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$\dot{\mathbf{b}}$	DRAWN BY:	T. BANKOVICH		_ DATE:	9-20
	CHECKED BY:	T.J. BEACH			9-20
		NEER OF RECORD:	T.J. BEACH	_ DATE:	9-20

		PRESTRESSED CONC	RETE GIR	DER REPAIR
	ERI —	EPOXY RESIN INJE	CTION	
		BENT	10	
ELEVATION				
SOUTH FACE				
		I BENT	10	
PLAN				
BOTTOM OF BEAM LOOKING UP				
		1.2' ERI		
		1.0' ERI — ^j		
		BEN	Г9	
ELEVATION NORTH FACE				PLANS PREPARED BY SIMPSON NGINEERS
				5640 Dillard Drive
				5640 Dillard Drive Suite 200 Cary, NC 27518 (919) 852-0468 (919) 852-0598 (Fax www.simpsonengr.
				LICENSURE NO. C-2

REPAIR QU	ANT	ITY ⁻	TABL	E		
REPAIRS SPAN 10 GRD. 4		Q	UANTIT	EES		
REFAIRS SFAN IU GRU. 4	EST	ΙΜΑΤΕ	JANTITIES	ACTUAL	_	
REPAIRS OF PRESTR. CONCRETE GIRDERS	AREA SF	VOLUME CF			VOLUME CF	
GIRDER	0.0	0.0				
EPOXY RESIN INJECT	SIN INJECTION				LF	
GIRDER		4.0				

NOTES:

REPAIR LOCAITONS AND ESTIMATE OF THE QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE INSPECTOR OR ENGINEER THE CONTRACTOR SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITIY TABLE.

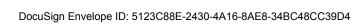
FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

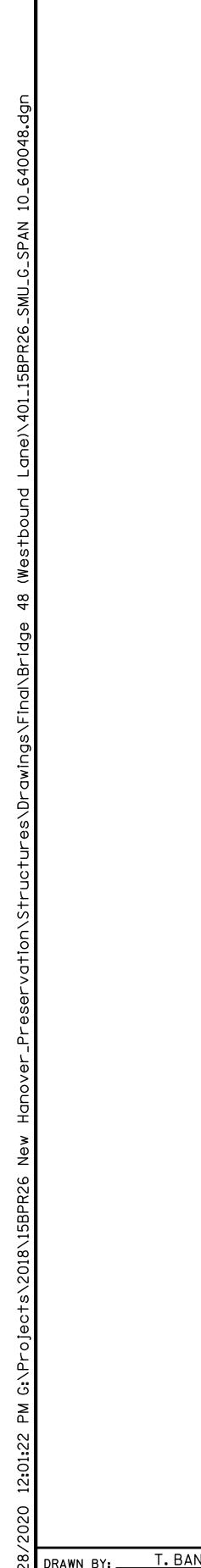
VALUES IN CHART REPRESENT ESTIMATE REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN, OF 1" BEHIND REBAR AND MIN. 2"CL. TO SAWCUT. SEE REPAIR DETAILS.

FOR REPAIRS OF PRESSTRESSED CONCRETE GIRDERS, SEE SPECIAL PROVISIONS.

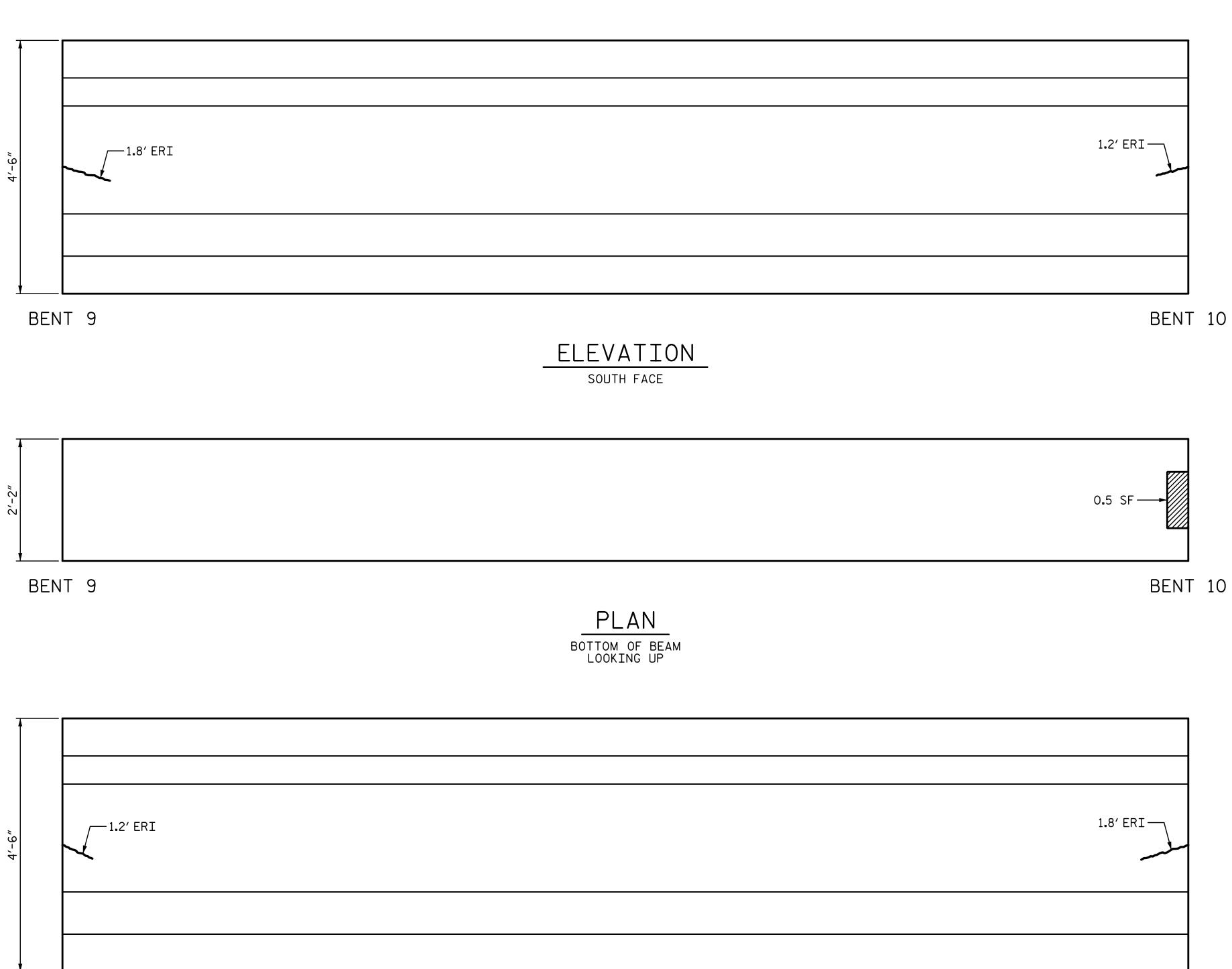
FOR REPAIRS OF PRESTRESSED CONCRETE GIRDERS DETAILS, SEE "PRESTRESSED CONCRETE GIRDER REPAIR DETAILS" SHEET.

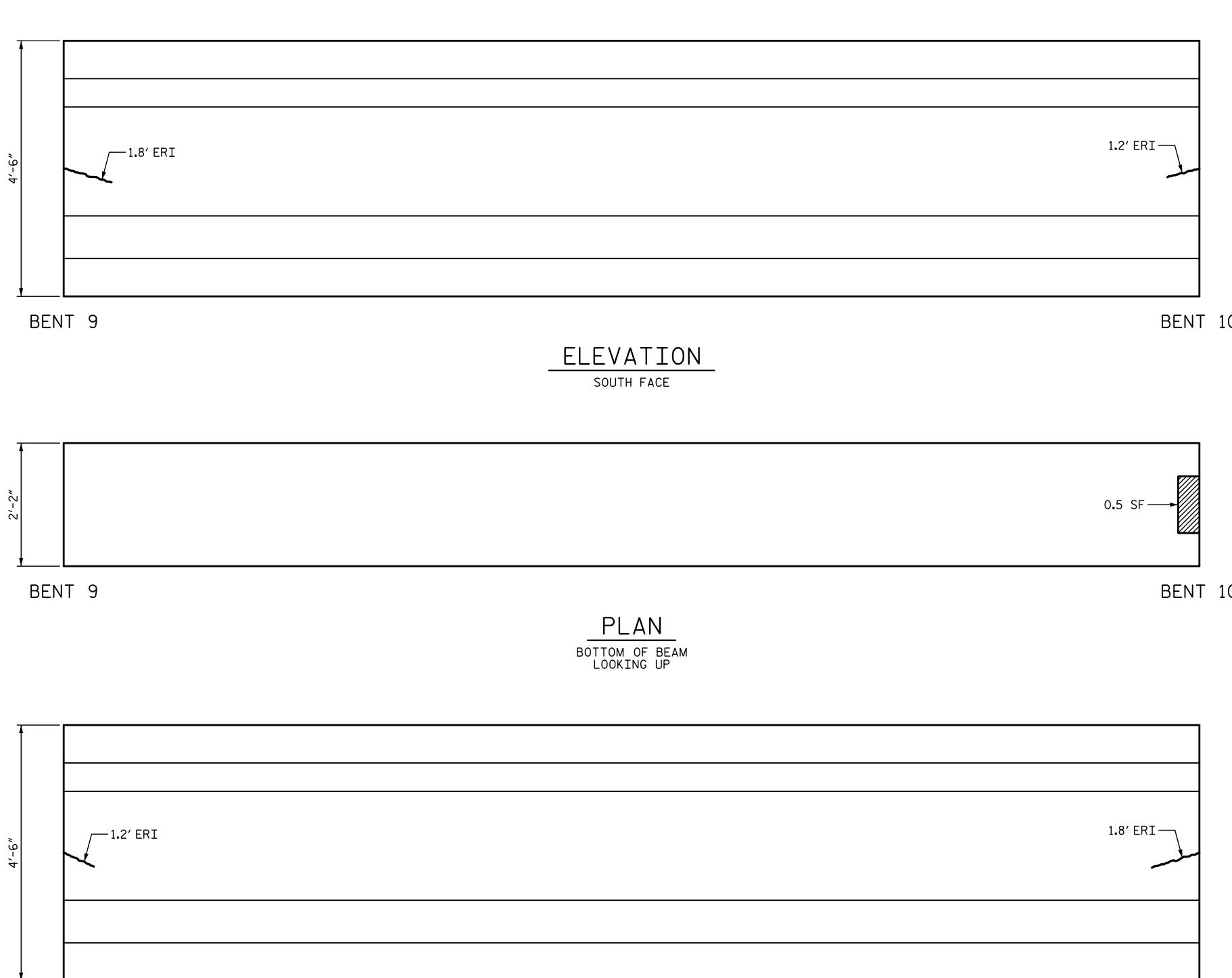
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		SHEET 4	OF 5			
PLANS PREPARED BY:		DEPA	RTMENT	OF NORTH CAR OF TRAI RALEIGH SERVAT	NSPORTA	TION
SIMPSON NGINEERS SSOCIATES 5640 Dillard Drive Suite 200 Cary, NC 27518	AGBEI STODAS BLACK			PAN : RDER		
(919)852-0468 (919)852-0598 (Fax) www.simpsonengr.com	J. BEACTIV		REVIS	SIONS		SHEET NO.
LICENSURE NO. C-2521	9/29/2020	NO. BY:	DATE:	NO. BY:	DATE:	S1-101
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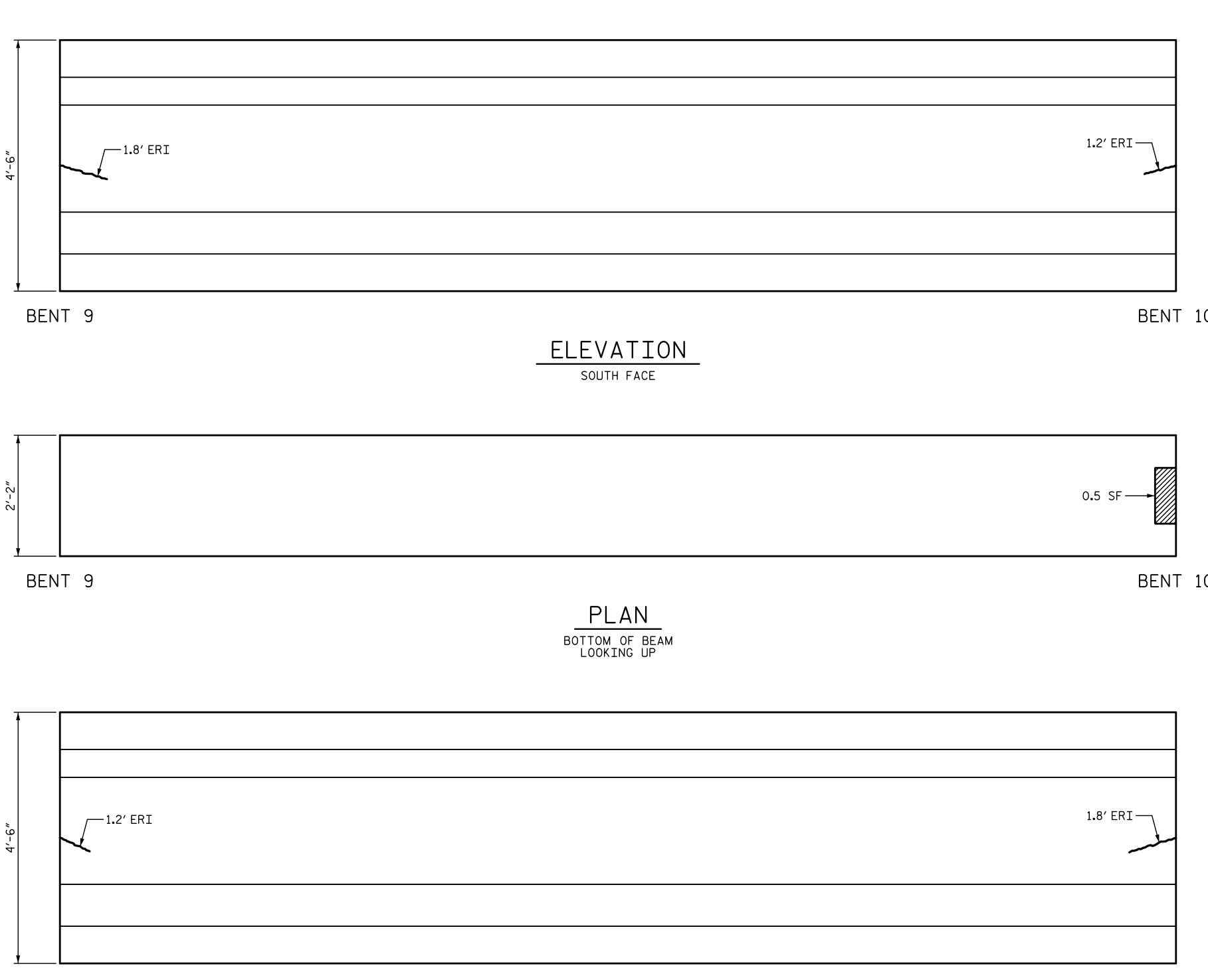


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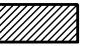






BENT 10

CHECKED BY: T.J. BEACH DATE: 9-20	DRAWN BY: T.I	BANKOVICH		DATE:	9-20
		.BEACH		DATE:	9-20
		F RECORD:	T.J. BEACH	DATE:	9-20



ERI — EPOXY RESIN INJECTION





ELEVATION NORTH FACE

REPAIR QU	ANT	ITY ⁻	ΓABL	.E	
REPAIRS SPAN 10 GRD. 5		Q	JANTIT	IES	
INCLATING SLAN TO OND. S	EST	IMATE		ACTUAL	_
REPAIRS OF PRESTR. CONCRETE GIRDERS	REPAIRS OF PRESTR. AREA VO CONCRETE GIRDERS		AREA SF	DEPTH FT	VOLUME CF
GIRDER	0.5	0.3			
EPOXY RESIN INJECT	ECTION LF				LF
GIRDER		6.0			

NOTES:

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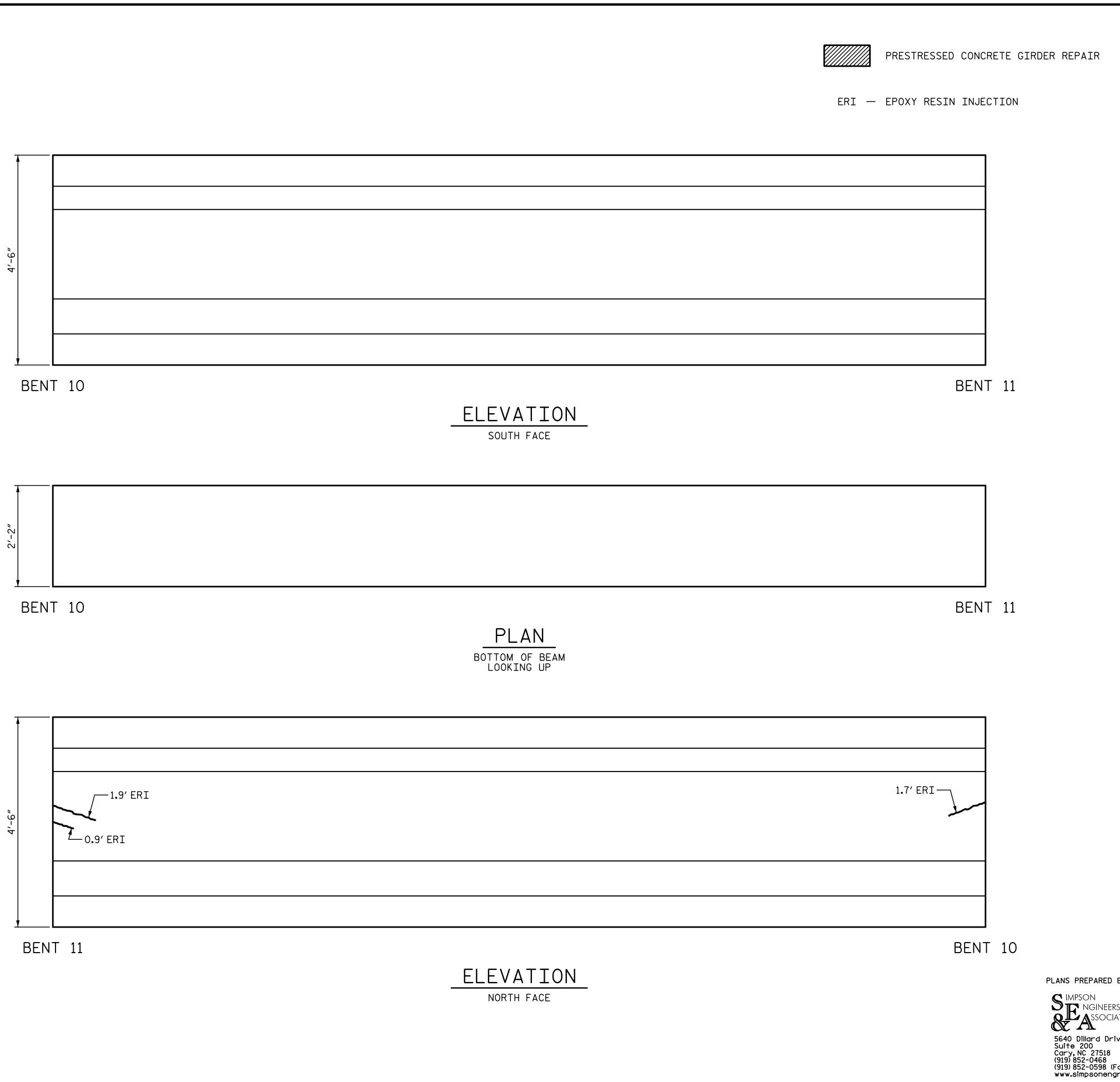
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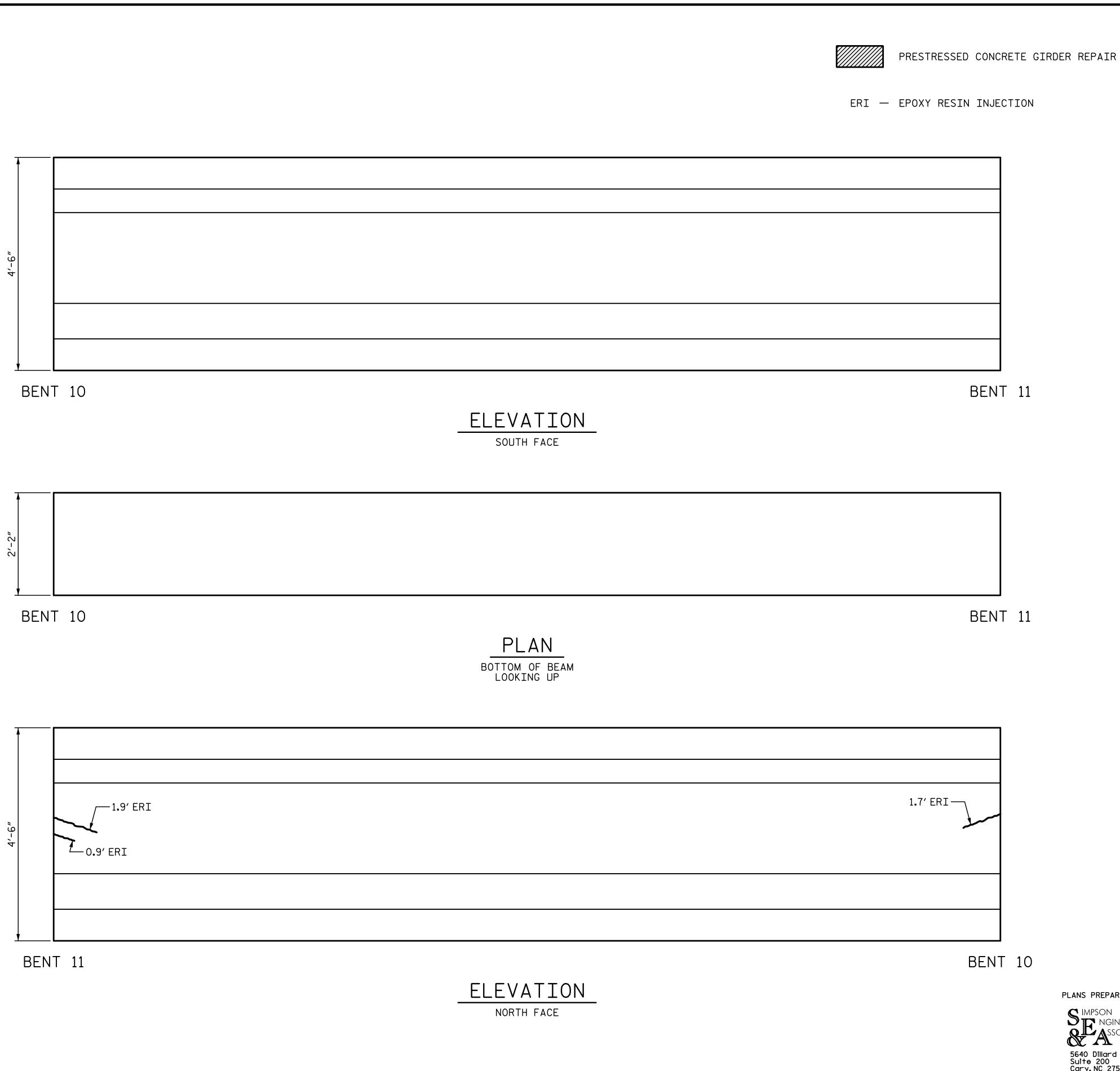
FOR REPAIRS OF PRESTRESSED CONCRETE GIRDERS DETAILS, SEE "PRESTRESSED CONCRETE GIRDER REPAIR DETAILS" SHEET.

					BPR.2				
		<u>NEW HANOVER/PENDER COUNTY</u> BRIDGE NO.: 640048							
SHEET 5 OF 5									
BY:		DEPA	RTMENT	OF NORTH CAF OF TRA RALEIGH SERVA	NSPORTA	TION			
S ATES Ve	AGB JAN BETTELLER AGB JAN BETTELLER SEAL 24390			PAN IRDER					
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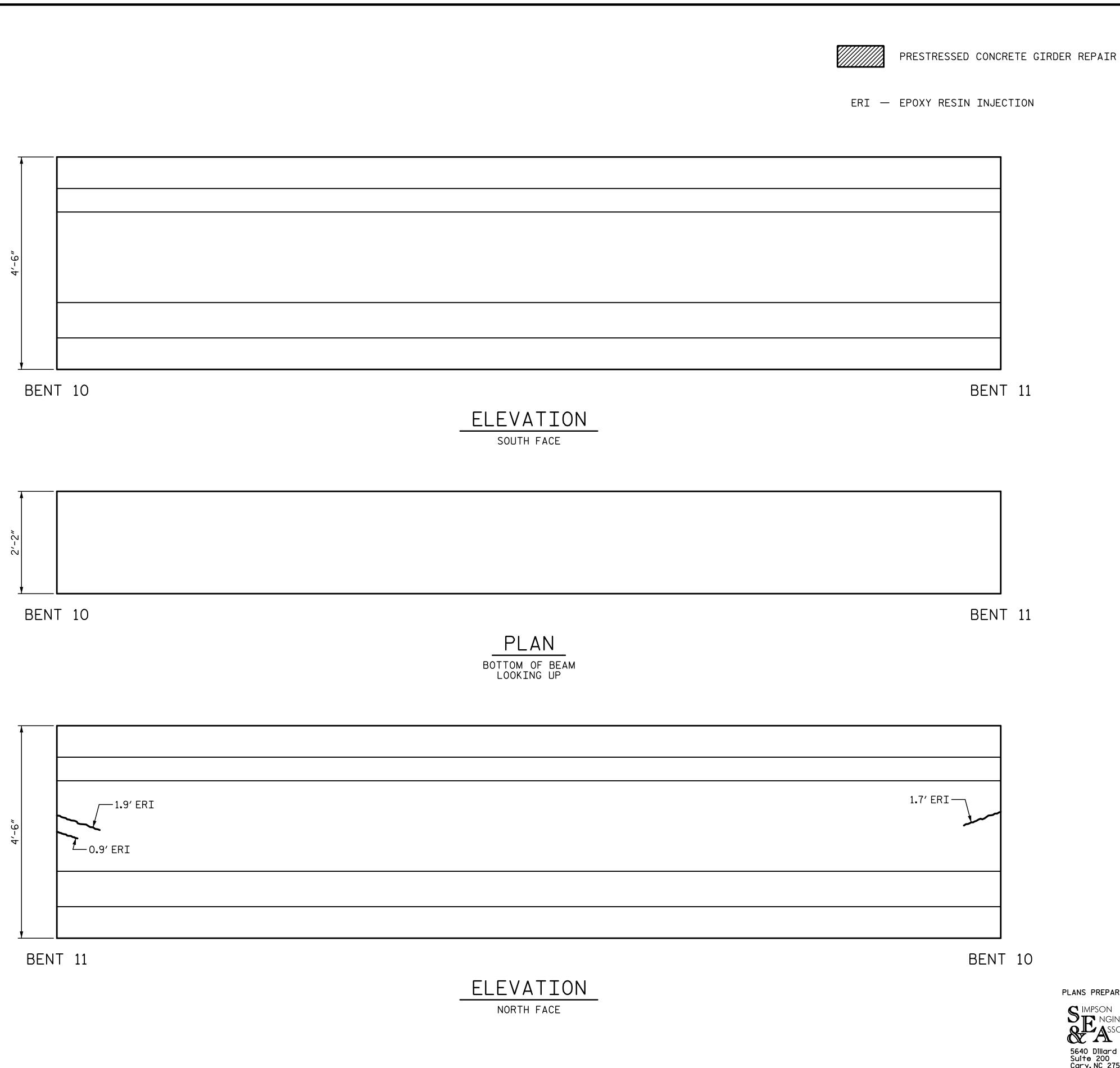
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82 DRAWN 6 CHECKEI		BANKOVICH		DATE: . DATE: .	<u>9-20</u> 9-20			
	I ENGINEER		T.J. BEACH	DATE:	9-20			











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LICENSURE NO.C

REPAIR QU	ANT	ITY -	ΓABL	.E		
REPAIRS SPAN 11 GRD.1			JANTITI			
	EST	IMATE		ACTUAL		
REPAIRS OF PRESTR. A CONCRETE GIRDERS		VOLUME CF	AREA SF	DEPTH FT	V	OLUME CF
GIRDER	0.0	0.0				
EPOXY RESIN INJECT	ION	LF				LF
GIRDER		4.5				

NOTES:

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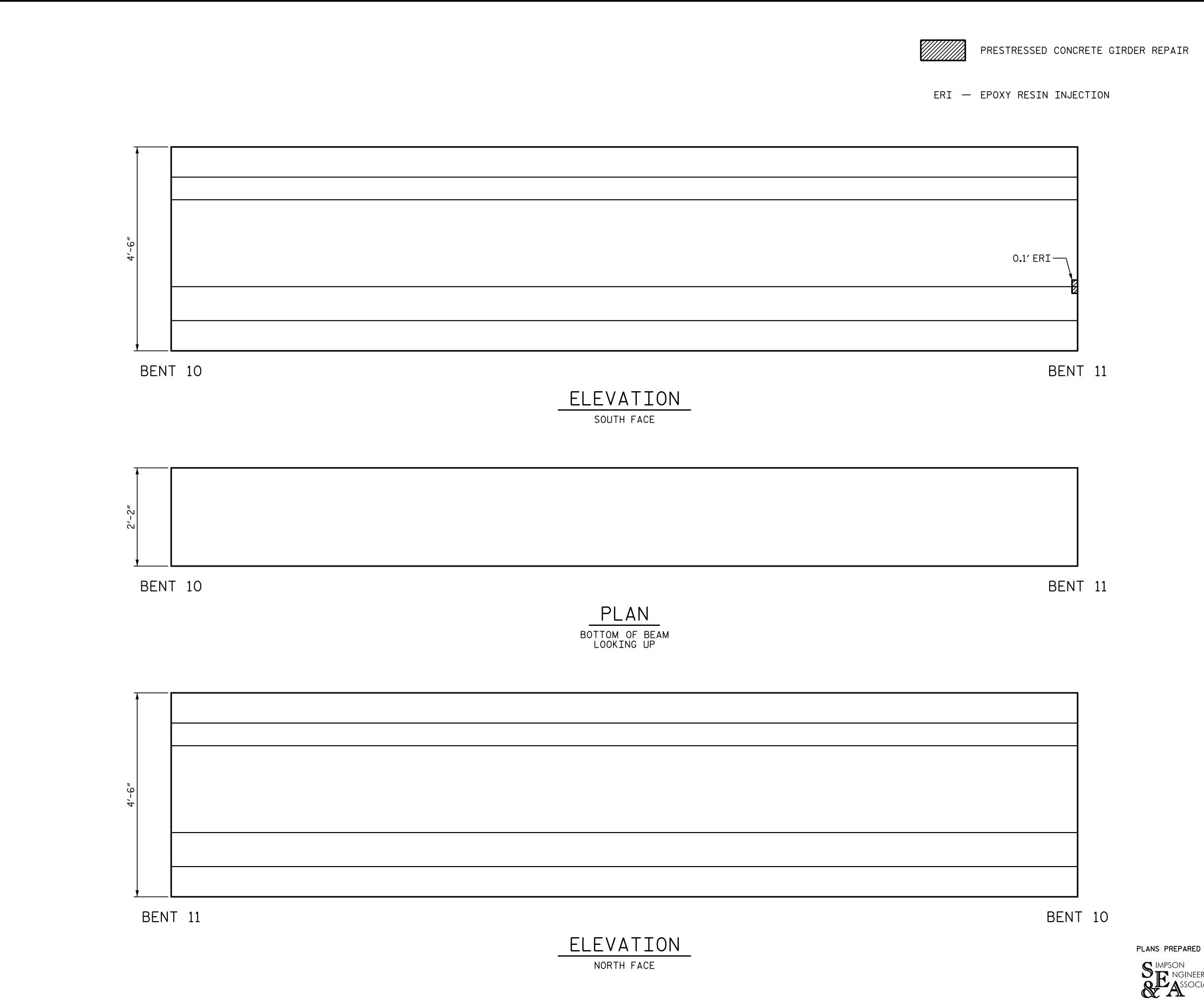
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FOR REPAIRS OF PRESTRESSED CONCRETE GIRDERS DETAILS, SEE "PRESTRESSED CONCRETE GIRDER REPAIR DETAILS" SHEET.

	-	NEW H		<u>R/PENI</u>	5 <u>BPR.2</u> DER_ CO 40048	UNTY
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BY:		DEPA	RTMENT	OF NORTH CA OF TRA RALEIGH SERVA	NSPORTA	TION
S ATES Ve	SEAL 24390			PAN RDEF		
ax) r.com -2521	9/29/2020	NO. BY:	REVIS	IONS NO. BY:	DATE:	SHEET NO. S1-103
NT NOT CONSIDERE		1	,	3 4		total sheets 163



T. BANKOVICH		DATE: _	9-20
T.J. BEACH		DATE: _	9-20
NEER OF RECORD:	T.J. BEACH	DATE: _	9-20
		T.J. BEACH	

Simpson SG40 Dillard Driv Suite 200 Cary, NC 27518 (919) 852-0468 (919) 852-0598 (Fd www.simpsonenge LICENSURE NO. C-

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REPAIR QUANTITY TABLE								
REPAIRS SPAN 11 GRD. 2				JANTITI				
	EST	IMA	ATE		ACTUAL	_		
REPAIRS OF PRESTR. CONCRETE GIRDERS	AREA SF	V			DEPTH FT	v	OLUME CF	
GIRDER	0.1		0.05					
EPOXY RESIN INJECT	RESIN INJECTION						LF	
GIRDER	0.0							

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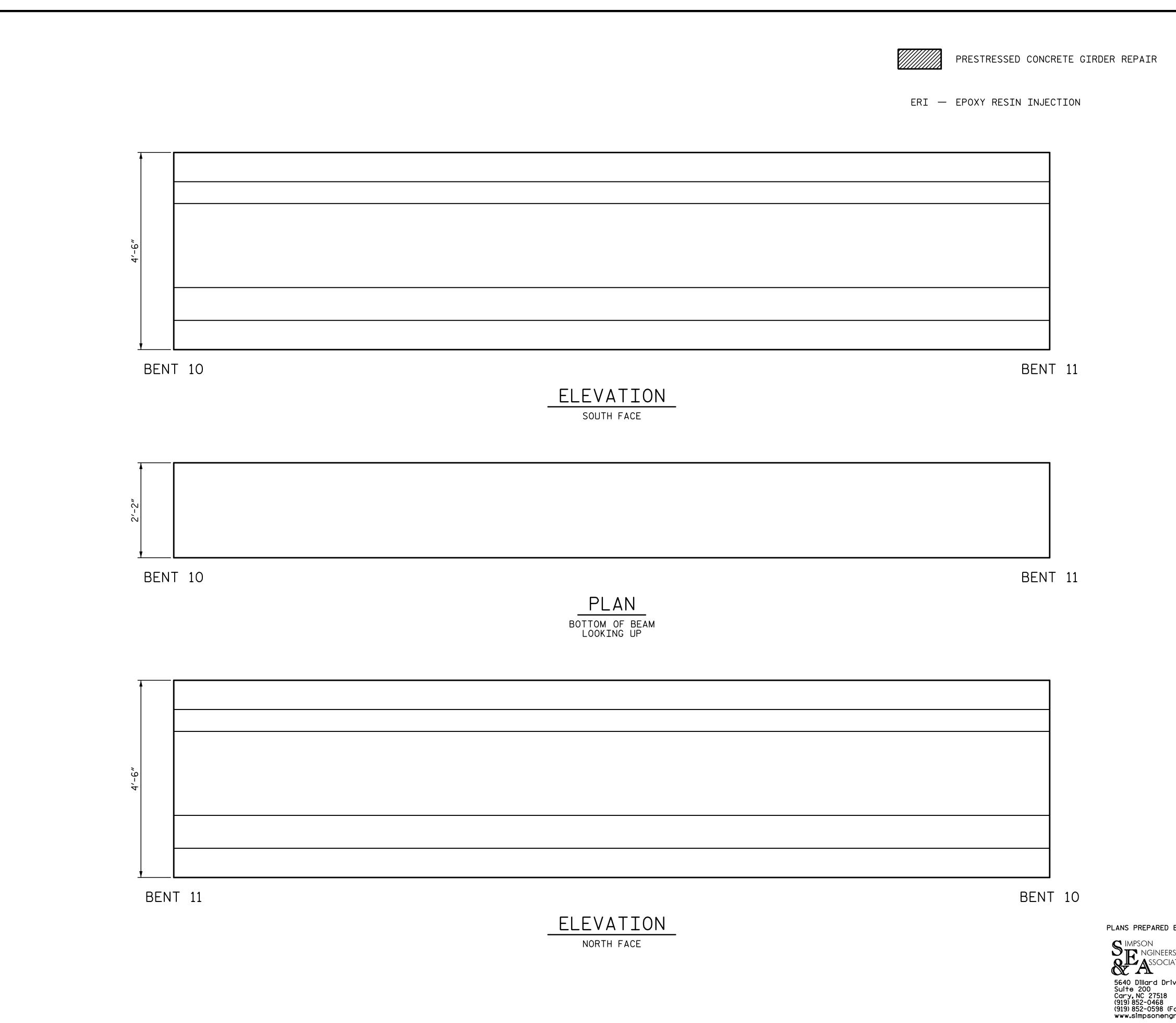
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		<u>NEW</u> BRIDG	CT NO. <u>Hanove</u> E NO.:_	<u>R/PENE</u>		UNTY		
	SHEET 2 OF 5 STATE OF NORTH CAROLINA							
BY:		DEP.	ARTMENT PRE	OF TRA RALEIGH SERVA		TION		
RS ATES Ive	Documental CARO/ The States Sion 4 AGB13839975245B SEAL 24390			PAN RDER				
ax) gr.com 2-2521	9/29/2020	NO, BY:	REVIS	IONS	DATE:	SHEET NO. S1-104		
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T. BANKOVICH		DATE: _	9-20
T.J. BEACH		DATE: _	9-20
NEER OF RECORD:	T.J. BEACH	DATE: _	9-20
		T.J. BEACH	

REPAIR QUANTITY TABLE									
REPAIRS SPAN 11 GRD. 3		Q	JANTIT	[ES					
INLI AINS SI AN II GND. J	EST	IMATE		ACTUAL					
REPAIRS OF PRESTR. CONCRETE GIRDERS	AREA SF	VOLUME CF	UME AREA DEPTH		VOLUME CF				
GIRDER	0.0	0.0							
EPOXY RESIN INJECT	Y RESIN INJECTION				LF				
GIRDER	IRDER								

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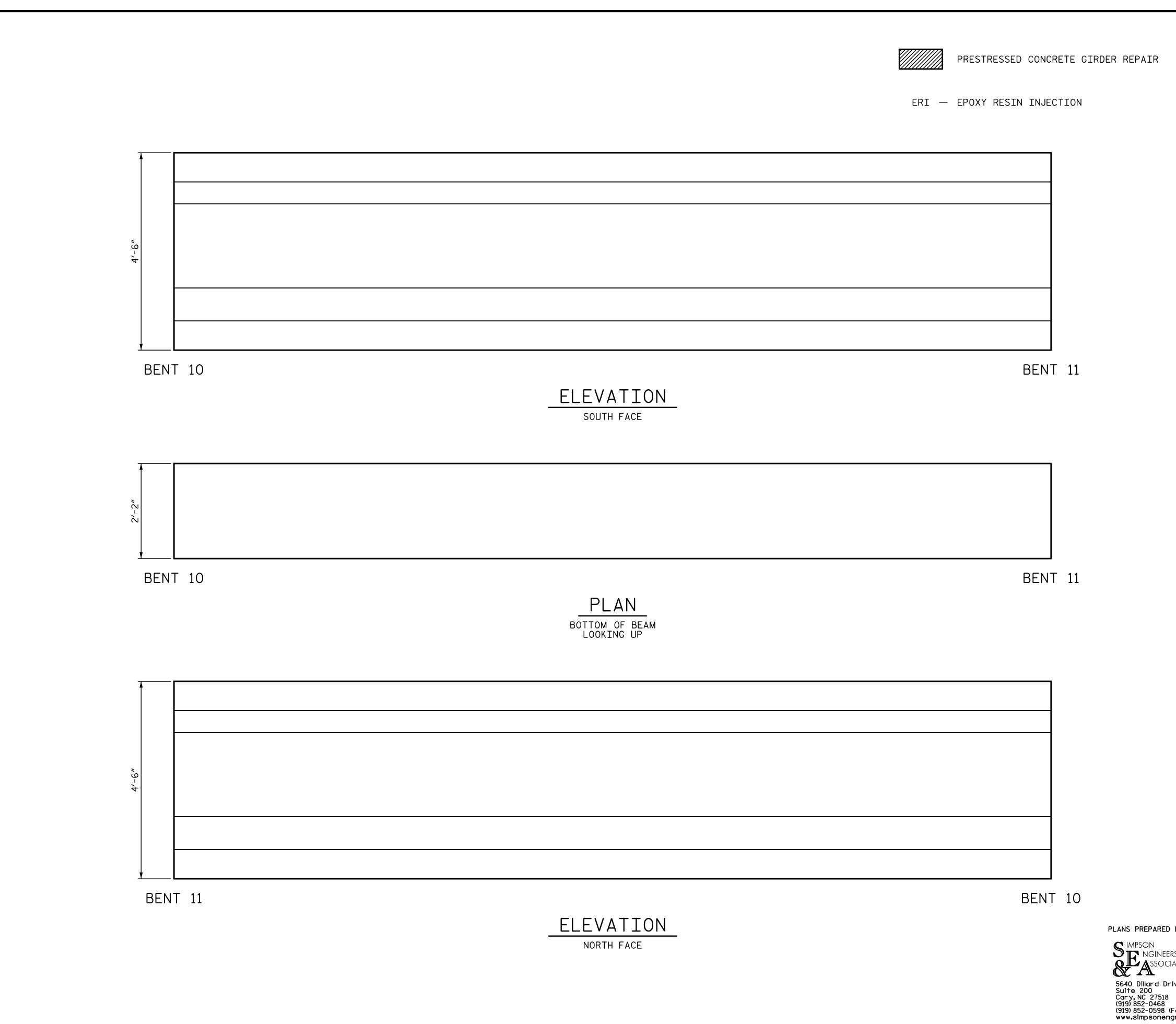
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		SHEET 3	STAT	TE OF NORTH CAR	ROLINA NSPORTA	TTON
PLANS PREPARED BY:				RALEIGH		
SIMPSON NGINEERS SSOCIATES 5640 Dillard Drive Suite 200	AGE SEAL 24390			SPAN ERDER		
Cary, NC 27518 (919) 852-0468 (919) 852-0598 (Fax) www.simpsonengr.com	9/29/2020			SIONS	DATE	SHEET NO. S1-105
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T. BANKOVICH		DATE: _	9-20
T.J. BEACH		DATE: _	9-20
NEER OF RECORD:	T.J. BEACH	DATE: _	9-20
		T.J. BEACH	

REPAIR QUANTITY TABLE									
REPAIRS SPAN 11 GRD. 4			JANTIT						
ILLI AIRS SI AN II ORD. I	EST	IMATE		ACTUAL	-				
REPAIRS OF PRESTR. CONCRETE GIRDERS	AREA SF	VOLUME CF	AREA DEPTH SF FT		VOLU CF				
GIRDER	0.0	0.0							
EPOXY RESIN INJECT	TION LF				L	.F			
GIRDER	0.0								

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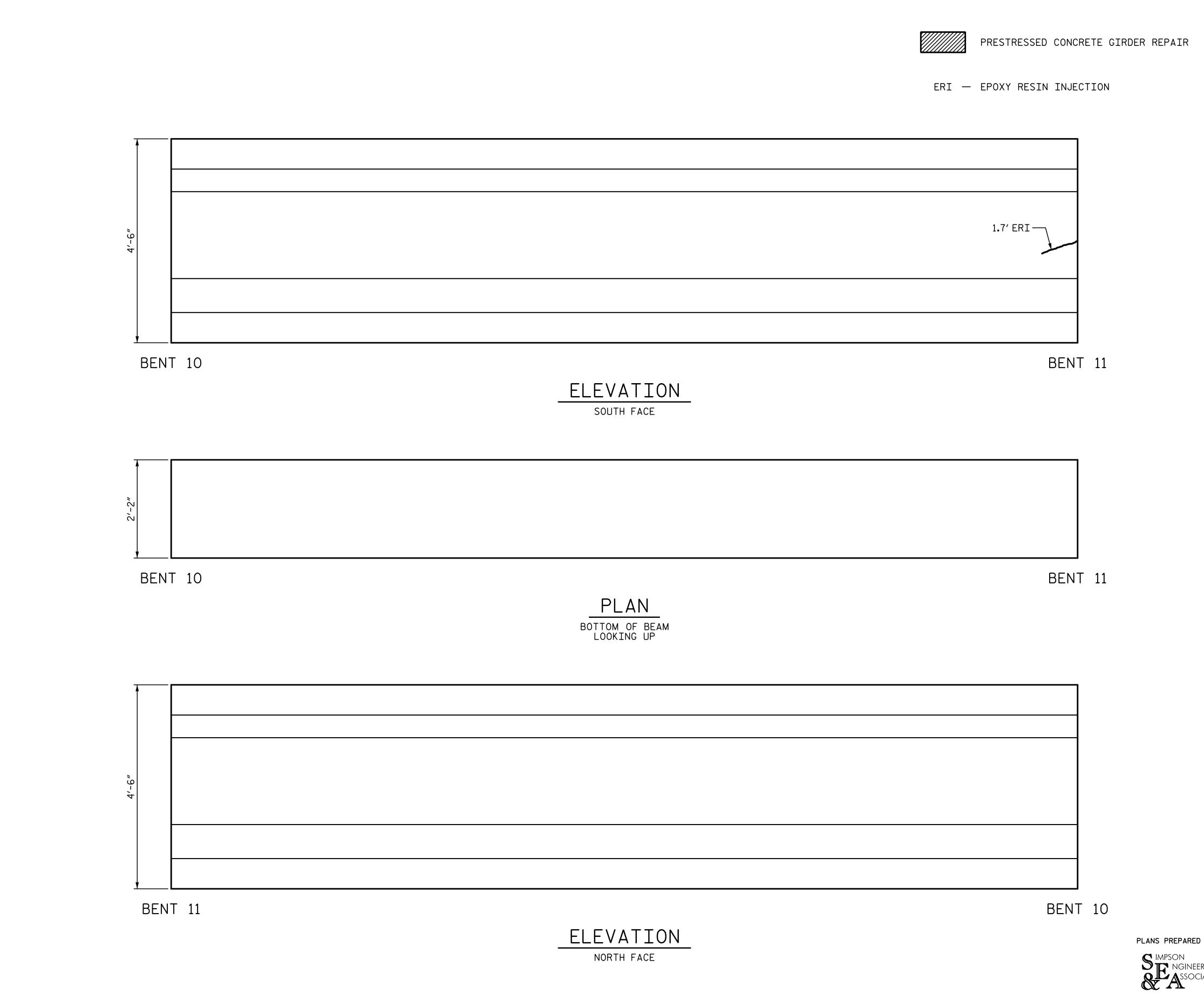
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PLANS PREPARED BY: Simpson NGINEERS		NEW H BRIDGE	state R TMENT (PRES	OF NORTH CAR DF TRAI RALEIGH ERVAT	40048 NSPORTA FION	OUNTY }
Simpson NGINEERS SSOCIATES 5640 Dillard Drive Suite 200	AGDION SEAL 24390			PAN RDER		
Cary, NC 27518 (919) 852-0468 (919) 852-0598 (Fax) www.simpsonengr.com	9/29/2020	NO. BY:	REVISI DATE: N	ONS o. by:	DATE:	SHEET NO. S1-106
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T. BANKOVICH		DATE: _	9-20
T.J. BEACH		DATE: _	9-20
NEER OF RECORD:	T.J. BEACH	DATE: _	9-20
		T.J. BEACH	



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REPAIR QUANTITY TABLE									
REPAIRS SPAN 11 GRD. 5		Q	JANTIT	[ES					
INCLATING SLAN II GND. J	EST	IMATE							
REPAIRS OF PRESTR. CONCRETE GIRDERS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF				
GIRDER	0.0	0.0							
EPOXY RESIN INJECT	TION LF				LF				
GIRDER	1.7								

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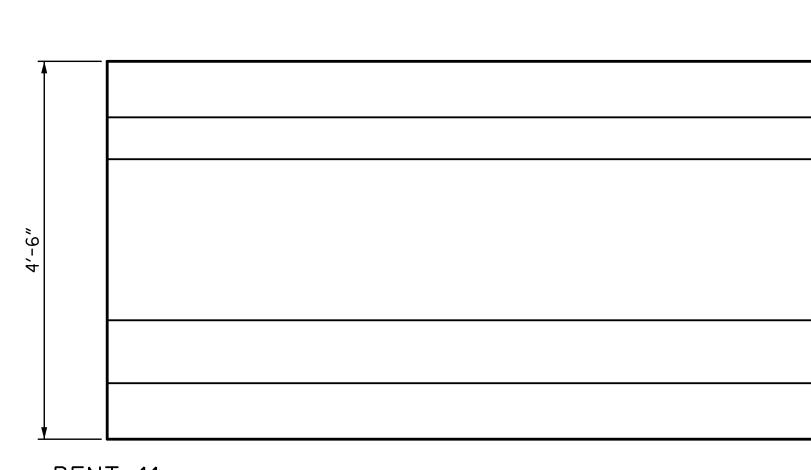
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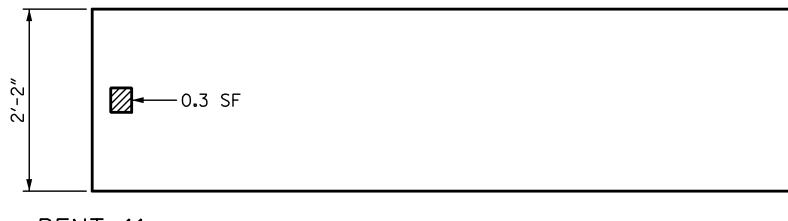
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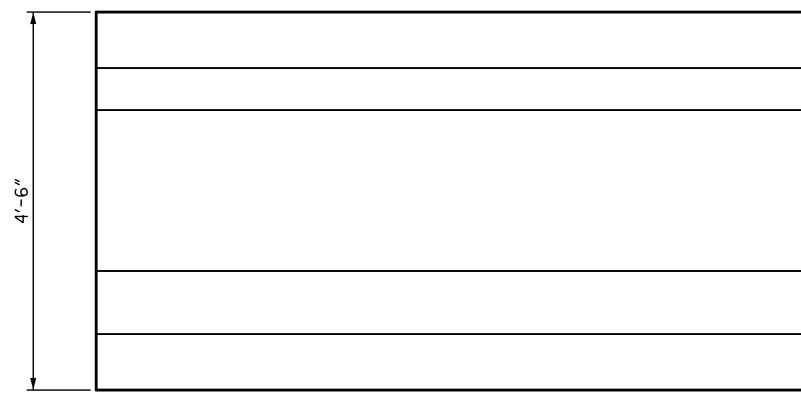
	PROJECT NO. 15BPR.26								
		NEW H	HANOVEF	R/PEND	DER CO				
		BRIDGE NO.: 640048							
	SHEET 5 OF 5								
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH PRESERVATION									
ATES	AGENTICE SEAL 24390			PAN RDER					
ax) gr.com 2-2521	9/29/2020	NO. BY:	REVISI	IONS	DATE:	SHEET NO. S1-107			
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28/	DRAWN BY:	T.BANKOVICH		DATE:	9-20
9/2	CHECKED BY:	T.J. BEACH		DATE:	9-20
0,	DESIGN ENGINE	ER OF RECORD:	T.J. BEACH	DATE:	9-20

		PRESTRESSED CONCRETE GIRDER REPAIR
	ERI —	EPOXY RESIN INJECTION
ELEVATION		BENT 12
SOUTH FACE		
		BENT 12
PLAN BOTTOM OF BEAM LOOKING UP		
		BENT 11
ELEVATION NORTH FACE		PLANS PREPARED B
		5640 Dillard Drive
		5640 Dillard Drive Suite 200 Cary, NC 27518 (919) 852-0468 (919) 852-0598 (Fai www.simpsonengr.
		LICENSURE NO. C-2

REPAIR QU	ANT	ITY	-	TABL	.E		
REPAIRS SPAN 12 GRD.1			Q	UANTITI			
	EST	IMATE			ACTUAL		
REPAIRS OF PRESTR. CONCRETE GIRDERS	S OF PRESTR. AREA V ETE GIRDERS SF		ΛE	AREA SF	DEPTH FT	v	OLUME CF
GIRDER	0.3	0.1					
EPOXY RESIN INJECTION			-				LF
GIRDER		0.	0				

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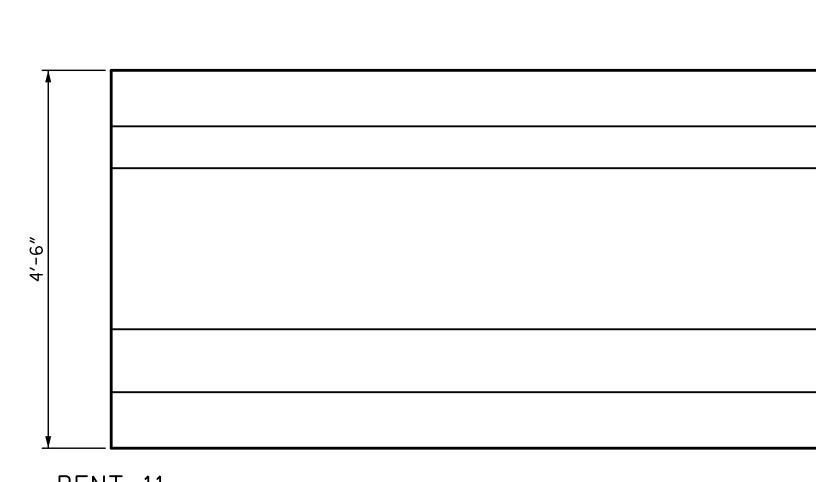
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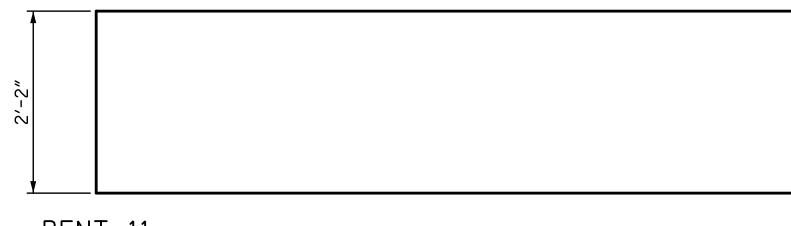
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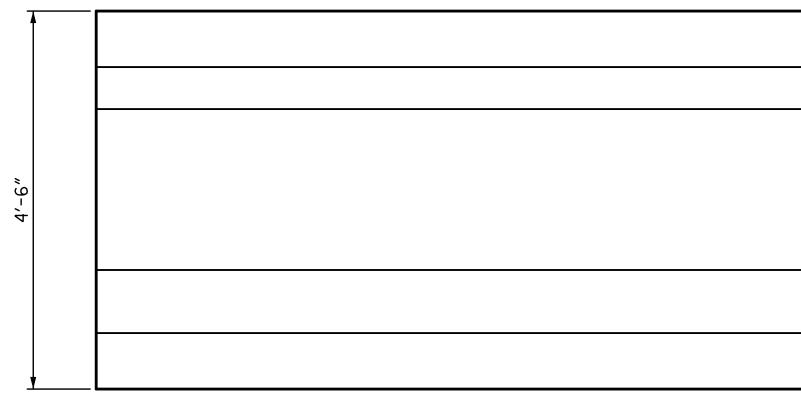
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PLANS PREPARED BY:		DEPA	state (RTMENT (DF NORTH CAR DF TRAI RALEIGH ERVAT	NSPORTA	TION
SIMPSON NGINEERS SSOCIATES 5640 Dillard Drive Suite 200 Cary, NC 27518 (919) 852-0468 (919) 852-0598 (Fax)	DoouteintetbyCARO/ EUCO EXERCE/00 AGB (SEE) SEAL 24390 J. BEACHING			AN RDEF		
www.simpsonengr.com	9/29/2020	NO. BY:	REVISI	1	DATE:	SHEET NO. S1-108
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	DRAWN BY: CHECKED BY: _	T.BANKOVICH		_ DATE:	9-20
9/	CHECKED BY:_	T.J. BEACH		_ DATE: .	9-20
0.		NEER OF RECORD:	T.J. BEACH	_ DATE: .	9-20

		PRESTRESSED CONCRETE GIRDER REPAIR
	ERI —	EPOXY RESIN INJECTION
<u>ELEVATION</u>		BENT 12
SOUTH FACE		
PLAN		BENT 12
BOTTOM OF BEAM LOOKING UP		
		BENT 11
ELEVATION NORTH FACE		PLANS PREPARED BY SIMPSON NGINEERS
		5640 Dillard Drive Suite 200 Cary, NC 27518 (919) 852-0468 (919) 852-0598 (Fax www.simpsonengr.
		(919) 852-0488 (919) 852-0598 (Fax www.simpsonengr. LICENSURE NO. C-2

REPAIR QUANTITY TABLE								
REPAIRS SPAN 12 GRD. 2		Q	JANTIT	[ES				
NEFAINS SFAN 12 OND. 2	EST	IMATE		ACTUAL				
REPAIRS OF PRESTR. A CONCRETE GIRDERS		VOLUME CF	AREA SF	DEPTH FT	VOLUME CF			
GIRDER	0.0	0.0						
EPOXY RESIN INJECTION					LF			
GIRDER		0.0						

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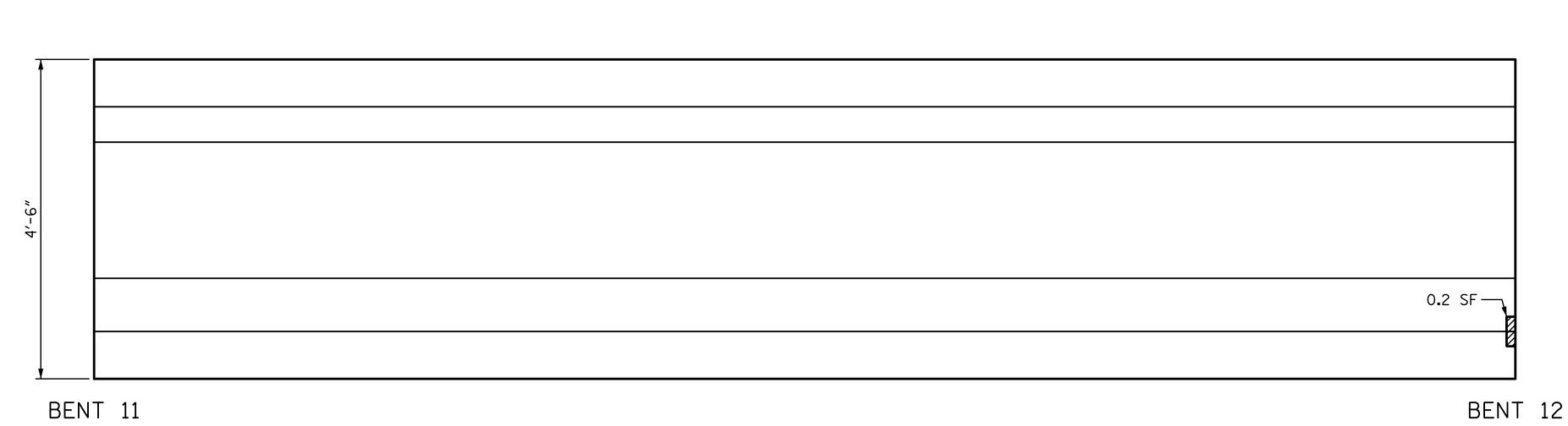
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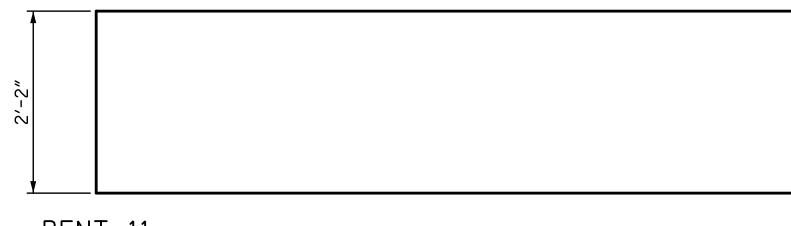
FOR REPAIRS OF PRESSTRESSED CONCRETE GIRDERS, SEE SPECIAL PROVISIONS.

FOR REPAIRS OF PRESTRESSED CONCRETE GIRDERS DETAILS, SEE "PRESTRESSED CONCRETE GIRDER REPAIR DETAILS" SHEET.

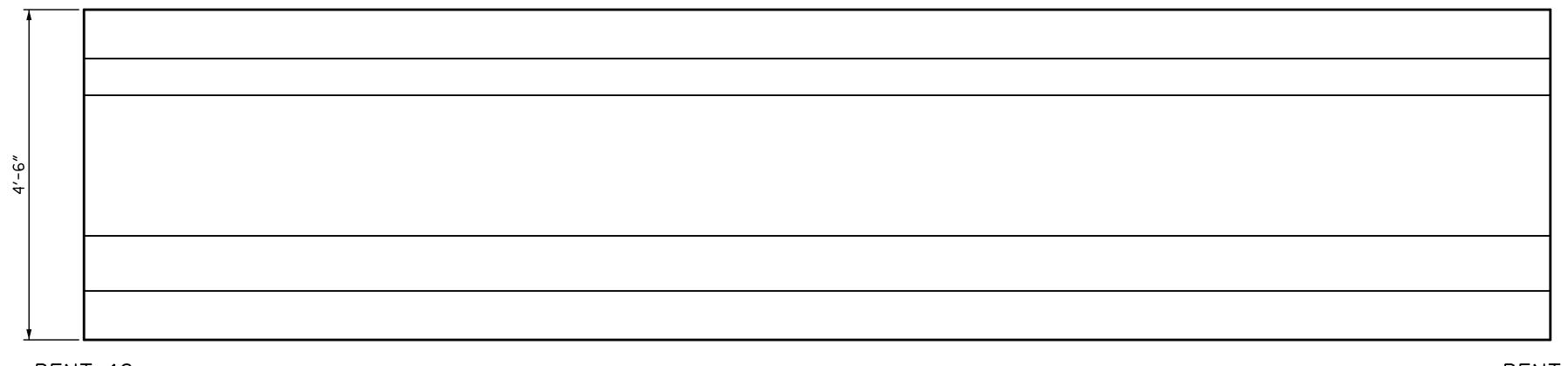
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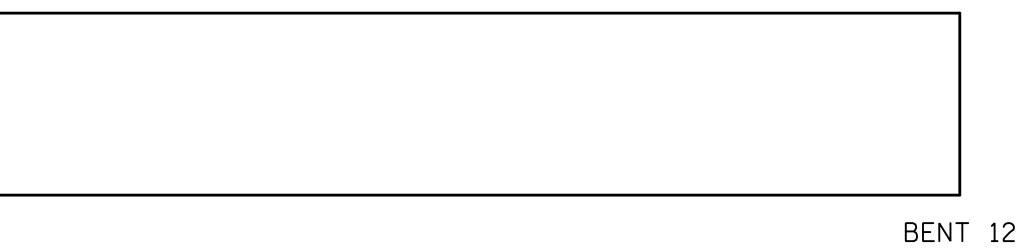
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ERI — EPOXY RESIN INJECTION

ELEVATION

SOUTH FACE



PLAN BOTTOM OF BEAM LOOKING UP

BENT 11



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ELEVATION

NORTH FACE

REPAIR QUANTITY TABLE								
REPAIRS SPAN 12 GRD. 3		Q	UANTIT	[ES				
NEFAINS SFAN 12 OND. S	EST	IMATE		ACTUAL	_			
REPAIRS OF PRESTR. CONCRETE GIRDERS		VOLUME CF	AREA SF	DEPTH FT	VOLUME CF			
GIRDER	0.2	0.1						
EPOXY RESIN INJECTION					LF			
GIRDER		0.0						

NOTES:

REPAIR LOCAITONS AND ESTIMATE OF THE QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE INSPECTOR OR ENGINEER THE CONTRACTOR SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITIY TABLE.

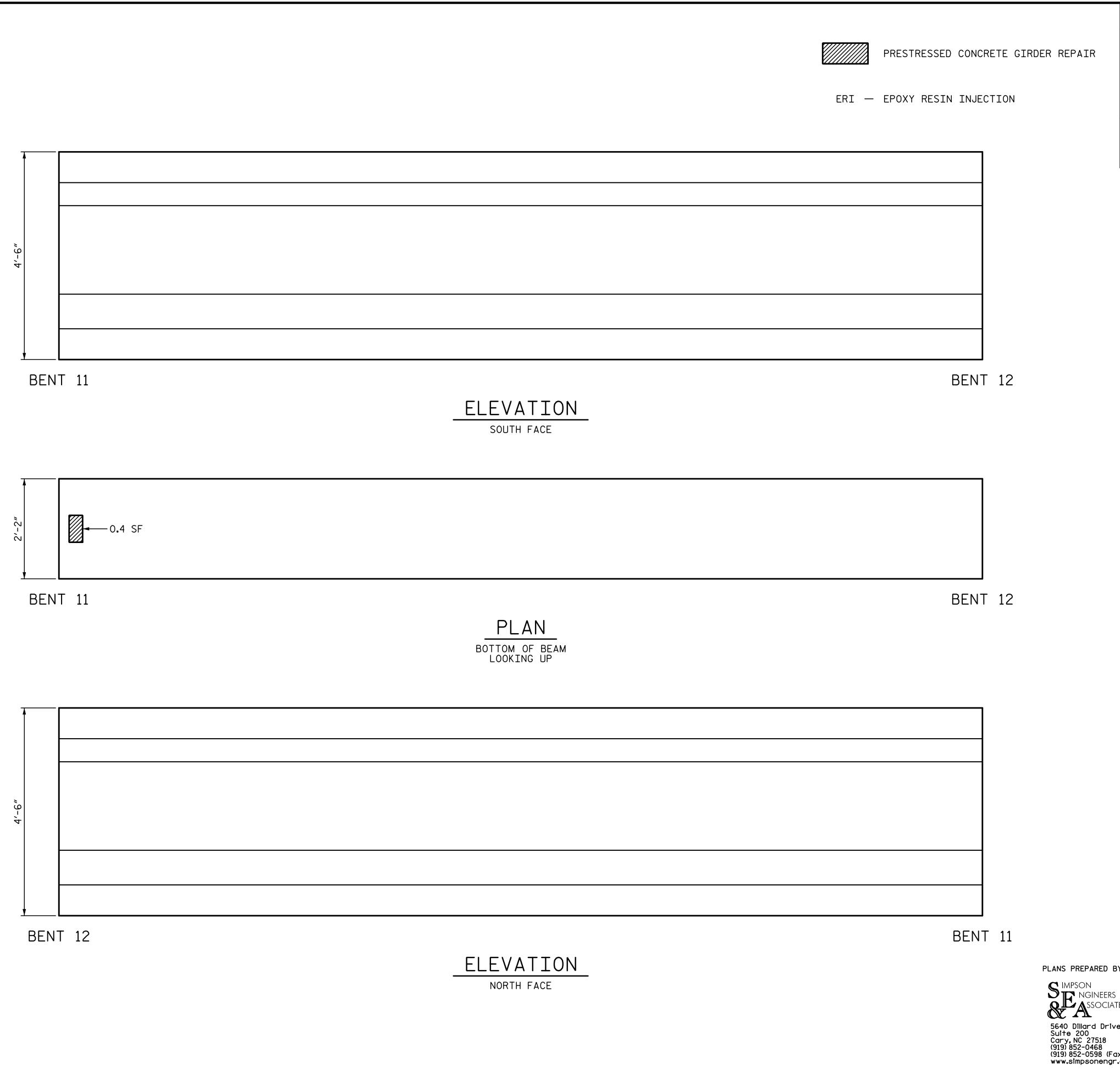
FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

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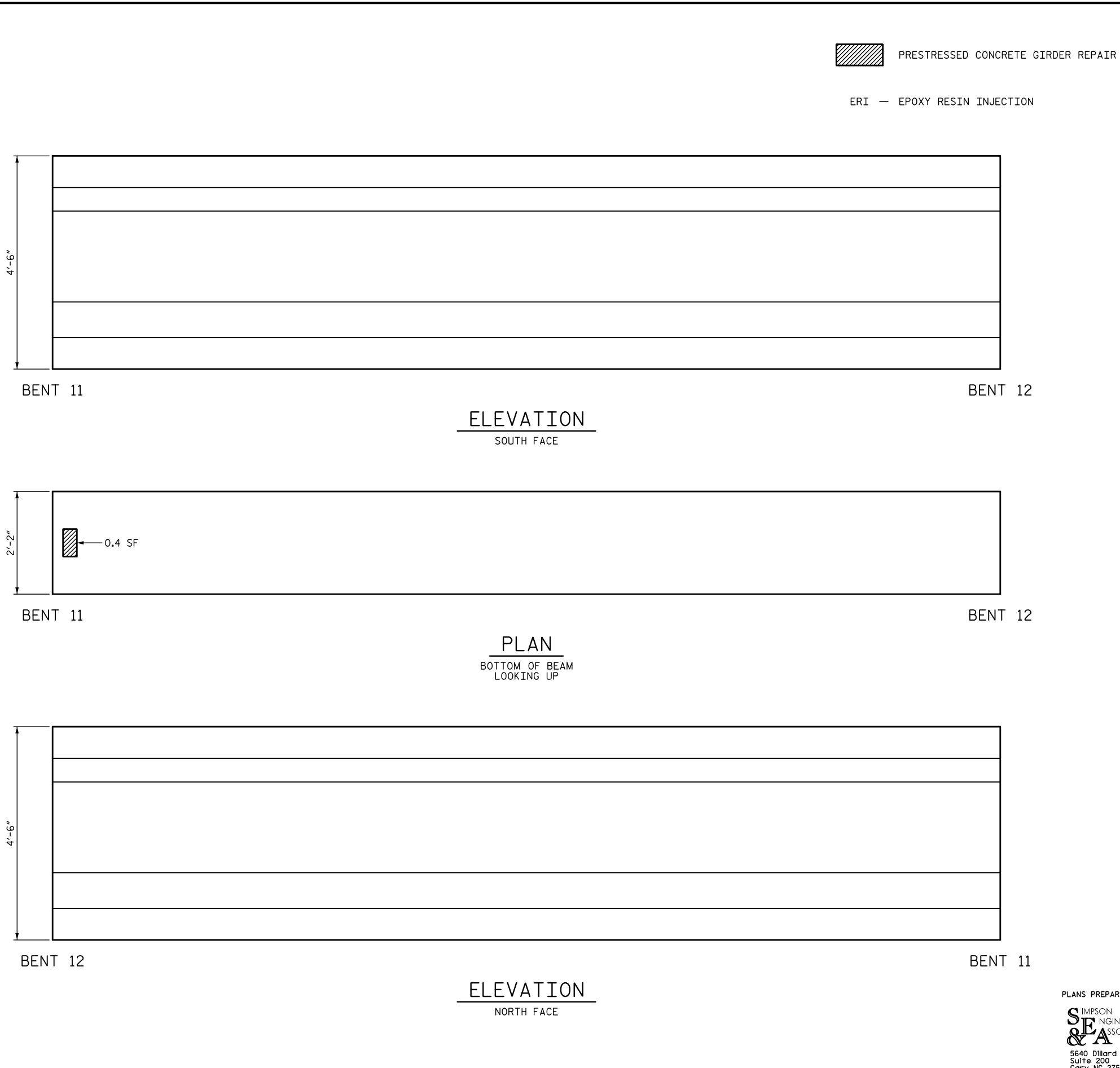
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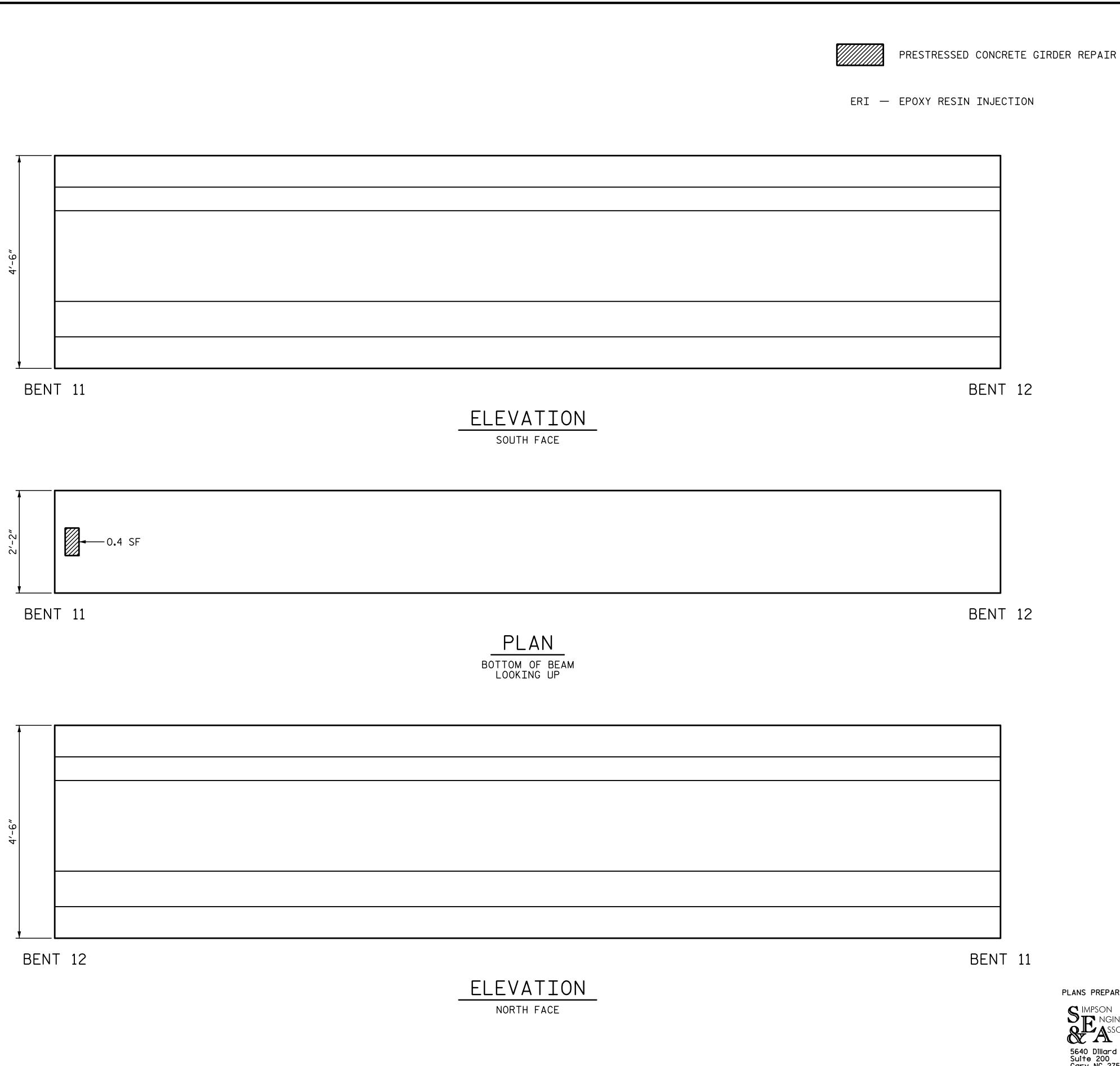
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BY:	STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH PRESERVATION						
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REPAIR QUANTITY TABLE								
REPAIRS SPAN 12 GRD. 4		Q	JANTIT	EES				
ILLI ATINO OF AN 12 OND: 4	EST	IMATE		ACTUAL				
REPAIRS OF PRESTR. CONCRETE GIRDERS	REPAIRS OF PRESTR. AREA VO CONCRETE GIRDERS		AREA SF	DEPTH FT	VOLUME CF			
GIRDER	0.4	0.2						
EPOXY RESIN INJECTION					LF			
GIRDER		0.0						

NOTES:

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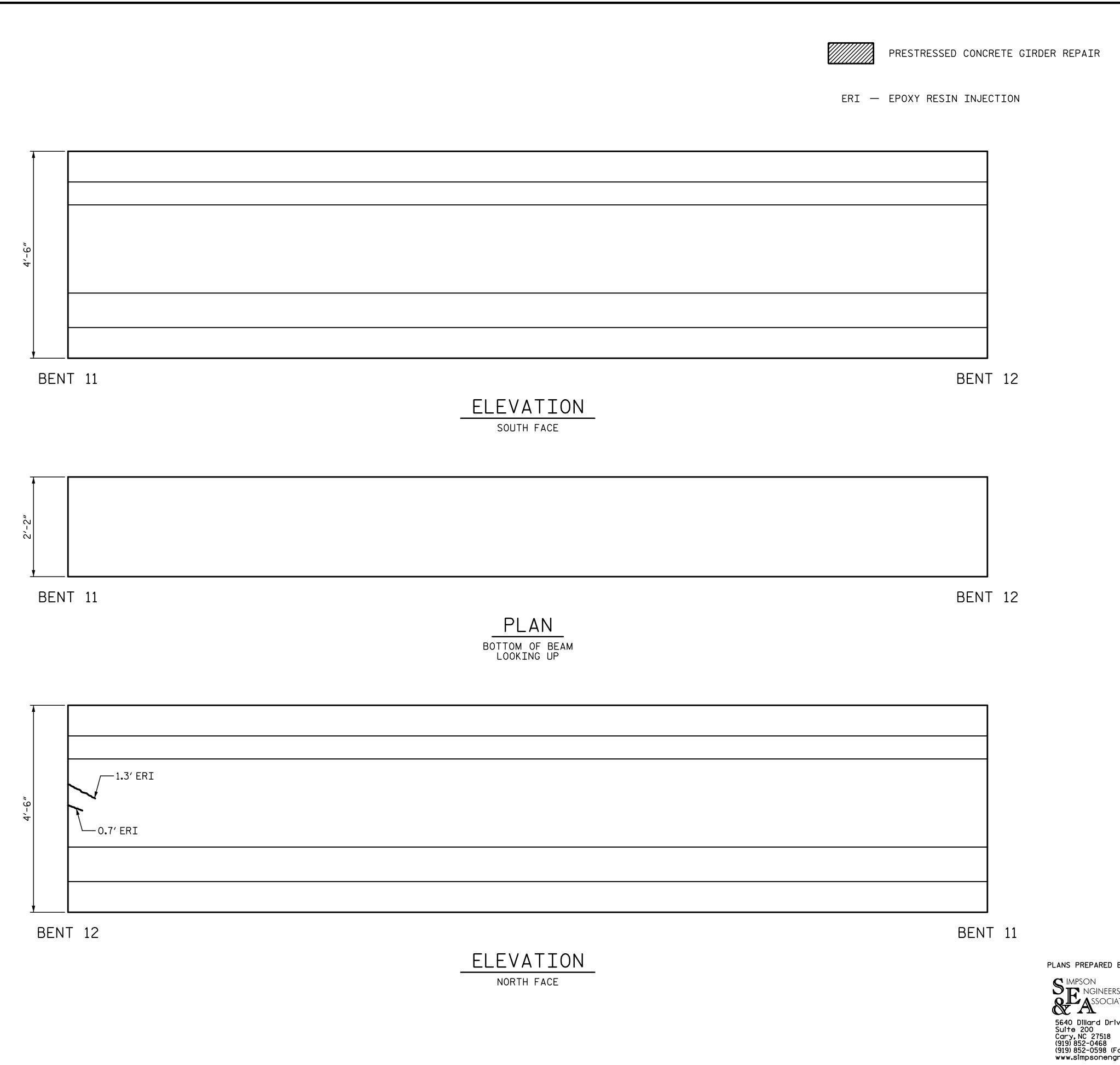
FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

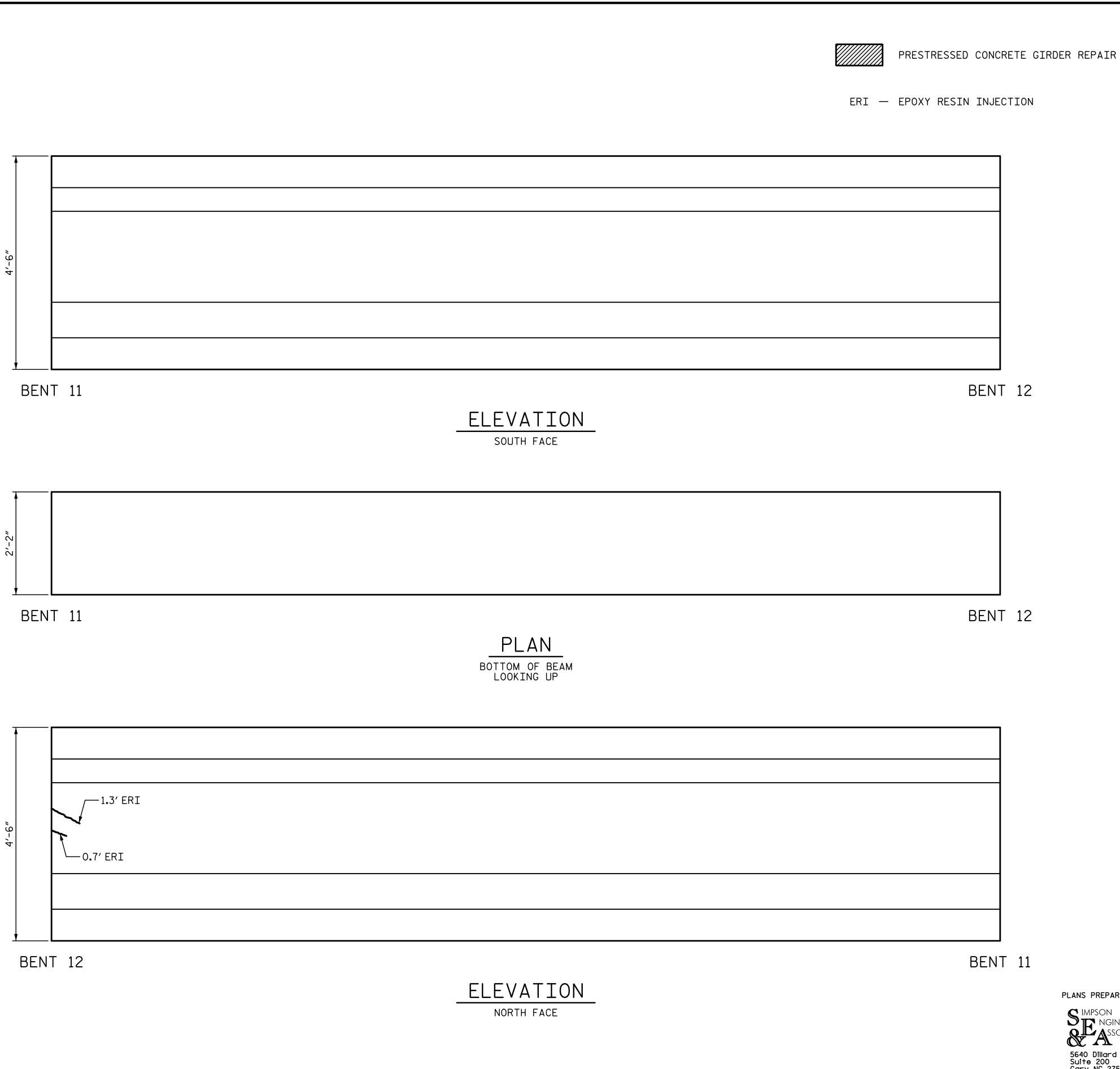
VALUES IN CHART REPRESENT ESTIMATE REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN, OF 1"BEHIND REBAR AND MIN. 2"CL. TO SAWCUT. SEE REPAIR DETAILS.

FOR REPAIRS OF PRESSTRESSED CONCRETE GIRDERS, SEE SPECIAL PROVISIONS.

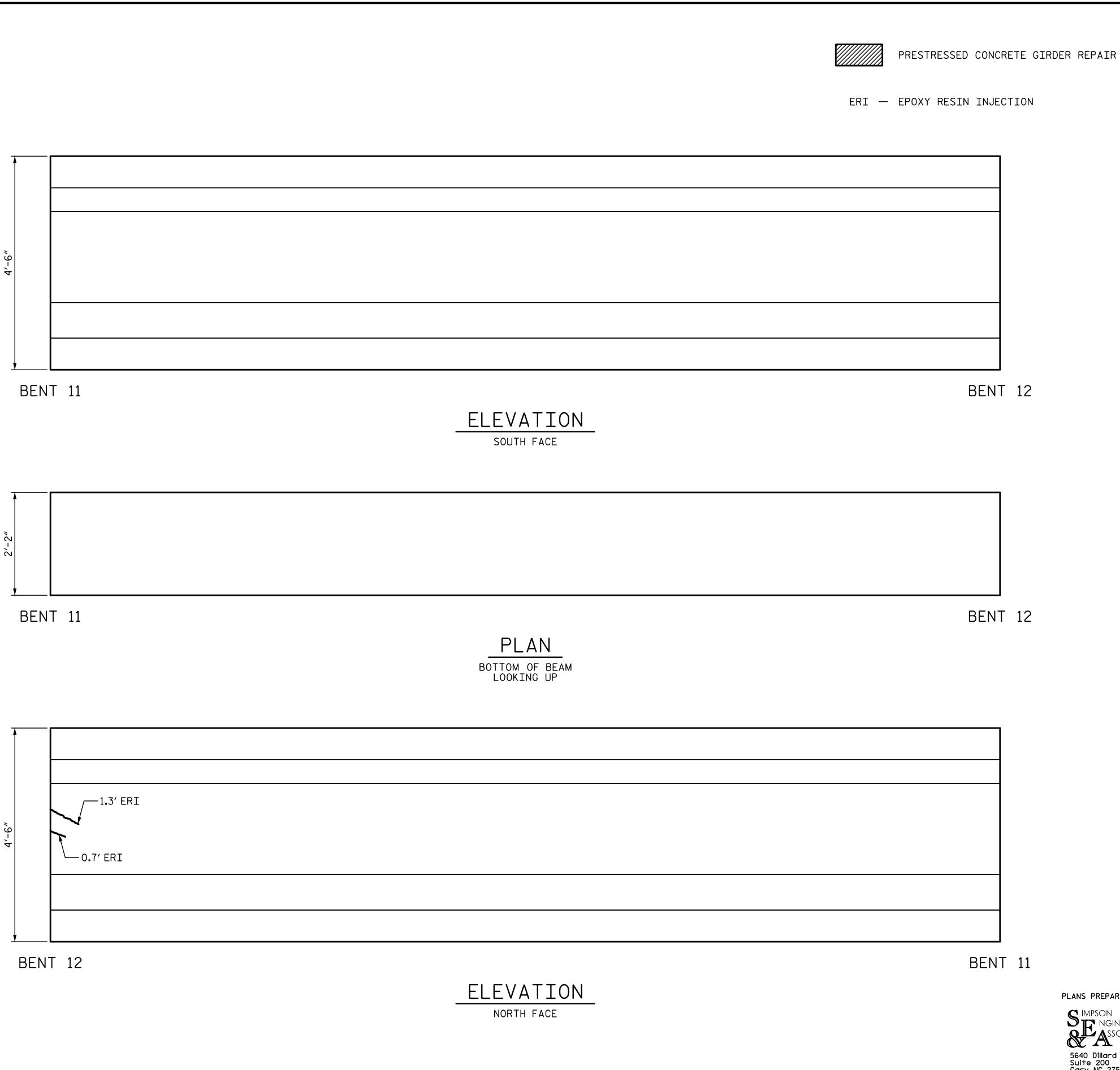
FOR REPAIRS OF PRESTRESSED CONCRETE GIRDERS DETAILS, SEE "PRESTRESSED CONCRETE GIRDER REPAIR DETAILS" SHEET.

	PROJECT NO. <u>15BPR.26</u> <u>NEW HANOVER/PENDER COUNTY</u> BRIDGE NO.: <u>640048</u>
	SHEET 4 OF 5
BY:	STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH PRESERVATION
S TES Ve 24390	SPAN 12 GIRDER 4
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REPAIR QU	ANT	ITY ⁻	ΓABL	.E	
REPAIRS SPAN 12 GRD. 5		QI	JANTIT	IES	
ILLI ATINS SI AN 12 OND: S	EST	IMATE		ACTUAL	
REPAIRS OF PRESTR. CONCRETE GIRDERS	PRESTR.AREAVOLUMERDERSSFCF		AREA SF	DEPTH FT	VOLUME CF
GIRDER	0.0	0.0			
EPOXY RESIN INJECTION					LF
GIRDER		2.0			

NOTES:

REPAIR LOCAITONS AND ESTIMATE OF THE QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE INSPECTOR OR ENGINEER THE CONTRACTOR SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITIY TABLE.

