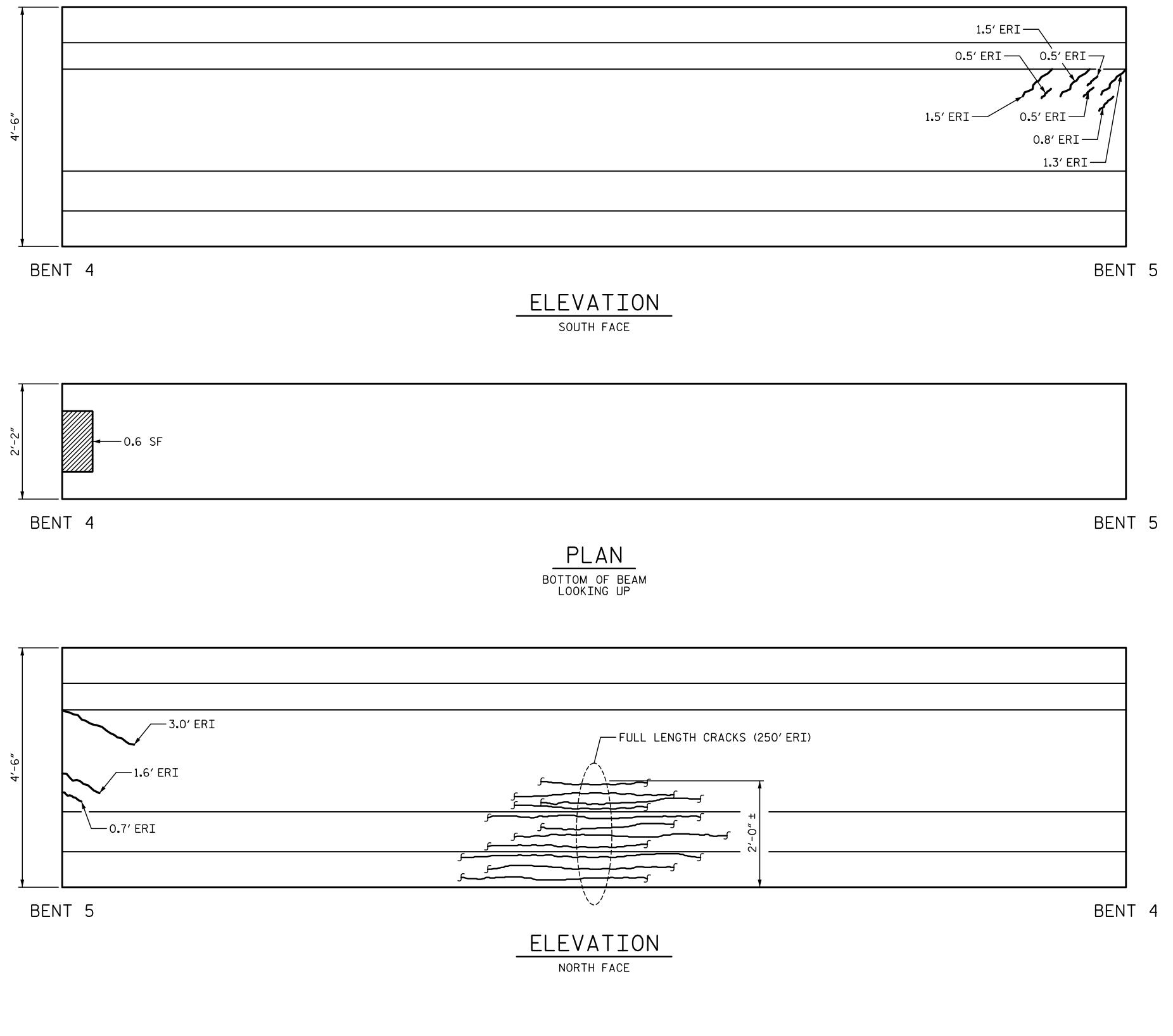
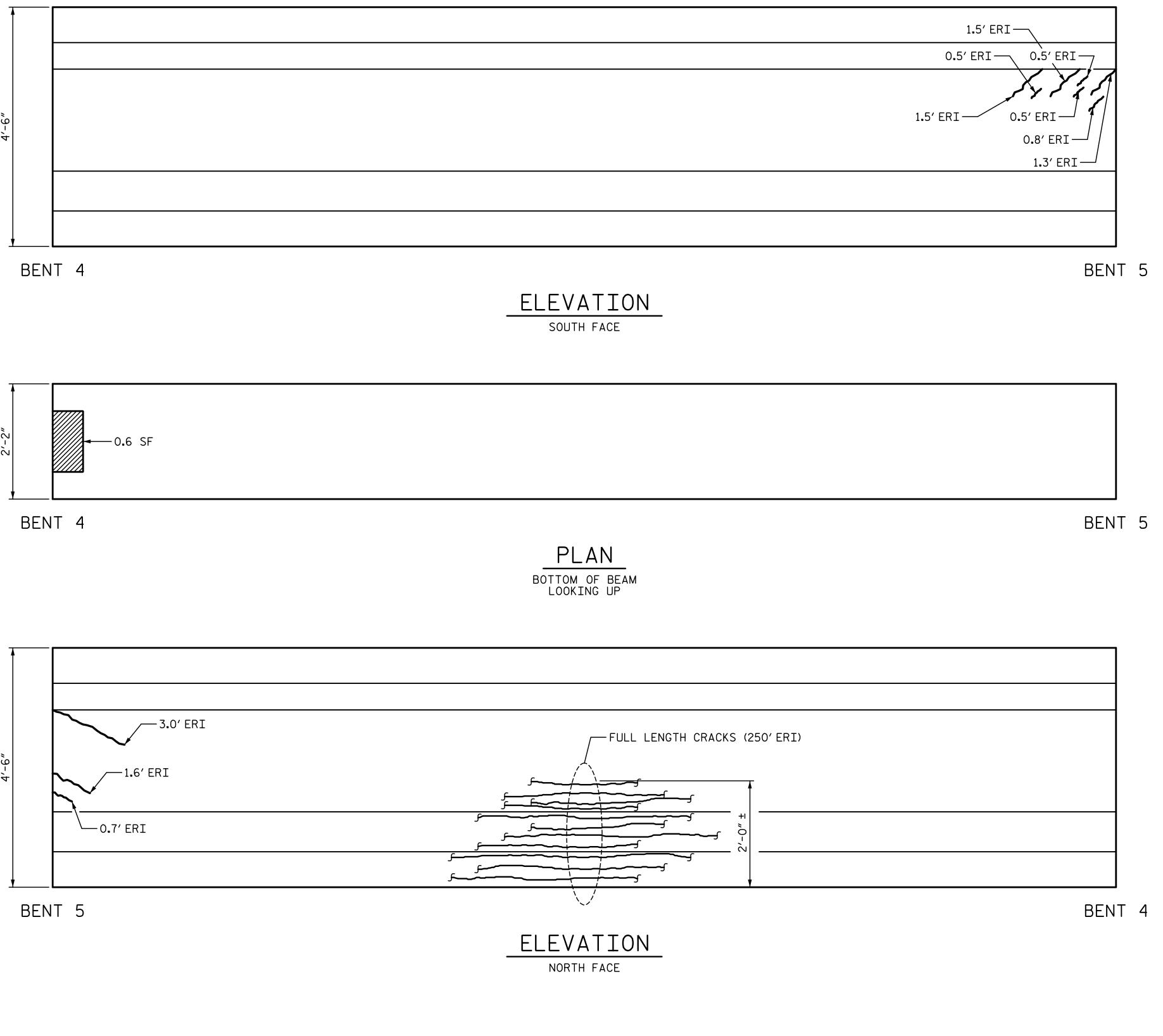
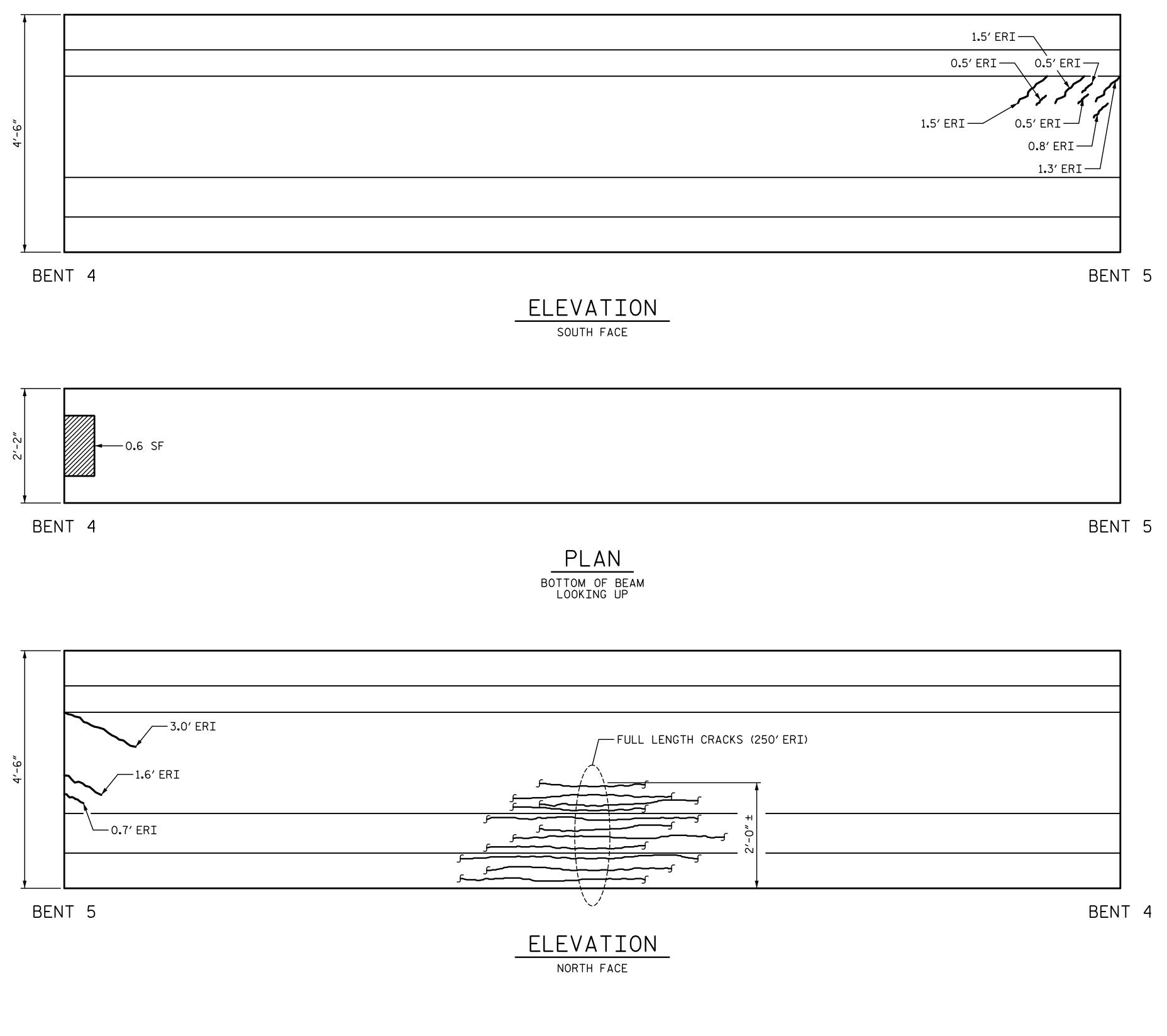
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\sim	T. BANKOVICH			9-20
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0,	SINEER OF RECORD:	T.J. BEACH	DATE:	9-20

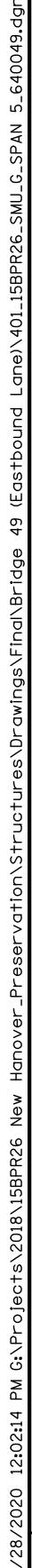














REPAIR QU	ANT	ITY -	ΓABL	.E	
REPAIRS SPAN 5 GRD.1			JANTITI		
	EST	IMATE		ACTUAL	
REPAIRS OF PRESTR. CONCRETE GIRDERS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	LUME CF
GIRDER	0.6	2.0			
EPOXY RESIN INJECT	LF			LF	
GIRDER	250.0				

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.

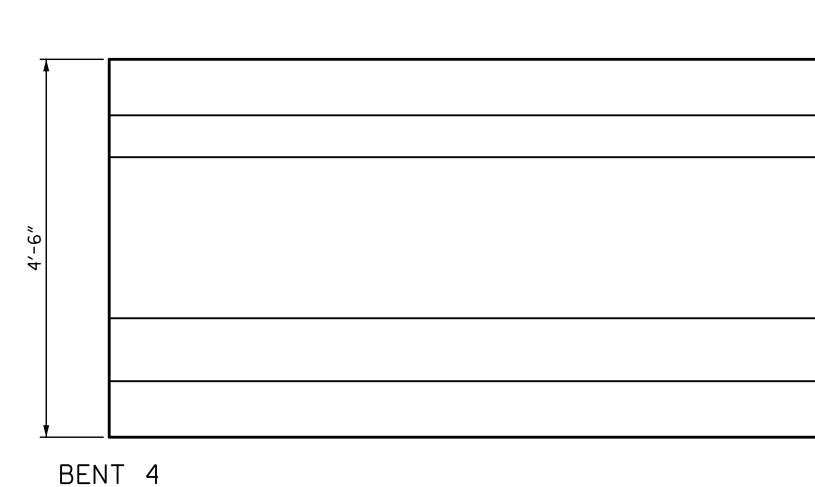
FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

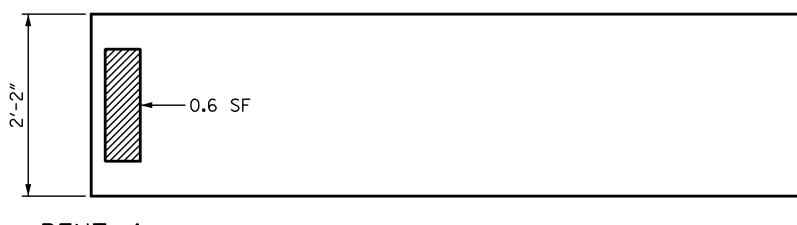
VALUES IN CHART REPRESENT ESTIMATE REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN, OF 1"BEHIND REBAR AND MIN. 2"CL. TO SAWCUT. SEE REPAIR DETAILS.

FOR REPAIRS OF PRESSTRESSED CONCRETE GIRDERS, SEE SPECIAL PROVISIONS.

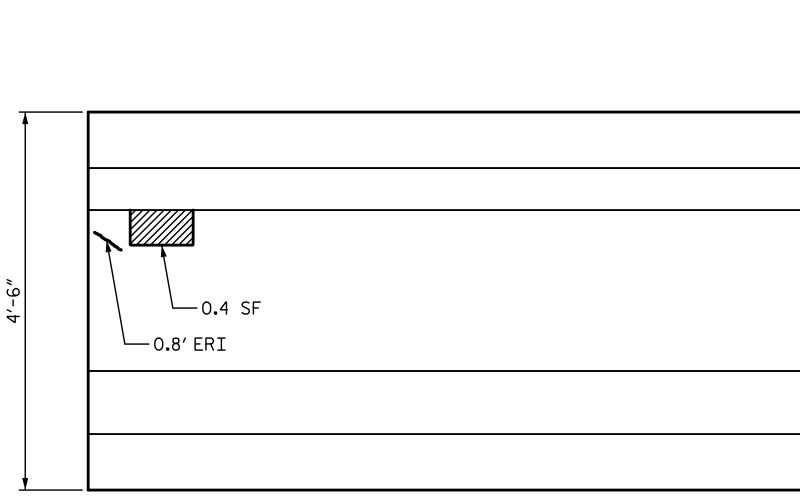
FOR REPAIRS OF PRESTRESSED CONCRETE GIRDERS DETAILS, SEE "PRESTRESSED CONCRETE GIRDER REPAIR DETAILS" SHEET.

		NEW	ECT NO <u>hanove</u> Ge NO.:	R/PENE	<u>BPR.2</u> D <u>ER</u> CC 40049	UNTY
		SHEET	1 OF 5			
PLANS PREPARED BY:		DEF	PARTMENT	TE OF NORTH CAR OF TRAI RALEIGH SERVAT	NSPORTA	TION
SIMPSON NGINEERS SSOCIATES 5640 Dillard Drive Suite 200	AGB COURS STATES		-	SPAN IRDEF	_	
Cary, NC 27518 (919) 852-0468 (919) 852-0598 (Fax) www.simpsonengr.com	J. BEAM					
LICENSURE NO. C-2521	9/29/2020	NO. BY:	REVI	SIONS	DATE:	SHEET NO. S2-53
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28/	DRAWN BY:	T.BANKOVICH		DATE:	9-20
9/2	CHECKED BY:	T.J. BEACH		DATE:	9-20
0,		ER OF RECORD:	T.J. BEACH	DATE:	9-20

	P	PRESTRESSED CONCRETE G	IRDER REPAIR
	ERI — E	POXY RESIN INJECTION	
		BENT 5	
ELEVATION SOUTH FACE			
		BENT 5	
PLAN BOTTOM OF BEAM LOOKING UP			
LOOKING UP			
		BENT 4	
ELEVATION			PLANS PREPARED B
NORTH FACE			S IMPSON NGINEERS ASSOCIAT
			5640 Dillard Drive Sulte 200 Cary, NC 27518 (919) 852-0468 (919) 852-0598 (Fa www.simpsonengr.
			(919)852-0598 (Fa www.simpsonengr LICENSURE NO.C-2

REPAIR QU	ANT	ITY -	ΓABL	.E	
REPAIRS SPAN 5 GRD. 2			UANTIT	EES	
THE ATTO STAN 5 OND: 2	EST	IMATE		ACTUAL	
REPAIRS OF PRESTR. CONCRETE GIRDERS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF
GIRDER	1.0	0.2			
EPOXY RESIN INJECT	LF			LF	
GIRDER	0.8				

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.

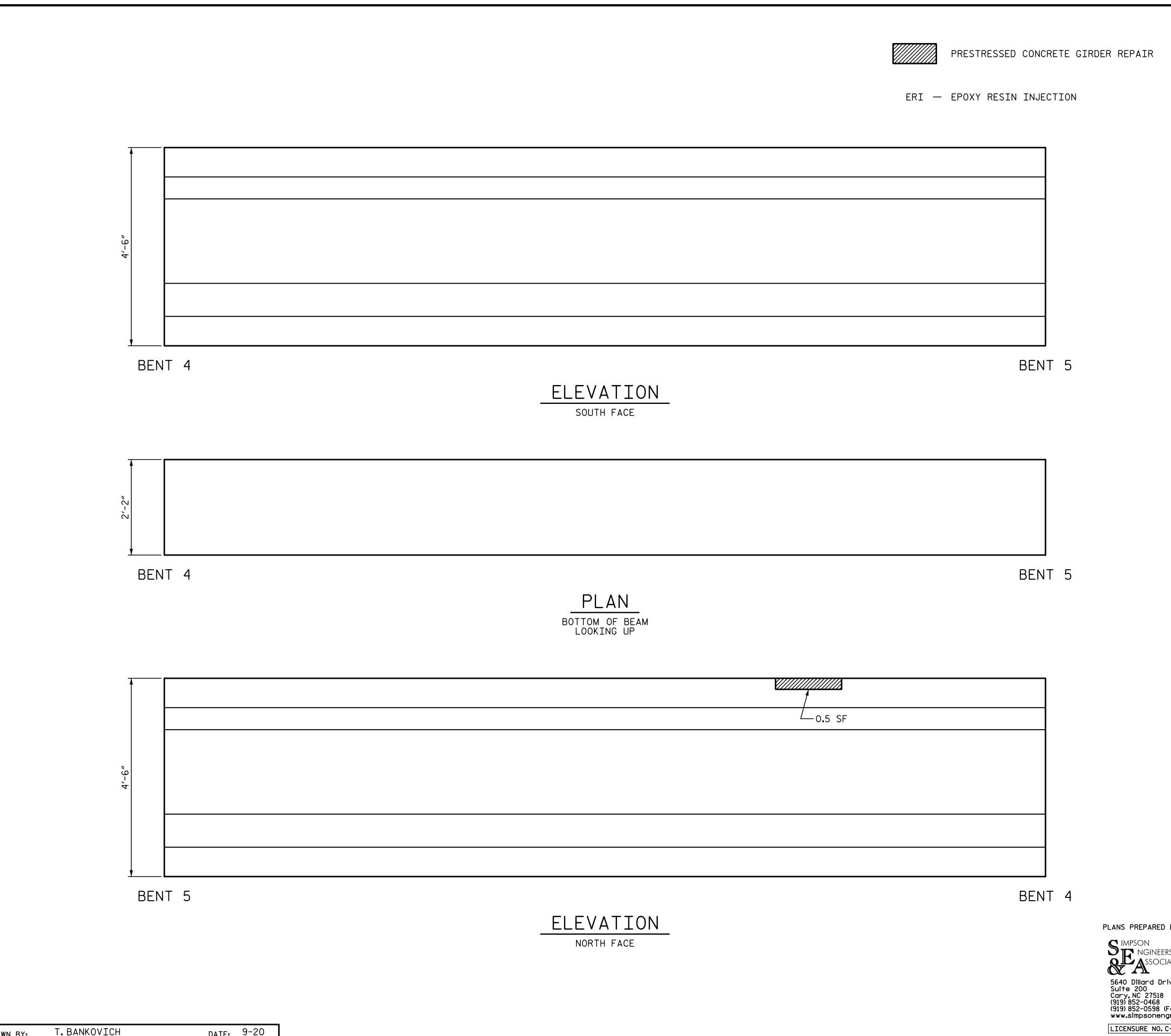
FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

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.

			CT NO.	15	BPR.2	26
			IANOVER			
				C	40049	
		BRIDG	E NO.:_	0,	10043	<u> </u>
		SHEET 2	OF 5			
PLANS PREPARED BY:		DEPA	RTMENT	OF NORTH CAR OF TRAI RALEIGH	NSPORTA	TION
SIMPSON NGINEERS SSOCIATES 5640 Dillard Drive Suite 200 Carry NC 27518	AGEN GEBETZEZASE ZAGEN GEBETZEZASE ZEAL 24390			PAN RDER	_	
Cary, NC 27518 (919) 852-0468 (919) 852-0598 (Fax) www.simpsonengr.com LICENSURE NO. C-2521	9/29/2020	NO. BY:	REVISI DATE: N	ONS	DATE:	SHEET NO. S2-54
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8	DRAWN BY:	T. BANKOVICH		DATE:	9-20	
	CHECKED BY:	T.J. BEACH		DATE: _	9-20	
0,	DESIGN ENGI	NEER OF RECORD:	T.J. BEACH		9-20	
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REPAIR QU	ANT	ΙT	Υ]	ΓABL	.E	
REPAIRS SPAN 5 GRD. 3			QL	JANTITI	IES	
ILLI AINS SI AN S GIU. S	EST	IMA	TE		ACTUAL	
REPAIRS OF PRESTR. CONCRETE GIRDERS		LUME CF	AREA SF	DEPTH FT	VOLUME CF	
GIRDER	0.5		0.1			
EPOXY RESIN INJECT	ION		LF			LF
GIRDER			0.0			

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.

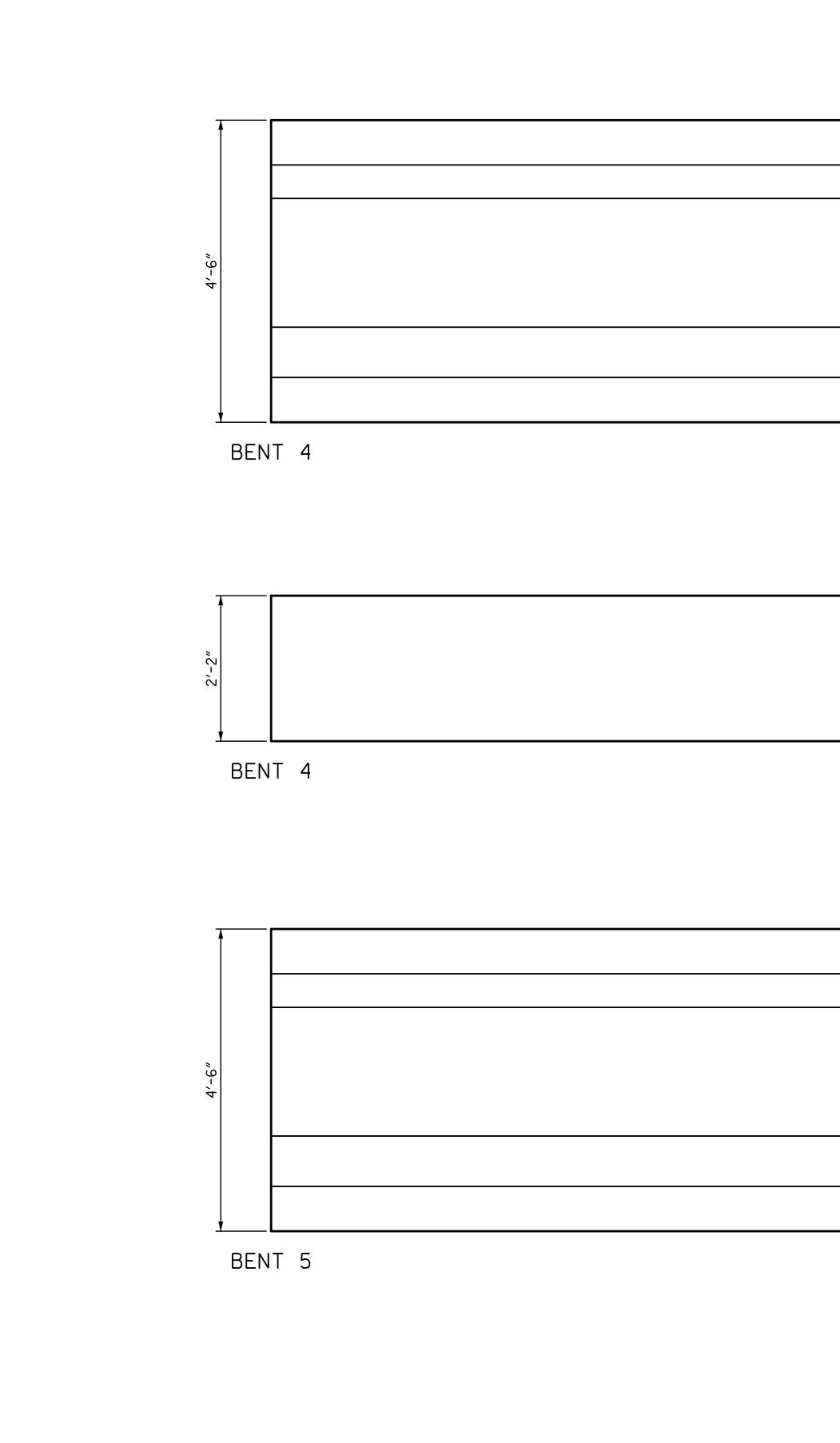
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VALUES IN CHART REPRESENT ESTIMATE REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN, OF 1"BEHIND REBAR AND MIN. 2"CL. TO SAWCUT. SEE REPAIR DETAILS.

FOR REPAIRS OF PRESSTRESSED CONCRETE GIRDERS, SEE SPECIAL PROVISIONS.

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

		NEW	ŀ	CT NO. IANOVE	<u>R/</u>	PEND		UNTY
		RKTL	JGt	E NO.:_		0-		<u>, </u>
		SHEET	3	OF 5				
BY:		DE	ΈΡΑ	RTMENT	OF R	NORTH CARG TRAN RALEIGH RVAT	NSPORTA	TION
RS ATES I ve	AGBA SEBSTERAL 24390					AN DER		
ax) gr.com 2-2521	9/29/2020	NO. BY		REVIS	SION	S BY:	DATE:	SHEET NO. S2-55
NT NOT COI	NSIDERED FINAL JRES COMPLETED	<u>1</u> 2	š	DATE:	ই প্টি আ	01:	DATE:	TOTAL SHEETS 163



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

	PRESTRESSED CONCRETE GIRDER RE	PAIR
	ERI — EPOXY RESIN INJECTION	
	BENT 5	
ELEVATION SOUTH FACE		
	BENT 5	
PLAN	DLINI J	
BOTTOM OF BEAM LOOKING UP		
	BENT 4	
ELEVATION NORTH FACE		PREPARED BY
	5640 51110	PSON NGINEERS ASSOCIAT
		Dillard Drive 200 NC 27518 852-0468 852-0598 (Fa) simpsonengr. NSURE NO. C-2

REPAIR QUANTITY TABLE						
REPAIRS SPAN 5 GRD. 4		Q	UANTIT	IES		
ILLI ATING SI AN S OND. 4	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						

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.

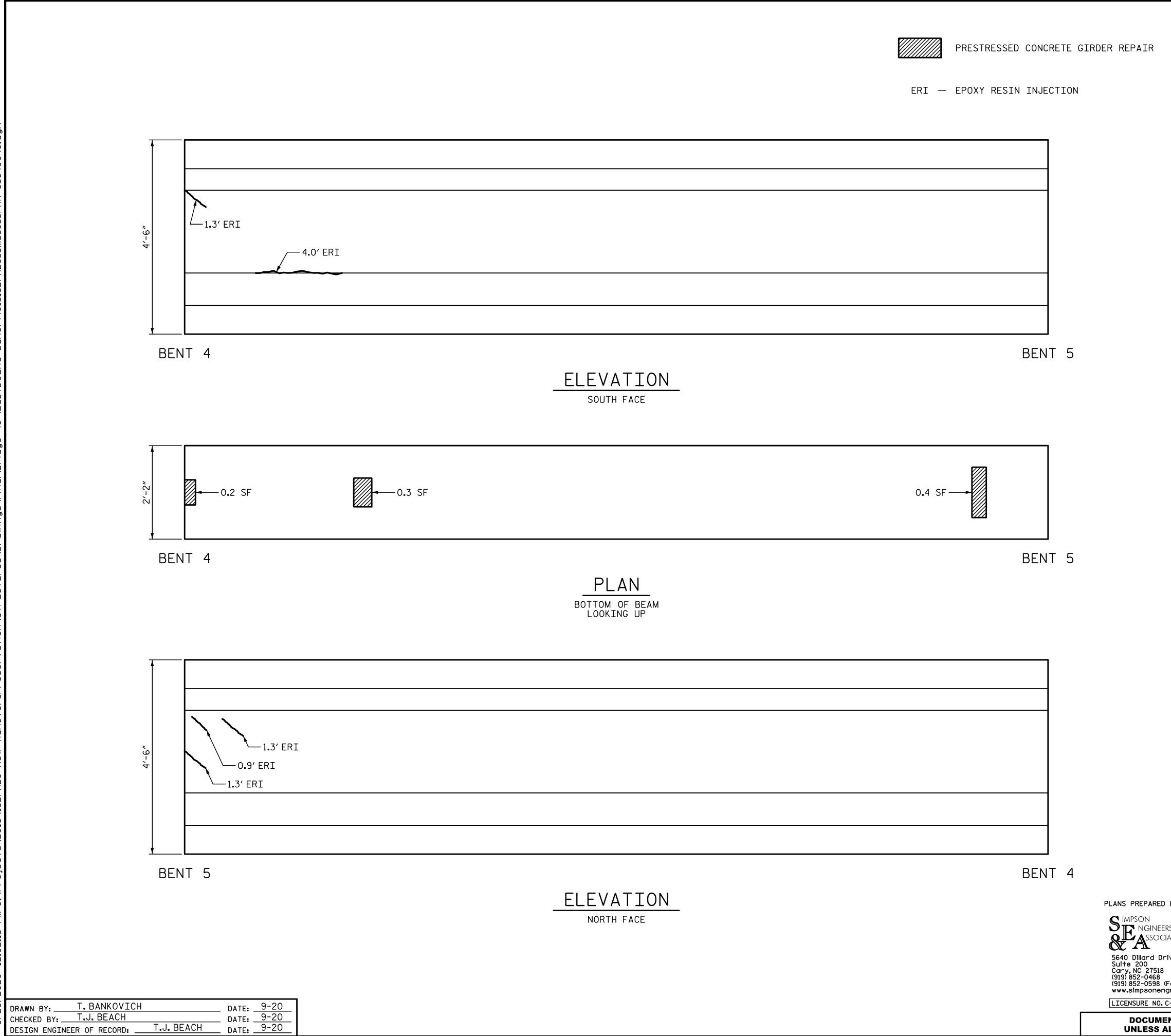
FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

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FOR REPAIRS OF PRESSTRESSED CONCRETE GIRDERS, SEE SPECIAL PROVISIONS.

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

			CT NO IANOVER/			
		BRIDG	E NO .:	64	40049)
		SHEET 4	OF 5			
PLANS PREPARED BY:		DEPA	state of RTMENT O PRESE	RALEIGH	NSPORTA	TION
SIMPSON NGINEERS SSOCIATES 5640 Dillard Drive Sulte 200 Cary, NC 27518 (919) 852-0468	AGB 14 DE 57524 EB AGB 14 DE 57524 EB AGB 14 DE 57524 EB SEAL 24390			PAN RDER		
(919) 852-0598 (Fax) www.simpsonengr.com	9/29/2020		REVISIO	NS		SHEET NO.
DOCUMENT NOT CO		№. ВY: 1	DATE: NO.	BY:	DATE:	S2-56 TOTAL SHEETS
UNLESS ALL SIGNATU		2	 4			SHEETS 163



T.J. BEACH

DESIGN ENGINEER OF RECORD:

REPAIR QUANTITY TABLE						
REPAIRS SPAN 5 GRD. 5			UANTIT	IES		
THE ATTO STAN 5 OND: 5	EST	IMATE		ACTUAL		
REPAIRS OF PRESTR. CONCRETE GIRDERS	AREA VOLUME SF CF		AREA SF	DEPTH FT	VOLUME CF	
GIRDER 0.9		0.2				
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.

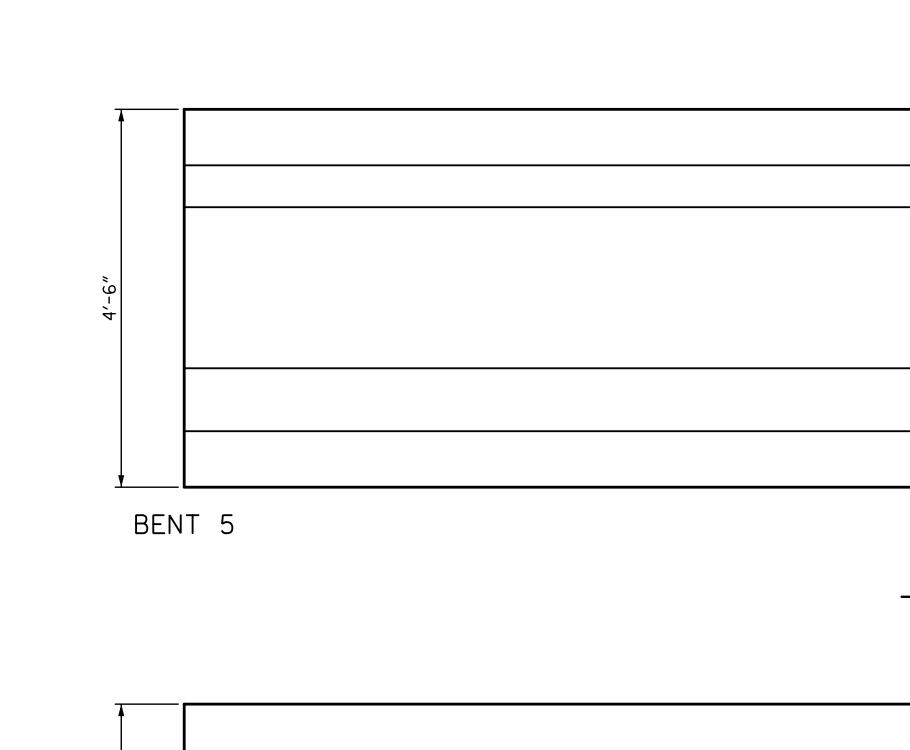
FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

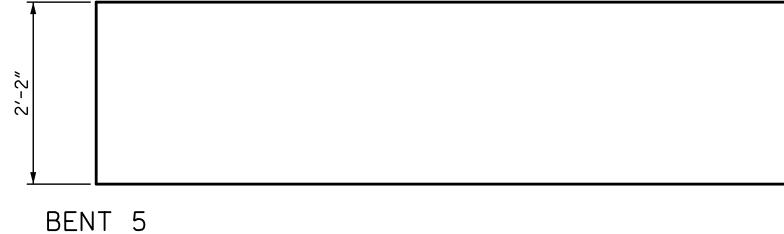
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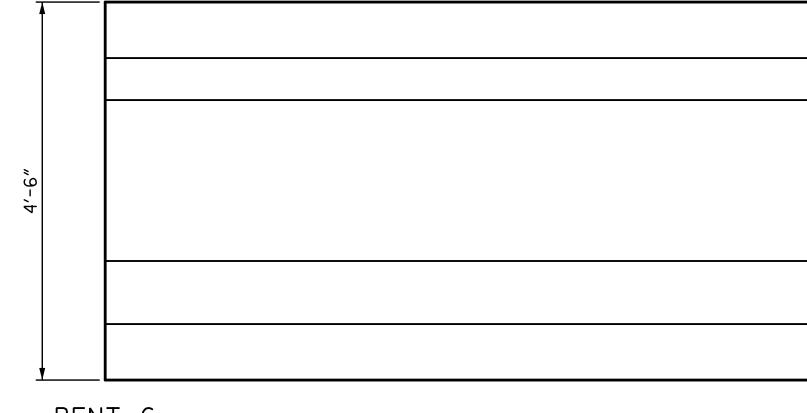
FOR REPAIRS OF PRESSTRESSED CONCRETE GIRDERS, SEE SPECIAL PROVISIONS.

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

		NEW	ECT NO <u>Hanov</u> GE NO.	ER/	<u>PEND</u>		UNTY
		SHEET	5 OF 5				
BY:		DE	PARTMEN	T OF	NORTH CAR F TRAI RALEIGH	NSPORTA	TION
RS ATES Ive	Doursenerhou AROL FUCA - BEENCELON AGB - DE575245B SEAL 24390				AN DER		
ax) gr.com	9/29/2020			/ISION	IS		SHEET NO.
-2521		№. ВҮ: 1	DATE:	NO.	BY:	DATE:	S2-57 TOTAL SHEETS
	NSIDERED FINAL JRES COMPLETED	2		4			SHEETS 163









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28/	DRAWN BY:	T.BANKOVICH		_ DATE: _ 9-20
1/2	CHECKED BY:	T.J. BEACH		DATE: 9-20
	DESIGN ENGINE	ER OF RECORD:	T.J. BEACH	_ DATE: <u>9-20</u>

	PR	RESTRESSED CONCRETE	GIRDER REPAIR
	ERI — EP	OXY RESIN INJECTIO	Ν
ELEVATION		BENT 6	
SOUTH FACE			
PLAN		BENT 6	
BOTTOM OF BEAM LOOKING UP			
		BENT 5	
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 (Fa) www.simpsonengr. LICENSURE NO.C-2
			ILICENSURE NO. C-2

REPAIR QUANTITY TABLE						
REPAIRS SPAN 6 GRD.1			UANTIT:			
	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						

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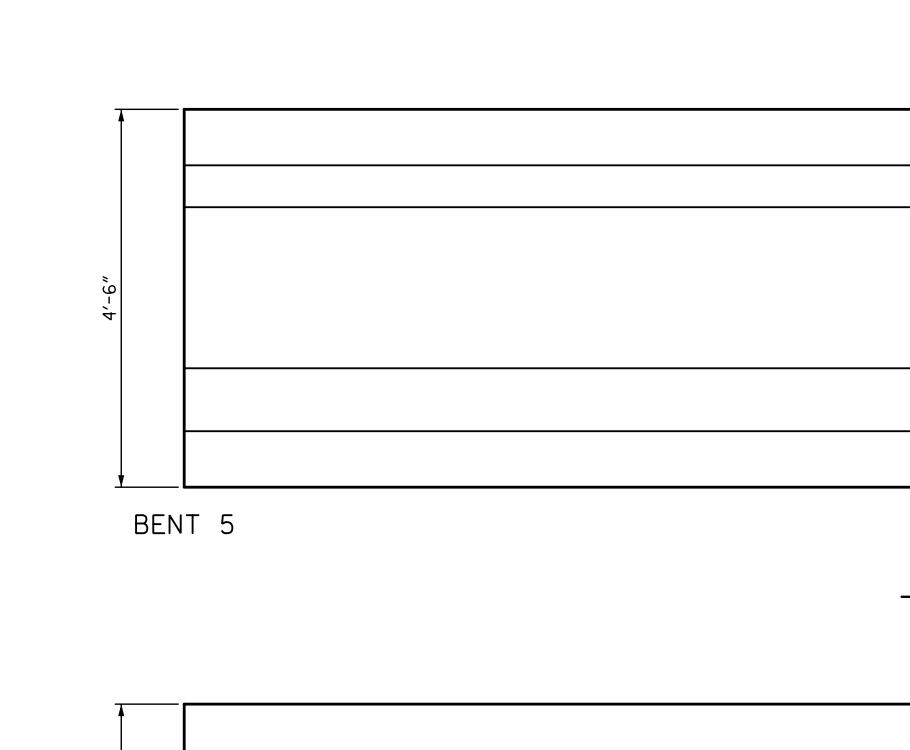
FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

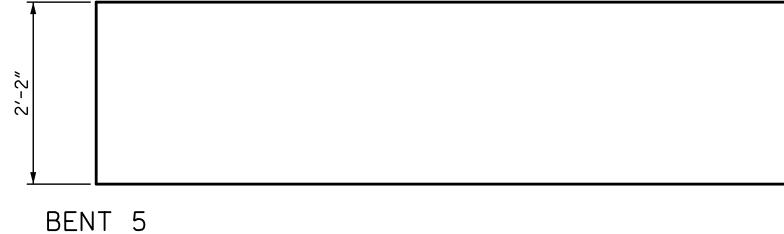
VALUES IN CHART REPRESENT ESTIMATE REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN, OF 1" BEHIND REBAR AND MIN. 2"CL. TO SAWCUT. SEE REPAIR DETAILS.

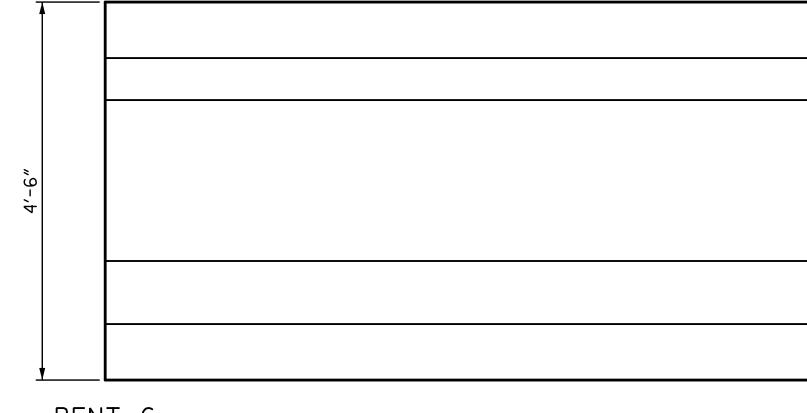
FOR REPAIRS OF PRESSTRESSED CONCRETE GIRDERS, SEE SPECIAL PROVISIONS.

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

		NEW	CT NO. <u>Hanove</u> SE NO.:_	R/PEND	<u>5BPR.2</u> <u>5ER</u> cc 40049	UNTY
PLANS PREPARED BY:		DEP	ARTMENT	e of north car OF TRA RALEIGH SERVA	NSPORTA	TION
SIMPSON NGINEERS SSOCIATES 5640 Dillard Drive Suite 200 Cary, NC 27518 (919) 852-0468	AGE CONSTRUCTION AND CINE			FAN RDEF		
(919)852-0598 (Fax) www.simpsonengr.com	9/29/2020		REVIS	SIONS		SHEET NO.
LICENSURE NO. C-2521		NO. BY:	DATE:	NO. BY:	DATE:	S2-58
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2				
28/	DRAWN BY:	T.BANKOVICH		_ DATE: _ 9-20
1/2	CHECKED BY:	T.J. BEACH		DATE: 9-20
	DESIGN ENGINE	ER OF RECORD:	T.J. BEACH	_ DATE: <u>9-20</u>

	PR	RESTRESSED CONCRETE	GIRDER REPAIR
	ERI — EP	OXY RESIN INJECTIO	Ν
ELEVATION		BENT 6	
SOUTH FACE			
PLAN		BENT 6	
BOTTOM OF BEAM LOOKING UP			
		BENT 5	
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 (Fa) www.simpsonengr. LICENSURE NO.C-2
			ILICENSURE NO. C-2

REPAIR QUANTITY TABLE						
REPAIRS SPAN 6 GRD. 2	БСТ	QUANTITIES				
	ESI	IMATE		ACTUAL	-	
		VOLUME CF	AREA SF	DEPTH FT	VOLUME CF	
GIRDER	0.0	0.0				
EPOXY RESIN INJECTION					LF	
GIRDER						

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.

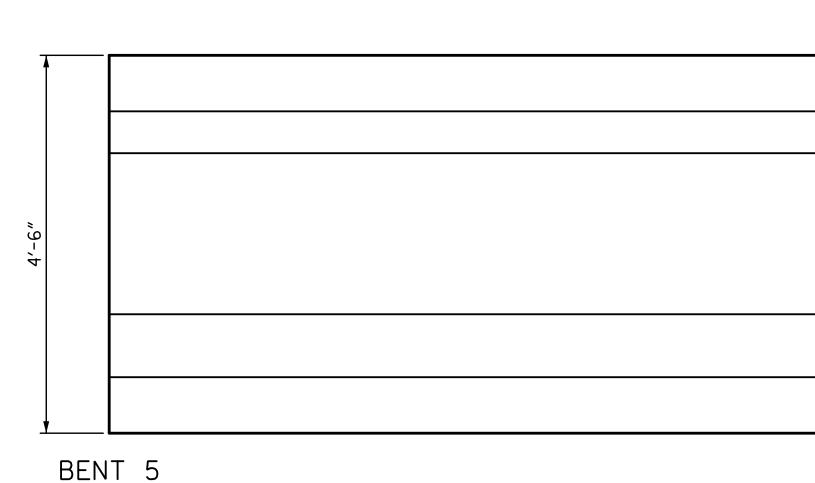
FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

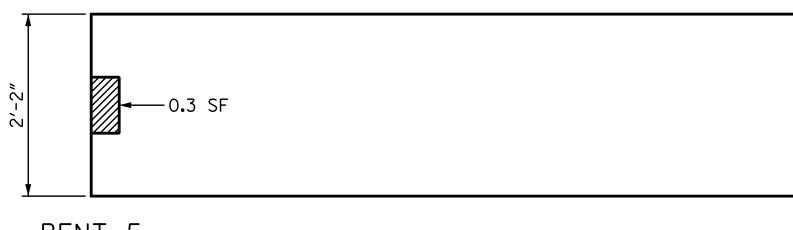
VALUES IN CHART REPRESENT ESTIMATE REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN, OF 1" BEHIND REBAR AND MIN. 2"CL. TO SAWCUT. SEE REPAIR DETAILS.

FOR REPAIRS OF PRESSTRESSED CONCRETE GIRDERS, SEE SPECIAL PROVISIONS.

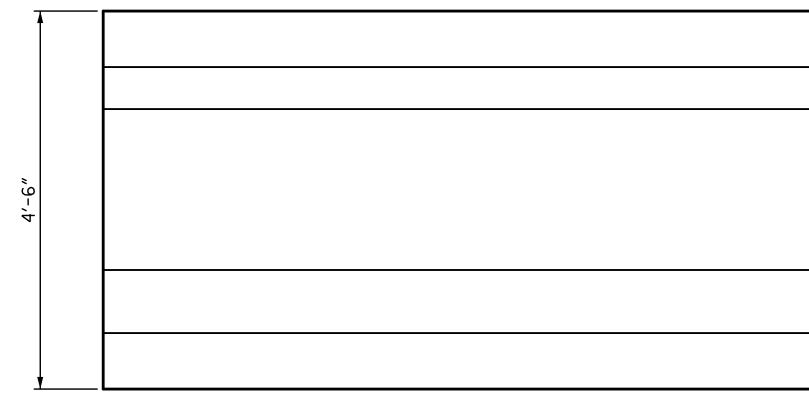
FOR REPAIRS OF PRESTRESSED CONCRETE GIRDERS DETAILS, SEE "PRESTRESSED CONCRETE GIRDER REPAIR DETAILS" SHEET.

	PROJECT NO. <u>15BPR.26</u> <u>NEW HANOVER/PENDER COUNTY</u> BRIDGE NO.: <u>640049</u>
PLANS PREPARED BY: SIMPSON NGINEERS SSOCIATES	SHEET 2 OF 5 STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH PRESERVATION SPAN 6
Setup A6B CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	GIRDER 2 REVISIONS SHEET NO. NO. BY: DATE: NO. BY: DATE: SHEETS 1 3 SHEETS 163











DRAWN BY:	T. BANKOVICH		DATE: 9-20
	T.J. BEACH		DATE: 9-20
	EER OF RECORD:	T.J. BEACH	DATE: 9-20
	DRAWN BY: CHECKED BY: DESIGN ENGINE		CHECKED BY:

	PR	RESTRESSED CONCRETE	GIRDER REPAIR
	ERI — EP	OXY RESIN INJECTIO	Ν
ELEVATION		BENT 6	
SOUTH FACE			
PLAN		BENT 6	
BOTTOM OF BEAM LOOKING UP			
		BENT 5	
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 (Fa) www.simpsonengr. LICENSURE NO.C-2
			ILICENSURE NO. C-2

REPAIR QU	ANT	ITY ⁻	ΓABL	.E	
REPAIRS SPAN 6 GRD. 3			UANTIT		
	EST	IMATE		ACTUAL	-
REPAIRS OF PRESTR. CONCRETE GIRDERS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF
GIRDER	0.3	0.1			
EPOXY RESIN INJECTION					LF
GIRDER		0.0			

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.

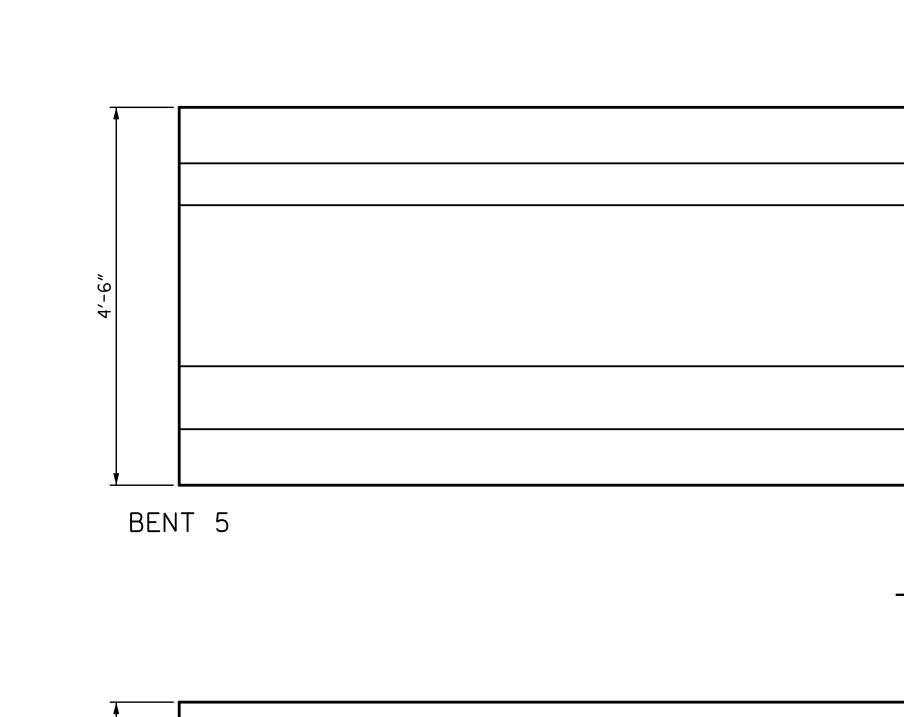
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VALUES IN CHART REPRESENT ESTIMATE REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN, OF 1" BEHIND REBAR AND MIN. 2"CL. TO SAWCUT. SEE REPAIR DETAILS.

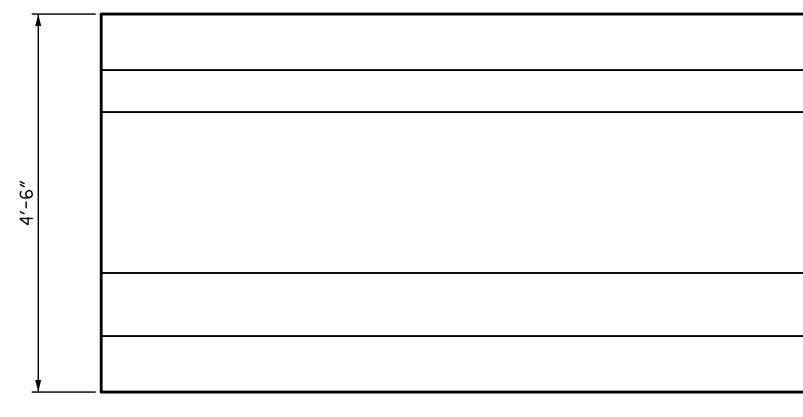
FOR REPAIRS OF PRESSTRESSED CONCRETE GIRDERS, SEE SPECIAL PROVISIONS.

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

		NEW	CT NO HANOVE E NO.:	ER/P	PEND		OUNTY
PLANS PREPARED BY:			STA ARTMENT	RAL	TRAN		ATION
SIMPSON NGINEERS SSOCIATES 5640 Dillard Drive Suite 200 Cary, NC 27518 (919) 852-0468	-Docasimentaly CAROL AGB10EREST5246E 24390 MGINEE	SPAN 6 GIRDER 3					
(919) 852-0598 (Fax) www.simpsonengr.com	9/29/2020		REVI	ISIONS			SHEET NO.
LICENSURE NO. C-2521	5/23/2020	NO. BY:	DATE:		BY:	DATE:	S2-60
DOCUMENT NOT CONSIDI UNLESS ALL SIGNATURES		1 2		3 4			TOTAL SHEETS 163







BENT 6

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28/	DRAWN BY:	T. BANKOVICH		DATE: 9-20
	CHECKED BY: _	T.J. BEACH		DATE: 9-20
		EER OF RECORD:	T.J. BEACH	DATE: 9-20

	PR	RESTRESSED CONCRETE	GIRDER REPAIR
	ERI — EP	OXY RESIN INJECTIO	Ν
ELEVATION		BENT 6	
SOUTH FACE			
PLAN		BENT 6	
BOTTOM OF BEAM LOOKING UP			
		BENT 5	
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 (Fa) www.simpsonengr. LICENSURE NO.C-2
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REPAIR QU	ANT	ITY -	ΓABL	.E	
REPAIRS SPAN 6 GRD. 4		Q	UANTIT	IES	
INCLATING STAN 0 GILD. 4	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			

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.

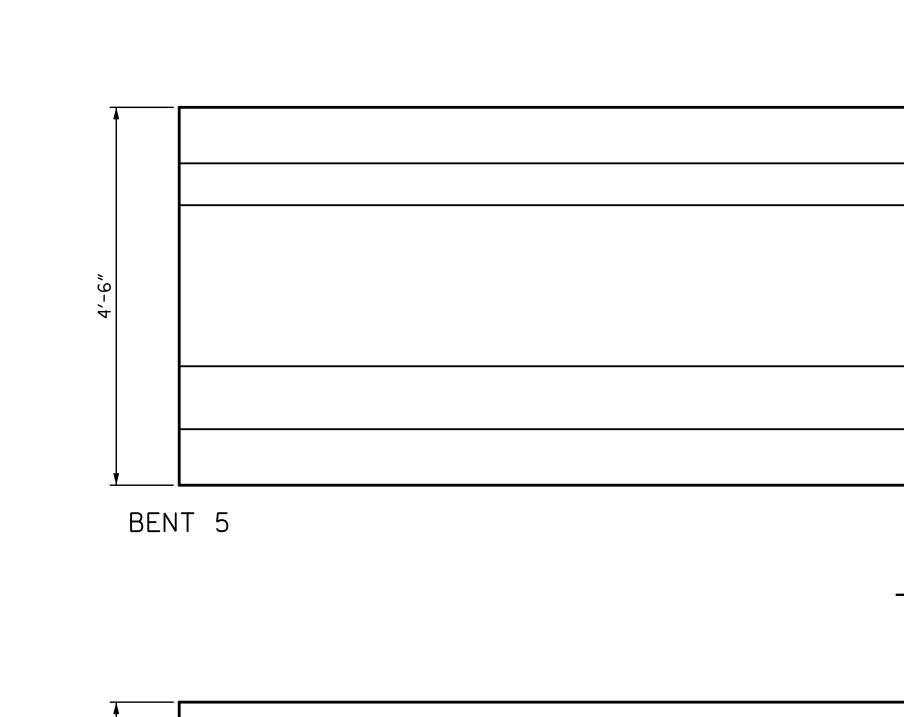
FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

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.

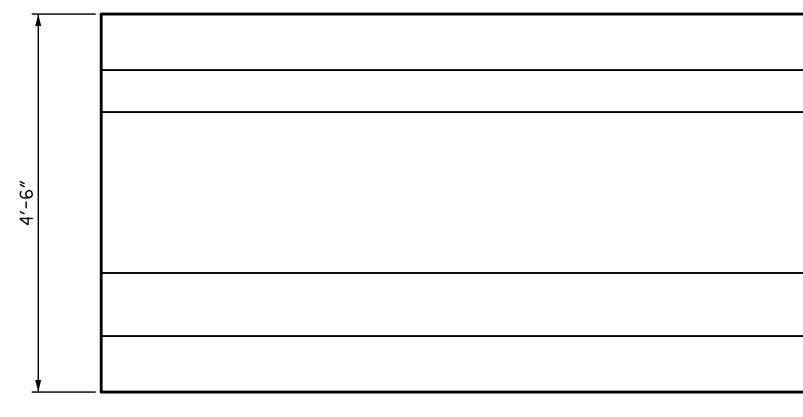
FOR REPAIRS OF PRESSTRESSED CONCRETE GIRDERS, SEE SPECIAL PROVISIONS.

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

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		PROJE	CT NO.	<u> </u>		20
		NEW H	ANOVE	R/PENI	DER CO	DUNTY
		BRIDG	E NO.:.	6	40049	9
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PLANS PREPARED BY:		DEPA	RTMENT	OF NORTH CAN OF TRA RALEIGH SERVA	NSPORTA	TION
SIMPSON NGINEERS SSOCIATES 5640 Dillard Drive Suite 200 Cary, NC 27518	AGE SEAL 24390		_	SPAN IRDEF	-	
(919) 852-0468 (919) 852-0598 (Fax) www.simpsonengr.com	9/29/2020	NO. BY:	REVI:	SIONS	DATE:	SHEET NO. S2-61
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28/	DRAWN BY:	T. BANKOVICH		DATE: 9-20
	CHECKED BY: _	T.J. BEACH		DATE: 9-20
		EER OF RECORD:	T.J. BEACH	DATE: 9-20

	PR	RESTRESSED CONCRETE	GIRDER REPAIR
	ERI — EP	OXY RESIN INJECTIO	Ν
ELEVATION		BENT 6	
SOUTH FACE			
PLAN		BENT 6	
BOTTOM OF BEAM LOOKING UP			
		BENT 5	
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 (Fa) www.simpsonengr. LICENSURE NO.C-2
			ILICENSURE NO. C-2

REPAIR QUANTITY TABLE							
REPAIRS SPAN 6 GRD.5		Q	JANTIT	EES			
REFAIRS SPAN 0 GRD. J	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	LF			LF			
GIRDER		0.0					

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.

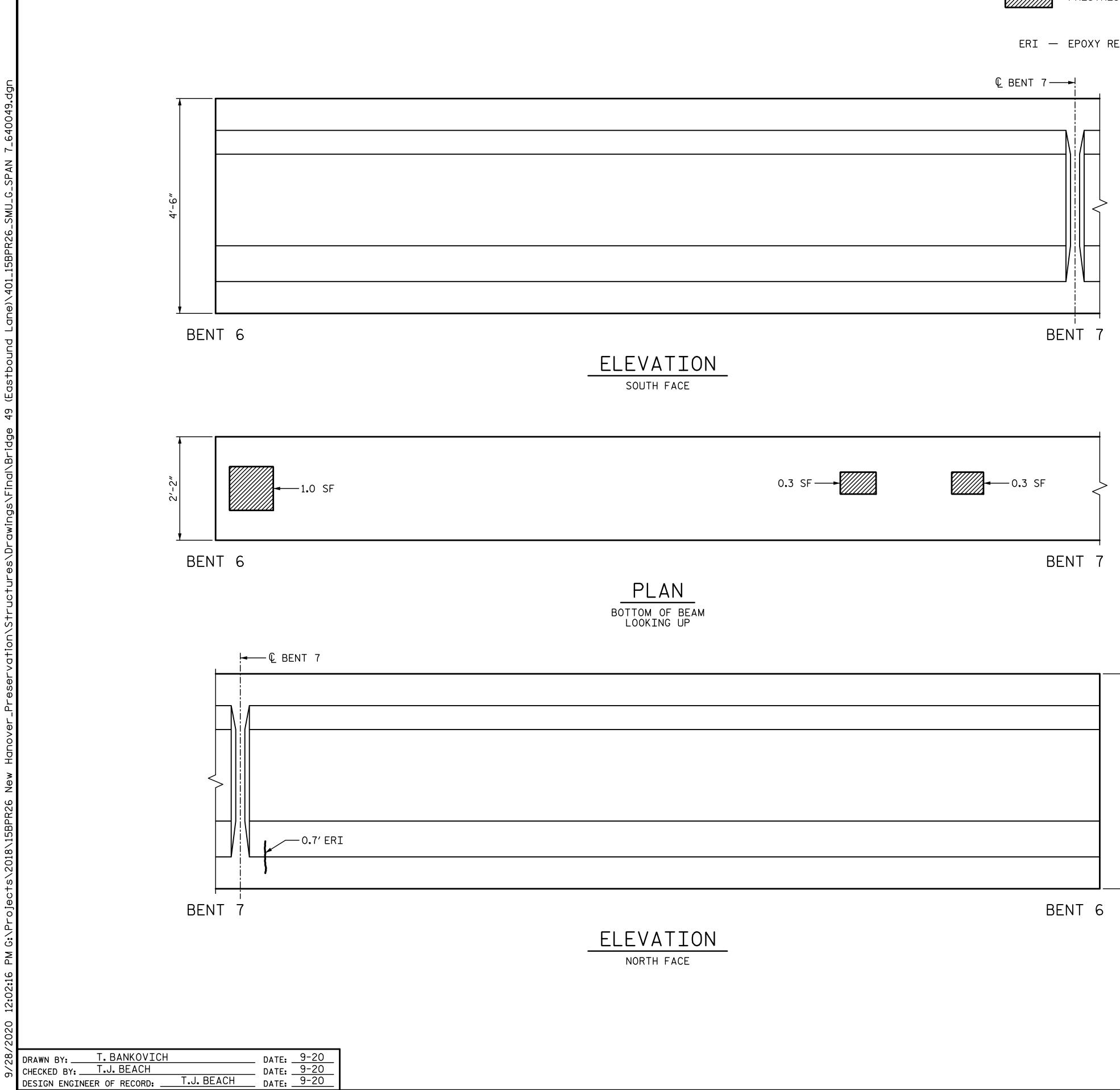
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VALUES IN CHART REPRESENT ESTIMATE REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN, OF 1" BEHIND REBAR AND MIN. 2"CL. TO SAWCUT. SEE REPAIR DETAILS.

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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PLANS PREPARED BY:			DEPA	RTMENT	OF	NORTH CAR TRAI Aleigh RVAT	NSPORT	ATION
SIMPSON NGINEERS SSOCIATES 5640 Dillard Drive Suite 200 Cary, NC 27518 (919) 852-0468	AGB RESOLUTION SEE AL 24390	SPAN 6 GIRDER 5						
(919) 852-0598 (Fax) www.simpsonengr.com	9/29/2020			REVI	ISION	S		SHEET NO.
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CHECKED BY: T.J. BEACH T.J. BEACH DESIGN ENGINEER OF RECORD: ___



ERI — EPOXY RESIN INJECTION



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REPAIR QU	REPAIR QUANTITY TABLE								
REPAIRS SPAN 7 GRD.1			JANTITI						
	EST	IMATE		ACTUAL					
REPAIRS OF PRESTR. CONCRETE GIRDERS	AREA SF	VOLUME CF	AREA SF	DEPTH FT		LUME CF			
GIRDER	1.6	0.5							
EPOXY RESIN INJECT	LF				LF				
GIRDER	RDER 0.7					i			

NOTES:

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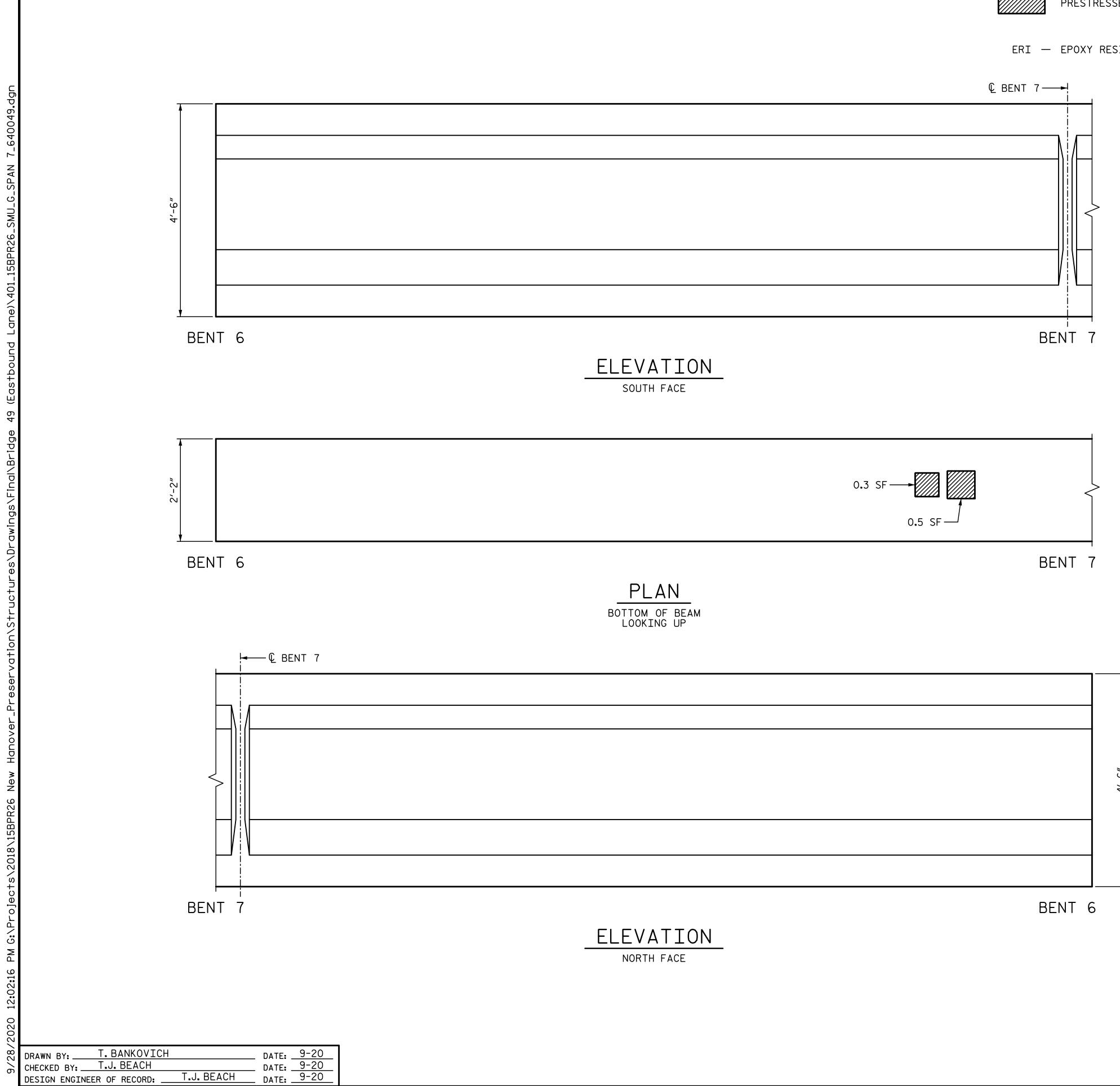
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Tax) gr.com 2-2521	9/29/2020	NO. BY:		NO. BY:	DATE:	SHEET NO. S2-63		
	NSIDERED FINAL JRES COMPLETED	1 3 TOTAL SHEETS 2 4 163						







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REPAIR QU	REPAIR QUANTITY TABLE								
REPAIRS SPAN 7 GRD. 2		QUANTITIES							
	EST	IMATE							
REPAIRS OF PRESTR. CONCRETE GIRDERS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF				
GIRDER	0.8	0.2							
EPOXY RESIN INJECT	LF			LF					
GIRDER	0.0								

NOTES:

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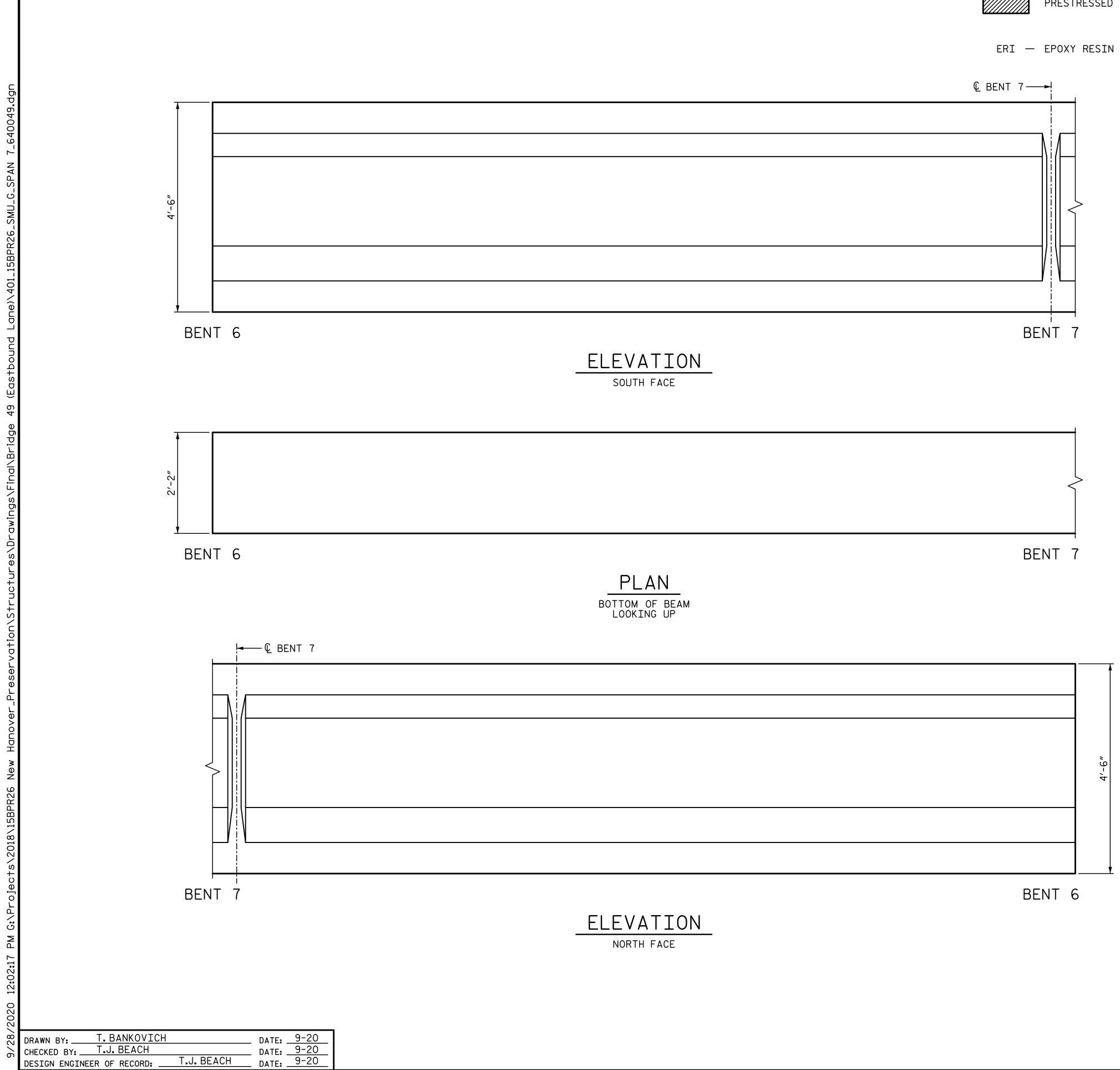
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		NEW H	CT NO. <u>Ianovef</u> E NO.:_	R/PEN		DUNTY		
	SHEET 2 OF 7							
BY:		STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH PRESERVATION						
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REPAIR QU	REPAIR QUANTITY TABLE							
REPAIRS SPAN 7 GRD. 3		QUANTITIES						
THE ATTO STAN TONDES	EST	IMA	TE		ACTUAL			
REPAIRS OF PRESTR. CONCRETE GIRDERS	AREA SF	VOLUME CF		AREA SF	DEPTH FT		OLUME CF	
GIRDER	0.0	(0.0					
EPOXY RESIN INJECT		LF				LF		
GIRDER	0.0							

NOTES:

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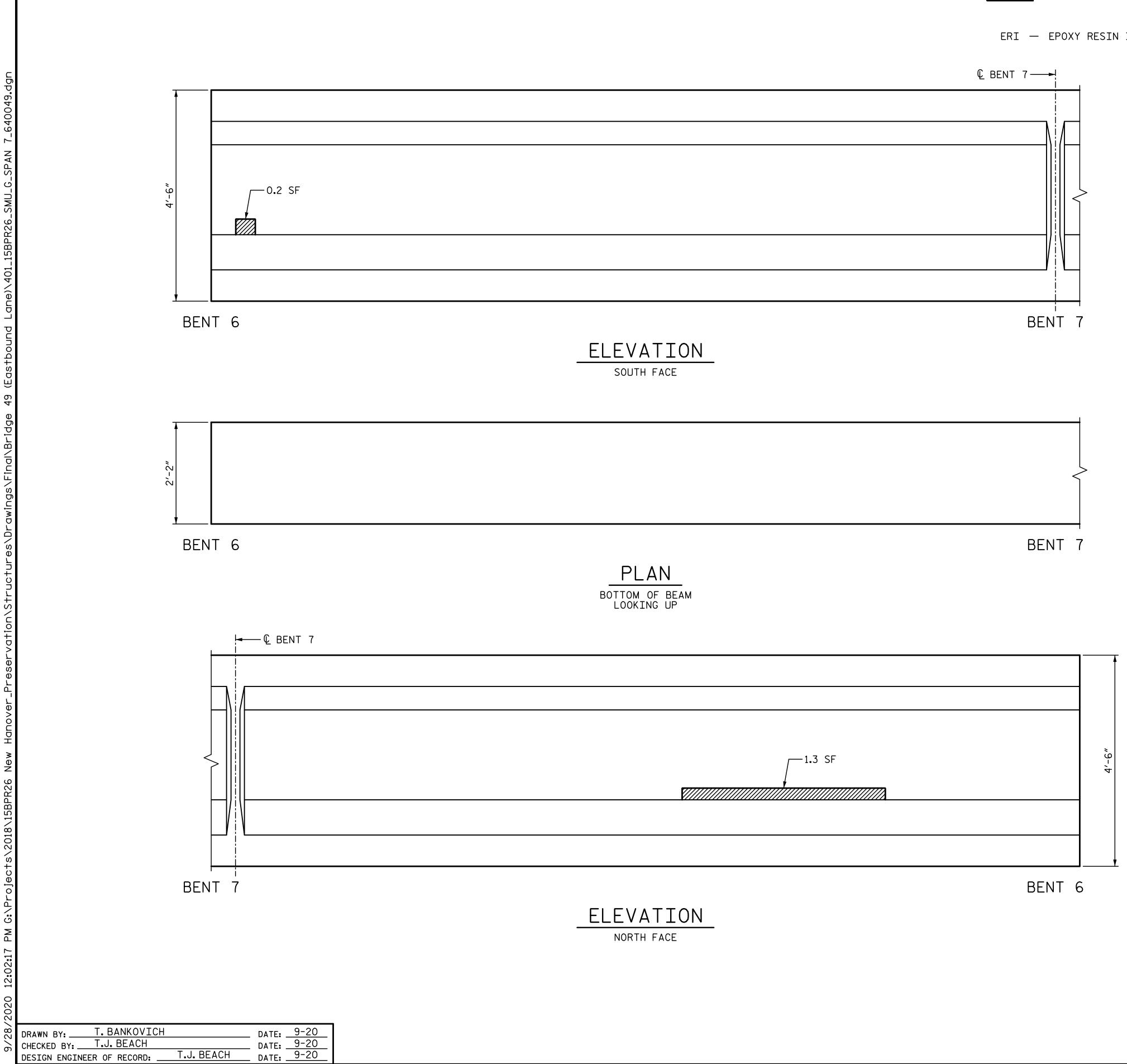
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		NEW H	CT NO. <u>Ianovef</u> E NO.:_	R/PEN		DUNTY		
SHEET 3 OF 7								
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DESIGN ENGINEER OF RECORD: ___





