ADT 1800 (2016)

CONTRACT NO. 74946

 \bigcirc

FOR INDEX OF SHEETS, SEE SHEET NO. 2

STATE OF ILLINOIS

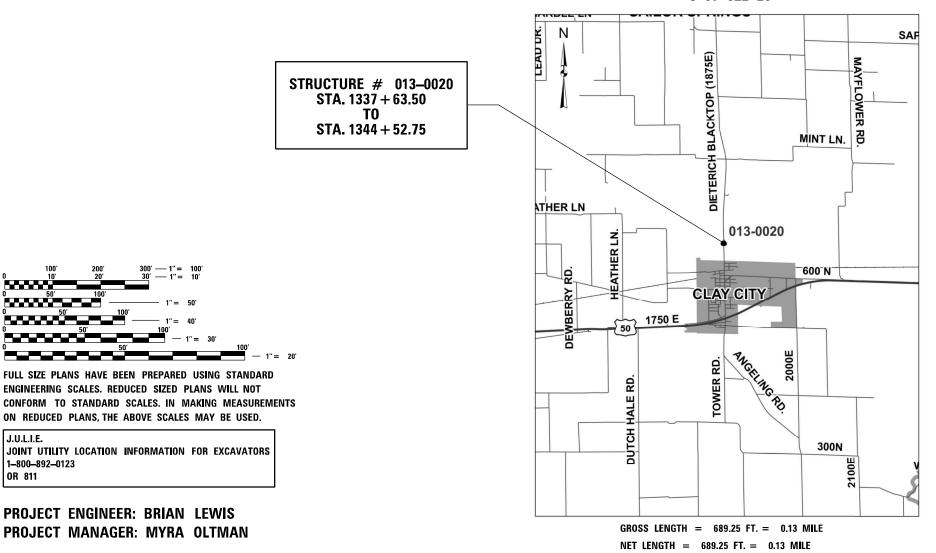
DEPARTMENT OF TRANSPORTATION

PROPOSED

HIGHWAY PLANS

FAP ROUTE 828
SECTION D7 BRIDGE REPAIRS 2021–1
PROJECT STP-UXNC(595)
BRIDGE JOINT REPLACEMENT/REPAIR
CLAY COUNTY

C-97-022-20

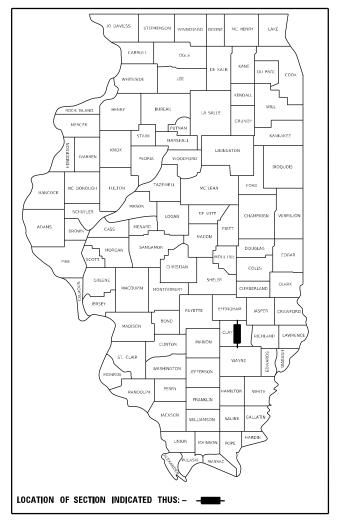


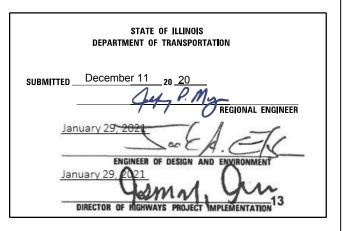
F.A.P. RTE. SECTION COUNTY TOTAL SHEET NO.

828 D7 BRIDGE REPAIRS 2021-1 CLAY 14 1

ILLINOIS CONTRACT NO. 74946

D-97-022-20





PRINTED BY THE AUTHORITY OF THE STATE OF ILLINOIS

GENERAL NOTES

THE WORK INCLUDED IN THIS SECTION CONSISTS OF BRIDGE JOINT REPLACEMENT AND REPAIR ON STRUCTURE #013-0020 LITTLE WABASH RIVER OVERFLOW ON FAP ROUTE 828 (DIETERICH - CLAY CITY BLACKTOP) LOCATED 0.8 MILE NORTH OF CLAY CITY. THE PROJECT INCLUDES BRIDGE JOINT REPLACEMENT, PARAPET WALL REPAIRS AND ANY OTHER WORK NECESSARY TO COMPLETE THIS SECTION.

INDEX OF SHEETS

SHEET NO. TITLE

- COVER SHEET
- 2 GENERAL NOTES, INDEX OF SHEETS
- 3 SUMMARY OF QUANTITIES
- 4 TYPICAL SECTIONS
- 5 PLAN SHEET
- 6-7 STAGE CONSTRUCTION DETAILS
- 8-14 STRUCTURE REPAIR DETAILS

THE FOLLOWING STANDARDS ARE A PART OF THESE PLANS AND ARE INCLUDED FOLLOWING THE LAST NUMBERED SHEET OF THE PLANS.