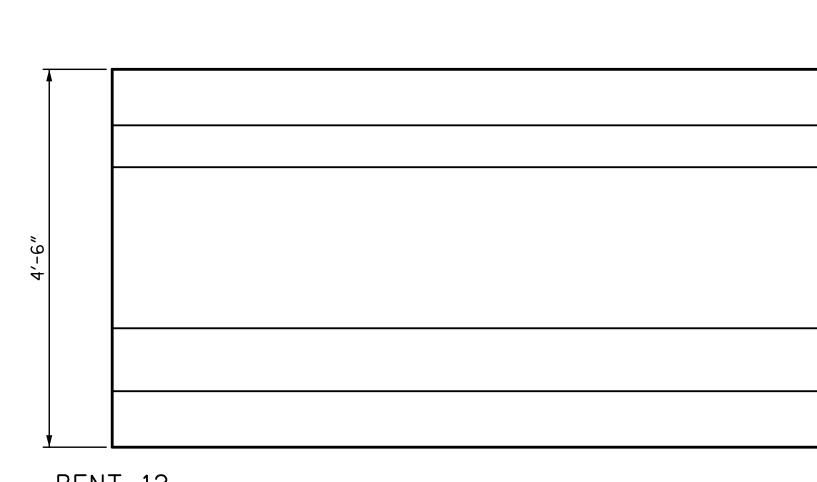
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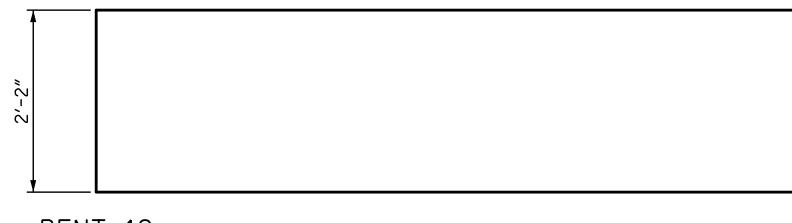
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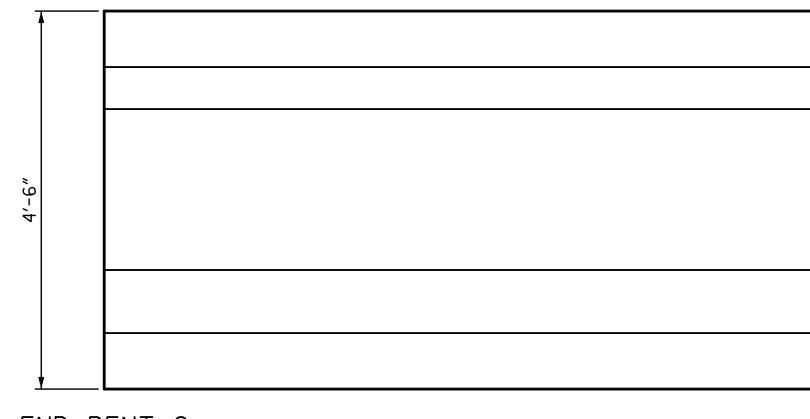
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PLANS PREPARED BY:		DEPA	RTMENT	OF NORTH CAF OF TRA RALEIGH SERVA	NSPORTA	TION
SIMPSON NGINEERS SSOCIATES 5640 Dillard Drive Suite 200 Cary, NC 27518 (919) 852-0468	Documenterenter CARO/ Tocomenterenter CARO/ A6B 100095575245B SEAL 24390 CINEE			PAN RDER		
(919) 852-0598 (Fax) www.simpsonengr.com	BEAUNIN		REVIS	IONS		SHEET NO.
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	PRESTRESSED CONCRETE GIRDER REPAIR
	ERI — EPOXY RESIN INJECTION
	END BENT 2
ELEVATION SOUTH FACE	
	END BENT 2
PLAN BOTTOM OF BEAM	
BOTTOM OF BEAM LOOKING UP	
	BENT 12
ELEVATION	PLANS PREPARED B
NORTH FACE	S IMPSON NGINEERS SSOCIAT
	5640 Dillard Drive
	5640 Dillard Drive Suite 200 Cary, NC 27518 (919) 852-0468 (919) 852-0598 (Fa www.simpsonengr.
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REPAIR QU	ANT	ITY -	ΓABL	.E	
REPAIRS SPAN 13 GRD.1		Q	JANTIT	EES	
REFAIRS SFAN IS GRU. I	EST	IMATE		ACTUAL	-
REPAIRS OF PRESTR. CONCRETE GIRDERS	AREA VOLUME SF CF		AREA SF	DEPTH FT	VOLUME CF
GIRDER	0.0	0.0			
EPOXY RESIN INJECTION					LF
GIRDER		0.0			

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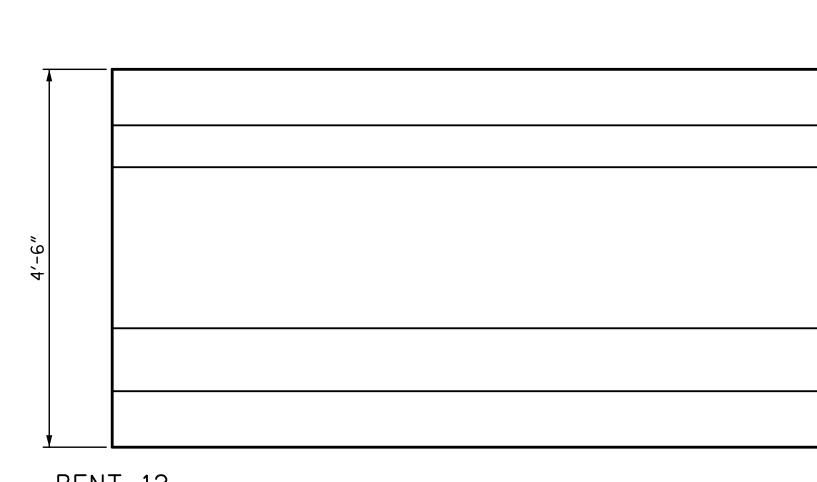
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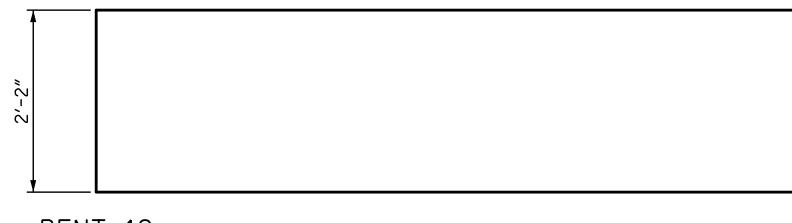
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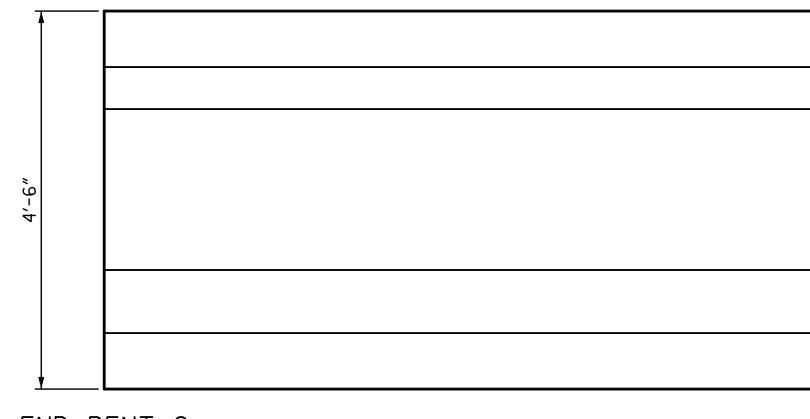
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	PRESTRESSED CONCRETE GIRDER REPAIR
	ERI — EPOXY RESIN INJECTION
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ELEVATION SOUTH FACE	
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BOTTOM OF BEAM LOOKING UP	
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REPAIRS SPAN 13 GRD. 2		Q	JANTIT	EES	
REFAIRS SFAN IS GRU. Z	EST	IMATE		ACTUAL	_
REPAIRS OF PRESTR. CONCRETE GIRDERS	REPAIRS OF PRESTR. CONCRETE GIRDERSAREA SFVOLUME CF		AREA SF	DEPTH FT	VOLUME CF
GIRDER	0.0	0.0			
EPOXY RESIN INJECTION					LF
GIRDER		0.0			

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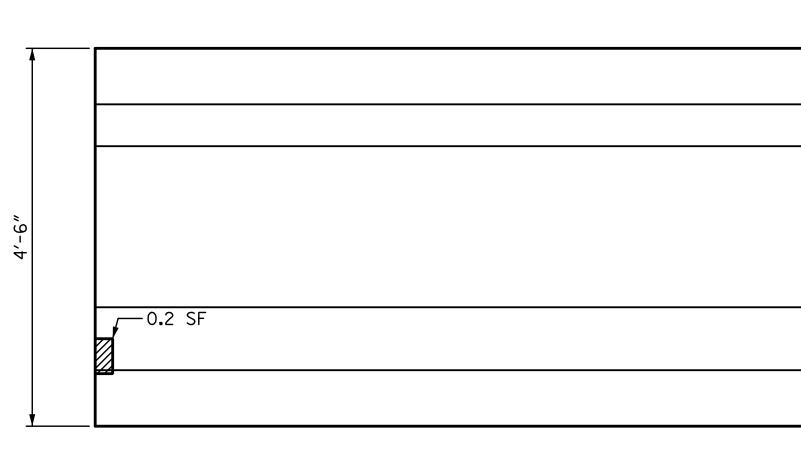
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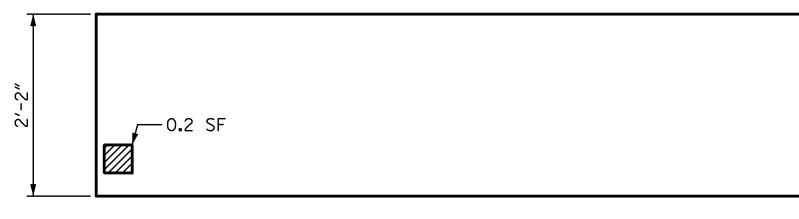
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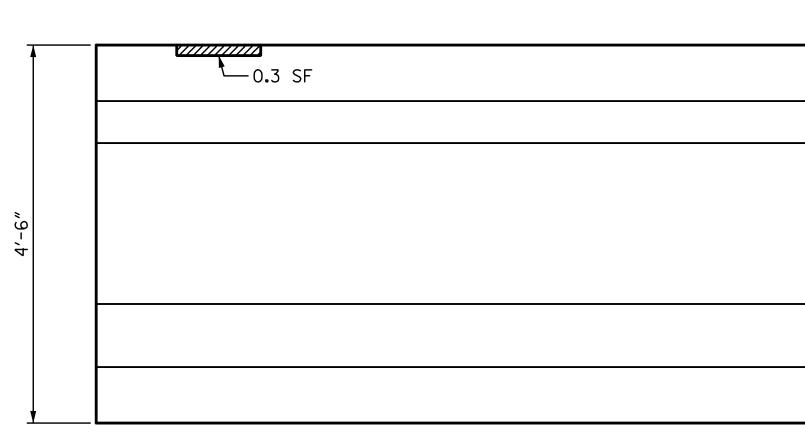
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PLANS PREPARED BY:	SHEET 2 OF 5 STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH PRESERVATION
SEAL 24390 (919) 852-0468 (919) 852-0598 (Fax)	SPAN 13 GIRDER 2
www.simpsonengr.com	REVISIONS SHEET NO.
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		PRESTRESSED CONCRETE GIRDER REPAIR
	ERI —	EPOXY RESIN INJECTION
ELEVATION		END BENT 2
SOUTH FACE		
		END BENT 2
PLAN		
BOTTOM OF BEAM LOOKING UP		
		1.7' ERI —
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		5640 Dillard Drive Suite 200 Cary, NC 27518 (919) 852-0468 (919) 852-0598 (Fa www.simpsonengr
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REPAIRS SPAN 13 GRD. 3		Q	JANTIT	[ES		
REFAIRS SFAN IS GRU. S	EST	IMATE		ACTUAL		
REPAIRS OF PRESTR. CONCRETE GIRDERS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF	
GIRDER	0.7	0.2				
EPOXY RESIN INJECT	ION	LF			LF	
GIRDER		1.7				

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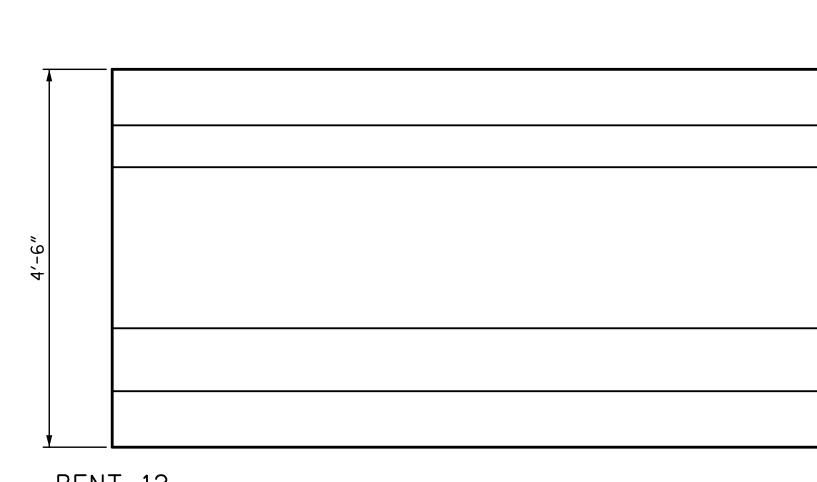
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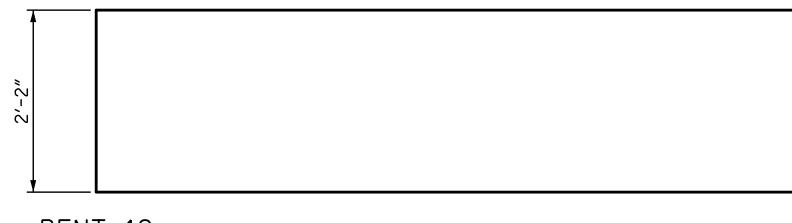
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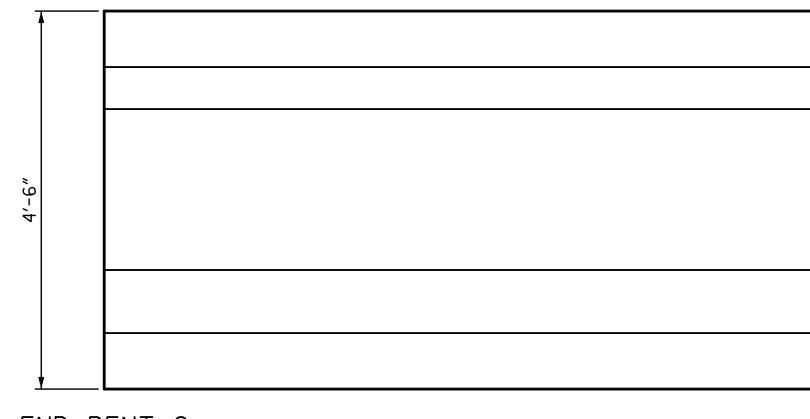
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	CHECKED BY:	T.J. BEACH		DATE:	9-20	
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		PRESTRESSED CONCRETE GIF	RDER REPAIR
		FRAME RECTNET NUESTAN	
	EKI —	EPOXY RESIN INJECTION	
		END BENT 2	
ELEVATION SOUTH FACE			
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PLAN			
BOTTOM OF BEAM LOOKING UP			
		0.6 SF	
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NORTH FACE			S IMPSON NGINEERS SSOCIAT
			5640 Dillard Drive Suite 200 Cary, NC 27518 (919) 852-0468 (919) 852-0598 (Fa) www.simpsonengr.
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REPAIR QU	ANT	ITY -	ΓABL	.E	
REPAIRS SPAN 13 GRD. 4		Q	JANTIT	EES	
REFAIRS SFAN IS GRU. 4	EST	IMATE		ACTUAL	_
REPAIRS OF PRESTR. CONCRETE GIRDERS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF
GIRDER	0.6	0.2			
EPOXY RESIN INJECT	ION	LF			LF
GIRDER		0.0			

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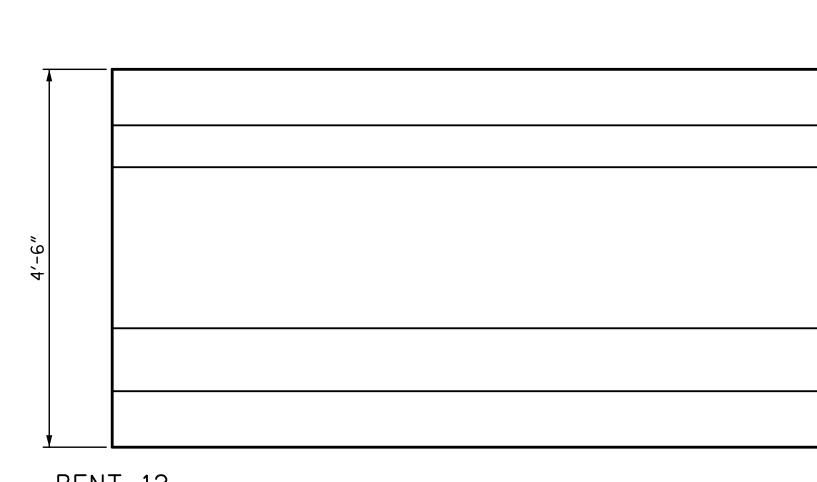
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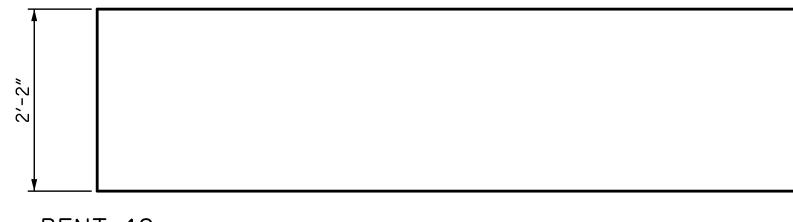
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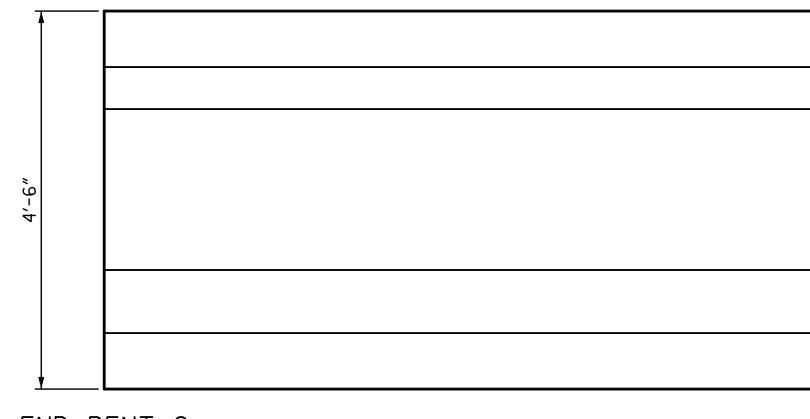
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Cary, NC 27518 (919) 852-0468 (919) 852-0598 (Fax) www.simpsonengr.com LICENSURE NO. C-2521	9/29/2020	NO. BY:	REVIS DATE:	SIONS NO. BY:	DATE:	SHEET NO. S1-116
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		PRESTRESSED C	ONCRETE GIR	DER REPAIR
	ERI —	EPOXY RESIN I	NJECTION	
			_	
			_	
		END	BENT 2	
ELEVATION				
SOUTH FACE				
			 BENT 2	
PLAN				
BOTTOM OF BEAM LOOKING UP				
			_	
		BE	INT 12	
ELEVATION				PLANS PREPARED B
NORTH FACE				S IMPSON NGINEERS SSOCIAT
				5640 Dillard Drive Suite 200 Cary, NC 27518 (919) 852-0468 (919) 852-0598 (Fai www.simpsonengra
				(919) 852-0598 (Fa: www.simpsonengr. LICENSURE NO. C-2

REPAIR QU	ANT	ITY -	ΓABL	.E			
REPAIRS SPAN 13 GRD. 5 GETTMATE QUANTITIES							
REFAIRS SFAN IS GRU. S	EST	IMATE		ACTUAL			
REPAIRS OF PRESTR. CONCRETE GIRDERS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF		
GIRDER	0.0	0.0					
EPOXY RESIN INJECT	ION	LF			LF		
GIRDER		0.0					

NOTES:

REPAIR LOCAITONS AND ESTIMATE OF THE QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE INSPECTOR OR ENGINEER THE CONTRACTOR SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITIY TABLE.

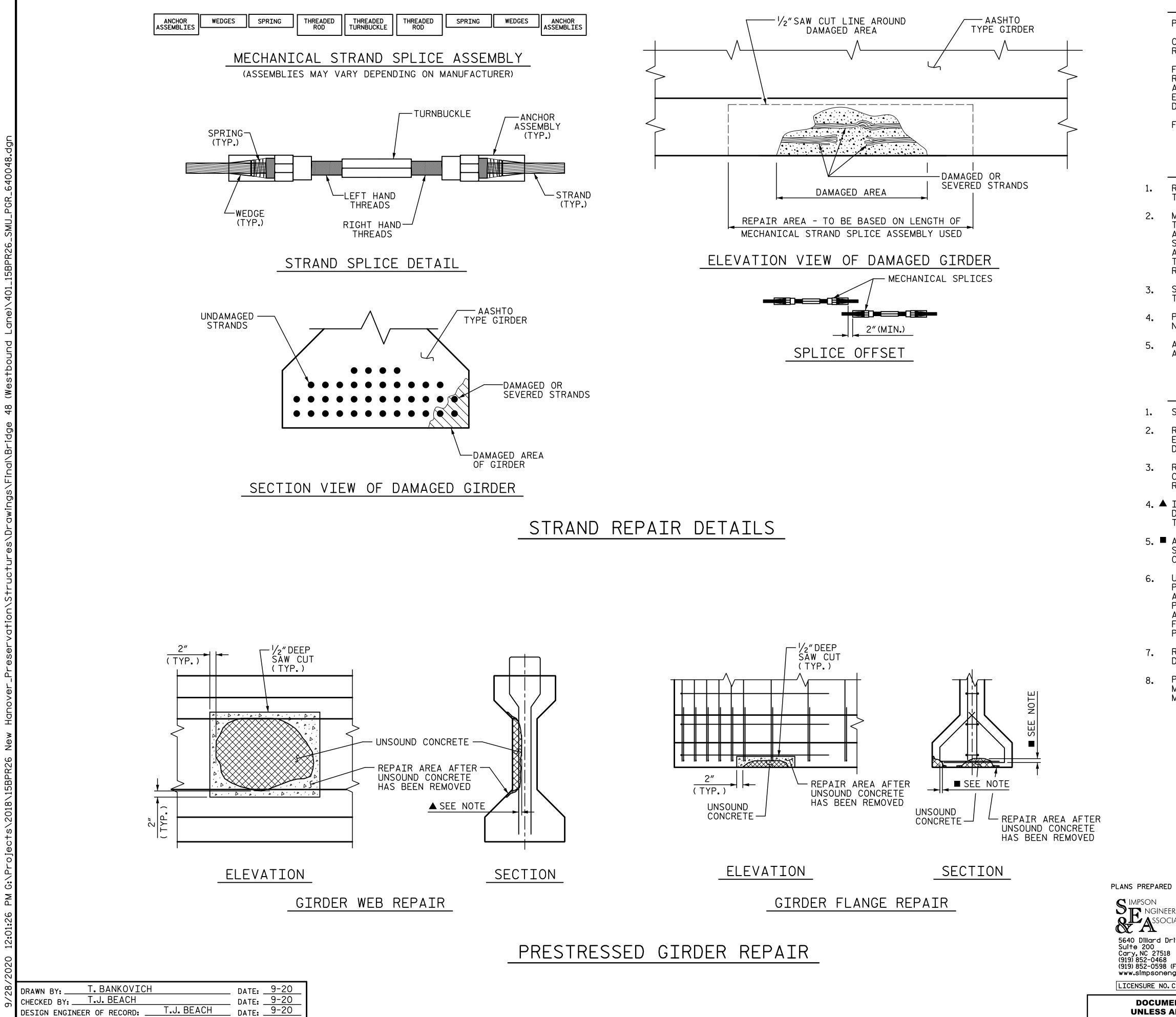
FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

VALUES IN CHART REPRESENT ESTIMATE REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN, OF 1" BEHIND REBAR AND MIN. 2"CL. TO SAWCUT. SEE REPAIR DETAILS.

FOR REPAIRS OF PRESSTRESSED CONCRETE GIRDERS, SEE SPECIAL PROVISIONS.

FOR REPAIRS OF PRESTRESSED CONCRETE GIRDERS DETAILS, SEE ``PRESTRESSED CONCRETE GIRDER REPAIR DETAILS'' SHEET.

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PLANS PREPARED BY:		DEPA	RTMENT	OF NORTH CAR OF TRAI RALEIGH	NSPORTA	TION
Simpson NGINEERS SSOCIATES 5640 Dillard Drive Suite 200 Carv. NC 27518	Dooure or et by CARO/ Document of the States Strong of the States Strong of the States Strong of the States of the	SPAN 13 GIRDER 5				
Cary,NC 27518 (919)852-0468 (919)852-0598 (Fax) www.simpsonengr.com	BEANING		REVISI	IONS		SHEET NO.
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NOTES:

PREPACKAGED MATERIAL IS REQUIRED.

CONSULT WITH THE ENGINEER TO DETERMINE PRELOADING REQUIREMENTS WHEN REPAIR IS WITHIN THE CENTER REGION OF THE BEAM (0.25L TO 0.75L).

FOR REPAIRS OVER TRAFFIC AND SHALLOW REPAIRS THAT DO NOT ENGAGE REINFORCEMENT, ANCHOR PATCH MATERIAL USING 1/4" GALVANIZED BOLTS, EPOXY ANCHORED WITH 2"EMBEDMENT. PLACE BOLTS IN A 6"GRID. USE A LATEX OR EPOXY PATCH MATERIAL FOR IMPROVED BOND. USE EXTREME CARE TO NOT DAMAGE STRANDS.

FOR REPAIRS OF PRESTRESSED CONCRETE GIRDERS, SEE SPECIAL PROVISIONS.

PRESTRESSED GIRDER STRAND REPAIR SEQUENCE:

REMOVE LIVE LOAD FORM REPAIR AREA BY EITHER CLOSING BRIDGE TO TRAFFIC OR SHIFTING TRAFFIC AWAY FROM REPAIR AREA.

MEASURE OUT THE AREA NEEDED TO HAVE ADEQUATE ROOM TO SPLICE THE BROKEN OR DAMAGED STRAND. IF MULTIPLE STRANDS ARE BROKEN ADJACENT TO ONE ANOTHER THEN THE SPLICES SHALL BE STAGGERED, SEE "SPLICE OFFSET" ABOVE. AFTER YOU HAVE DETERMINED THE REPAIR AREA NEEDED, SAW CUT A MINIMUM OF 1/2" AT RIGHT ANGLES AROUND THE DAMAGED AREA. CHIP OUT REST OF CONCRETE TO A SUFFICIENT REPAIR DEPTH.

SPLICE STRANDS USING THE MECHANICAL SPLICE STRAND ASSEMBLY AND TENSION TO REQUIRED FORCE PER THE MANUFACTURER'S GUIDELINES.

PATCH REPAIR AREA USING NON SHRINK GROUT. PROFILE OF GIRDER MAY NEED TO BE INCREASED AROUND REPAIR AREA TO PROVIDE PROPER COVER.

5. AFTER GROUT HAS CURED PLACE TRAFFIC BACK ON BRIDGE OR REPAIRED AREA OF BRIDGE.

PRESTRESSED GIRDER REPAIR SEQUENCE:

SOUND CONCRETE TO DETERMINE EXTENTS OF REPAIR LOCATION.

REMOVE SURFACE CONCRETE TO VERIFY THAT SAWCUT DEPTH WILL NOT DAMAGE EXISTING REINFORCING STEEL. SAW CUT AROUND REPAIR AREA TO A NOMINAL DEPTH OF $\frac{1}{2}$ ".

REMOVE CONCRETE WITHIN SAW CUT AREA TO MINIMUM 1/2" DEPTH. IF CONCRETE IS DAMAGED BEYOND THE ORIGINAL SAW CUT, A NEW SAW CUT IS REQUIRED. (PICTURE REQUIRED)

4. ▲ IF MORE THAN HALF THE CIRCUMFERENCE OF A REINFORCING BAR IS EXPOSED DURING THIS PROCESS, REMOVE ADDITIONAL CONCRETE TO 1"BEHIND THE BAR. THIS DOES NOT APPLY TO PRESTRESSED STRANDS.

5. ■ ALL UNSOUND CONCRETE MUST BE REMOVED, HOWEVER, PRESTRESSED STRANDS SHOULD NOT BE DISTRUBED UNLESS ABSOLUTELY NECESSARY. USE EXTREME CARE TO NOT DAMAGE STRANDS.

6. USE A WIRE BRUSH TO CLEAN ALL EXPOSED REINFORCING BARS AND PRESTRESSED STRANDS. FOR BARS WITH MORE THAN 10% SECTION LOSS, SPLICE AND SECURELY TIE SUPPLEMENTAL REINFORCING BARS AS NEEDED. NOTE AND PROVIDE DETAILED DOCUMENTATION, INCLUDING LOCATION AND SEVERITY, OF ALL DAMAGE TO PRESTRESSED STRANDS THAT EXCEEDS 10% SECTION LOSS. IF FIVE OR MORE STRANDS ARE DAMAGED, NOTIFY THE ENGINEER PRIOR TO PLACEMENT OF REPAIR MATERIAL.

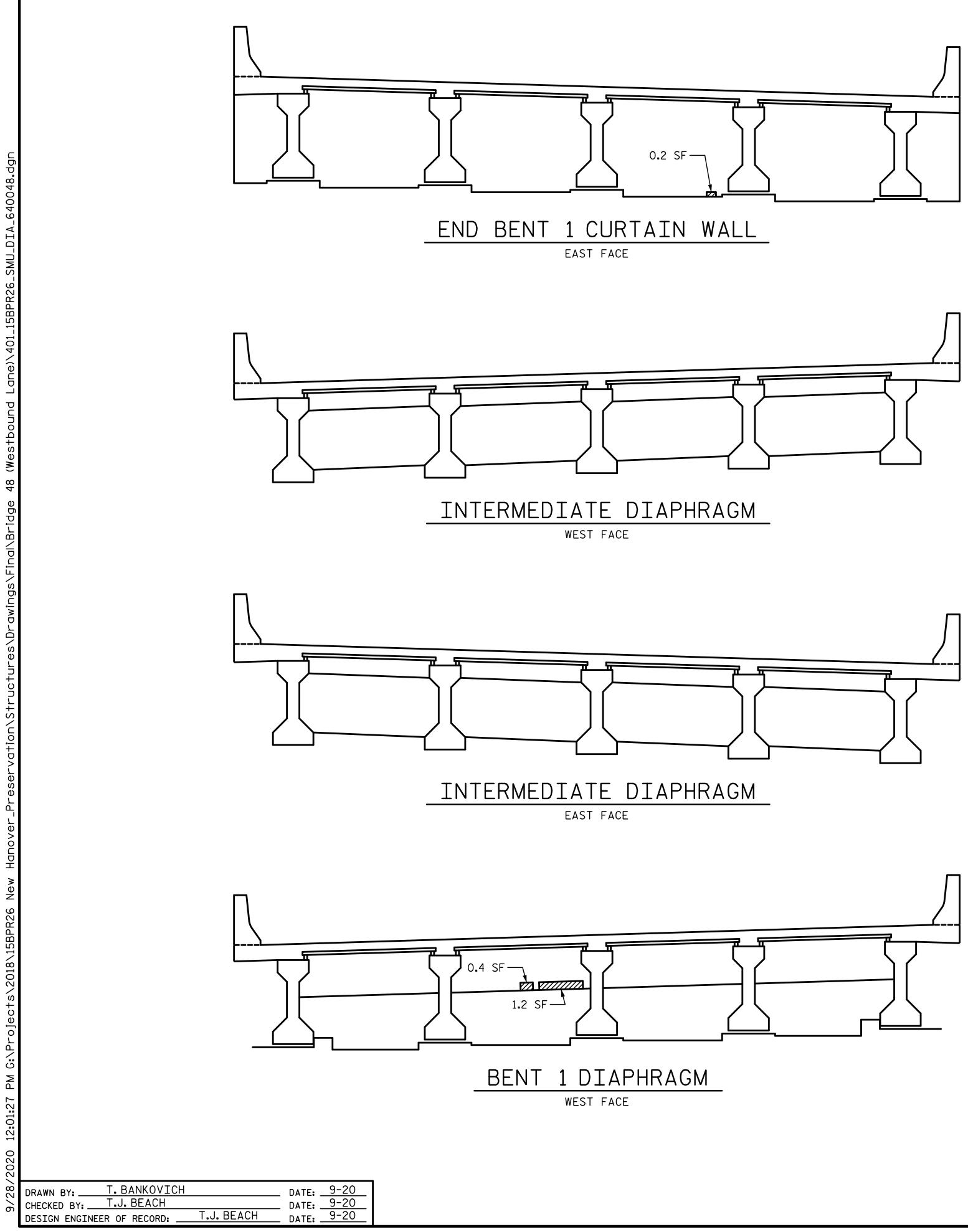
REMOVE ALL LOOSE OR WEAKENED MATERIAL THEN CLEAN THE REPAIR AREA OF DIRT, GREASE, OIL, AND FOREIGN MATTER.

PREPARE SURFACE AND PLACE APPROVED REPAIR MATERIAL ACCORDING TO MANUFACTURER'S RECOMMENDATIONS. MAXIMUM AGGREGATE SIZE FOR REPAIR MATERIAL SHALL NOT EXCEED 2/3 THE MINIMUM REPAIR DEPTH.

> 15BPR.26 PROJECT NO. __ NEW HANOVER/PENDER COUNTY

640048 BRIDGE NO .:_

BY:		DEP	ARTMENT	OF NORTH CAR OF TRAI RALEIGH	NSPORTA	TION
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2-2521	5/25/2020	NO. BY:	DATE:	NO. BY:	DATE:	S1-118
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ERI — EPOXY RESIN INJECTION



REPAIR QUANTITY TABLE							
REPAIRS SPAN 1 DIAPH.		QUANTITIES					
NEFAINS SFAN I DIAFH.	EST	IMATE		ACTUAL	-		
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF		
CURTAIN WALL	0.2	0.1					
INTERMEDIATE DIAPHRAGM	0.0	0.0					
BENT 1 DIAPHRAGM	1.6	0.6					
EPOXY RESIN INJECT	EON	LF			LF		
CURTAIN WALL		0.0					
INTERMEDIATE DIAPHRAGM							
BENT 1 DIAPHRAGM		0.0					

NOTES:

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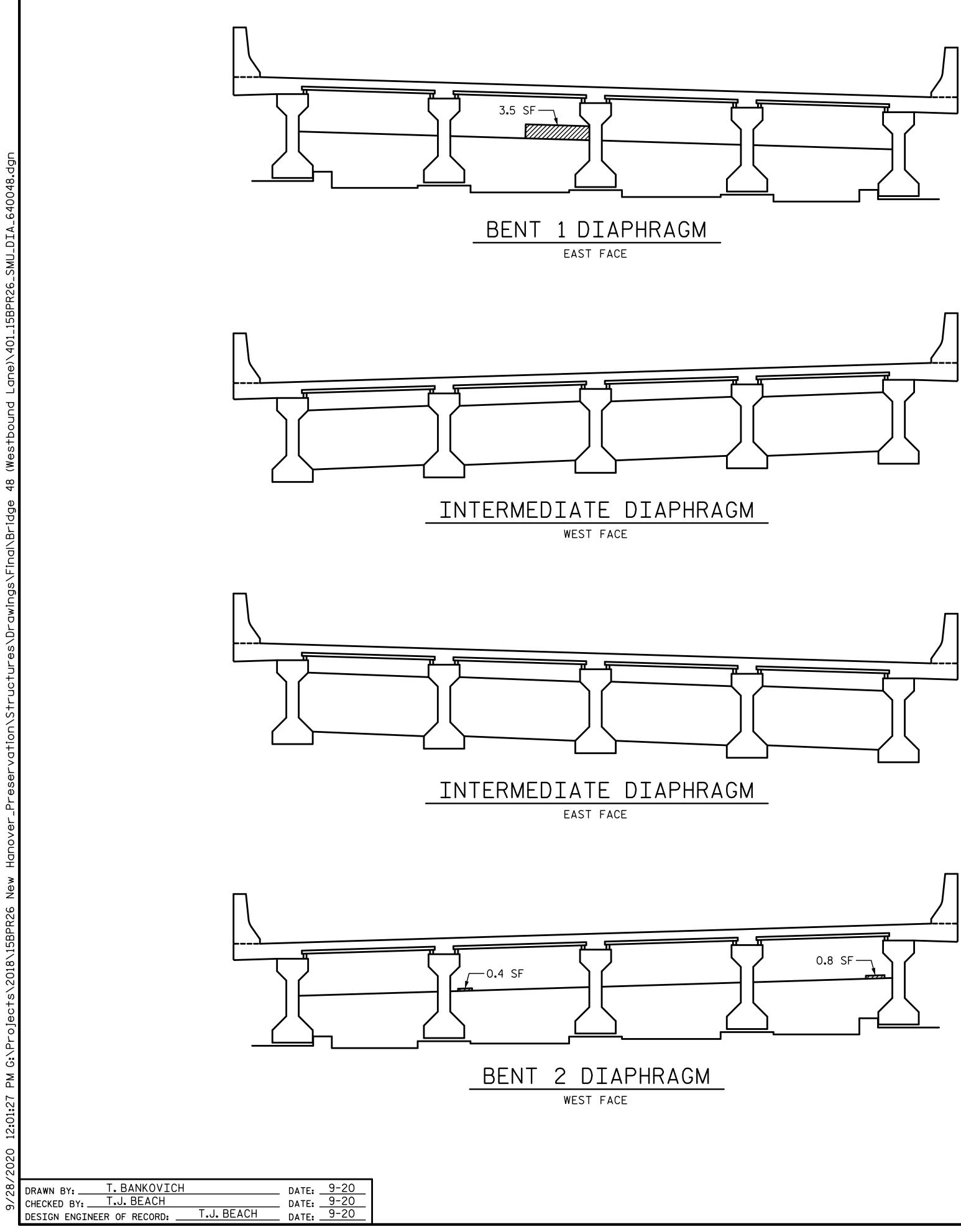
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SHOTCRETE REPAIRS MAY BE REPLACED WITH CONCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

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SIMPSON NGINEERS SSOCIATES 5640 Dillard Drive Suite 200 Cary, NC 27518	Docusionechty CARO/ LUCO BECKESSION AGB1300575245B SEAL 24390	DI	APHRA	GM	REPAI	ERS
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ERI — EPOXY RESIN INJECTION

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NEFAINS SFAN Z DIAFH.	EST	IMATE		ACTUAL	-		
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF		
BENT 1 DIAPHRAGM	3.5	1.5					
INTERMEDIATE DIAPHRAGM	0.0	0.0					
BENT 2 DIAPHRAGM	1.2	0.3					
EPOXY RESIN INJECTION					LF		
BENT 1 DIAPHRAGM		0.0					
INTERMEDIATE DIAPHRAGM							
BENT 2 DIAPHRAGM		0.0					

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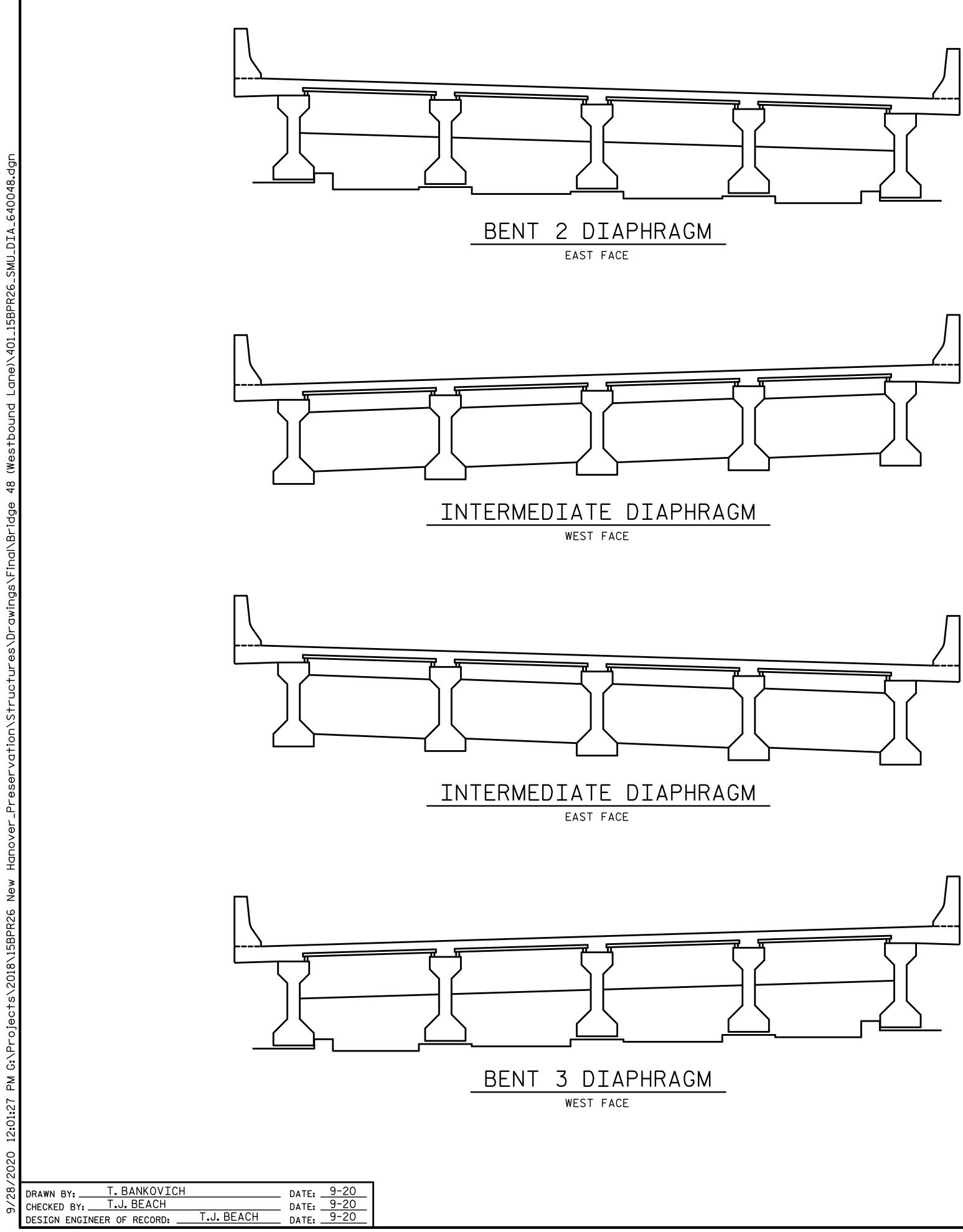
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FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

		PROJE	CT NO.	15	BPR.2	26
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ERI — EPOXY RESIN INJECTION

PLANS PREPARED



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REPAIR QUANTITY TABLE						
REPAIRS SPAN 3 DIAPH.			QUANTITIES			
REFAIRS SPAN J DIAFR.		IMATE		ACTUAL	-	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF	
BENT 2 DIAPHRAGM	0.0	0.0				
INTERMEDIATE DIAPHRAGM	0.0	0.0				
BENT 3 DIAPHRAGM	0.0	0.0				
EPOXY RESIN INJECTION					LF	
BENT 2 DIAPHRAGM		0.0				
INTERMEDIATE DIAPHRAGM						
BENT 3 DIAPHRAGM		0.0				

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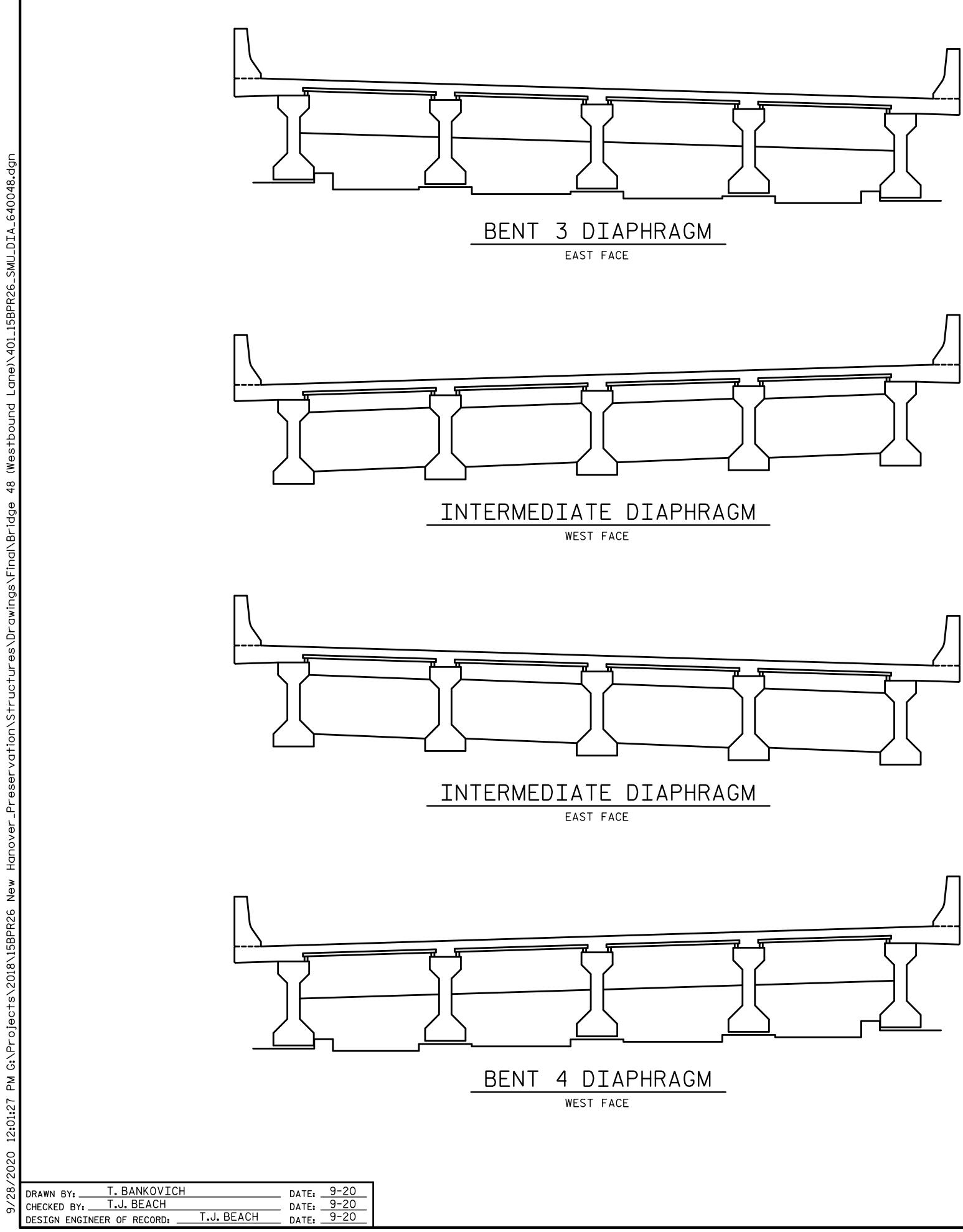
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FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

		PROJE	CT NO.	15	BPR.2	26
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ERI — EPOXY RESIN INJECTION

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REPAIR QUANTITY TABLE							
REPAIRS SPAN 4 DIAPH.			QUANTITIES				
REFAIRS SFAN 4 DIAFH.	EST	IMATE		ACTUAL	-		
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF		
BENT 3 DIAPHRAGM	0.0	0.0					
INTERMEDIATE DIAPHRAGM	0.0	0.0					
BENT 4 DIAPHRAGM	0.0	0.0					
EPOXY RESIN INJECTI	ION	LF			LF		
BENT 3 DIAPHRAGM	BENT 3 DIAPHRAGM						
INTERMEDIATE DIAPHRAGM							
BENT 4 DIAPHRAGM		0.0					

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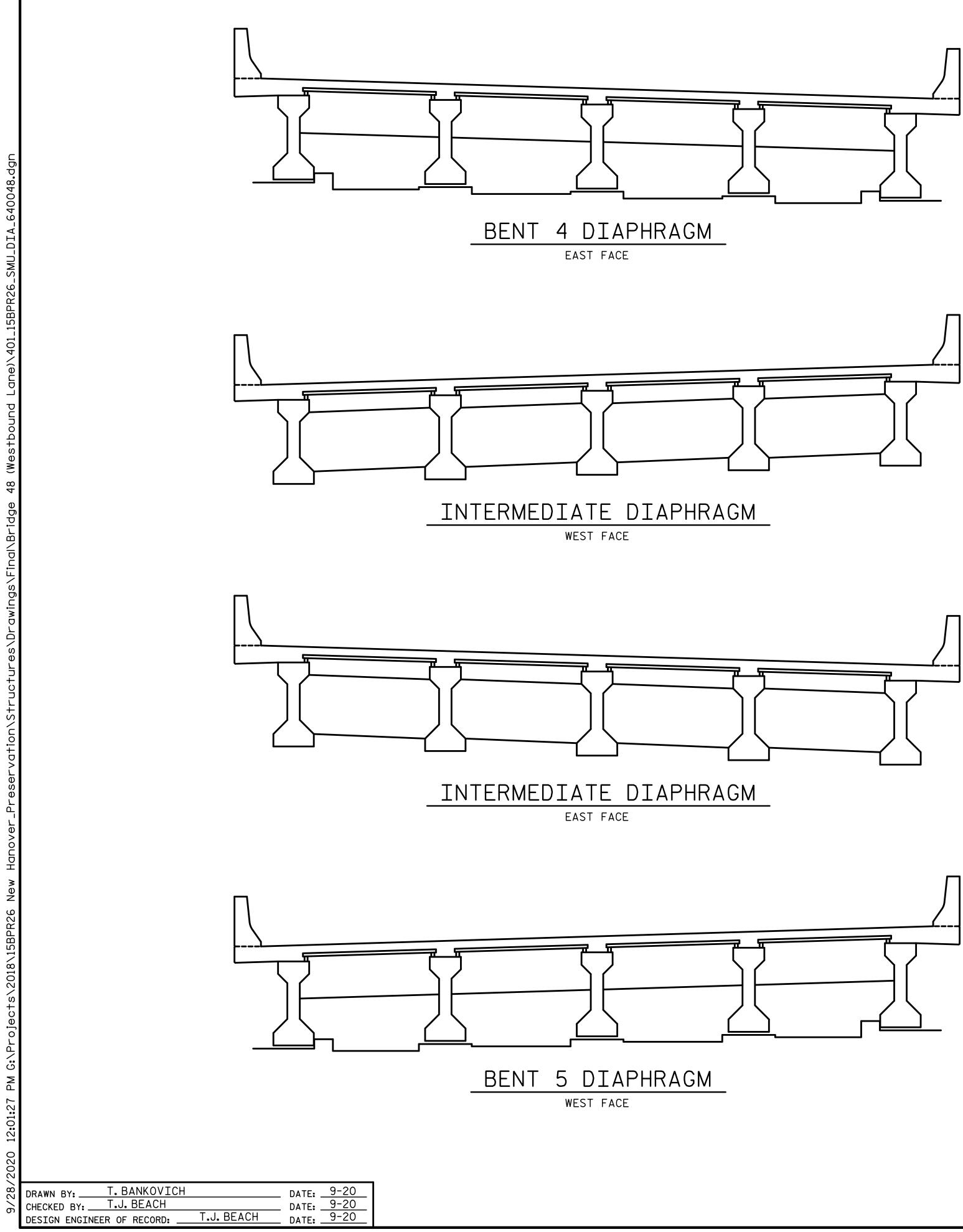
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FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

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ERI — EPOXY RESIN INJECTION

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REPAIR QUANTITY TABLE						
REPAIRS SPAN 5 DIAPH.			QUANTITIES			
REFAIRS SPAN 5 DIAFR.		IMATE		ACTUAL	-	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF	
BENT 4 DIAPHRAGM	0.0	0.0				
INTERMEDIATE DIAPHRAGM	0.0	0.0				
BENT 5 DIAPHRAGM	0.0	0.0				
EPOXY RESIN INJECTI	EON	LF			LF	
BENT 4 DIAPHRAGM		0.0				
INTERMEDIATE DIAPHRAGM						
BENT 5 DIAPHRAGM						

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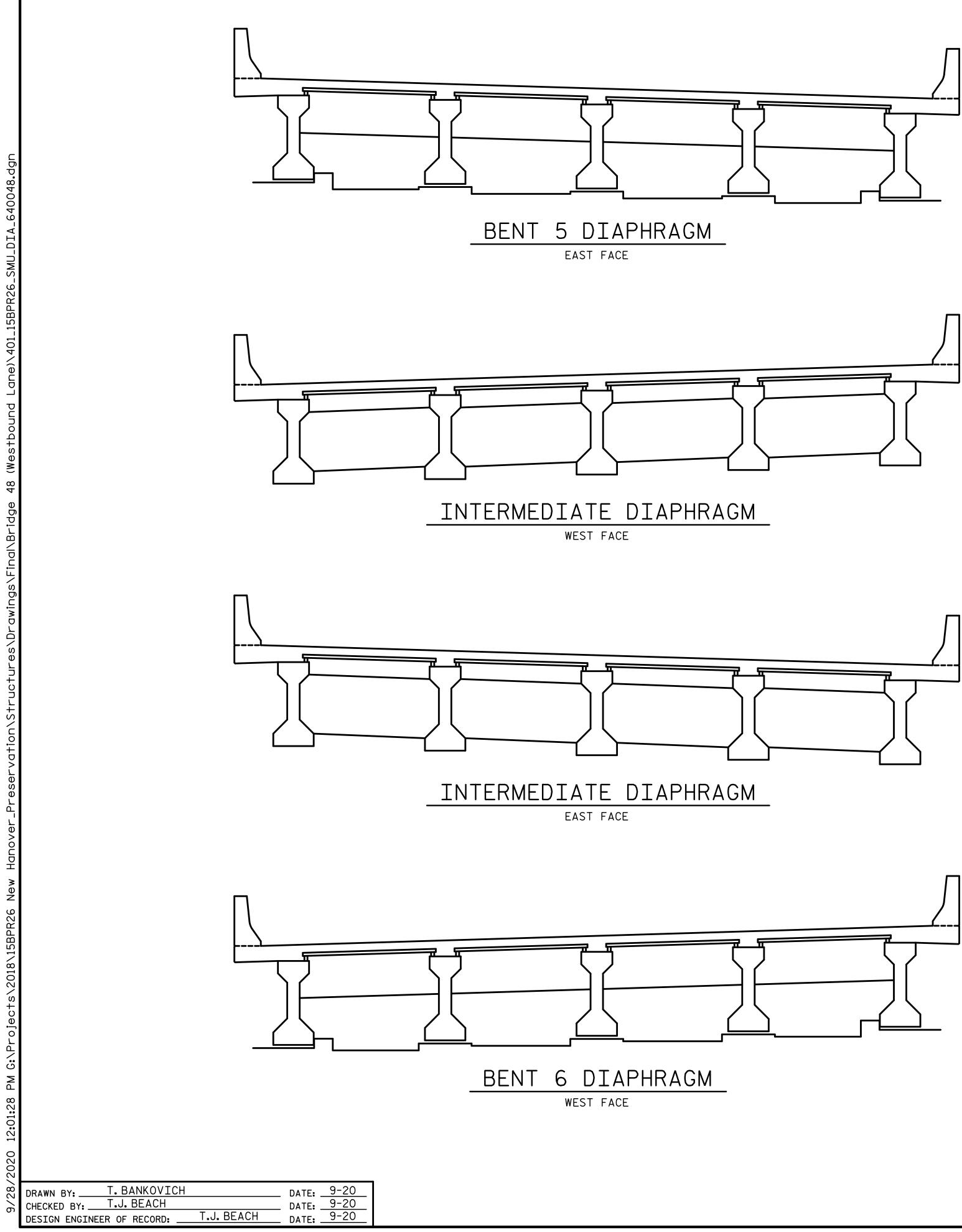
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		PROJE	CT NO.	15	BPR.2	26
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ERI — EPOXY RESIN INJECTION



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	REFAIRS SPAN & DIAFR.		IMATE		ACTUAL	-
	SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF
	BENT 5 DIAPHRAGM	0.0	0.0			
	INTERMEDIATE DIAPHRAGM	0.0	0.0			
	BENT 6 DIAPHRAGM	0.0	0.0			
	EPOXY RESIN INJECTI	ION	LF			LF
	BENT 5 DIAPHRAGM		0.0			
	INTERMEDIATE DIAPHRAGM					
	BENT 6 DIAPHRAGM		0.0			

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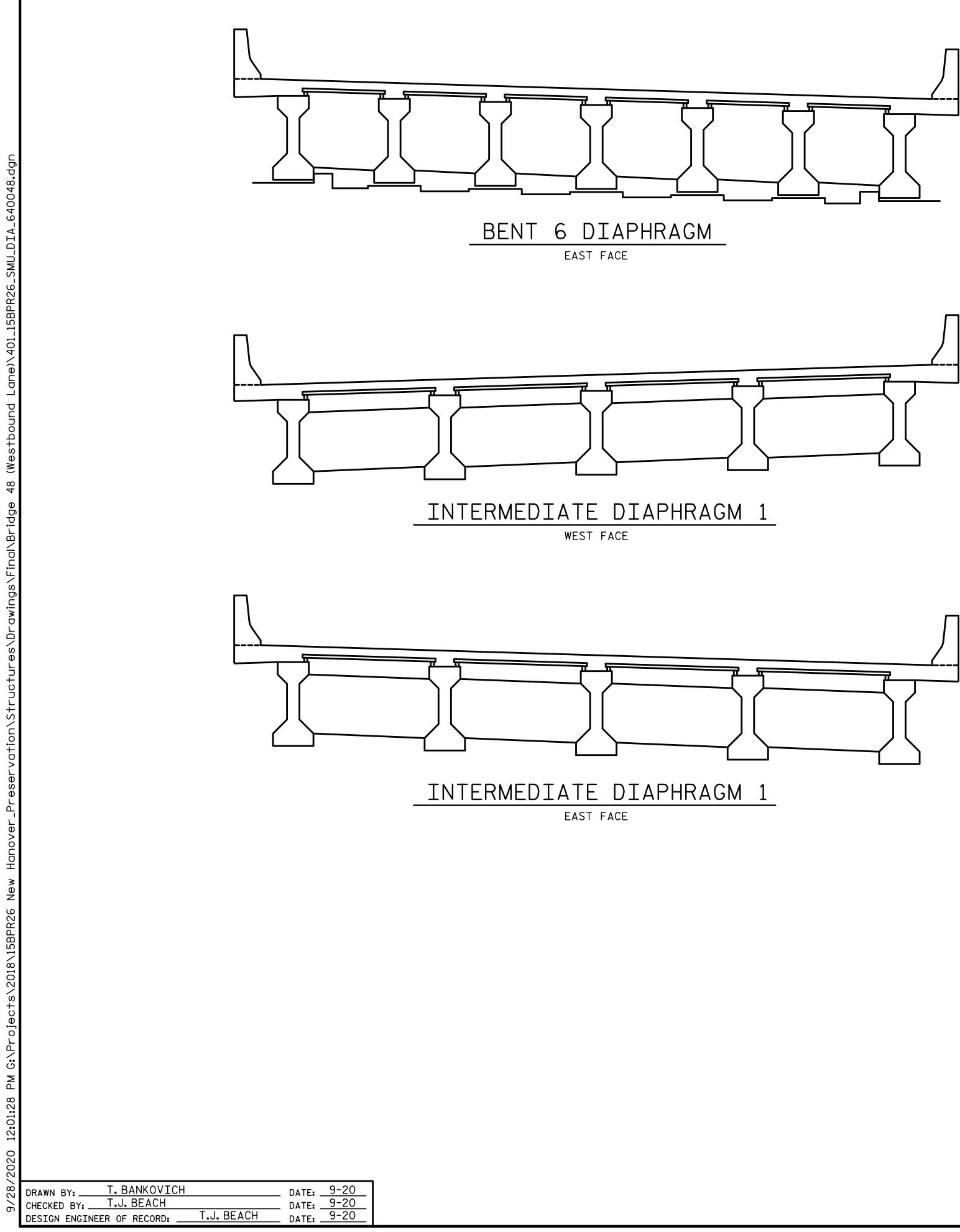
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SIMPSON NGINEERS SSOCIATES 5640 Dillard Drive Suite 200	Doorsigner ho CARO/ TWO BEESES/00 AGB 100 B575245B SEAL 24390	DI	APHR/	AGM	REPAI	IRS
Cary,NC 27518 (919)852-0468 (919)852-0598 (Fax) www.simpsonengr.com	J. BEACHING			SPAN 6	õ	
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ERI — EPOXY RESIN INJECTION

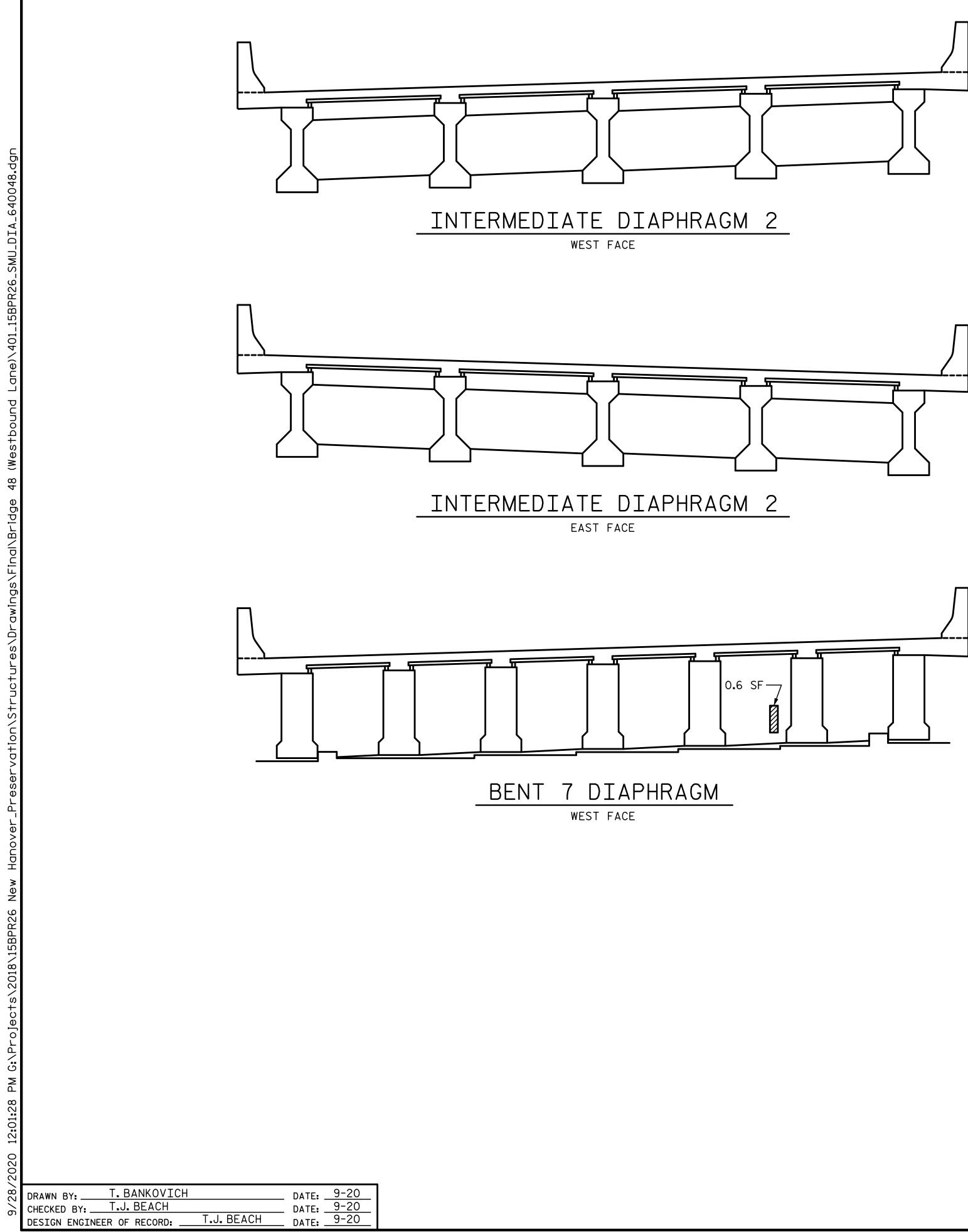




NOTES:

FOR SPAN 7 QUANTITIES, SEE SHEET 8 OF 19.

PROJECT NO. 15BPR.26 NEW HANOVER/PENDER COUNTY 640048 BRIDGE NO .:____ SHEET 7 OF 19 STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH PRESERVATION DIAPHRAGM REPAIRS o braid N SEAL 24390 SPAN 7 REVISIONS SHEET NO. 9/29/2020 S1-125 NO. BY: DATE: DATE: BY: NO. total sheets 163 DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED





ERI — EPOXY RESIN INJECTION

PLANS PREPARED



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REPAIR QUANTITY TABLE							
REPAIRS SPAN 7 DIAPH.		QI	JANTITI	ES			
REFAIRS SPAN I DIAFH.	EST	IMATE		ACTUAL	-		
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF		
BENT 6 DIAPHRAGM	0.0	0.0					
INTERMEDIATE DIAPHRAGM 1	0.0	0.0					
INTERMEDIATE DIAPHRAGM 2	0.0	0.0					
BENT 7 DIAPHRAGM	0.6	0.1					
EPOXY RESIN INJECTI	ION	LF			LF		
BENT 6 DIAPHRAGM		0.0					
INTERMEDIATE DIAPHRAGM 1		0.0					
INTERMEDIATE DIAPHRAGM 2	0.0						
BENT 7 DIAPHRAGM		0.0					

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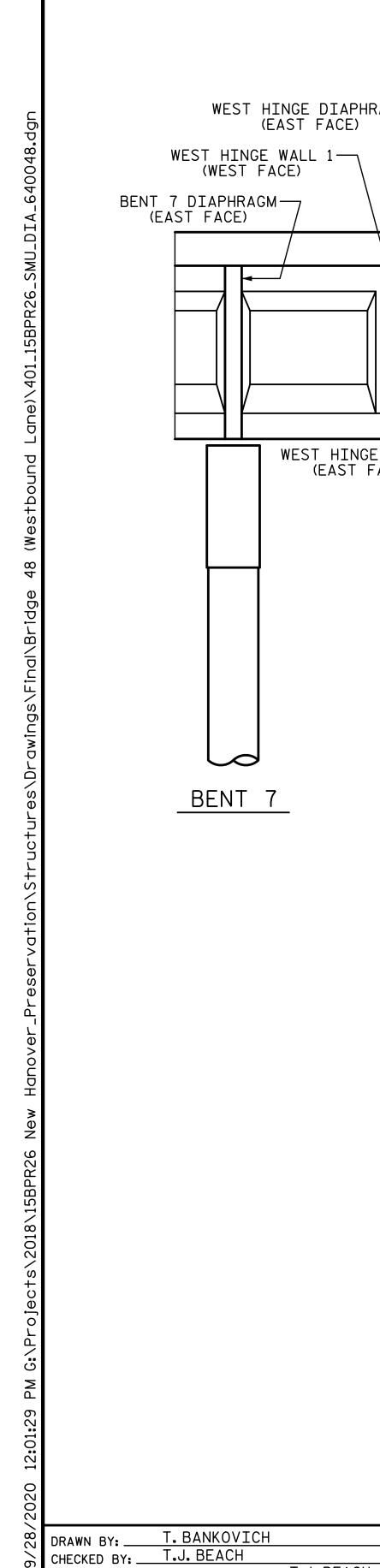
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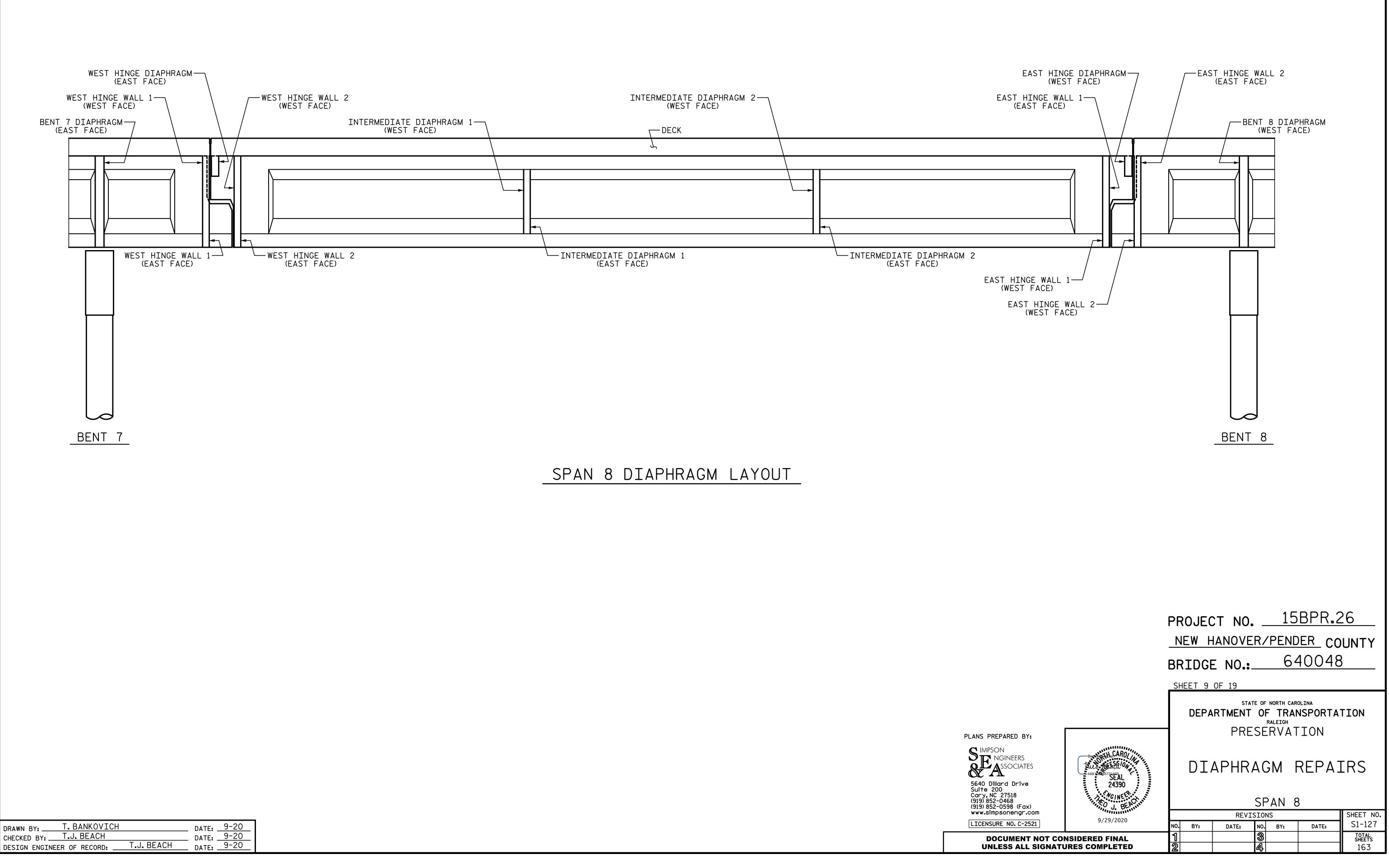
FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

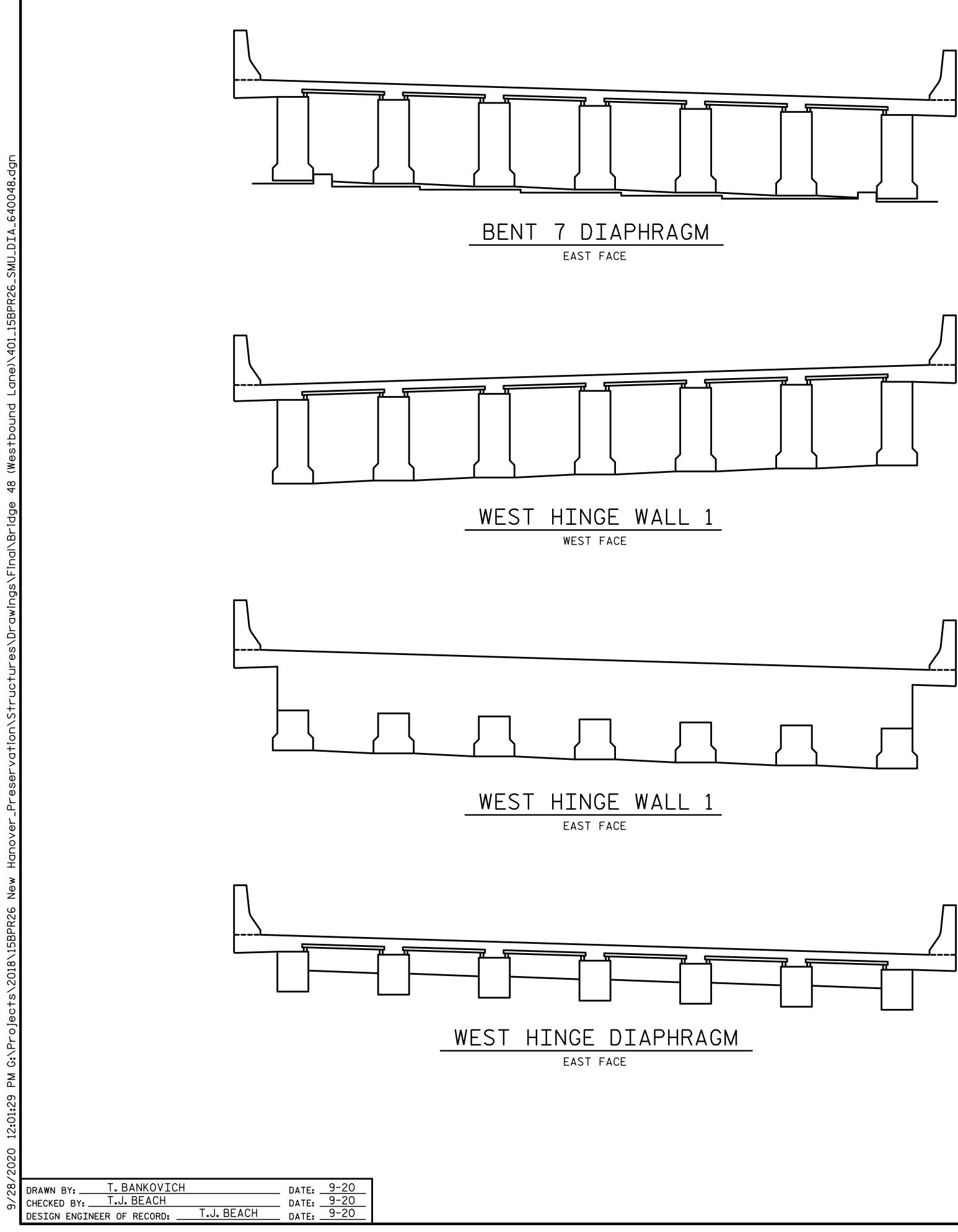
FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

	PROJECT NO. 15BPR.26
	NEW HANOVER/PENDER COUNTY
	BRIDGE NO.: 640048
	SHEET 8 OF 19
	STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH PRESERVATION
BY:	TILISLINVATION
ATES	DIAPHRAGM REPAIRS
Tve 24390 Fax) BEACTION	SPAN 7
gr.com 9/29/2020	REVISIONS SHEET NO. NO. BY: DATE: NO BY: DATE: S1-126
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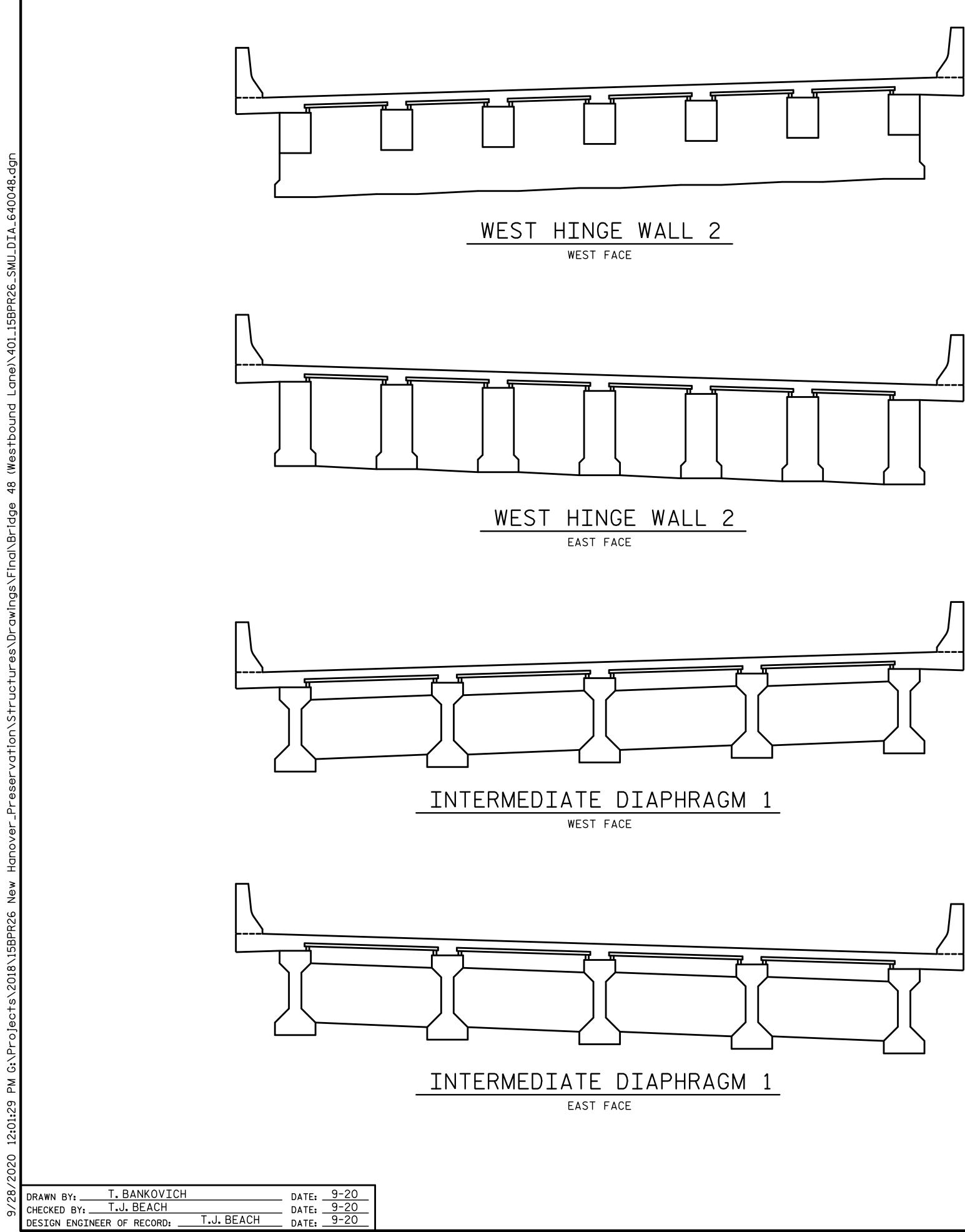
ERI — EPOXY RESIN INJECTION



NOTES:

FOR SPAN 8 QUANTITIES, SEE SHEET 13 OF 19.

PROJECT NO. 15BPR.26 NEW HANOVER/PENDER COUNTY 640048 BRIDGE NO .: ____ SHEET 10 OF 19 STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH PRESERVATION PLANS PREPARED BY: DIAPHRAGM REPAIRS SEAL 24390 SPAN 8 REVISIONS SHEET NO. 9/29/2020 S1-128 NO. BY: DATE: DATE: BY: NO. TOTAL SHEETS DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED 163





ERI — EPOXY RESIN INJECTION

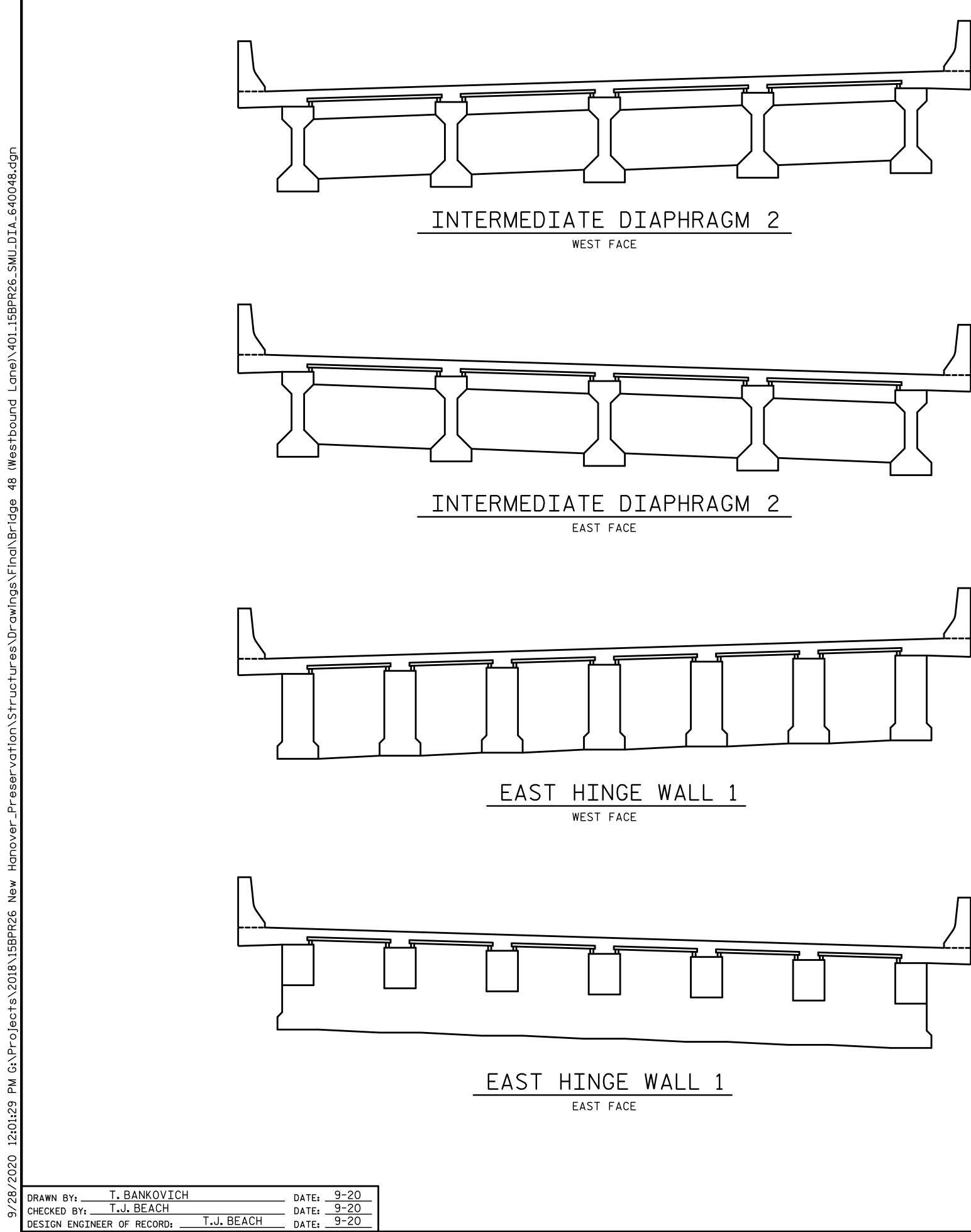
PLANS PREPARED BY:



NOTES:

FOR SPAN 8 QUANTITIES, SEE SHEET 13 OF 19.

PROJECT NO. 15BPR.26 NEW HANOVER/PENDER COUNTY 640048 BRIDGE NO .:____ SHEET 11 OF 19 STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH PRESERVATION DIAPHRAGM REPAIRS SEAL 24390 SPAN 8 REVISIONS SHEET NO. 9/29/2020 S1-129 NO. BY: DATE: DATE: BY: NO. total sheets 163 DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED





ERI — EPOXY RESIN INJECTION

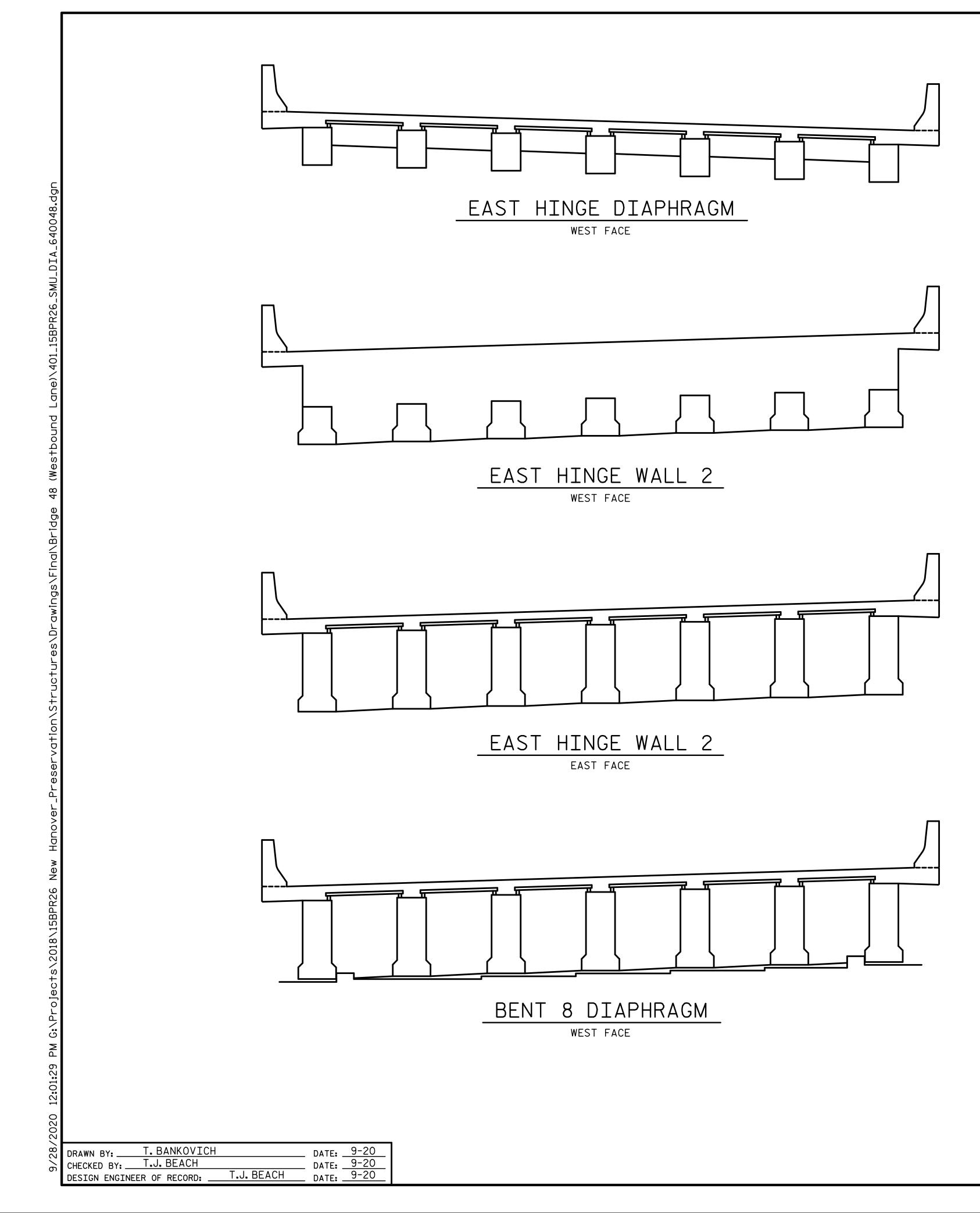
SIMPSON NGINEERS SSOCIATES 5640 Dillard Drive Suite 200 Cary, NC 27518 (919) 852-0468 (919) 852-0598 (Fax) www.simpsonengr.com

LICENSURE NO. C-2521

NOTES:

FOR SPAN 8 QUANTITIES, SEE SHEET 13 OF 19.