ERI — EPOXY RESIN INJECTION



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REPAIR QU	REPAIR QUANTITY TABLE								
REPAIRS SPAN 7 GRD. 4		QUANTITIES							
INELIATING SLAN LOND. 4	EST	IMATE		ACTUAL					
REPAIRS OF PRESTR. CONCRETE GIRDERS	AREA SF			AREA SF	DEPTH FT	v	OLUME CF		
GIRDER	1.5	0.3							
EPOXY RESIN INJECTION							LF		
GIRDER	0.0								

NOTES:

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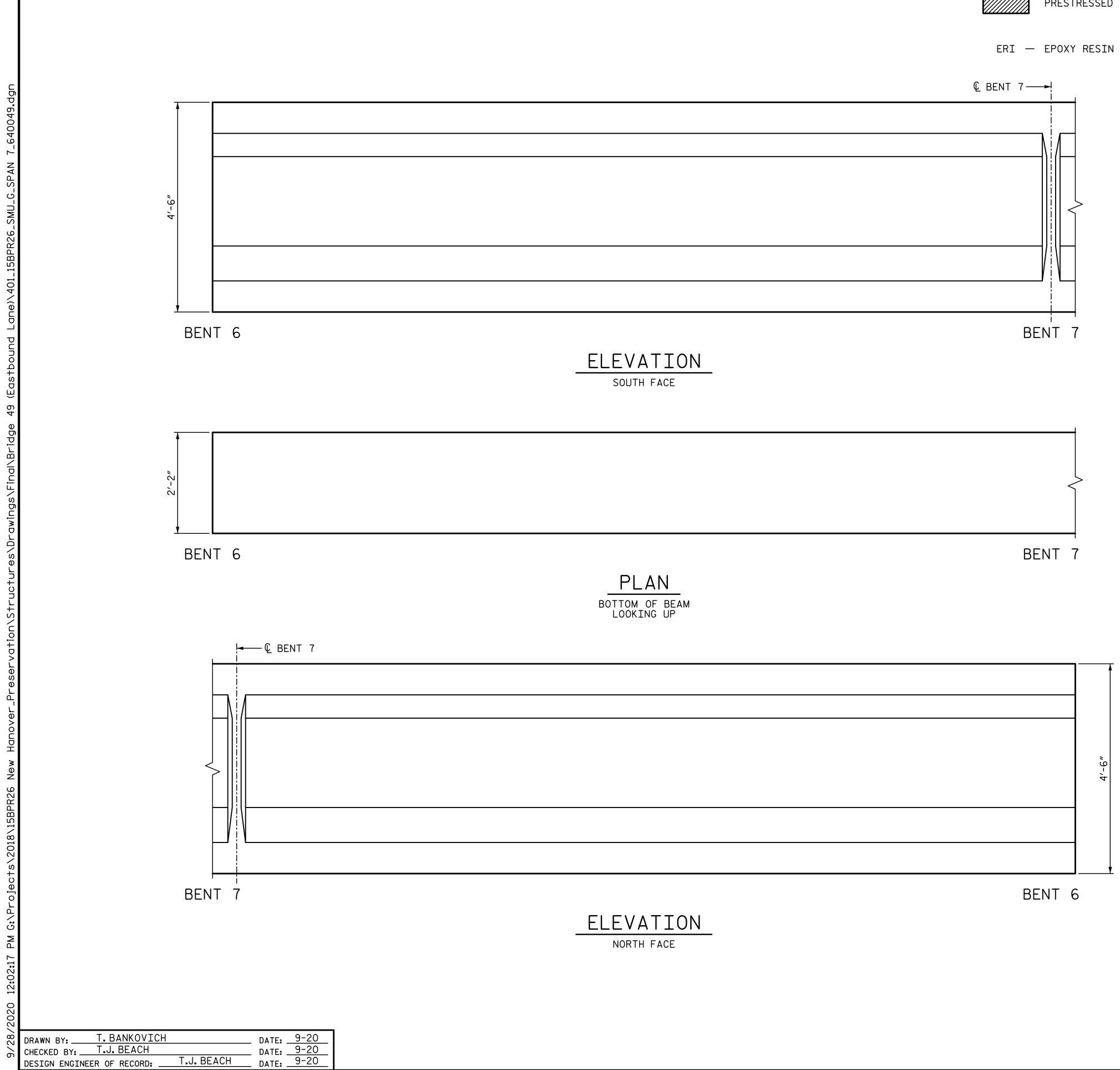
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		PROJEC <u>NEW</u> H BRIDGE	IANOVEF E NO.:_	<u>۲/</u>	PEND		UNTY
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REPAIR QU	REPAIR QUANTITY TABLE							
REPAIRS SPAN 7 GRD. 5		QUANTITIES						
ILLI ATINS SI AN TOND. S	EST	IMATE		ACTUAL				
REPAIRS OF PRESTR. CONCRETE GIRDERS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF			
GIRDER	0.0	0.0						
EPOXY RESIN INJECT	LF			LF				
GIRDER 0.0								

NOTES:

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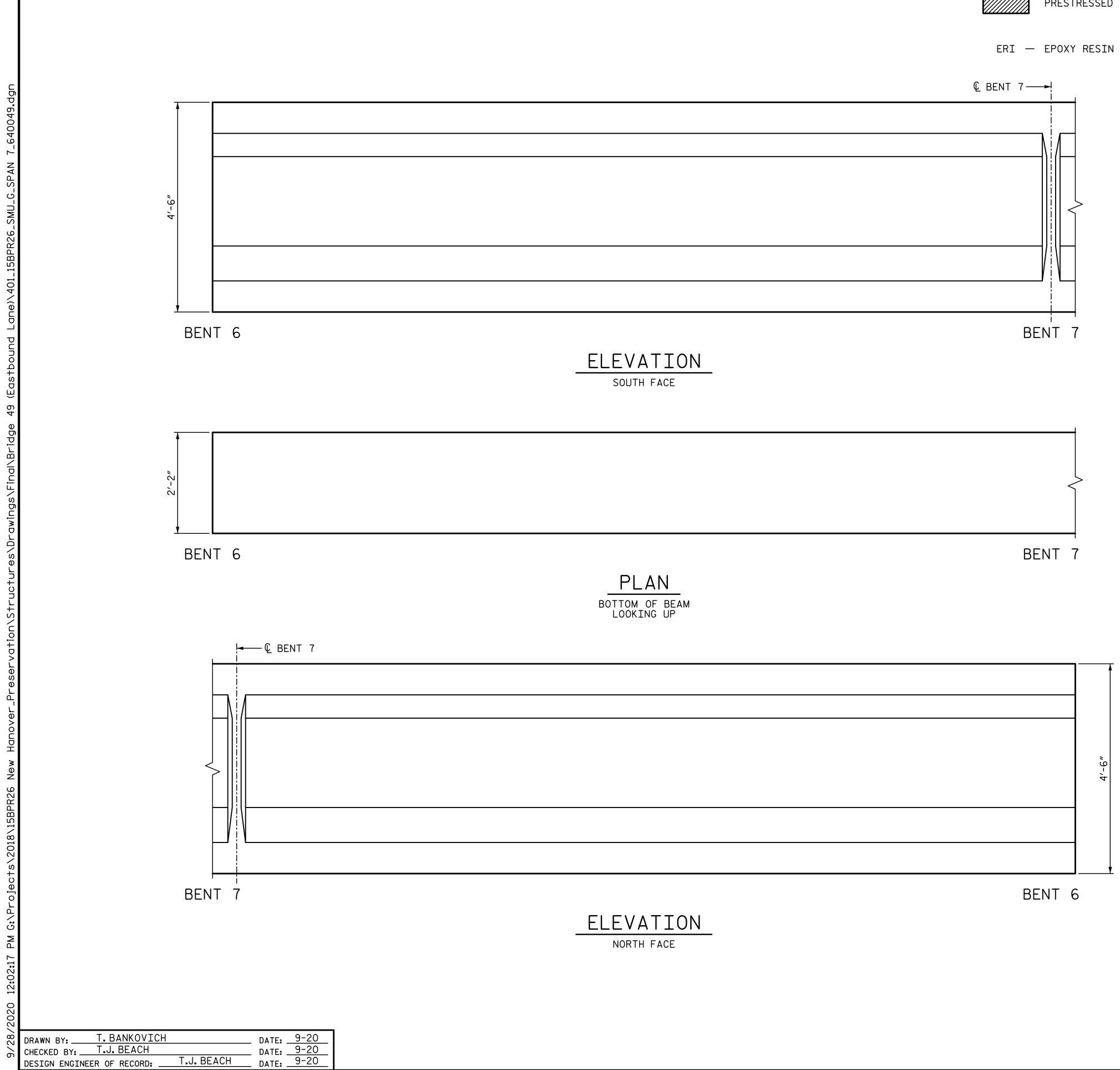
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REPAIRS SPAN 7 GRD.6		QUANTITIES						
TEL ATING SI AN I ONDE O EST			E		ACTUAL			
REPAIRS OF PRESTR. CONCRETE GIRDERS	AREA SF	VOLUME CF		AREA SF	DEPTH FT	vc	DLUME CF	
GIRDER	0.0	0.	.0					
EPOXY RESIN INJECTION							LF	
GIRDER	0.0							

NOTES:

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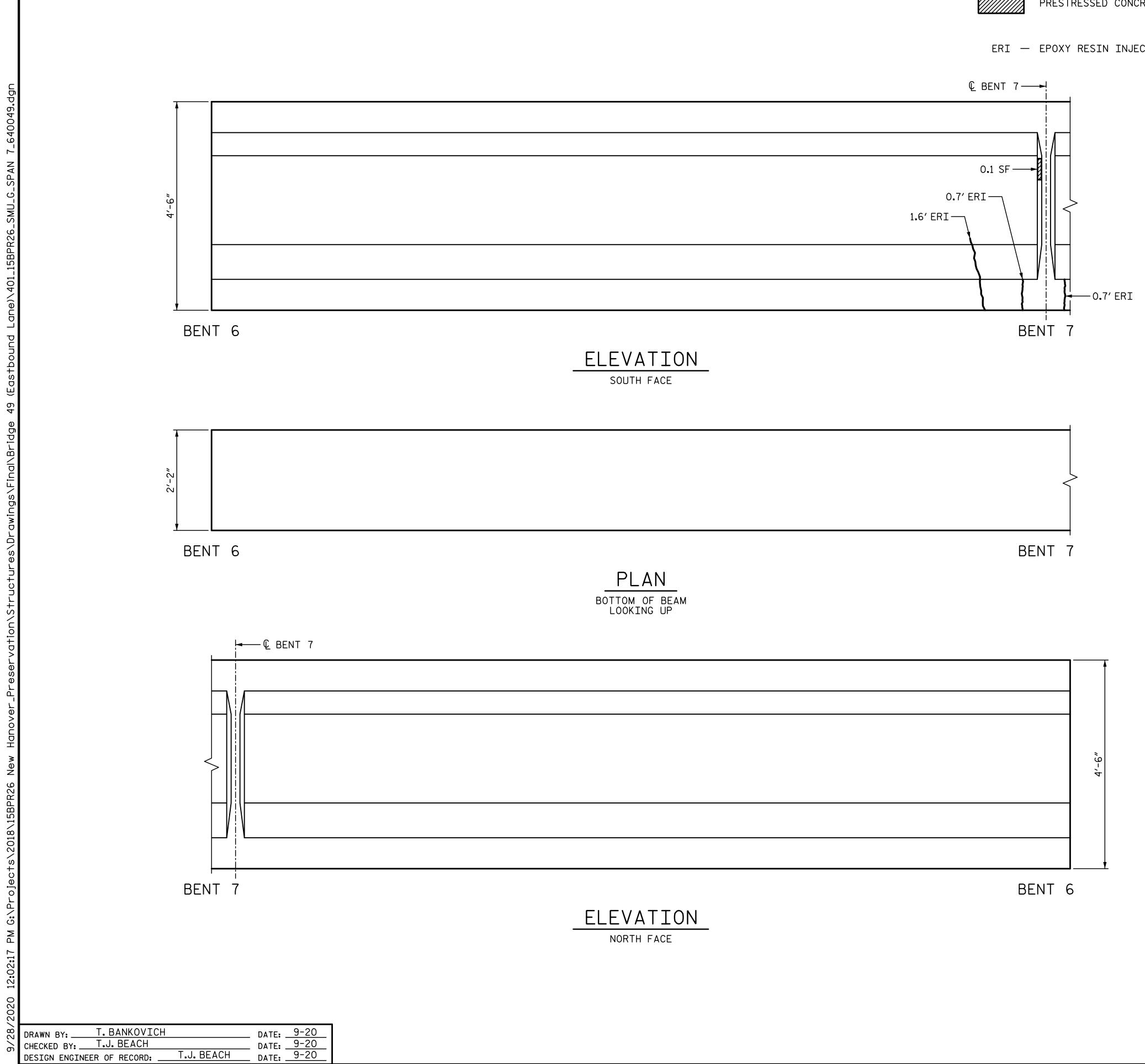
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		PROJEC <u>NEW</u> BRIDGI	ANOVE	R/PE	END		UNTY		
SHEET 6 OF 7									
BY:		STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH PRESERVATION							
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ax) jr.com -2521	9/29/2020	REVISIONS SHEET NO. NO. BY: DATE: NO. BY: DATE: S2-68							
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REPAIR QU	ANT	Γ	TY 7	ΓABL	.E		
REPAIRS SPAN 7 GRD. 7				JANTITI			
	EST	IM,	ATE		ACTUAL	-	
REPAIRS OF PRESTR. CONCRETE GIRDERS	AREA SF	V	OLUME CF	AREA SF	DEPTH FT	V	OLUME CF
GIRDER	0.1		0.1				
EPOXY RESIN INJECT	ION		LF				LF
GIRDER			3.0				

NOTES:

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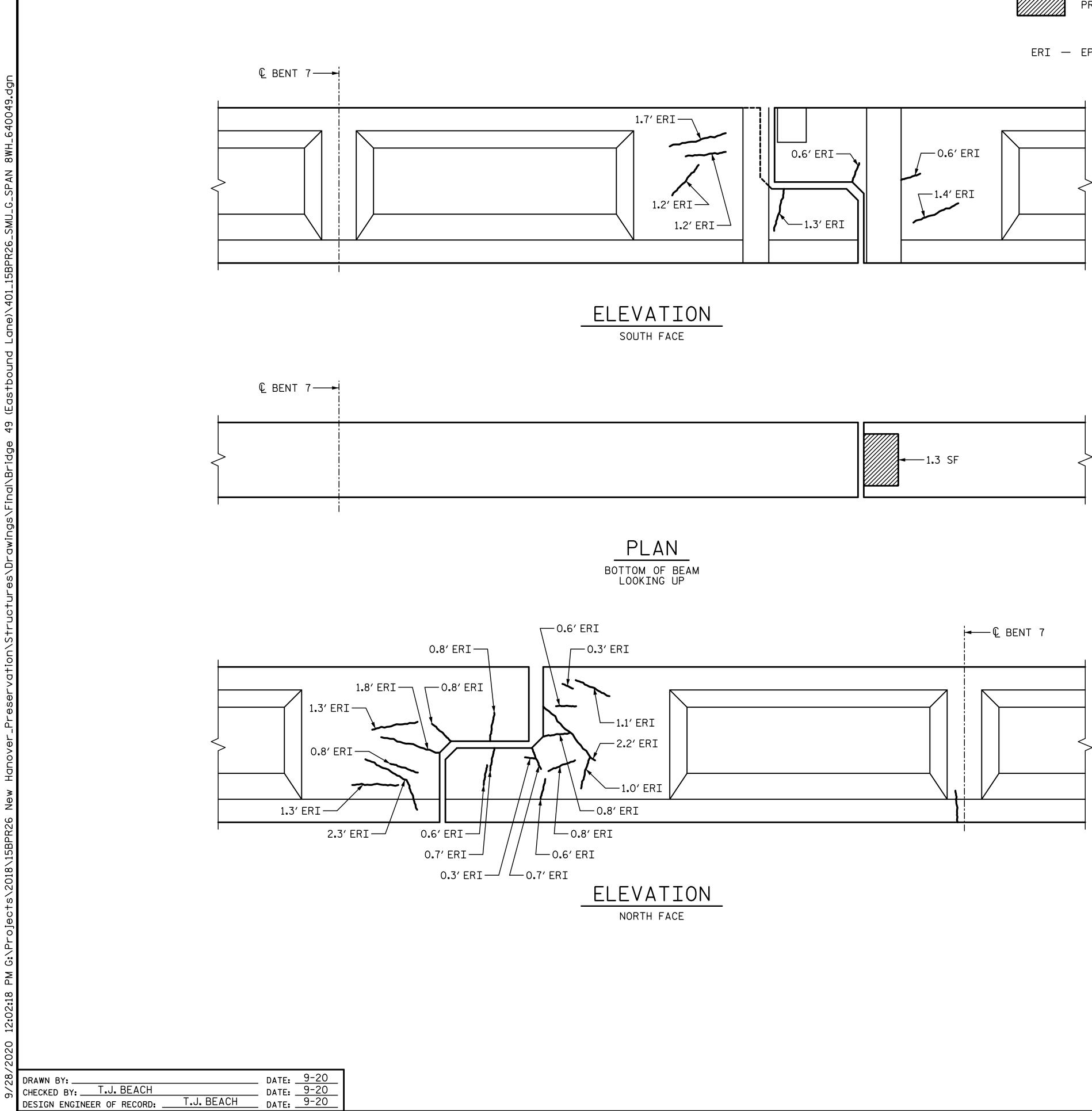
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	NSIDERED FINAL JRES COMPLETED	1 2		<u> 3</u> 4		total sheets 163









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REPAIR QUANTITY TABLE							
REPAIRS WEST HINGE	QUANTITIES ESTIMATE ACTUAL						
REPAIRS OF PRESTR. CONCRETE GIRDERS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF		
GIRDER	2.3	0.7					
EPOXY RESIN INJECT	LF			LF			
GIRDER	26.8						

NOTES:

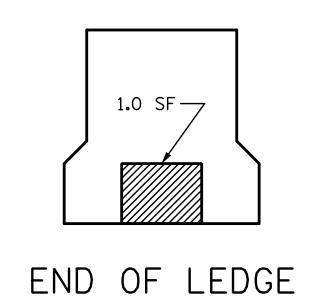
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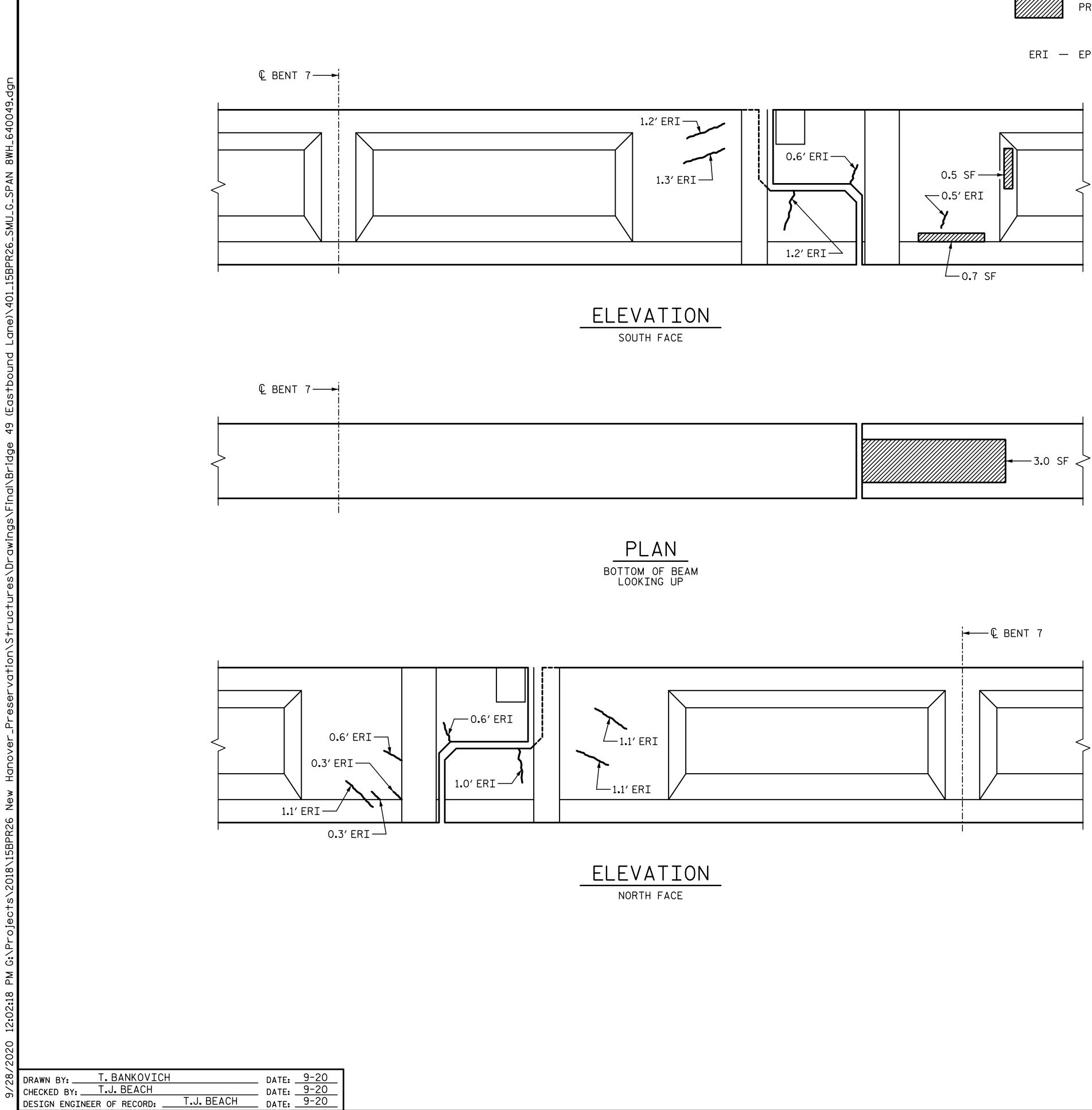
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	PROJECT NO. 15BPR.20 NEW HANOVER/PENDER COL	
	BRIDGE NO.: 640049	
	SHEET 1 OF 7	
	STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTAT	EON
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PLANS PREPARED BY:



REPAIR QUANTITY TABLE							
REPAIRS WEST HINGE ESTIMATE ACTUAL							
REPAIRS OF PRESTR. CONCRETE GIRDERS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF		
GIRDER	5.6	1.5					
EPOXY RESIN INJECT	ION	LF			LF		
GIRDER 10.9							

NOTES:

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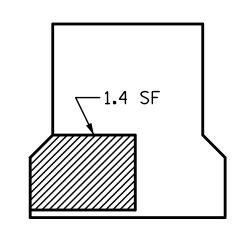
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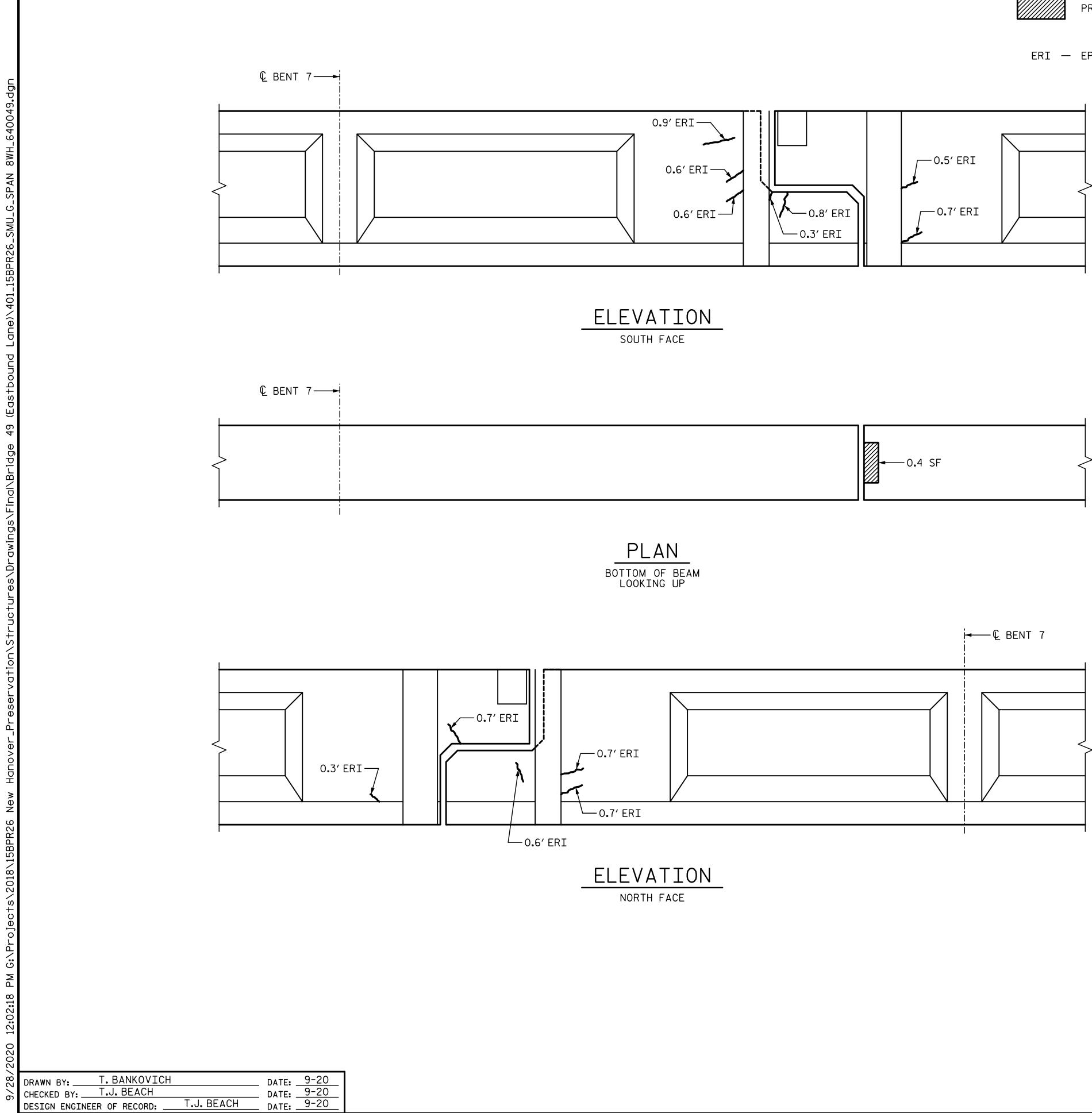
FOR REPAIRS OF PRESTRESSED CONCRETE GIRDERS DETAILS, SEE "PRESTRESSED CONCRETE GIRDER REPAIR DETAILS" SHEET.

AT THE TIME OF PREPARATION OF PLANS, IT WAS NOT ANTICIPATED SPLICING OF PRESSTRESSING STRAND, OR OTHER WORK WILL BE NECESSARY TO PROPERLY COMPLETE THE INTENDED BRIDGE PRESERVATION/REHABILITATION WORK. THE CONTRACTOR SHALL BE PREPARED TO PREFORM 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. WORK ITEMS HAVE BEEN PROVIDED IN THE CONTRACT DOCUMENTS, BUT NO QUANTITIES HAVE BEEN LISTED. ACTUAL PAY ITEMS, QUANTITIES AND COST WILL BE ESTABLISHED, AS REQUIRED, IF EXTRA WORK IS ENCOUNTERED.



END OF LEDGE

PROJECT NO. 15BPR.26 NEW HANOVER/PENDER COUNTY 640049 BRIDGE NO .:__ SHEET 2 OF 7 STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION PRESERVATION WEST HINGE DETAILS FOR GIRDER 2 SEAL 24390 SHEET NO. REVISIONS 9/29/2020 S2-71 NO. BY: DATE: DATE: BY: TOTAL SHEETS **DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED** 163





PLANS PREPARED



DOCUME **UNLESS A**

REPAIR QU	ANT	ITY -	ΓABL	.E	
REPAIRS WEST HINGE			JANTIT		
	EST	IMATE		ACTUAL	
REPAIRS OF PRESTR. CONCRETE GIRDERS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF
GIRDER	0.4	0.1			
EPOXY RESIN INJECT	ION	LF			LF
GIRDER		7.4			

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.

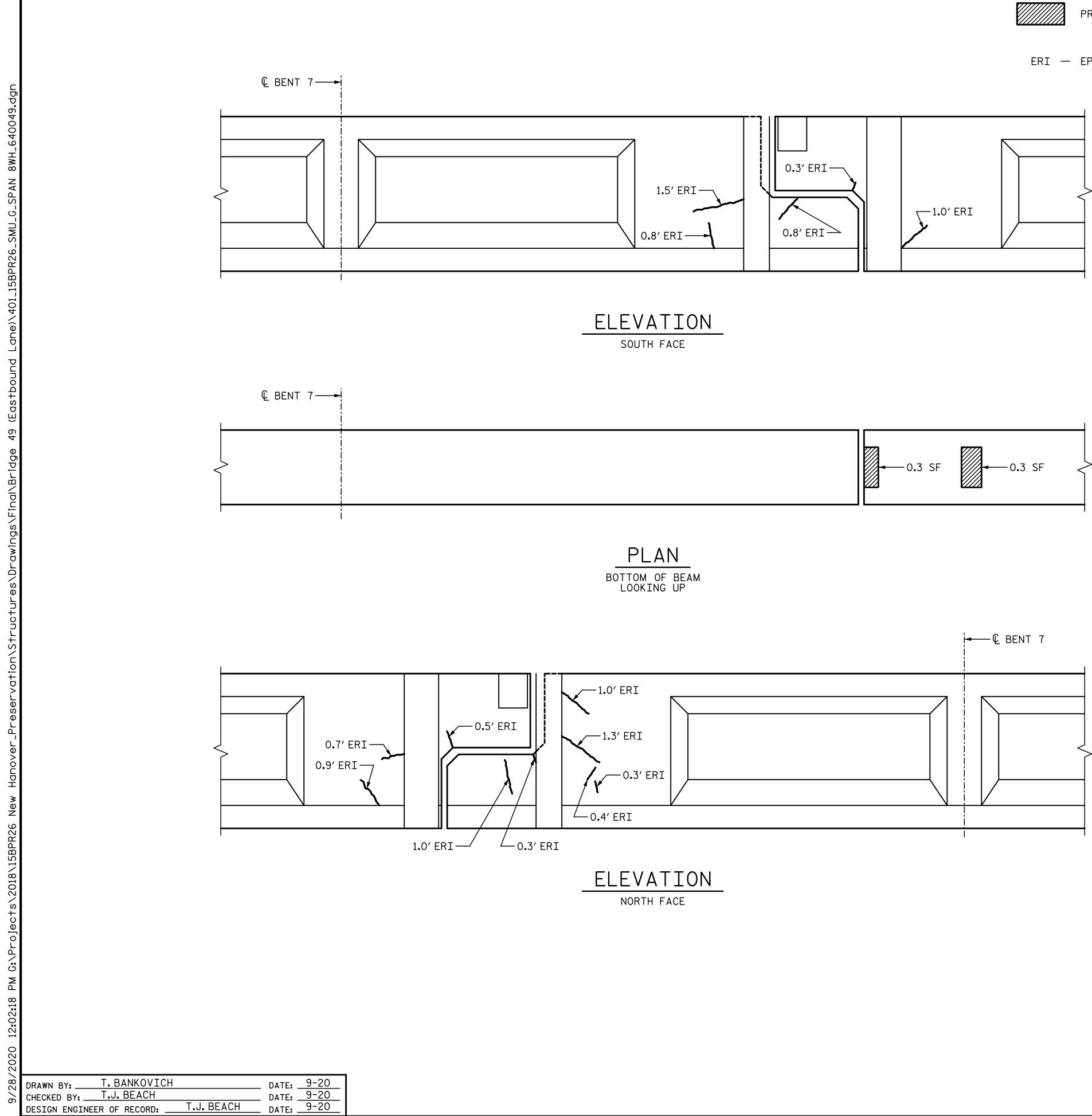
VALUES IN CHART REPRESENT ESTIMATE REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN, OF 1"BEHIND REBAR AND MIN. 2"CL. TO SAWCUT. SEE REPAIR DETAILS.

FOR REPAIRS OF PRESSTRESSED CONCRETE GIRDERS, SEE SPECIAL PROVISIONS.

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

		BRIDG	IANOVE E NO.:-	R/PEND		UNTY
BY:		DEPA	STAT RTMENT	e of north car OF TRAN RALEIGH SERVAT	NSPORTA	TION
RS ATES Ive	AGBASSORESSION AGBASSOBSTERATE 24390	WES		INGE GIRD		ILS
-ax) gr.com)-2521	9/29/2020	NO. BY:	REVIS	SIONS NO. BY:	DATE:	SHEET NO. S2-72
	NSIDERED FINAL JRES COMPLETED	1 2		3 4		total sheets 163







PLANS PREPARED



DOCUMEN **UNLESS A**

REPAIR QU	ANT	ITY -	ΓABL	.E	
REPAIRS WEST HINGE			UANTIT	EES	
	EST	IMATE		ACTUAL	-
REPAIRS OF PRESTR. CONCRETE GIRDERS	OF PRESTR. AREA E GIRDERS SF			DEPTH FT	VOLUME CF
GIRDER	0.6	0.2			
EPOXY RESIN INJECT	ION	LF			LF
GIRDER		10.8			

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.

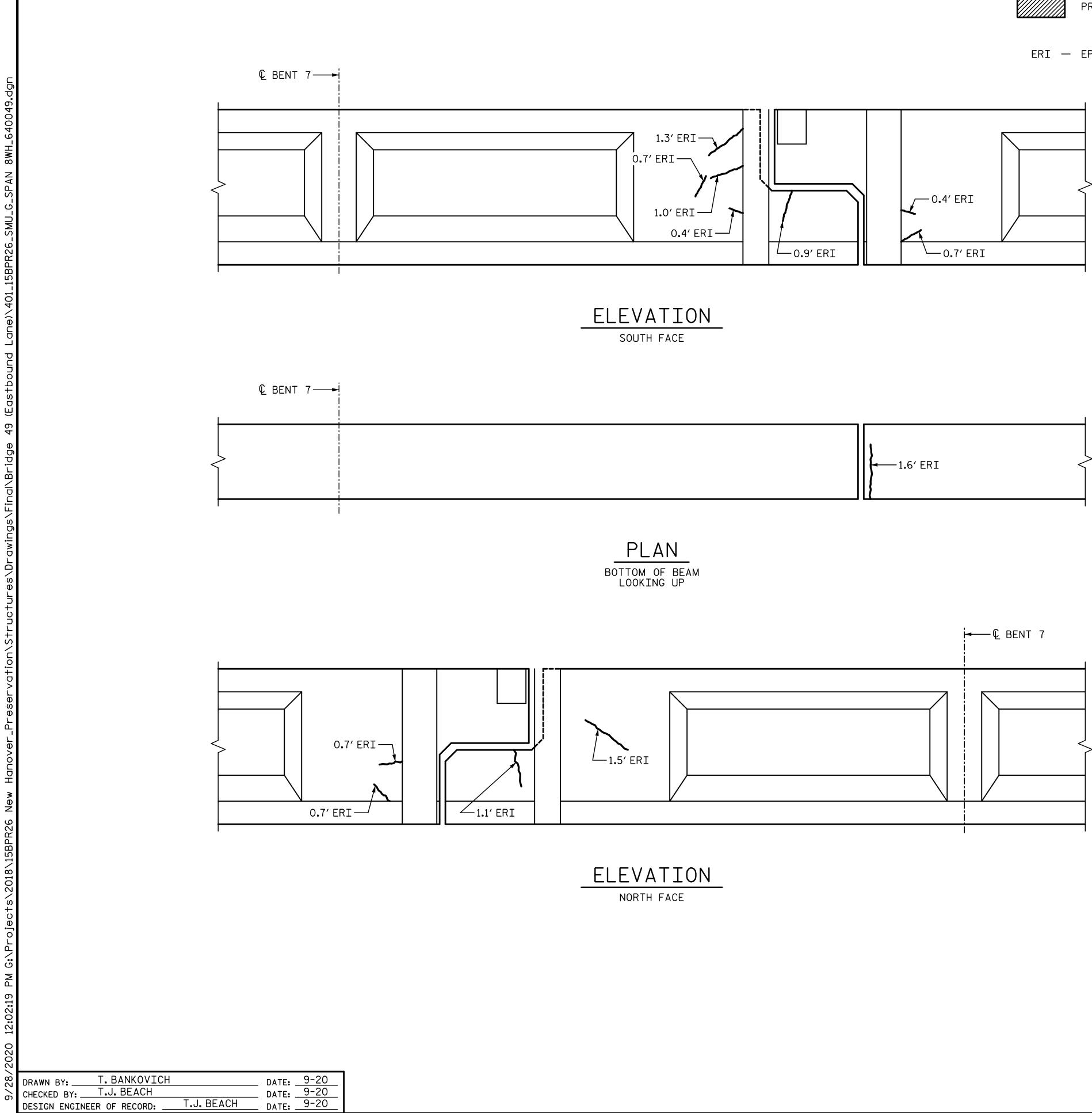
FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

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.

FOR REPAIRS OF PRESSTRESSED CONCRETE GIRDERS, SEE SPECIAL PROVISIONS.

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

		NE	W H		<u>.</u> R/	PEND	BPR.2 D <u>er</u> co 10049	UNTY
		SHE	ET 4	OF 7				
BY:			DEPA	RTMENT	OF	NORTH CARA TRAN RALEIGH RVAT	NSPORTA	TION
S ATES ve	AGB 4 SOL B575245B 24390		NES				DETA ER 4	ILS
ax) r.com	J BEANIN				CTON			SHEET NO.
-2521	9/29/2020	NO.	BY:	REVI DATE:	NO.	BY:	DATE:	SHEET NO. S2-73
	NSIDERED FINAL JRES COMPLETED	1 2			3 4			total sheets 163





PLANS PREPARED B



REPAIR QUANTITY TABLE							
REPAIRS WEST HINGE	QI IMATE	QUANTITIES MATE ACTUAL					
REPAIRS OF PRESTR. CONCRETE GIRDERS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF		
GIRDER	1.2	0.4					
EPOXY RESIN INJECT	LF			LF			
GIRDER	11.0						

NOTES:

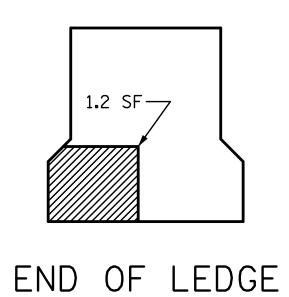
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FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

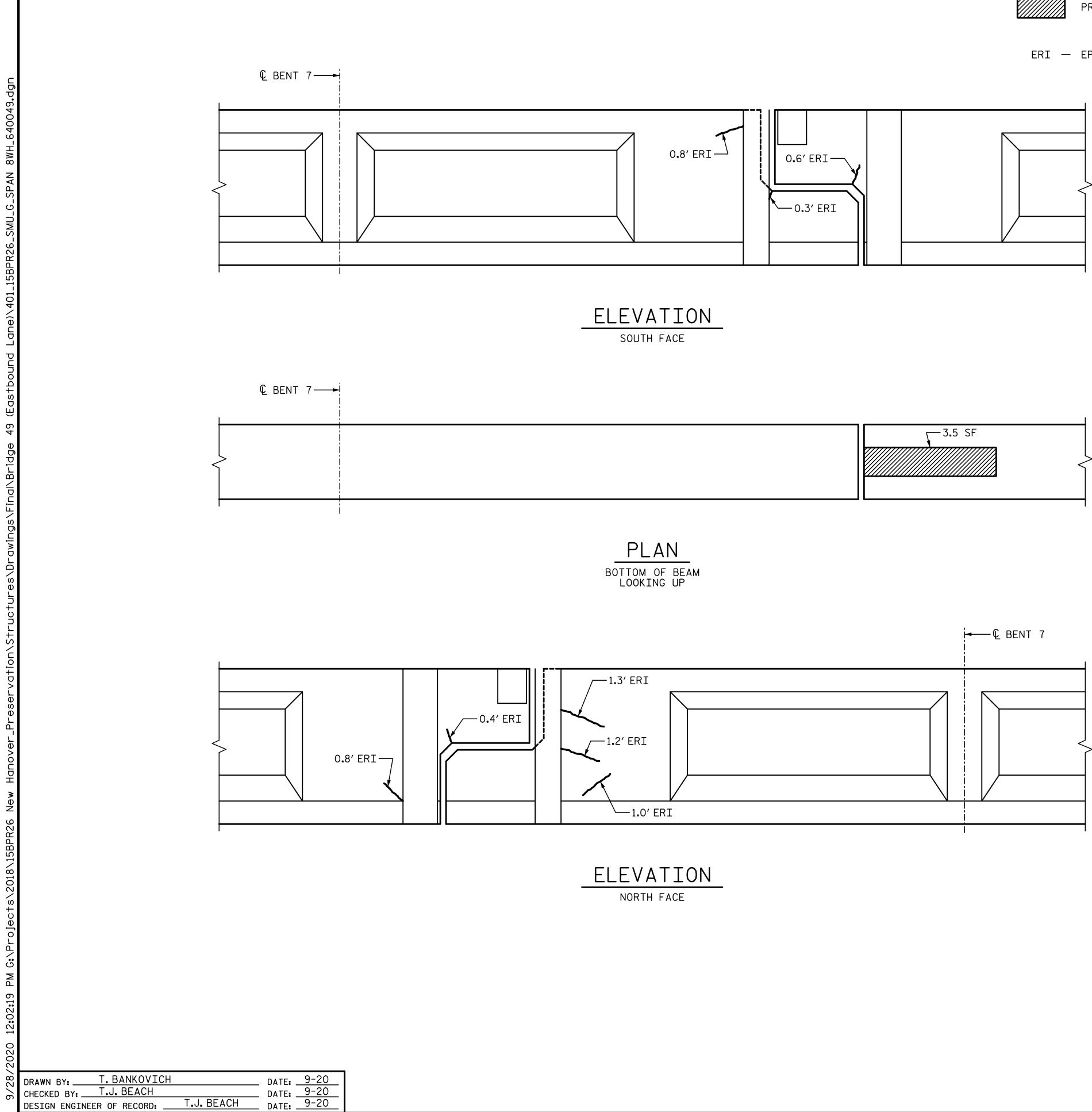
VALUES IN CHART REPRESENT ESTIMATE REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN, OF 1"BEHIND REBAR AND MIN. 2"CL. TO SAWCUT. SEE REPAIR DETAILS.

FOR REPAIRS OF PRESSTRESSED CONCRETE GIRDERS, SEE SPECIAL PROVISIONS.

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



		PROJE	CT NO.	15	BPR.2	26
				R/PEND		
		BRIDG	E NO.:_	64	10049	}
		SHEET 5	OF 7			
		DEPA		E OF NORTH CAR OF TRAI RALEIGH		TION
IS PREPARED BY:			PRE	SERVAT	ION	
IMPSON MGINEERS ASSOCIATES 40 Dillard Drive ite 200 ry NC 27518	AGE BESTS245B SEAL 24390	WES		INGE GIRD		ILS
ry,NC 27518 9)852-0468 9)852-0598 (Fax) ww.simpsonengr.com CENSURE NO.C-2521	9/29/2020	NO. BY:	REVIS	SIONS	DATE:	SHEET NO. S2-74
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PLANS PREPARED BY:



REPAIR QUANTITY TABLE							
REPAIRS WEST HINGE QUANTITIES ACTUAL ACTUAL							
REPAIRS OF PRESTR. CONCRETE GIRDERS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF		
GIRDER	3.6	1.0					
EPOXY RESIN INJECTION					LF		
GIRDER	6.4						

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.

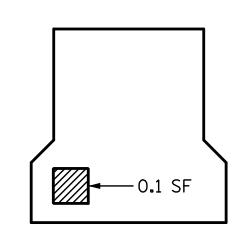
FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

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FOR REPAIRS OF PRESSTRESSED CONCRETE GIRDERS, SEE SPECIAL PROVISIONS.

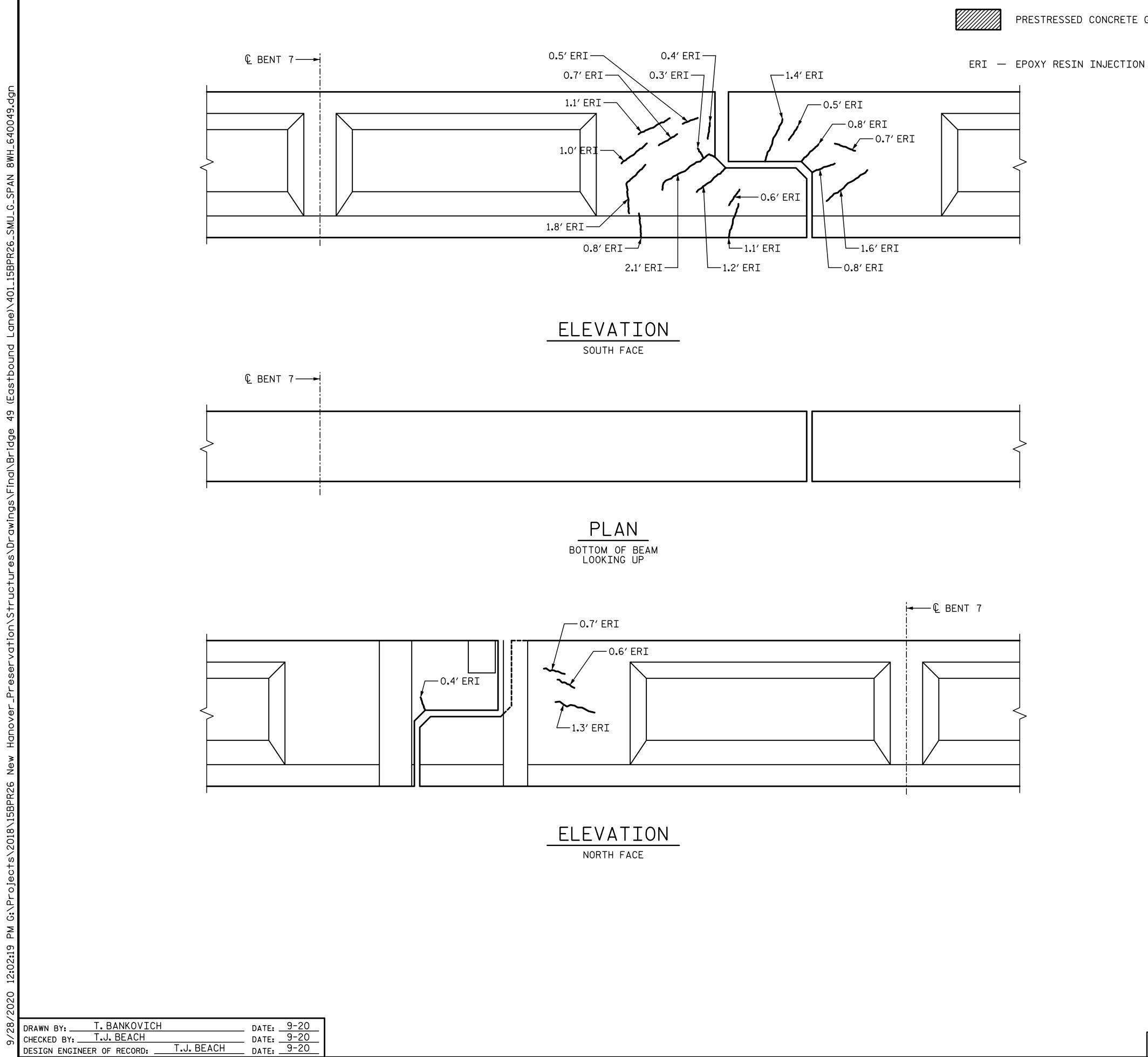
FOR REPAIRS OF PRESTRESSED CONCRETE GIRDERS DETAILS, SEE "PRESTRESSED CONCRETE GIRDER REPAIR DETAILS" SHEET.

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END OF LEDGE

PROJECT NO. 15BPR.26 NEW HANOVER/PENDER COUNTY 640049 BRIDGE NO .:___ SHEET 6 OF 7 STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION PRESERVATION WEST HINGE DETAILS FOR GIRDER 6 SEAL 24390 SHEET NO. REVISIONS 9/29/2020 S2-75 NO. BY: DATE: DATE: BY: TOTAL SHEETS **DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED** 163





PLANS PREPARED



DOCUME **UNLESS A**

REPAIR QUANTITY TABLE							
REPAIRS WEST HINGE	QUANTITIES						
	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	LF			LF			
GIRDER	19.3						

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.

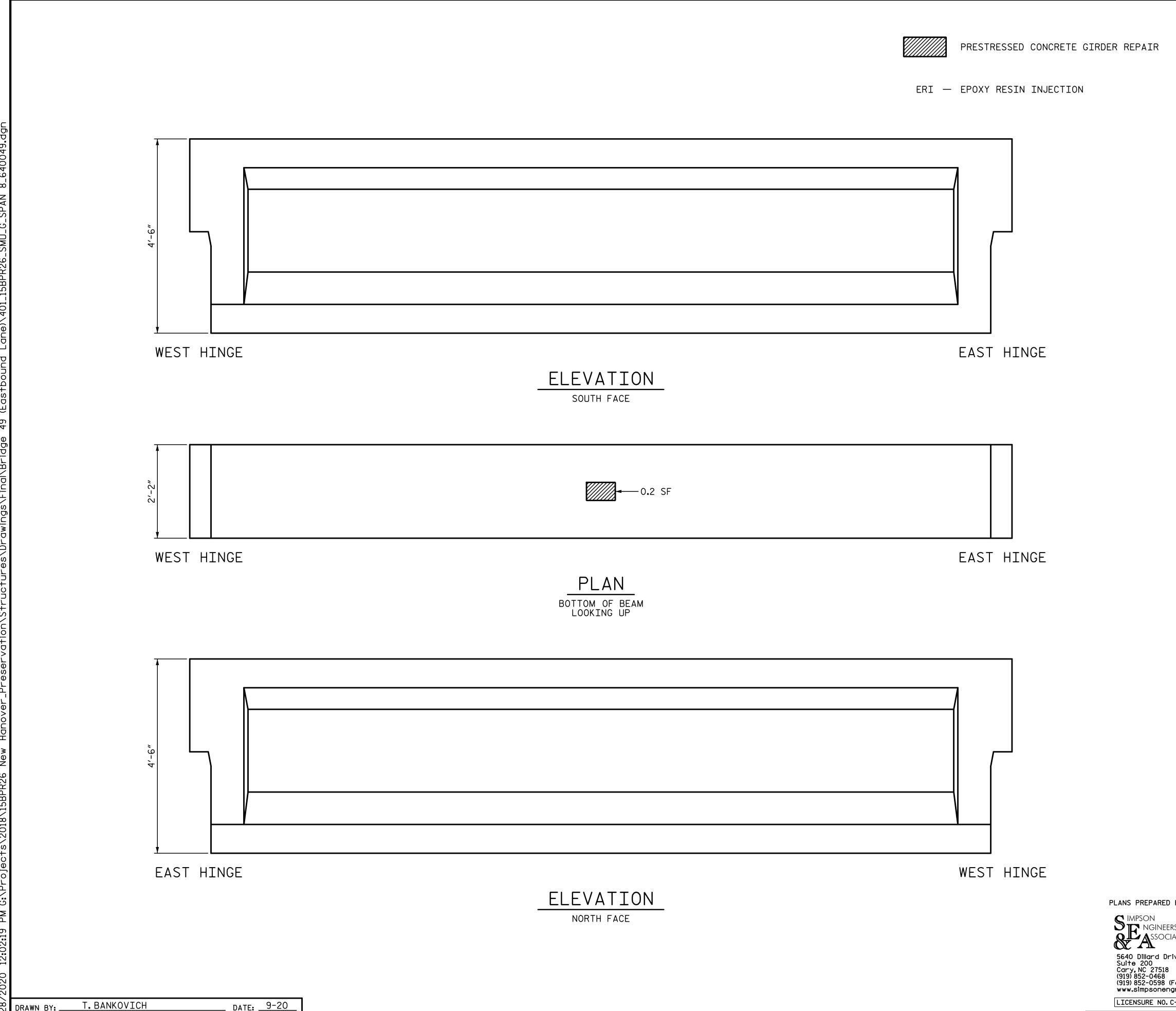
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FOR REPAIRS OF PRESSTRESSED CONCRETE GIRDERS, SEE SPECIAL PROVISIONS.

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> <u>SHEET 7 OF 7</u>								
BY:	STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH PRESERVATION							
S ATES ve	Downers How CAROL TWO BEESED ON AGB 1900 B5752458 SEAL 24390 CINEE	WEST HINGE DETAILS FOR GIRDER 7						
ax) r.com -2521	9/29/2020	NO. BY:	REVISI		DATE:	SHEET NO. S2-76		
	L NSIDERED FINAL JRES COMPLETED	1	3	3		total sheets 163		



DRAWN BY:T. BANKOVICHDATE:9-20CHECKED BY:T.J. BEACHDATE:9-20DESIGN ENGINEER OF RECORD:T.J. BEACHDATE:9-20

REPAIR QUANTITY TABLE							
REPAIRS SPAN 8 GRD.1		QUANTITIES					
	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 INJECT	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.

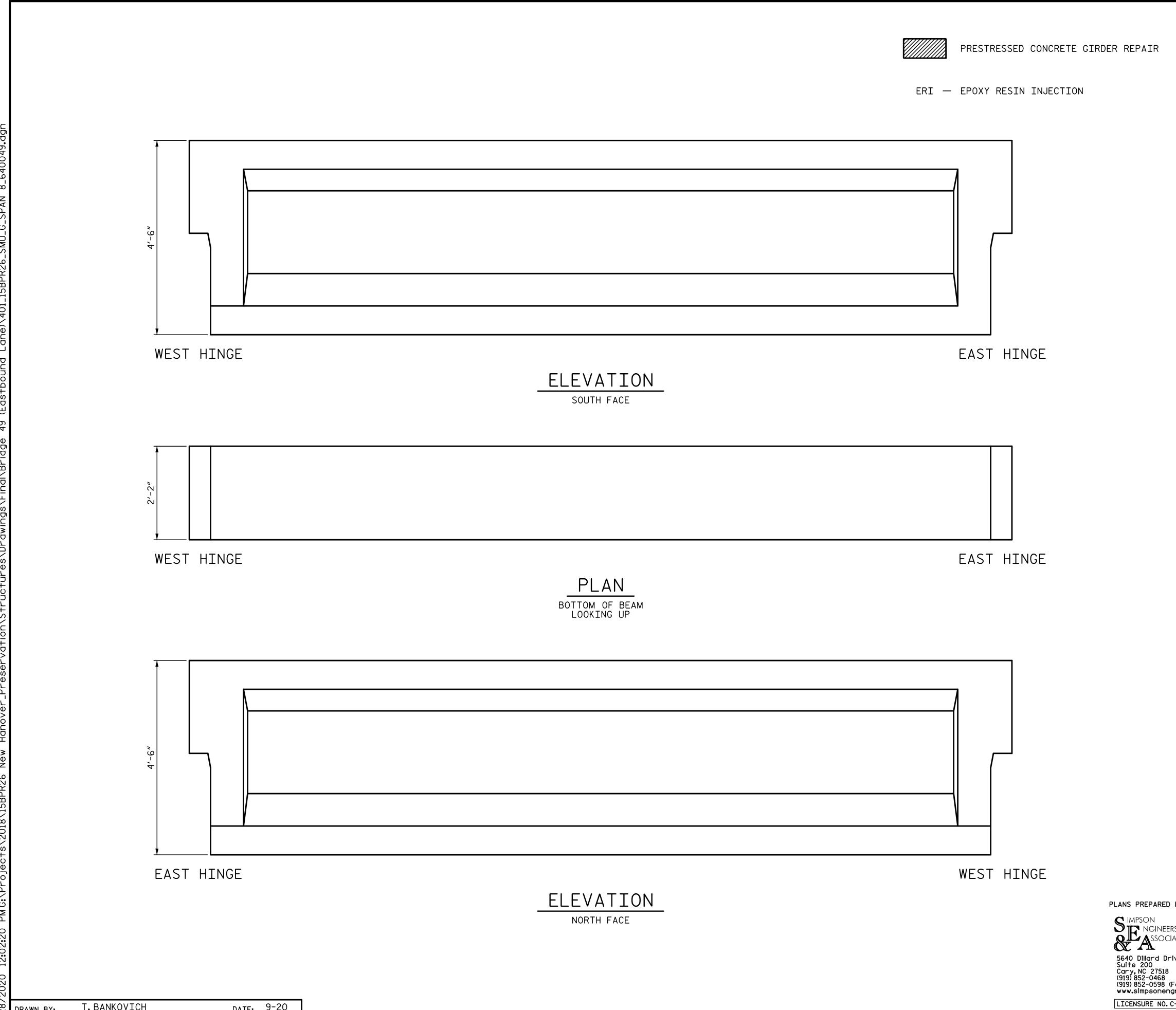
FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

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.

		<u>NE</u> BRI	EW H	CT NO. IANOVE	<u>R/</u>	PEND		UNTY
	SHEET 1 OF 7 STATE OF NORTH CAROLINA							
BY:		DEPARTMENT OF TRANSPORTATION RALEIGH PRESERVATION						
RS ATES	Derdsmithel ARO///	SPAN 8 GIRDER 1						
ive Fax)	24390				_ 1 \		. 1	
gr.com	9/29/2020			REVIS	SION	S		SHEET NO.
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	NSIDERED FINAL JRES COMPLETED	1 2			3 4			total sheets 163
					5			100



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

REPAIR QUANTITY TABLE							
REPAIRS SPAN 8 GRD. 2		QUANTITIES					
THE ATTYS STAN 0 OND. 2	ESTIMATE			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						

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.

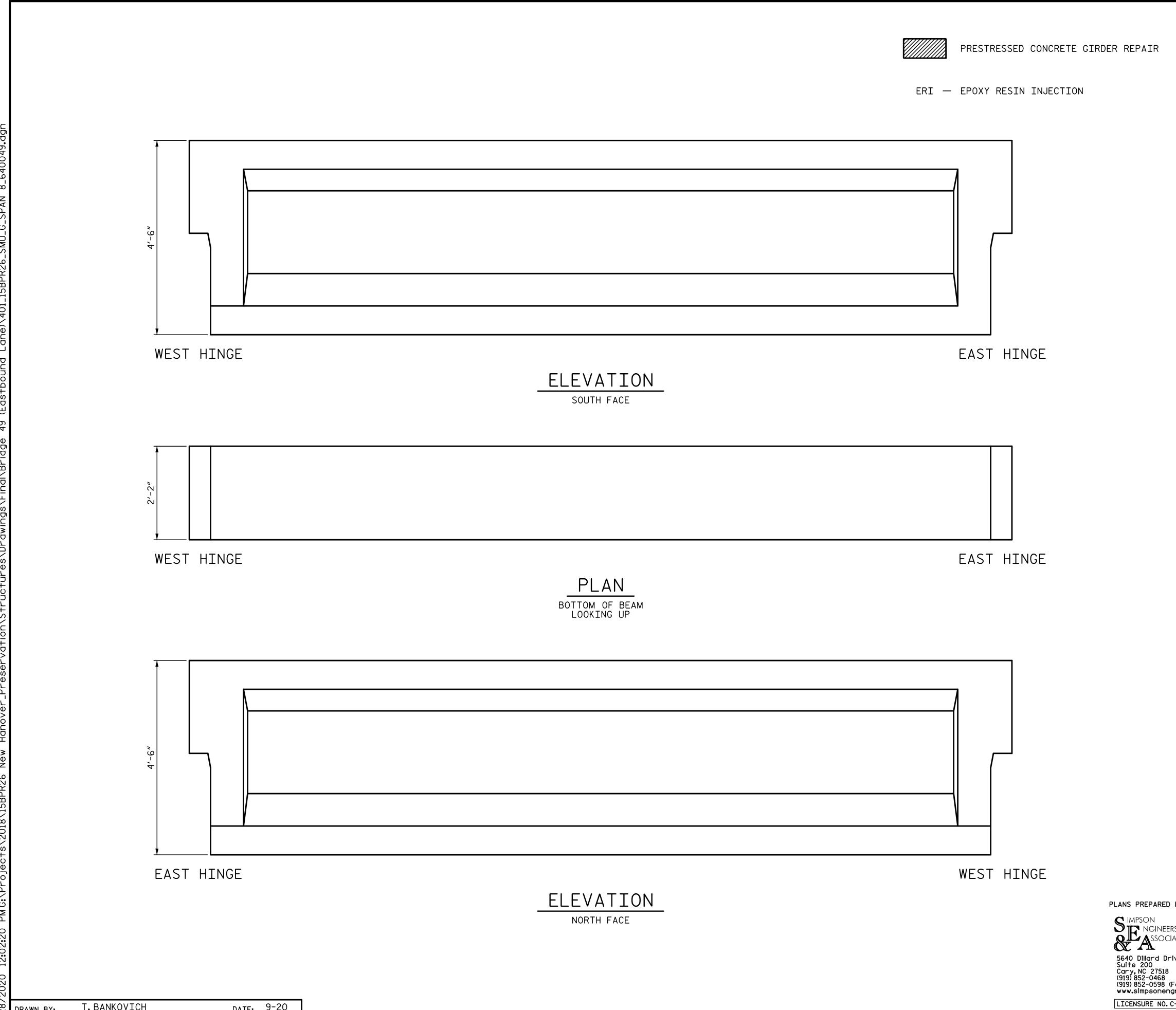
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VALUES IN CHART REPRESENT ESTIMATE REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN, OF 1"BEHIND REBAR AND MIN. 2"CL. TO SAWCUT. SEE REPAIR DETAILS.

FOR REPAIRS OF PRESSTRESSED CONCRETE GIRDERS, SEE SPECIAL PROVISIONS.

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

	PROJECT NO. <u>15BPR.26</u> <u>NEW HANOVER/PENDER COUNTY</u> BRIDGE NO.: <u>640049</u> SHEET 2 OF 7							
SHEET 2 OF 7								
BY:		STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH PRESERVATION						
RS ATES I ve	ACCEPTED BESTERNER	SPAN 8 GIRDER 2						
-ax) gr.com	J. BEANIN							
-2521	9/29/2020	NO.	BY:	REVIS	SION	S BY:	DATE:	SHEET NO. S2-78
	NSIDERED FINAL	1	016	DATE	™. 3	DI	DATE	TOTAL SHEETS
	JRES COMPLETED	2			4			163



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

REPAIR QUANTITY TABLE							
REPAIRS SPAN 8 GRD. 3		QUANTITIES					
THE ATTYS STAN 0 OND. S	ESTIMATE			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					

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.

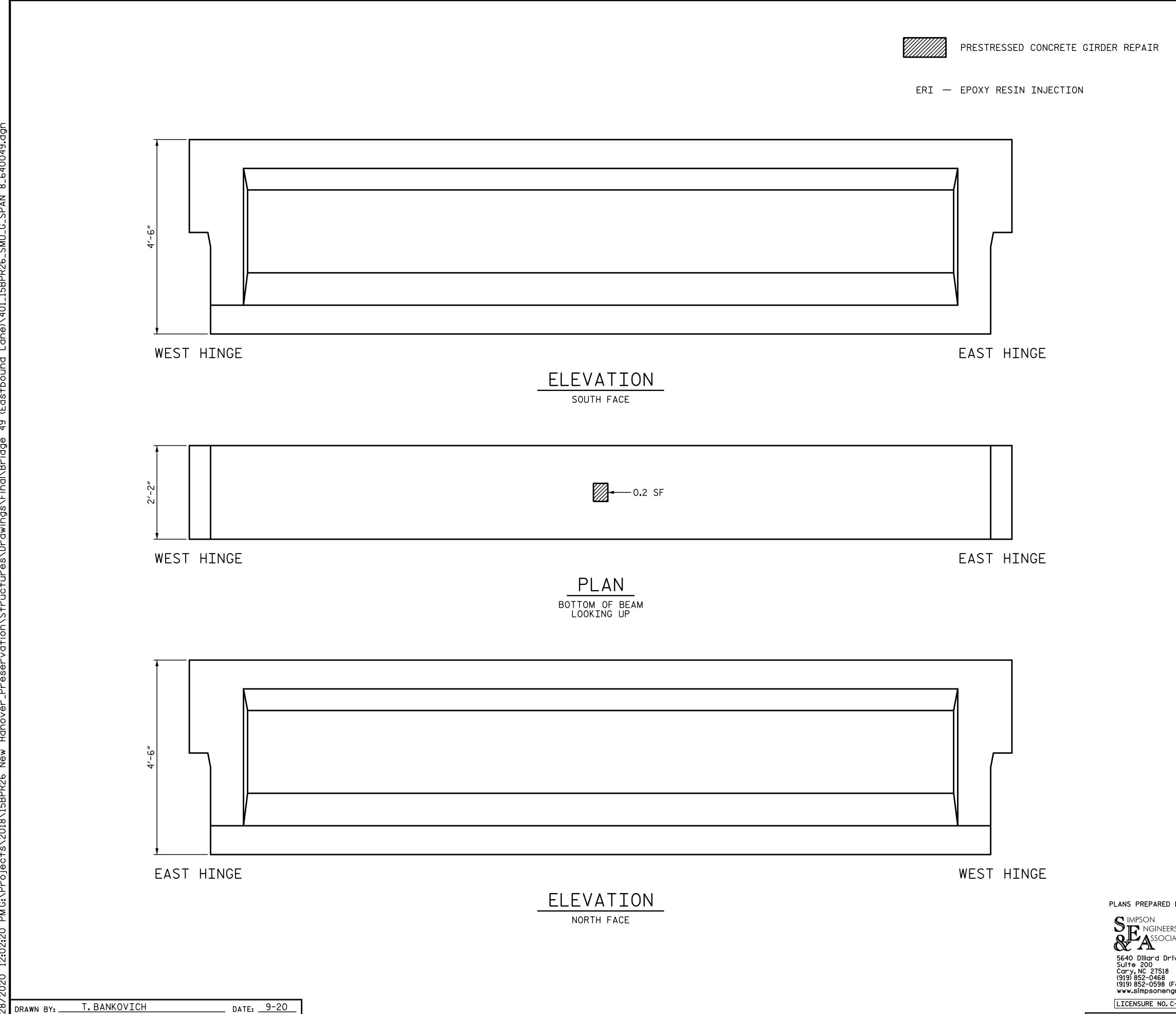
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VALUES IN CHART REPRESENT ESTIMATE REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN, OF 1"BEHIND REBAR AND MIN. 2"CL. TO SAWCUT. SEE REPAIR DETAILS.

FOR REPAIRS OF PRESSTRESSED CONCRETE GIRDERS, SEE SPECIAL PROVISIONS.

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

	PROJECT NO. <u>15BPR.26</u> <u>NEW HANOVER/PENDER COUNTY</u> BRIDGE NO.: <u>640049</u>								
SHEET 3 OF 7									
BY:	STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH PRESERVATION								
RS ATES Ive	DoomSignit by CAROL two betack on AGB 13 DE575245B SEAL 24390	SPAN 8 GIRDER 3							
ax) gr.com 2-2521	9/29/2020	NO. BY:	REVIS	SIONS NO. BY:	DATE:	SHEET NO. S2-79			
	NSIDERED FINAL JRES COMPLETED	1		3 4		total sheets 163			



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

REPAIR QUANTITY TABLE							
REPAIRS SPAN 8 GRD. 4		QUANTITIES					
ILLI ATING SI AN O OND. 4	ESTIMATE		ATE 🛛		ACTUAL		
REPAIRS OF PRESTR. CONCRETE GIRDERS	AREA SF	vc	DLUME CF	AREA SF	DEPTH FT	V	OLUME CF
GIRDER	0.2	0.1					
EPOXY RESIN INJECTION							LF
GIRDER			0.0				

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.

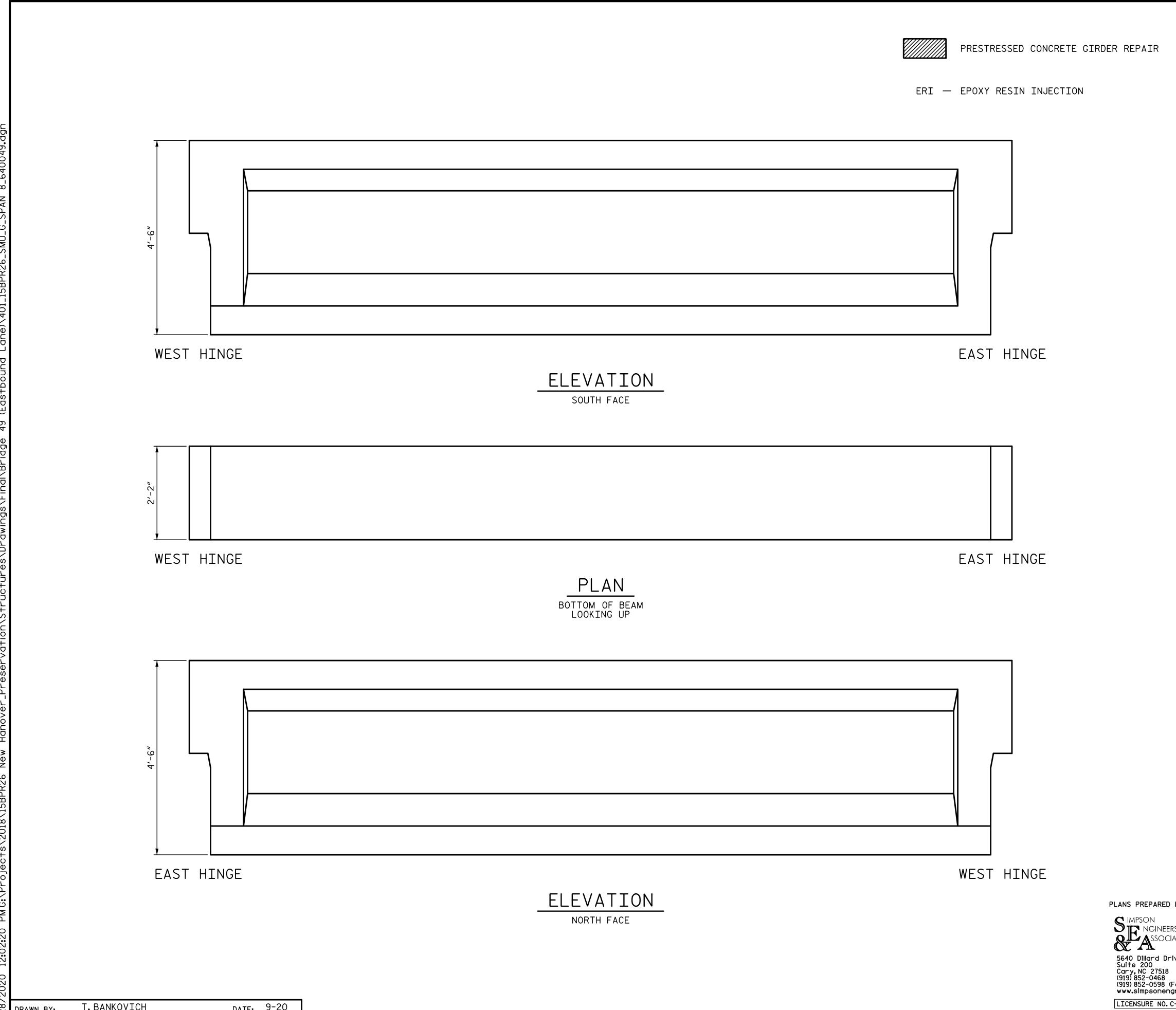
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VALUES IN CHART REPRESENT ESTIMATE REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN, OF 1"BEHIND REBAR AND MIN. 2"CL. TO SAWCUT. SEE REPAIR DETAILS.

FOR REPAIRS OF PRESSTRESSED CONCRETE GIRDERS, SEE SPECIAL PROVISIONS.

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

		NEW H	CT NO. IANOVER E NO.: OF 7	<u>/PENE</u>		UNTY
BY:		DEPA	RTMENT (DF NORTH CAR DF TRAI RALEIGH ERVAI	NSPORTA	TION
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gr.com 2-2521	9/29/2020	NO. BY:	REVISI DATE: N		DATE:	SHEET NO. S2-80
	NSIDERED FINAL IRES COMPLETED	1		3		TOTAL SHEETS 163



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

REPAIR QUANTITY TABLE								
REPAIRS SPAN 8 GRD. 5			Q	UANTIT	IES			
ILLI AINS SI AN 0 GIU. S	EST	IMATE			ACTUAL			
REPAIRS OF PRESTR. CONCRETE GIRDERS	AREA SF				DEPTH FT	VOLUME CF		
GIRDER	0.0	0.0						
EPOXY RESIN INJECTION LF								
GIRDER 0.0								

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.

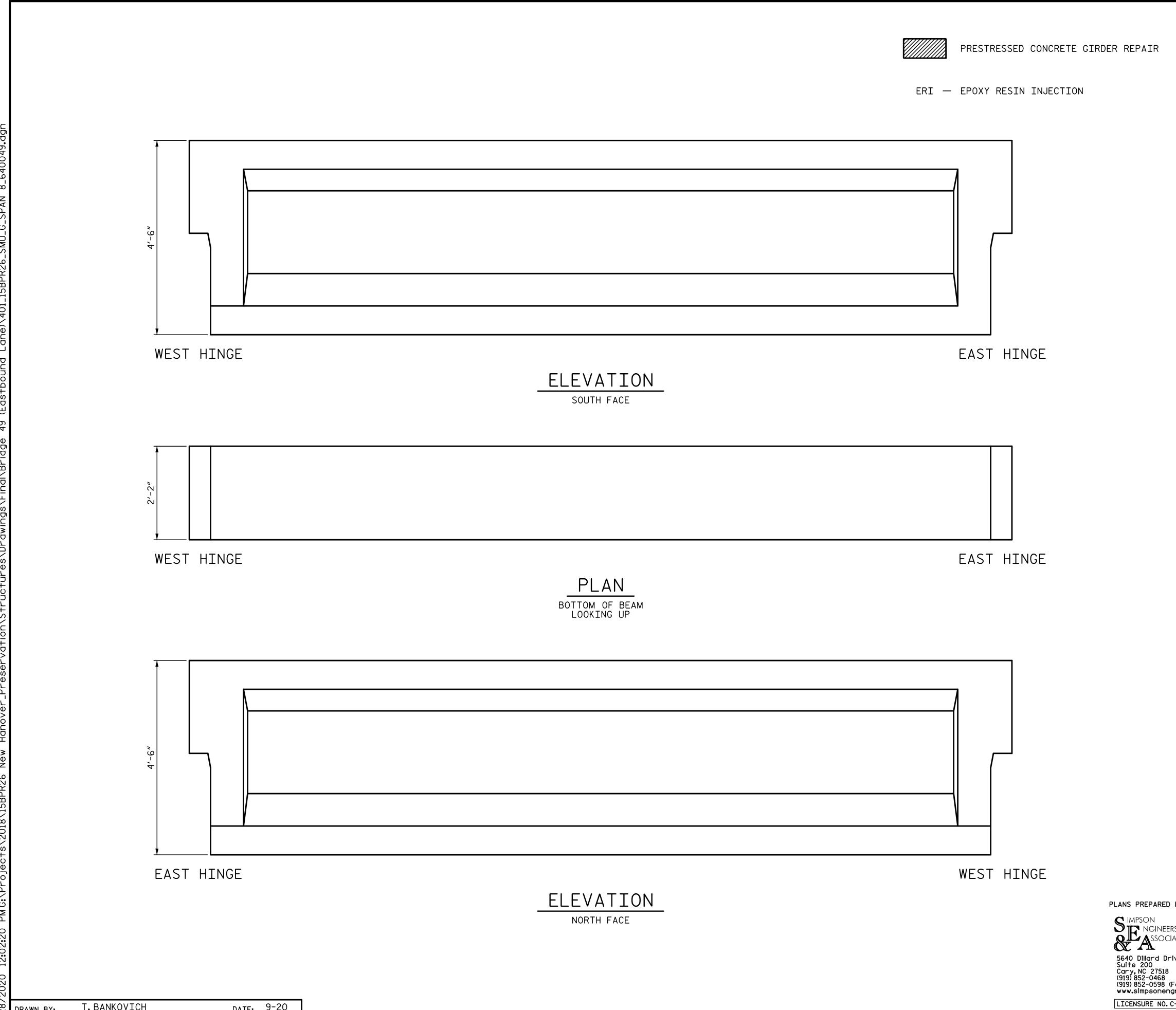
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VALUES IN CHART REPRESENT ESTIMATE REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN, OF 1"BEHIND REBAR AND MIN. 2"CL. TO SAWCUT. SEE REPAIR DETAILS.

FOR REPAIRS OF PRESSTRESSED CONCRETE GIRDERS, SEE SPECIAL PROVISIONS.