000001-08 STANDARD SYMBOLS, ABBREVIATIONS, AND PATTERNS

001001-02 AREAS OF REINFORCEMENT BARS

001006 DECIMAL OF AN INCH AND OF A FOOT

701001-02 OFF-ROAD OPERATIONS, 2L, 2W, MORE THAN 15' AWAY

701006-05 OFF-ROAD OPERATIONS, 2L, 2W, 15' TO 24" FROM PAVEMENT EC

701301-04 LANE CLOSURE, 2L, 2W, SHORT TIME OPERATIONS

701321-18 LANE CLOSURE, 2L, 2W, BRIDGE REPAIR WITH BARRIER

701901-08 TRAFFIC CONTROL DEVICES

704001-08 TEMPORARY CONCRETE BARRIER

782006-01 GUARDRAIL AND BARRIER WALL REFLECTOR MOUNTING DETAILS

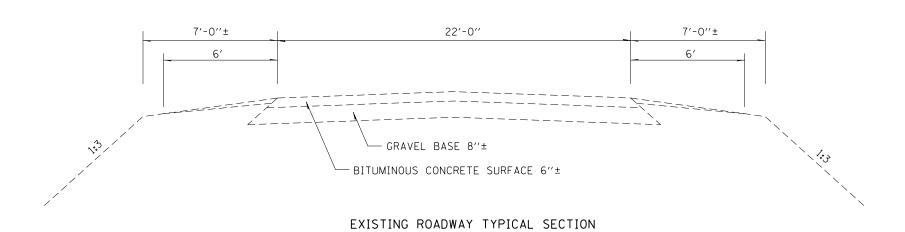
USER NAME = steffenmk	DESIGNED -	REVISED -	
	DRAWN -	REVISED -	
PLOT SCALE = 100.0000 / in.	CHECKED -	REVISED -	
PLOT DATE = 12/10/2020	DATE -	REVISED -	

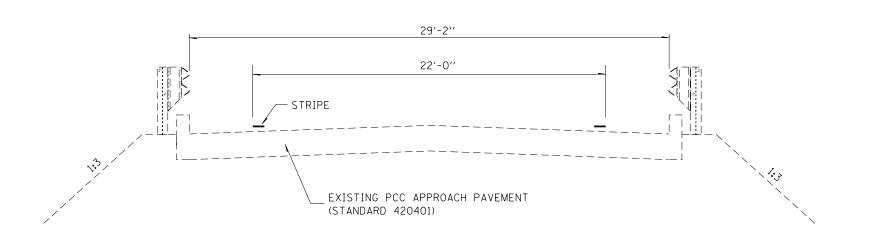
80% FED 20% STATE

80% FED 20% STATE

	CUMMADY OF QUANTITIES		20% STATE	CONS	STRUCTION TYPE CODE		CUMMADY OF QUANTITIES		20/0 STATE	CONS	TRUCTION TYPE CODE
	SUMMARY OF QUANTITIES		TOTAL	0013			SUMMARY OF QUANTITIES		TOTAL	0013	
CODE NO	ITEM	UNIT	QUANTITIES			CODE NO	ITEM	UNIT	OUANTITIES		
50102400	CONCRETE REMOVAL	CU YD	37.2	37.2		70400100	TEMPORARY CONCRETE BARRIER	FOOT	925	925	
50300255	CONCRETE SUPERSTRUCTURE	CU YD	37.2	37.2		70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	913	913	
50300300	PROTECTIVE COAT	SQ YD	127	127		70600250	IMPACT ATTENUATORS, TEMPORARY (NON-	EACH	2	2	
						_	REDIRECTIVE), TEST LEVEL 3				
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	6190	6190							
						70600350	IMPACT ATTENUATORS, RELOCATE (NON-	EACH	2	2	
50800515	BAR SPLICERS	EACH	122	122			REDIRECTIVE), TEST LEVEL 3	<u> </u>			
50800530	MECHANICAL SPLICERS	EACH	12	12							
			<u> </u>			_					
52000110	PREFORMED JOINT STRIP SEAL	F00T	150	150							
			<u> </u>					1			
67000500	ENGINEER'S FIELD OFFICE, TYPE B	CAL MO	3	3							
67100100			<u> </u>								
67100100	MOBILIZATION	L SUM	1	1							
70100405	TRAFFIC CONTROL AND PROTECTION, STANDARD	EACH	1	1							
	701321		-	<u> </u>							
						1					
70106500	TEMPORARY BRIDGE TRAFFIC SIGNALS	EACH	1	1							
70107005	PAVEMENT MARKING BLACKOUT TAPE, 5"	FOOT	2345	2345							
70107025	CHANGEABLE MESSAGE SIGN	CAL DA	28	28							
70300150	SHORT TERM PAVEMENT MARKING REMOVAL	SQ FT	978	978							
											REV M