PROJECT NO. 15BPR.26 NEW HANOVER/PENDER COUNTY 640048 BRIDGE NO .:____ SHEET 12 OF 19 STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH PRESERVATION PLANS PREPARED BY: DIAPHRAGM REPAIRS SEAL 24390 SPAN 8 REVISIONS SHEET NO. 9/29/2020 S1-130 NO. BY: DATE: DATE: BY: NO. total sheets 163 DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED





ERI — EPOXY RESIN INJECTION



REPAIR QU	ANT	ITY -	ΓΑΒΙ	E	
REPAIRS SPAN 8 DIAPH.		QI	JANTIT	[ES	
REFAIRS SPAN O DIAFH.	EST	IMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF
BENT 7 DIAPHRAGM	0.0	0.0			
WEST HINGE WALL 1	0.0	0.0			
WEST HINGE DIAPHRAGM	0.0	0.0			
WEST HINGE WALL 2	0.0	0.0			
INTERMEDIATE DIAPHRAGM 1	0.0	0.0			
INTERMEDIATE DIAPHRAGM 2	0.0	0.0			
EAST HINGE WALL 1	0.0	0.0			
EAST HINGE DIAPHRAGM	0.0	0.0			
EAST HINGE WALL 2	0.0	0.0			
BENT 8 DIAPHRAGM	0.0	0.0			
EPOXY RESIN INJECT	EON	LF			LF
BENT 7 DIAPHRAGM		0.0			
WEST HINGE WALL 1		0.0			
WEST HINGE DIAPHRAGM		0.0			
WEST HINGE WALL 2		0.0			
INTERMEDIATE DIAPHRAGM 1		0.0			
INTERMEDIATE DIAPHRAGM 2		0.0			
EAST HINGE WALL 1		0.0			
EAST HINGE DIAPHRAGM		0.0			
EAST HINGE WALL 2		0.0			
BENT 8 DIAPHRAGM		0.0			

NOTES:

REPAIR LOCAITONS AND ESTIMATE OF THE QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE INSPECTOR OR ENGINEER THE CONTRACTOR SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITIY TABLE.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

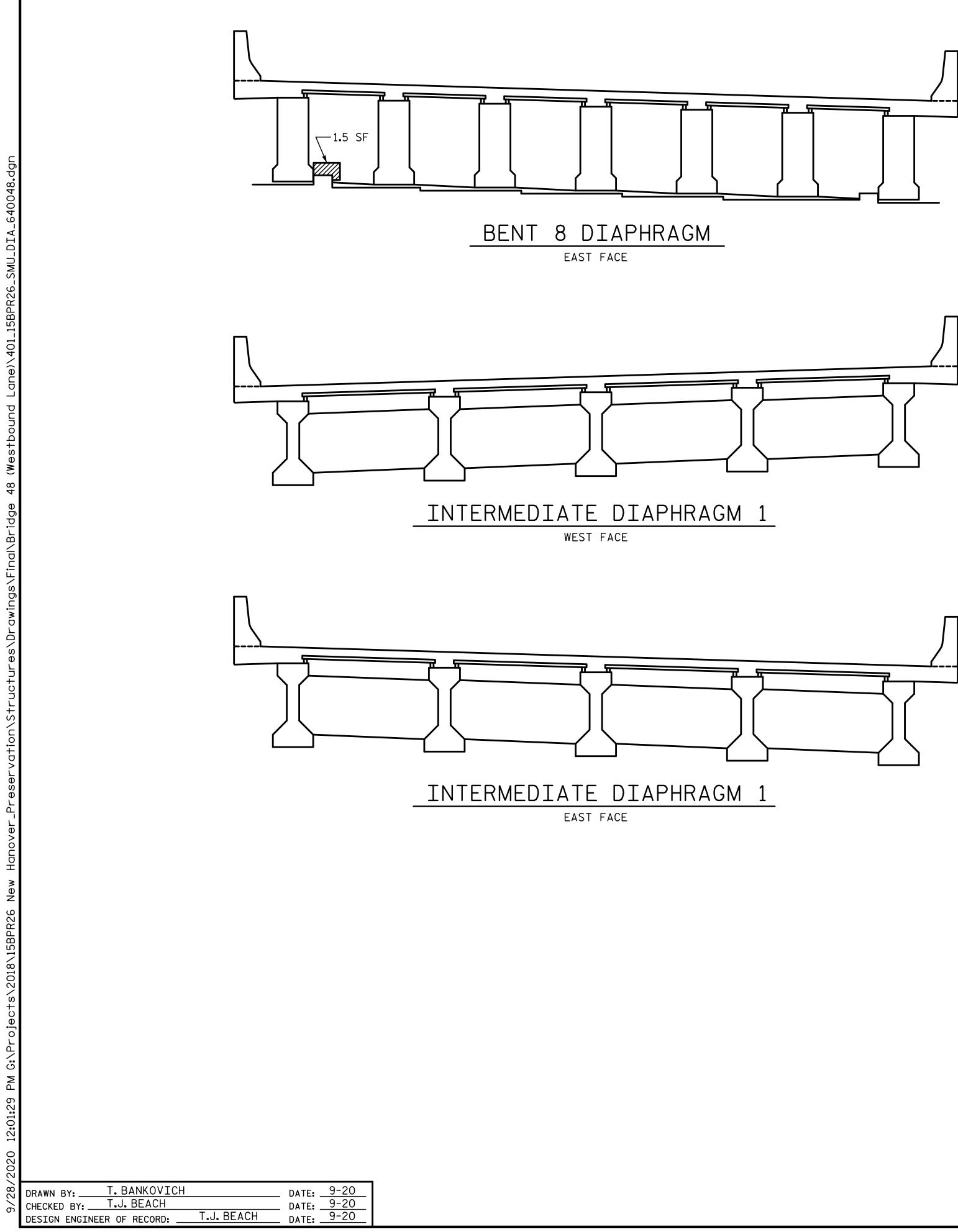
VALUES IN CHART REPRESENT ESTIMATE REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN, OF 1"BEHIND REBAR AND MIN. 2"CL. TO SAWCUT. SEE REPAIR DETAILS.

SHOTCRETE REPAIRS MAY BE REPLACED WITH CONCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

			CT NO. Ianovef E NO.:_	R/PENI		UNTY
		SHEET 13	OF 19			
PLANS PREPARED BY:		DEPA	RTMENT	OF NORTH CA OF TRA RALEIGH	NSPORTA	TION
SIMPSON NGINEERS SSOCIATES 5640 Dillard Drive Sulte 200 Cary, NC 27518 (919) 852-0468 (919) 852-0598 (Fax)	AGB STORESTORES CAROL AGB STORESTORES CHESTORES SEAL 24390 CHESTORES CHESTOR	DI	APHRA	GM SPAN		IRS
www.simpsonengr.com	9/29/2020		REVIS	IONS	_	SHEET NO.
LICENSURE NO. C-2521		NO. BY:		NO. BY:	DATE:	S1-131
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ERI — EPOXY RESIN INJECTION

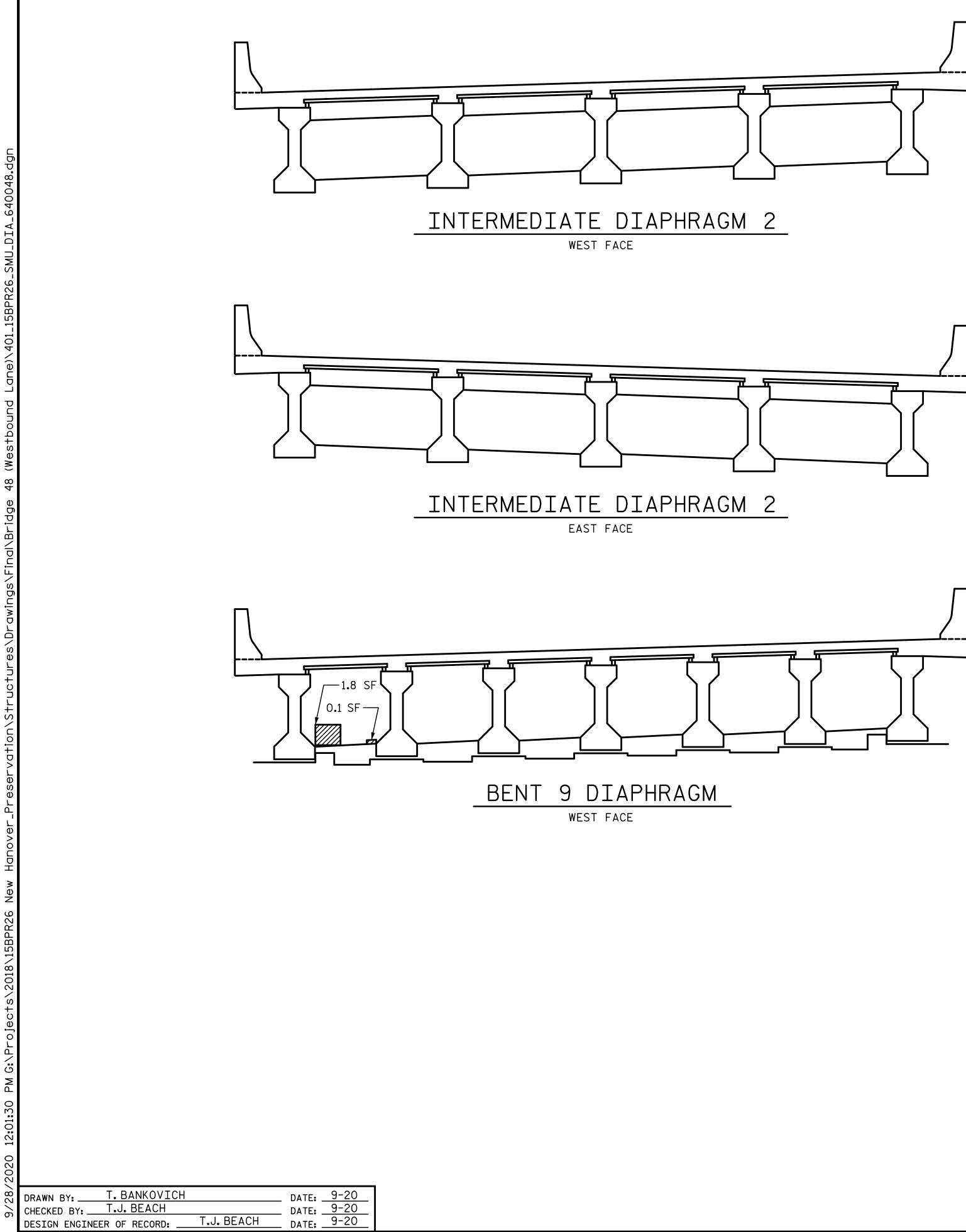




NOTES:

FOR SPAN 9 QUANTITIES, SEE SHEET 15 OF 19.

PROJECT NO. 15BPR.26 NEW HANOVER/PENDER COUNTY 640048 BRIDGE NO .:___ SHEET 14 OF 19 STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH PRESERVATION DIAPHRAGM REPAIRS 8 BALACON E575245B SEAL 24390 SPAN 9 REVISIONS SHEET NO. 9/29/2020 S1-132 NO. BY: DATE: DATE: BY: NO. total sheets 163 DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED





ERI — EPOXY RESIN INJECTION

PLANS PREPARED



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REPAIR QU	ANT	ITY -	TABL	.E	
REPAIRS SPAN 9 DIAPH.		Q	UANTITI	ES	
INLIAINS SIAN 5 DIAIN.	EST	IMATE		ACTUAL	-
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF
BENT 8 DIAPHRAGM	1.5	0.2			
INTERMEDIATE DIAPHRAGM 1	0.0	0.0			
INTERMEDIATE DIAPHRAGM 2	0.0	0.0			
BENT 9 DIAPHRAGM	1.9	0.5			
EPOXY RESIN INJECT	EON	LF			LF
BENT 8 DIAPHRAGM		0.0			
INTERMEDIATE DIAPHRAGM 1		0.0			
INTERMEDIATE DIAPHRAGM 2					
BENT 9 DIAPHRAGM					

NOTES:

REPAIR LOCAITONS AND ESTIMATE OF THE QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE INSPECTOR OR ENGINEER THE CONTRACTOR SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITIY TABLE.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

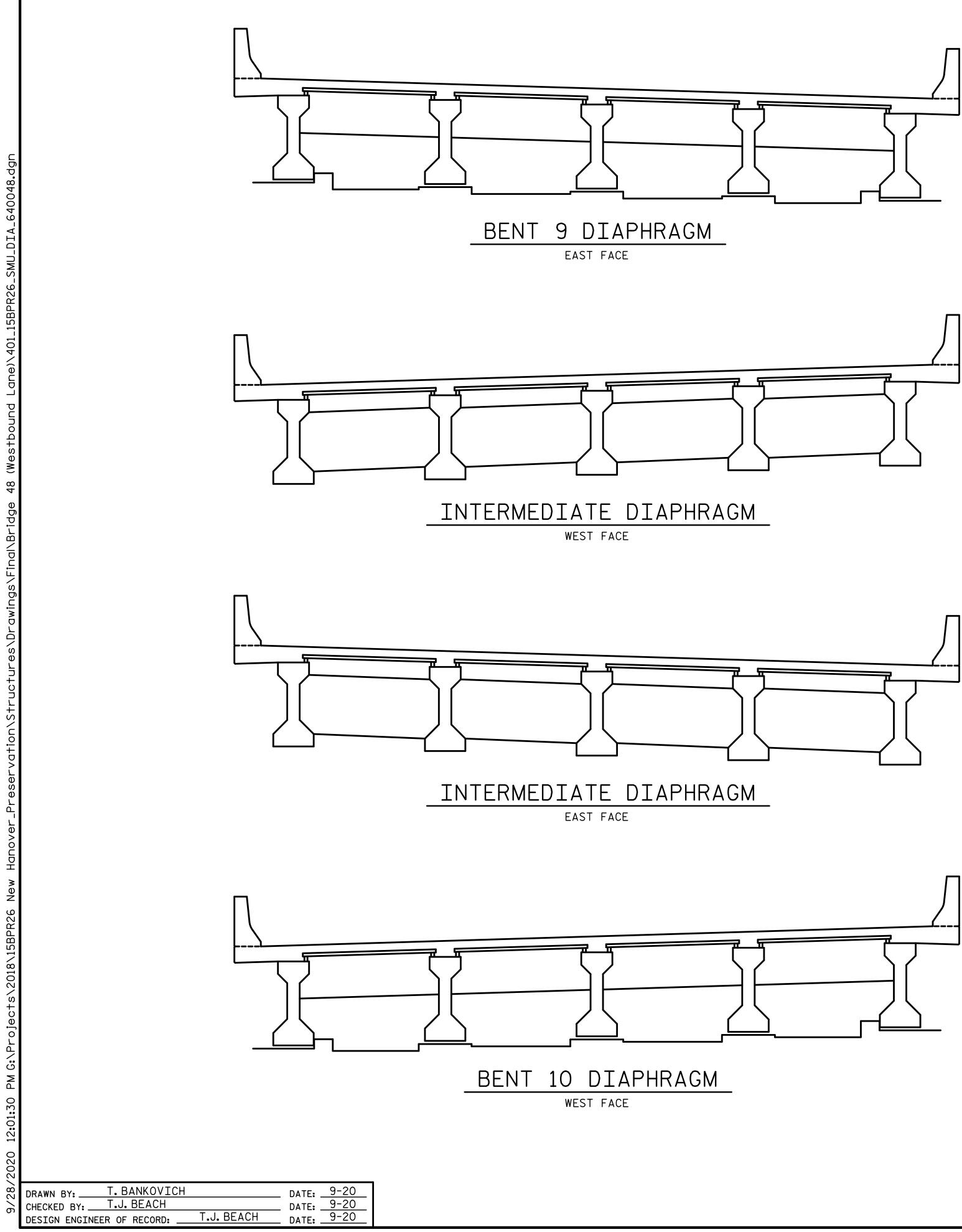
VALUES IN CHART REPRESENT ESTIMATE REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN, OF 1"BEHIND REBAR AND MIN. 2"CL. TO SAWCUT. SEE REPAIR DETAILS.

SHOTCRETE REPAIRS MAY BE REPLACED WITH CONCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

		PROJEC	T NO.	15	BPR.2	26
		NEW H	IANOVE	R/PEN[DER CO	UNTY
		BRIDGE	E NO.:_	6	40048	3
		SHEET 15	OF 19			
		DEPA	RTMENT	RALEIGH	NSPORTA	TION
BY:			PRE	SERVA	ITON	
RS ATES	AGBEI OROBEIZEALON	DI	APHR#	AGM	REPAI	IRS
ive Fax)	24390 24390 24390 J. BEACHING			SPAN S	9	
gr.com C-2521	9/29/2020		REVIS		D 175	SHEET NO. S1-133
	NSIDERED FINAL IRES COMPLETED	NO. BY: 1 2	DATE:	NO. BY: 3 4	DATE:	TOTAL SHEETS 163





ERI — EPOXY RESIN INJECTION



REPAIR QUANTITY TABLE						
REPAIRS SPAN 10 DIAPH.		QL	JANTITI	ES		
REFAIRS SFAN IU DIAFH.	EST	IMATE		ACTUAL	-	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF	
BENT 9 DIAPHRAGM	0.0	0.0				
INTERMEDIATE DIAPHRAGM	0.0	0.0				
BENT 10 DIAPHRAGM	0.0	0.0				
EPOXY RESIN INJECT	ION	LF			LF	
BENT 9 DIAPHRAGM		0.0				
INTERMEDIATE DIAPHRAGM	0.0					
BENT 10 DIAPHRAGM		0.0				

NOTES:

REPAIR LOCAITONS AND ESTIMATE OF THE QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE INSPECTOR OR ENGINEER THE CONTRACTOR SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITIY TABLE.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

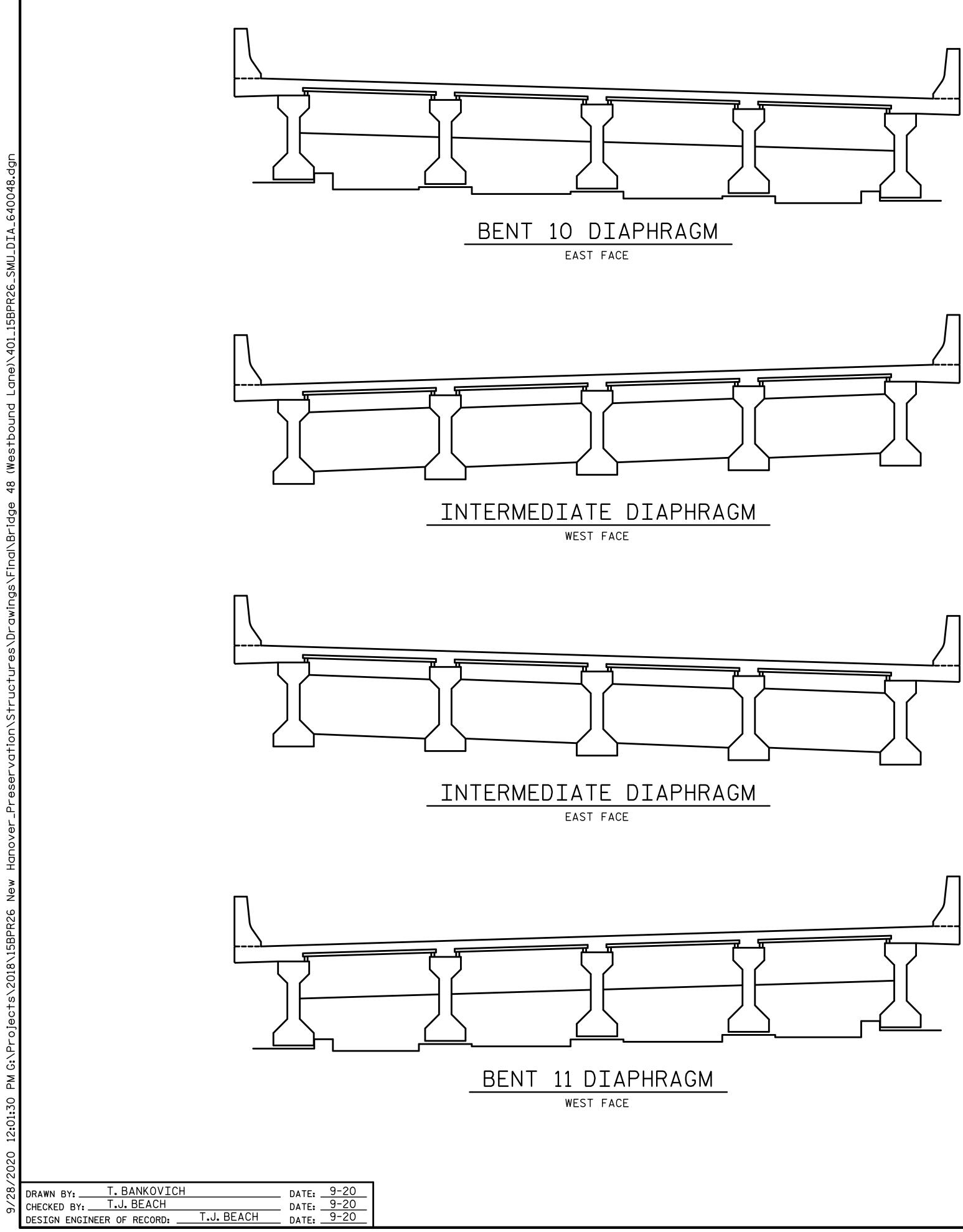
VALUES IN CHART REPRESENT ESTIMATE REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN, OF 1"BEHIND REBAR AND MIN.2"CL.TO SAWCUT. SEE REPAIR DETAILS.

SHOTCRETE REPAIRS MAY BE REPLACED WITH CONCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

		PROJEC				
		NEW H	IANOVE	R/PEND	DER CO	UNTY
		BRIDG	E NO.:_	64	40048	3
		SHEET 16	OF 19			
		DEPA	RTMENT	RALEIGH	NSPORTA	TION
PLANS PREPARED BY:		1	PRE	SERVAI	FION	
SIMPSON NGINEERS SSOCIATES 5640 Dillard Drive Suite 200 Cary, NC 27518	Doonsigning CAROLING TUCO EXERCE ON AGBUILDESTSSAFE SEAL 24390	DI	4PHR#	AGM I	REPAI	ERS
(919) 852-0468 (919) 852-0598 (Fax)	J. BEAU			SPAN 1	0	
www.simpsonengr.com LICENSURE NO.C-2521	9/29/2020	NO. BY:	REVIS DATE:	NO. BY:	DATE:	SHEET NO. S1-134
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ERI — EPOXY RESIN INJECTION



-								
	REPAIR QUANTITY TABLE							
ſ	REPAIRS SPAN 11 DIAPH.		QUANTITIES					
	REFAIRS SFAN II DIAFH.	EST	IMATE		ACTUAL	-		
	SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF		
ſ	BENT 10 DIAPHRAGM	0.0	0.0					
ſ	INTERMEDIATE DIAPHRAGM	0.0	0.0					
	BENT 11 DIAPHRAGM	0.0	0.0					
	EPOXY RESIN INJECTI	EON	LF			LF		
ſ	BENT 10 DIAPHRAGM		0.0					
	INTERMEDIATE DIAPHRAGM		0.0					
	BENT 11 DIAPHRAGM		0.0					
ſ								

NOTES:

REPAIR LOCAITONS AND ESTIMATE OF THE QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE INSPECTOR OR ENGINEER THE CONTRACTOR SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITIY TABLE.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

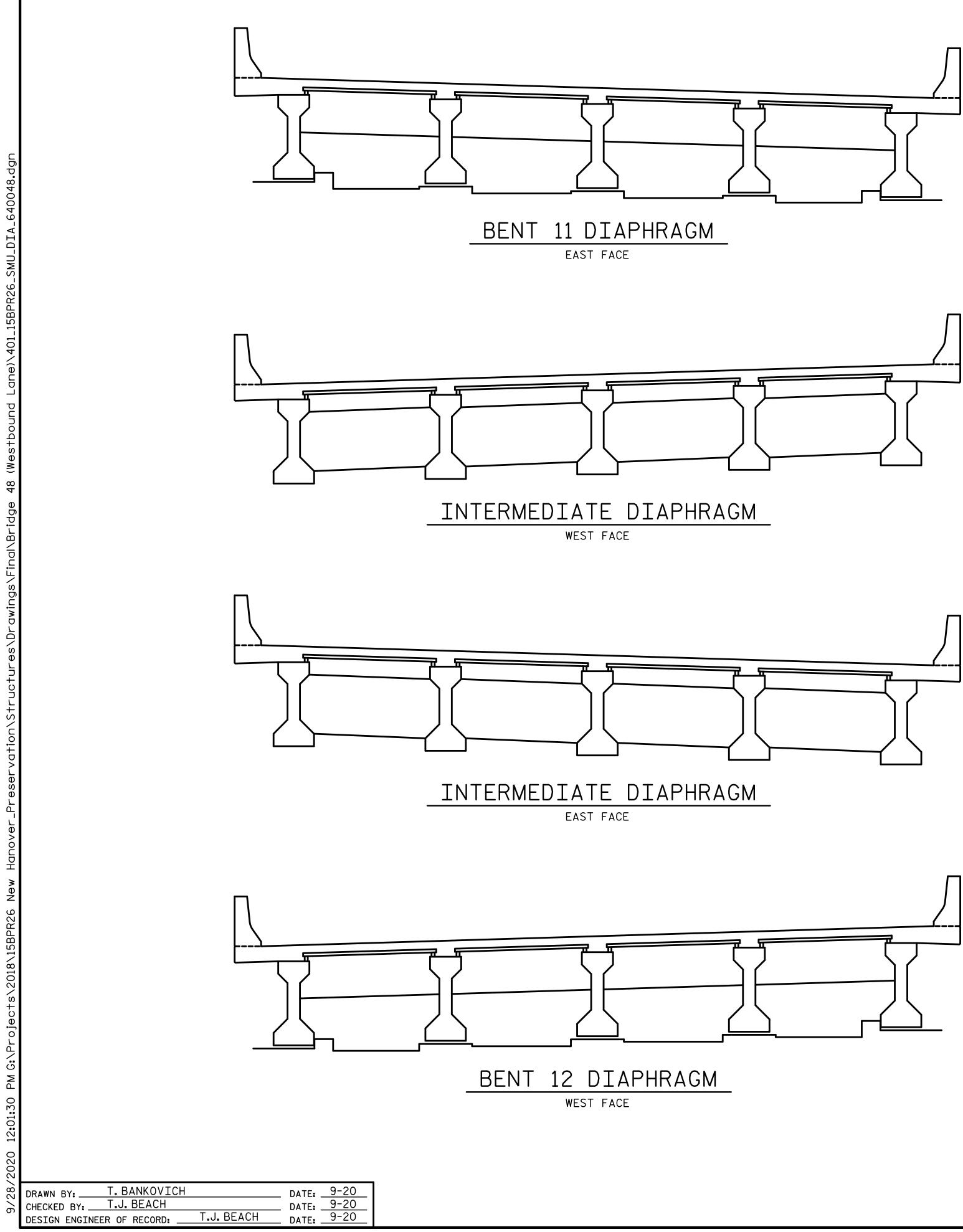
VALUES IN CHART REPRESENT ESTIMATE REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN, OF 1"BEHIND REBAR AND MIN.2"CL.TO SAWCUT. SEE REPAIR DETAILS.

SHOTCRETE REPAIRS MAY BE REPLACED WITH CONCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

		PROJEC	CT NO.	15	BPR.2	26
		NEW H	ANOVE	R/PEND	DER CO	UNTY
		BRIDG	E NO.:_	64	40048	3
		SHEET 17	OF 19			
		DEPA		e of north car OF TRAI RALEIGH	OLINA NSPORTA	TION
PLANS PREPARED BY:			PRE	SERVAI	TION	
SIMPSON NGINEERS SSOCIATES 5640 Dillard Drive Suite 200 Cary, NC 27518	Recuper the GAROL ACT DE BESZELLER SEAL 24390	DI	4PHR#	AGM I	REPAI	ERS
(919) 852-0468 (919) 852-0598 (Fax) www.simpsonengr.com	EO J. BEACHING			SPAN 1	1	
LICENSURE NO. C-2521	9/29/2020	NO. BY:	REVIS DATE:	NO. BY:	DATE:	SHEET NO. S1-135
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ERI — EPOXY RESIN INJECTION

REPAIR QUANTITY TABLE							
REPAIRS SPAN 12 DIAPH.		QL	JANTITI	ES			
REFAIRS SFAN IZ DIAFH.	EST	IMATE		ACTUAL	-		
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF		
BENT 11 DIAPHRAGM	0.0	0.0					
INTERMEDIATE DIAPHRAGM	0.0	0.0					
BENT 12 DIAPHRAGM	0.0	0.0					
EPOXY RESIN INJECTI	ION	LF			LF		
BENT 11 DIAPHRAGM		0.0					
INTERMEDIATE DIAPHRAGM	0.0						
BENT 12 DIAPHRAGM		0.0					

NOTES:

REPAIR LOCAITONS AND ESTIMATE OF THE QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE INSPECTOR OR ENGINEER THE CONTRACTOR SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITIY TABLE.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

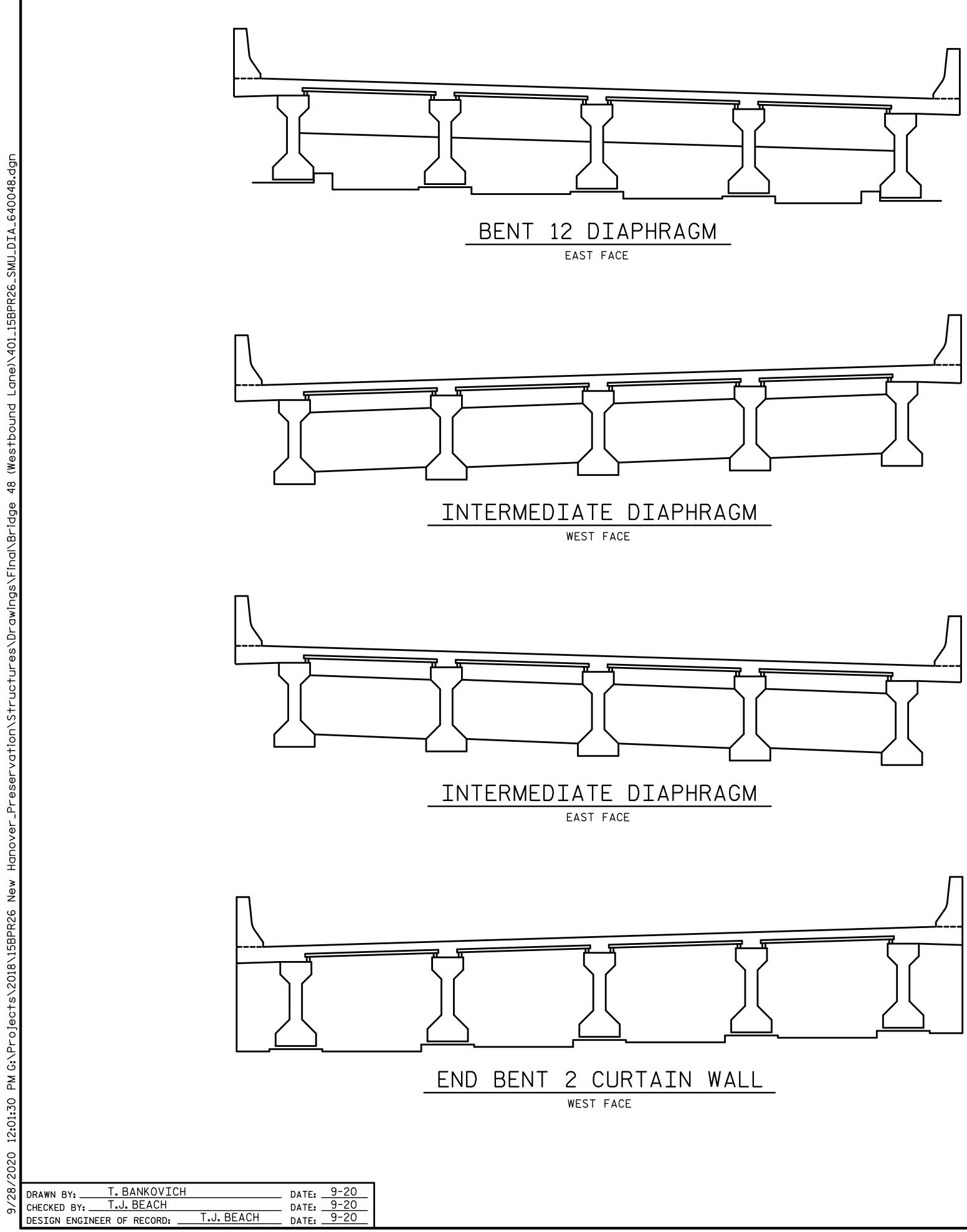
VALUES IN CHART REPRESENT ESTIMATE REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN, OF 1"BEHIND REBAR AND MIN.2"CL.TO SAWCUT. SEE REPAIR DETAILS.

SHOTCRETE REPAIRS MAY BE REPLACED WITH CONCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

		PROJEC	CT NO.	15	BPR.2	26	
	NEW HANOVER/PENDER COUNTY						
	(BRIDGE NO.: 640048					
	SHEET 18 OF 19						
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATIO RALEIGH						TION	
PLANS PREPARED BY:	PRESERVATION						
Simpson NGINEERS SSOCIATES 5640 Dillard Drive Suite 200	AGB 10005575245E SEAL 24390	DIAPHRAGM REPAIRS					
Cary, NC 27518 (919) 852-0468 (919) 852-0598 (Fax)	J. BEAUTIN	SPAN 12					
www.simpsonengr.com	9/29/2020	NO. BY:	REVIS DATE:	IONS	DATE:	SHEET NO. S1-136	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED		1		<u> ৩</u> ব্র		total sheets 163	





ERI — EPOXY RESIN INJECTION



REPAIR QUANTITY TABLE					
REPAIRS SPAN 13 DIAPH.		Ql	JANTITI	ES	
REFAIRS SFAN IS DIAFH.	EST	IMATE		ACTUAL	-
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF
BENT 12 DIAPHRAGM	0.0	0.0			
INTERMEDIATE DIAPHRAGM	0.0	0.0			
CURTAIN WALL	0.0	0.0			
EPOXY RESIN INJECTI	ION	LF			LF
BENT 12 DIAPHRAGM	BENT 12 DIAPHRAGM				
INTERMEDIATE DIAPHRAGM	0.0				
CURTAIN WALL		0.0			

NOTES:

REPAIR LOCAITONS AND ESTIMATE OF THE QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE INSPECTOR OR ENGINEER THE CONTRACTOR SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITIY TABLE.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

VALUES IN CHART REPRESENT ESTIMATE REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE,MIN,OF 1"BEHIND REBAR AND MIN.2"CL.TO SAWCUT. SEE REPAIR DETAILS.

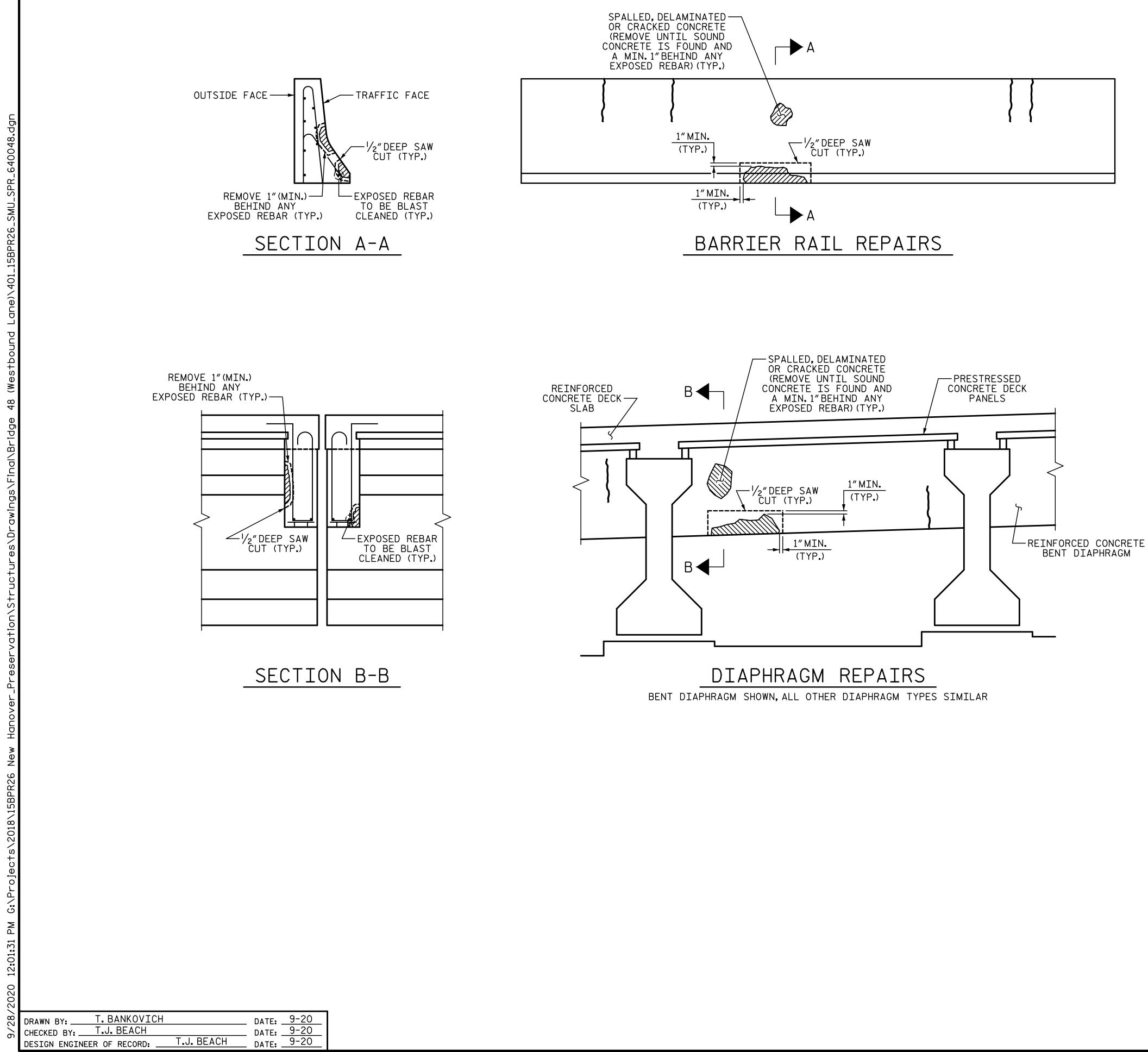
SHOTCRETE REPAIRS MAY BE REPLACED WITH CONCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR SUPERSTRUCTURE REPAIR DETAILS, SEE ``SUPERSTRUCTURE REPAIR DETAIL'' SHEET.

		PROJEC					
		NEW H	IANOVE	R/PEND	DER CO	UNTY	
		BRIDG	E NO.:_	64	40048	3	
		SHEET 19	OF 19				
		STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
PLANS PREPARED BY:			PRE	SERVAT	FION		
SIMPSON NGINEERS SSOCIATES 5640 Dillard Drive Suite 200 Cary, NC 27518	AGB CERESSION AGB CERESSION AGB CERESTORAL SEAL 24390	DI	4PHR#	AGM	REPAI	ERS	
(919) 852-0468 (919) 852-0598 (Fax)	J. BEAUNIN			SPAN 1	3		
www.simpsonengr.com LICENSURE NO.C-2521	9/29/2020	NO. BY:	REVIS	IONS	DATE:	SHEET NO. S1-137	
DOCUMENT NOT CO UNLESS ALL SIGNATI		1		3 4		total sheets 163	







NOTES:

CONTRACTOR SHALL SAW CUT TO A NOMINAL DEPTH OF $\frac{1}{2}$ " BUT REINFORCING STEEL SHALL NOT BE DAMAGED.

CONTRACTOR SHALL REMOVE SURFACE CONCRETE TO VERIFY THAT SAWCUT DEPTH WILL NOT DAMAGE EXISTING REINFORCING STEEL OR PRESTRESSING STRANDS.

CONTRACTOR SHALL SAW CUT THE REPAIR AREAS SO THAT THE CORNERS ARE SQUARE AS INDICATED ON THE DETAILS. SAW CUTTING IS NOT ALLOWED ON THE PRESTRESSED CONCRETE GIRDERS, SEE NOTE BELOW.

PROJECT NO. 15BPR.26 NEW HANOVER/PENDER COUNTY 640048 BRIDGE NO .:___

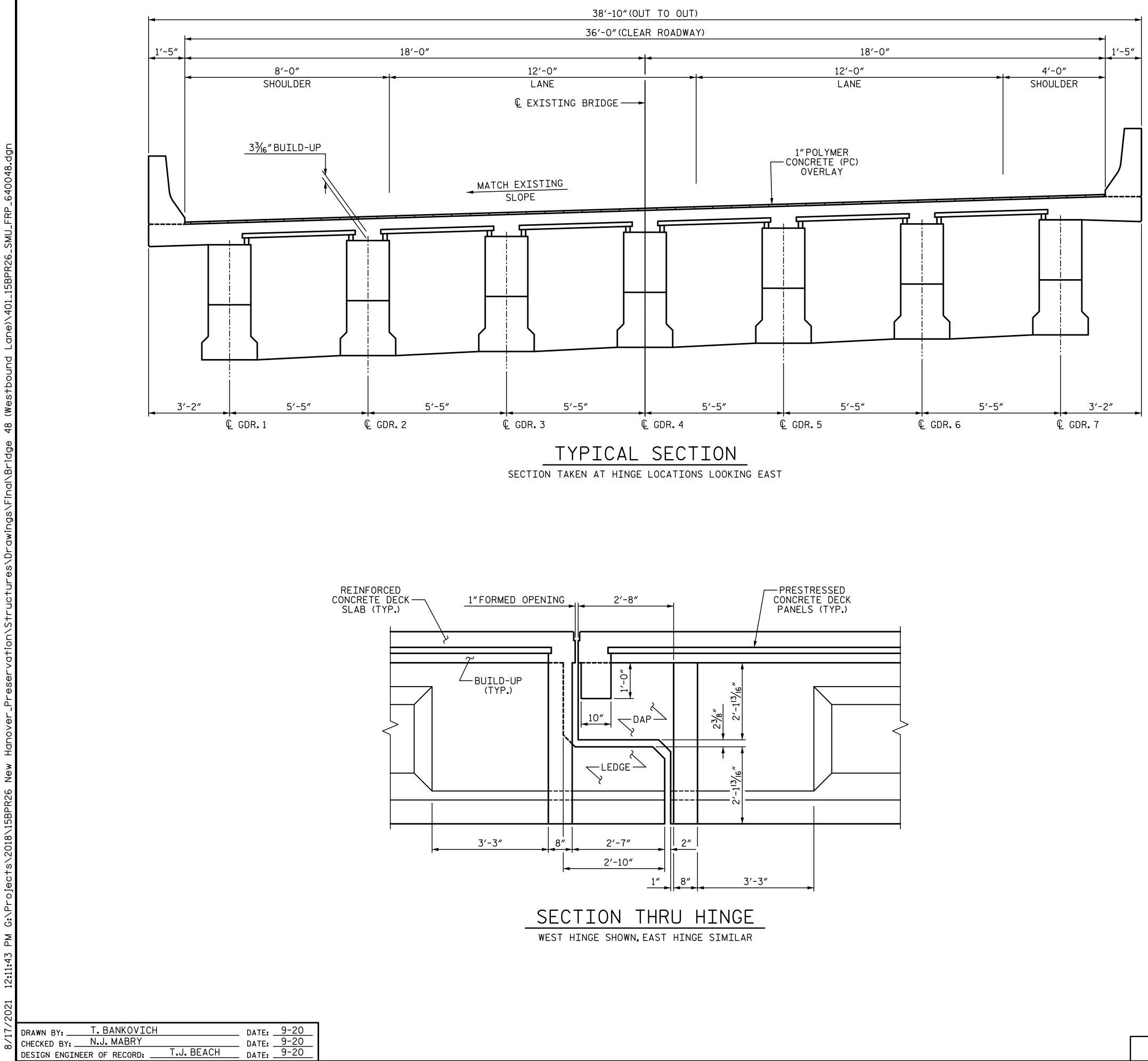
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION PRESERVATION

SUPERSTRUCTURE REPAIR DETAIL

		SHEET NO.				
10.	BY:	DATE:	NO.	BY:	DATE:	S1-138
1			3			TOTAL SHEETS
2			4			163



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PLANS PREPARED



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NOTES:

GIRDER STRENGTHENING INCLUDES ALL GIRDERS IN THE EAST AND WEST HINGE LOCATIONS.

FRP = FIBER REINFORCED POLYMER

DAP REFERS TO UPPER PORTION OF DROP-IN SECTION AT HINGE.

LEDGE REFERS TO LOWER PORTION OF CANTILEVER SECTION AT HINGE.

FOR SURFACE PREPARATION, SEE ``FIBER REINFORCED POLYMER (FRP) STRENGTHENING" SPECIAL PROVISION.

FOR FRP MATERIAL REQUIREMENTS, SEE ``FIBER REINFORCED (FRP) STRENGTHENING'' SPECIAL PROVISION.

FOR PROTECTIVE COATING APPLICATION AFTER FRP SYSTEM INSTALLATION, SEE "FIBER REINFORCED (FRP) STRENGTHENING" SPECIAL PROVISION.

ALL CORNERS SHALL BE ROUNDED BEFORE APPLYING FRP MATERIAL, SEE ``FIBER REINFORCED POLYMER (FRP STRENGTHENING" SPECIAL PROVISION.

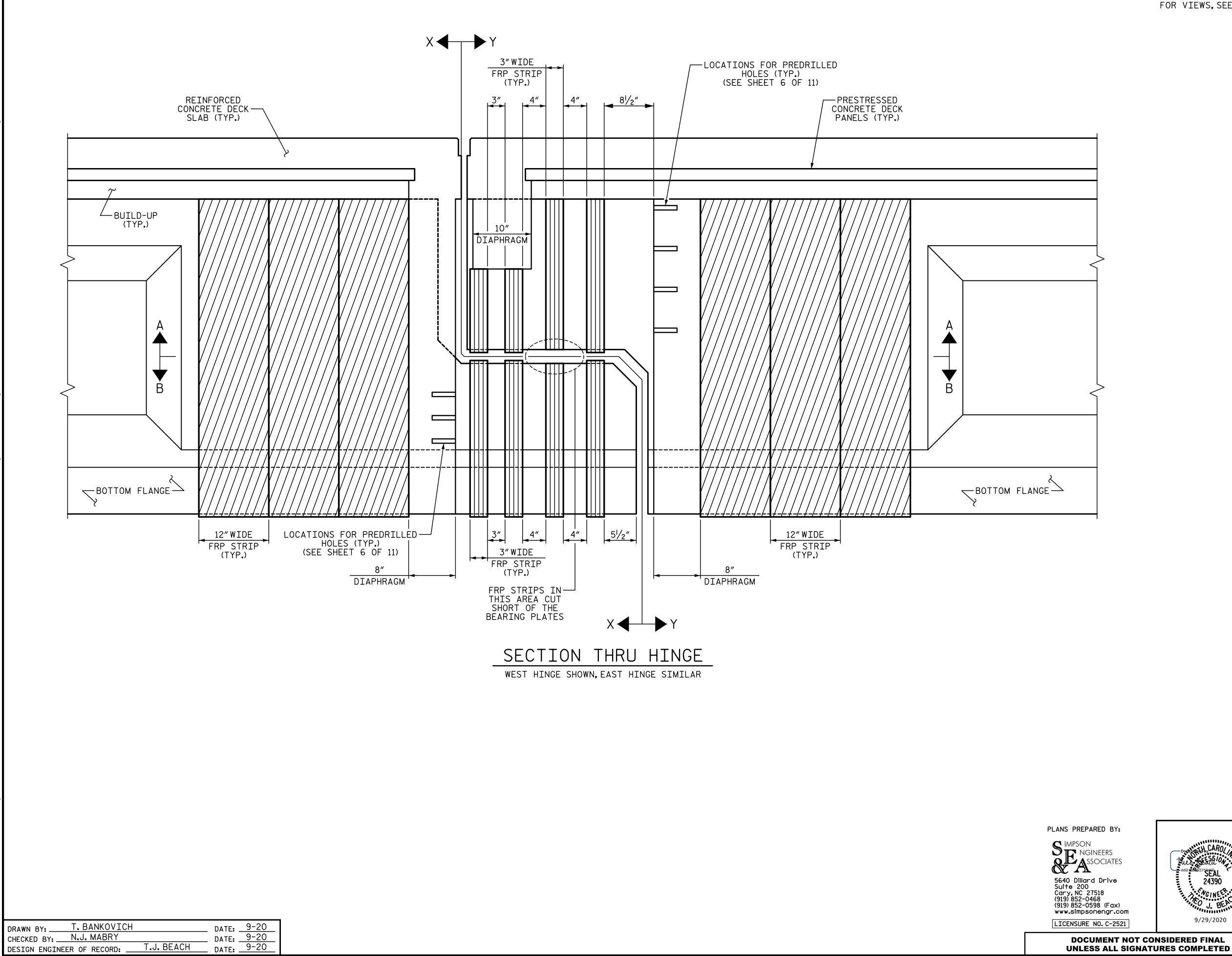
DRILLING OF FRP ANCHORAGE HOLES MAY VARY SLIGHTLY IN ORDER TO AVOID EXISTING REINFORCEMENT IN THE CONCRETE DIAPHRAGM.

THE DIMENSIONS OF THE EXISTING HINGE 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 WHATSOEVER AGAINST THE DEPARTMENT OF TRANSPORTATION FOR ANY DELAYS OR ADDITIONAL COST INCURRED BASED ON DIFFERENCE BETWEEN THE EXISTING HINGE SHOWN ON THE PLANS AND THE ACTUAL CONDITIONS AT THE PROJECT SITE.

MINIMUM END CAPACITY (AFTER FRP REPAIR) = 261.70 KPS/GIRDER. FOR HINGE LOCATIONS, SEE "DIAPHRAGM REPAIRS" SHEET 9 OF 19.

		PROJEC <u>NEW</u> H BRIDGE	IANOVEI E NO.:_	<u>R/PENE</u>	<u>BPR.2</u> D <u>ER</u> CO 40048	UNTY	
BY:		DEPA	RTMENT	e of north car OF TRA raleigh SERVA	NSPORTA	TION	
S ATES Ve	Decupier of CAROL Decupier of the CAROL ESSION A6B & B9B573 EFAL 24390	TYPICAL SECTION AT HINGES					
ax)	J. BEANIN	FRP HINGE REPAIR					
-2521	8/17/2021	NO. BY:	REVIS DATE:	SIONS NO. BY:	DATE:	SHEET NO. S1-139	
	NSIDERED FINAL JRES COMPLETED	1		3 4		total sheets 163	

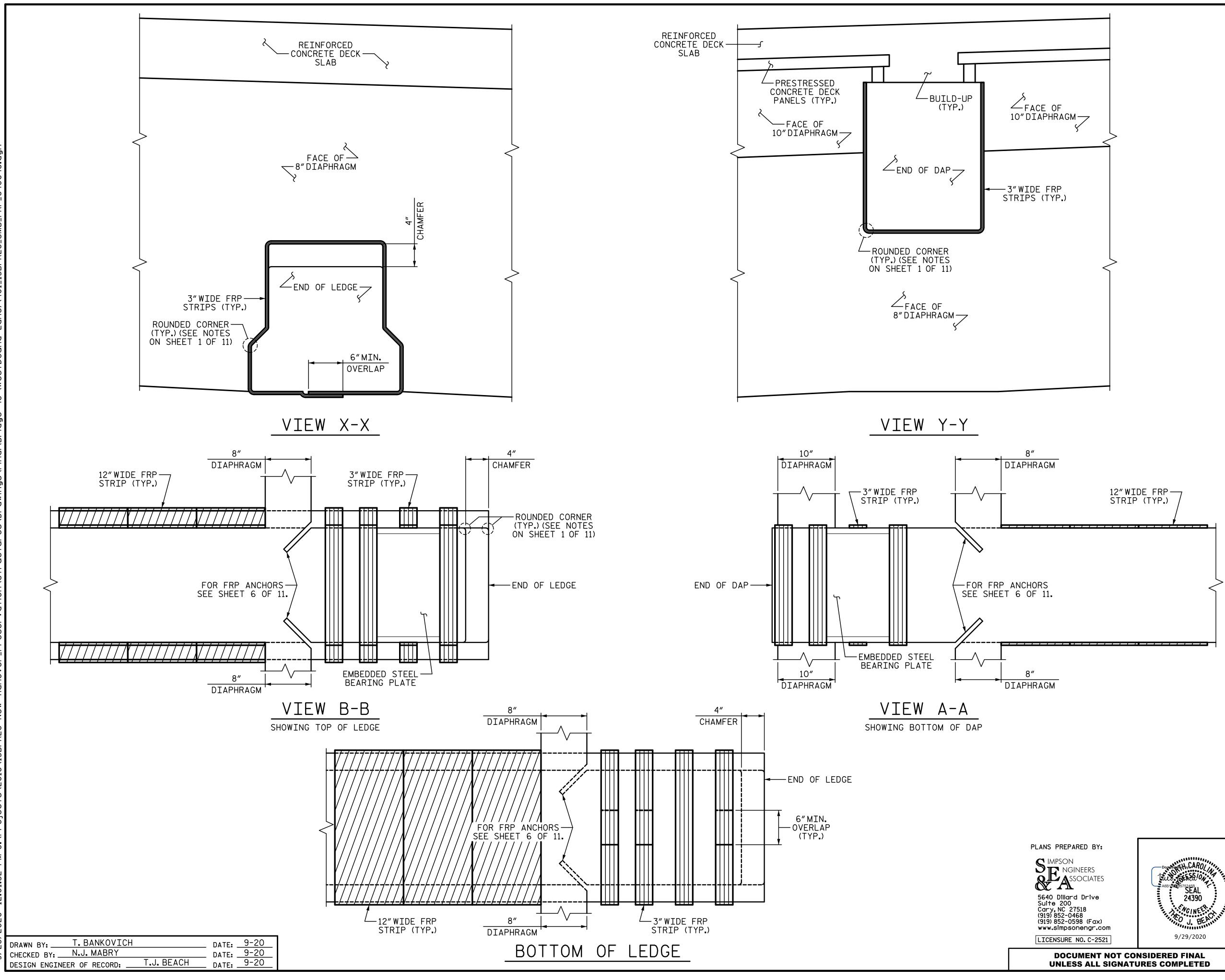
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NOTES:

FOR VIEWS, SEE SHEET 3 OF 11.

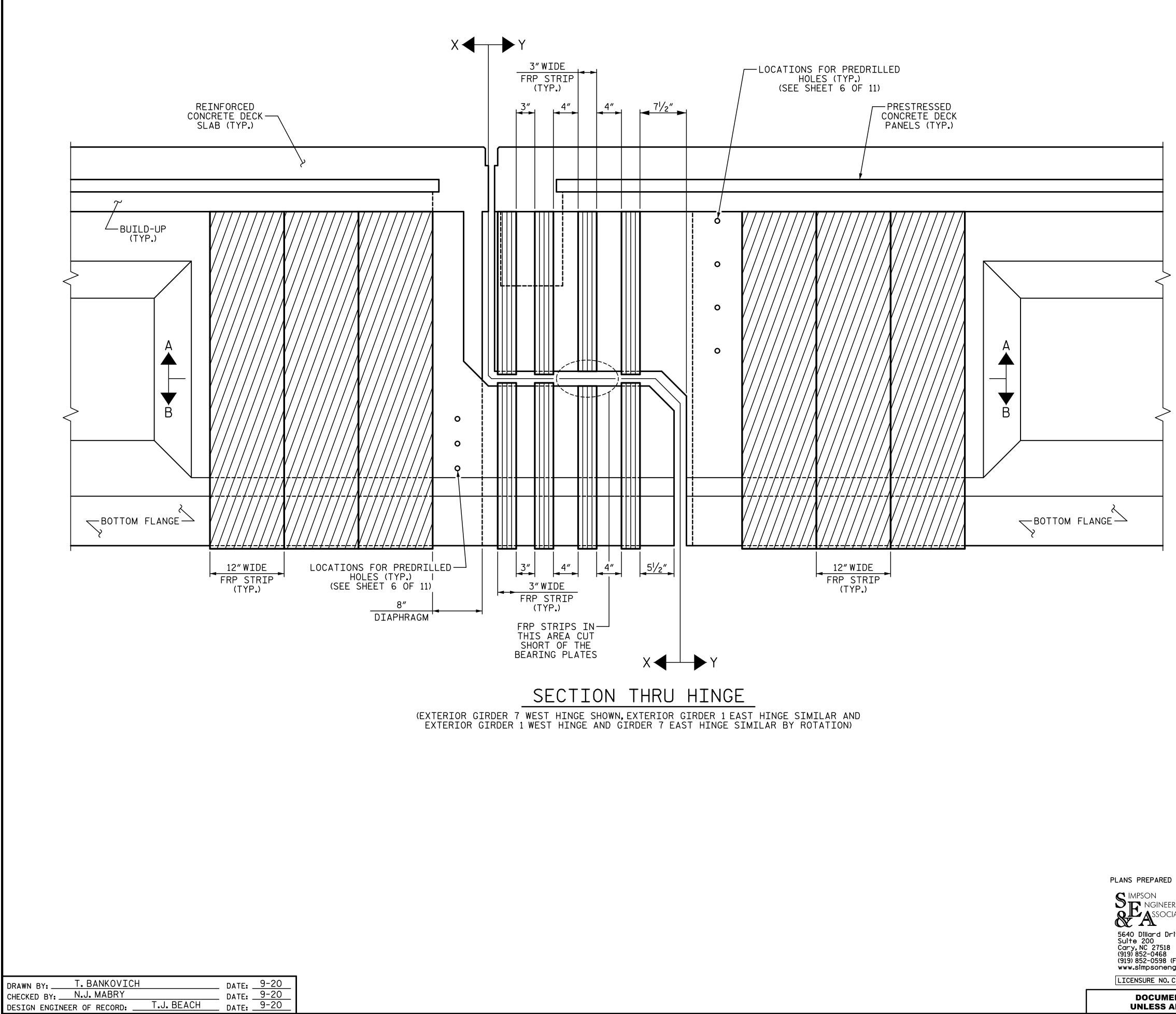
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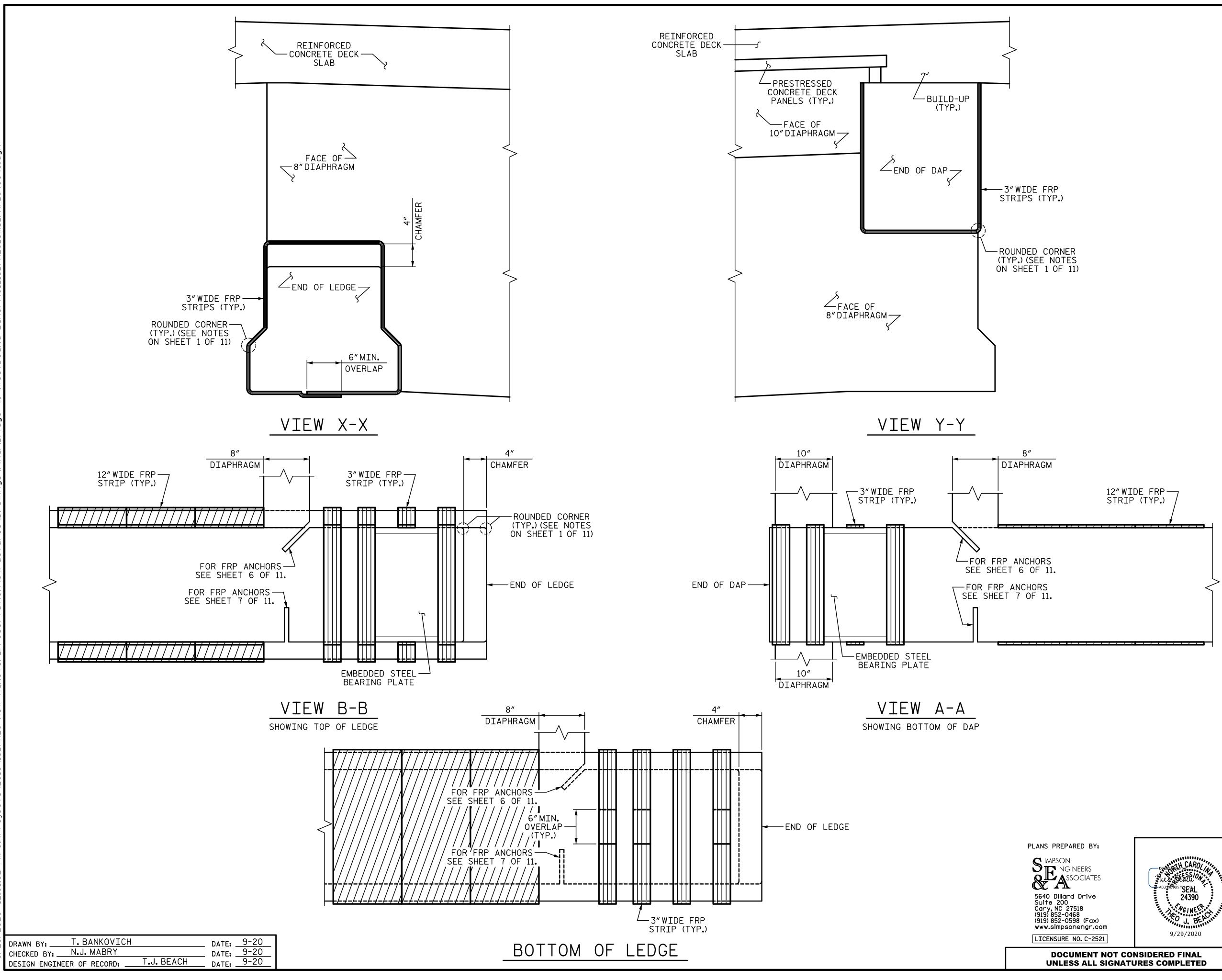


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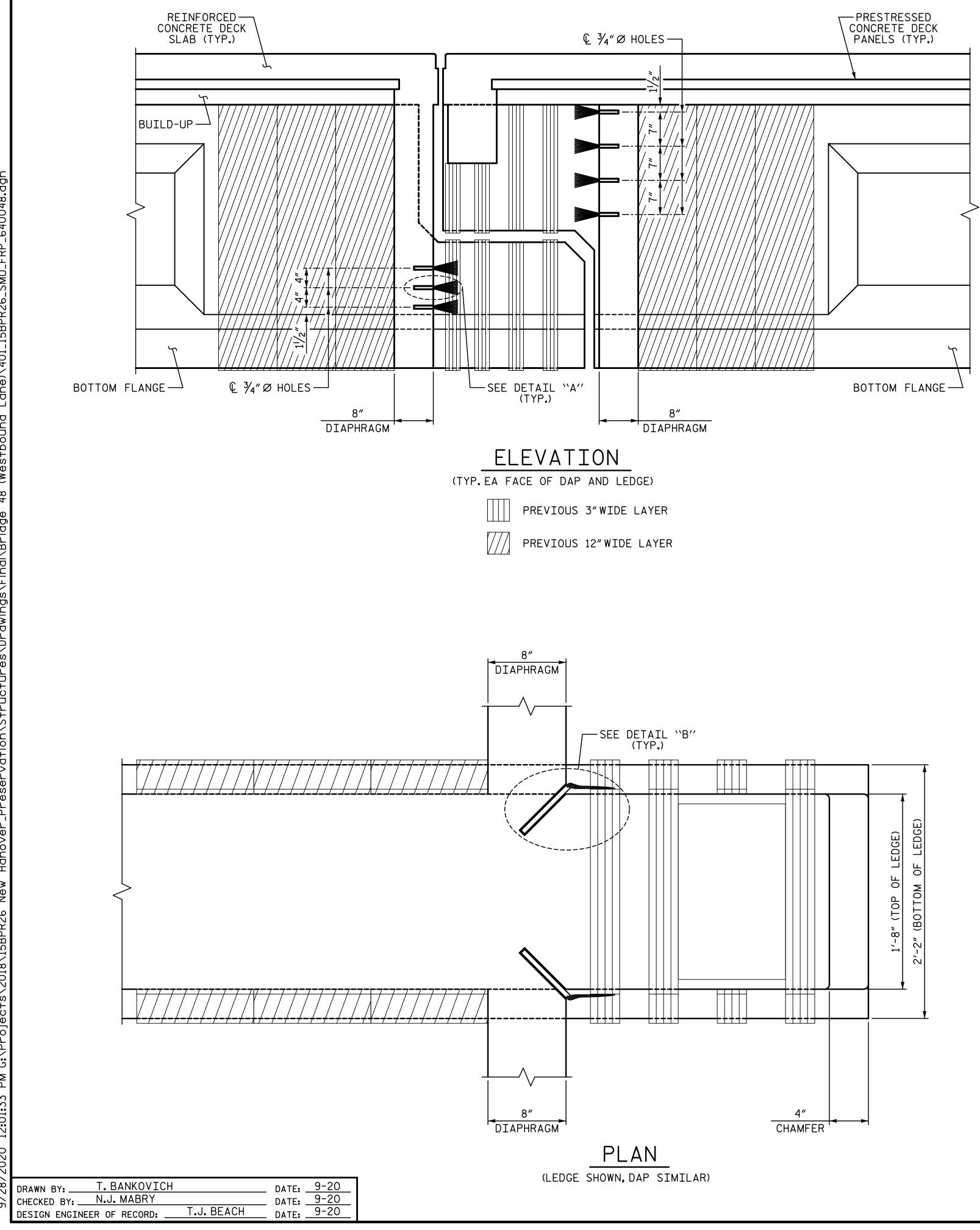
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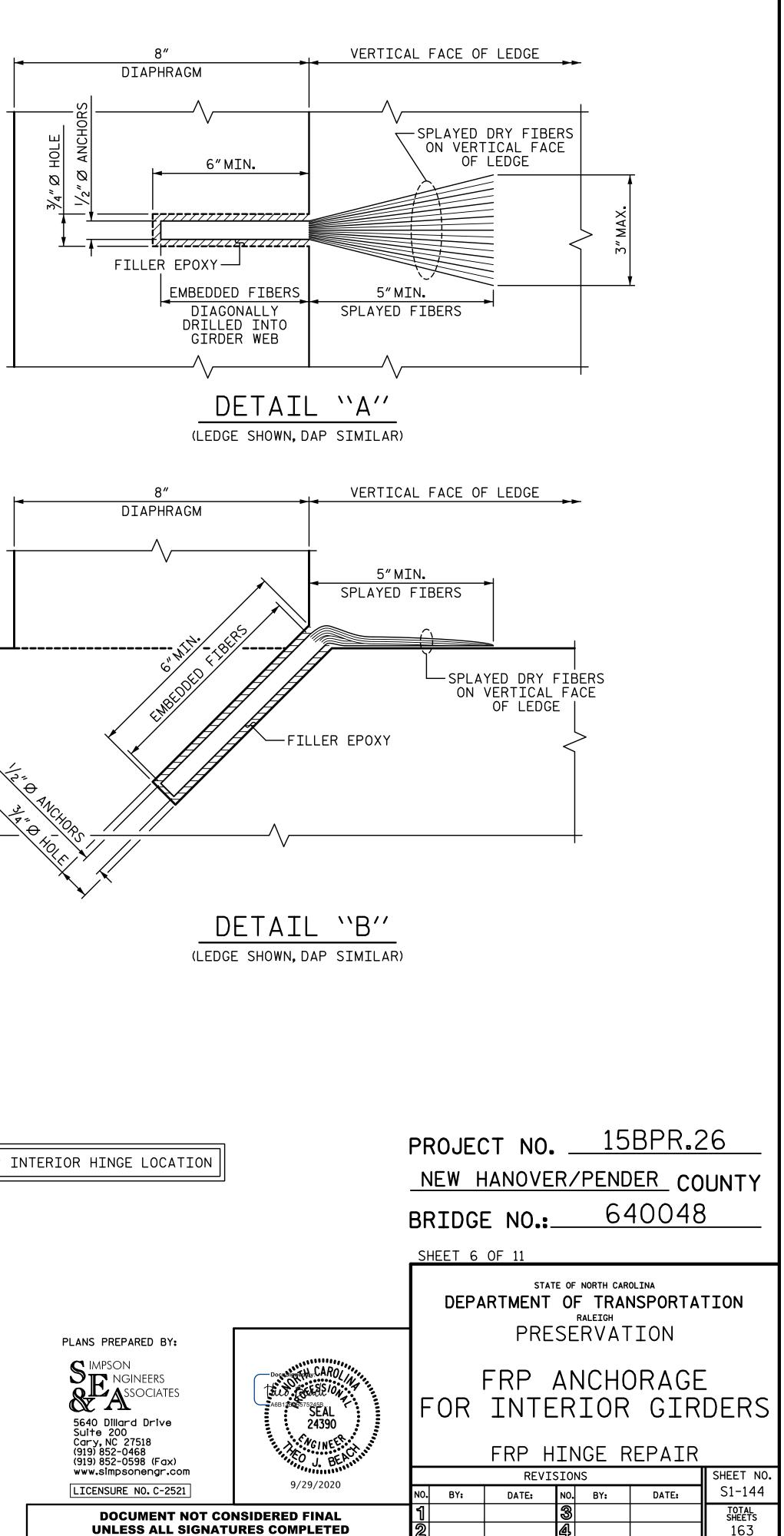
FOR VIEWS, SEE SHEET 5 OF 11.

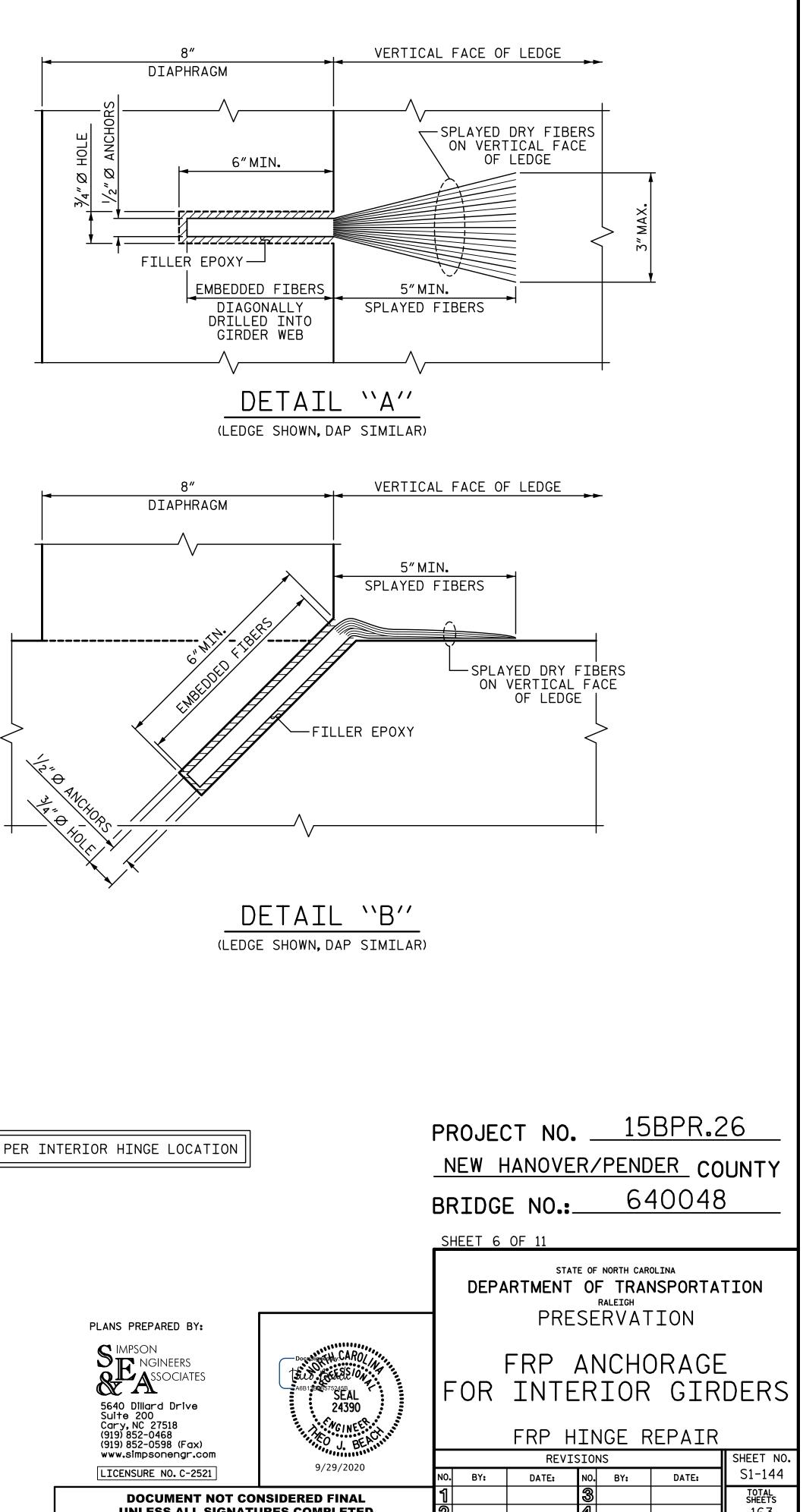
PROJECT NO. <u>15BPR.26</u> <u>NEW HANOVER/PENDER</u> COUNTY BRIDGE NO.: 640048 SHEET 4 OF 11							
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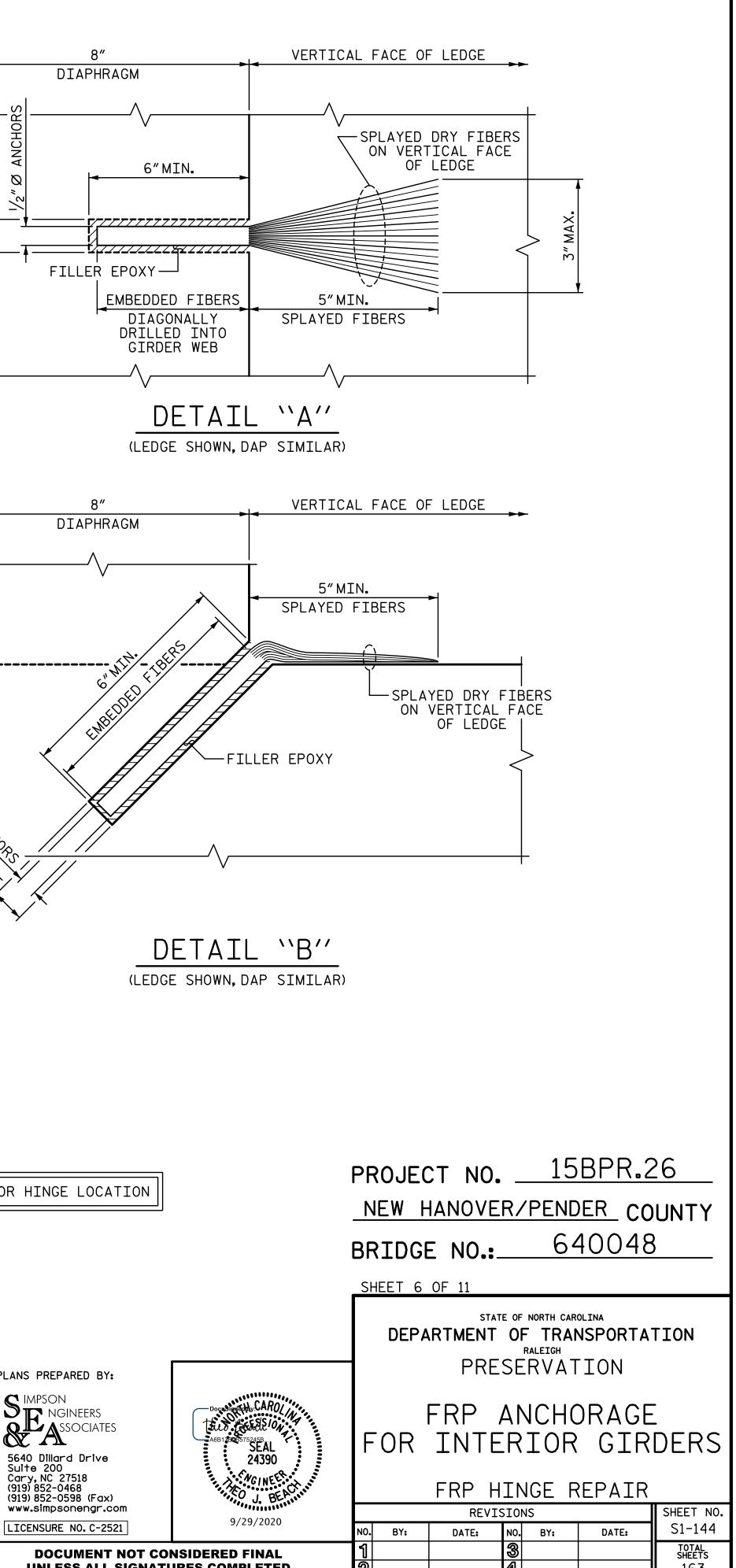
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STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORT RALEIGH PRESERVATION				
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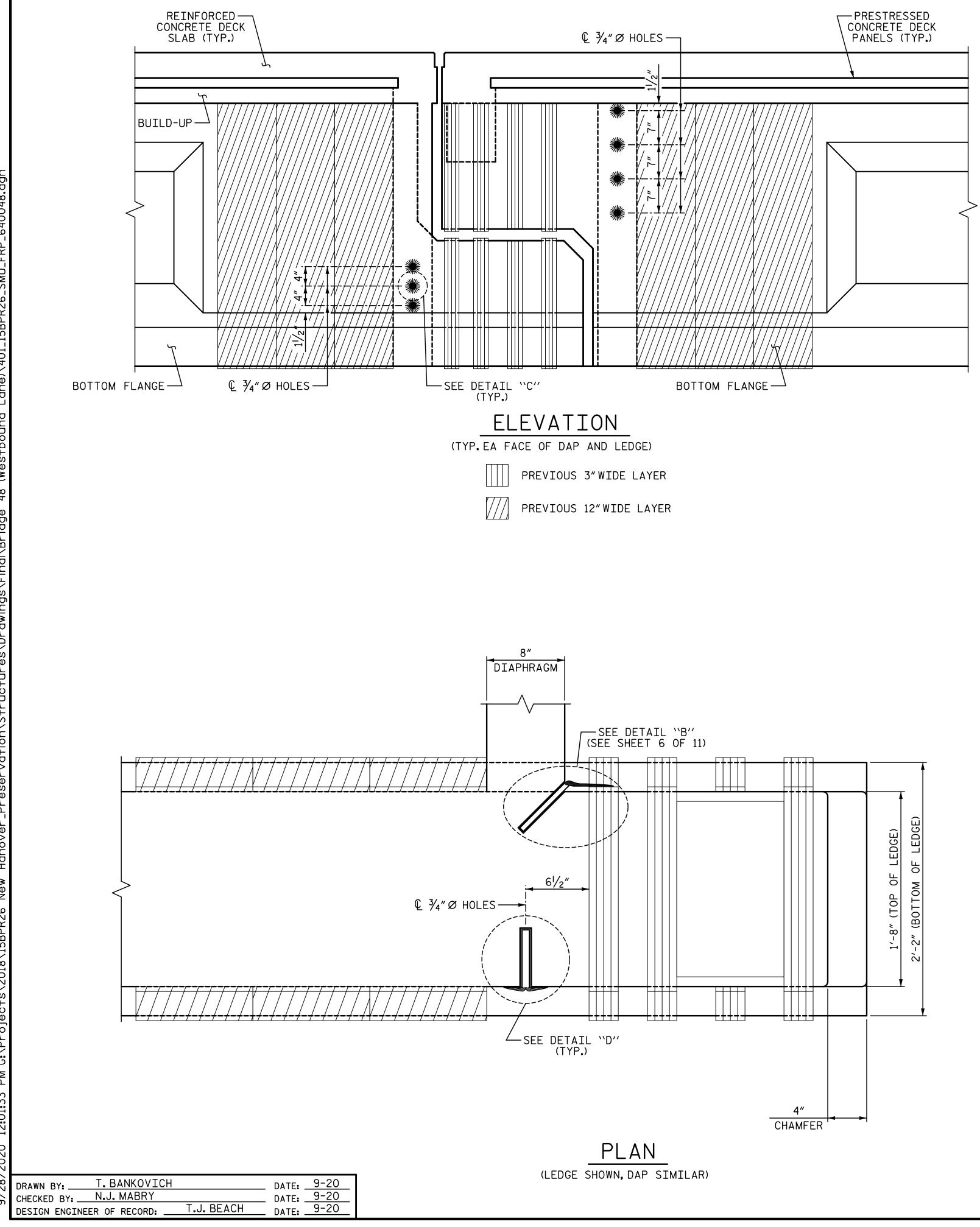




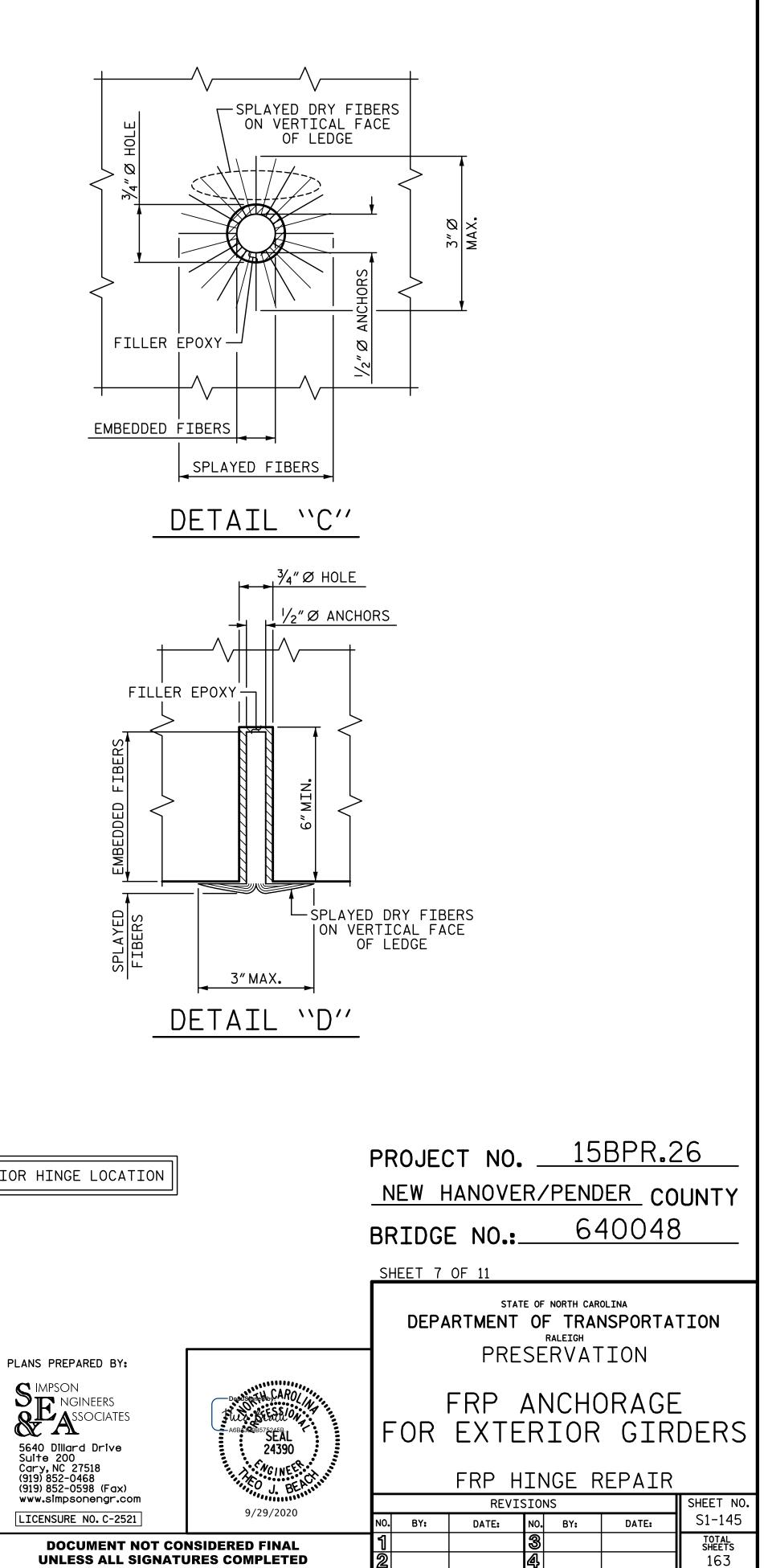


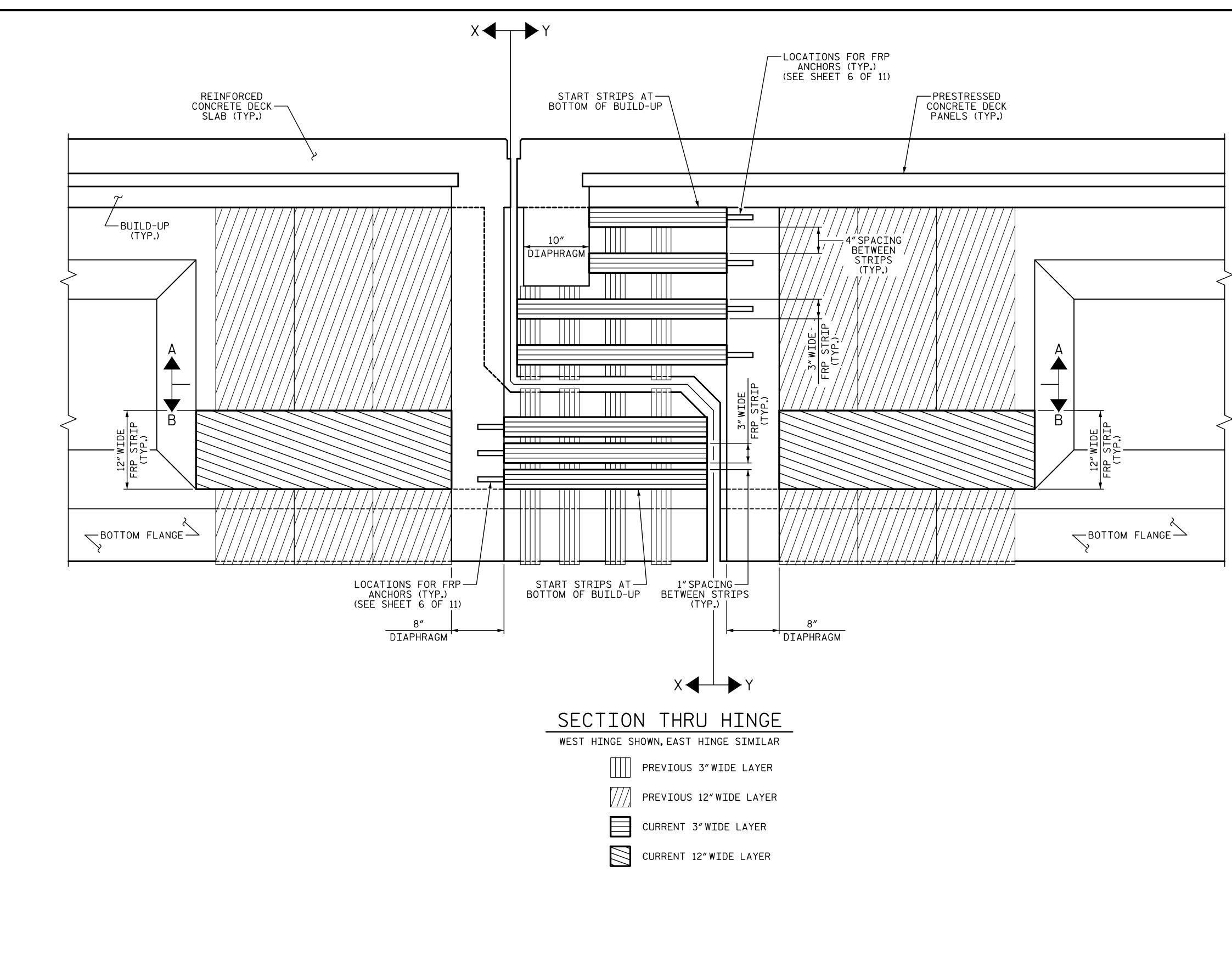
14 ANCHORS REQUIRED PER INTERIOR HINGE LOCATION