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

		NEW	CT NO. <u>Hanovef</u> E NO.:_	<u>R/PENE</u>		UNTY	
		SHEET 5	OF 7				
BY:		STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH PRESERVATION					
ATES	AGDI BOBSTROAGE 24390	SPAN 8 GIRDER 5					
ax) gr.com :-2521	9/29/2020	NO. BY:	REVIS	EONS	DATE:	SHEET NO. S2-81	
	L NSIDERED FINAL JRES COMPLETED	1		3 4		total sheets 163	



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

REPAIR QU	ANT	ITY -	ΓABL	.E			
REPAIRS SPAN 8 GRD. 6		Q	JANTIT	[ES			
ILLI AINS SI AN O OND. O	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					

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.

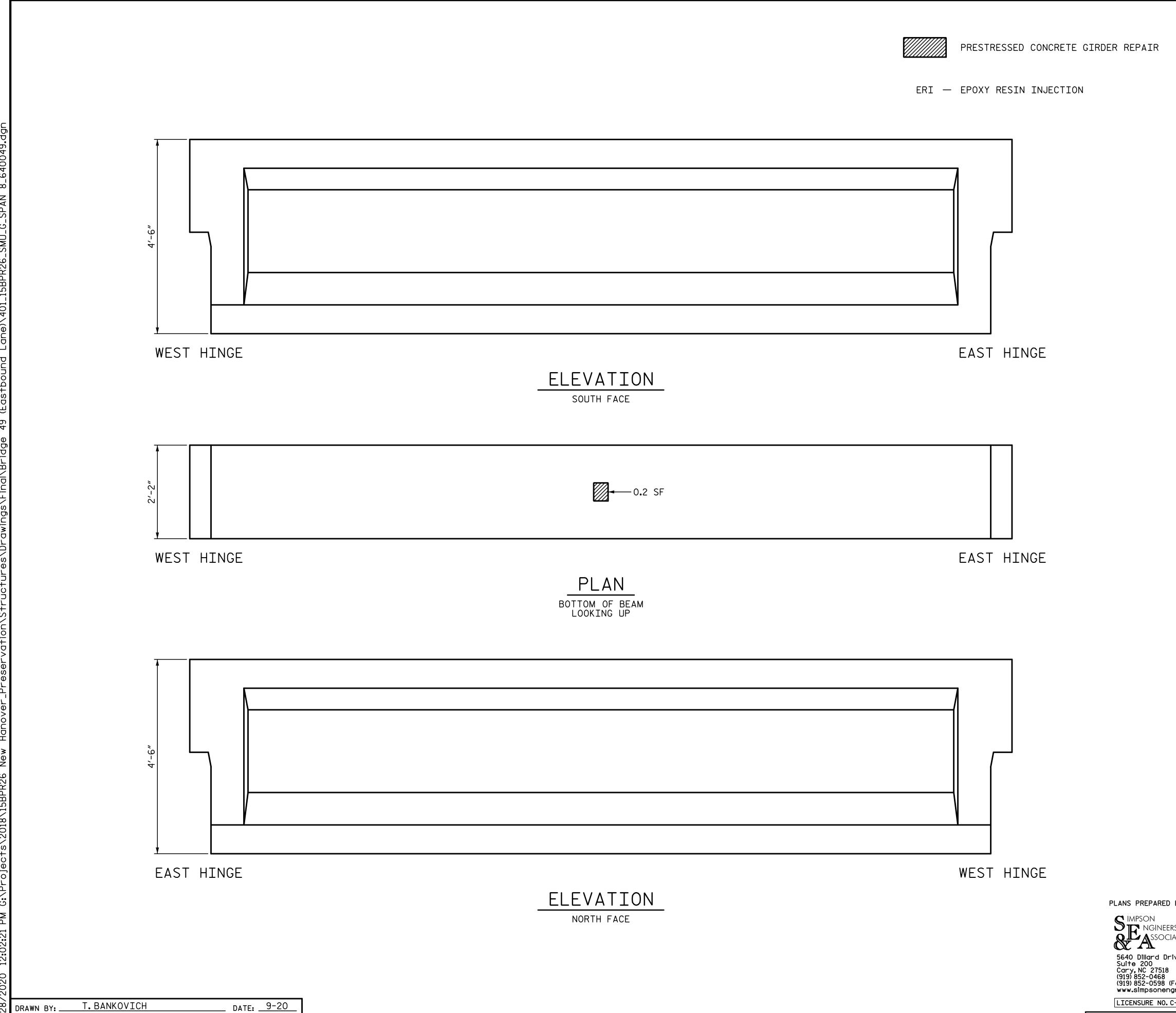
FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

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	CT NO. <u>Hanove</u> i E NO.:_	<u>R/PEN</u>		DUNTY	
		SHEET 6	OF 7				
BY:		STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH PRESERVATION					
RS ATES Ive	Doorsignandy CARO/ Euro Housesto AGB HOURS 753468 SEAL 24390			PAN RDEF			
Fax) gr.com 2-2521	9/29/2020	NO. BY:	REVIS	IONS NO. BY:	DATE:	SHEET NO. S2-82	
	NSIDERED FINAL JRES COMPLETED	1		3 4		total sheets 163	



	DRAWN BY:	T.BANKOVICH		_ DATE:	9-20
	CHECKED BY:	T.J. BEACH		_ DATE:	9-20
, , ,		NEER OF RECORD:	T.J. BEACH	_ DATE: .	9-20

REPAIR QU	ANT	I٦	ry 1	ΓABL	.E		
REPAIRS SPAN 8 GRD. 7				JANTITI			
	EST	IMA	ATE		ACTUAL		
REPAIRS OF PRESTR. CONCRETE GIRDERS	AREA VOLUME SF CF			AREA SF		V	
GIRDER	0.2		0.1				
EPOXY RESIN INJECTION LF						LF	
GIRDER			0.0				

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.

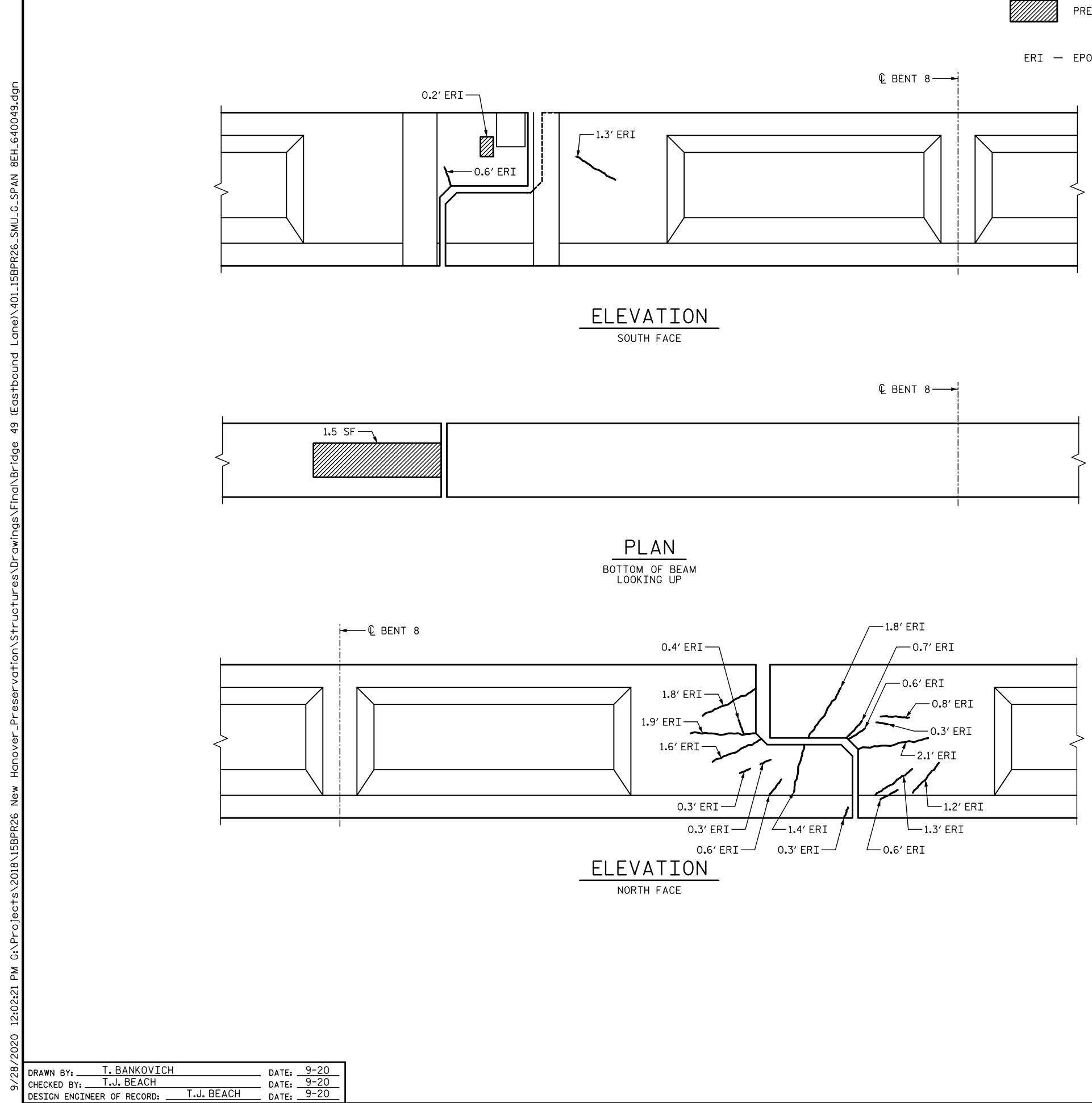
FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

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.

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

		PROJECT NO. 15BPR.26						
		NEW HANOVER/PENDER COUNTY						
		BRIDGE NO.: 640049						
		SHEET 7	OF 7					
		STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH						
BY:			PRES	ERVAI	TON			
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ive Tax)	24390 24,390				. 1			
gr.com	9/29/2020		REVISI	ONS		SHEET NO.		
-2521		NO. BY:	DATE: NO		DATE:	S2-83		
	NSIDERED FINAL JRES COMPLETED	1 2	ය. විසින්ත කරීම කරීම කරීම කරීම කරීම කරීම කරීම කරීම			total sheets 163		





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REPAIR QU	ANT	ITY ⁻	TABL	.E		
REPAIRS EAST HINGE	FST		UANTIT:			
REPAIRS OF PRESTR. CONCRETE GIRDERS	SF CF SF FT				OLUME CF	
GIRDER	1.7	0.5				
EPOXY RESIN INJECT	INJECTION LF					LF
GIRDER	19.9					

NOTES:

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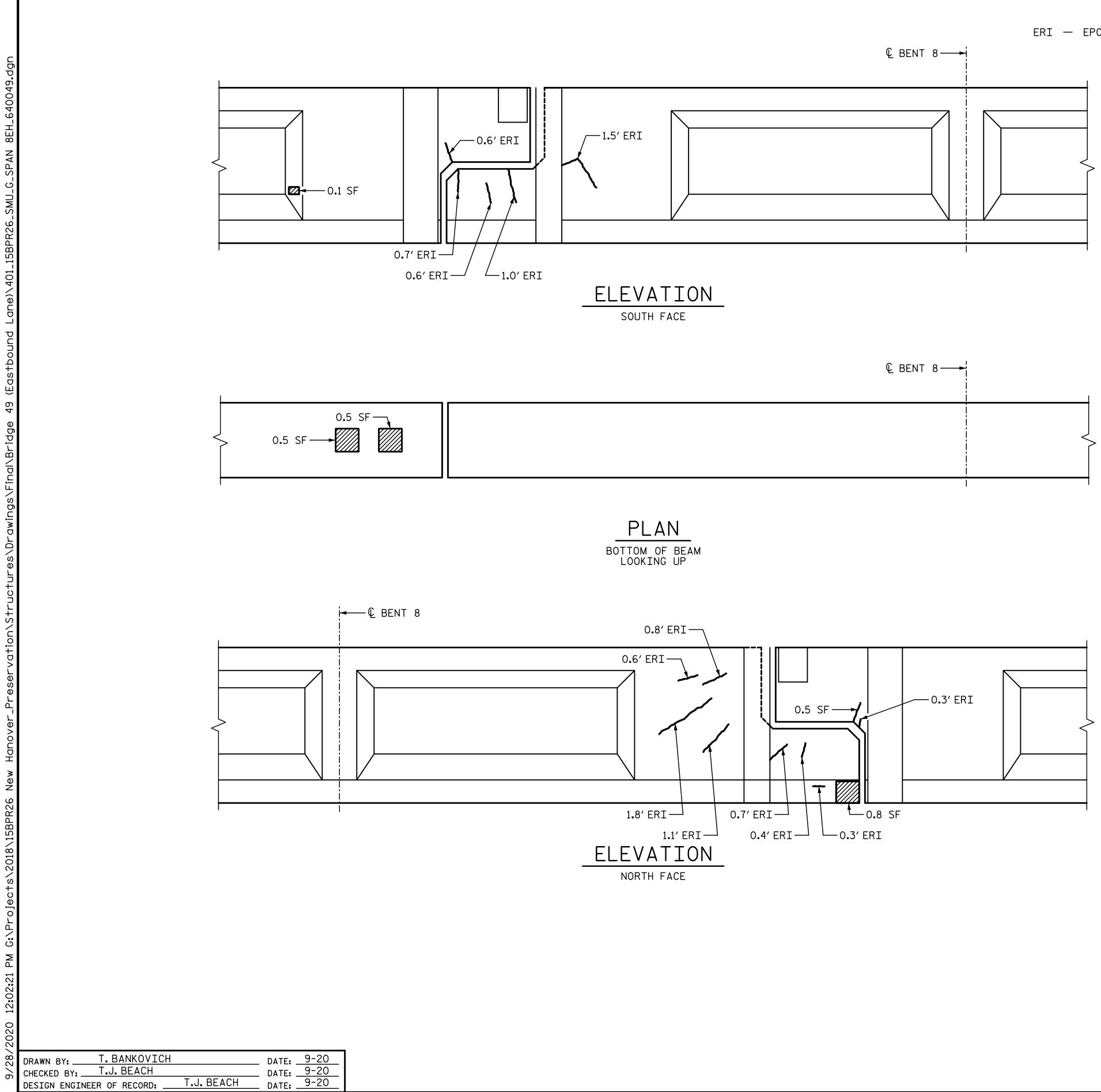
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		PROJEC <u>NEW</u> H BRIDGE	IANOVE E NO.:-	<u>R/PENE</u>		UNTY
BY:			STAT	e of north car OF TRAI RALEIGH SERVAT	NSPORTA	TION
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Tax) gr.com 2-2521	9/29/2020		REVIS		DATE	SHEET NO. S2-84
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PLANS PREPARED



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REPAIR QUANTITY TABLE								
REPAIRS EAST HINGE	QUANTITIES ESTIMATE ACTUAL							
REPAIRS OF PRESTR. CONCRETE GIRDERS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF			
GIRDER	1.9	0.7						
EPOXY RESIN INJECTION LF								
GIRDER								

NOTES:

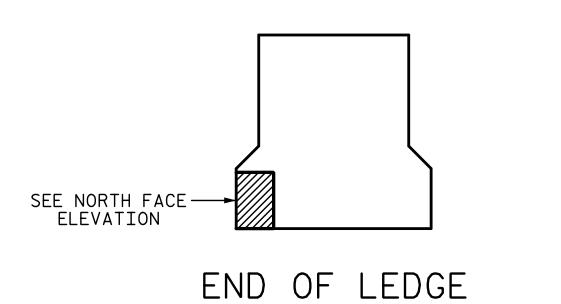
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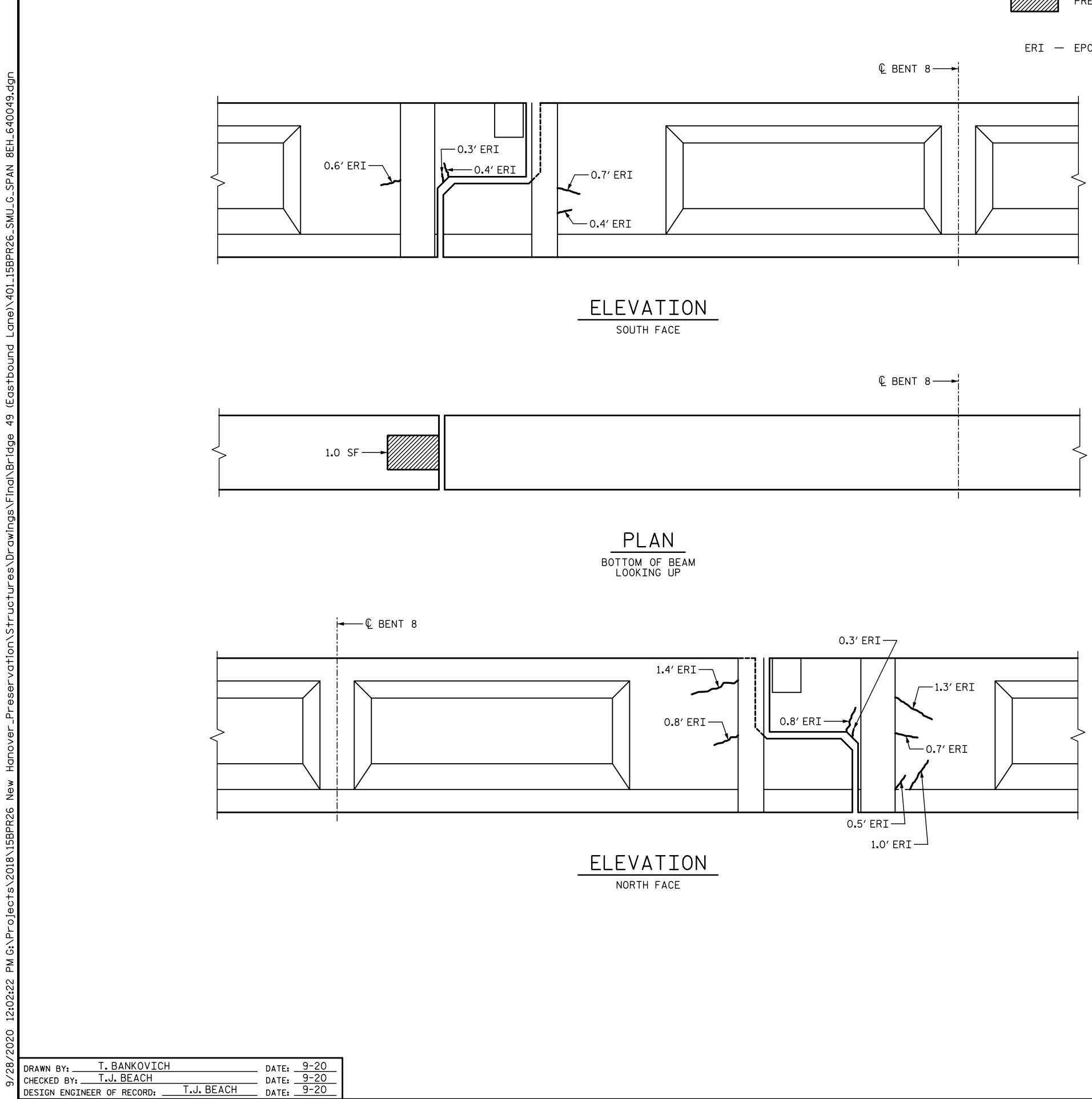
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	PROJE	CT NO.	15	BPR.2	26		
	NEW HANOVER/PENDER COUNTY						
	BRIDGE NO.: 640049						
	SHEET 2	OF 7					
	STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH						
BY:		PRES	SERVAT	TON			
ATES	EAS	ST HI			ILS		
TVe 24390							
9/29/2020		REVISI		- ·	SHEET NO. S2-85		
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REPAIR QUANTITY TABLE								
REPAIRS EAST HINGE	QUANTITIES ESTIMATE ACTUAL							
REPAIRS OF PRESTR. CONCRETE GIRDERS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF			
GIRDER	1.3	0.4						
EPOXY RESIN INJECTION								
GIRDER								

NOTES:

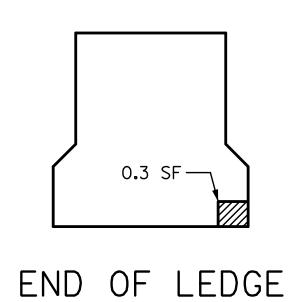
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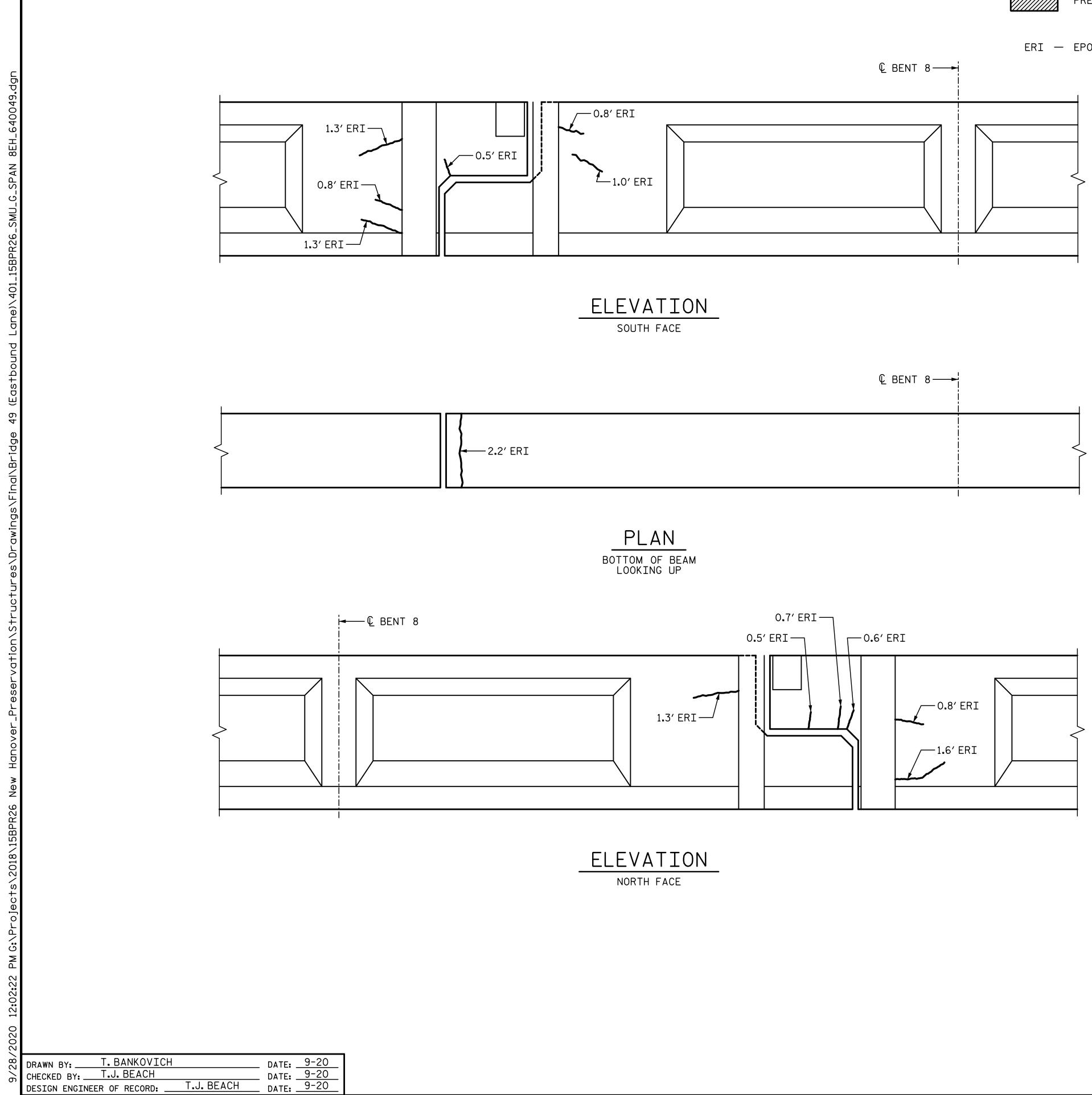
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FOR REPAIRS OF PRESTRESSED CONCRETE GIRDERS DETAILS, SEE "PRESTRESSED CONCRETE GIRDER REPAIR DETAILS" SHEET.



		NEW	ECT NO. HANOVE	R/F	PEND		UNTY
		BRID	GE NO.:		64	10049)
		SHEET	3 OF 7				
		STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH PRESERVATION					
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2521		NO. BY:	DATE:	NO.	BY:	DATE:	S2-86
	NSIDERED FINAL JRES COMPLETED	1		3 4			total sheets 163

DESIGN ENGINEER OF RECORD: ____





ERI — EPOXY RESIN INJECTION

PLANS PREPARED



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REPAIR QU	ANT	ITY ⁻	ΓABL	.E		
REPAIRS EAST HINGE						
	ESTIMATE ACT				AL	
REPAIRS OF PRESTR. CONCRETE GIRDERS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF	
GIRDER	0.0 0.0					
EPOXY RESIN INJECT	N INJECTION LF					
GIRDER	13.4					

NOTES:

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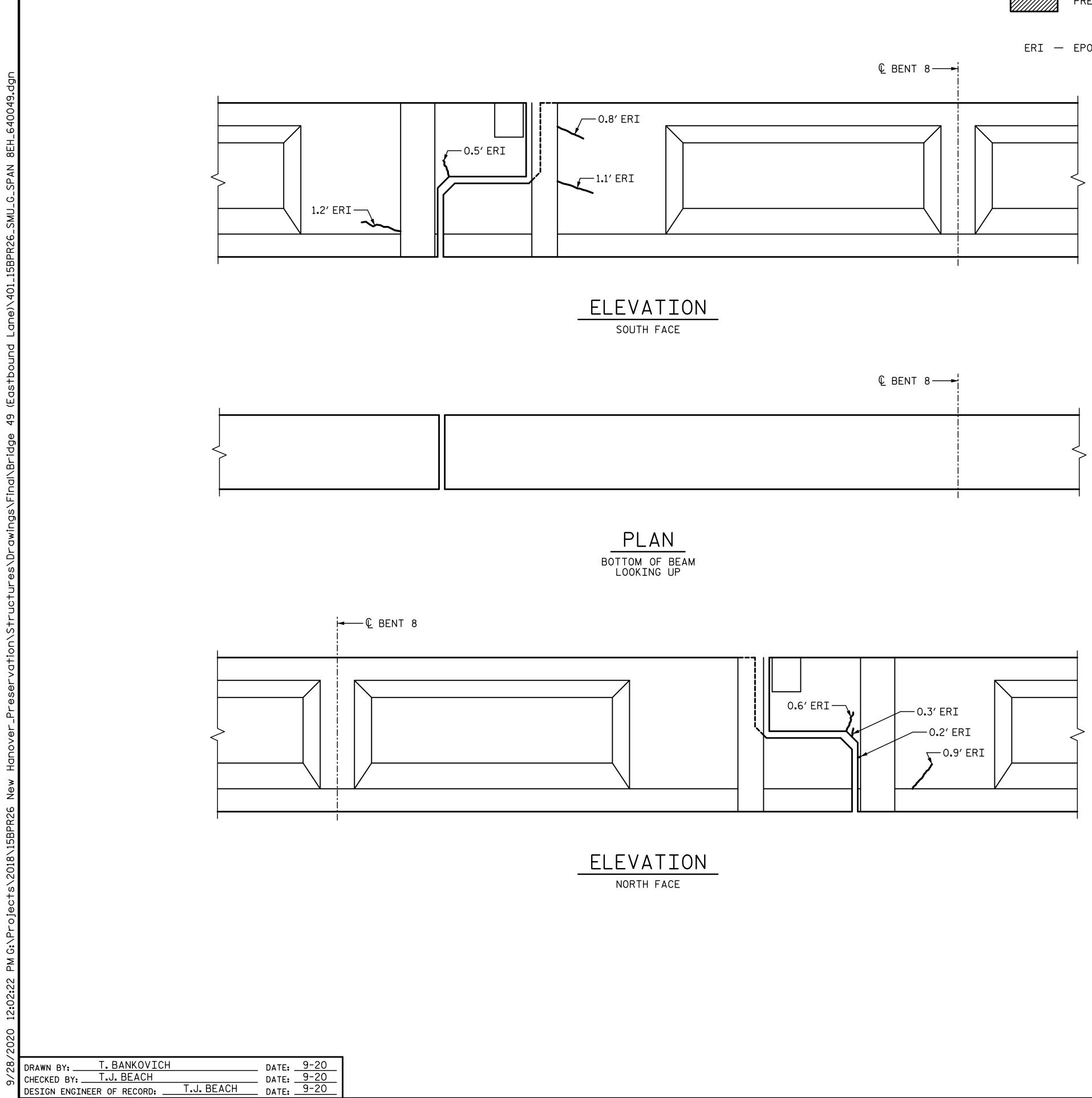
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		PROJEC <u>NEW</u> H BRIDGE	IANOVE E NO.:	R/PEND	<u>BPR.2</u> D <u>ER</u> CO 40049	UNTY
BY:			STAT RTMENT	OF NORTH CAR OF TRAI RALEIGH SERVAT	NSPORTA	TION
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	L NSIDERED FINAL JRES COMPLETED	1		3 4		total sheets 163









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REPAIR QU	ANT	ITY -	TABL	.E		
REPAIRS EAST HINGE						
	ST HINGE ESTIMATE ACT				AL	
REPAIRS OF PRESTR. CONCRETE GIRDERS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF	
GIRDER	0.0 0.0					
EPOXY RESIN INJECT	CTION LF LF					
GIRDER 5.6						

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.

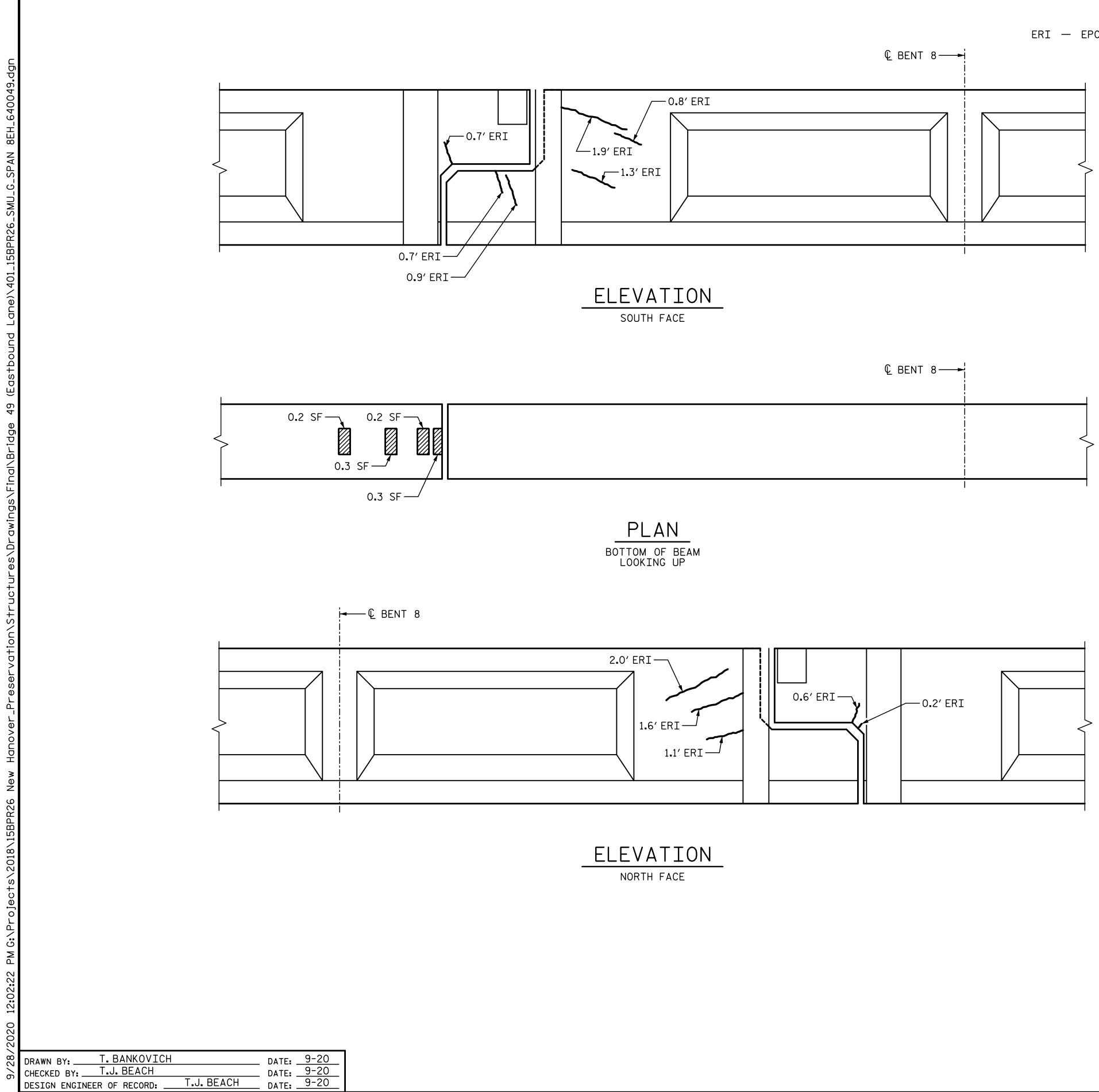
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	-		ANOVE	R/PE	END	<u>BPR.2</u> <u>er</u> co 10049	UNTY
		SHEET 5	OF 7				
BY:		DEPA	RTMENT	e of nort OF T ralei SERV	RAN	NSPORTA ⁻	TION
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-2521 9/	/29/2020 N	IO. BY:	DATE:	NO. BY	(:	DATE:	S2-88
NT NOT CONSIDERED		1		3 4			total sheets 163





PLANS PREPARED



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REPAIR QU	ANT	ITY [.]	TABL	.E		
REPAIRS EAST HINGE	QUANTITIES					
	EST	IMATE		ACTUAL	-	
REPAIRS OF PRESTR. CONCRETE GIRDERS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF	
GIRDER	1.0	0.3				
EPOXY RESIN INJECT	ION LF				LF	
GIRDER		11.8				

NOTES:

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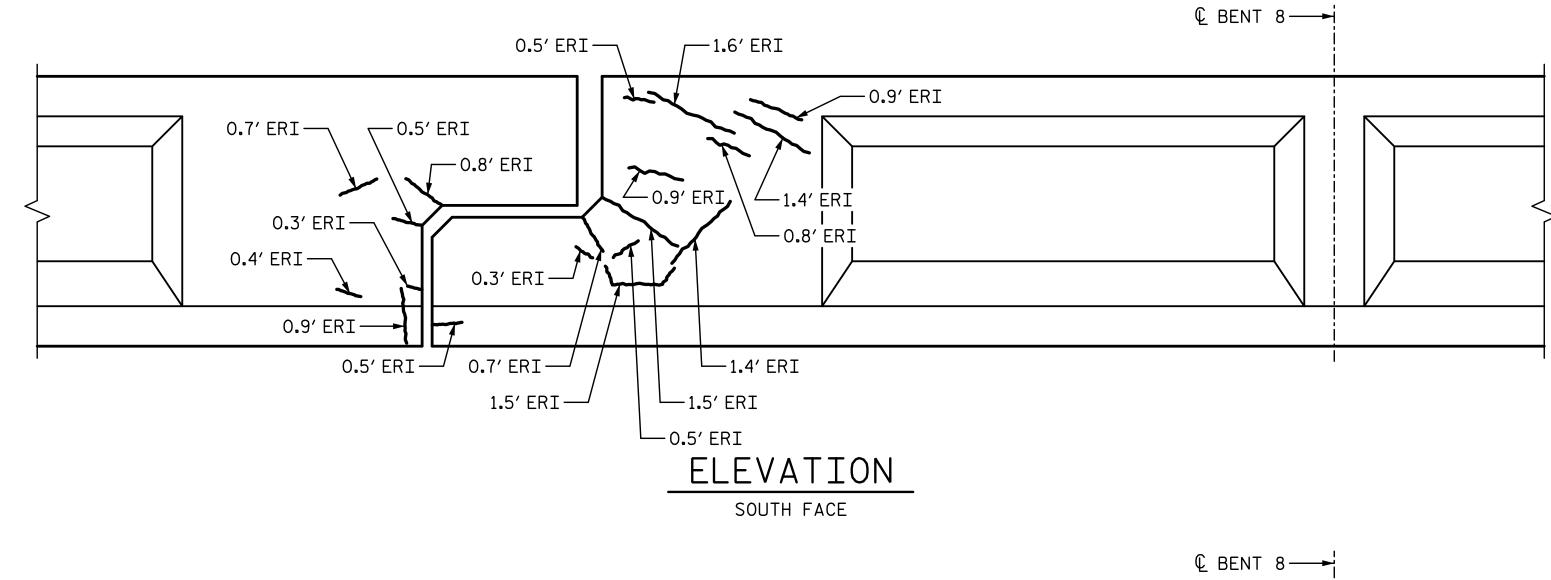
FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

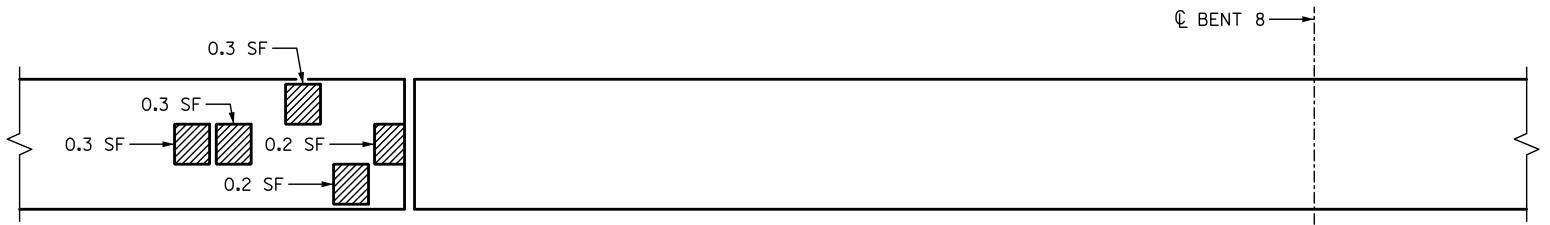
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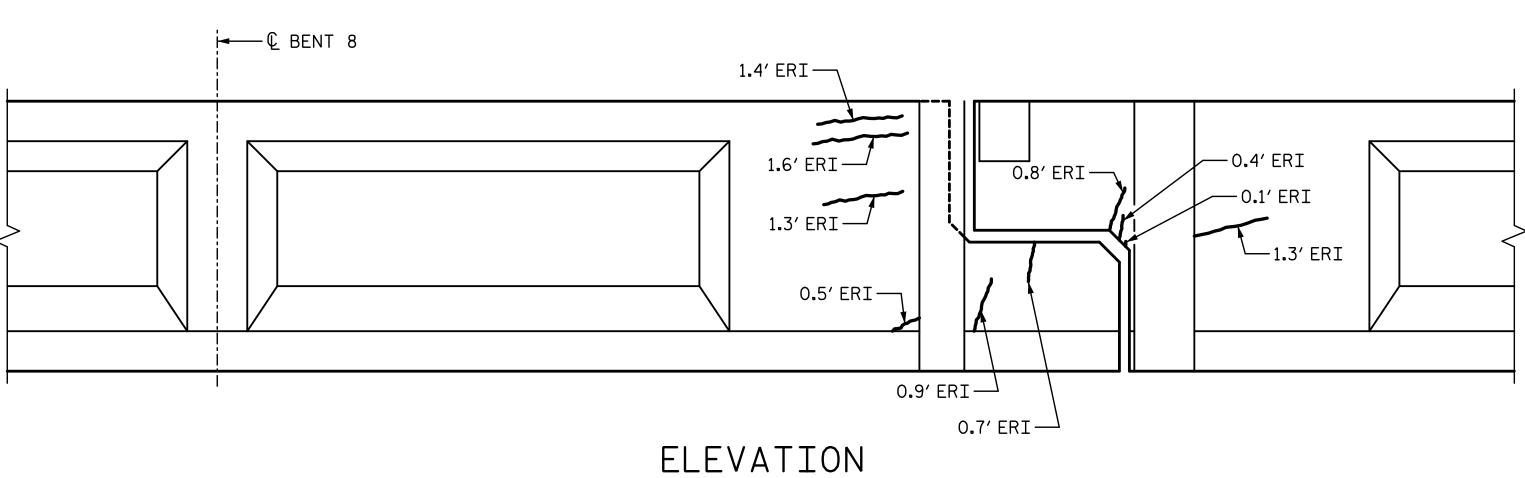
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		<u>NEW</u> BRIDG	CT NO. <u>Hanover</u> E NO.:	/PENE		UNTY
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	NSIDERED FINAL JRES COMPLETED	1		3		total sheets 163







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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





LOOKING UP

NORTH FACE

PLANS PREPARED



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REPAIR QU	ANT	ITY ⁻	TABL	.E		
REPAIRS EAST HINGE	QUANTITIES					
	EST	IMATE		ACTUAL	-	
REPAIRS OF PRESTR. CONCRETE GIRDERS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUN CF	ΛE
GIRDER	1.3	0.3				
EPOXY RESIN INJECT	ION	DN LF				-
GIRDER		25.1	1			

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.

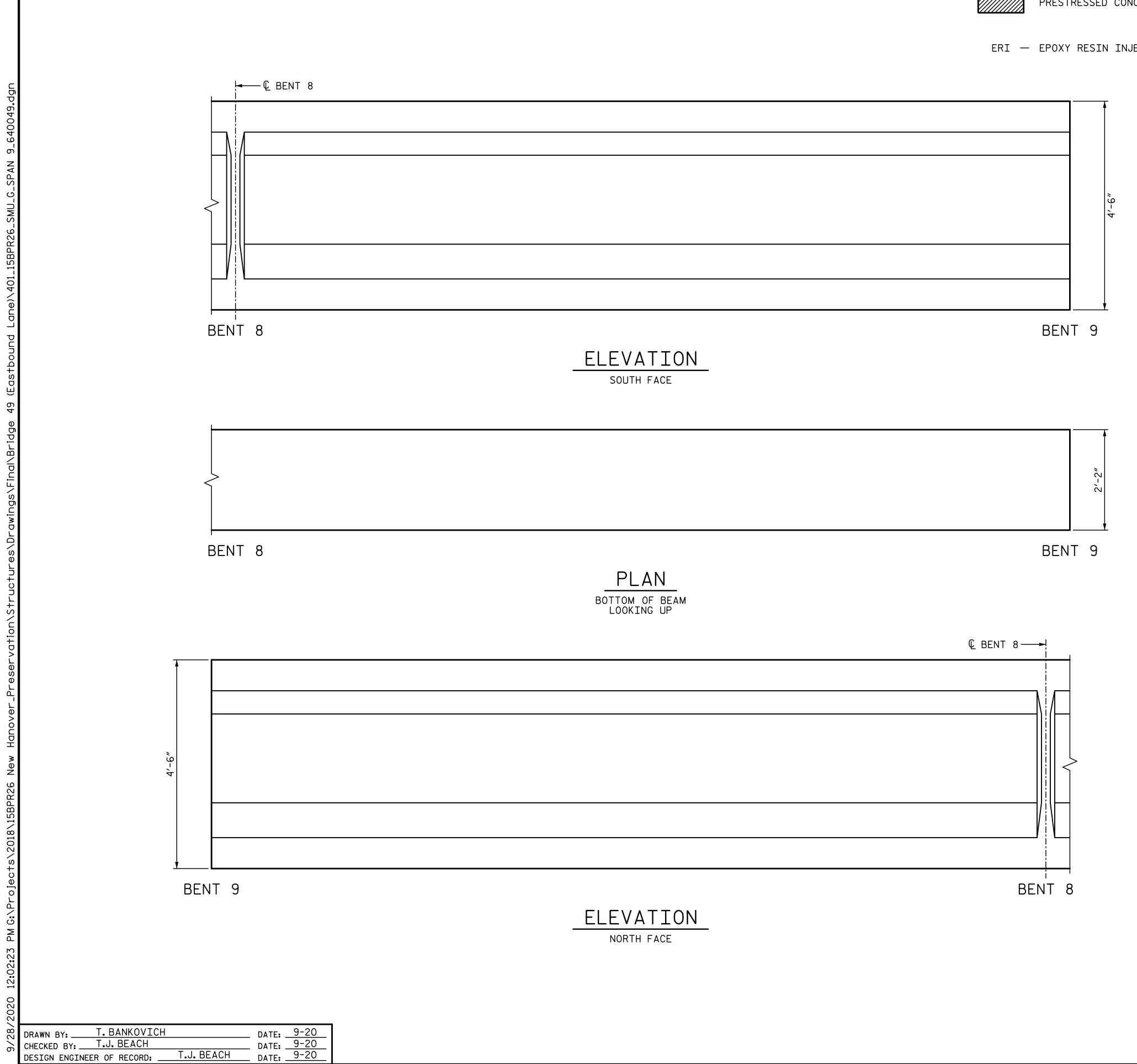
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		<u>N</u>	EW H		<u>R/</u>	PEND	<u>BPR.2</u>) <u>er</u> co 10049	UNTY
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ax) r.com	J. BEANING	⊢		REVI	STON	IC		SHEET NO.
-2521	9/29/2020	NO.	BY:	DATE:	NO.	BY:	DATE:	S2-90
	NSIDERED FINAL JRES COMPLETED	1 2			3 4			total sheets 163





REPAIR QU	ANT	ITY -	ΓABL	.E	
REPAIRS SPAN 9 GRD.1	RS SPAN 9 GRD 1 QUANTITIES				
	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					LF
GIRDER	0.0				

NOTES:

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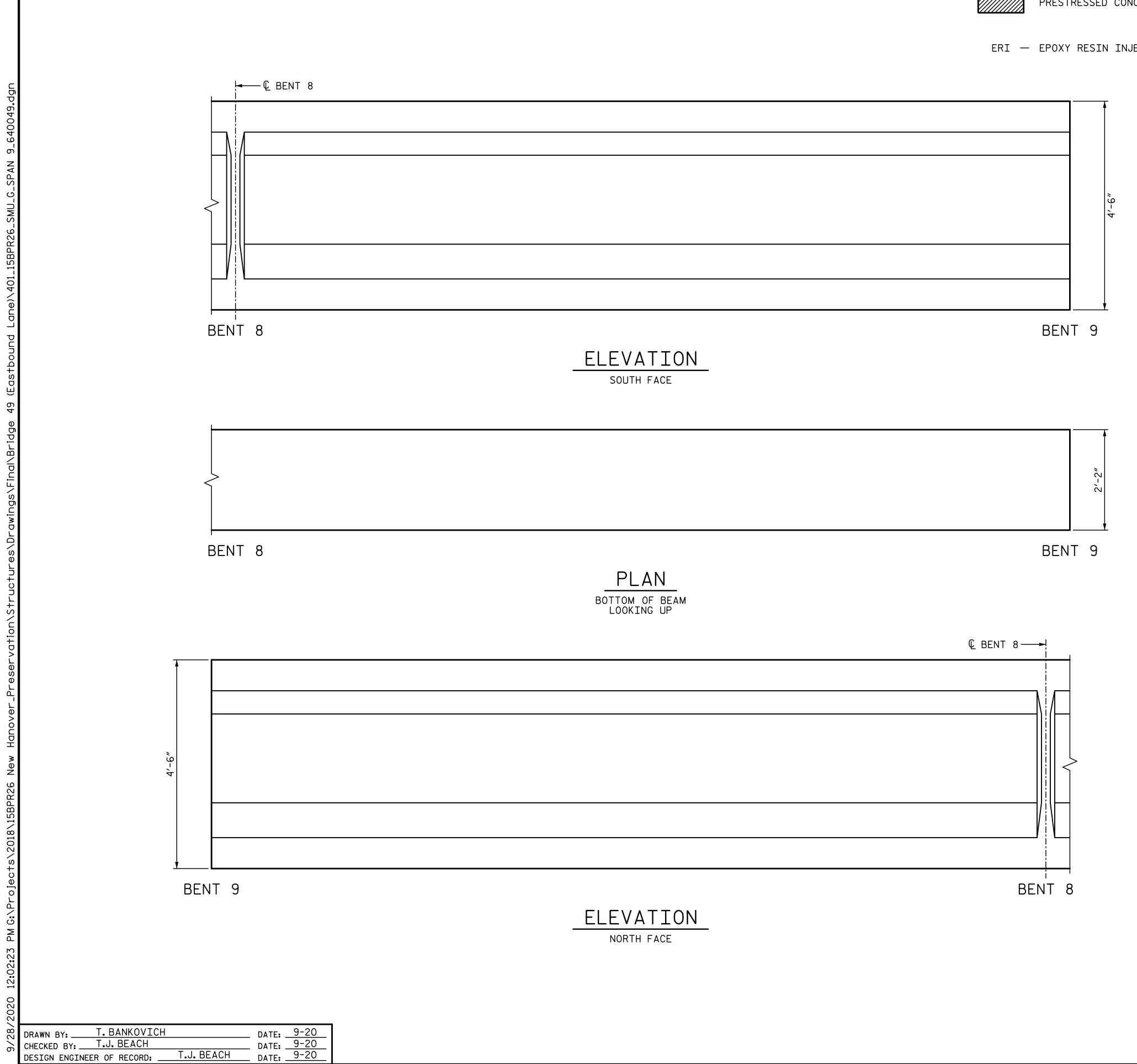
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		NEW H	IANOVE	<u>15</u> R/PEND		UNTY
		BRIDG	- NO.:	0-	10043	<u> </u>
		SHEET 1	OF 7			
PLANS PREPARED BY:		DEPA	RTMENT	TE OF NORTH CAR OF TRAI RALEIGH SERVAT	NSPORTA	TION
SIMPSON NGINEERS SSOCIATES 5640 Dillard Drive Suite 200	AGENTER BESTE 24390			SPAN IRDER		
Cary, NC 27518 (919) 852-0468 (919) 852-0598 (Fax) www.simpsonengr.com	J. S. MGINECTIC					
LICENSURE NO. C-2521	9/29/2020	NO. BY:	REVI DATE:	SIONS NO. BY:	DATE:	SHEET NO. S2-91
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REPAIR QU	ANT	ITY [.]	TABL	.E	
REPAIRS SPAN 9 GRD. 2	REPATRS SPAN 9 GRD 2 QUANTITIES				
THE ATTO STAR 5 ONDEE	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	EPOXY RESIN INJECTION LF				LF
GIRDER	0.0				

NOTES:

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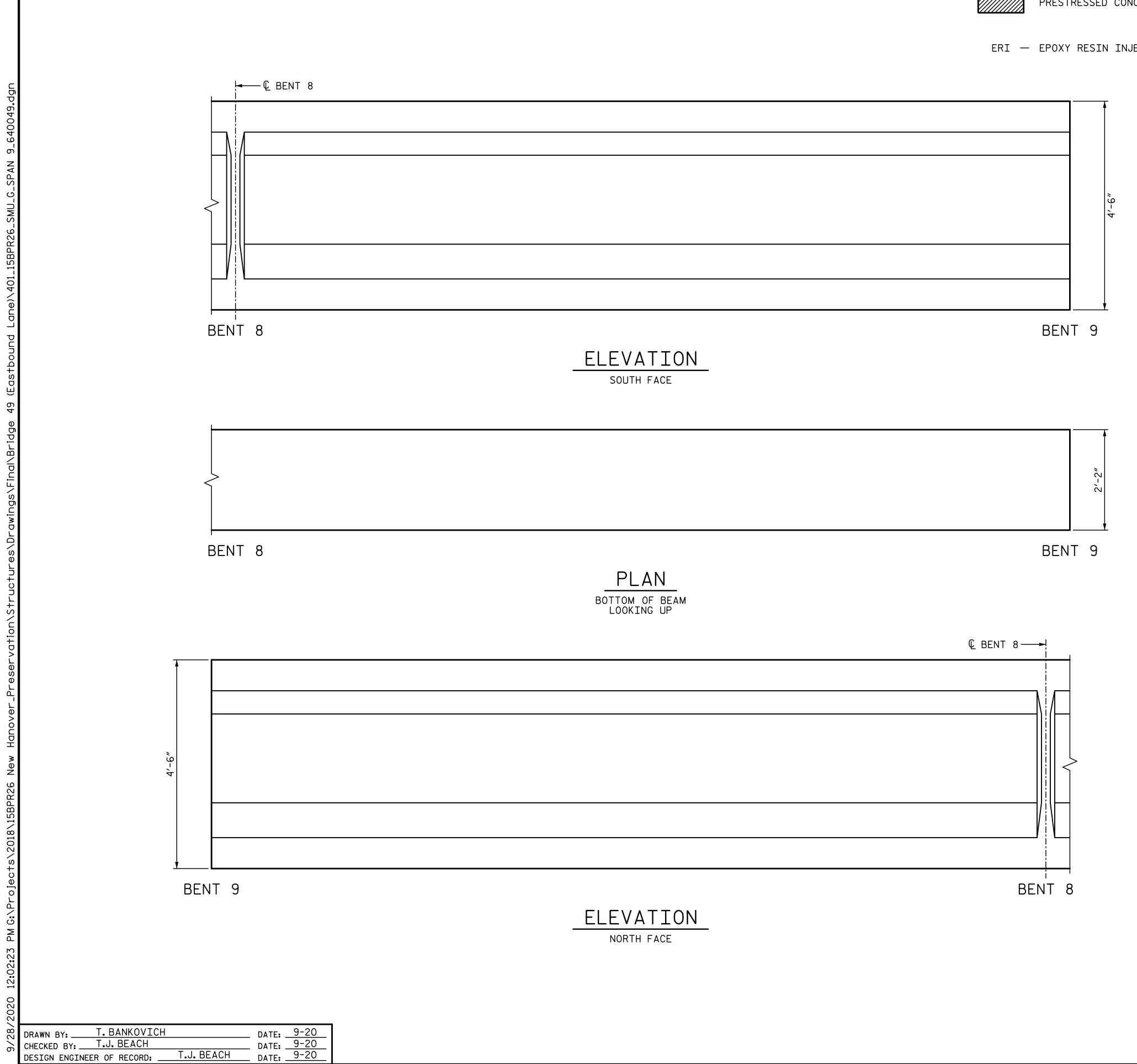
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		PROJEC <u>NEW H</u> BRIDGI	ANOVE	R/PEND		UNTY
		SHEET 2	OF 7			
PLANS PREPARED BY:		DEPA	RTMENT	e of north car OF TRAN RALEIGH SERVAT	NSPORTA	TION
S IMPSON NGINEERS SSOCIATES 5640 Dillard Drive Suite 200	AGB 1 BESTS 245B SEAL 24390			SPAN IRDER		
Cary, NC 27518 (919) 852-0468 (919) 852-0598 (Fax)	BEAU					
www.simpsonengr.com	9/29/2020		REVIS	SIONS		SHEET NO.
LICENSURE NO. C-2521		NO. BY:	DATE:	NO. BY:	DATE:	S2-92
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REPAIR QU	ANT	ITY ⁻	TABL	E.		
REPAIRS SPAN 9 GRD. 3 QUANTITIES						
ILLI ATING SI AN S ONDES	ESTIMATE			ACTUAL		
REPAIRS OF PRESTR. CONCRETE GIRDERS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF	
GIRDER	0.0	0.0				
EPOXY RESIN INJECT	RESIN INJECTION LF					
GIRDER	0.0					

NOTES:

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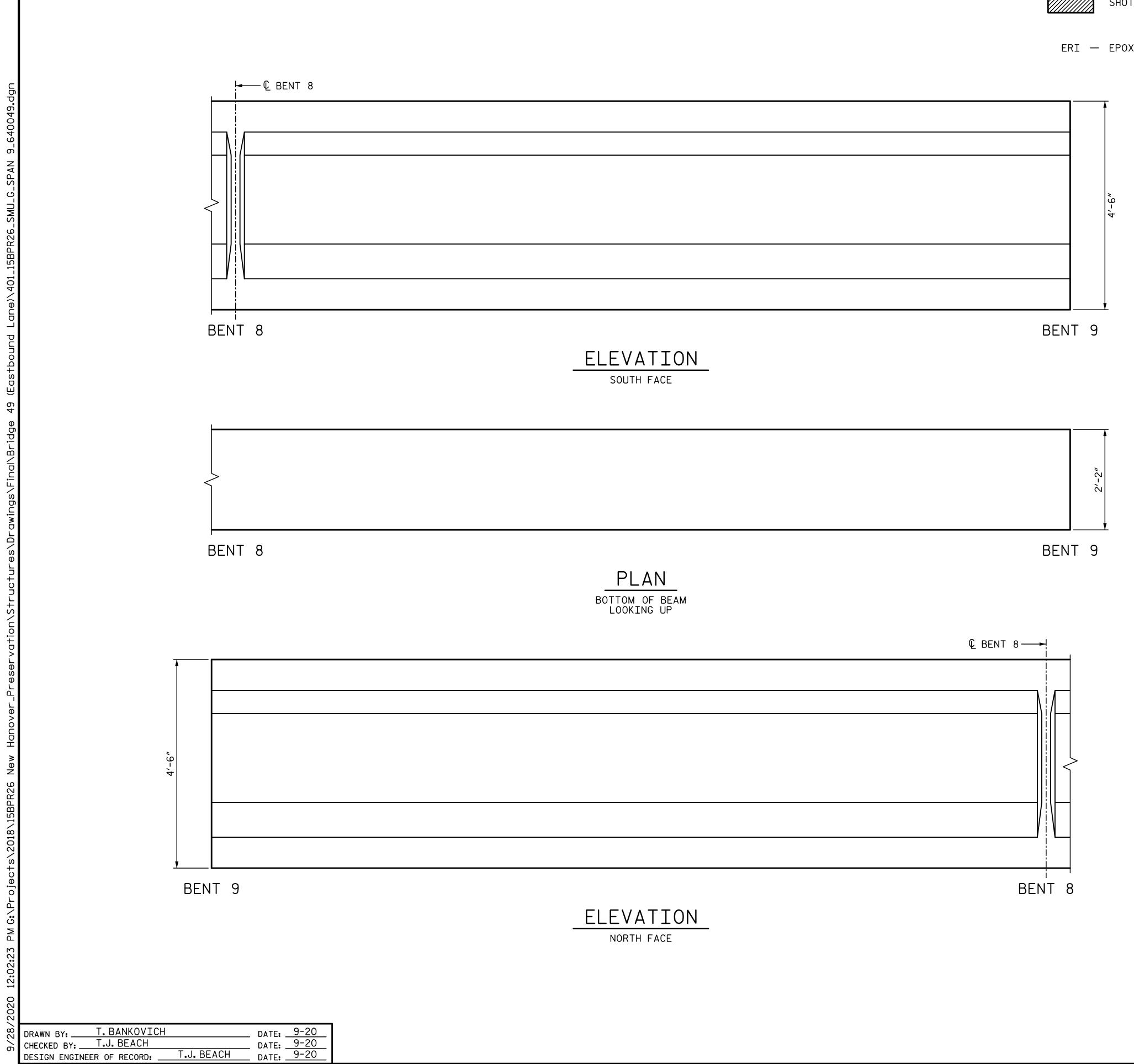
FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

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.

		PROJEC <u>NEW H</u> BRIDGE	IANOVE	R/PEND		UNTY
		SHEET 3				
PLANS PREPARED BY:			STAT RTMENT	OF NORTH CAR OF TRAI RALEIGH SERVAT	NSPORTA	TION
SIMPSON NGINEERS SSOCIATES 5640 Dillard Drive Suite 200	AGB TO BOBST TO CAROL			SPAN IRDER		
Cary, NC 27518 (919) 852-0468 (919) 852-0598 (Fax) www.simpsonengr.com LICENSURE NO. C-2521	9/29/2020	NO. BY:	REVIS	SIONS NO. BY:	DATE:	SHEET NO. S2-93
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ERI — EPOXY RESIN INJECTION

REPAIR QUANTITY TABLE						
REPAIRS SPAN 9 GRD. 4		QI	JANTIT	[ES		
REFAIRS SFAN 9 GRU. 4	4 ESTIMATE ACTUAL			-		
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA DEPTH VOLUM SF FT CF			
GIRDER	0.0	0.0				
EPOXY RESIN INJECT	CTION 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.

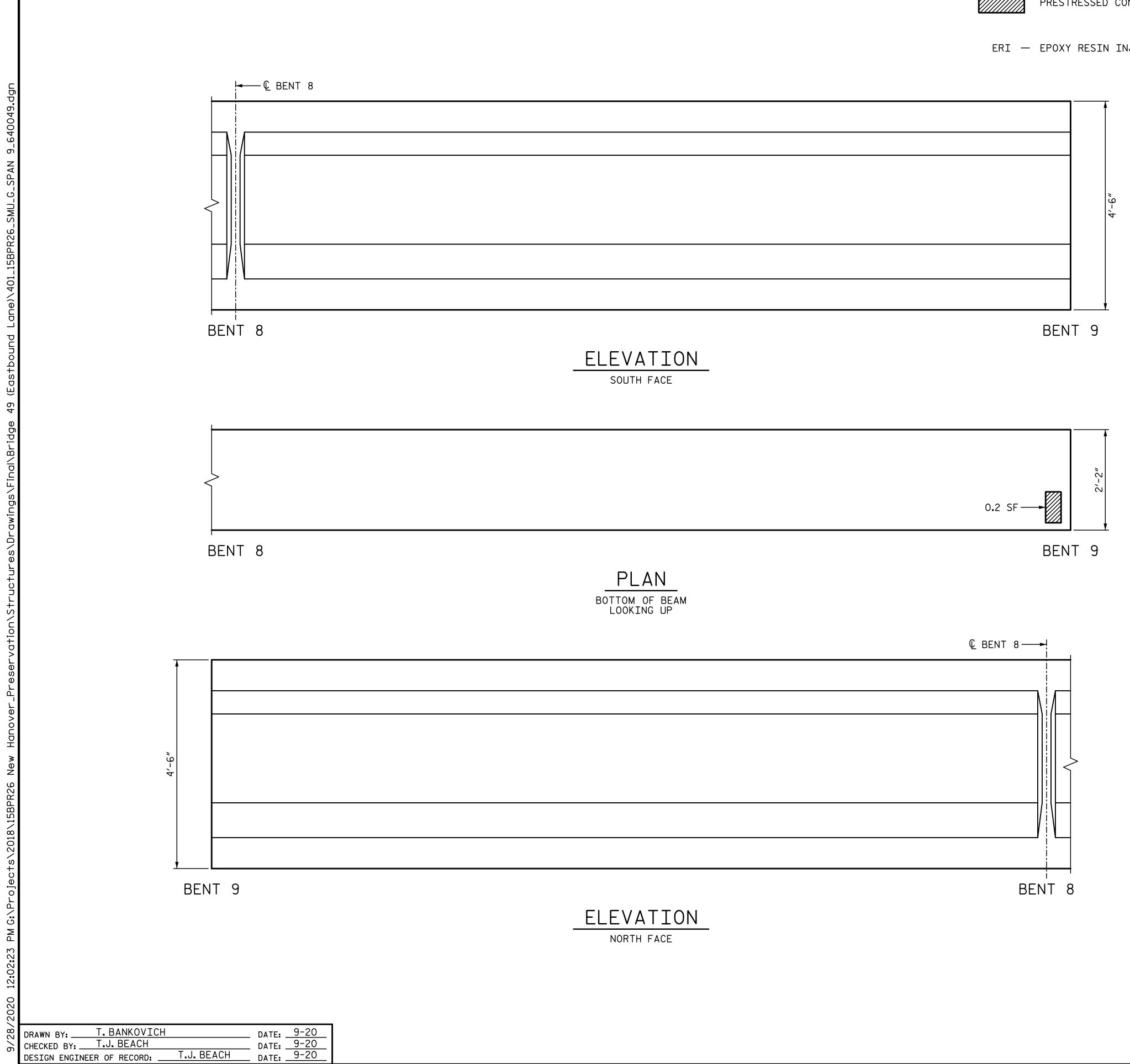
SHOTCRETE REPAIRS MAY BE REPLACED WITH CONCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

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

		PROJEC <u>NEW H</u> BRIDGE	ANOVE	R/PEND		DUNTY
		SHEET 4	OF 7			
		DEPA	RTMENT	e of north car OF TRAI RALEIGH SERVAT	NSPORTA	TION
PLANS PREPARED BY: SIMPSON NGINEERS SSOCIATES 5640 Dillard Drive Suite 200 Cary, NC 27518 (919) 852-0468 (919) 852-0598 (Fax)	AGB RESSERVER AGB RESSERVER 24390		S	PAN RDER	9	
www.simpsonengr.com	9/29/2020		REVIS	IONS		SHEET NO.
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REPAIR QUANTITY TABLE							
REPAIRS SPAN 9 GRD. 5				JANTITI			
ILLI AINS SI AN 5 ONDES	CO SI AN S ONDES ESTIMATE				ACTUAL		
REPAIRS OF PRESTR. CONCRETE GIRDERS	AREA SF		_UME CF	AREA DEPTH VOLUM SF FT CF			OLUME CF
GIRDER	0.2	(D . 1				
EPOXY RESIN INJECT	ION		LF				LF
GIRDER 0.0							

NOTES:

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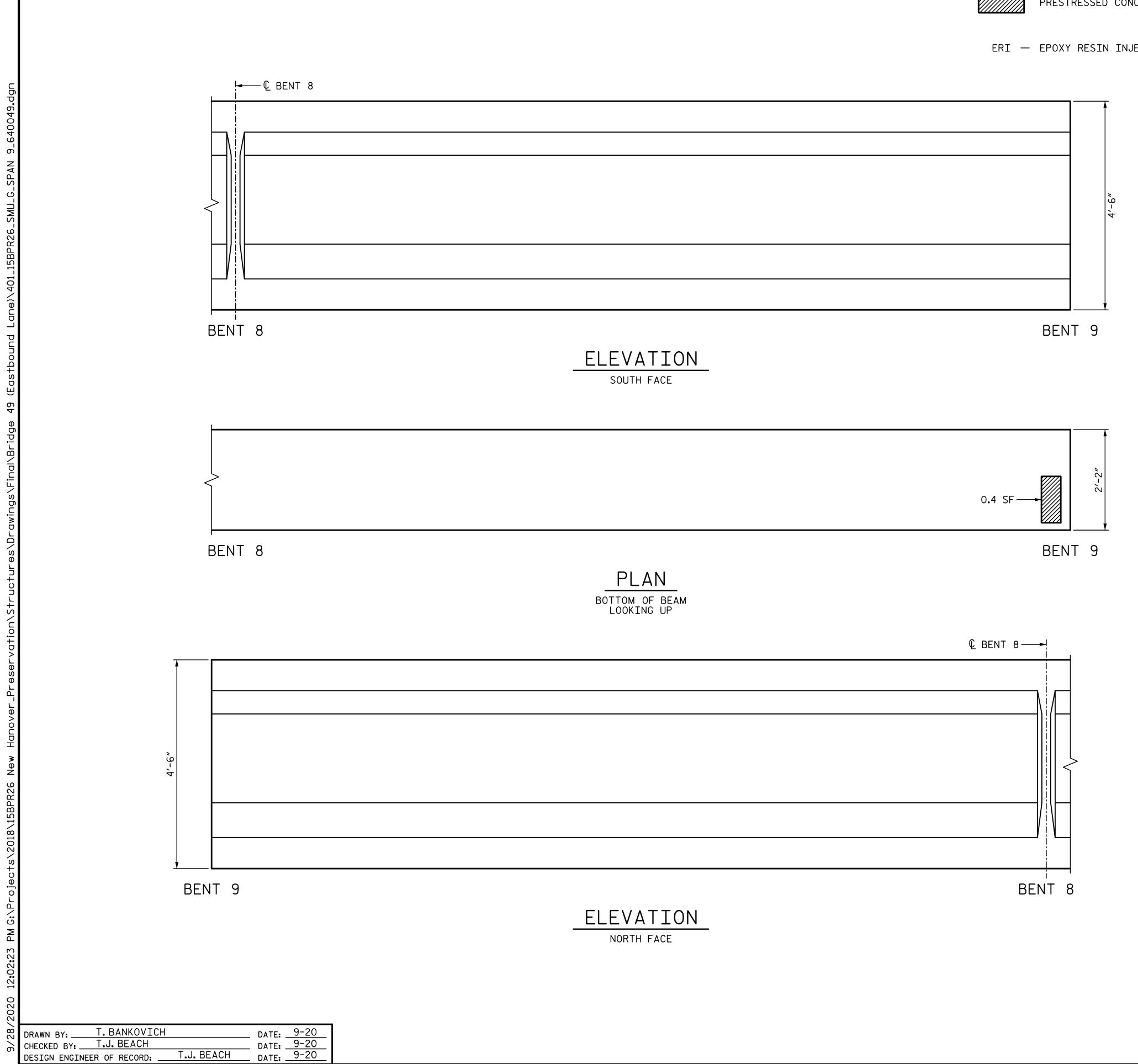
FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

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.

		NEW		<u>15</u> <u>R/PENE</u> 64		DUNTY
SHEET 5 OF 7						
PLANS PREPARED BY:		DEP	ARTMENT	TE OF NORTH CAR OF TRAI RALEIGH SERVAT	NSPORTA	TION
5640 Dillard Drive Sulte 200 Cary, NC 27518 (919) 852-0468	Doorsigning CAROL TUCS BEESSION AGB SERIES SEAL 24390 MGINES			SPAN IRDER		
(919)852-0466 (919)852-0598 (Fax) www.simpsonengr.com	J. BEANNIN		DEVI	SIONS		SHEET NO.
LICENSURE NO. C-2521	9/29/2020	NO. BY:	DATE:	NO. BY:	DATE:	S2-95
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REPAIR QUANTITY TABLE						
REPAIRS SPAN 9 GRD.6			QUANTIT:			
	ESTIMATE			ACTUAL		
REPAIRS OF PRESTR. CONCRETE GIRDERS	AREA SF	VOLUME CF	E AREA DEPTH VOLUM SF FT CF			
GIRDER	0.4	0.1				
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.

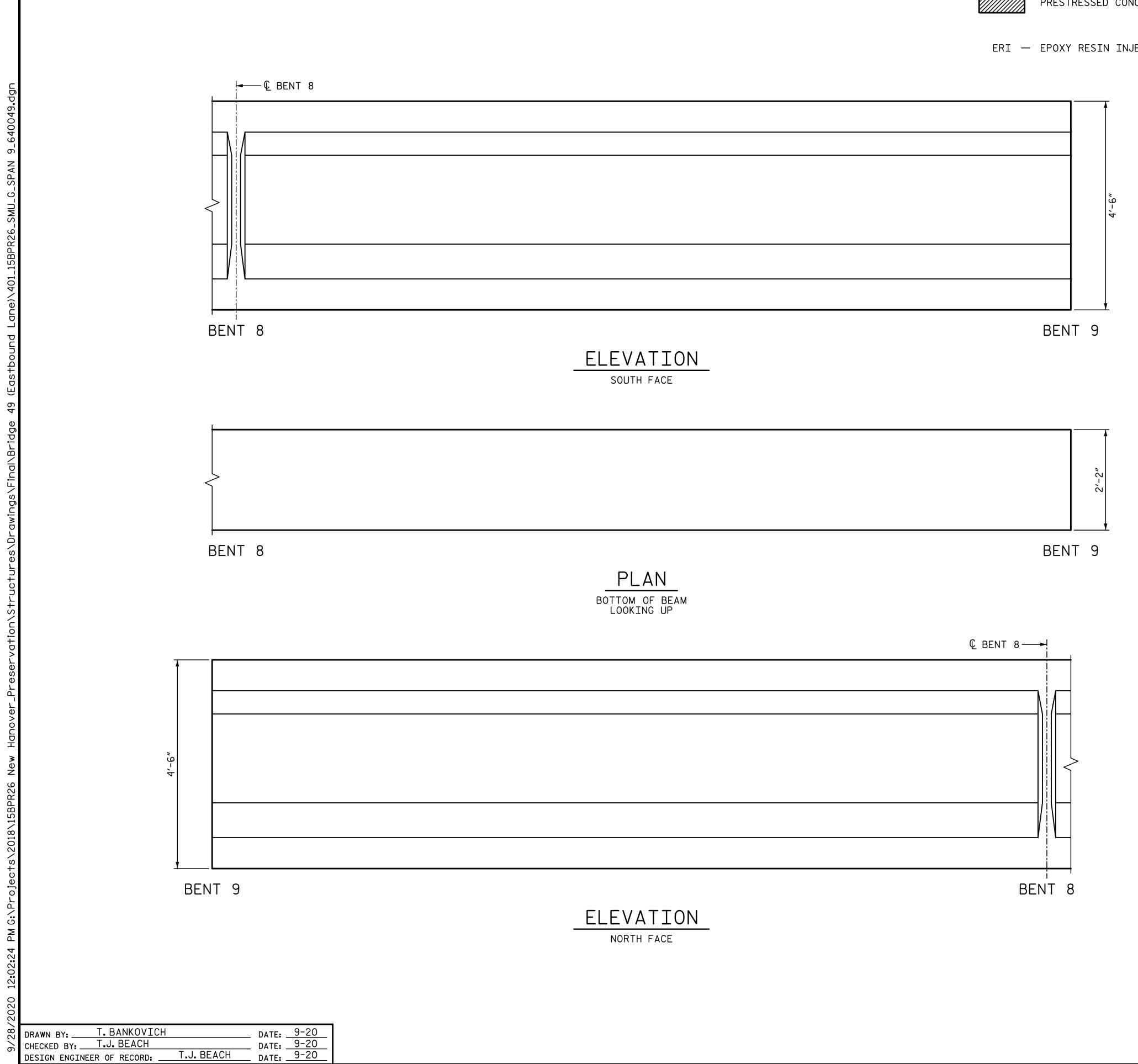
FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

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.