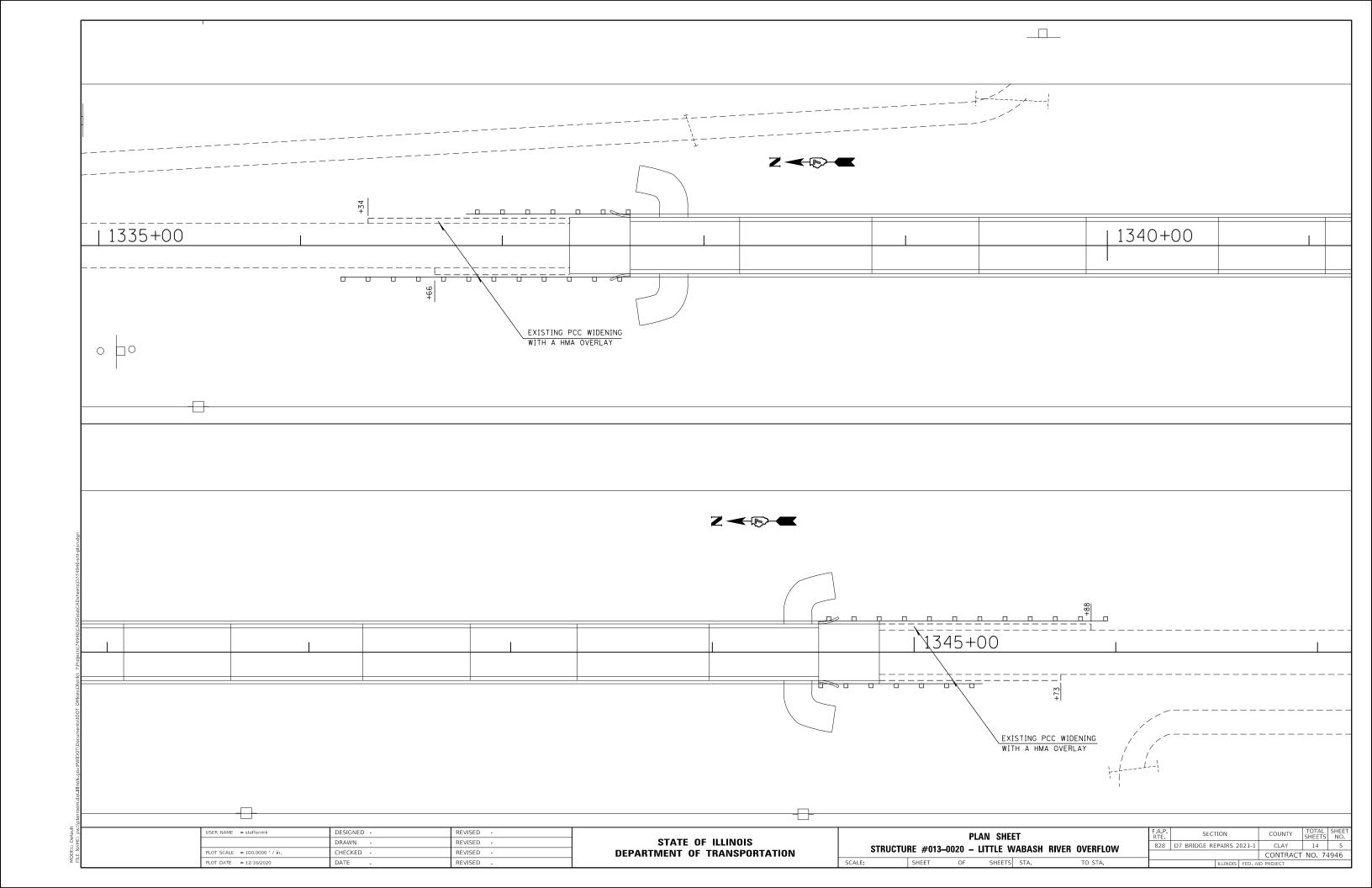
USER NAME = steffenmk	DESIGNED -	KEVISED -		i
	DRAWN -	REVISED -	STATE OF ILLINOIS	
PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED -	DEPARTMENT OF TRANSPORTATION	l
PLOT DATE = 12/10/2020	DATE -	REVISED -		SCALE