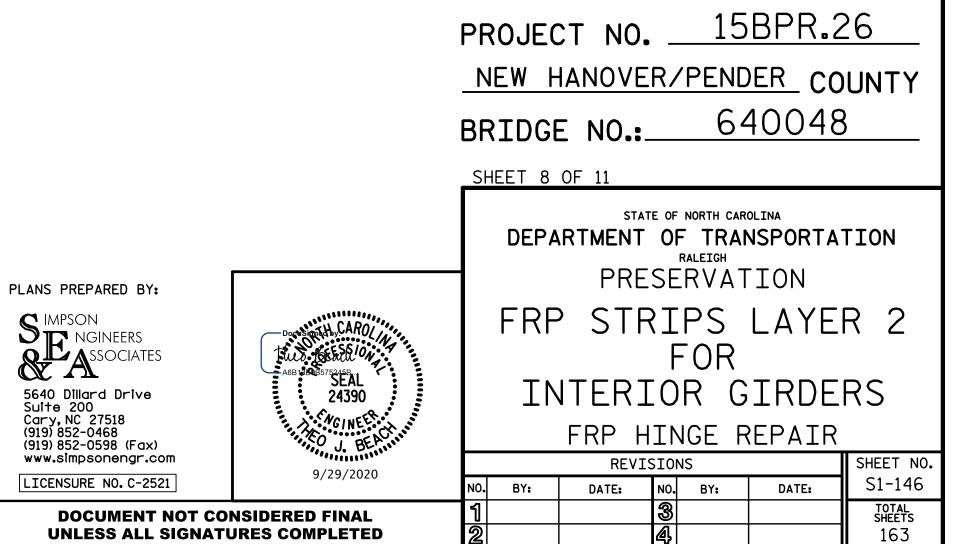
14 ANCHORS REQUIRED PER INTERIOR HINGE LOCATION





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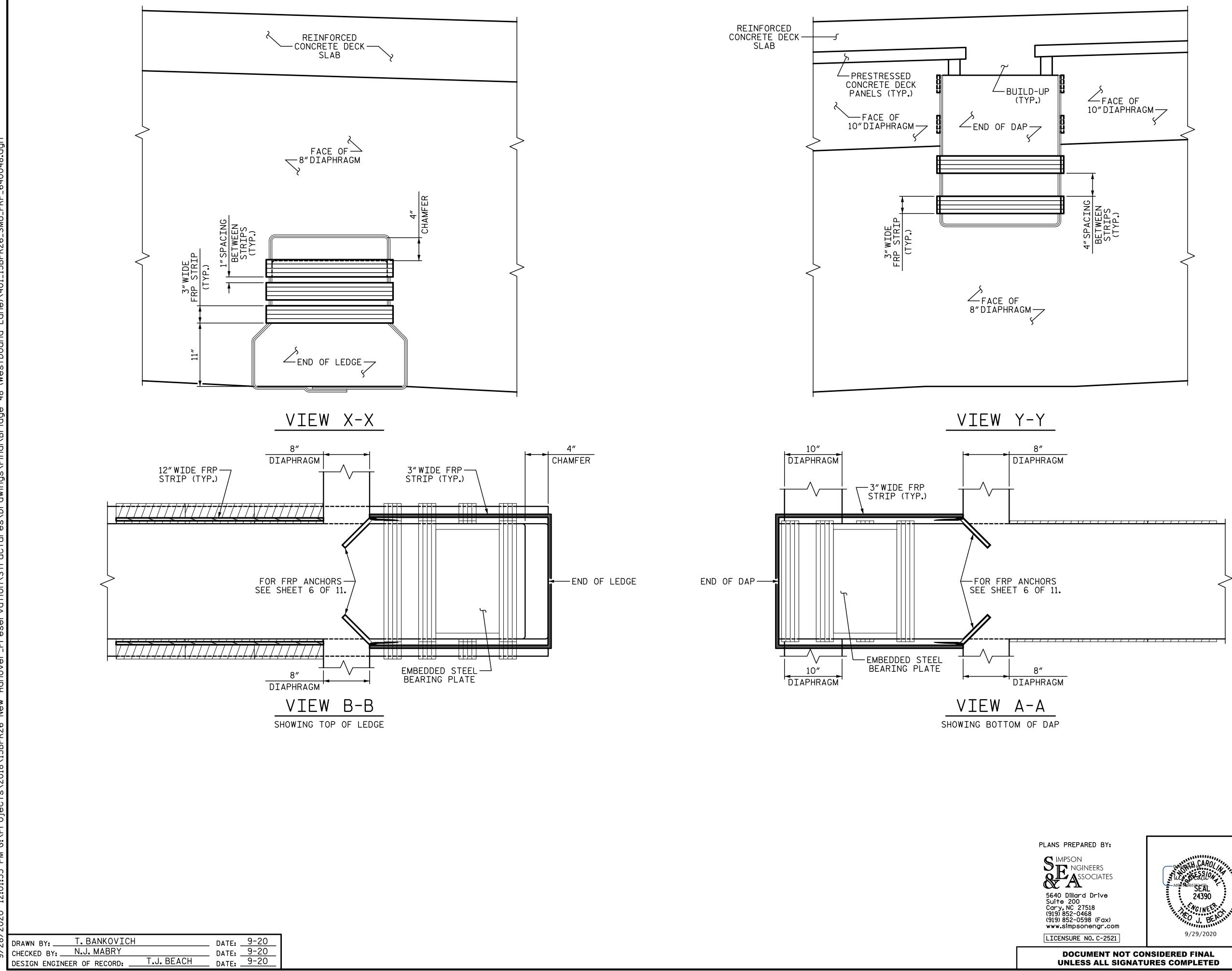
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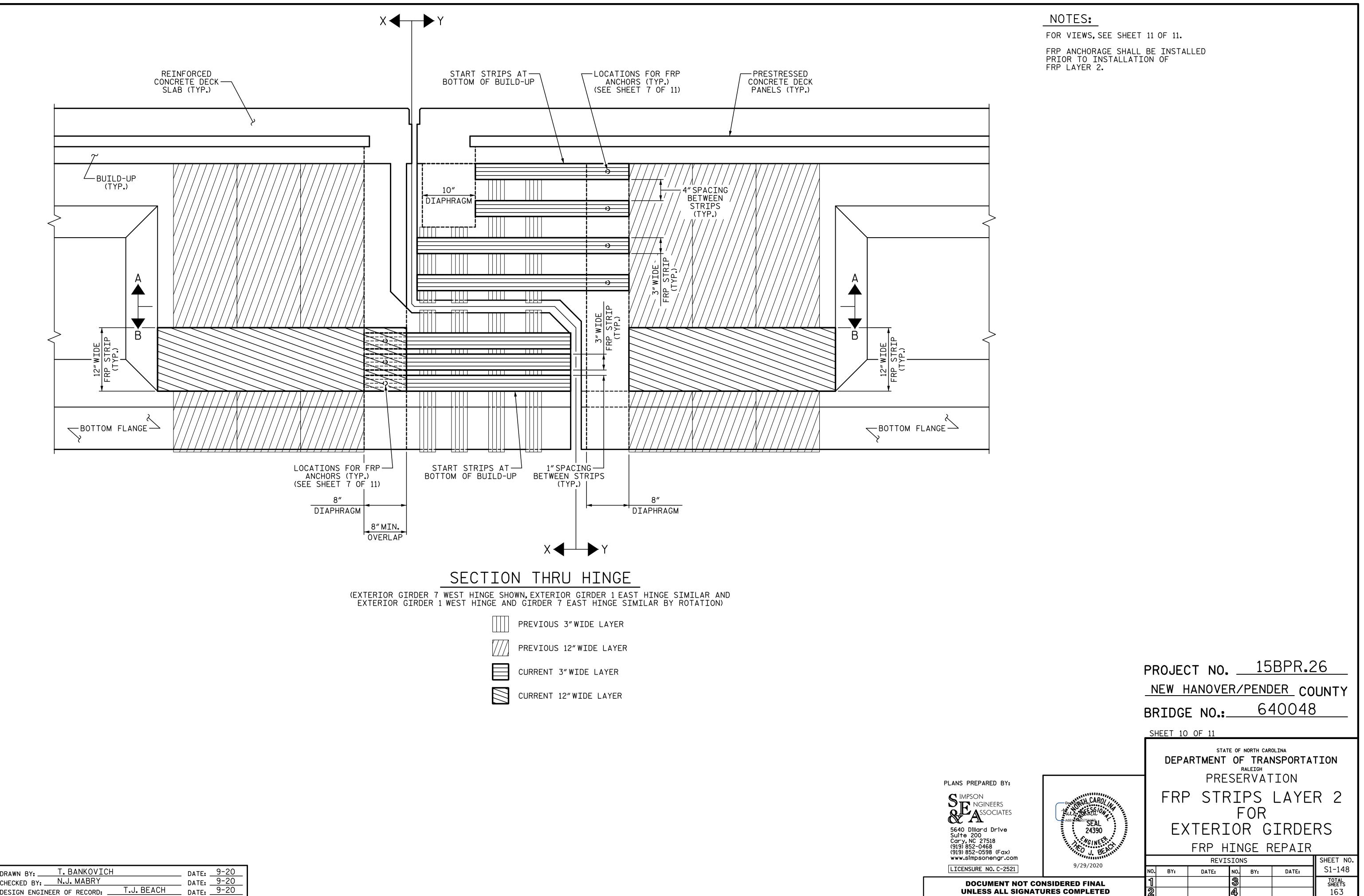
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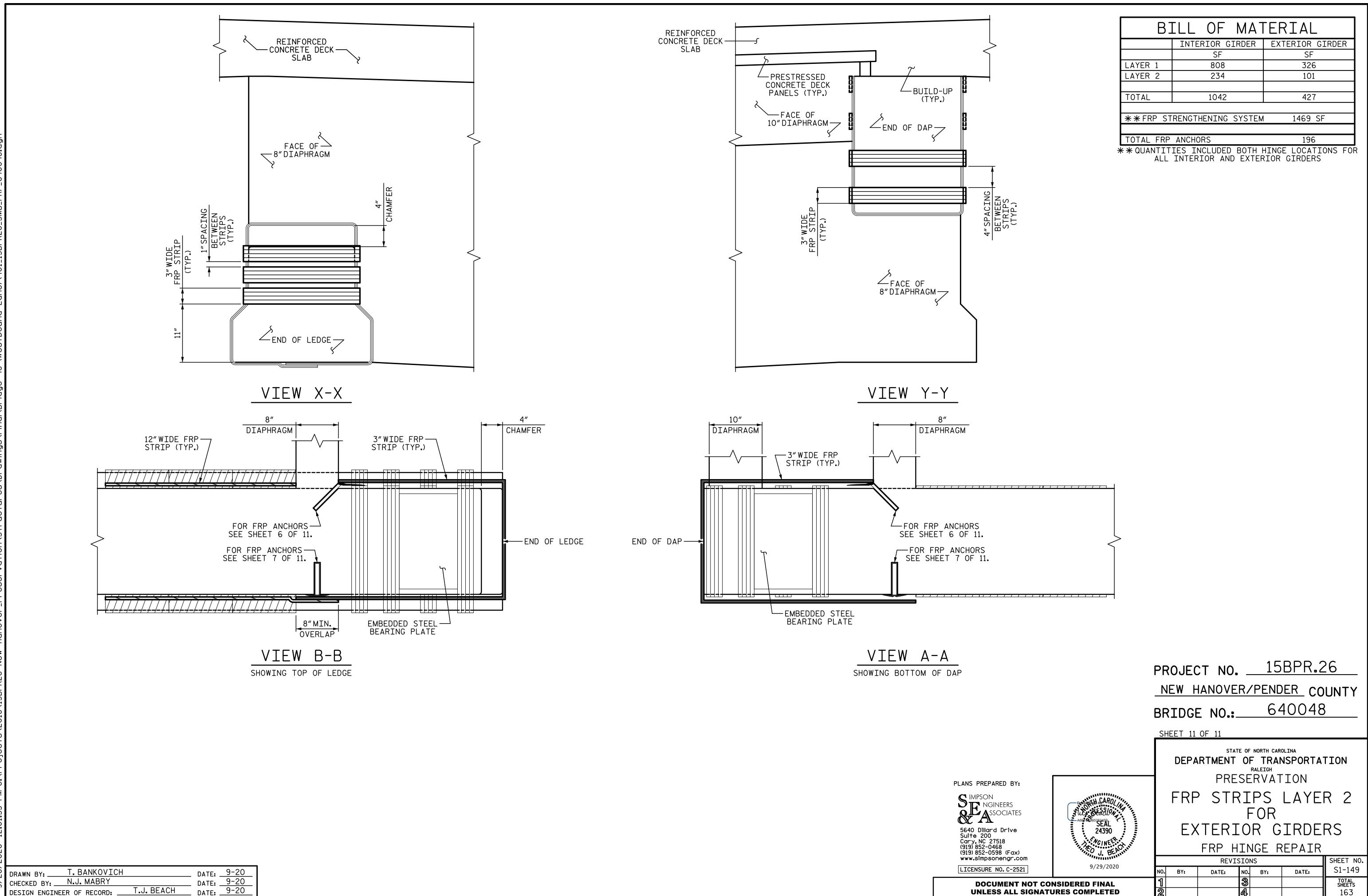
FOR VIEWS, SEE SHEET 9 OF 11. FRP ANCHORAGE SHALL BE INSTALLED PRIOR TO INSTALLATION OF FRP LAYER 2.



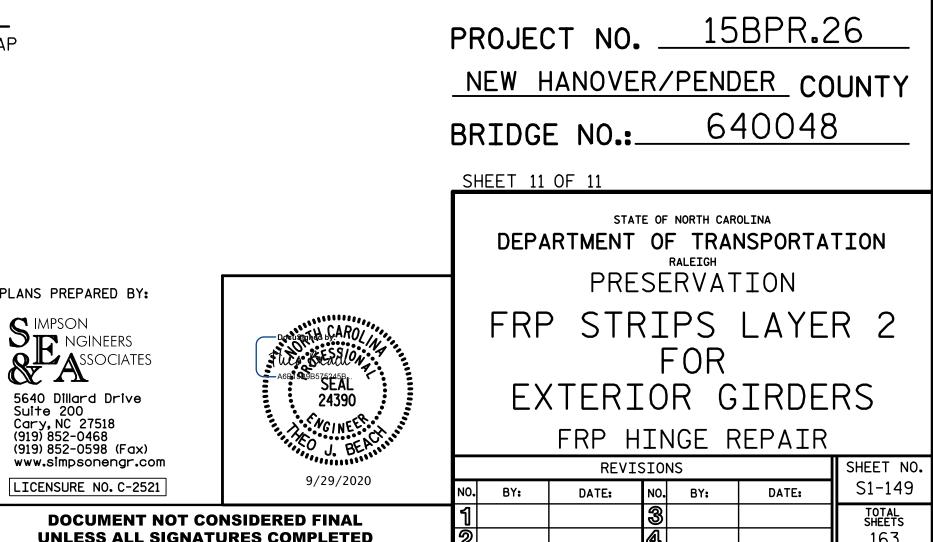
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NEW HANOVER/PENDER COUNTY					UNTY
	BRIDGE	NO.:	64	40048	}
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STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					TION
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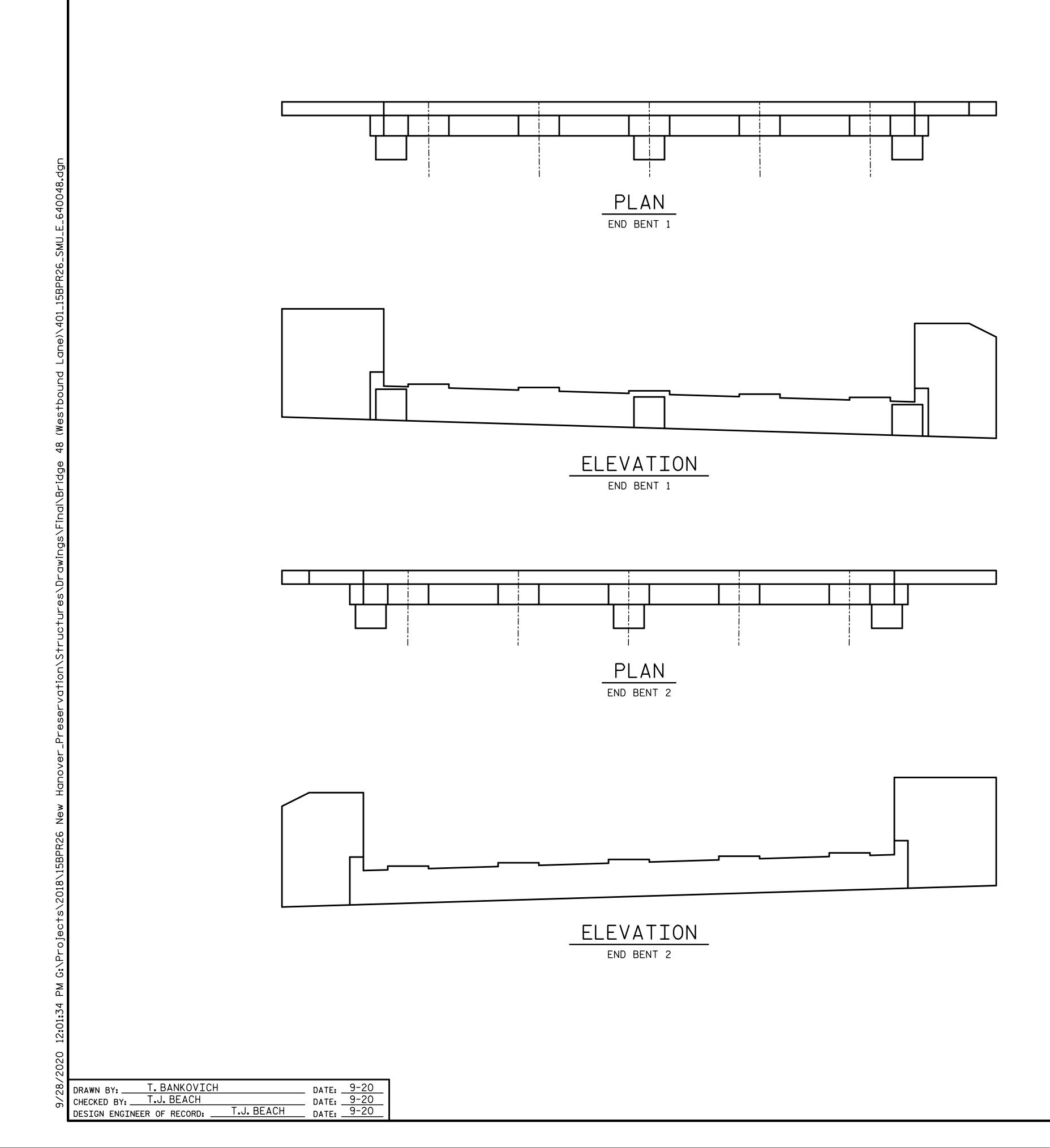
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1/ 1	CHECKED BY:	N.J. MABRY		DATE: 9-20	
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BI	TERIAL				
	INTERIOR GIRDER	EXTERIOR GIRDER			
	SF	SF			
LAYER 1	808	326			
LAYER 2	234	101			
TOTAL	1042	427			
· · · · ·					
** FRP STRENGTHENING SYSTEM 1469 SF					
TOTAL FRP ANCHORS 196					
★ ★ QUANTIT	IES INCLUDED BOTH	HINGE LOCATIONS FOR			





ERI — EPOXY RESIN INJECTION





REPAIR QUANTITY TABLE							
REPAIRS END BENT 1		QUANTITIES					
INLIAINS LIND DENT I	EST	IMATE		ACTUAL	-		
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VC	DLUME CF	
CAP (VERTICAL FACE)	0.0	0.0					
CAP (HORIZONTAL, CORNER)	0.0	0.0					
EPOXY RESIN INJECT	ION	LF				LF	
САР		0.0					
EPOXY COATING	AREA SF						
TOP OF CAP & TOP OF PILE CAPS	102.0						
REPAIRS END BENT 2			JANTITI				
ILLI AINS END BENT 2		IMATE					
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VC	DLUME CF	
CAP (VERTICAL FACE)	0.0	0.0					
CAP (HORIZONTAL, CORNER)	0.0	0.0					
EPOXY RESIN INJECT	ION	LF				LF	
САР		0.0					
EPOXY COATING	AREA SF						
TOP OF CAP & TOP OF PILE CAPS		102.0					

NOTES:

REPAIR LOCAITONS AND ESTIMATE OF THE QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE INSPECTOR OR ENGINEER THE CONTRACTOR SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITIY TABLE.

FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

FOR SUBSTRUCTURE REPAIR DETAIL, SEE ``SUBSTRUCTURE REPAIR DETAIL" SHEET.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

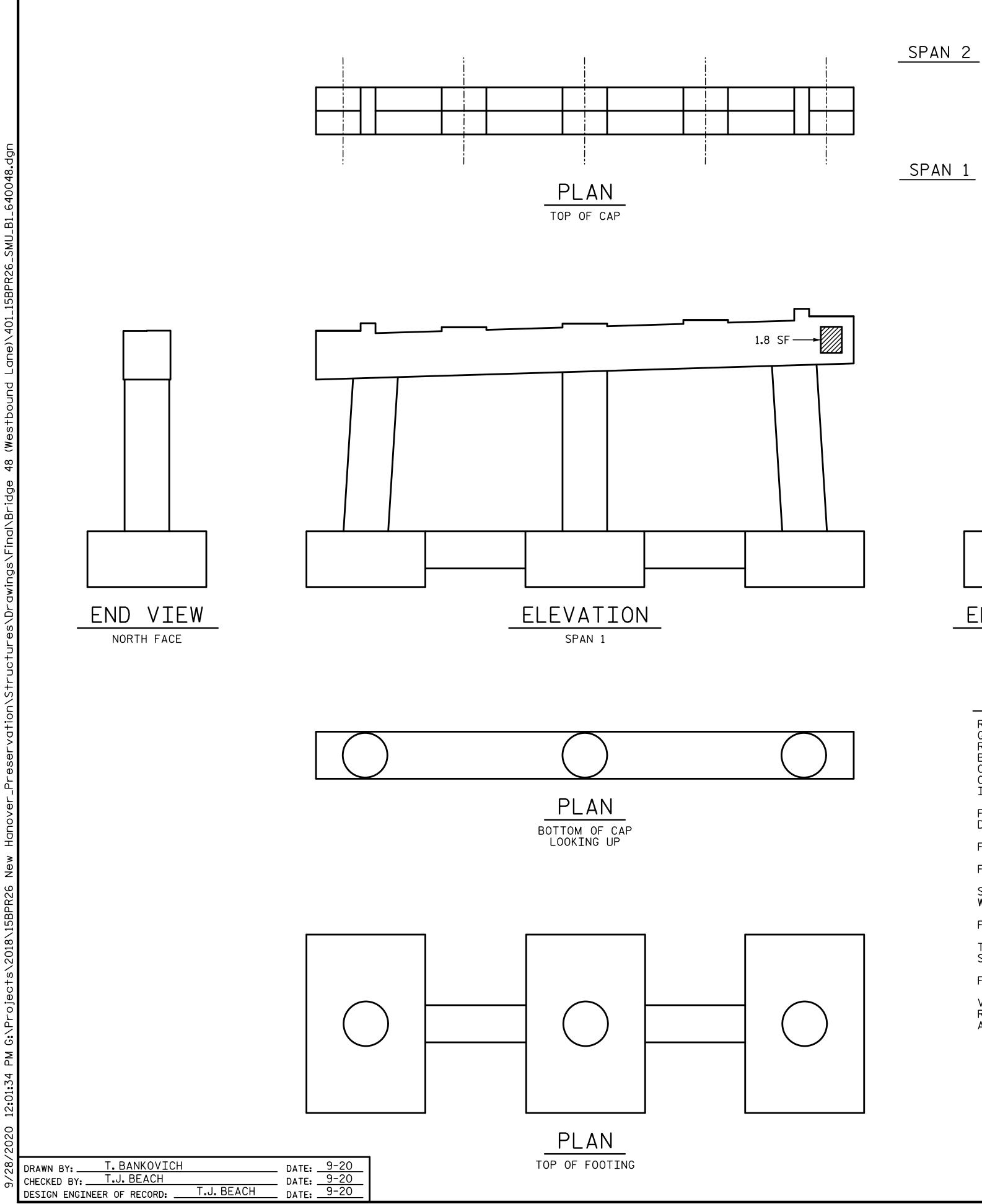
SHOTCRETE REPAIR MAY BE REPLACED WITH CONCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

THE CONTRACTOR SHALL CLEAN AND EPOXY COAT PAINT THE TOP SURFACE OF END BENT CAP AND PILE CAPS.

VALUES IN CHART REPRESENT ESTIMATE REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN, OF 1"BEHIND REBAR AND MIN.2"CL.TO SAWCUT. SEE REPAIR DETAILS.

PROJECT NO. 15BPR.26 <u>NEW HANOVER/PENDER COUNTY</u> 640048 BRIDGE NO .:_

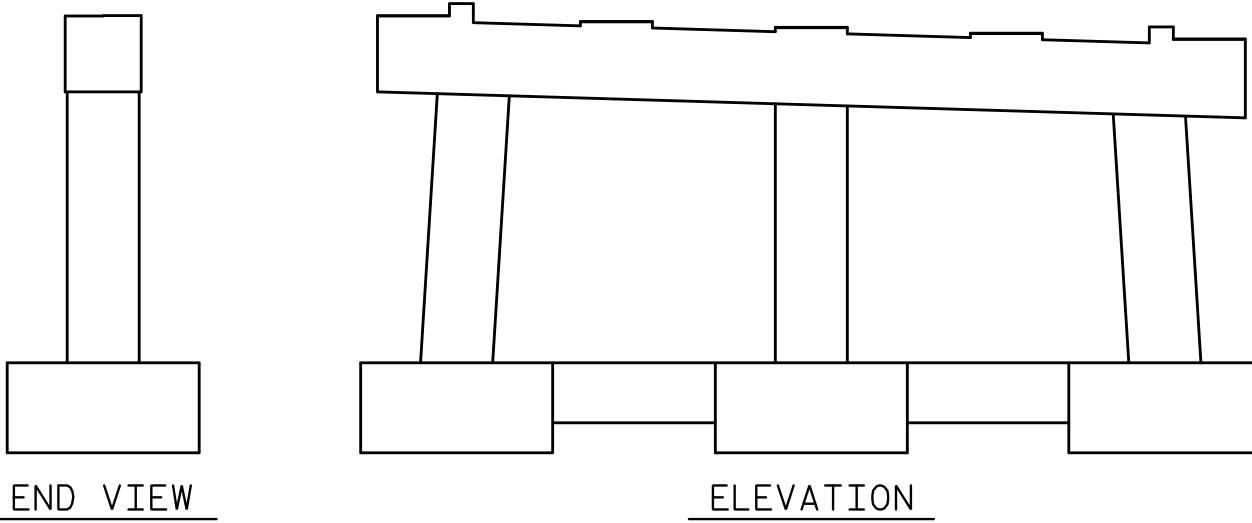
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IMPSON NGINEERS SSOCIATES 40 Dillard Drive ite 200 ry, NC 27518 9) 852-0468 9) 852-0468 9) 852-0598 (Fax)	AGEN SUBSTITUTION		[END	BE	NT	1	&	2
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UNLESS ALL SIGNATU	JRES COMPLETED	2			4				163





ERI — EPOXY RESIN INJECTION

SPAN 1



SOUTH FACE

NOTES:

REPAIR LOCAITONS AND ESTIMATE OF THE QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE INSPECTOR OR ENGINEER THE CONTRACTOR SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITIY TABLE.

FOR SUBSTRUCTURE REPAIR DETAIL, SEE "SUBSTRUCTURE REPAIR DETAIL" SHEET.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

SHOTCRETE REPAIRS MAY BE REPLACED WITH CONCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

THE CONTRACTOR SHALL CLEAN AND EPOXY COAT PAINT THE TOP SURFACE OF BENT CAPS.

FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

VALUES IN CHART REPRESENT ESTIMATE REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN, OF 1" BEHIND REBAR AND MIN. 2" CL. TO SAWCUT. SEE REPAIR DETAILS.

PLANS PREPARED BY:



REPAIR QUANTITY TABLE					
REPAIRS BENT 1		QI	JANTIT	[ES	
REFAIRS DENT I	EST	IMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF
CAP (VERTICAL FACE)	1.8	0.3			
CAP (HORIZONTAL, CORNER)	0.0	0.0			
COLUMN	0.0	0.0			
FOOTING	0.0 0.0				
EPOXY RESIN INJECT	ION	LF			LF
CAP		0.0			
COLUMN		0.0			
FOOTING		0.0			
EPOXY COATING					
TOP OF CAP					

SPAN 2

PROJECT NO.	15BPR.26
NEW HANOVER	/PENDER_COUNTY
BRIDGE NO.:	640048

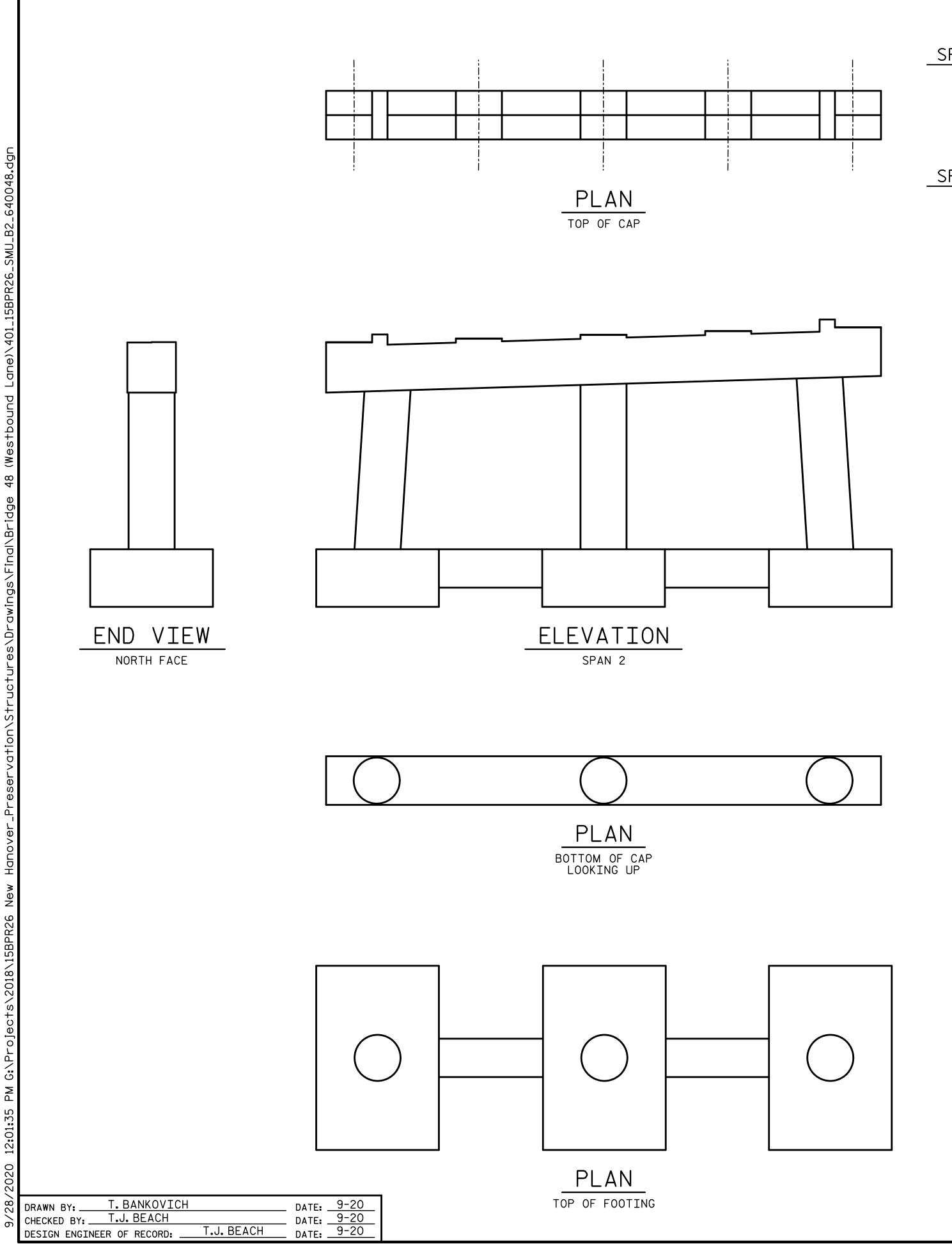
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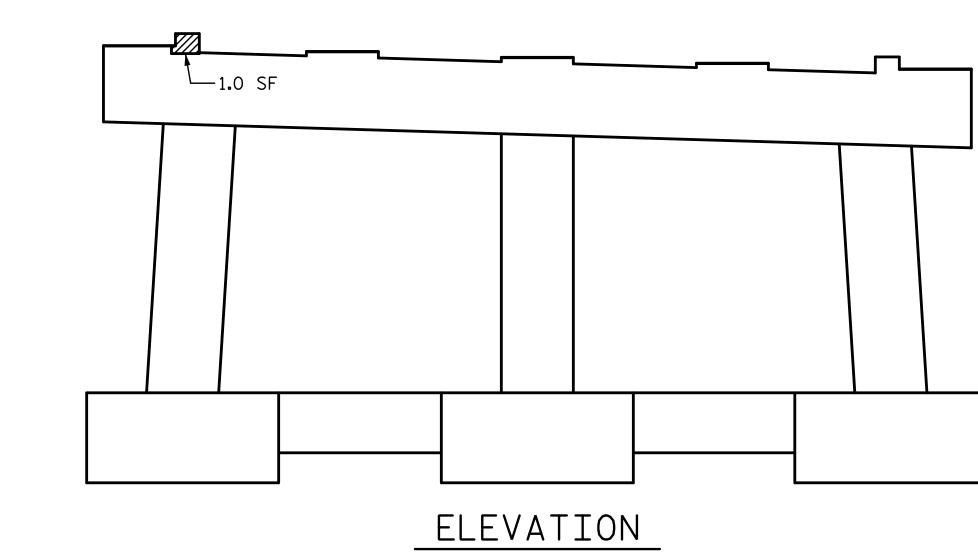




ERI — EPOXY RESIN INJECTION

SPAN 3

SPAN 2



SOUTH FACE

END VIEW

—0.5 SF

NOTES:

REPAIR LOCAITONS AND ESTIMATE OF THE QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE INSPECTOR OR ENGINEER THE CONTRACTOR SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITIY TABLE.

FOR SUBSTRUCTURE REPAIR DETAIL, SEE "SUBSTRUCTURE REPAIR DETAIL" SHEET.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

SHOTCRETE REPAIRS MAY BE REPLACED WITH CONCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

THE CONTRACTOR SHALL CLEAN AND EPOXY COAT PAINT THE TOP SURFACE OF BENT CAPS.

FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

VALUES IN CHART REPRESENT ESTIMATE REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN, OF 1" BEHIND REBAR AND MIN. 2" CL. TO SAWCUT. SEE REPAIR DETAILS.

PLANS PREPARED



REPAIR QUANTITY TABLE					
REPAIRS BENT 2		Q	JANTIT	[ES	
REFAIRS DENT Z	EST	IMATE		ACTUAL	-
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF
CAP (VERTICAL FACE)	1.0	0.5			
CAP (HORIZONTAL, CORNER)	0.0	0.0			
COLUMN	0.5	0.1			
FOOTING	0.0	0.0			
EPOXY RESIN INJECT	ION	LF			LF
CAP		0.0			
COLUMN		0.0			
FOOTING		0.0			
EPOXY COATING					
TOP OF CAP					

SPAN 3

PROJECT NO	15BPR.26
NEW HANOVER/	<u>PENDER COUNTY</u>
BRIDGE NO.:	640048

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH PRESERVATION

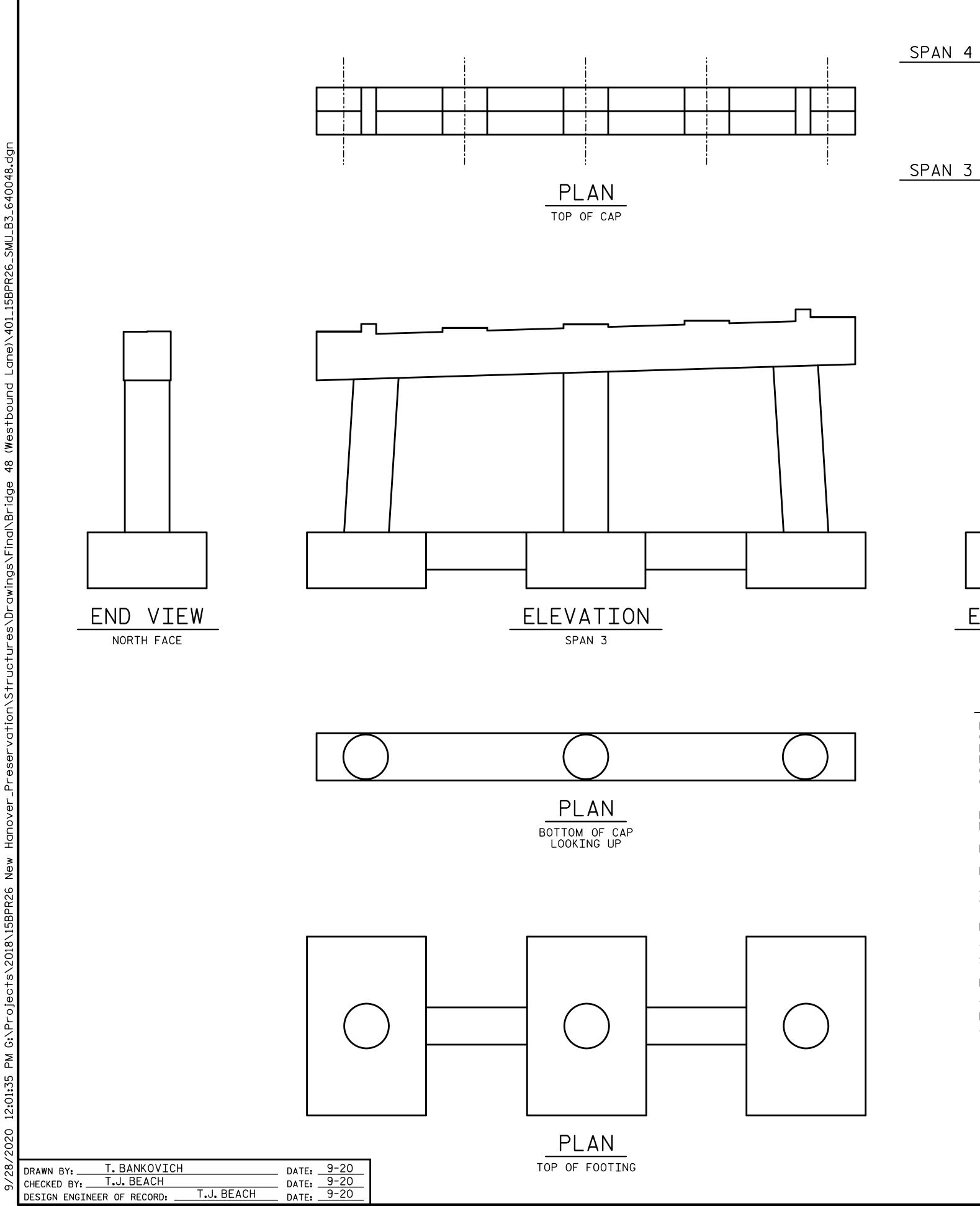
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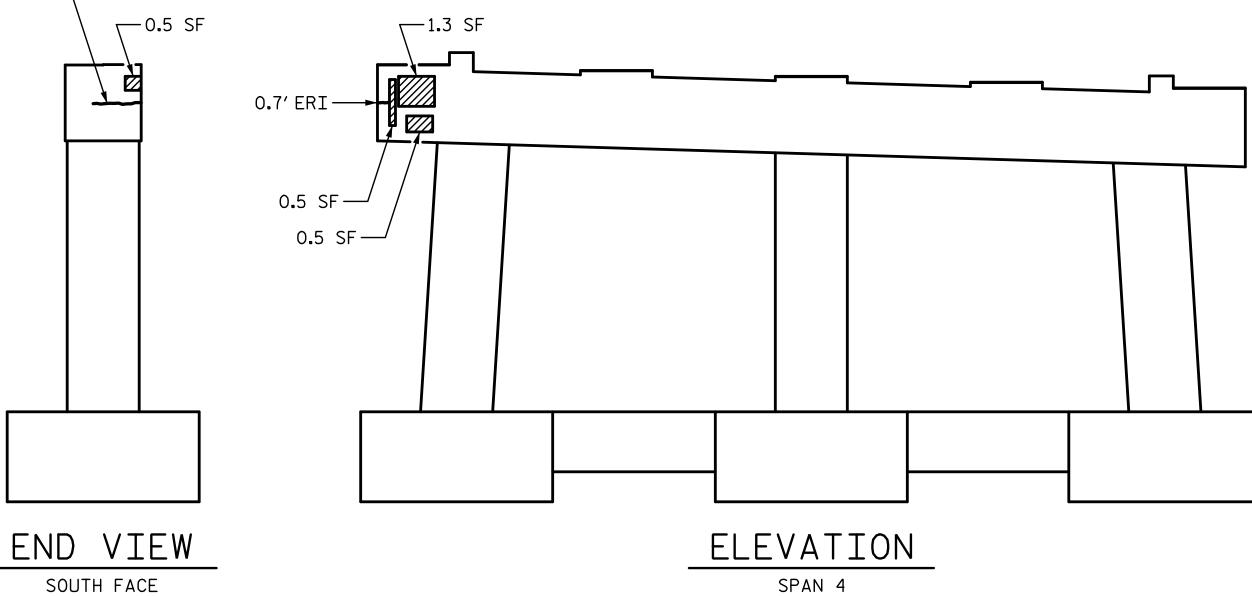
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ERI — EPOXY RESIN INJECTION

SPAN 3



NOTES:

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REPAIR LOCAITONS AND ESTIMATE OF THE QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE INSPECTOR OR ENGINEER THE CONTRACTOR SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITIY TABLE.

FOR SUBSTRUCTURE REPAIR DETAIL, SEE "SUBSTRUCTURE REPAIR DETAIL" SHEET.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

SHOTCRETE REPAIRS MAY BE REPLACED WITH CONCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

THE CONTRACTOR SHALL CLEAN AND EPOXY COAT PAINT THE TOP SURFACE OF BENT CAPS.

FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

VALUES IN CHART REPRESENT ESTIMATE REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN, OF 1" BEHIND REBAR AND MIN. 2" CL. TO SAWCUT. SEE REPAIR DETAILS.

PLANS PREPARED



REPAIR QUANTITY TABLE					
REPAIRS BENT 3		QI	UANTITI	[ES	
REFAIRS DENT J	EST	IMATE		ACTUAL	-
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF
CAP (VERTICAL FACE)	2.8	0.5			
CAP (HORIZONTAL, CORNER)	0.0	0.0			
COLUMN	0.0	0.0			
FOOTING	0.0	0.0			
EPOXY RESIN INJECT	ION	LF			LF
САР		2.7			
COLUMN		0.0			
FOOTING		0.0			
EPOXY COATING					
TOP OF CAP					

SPAN 4

PROJECT NO.	15BPR.26
NEW HANOVER	/PENDER_COUNTY
BRIDGE NO.:	640048

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH PRESERVATION

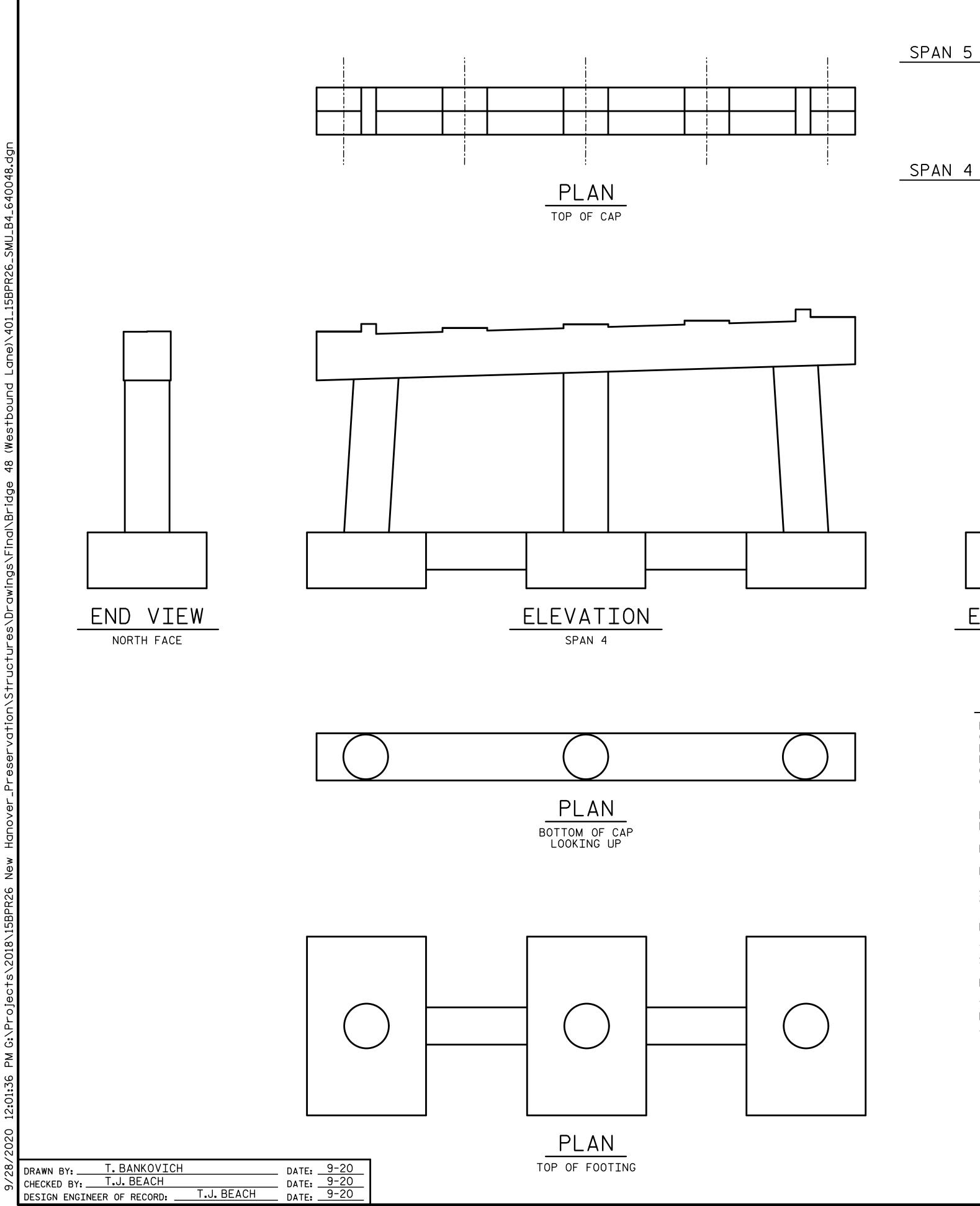
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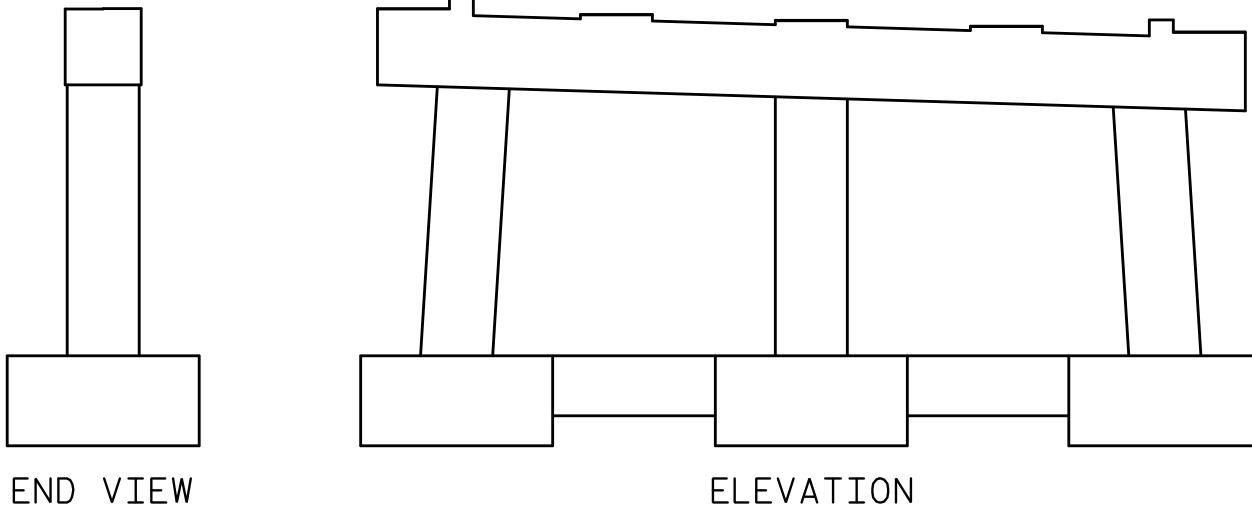
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ERI — EPOXY RESIN INJECTION

SPAN 4



SOUTH FACE

NOTES:

REPAIR LOCAITONS AND ESTIMATE OF THE QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE INSPECTOR OR ENGINEER THE CONTRACTOR SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITIY TABLE.

FOR SUBSTRUCTURE REPAIR DETAIL, SEE ``SUBSTRUCTURE REPAIR DETAIL" SHEET.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

SHOTCRETE REPAIRS MAY BE REPLACED WITH CONCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

THE CONTRACTOR SHALL CLEAN AND EPOXY COAT PAINT THE TOP SURFACE OF BENT CAPS.

FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

VALUES IN CHART REPRESENT ESTIMATE REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN, OF 1" BEHIND REBAR AND MIN. 2"CL. TO SAWCUT. SEE REPAIR DETAILS.

PLANS PREPARED BY:



REPAIR QUANTITY TABLE							
REPAIRS BENT 4		Q	JANTIT	[ES			
REFAIRS DENI 4	EST	IMATE		ACTUAL	_		
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF		
CAP (VERTICAL FACE)	0.0	0.0					
CAP (HORIZONTAL, CORNER)	0.0	0.0					
COLUMN	0.0	0.0					
FOOTING	0.0	0.0					
EPOXY RESIN INJECT	ION	LF			LF		
CAP		0.0					
COLUMN		0.0					
FOOTING		0.0					
EPOXY COATING							
TOP OF CAP							

SPAN 5

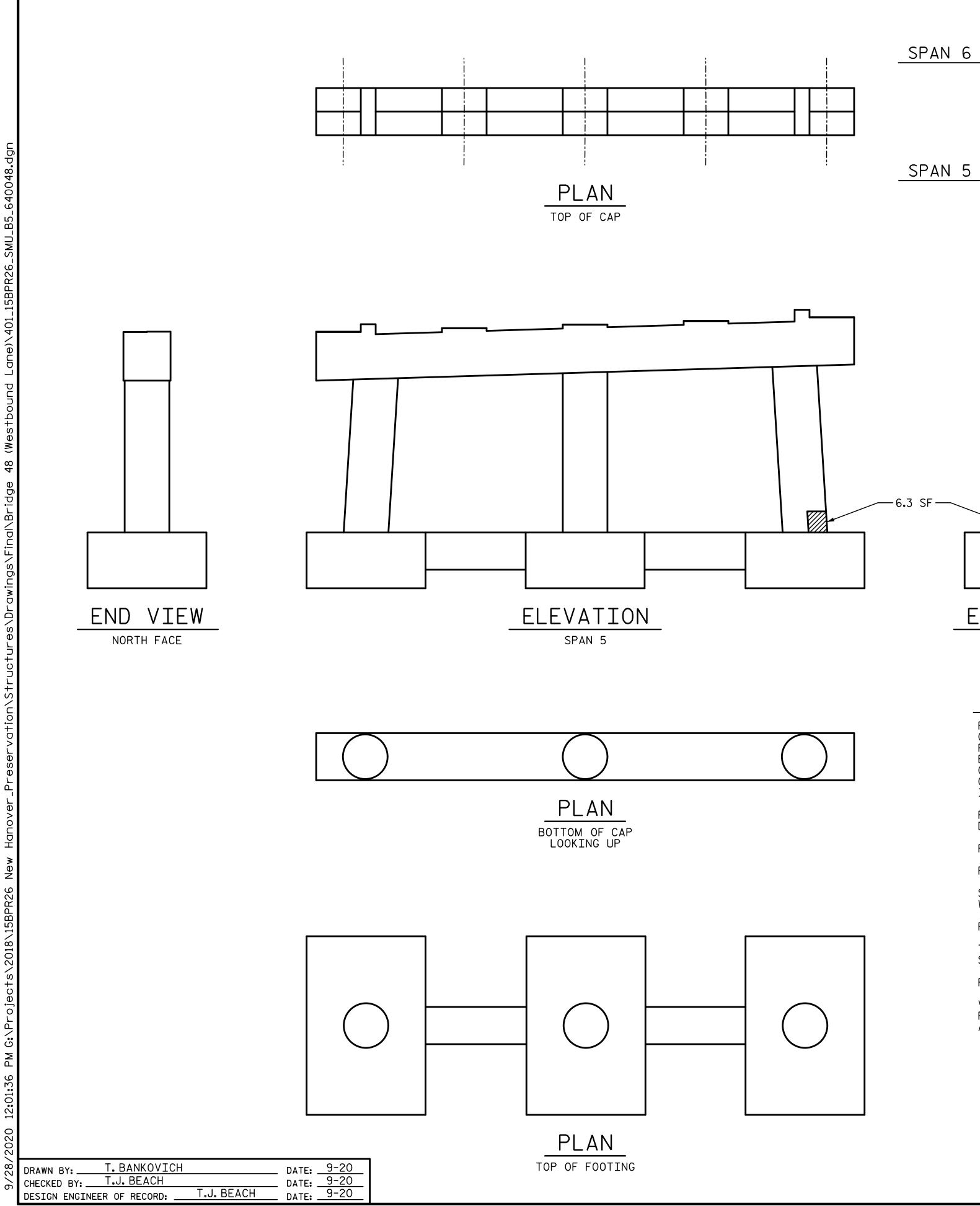
PROJECT NO.	15BPR.26
NEW HANOVER	<u>/PENDER_COUNTY</u>
BRIDGE NO.:	640048

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH PRESERVATION

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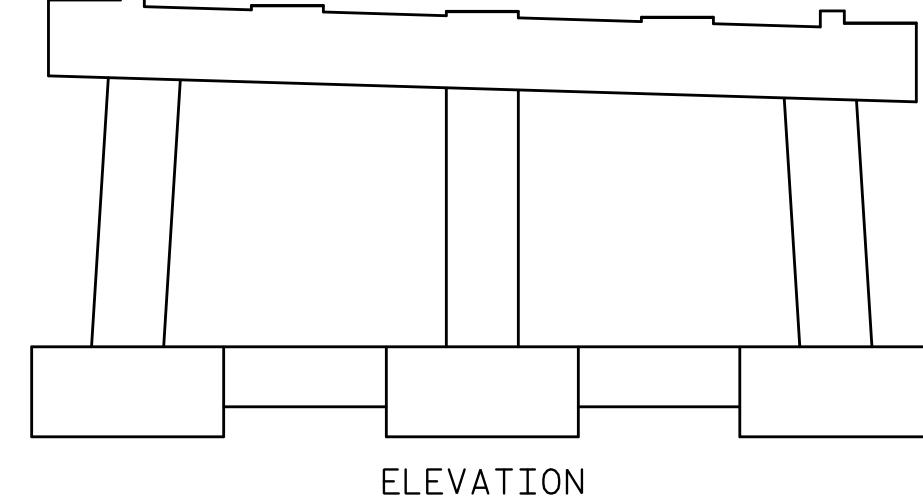
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ERI — EPOXY RESIN INJECTION



NOTES:

END VIEW

SOUTH FACE

REPAIR LOCAITONS AND ESTIMATE OF THE QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE INSPECTOR OR ENGINEER THE CONTRACTOR SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITIY TABLE.

FOR SUBSTRUCTURE REPAIR DETAIL, SEE "SUBSTRUCTURE REPAIR DETAIL" SHEET.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

SHOTCRETE REPAIRS MAY BE REPLACED WITH CONCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

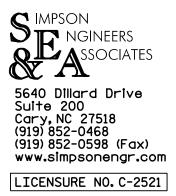
FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

THE CONTRACTOR SHALL CLEAN AND EPOXY COAT PAINT THE TOP SURFACE OF BENT CAPS.

FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

VALUES IN CHART REPRESENT ESTIMATE REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN, OF 1" BEHIND REBAR AND MIN. 2"CL. TO SAWCUT. SEE REPAIR DETAILS.

PLANS PREPARED BY:



REPAIR QUANTITY TABLE							
REPAIRS BENT 5		Q	JANTIT	[ES			
REFAIRS DENT 5	EST	IMATE		ACTUAL	_		
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF		
CAP (VERTICAL FACE)	0.0	0.0					
CAP (HORIZONTAL, CORNER)	0.0	0.0					
COLUMN	6.3	0.8					
FOOTING	0.0	0.0					
EPOXY RESIN INJECT	ION	LF			LF		
CAP		0.0					
COLUMN		0.0					
FOOTING		0.0					
EPOXY COATING							
TOP OF CAP							

SPAN 6

PROJECT NO.	15BPR.26
NEW HANOVER	/PENDER_COUNTY
BRIDGE NO.:	640048

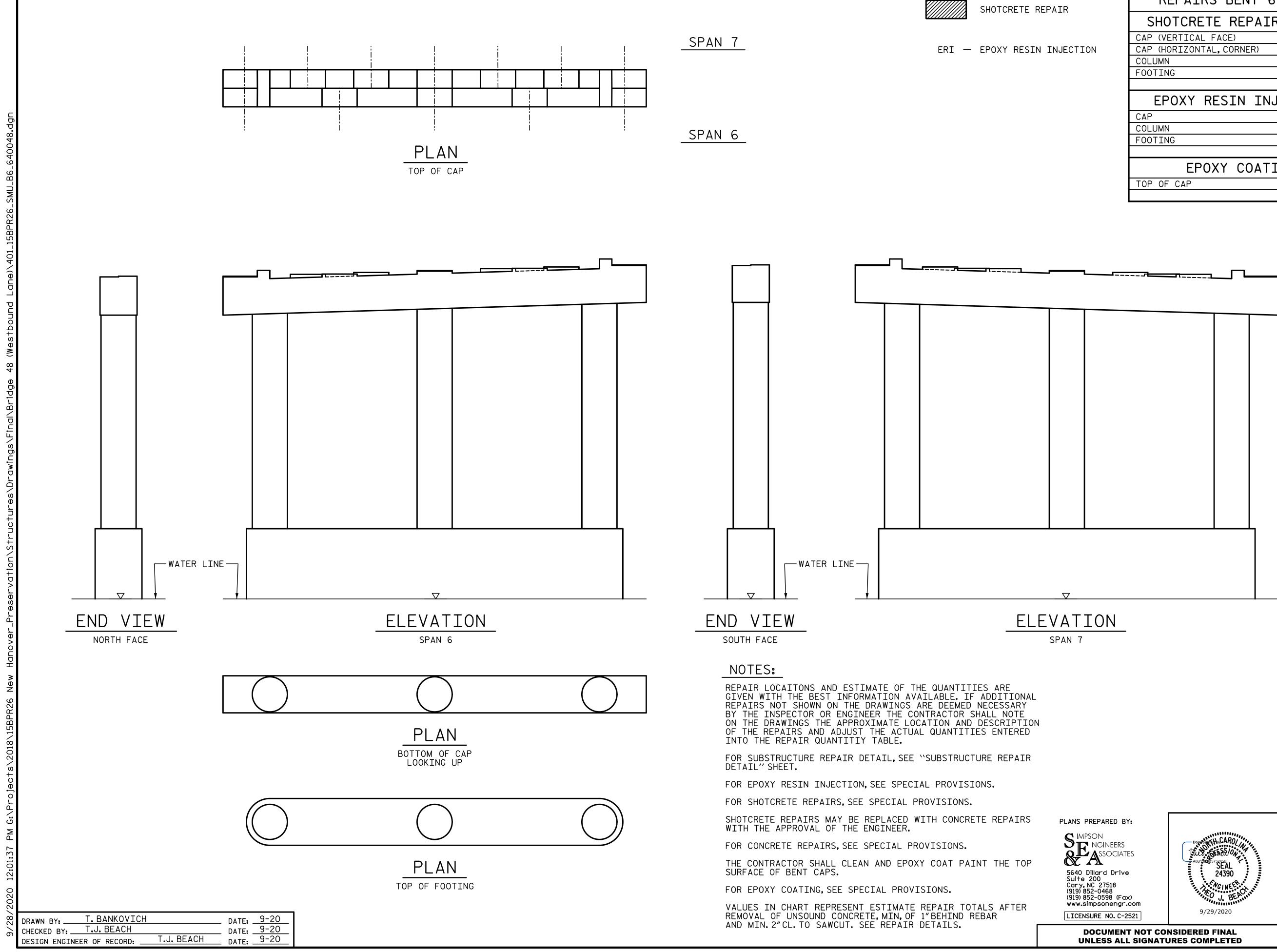
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH PRESERVATION

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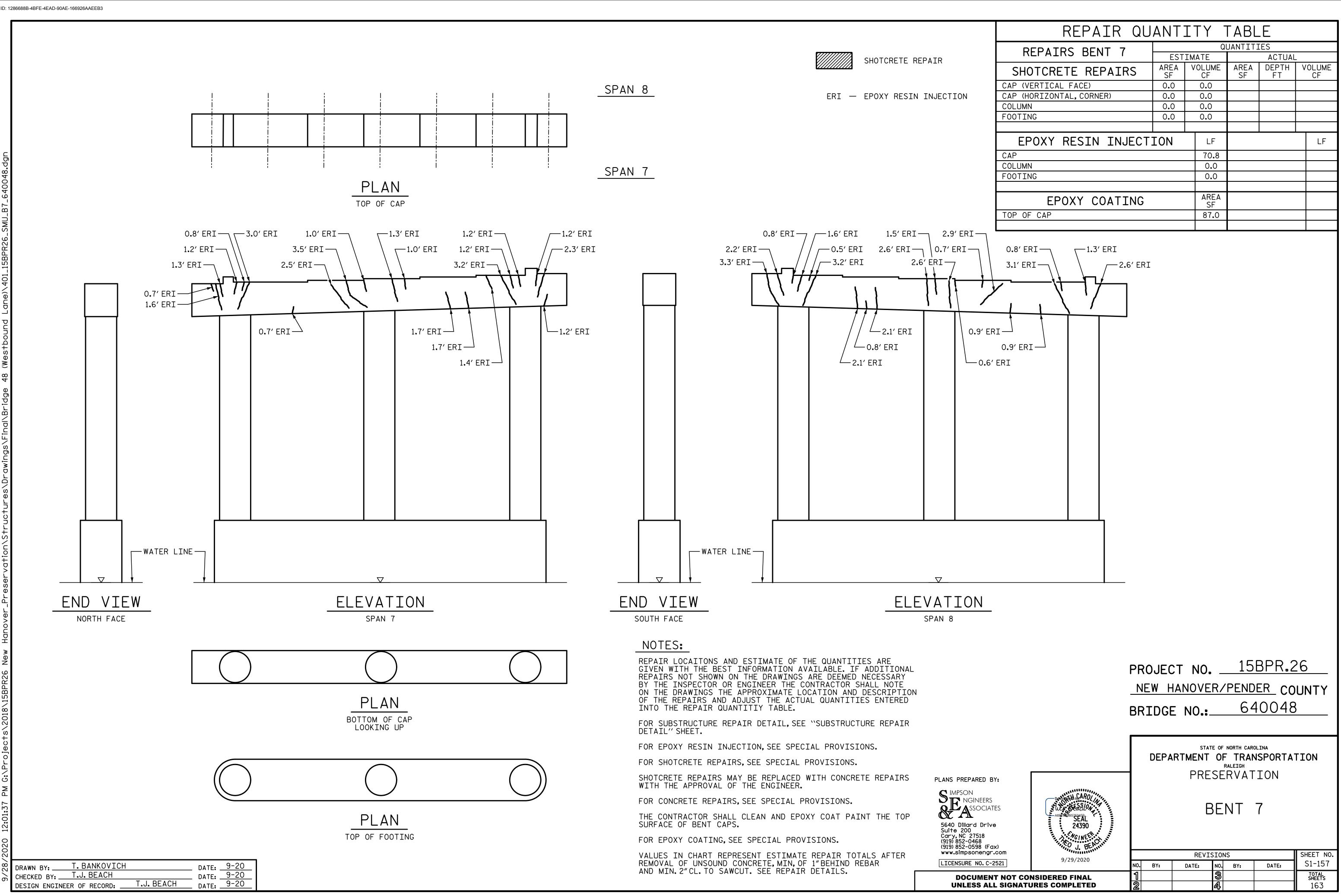




REPAIR QUANTITY TABLE							
REPAIRS BENT 6		QI	JANTIT]	IES			
REFAIRS DENT 6	EST	IMATE		ACTUAL	-		
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF		
CAP (VERTICAL FACE)	0.0	0.0					
CAP (HORIZONTAL, CORNER)	0.0	0.0					
COLUMN	0.0	0.0					
FOOTING	0.0	0.0					
EPOXY RESIN INJECT	LF			LF			
САР		0.0					
COLUMN		0.0					
FOOTING	FOOTING						
EPOXY COATING	AREA SF						
TOP OF CAP		91.0					

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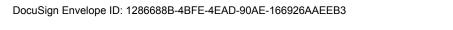


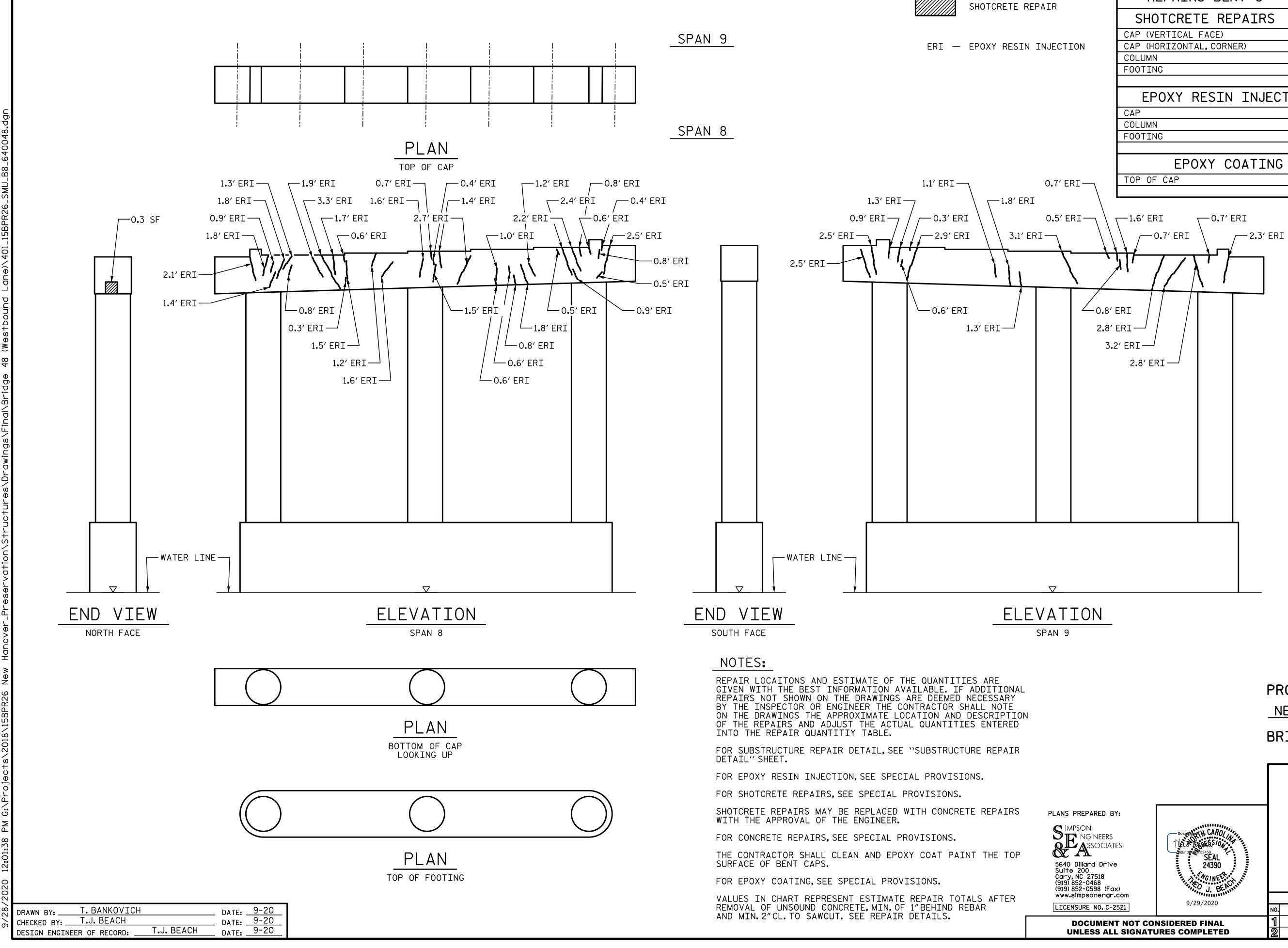




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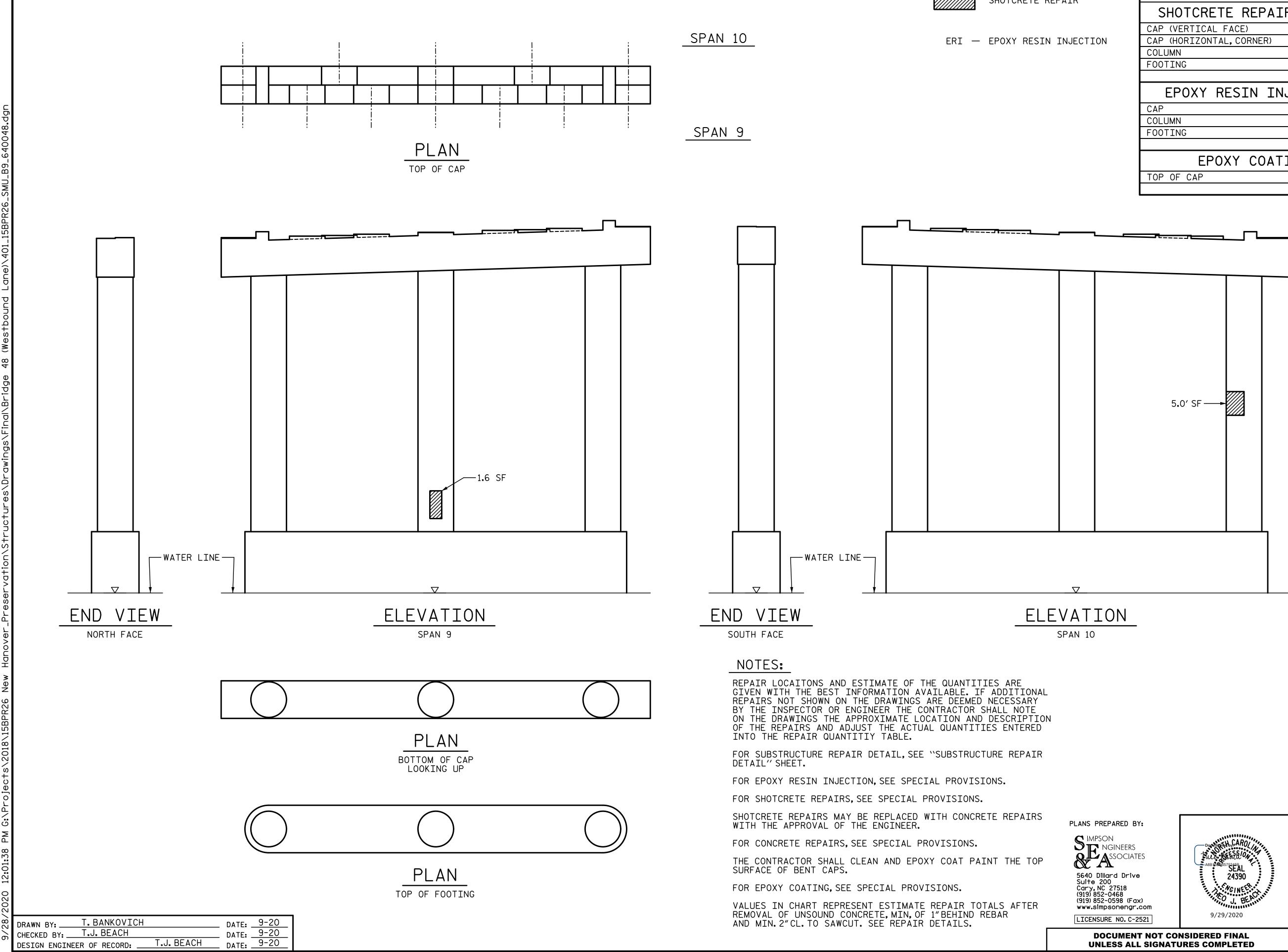






REPAIR QU	ANT	ITY -	TABL	.E	
REPAIRS BENT 8		QI	UANTIT	IES	
REFAIRS DENT O	EST	IMATE		ACTUAL	_
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF
CAP (VERTICAL FACE)	0.3	0.1			
CAP (HORIZONTAL, CORNER)	0.0	0.0			
COLUMN	0.0	0.0			
FOOTING	0.0	0.0			
EPOXY RESIN INJECT	ION	LF			LF
CAP		82.5			
COLUMN		0.0			
FOOTING		0.0			
EPOXY COATING	AREA SF				
TOP OF CAP	87.0				

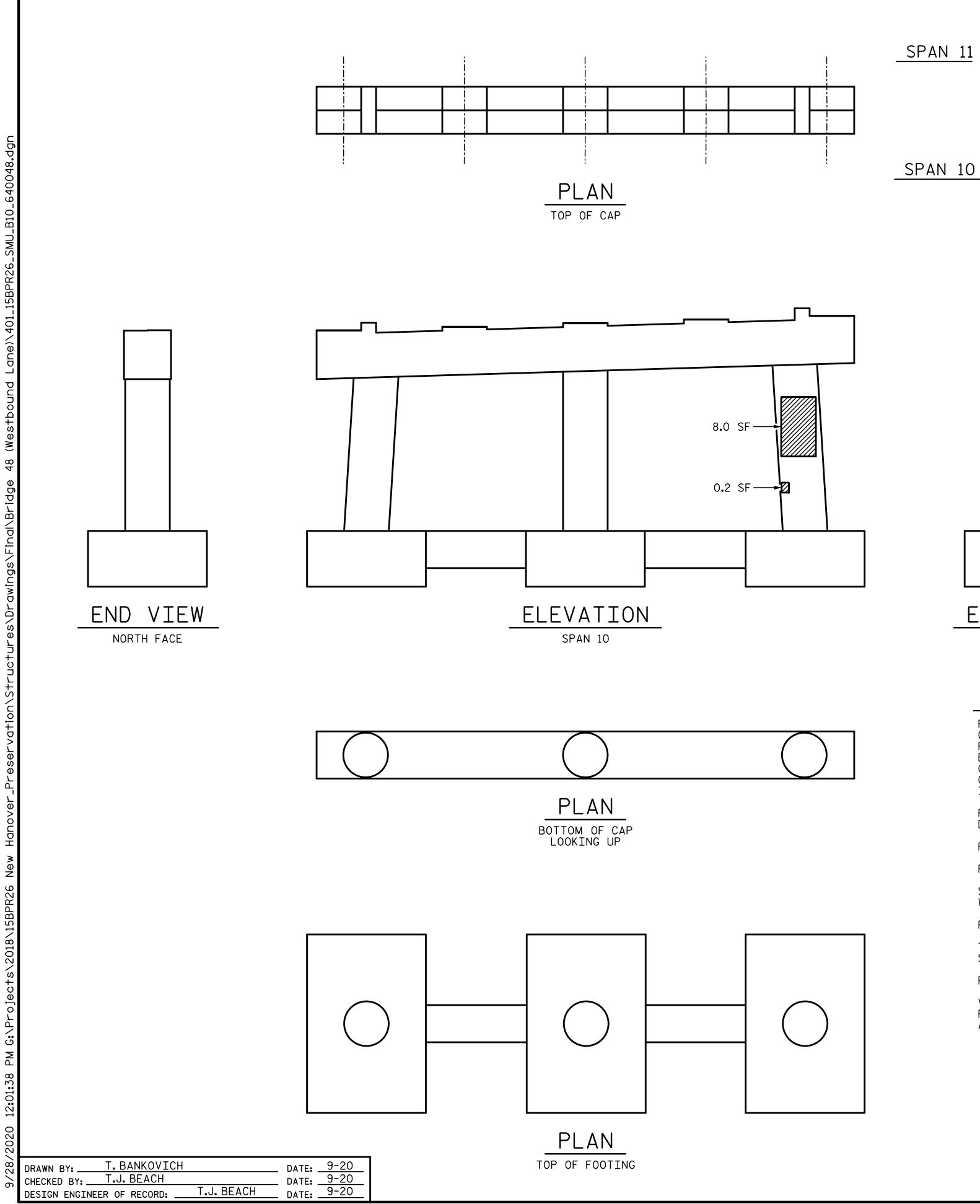
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REPAIR QUANTITY TABLE								
REPAIRS BENT 9		QI	JANTITI	IES				
INCLATING DEINT J	EST	IMATE		ACTUAL	-			
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF			
CAP (VERTICAL FACE)	0.0	0.0						
CAP (HORIZONTAL, CORNER)	0.0	0.0						
COLUMN	6.6	1.7						
FOOTING	0.0	0.0						
EPOXY RESIN INJECT	ION	LF			LF			
САР		0.0						
COLUMN		0.0						
FOOTING		0.0						
EPOXY COATING	AREA SF							
TOP OF CAP	TOP OF CAP							

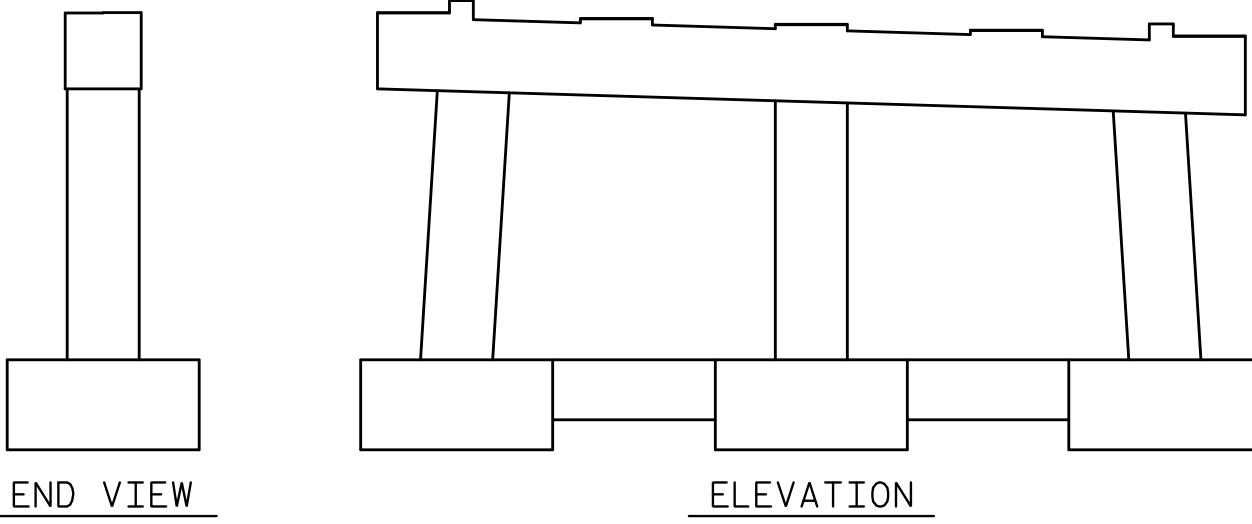
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ERI — EPOXY RESIN INJECTION

SPAN 10



SOUTH FACE

NOTES:

REPAIR LOCAITONS AND ESTIMATE OF THE QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE INSPECTOR OR ENGINEER THE CONTRACTOR SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITIY TABLE.

FOR SUBSTRUCTURE REPAIR DETAIL, SEE "SUBSTRUCTURE REPAIR DETAIL" SHEET.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

SHOTCRETE REPAIRS MAY BE REPLACED WITH CONCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

THE CONTRACTOR SHALL CLEAN AND EPOXY COAT PAINT THE TOP SURFACE OF BENT CAPS.

FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

VALUES IN CHART REPRESENT ESTIMATE REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN, OF 1" BEHIND REBAR AND MIN. 2"CL. TO SAWCUT. SEE REPAIR DETAILS.

PLANS PREPARED BY:



REPAIR QU	ANT	ITY -	ΓABL	.E	
REPAIRS BENT 10		QI	JANTIT	EES	
REFAIRS DENT IU	EST	IMATE		ACTUAL	-
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF
CAP (VERTICAL FACE)	0.0	0.0			
CAP (HORIZONTAL, CORNER)	0.0	0.0			
COLUMN	COLUMN 8.2 2.				
FOOTING	0.0	0.0 0.0			
EPOXY RESIN INJECT	ION	LF			LF
CAP		0.0			
COLUMN		0.0			
FOOTING		0.0			
EPOXY COATING	AREA SF				
TOP OF CAP	95.0				

SPAN 11

PROJECT NO.	15BPR.26
NEW HANOVER	<u>/PENDER_COUNTY</u>
BRIDGE NO.:	640048

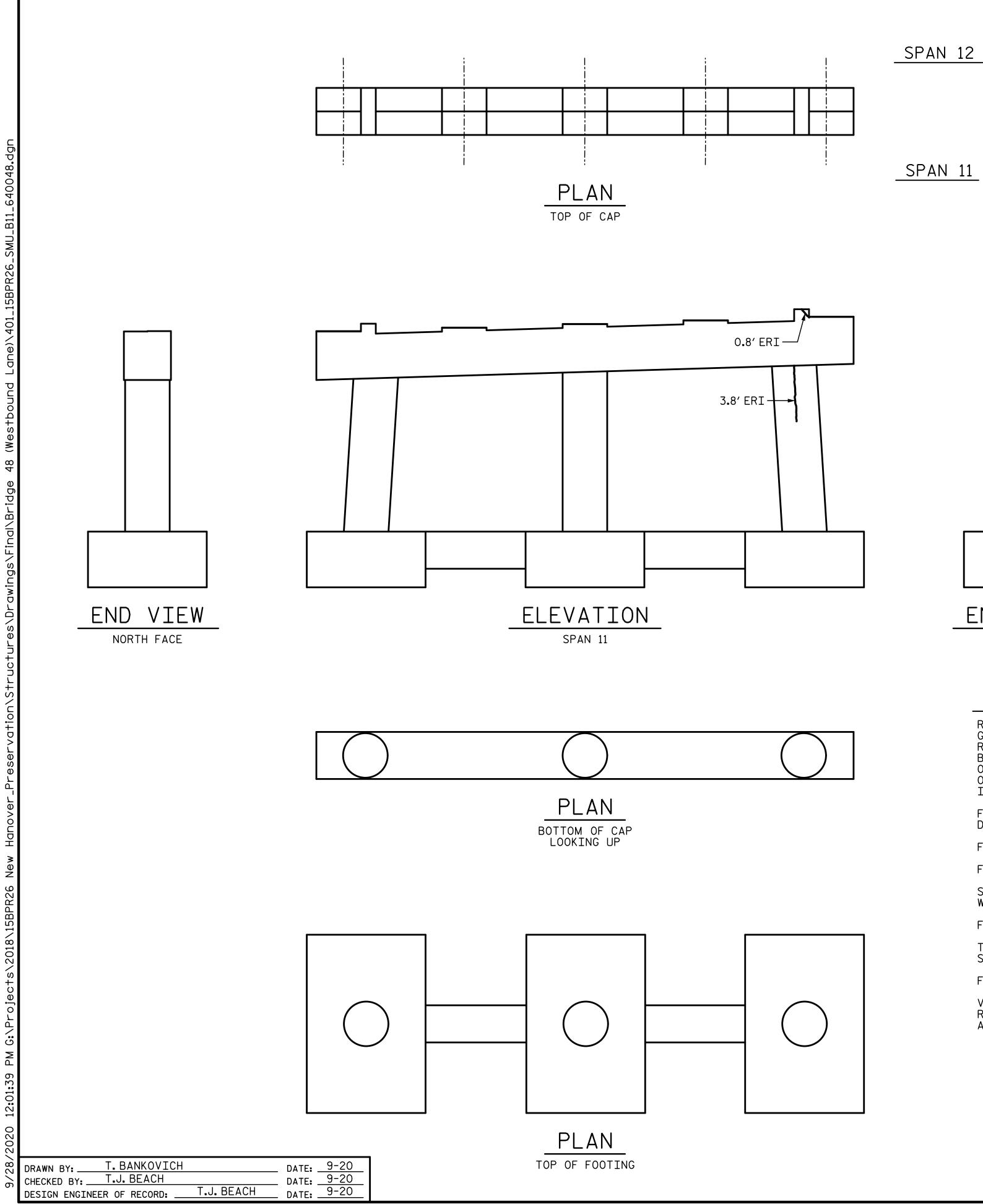
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH PRESERVATION

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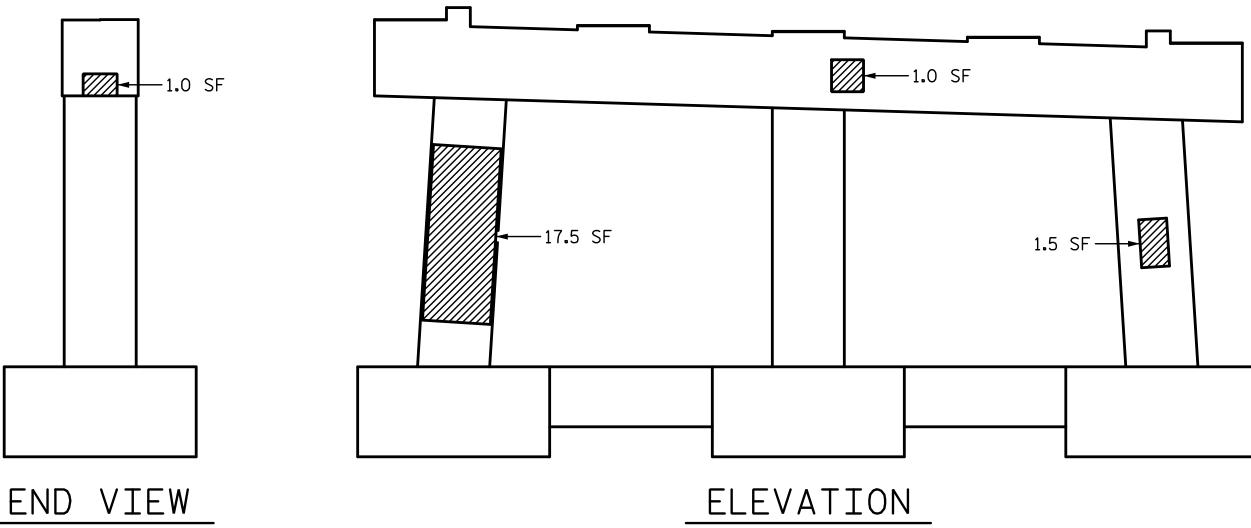
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ERI — EPOXY RESIN INJECTION

SPAN 11



SOUTH FACE

NOTES:

REPAIR LOCAITONS AND ESTIMATE OF THE QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE INSPECTOR OR ENGINEER THE CONTRACTOR SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITIY TABLE.

FOR SUBSTRUCTURE REPAIR DETAIL, SEE "SUBSTRUCTURE REPAIR DETAIL" SHEET.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

SHOTCRETE REPAIRS MAY BE REPLACED WITH CONCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

THE CONTRACTOR SHALL CLEAN AND EPOXY COAT PAINT THE TOP SURFACE OF BENT CAPS.

FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

VALUES IN CHART REPRESENT ESTIMATE REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN, OF 1" BEHIND REBAR AND MIN. 2"CL. TO SAWCUT. SEE REPAIR DETAILS.

