BUSINESS

WEST 3RD ST.

↑

- ↑ M6-1 L 21" X 15"
- 17 M1-4 24" X 24"
- BUSINESS M4-3 24" X 12"
- SOUTH M3-3 24" X 12"
- DETOUR M4-B 24" X 12"

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SEAL

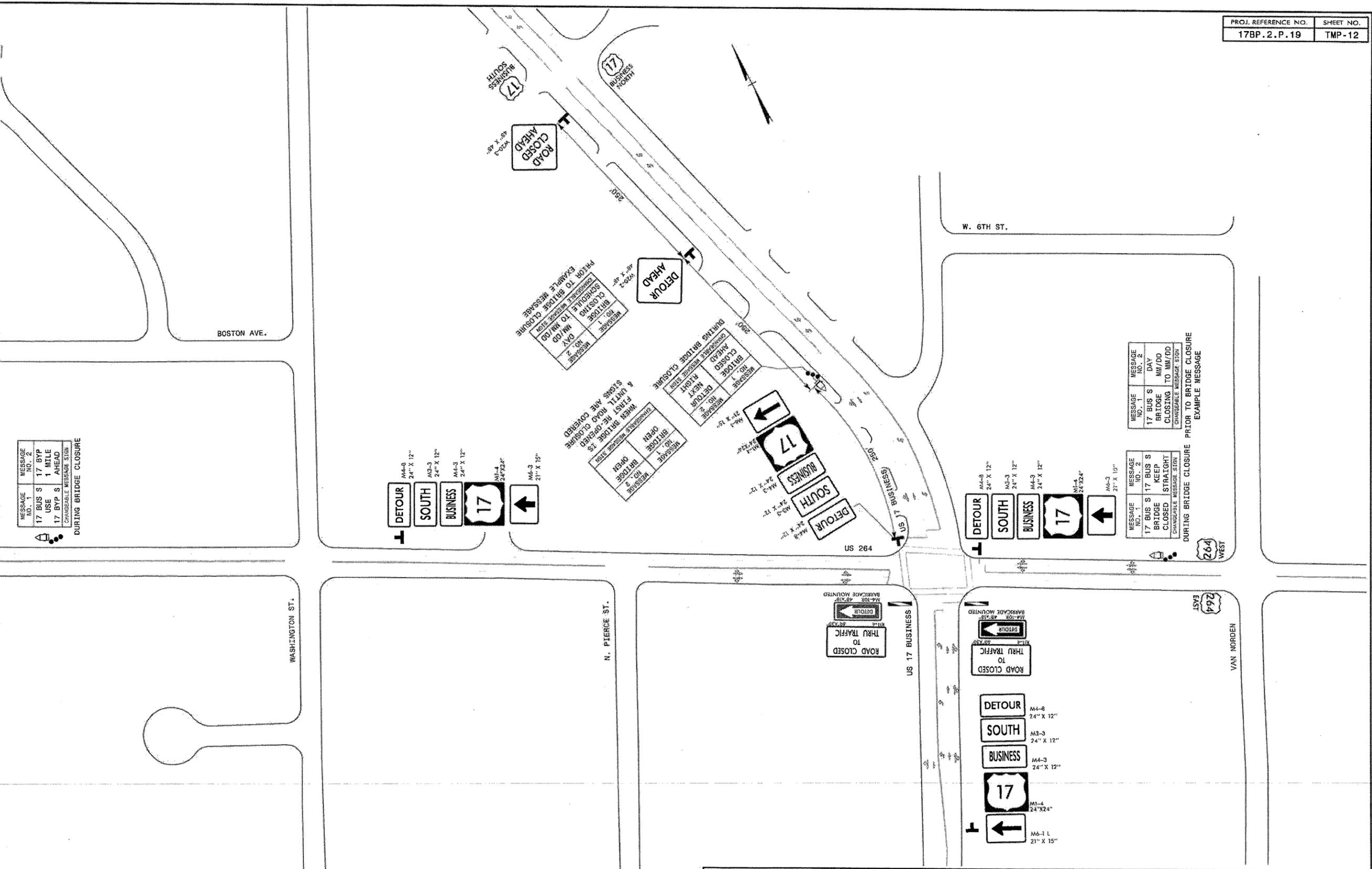