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

		NEW	ECT NO Hanov Ge NO.	′ER/I	PEND		UNTY
SHEET 6 OF 7							
PLANS PREPARED BY:		DE	EPARTMEN		TRAN ALEIGH	NSPORTA	TION
SIMPSON NGINEERS SSOCIATES 5640 Dillard Drive Suite 200 Cary, NC 27518	Docasing the CARO/ turo Pockeds ION AGB120005752468 24390		G	SP# IR[AN Der		
Cary, NC 27518 (919) 852-0468 (919) 852-0598 (Fax) www.simpsonengr.com	J. BEAM		RE	VISIONS	5		SHEET NO.
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REPAIR QU	ANT	ITY [.]	TABL	.E		
REPAIRS SPAN 9 GRD. 7			UANTIT			
THE ATTO STAR 5 ONDE T	EST	IMATE		ACTUAL AREA DEPTH VOLUME		
REPAIRS OF PRESTR. CONCRETE GIRDERS	AREA SF	VOLUME CF	AREA DEPTH VOLUM SF FT CF			
GIRDER	0.0	0.0				
EPOXY RESIN INJECT	ION	LF			LF	
GIRDER 0.0						

NOTES:

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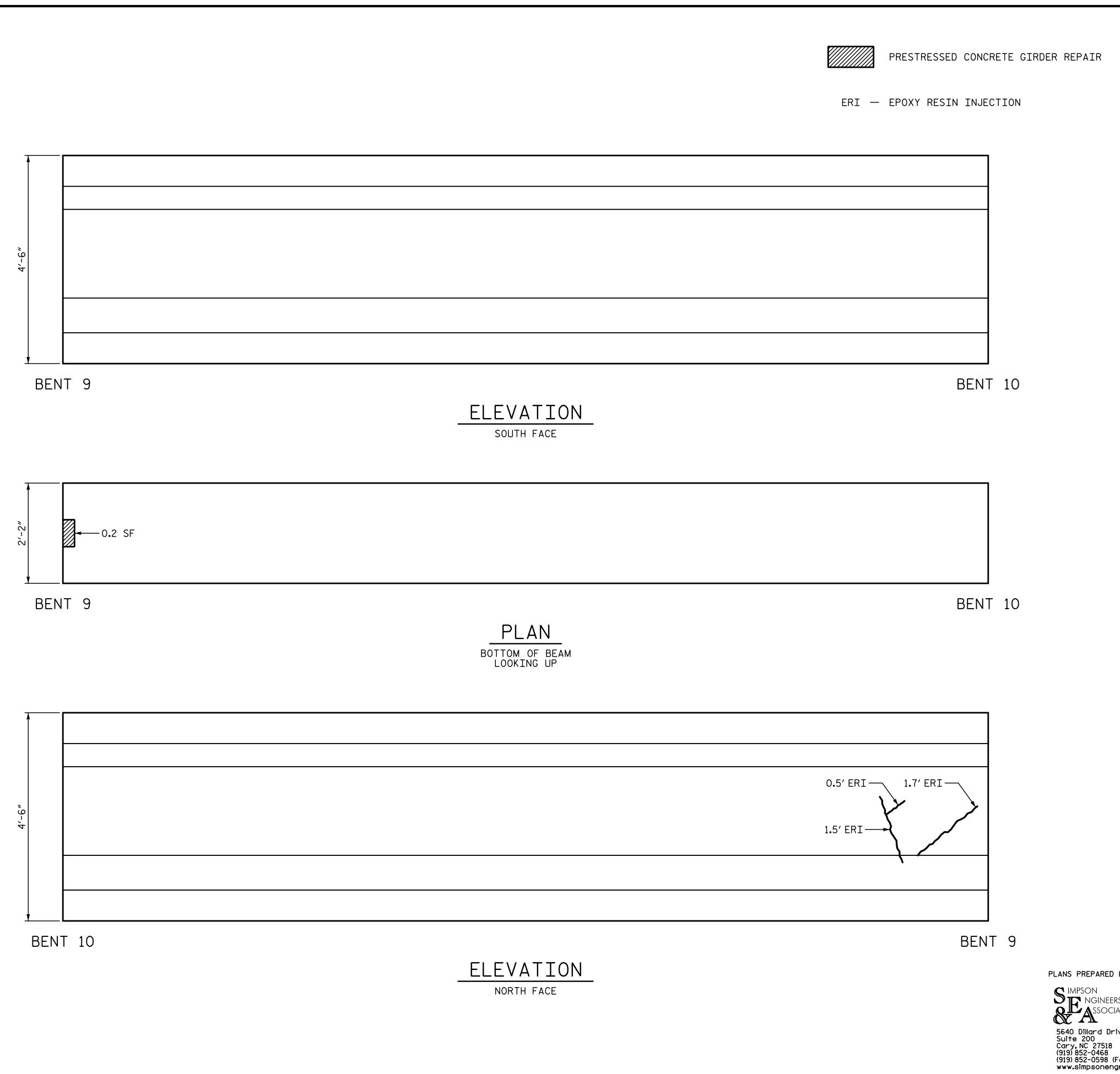
FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

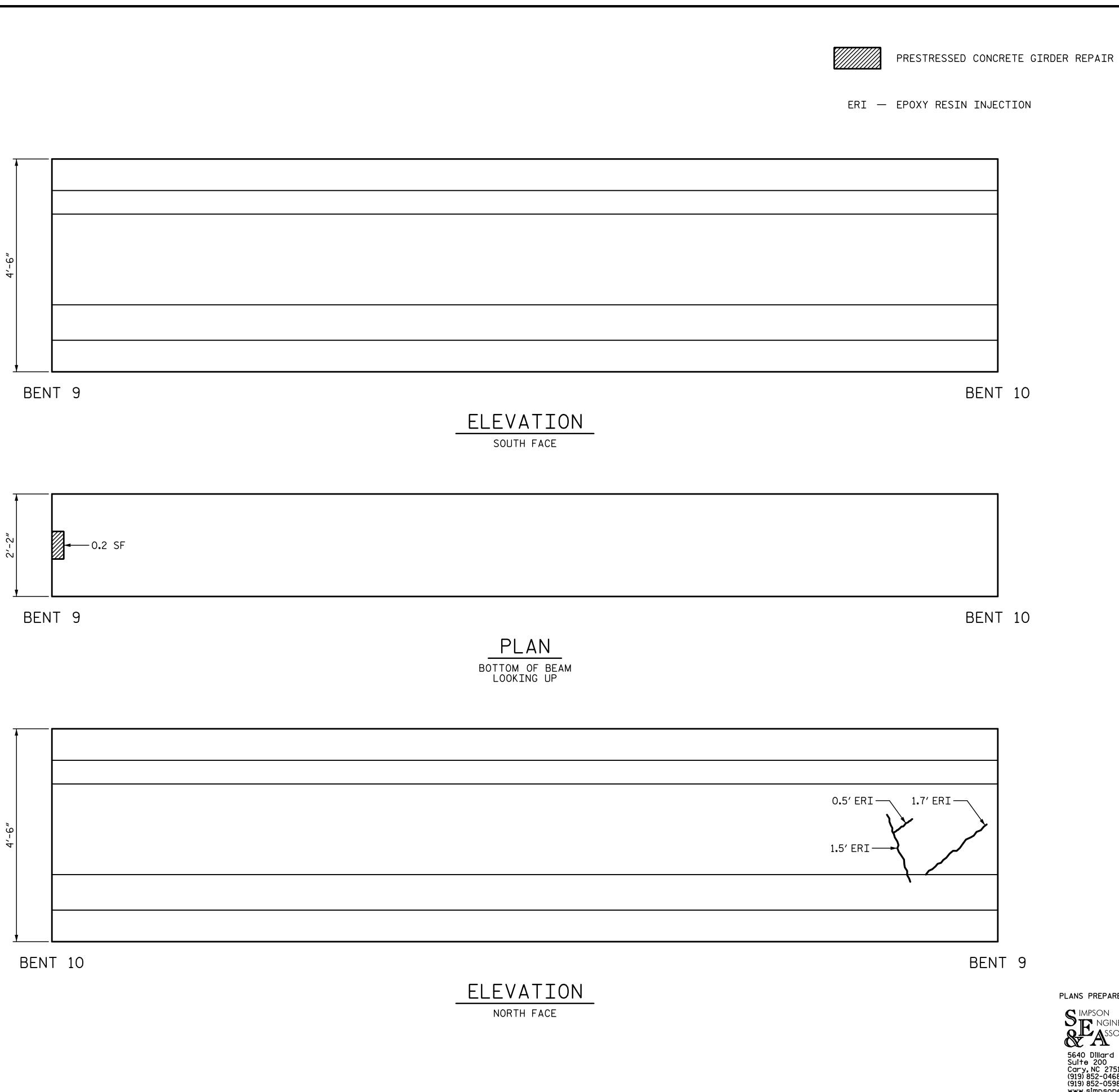
VALUES IN CHART REPRESENT ESTIMATE REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN, OF 1"BEHIND REBAR AND MIN. 2"CL. TO SAWCUT. SEE REPAIR DETAILS.

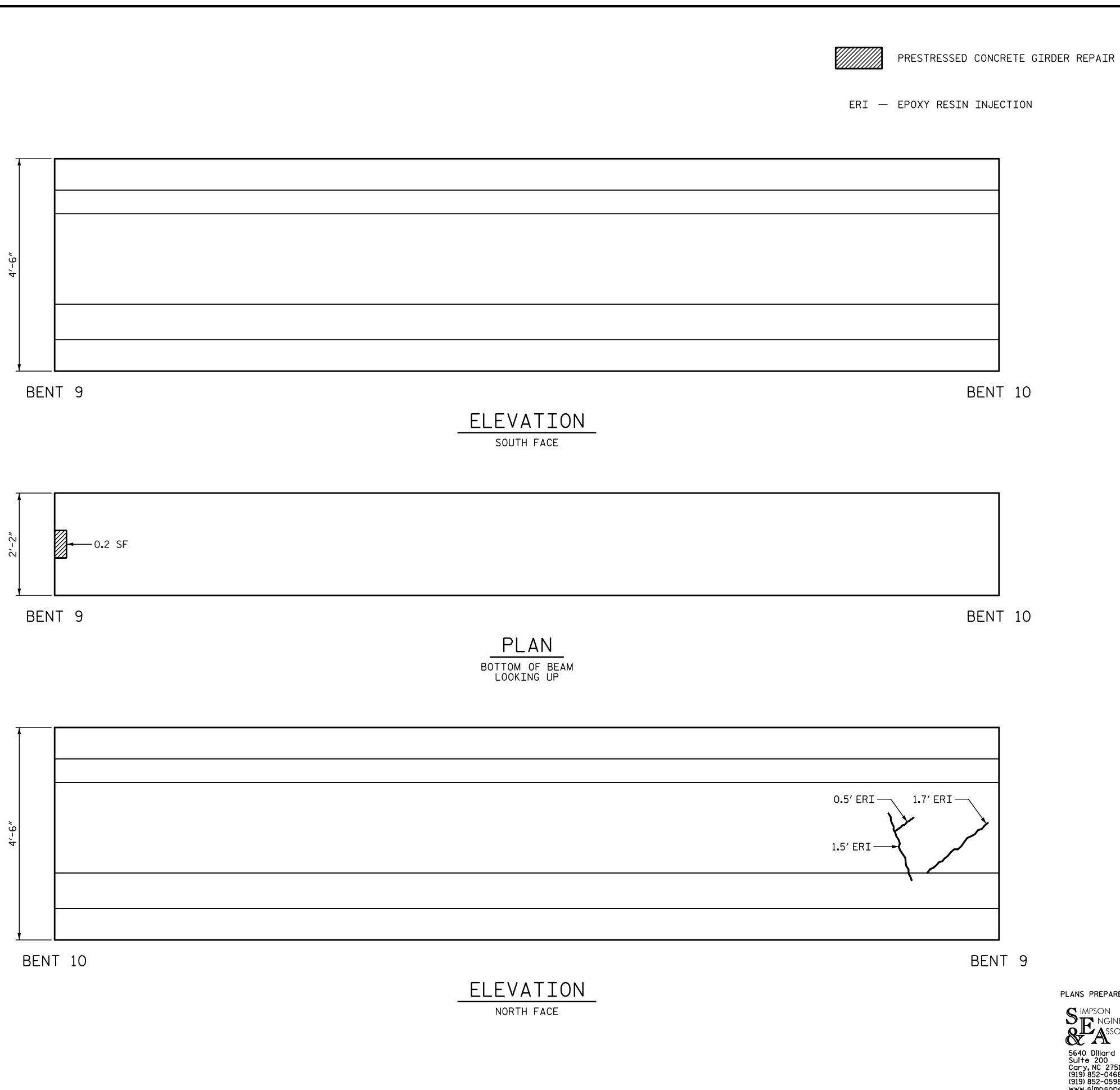
FOR REPAIRS OF PRESSTRESSED CONCRETE GIRDERS, SEE SPECIAL PROVISIONS.

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

		PROJEC <u>NEW</u> BRIDG	IANOVE	R/PEND	<u>BPR.2</u>) <u>ER</u> cc 40049	UNTY
SHEET 7 OF 7						
PLANS PREPARED BY:		DEPA	RTMENT	TE OF NORTH CAR OF TRAN RALEIGH SERVAT	NSPORTA	TION
SIMPSON NGINEERS SSOCIATES 5640 Dillard Drive Suite 200 Cary, NC, 27518	Downey Reference CAROL FULCO REFERENCE AGBISTEREST52245B SEAL 24390			SPAN ERDER		
Cary, NC 27518 (919) 852-0468 (919) 852-0598 (Fax)	J. BEAMIN					
www.simpsonengr.com LICENSURE NO.C-2521	9/29/2020	NO. BY:	REVI DATE:	SIONS NO. BY:	DATE:	SHEET NO. S2-97
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	DESIGN ENGINE	ER OF RECORD:	T.J. BEACH	_ DATE:	9-20

REPAIR QU	ANT	ITY -	ΓABL	.E	
REPAIRS SPAN 10 GRD.1			JANTITI		
RELATIO SLAN TO SRET	EST	IMATE		ACTUAL	_
REPAIRS OF PRESTR. CONCRETE GIRDERS	AREA SF	VOLUME CF	E AREA DEPTH VOLUM SF FT CF		
GIRDER	0.2	0.1			
EPOXY RESIN INJECT	ION	LF			LF
GIRDER		3.7			

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.

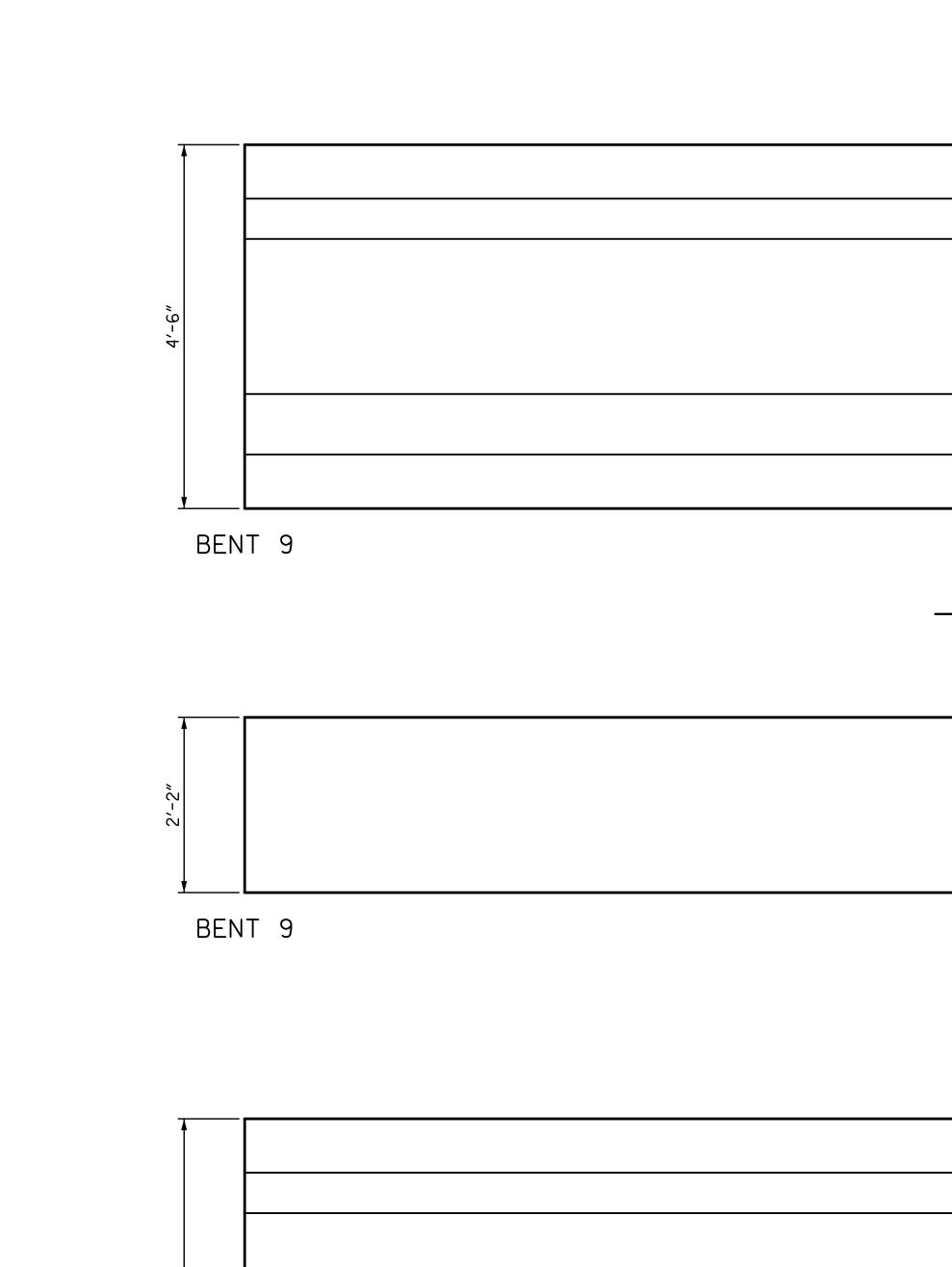
FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

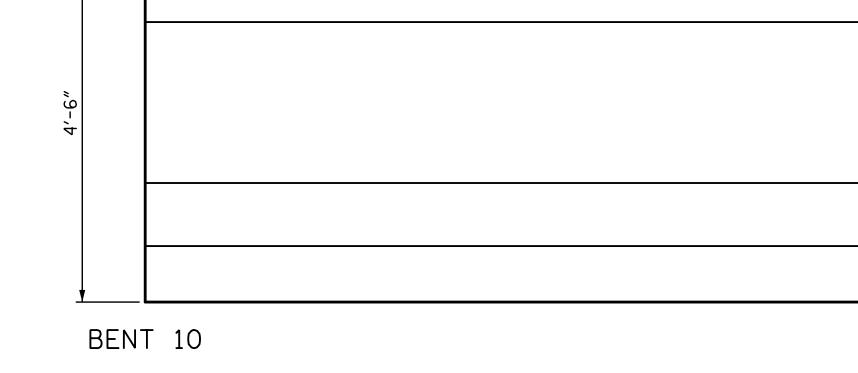
VALUES IN CHART REPRESENT ESTIMATE REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN, OF 1"BEHIND REBAR AND MIN. 2"CL. TO SAWCUT. SEE REPAIR DETAILS.

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

			CT NO. Hanovef	R/PENE		UNTY	
		BRIDGE NO.: 640049					
SHEET 1 OF 5							
PLANS PREPARED BY:		DEPA	RTMENT	OF NORTH CAR OF TRA RALEIGH	NSPORTA	TION	
SIMPSON NGINEERS SSOCIATES 5640 Dillard Drive Suite 200 Cary, NC 27518 (919) 852-0468	Poensentenber ARO/ FUCE Breach/0, AGB DE B575245B. SEAL 24390			PAN RDEF			
(919) 852-0598 (Fax) www.simpsonengr.com	9/29/2020		REVIS:	IONS	1	SHEET NO.	
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	T.J. BEACH		DATE:	9-20
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		PRESTRESSE	D CONCR	ETE GIR	DER REPAIR
	ERI —	EPOXY RESI	N INJEC	TION	
			BENT	10	
ELEVATION SOUTH FACE					
] BENT	10	
PLAN			DENT	10	
BOTTOM OF BEAM LOOKING UP					
			BENT	9	
ELEVATION NORTH FACE					PLANS PREPARED BY SIMPSON NGINEERS SSOCIATI
					5640 Dillard Drive Suite 200
					5640 Dillard Drive Suite 200 Cary, NC 27518 (919) 852-0468 (919) 852-0598 (Fa) www.simpsonengr.

REPAIR QU	ANT	ITY -	ΓABL	.E	
REPAIRS SPAN 10 GRD. 2 QUANTITIES					
REFAIRS SFAN IU GRU. Z	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			

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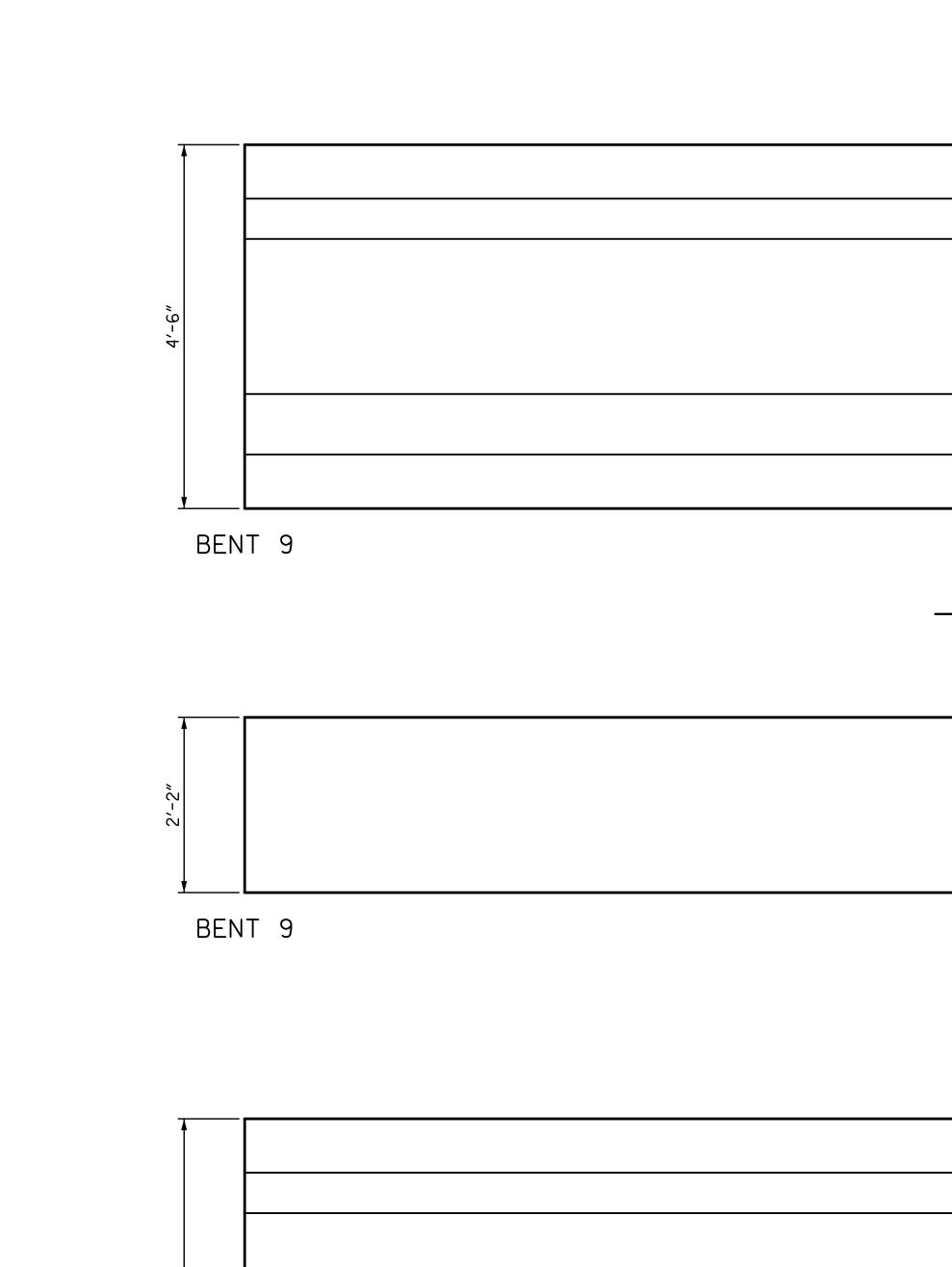
FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

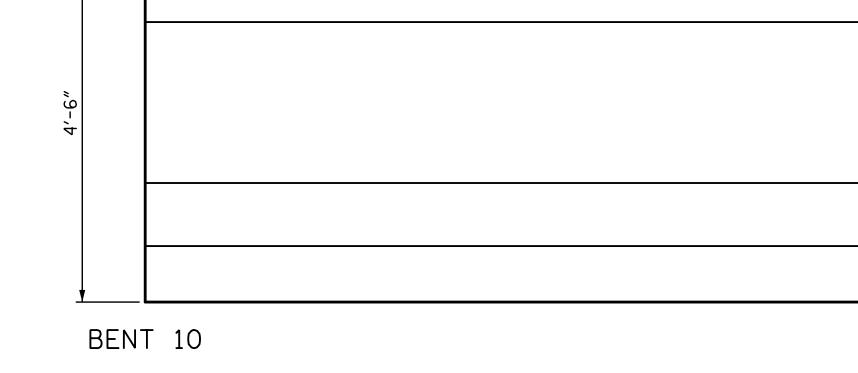
VALUES IN CHART REPRESENT ESTIMATE REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN, OF 1" BEHIND REBAR AND MIN. 2"CL. TO SAWCUT. SEE REPAIR DETAILS.

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

		NEW H	CT NO. I <u>ANOVEF</u> E NO.: _{OF 5}	<u>R/PENE</u>		UNTY
PLANS PREPARED BY:		DEPA	RTMENT	of north car OF TRA raleigh SERVA	NSPORTA	TION
SIMPSON NGINEERS SSOCIATES 5640 Dillard Drive Suite 200 Cary, NC 27518 (919) 852-0468 (919) 852-0598 (Fax)	AGB SOLESTSLABE 24390			PAN RDER		
www.simpsonengr.com	9/29/2020		REVISI	ONS	_	SHEET NO.
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DRAWN BY:	T. BANKOVICH		DATE:	9-20
	T.J. BEACH		DATE:	9-20
	NEER OF RECORD:	T.J. BEACH	DATE:	9-20
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		PRESTRESSE	D CONCR	ETE GIR	DER REPAIR
	ERI —	EPOXY RESI	N INJEC	TION	
			BENT	10	
ELEVATION SOUTH FACE					
] BENT	10	
PLAN			DENT	10	
BOTTOM OF BEAM LOOKING UP					
			BENT	9	
ELEVATION NORTH FACE					PLANS PREPARED BY SIMPSON NGINEERS SSOCIATI
					5640 Dillard Drive Suite 200
					5640 Dillard Drive Suite 200 Cary, NC 27518 (919) 852-0468 (919) 852-0598 (Fa) www.simpsonengr.

REPAIR QUANTITY TABLE								
REPAIRS SPAN 10 GRD. 3 QUANTITIES								
REFAIRS SFAN IU GRU. J	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						

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.

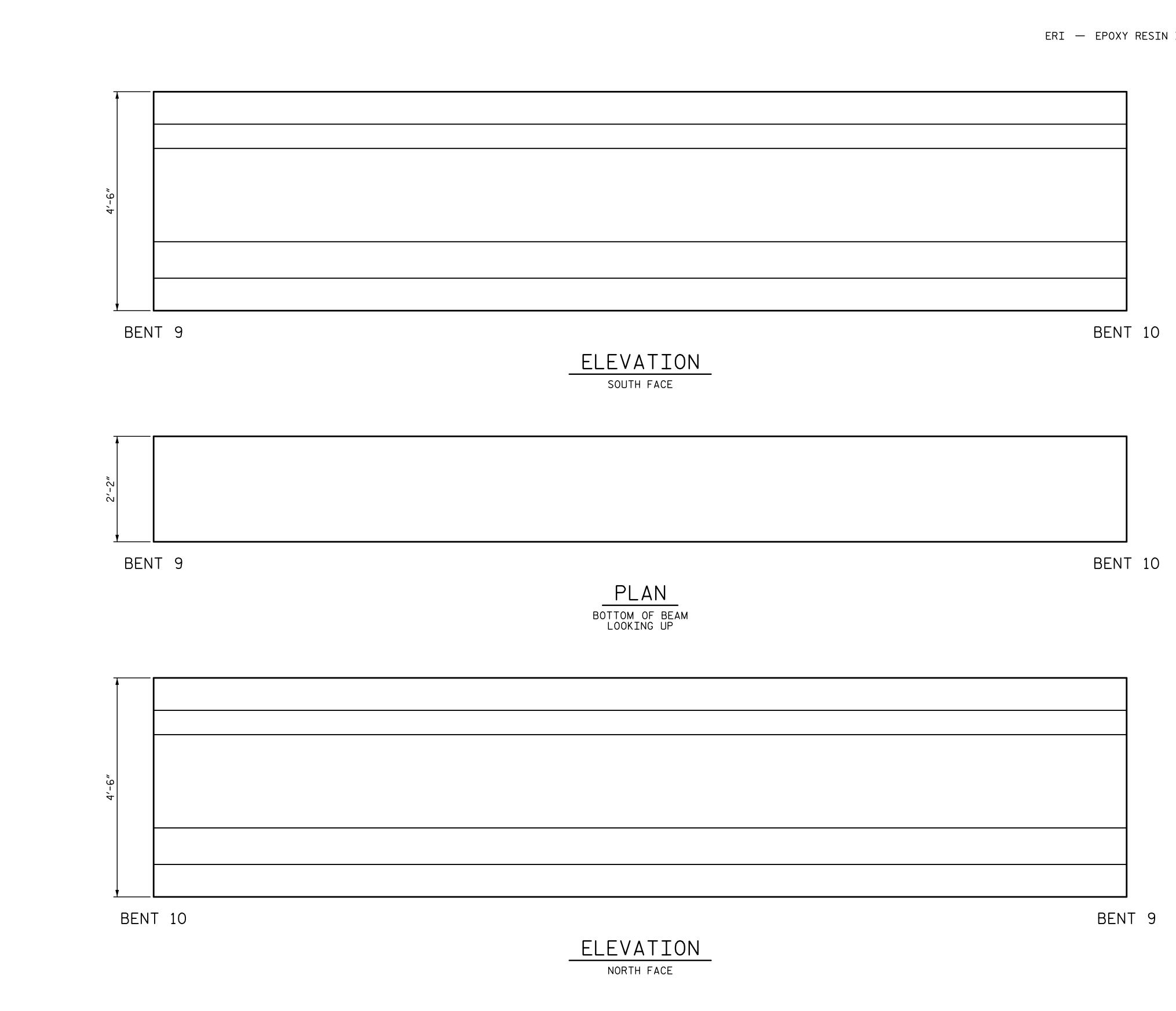
FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

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		NEW H	CT NO. I <u>ANOVEF</u> E NO.: _{OF 5}	R/PENE		UNTY	
PLANS PREPARED BY:		DEPA	RTMENT	OF NORTH CAR OF TRAI RALEIGH	NSPORTA	TION	
SIMPSON NGINEERS SSOCIATES 5640 Dillard Drive Suite 200 Cary, NC 27518 (919) 852-0468 (919) 852-0598 (Fax)	AGEN OUPBSTERALSE AGEN OUPBSTERALSE 24390	SPAN 10 GIRDER 3					
www.simpsonengr.com	9/29/2020		REVISI	ONS		SHEET NO.	
LICENSURE NO. C-2521	5, 25, 2020	NO. BY:		10. BY:	DATE:	S2-100	
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UNLESS ALL SIGNATURES COMPLETED		2	6	1		163	





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6/2	CHECKED BY:	T.J. BEACH		DATE:	9-20
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REPAIR QUANTITY TABLE								
REPAIRS SPAN 10 GRD. 4 GUANTITIES								
REFAIRS SFAN IU GRU. 4	EST	IMATE		ACTUAL	_			
SHOTCRETE REPAIRS	AREA SF				VOLUME CF			
GIRDER	0.0	0.0						
EPOXY RESIN INJECT	ION	LF			LF			
GIRDER		0.0						

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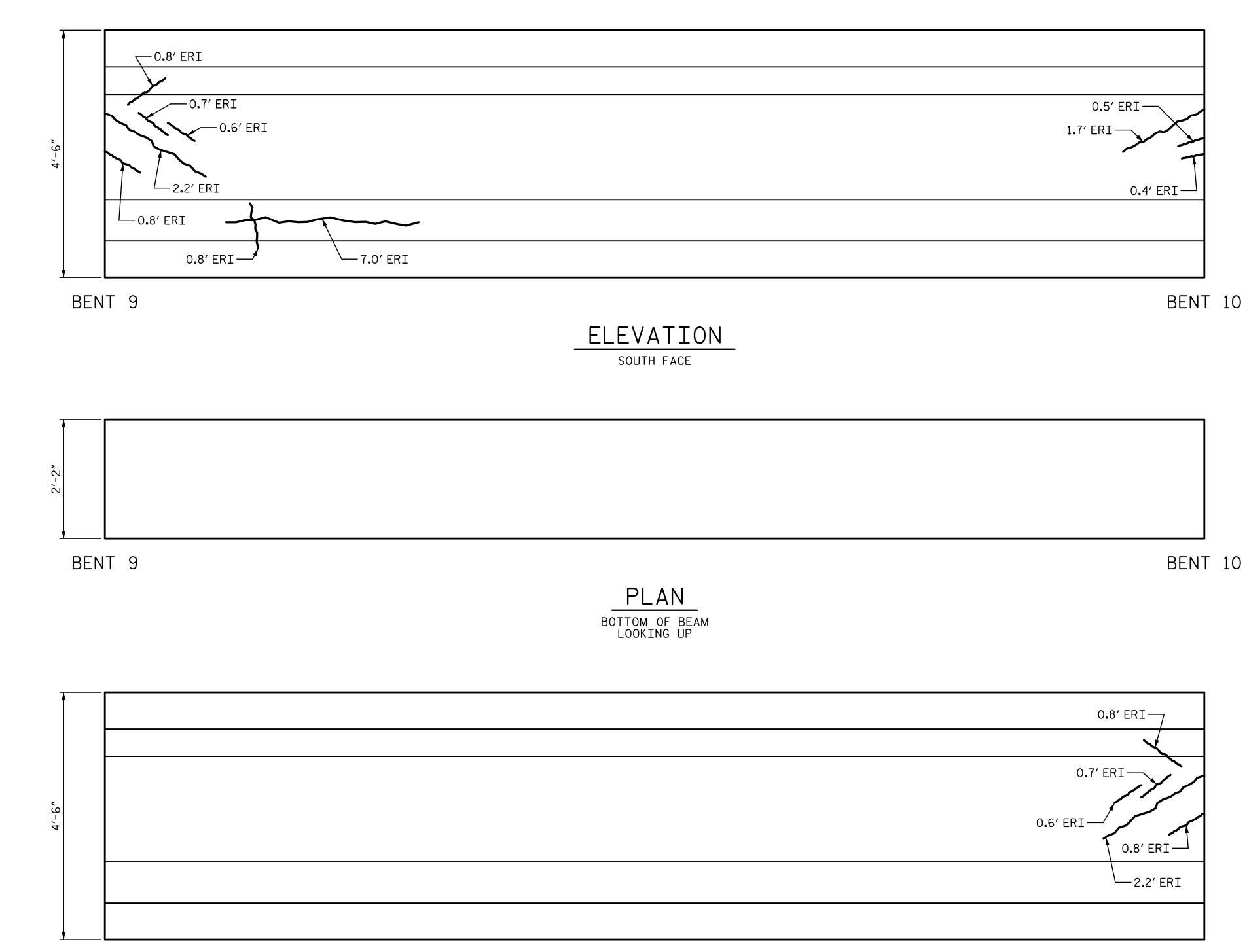
SHOTCRETE REPAIRS MAY BE REPLACED WITH CONCRETE REPAIRS WITH THE APPROVAL OF THE ENGINEER.

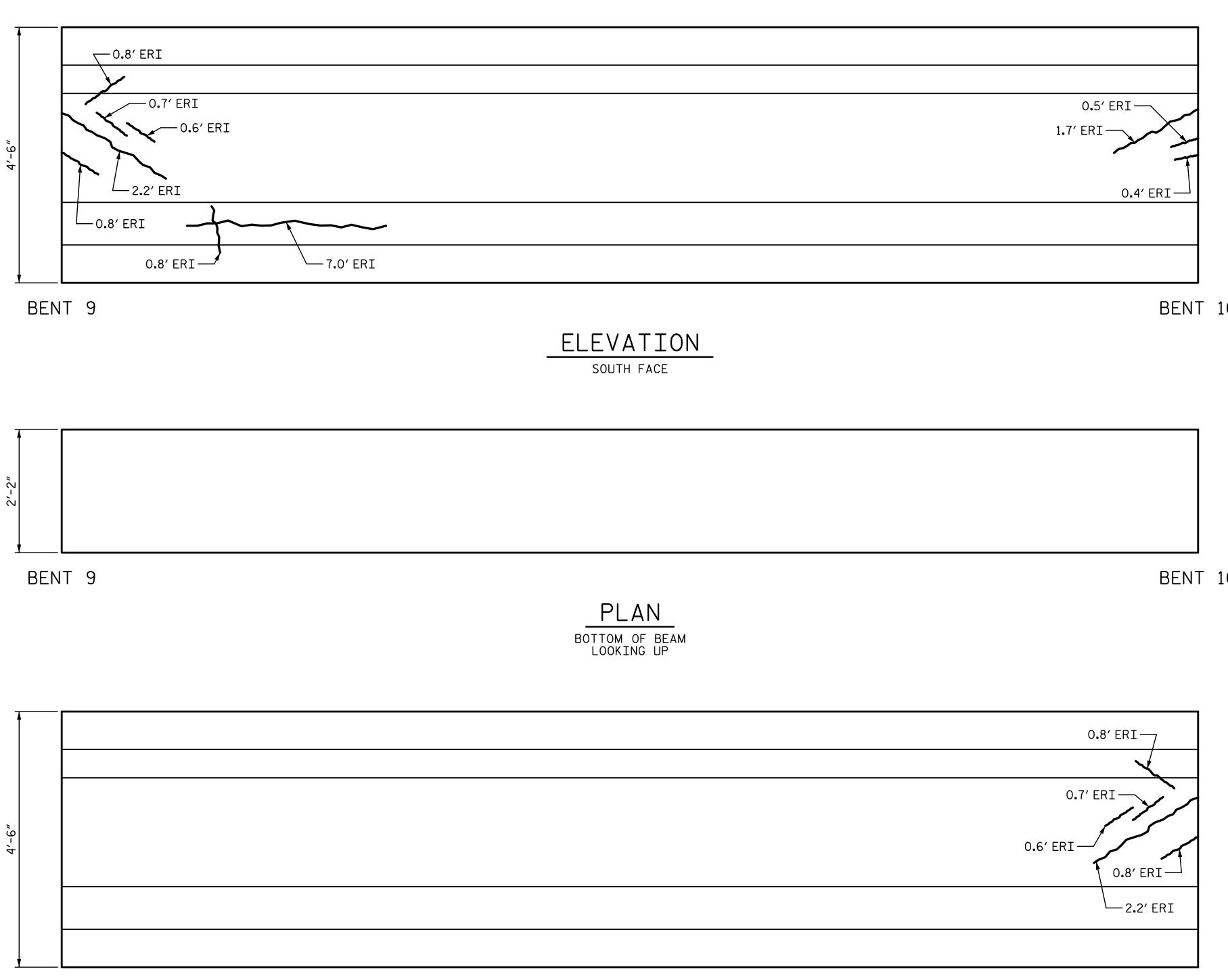
FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

FOR CONCRETE REPAIRS, SEE SPECIAL PROVISIONS.

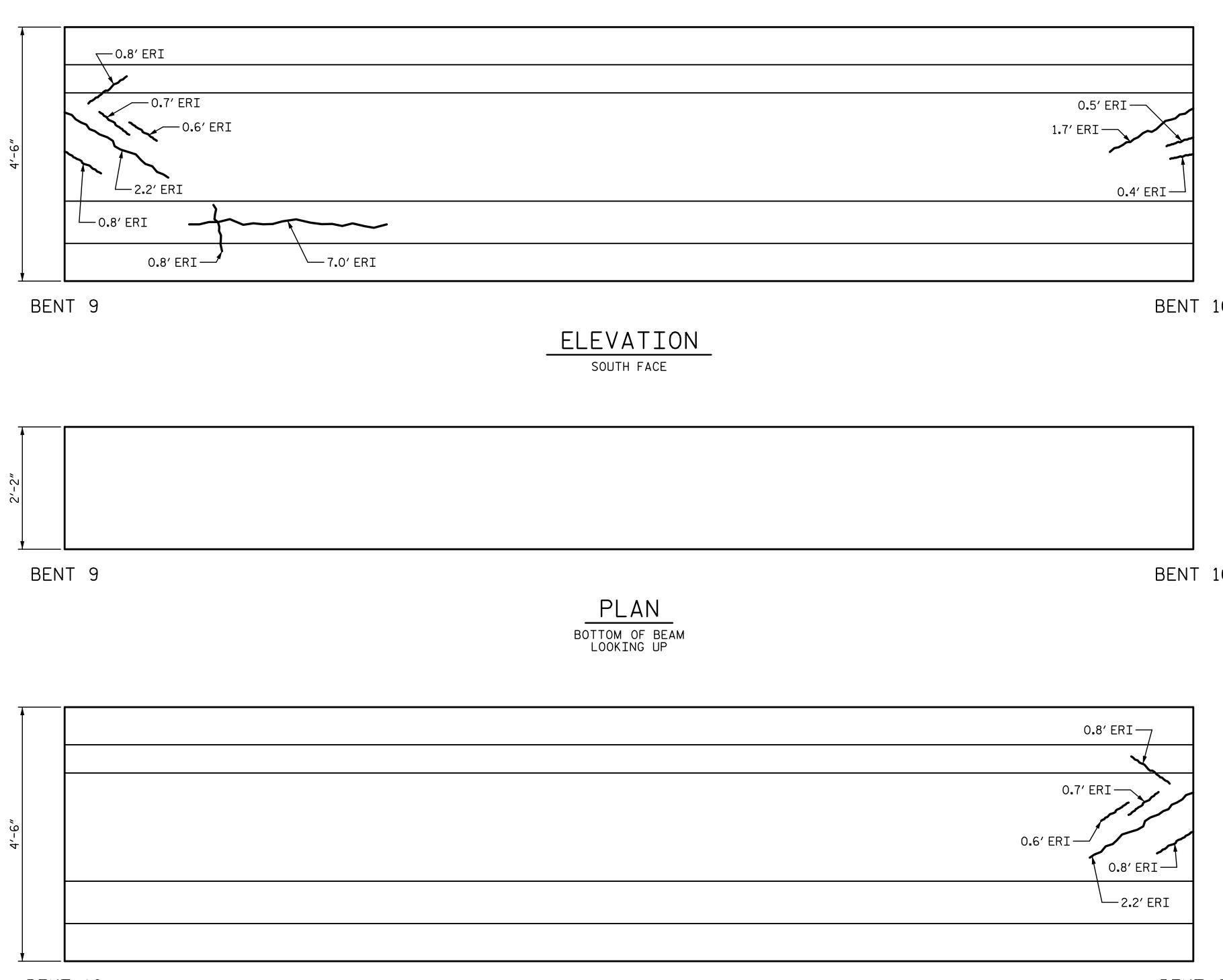
FOR SUPERSTRUCTURE REPAIR DETAIL, SEE ``SUPERSTRUCTURE REPAIR DETAIL" SHEET.

		PROJEC <u>NEW H</u> BRIDGE	IANOVE	R/PEN[<u>BPR.</u> <u>DER</u> CO 40049	DUNTY
		SHEET 4	OF 5			
PLANS PREPARED BY: SIMPSON NGINEERS SSOCIATES 5640 Dillard Drive Suite 200 Cary, NC 27518 (919) 852-0468 (919) 852-0468 (919) 852-0598 (Fax)	Docade internal, CARO/ two potential AGB 1 all 05575246B SEAL 24390 MGINEE	DEPA	rtment PRE S	E OF NORTH CAF OF TRA RALEIGH SERVA PAN RDER	nsporta FION 10	TION
	9/29/2020		REVIS	SIONS	Γ	SHEET NO.
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107	DRAWN BY:	T.BANKOVICH		DATE:	9-20
316	CHECKED BY:	T.J. BEACH		DATE:	9-20
	DESIGN ENGINE	ER OF RECORD:	T.J. BEACH	DATE:	9-20





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

> DOCUME **UNLESS A**

ELEVATION NORTH FACE

REPAIR QU	ANT	ITY -	ΓABL	.E	
REPAIRS SPAN 10 GRD. 5		Q	JANTIT	EES	
REFAIRS SFAN IU GRU. S	ESTIMATE 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		20.6			

NOTES:

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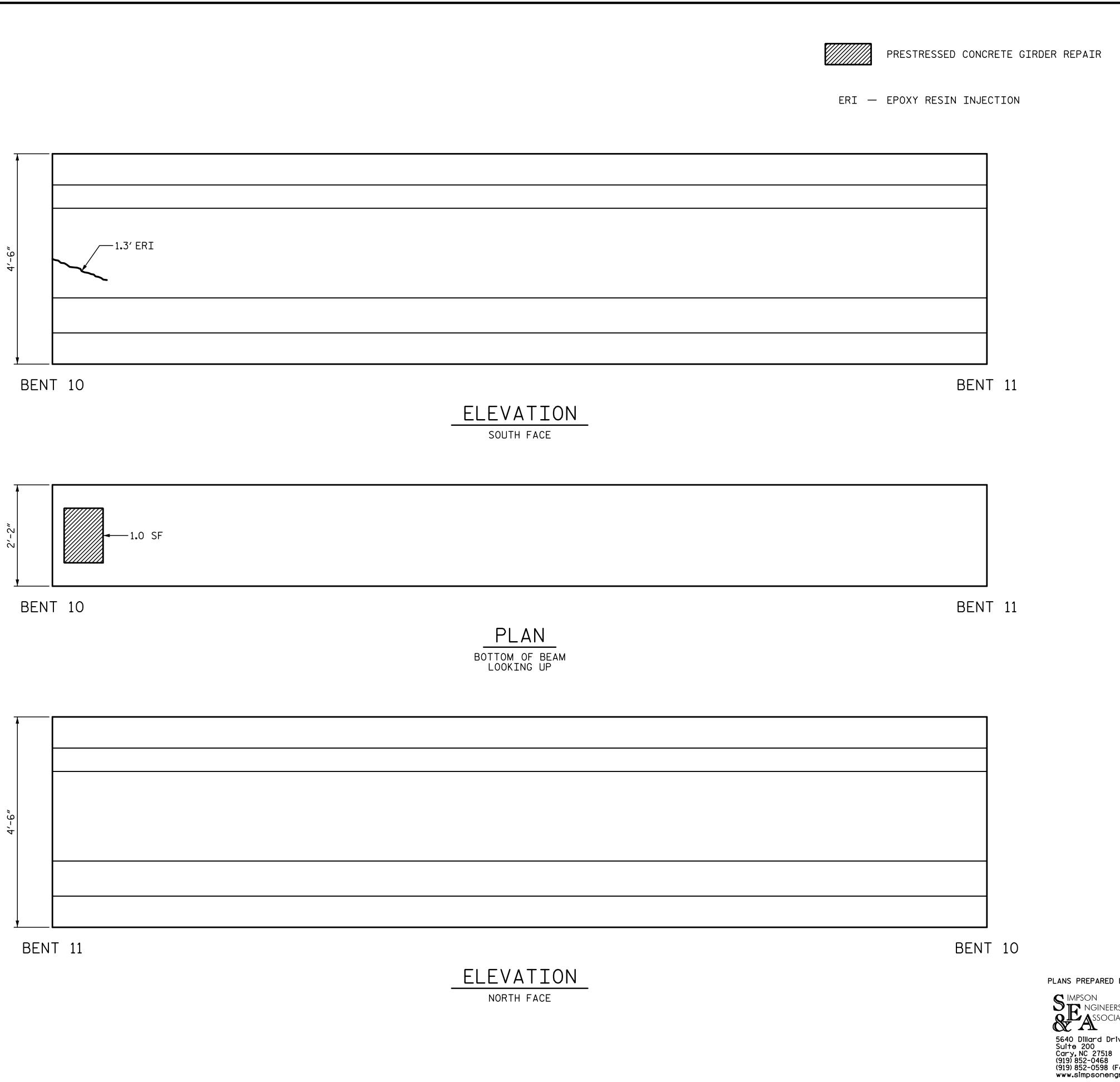
FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

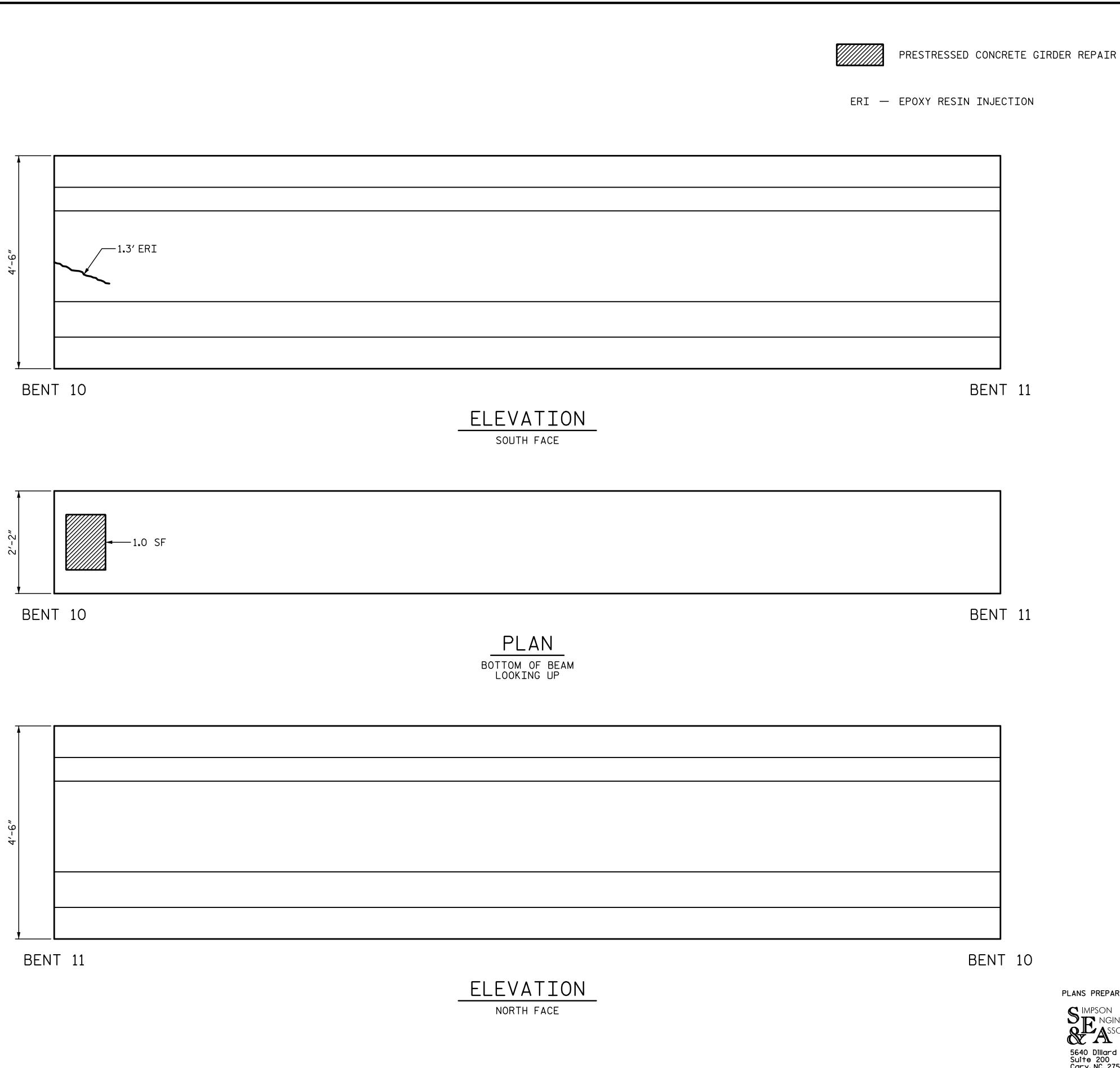
VALUES IN CHART REPRESENT ESTIMATE REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN, OF 1"BEHIND REBAR AND MIN. 2"CL. TO SAWCUT. SEE REPAIR DETAILS.

FOR REPAIRS OF PRESSTRESSED CONCRETE GIRDERS, SEE SPECIAL PROVISIONS.

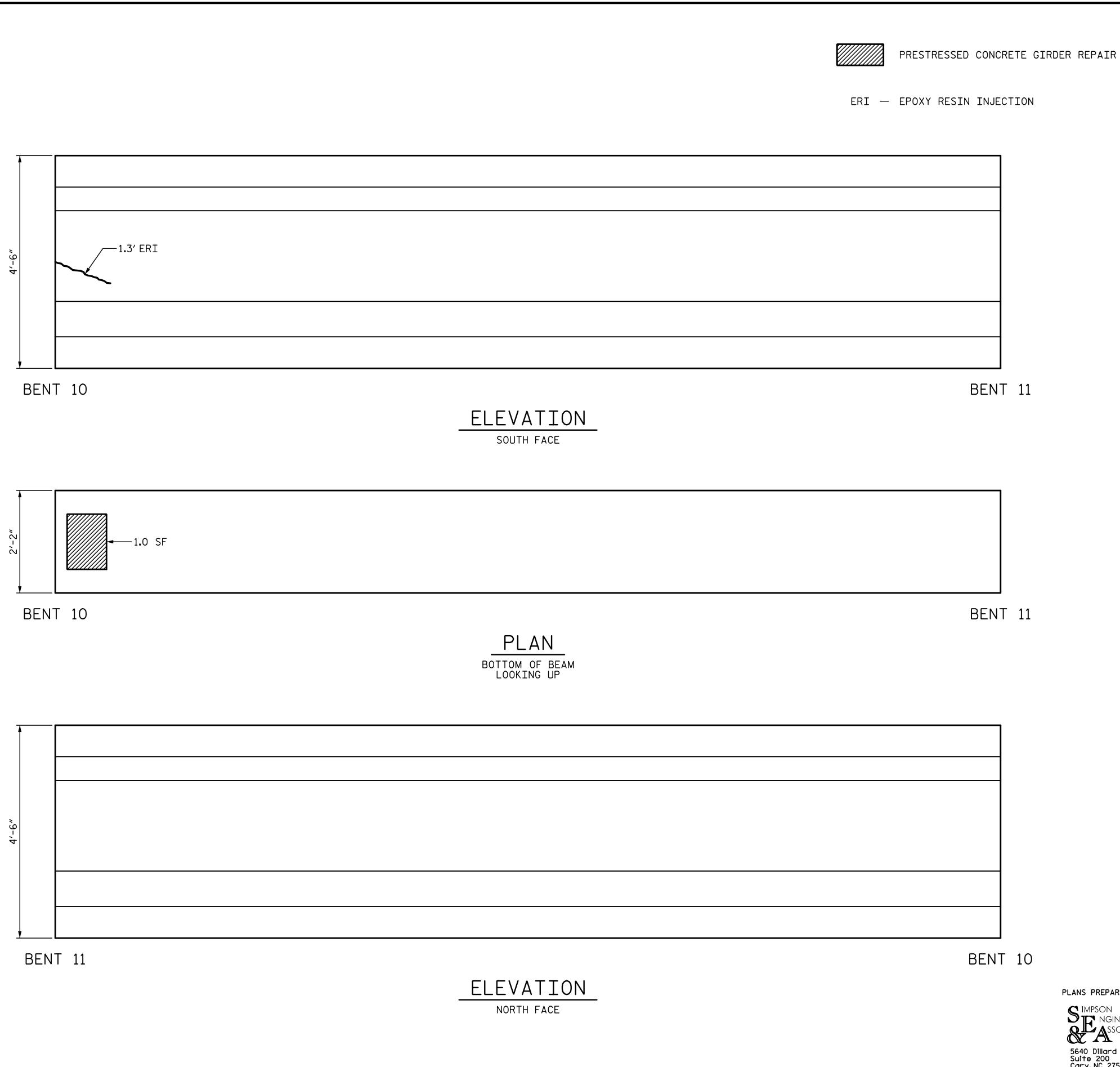
FOR REPAIRS OF PRESTRESSED CONCRETE GIRDERS DETAILS, SEE "PRESTRESSED CONCRETE GIRDER REPAIR DETAILS" SHEET.

		NEW	CT NO. <u>Hanover</u> E NO.:_	<u>PENE</u>		UNTY
		SHEET 5	0F 5			
BY:		DEP/	ARTMENT	OF NORTH CAR OF TRAI RALEIGH	NSPORTA	TION
RS ATES Ive	AGBINESTS245B 24390			PAN : RDER		
⁻ ax) gr.com	J. BEAUNIN		REVISI	ONS		SHEET NO.
-2521	9/29/2020	NO. BY:		10. BY:	DATE:	S2-102
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28/	DRAWN BY:	T. BANKOVICH		DATE: 9-20
	CHECKED BY:	T.J. BEACH		DATE: 9-20
57		NEER OF RECORD:	T.J. BEACH	DATE: 9-20

REPAIR QU	ANT	ITY -	ΓABL	.E		
REPAIRS SPAN 11 GRD.1			JANTITI			
NEI AINS SI AN II ONDEI	ESTIMATE ACTUAL					
REPAIRS OF PRESTR. CONCRETE GIRDERS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUM CF	E
GIRDER	1.0	0.2				
EPOXY RESIN INJECT	ION	LF			LF	
GIRDER		1.3				

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.

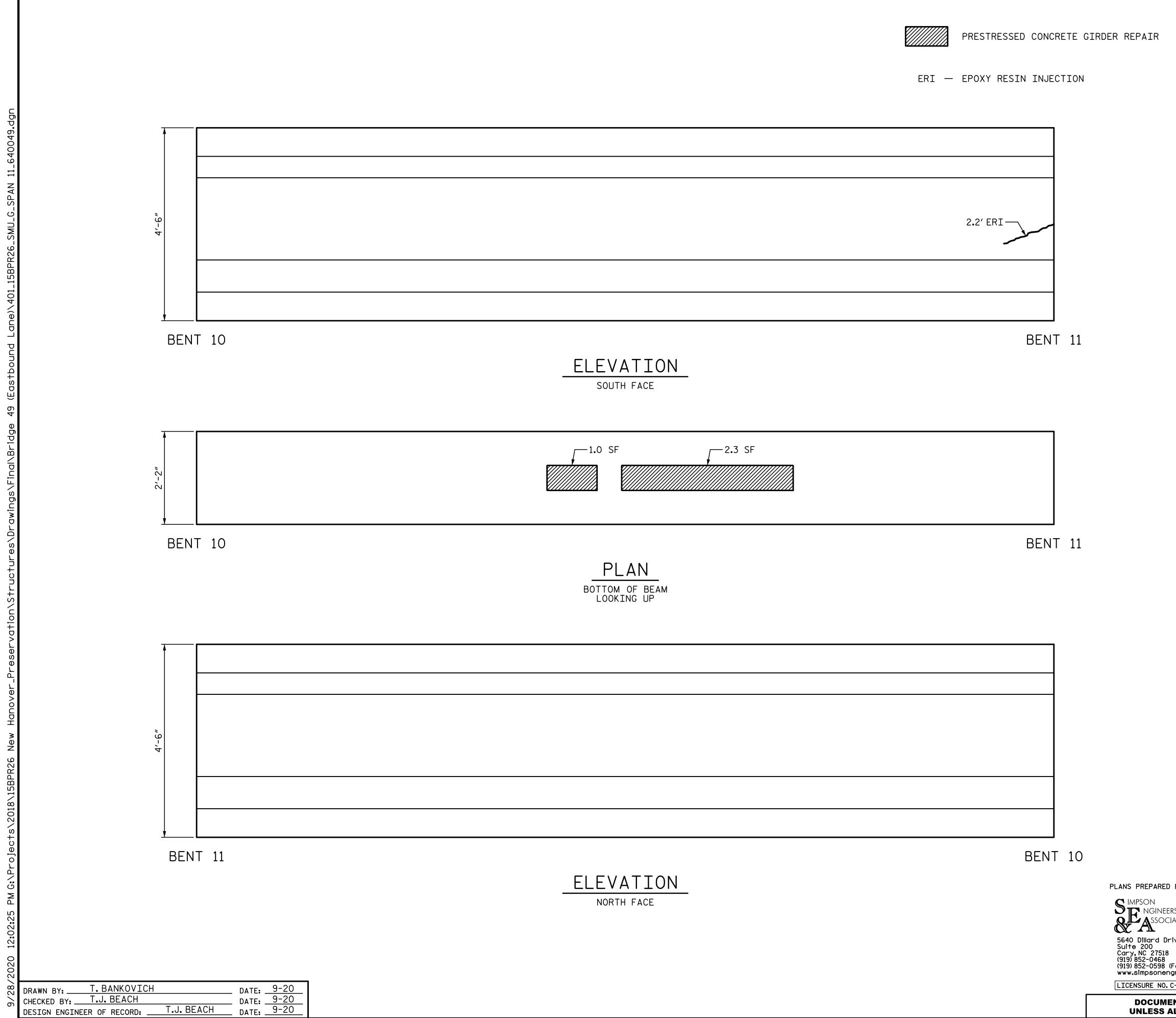
FOR REPAIRS OF PRESSTRESSED CONCRETE GIRDERS, SEE SPECIAL PROVISIONS.

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

		NEW H	CT NO I <u>ANOVER/</u> E NO.:	PEND		UNTY
PLANS PREPARED BY:		DEPA	RTMENT OF	RALEIGH	NSPORTA	TION
SIMPSON NGINEERS SSOCIATES 5640 Dillard Drive Suite 200 Cary, NC 27518 (919) 852-0468 (919) 852-0598 (Fax)	AGE COBSTS245B. SEAL 24390		SP/ GIR	AN Der		
www.simpsonengr.com	9/29/2020		REVISION	IS		SHEET NO.
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T.J. BEACH

DESIGN ENGINEER OF RECORD:



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REPAIR QU	ANT	ITY -	ΓABL	.E	
REPAIRS SPAN 11 GRD. 2			JANTIT		
ILLI AIRS SI AN II ORD. E	EST	IMATE		ACTUAL	
REPAIRS OF PRESTR. CONCRETE GIRDERS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF
GIRDER	3.3	0.6			
EPOXY RESIN INJECT	ION	LF			LF
GIRDER		2.2			

NOTES:

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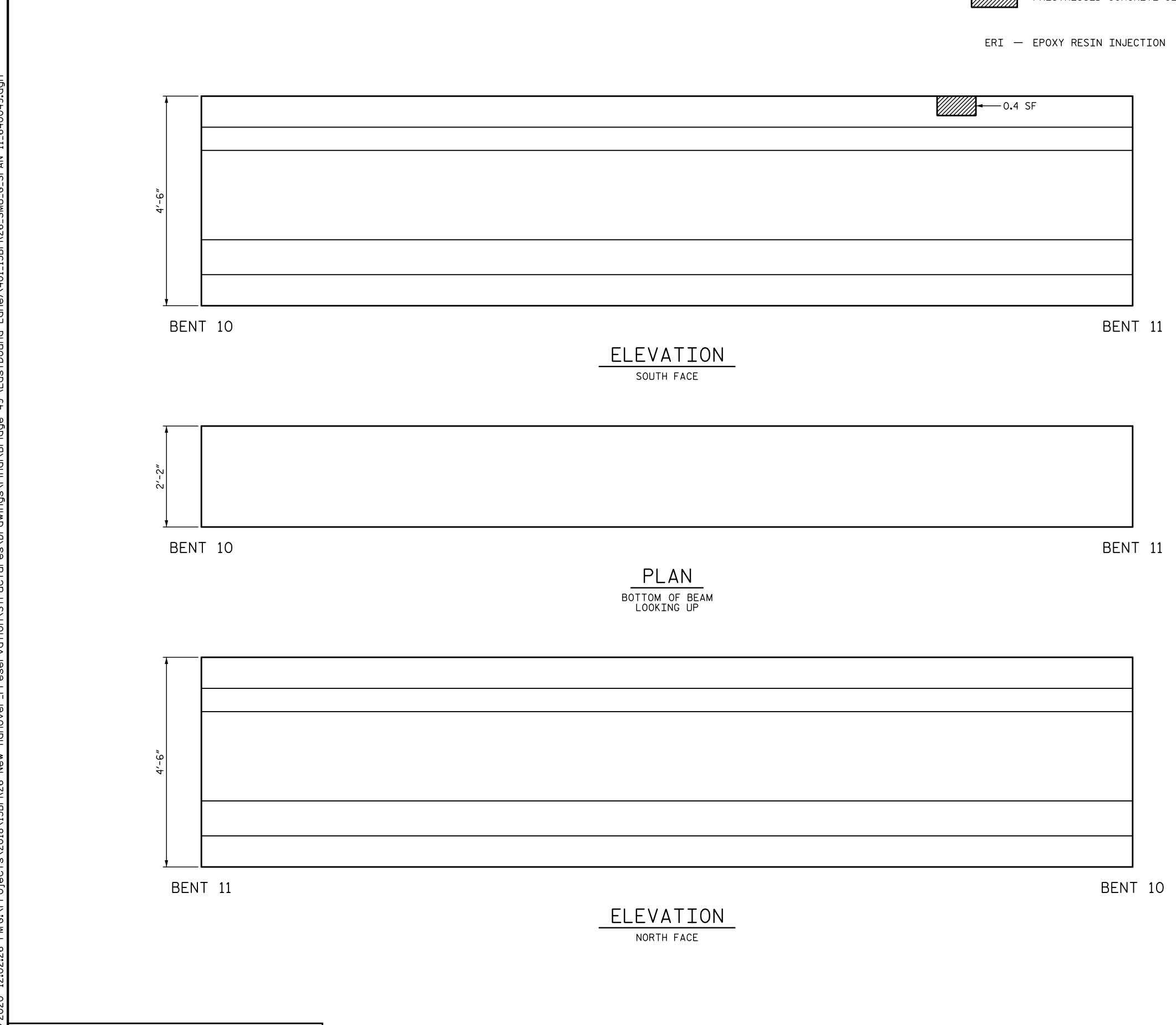
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VALUES IN CHART REPRESENT ESTIMATE REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN, OF 1"BEHIND REBAR AND MIN. 2"CL. TO SAWCUT. SEE REPAIR DETAILS.

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

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RS ATES I ve	AGENT SUBSTFEAL 24390		_		AN DER		
⁻ ax) gr.com :-2521	9/29/2020	NO. BY:	REVIS DATE:	NO.	S BY:	DATE:	SHEET NO. S2-104
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REPAIR QU	ANT	ITY -	TABL	.E		
REPAIRS SPAN 11 GRD. 3		Q	UANTIT	[ES		
REFAIRS SFAN II GRD. J	EST	IMATE				
REPAIRS OF PRESTR. CONCRETE GIRDERS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF	
GIRDER	0.4	0.1				
EPOXY RESIN INJECT	ION	LF			LF	
GIRDER		0.0				

NOTES:

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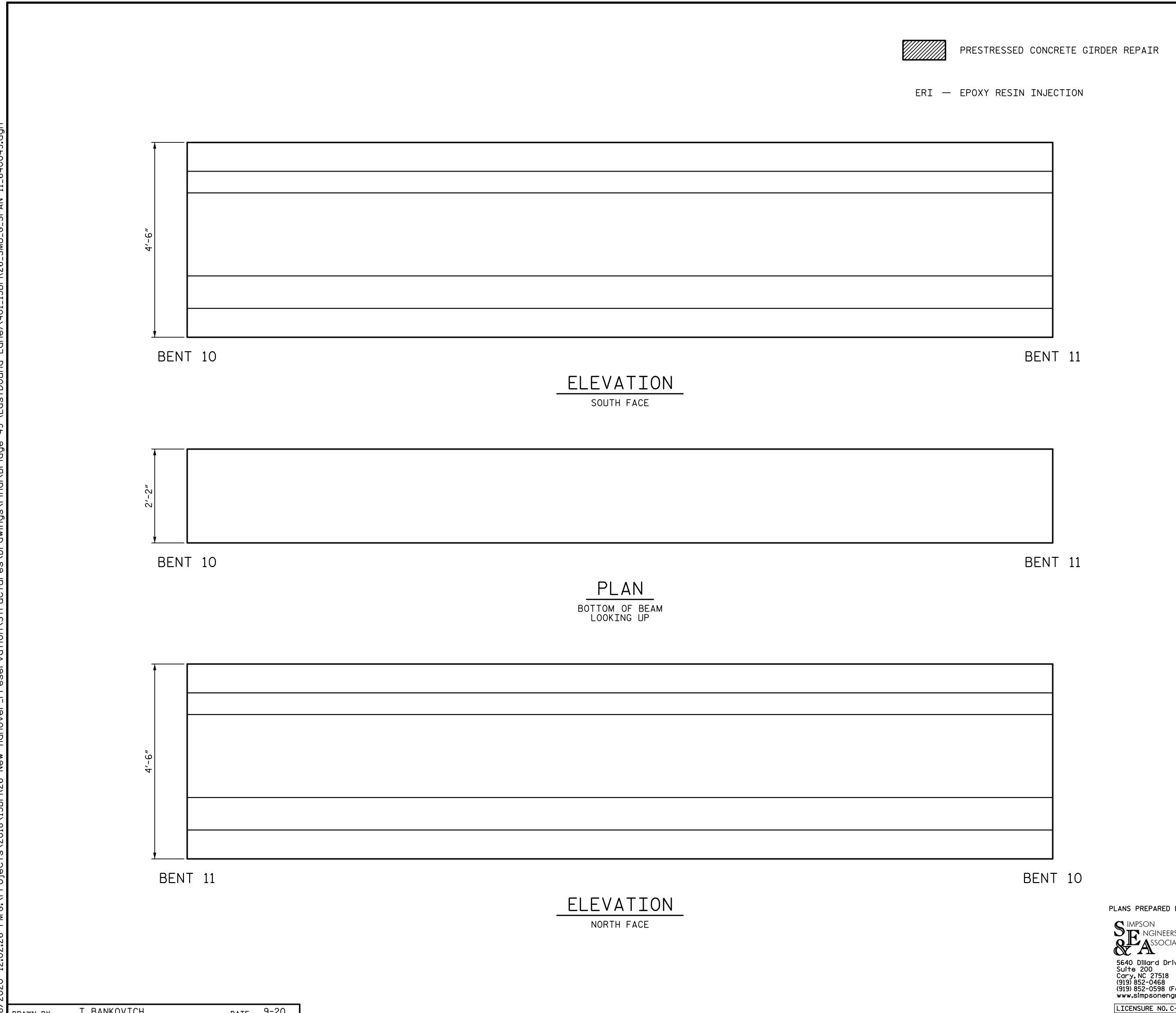
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FOR REPAIRS OF PRESTRESSED CONCRETE GIRDERS DETAILS, SEE "PRESTRESSED CONCRETE GIRDER REPAIR DETAILS" SHEET.

		<u>N</u> BR	EW ⊢ RIDGE	CT NO. Ianove E NO.:	<u>R/P</u>	PEND	<u>BPR.</u> <u>ER</u> co 10049	DUNTY
PLANS PREPARED BY: SIMPSON NGINEERS SSOCIATES 5640 Dillard Drive Suite 200 Cary, NC 27518 (919) 852-0468 (919) 852-0598 (Fax)	Doorsignad by CARO/ SEAL 24390 ABB 1000 B5752468 SEAL 24390 FOR ENCLOSE		<u>IEET 3</u>	RTMENT PRE	RAL	TRAN Eligh VAT	NSPORTA ION 11	TION
www.simpsonengr.com	9/29/2020				SIONS			SHEET NO. S2-105
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REPAIR QUANTITY TABLE									
REPAIRS SPAN 11 GRD. 4			UANTIT	IES					
ILLI AIRS SI AN II ORD. I	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							

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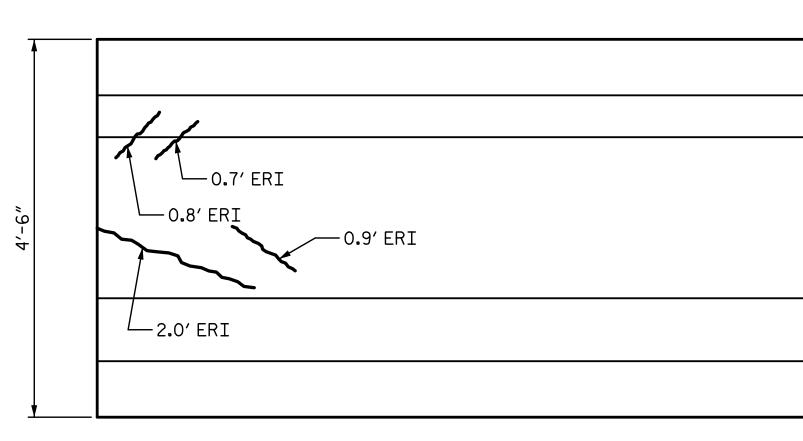
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VALUES IN CHART REPRESENT ESTIMATE REPAIR TOTALS AFTER REMOVAL OF UNSOUND CONCRETE, MIN, OF 1"BEHIND REBAR AND MIN. 2"CL. TO SAWCUT. SEE REPAIR DETAILS.

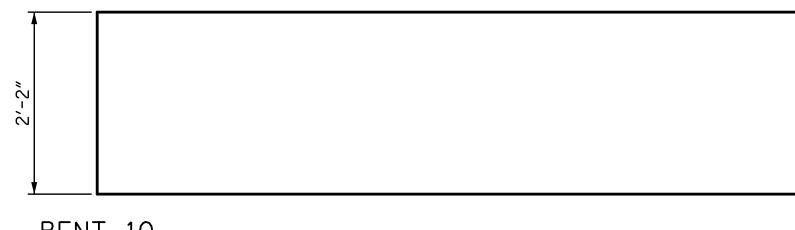
FOR REPAIRS OF PRESSTRESSED CONCRETE GIRDERS, SEE SPECIAL PROVISIONS.

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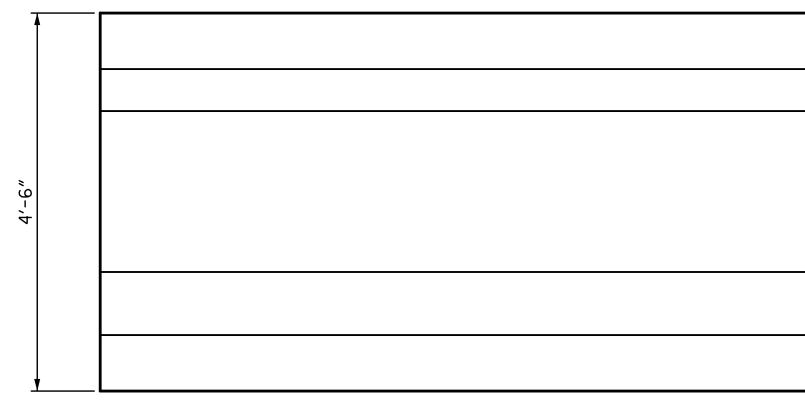
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		SHEET 4	OF 5			
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ax) gr.com	J. BEAMIN		REVISI	IONS		SHEET NO.
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	NSIDERED FINAL JRES COMPLETED	1 2		3 4		total sheets 163













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28/	DRAWN BY:	T. BANKOVICH		DATE:	9-20
	CHECKED BY: _	T.J. BEACH		DATE:	9-20
		EER OF RECORD:	T.J. BEACH	DATE:	9-20
	DESTON ENGIN	EER OF RECORD:		DATE:	

	PRESTRESSED CONCRETE GIRDER REPAIR
	ERI — EPOXY RESIN INJECTION
	BENT 11
ELEVATION SOUTH FACE	
	BENT 11
PLAN	
BOTTOM OF BEAM LOOKING UP	
	1.3' ERI
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NORTH FACE	S IMPSON NGINEERS
	5640 Dillard Driv Suite 200
	5640 Dillard Driv Suite 200 Cary, NC 27518 (919) 852-0468 (919) 852-0598 (Fo www.simpsonengr LICENSURE NO. C-
	ILICENSUKE NO. C-

REPAIR QUANTITY TABLE									
REPAIRS SPAN 11 GRD. 5		Q	JANTIT	[ES					
INCLATING SLAN II GND. J	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		7.4							

NOTES:

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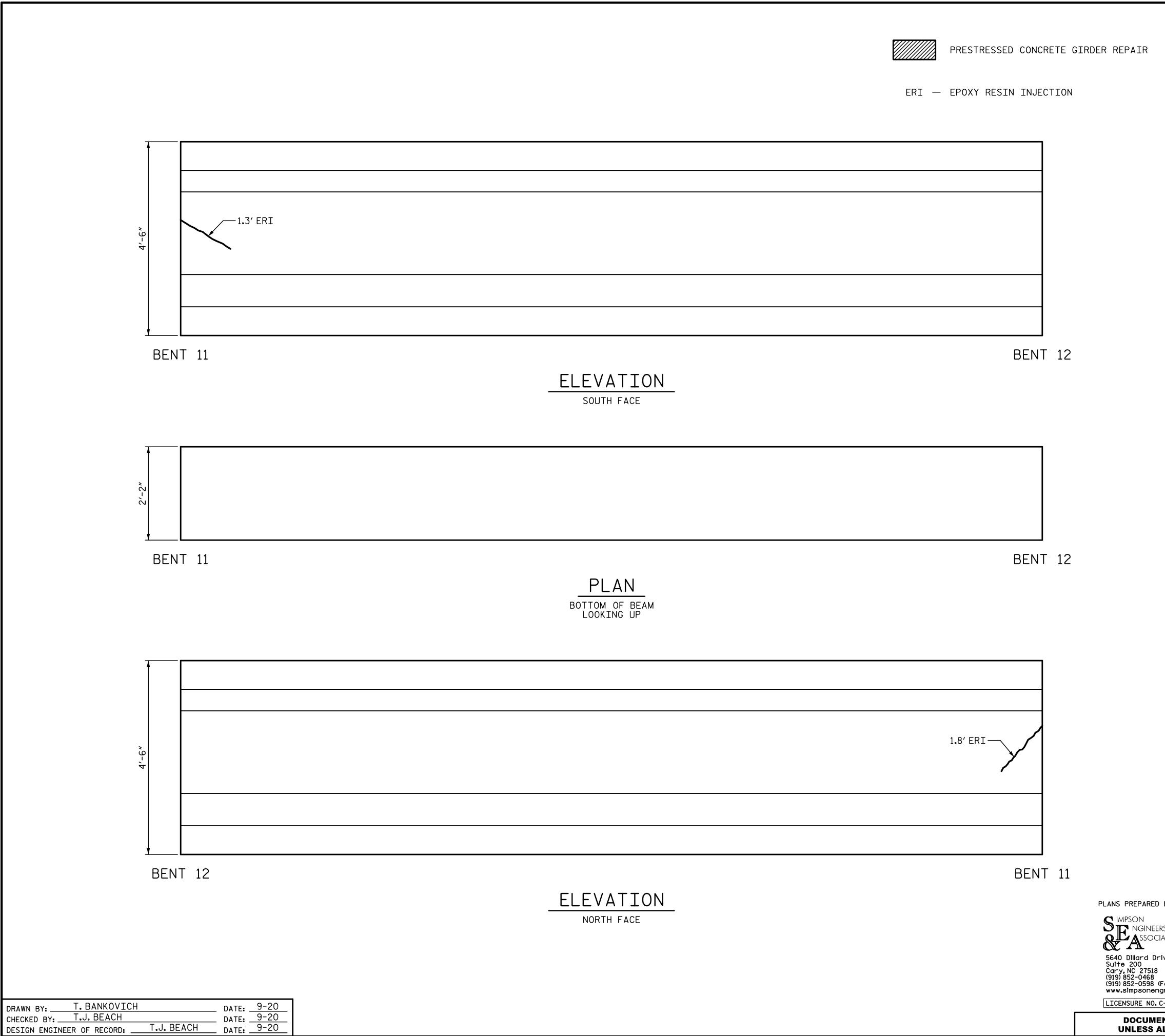
FOR REPAIRS OF PRESTRESSED CONCRETE GIRDERS DETAILS, SEE "PRESTRESSED CONCRETE GIRDER REPAIR DETAILS" SHEET.