PLANS PREPARED BY:



UNLESS ALL SIGNATURES COMPLETED

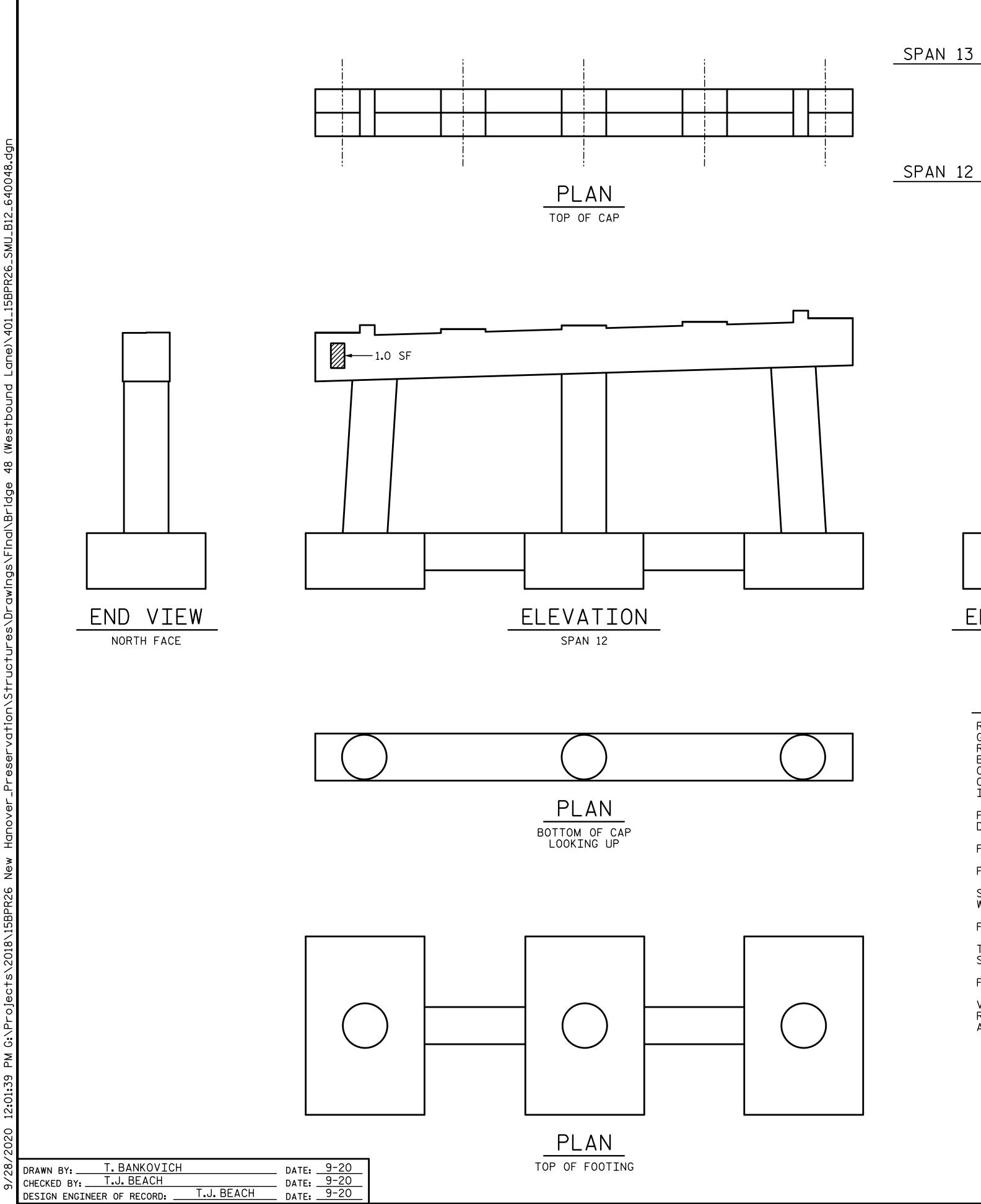
REPAIR QUANTITY TABLE							
REPAIRS BENT 11		QI	JANTITI	ES			
NEI AINS DENT II	EST	IMATE		ACTUAL	_		
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF		
CAP (VERTICAL FACE)	2.0	0.7					
CAP (HORIZONTAL, CORNER)	0.0	0.0					
COLUMN	19.0	5.0					
FOOTING	0.0	0.0					
EPOXY RESIN INJECT	ION	LF			LF		
CAP		0.8					
COLUMN		3.8					
FOOTING	FOOTING						
EPOXY COATING	AREA SF						
TOP OF CAP	95.0						

SPAN 12

PROJECT NO. 15BPR.26 NEW HANOVER/PENDER COUNTY 640048 BRIDGE NO .:_

163

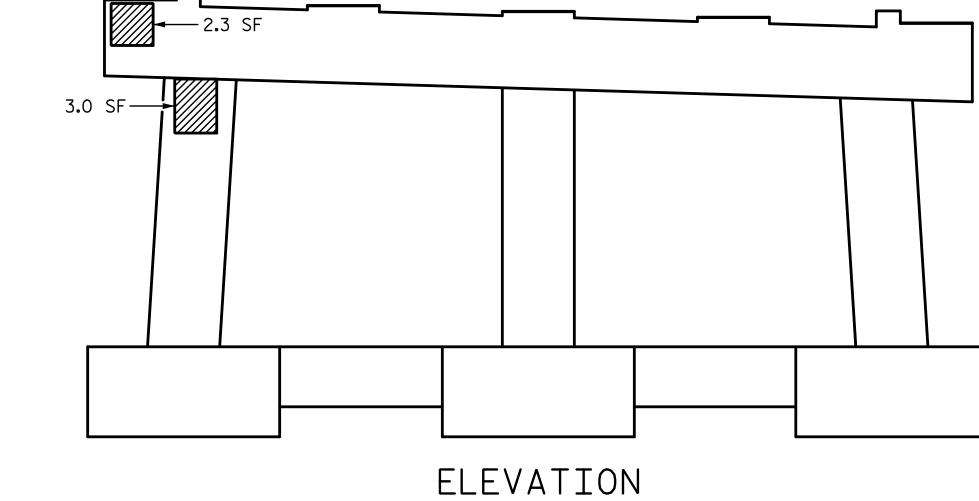
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ERI — EPOXY RESIN INJECTION

SPAN 12



NOTES:

END VIEW

SOUTH FACE

REPAIR LOCAITONS AND ESTIMATE OF THE QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE INSPECTOR OR ENGINEER THE CONTRACTOR SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITIY TABLE.

FOR SUBSTRUCTURE REPAIR DETAIL, SEE "SUBSTRUCTURE REPAIR DETAIL" SHEET.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

SHOTCRETE REPAIRS MAY BE REPLACED WITH CONCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

THE CONTRACTOR SHALL CLEAN AND EPOXY COAT PAINT THE TOP SURFACE OF BENT CAPS.

FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

VALUES IN CHART REPRESENT ESTIMATE REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN, OF 1" BEHIND REBAR AND MIN. 2"CL. TO SAWCUT. SEE REPAIR DETAILS.

PLANS PREPARED BY:



DOCUMENT NOT CONSIDERED FINAL **UNLESS ALL SIGNATURES COMPLETED**

REPAIR QU	ANT	ITY -	ΓABL	.E	
REPAIRS BENT 12		QI	JANTIT	[ES	
REFAIRS DENT 12	EST	IMATE		ACTUAL	-
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF
CAP (VERTICAL FACE)	3.3	1.0			
CAP (HORIZONTAL, CORNER)	CAP (HORIZONTAL, CORNER) 0.0				
COLUMN	3.0	0.8			
FOOTING	0.0	0.0 0.0			
EPOXY RESIN INJECT	ION	LF			LF
САР		0.0			
COLUMN		0.0			
FOOTING		0.0			
EPOXY COATING	AREA SF				
TOP OF CAP	95.0				

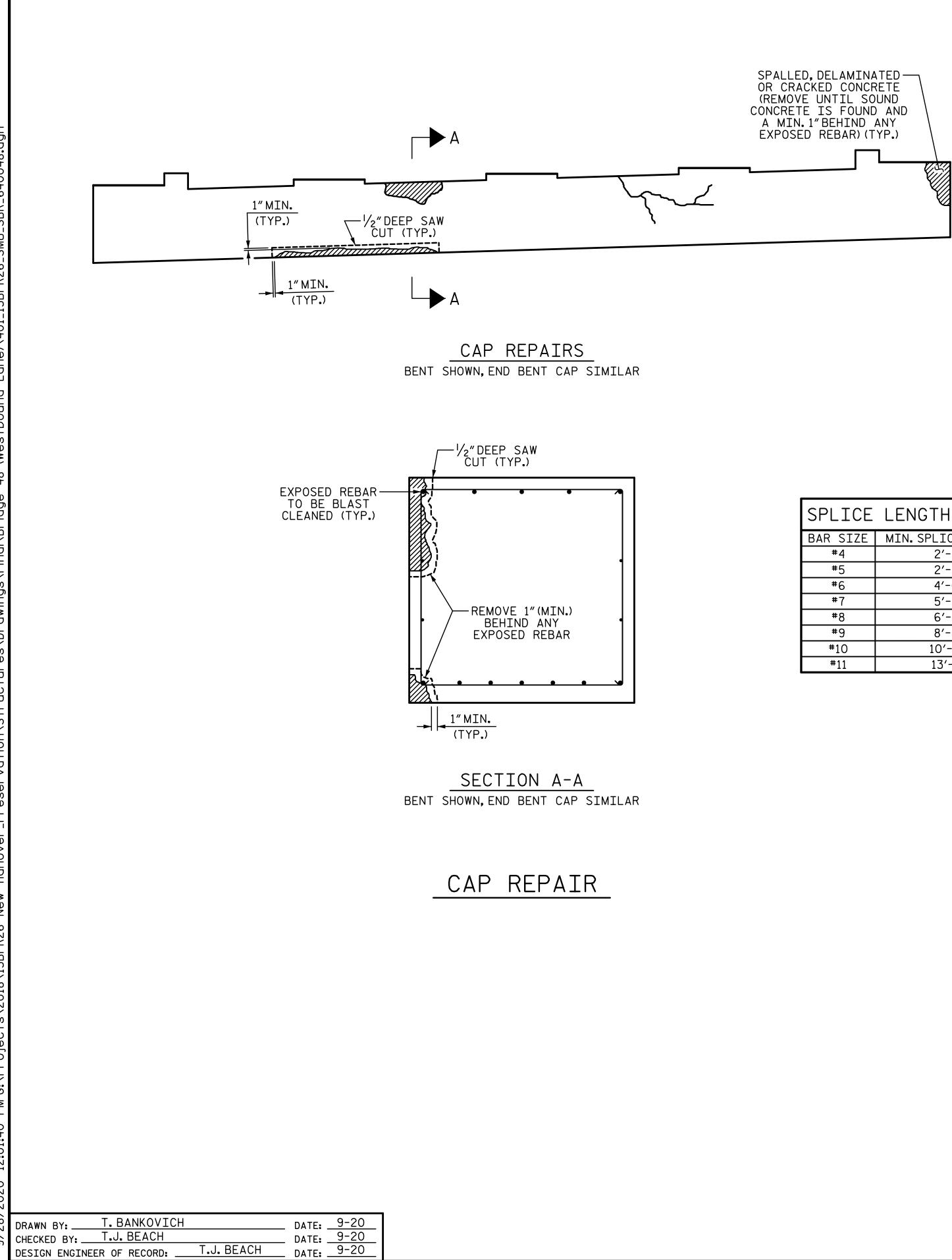
SPAN 13

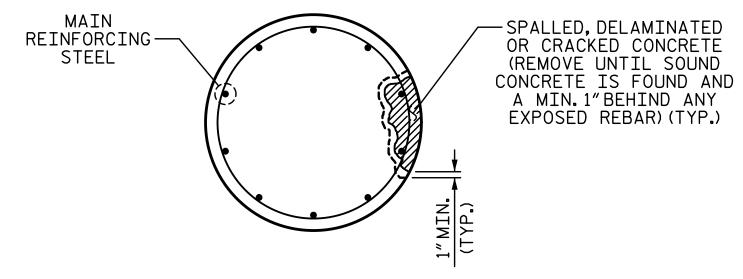
PROJECT NO. 15BPR.26 NEW HANOVER/PENDER COUNTY 640048 BRIDGE NO .:_

TOTAL SHEETS

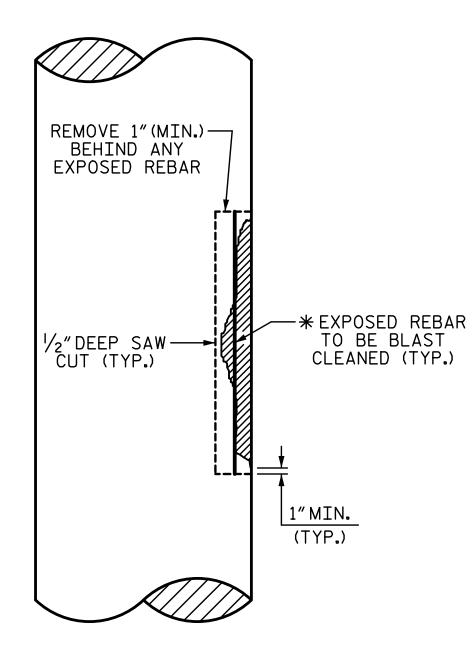
163

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH PRESERVATION BENT 12 SEAL 24390 MGINEY SHEET NO. REVISIONS 9/29/2020 NO. BY: S1-162 DATE: DATE: BY:









ELEVATION OF COLUMN * IF CONFINEMENT STEEL IS NOT PRESENT, THEN REPAIR LENGTH SHALL NOT EXCEED 10 FEET

COLUMN REPAIR





SPLICE	LENGTH TABLE				
BAR SIZE	MIN.SPLICE LENGTH				
#4	2'-4"				
#5	2′-9″				
#6	4'-0"				
#7	5′-3″				
#8	6′-9″				
#9	8′-6″				
#10	10'-11"				
#11	13′-4″				

NOTES:

TYPICAL BENT CAP REPAIRS ARE SHOWN, REPAIR DETAILS SIMILAR FOR END BENT CAPS AND STRUTS.

THE METHOD USED TO DELINEATE THE AREAS OF UNSOUND CONCRETE TO BE REPAIRED SHALL NOT PERMANENTLY MARK THE CONCRETE, LEAVE ANY RESIDUE AFTER REMOVAL OF REQUIRE HARSH CHEMICALS TO REMOVE.

THE CONTRACTOR SHALL REMOVE THE DETERIORATED CONCRETE IN ACCORDANCE WITH THE GUIDELINES SET IN THESE NOTES, IN THE SPECIAL PROVISIONS AND THE STANDARD SPECIFICATIONS.

REMOVE UNSOUND CONCRETE TO THE EXTEND NECESSARY, MINIMUM OF 1" BEHIND REBAR AND MINIMUM OF 2" CLEARANCE TO SAWCUT.

NO MORE THANT ONE-THIRD OF THE CAP OR COLUMN CROSS SECTIONAL AREA SHALL BE REMOVED AT ONE TIME. SHOULD IT BECOME NECESSARY TO REMOVE MORE THAT 30% OF A CAP OR COLUMN CROSS SECTIONAL AREA, NOTIFY THE ENGINEER PRIOR TO PROCEEDING.

SIMULTANEOUS REMOVAL OF UNSOUND CONCRETE MAY BE PERMITTED ON MORE THAN ONE FACE OF A CAP AND/OR COLUMN. IF THE AREAS OF REMOVAL ARE NOT ADJACENT TO OR DIRECTLY OPPOSITE ONE ANOTHER. IF REMOVAL EXTENDS MORE THAN 11/2" BEHIND THE MAIN REINFORCING BARS. NOTIFY THE ENGINEER PRIOR TO PROCEEDING.

REINFORCING STEEL WHICH IS DETERMINED BY THE ENGINEER TO BE REPLACED, SHALL BE REMOVED TO A POINT WHERE IT IS SOUND. THE PATCH SHALL EXTEND A SUFFICIENT DISTANCE BEYOND THIS POINT TO DEVELOP A SPLICE LENGTH SPECIFIED IN THE TABLE ON THIS SHEET.

FOR ADHESIVELY ANCHORED ANCHOR BOLTS OF DOWEL, SEE STANDARD SPECIFICAITONS.

COAT ALL REPAIR SURFACE AREAS ON THE TOP OF CAPS, INCLUDING CHAMFERS, WITH EPOXY COATING, OVERLAPPING THE REPAIR ARE BY A MINIMUM OF 3" ON ALL POSSIBLE SIDES.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

FOR EPOXY RESIN INJECTIONS (ERI), SEE SPECIAL PROVISIONS.

PROJECT NO. 158PR.26 NEW HANOVER/PENDER COUNTY 640048 BRIDGE NO .:_

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH PRESERVATION

SUBSTRUCTURE REPAIR DETAILS

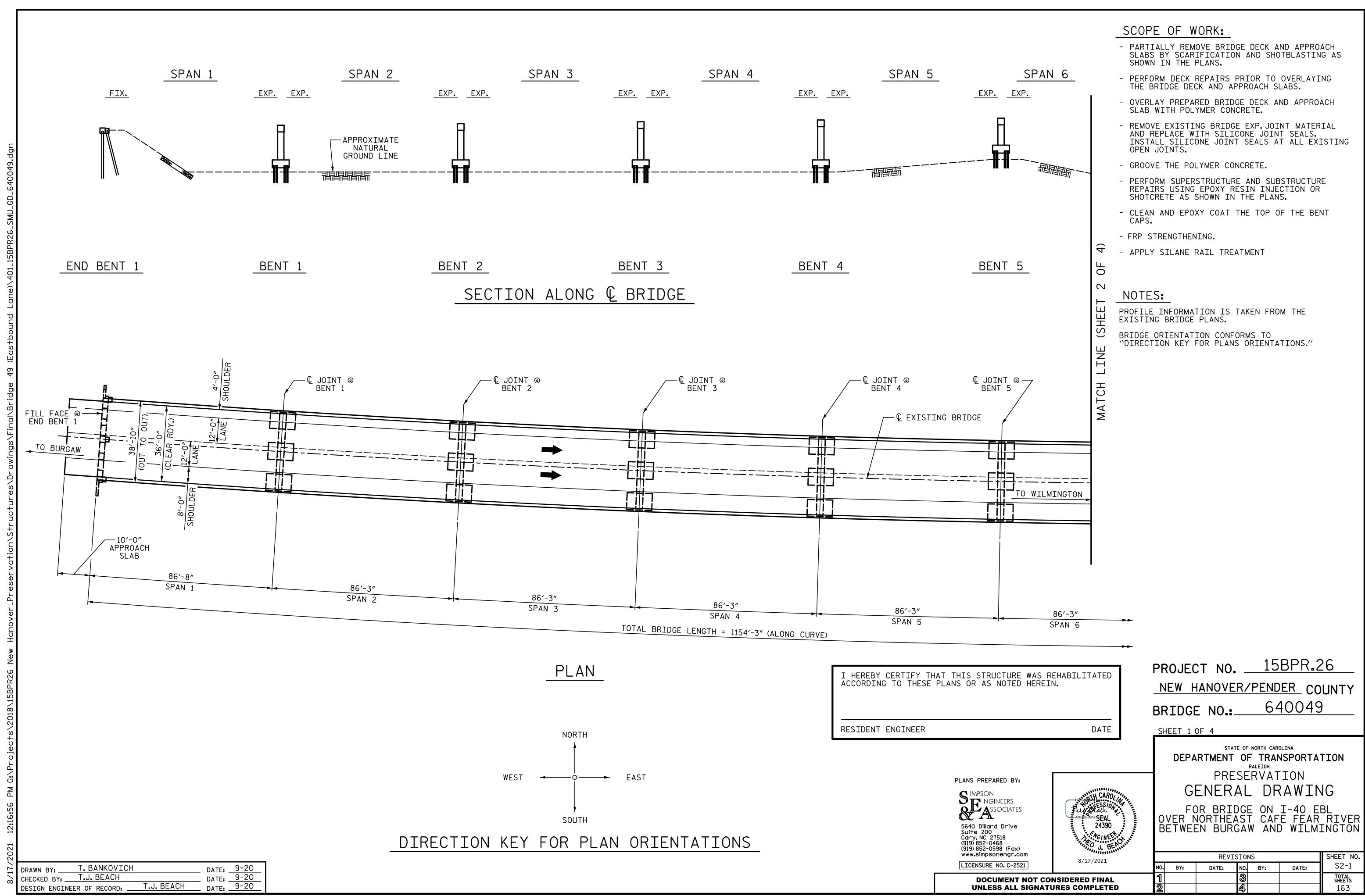
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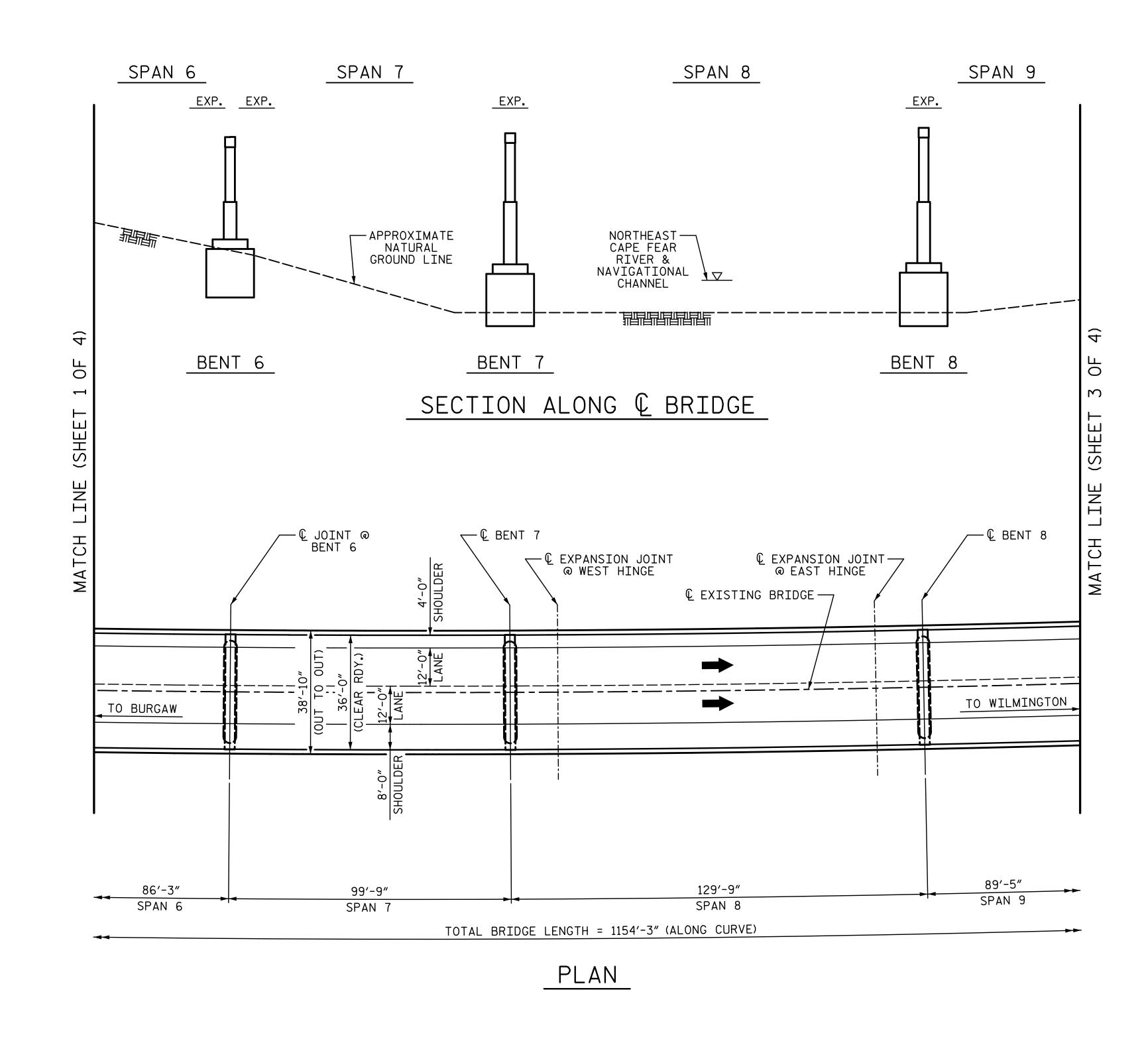
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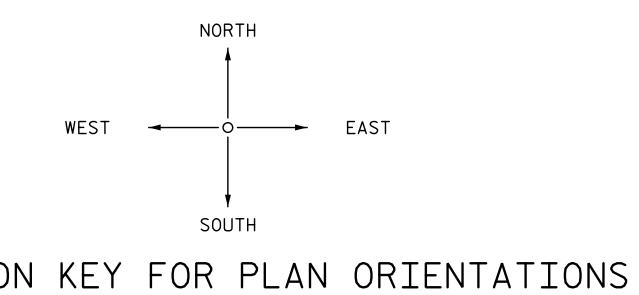
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	CHECKED BY:	T.J. BEACH		DATE:	9-20
		NEER OF RECORD:	T.J. BEACH	DATE:	9-20

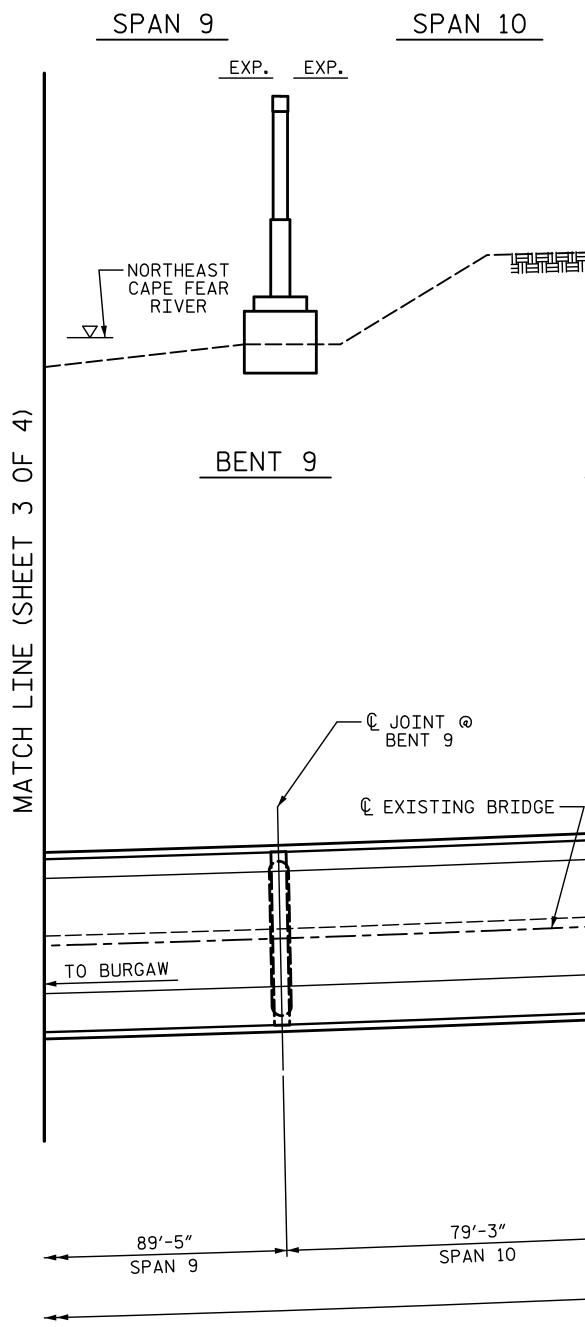




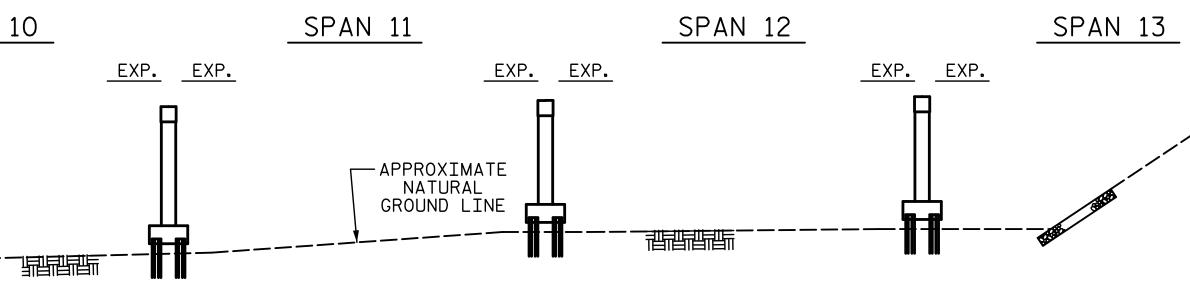
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(919) 852-0598 (Fax) www.simpsonengr.com LICENSURE NO.C-2521	9/29/2020		REVIS			SHEET NO.
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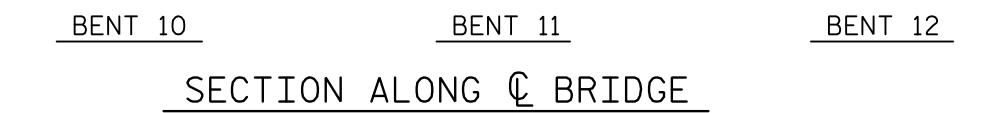
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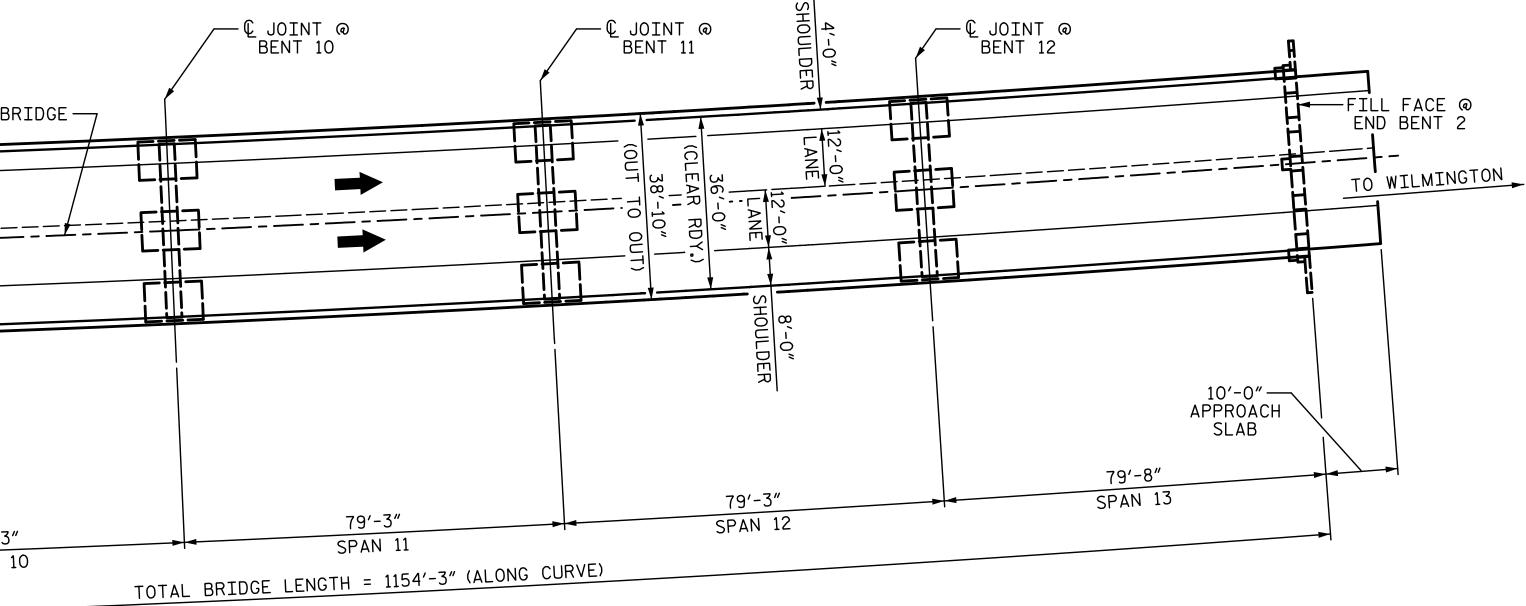
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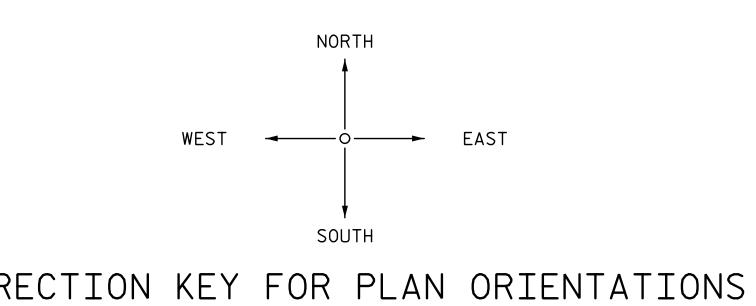
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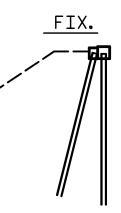






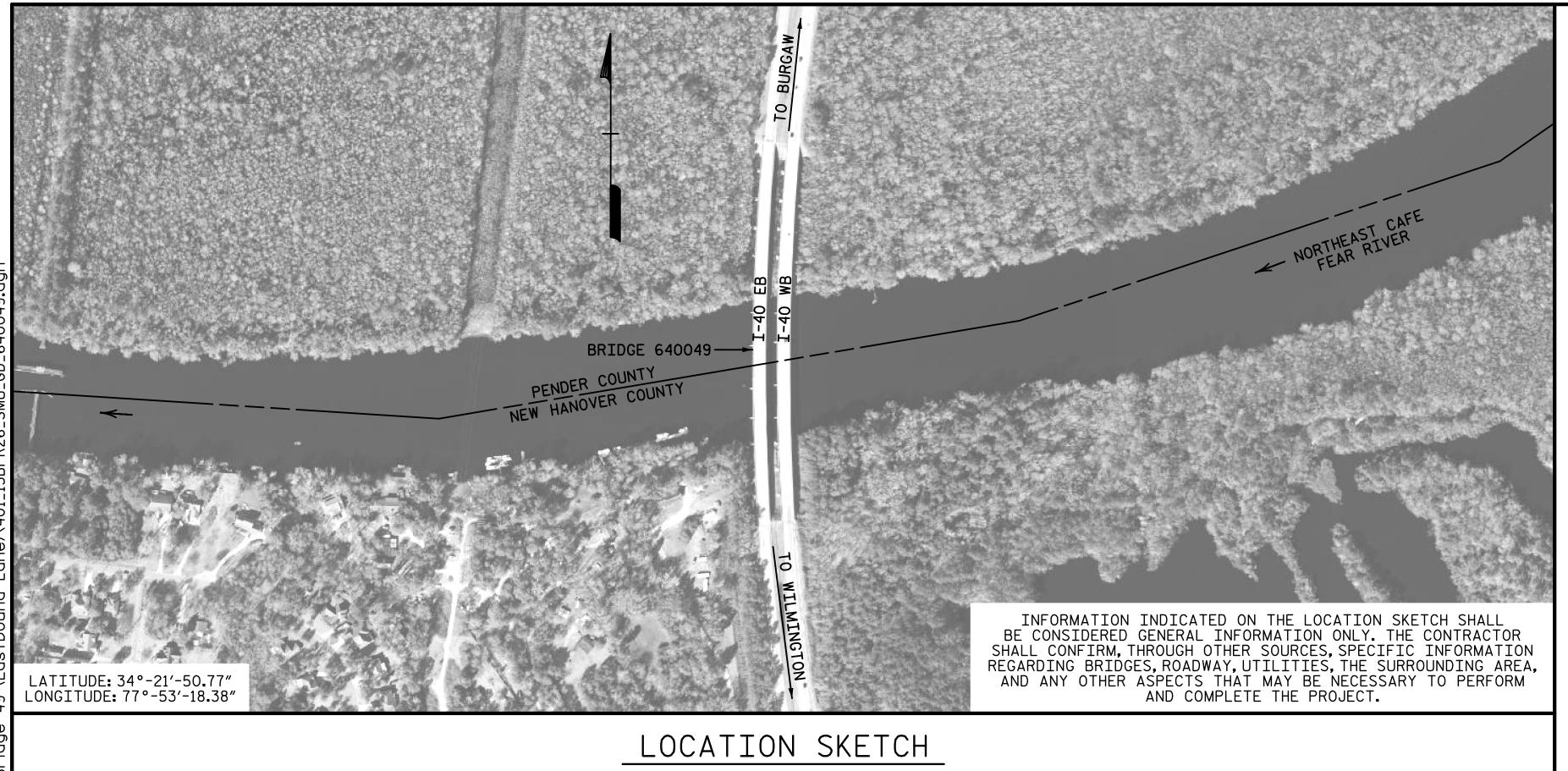






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PLANS PREPARED BY: SIMPSON NGINEERS SSOCIATES 5640 Dillard Drive Suite 200 Cary, NC 27518 (919) 852-0468 (919) 852-0598 (Fax)	AGE BESTERAS AGE SEAL 24390	G F(OVER M	RTMENT PRE ENER DR BRII	TE OF NORTH CAR OF TRAN RALEIGH SERVAT AL DF OGE ON AST CAF GAW ANI	NSPORTA	NG BL
www.simpsonengr.com	9/29/2020		REVI	SIONS		SHEET NO.
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BRIDGE NO.	GROOVING BRIDGE FLOORS	CLASS II SURFACE PREPARATION	SHOTCRETE REPAIRS	EPOXY RESIN INJECTION	POURABLE SILICONE JOINT SEALANT	POLYESTER POLYMER CONCRETE MATERIALS	EPOXY POLYMER CONCRETE MATERIALS (ALTERNATE)	REPAIRS TO PRESTRESSED CONCRETE GIRDERS	EPOXY COATING	FIBER REINFORCED POLYMER STRENGTHENING SYSTEM	SURFACE PREPARATION FOR CONCRETE BARRIER	SILANE BARRIER RAIL TREATMENT	CONCRETE DECK REPAIR FOR POLYMER CONCRETE OVERLAY	PLACING AND FINISHING POLYMER CONCRETE OVERLAY	SCARIFYING BRIDGE DECK	SHOTBLASTING BRIDGE DECK
	SF	SY	CF	LF	LF	CY	CY	CF	SF	SF	SF	SF	SY	SY	SY	SY
640049	38,522.1	59.1	23.8	801.2	518.0	130.7	128.90	13.1	1,320.0	1,469	14,244.9	14,244.9	59.1	4,697.3	4,697.3	4,697.3
TOTAL	38,522.1	59.1	23.8	801.2	518.0	130.7	128.90	13.1	1,320.0	1,469	14,244.9	14,244.9	59.1	4,697.3	4,697.3	4,697.3

N N					
	/N BY:	T. BANKOVICH		DATE:	9-20
	KED BY:_	T. BANKOVICH T.J. BEACH		DATE:	9-20
DESI	GN ENGIN	NEER OF RECORD:	T.J. BEACH	DATE: .	9-20

NOTES:

EXISTING DIMENSIONS AND BRIDGE CONDITION ARE FROM BEST INFORMATION AVAILABLE. THE CONTRACTOR SHALL FIELD VERIFY THE INFORMATION SHOWN ON THE PLANS AND NOTIFY THE ENGINEER IF ACTUAL DIMENSIONS AND CONDITIONS DIFFER.

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

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

EXISTING JOINTS AND DECK DRAINS SHALL BE SEALED PRIOR TO BEGINNING SURFACE PREPARATION OF BRIDGE DECK. LONGITUDINAL CONTRUCTION JOINTS OF OVERLAYS SHALL BE LOCATED ALONG THE CENTERLINE OR EDGE OF TRAVEL LANES.

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS. FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS. FOR CRANE SAFETY, SEE SPECIAL PROVISIONS. FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

FOR SCARIFYING BRIDGE DECK, SHOTBLASTING BRIDGE DECK, AND CLASS II SURFACE PROTECTION, SEE "OVERLAY SURFACE PREPARATION FOR POLYMER CONCRETE" SPECIAL PROVISION. FOR POURABLE SILICONE JOINT SEALANT, SEE SPECIAL PROVISIONS. FOR EPOXY COATING, SEE SPECIAL PROVISIONS. FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS. FOR REPAIRS TO PRESTRESSED CONCRETE GIRDERS, SEE SPECIAL PROVISIONS. FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS. FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS. FOR SILANE RAIL TREATMENT, SEE SPECIAL PROVISIONS. FOR SECURING VESSELS, SEE SPECIAL PROVISIONS. FOR MAINTENANCE OF WATER TRAFFIC, SEE SPECIAL PROVISIONS. FOR WORK IN, OVER, OR ADJACENT TO NAVIGABLE WATERS, SEE SPECIAL PROVISIONS. FOR FRP REPAIRS, SEE "FIBER REINFORCED POLYMER (FRP) STRENGTHENING" SPECIAL PROVISION. NORTH, SOUTH, EAST AND WEST INDICATED ON THE PLANS ARE BASED ON I-40 HIGHWAY BEING AN EAST-WEST INTERSTATE AND NOT NECESSARILY ON GEODETIC DIRECTIONS FOR OTHER DESIGN DATA AND GENERAL NOTES. SEE SPECIAL PROVISIONS.

PLANS PREPARED BY

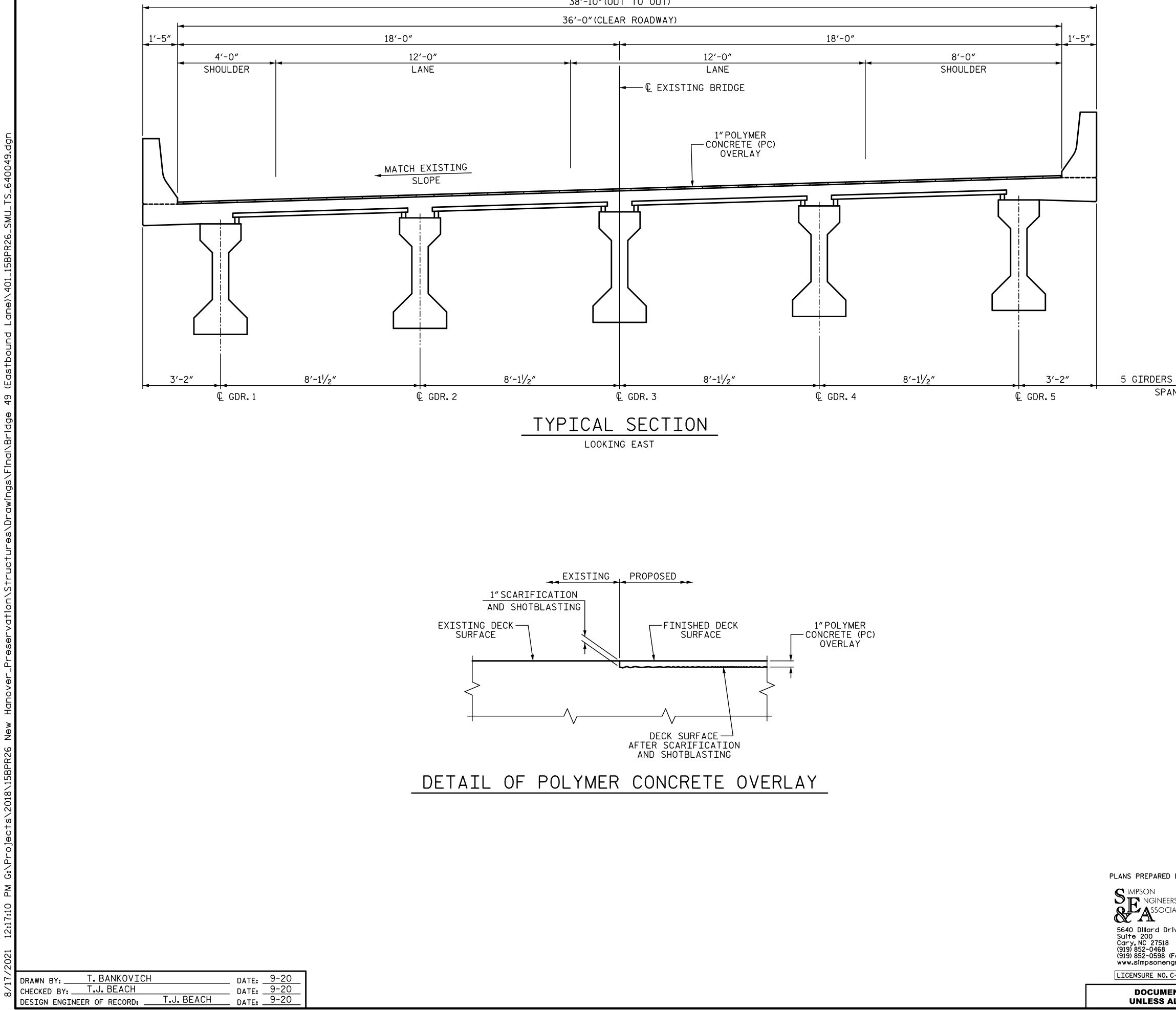


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FOR CONTROL OF TRAFFIC AND LIMITS ON PHASING OF CONSTRUCTION, SEE TRANSPORTATION MANAGEMENT PLAN.

FOR CONCRETE DECK REPAIR FOR PC OVERLAY, PC MATERIALS, PLACING AND FINISHING PC OVERLAY, SEE "POLYMER CONCRETE BRIDGE DECK OVERLAY" SPECIAL PROVISION.

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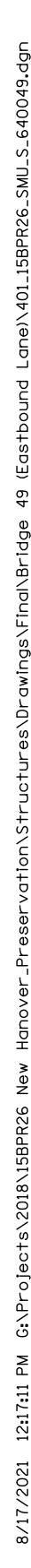
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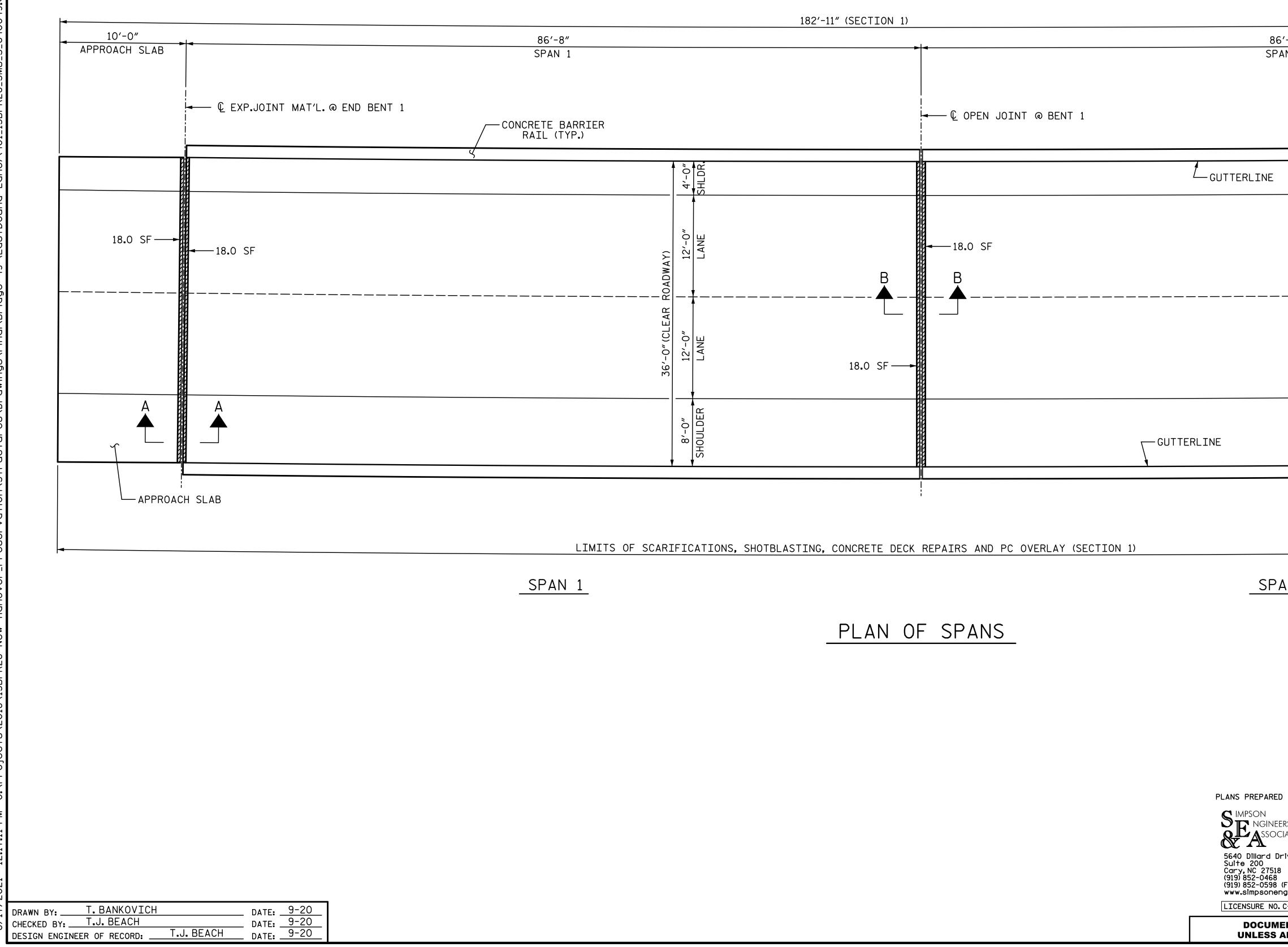
SEE TRAFFIC MANAGEMENT PLANS FOR LANE WIDTHS, SEQUENCING AND OTHER TRAFFIC CONTROL MEASURES FOR STAGING OF POLYESTER POLYMER CONCRETE (PPC) SYSTEM AND SURFACE PREPARATION. FOR LIMITS OF SCARIFICATION, SHOTBLASTING, CLASS II REPAIR AND PC OVERLAY, SEE SURFACE PREPARATION SHEETS.

5 GIRDERS SHOWN, 7 GIRDERS IN SPANS 7,8 AND 9

PROJECT NO. 15BPR.26 <u>NEW HANOVER/PENDER COUNTY</u> 640049 BRIDGE NO .: ____

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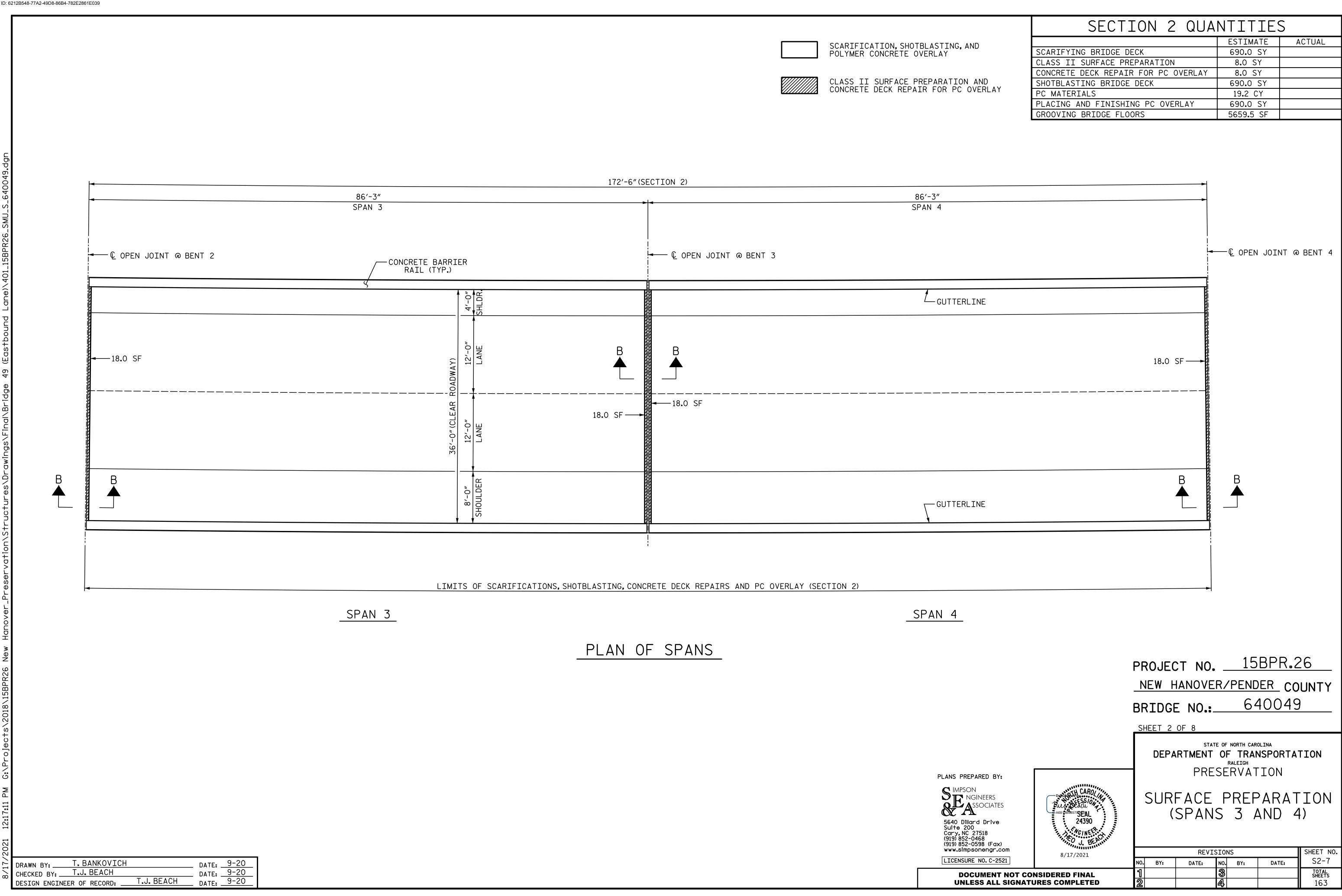




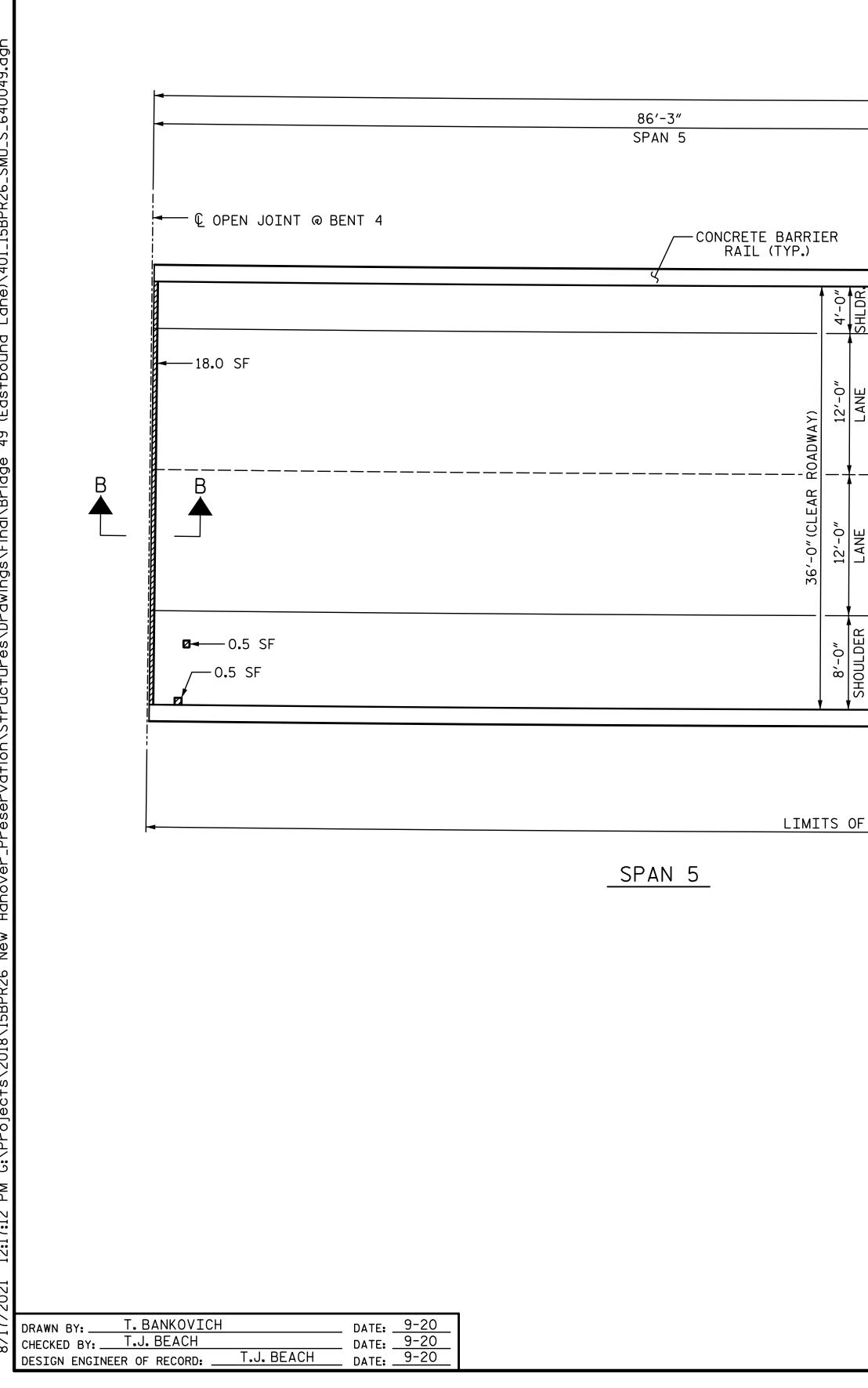


CLASS II SURFACE PREPARATION AND CONCRETE DECK REPAIR FOR PC OVERL

	-			
		ION 1 QUAN		
		TON T QUAL)
			ESTIMATE	ACTUAL
	SCARIFYING BRIDGE D)FCK	731.7 SY	
	CLASS II SURFACE PR		10.0 SY	
	CONCRETE DECK REPAI		10.0 SY	
)	SHOTBLASTING BRIDGE	E DECK	731.7 SY	
LAY	PC MATERIALS		20.3 CY	
	PLACING AND FINISH	NG PC OVERLAY	731.7 SY	
	GROOVING BRIDGE FLO		5995.0 SF	
	CREEVING DRIDGE FEC	561(5	3332*0 31	
5'-3″ AN 2		© OPEN JOINT @		
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SCARIFICATION, SHOTBLASTING, AND POLYMER CONCRETE OVERLAY

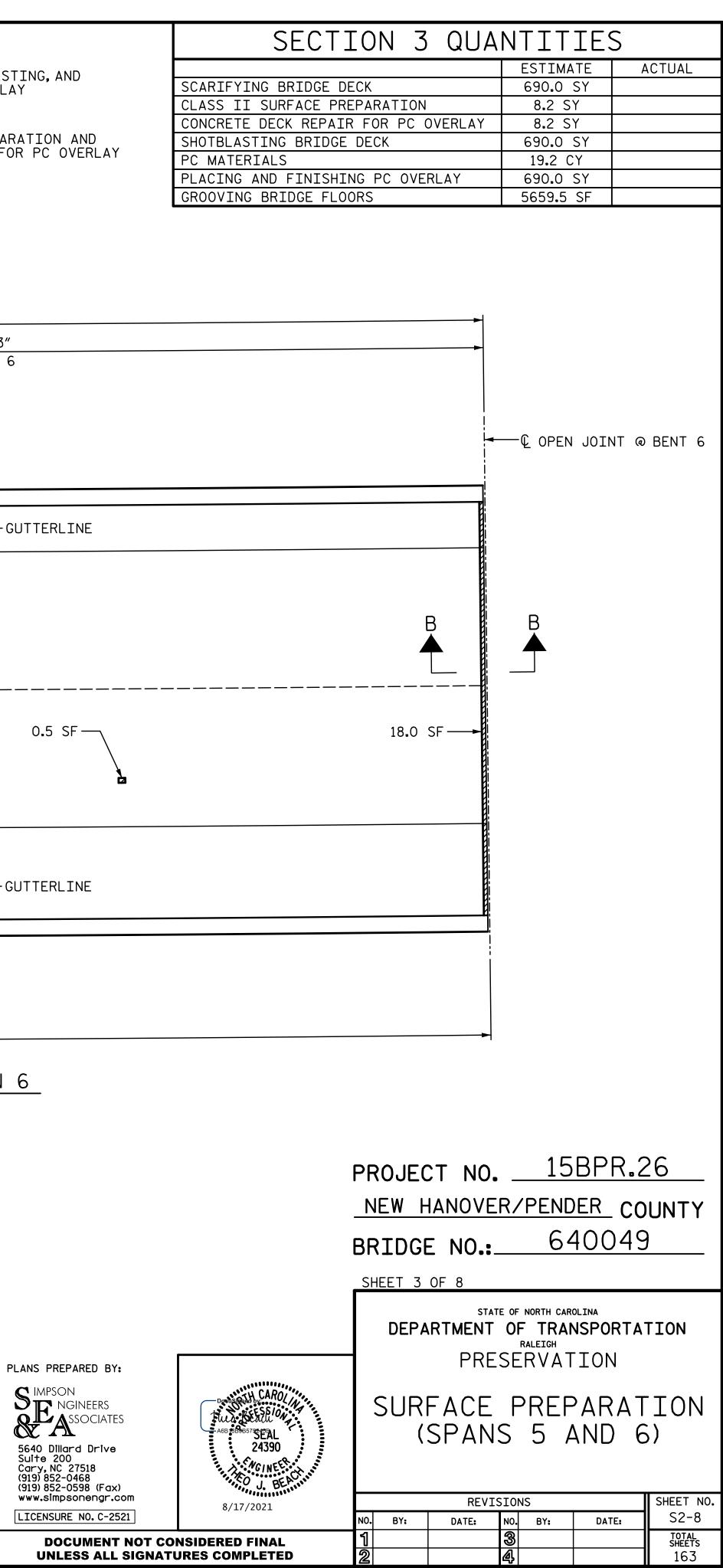
CLASS II SURFACE PREPARATION AND CONCRETE DECK REPAIR FOR PC OVERLAY

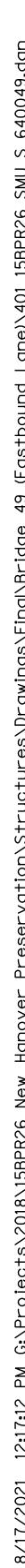
172'-6"(SECTION 3) 86′-3″ SPAN 6 └── € OPEN JOINT @ BENT 5 GUTTERLINE —18.0 SF В 18.0 SF ----0.5 SF — └── GUTTERLINE

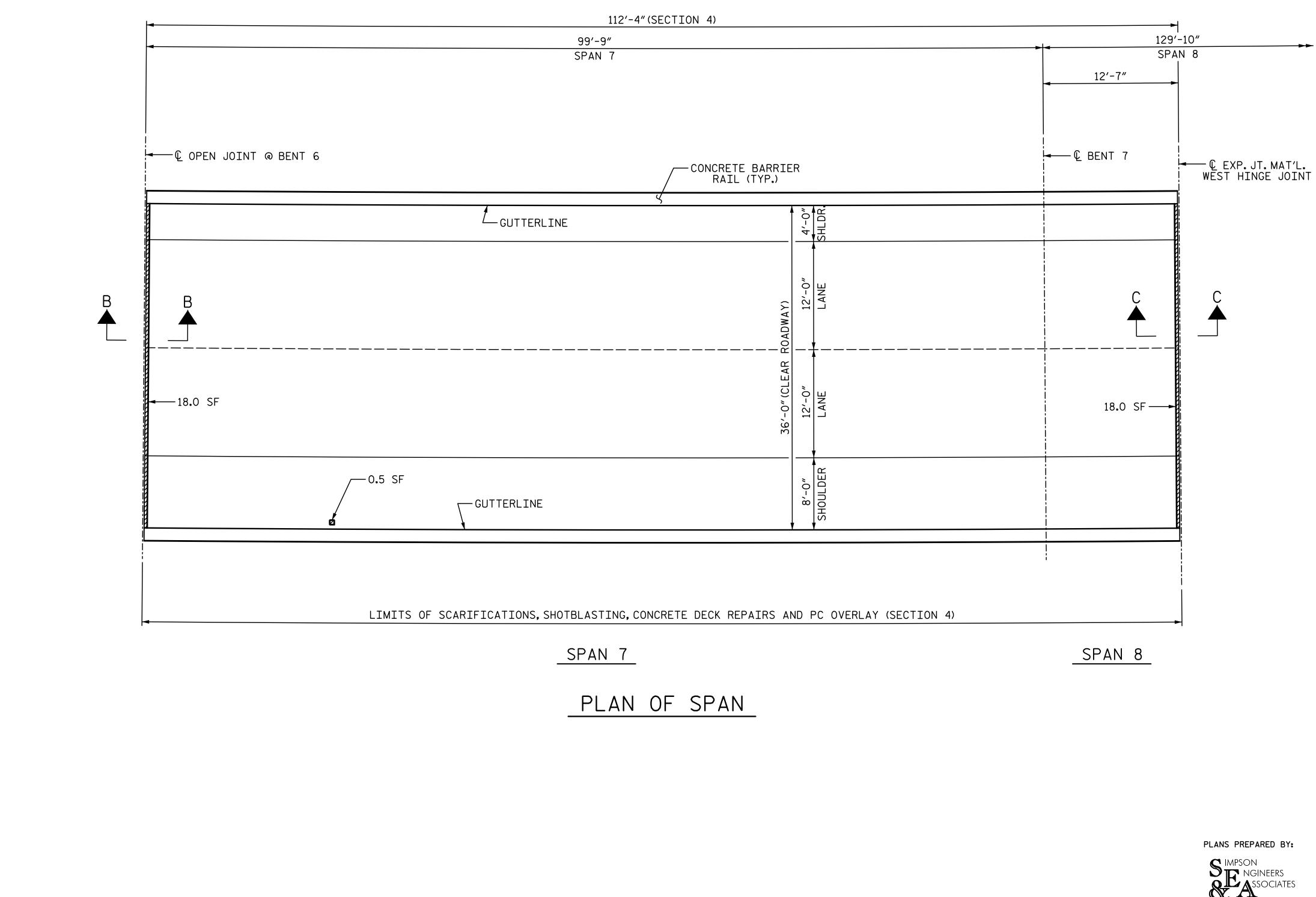
LIMITS OF SCARIFICATIONS, SHOTBLASTING, CONCRETE DECK REPAIRS AND PC OVERLAY (SECTION 3)

SPAN 6

PLAN OF SPANS

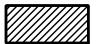






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SCARIFICATION, SHOTBLASTING, AND POLYMER CONCRETE OVERLAY



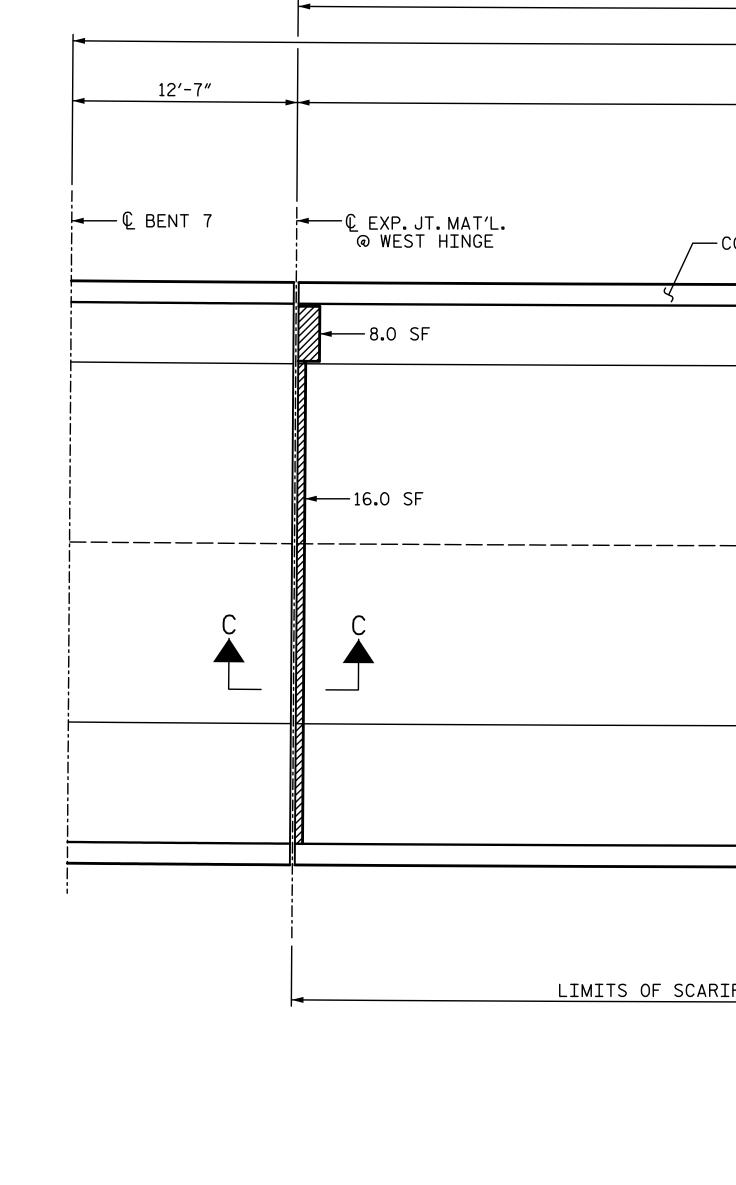
CLASS II SURFACE PREPARATION AND CONCRETE DECK REPAIR FOR PC OVERLAY



SECTION 4 QUA	SECTION 4 QUANTITIES				
	ESTIMATE	ACTUAL			
SCARIFYING BRIDGE DECK	449.3 SY				
CLASS II SURFACE PREPARATION	4.1 SY				
CONCRETE DECK REPAIR FOR PC OVERLAY	4.1 SY				
SHOTBLASTING BRIDGE DECK	449.3 SY				
PC MATERIALS	12.5 CY				
PLACING AND FINISHING PC OVERLAY	449.3 SY				
GROOVING BRIDGE FLOORS	3690.5 SF				

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uite 200 ary,NC 27518 19)852-0468 19)852-0598 (Fax) ww.simpsonengr.com CCENSURE NO.C-2521	8/17/2021	NO. BY:	REVIS	SIONS	DATE:	SHEET NO. S2-9
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SCARIFICATION, SHOTBLASTING, AND POLYMER CONCRETE OVERLAY

CLASS II SURFACE PREPARATION AND CONCRETE DECK REPAIR FOR PC OVERLAY

104'-8"(SECTION 5)		4
129'-10″		 ►
SPAN 8		10/ 7//
104'-8"		12'-7"
CONCRETE BARRIER RAIL (TYP.)	© EXP.JT.MAT′L. → @ EAST HINGE	
4'-0" SHLDR.	GUTTERLINE	
Y) 12'-0" LANE	Ç	C .
A A A		
36'-0" (CLEA 12'-0" LANE		
6'-0" (C LANE	21.0 SF ──►	
Ř		
<u>۳</u>		
8'-0" SHOULDER		
SHOU	<pre> GUTTERLINE </pre>	
SIFICATIONS, SHOTBLASTING, CONCRETE DECK REPA		
TI TOATIONS, SHOTDLASTING, CONCRETE DECK REFA.	INS AND TO OVEREAT (SECTION 3)	+

SPAN 8

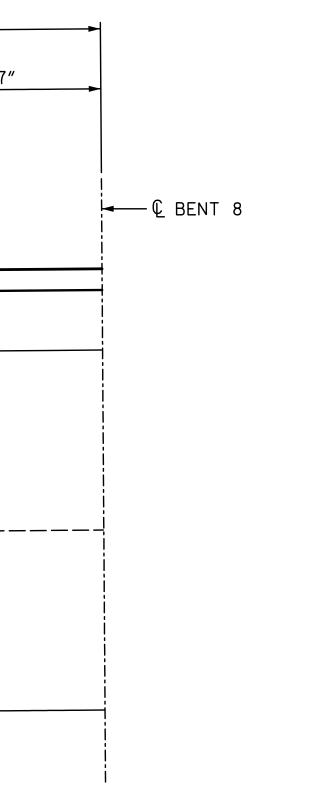
PLAN OF SPAN

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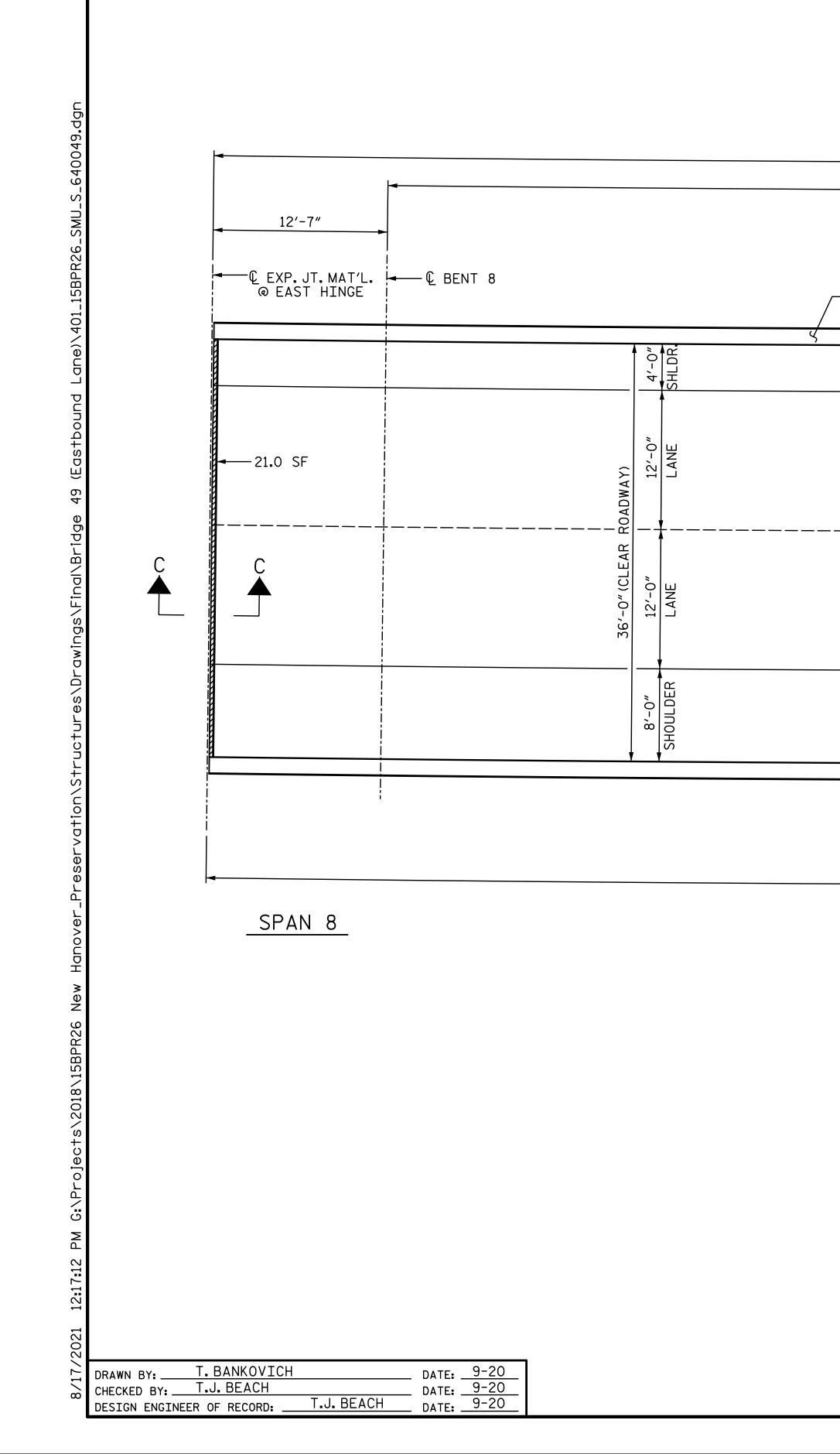


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SECTION 5 QUA	NTITIES	S
	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	418.7 SY	
CLASS II SURFACE PREPARATION	5.0 SY	
CONCRETE DECK REPAIR FOR PC OVERLAY	5.0 SY	
SHOTBLASTING BRIDGE DECK	418.7 SY	
PC MATERIALS	11.6 CY	
PLACING AND FINISHING PC OVERLAY	418.7 SY	
GROOVING BRIDGE FLOORS	3437.5 SF	

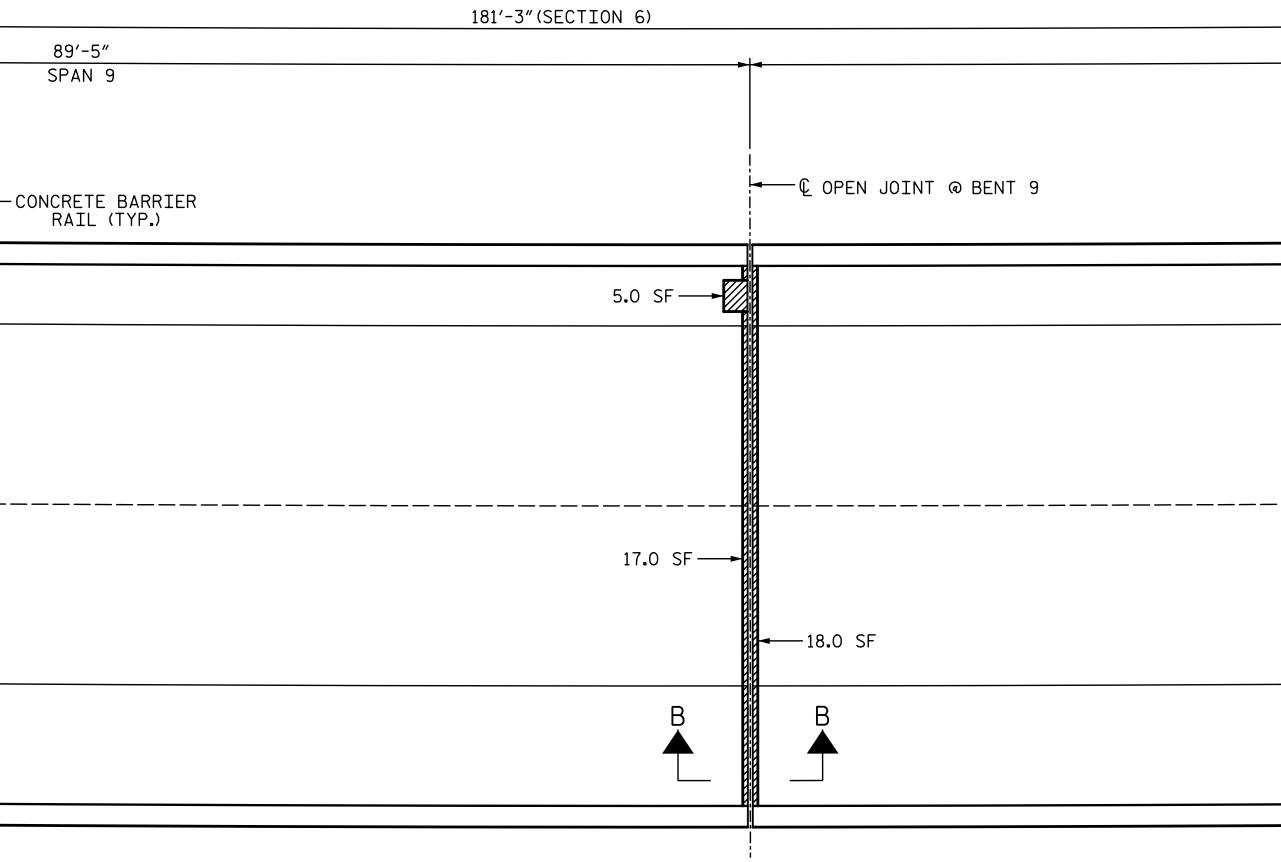


	PROJECT NO. <u>15BPR.26</u> <u>NEW HANOVER/PENDER</u> COUNTY BRIDGE NO.: 640049 SHEET 5 OF 8						
D BY: STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH PRESERVATION							
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SCARIFICATION, SHOTBLASTING, AND POLYMER CONCRETE OVERLAY

CLASS II SURFACE PREPARATION AND CONCRETE DECK REPAIR FOR PC OVERL



LIMITS OF SCARIFICATIONS, SHOTBLASTING, CONCRETE DECK REPAIRS AND PC OVERLAY (SECTION 6)

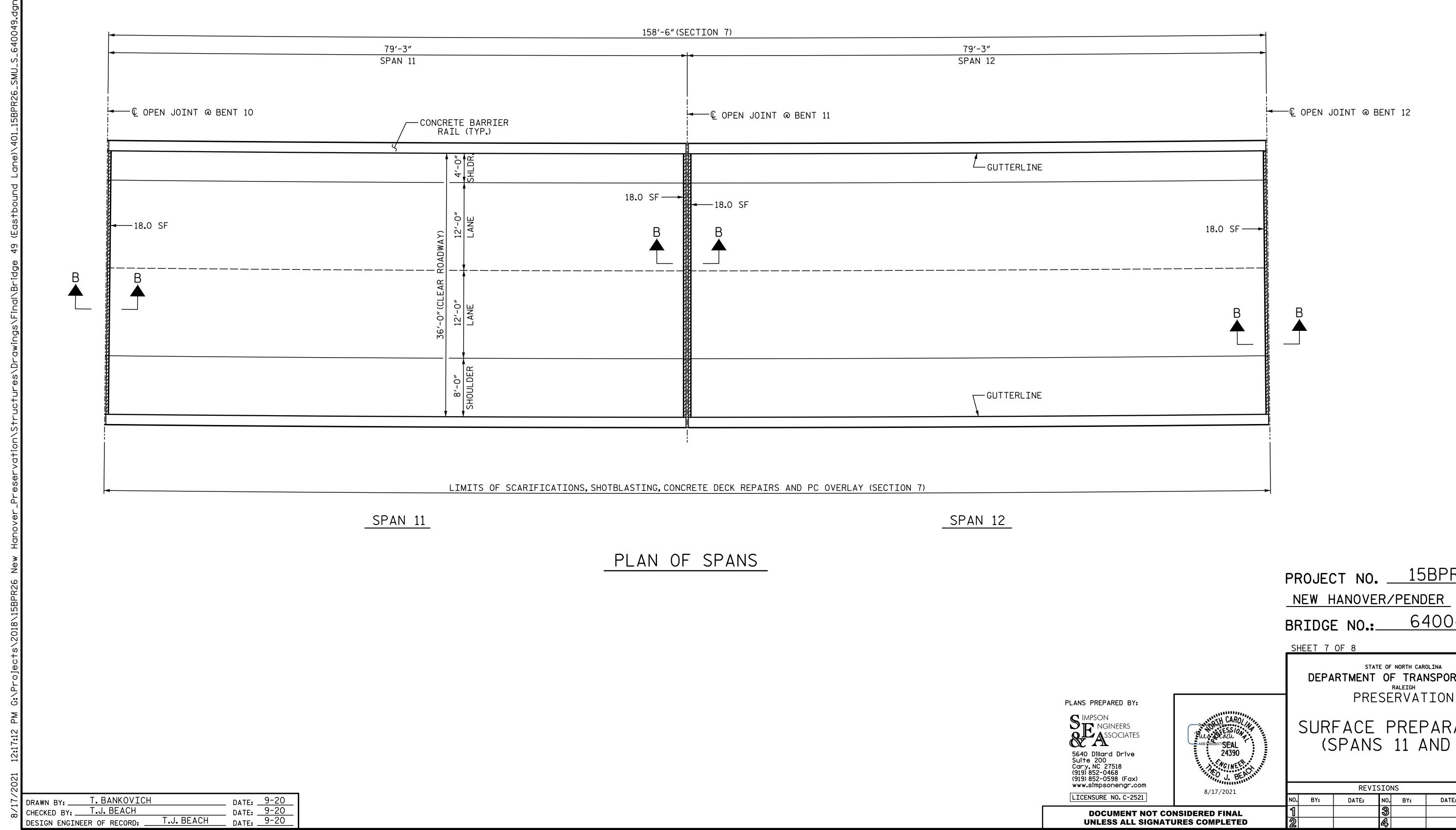
SPAN 9

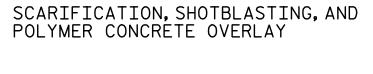
PLAN OF SPANS

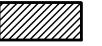
PLANS PREPARED



				~
ING, AND			NTITIES	
	SCARIFYING BRIDGE DECK		ESTIMATE 725.0 SY	ACTUAL
TTON AND	CLASS II SURFACE PREPARAT	FION	8.8 SY	
	CONCRETE DECK REPAIR FOR		8.8 SY	
ATION AND 2 PC OVERLAY	SHOTBLASTING BRIDGE DECK		725.0 SY	
A TO OVEREAT	PC MATERIALS		20.1 CY	
	PLACING AND FINISHING PC GROOVING BRIDGE FLOORS	OVERLAT	725.0 SY 5948.3 SF	
79'-3' SPAN 1				
	¢ c	OPEN JOINT @	BENT 10	
	GUTTERLINE			
			18.0 SF	
			B	B
	GUTTERLINE			
SPAN	10			
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IMPSON NGINEERS SSOCIATES SSOCIATES Gary, NC 27518 919) 852-0468 919) 852-0598 (Fax) www.simpsonengr.com	AGB BBBB573 EAL 24390 <i>MGINEER</i> 8/17/2021	(SPANS	8,9 AN[) 10)
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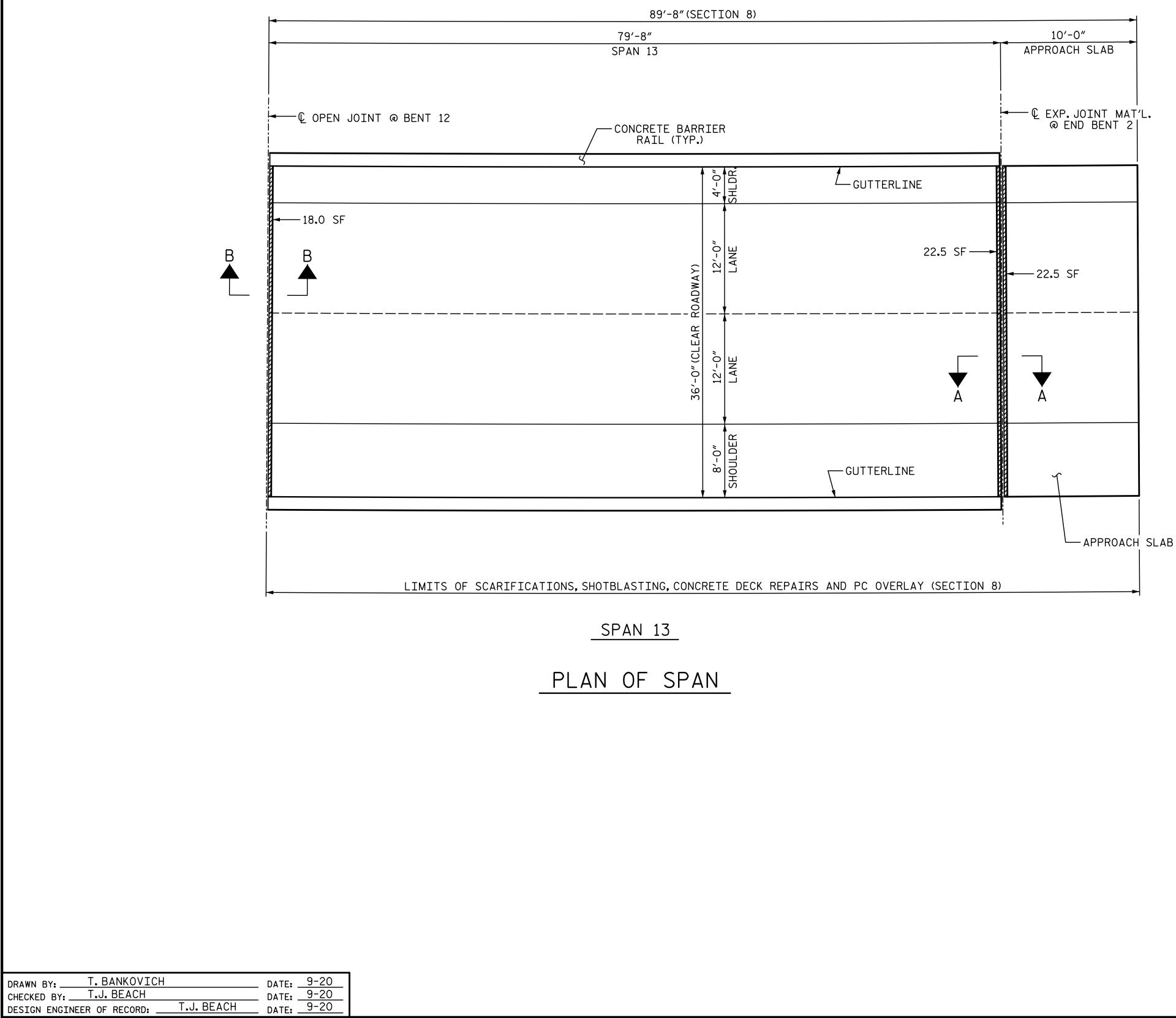
CLASS II SURFACE PREPARATION AND CONCRETE DECK REPAIR FOR PC OVERLAY

SECTION 7 QUA	NTITIES	S
	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	634.0 SY	
CLASS II SURFACE PREPARATION	8.0 SY	
CONCRETE DECK REPAIR FOR PC OVERLAY	8.0 SY	
SHOTBLASTING BRIDGE DECK	634.0 SY	
PC MATERIALS	17.8 CY	
PLACING AND FINISHING PC OVERLAY	634.0 SY	
GROOVING BRIDGE FLOORS	5197 . 5 SF	

	PROJECT NO. <u>15BPR.26</u> <u>NEW HANOVER/PENDER COUNTY</u> BRIDGE NO.: <u>640049</u> SHEET 7 OF 8					
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SCARIFICATION, SHOTBLASTING, AND POLYMER CONCRETE OVERLAY

CLASS II SURFACE PREPARATION AND CONCRETE DECK REPAIR FOR PC OVERLAY

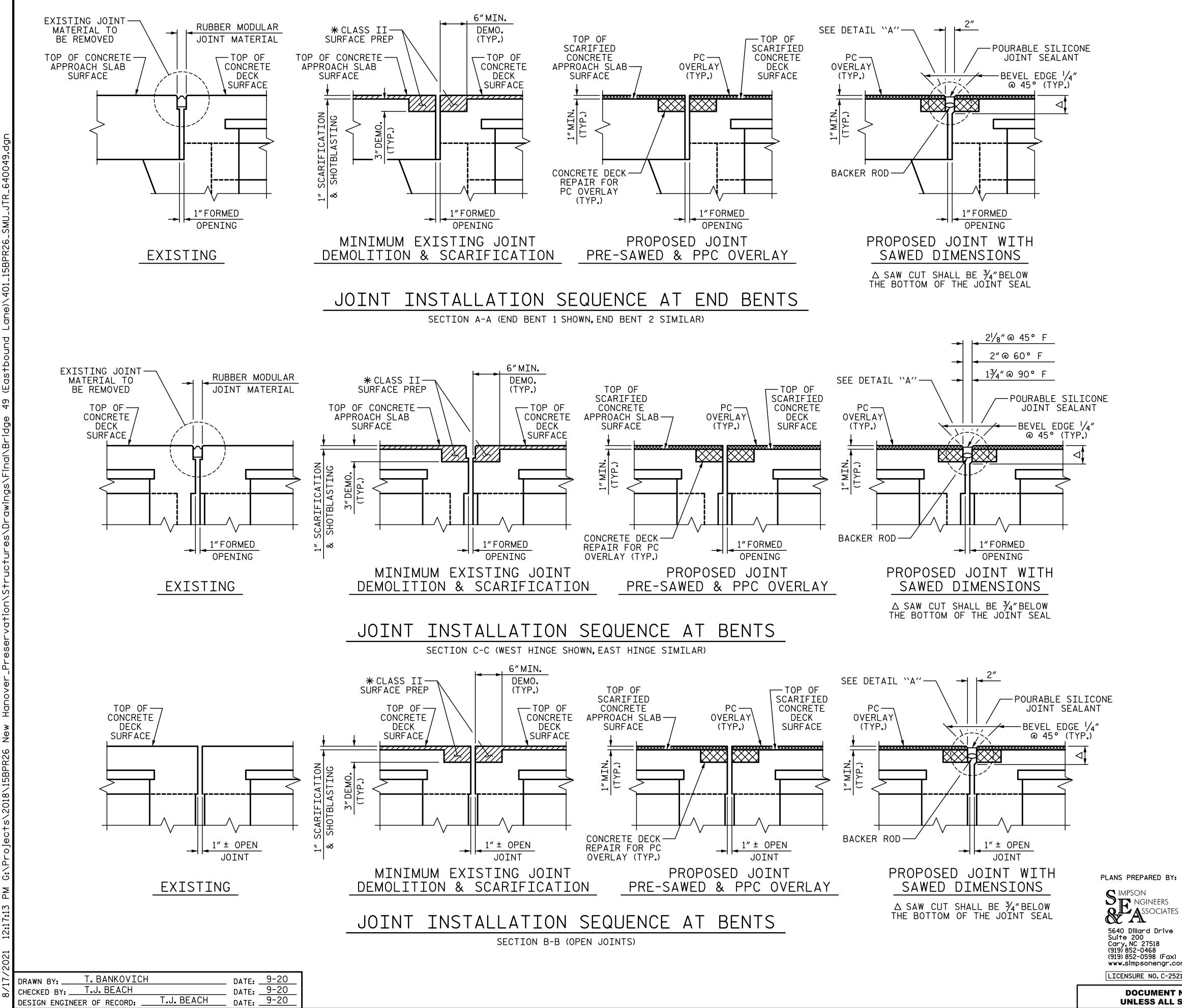


SECTION 8 QUA	NTITIE	S
	ESTIMATE	ACTUAL
SCARIFYING BRIDGE DECK	358.7 SY	
CLASS II SURFACE PREPARATION	7.0 SY	
CONCRETE DECK REPAIR FOR PC OVERLAY	7.0 SY	
SHOTBLASTING BRIDGE DECK	358.7 SY	
PC MATERIALS	10.0 CY	
PLACING AND FINISHING PC OVERLAY	358.7 SY	
GROOVING BRIDGE FLOORS	2934.3 SF	

PROJECT NO. 15BPR.26 NEW HANOVER/PENDER COUNTY 640049 BRIDGE NO.:____ SHEET 8 OF 8 STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH PRESERVATION PLANS PREPARED BY: SURFACE PREPARATION (SPAN 13) 24390

Sulte 200 Cary, NC 27518 (919) 852-0468 (919) 852-0598 (Fax)	J. S. MGINEER.							
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NOTES:

THE CONTRACTOR SHALL FIELD VERIFY THE EXISTING JOINT OPENING PRIOR TO ORDERING JOINT SEAL MATERIAL. IF ACTUAL JOINT OPENING VARIES FROM THE OPENING INDICATED IN DETAIL BY MORE THAN $\frac{1}{4}$, NOTIFY ENGINEER. REVISION TO THE JOINT SEAL SIZE MIGHT BE NECESSARY.