Michael Watson
8/19/13

PROFESSIONAL ENGINEER
MICHAEL L. WATSON
NO. 20449
STATE OF NORTH CAROLINA

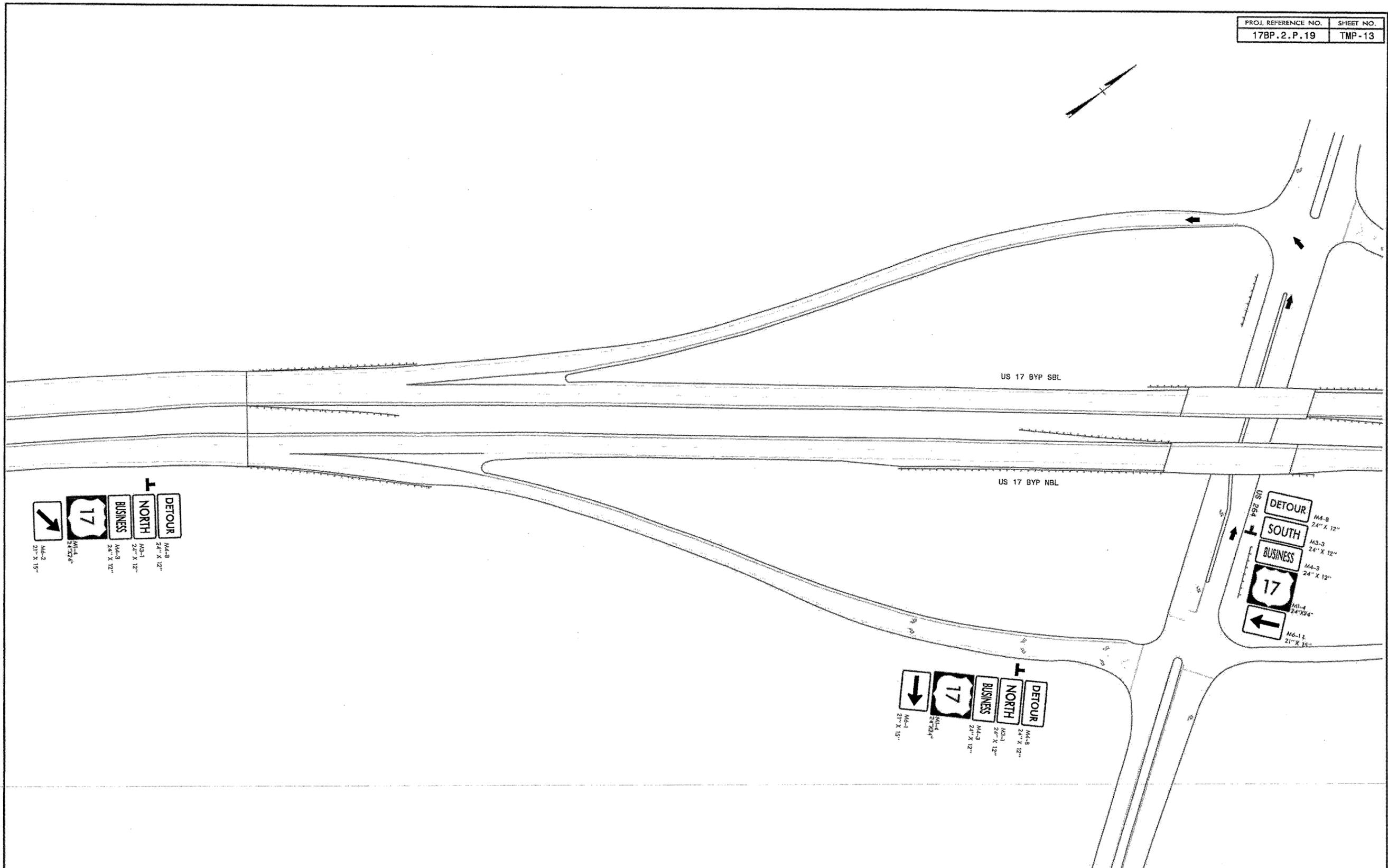
DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
WORK ZONE TRAFFIC CONTROL