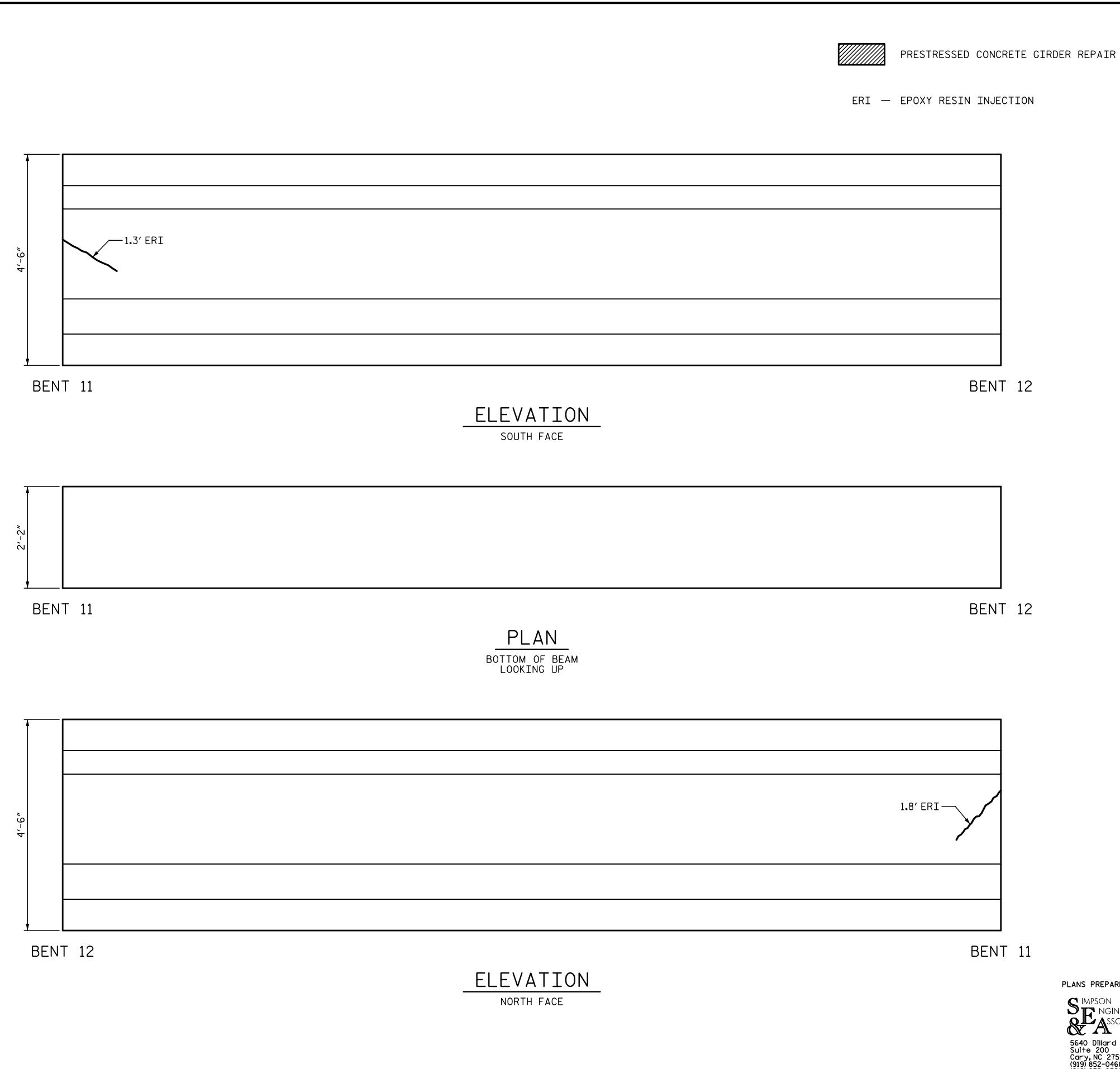
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PLANS PREPARED BY:		DEPA	RTMENT	OF NORTH CAR OF TRAI RALEIGH	NSPORTA	TION
SIMPSON NGINEERS SSOCIATES 5640 Dillard Drive Suite 200 Cary, NC 27518 (919) 852-0468	AGEN CEPESTS 245B AGEN CEPESTS 245B SEAL 24390			PAN RDER		
(919)852-0598 (Fax) www.simpsonengr.com	9/29/2020		REVIS	IONS		SHEET NO.
LICENSURE NO. C-2521	5/23/2020	NO. BY:		NO. BY:	DATE:	S2-107
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DESIGN ENGINEER OF RECORD:





REPAIR QUANTITY TABLE										
REPAIRS SPAN 12 GRD. 1		Q	UANTIT	IES						
NEFAINS SFAN 12 GND. I	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		3.1								

NOTES:

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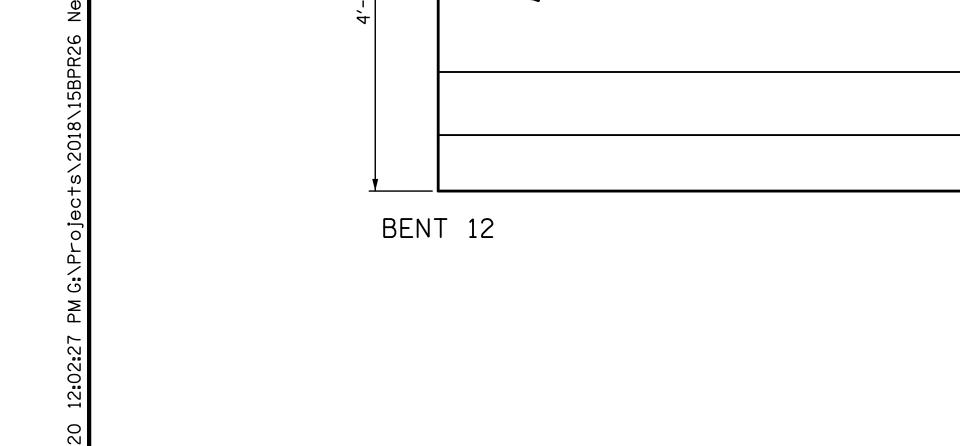
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		BRIDG	IANOVEF E NO.:_	R/F	PEND		DUNTY		
BY:	SHEET 1 OF 5 STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH PRESERVATION								
RS ATES Ive	AGB & DEESTER EFAL 24390	SPAN 12 GIRDER 1							
⁻ ax) gr.com :-2521	9/29/2020	NO. BY:		NO.	BY:	DATE:	SHEET NO. S2-108		
	NSIDERED FINAL JRES COMPLETED	1 2		3 4			total sheets 163		



T.J. BEACH

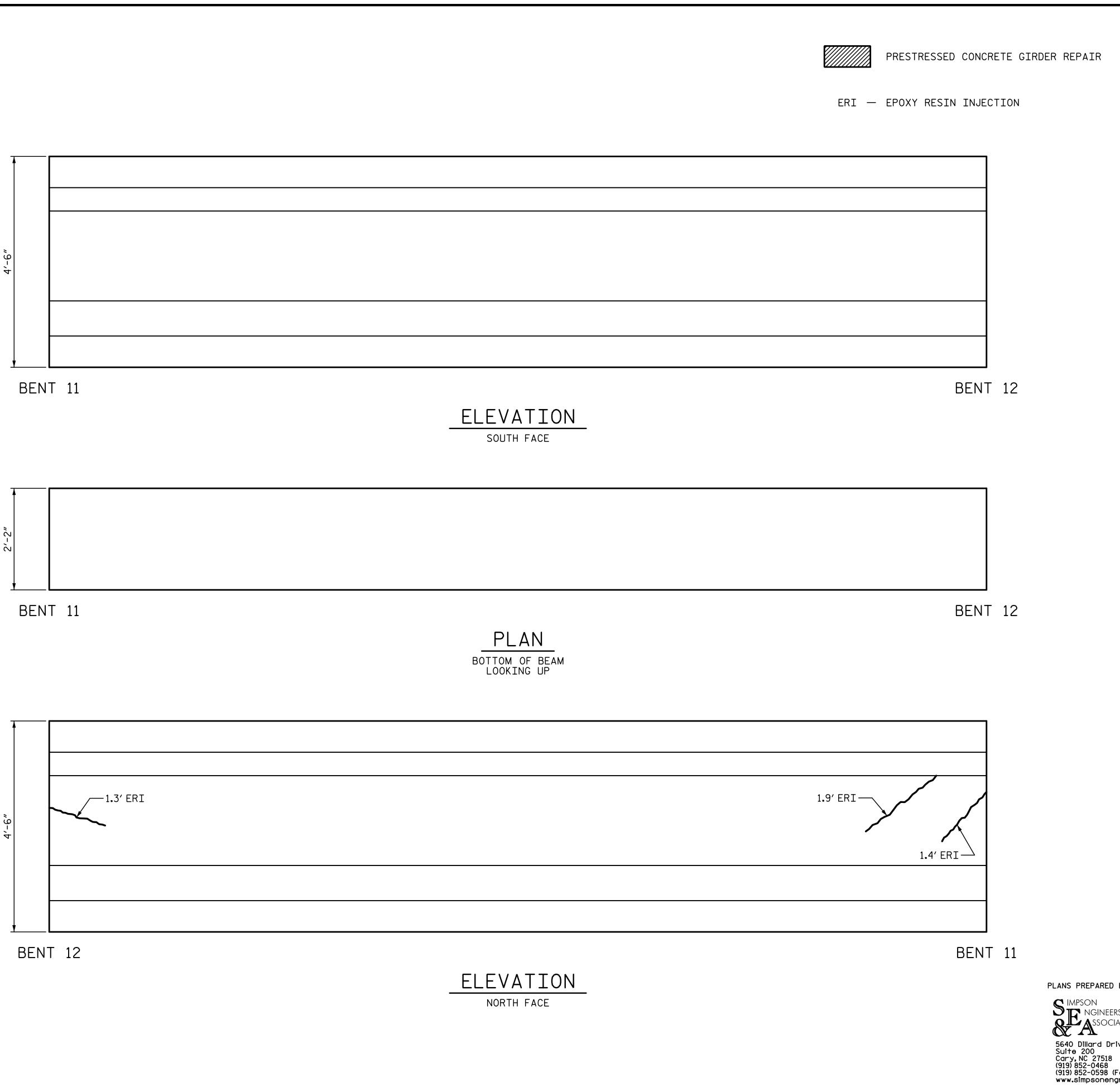
T. BANKOVICH

DRAWN BY:

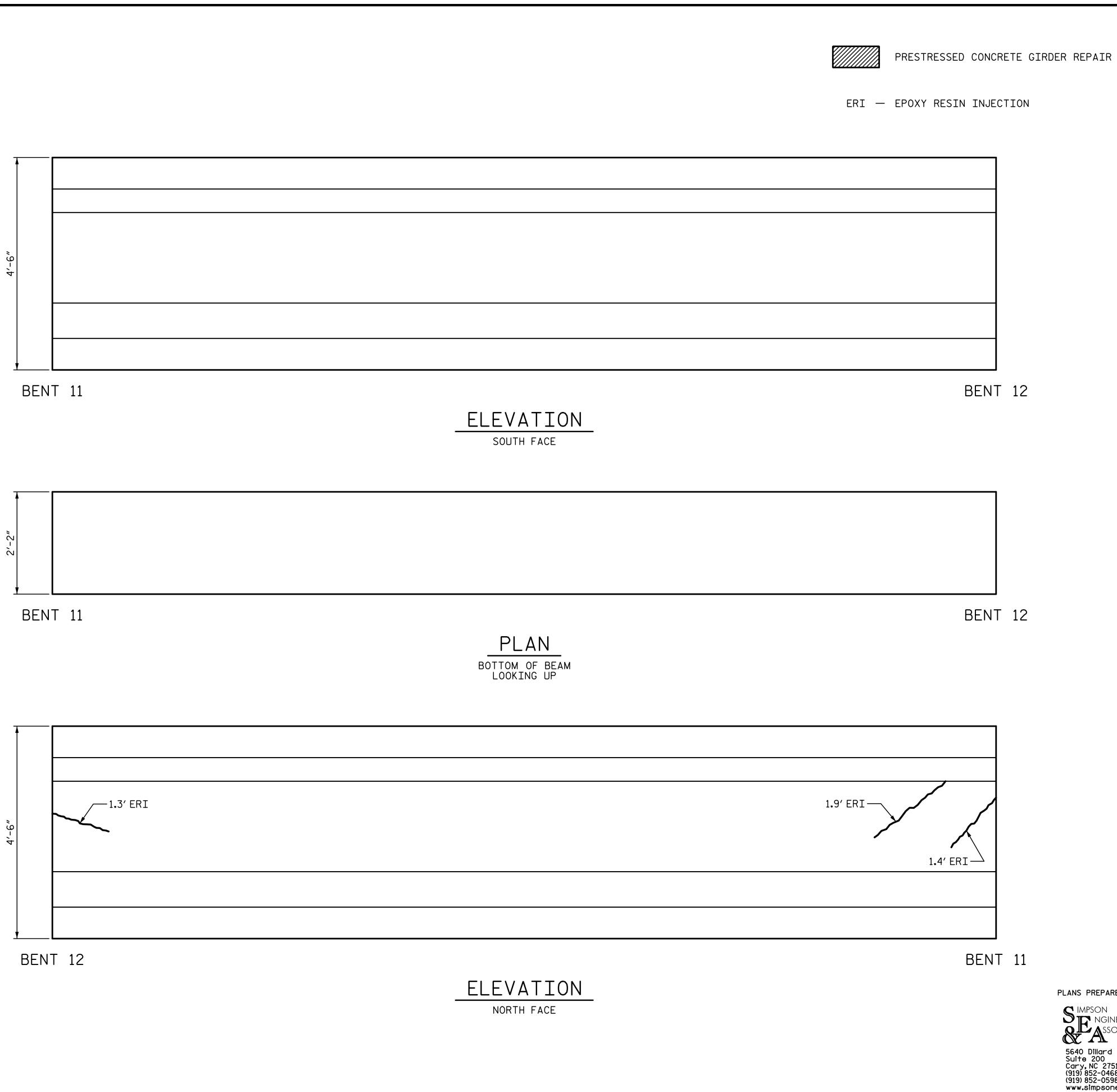
CHECKED BY: T.J. BEACH

DESIGN ENGINEER OF RECORD:

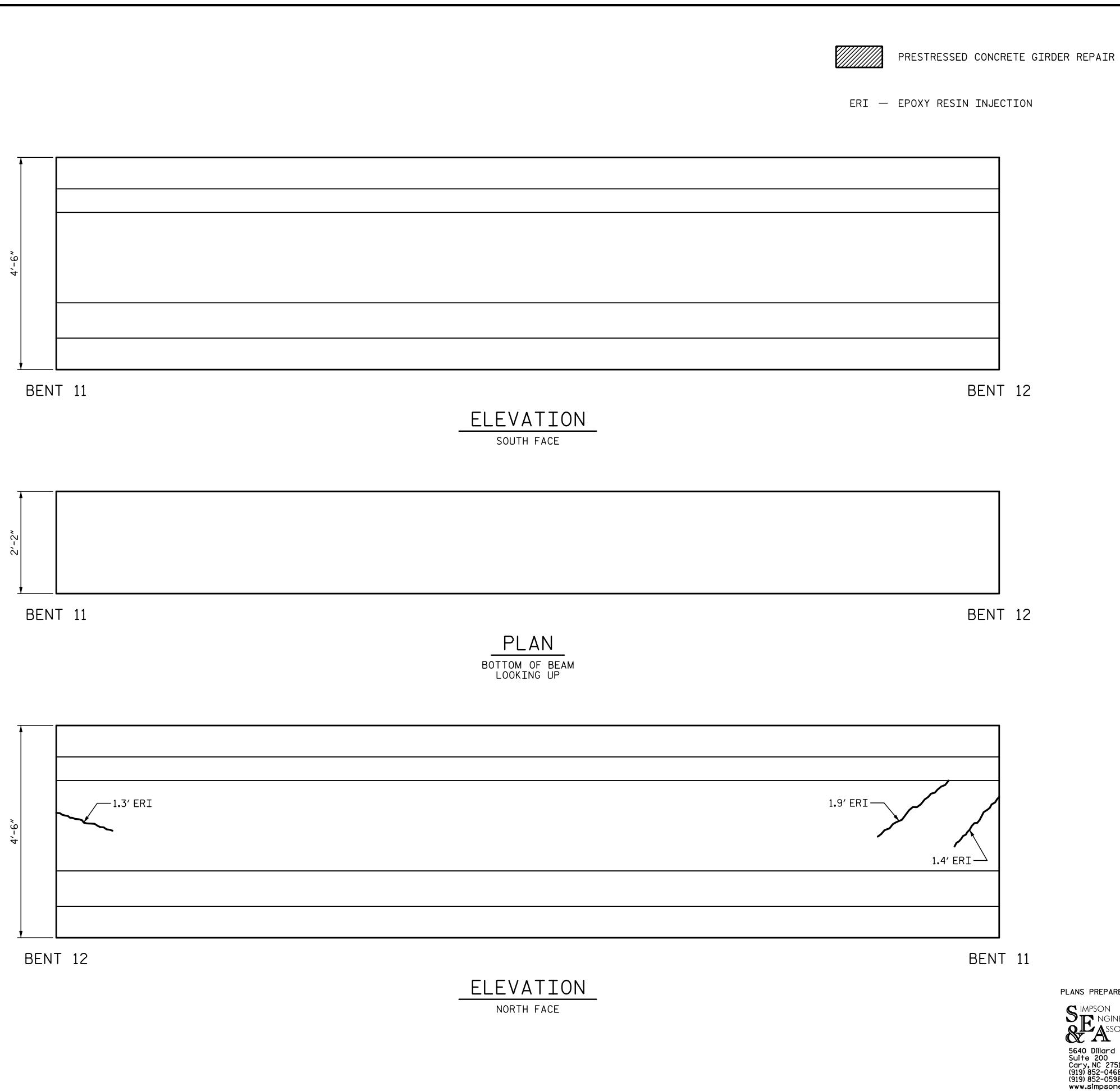
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REPAIR QUANTITY TABLE									
REPAIRS SPAN 12 GRD. 2		QI	JANTIT	EES					
NEFAINS SFAN 12 OND. 2	EST	IMATE		ACTUAL					
REPAIRS OF PRESTR. CONCRETE GIRDERS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF				
GIRDER	0.0	0.0							
EPOXY RESIN INJECT	LF			LF					
GIRDER		4.6							

NOTES:

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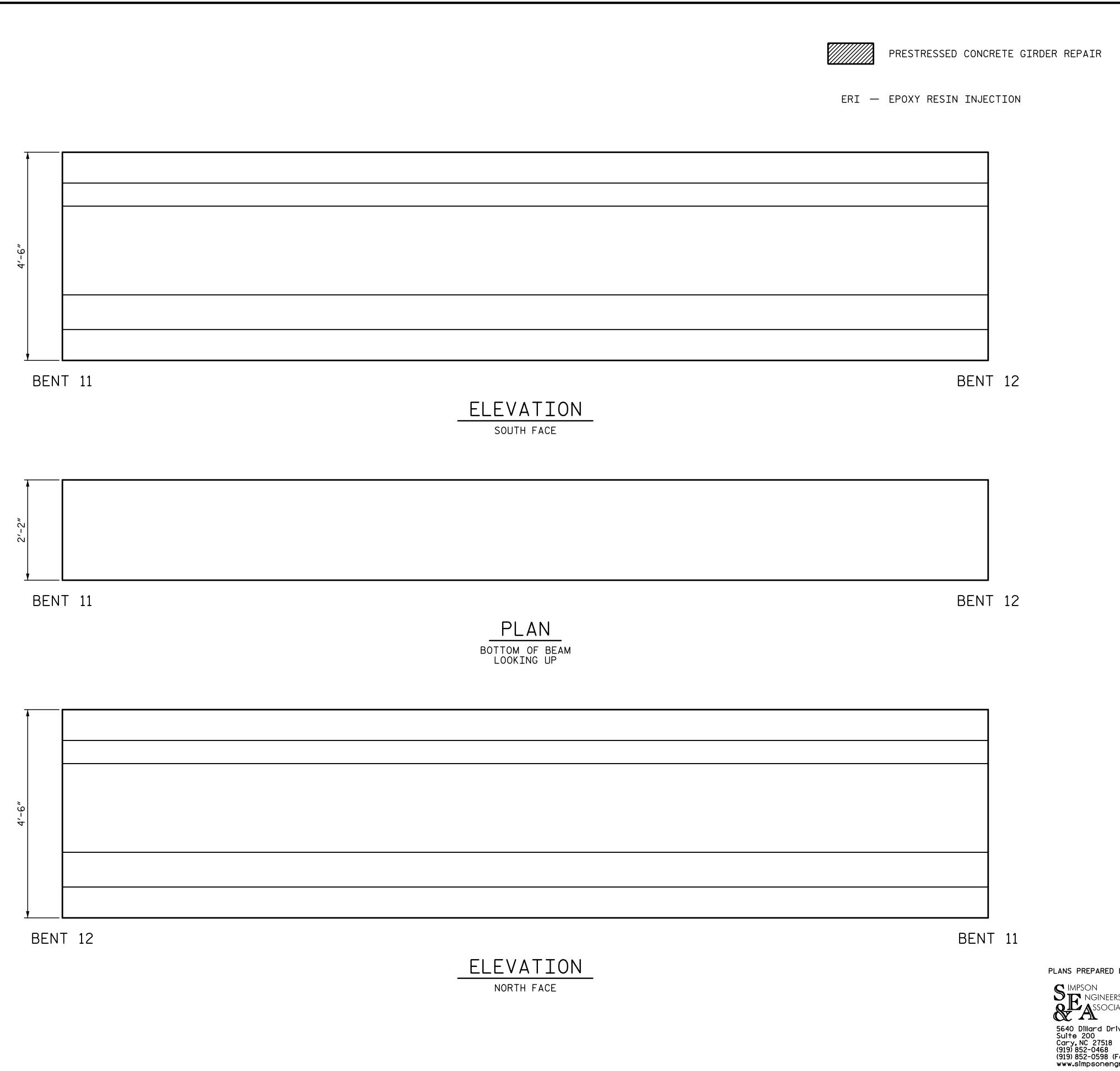
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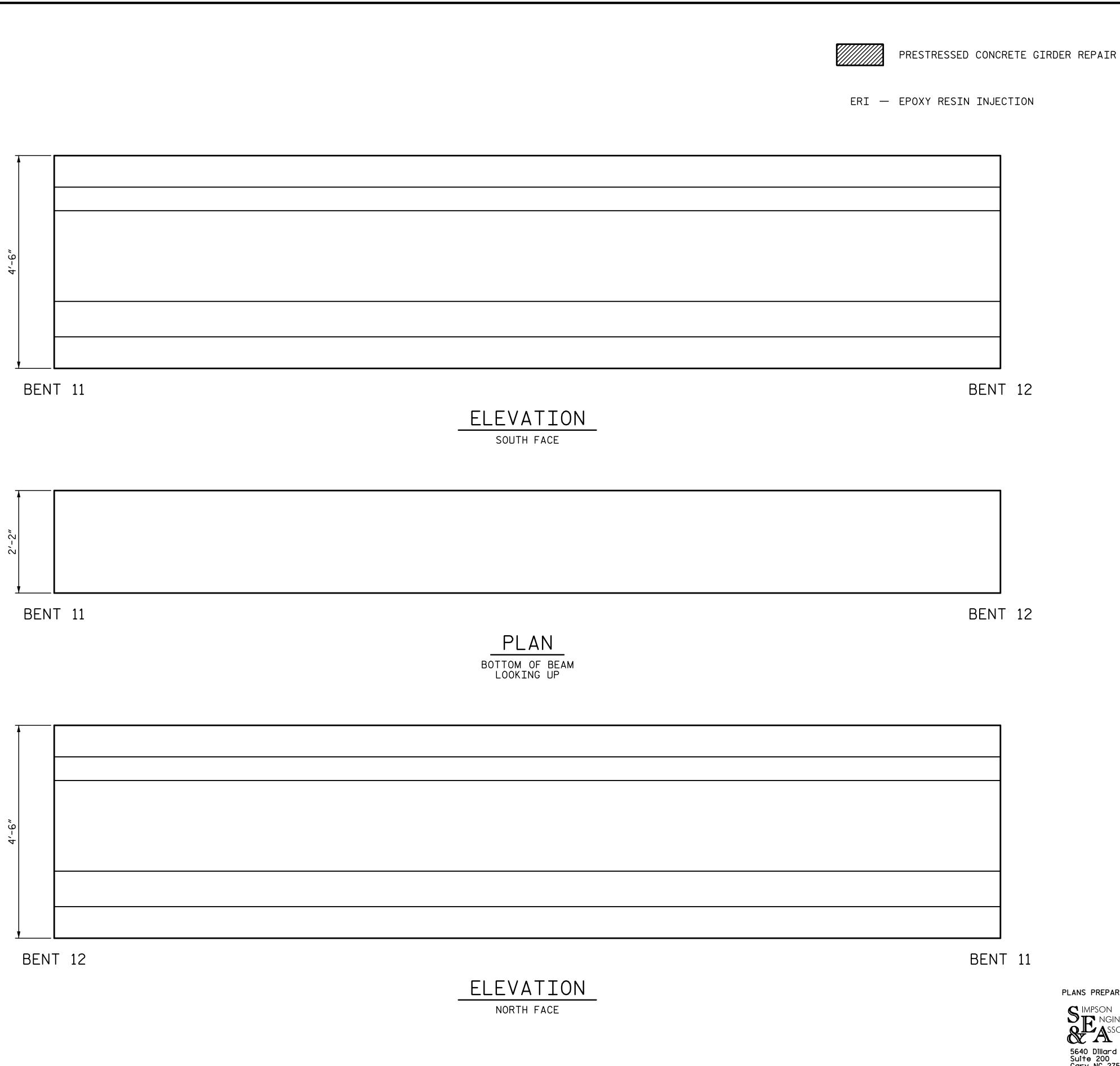
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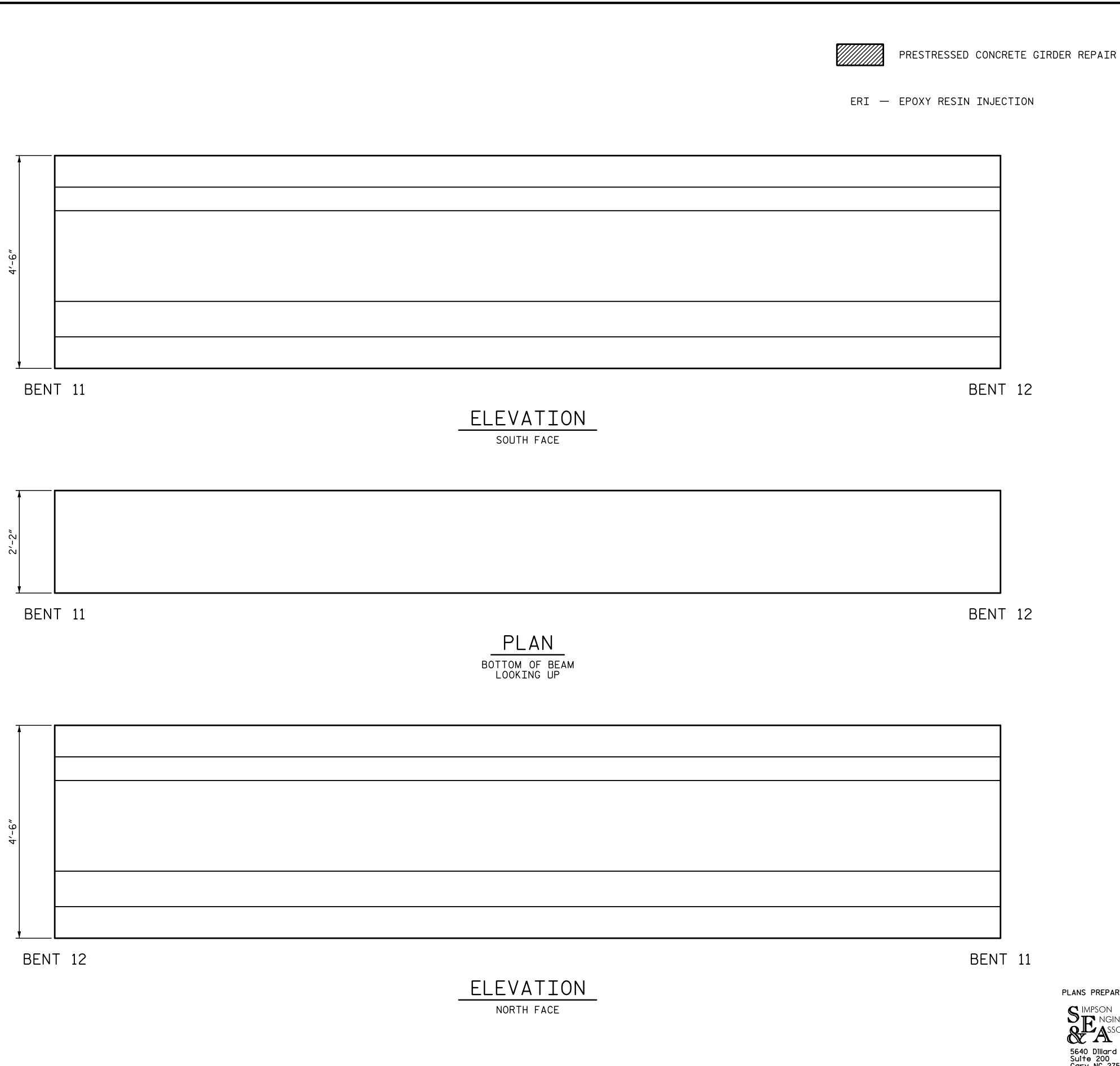
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PLANS PREPARED BY: SIMPSON NGINEERS SSOCIATES 5640 Dillard Drive Suite 200	AGB TO UT SEAL 24390		SF	PAN RDER	12	
Cary, NC 27518 (919) 852-0468 (919) 852-0598 (Fax) www.simpsonengr.com LICENSURE NO. C-2521 DOCUMENT NOT COM	9/29/2020	NO. ВҮ: 1		ОNS 0. вү: З	DATE:	SHEET NO. S2-109 TOTAL SHEETS
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28/	DRAWN BY:	T.BANKOVICH		DATE:	9-20
12	CHECKED BY:	T.J. BEACH		DATE:	9-20
	DESIGN ENGINE	ER OF RECORD:	T.J. BEACH	DATE:	9-20

REPAIR QUANTITY TABLE									
REPAIRS SPAN 12 GRD. 3		Q	JANTIT	EES					
REFAINS SFAN 12 OND. 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 INJECTION					LF				
GIRDER		0.0							

NOTES:

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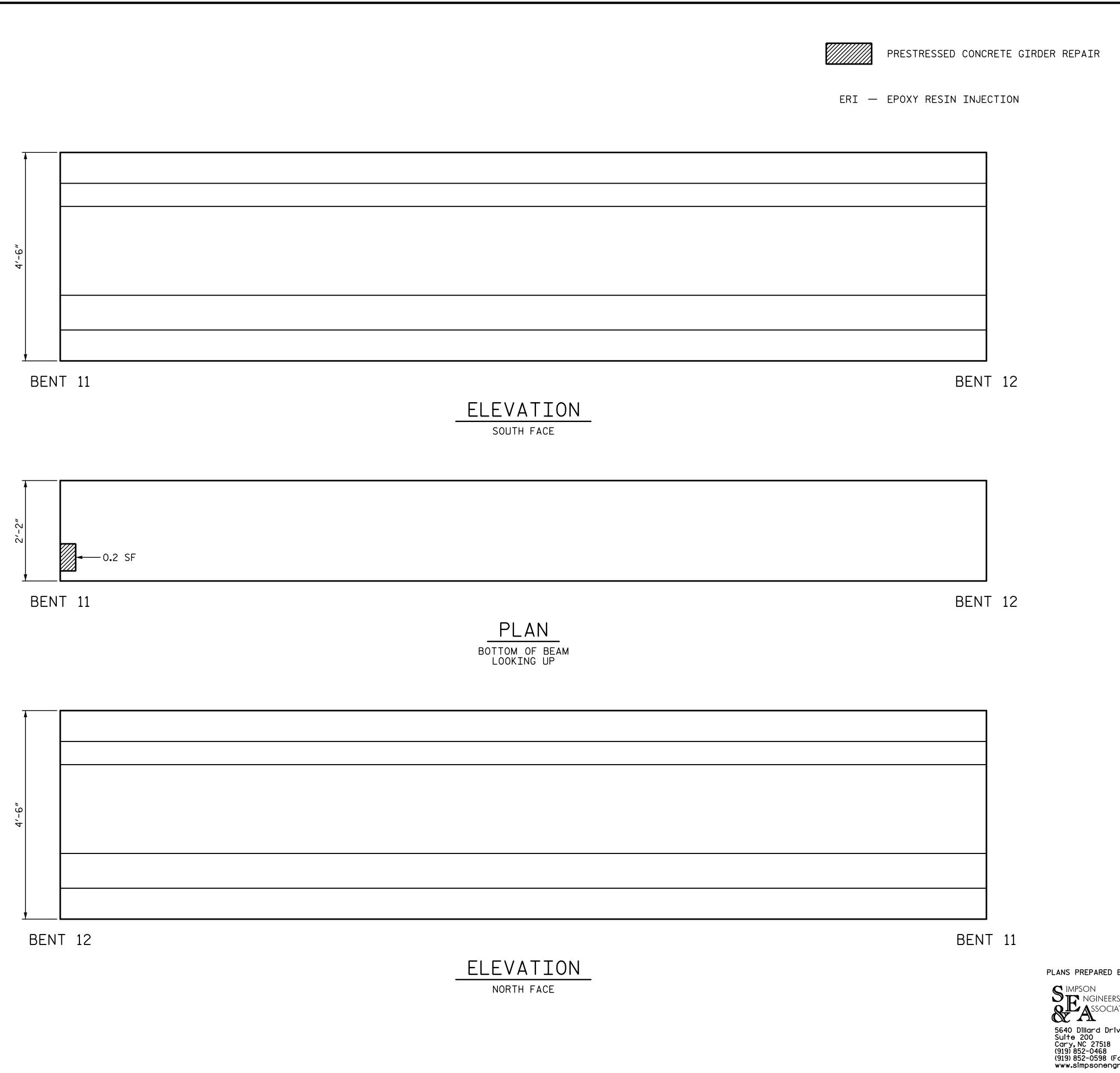
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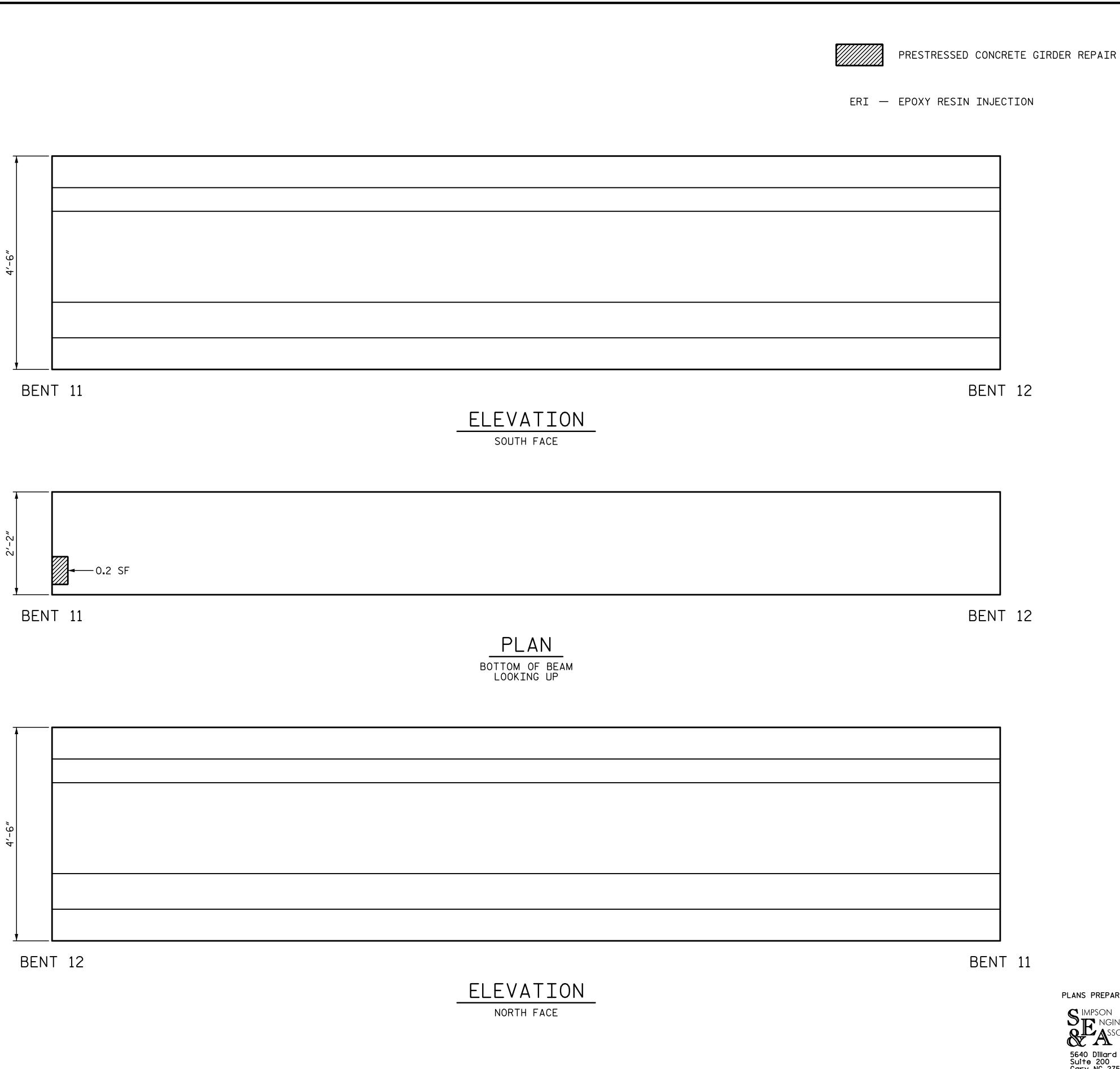
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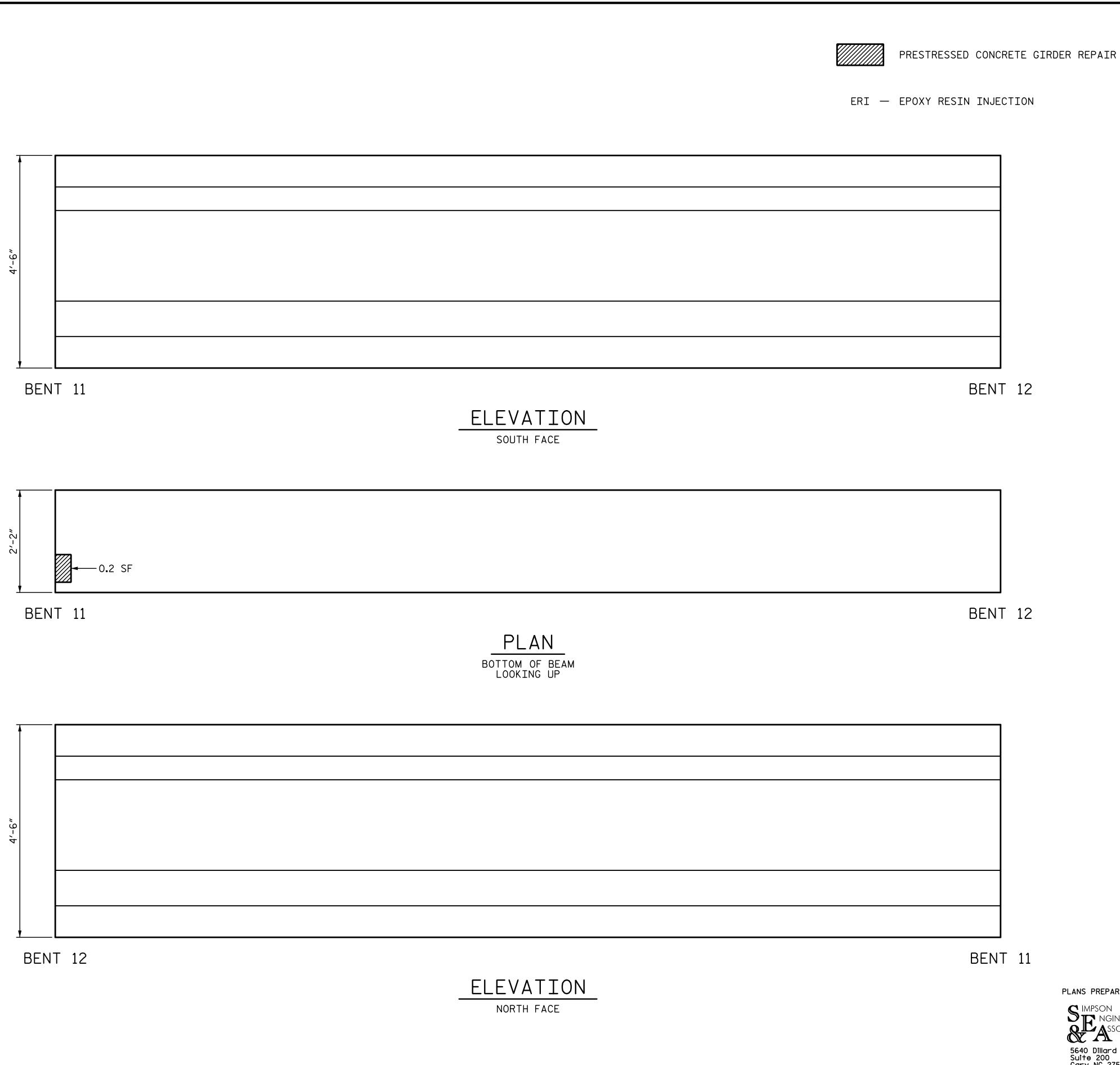
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PLANS PREPARED BY:		DEPA	stati RTMENT PRE	RALEIGH SERVAT	NSPORTA ION	TION
SIMPSON NGINEERS SSOCIATES 5640 Dillard Drive Suite 200 Cary, NC 27518 (919) 852-0468 (919) 852-0598 (Fax) www.simpsonengr.com	AGBE GROBESTEAL 24390 J. BEACHING			PAN (RDER		SHEET NO.
LICENSURE NO. C-2521	9/29/2020	NO. BY:	DATE:	NO. BY:	DATE:	S2-110
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DRAWN BY:	T.BANKOVICH		DATE:	9-20
	T.J. BEACH		DATE:	9-20
	ER OF RECORD:	T.J. BEACH	DATE:	9-20
(DRAWN BY: CHECKED BY: DESIGN ENGINE		CHECKED BY:	CHECKED BY:

REPAIR QUANTITY TABLE											
REPAIRS SPAN 12 GRD. 4			UANTIT								
NEL AINS SLAN IE ONDE L	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		0.0									

NOTES:

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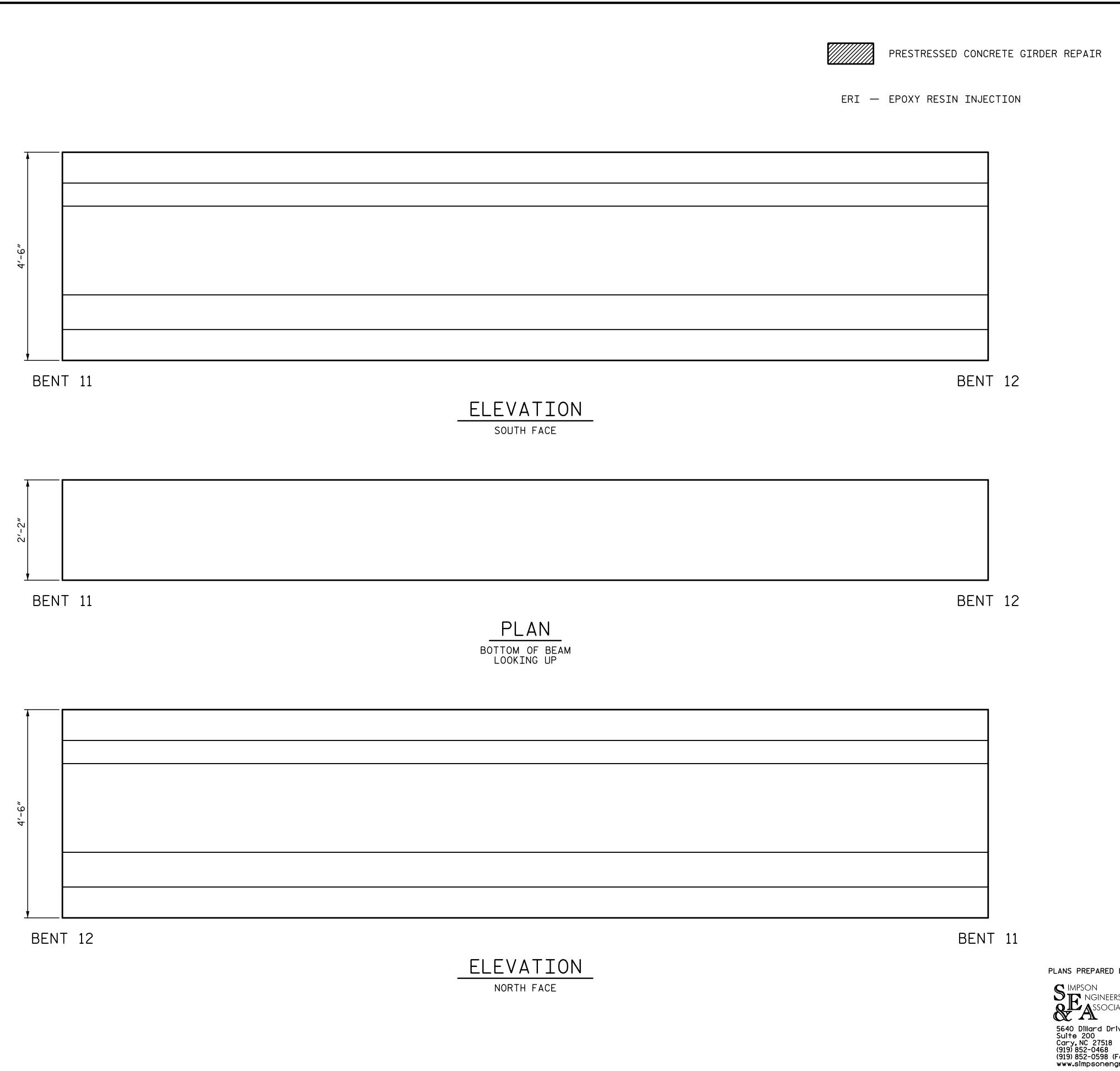
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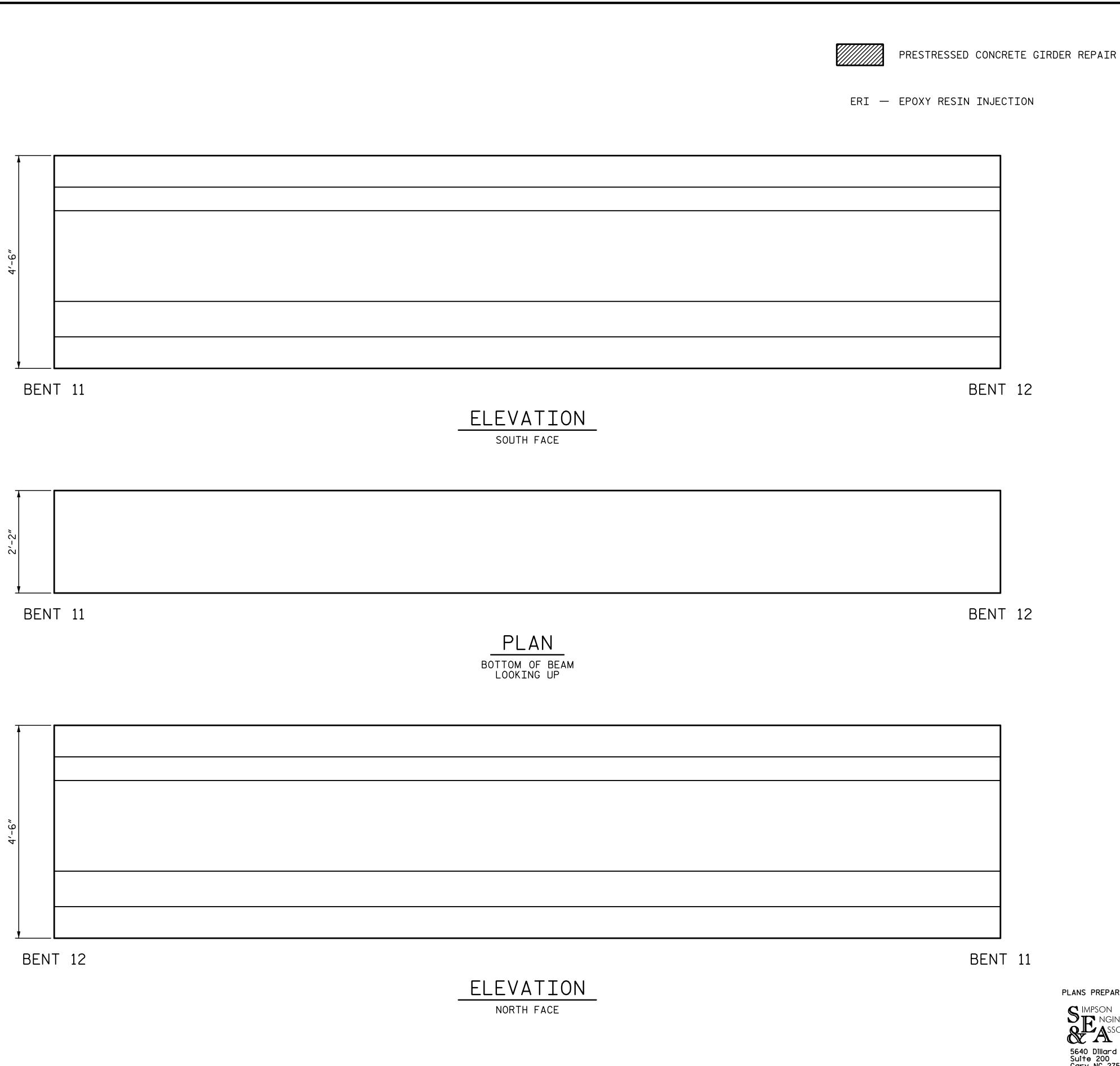
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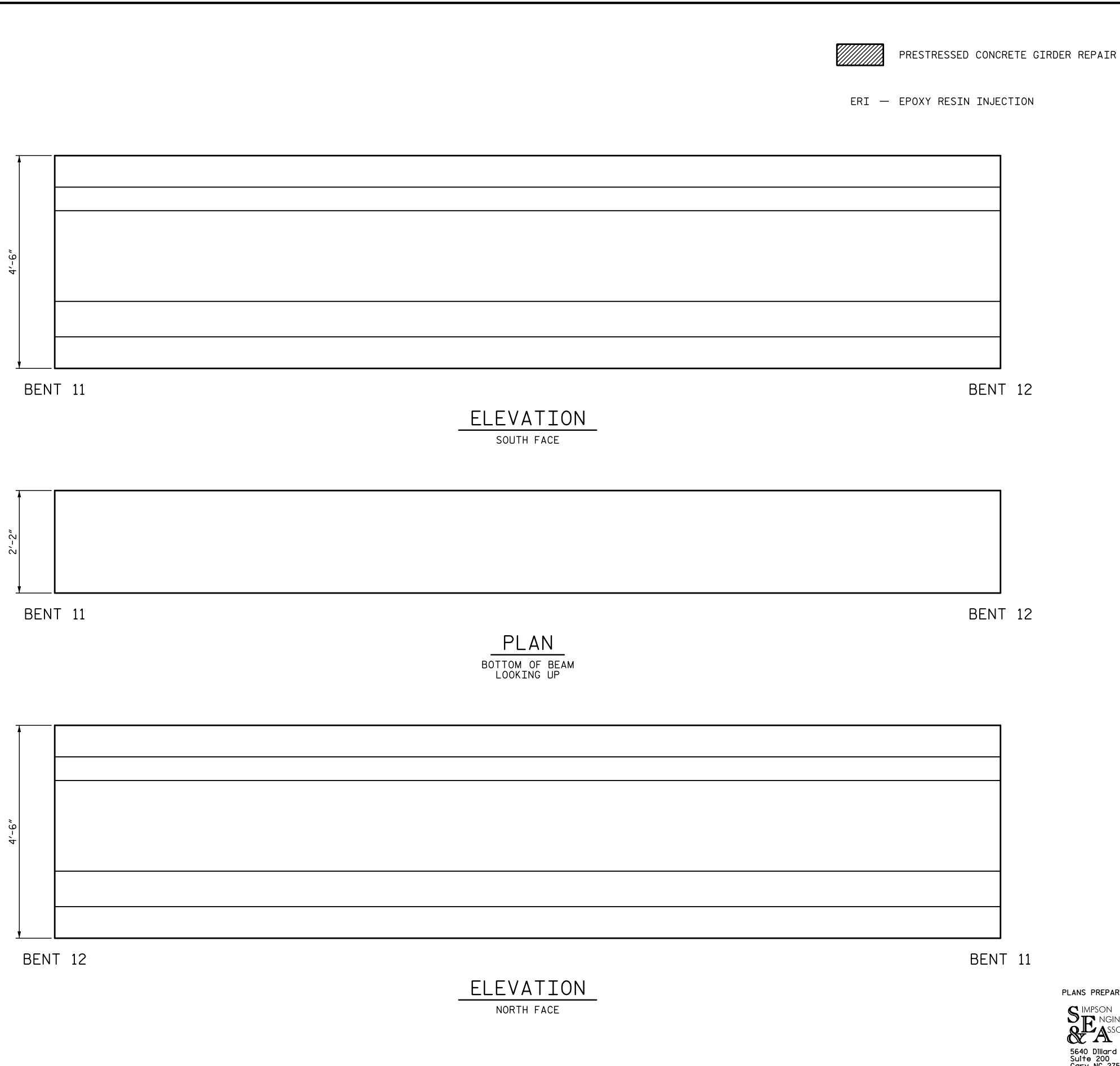
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REPAIR QUANTITY TABLE										
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GIRDER	0.0	0.0								
EPOXY RESIN INJECT	LF			LF						
GIRDER		0.0								

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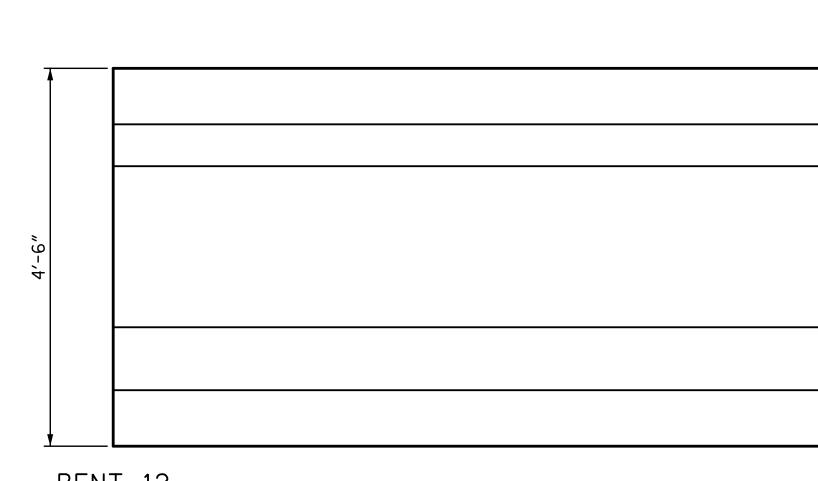
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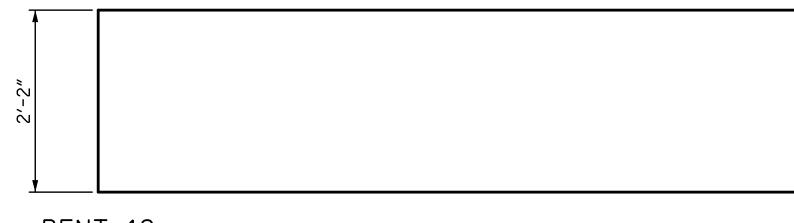
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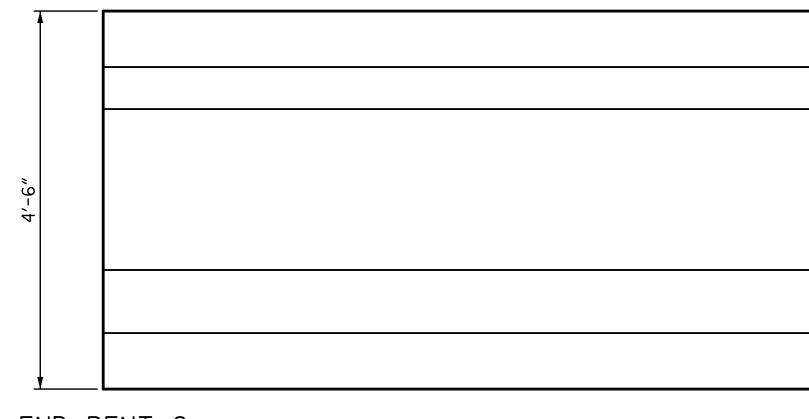
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GIRDER	0.0	0.0								
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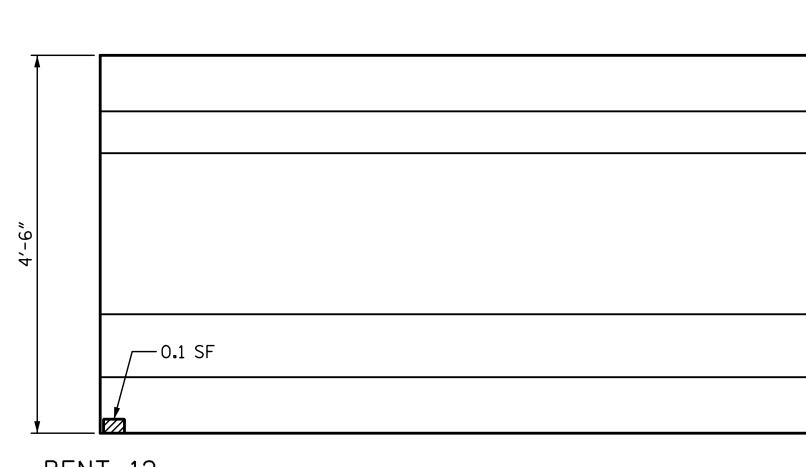
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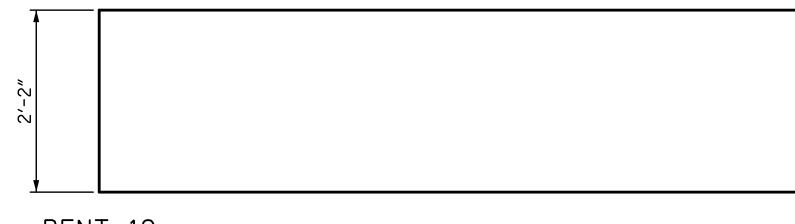
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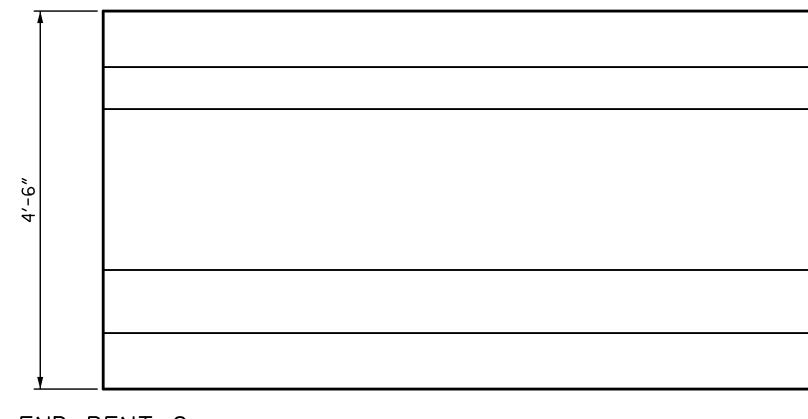
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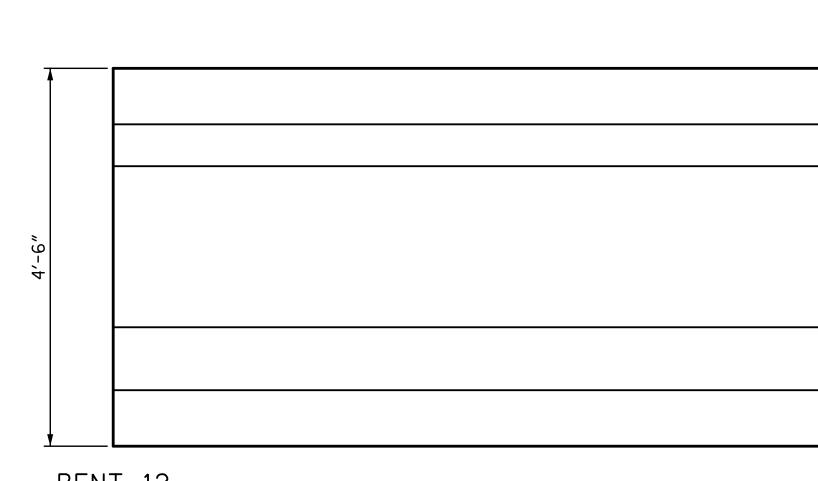
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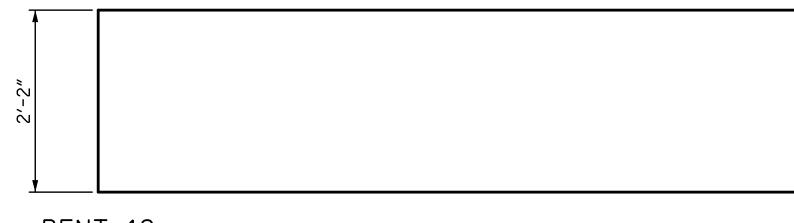
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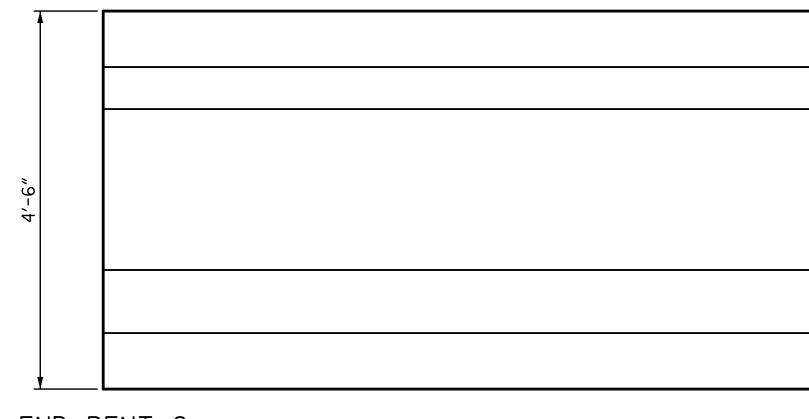
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GIRDER	0.0	0.0					
EPOXY RESIN INJECTION					LF		
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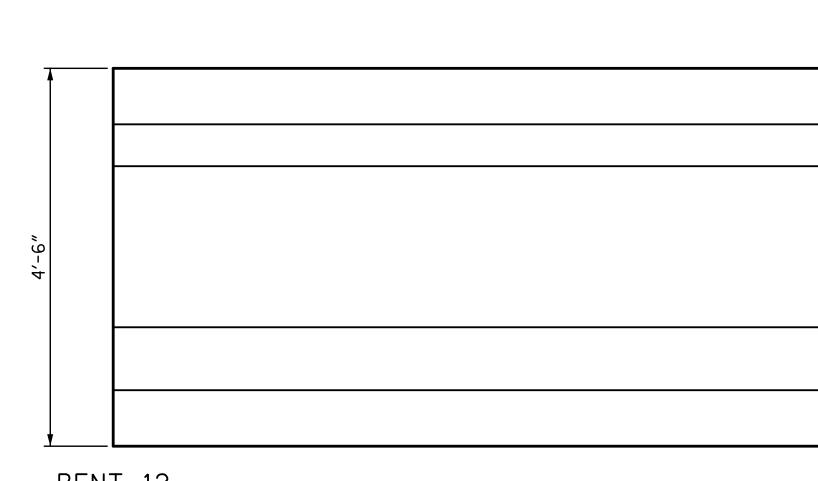
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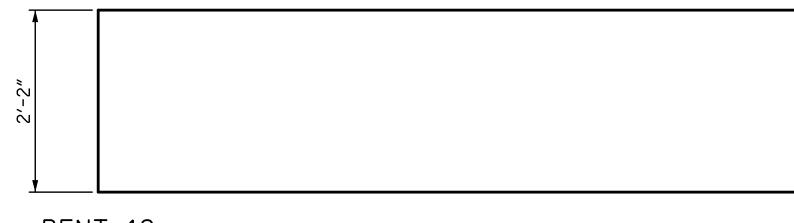
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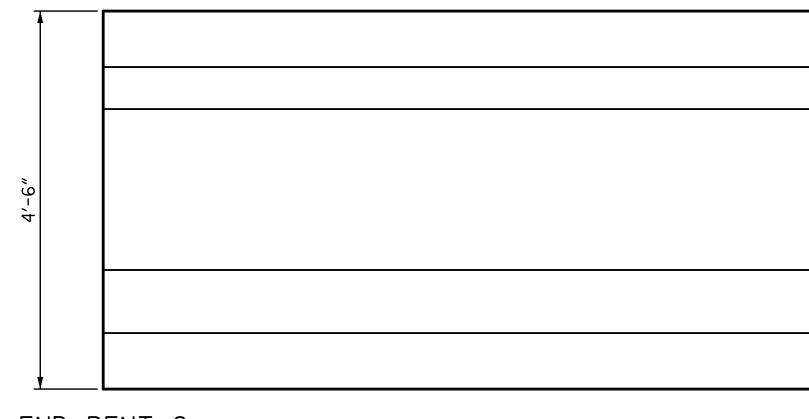
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REFAIRS SFAN IS GRU. 4	EST	IMATE		ACTUAL	_		
REPAIRS OF PRESTR. AREA CONCRETE GIRDERS SF		VOLUME CF	AREA SF	DEPTH FT	VOLUME CF		
GIRDER	0.0	0.0					
EPOXY RESIN INJECTION					LF		
GIRDER	0.0						

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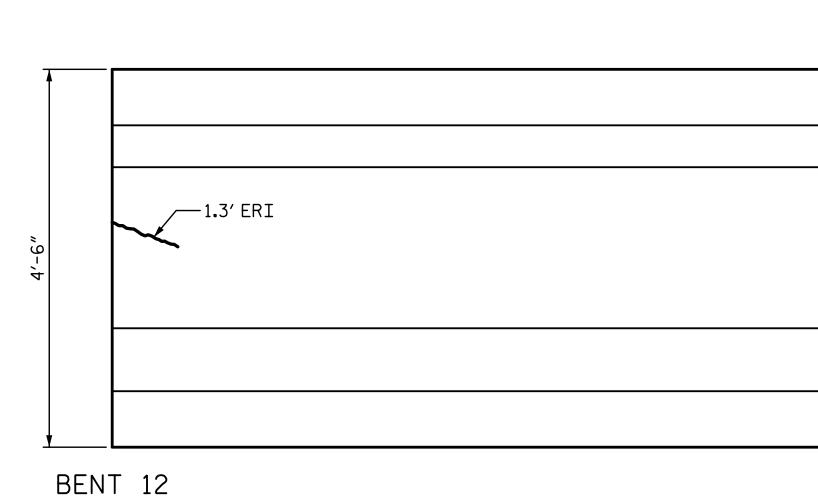
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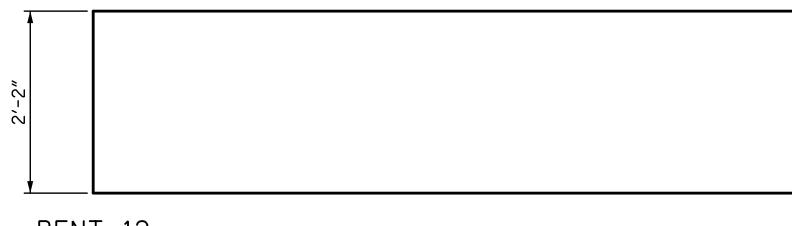
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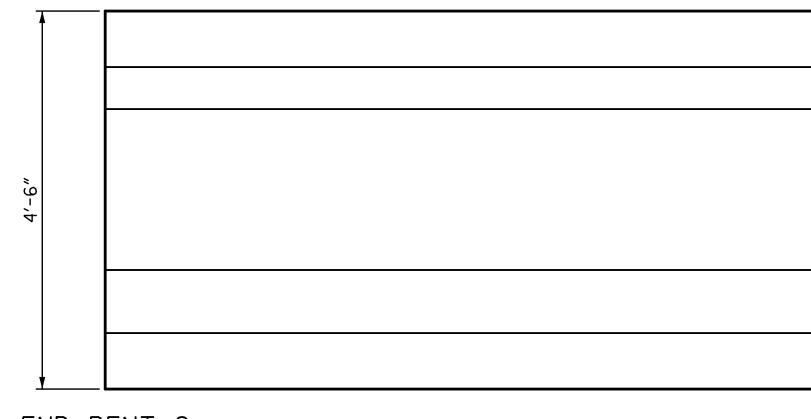
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REPAIRS OF PRESTR. CONCRETE GIRDERS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLU CF		
GIRDER	0.0	0.0					
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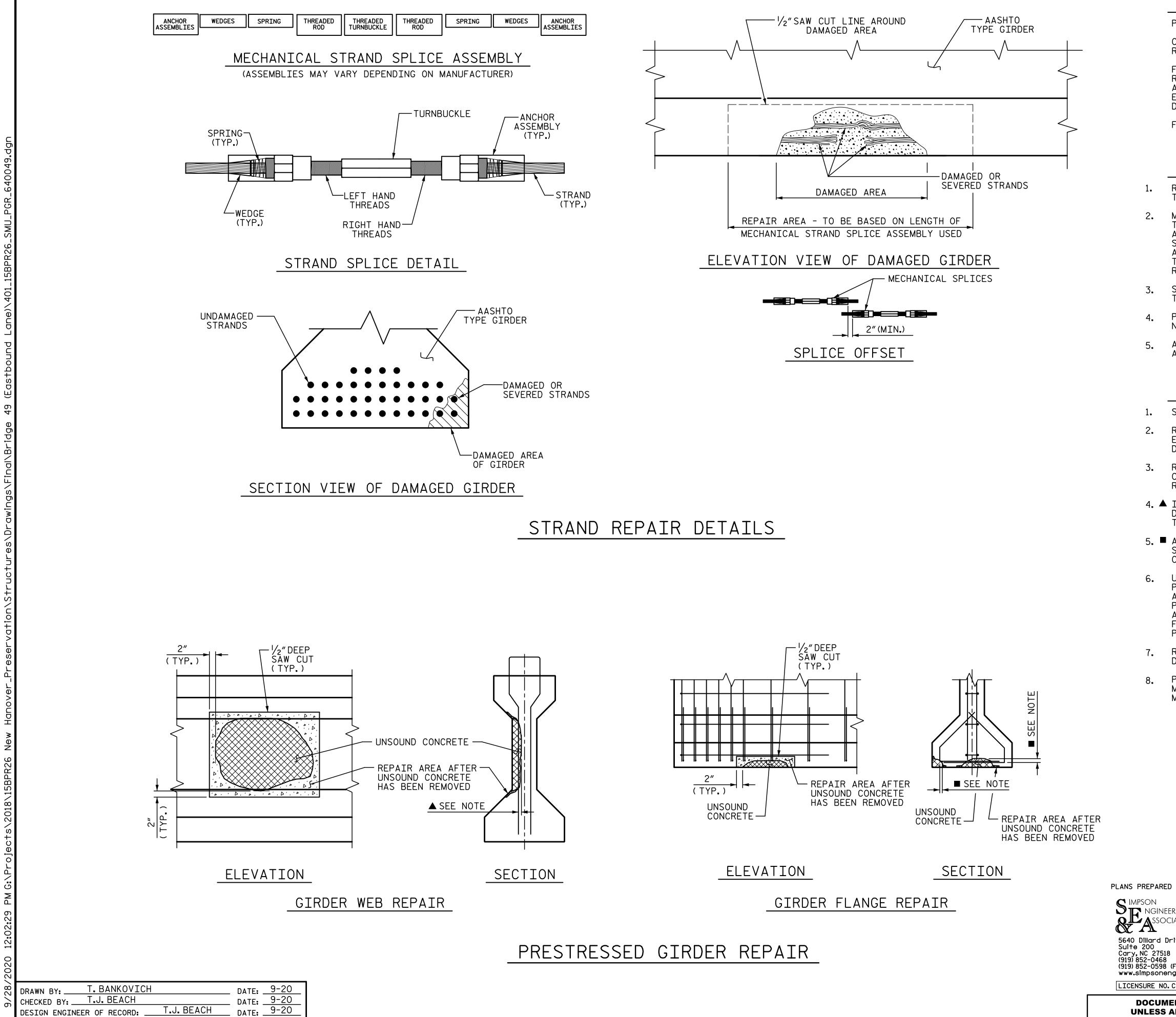
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NOTES:

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.

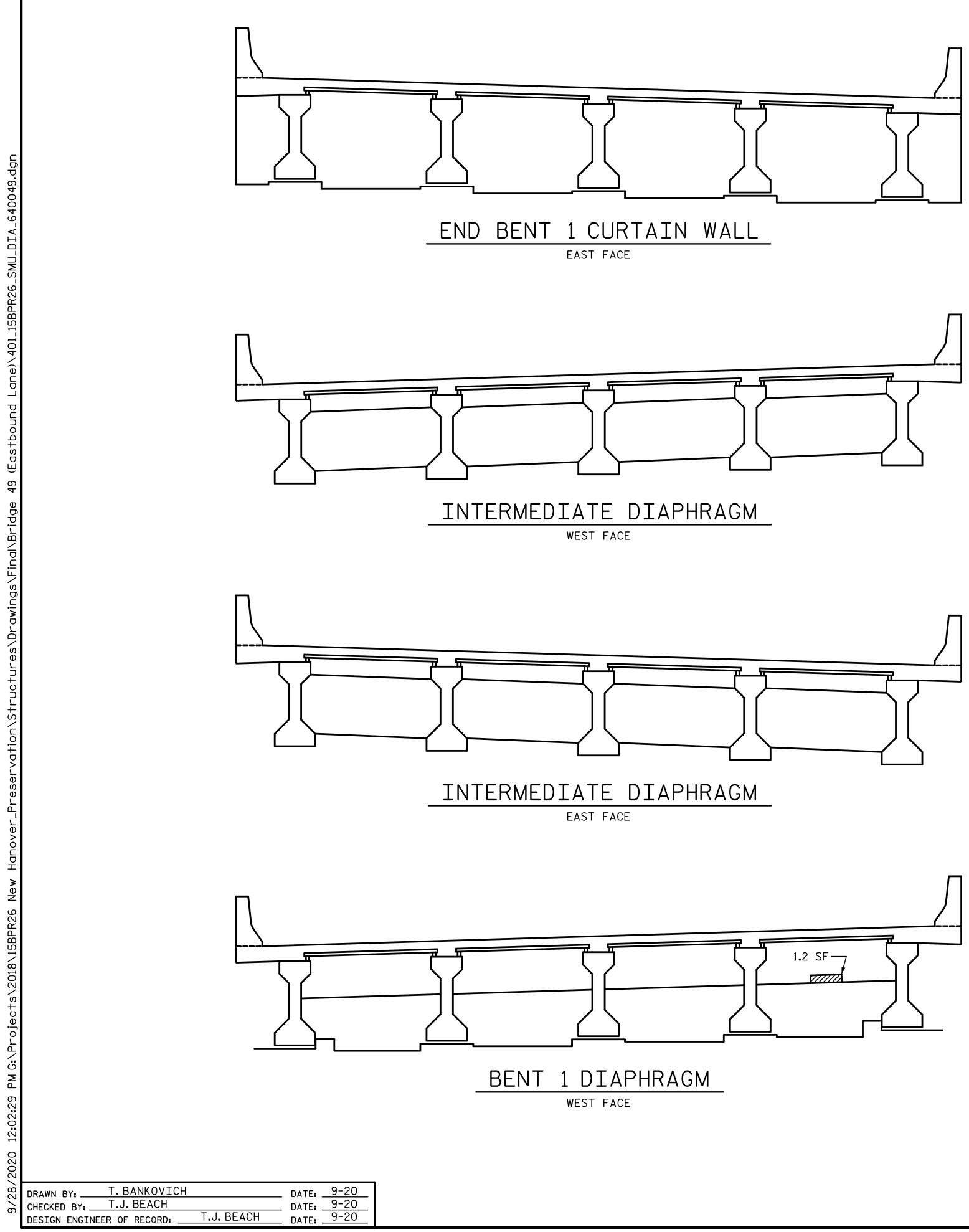
REMOVE ALL LOOSE OR WEAKENED MATERIAL THEN CLEAN THE REPAIR AREA OF DIRT, GREASE, OIL, AND FOREIGN MATTER.