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

THE CONTRACTOR SHALL TAKE CARE DURING JOINT REHAB OPERATIONS NOT TO DROP ANY MATERIAL BELOW THE BRIDGE WITHOUT PROTECTIVE DEVICES BELOW TO CATCH THE MATERIAL. ANY MATERIAL THAT FALLS BELOW THE BRIDGE SHALL BE CONTAINED, REMOVED AND DISPOSED OF BY THE CONTRACTOR AT NO EXTRA COST TO THE DEPARTMENT. IF THE ENGINEER DETERMINES THAT THE PROTECTIVE DEVICES ARE NOT ADEQUATE OR NOT BEING EMPLOYED, THE WORK SHALL BE SUSPENDED UNTIL ADEQUATE PROTECTION IS PROVIDED.

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

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

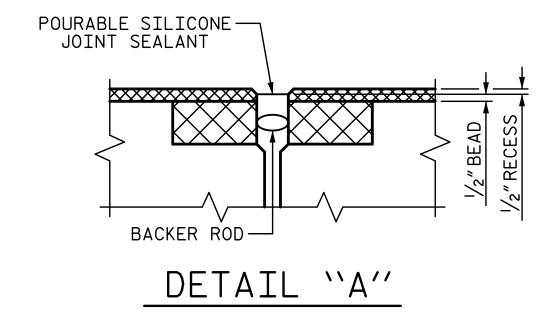
FOR POURABLE SILICONE JOINT SEALANT, SEE SPECIAL PROVISIONS.

THE MANUFACTURER IS TO PROVIDE THE NOMINAL UNCOMPRESSED SEAL WIDTH OF THE BACKER ROD FOR THE EXISTING JOINT SIZE AND ACCOMMODATE THE MINIMUM EXPANSION SHOWN ON THE PLANS.

THE INSTALLATION OF THE JOINT SEAL SHALL BE WATERTIGHT.

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

*****FOR CLASS II SURFACE PREPARATION AND CONCRETE DECK REPAIR FOR PC OVERLAY QUANTITIES SEE SURFACE PREPARATION SHEETS 1 THROUGH 8.



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BRIDGE NO.:_ 640043

SHEET 1 OF 2

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH PRESERVATION

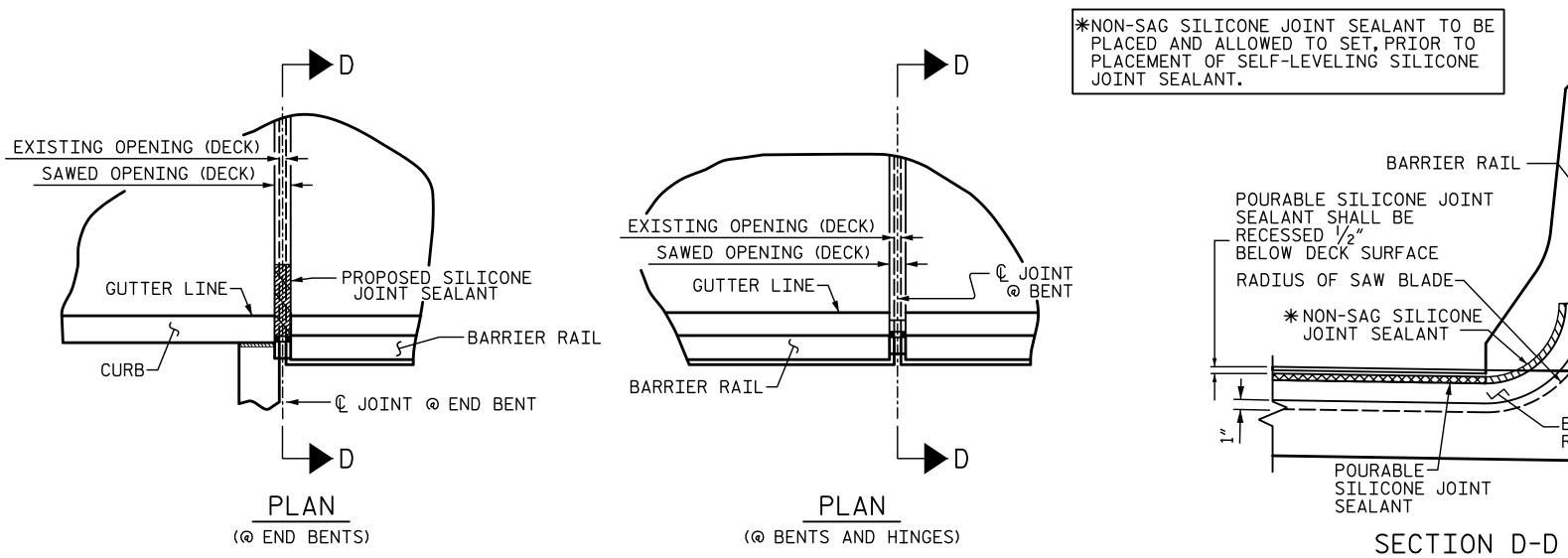
JOINT REPAIR DETAILS

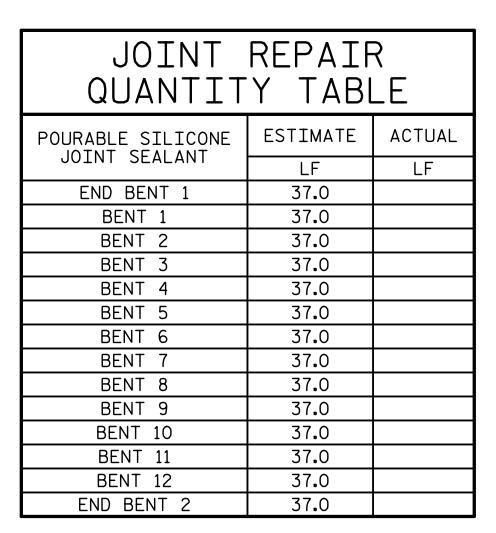
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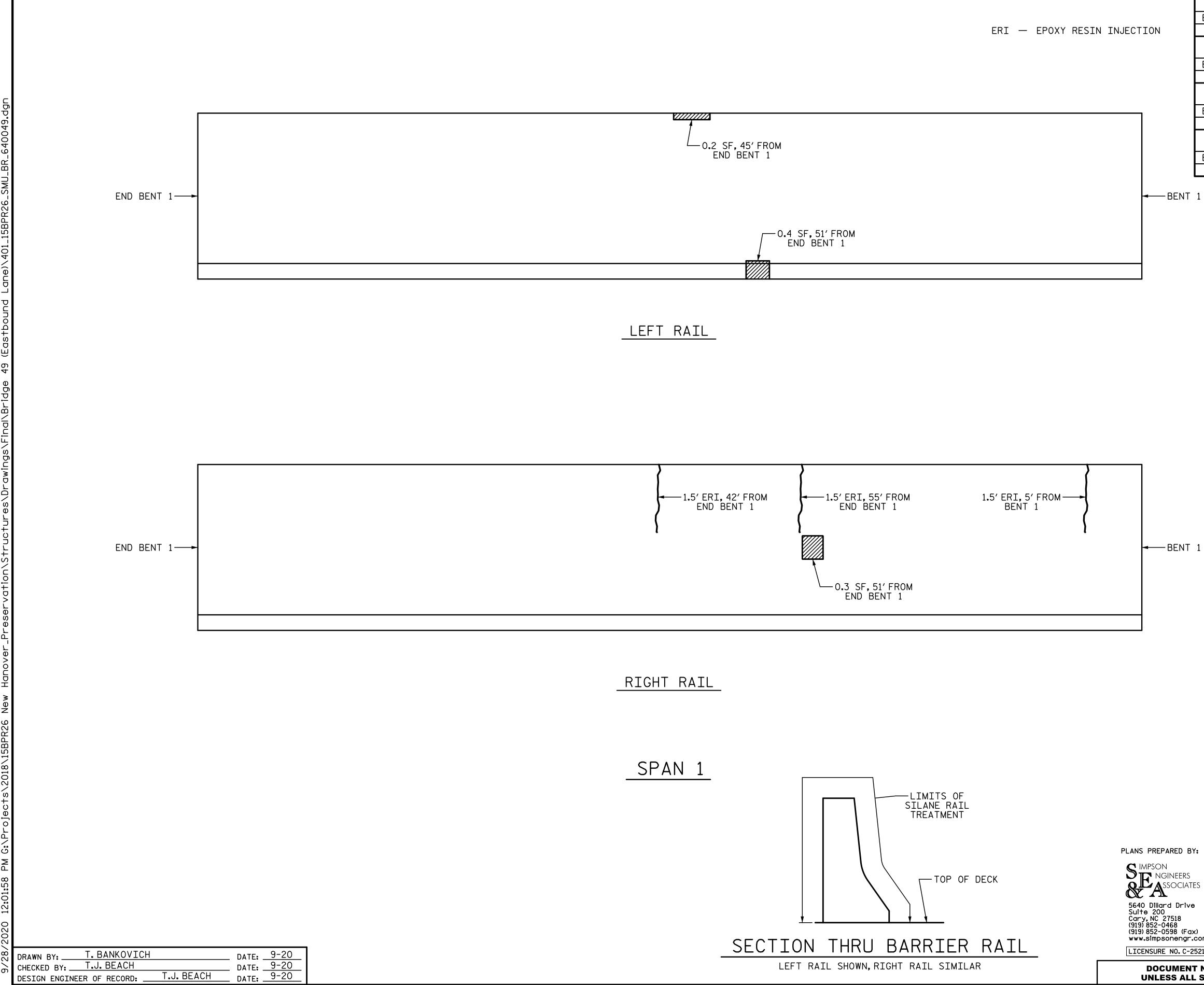
JOINT DETAIL AT BARRIER RAIL



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BACKER ROD	2

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REPAIR QUANTITY TABLE								
REPAIRS SPAN 1		QUANTITIES						
REFAIRS SFAN I	EST	IMATE		ACTUAL	-			
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	V	OLUME CF		
BARRIER RAIL	0.9	0.2						
EPOXY RESIN INJECTION						LF		
BARRIER RAIL		4.5						
SURFACE PREPARATI	ON	SF				SF		
BARRIER RAIL		1069.5						
SILANE RAIL TREATMENT						SF		
BARRIER RAIL		1069.5						

NOTES:

REPAIR LOCAITONS AND ESTIMATE OF THE QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE INSPECTOR OR ENGINEER THE CONTRACTOR SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITIY TABLE.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

VALUES IN CHART REPRESENT ESTIMATE REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN, OF 1"BEHIND REBAR AND MIN. 2"CL. TO SAWCUT. SEE REPAIR DETAILS.

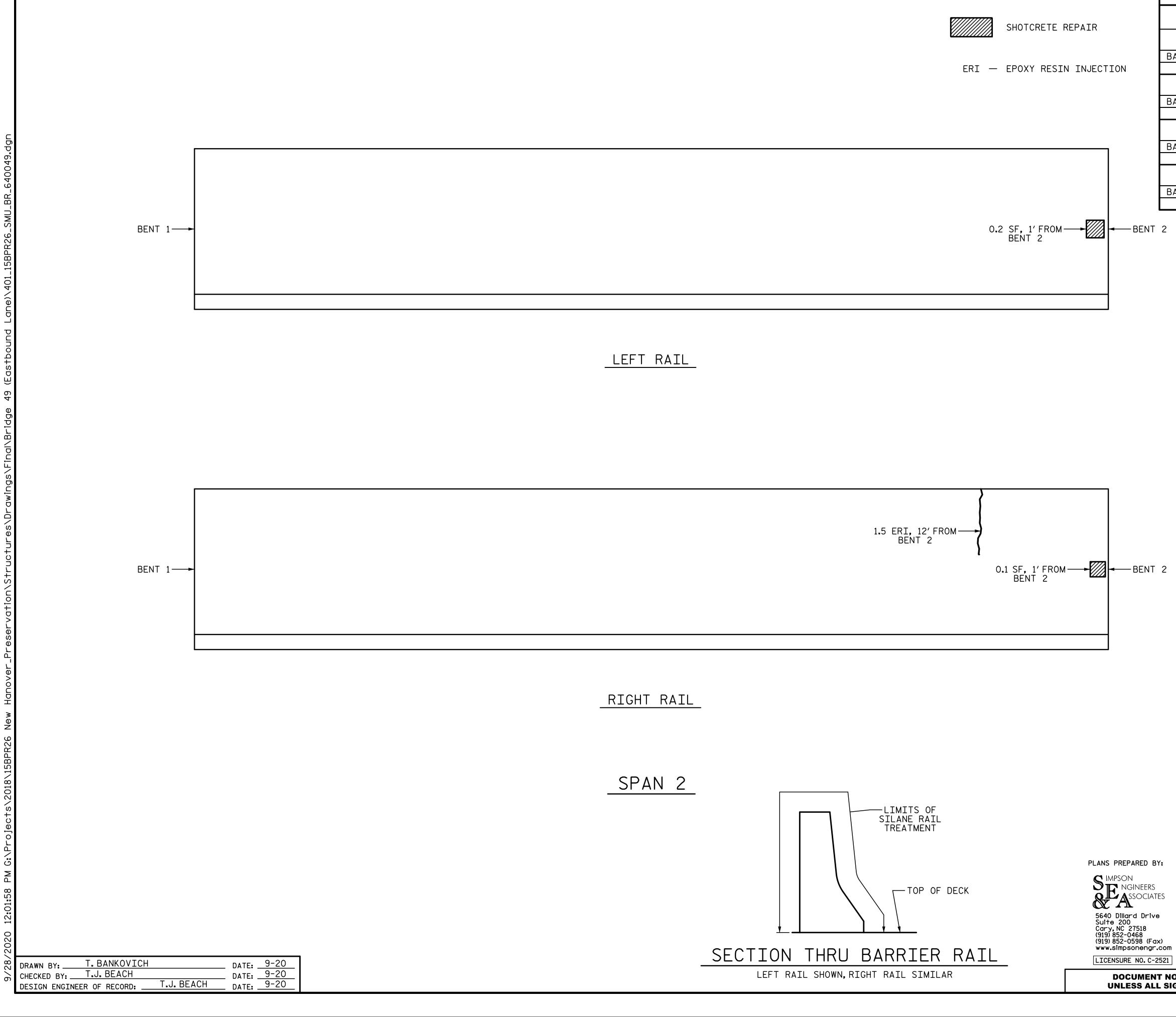
SHOTCRETE REPAIRS MAY BE REPLACED WITH CONCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR SUPERSTRUCTURE REPAIR DETAILS, SEE ``SUPERSTRUCTURE REPAIR DETAIL" SHEET.

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REPAIR QU	ANT	ITY -	ΓABL	.E			
REPAIRS SPAN 2		QUANTITIES					
REFAIRS SPAN Z	EST	IMATE		ACTUAL	_		
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VC	CF	
BARRIER RAIL	0.3	0.1					
EPOXY RESIN INJECTION						LF	
BARRIER RAIL		1.5					
SURFACE PREPARATI	ON	SF				SF	
BARRIER RAIL		1064.4					
SILANE RAIL TREATM	ENT	SF				SF	
BARRIER RAIL		1064.4					

NOTES:

REPAIR LOCAITONS AND ESTIMATE OF THE QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE INSPECTOR OR ENGINEER THE CONTRACTOR SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITIY TABLE.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

VALUES IN CHART REPRESENT ESTIMATE REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN, OF 1"BEHIND REBAR AND MIN. 2"CL. TO SAWCUT. SEE REPAIR DETAILS.

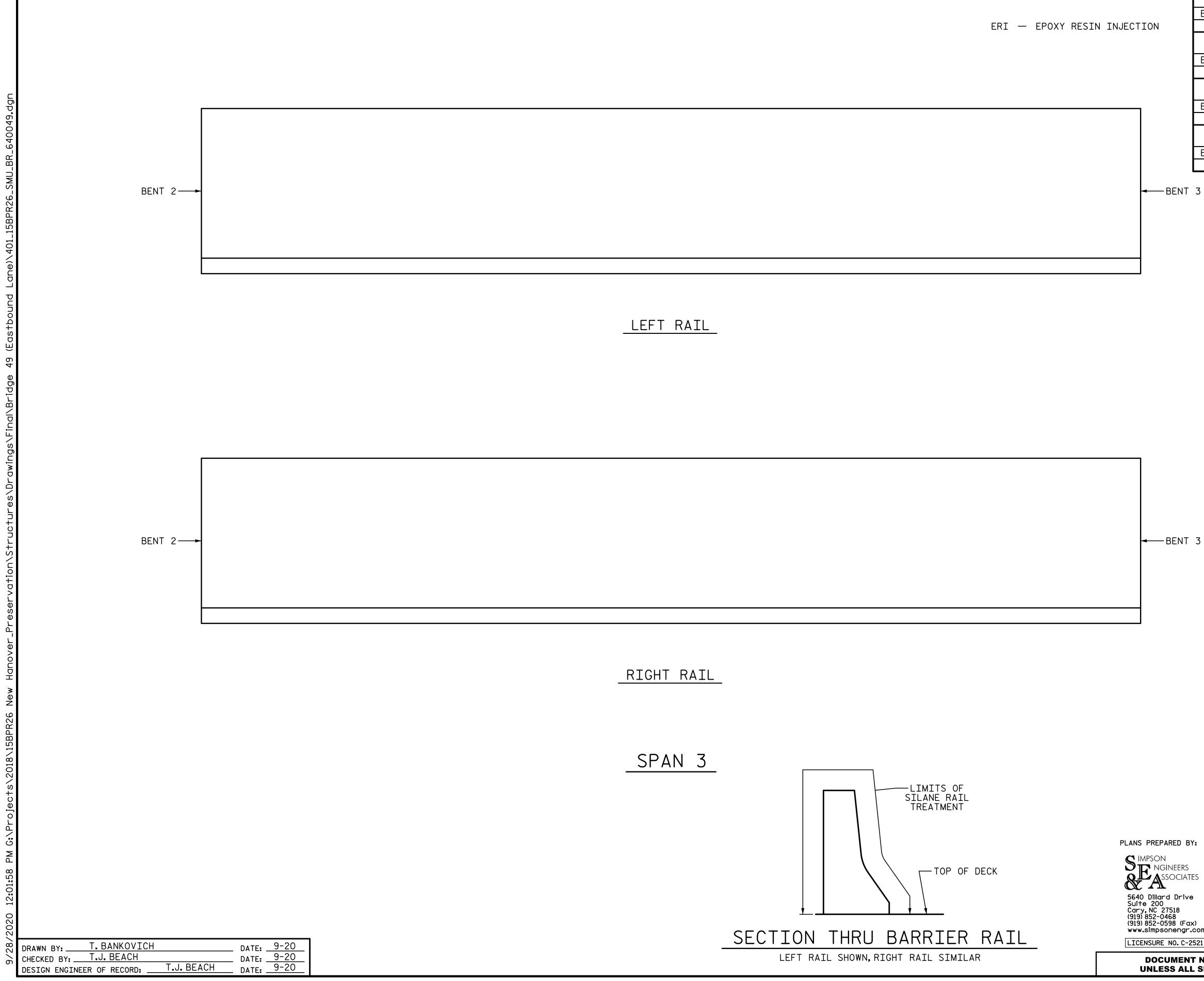
SHOTCRETE REPAIRS MAY BE REPLACED WITH CONCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR SUPERSTRUCTURE REPAIR DETAILS, SEE ``SUPERSTRUCTURE REPAIR DETAIL" SHEET.

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SHEET 2 OF 13 STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH									
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BENT 3

REPAIR QU	ANT	ITY -	ΓABL	.E						
REPAIRS SPAN 3		QI	JANTITI	IES						
REFAIRS SPAN J	EST	IMATE		ACTUAL	_					
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	DEPTH FT		OLUME CF				
BARRIER RAIL	0.0	0.0								
EPOXY RESIN INJECTION						LF				
BARRIER RAIL		0.0								
SURFACE PREPARATI	ON	SF				SF				
BARRIER RAIL		1064.4								
SILANE RAIL TREATM	ENT	SF				SF				
BARRIER RAIL		1064.4								

NOTES:

REPAIR LOCAITONS AND ESTIMATE OF THE QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE INSPECTOR OR ENGINEER THE CONTRACTOR SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITIY TABLE.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

VALUES IN CHART REPRESENT ESTIMATE REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN, OF 1"BEHIND REBAR AND MIN. 2"CL. TO SAWCUT. SEE REPAIR DETAILS.

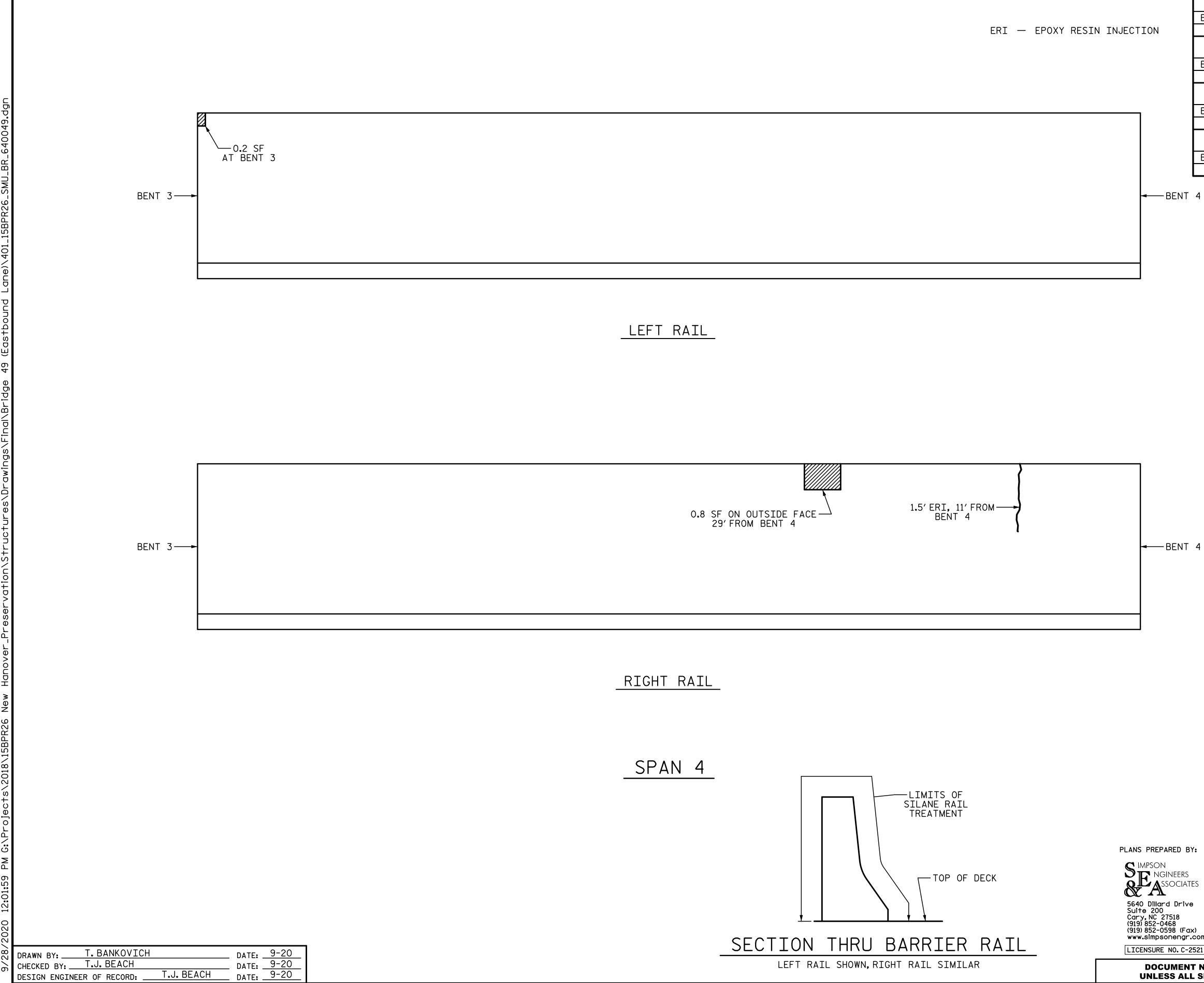
SHOTCRETE REPAIRS MAY BE REPLACED WITH CONCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR SUPERSTRUCTURE REPAIR DETAILS, SEE ``SUPERSTRUCTURE REPAIR DETAIL" SHEET.

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REPAIR QUANTITY TABLE									
REPAIRS SPAN 4		QI	JANTIT]	IES					
REFAIRS SFAN 4	EST	IMATE		ACTUAL	-				
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF				
BARRIER RAIL	1.0	0.3							
EPOXY RESIN INJECTION					LF				
BARRIER RAIL		1.5							
SURFACE PREPARATI	ON	SF			SF				
BARRIER RAIL		1064.4							
SILANE RAIL TREATM	SILANE RAIL TREATMENT				SF				
BARRIER RAIL		1064.4							

NOTES:

REPAIR LOCAITONS AND ESTIMATE OF THE QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE INSPECTOR OR ENGINEER THE CONTRACTOR SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITIY TABLE.

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VALUES IN CHART REPRESENT ESTIMATE REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN, OF 1"BEHIND REBAR AND MIN. 2"CL. TO SAWCUT. SEE REPAIR DETAILS.

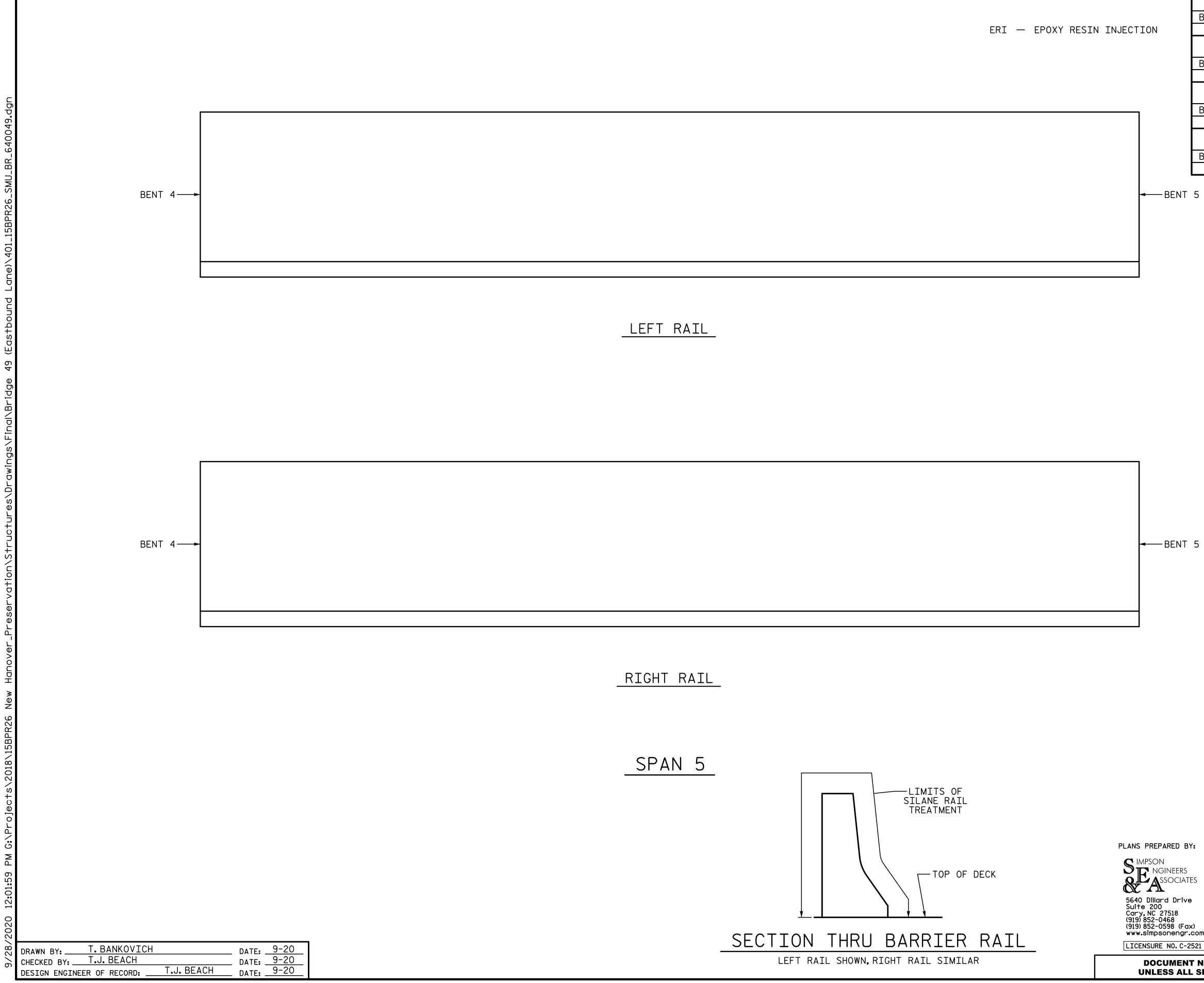
SHOTCRETE REPAIRS MAY BE REPLACED WITH CONCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR SUPERSTRUCTURE REPAIR DETAILS, SEE ``SUPERSTRUCTURE REPAIR DETAIL" SHEET.

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REPAIR QUANTITY TABLE										
REPAIRS SPAN 5		QI	JANTITI	IES						
INEFAINS SFAN J	EST	IMATE		ACTUAL	_					
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	V	OLUME CF				
BARRIER RAIL	0.0	0.0								
EPOXY RESIN INJECTION						LF				
BARRIER RAIL		0.0								
SURFACE PREPARATI	ON	SF				SF				
BARRIER RAIL		1064.4								
SILANE RAIL TREATM	SILANE RAIL TREATMENT					SF				
BARRIER RAIL		1064.4								

NOTES:

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VALUES IN CHART REPRESENT ESTIMATE REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN, OF 1"BEHIND REBAR AND MIN. 2"CL. TO SAWCUT. SEE REPAIR DETAILS.

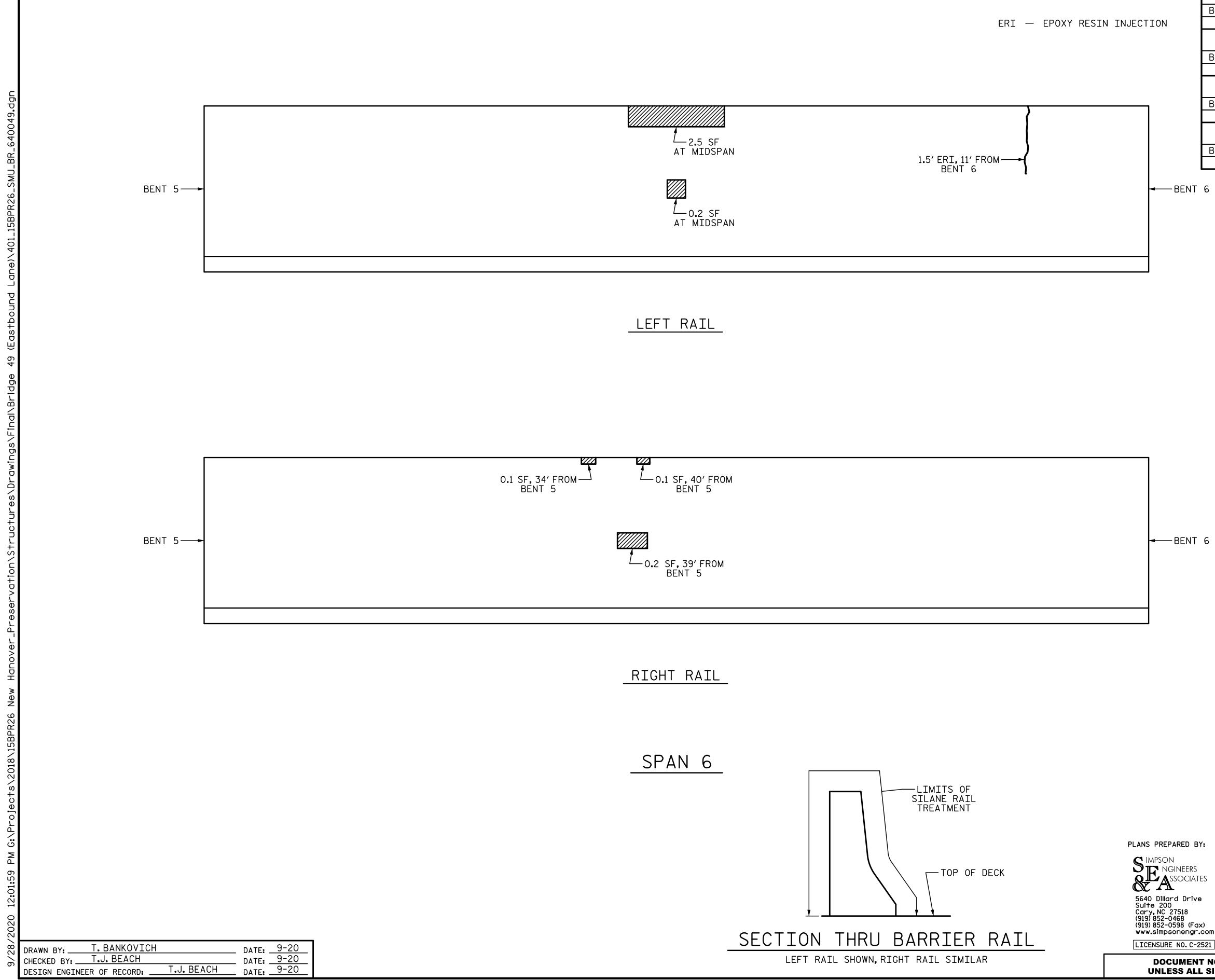
SHOTCRETE REPAIRS MAY BE REPLACED WITH CONCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

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FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR SUPERSTRUCTURE REPAIR DETAILS, SEE ``SUPERSTRUCTURE REPAIR DETAIL" SHEET.

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REPAIR QU	ANI	ΤΙΥ	IABL	-E				
REPAIRS SPAN 6		QI	JANTIT]	IES				
REFAIRS SPAN 6	EST	IMATE		ACTUAL	-			
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF			
BARRIER RAIL	3.1	1.6						
EPOXY RESIN INJECTION					LF			
BARRIER RAIL		1.5						
SURFACE PREPARATI	ON	SF			SF			
BARRIER RAIL		1064.4						
SILANE RAIL TREATM	ENT	SF			SF			
BARRIER RAIL		1064.4						

NOTES:

REPAIR LOCAITONS AND ESTIMATE OF THE QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE INSPECTOR OR ENGINEER THE CONTRACTOR SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITIY TABLE.

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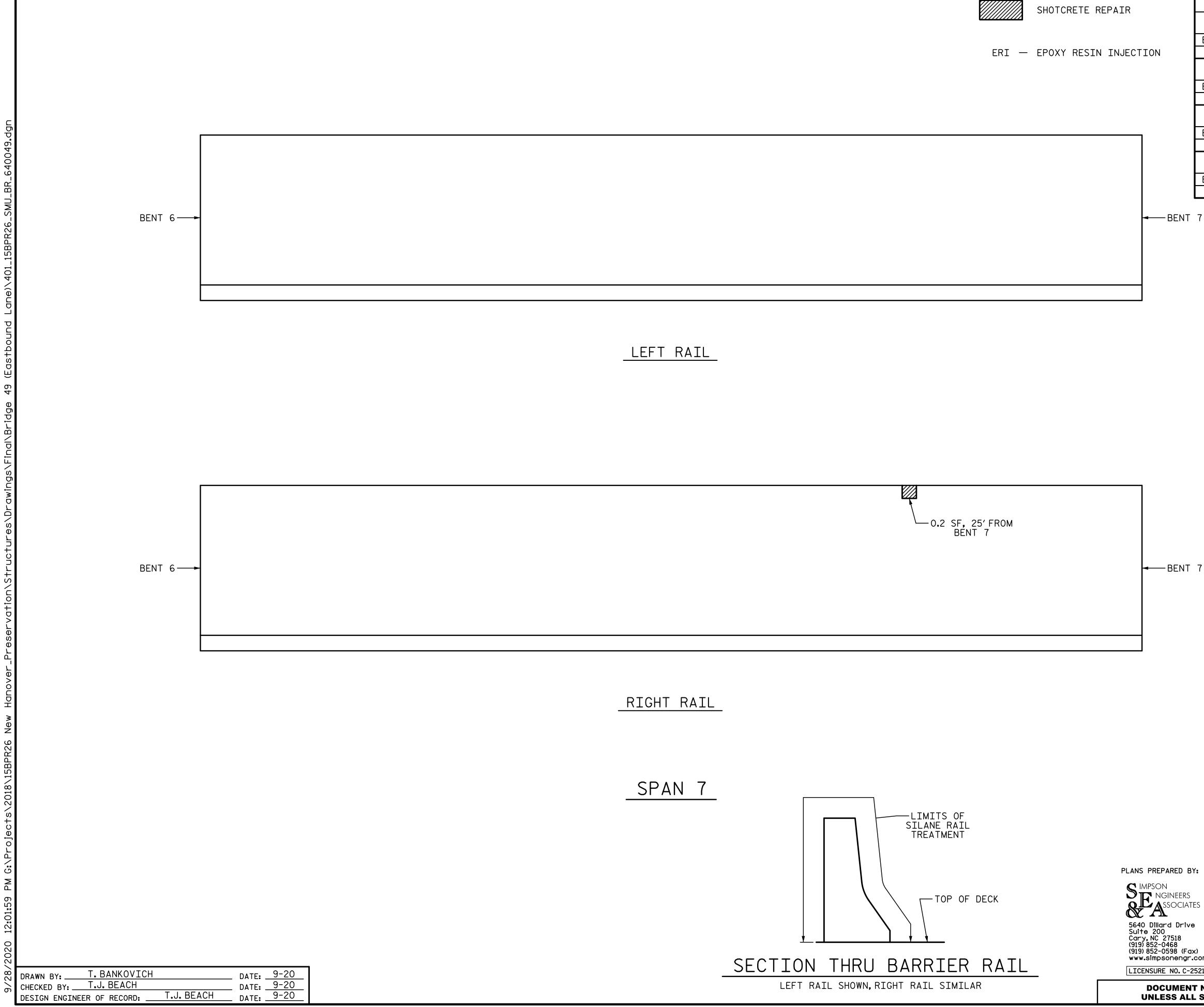
SHOTCRETE REPAIRS MAY BE REPLACED WITH CONCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

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FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR SUPERSTRUCTURE REPAIR DETAILS, SEE ``SUPERSTRUCTURE REPAIR DETAIL" SHEET.

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REPAIR QUANTITY TABLE										
REPAIRS SPAN 7		QI	JANTITI	IES						
	EST	ΙΜΑΤΕ		ACTUAL	-					
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	V	OLUME CF				
BARRIER RAIL	0.2	0.1								
EPOXY RESIN INJECTION						LF				
BARRIER RAIL		0.0								
SURFACE PREPARATI	ON	SF				SF				
BARRIER RAIL		1231.3								
SILANE RAIL TREATM	SILANE RAIL TREATMENT					SF				
BARRIER RAIL		1231.3								

NOTES:

REPAIR LOCAITONS AND ESTIMATE OF THE QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE INSPECTOR OR ENGINEER THE CONTRACTOR SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITIY TABLE.

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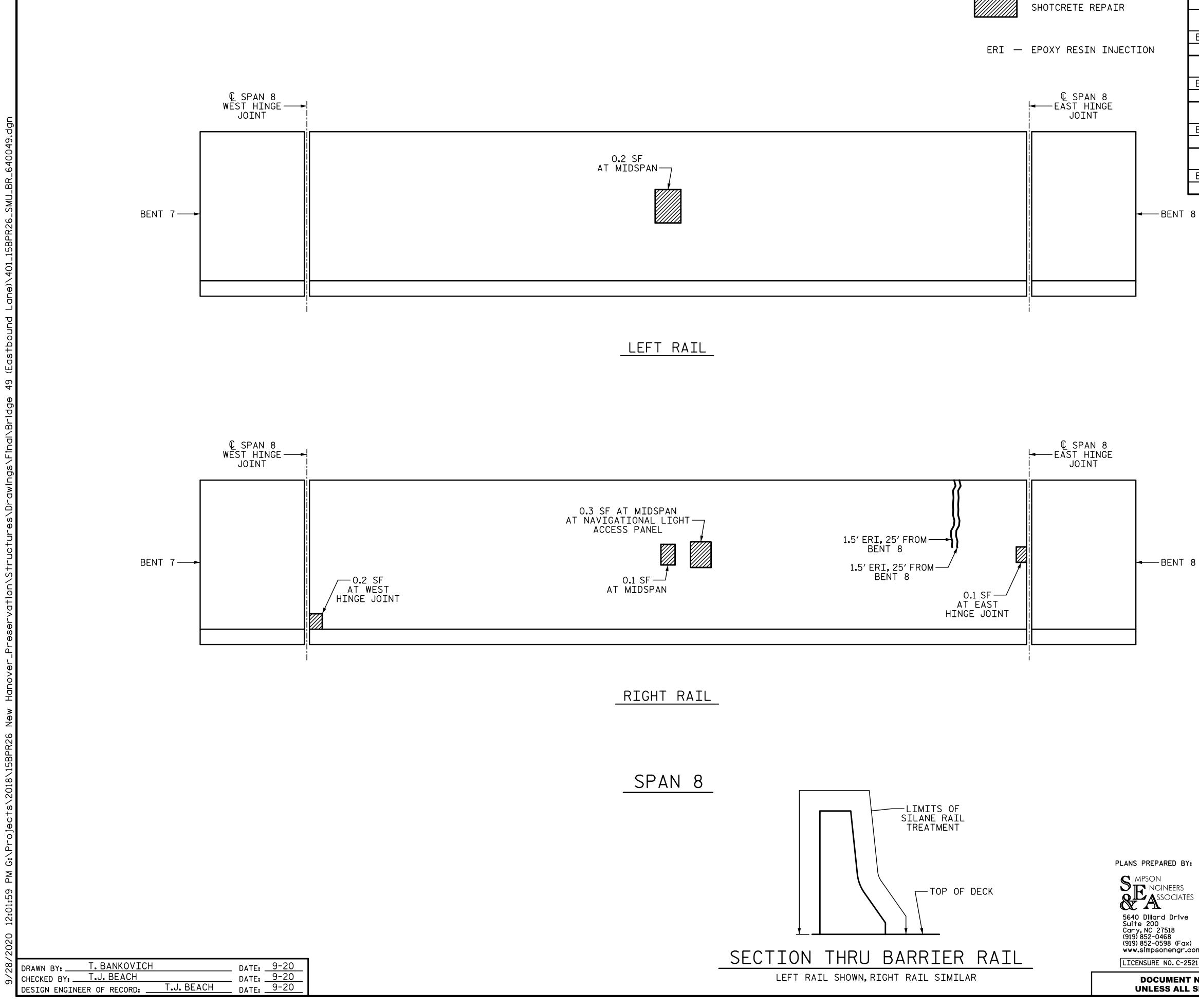
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FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR SUPERSTRUCTURE REPAIR DETAILS, SEE ``SUPERSTRUCTURE REPAIR DETAIL" SHEET.

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REPAIR QUANTITY TABLE									
REPAIRS SPAN 8		QI	JANTIT]	IES					
REFAIRS SPAN O	EST	IMATE		ACTUAL	-				
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF				
BARRIER RAIL	0.9	0.2							
EPOXY RESIN INJECTION					LF				
BARRIER RAIL		3.0							
SURFACE PREPARATI	ON	SF			SF				
BARRIER RAIL		1602.2							
SILANE RAIL TREATM	ENT	SF			SF				
BARRIER RAIL		1602.2							

NOTES:

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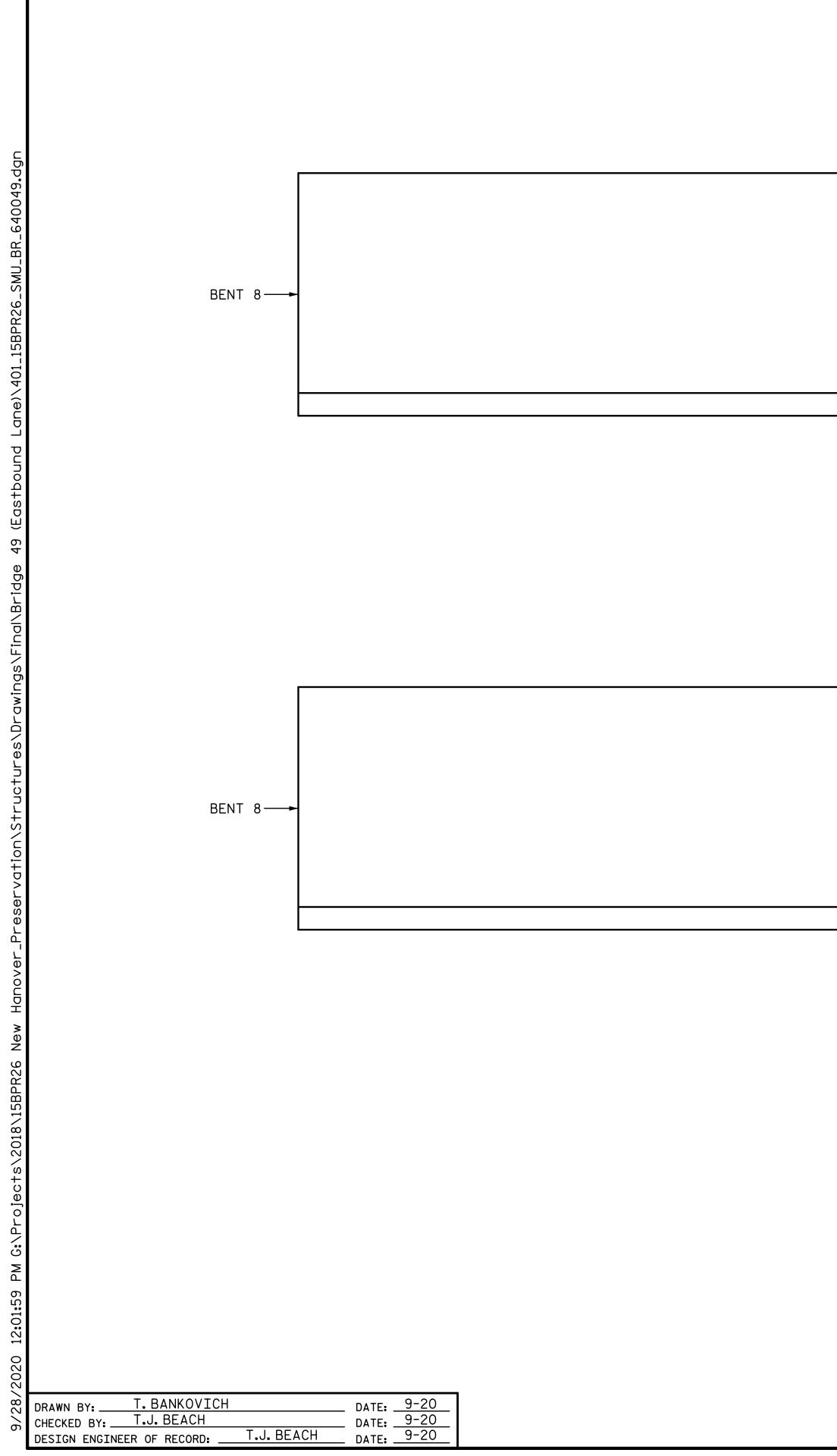
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FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR SUPERSTRUCTURE REPAIR DETAILS, SEE ``SUPERSTRUCTURE REPAIR DETAIL" SHEET.

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ERI — EPOXY RESIN INJECTION

→ BENT 9 LEFT RAIL 0.2 SF, 20' FROM-BENT 8 BENT 9 RIGHT RAIL SPAN 9 — LIMITS OF SILANE RAIL TREATMENT PLANS PREPARED S IMPSON NGINEE ASSOC TOP OF DECK 5640 Dillard Dr Suite 200 Cary, NC 27518 (919) 852-0468 (919) 852-0598 (I www.simpsoneng

SECTION THRU BARRIER RAIL LEFT RAIL SHOWN, RIGHT RAIL SIMILAR

REPAIR QUANTITY TABLE										
REPAIRS SPAN 9		QI	JANTITI	IES						
NEFAINS SFAN J	EST	IMATE		ACTUAL	-					
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	V	OLUME CF				
BARRIER RAIL	0.2	0.1								
EPOXY RESIN INJECTION						LF				
BARRIER RAIL		0.0								
SURFACE PREPARATI	ON	SF				SF				
BARRIER RAIL		1103.5								
SILANE RAIL TREATM	ENT	SF				SF				
BARRIER RAIL		1103.5								

NOTES:

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VALUES IN CHART REPRESENT ESTIMATE REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN, OF 1"BEHIND REBAR AND MIN. 2"CL. TO SAWCUT. SEE REPAIR DETAILS.

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FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR SUPERSTRUCTURE REPAIR DETAILS, SEE ``SUPERSTRUCTURE REPAIR DETAIL" SHEET.

		BRIDGE	IANOVEI E NO.:_	R/PENE	<u>BPR.2</u> D <u>ER</u> CO 40049	UNTY
PLANS PREPARED BY:		SHEET 9	STATI RTMENT	e of north car OF TRA raleigh SERVA	NSPORTA	TION
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www.simpsonengr.com LICENSURE NO.C-2521	9/29/2020	NO. BY:	REVIS	IONS	DATE:	SHEET NO. S2-24
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.ane)\401_15BPR26_SMU_BR_640049.dgn	BENT 9		0.1 SF, 29' FROM BENT 9
res/Drawings/Final/Bridge 49 (Eastbound			0.4 SF, 26'-6" FROM → 0.1 SF BENT 9
New Hanover_Preservation\Structures\Drawings\Final\Bridge			0.4 SF, 26'-6" FROM BENT 9
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9/28/2020 12:	DRAWN BY: <u>T. BANKOVICH</u> CHECKED BY: <u>T.J. BEACH</u> DESIGN ENGINEER OF RECORD: <u>T.J. BEA</u>	DATE: <u>9-20</u> DATE: <u>9-20</u> ACH DATE: <u>9-20</u>	

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ERI — EPOXY RESIN INJECTION

LEFT RAIL SF, 29'FROM BENT 9 RIGHT RAIL SPAN 10 — LIMITS OF SILANE RAIL TREATMENT PLANS PREPARED S IMPSON NGINEER SSOCI TOP OF DECK 5640 Dillard Dri Suite 200 Cary, NC 27518 (919) 852-0468 (919) 852-0598 (F www.simpsoneng SECTION THRU BARRIER RAIL LICENSURE NO. LEFT RAIL SHOWN, RIGHT RAIL SIMILAR DOCUME **UNLESS**

REPAIR QUANTITY TABLE									
REPAIRS SPAN 10		QI	JANTIT	IES					
REPAIRS SPAN IU ESTIMA				ACTUAL	-				
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF				
BARRIER RAIL	0.6	0.2							
EPOXY RESIN INJECTION					LF				
BARRIER RAIL									
SURFACE PREPARATI	ON	SF			SF				
BARRIER RAIL		977.8							
SILANE RAIL TREATM	ENT	SF			SF				
BARRIER RAIL		977.8							

➡ BENT 10

NOTES:

REPAIR LOCAITONS AND ESTIMATE OF THE QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE INSPECTOR OR ENGINEER THE CONTRACTOR SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITIY TABLE.

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SHOTCRETE REPAIRS MAY BE REPLACED WITH CONCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

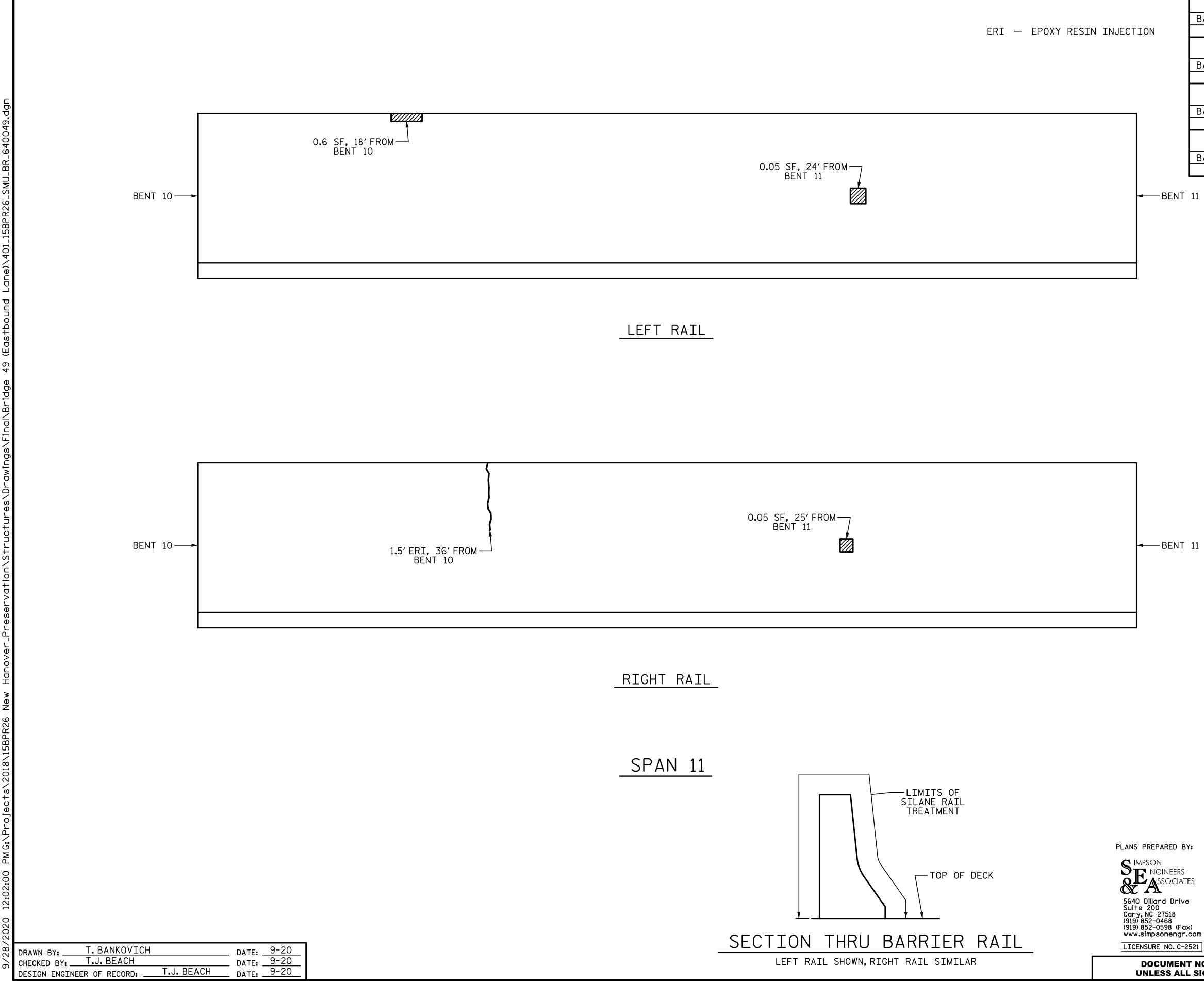
FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR SUPERSTRUCTURE REPAIR DETAILS, SEE ``SUPERSTRUCTURE REPAIR DETAIL" SHEET.

AFTER ALL REPAIRS ARE MADE TO THE BARRIER RAILS, ADD SILANE RAIL TREATMENT TO THE LIMITS SHOWN ON THE PLANS. FOR SILANE RAIL TREATMENT, SEE SPECIAL PROVISIONS.

BENT 10

		NEW H	CT NO. IANOVEI E NO.:_ of 13	R/PEND		UNTY
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REPAIR QUANTITY TABLE									
REPAIRS SPAN 11		QI	JANTITI	ES					
REFAIRS SFAN II	EST	IMATE		ACTUAL	_				
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	DEPTH FT		OLUME CF			
BARRIER RAIL	0.7	0.1							
EPOXY RESIN INJECTION						LF			
BARRIER RAIL									
SURFACE PREPARATI	ON	SF				SF			
BARRIER RAIL		977.8							
SILANE RAIL TREATM	ENT	SF				SF			
BARRIER RAIL		977.8							

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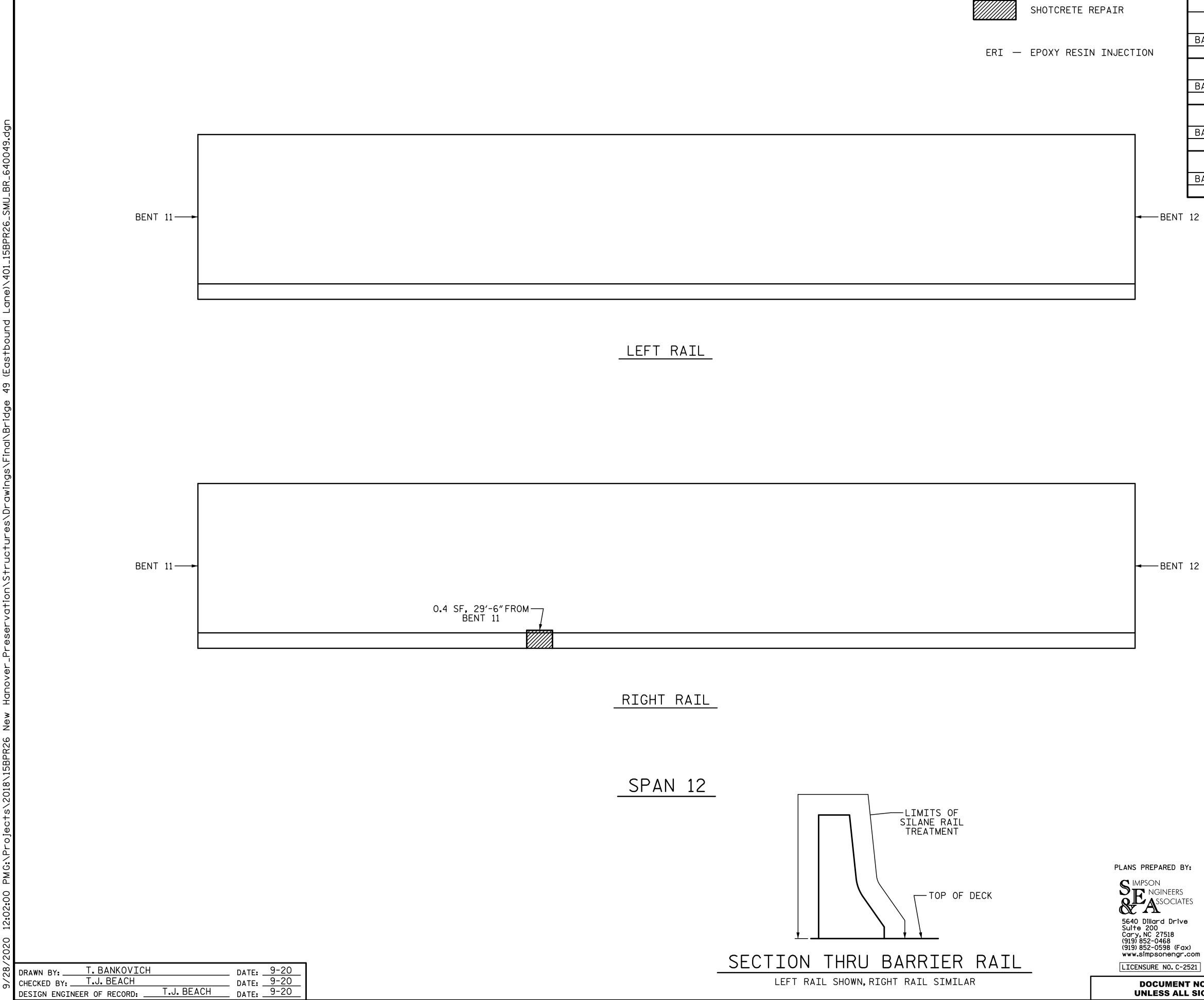
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FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR SUPERSTRUCTURE REPAIR DETAILS, SEE ``SUPERSTRUCTURE REPAIR DETAIL" SHEET.

		<u>N</u> BF	EW H	IANOVEI E NO.:_	<u>R/</u>	PEND	BPR.2 ER co 10049	UNTY
) BY:			DEPA	RTMENT	OF	NORTH CARG TRAN RALEIGH	NSPORTA	TION
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(Fax) ngr.com	9/29/2020			REVIS	SION	IS		SHEET NO.
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	NSIDERED FINAL IRES COMPLETED	1 2			<u> </u>			total sheets 163



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BENT 12

REPAIR QUANTITY TABLE									
REPAIRS SPAN 12		QI	JANTIT]	IES					
REPAIRS SPAN 12 ESTIMA				ACTUAL	-				
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	DEPTH FT		OLUME CF			
BARRIER RAIL	0.4	0.1							
EPOXY RESIN INJECTION						LF			
BARRIER RAIL									
SURFACE PREPARATI	ON	SF				SF			
BARRIER RAIL		977.8							
SILANE RAIL TREATM	ENT	SF				SF			
BARRIER RAIL		977.8							

NOTES:

REPAIR LOCAITONS AND ESTIMATE OF THE QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE INSPECTOR OR ENGINEER THE CONTRACTOR SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITIY TABLE.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

VALUES IN CHART REPRESENT ESTIMATE REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN, OF 1"BEHIND REBAR AND MIN. 2"CL. TO SAWCUT. SEE REPAIR DETAILS.

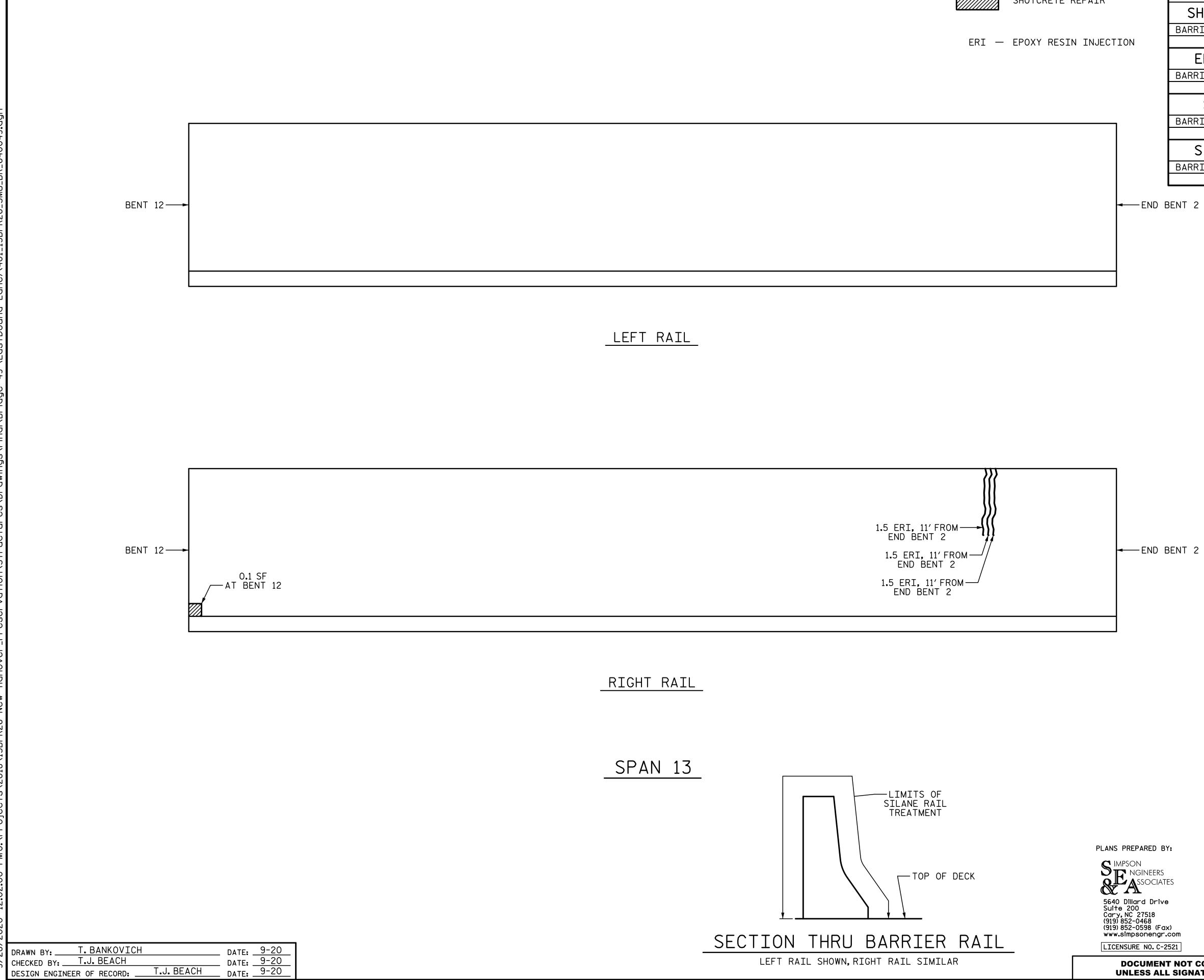
SHOTCRETE REPAIRS MAY BE REPLACED WITH CONCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR SUPERSTRUCTURE REPAIR DETAILS, SEE ``SUPERSTRUCTURE REPAIR DETAIL" SHEET.

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) BY:		DEPA	RTMENT	OF NORTH CAR OF TRAN RALEIGH SERVAT	NSPORTA	TION				
ERS CIATES r ive	AGB 205965785 EAL 24390	SPAN 12 BARRIER RAIL								
(Fax) ngr.com	9/29/2020		REVIS	IONS		SHEET NO.				
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REPAIR QUANTITY TABLE									
REPAIRS SPAN 13		QI	JANTITI	IES					
REFAIRS SPAN IS ESTIMA				ACTUAL	_				
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	DEPTH FT		DLUME CF			
BARRIER RAIL	0.1	0.1							
EPOXY RESIN INJECTION						LF			
BARRIER RAIL									
SURFACE PREPARATI	ON	SF				SF			
BARRIER RAIL		983.0							
SILANE RAIL TREATM	ENT	SF				SF			
BARRIER RAIL		983.0							

NOTES:

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FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

VALUES IN CHART REPRESENT ESTIMATE REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN, OF 1"BEHIND REBAR AND MIN. 2"CL. TO SAWCUT. SEE REPAIR DETAILS.

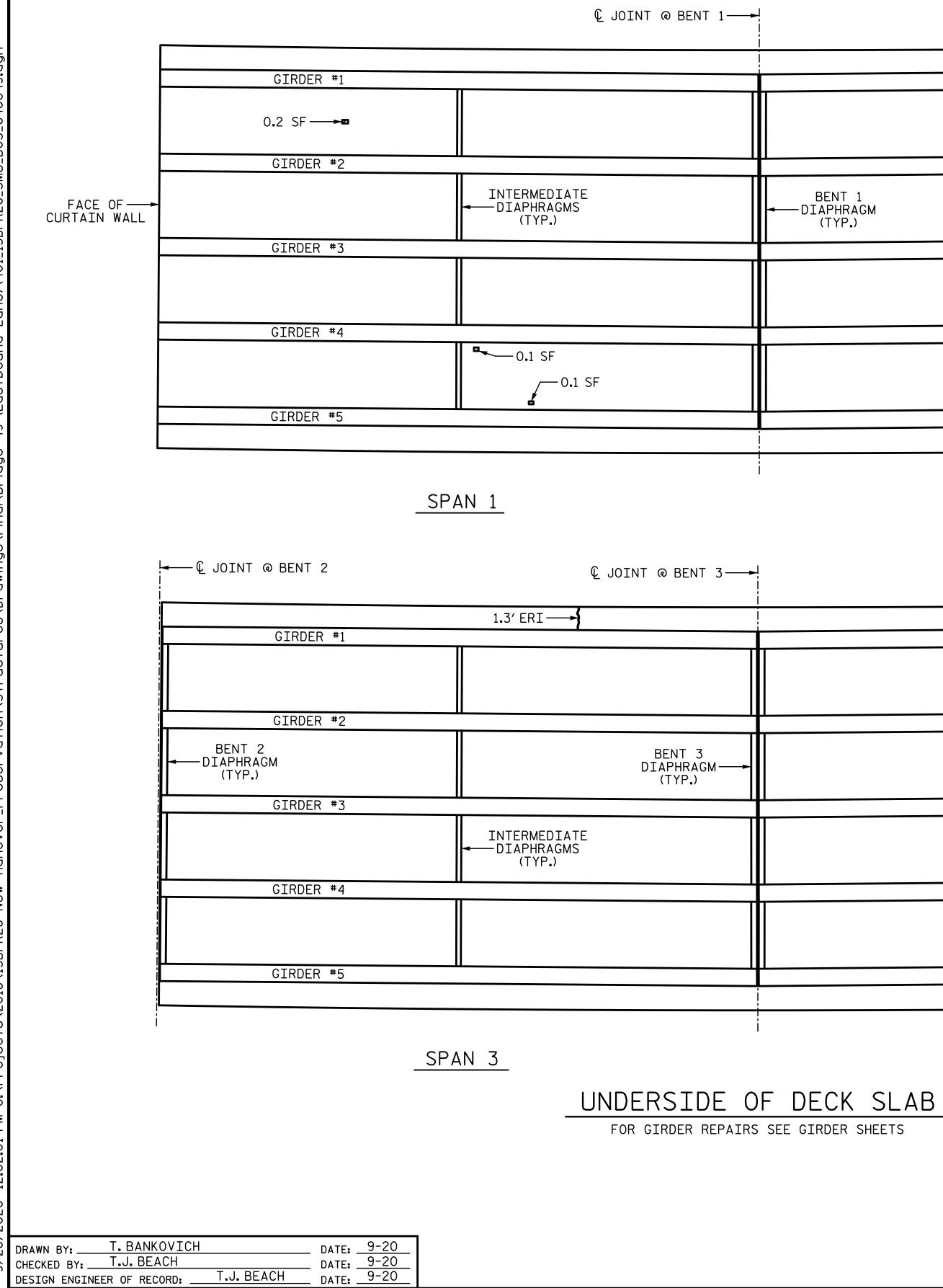
SHOTCRETE REPAIRS MAY BE REPLACED WITH CONCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR SUPERSTRUCTURE REPAIR DETAILS, SEE ``SUPERSTRUCTURE REPAIR DETAIL" SHEET.

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ERI — EPOXY RESIN INJECTION

€ JOINT @ BENT 2-----GIRDER #1 GIRDER #2 BENT 2 BENT 1 DIAPHRAGM--DIAPHRAGM (TYP.) (TYP.) GIRDER #3 INTERMEDIATE — DIAPHRAGMS (TYP.) GIRDER #4 GIRDER #5

SPAN 2

© JOINT @ BENT 4
GIRDER #1
GIRDER #2
BENT 4 DIAPHRAGM (TYP.)
GIRDER #3
INTERMEDIATE DIAPHRAGMS (TYP.)
GIRDER #4
GIRDER #5

SPAN 4

PLANS PREPARED



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REPAIR QU	ANT	ITY -	ΓABL	.E	
REPAIRS SPANS 1 - 4			JANTITI	IES	
	EST	IMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF
SPAN 1	0.4	0.1			
SPAN 2	0.0	0.0			
SPAN 3	0.0	0.0			
SPAN 4	0.0	0.0			
EPOXY RESIN INJECT	ION	LF			LF
SPAN 1		0.0			
SPAN 2		0.0			
SPAN 3		1.3			
SPAN 4		0.0			

NOTES:

REPAIR LOCAITONS AND ESTIMATE OF THE QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE INSPECTOR OR ENGINEER THE CONTRACTOR SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITIY TABLE.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

VALUES IN CHART REPRESENT ESTIMATE REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN, OF 1" BEHIND REBAR AND MIN. 2"CL. TO SAWCUT. SEE REPAIR DETAILS.

SHOTCRETE REPAIRS MAY BE REPLACED WITH CONCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR SUPERSTRUCTURE REPAIR DETAILS, SEE ``SUPERSTRUCTURE REPAIR DETAIL" SHEET.

		PROJECT NO. 15BPR.26 NEW HANOVER/PENDER COUNT	 TY
		BRIDGE NO.: 640049	
		SHEET 1 OF 4	
S PREPARED BY:		STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH PRESERVATION	J
MPSON NGINEERS SSOCIATES O Dillard Drive te 200	AGB 100 BESTSEAL 24390	UNDERSIDE OF DECK SLAB	
y, NC 27518) 852-0468) 852-0598 (Fax)	THE ACTIVE ACTIVE	SPANS 1 - 4	
v.simpsonengr.com ENSURE NO.C-2521	9/29/2020		T NO. -29
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←	© JOINT @ BENT 5
GIRDER #1	
GIRDER #2	
	INTERMEDIATE DIAPHRAGMS (TYP.)
GIRDER #3	
BENT 4 DIAPHRAGM (TYP.)	BENT 5 DIAPHRAGM──► (TYP.)
GIRDER #4	
GIRDER #5	

SPAN 5

— € JOINT @ BENT 6		€ BENT 7-
	GIRDER #1	
	GIRDER #2	
		BENT 7 DTAPH
		BENT 7 DIAPH (TYP.)
	GIRDER #3	
(TYP.)		
	GIRDER #4	-
		INTERMEDIATE DIAPH. 2 (TYP.)
	GIRDER #5	
	INTERMEDIATE DIAPH.1 (TYP.)	
	GIRDER #6	
	GIRDER #7	

SPAN 7

UNDERSIDE OF DECK SLAB

FOR GIRDER REPAIRS SEE GIRDER SHEETS

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28/	DRAWN BY:	T.BANKOVICH		DATE:	9-20
	CHECKED BY:	T.J. BEACH		DATE:	9-20
0)		NEER OF RECORD:	T.J. BEACH	DATE:	9-20



SHOTCRETE REPAIR

ERI — EPOXY RESIN INJECTION

€ JOINT @ BENT 6-----GIRDER #1 GIRDER #2 INTERMEDIATE — DIAPHRAGMS (TYP.) GIRDER #3 BENT 6 DIAPHRAGM──► (TYP.) GIRDER #4 GIRDER #5

SPAN 6

PLANS PREPARED



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REPAIR QU	ANT	ITY ⁻	ΓABL	.E	
REPAIRS SPANS 5 - 7			JANTITI		
	EST	IMATE		ACTUAL	-
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF
SPAN 5	0.0	0.0			
SPAN 6	0.0	0.0			
SPAN 7	0.0	0.0			
EPOXY RESIN INJECT	ION	LF			LF
SPAN 5		0.0			
SPAN 6		0.0			
SPAN 7		0.0			

NOTES:

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FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

VALUES IN CHART REPRESENT ESTIMATE REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN, OF 1"BEHIND REBAR AND MIN. 2"CL. TO SAWCUT. SEE REPAIR DETAILS.

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FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR SUPERSTRUCTURE REPAIR DETAILS, SEE ``SUPERSTRUCTURE REPAIR DETAIL" SHEET.

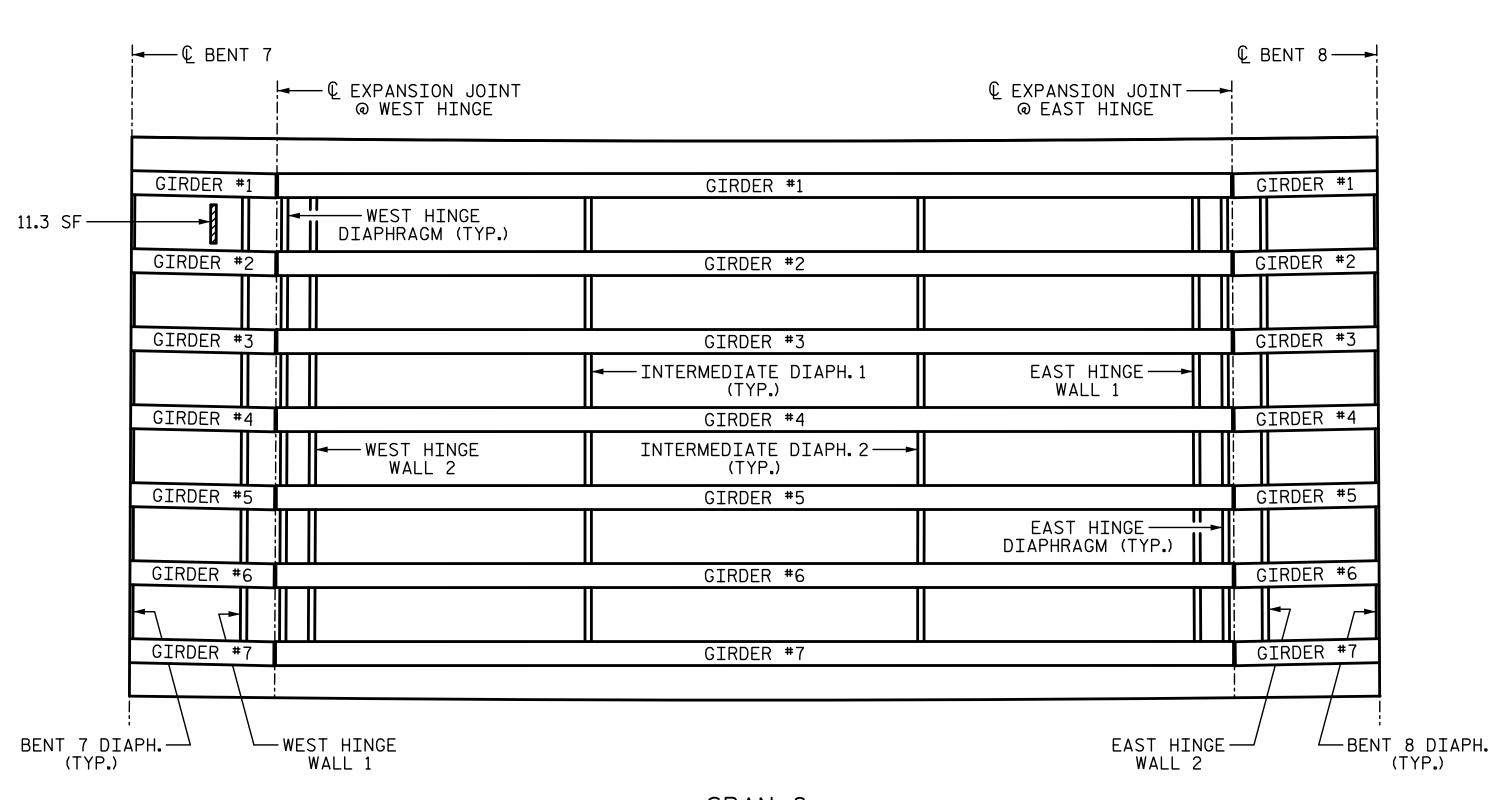
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	CHECKED BY:	T.J. BEACH		DATE:	9-20
		NEER OF RECORD:	T.J. BEACH	DATE:	9-20

SPAN	5

L L		
	GIRDER #1	
0.6 SF		
	GIRDER #2	
INTERMEDIATE DIAPH.1		
	GIRDER #3	
	GIRDER #4	
	GIRDER #5	
	GIRDER #6	
BENT 8 DIAPH. (TYP.)		
	GIRDER #7	

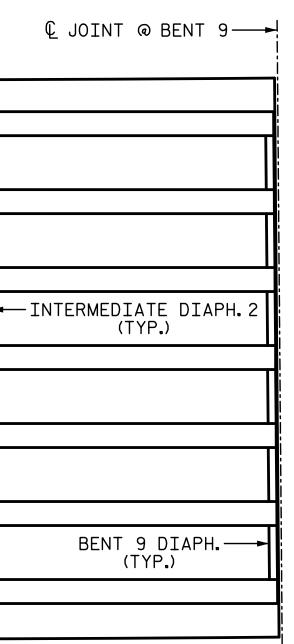
SPAN 8





SHOTCRETE REPAIR

ERI — EPOXY RESIN INJECTION



UNDERSIDE OF DECK SLAB

PLANS PREPARED



DOCUME

REPAIR QUANTITY TABLE						
REPAIRS SPANS 8 & 9			JANTITI			
	EST	IMATE		ACTUAL	_	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF	
SPAN 8	1.3	0.4				
SPAN 9	0.6	0.2				
EPOXY RESIN INJECT	ION	LF			LF	
SPAN 8						
SPAN 9						

NOTES:

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FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR SUPERSTRUCTURE REPAIR DETAILS, SEE ``SUPERSTRUCTURE REPAIR DETAIL' SHEET.