US 17 BUS SB
ROAD CLOSURE AT BRIDGE

8/19/2013
 US Traffic Control WBS 17BP.2.P.19
 Beaufort 25 NTC Plan Sheets WBS 17BP.2.P.19 - IC, TMP, J2, ROAD, CLOSURE, DETOUR, dgm



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	<p>SEAL</p>			



		BUSINESS	NORTH	DETOUR
M4-2 21" X 15"	M4-4 24" X 12"	M4-3 24" X 12"	M4-1 24" X 12"	M4-8 24" X 12"

		BUSINESS	NORTH	DETOUR
M6-1 21" X 15"	M4-4 24" X 12"	M4-3 24" X 12"	M4-1 24" X 12"	M4-8 24" X 12"

DETOUR	M4-8 24" X 12"
SOUTH	M3-3 24" X 12"
BUSINESS	M4-3 24" X 12"
	M4-4 24" X 12"
	M6-1-L 21" X 15"

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STANDARD NOTES

DESIGN DATA:

SPECIFICATIONS	-----	A.A.S.H.T.O. (CURRENT)
LIVE LOAD	-----	SEE PLANS
IMPACT ALLOWANCE	-----	SEE A.A.S.H.T.O.
STRESS IN EXTREME FIBER OF		
STRUCTURAL STEEL - AASHTO M270 GRADE 36	-	20,000 LBS. PER SQ. IN.
- AASHTO M270 GRADE 50W	-	27,000 LBS. PER SQ. IN.
- AASHTO M270 GRADE 50	-	27,000 LBS. PER SQ. IN.
REINFORCING STEEL IN TENSION		
GRADE 60	--	24,000 LBS. PER SQ. IN.
CONCRETE IN COMPRESSION	-----	1,200 LBS. PER SQ. IN.
CONCRETE IN SHEAR	-----	SEE A.A.S.H.T.O.
STRUCTURAL TIMBER - TREATED OR		
UNTREATED - EXTREME FIBER STRESS	-----	1,800 LBS. PER SQ. IN.
COMPRESSION PERPENDICULAR TO GRAIN		
OF TIMBER	-----	375 LBS. PER SQ. IN.
EQUIVALENT FLUID PRESSURE OF EARTH	-----	30 LBS. PER CU. FT.
		(MINIMUM)

MATERIAL AND WORKMANSHIP:

EXCEPT AS MAY OTHERWISE BE SPECIFIED ON PLANS OR IN THE SPECIAL PROVISIONS, ALL MATERIAL AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE 2012 "STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES" OF THE N. C. DEPARTMENT OF TRANSPORTATION.

STEEL SHEET PILING FOR PERMANENT OR TEMPORARY APPLICATIONS SHALL BE HOT ROLLED.

CONCRETE:

UNLESS OTHERWISE REQUIRED ON PLANS, CLASS A CONCRETE SHALL BE USED FOR ALL PORTIONS OF ALL STRUCTURES WITH THE EXCEPTION THAT: CLASS AA CONCRETE SHALL BE USED IN BRIDGE SUPERSTRUCTURES, ABUTMENT BACKWALLS, AND APPROACH SLABS; AND CLASS B CONCRETE SHALL BE USED FOR SLOPE PROTECTION AND RIP RAP.

CONCRETE CHAMFERS:

UNLESS OTHERWISE NOTED ON THE PLANS, ALL EXPOSED CORNERS ON STRUCTURES SHALL BE CHAMFERED 3/4" WITH THE FOLLOWING EXCEPTIONS: TOP CORNERS OF CURBS MAY BE ROUNDED TO 1-1/2" RADIUS WHICH IS BUILT INTO CURB FORMS; CORNERS OF TRANSVERSE FLOOR EXPANSION JOINTS SHALL BE ROUNDED WITH A 1/4" FINISHING TOOL UNLESS OTHERWISE REQUIRED ON PLANS; AND CORNERS OF EXPANSION JOINTS IN THE ROADWAY FACES AND TOPS OF CURBS AND SIDEWALKS SHALL BE ROUNDED TO A 1/4" RADIUS WITH A FINISHING STONE OR TOOL UNLESS OTHERWISE REQUIRED ON PLANS.