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

640049 BRIDGE NO .:_

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C-2521	9/29/2020	NO.	BY:	DATE:	NO.	BY:	DATE:	S2-118
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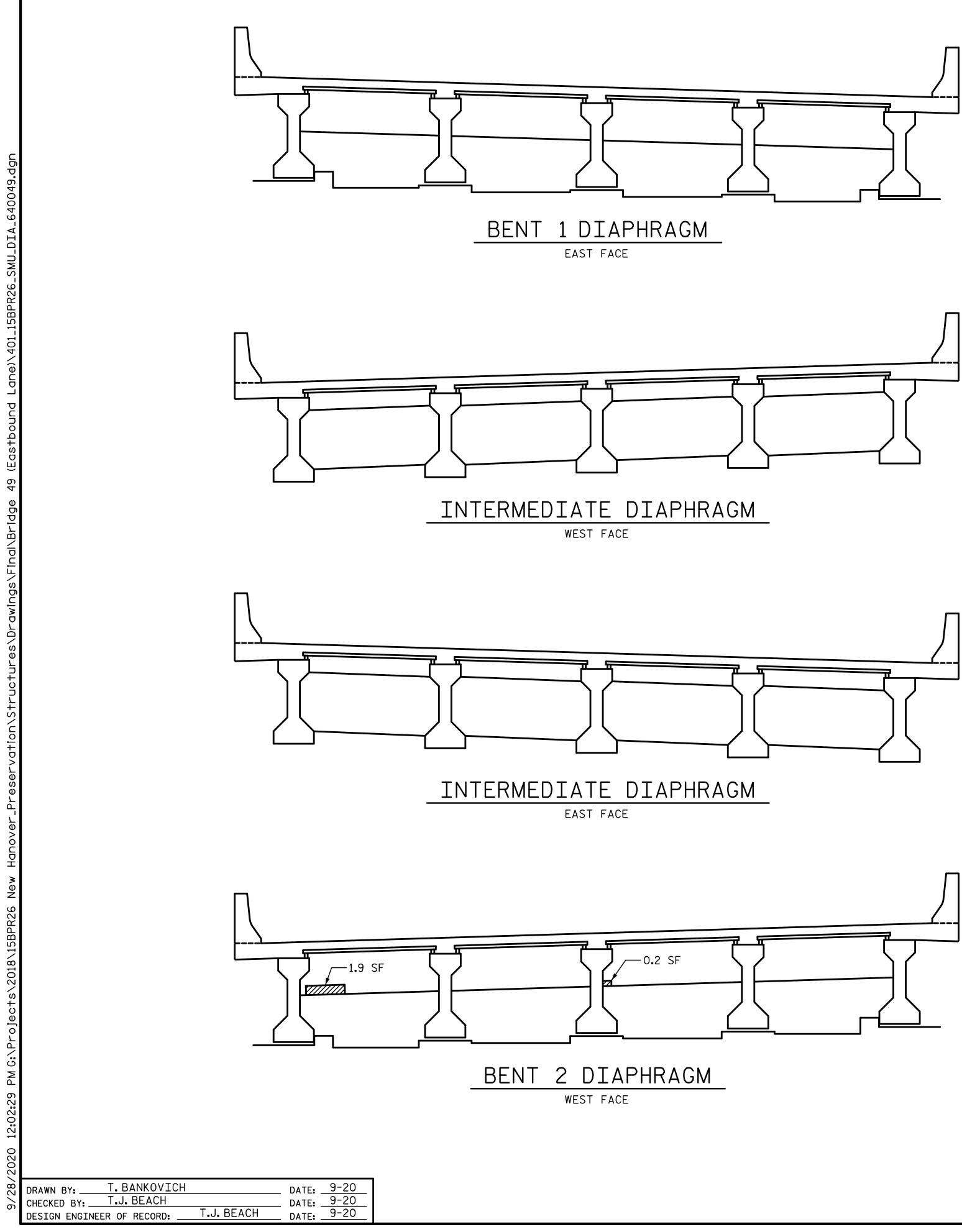


ERI — EPOXY RESIN INJECTION



REPAIR QUANTITY TABLE						
REPAIRS SPAN 1 DIAPH. QUANTITIES						
REFAIRS SFAN I DIAFH.	EST	IMATE		ACTUAL	_	
SHOTCRETE REPAIRS					VOLUME CF	
CURTAIN WALL	1.2	0.3				
INTERMEDIATE DIAPHRAGM	0.0	0.0				
BENT 1 DIAPHRAGM	0.0	0.0				
EPOXY RESIN INJECT	EON	LF			LF	
CURTAIN WALL 0.0						
INTERMEDIATE DIAPHRAGM	A 0.0					
BENT 1 DIAPHRAGM		0.0				

PROJECT NO. 15BPR.26 NEW HANOVER/PENDER COUNTY 640049 BRIDGE NO.:____ SHEET 1 OF 19 STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH PRESERVATION PLANS PREPARED BY: DIAPHRAGM REPAIRS SEAL 24390 SPAN 1 REVISIONS SHEET NO. 9/29/2020 S2-119 NO. BY: DATE: DATE: BY: NO. total sheets 163 DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED





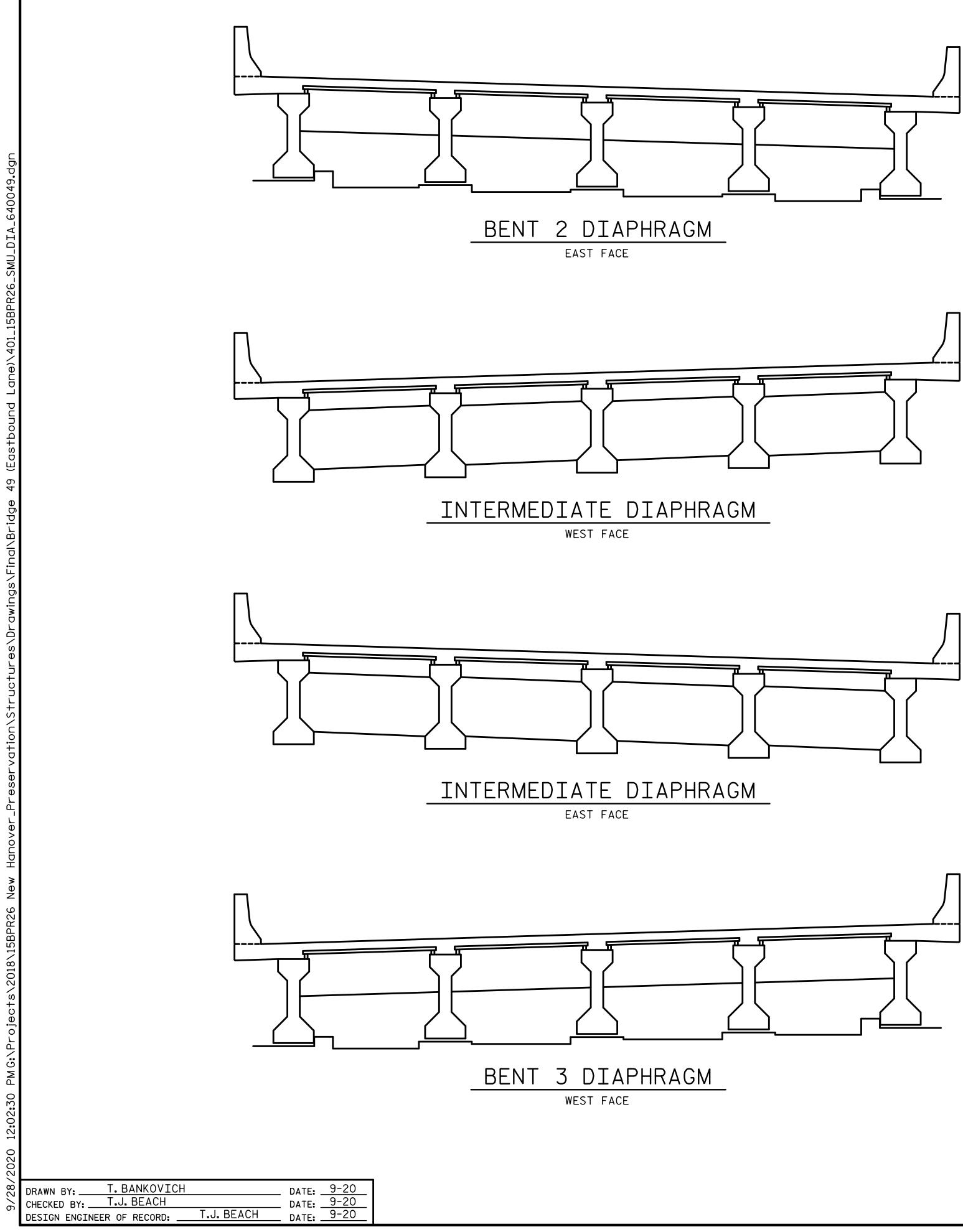
ERI — EPOXY RESIN INJECTION

PLANS PREPARED



REPAIR QUANTITY TABLE						
REPAIRS SPAN 2 DIAPH.		QL	JANTITI	IES		
REFAIRS SFAN 2 DIAFH.	EST	IMATE		ACTUAL	-	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF	
BENT 1 DIAPHRAGM	0.0	0.0				
INTERMEDIATE DIAPHRAGM	0.0	0.0				
BENT 2 DIAPHRAGM	2.1	0.7				
EPOXY RESIN INJECT	EON	LF			LF	
BENT 1 DIAPHRAGM 0.0						
INTERMEDIATE DIAPHRAGM	0.0					
BENT 2 DIAPHRAGM		0.0				

		NEW H	CT NO <u>Ianover</u> / E NO.:	<u>PEND</u>		UNTY
		SHEET 2	OF 19			
BY:		DEPA	state of ARTMENT O PRESE	RALEIGH	NSPORTA	TION
RS ATES Ive	AGE DEBB5252458	DI	APHRA(GM F	REPAI	IRS
-ax)	J. MGINELS ANT		SF	PAN 2		
gr.com C-2521	9/29/2020	NO. BY:	REVISIO	NS BY:	DATE:	SHEET NO. S2-120
	NSIDERED FINAL IRES COMPLETED	1	3 4			total sheets 163





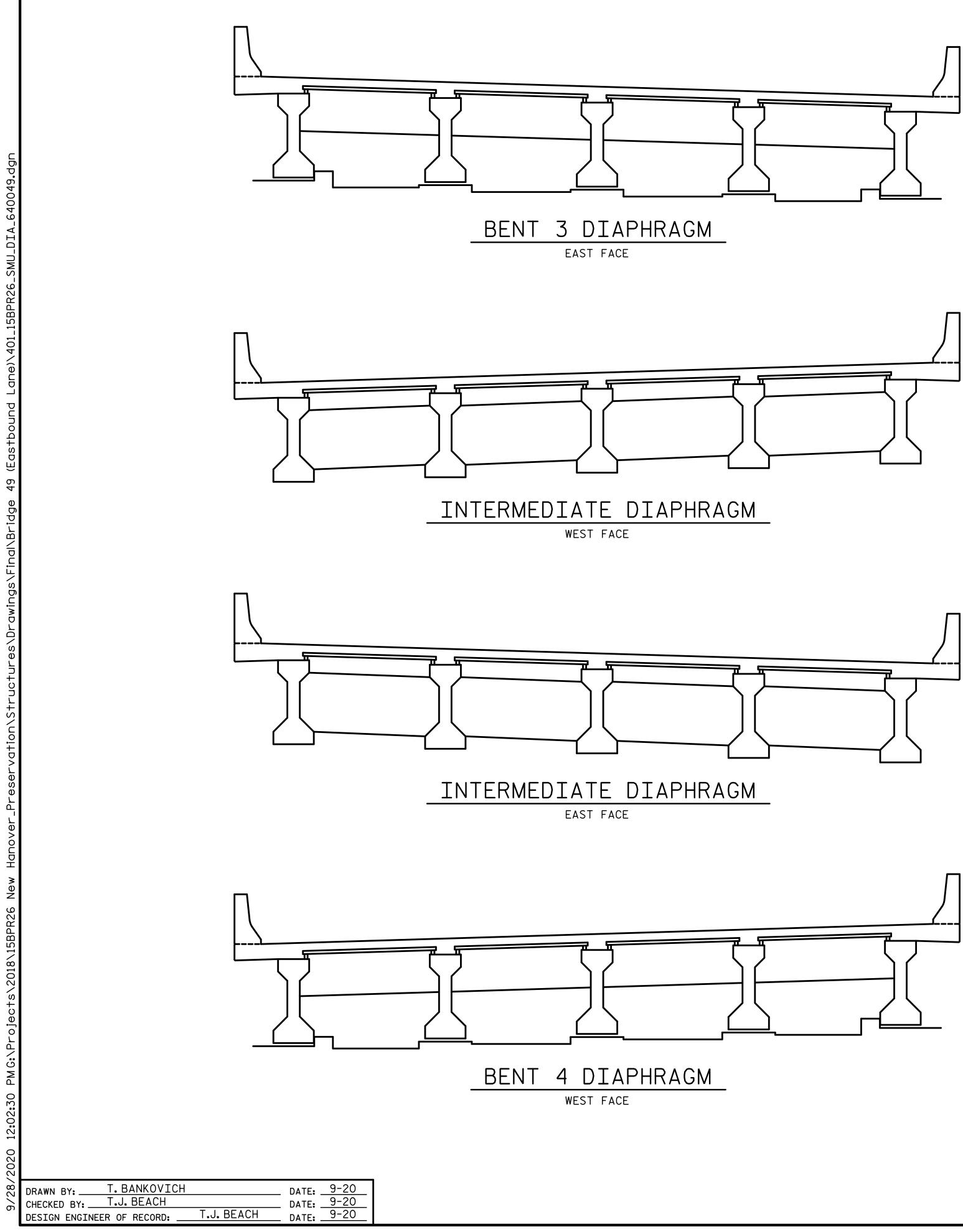
ERI — EPOXY RESIN INJECTION

PLANS PREPARED



REPAIR QUANTITY TABLE						
REPAIRS SPAN 3 DIAPH. QUANTITIES						
REFAIRS SFAN J DIAFH.	EST	IMATE		ACTUAL	-	
SHOTCRETE REPAIRS					VOLUME CF	
BENT 2 DIAPHRAGM	0.0	0.0				
INTERMEDIATE DIAPHRAGM	0.0	0.0				
BENT 3 DIAPHRAGM	0.0	0.0				
EPOXY RESIN INJECT	EON	LF			LF	
BENT 2 DIAPHRAGM		0.0				
INTERMEDIATE DIAPHRAGM	0.0					
BENT 3 DIAPHRAGM		0.0				

		NEW H	CT NO <u> ANOVER/</u> E NO.: OF 19	PEND		UNTY
BY:		DEPA	state of ARTMENT O PRESE	RALEIGH	NSPORTA	TION
RS ATES Ive	ABERTEBBS75245B SEAL 24390	DI	APHRA(Sf	GM 1 Pan 3		IRS
ax) gr.com	9/29/2020		REVISIO	NS		SHEET NO.
2-2521	3/23/2020	NO. BY:	DATE: NO.	BY:	DATE:	S2-121
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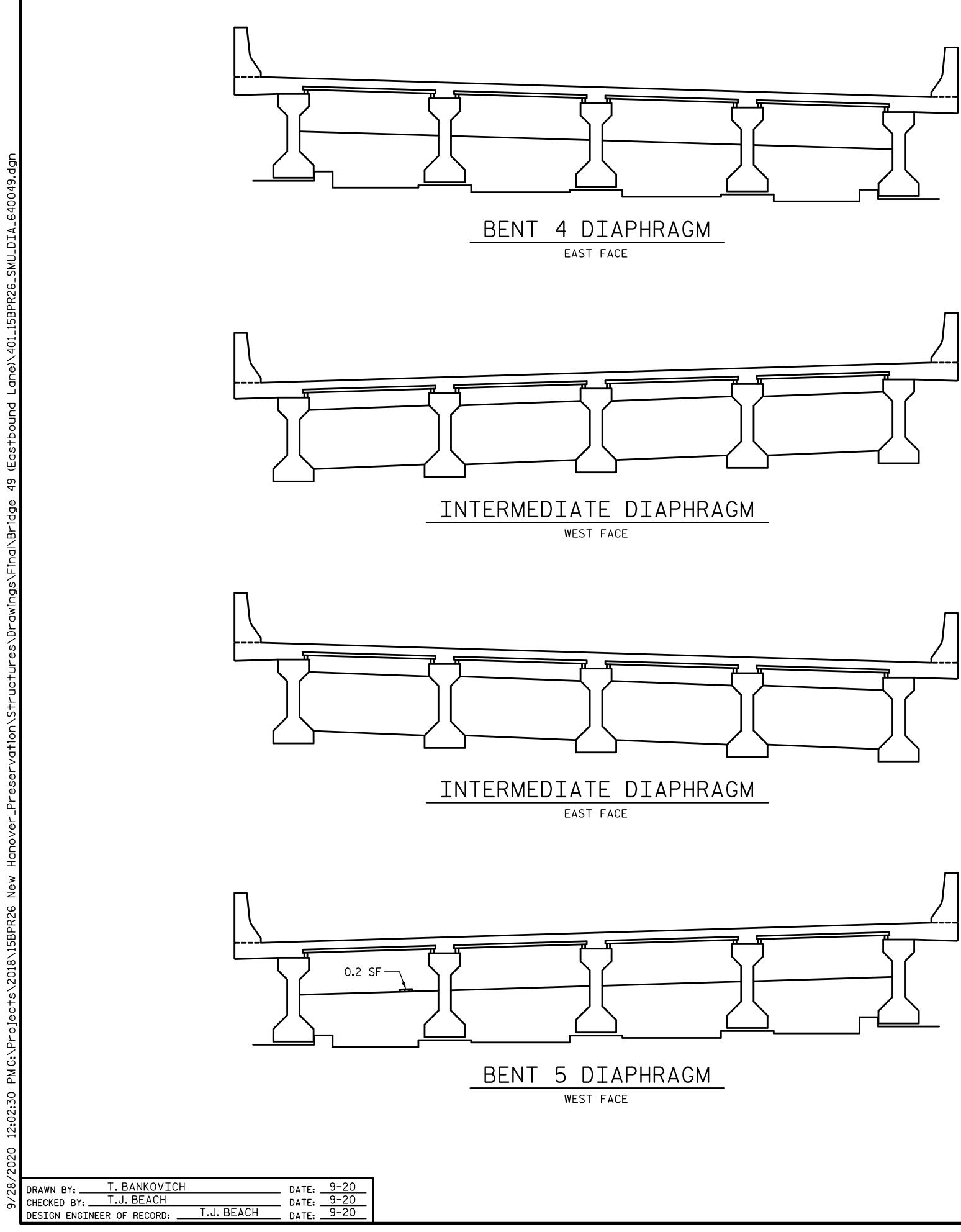
ERI — EPOXY RESIN INJECTION

PLANS PREPARED



REPAIR QUANTITY TABLE						
REPAIRS SPAN 4 DIAPH.		QI	JANTITI	IES		
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 INJECT	EON	LF			LF	
BENT 3 DIAPHRAGM		0.0				
INTERMEDIATE DIAPHRAGM	0.0					
BENT 4 DIAPHRAGM		0.0				

		NEW H	CT NO <u>IANOVER/</u> E NO.:	<u>PENC</u>		UNTY
		SHEET 4	OF 19			
BY:		DEPA	RTMENT O	RALEIGH	NSPORTA	TION
RS ATES Ive	Dertsion & ARO/ SEAL 24390	DI	APHRA(GM F	REPA]	ERS
-ax) gr.com	BEACHING			PAN 4	1	SHEET NO.
2-2521	9/29/2020	NO. BY:	REVISIO	NS BY:	DATE:	S2-122
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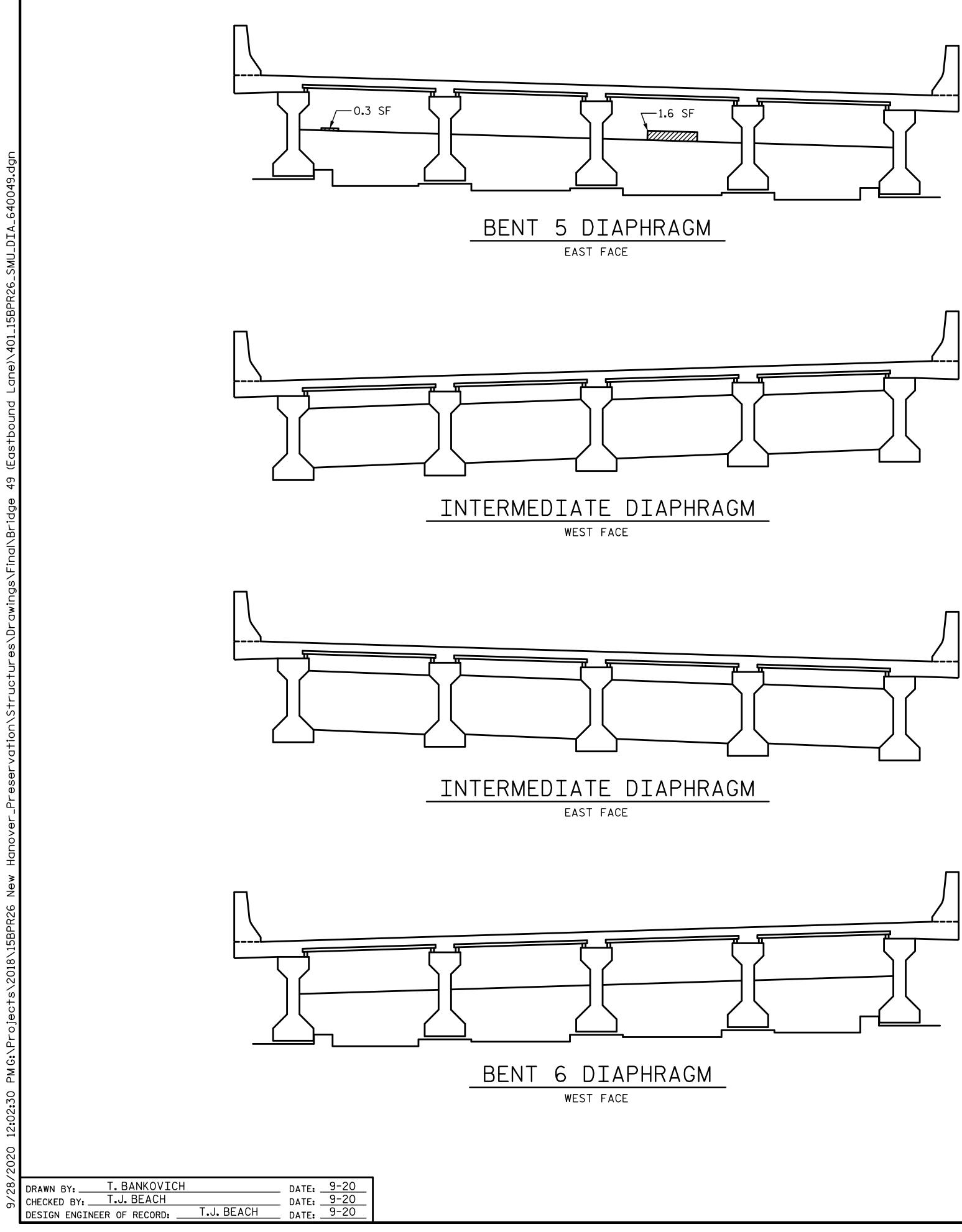


ERI — EPOXY RESIN INJECTION



REPAIR QUANTITY TABLE						
REPAIRS SPAN 5 DIAPH.		QI	JANTIT]	IES		
REFAIRS SFAN S DIAFH.	EST	IMATE		ACTUAL	-	
SHOTCRETE REPAIRS					VOLUME CF	
BENT 4 DIAPHRAGM	0.0	0.0				
INTERMEDIATE DIAPHRAGM	0.0	0.0				
BENT 5 DIAPHRAGM	0.2	0.1				
EPOXY RESIN INJECT	EON	LF			LF	
BENT 4 DIAPHRAGM 0.0						
INTERMEDIATE DIAPHRAGM	0.0					
BENT 5 DIAPHRAGM		0.0				

PROJECT NO. 15BPR.26 NEW HANOVER/PENDER COUNTY 640049 BRIDGE NO .:___ SHEET 5 OF 19 STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH PRESERVATION PLANS PREPARED BY: DIAPHRAGM REPAIRS ³85762458 SEAL 24390 SPAN 5 REVISIONS SHEET NO. 9/29/2020 S2-123 NO. BY: DATE: DATE: BY: NO. total sheets 163 DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



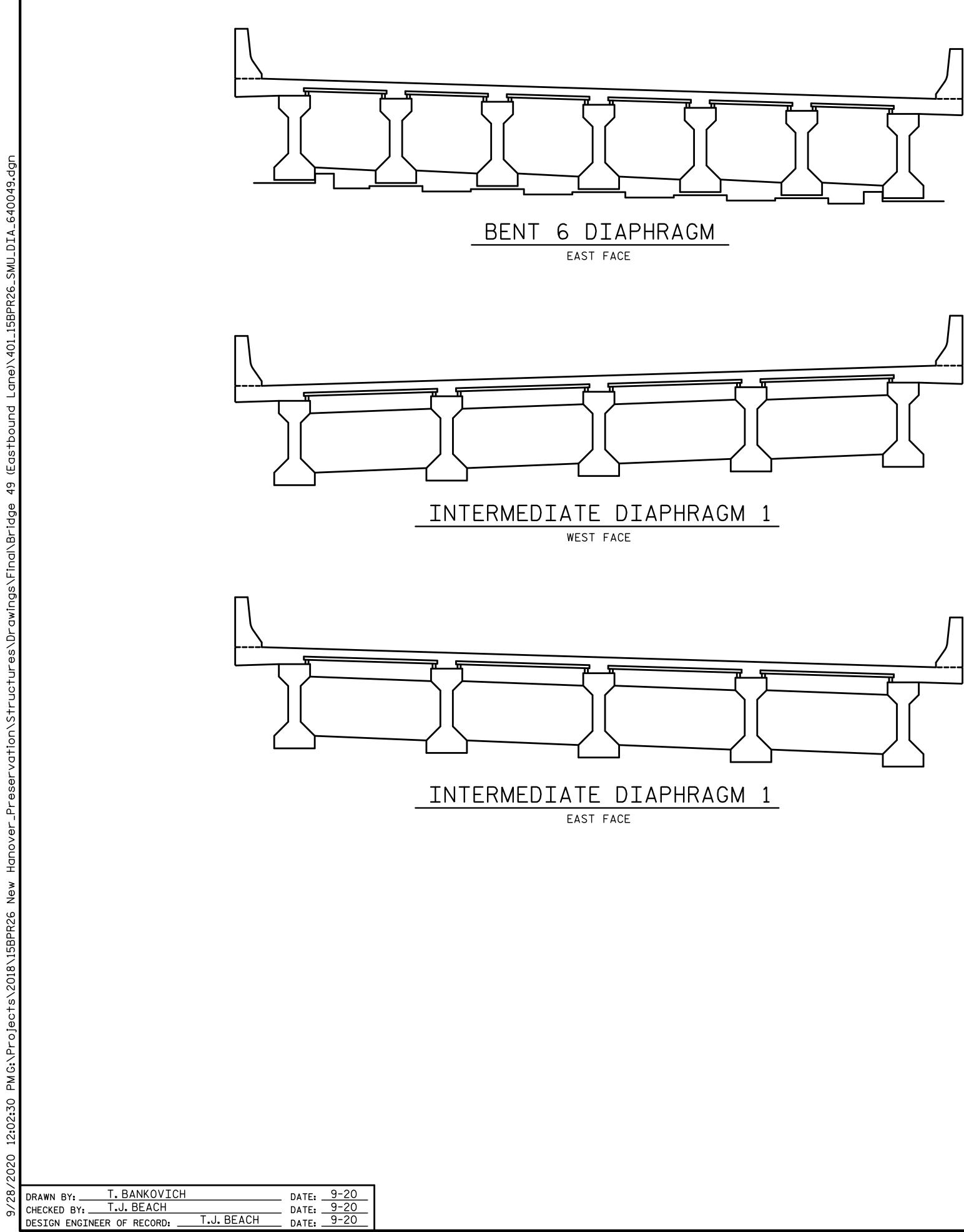


ERI — EPOXY RESIN INJECTION



REPAIR QUANTITY TABLE										
REPAIRS SPAN 6 DIAPH.	QUANTITIES									
REFAIRS SFAN O DIAFH.	EST	IMATE	ACTUAL							
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF					
BENT 5 DIAPHRAGM	1.9	0.5								
INTERMEDIATE DIAPHRAGM	0.0	0.0								
BENT 6 DIAPHRAGM	0.0	0.0								
EPOXY RESIN INJECTION					LF					
BENT 5 DIAPHRAGM	0.0									
INTERMEDIATE DIAPHRAGM	0.0									
BENT 6 DIAPHRAGM	0.0									

		PROJECT NO. <u>15BPR.26</u> <u>NEW HANOVER/PENDER COUNTY</u> BRIDGE NO.: <u>640049</u> SHEET 6 OF 19								
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)	AGEN SEEACLON AGEN SEEACLON AGEN SEEACL 24390	DIAPHRAGM REPAIRS SPAN 6								
www.simpsonengr.com	9/29/2020	REVISIONS SHEET NO. NO. BY: DATE: S2-124								
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ERI — EPOXY RESIN INJECTION

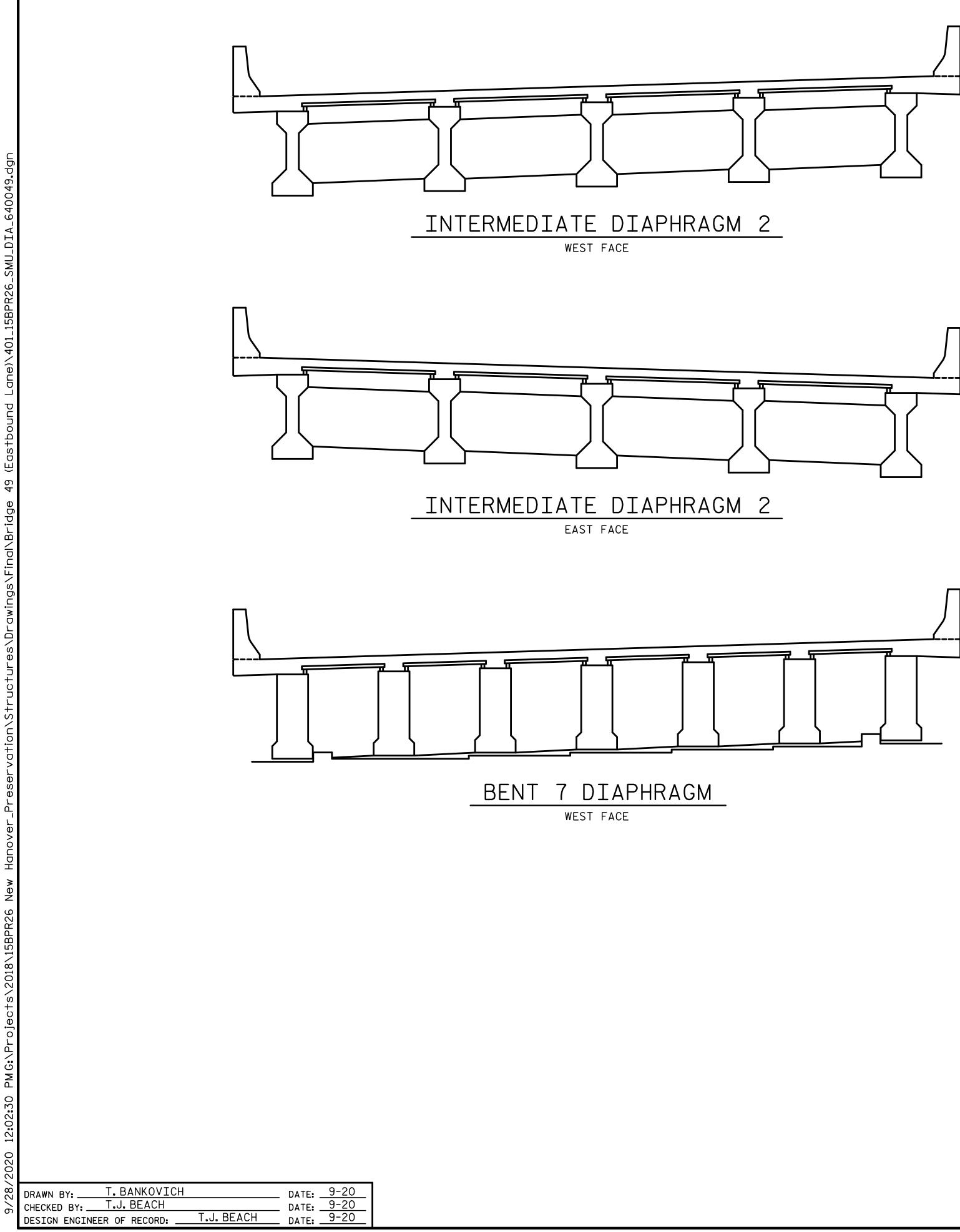




NOTES:

FOR SPAN 7 QUANTITIES, SEE SHEET 8 OF 19.

PROJECT NO. 15BPR.26 NEW HANOVER/PENDER COUNTY 640049 BRIDGE NO .:____ SHEET 7 OF 19 STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH PRESERVATION DIAPHRAGM REPAIRS SEAL 24390 SPAN 7 REVISIONS SHEET NO. 9/29/2020 S2-125 NO. BY: DATE: DATE: BY: NO. total sheets 163 DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED





ERI — EPOXY RESIN INJECTION

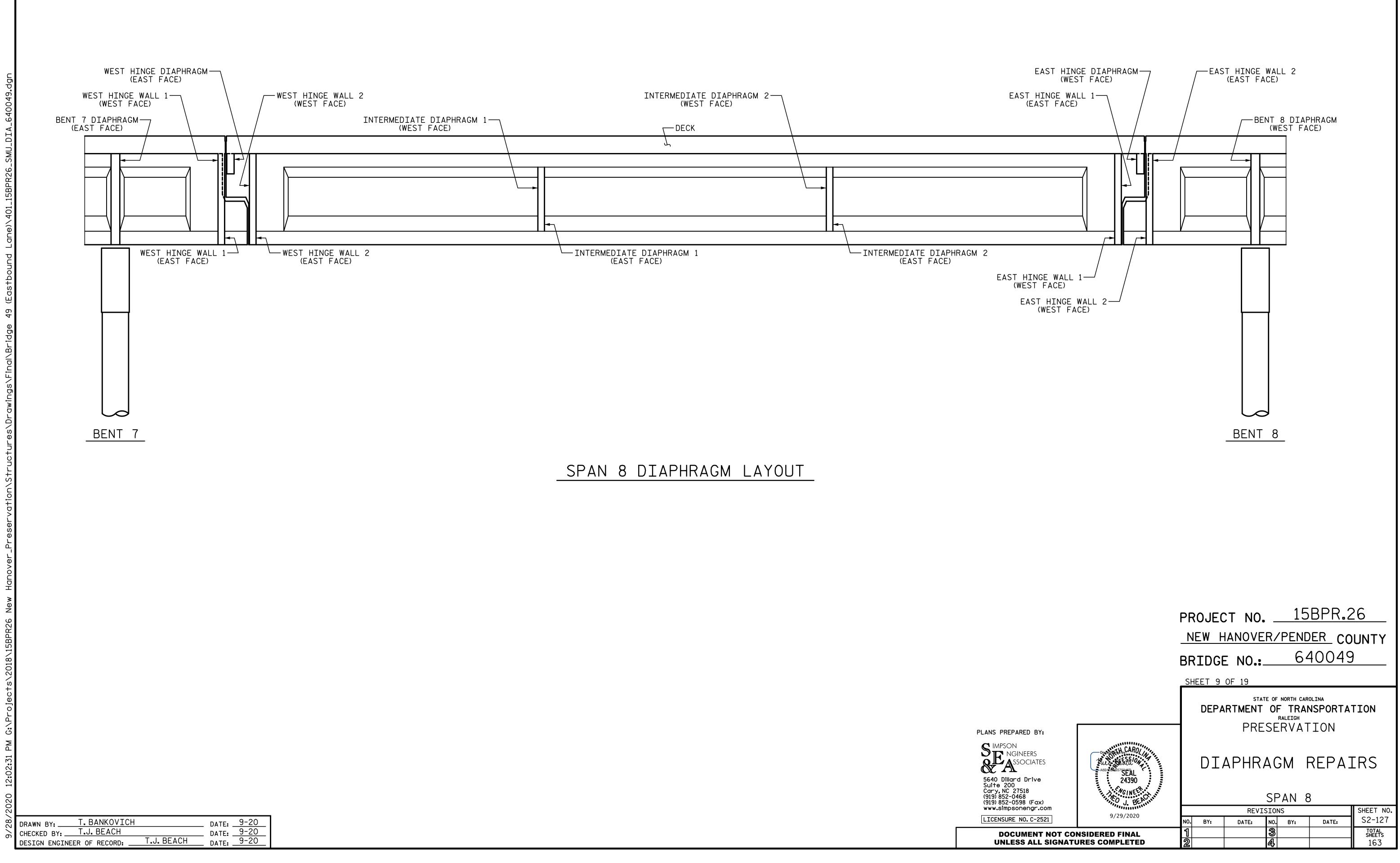
PLANS PREPARED

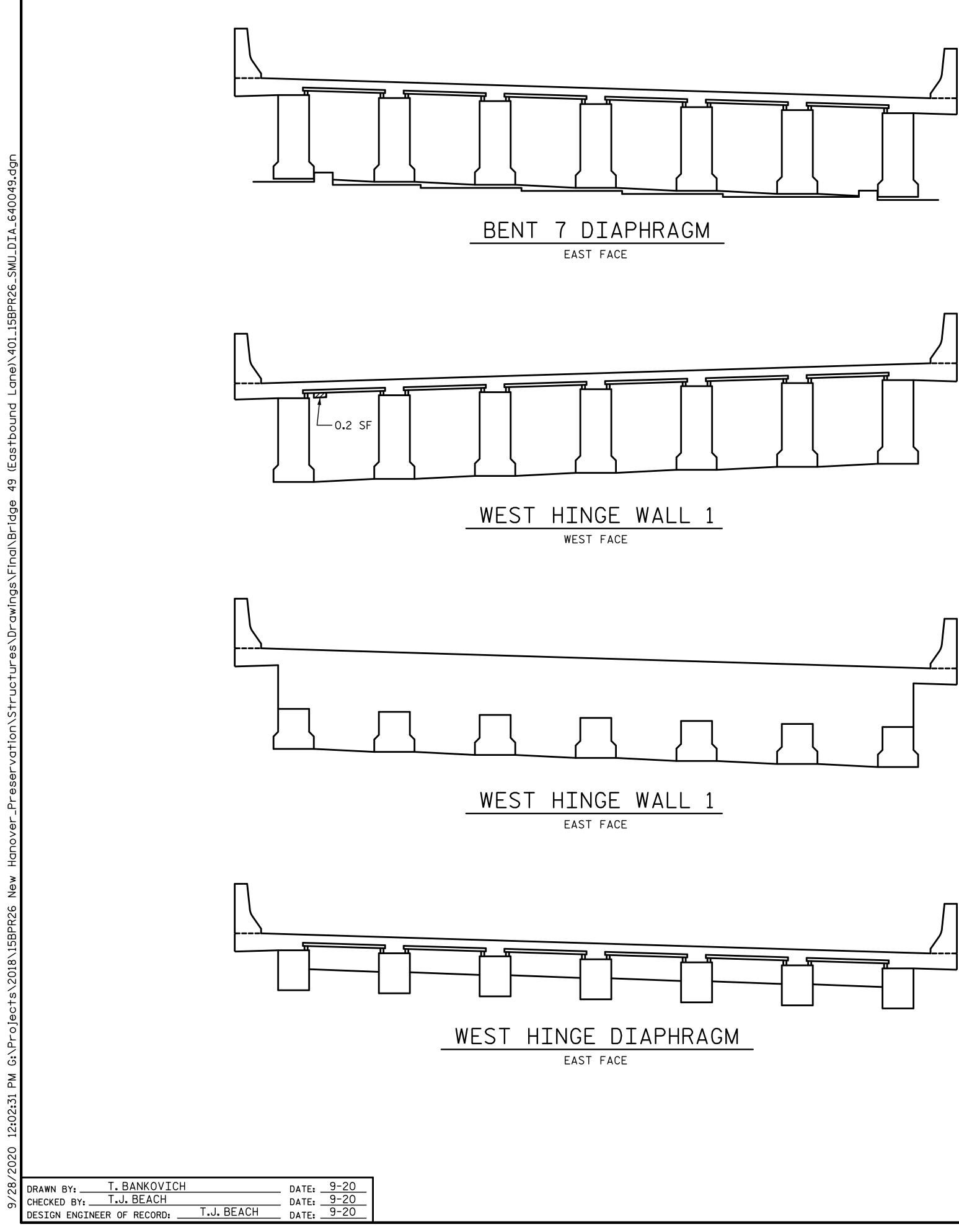


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REPAIR QUANTITY TABLE								
DEDATOS SDANLZ DTADU		QI	JANTITI	ES				
REPAIRS SPAN 7 DIAPH.	EST	IMATE		ACTUAL	_			
SHOTCRETE REPAIRS	AREA VOLUME AREA DEPT SF CF SF FT			DEPTH FT	VOLUME CF			
BENT 6 DIAPHRAGM	0.0	0.0						
INTERMEDIATE DIAPHRAGM 1	0.0	0.0						
INTERMEDIATE DIAPHRAGM 2	0.0	0.0 0.0						
BENT 7 DIAPHRAGM	0.0	0.0						
EPOXY RESIN INJECT	EON	LF			LF			
BENT 6 DIAPHRAGM		0.0						
INTERMEDIATE DIAPHRAGM 1								
INTERMEDIATE DIAPHRAGM 2								
BENT 7 DIAPHRAGM		0.0						

PROJECT NO. <u>15BPR.26</u> <u>NEW HANOVER/PENDER COUNTY</u> BRIDGE NO.: <u>640049</u> SHEET 8 OF 19								
BY:		STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH PRESERVATION						
RS ATES I ve	AGE BESTERAD	DIAPHRAGM REPAIRS SPAN 7						
ax) gr.com	9/29/2020		REVISI			SHEET NO.		
-2521	5/ 23/ 2020	NO. BY:		IO. BY:	DATE:	S2-126		
	NSIDERED FINAL IRES COMPLETED	1 2		3 1.		total sheets 163		







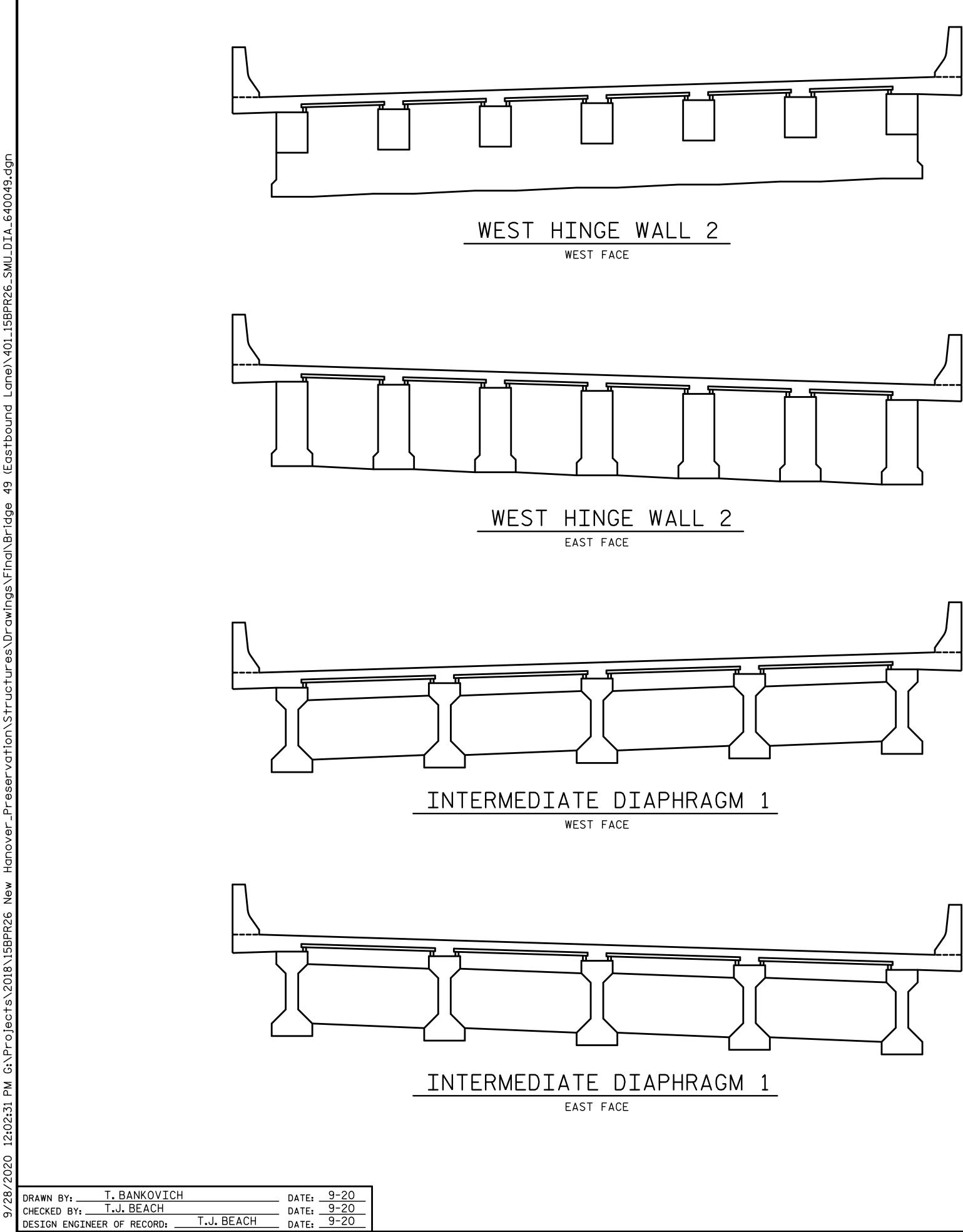
ERI — EPOXY RESIN INJECTION



NOTES:

FOR SPAN 8 QUANTITIES, SEE SHEET 13 OF 19.

PROJECT NO. 15BPR.26 NEW HANOVER/PENDER COUNTY 640049 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 S2-128 NO. BY: DATE: DATE: BY: NO. TOTAL SHEETS DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED 163





ERI — EPOXY RESIN INJECTION

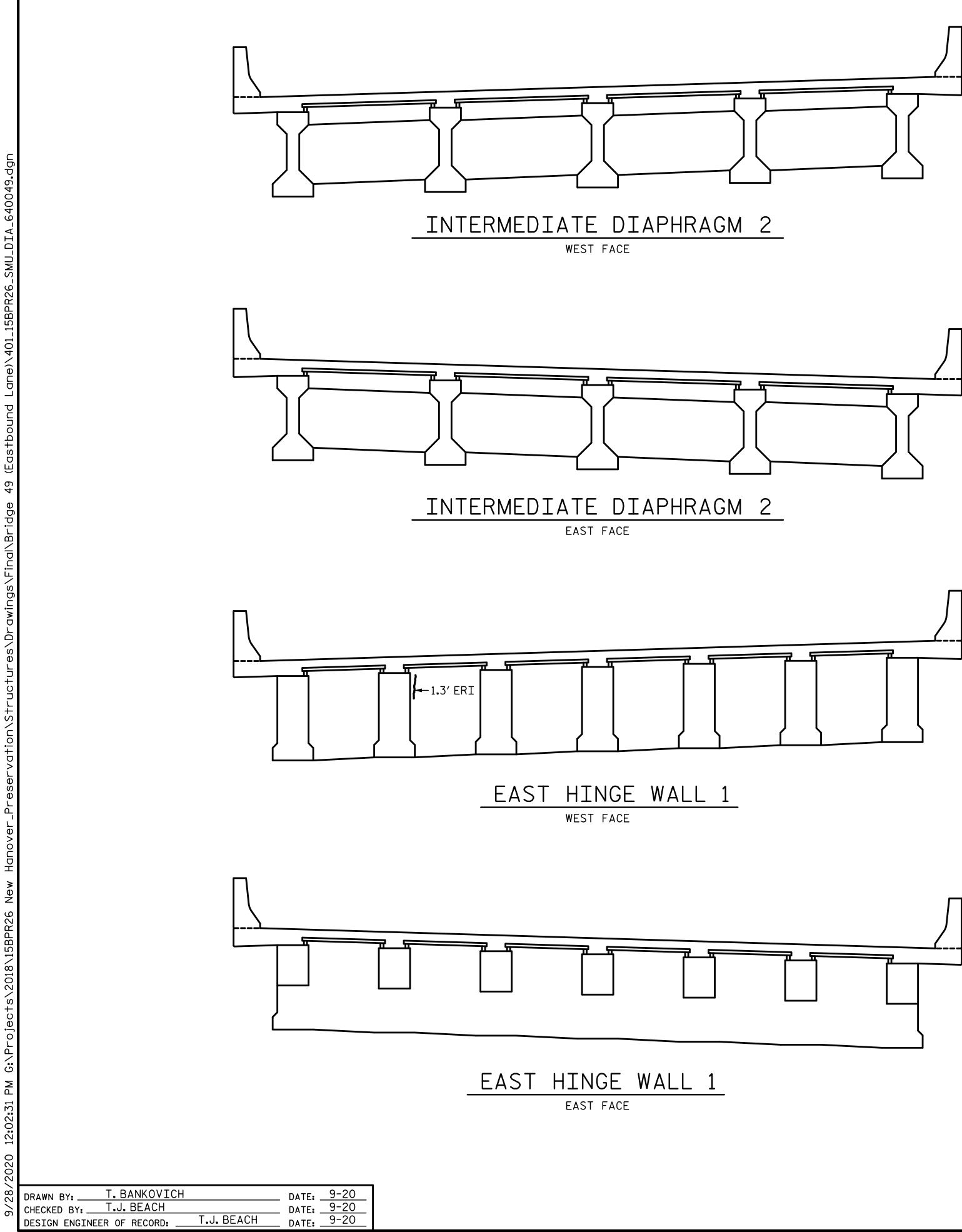
PLANS PREPARED BY:



NOTES:

FOR SPAN 8 QUANTITIES, SEE SHEET 13 OF 19.

PROJECT NO. 15BPR.26 NEW HANOVER/PENDER COUNTY 640049 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 S2-129 NO. BY: DATE: DATE: BY: NO. total sheets 163 DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED





ERI — EPOXY RESIN INJECTION

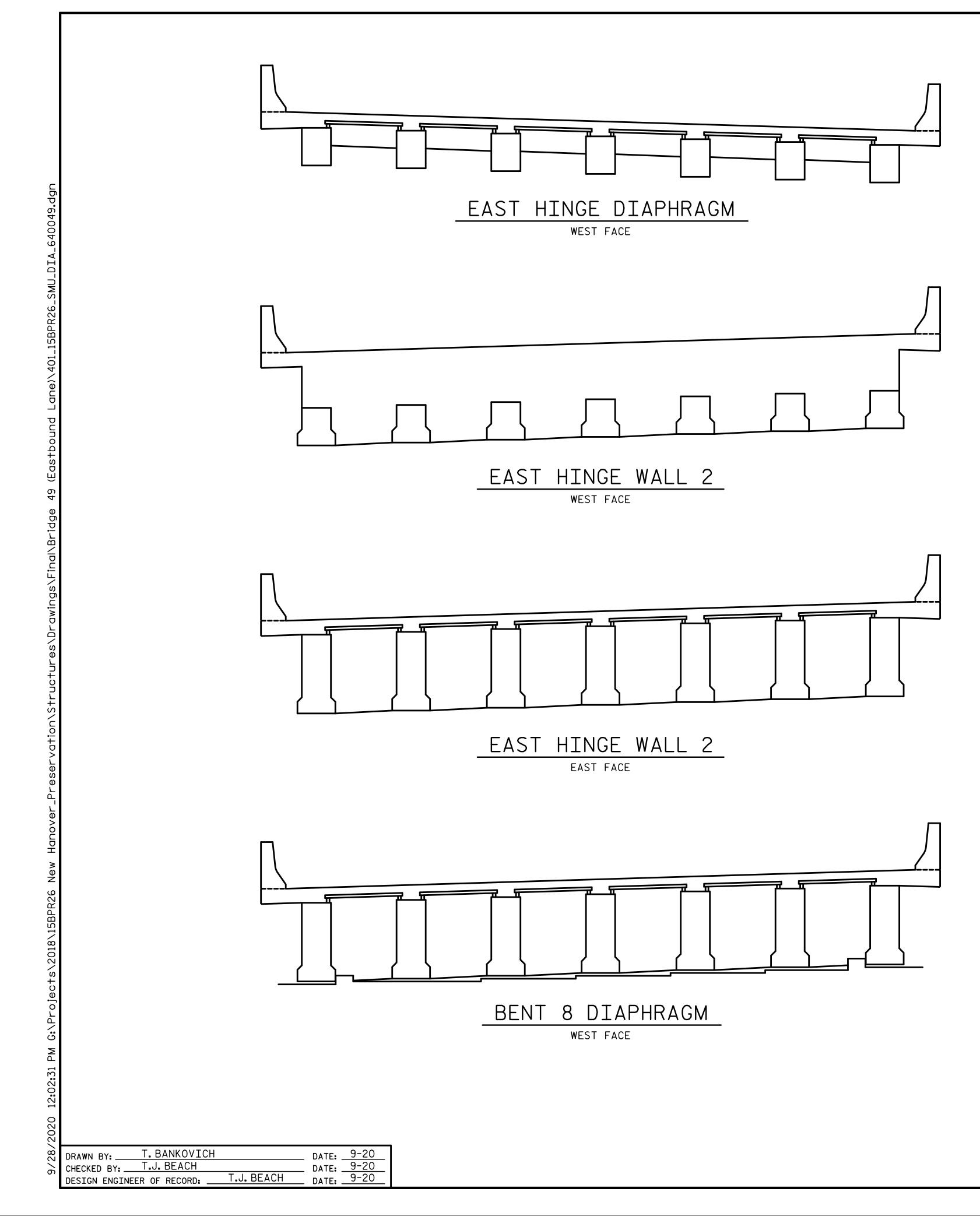
SIMPSON NGINEERS SSOCIATES 5640 Dillard Drive Suite 200 Cary, NC 27518 (919) 852-0468 (919) 852-0468 (919) 852-0598 (Fax) www.simpsonengr.com

LICENSURE NO. C-2521

NOTES:

FOR SPAN 8 QUANTITIES, SEE SHEET 13 OF 19.

PROJECT NO. 15BPR.26 NEW HANOVER/PENDER COUNTY 640049 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 S2-130 NO. BY: DATE: DATE: BY: total sheets 163 DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED





ERI — EPOXY RESIN INJECTION



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REPAIR QUANTITY TABLE							
REPAIRS SPAN 8 DIAPH.		QL	QUANTITIES				
REFAIRS SFAN 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	0.2	0.1					
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							
EAST HINGE WALL 1							
EAST HINGE DIAPHRAGM							
EAST HINGE WALL 2							
BENT 8 DIAPHRAGM		0.0					

PROJECT	NO.	15BPR.26

NEW HANOVER/PENDER COUNTY

640049 BRIDGE NO .: ____

SHEET 13 OF 19

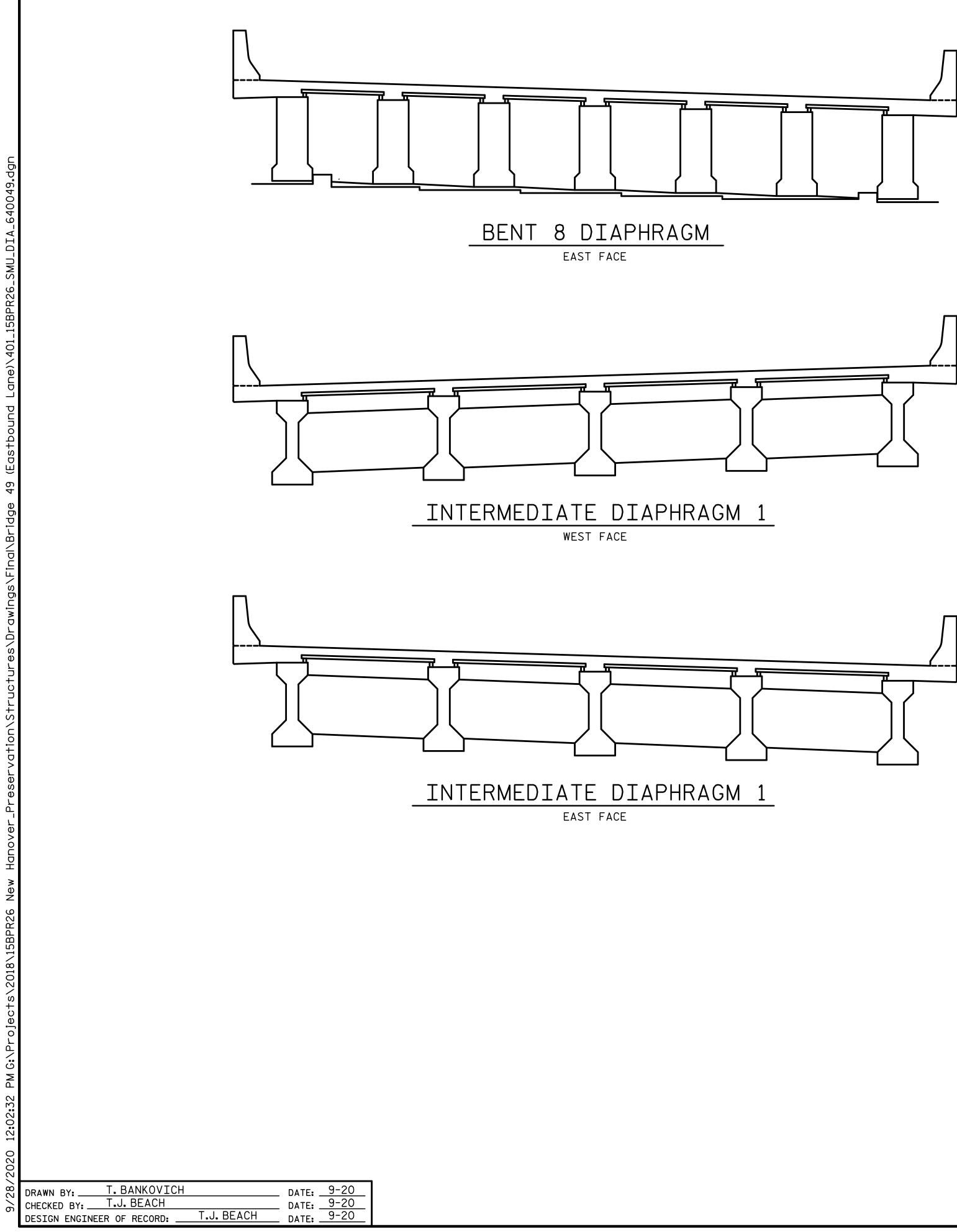
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH PRESERVATION

DIAPHRAGM REPAIRS

CA INT		SPAN 8									
		REVISIONS									
	NO.	BY:	DATE:	NO.	BY:	DATE:	S2-131				
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)	2			4			163				

PLANS PREPARED BY:	
C IMPSON	







ERI — EPOXY RESIN INJECTION

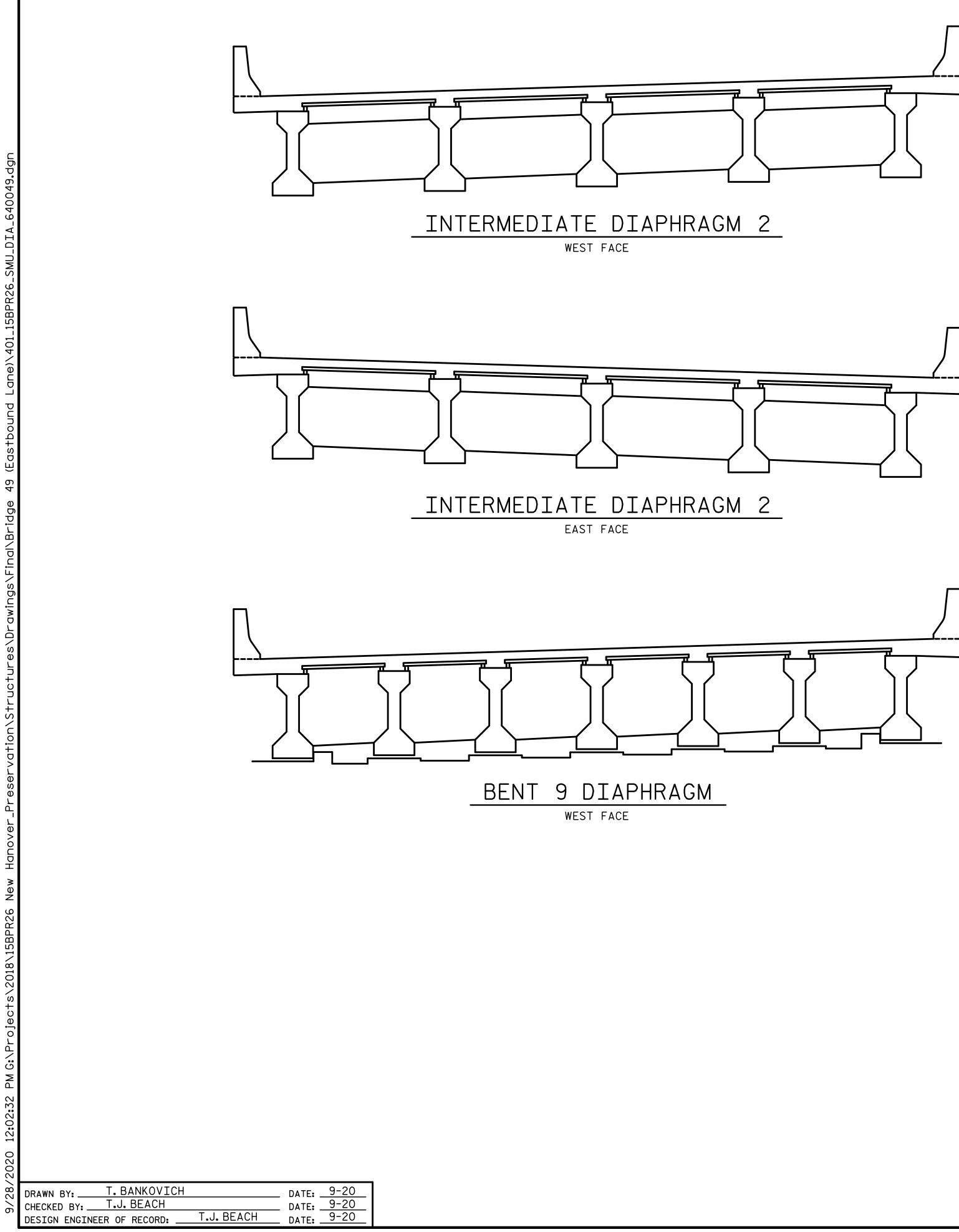




NOTES:

FOR SPAN 9 QUANTITIES, SEE SHEET 15 OF 19.

PROJECT NO. 15BPR.26 NEW HANOVER/PENDER COUNTY 640049 BRIDGE NO .:___ SHEET 14 OF 19 STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH PRESERVATION DIAPHRAGM REPAIRS to Breachion SEAL 24390 SPAN 9 REVISIONS SHEET NO. 9/29/2020 S2-132 NO. BY: DATE: DATE: BY: NO. total sheets 163 DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED





ERI — EPOXY RESIN INJECTION

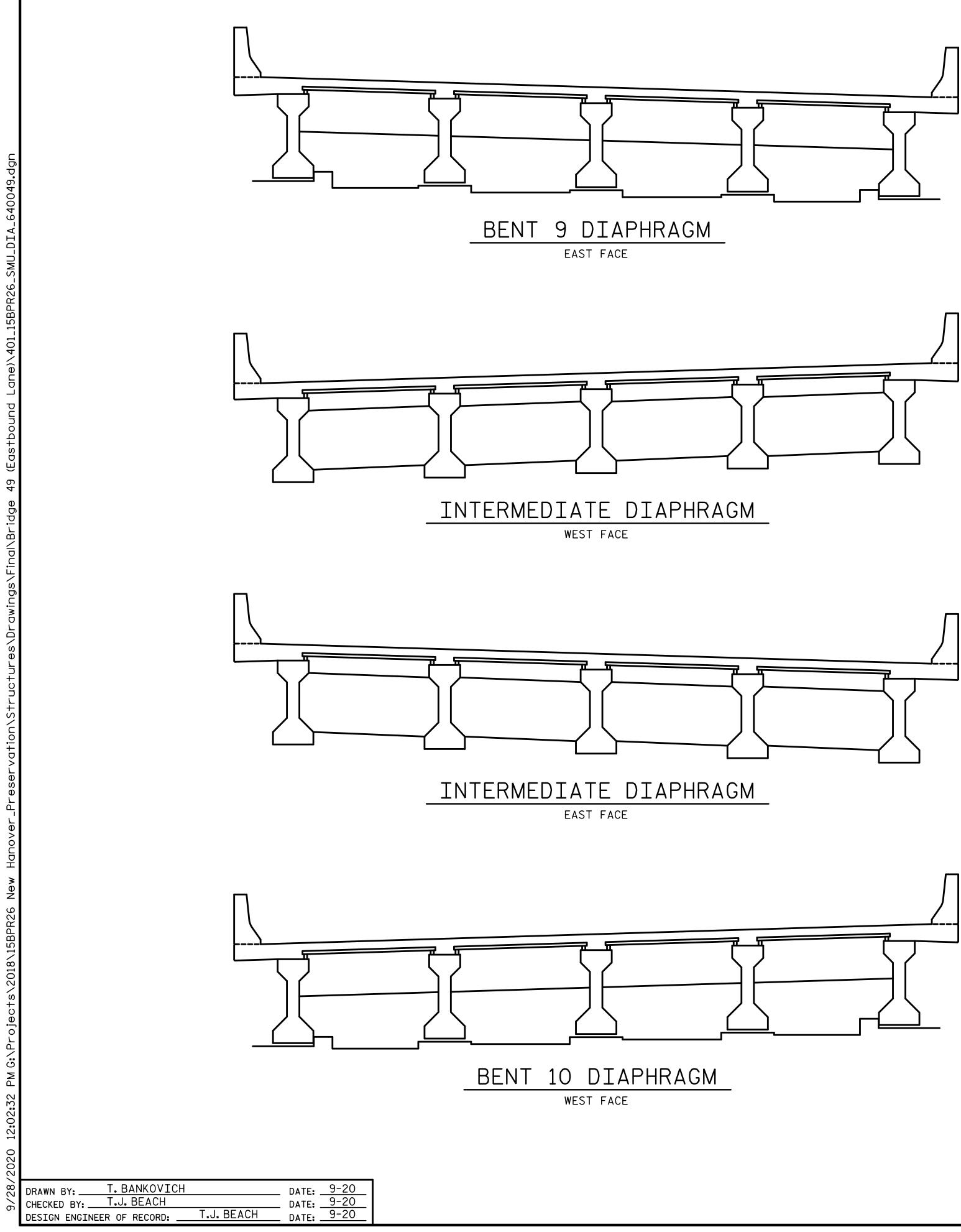
PLANS PREPARED



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REPAIR QUANTITY TABLE								
DEDATOS SDANLO DTADU		QI	JANTITI	ES				
REPAIRS SPAN 9 DIAPH.	EST	IMATE		ACTUAL	_			
SHOTCRETE REPAIRS	AREA VOLUME AREA DEPT SF CF SF FT			DEPTH FT	VOLUME CF			
BENT 8 DIAPHRAGM	0.0	0.0						
INTERMEDIATE DIAPHRAGM 1	0.0	0.0						
INTERMEDIATE DIAPHRAGM 2	0.0	0.0						
BENT 9 DIAPHRAGM	0.0	0.0 0.0						
EPOXY RESIN INJECT	EON	LF			LF			
BENT 8 DIAPHRAGM		0.0						
INTERMEDIATE DIAPHRAGM 1								
INTERMEDIATE DIAPHRAGM 2								
BENT 9 DIAPHRAGM		0.0						

		NEW H	CT NO. HANOVEF E NO.: 5 OF 19	R/PEND		UNTY		
BY:	STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH PRESERVATION							
S ATES Ve	AGBI DE DE STEAL AGBI DE DE STEAL 24390	DIAPHRAGM REPAIRS						
ax) ir.com	J. BEAU	SPAN 9 REVISIONS SHEET NO.						
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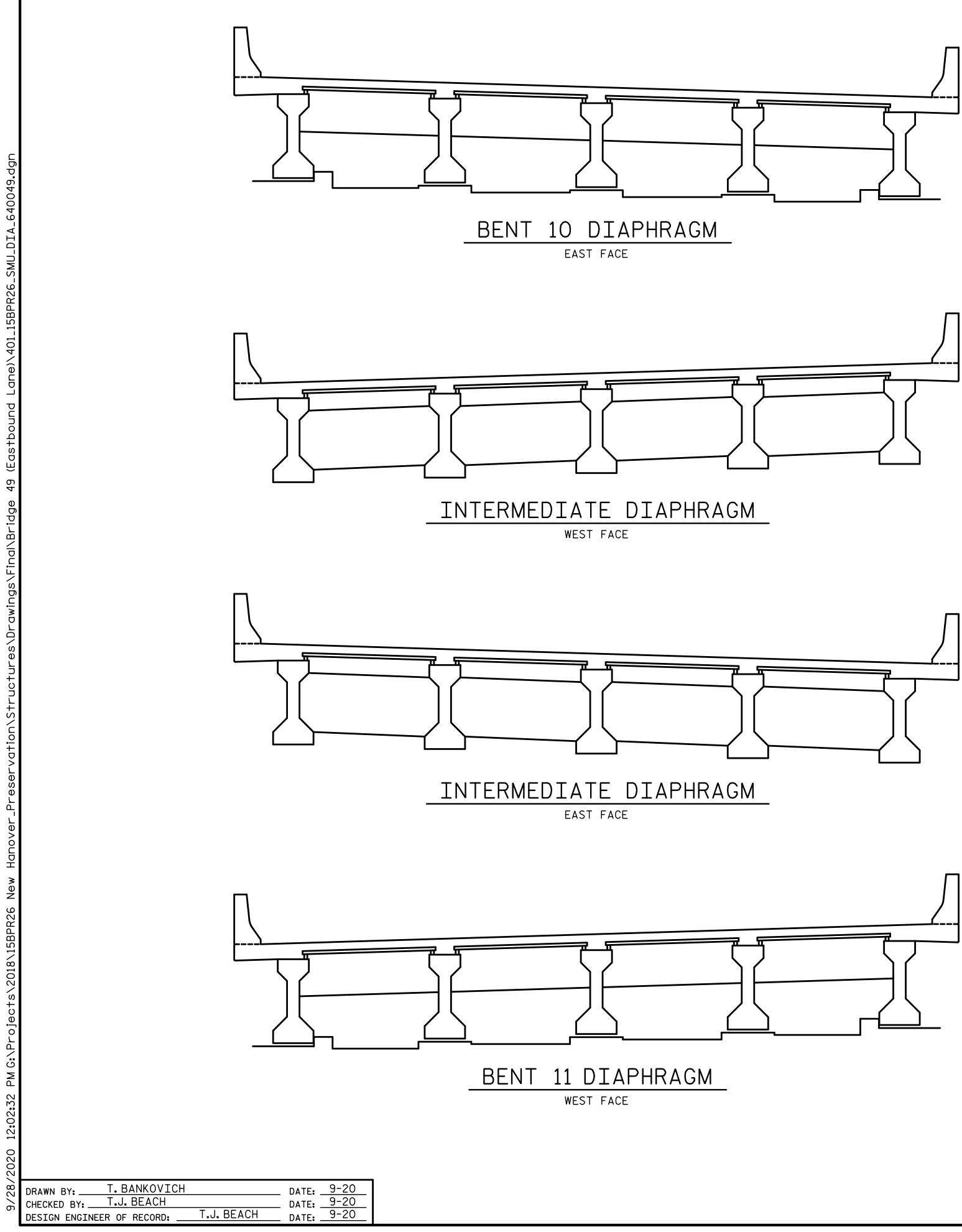


ERI — EPOXY RESIN INJECTION



REPAIR QUANTITY TABLE								
REPAIRS SPAN 10 DIAPH.		QI	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								
BENT 10 DIAPHRAGM		0.0						

PROJECT NO. 15BPR.26 NEW HANOVER/PENDER COUNTY 640049 BRIDGE NO .:___ SHEET 16 OF 19 STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH PRESERVATION PLANS PREPARED BY: DIAPHRAGM REPAIRS a Breachlon SEAL 24390 SPAN 10 REVISIONS SHEET NO. 9/29/2020 S2-134 NO. BY: DATE: DATE: BY: NO. total sheets 163 DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED





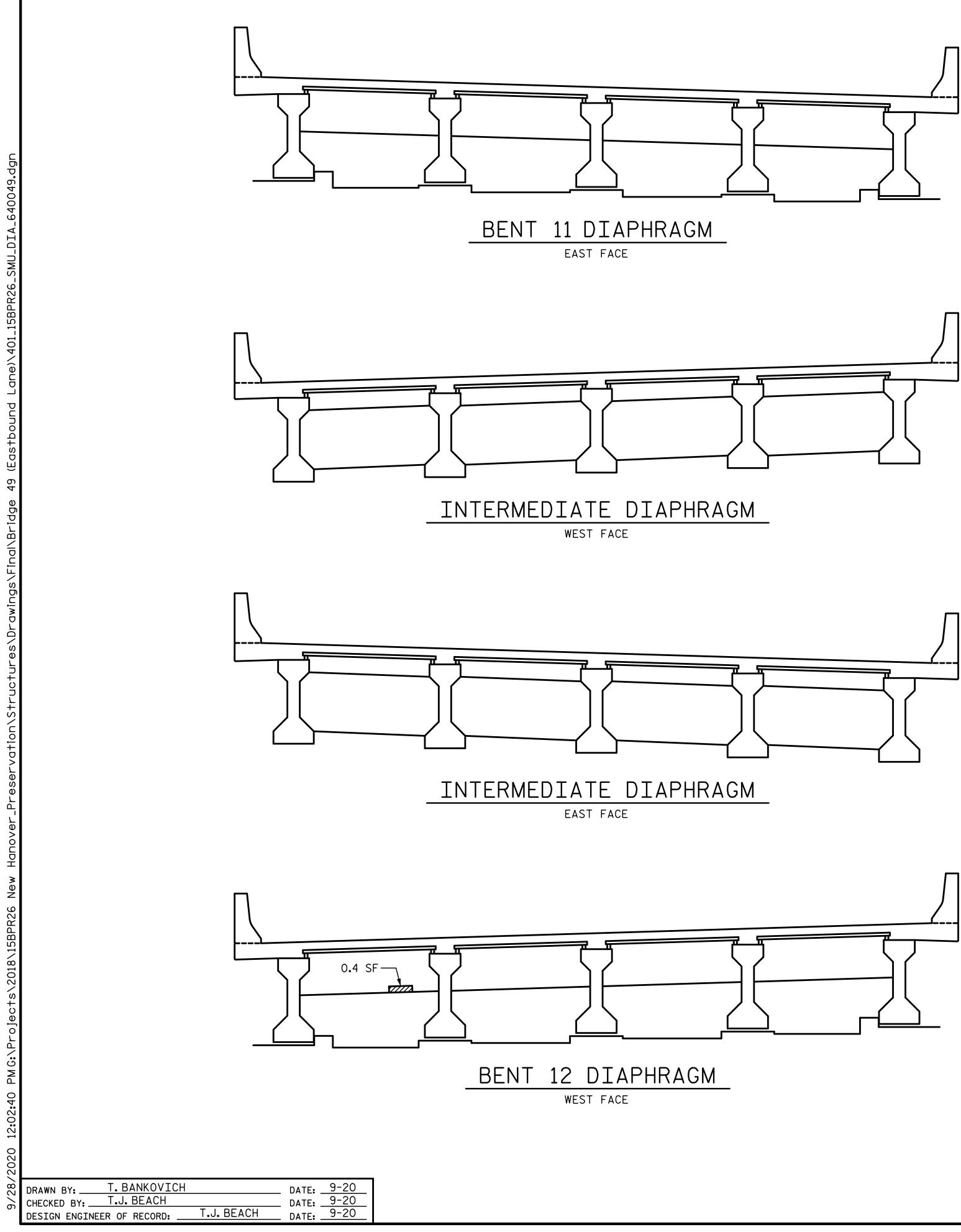
ERI — EPOXY RESIN INJECTION

SIMPSON NGINEERS ASSOCIATES



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

PROJECT NO. 15BPR.26 NEW HANOVER/PENDER COUNTY 640049 BRIDGE NO.:___ SHEET 17 OF 19 STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH PRESERVATION PLANS PREPARED BY: DIAPHRAGM REPAIRS a Breachlon SEAL 24390 SPAN 11 REVISIONS SHEET NO. 9/29/2020 S2-135 NO. BY: DATE: DATE: BY: NO. total sheets 163 DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

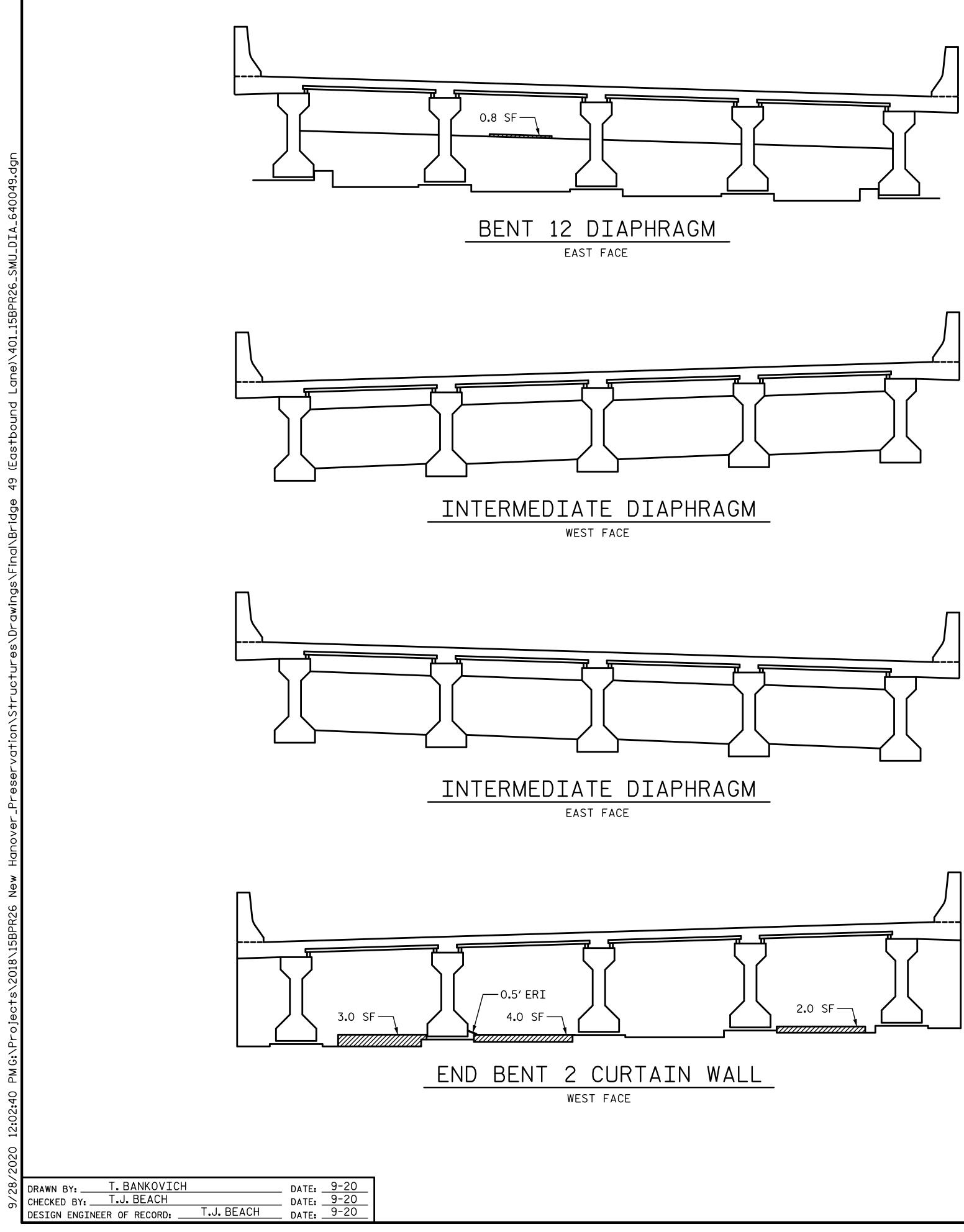




ERI — EPOXY RESIN INJECTION

REPAIR QUANTITY TABLE								
REPAIRS SPAN 12 DIAPH.		QI	JANTITI	IES				
INCIALING SI AN 12 DIAI II.	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	0.4 0.2							
EPOXY RESIN INJECT	EON	LF			LF			
BENT 11 DIAPHRAGM		0.0						
INTERMEDIATE DIAPHRAGM								
BENT 12 DIAPHRAGM		0.0						

		PROJECT NO. <u>15BPR.26</u> <u>NEW HANOVER/PENDER COUNTY</u> BRIDGE NO.: <u>640049</u> SHEET 18 OF 19						
PLANS PREPARED BY:	e of north car OF TRAN RALEIGH SERVAT	NSPORTA	TION					
SIMPSON NGINEERS SSOCIATES 5640 Dillard Drive Suite 200 Cary, NC 27518 (919) 852-0468 (919) 852-0598 (Fax)	Doensierrethol CAROL TUDO Setucial ON AGB FOR B575245B. SEAL 24390 UGINEER DOEN	DIAPHRAGM REPAIRS						
www.simpsonengr.com	9/29/2020	NO. BY:	REVIS		DATE:	SHEET NO. S2-136		
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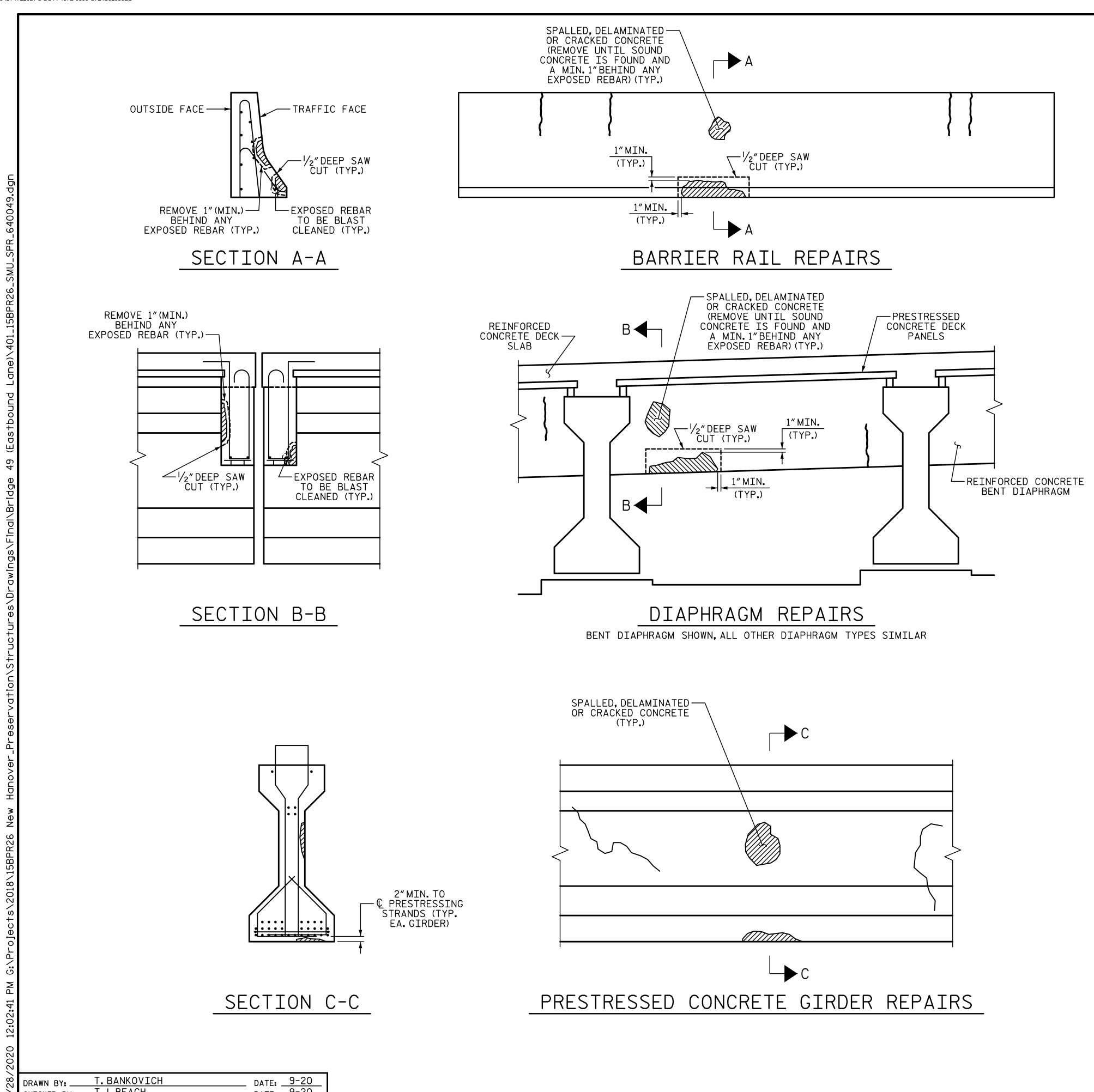
ERI — EPOXY RESIN INJECTION



REPAIR QUANTITY TABLE					
REPAIRS SPAN 13 DIAPH.		QI	JANTITI	IES	
REFAIRS SFAN IS DIAFH.	EST	IMATE		ACTUAL	-
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF
BENT 12 DIAPHRAGM	0.8	0.2			
INTERMEDIATE DIAPHRAGM	0.0	0.0			
CURTAIN WALL	9.0	1.3			
EPOXY RESIN INJECTION					LF
BENT 12 DIAPHRAGM	0.0				
INTERMEDIATE DIAPHRAGM	0.0				
CURTAIN WALL	CURTAIN WALL				

PROJECT NO. <u>15BPR.26</u> <u>NEW HANOVER/PENDER</u> COUNTY BRIDGE NO.: <u>640049</u>						
		SHEET 19	OF 19			
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATIO RALEIGH PRESERVATION				TION		
PLANS PREPARED BY: SIMPSON NGINEERS SSOCIATES 5640 Dillard Drive Suite 200 Cary, NC 27518 (919) 852-0468 (919) 852-0598 (Fax)	AGE EBOB 575245B. SEAL 24390	DIAPHRAGM REPAIRS SPAN 13				ERS
www.simpsonengr.com	9/29/2020		REVIS	SIONS		SHEET NO.
LICENSURE NO. C-2521	5, 25, 2626	NO. BY:	DATE:	NO. BY:	DATE:	S2-137
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$\dot{\mathbf{b}}$	DRAWN BY:	T. BANKOVICH		DATE:	9-20
		T.J. BEACH		DATE:	9-20
		NEER OF RECORD:	T.J. BEACH	DATE:	9-20

PLANS PREPARED



NOTES:

CONTRACTOR SHALL SAW CUT TO A NOMINAL DEPTH OF 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.