		PROJE	CT NO	<u> 15</u>	BPR.2	26	
		NEW	HANOVE	ER/PEND	DER CO	UNTY	
		BRIDG	E NO.:	64	10049)	
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	STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH						
BY:			PRE	ESERVAT	ION		
RS ATES Ive	Loover How CAROL IN LUS For SSION	UNDERSIDE OF DECK SLAB					
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-	CHECKED BY:	T.J. BEACH		DATE:	9-20	
,,		NEER OF RECORD:	T.J. BEACH	DATE:	9-20	L

GIRDER #1 BENT 11 DIAPHRAGM (TYP.)				
GIRDER #2	I		Щ–	
		RMEDIATE PHRAGMS TYP.)		
GIRDER #3				
				BENT 12 DIAPHRAC (TYP.)
GIRDER #4	I			
GIRDER #5				
	SPAN 12		İ	
		UNDERSIDE	OF	DECK
		FOR GIRDER REPA		

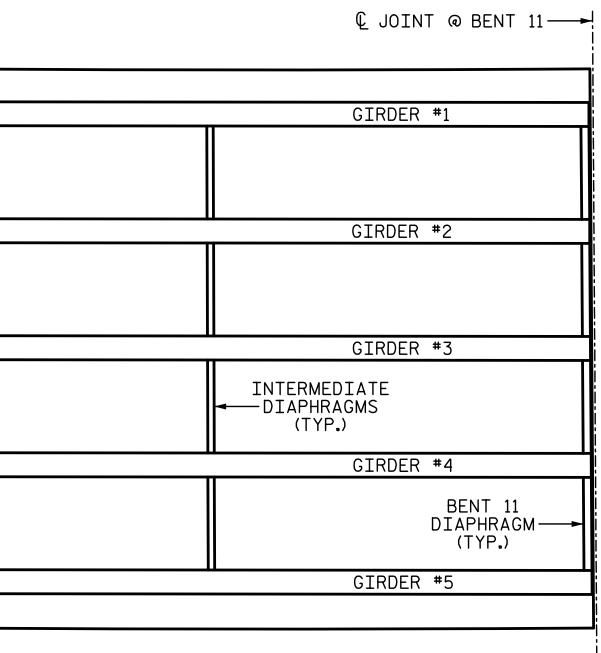
SPAN 10

└╾───Û JOINT @ BENT 9	€ JOINT @ BENT	10
GIRDER #1		
GIRDER #2		
	INTERMEDIATE DIAPHRAGMS (TYP.)	BENT 10 DIAPHRAGM (TYP.)
GIRDER #3		
BENT 9 DIAPHRAGM (TYP.)		
GIRDER #4		
GIRDER #5		

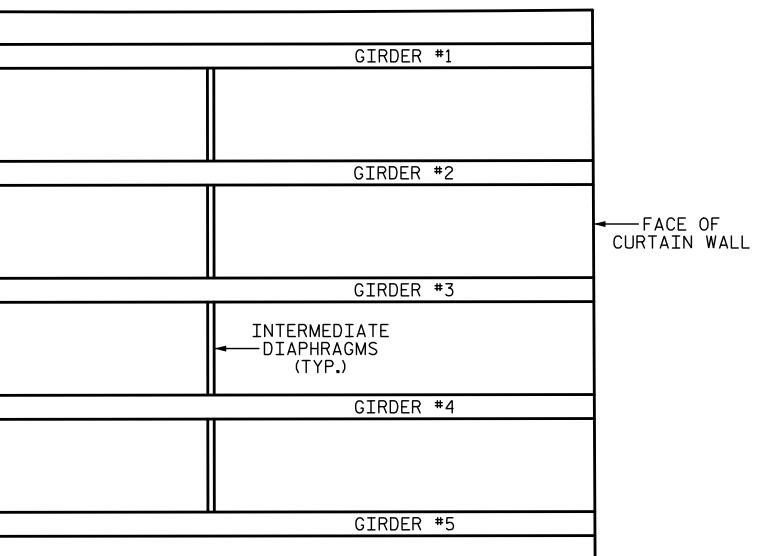


SHOTCRETE REPAIR

ERI — EPOXY RESIN INJECTION



SPAN 11



SPAN 13

SLAB

PLANS PREPARED



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REPAIR QUANTITY TABLE							
REPAIRS SPANS 10 - 13			JANTITI	IES			
INCLATING STANS TO IS	EST	IMATE		ACTUAL	_		
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF		
SPAN 10	0.0	0.0					
SPAN 11	0.0	0.0					
SPAN 12	0.0	0.0					
SPAN 13	0.0	0.0					
EPOXY RESIN INJECT	ION	LF			LF		
SPAN 10		0.0					
SPAN 11		0.0					
SPAN 12	0.0						
SPAN 13	0.0						

NOTES:

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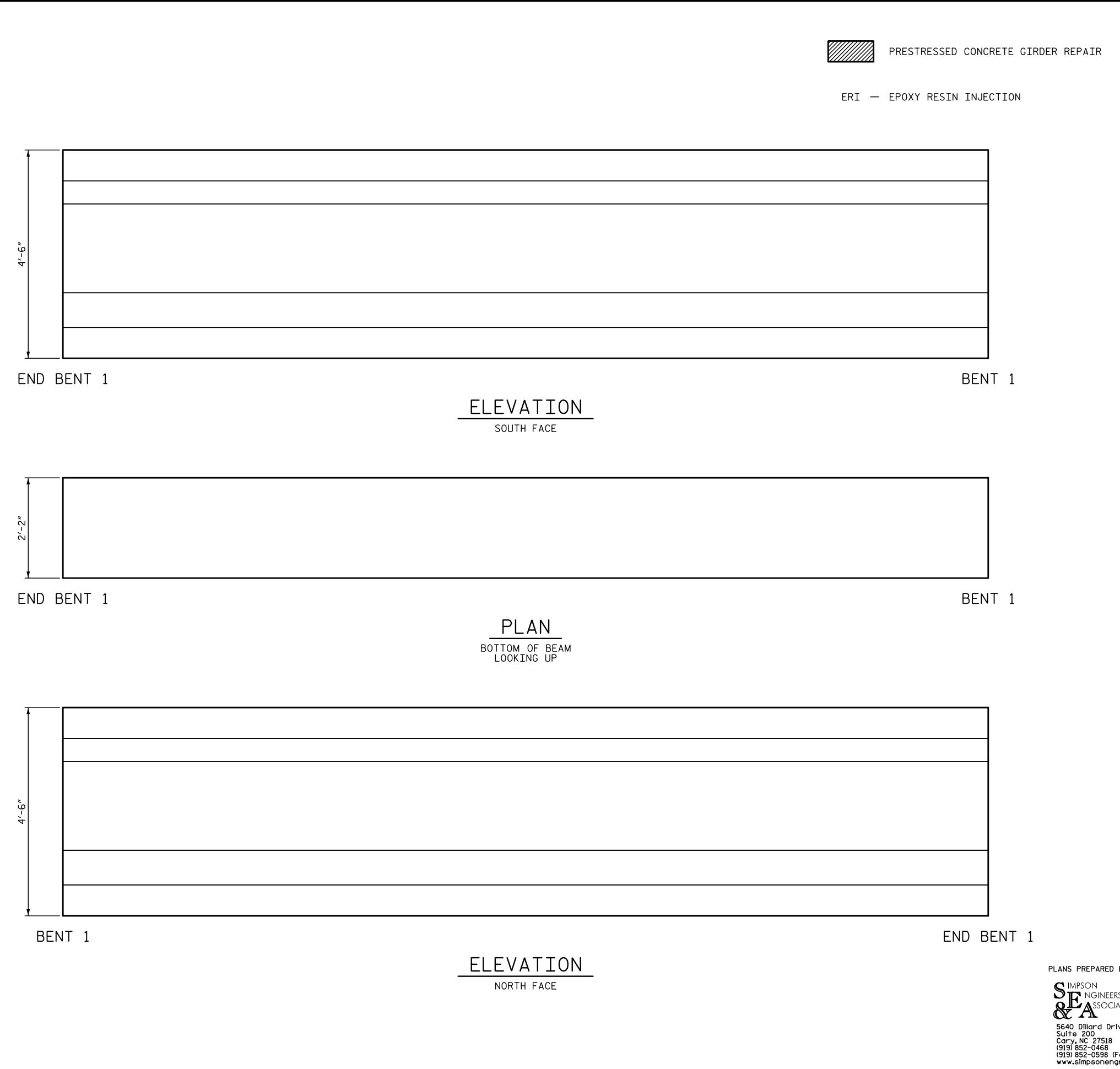
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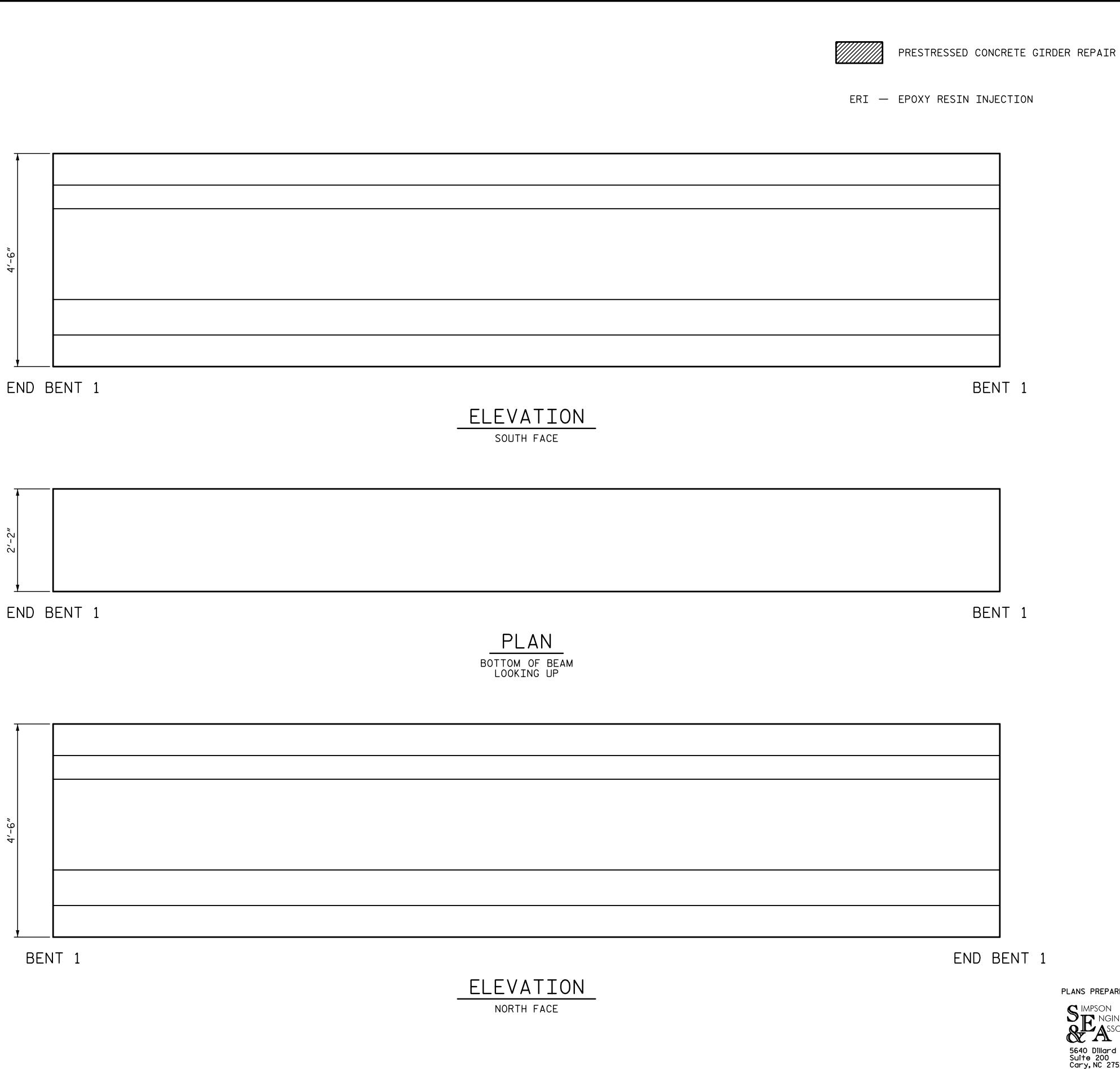
FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR SUPERSTRUCTURE REPAIR DETAILS, SEE ``SUPERSTRUCTURE REPAIR DETAIL'' SHEET.

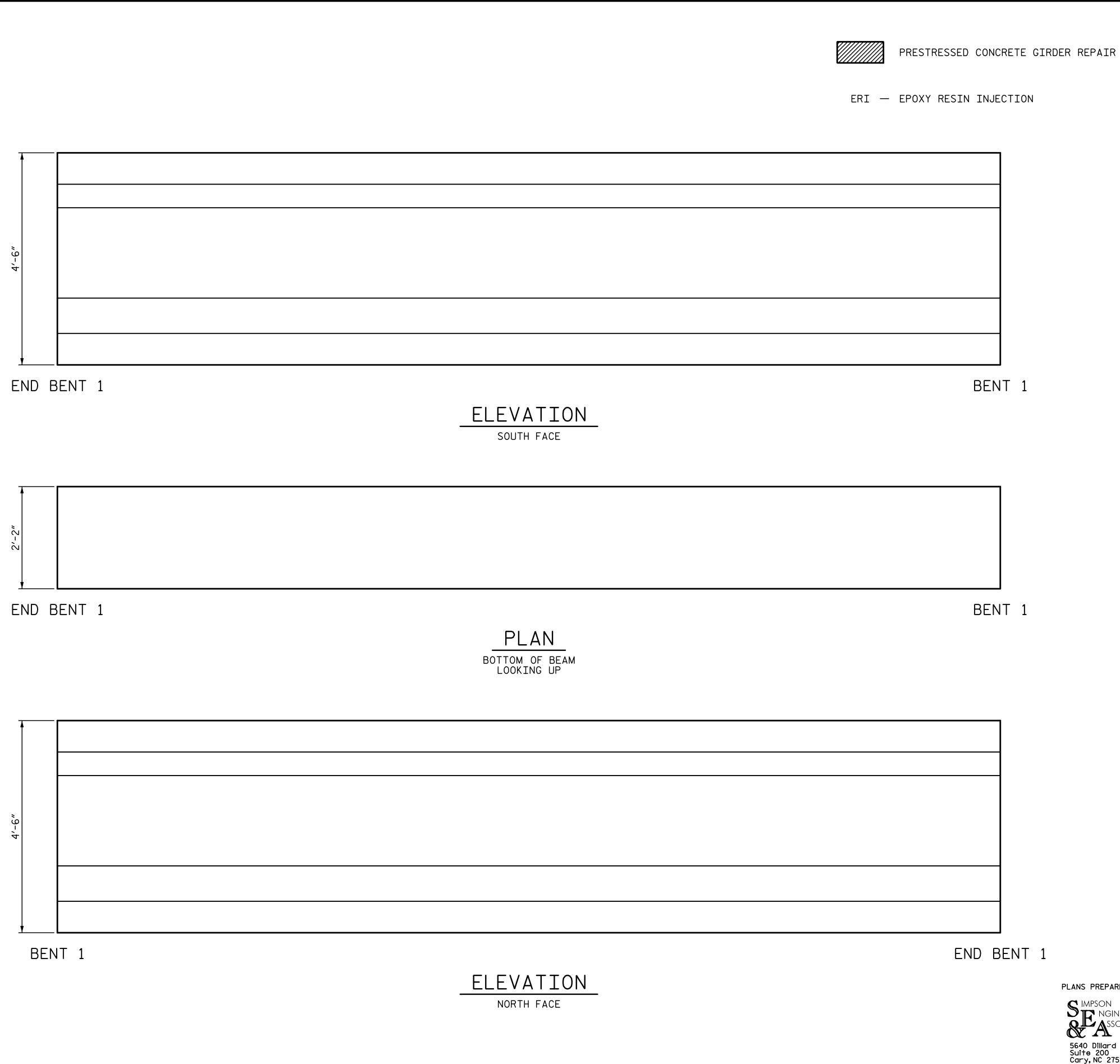
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REPAIR QUANTITY TABLE							
REPAIRS SPAN 1 GRD.1	ГСТ	QUANTITIES					
	ESI	IMATE		ACTUAL	-		
REPAIRS OF PRESTR. CONCRETE GIRDERS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF		
GIRDER	0.0	0.0					
EPOXY RESIN INJECTION					LF		
GIRDER	0.0						

NOTES:

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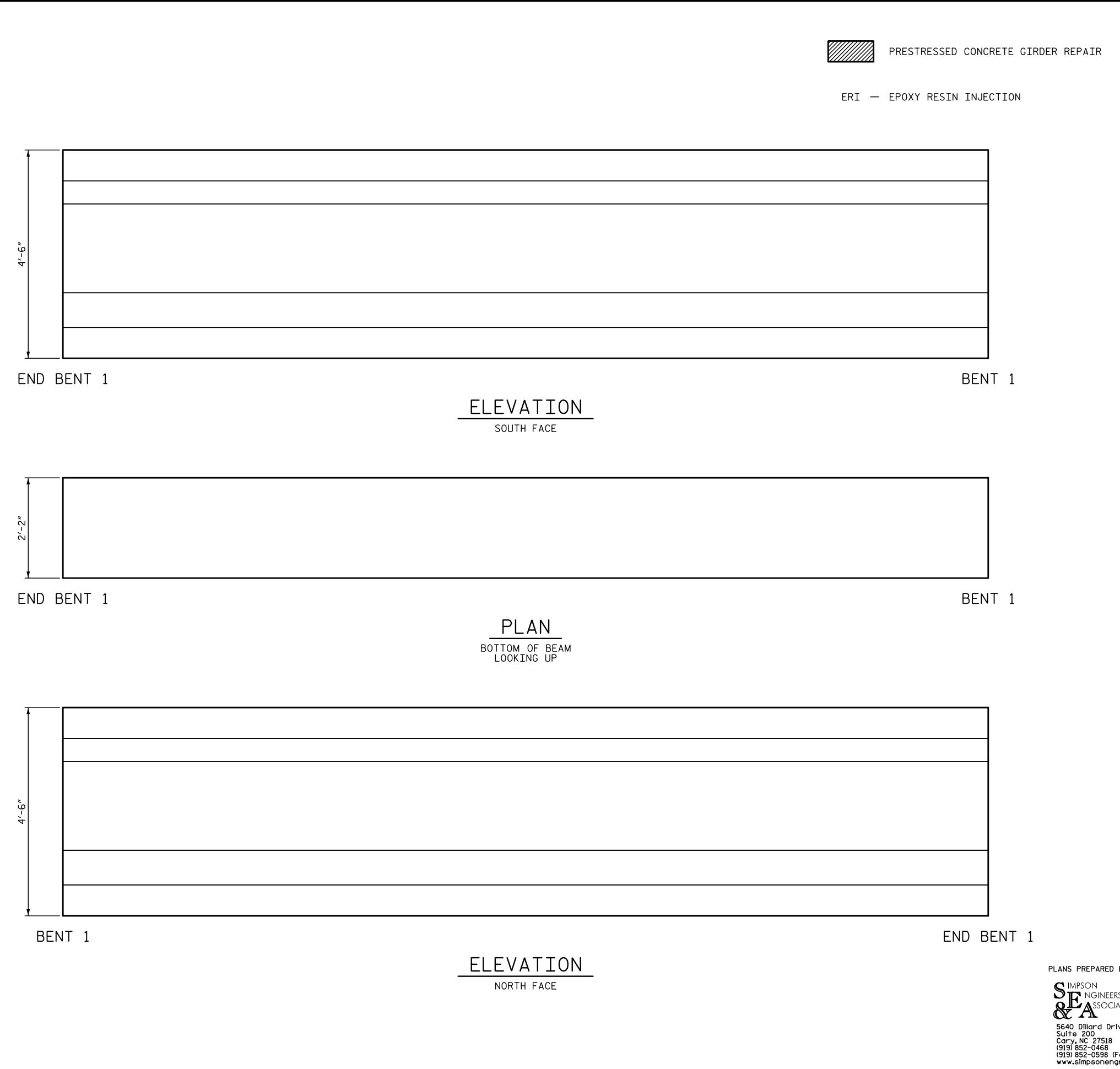
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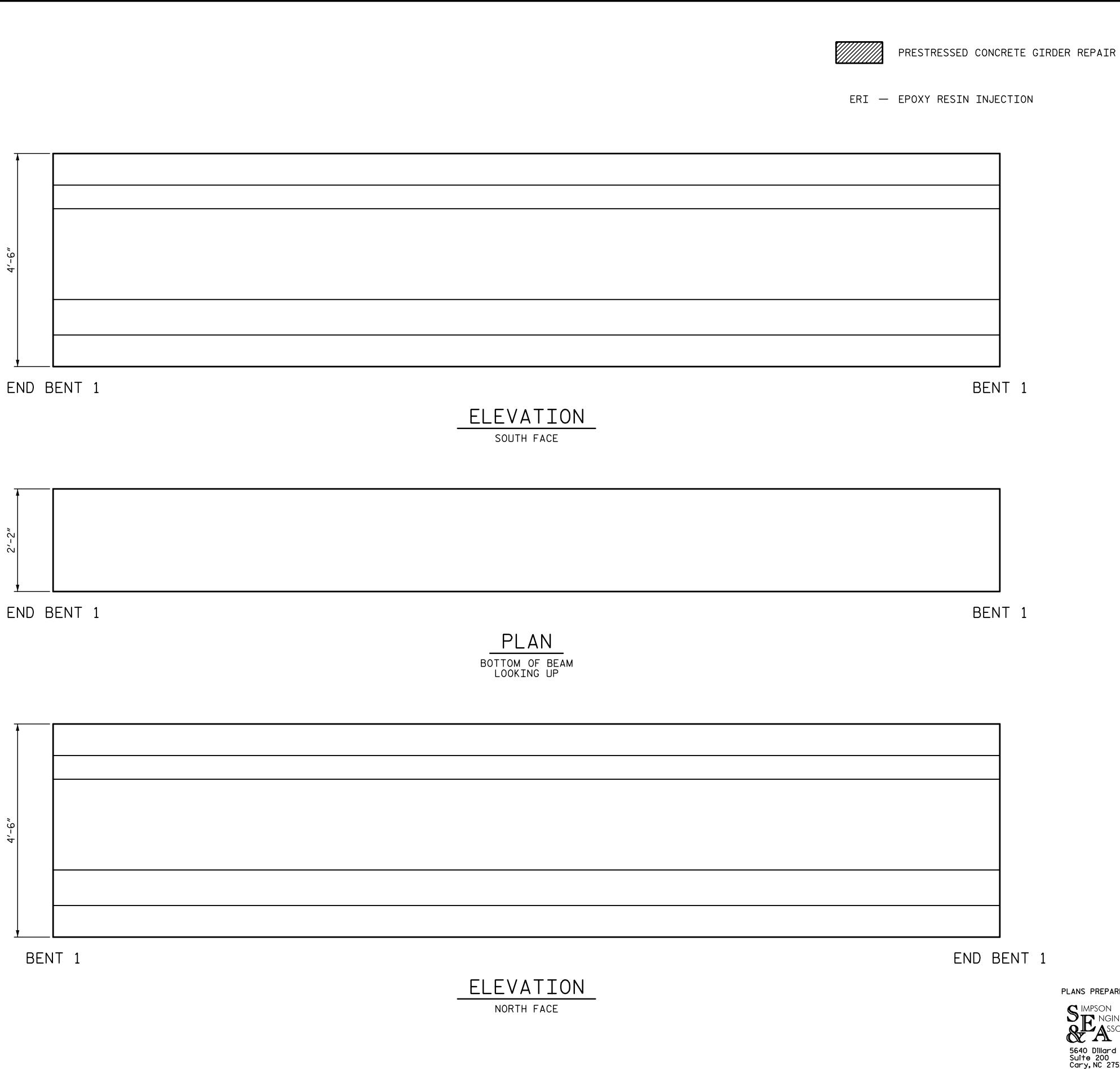
FOR REPAIRS OF PRESSTRESSED CONCRETE GIRDERS, SEE SPECIAL PROVISIONS.

FOR REPAIRS OF PRESTRESSED CONCRETE GIRDERS DETAILS, SEE "PRESTRESSED CONCRETE GIRDER REPAIR DETAILS" SHEET.

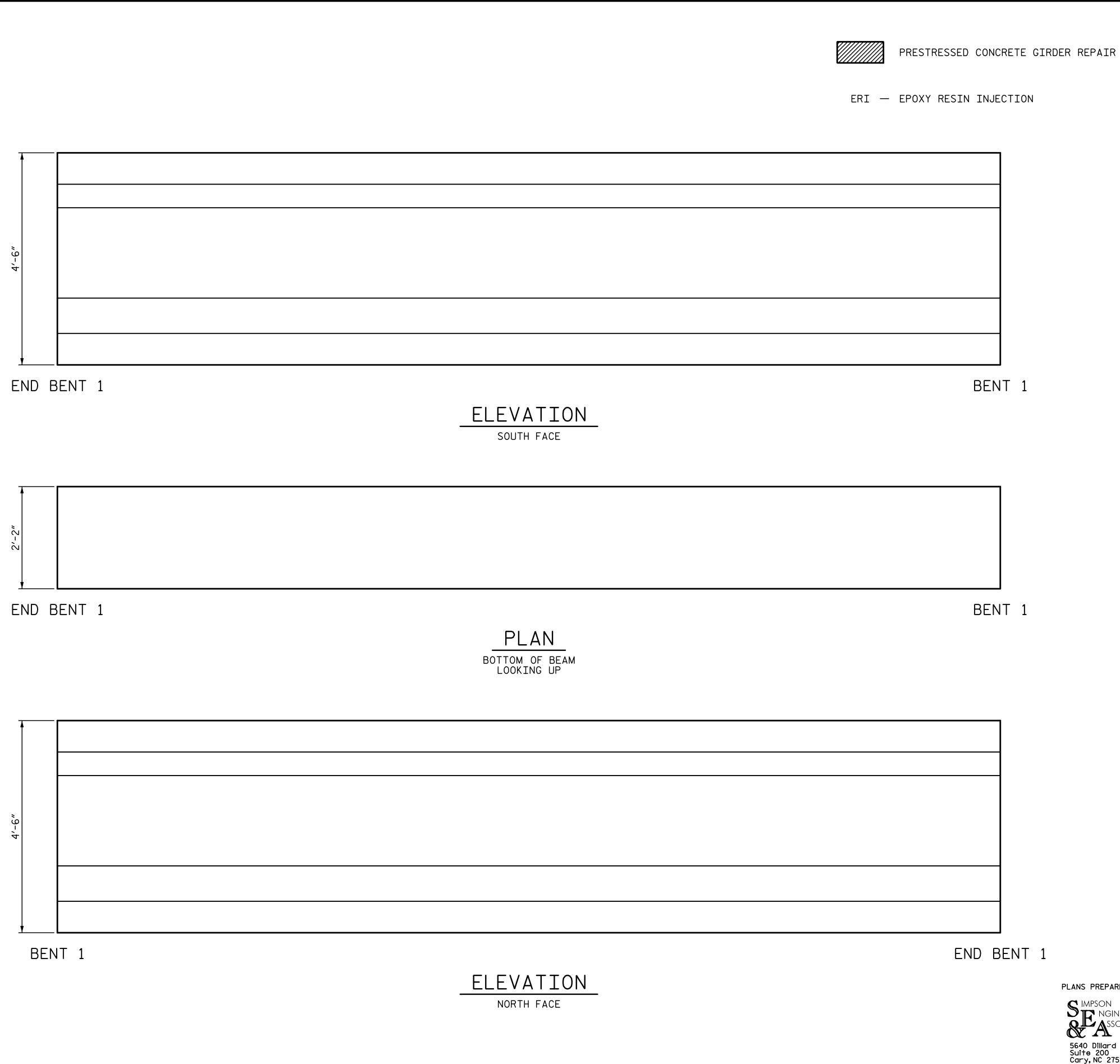
	PROJECT NO. <u>15BPR.26</u> <u>NEW HANOVER/PENDER COUNTY</u> BRIDGE NO.: <u>640049</u> SHEET 1 OF 5
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Silte 200 Cary, NC 27518 (919) 852-0598 (Fax)	SPAN 1 GIRDER 1
www.simpsonengr.com	REVISIONS SHEET NO.
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REPAIR QUANTITY TABLE							
REPAIRS SPAN 1 GRD. 2			JANTIT				
	EST	IMATE		ACTUAL	-		
REPAIRS OF PRESTR. CONCRETE GIRDERS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF		
GIRDER	0.0	0.0					
EPOXY RESIN INJECTION					LF		
GIRDER		0.0					

NOTES:

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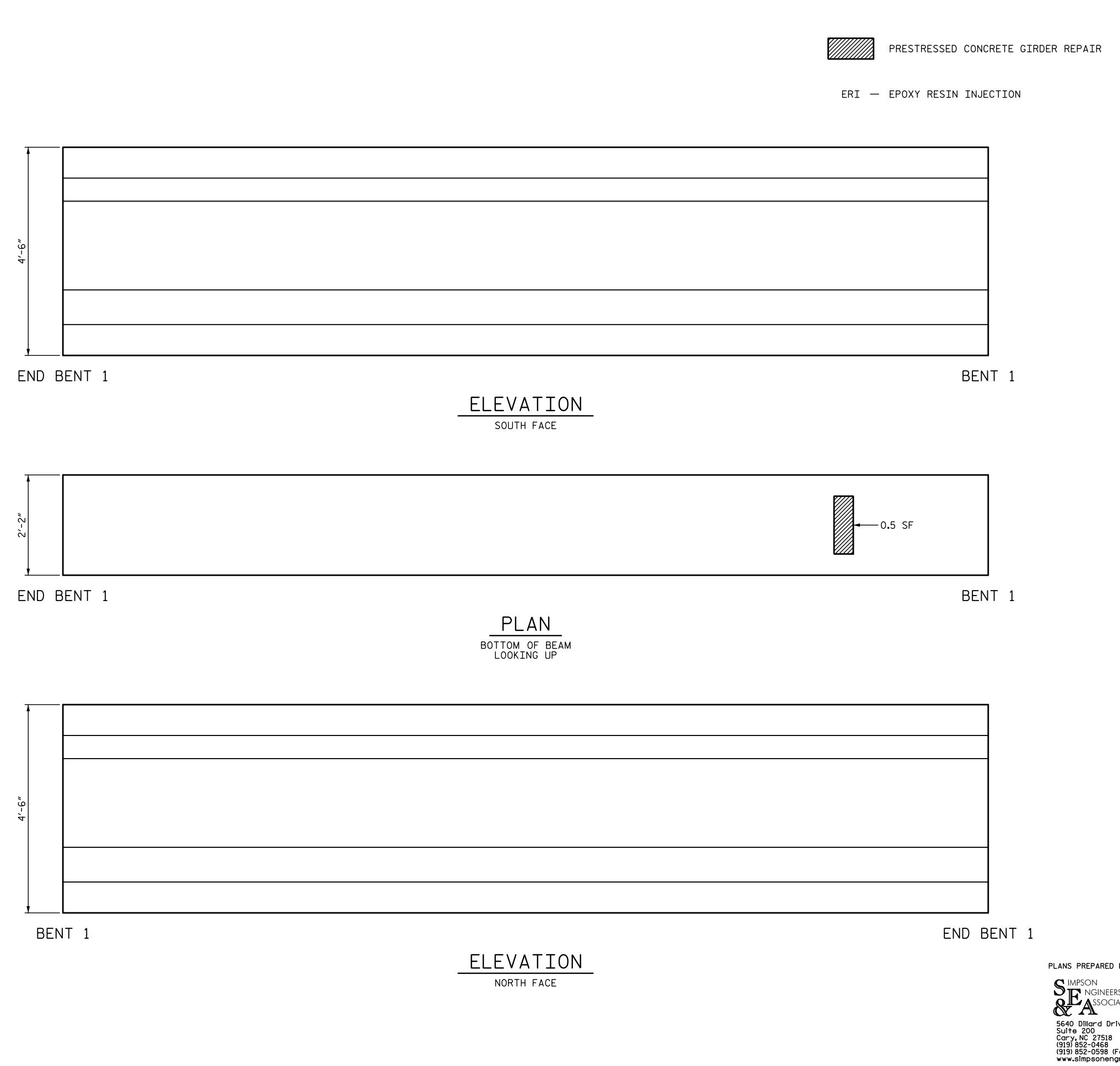
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VALUES IN CHART REPRESENT ESTIMATE REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN, OF 1"BEHIND REBAR AND MIN. 2"CL. TO SAWCUT. SEE REPAIR DETAILS.

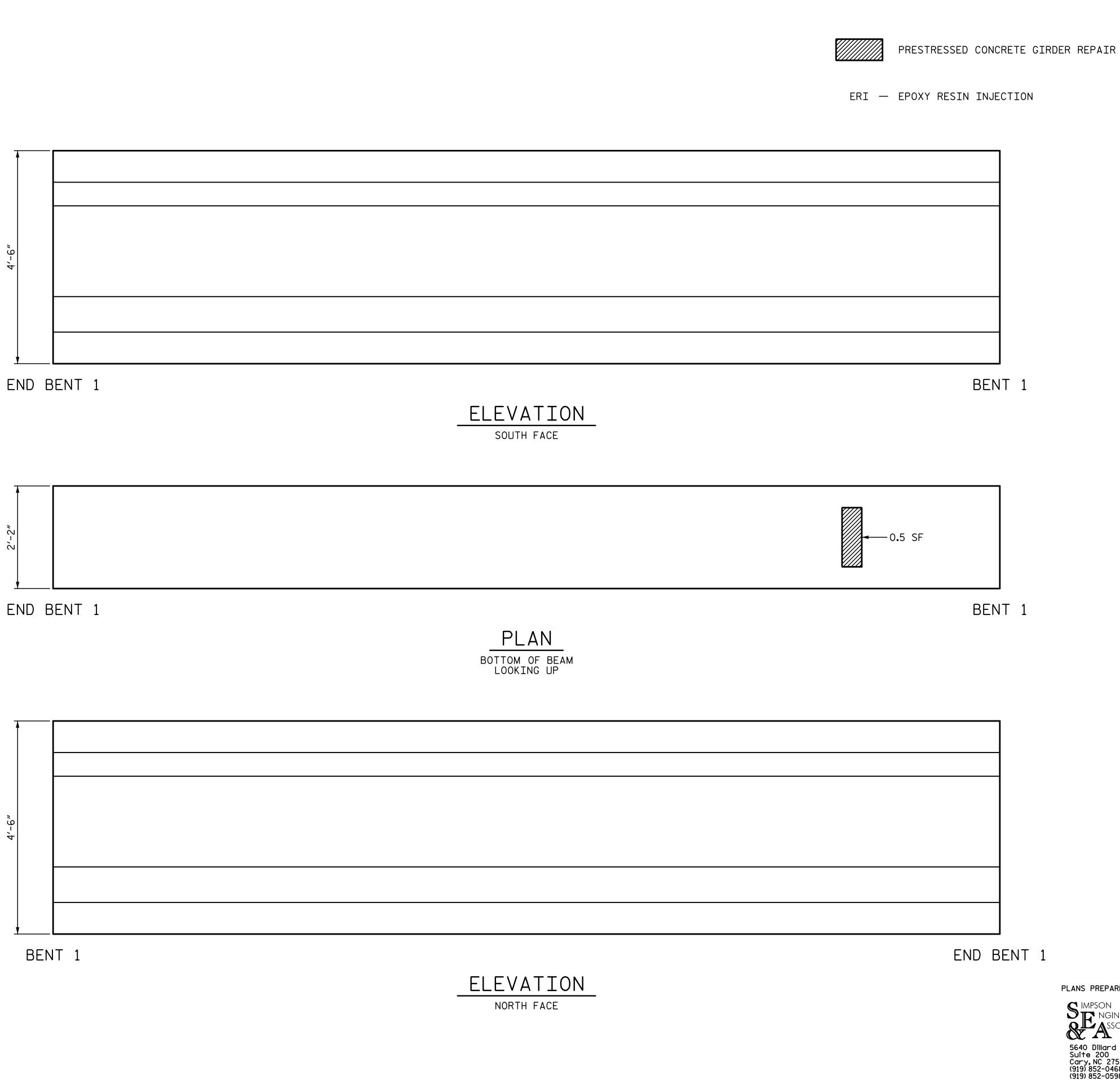
FOR REPAIRS OF PRESSTRESSED CONCRETE GIRDERS, SEE SPECIAL PROVISIONS.

FOR REPAIRS OF PRESTRESSED CONCRETE GIRDERS DETAILS, SEE "PRESTRESSED CONCRETE GIRDER REPAIR DETAILS" SHEET.

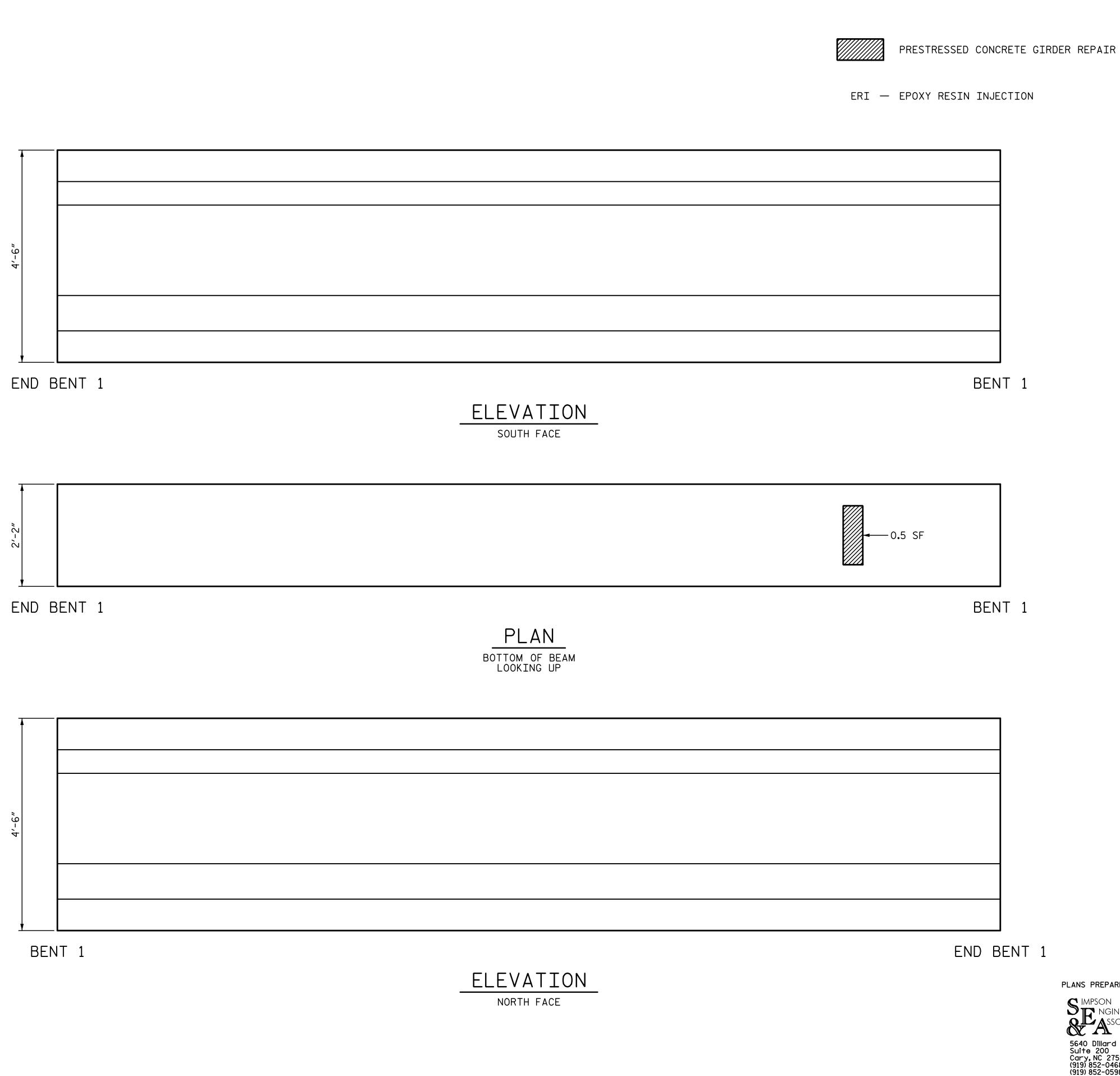
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PLANS PREPARED BY:		DEPA	RTMENT	of north car OF TRAI raleigh	NSPORTA	TION
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Cary, NC 27518 (919) 852-0468 (919) 852-0598 (Fax) www.simpsonengr.com LICENSURE NO. C-2521	9/29/2020	NO. BY:	REVIS	IONS	DATE:	SHEET NO. S2-34
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REPAIR QU	ANT	ITY -	TABL	.E		
REPAIRS SPAN 1 GRD. 3	EST					
REPAIRS OF PRESTR. CONCRETE GIRDERS	ESTIMATEACTUALAREAVOLUMEAREADEPTHVOLUMSFCFSFFTCF0.50.1III			IE		
EPOXY RESIN INJECTION LF					LF	,
GIRDER	0.0					

NOTES:

REPAIR LOCAITONS AND ESTIMATE OF THE QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE INSPECTOR OR ENGINEER THE CONTRACTOR SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITIY TABLE.

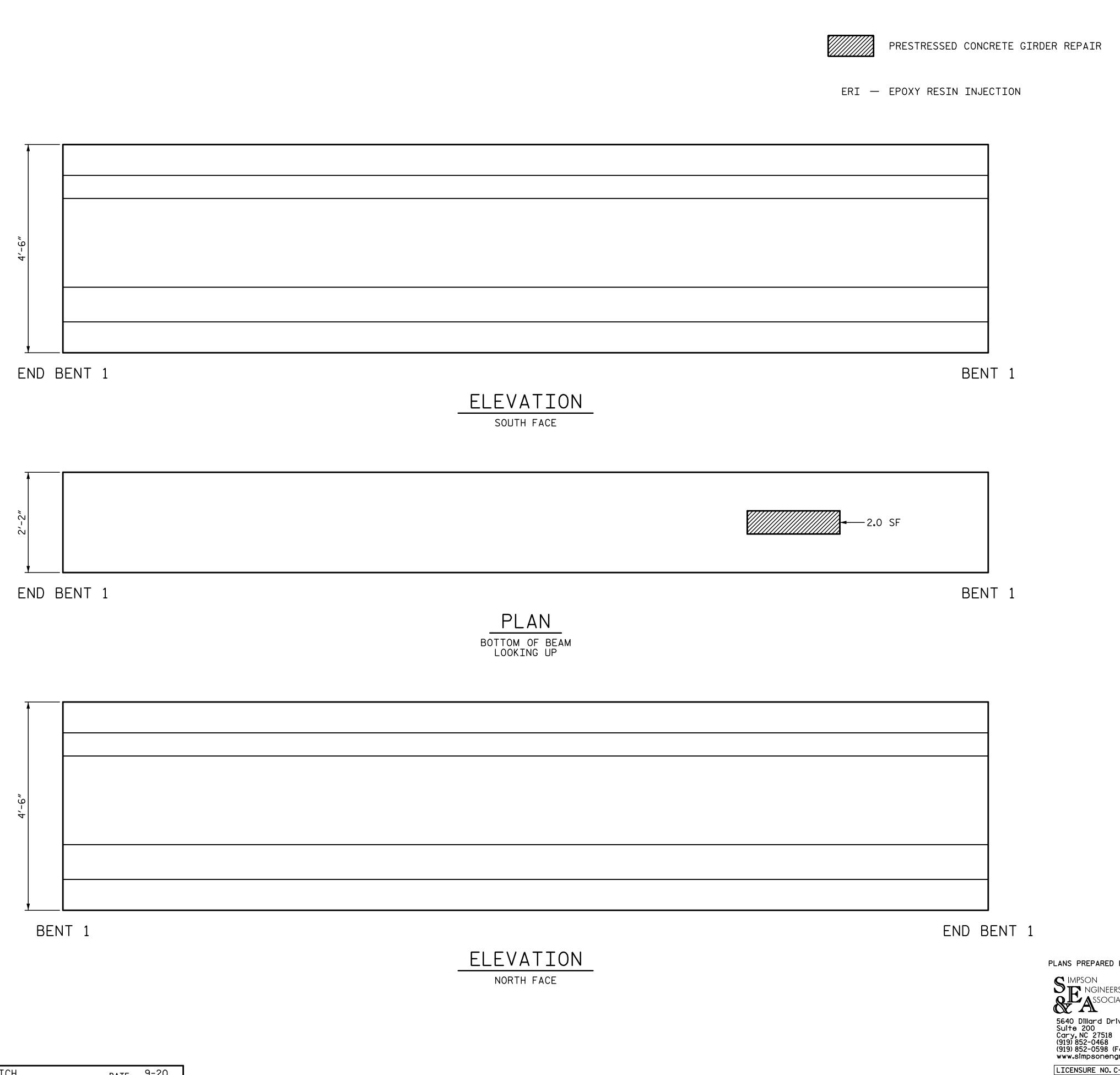
FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

VALUES IN CHART REPRESENT ESTIMATE REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN, OF 1"BEHIND REBAR AND MIN. 2"CL. TO SAWCUT. SEE REPAIR DETAILS.

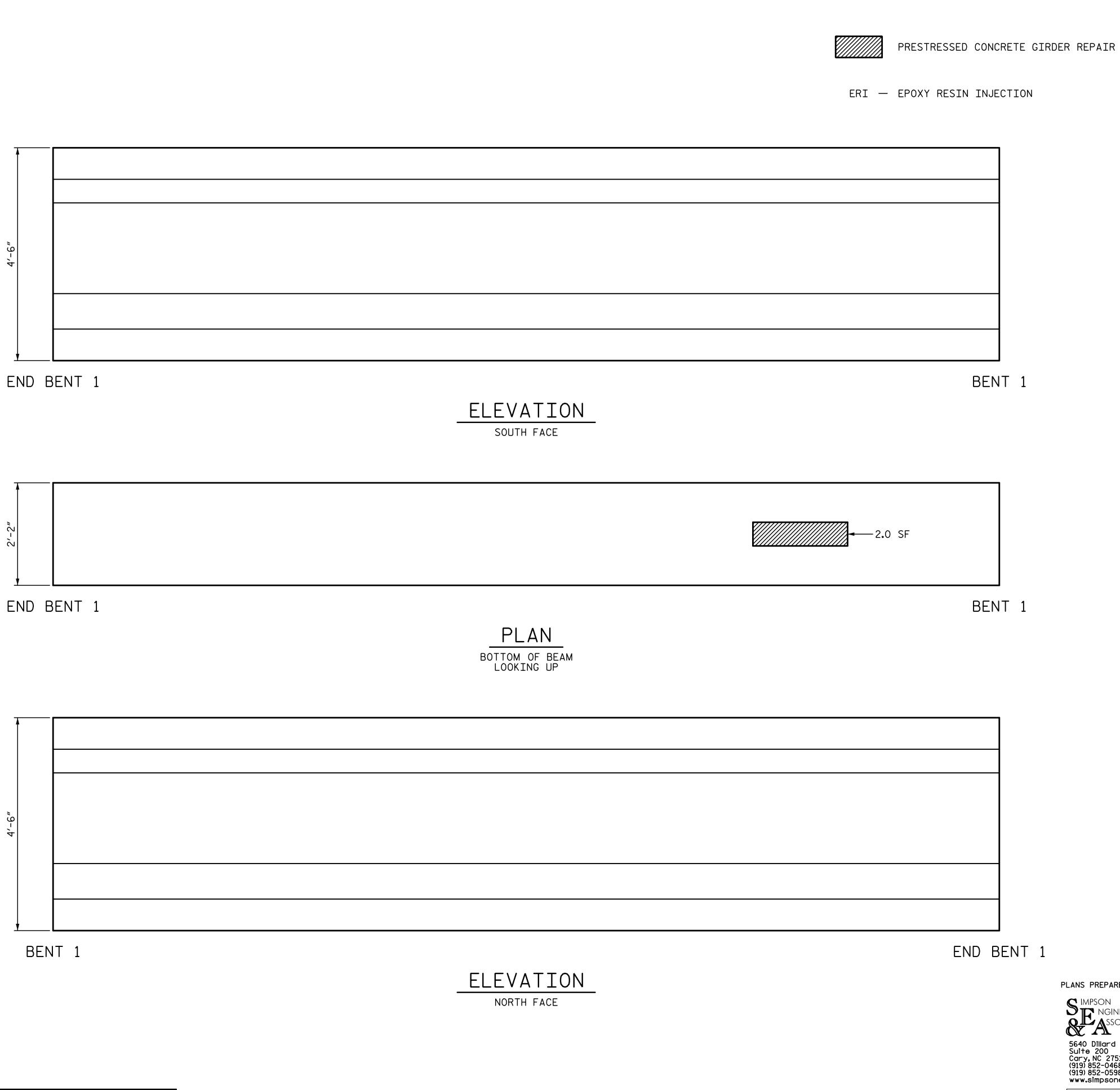
FOR REPAIRS OF PRESSTRESSED CONCRETE GIRDERS, SEE SPECIAL PROVISIONS.

FOR REPAIRS OF PRESTRESSED CONCRETE GIRDERS DETAILS, SEE "PRESTRESSED CONCRETE GIRDER REPAIR DETAILS" SHEET.

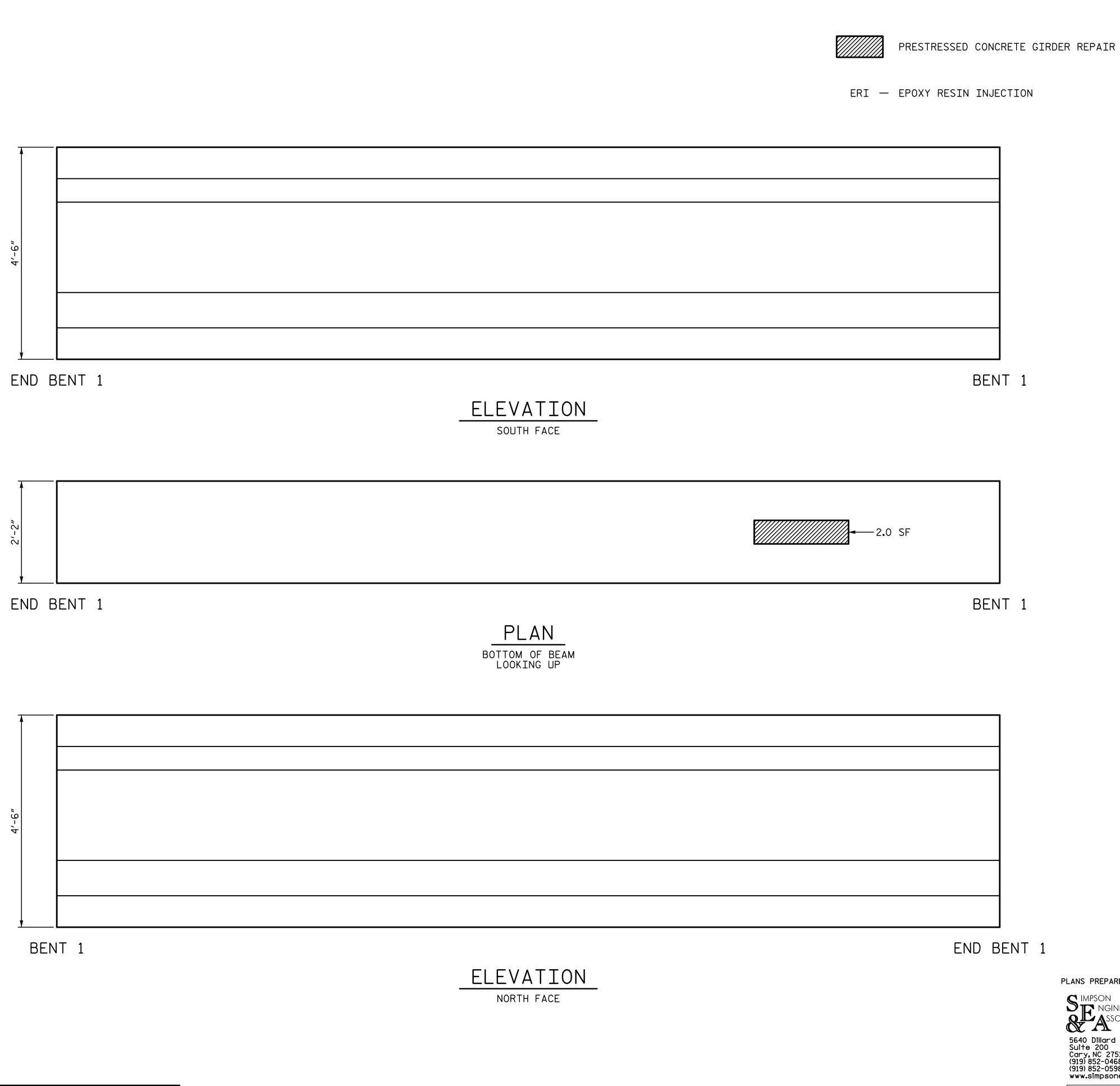
		NEW	ECT NO. HANOVE	<u>.</u> R/	PEND	DER_CC	
		BRID	GE NO.:		64	10049	<u>」</u>
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REPAIR QU	ANT	ITY ⁻	TABL	E.		
REPAIRS SPAN 1 GRD. 4	EST	Q IMATE	UANTIT:	IES ACTUAL		
REPAIRS OF PRESTR. CONCRETE GIRDERS	AREA SF 2.0	VOLUME CF 0.3	AREA SF	AREA DEPTH V		ME
EPOXY RESIN INJECTION LF				L	F	
GIRDER	0.0					

NOTES:

REPAIR LOCAITONS AND ESTIMATE OF THE QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE INSPECTOR OR ENGINEER THE CONTRACTOR SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITIY TABLE.

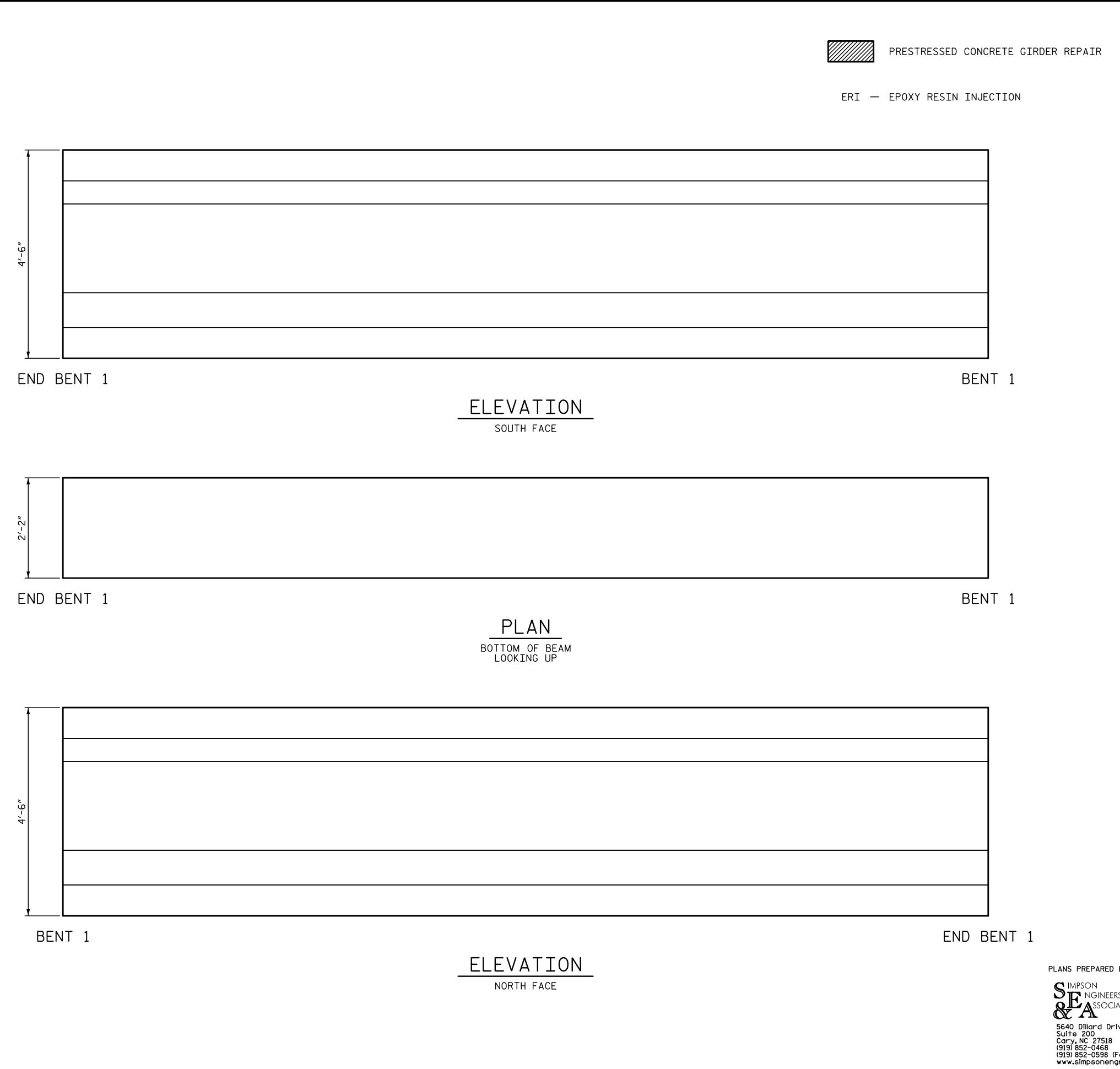
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VALUES IN CHART REPRESENT ESTIMATE REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN, OF 1"BEHIND REBAR AND MIN. 2"CL. TO SAWCUT. SEE REPAIR DETAILS.

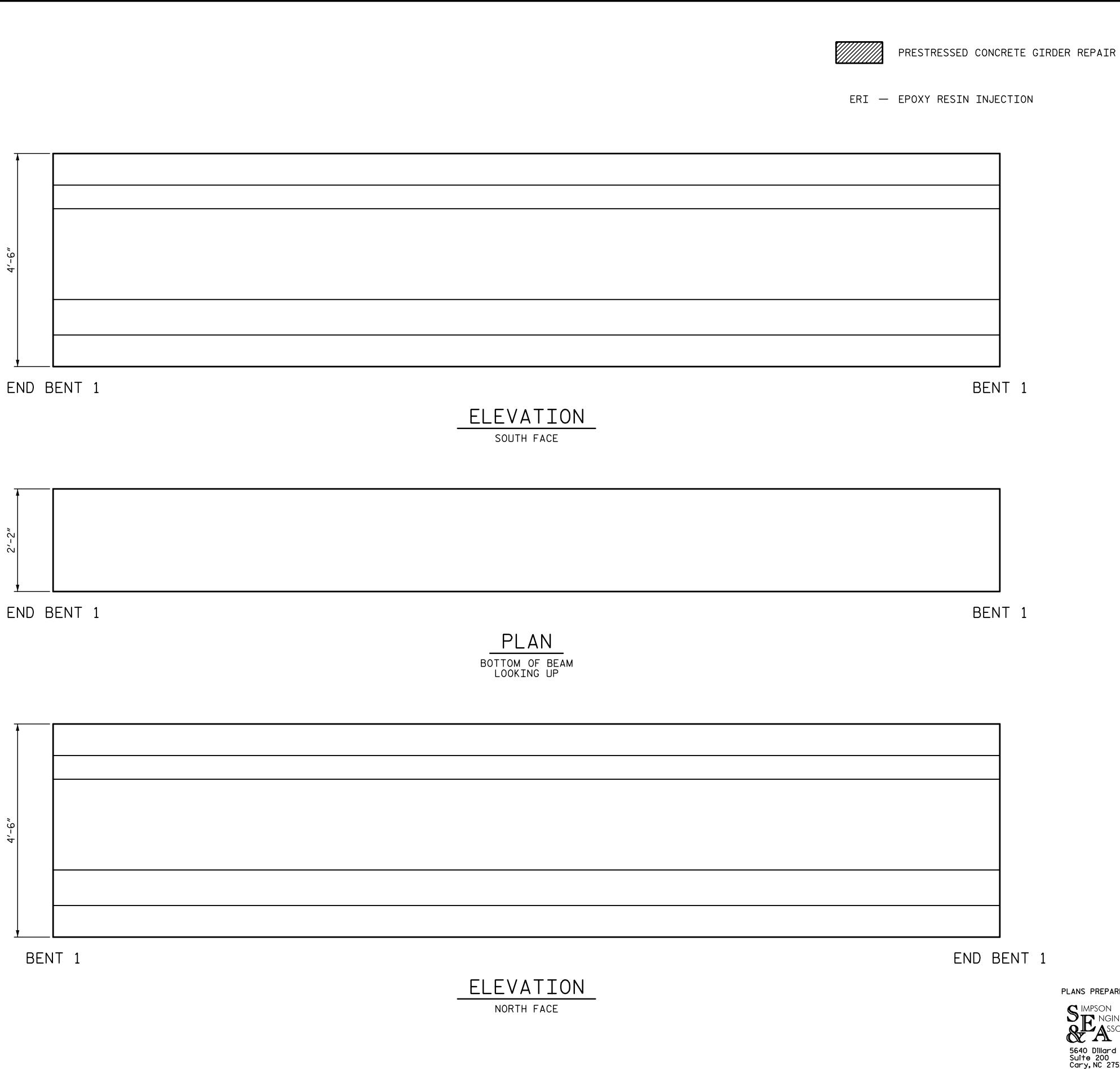
FOR REPAIRS OF PRESSTRESSED CONCRETE GIRDERS, SEE SPECIAL PROVISIONS.

FOR REPAIRS OF PRESTRESSED CONCRETE GIRDERS DETAILS, SEE "PRESTRESSED CONCRETE GIRDER REPAIR DETAILS" SHEET.

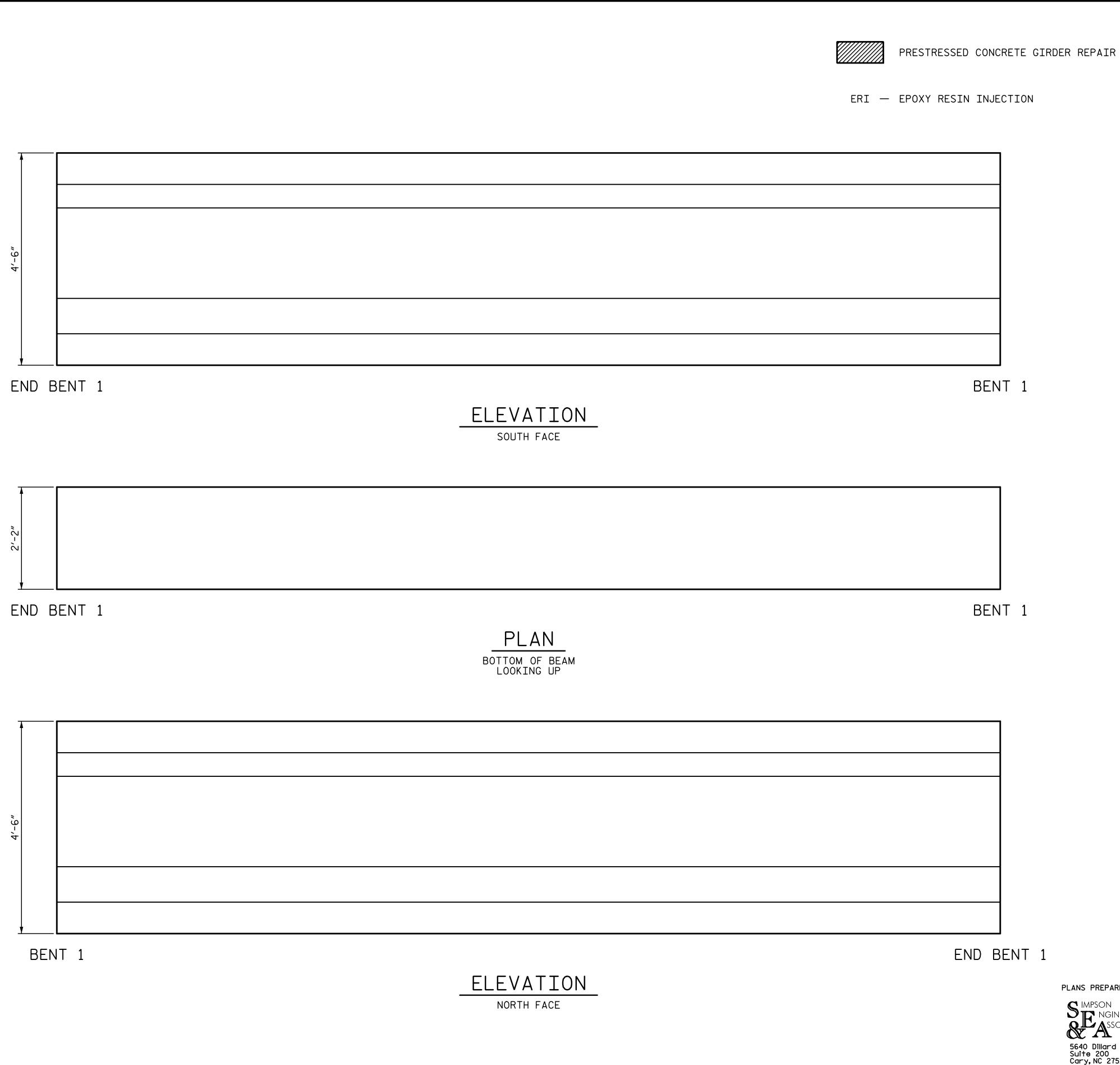
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REPAIR QU	ANT	ITY -	ΓABL	.E	
REPAIRS SPAN 1 GRD. 5			UANTIT		
	EST	IMATE		ACTUAL	-
REPAIRS OF PRESTR. CONCRETE GIRDERS	AREA VOLUME AREA DEPTH VOLU SF CF SF FT CF			VOLUME CF	
GIRDER	0.0	0.0			
EPOXY RESIN INJECTION LF					LF
GIRDER	0.0				

NOTES:

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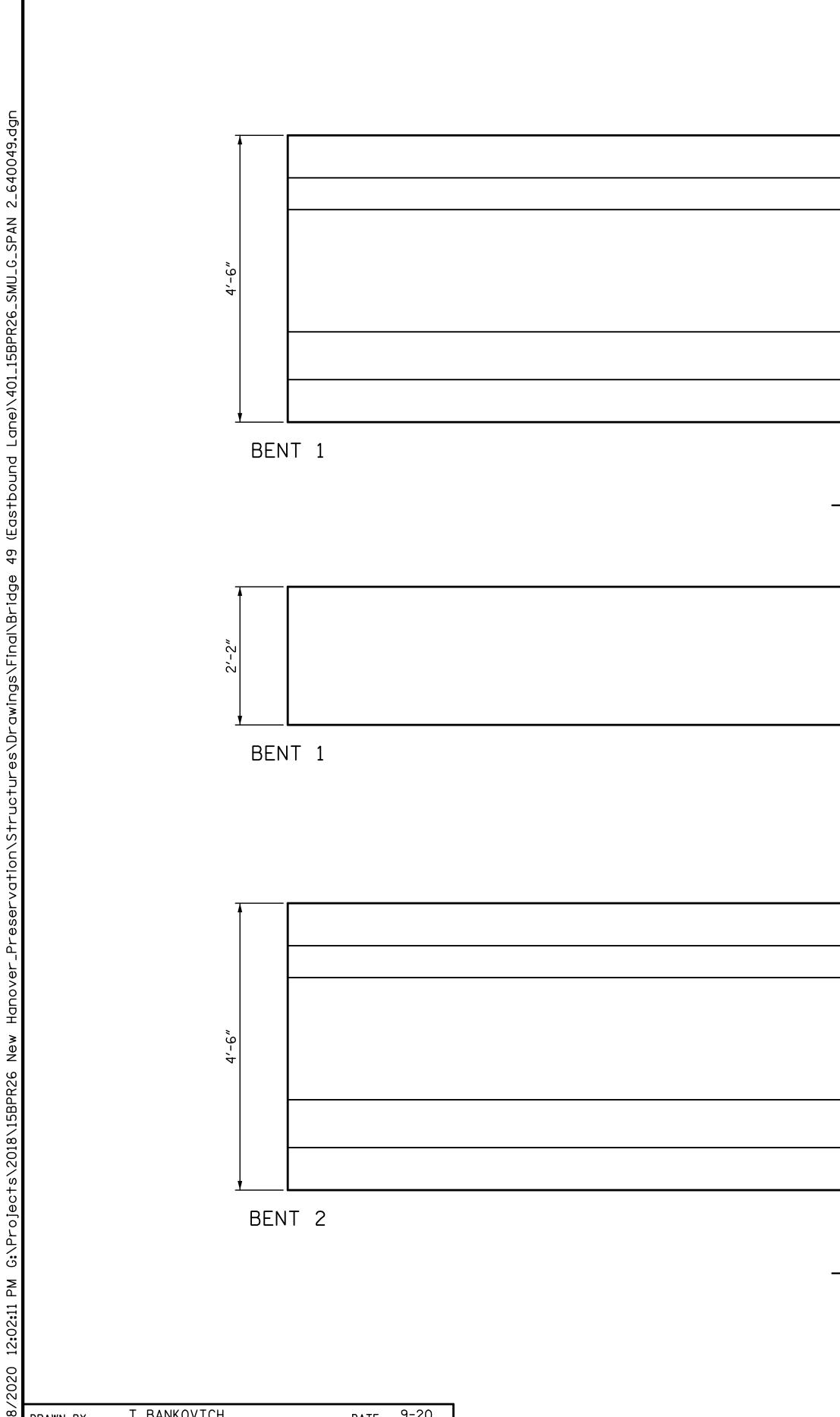
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FOR REPAIRS OF PRESTRESSED CONCRETE GIRDERS DETAILS, SEE "PRESTRESSED CONCRETE GIRDER REPAIR DETAILS" SHEET.

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PLANS PREPARED BY:		DEPA	RTMENT	TE OF NORTH OF OF TR RALEIGH SERVA	ANSPORT	ATION
Simpson NGINEERS SSOCIATES 5640 Dillard Drive Suite 200 Cary, NC 27518 (919) 852-0468	LUCE FORESSION AGBINEDST5245B SEAL 24390			SPAN ERDE		
(919) 852-0598 (Fax) www.simpsonengr.com LICENSURE NO.C-2521	9/29/2020			SIONS		SHEET NO.
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		PRESTRESSED CONCRETE GIRDER REPAIR
	ERI —	EPOXY RESIN INJECTION
		BENT 2
ELEVATION SOUTH FACE		
		BENT 2
PLAN		
BOTTOM OF BEAM LOOKING UP		
		BENT 1
ELEVATION NORTH FACE		PLANS PREPARED BY SIMPSON NGINEERS SSOCIAT
		5640 Dillard Drive Suite 200
		5640 Dillard Drive Suite 200 Cary, NC 27518 (919) 852-0468 (919) 852-0598 (Fa www.simpsonengr. LICENSURE NO. C-2

REPAIR QUANTITY TABLE								
REPAIRS SPAN 2 GRD.1	ГСТ		JANTITI					
	ESI	IMATE		ACTUAL	-			
REPAIRS OF PRESTR. CONCRETE GIRDERS	AREA VOLUME SF CF		AREA SF	DEPTH FT	VOLUME CF			
GIRDER	0.0	0.0						
EPOXY RESIN INJECTION					LF			
GIRDER								

NOTES:

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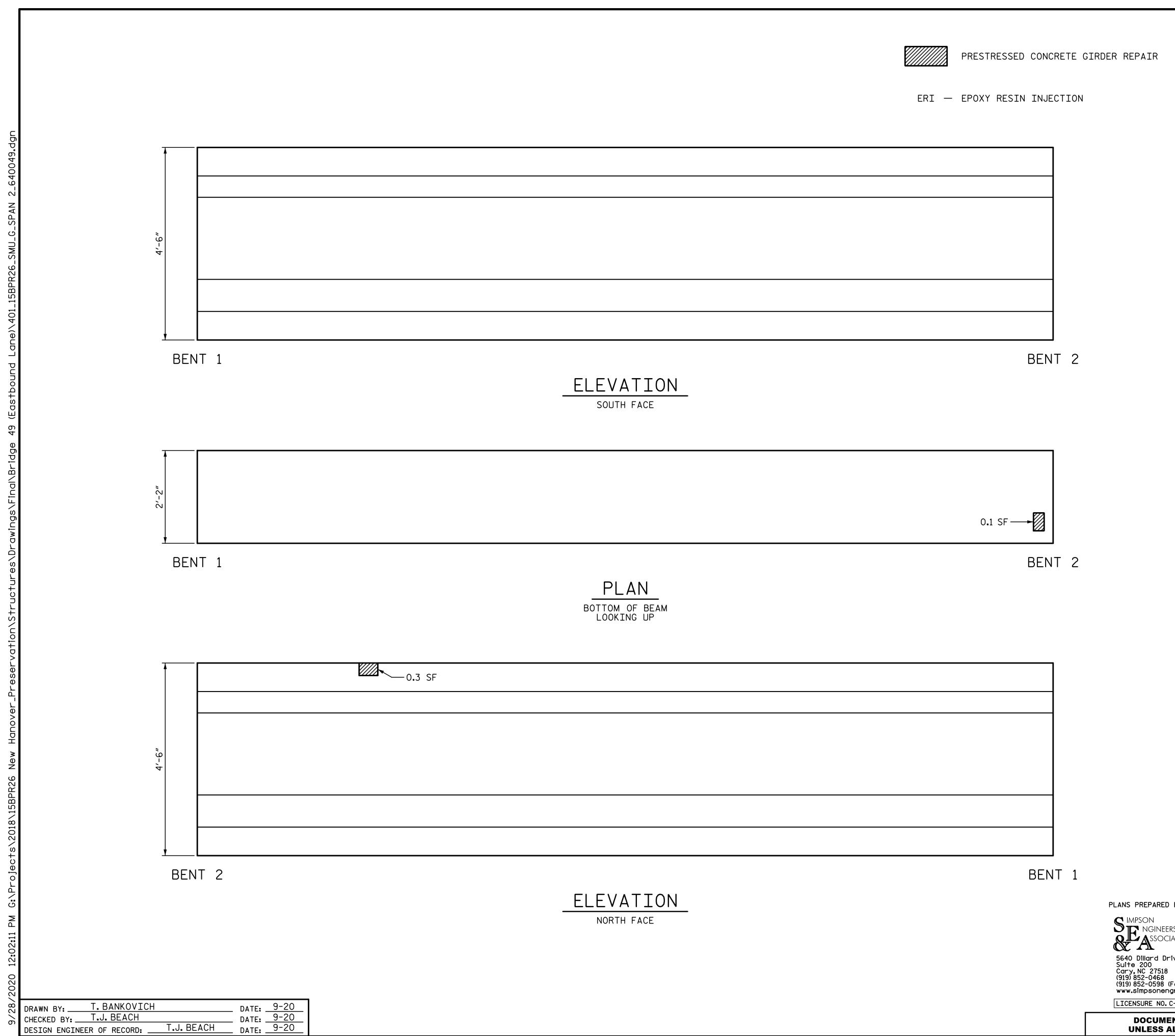
FOR REPAIRS OF PRESSTRESSED CONCRETE GIRDERS, SEE SPECIAL PROVISIONS.

FOR REPAIRS OF PRESTRESSED CONCRETE GIRDERS DETAILS, SEE "PRESTRESSED CONCRETE GIRDER REPAIR DETAILS" SHEET.

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PLANS PREPARED BY:		STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH PRESERVATION						
SIMPSON NGINEERS SSOCIATES 5640 Dillard Drive Suite 200 Cary, NC 27518 (919) 852-0468 (919) 852-0598 (Fax)	Documbered W. CAROL Thus Excession AGB 138 985752258 SEAL 24390 MGINEER			PAN RDEF				
www.simpsonengr.com	9/29/2020		REVISI	ONS		SHEET NO.		
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T.J. BEACH

DESIGN ENGINEER OF RECORD: ___



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REPAIR QUANTITY TABLE									
REPAIRS SPAN 2 GRD. 2				JANTITI					
	EST	IMA	ATE		ACTUAL				
REPAIRS OF PRESTR. CONCRETE GIRDERS	AREA VOLUN SF CF		OLUME CF	AREA SF	DEPTH FT	V	OLUME CF		
GIRDER	0.4		0.1						
EPOXY RESIN INJECTION			LF				LF		
GIRDER			0.0						

NOTES:

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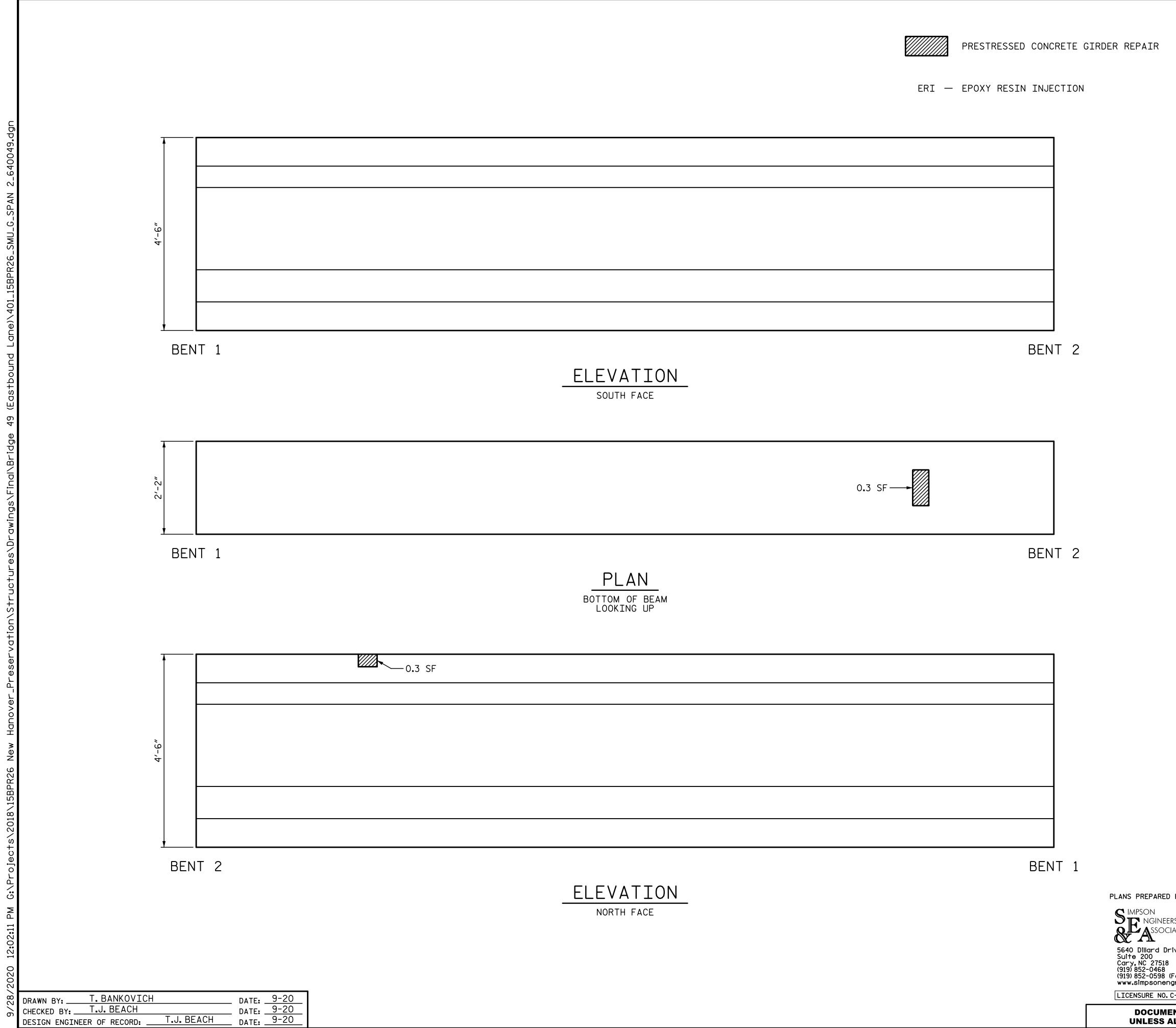
FOR REPAIRS OF PRESSTRESSED CONCRETE GIRDERS, SEE SPECIAL PROVISIONS.

FOR REPAIRS OF PRESTRESSED CONCRETE GIRDERS DETAILS, SEE "PRESTRESSED CONCRETE GIRDER REPAIR DETAILS" SHEET.

		<u>NEW</u> BRIDG	CT NO. <u>HANOVEF</u> E NO.:_	R/PENI	<u>5BPR.2</u> <u>5ER</u> CC 40049	UNTY		
BY:	SHEET 2 OF 5 STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH PRESERVATION							
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	NSIDERED FINAL JRES COMPLETED	1 2		3 4		total sheets 163		

T.J. BEACH

DESIGN ENGINEER OF RECORD: ___



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REPAIR QUANTITY TABLE								
REPAIRS SPAN 2 GRD. 3		QUANTITIES						
THE ATTO STAN 2 OND: 5	EST	IMA	ATE 🛛		ACTUAL			
REPAIRS OF PRESTR. CONCRETE GIRDERS	AREA VOLUME SF CF		AREA SF	DEPTH FT	V	OLUME CF		
GIRDER	0.6		0.1					
EPOXY RESIN INJECTION			LF				LF	
GIRDER			0.0					

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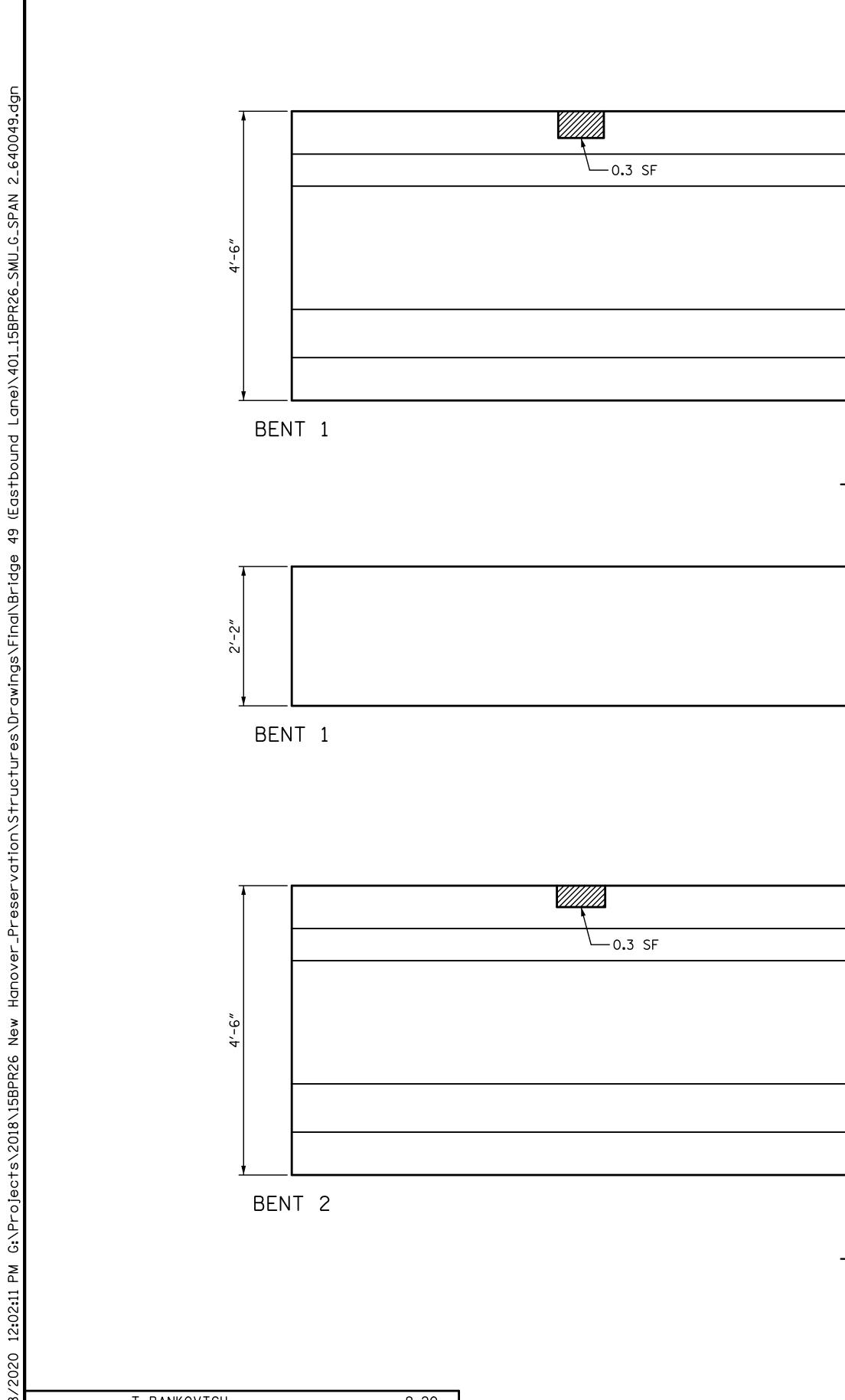
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FOR REPAIRS OF PRESTRESSED CONCRETE GIRDERS DETAILS, SEE "PRESTRESSED CONCRETE GIRDER REPAIR DETAILS" SHEET.

		NEW BRIDG	CT NO. <u>Hanovef</u> E NO.:_	R/PE	END		DUNTY			
		SHEET 3 OF 5								
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	NSIDERED FINAL JRES COMPLETED	1 2		<u>3</u> 4			total sheets 163			



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		PRESTRESSED CONCRETE GIRDER REPAIR
	ERI —	EPOXY RESIN INJECTION
		BENT 2
ELEVATION SOUTH FACE		
		BENT 2
PLAN		
BOTTOM OF BEAM LOOKING UP		
		BENT 1
ELEVATION NORTH FACE		PLANS PREPARED BY SIMPSON NGINEERS SSOCIAT
		5640 Dillard Drive Suite 200
		5640 Dillard Drive Suite 200 Cary, NC 27518 (919) 852-0468 (919) 852-0598 (Fa www.simpsonengr. LICENSURE NO. C-2

REPAIR QUANTITY TABLE									
REPAIRS SPAN 2 GRD. 4		QUANTITIES							
ILLI AINS SI AN 2 OND. 4	ESTIMATE			ACTUAL	-				
REPAIRS OF PRESTR. CONCRETE GIRDERS	AREA VOLUME SF CF		AREA SF	DEPTH FT	VOLUN CF	ИE			
GIRDER	0.6		0.1						
EPOXY RESIN INJECTION			LF			Lf	F		
GIRDER			0.0						

NOTES:

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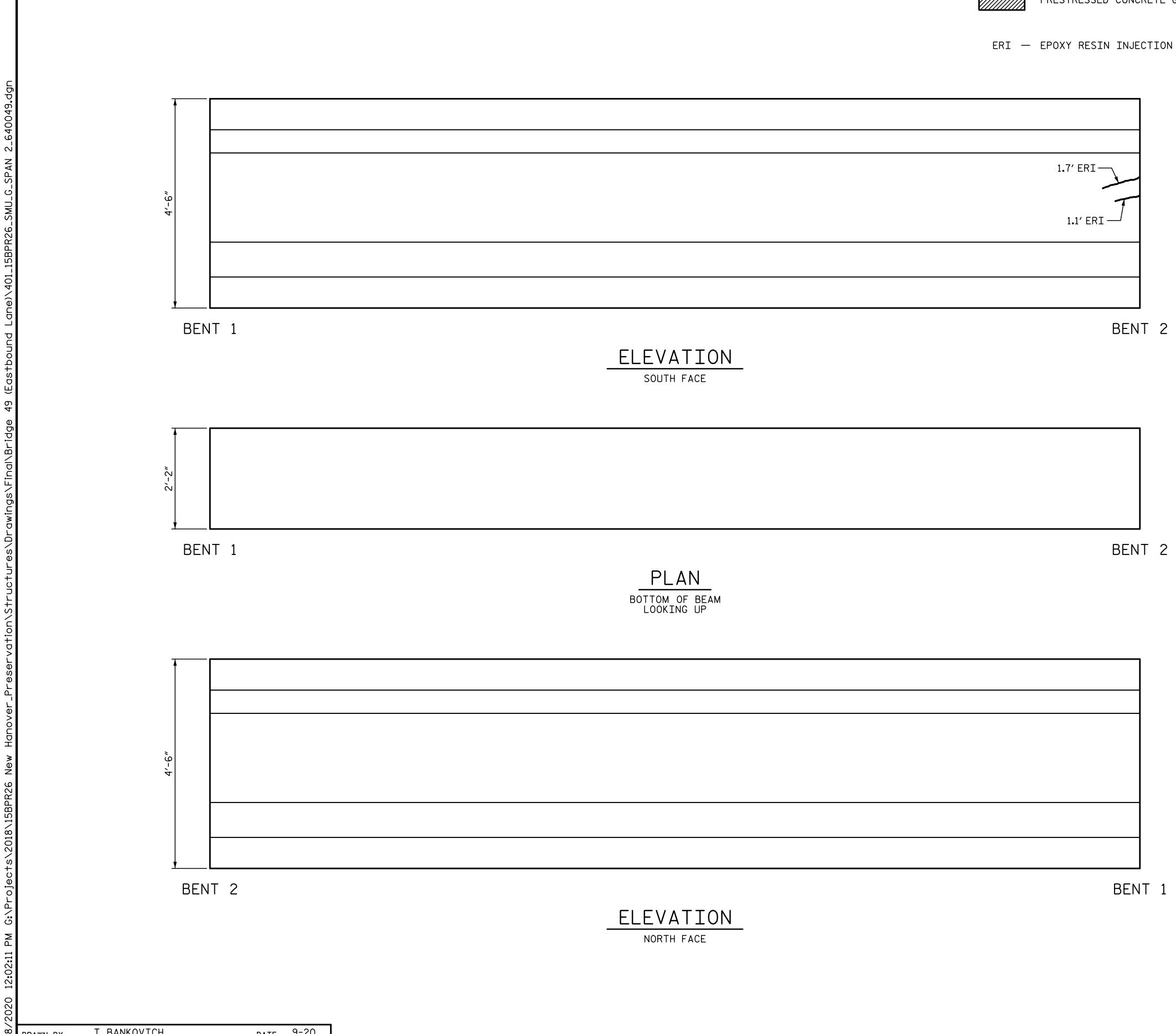
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FOR REPAIRS OF PRESTRESSED CONCRETE GIRDERS DETAILS, SEE "PRESTRESSED CONCRETE GIRDER REPAIR DETAILS" SHEET.