DOWELS:

DOWELS WHEN INDICATED ON PLANS AS FOR CULVERT EXTENSIONS, SHALL BE EMBEDDED AT LEAST 12" INTO THE OLD CONCRETE AND GROUTED INTO PLACE WITH 1:2 CEMENT MORTAR.

ALLOWANCE FOR DEAD LOAD DEFLECTION, SETTLEMENT, ETC. IN CASTING SUPERSTRUCTURES:

BRIDGES SHALL BE BUILT ON THE GRADE OR VERTICAL CURVE SHOWN ON PLANS. SLABS, CURBS AND PARAPETS SHALL CONFORM TO THE GRADE OR CURVE.

ALL DIMENSIONS WHICH ARE GIVEN IN SECTION AND ARE AFFECTED BY DEAD LOAD DEFLECTIONS ARE DIMENSIONS AT CENTER LINE OF BEARING UNLESS OTHERWISE NOTED ON PLANS. IN SETTING FORMS FOR STEEL BEAM BRIDGES AND PRESTRESSED CONCRETE GIRDER BRIDGES, ADJUSTMENTS SHALL BE MADE DUE TO THE DEAD LOAD DEFLECTIONS FOR THE ELEVATIONS SHOWN, WHERE BLOCKS ARE SHOWN OVER BEAMS FOR BUILDING UP TO THE SLAB, THE VERTICAL DIMENSIONS OF THE BLOCKS SHALL BE ADJUSTED BETWEEN BEARINGS TO COMPENSATE FOR DEAD LOAD DEFLECTIONS, VERTICAL CURVE ORDINATE, AND ACTUAL BEAM CAMBER. WHERE BOTTOM OF SLAB IS IN LINE WITH BOTTOM OF TOP FLANGES, DEPTH OF SLAB BETWEEN BEARINGS SHALL BE ADJUSTED TO COMPENSATE FOR DEAD LOAD DEFLECTION, VERTICAL CURVE ORDINATE, AND ACTUAL BEAM CAMBER.

IN SETTING FALSEWORK AND FORMS FOR REINFORCED CONCRETE SPANS, AN ALLOWANCE SHALL BE MADE FOR DEAD LOAD DEFLECTIONS, SETTLEMENT OF FALSEWORK, AND PERMANENT CAMBER WHICH SHALL BE PROVIDED FOR IN ADDITION TO THE ELEVATIONS SHOWN. AFTER REMOVAL OF THE FALSEWORK, THE FINISHED STRUCTURES SHALL CONFORM TO THE PROFILE AND ELEVATIONS SHOWN ON THE PLANS AND CONSTRUCTION ELEVATIONS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR FALSEWORK OR FORMS FOR BRIDGE SUPERSTRUCTURE AND ANY STRUCTURE OR PARTS OF A STRUCTURE AS NOTED ON THE PLANS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL BEFORE CONSTRUCTION OF THE FALSEWORK OR FORMS IS STARTED.

REINFORCING STEEL:

ALL REINFORCING STEEL SHALL BE DEFORMED. DIMENSIONS RELATIVE TO PLACEMENT OF REINFORCING ARE TO CENTERS OF BARS UNLESS OTHERWISE INDICATED IN THE PLANS. DIMENSIONS ON BAR DETAILS ARE TO CENTERS OF BARS OR ARE OUT TO OUT AS INDICATED ON PLANS.

WIRE BAR SUPPORTS SHALL BE PROVIDED FOR REINFORCING STEEL WHERE INDICATED ON THE PLANS. WHEN BAR SUPPORT PIECES ARE PLACED IN CONTINUOUS LINES, THEY SHALL BE SO PLACED THAT THE ENDS OF THE SUPPORTING WIRES SHALL BE LAPPED TO LOCK LEGS ON ADJOINING PIECES.