PRESTRESSED GIRDER REPAIR NOTES:

SOUND CONCRETE TO DETERMINE EXTENDS OF REPAIR LOCATION.

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

REMOVE CONCRETE WITHIN SAW CUT AREA TO MINIMUM $\frac{1}{2}$ " DEPTH. IF CONCRETE IS DAMAGED BEYOND THE ORIGINAL SAW CUT. A NEW SAW CUT IS REQUIRED.

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.

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

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. NOT 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 MATERIALS.

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

PROJECT NO. 15BPR.26 NEW HANOVER/PENDER COUNTY 640049 BRIDGE NO .:_

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION PRESERVATION

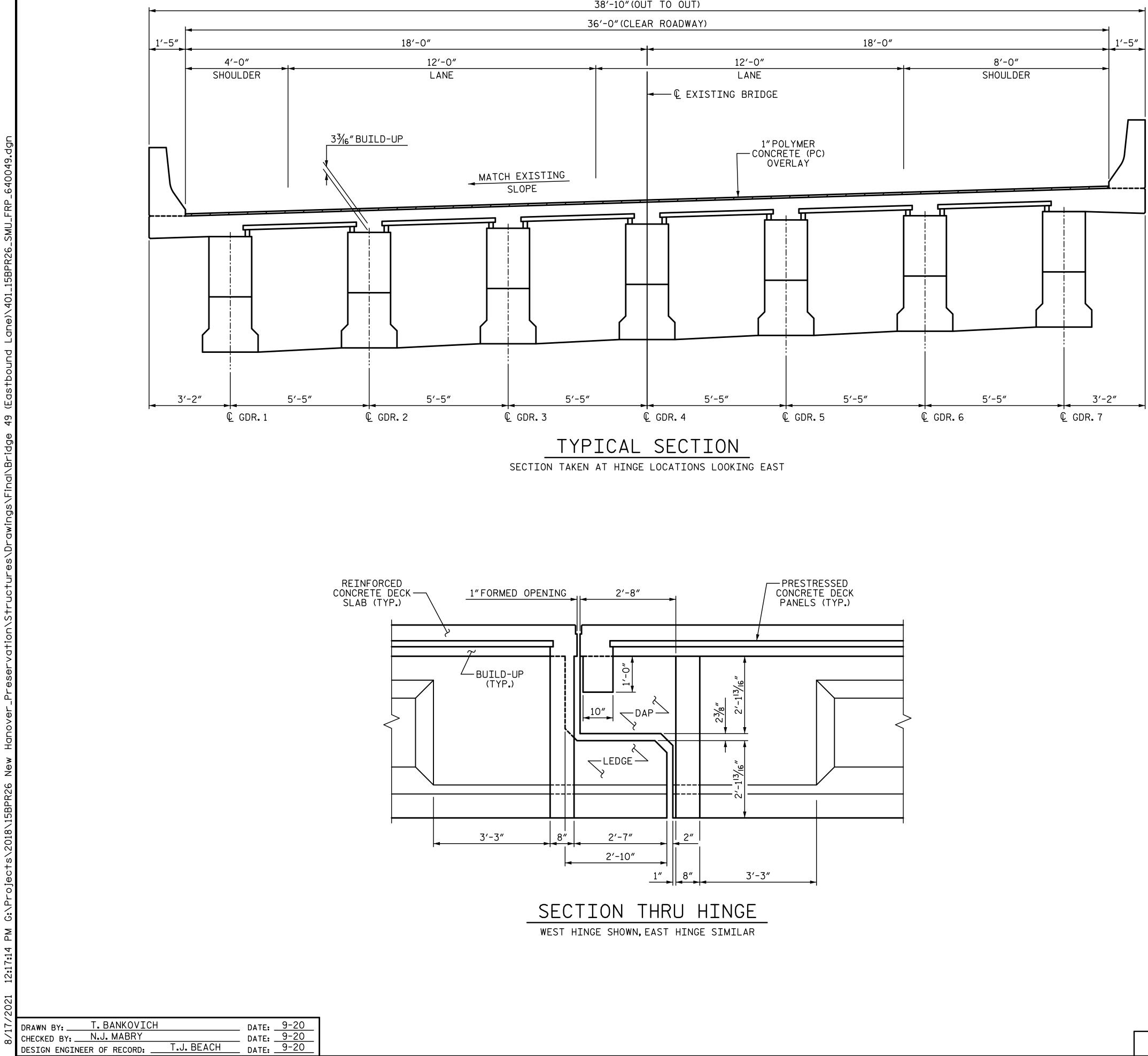
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38'-10" (OUT TO OUT)

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.

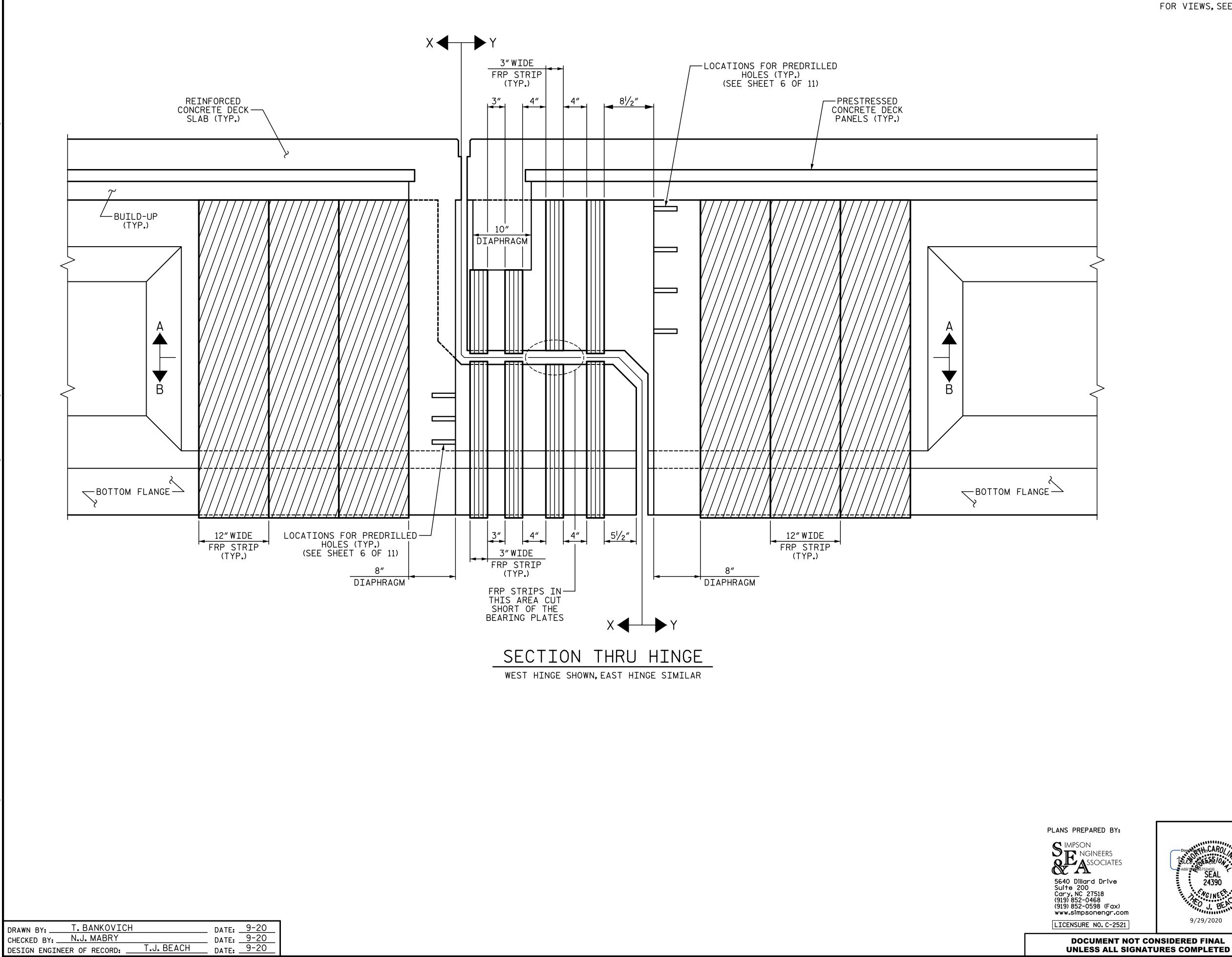
DRILLING OF FRP ANCHORAGE HOLES MAY VARY SLIGHTLY IN ORDER TO AVOID EXISTING REINFORCEMENT IN THE CONCRETE DIAPHRAGM.

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.

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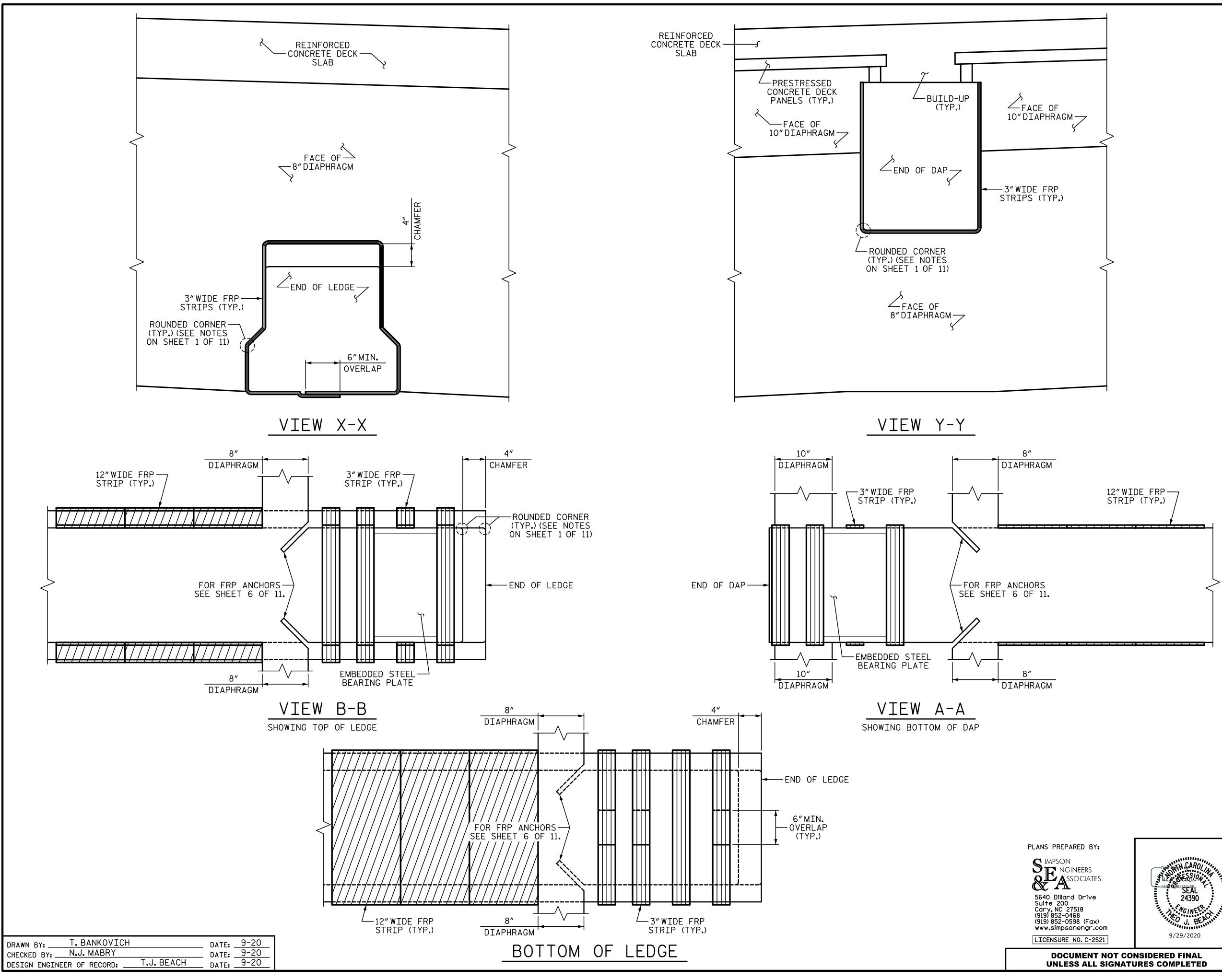
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NOTES:

FOR VIEWS, SEE SHEET 3 OF 11.

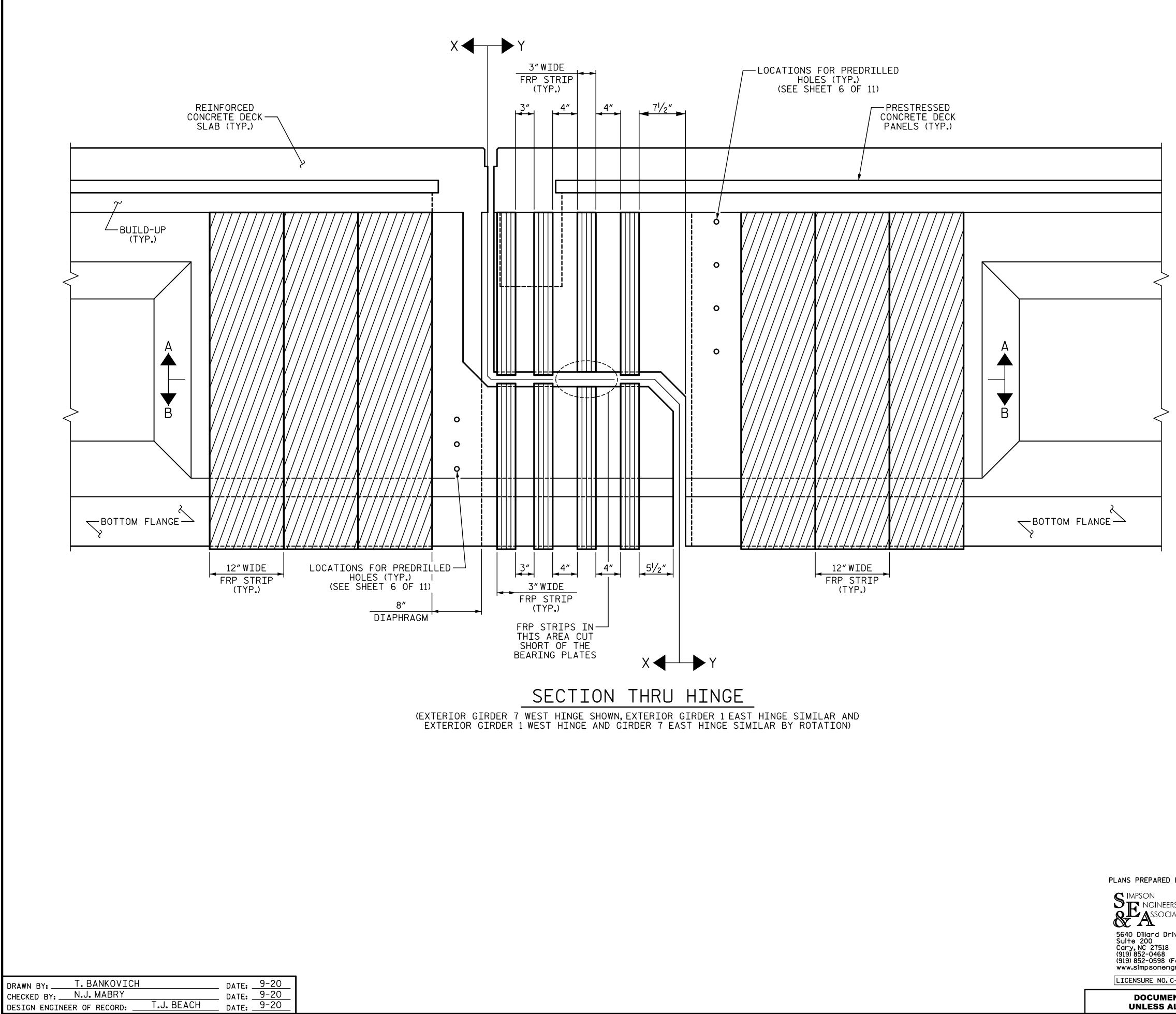
PROJECT NO. <u>15BPR.26</u> <u>NEW HANOVER/PENDER COUNTY</u> BRIDGE NO.: <u>640049</u> SHEET 2 OF 11						
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	PROJECT NO. <u>15BPR.26</u> <u>NEW HANOVER/PENDER COUNTY</u> BRIDGE NO.: <u>640049</u> SHEET 3 OF 11
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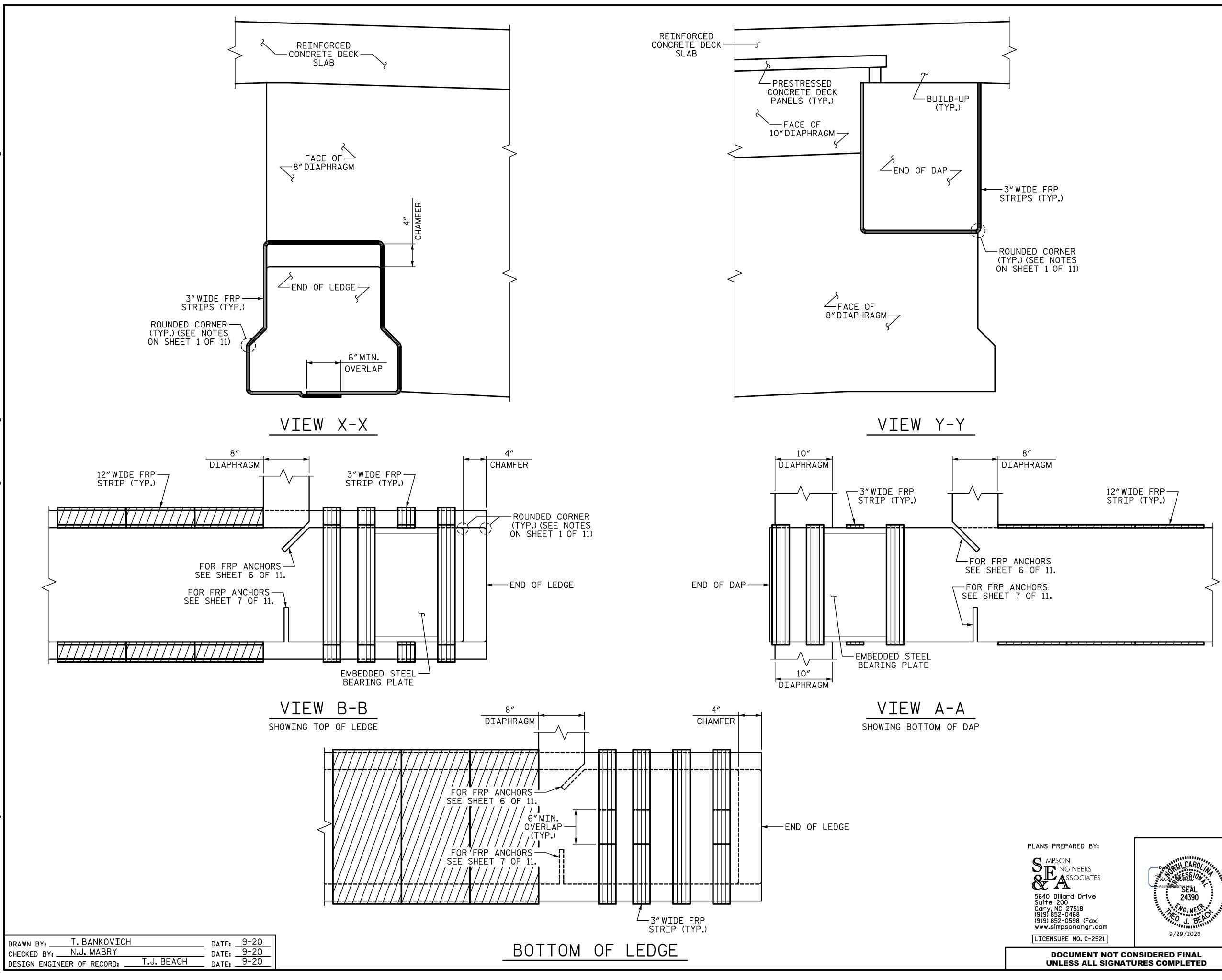


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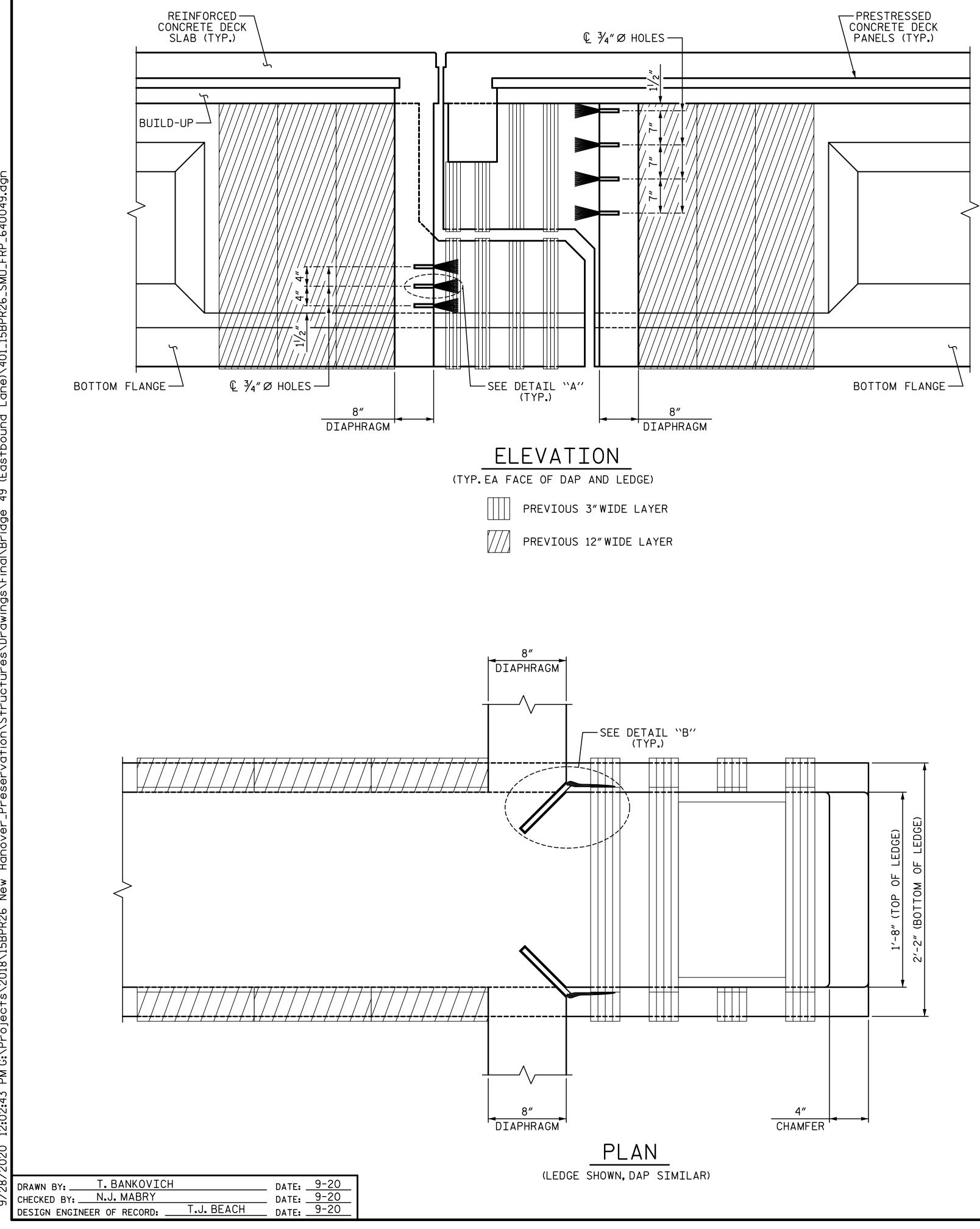
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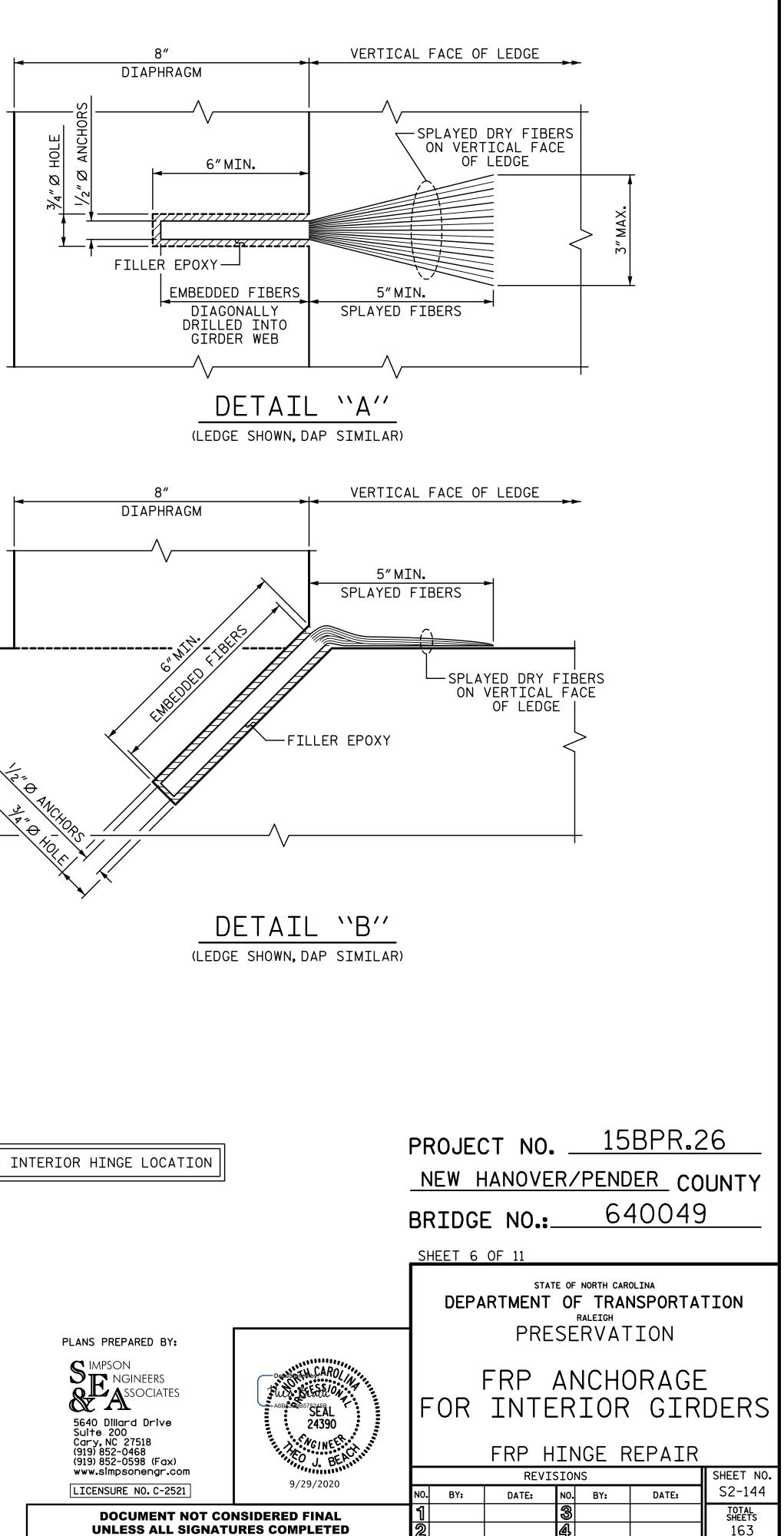
FOR VIEWS, SEE SHEET 5 OF 11.

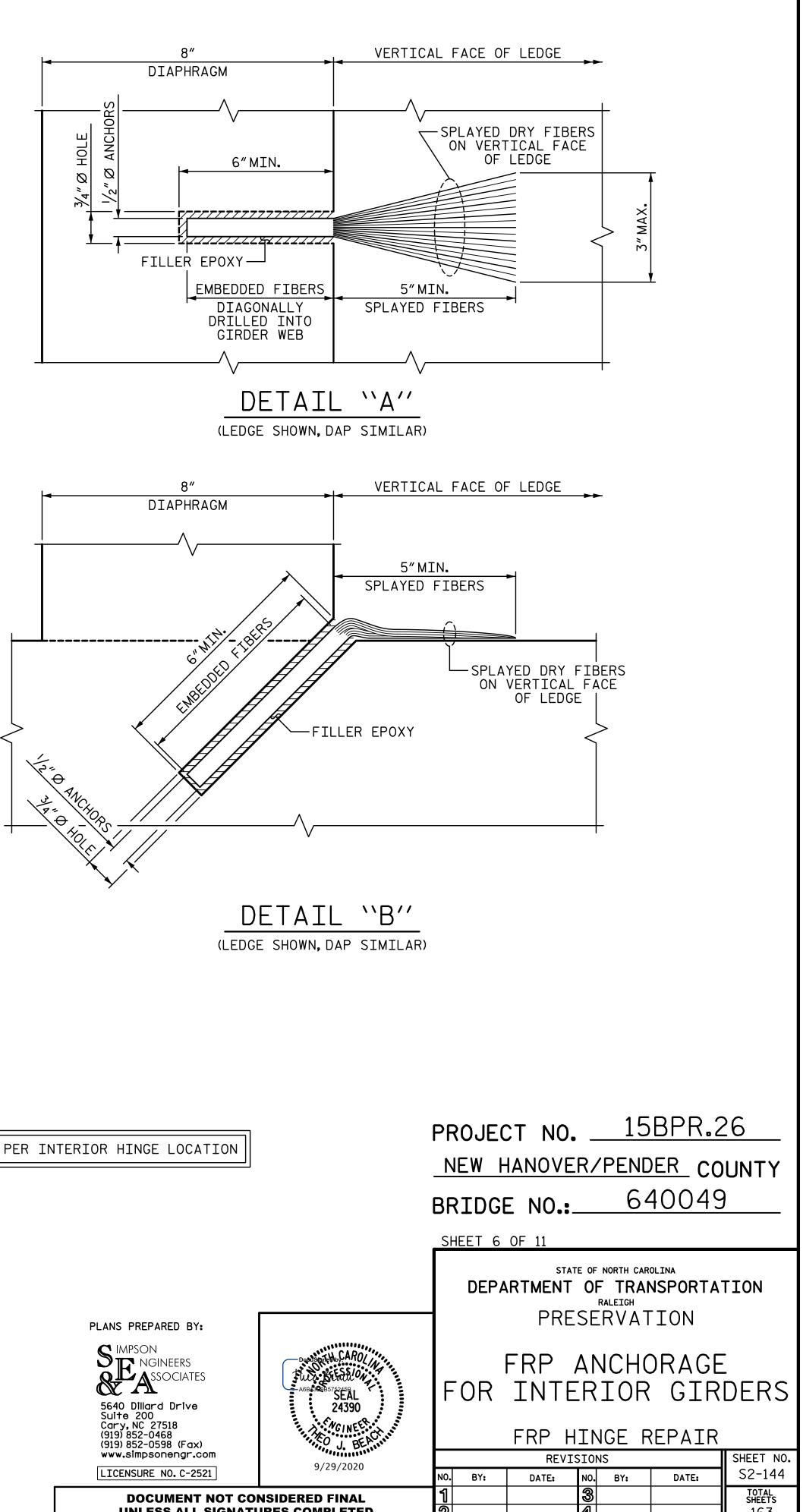
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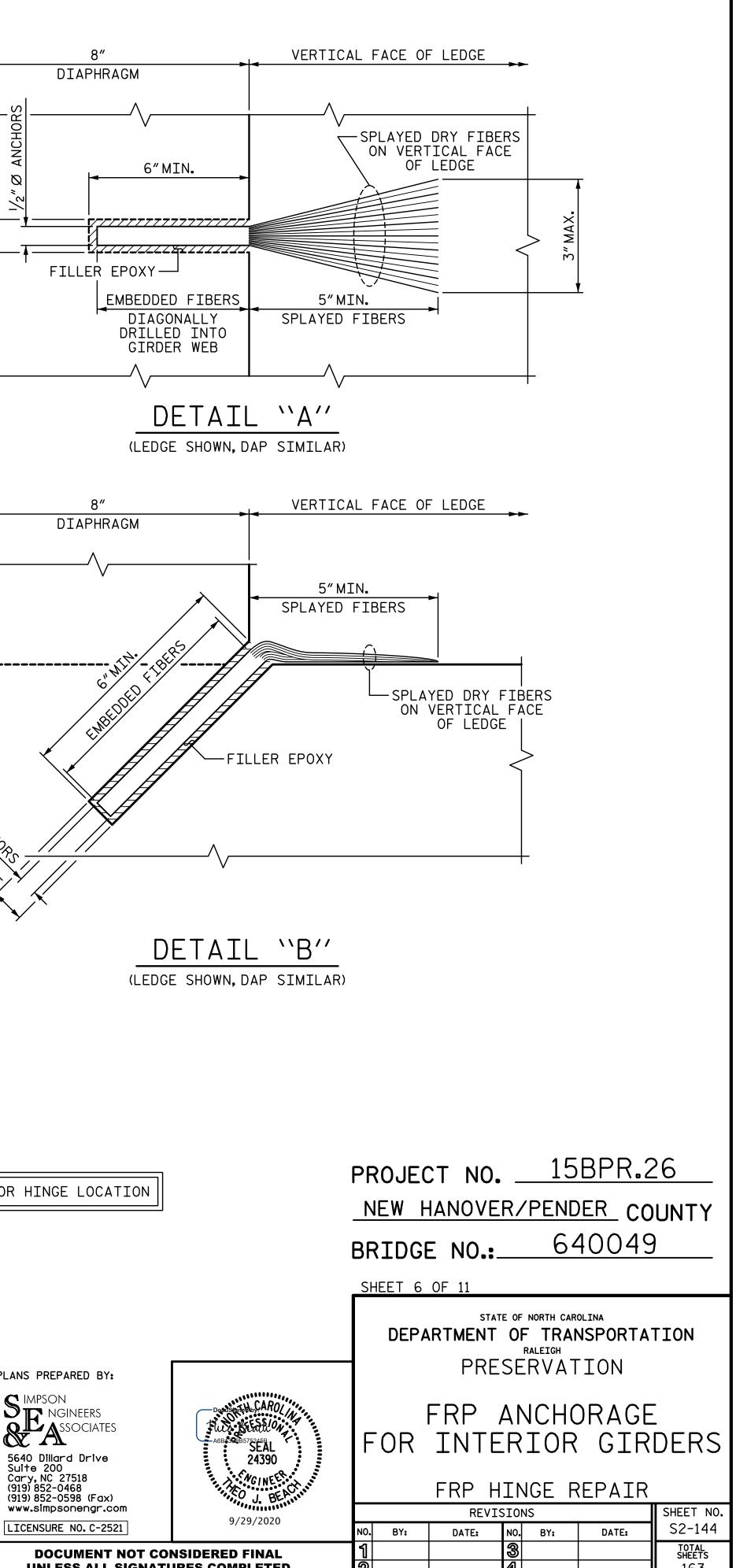
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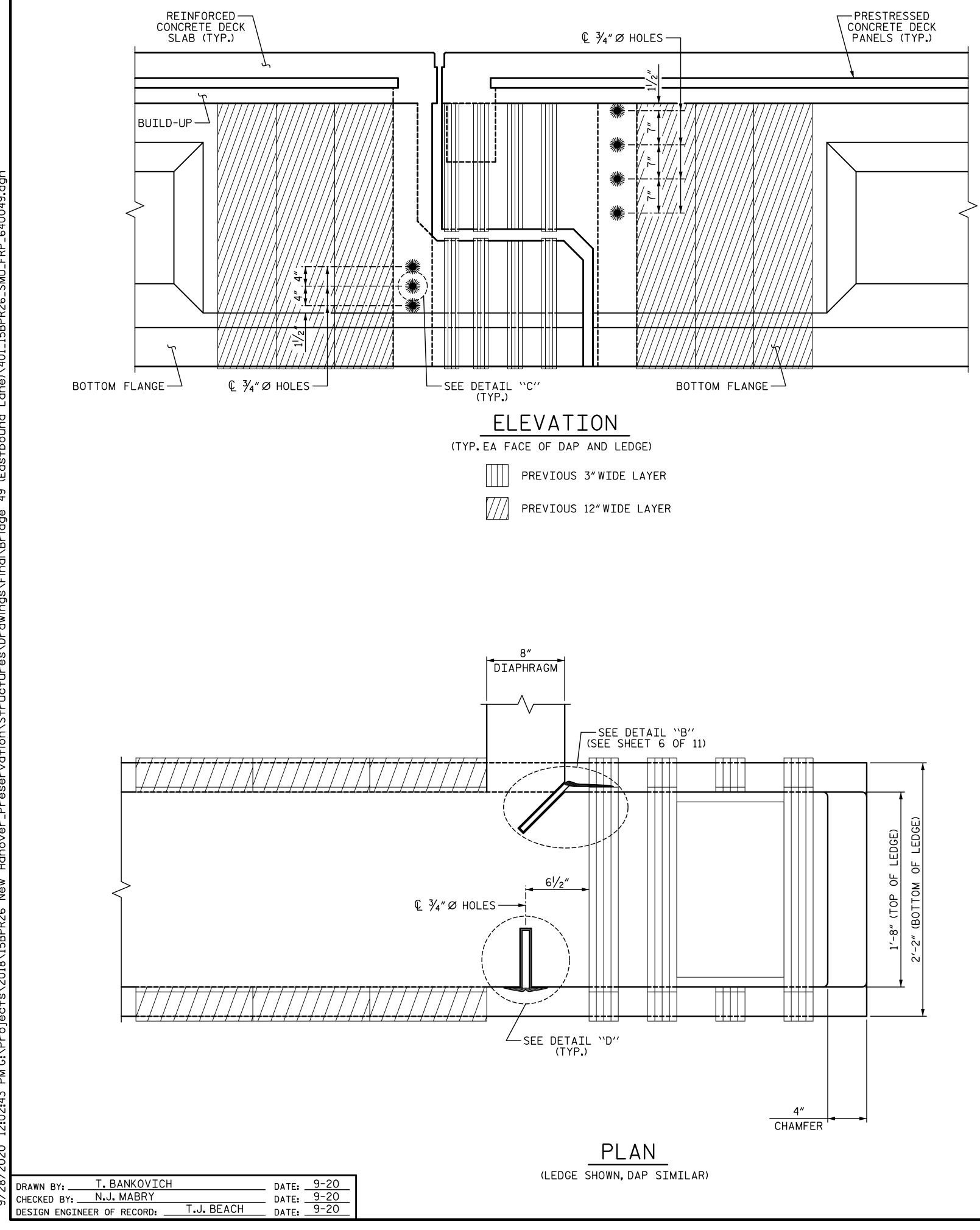




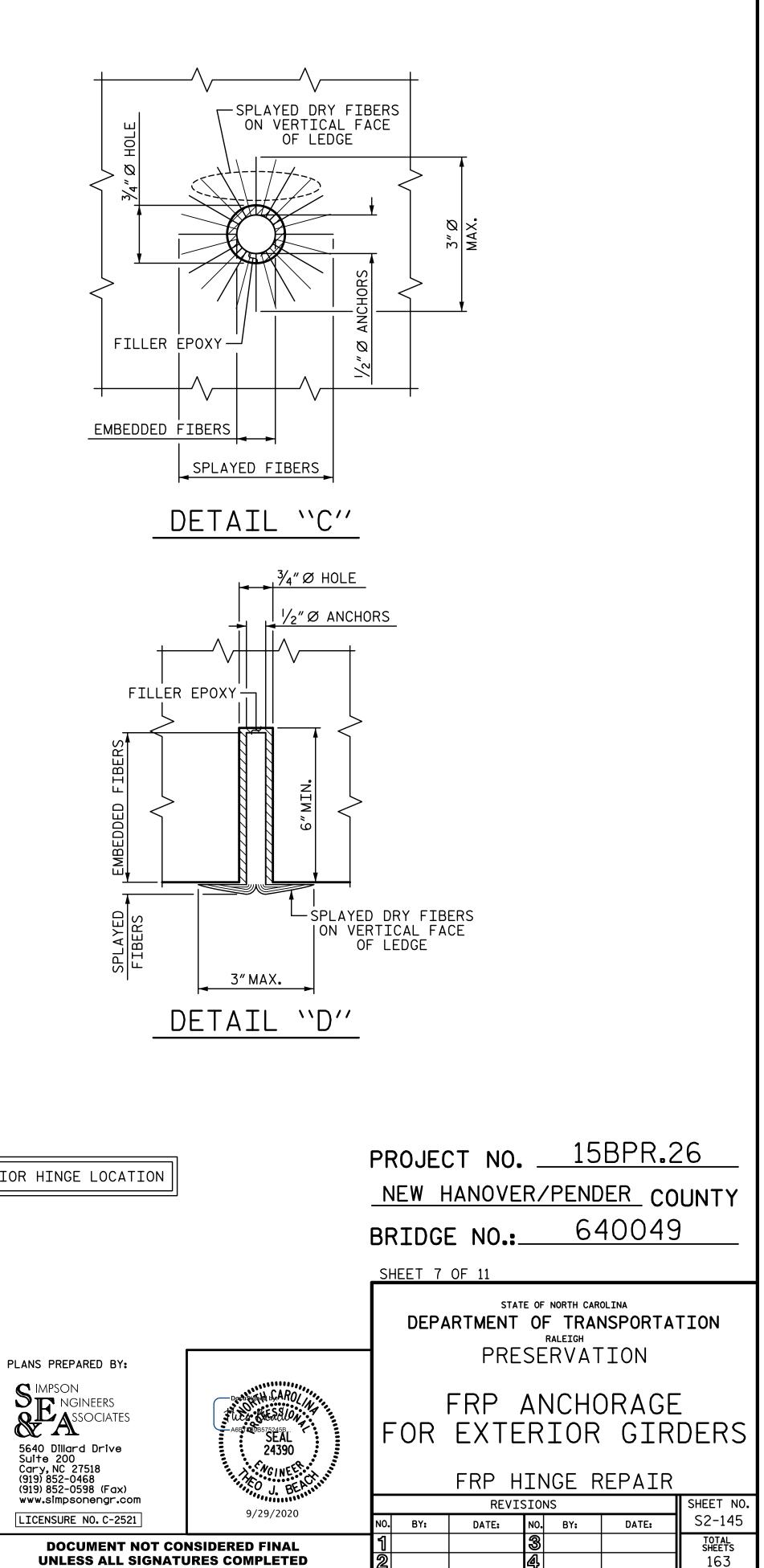


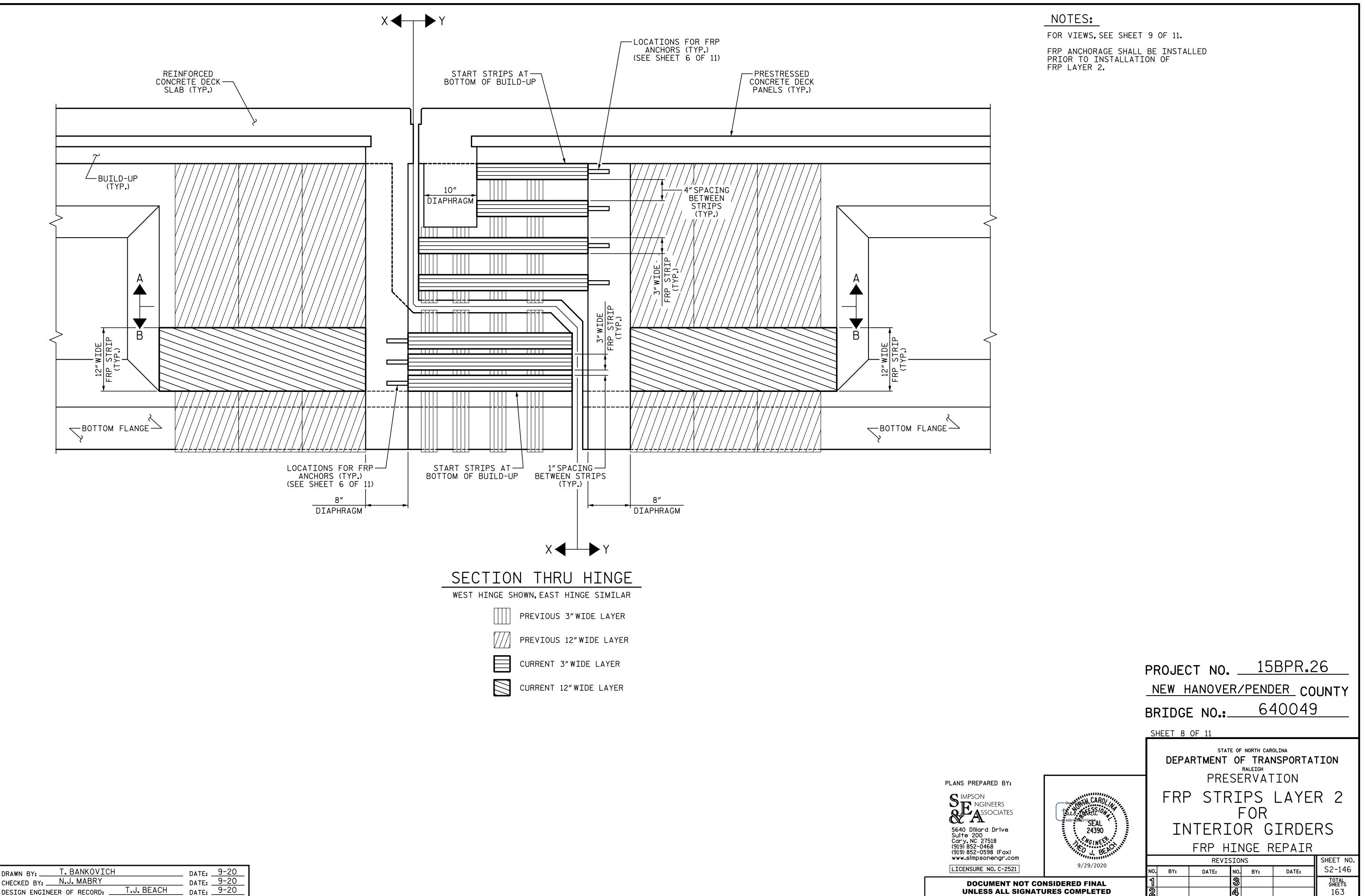
14 ANCHORS REQUIRED PER INTERIOR HINGE LOCATION





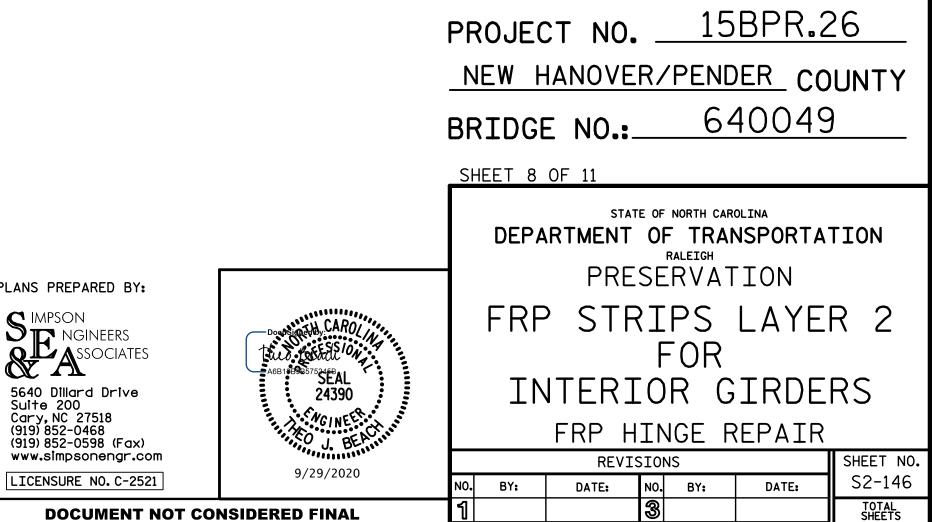
14 ANCHORS REQUIRED PER INTERIOR HINGE LOCATION



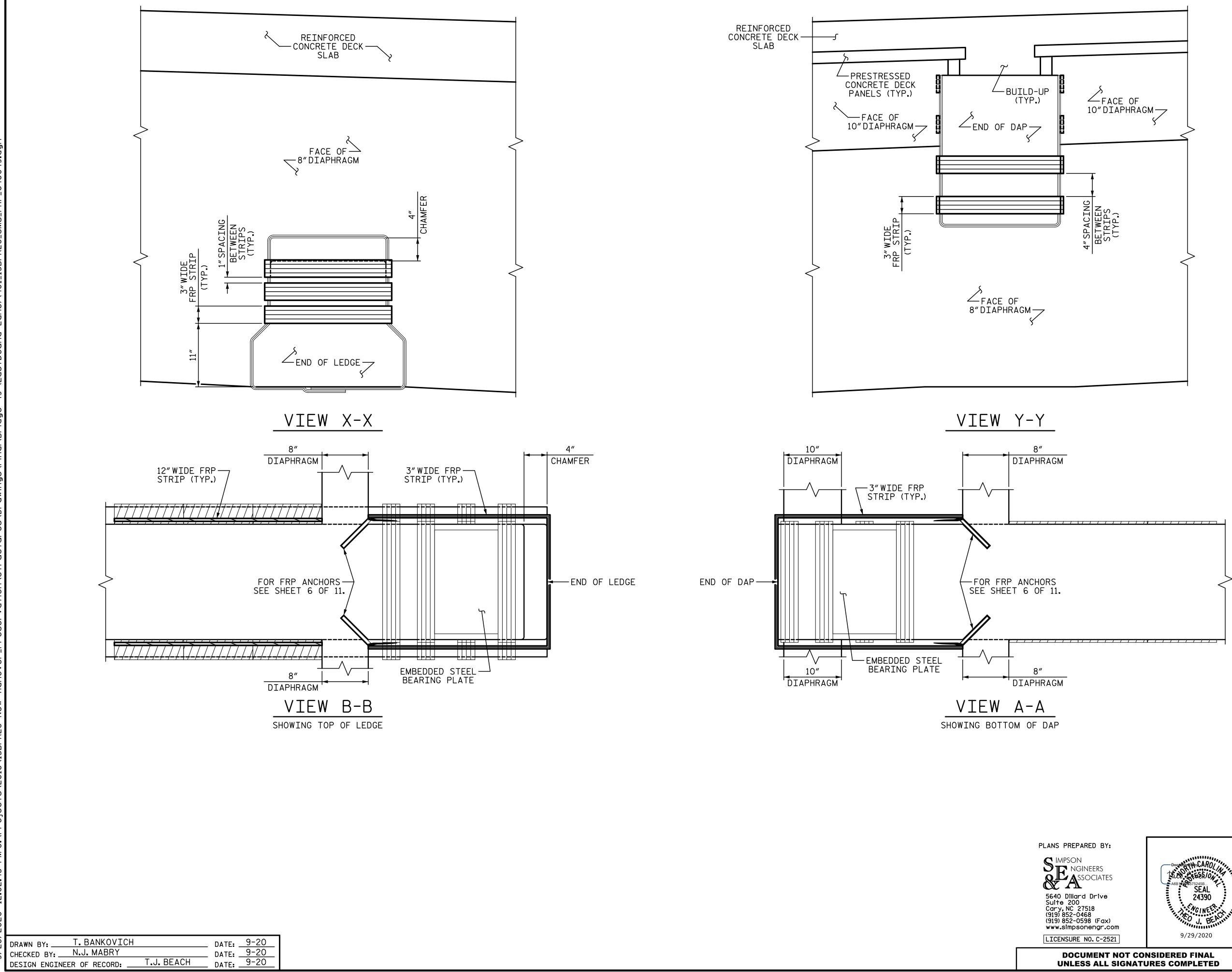


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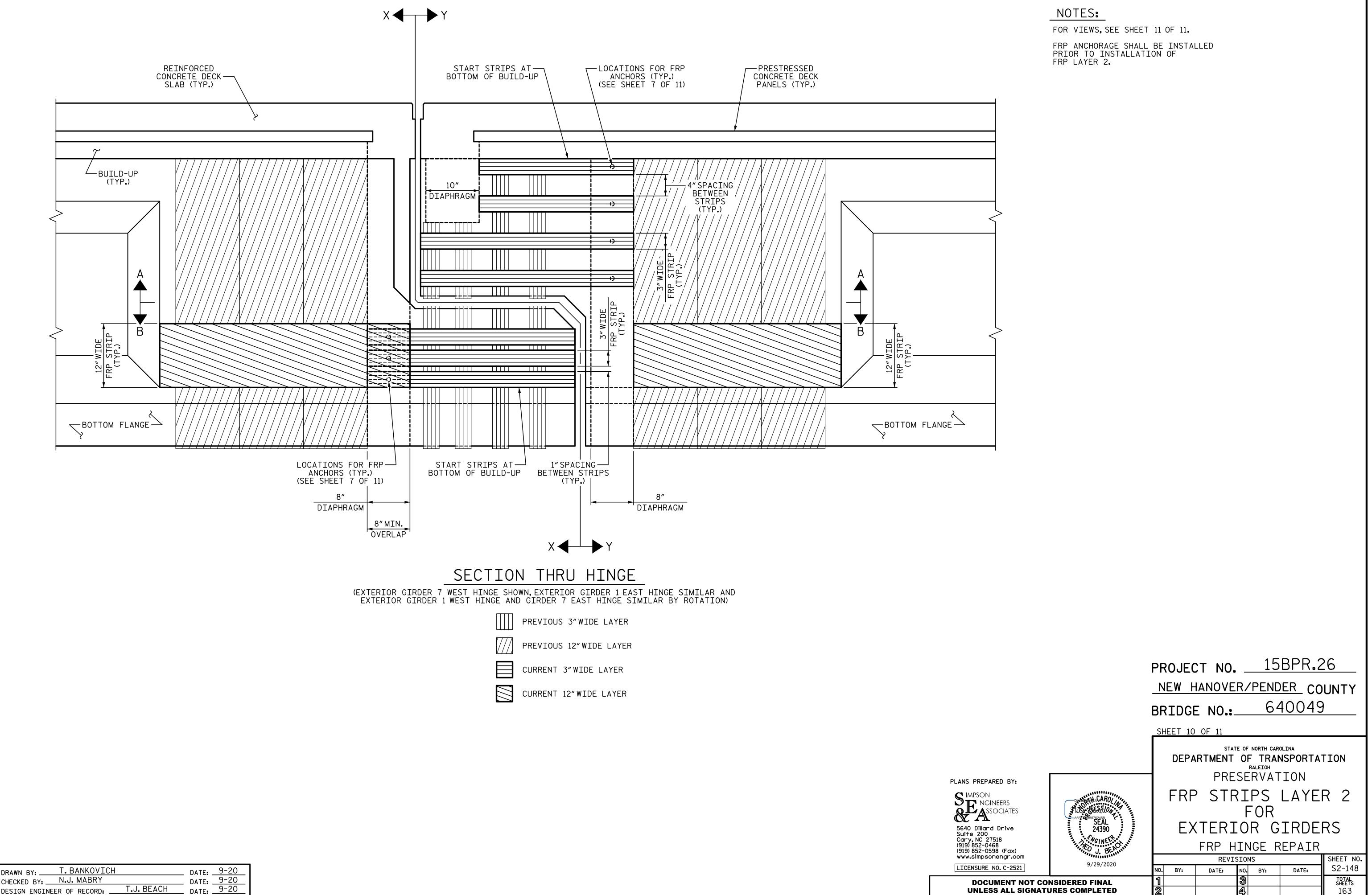
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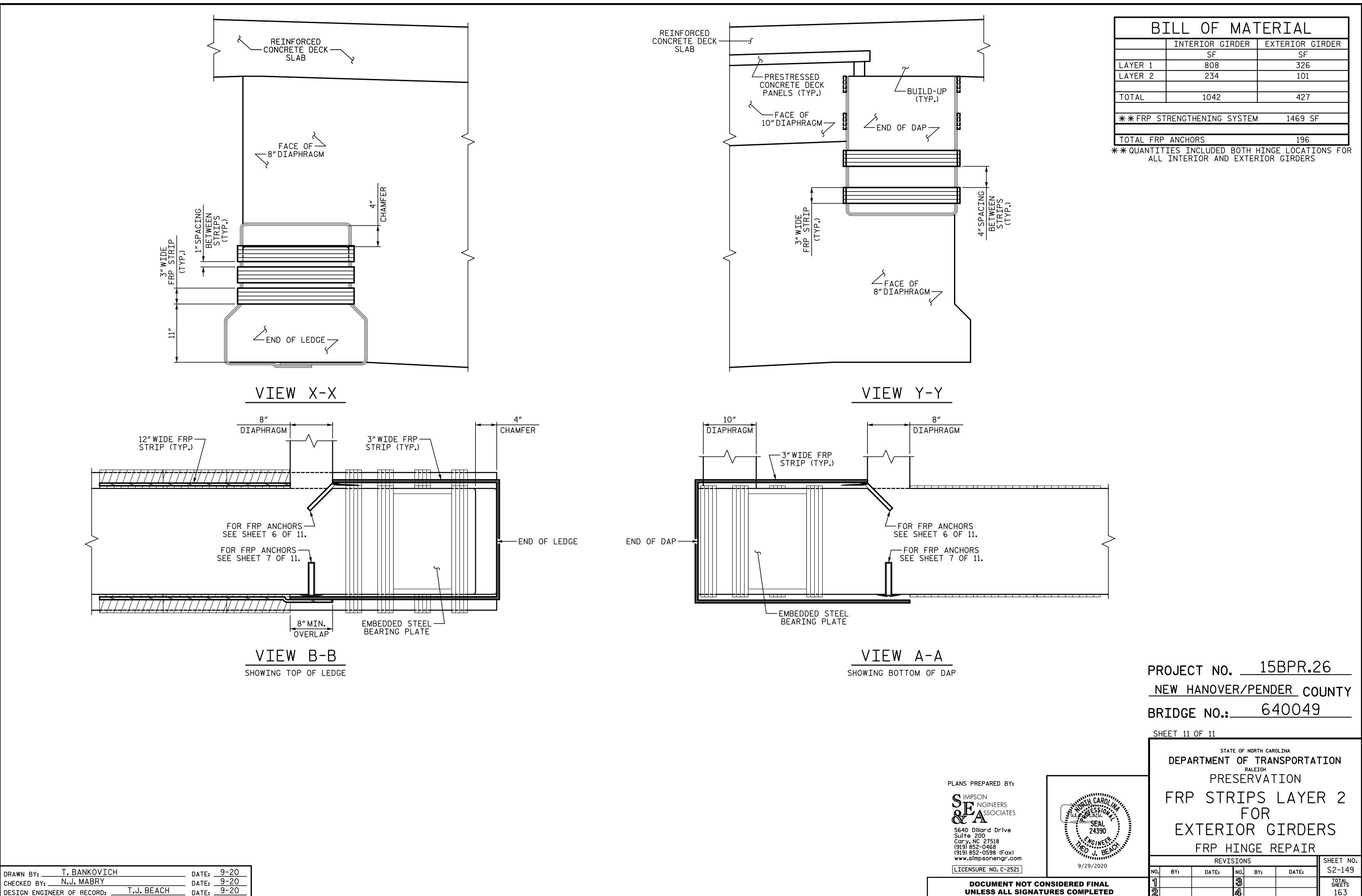


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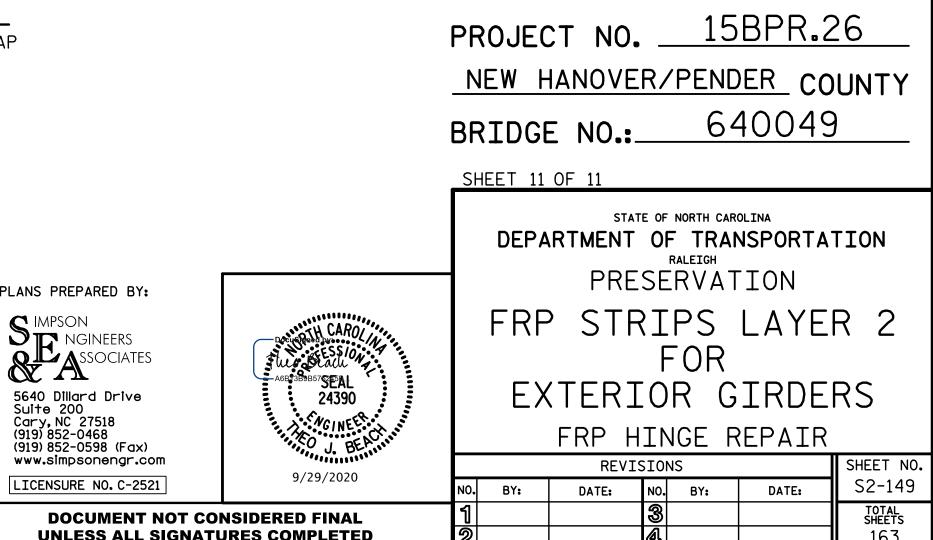


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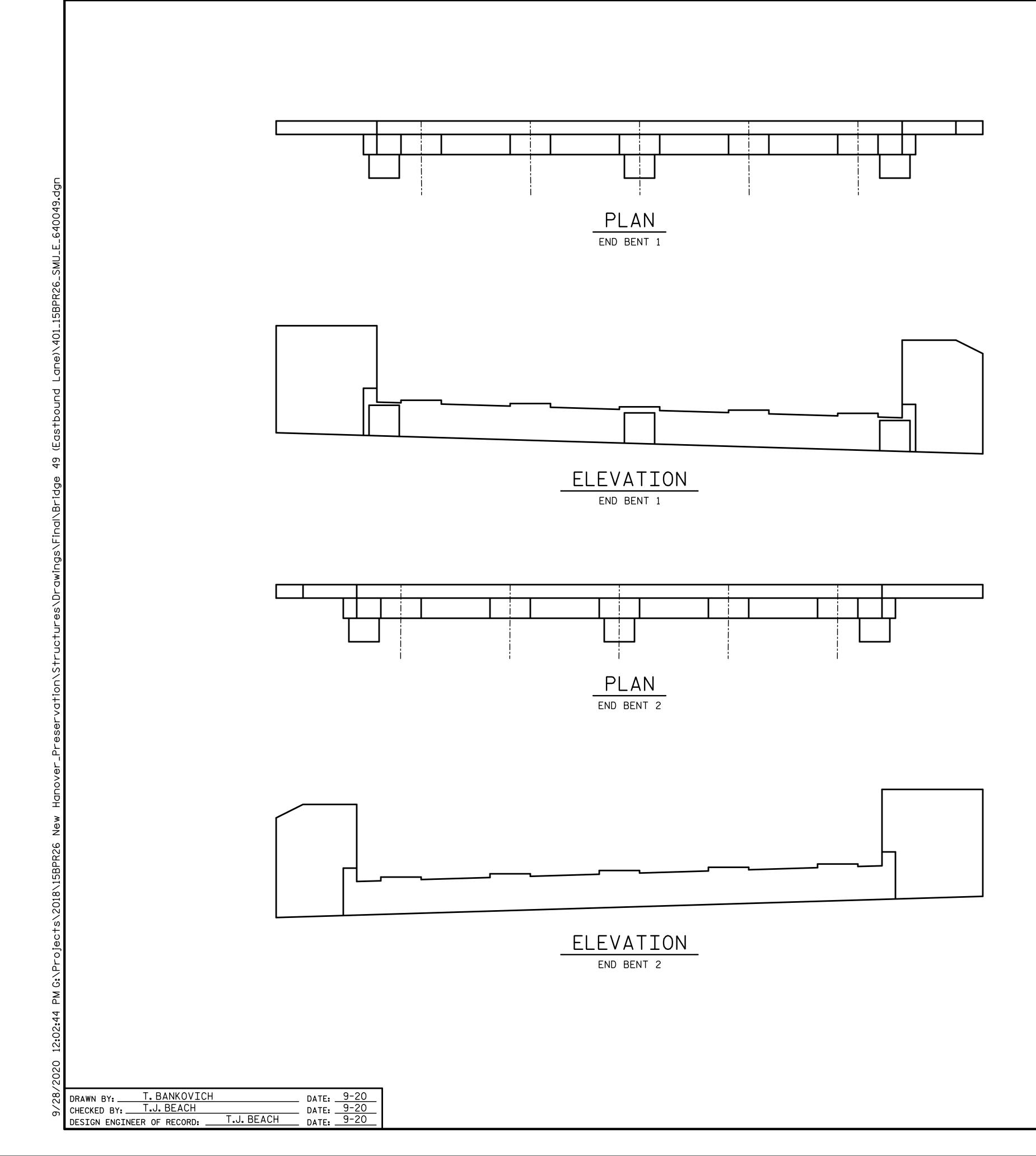
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BI	TERIAL							
	INTERIOR GIRDER	EXTERIOR GIRDER						
	SF	SF						
LAYER 1	808	326						
LAYER 2	234	101						
TOTAL	1042	427						
米 ₩FRP ST	RENGTHENING SYSTEM	1 1469 SF						
TOTAL FRP ANCHORS 196								
★ ★ QUANTIT	IES INCLUDED BOTH	HINGE LOCATIONS FOR						





ERI — EPOXY RESIN INJECTION





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REPAIR QUANTITY TABLE							
KEPAIK QU	<u> </u>		<u> ADL</u>	_E			
REPAIRS END BENT 1	QUANTITIES						
		IMATE		ACTUAL	i		
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	DEPTH FT		OLUME CF	
CAP (VERTICAL FACE)	0.0	0.0					
CAP (HORIZONTAL, CORNER)	0.0	0.0					
						-	
EPOXY RESIN INJECT	LF				LF		
САР		0.0					
EPOXY COATING		AREA SF					
TOP OF CAP & TOP OF PILE CAPS		102.0					
REPAIRS END BENT 2			UANTITI	IES ACTUAL			
		IMATE					
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	DEPTH FT		OLUME 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.