		PROJECT NO. <u>15BPR.26</u> <u>NEW HANOVER/PENDER COUNTY</u> BRIDGE NO.: <u>640049</u> SHEET 4 OF 5							
PLANS PREPARED BY:		STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH PRESERVATION							
SIMPSON NGINEERS SSOCIATES 5640 Dillard Drive Suite 200 Cary, NC 27518 (919) 852-0468 (919) 852-0598 (Fax)	AGE REDEST SEAL 24390		_	PAN RDER					
www.simpsonengr.com	9/29/2020		REVIS	IONS		SHEET NO.			
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REPAIR QUANTITY TABLE									
REPAIRS SPAN 2 GRD. 5			UANTIT	EES					
THE ATTO STAN 2 OND: 5	EST	IMATE		ACTUAL					
REPAIRS OF PRESTR. CONCRETE GIRDERS	AREA VOLUM SF CF		AREA SF	DEPTH FT	VOLUME CF				
GIRDER	0.0	0.0							
EPOXY RESIN INJECTION					LF				
GIRDER									

NOTES:

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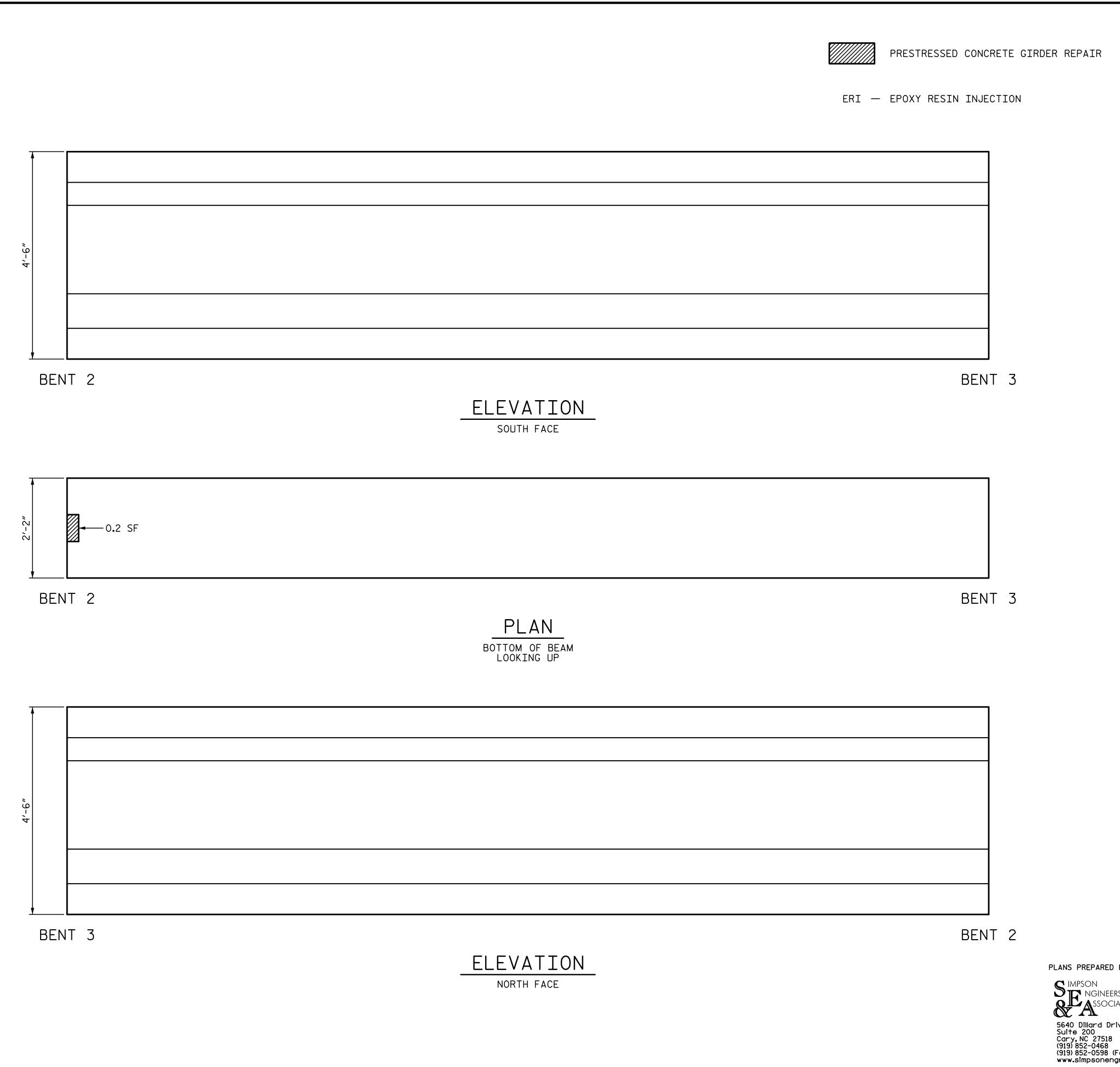
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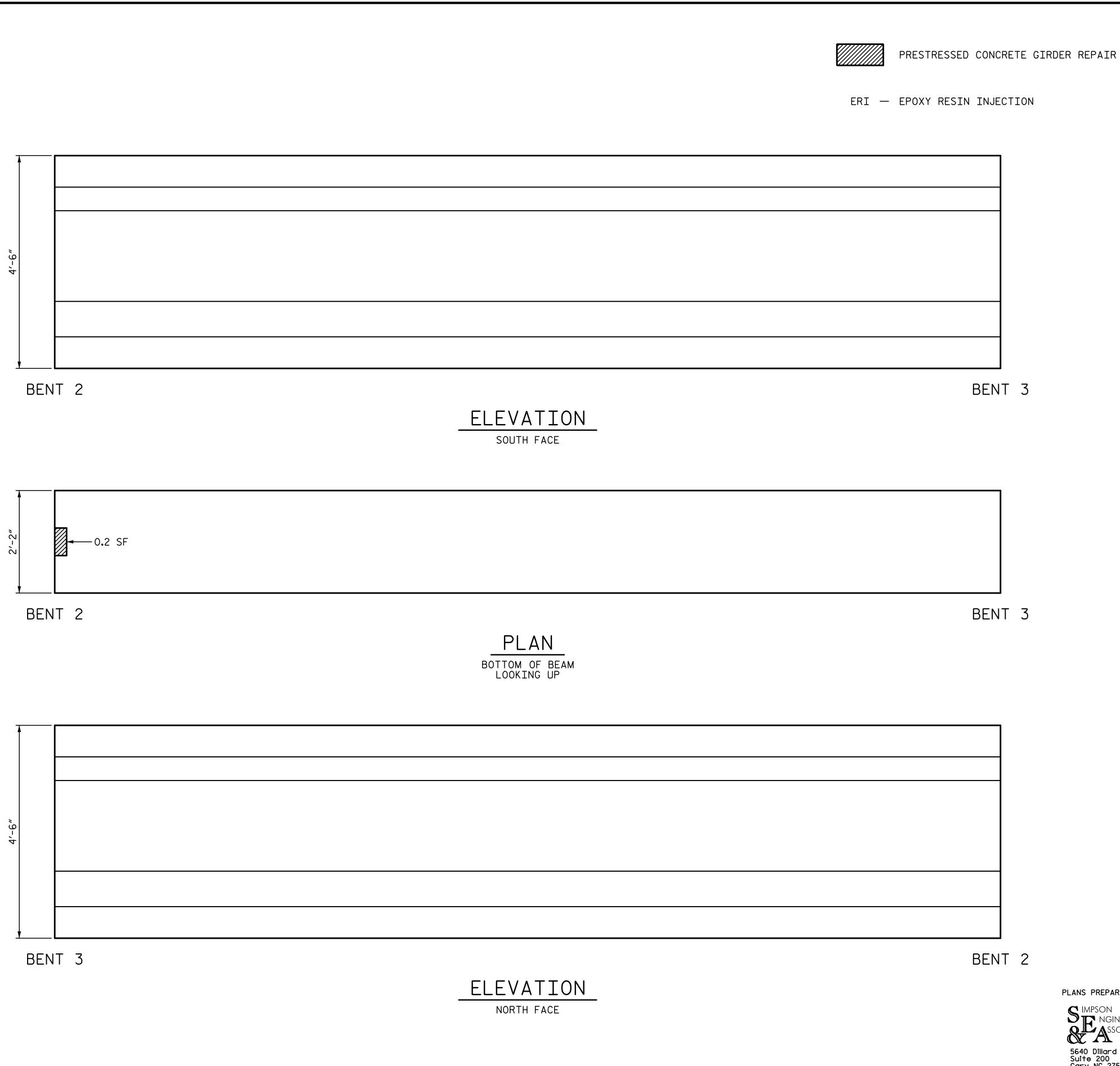
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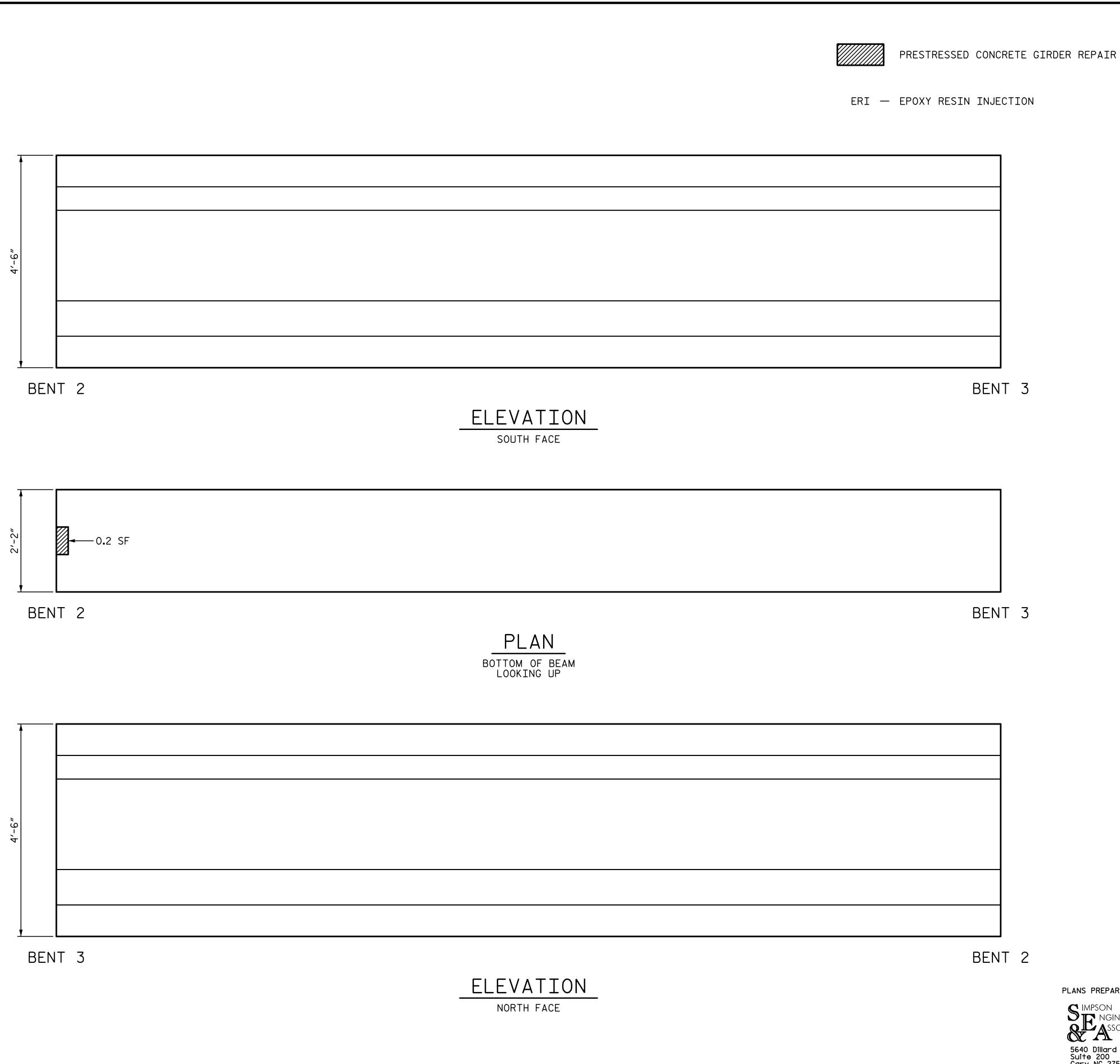
		PROJECT NO. <u>15BPR.26</u> <u>NEW HANOVER/PENDER COUNTY</u> BRIDGE NO. 640049							
		BRIDGE NO.: 640049							
		SHEET 5 OF 5							
PLANS PREPARED BY:		STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH PRESERVATION							
Siller Drive Sulte 200 Cary, NC 27518 (919) 852-0468 (919) 852-0598 (Fax)	Poor Britemby CARO/ Fluce Breach ON AGBANGED 752468 SEAL 24390	SPAN 2 GIRDER 5							
www.simpsonengr.com	9/29/2020		REVI	SIONS		SHEET NO.			
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	CHECKED BY:	T.J. BEACH		DATE:	9-20
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REPAIR QUANTITY TABLE									
REPAIRS SPAN 3 GRD.1	ГСТ		UANTIT:						
	ESI	IMATE			-				
REPAIRS OF PRESTR. CONCRETE GIRDERS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF				
GIRDER	0.2	0.1							
EPOXY RESIN INJECTION					LF				
GIRDER									

NOTES:

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Simpson Sex Sociates 5640 Dillard Drive Sulte 200 Cary, NC 27518 (919) 852-0468 (919) 852-0598 (Fax) www.simpsonengr.com Licensure No. C-2521 Document Not considered Final			PROJECT NO. <u>15BPR.26</u> <u>NEW HANOVER/PENDER COUNT</u> BRIDGE NO.: 640049 SHEET 1 OF 5						
SSOCIATES 5640 Dillard Drive Suite 200 Cary, NC 27518 (919) 852-0468 (919) 852-0598 (Fax) www.simpsonengr.com LICENSURE NO. C-2521 DOCUMENT NOT CONSIDERED FINAL	PLANS PREPARED BY:		DEPA	RTMENT	OF TRAN	NSPORTA	TION		
www.simpsonengr.com 9/29/2020 REVISIONS SHEET NO. LICENSURE NO. C-2521 9/29/2020 NO. BY: DATE: NO. BY: DATE: SHEET NO. DOCUMENT NOT CONSIDERED FINAL 1 3 TOTAL SHEETS	5640 Dillard Drive Suite 200 Cary, NC 27518 (919) 852-0468	DoonSinter Ho, CARO/ TUCS BEESE/04 A6B1 BE575245B SEAL 24390 MGINEES							
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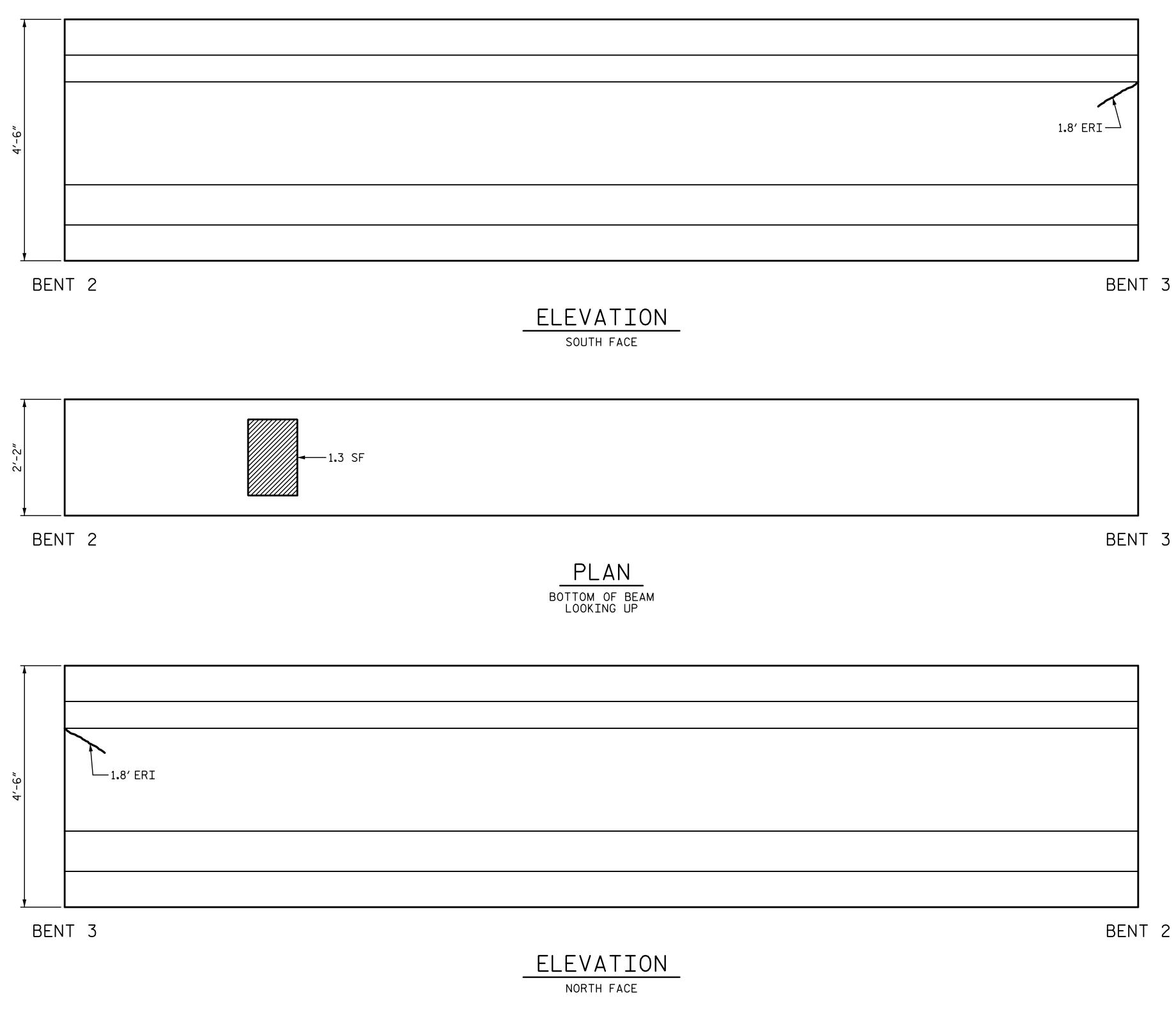
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ERI — EPOXY RESIN INJECTION



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REPAIR QUANTITY TABLE									
REPAIRS SPAN 3 GRD. 2			UANTIT						
REFAINS SFAN 5 ONDER	EST	IMATE		ACTUAL					
REPAIRS OF PRESTR. CONCRETE GIRDERS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF				
GIRDER	1.3	0.2							
EPOXY RESIN INJECTION					LF				
GIRDER	3.6								

NOTES:

REPAIR LOCAITONS AND ESTIMATE OF THE QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE INSPECTOR OR ENGINEER THE CONTRACTOR SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITIY TABLE.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

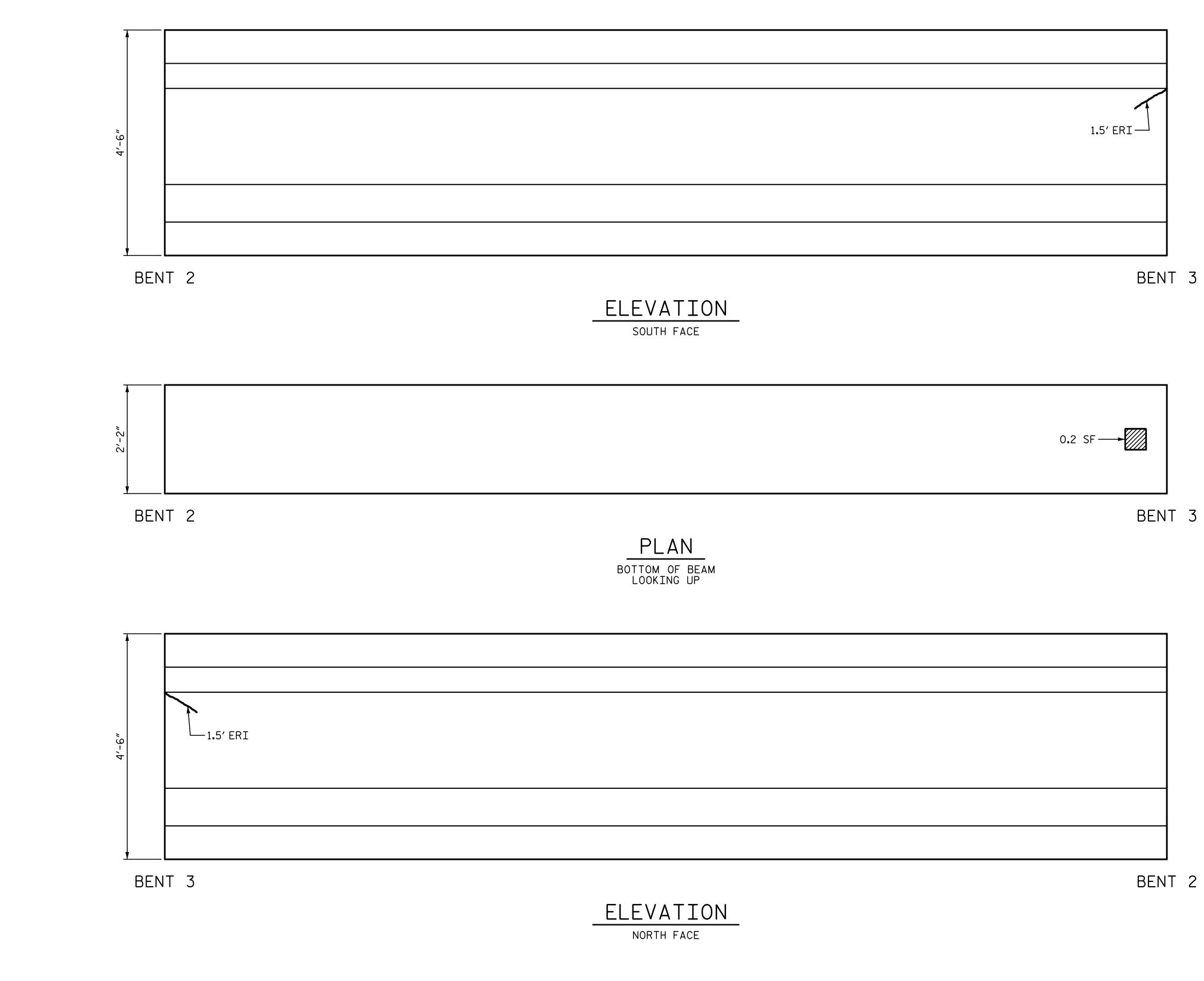
VALUES IN CHART REPRESENT ESTIMATE REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN, OF 1"BEHIND REBAR AND MIN. 2"CL. TO SAWCUT. SEE REPAIR DETAILS.

FOR REPAIRS OF PRESSTRESSED CONCRETE GIRDERS, SEE SPECIAL PROVISIONS.

FOR REPAIRS OF PRESTRESSED CONCRETE GIRDERS DETAILS, SEE "PRESTRESSED CONCRETE GIRDER REPAIR DETAILS" SHEET.

		PROJEC	CT NO.		15	BPR.2	26		
		NEW H	IANOVE	<u>R/f</u>	PEND	ER CO	UNTY		
		BRIDG	E NO.:_		64	10049	}		
SHEET 2 OF 5									
BY:		STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH PRESERVATION							
RS ATES	AGB 1 DE STOLAD 24390	SPAN 3 GIRDER 2							
ax) gr.com 2-2521	9/29/2020	REVISIONS SHEET NO. NO. BY: DATE: NO. BY: DATE: S2-44							
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ERI — EPOXY RESIN INJECTION

REPAIR QUANTITY TABLE									
REPAIRS SPAN 3 GRD. 3	QUANTITIES								
INELIATING SI AN S ONDES	EST	IMATE		ACTUAL					
REPAIRS OF PRESTR. CONCRETE GIRDERS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF				
GIRDER	0.2	0.1							
EPOXY RESIN INJECTION					LF				
GIRDER									

NOTES:

REPAIR LOCAITONS AND ESTIMATE OF THE QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE INSPECTOR OR ENGINEER THE CONTRACTOR SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITIY TABLE.

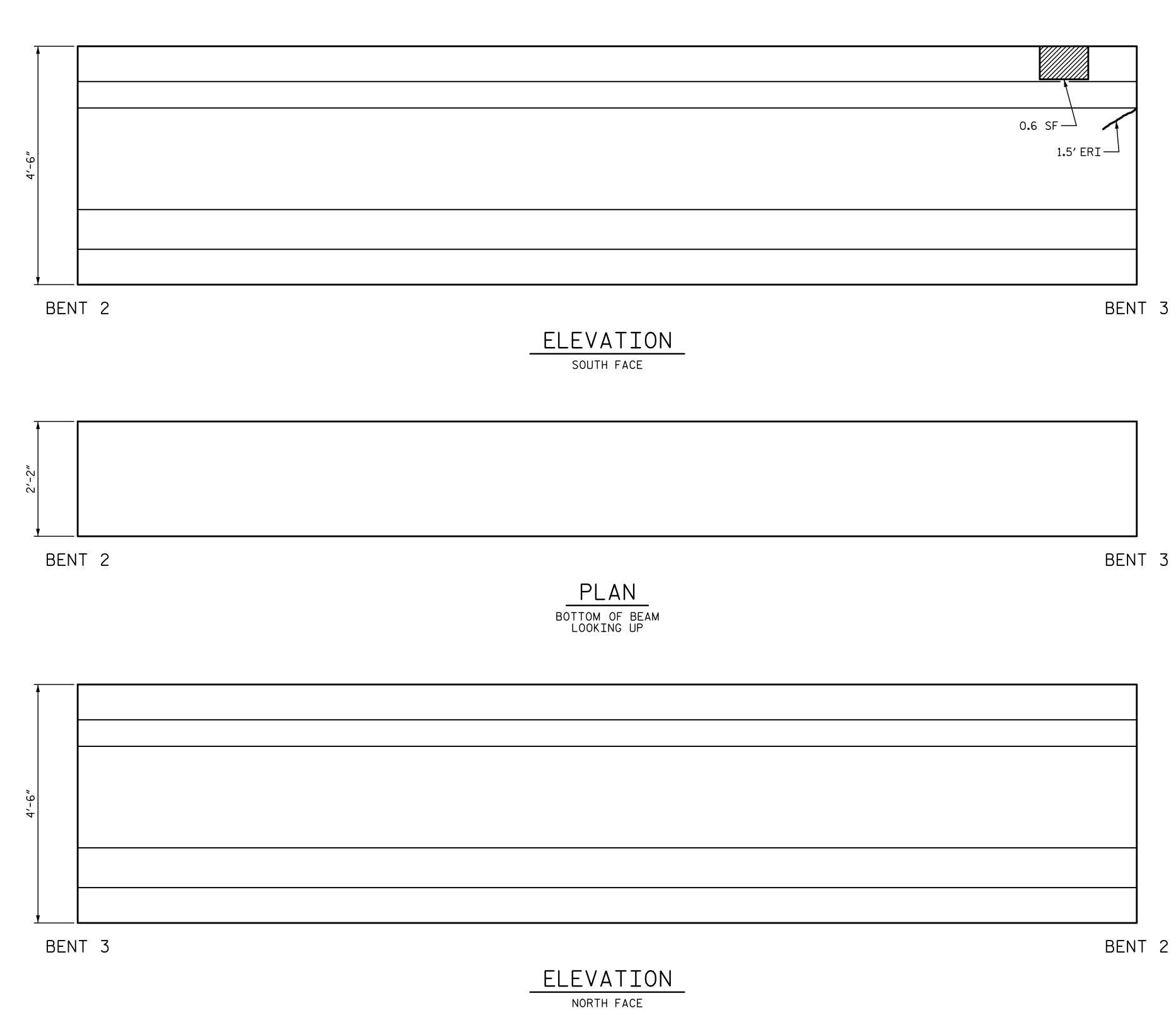
FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

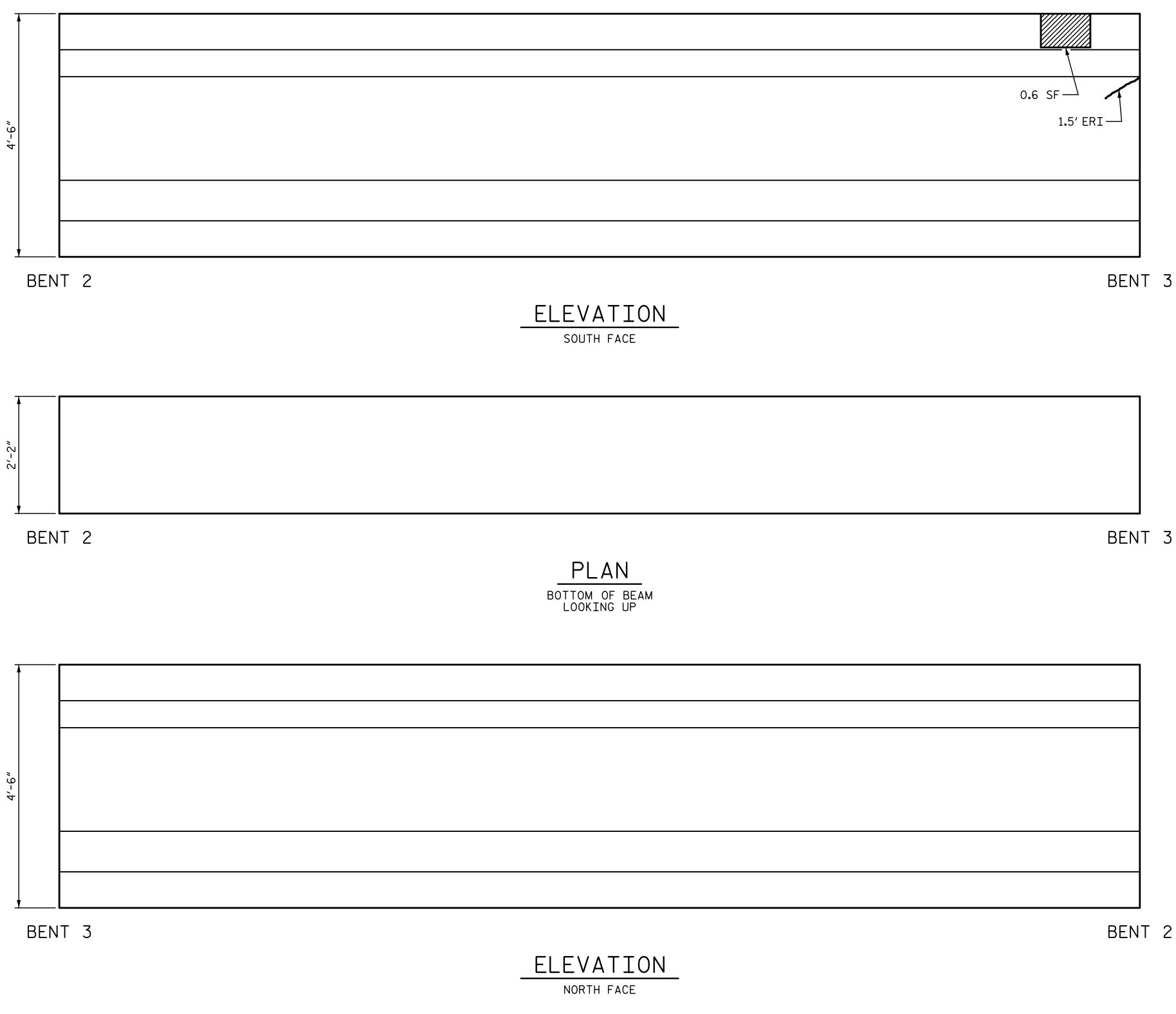
VALUES IN CHART REPRESENT ESTIMATE REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN, OF 1"BEHIND REBAR AND MIN. 2"CL. TO SAWCUT. SEE REPAIR DETAILS.

FOR REPAIRS OF PRESSTRESSED CONCRETE GIRDERS, SEE SPECIAL PROVISIONS.

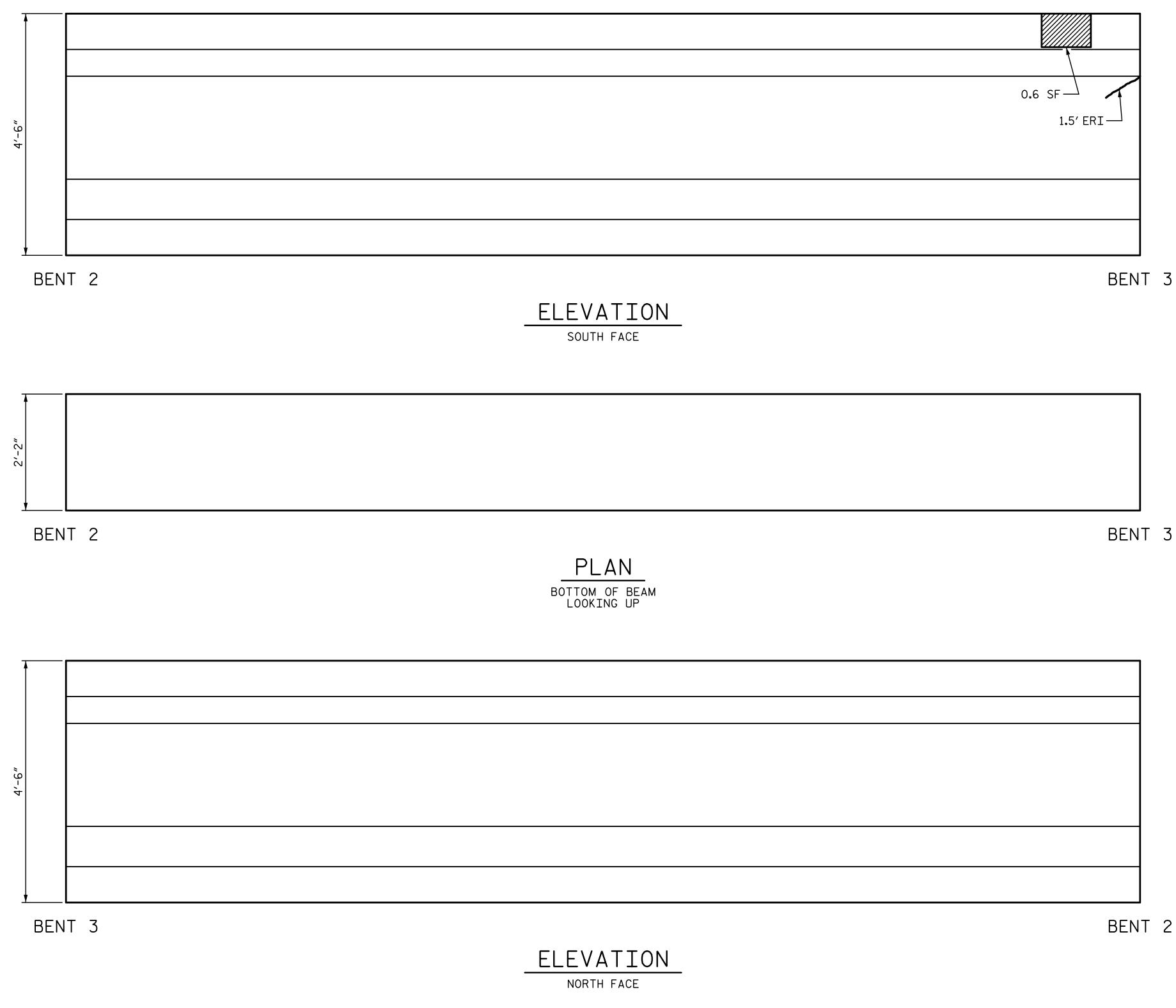
FOR REPAIRS OF PRESTRESSED CONCRETE GIRDERS DETAILS, SEE "PRESTRESSED CONCRETE GIRDER REPAIR DETAILS" SHEET.

		PROJECT NO. <u>15BPR.26</u> <u>NEW HANOVER/PENDER COUNTY</u> BRIDGE NO.: <u>640049</u>						
PLANS PREPARED BY: Simpson NGINEERS SSOCIATES 5640 Dillard Drive Suite 200	AGB 105005755EAL 24390	SHEET 3 OF 5 STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH PRESERVATION SPAN 3 GIRDER 3						
Cary, NC 27518 (919) 852-0468 (919) 852-0598 (Fax) www.simpsonengr.com LICENSURE NO. C-2521 DOCUMENT NOT CON UNLESS ALL SIGNATU		№. 1	BY:	REVIS DATE:	SIONS NO. BY: 3	DATE:	SHEET NO. S2-45 TOTAL SHEETS 163	











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ERI — EPOXY RESIN INJECTION

PLANS PREPARED S IMPSON NGINEERS SSOCIA 5640 Dillard Driv Suite 200 Cary, NC 27518 (919) 852-0468 (919) 852-0598 (Fe www.simpsonenge LICENSURE NO. C

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REPAIR QUANTITY TABLE									
REPAIRS SPAN 3 GRD. 4	QUANTITIES								
THE ATTO STAN 5 OND. I	EST	IMATE			ACTUAL	-			
REPAIRS OF PRESTR. CONCRETE GIRDERS	AREA SF	VOLUM CF	Ε	AREA SF	DEPTH FT	v	OLUME CF		
GIRDER	0.6	0.1							
EPOXY RESIN INJECTION							LF		
GIRDER		1.5							

NOTES:

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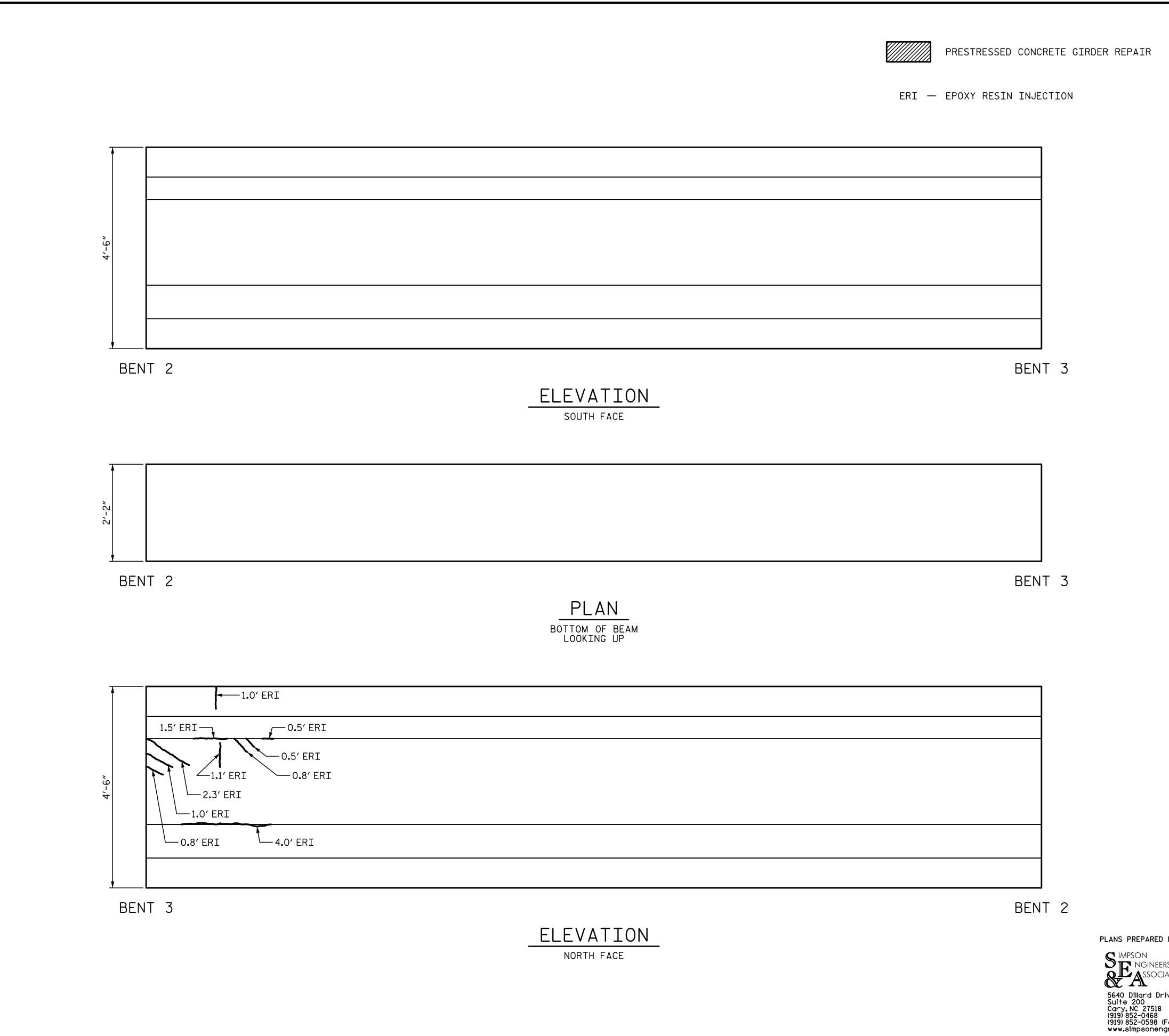
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VALUES IN CHART REPRESENT ESTIMATE REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN, OF 1"BEHIND REBAR AND MIN. 2"CL. TO SAWCUT. SEE REPAIR DETAILS.

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		SHEET 4	OF 5				
BY:		DEPA	RTMENT	OF	NORTH CARG TRAN ALEIGH RVAT	NSPORTA	TION
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ax) gr.com	J BEAU		REVIS	TON	3		SHEET NO.
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REPAIR QU	ANT	ITY -	ΓABL	.E	
REPAIRS SPAN 3 GRD. 5		Q	JANTIT	IES	
ILLI AINS SI AN S GIU. S	EST	IMATE		ACTUAL	
REPAIRS OF PRESTR. CONCRETE GIRDERS	REPAIRS OF PRESTR. AREA VOLUME CONCRETE GIRDERS			DEPTH FT	VOLUME CF
GIRDER	0.0	0.0			
EPOXY RESIN INJECT	ION	LF			LF
GIRDER		13.5			

NOTES:

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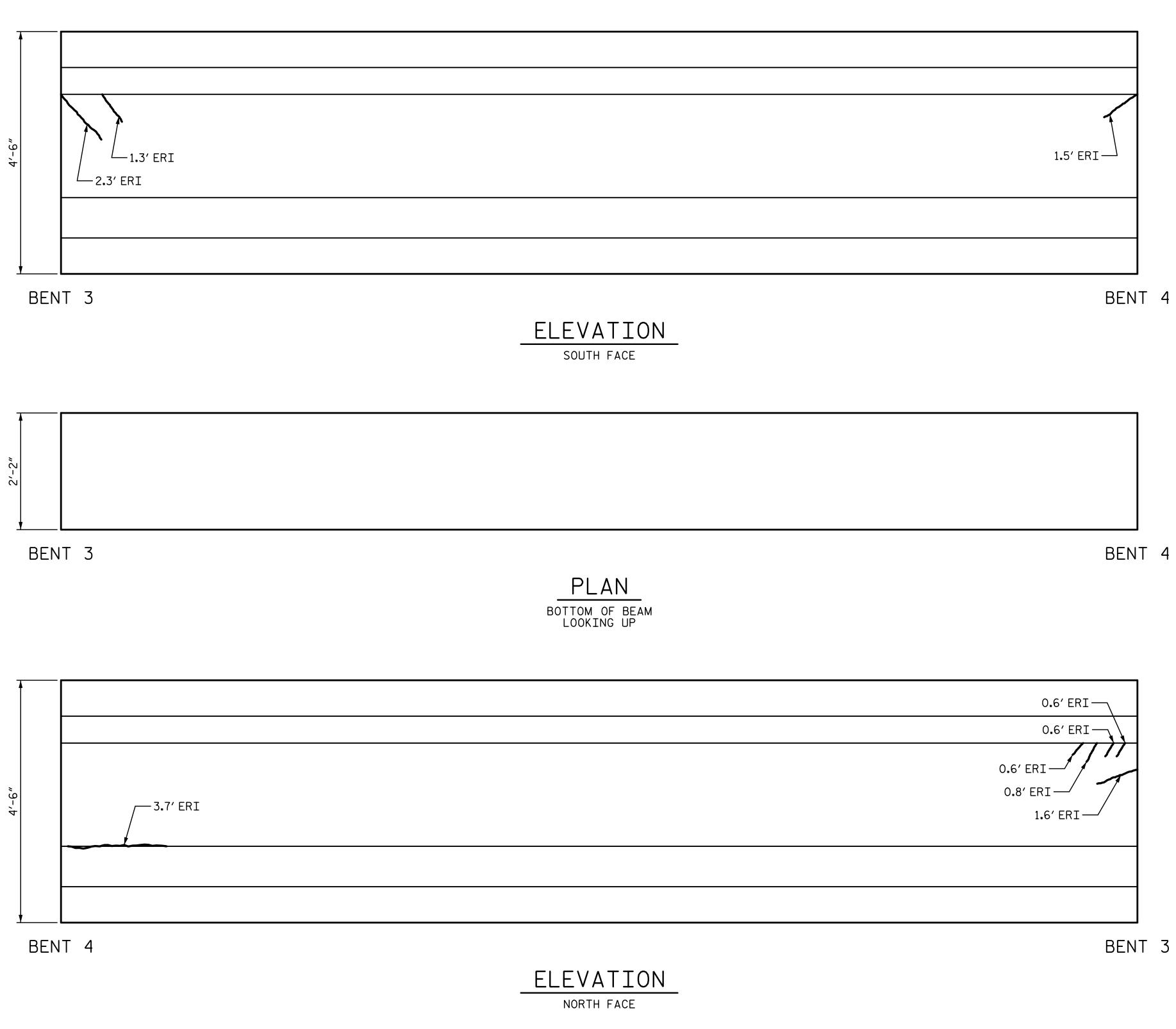
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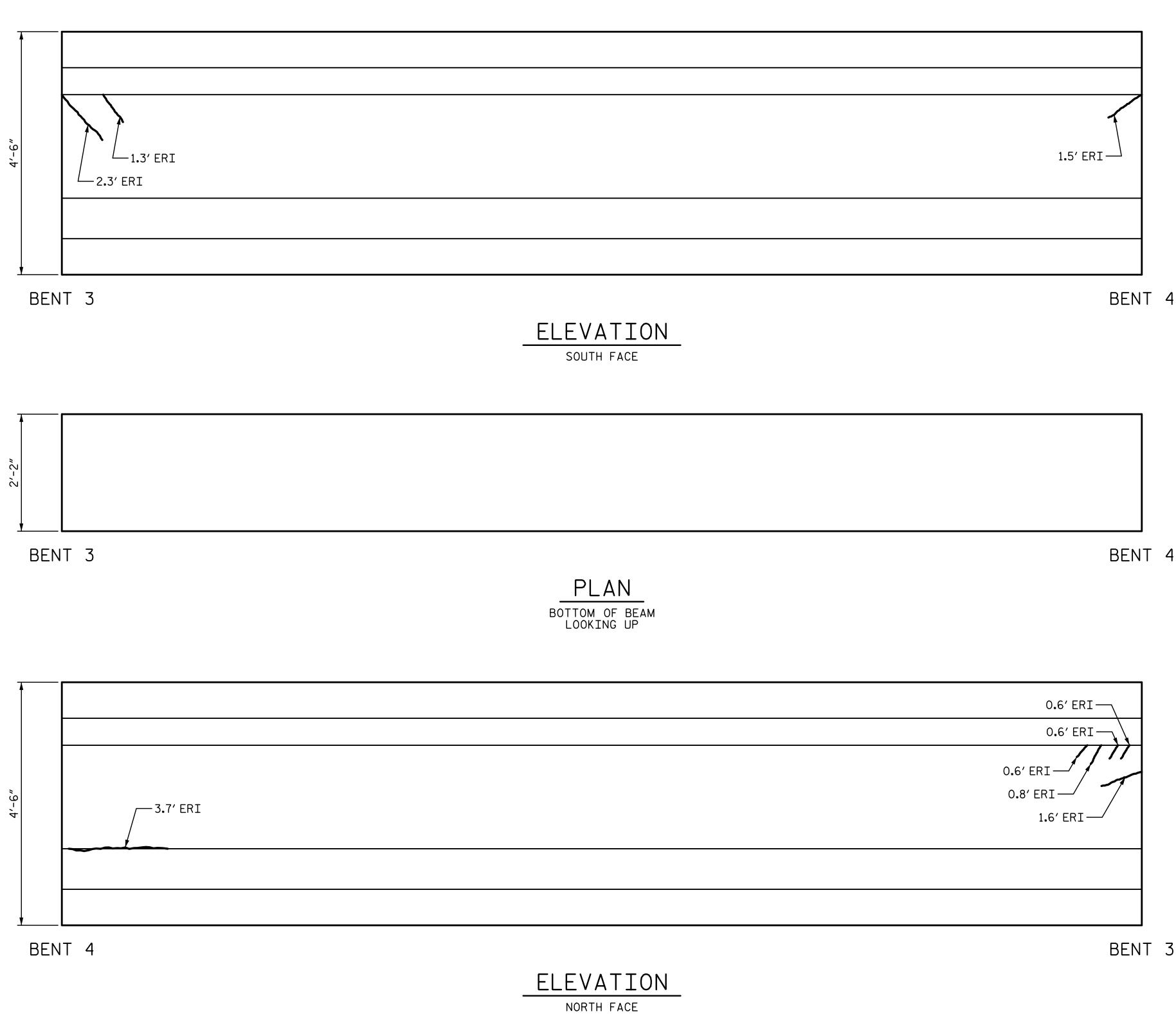
FOR REPAIRS OF PRESSTRESSED CONCRETE GIRDERS, SEE SPECIAL PROVISIONS.

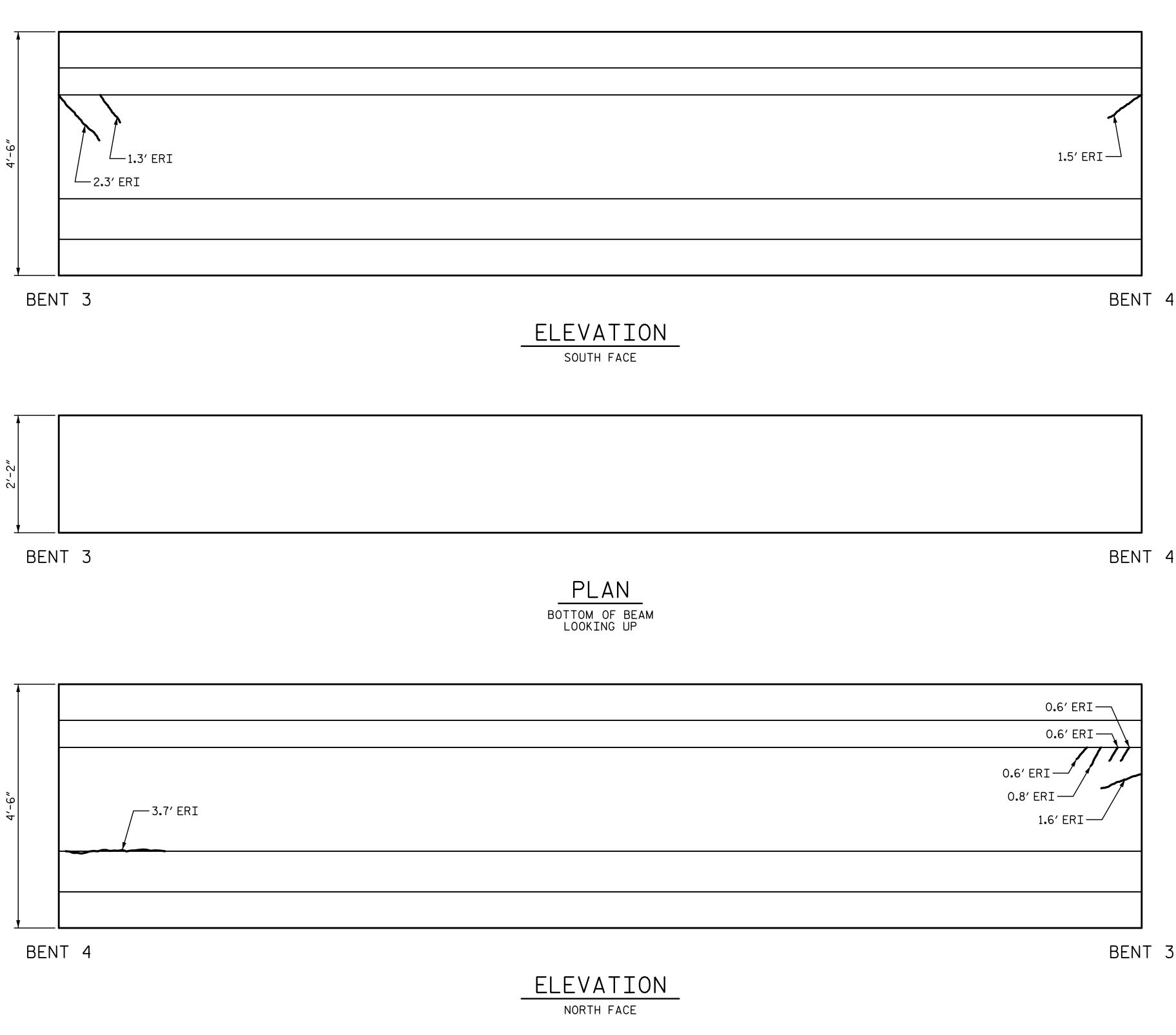
FOR REPAIRS OF PRESTRESSED CONCRETE GIRDERS DETAILS, SEE "PRESTRESSED CONCRETE GIRDER REPAIR DETAILS" SHEET.

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		BRIDG	E NO.:.	64	40049	9
		SHEET 5	OF 5			
PLANS PREPARED BY:		DEPA	RTMENT	OF NORTH CAR OF TRAI RALEIGH SERVAT	NSPORTA	TION
SIMPSON NGINEERS SSOCIATES 5640 Dillard Drive Suite 200 Cary, NC 27518	AGENISSESSION			SPAN IRDER		
(919) 852-0468 (919) 852-0598 (Fax) www.simpsonengr.com LICENSURE NO. C-2521	9/29/2020	NO. BY:	REVIS	SIONS	DATE:	SHEET NO. S2-47
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ERI — EPOXY RESIN INJECTION



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REPAIR QU	ANT	ITY -	ΓABL	.E	
REPAIRS SPAN 4 GRD.1			JANTITI		
	EST	IMATE		ACTUAL	
REPAIRS OF PRESTR. CONCRETE GIRDERS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF
GIRDER	0.0	0.0			
EPOXY RESIN INJECT	ION	LF			LF
GIRDER		13.0			

NOTES:

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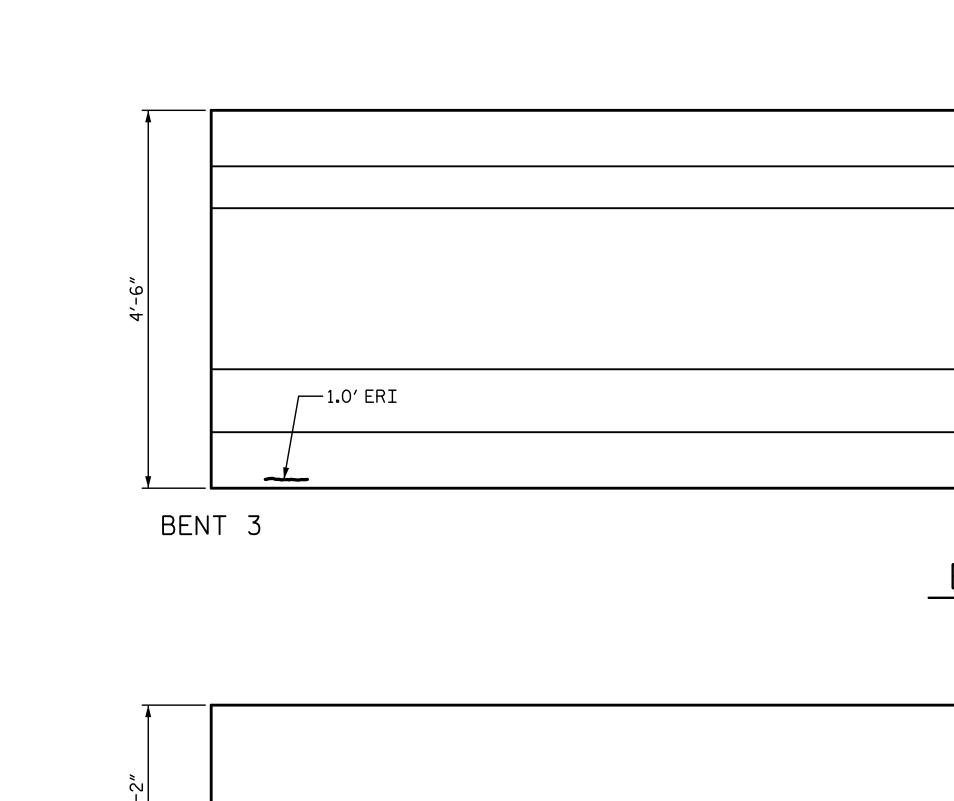
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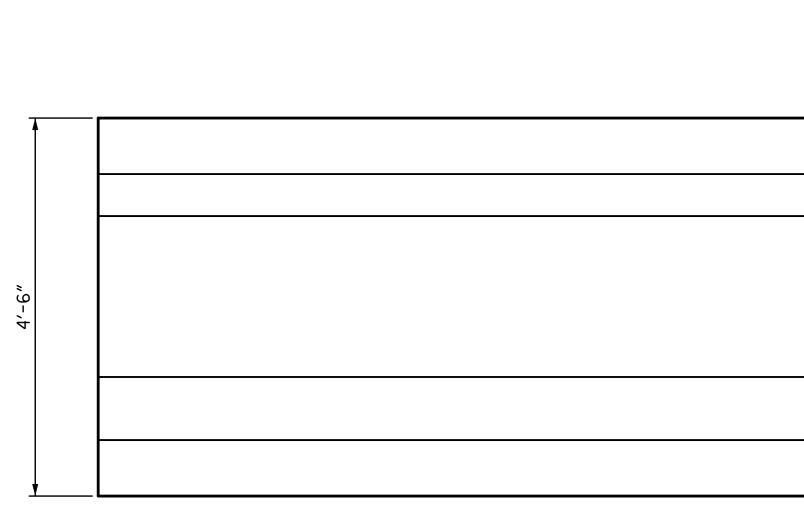
FOR REPAIRS OF PRESSTRESSED CONCRETE GIRDERS, SEE SPECIAL PROVISIONS.

FOR REPAIRS OF PRESTRESSED CONCRETE GIRDERS DETAILS, SEE "PRESTRESSED CONCRETE GIRDER REPAIR DETAILS" SHEET.

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RS ATES Ive	Double CAROL TULL BEESSION AGB TO BOBST SEPAL 24390			PAN RDEF		
Fax) gr.com C-2521	9/29/2020	NO. BY:	REVIS	EONS	DATE:	SHEET NO. S2-48
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	T.J. BEACH		DATE:	9-20
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	PRESTRESSED CONCRETE GIRDE	R REPAIR
	ERI — EPOXY RESIN INJECTION	
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BOTTOM OF BEAM LOOKING UP		
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		5640 Dillard Drive Suite 200 Cary, NC 27518 (919) 852-0468 (919) 852-0598 (Fa: www.simpsonengr.
		LICENSURE NO. C-2

REPAIR QU	ANT	ITY [.]	TABL	.E	
REPAIRS SPAN 4 GRD. 2			UANTIT	EES	
THE ATTYS STAN 4 OND. 2	EST	IMATE		ACTUAL	
REPAIRS OF PRESTR. CONCRETE GIRDERS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF
GIRDER	0.0	0.0			
EPOXY RESIN INJECT	ION	LF			LF
GIRDER		1.0			

NOTES:

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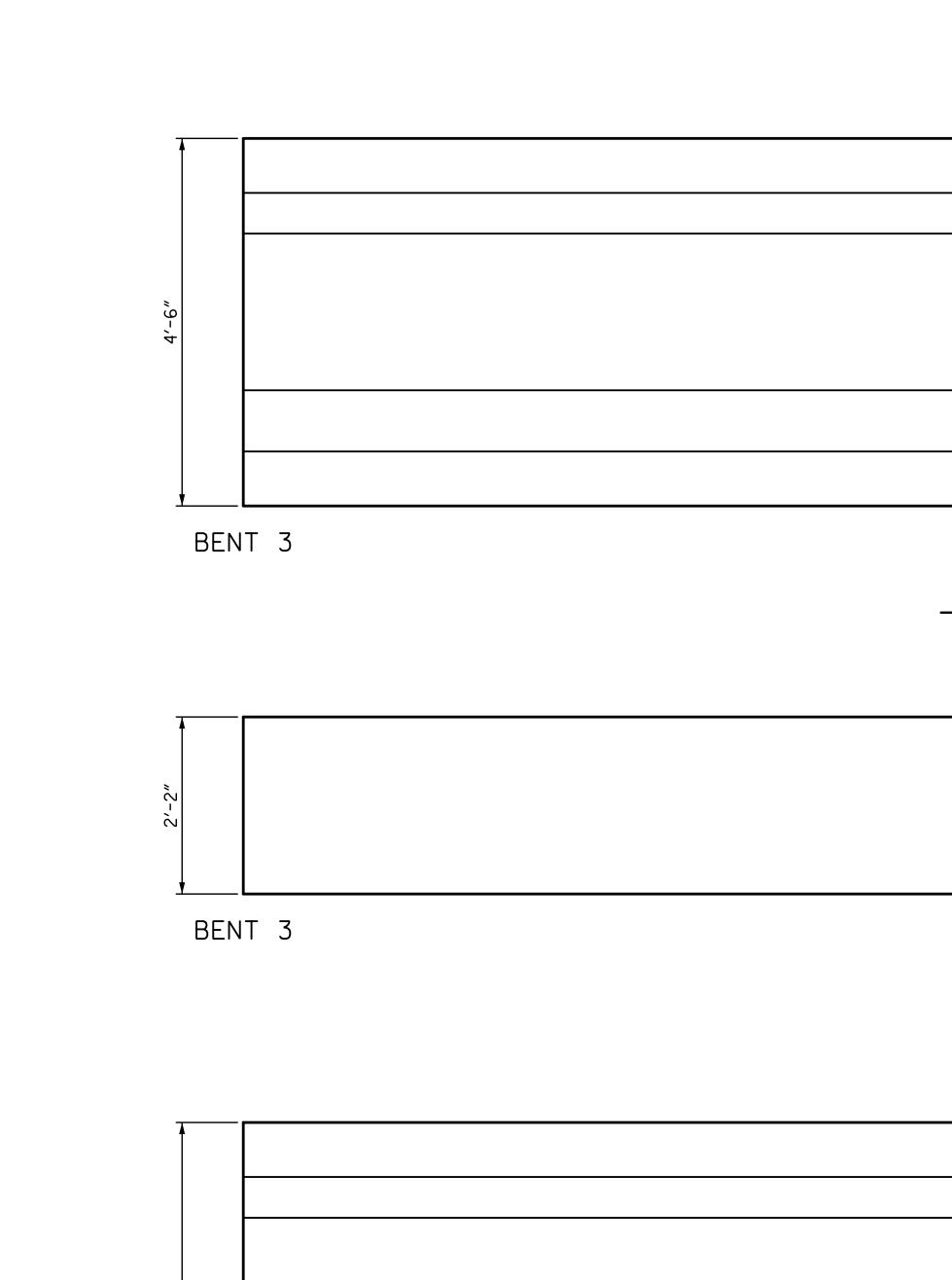
FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

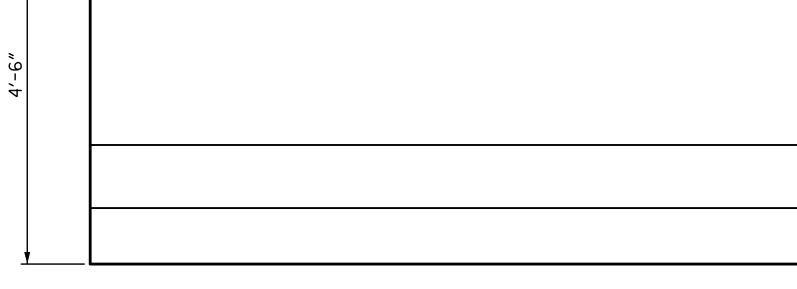
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FOR REPAIRS OF PRESTRESSED CONCRETE GIRDERS DETAILS, SEE "PRESTRESSED CONCRETE GIRDER REPAIR DETAILS" SHEET.

PLANS PREPARED BY: STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH PRESERVATION SSOCIATES S640 Dillard Drive SUITE 200 Cary, NC 27518 (1) BY: Date: NO BY: Date: NO BY: Date: NO BY: Date: NO BY: Date: BY: Date: NO BY: Date: NO BY: Date: NO BY: Date: SHEET NO. S2-49			NEW H	CT NO <u>IANOVER/</u> E NO.: _{OF 5}	PEND		UNTY
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www.simpsonengr.com 9/29/2020 REVISIONS SHEET NO. LICENSURE NO. C-2521 9/29/2020 NO. BY: DATE: NO. BY: DATE: SHEET NO.	5640 Dillard Drive Suite 200 Cary, NC 27518 (919) 852-0468	Docusion Aby CAROL THUS BEERS 104 ARE BODESTS 24AE SEAL 24390 MGINEEN					
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		PRESTRESSE	D CONCRET	E GIRDER REPAIR	
	ERI —	EPOXY RESI	N INJECTI	ON	
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				5640 Dillard Di Suite 200 Cary, NC 27518 (919) 852-0468 (919) 852-0598 www.simpsoner LICENSURE NO.	

REPAIR QUANTITY TABLE							
REPAIRS SPAN 4 GRD. 3		QUANTITIES					
ILLI AINS SI AN 4 GIU. S	D. J ESTIMATE ACTUAL						
REPAIRS OF PRESTR. CONCRETE GIRDERS	ESTR. AREA VOLUME DERS SF CF		ΙE	AREA SF	DEPTH FT	VOLUI CF	ME
GIRDER	0.0	0.0					
EPOXY RESIN INJECT	ION	LF	-			LI	F
GIRDER		0.	0				

NOTES:

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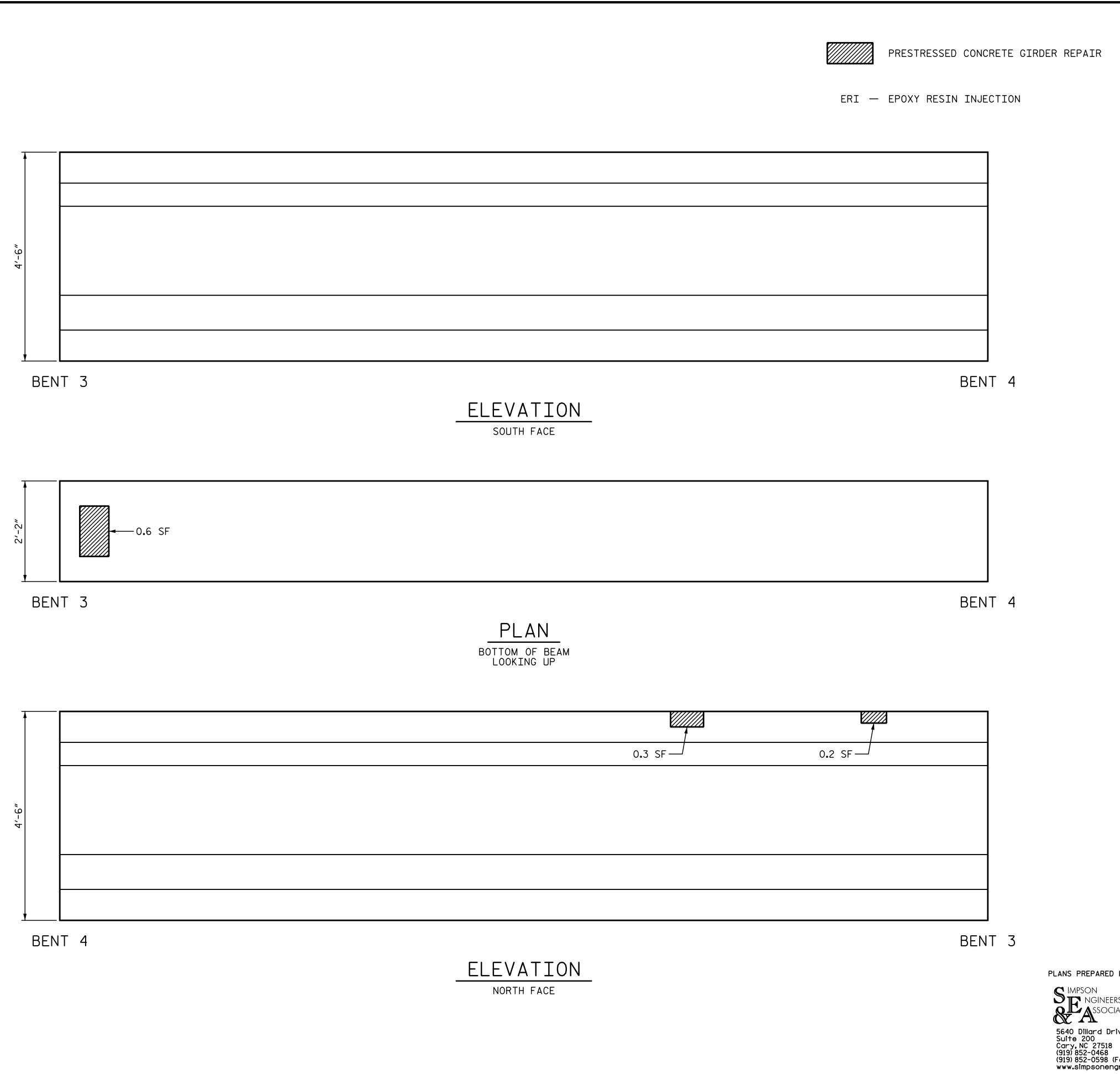
FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

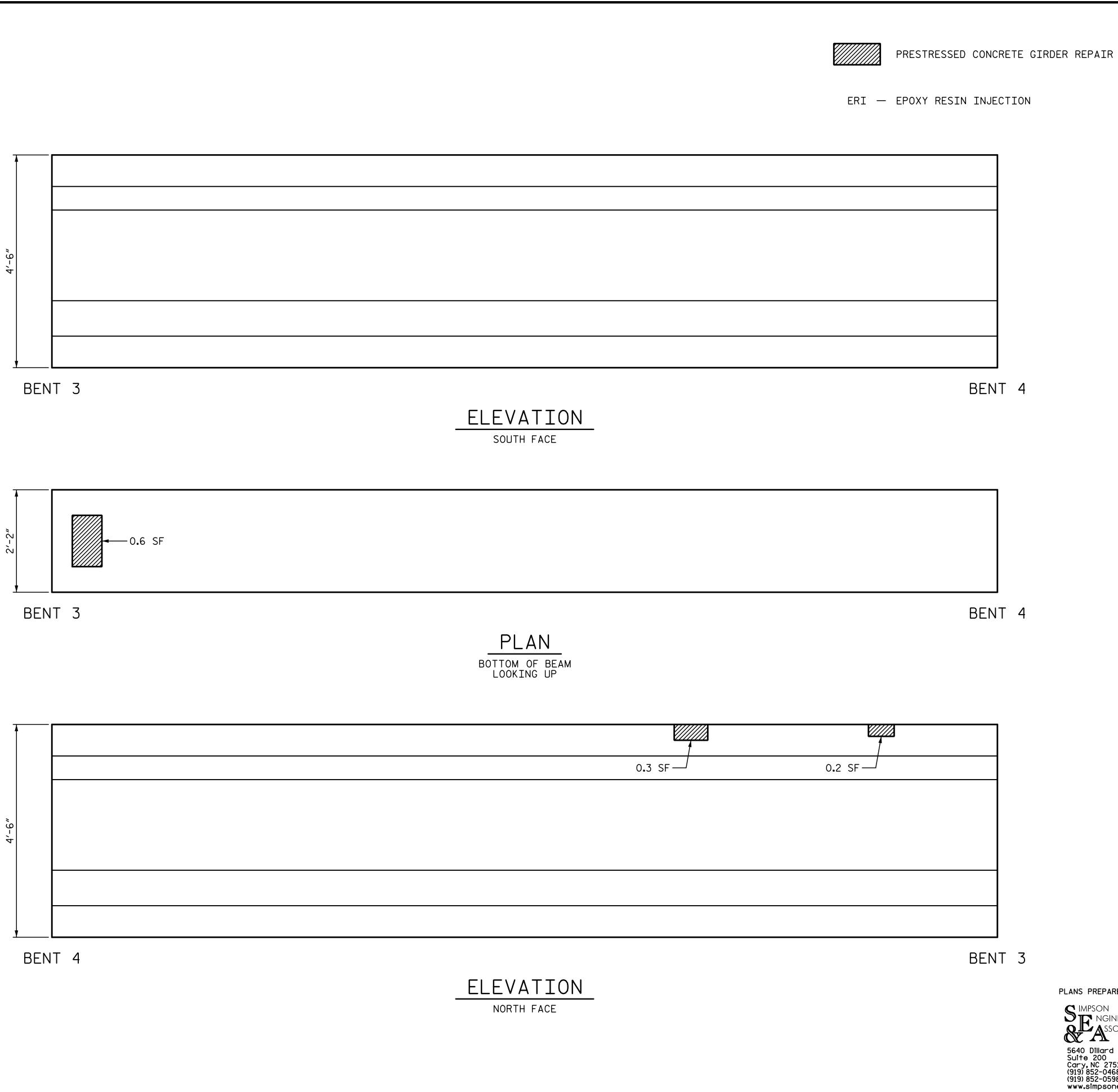
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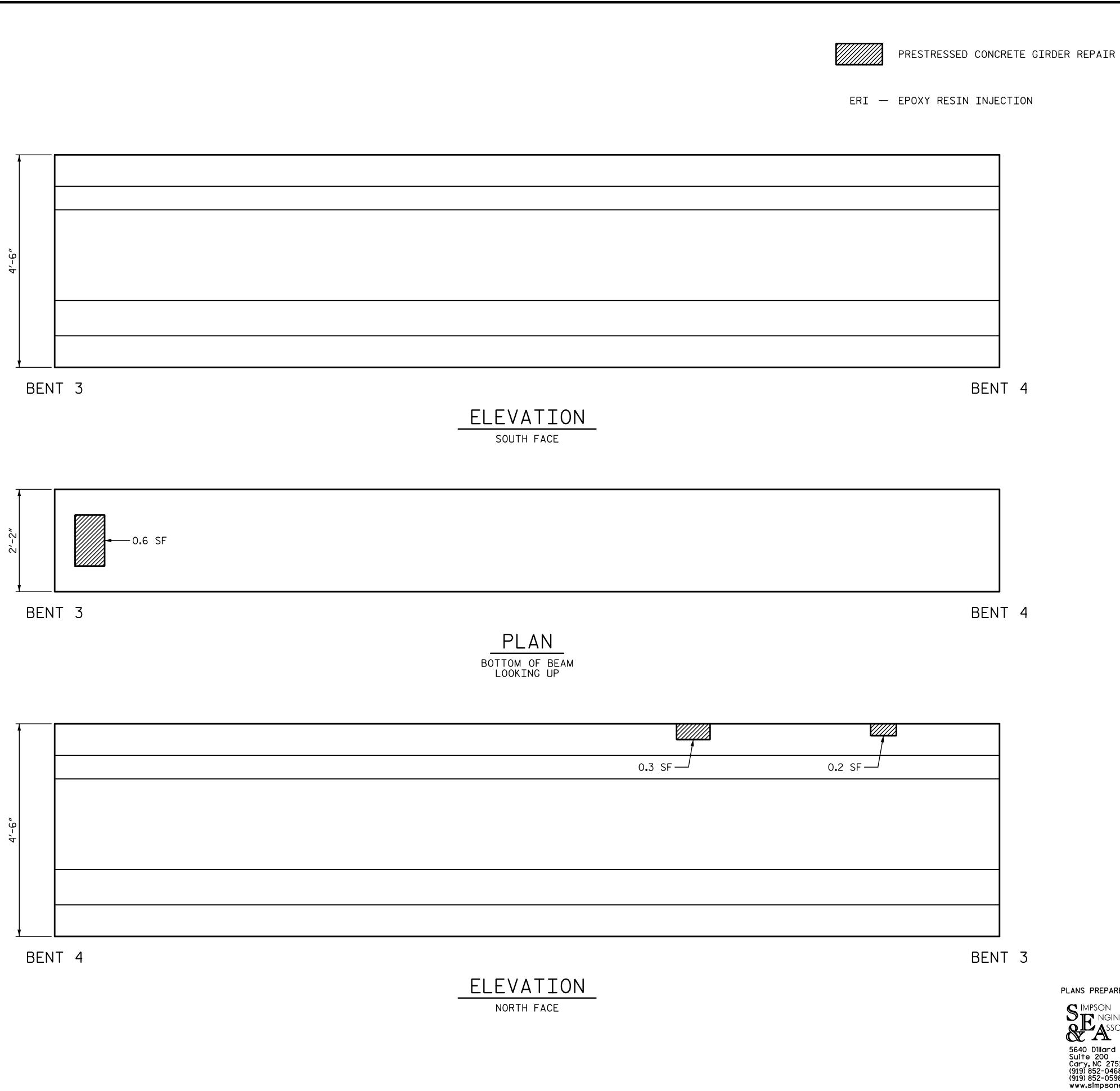
FOR REPAIRS OF PRESTRESSED CONCRETE GIRDERS DETAILS, SEE "PRESTRESSED CONCRETE GIRDER REPAIR DETAILS" SHEET.

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		SHEET 3	OF 5				
PLANS PREPARED BY:		DEPA	RTMENT	RALE	TRAN EIGH		TION
SIMPSON NGINEERS SSOCIATES 5640 Dillard Drive Suite 200 Cary, NC 27518	AGEN SUBSTERAL 24390			SPA ERD			
(919) 852-0468 (919) 852-0598 (Fax) www.simpsonengr.com	J. BEAU			07010			
LICENSURE NO. C-2521	9/29/2020	NO. BY:	REVIS	SIONS	BY:	DATE:	SHEET NO. S2-50
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REPAIR QUANTITY TABLE							
REPAIRS SPAN 4 GRD. 4		QUANTITIES					
ILLI ATING SI AN 4 OND: 4	ESTIMATE ACTUAL						
REPAIRS OF PRESTR. CONCRETE GIRDERS	OF PRESTR. AREA VOLUME E GIRDERS SF CF		AREA SF	DEPTH FT	VOLUME CF		
GIRDER	1.1	0.3					
EPOXY RESIN INJECTION		LF			LF		
GIRDER		0.0					

NOTES:

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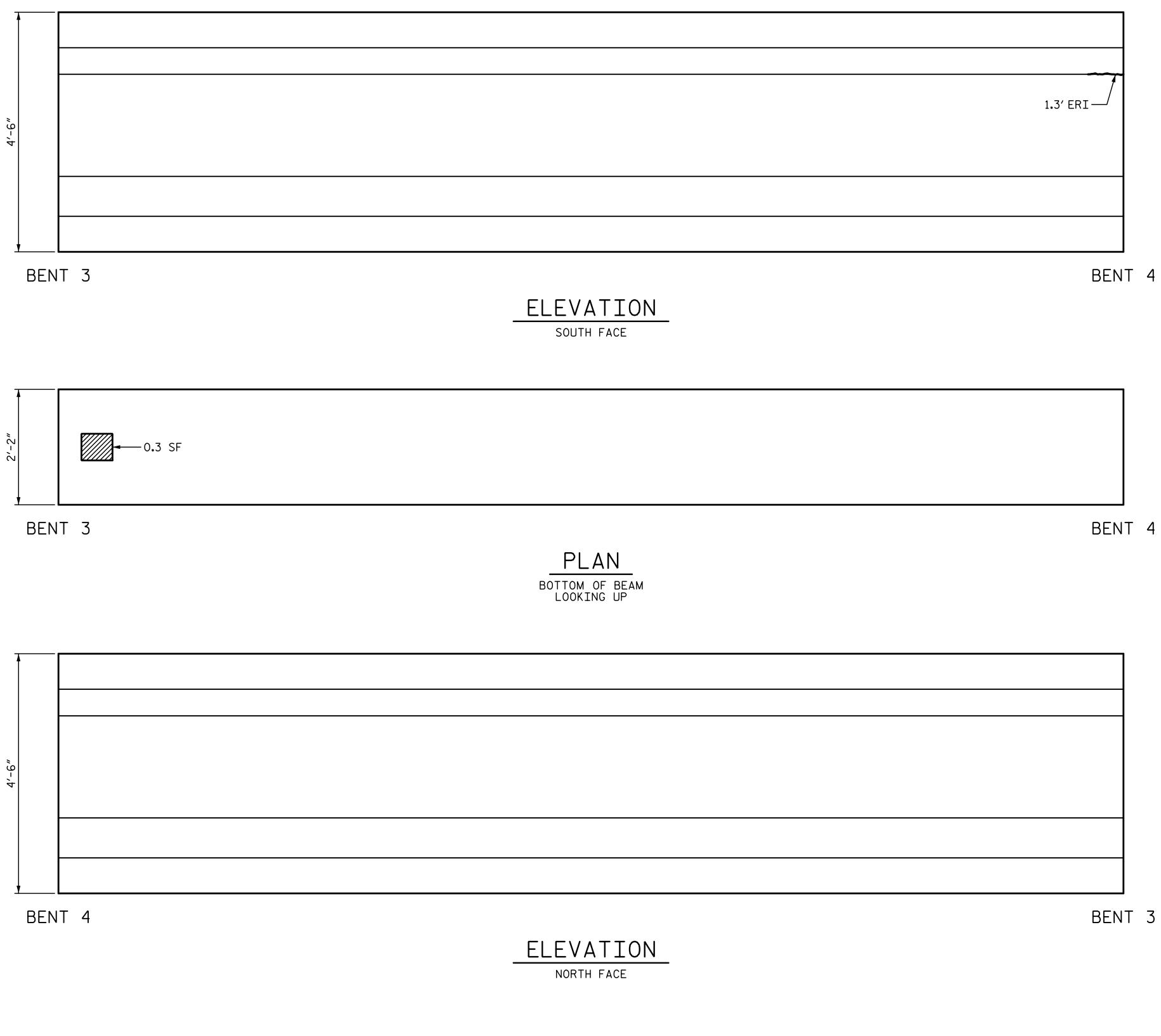
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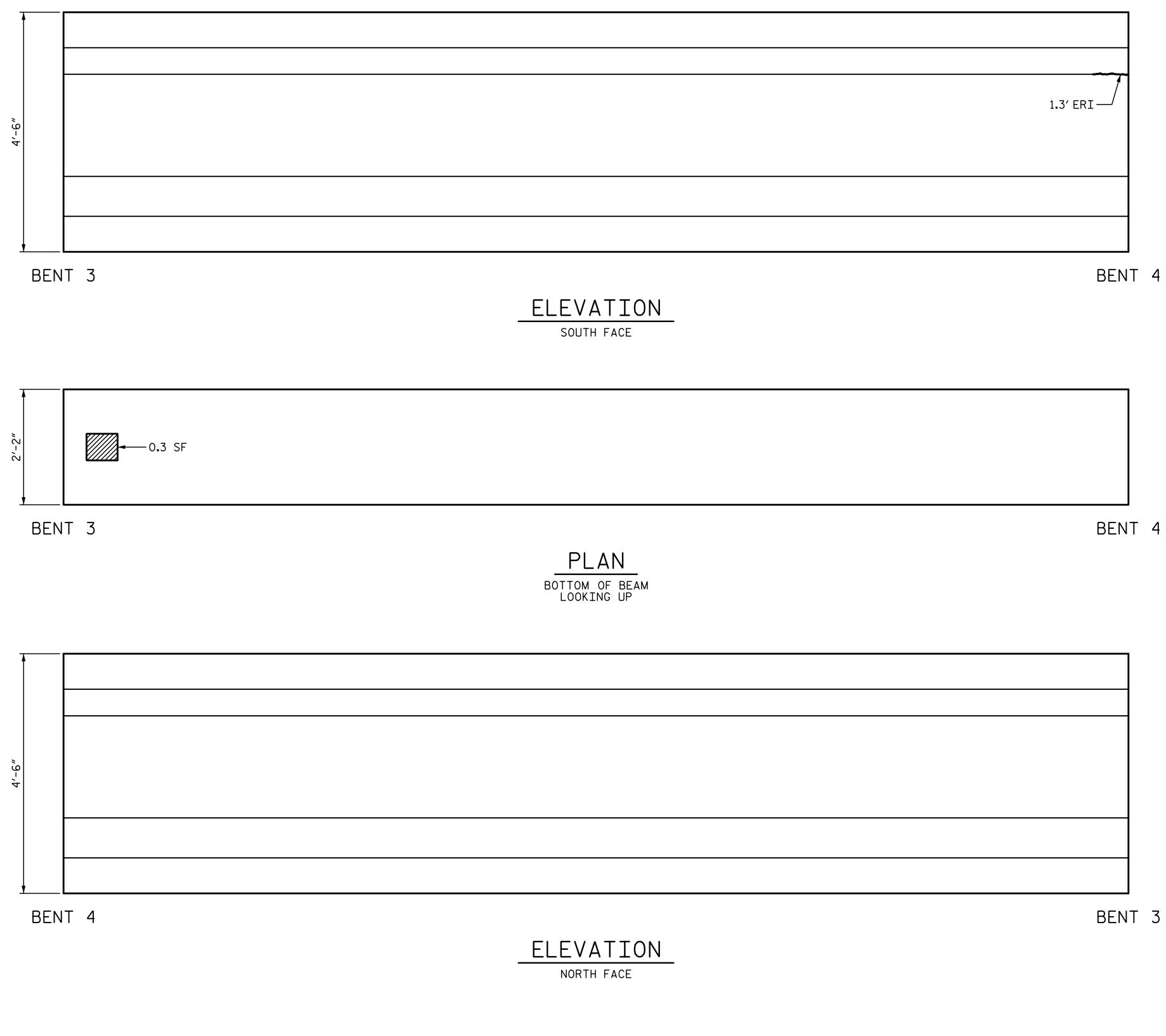
FOR REPAIRS OF PRESTRESSED CONCRETE GIRDERS DETAILS, SEE "PRESTRESSED CONCRETE GIRDER REPAIR DETAILS" SHEET.

		PROJE	CT NO.	15	BPR.2	26	
		NEW HANOVER/PENDER COUNTY					
		BRIDGE NO.: 640049					
		SHEET 4	OF 5				
PLANS PREPARED BY:		DEPA	RTMENT	of north car OF TRAI raleigh SERVAT	NSPORTA	TION	
SIMPSON NGINEERS SSOCIATES 5640 Dillard Drive Suite 200 Carv. NC 27518	Poortson Tethor ARO/ FLUCE BEEACUON AGBATTERESTICATE SEAL 24390			PAN RDER			
Cary,NC 27518 (919)852-0468 (919)852-0598 (Fax) www.simpsonengr.com	J. BEAU		REVISI	TONS		SHEET NO.	
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ERI — EPOXY RESIN INJECTION

REPAIR QUANTITY TABLE							
REPAIRS SPAN 4 GRD. 5		QUANTITIES					
ILLI AINS SI AN 4 GIU. S	STAN 4 GND. 5 ESTIMATE ACTUAL						
REPAIRS OF PRESTR. CONCRETE GIRDERS	PAIRS OF PRESTR. AREA ONCRETE GIRDERS		AREA SF	DEPTH FT	VOLUME CF		
GIRDER	0.3	0.1					
EPOXY RESIN INJECT	ION	LF			LF		
GIRDER		1.3					

NOTES:

REPAIR LOCAITONS AND ESTIMATE OF THE QUANTITIES ARE GIVEN WITH THE BEST INFORMATION AVAILABLE. IF ADDITIONAL REPAIRS NOT SHOWN ON THE DRAWINGS ARE DEEMED NECESSARY BY THE INSPECTOR OR ENGINEER THE CONTRACTOR SHALL NOTE ON THE DRAWINGS THE APPROXIMATE LOCATION AND DESCRIPTION OF THE REPAIRS AND ADJUST THE ACTUAL QUANTITIES ENTERED INTO THE REPAIR QUANTITIY TABLE.

FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

VALUES IN CHART REPRESENT ESTIMATE REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN, OF 1"BEHIND REBAR AND MIN. 2"CL. TO SAWCUT. SEE REPAIR DETAILS.

FOR REPAIRS OF PRESSTRESSED CONCRETE GIRDERS, SEE SPECIAL PROVISIONS.

FOR REPAIRS OF PRESTRESSED CONCRETE GIRDERS DETAILS, SEE "PRESTRESSED CONCRETE GIRDER REPAIR DETAILS" SHEET.

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Simpson NGINEERS SSOCIATES 5640 Dillard Drive Suite 200 Cary, NC 27518 (919) 852-0468	Doens to the CARO/ TUDO BEFSELON AOB 10 00 B5750FE 24390 MGINEE		-	SPAN ERDER	-			
(919) 852-0598 (Fax) www.simpsonengr.com	9/29/2020		REVI	SIONS		SHEET NO.		
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