STRUCTURAL STEEL:

AT THE CONTRACTOR'S OPTION, HE MAY SUBSTITUTE 7/8" Ø SHEAR STUDS FOR THE 3/4" Ø STUDS SPECIFIED ON THE PLANS. THIS SUBSTITUTION SHALL BE MADE AT THE RATE OF 3 - 7/8" Ø STUDS FOR 4 - 3/4" Ø STUDS, AND STUD SPACING CHANGES SHALL BE MADE AS NECESSARY TO PROVIDE THE SAME EQUIVALENT NUMBER OF 7/8" Ø STUDS ALONG THE BEAM AS SHOWN FOR 3/4" Ø STUDS BASED ON THE RATIO OF 3 - 7/8" Ø STUDS FOR 4 - 3/4" Ø STUDS. STUDS OF THE LENGTH SPECIFIED ON THE PLANS MUST BE PROVIDED. THE MAXIMUM SPACING SHALL BE 2'-0".

EXCEPT AT THE INTERIOR SUPPORTS OF CONTINUOUS BEAMS WHERE THE COVER PLATE IS IN CONTACT WITH BEARING PLATE, THE CONTRACTOR MAY, AT HIS OPTION, SUBSTITUTE FOR THE COVER PLATES DESIGNATED ON THE PLANS COVER PLATES OF THE EQUIVALENT AREA PROVIDED THESE PLATES ARE AT LEAST 5/16" IN THICKNESS AND DO NOT EXCEED A WIDTH EQUAL TO THE FLANGE WIDTH LESS 2" OR A THICKNESS EQUAL TO 2 TIMES THE FLANGE THICKNESS. THE SIZE OF FILLET WELDS SHALL CONFORM TO THE REQUIREMENTS OF THE CURRENT ANSI/AASHTO/AWS "BRIDGE WELDING CODE". ELECTROSLAG WELDING WILL NOT BE PERMITTED.

WITH THE SOLE EXCEPTION OF EDGES AT SURFACES WHICH BEAR ON OTHER SURFACES, ALL SHARP EDGES AND ENDS OF SHAPES AND PLATES SHALL BE SLIGHTLY ROUNDED BY SUITABLE MEANS TO A RADIUS OF APPROXIMATELY 1/16 INCH OR EQUIVALENT FLAT SURFACE AT A SUITABLE ANGLE PRIOR TO PAINTING, GALVANIZING, OR METALLIZING.

HANDRAILS AND POSTS:

METAL STANDARDS AND FACES OF THE CONCRETE END POSTS FOR THE METAL RAIL SHALL BE SET NORMAL TO THE GRADE OF THE CURB, UNLESS OTHERWISE SHOWN ON PLANS. THE METAL RAIL AND TOPS OF CONCRETE POSTS USED WITH THE ALUMINUM RAIL SHALL BE BUILT PARALLEL TO THE GRADE OF THE CURB.

METAL HANDRAILS SHALL BE IN ACCORDANCE WITH THE PLANS. RAILS SHALL BE AS MANUFACTURED FOR BRIDGE RAILING. CASTINGS SHALL BE OF A UNIFORM APPEARANCE. FINISHES AND OTHER DEFORMATIONS RESULTING FROM CASTING OR OTHERWISE SHALL BE REMOVED IN A MANNER SO THAT A UNIFORM COLORING OF THE COMPLETED CASTING SHALL BE OBTAINED. CASTINGS WITH DISCOLORATIONS OR OF NON-UNIFORM COLORING WILL NOT BE ACCEPTED. CERTIFIED MILL REPORTS ARE REQUIRED FOR METAL RAILS AND POSTS.

SPECIAL NOTES:

GENERALLY, IN CASE OF DISCREPANCY, THIS STANDARD SHEET OF NOTES SHALL GOVERN OVER THE SPECIFICATIONS, BUT THE REMAINDER OF THE PLANS SHALL GOVERN OVER NOTES HEREON, AND SPECIAL PROVISIONS SHALL GOVERN OVER ALL. SEE SPECIFICATIONS ARTICLE 105-4.

ENGLISH

JANUARY, 1990