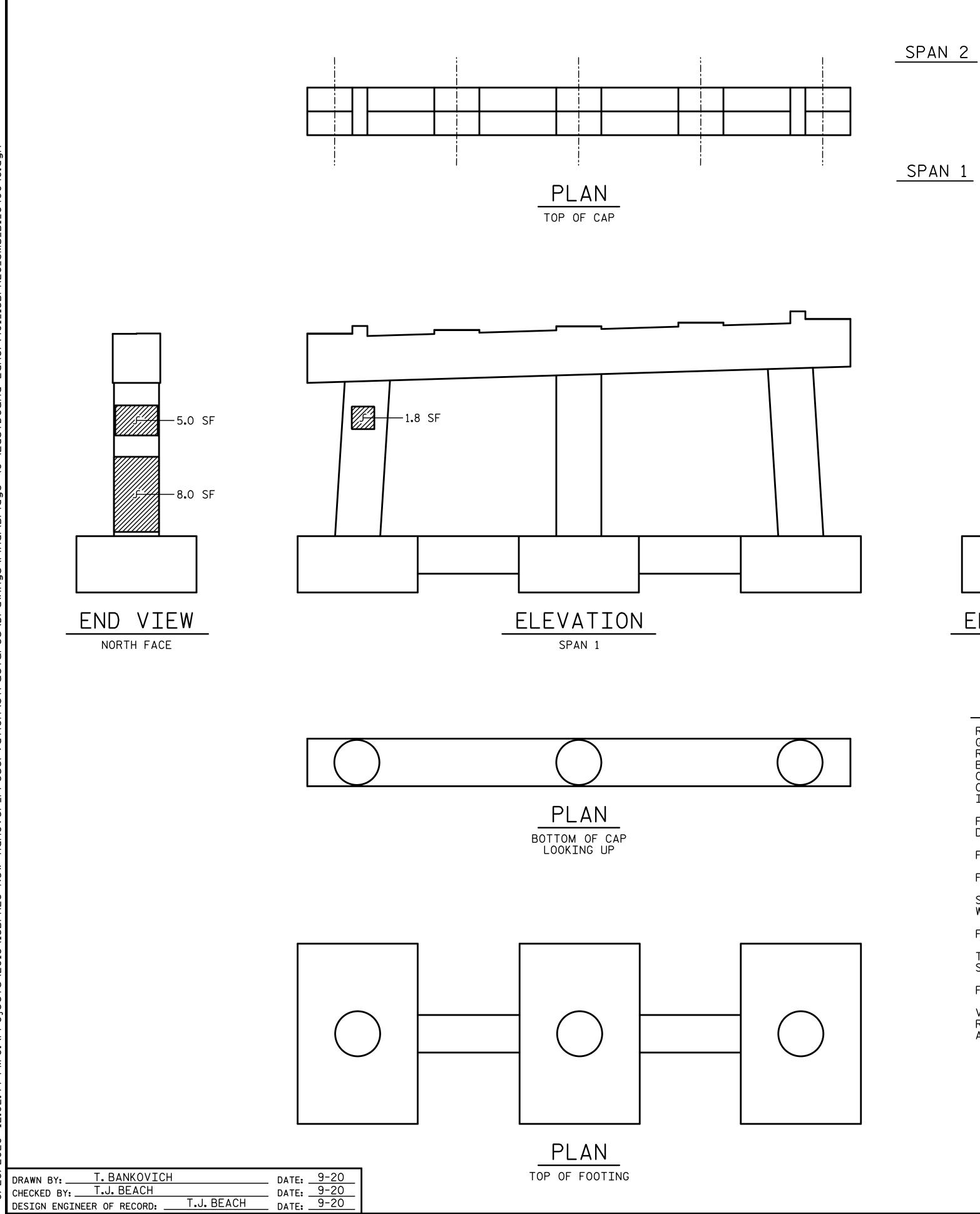
THE CONTRACTOR SHALL CLEAN AND EPOXY COAT PAINT THE TOP SURFACE OF END BENT CAP AND TOP OF PILE CAPS.

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 NEW HANOVER/PENDER COUNTY 640049 BRIDGE NO .:___

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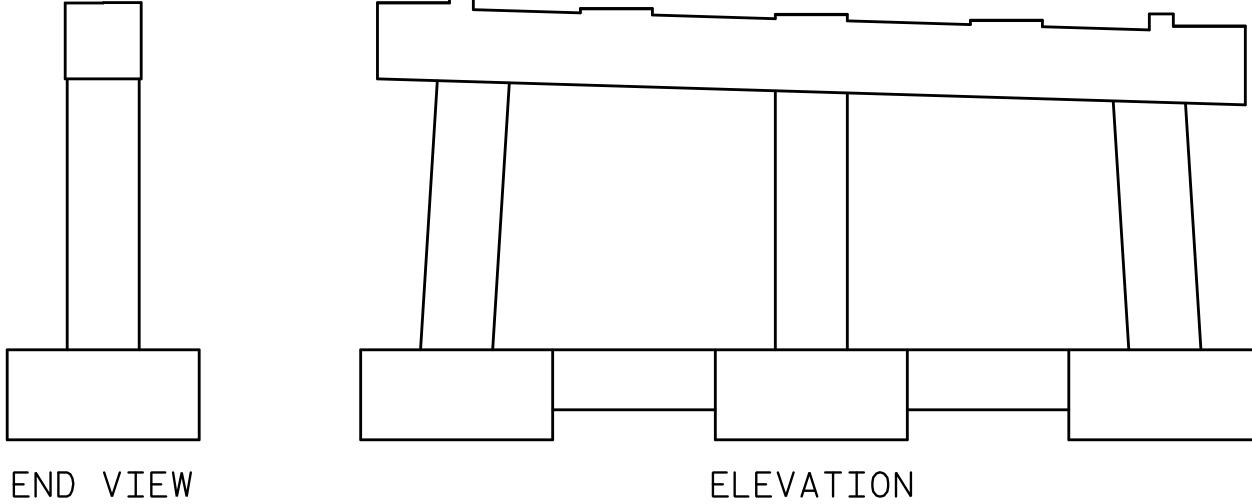




SHOTCRETE REPAIR

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	JANTITI	IES				
REFAIRS DENT I	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	14.8	2.7						
FOOTING	0.0	0.0						
EPOXY RESIN INJECT	ION	LF			LF			
CAP		0.0						
COLUMN		0.0						
FOOTING		0.0						
EPOXY COATING	EPOXY COATING							
TOP OF CAP		95.0						

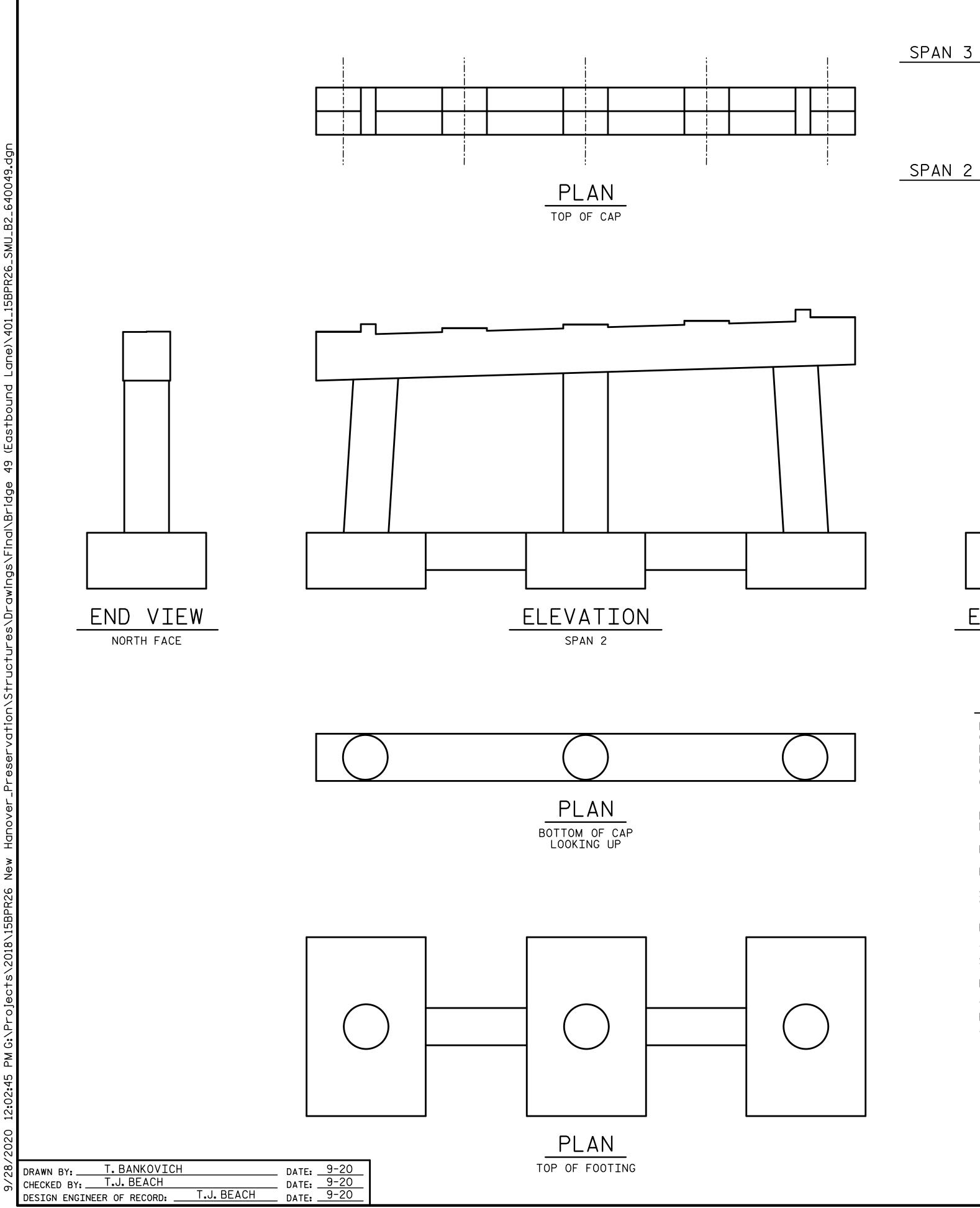
SPAN 2

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	PROJECT NO. <u>15BPR.26</u> <u>NEW HANOVER/PENDER COUNTY</u> BRIDGE NO.: <u>640049</u>
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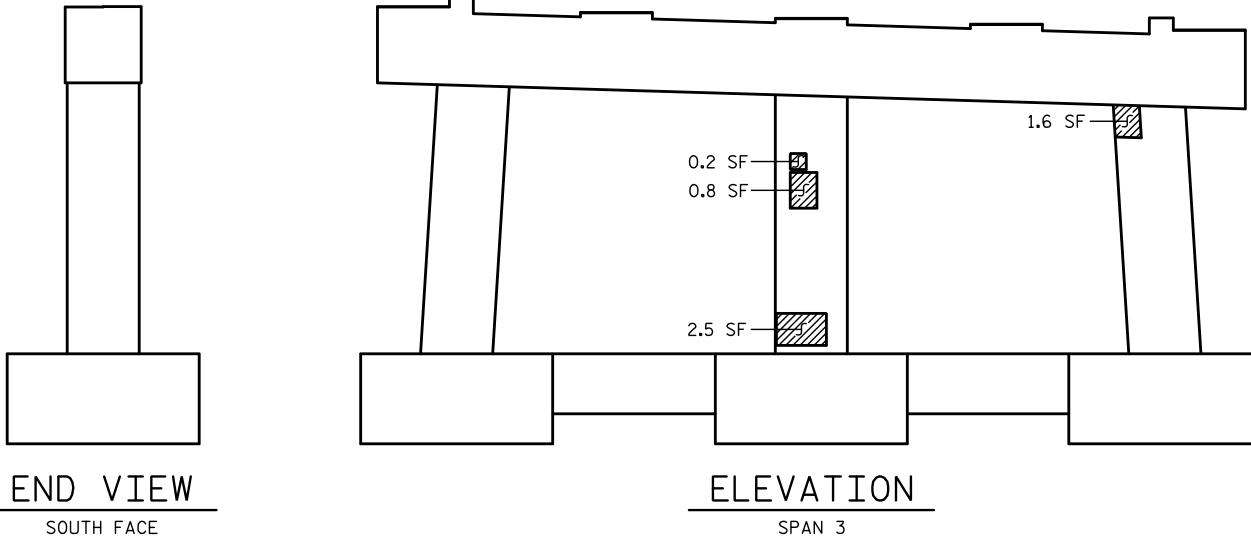
ry,NC 27518 9)852-0468 9)852-0598 (Fax) /w.simpsonengr.com	J. BEAMIN				TETON	5		SHEET NO.
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ERI — EPOXY RESIN INJECTION

SPAN 2



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:

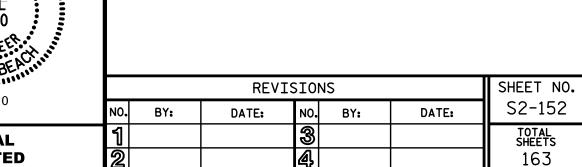


REPAIR QUANTITY TABLE									
REPAIRS BENT 2		QUANTITIES							
REFAIRS DENT Z	EST	IMATE		ACTUAL					
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF				
CAP (VERTICAL FACE)	0.0	0.0							
CAP (HORIZONTAL, CORNER)	0.0	0.0							
COLUMN	5.1	1.7							
FOOTING	0.0	0.0							
EPOXY RESIN INJECT	ION	LF			LF				
САР		0.0							
COLUMN		0.0							
FOOTING		0.0							
EPOXY COATING	EPOXY COATING								
TOP OF CAP		95.0							
TOP OF CAP		95.0							

PROJECT NO	15BPR.26
NEW HANOVER	PENDER COUNTY
BRIDGE NO.:	640049

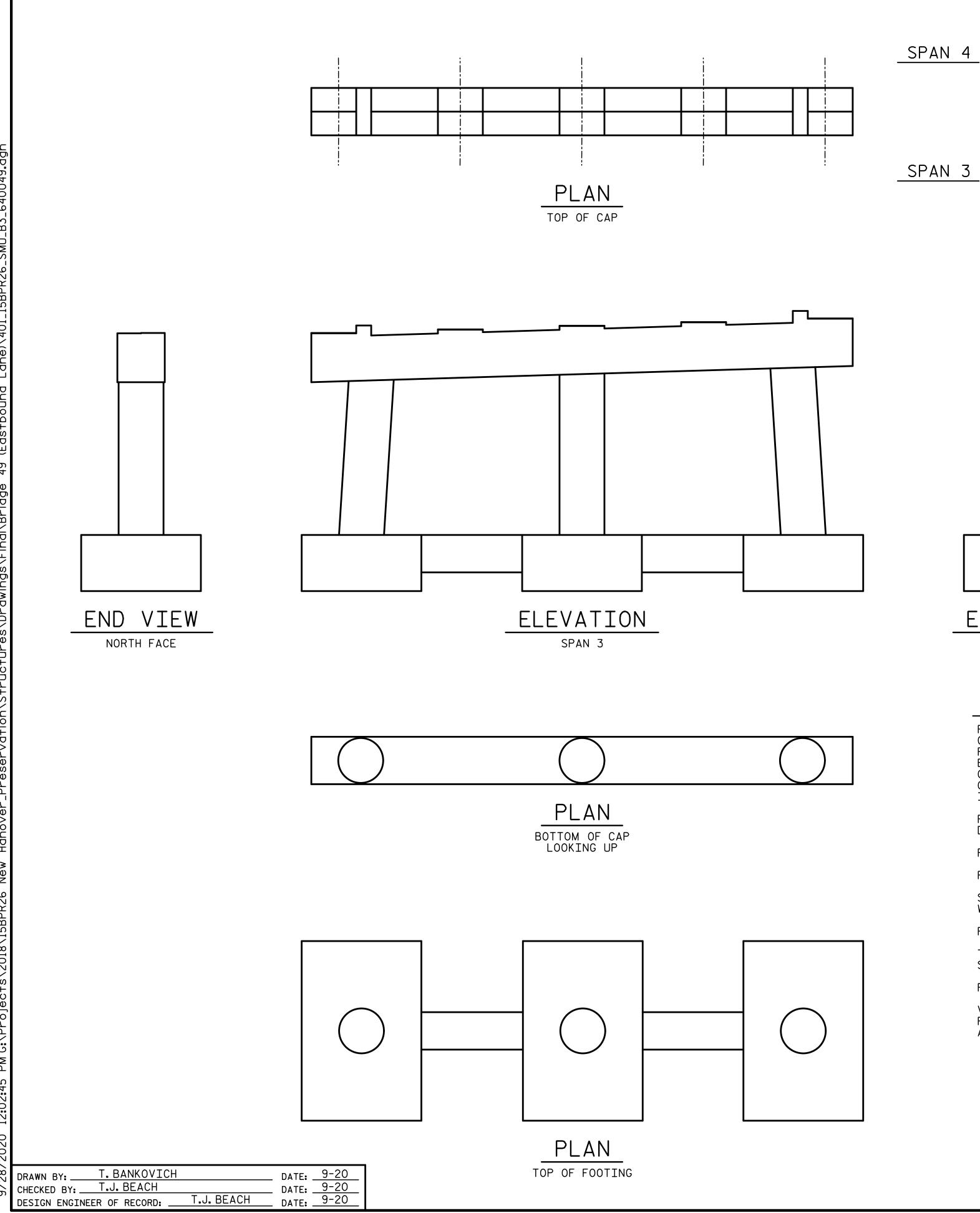
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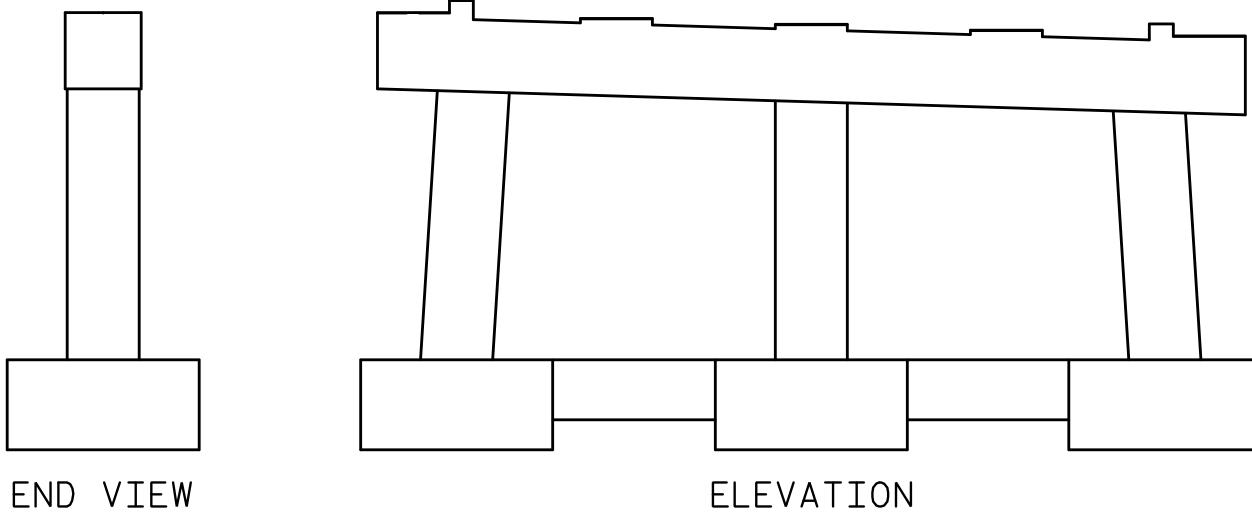
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ERI — EPOXY RESIN INJECTION

SPAN 3



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 3		Q	UANTITI	[ES				
REFAIRS DENT 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	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	EPOXY COATING							
TOP OF CAP		95.0						

SPAN 4

PROJECT NO.	15BPR.26
NEW HANOVER	/PENDER_COUNTY
BRIDGE NO.:	640049

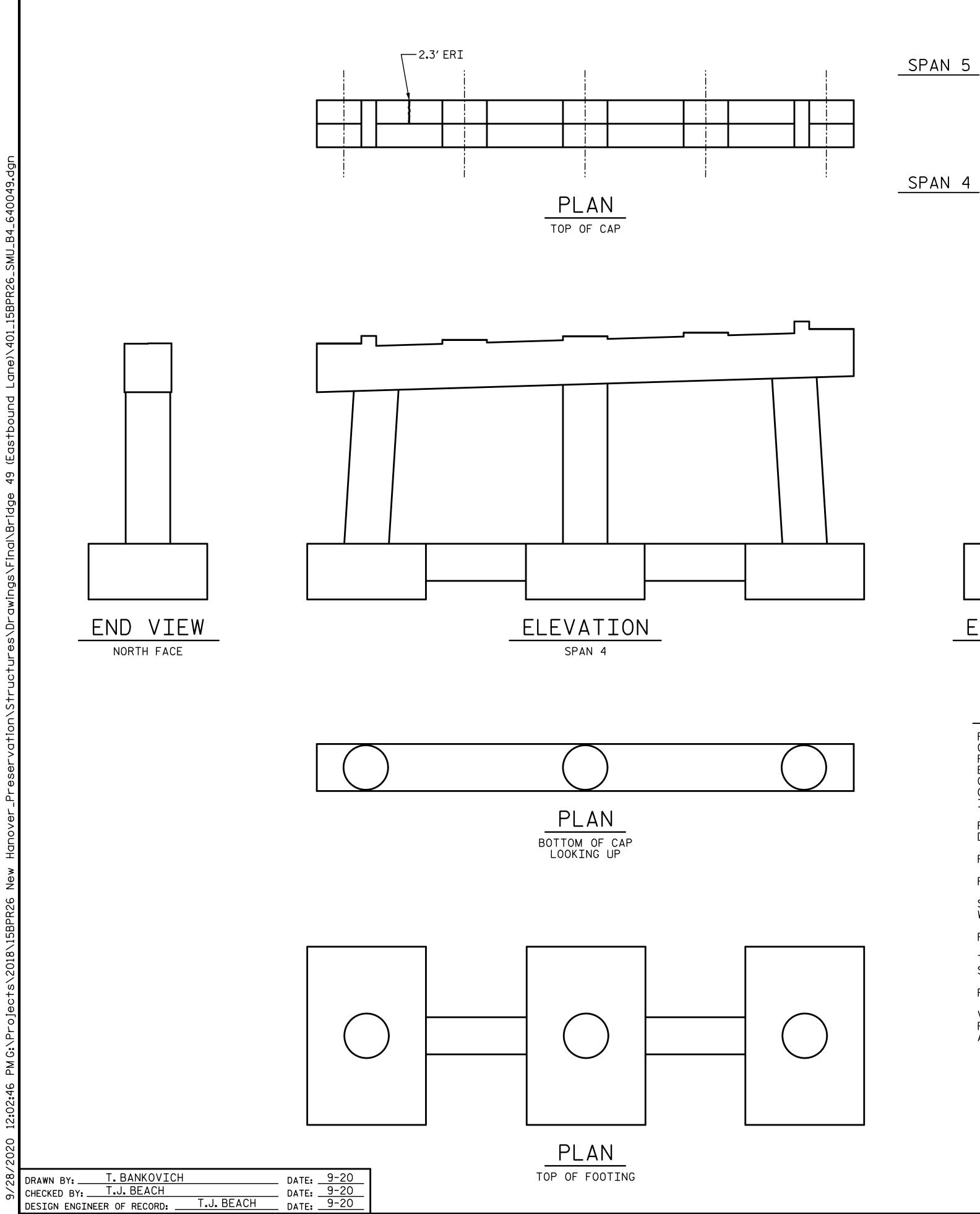
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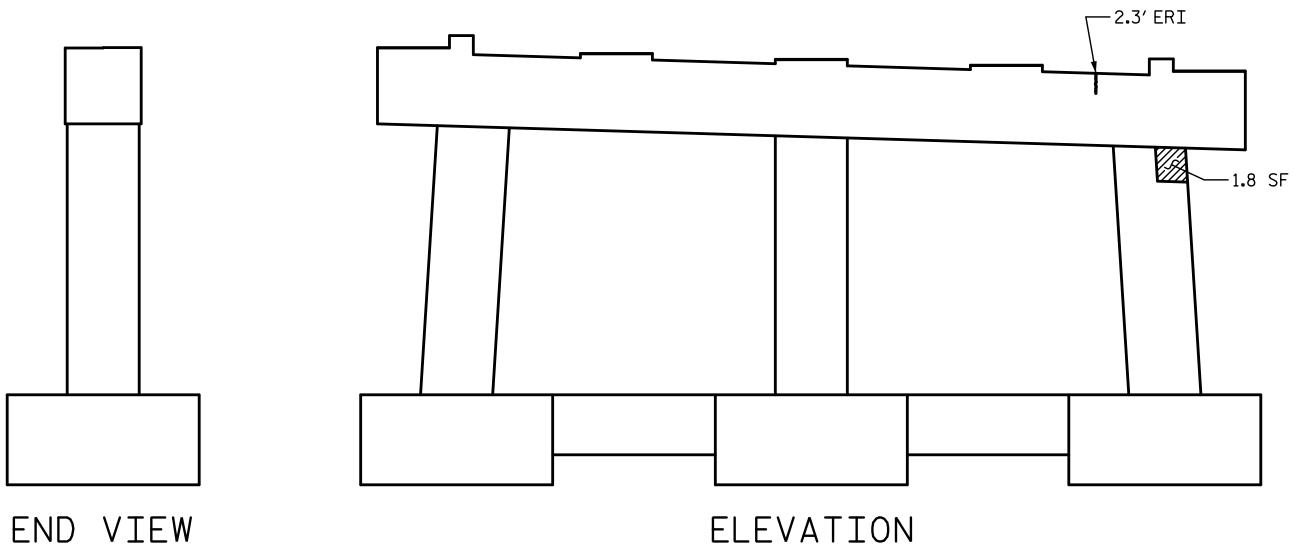
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ERI — EPOXY RESIN INJECTION

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:



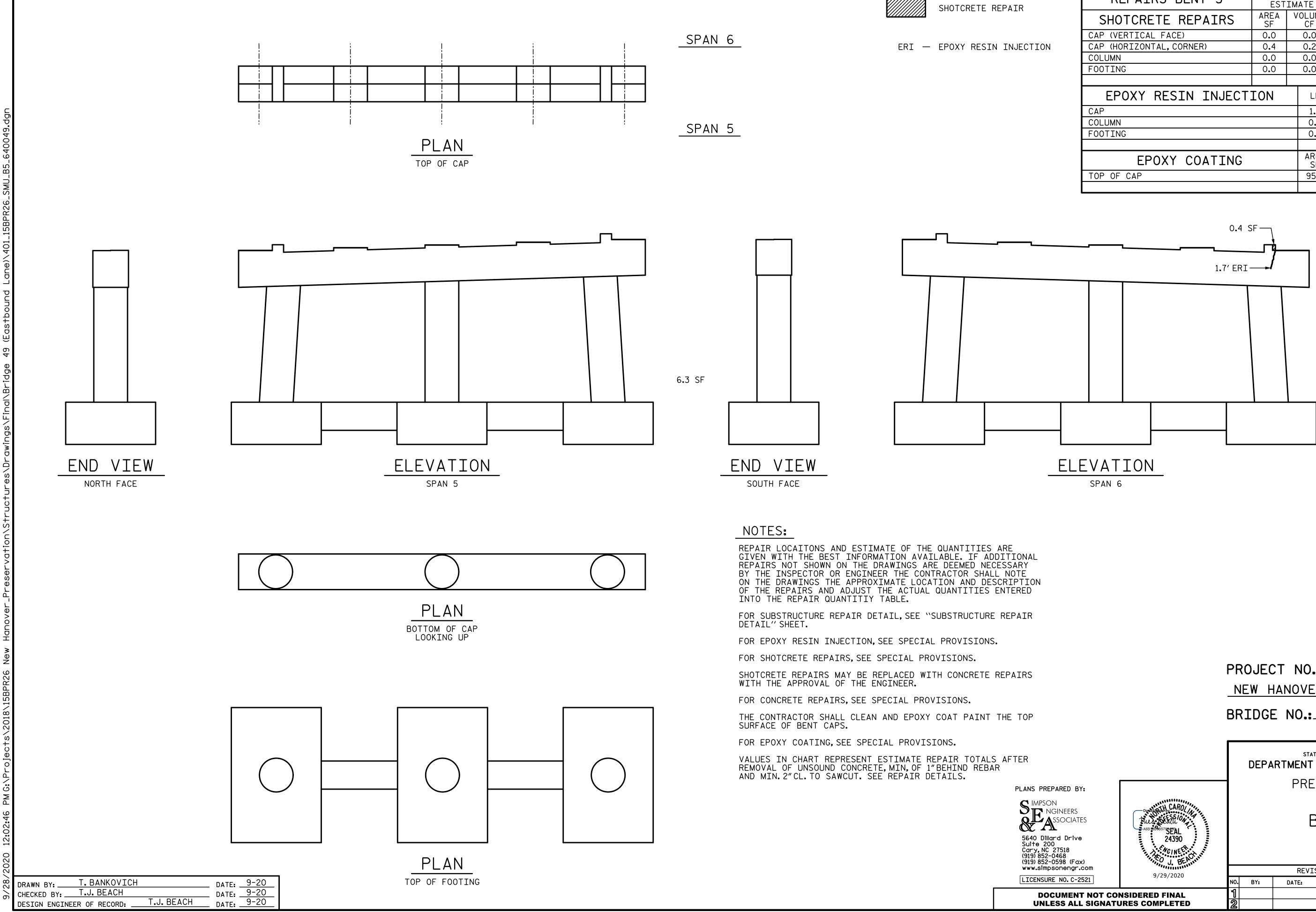
REPAIR QUANTITY TABLE							
REPAIRS BENT 4		QI	JANTIT	IES			
REFAIRS DENI 4	EST	IMATE		ACTUAL	-		
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF		
CAP (VERTICAL FACE)	0.0	0.0					
CAP (HORIZONTAL, CORNER)	0.0	0.0					
COLUMN	1.8	0.3					
FOOTING	0.0	0.0					
EPOXY RESIN INJECT	EPOXY RESIN INJECTION				LF		
САР		4.6					
COLUMN		0.0					
FOOTING		0.0					
EPOXY COATING	AREA SF						
TOP OF CAP		95.0					

SPAN 5

PROJECT NO.	15BPR.26
NEW HANOVER	/PENDER_COUNTY
BRIDGE NO.:	640049

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH PRESERVATION

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UNLESS ALL SIGNATURES COMPLETED		2			4			163





REPAIR QUANTITY TABLE							
REPAIRS BENT 5	QUANTITIES						
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)	0.4	0.2					
COLUMN	0.0	0.0					
FOOTING	0.0	0.0					
EPOXY RESIN INJECT	ION	LF			LF		
CAP		1.7					
COLUMN		0.0					
FOOTING		0.0					
EPOXY COATING		AREA SF					
TOP OF CAP		95.0					

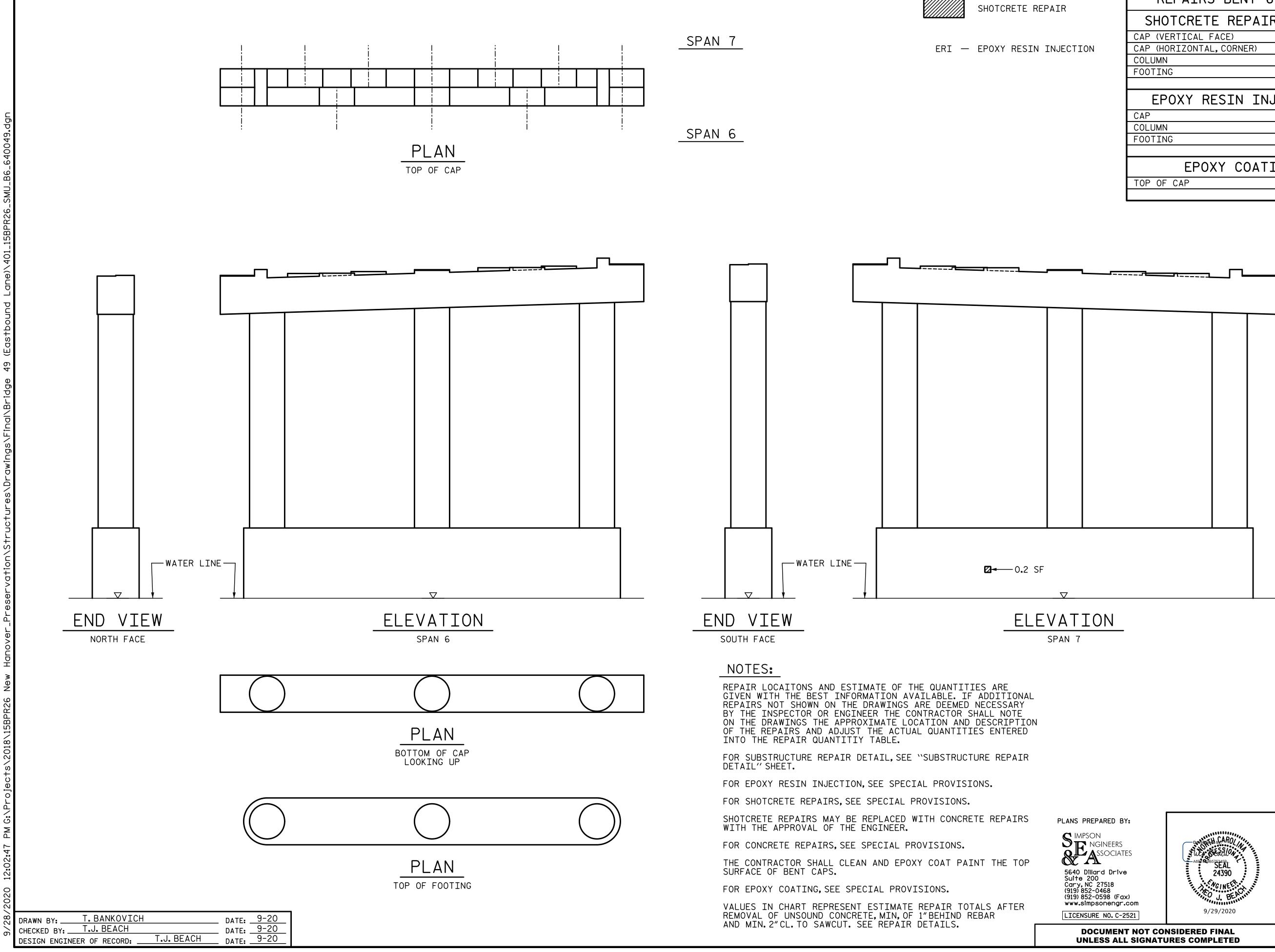
PROJECT NO.	15BPR.26
NEW HANOVER/	PENDER COUNTY
BRTDGE NO.:	640049

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH PRESERVATION

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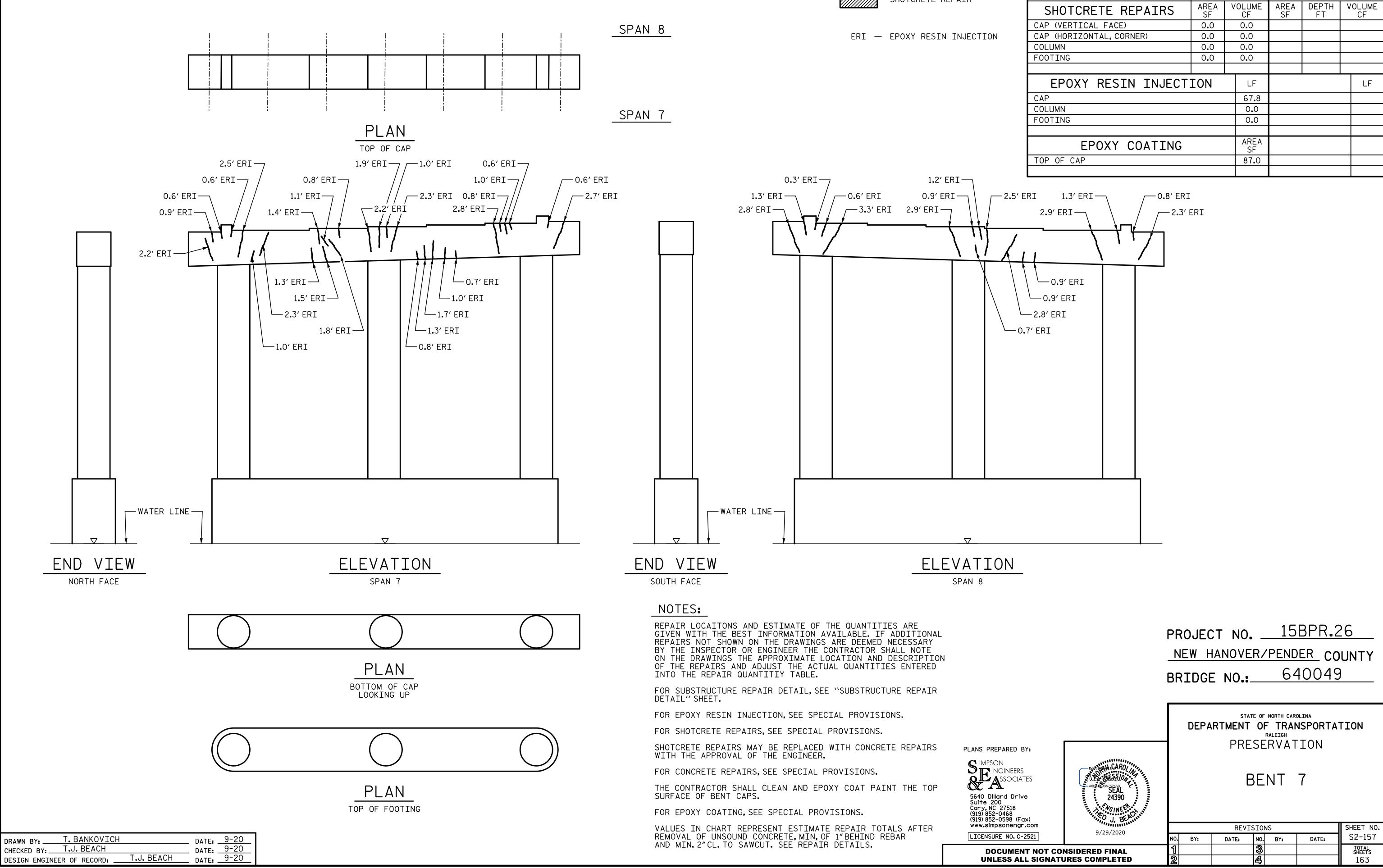
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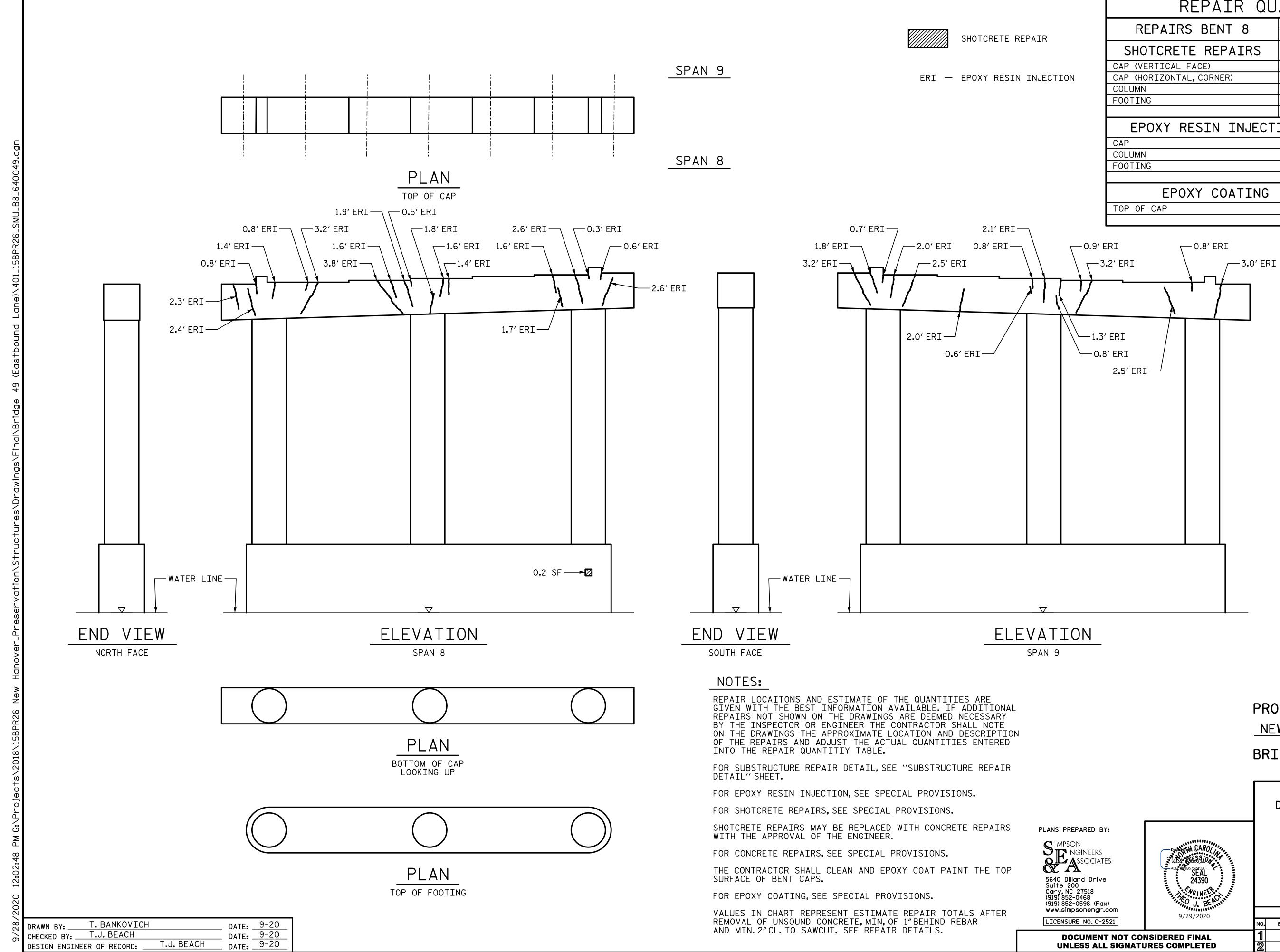
REPAIR QUANTITY TABLE							
REPAIRS BENT 6		QI	QUANTITIES				
REFAIRS DENT 6	EST	IMATE		ACTUAL	-		
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF		
CAP (VERTICAL FACE)	0.0	0.0					
CAP (HORIZONTAL, CORNER)	0.0	0.0					
COLUMN	0.0	0.0					
FOOTING	0.2	0.1					
EPOXY RESIN INJECT	EPOXY RESIN INJECTION				LF		
САР		0.0					
COLUMN		0.0					
FOOTING		0.0					
EPOXY COATING		AREA SF					
TOP OF CAP		91.0					

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REPAIR QUANTITY TABLE							
REPAIRS BENT 7		QL	JANTITI	[ES			
REFAIRS DENT 7	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		67.8					
COLUMN		0.0					
FOOTING		0.0					
EPOXY COATING	EPOXY COATING						
TOP OF CAP		87.0					



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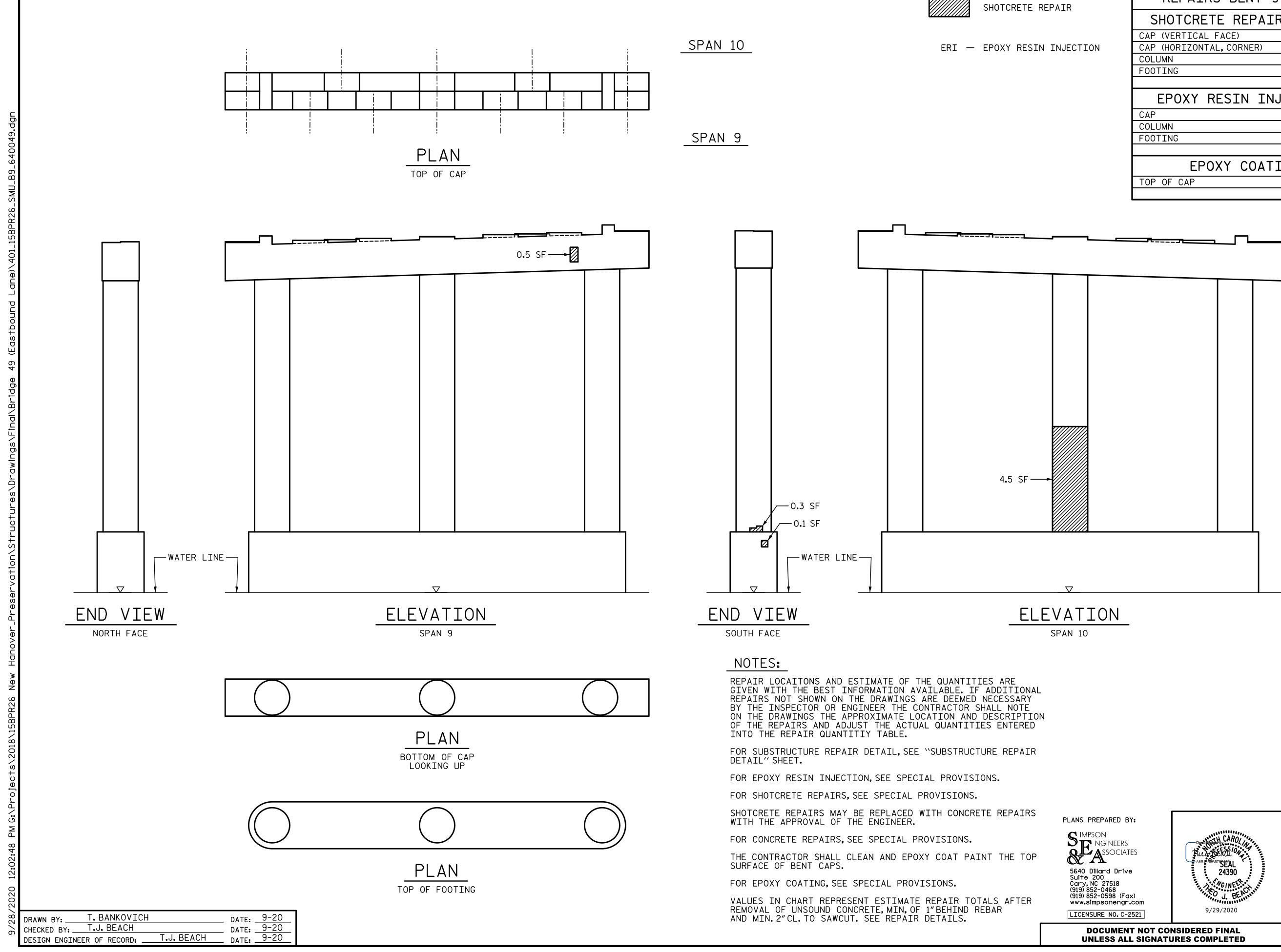


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REPAIR QUANTITY TABLE									
REPAIRS BENT 8		QI	JANTIT	[ES					
REFAIRS DENT O	EST	IMATE		ACTUAL	-				
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF				
CAP (VERTICAL FACE)	0.0	0.0							
CAP (HORIZONTAL, CORNER)	0.0	0.0							
COLUMN	0.0	0.0							
FOOTING	0.2	0.1							
EPOXY RESIN INJECT	ION	LF			LF				
САР		61.1							
COLUMN		0.0							
FOOTING		0.0							
EPOXY COATING									
TOP OF CAP		87.0							

PROJECT NO. 15BPR.26 NEW HANOVER/PENDER COUNTY 640049 BRIDGE NO .:_ STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH PRESERVATION BENT 8

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REPAIR QUANTITY TABLE									
REPAIRS BENT 9		QI	JANTITI	IES					
REFAIRS DENT 5	EST	IMATE		ACTUAL	-				
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF				
CAP (VERTICAL FACE)	0.5	0.2							
CAP (HORIZONTAL, CORNER)	0.0	0.0							
COLUMN	4.8	1.2							
FOOTING	0.1	0.1							
EPOXY RESIN INJECT	ION	LF			LF				
САР		0.0							
COLUMN		0.0							
FOOTING		0.0							
EPOXY COATING									
TOP OF CAP		91.0							

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BRIDGE	NO .: _	6400)49
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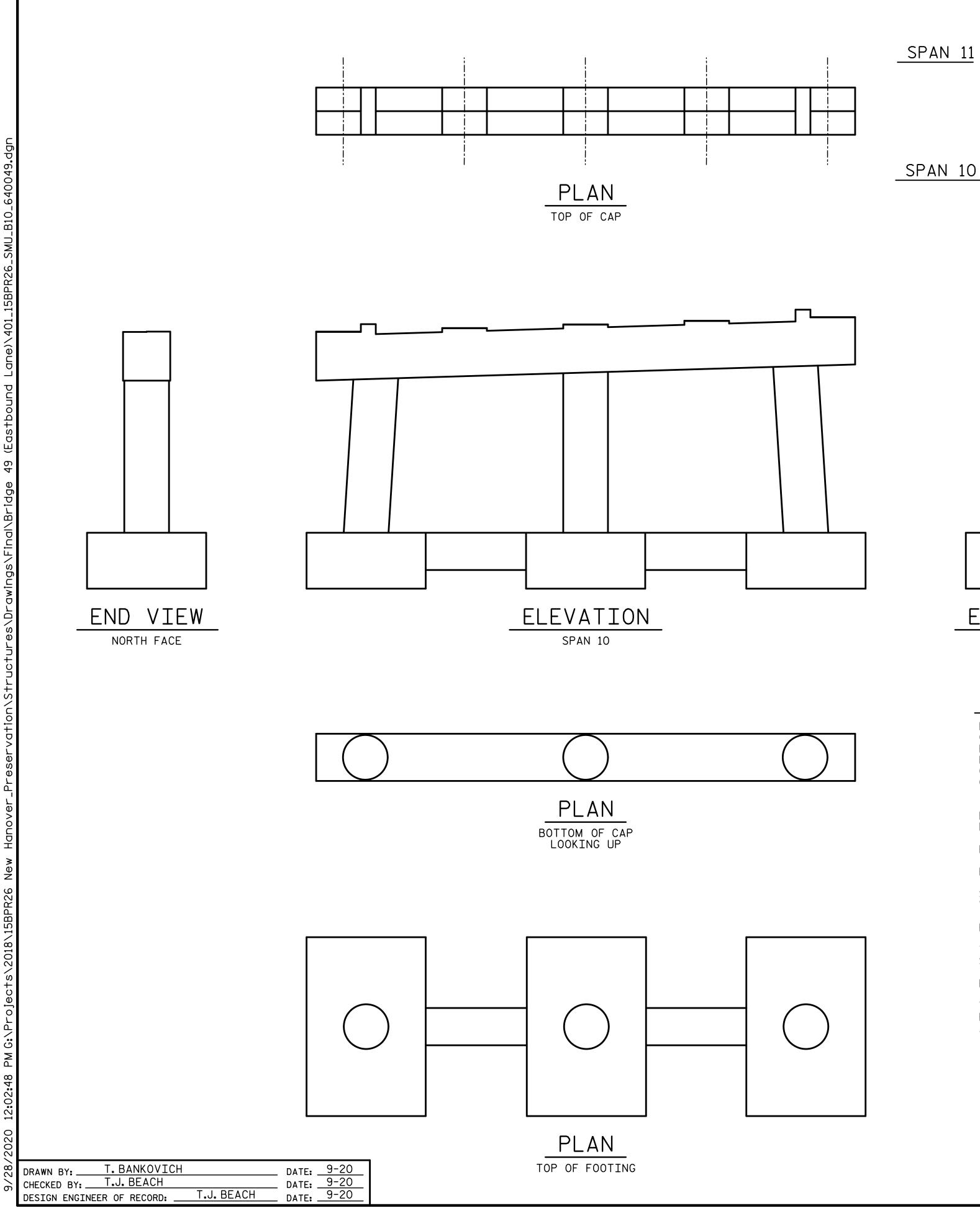
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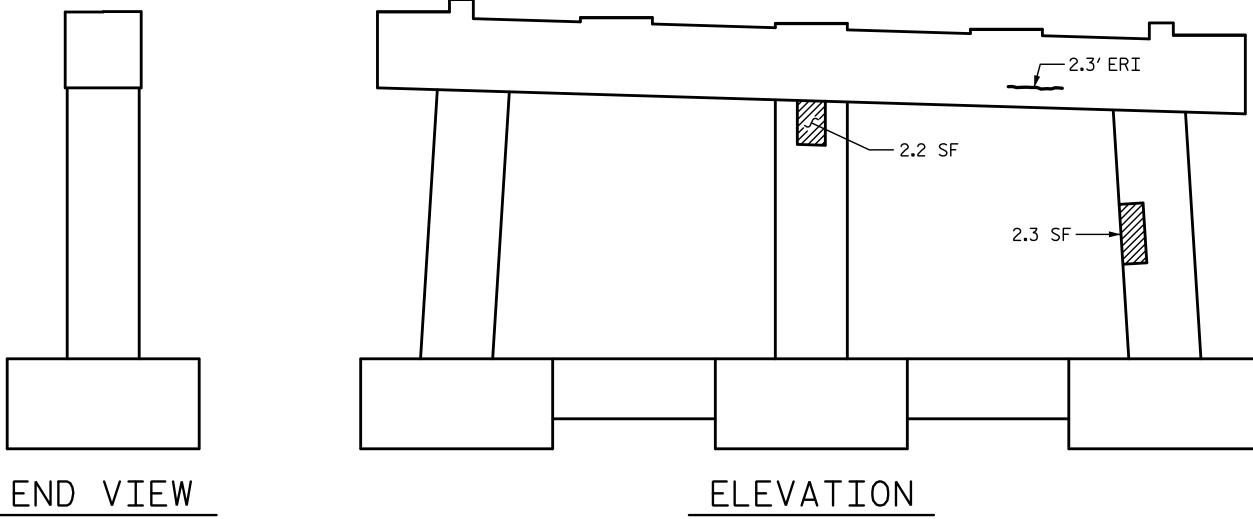
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ERI — EPOXY RESIN INJECTION

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.

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FOR EPOXY RESIN INJECTION, SEE SPECIAL PROVISIONS.

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PLANS PREPARED BY:

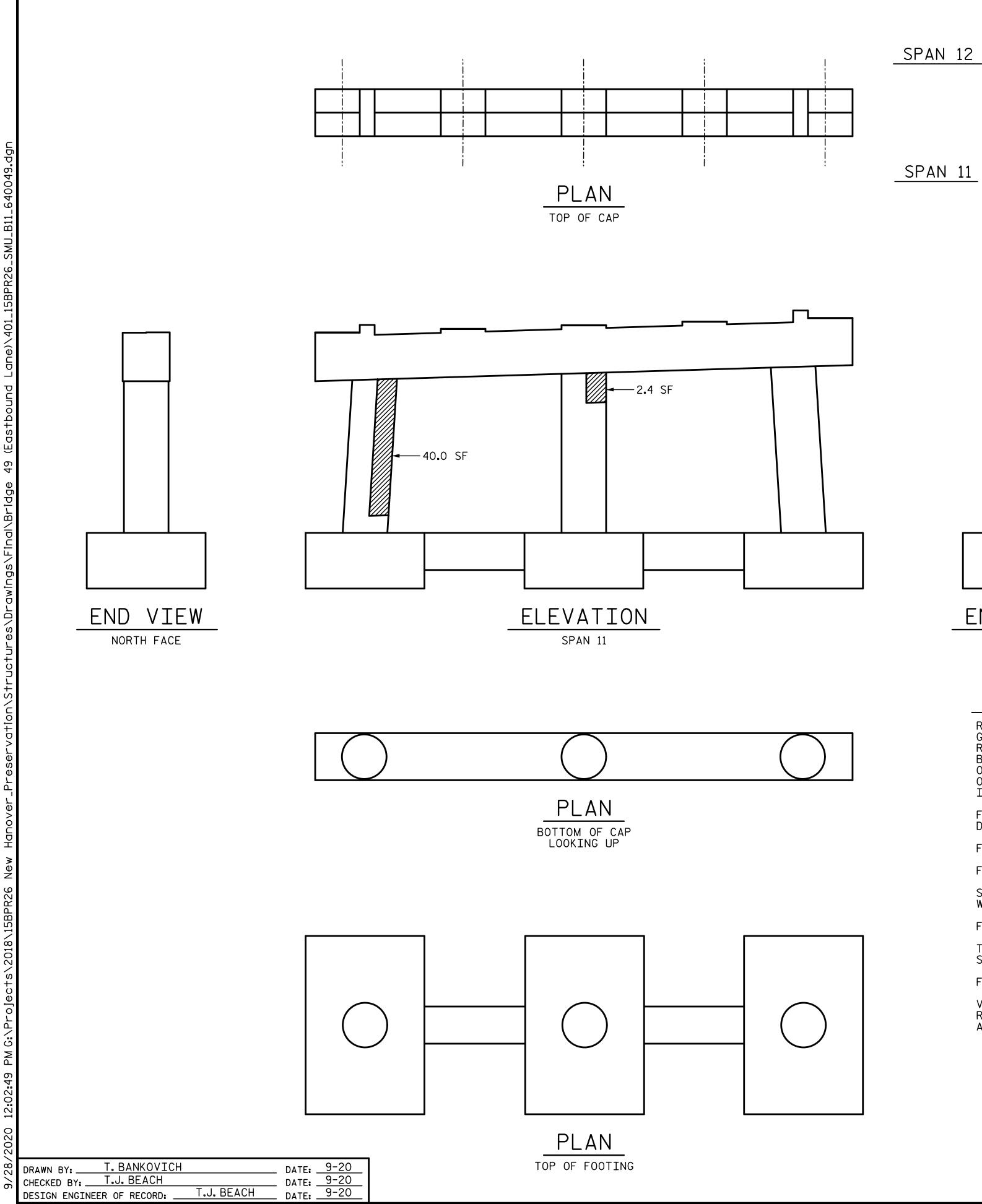


REPAIR QUANTITY TABLE									
REPAIRS BENT 10			JANTITI						
NEI AINS DENT IO	EST	IMATE		ACTUAL	_				
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF				
CAP (VERTICAL FACE)	0.0	0.0							
CAP (HORIZONTAL, CORNER)	0.0	0.0							
COLUMN	4.5	0.8							
FOOTING	0.0	0.0							
EPOXY RESIN INJECT	ION	LF			LF				
CAP		2.3							
COLUMN		0.0							
FOOTING		0.0							
EPOXY COATING									
TOP OF CAP		95.0							

SPAN 11

	PROJECT NO. <u>15BPR.26</u> <u>NEW HANOVER/PENDER COUNTY</u> BRIDGE NO.: <u>640049</u>
	STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH PRESERVATION
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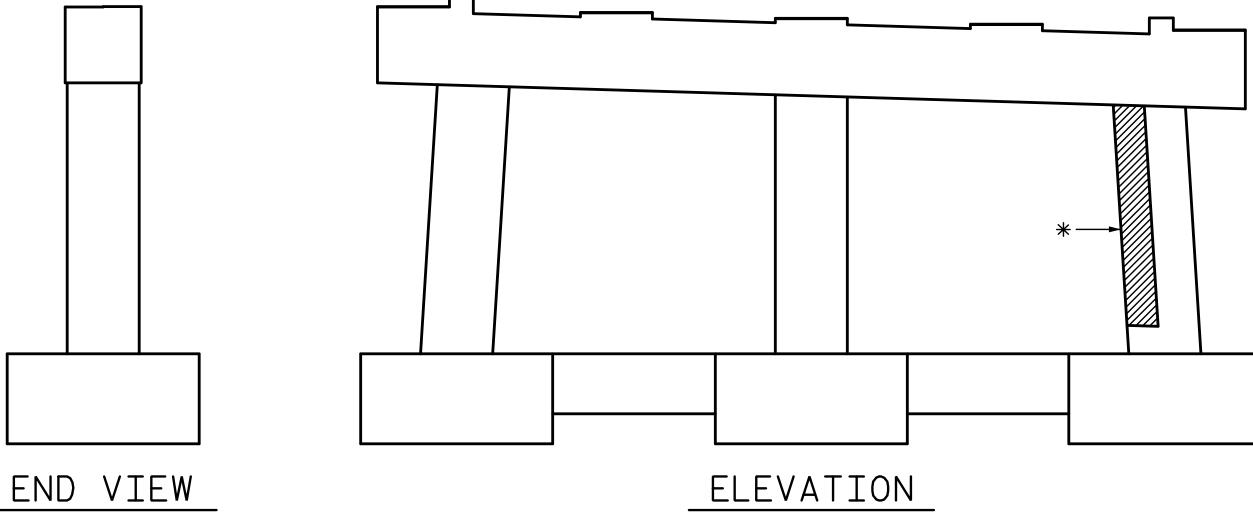
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		2			4			163





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.

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PLANS PREPARED BY:



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REPAIR QU	ANT	ITY ⁻	ΓABL	.E	
REPAIRS BENT 11		QI	JANTITI	IES	
NEFAINS BENT II	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	42.4	7.4			
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		95.0			

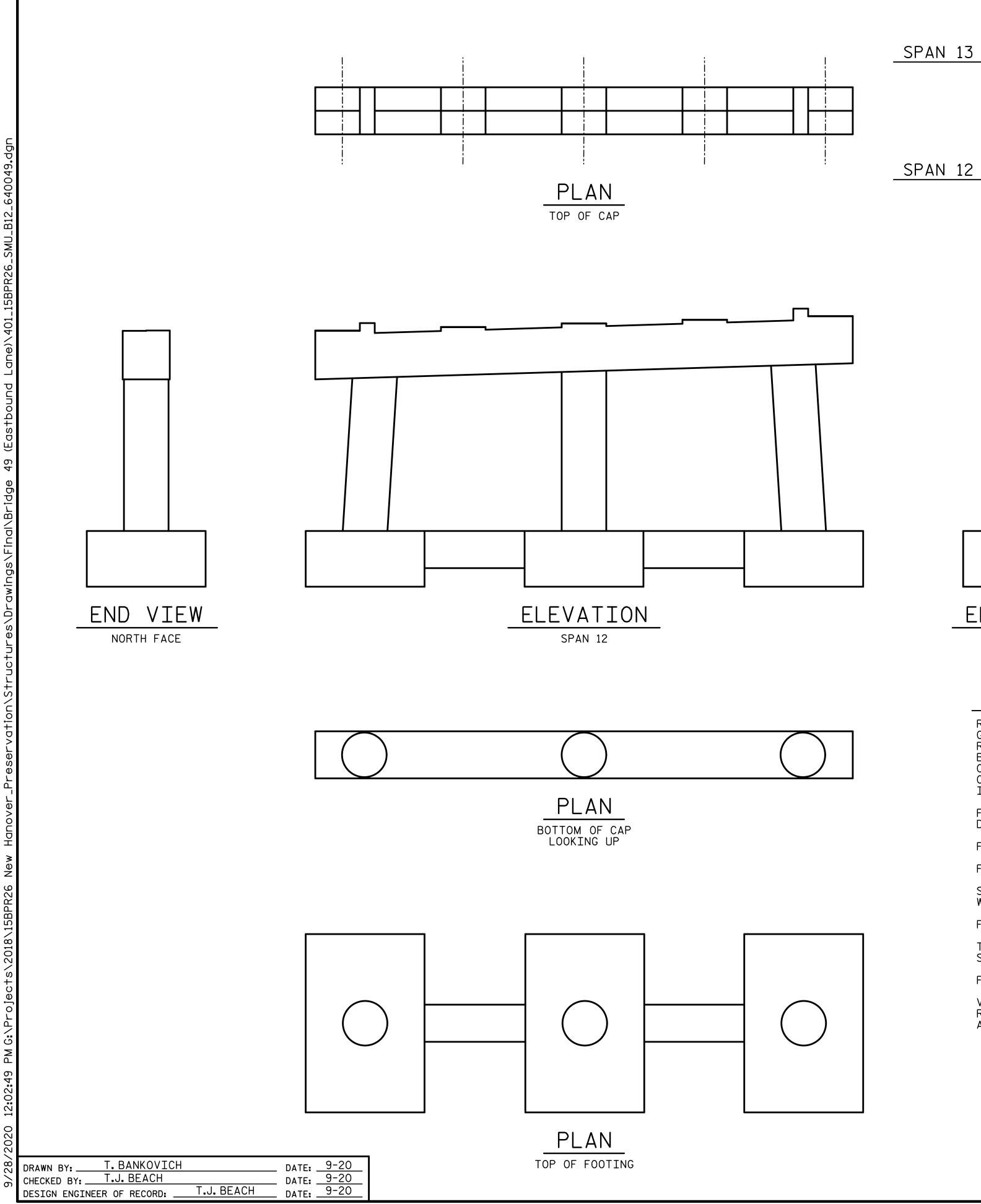
* SAME REPAIR NOTED AND QUANTIFIED IN SPAN 11 ``ELEVATION" VIEW.

SPAN 12

PROJECT NO.	15BPR.26
NEW HANOVER	/PENDER_COUNTY
BRIDGE NO.:	640049

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH PRESERVATION

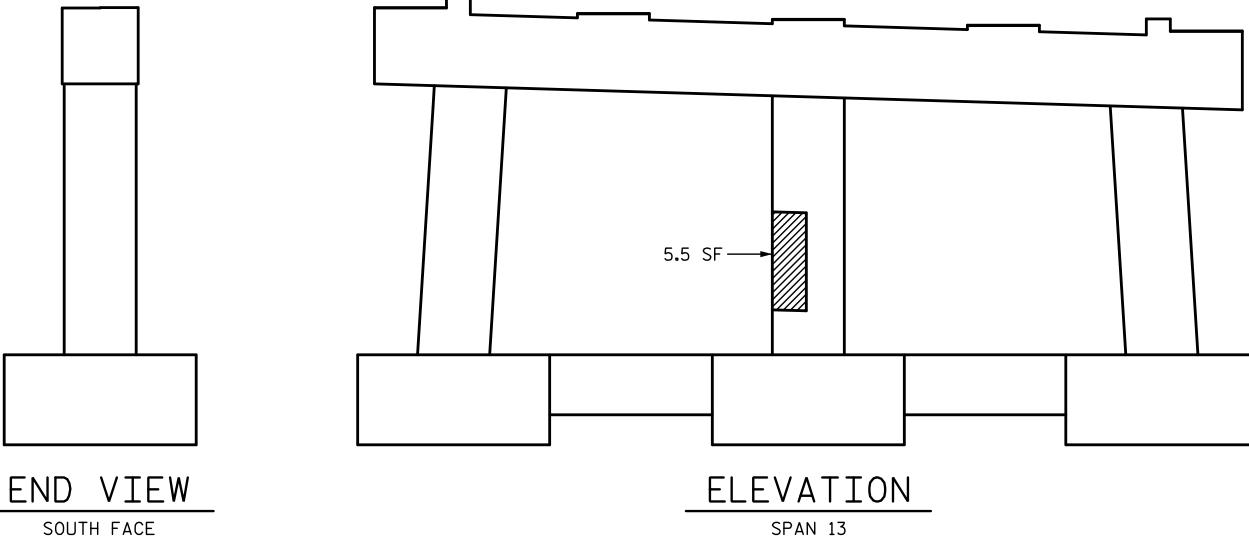
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ERI — EPOXY RESIN INJECTION

SPAN 12



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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FOR SHOTCRETE REPAIRS, SEE SPECIAL PROVISIONS.

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FOR EPOXY COATING, SEE SPECIAL PROVISIONS.

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PLANS PREPARED BY



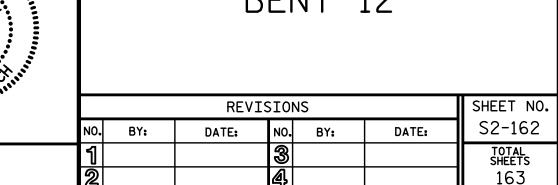
REPAIR QU	ANT	ITY -	ΓABL	.E	
REPAIRS BENT 12		QI	JANTIT	[ES	
REFAIRS DENT 12	EST	IMATE		ACTUAL	
SHOTCRETE REPAIRS	AREA SF	VOLUME CF	AREA SF	DEPTH FT	VOLUME CF
CAP (VERTICAL FACE)	0.0	0.0			
CAP (HORIZONTAL, CORNER)	0.0	0.0			
COLUMN	5.5	1.8			
FOOTING	0.0	0.0			
EPOXY RESIN INJECT	ION	LF			LF
САР		0.0			
COLUMN		0.0			
FOOTING		0.0			
EPOXY COATING		AREA SF			
TOP OF CAP		95.0			

SPAN 13

PROJECT NO. 15BPR.26 NEW HANOVER/PENDER COUNTY 640049 BRIDGE NO .:__

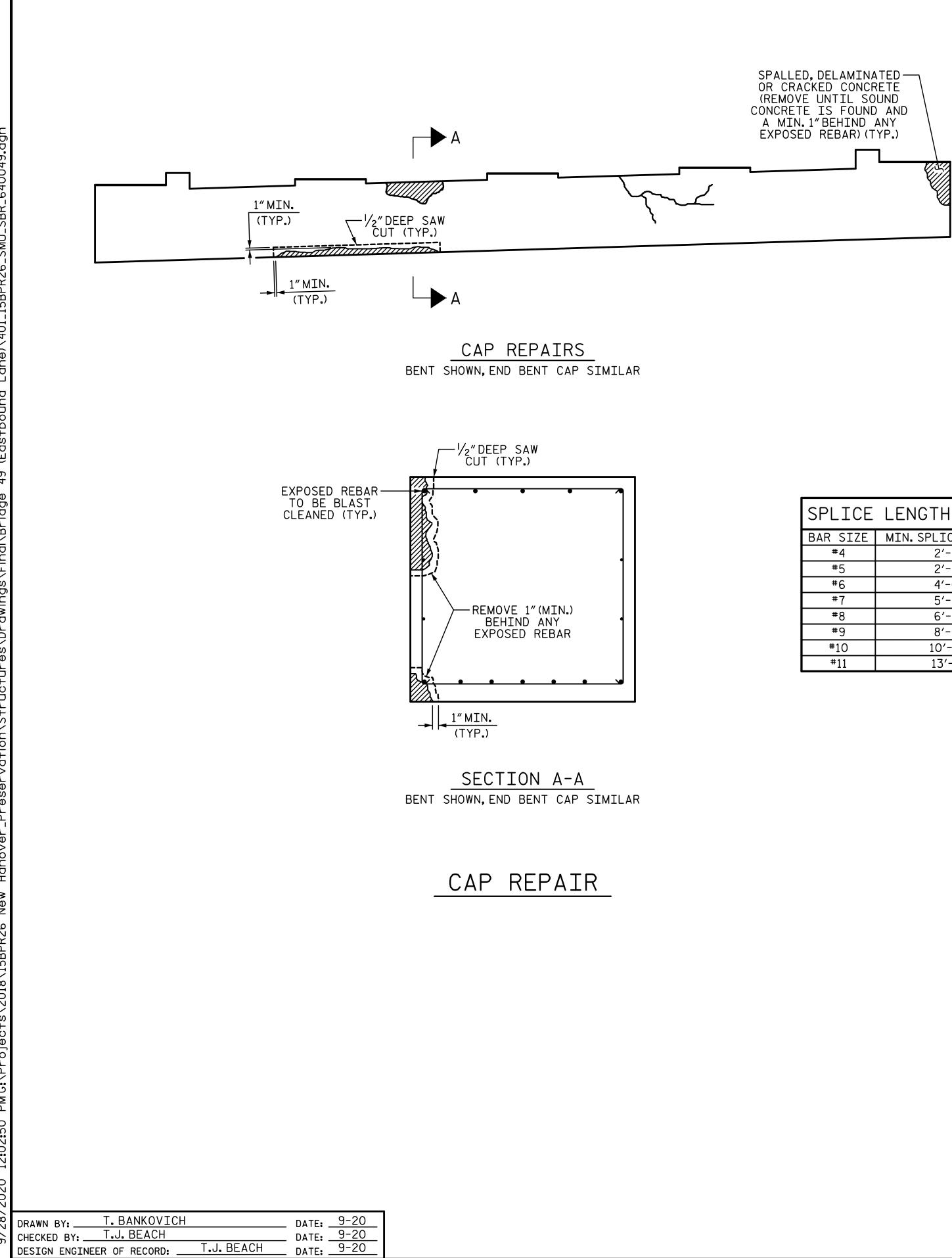
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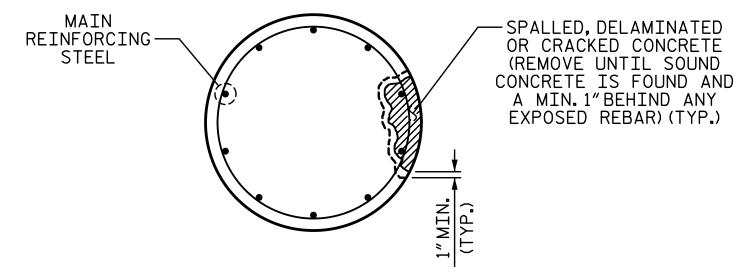
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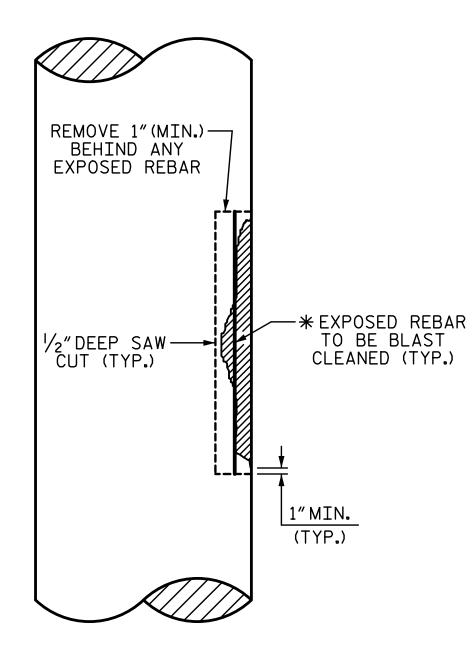
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ELEVATION OF COLUMN * IF CONFINEMENT STEEL IS NOT PRESENT, THEN REPAIR LENGTH SHALL NOT EXCEED 10 FEET

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

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION PRESERVATION

SUBSTF	RUCTURE	
REPAIR	DETAILS)

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NO.	BY:	DATE:	NO.	BY:	DATE:	S2-163
1			3			TOTAL SHEETS
2			4			163

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DOCUMENT NOT CONSIDERED FINAL

UNLESS ALL SIGNATURES COMPLETED



DESIGN DATA:

SPECIFICATIONS	A.A.S.H.T.O. (CURRENT)
LIVE LOAD	SEE PLANS
IMPACT ALLOWANCE	SEE A.A.S.H.T.O.
STRESS IN EXTREME FIBER OF	
STRUCTURAL STEEL - AASHTO M270 GRADE 36 -	20,000 LBS.PER SQ.IN.
- AASHTO M270 GRADE 50W -	27,000 LBS.PER SQ.IN.
- AASHTO M270 GRADE 50 -	27,000 LBS.PER SQ.IN.
REINFORCING STEEL IN TENSION	
GRADE 60	24,000 LBS.PER SQ.IN.
CONCRETE IN COMPRESSION	1,200 LBS.PER SQ.IN.
CONCRETE IN COMPRESSION -	1,200 LBS.PER SQ.IN. SEE A.A.S.H.T.O.
CONCRETE IN SHEAR	
CONCRETE IN SHEAR	SEE A.A.S.H.T.O.

MATERIAL AND WORKMANSHIP:

EXCEPT AS MAY OTHERWISE BE SPECIFIED ON PLANS OR IN THE SPECIAL PROVISIONS, ALL MATERIAL AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE 2018 "STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES" OF THE N. C. DEPARTMENT OF TRANSPORTATION.

(MINIMUM)

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

CONCRETE:

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

CONCRETE CHAMFERS:

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

DOWELS:

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

STANDARD NOTES

ALLOWANCE FOR DEAD LOAD DEFLECTION, SETTLEMENT:

ETC. IN CASTING SUPERSTRUCTURES:

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

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

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

REINFORCING STEEL:

ALL REINFORCING STEEL SHALL BE DEFORMED. DIMENSIONS RELATIVE TO PLACEMENT OF REINFORCING ARE TO CENTERS OF BARS UNLESS OTHERWISE INDICATED IN THE PLANS. DIMENSIONS ON BAR DETAILS ARE TO CENTERS OF BARS OR ARE OUT TO OUT AS INDICATED ON PLANS. WIRE BAR SUPPORTS SHALL BE PROVIDED FOR REINFORCING STEEL WHERE INDICATED ON THE PLANS. WHEN BAR SUPPORT PIECES ARE PLACED IN CONTINUOUS LINES, THEY SHALL BE SO PLACED THAT THE ENDS OF THE SUPPORTING WIRES SHALL BE LAPPED TO LOCK LEGS ON ADJOINING PIECES.

STRUCTURAL STEEL:

AT THE CONTRACTOR'S OPTION. HE MAY SUBSTITUTE 7/8" Ø SHEAR STUDS FOR THE $\frac{\gamma_4}{\varphi}$ STUDS SPECIFIED ON THE PLANS. THIS SUBSTITUTION SHALL BE MADE AT THE RATE OF 3 - 7/8"Ø STUDS FOR 4 - 3/4"Ø STUDS, AND STUD SPACING CHANGES SHALL BE MADE AS NECESSARY TO PROVIDE THE SAME EQUIVALENT NUMBER OF 7/8" Ø STUDS ALONG THE BEAM AS SHOWN FOR 3/4" Ø STUDS BASED ON THE RATIO OF 3 - 7/8" Ø STUDS FOR 4 - 3/4"Ø STUDS. STUDS OF THE LENGTH SPECIFIED ON THE PLANS MUST BE PROVIDED. THE MAXIMUM SPACING SHALL BE 2'-O".

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

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

HANDRAILS AND POSTS:

METAL STANDARDS AND FACES OF THE CONCRETE END POSTS FOR THE METAL RAIL SHALL BE SET NORMAL TO THE GRADE OF THE CURB. UNLESS OTHERWISE SHOWN ON PLANS. THE METAL RAIL AND TOPS OF CONCRETE POSTS USED WITH THE ALUMINUM RAIL SHALL BE BUILT PARALLEL TO THE GRADE OF THE CURB. METAL HANDRAILS SHALL BE IN ACCORDANCE WITH THE PLANS. RAILS SHALL BE AS MANUFACTURED FOR BRIDGE RAILING. CASTINGS SHALL BE OF A UNIFORM APPEARANCE. FINS AND OTHER DEFORMATIONS RESULTING FROM CASTING OR OTHERWISE SHALL BE REMOVED IN A MANNER SO THAT A UNIFORM COLORING OF THE COMPLETED CASTING SHALL BE OBTAINED. CASTINGS WITH DISCOLORATIONS OR OF NON-UNIFORM COLORING WILL NOT BE ACCEPTED. CERTIFIED MILL REPORTS ARE REQUIRED FOR METAL RAILS AND POSTS.

SPECIAL NOTES:

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