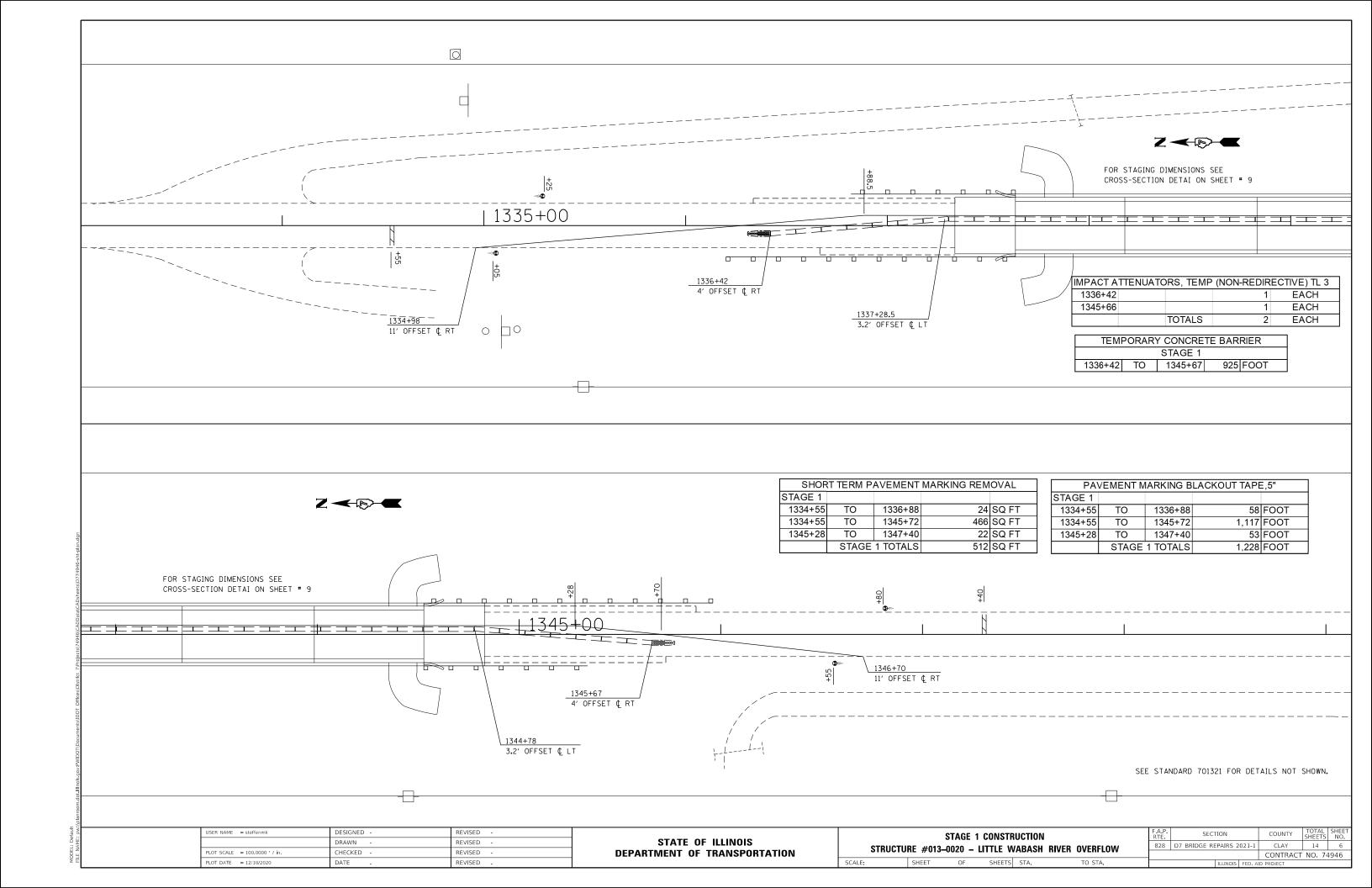


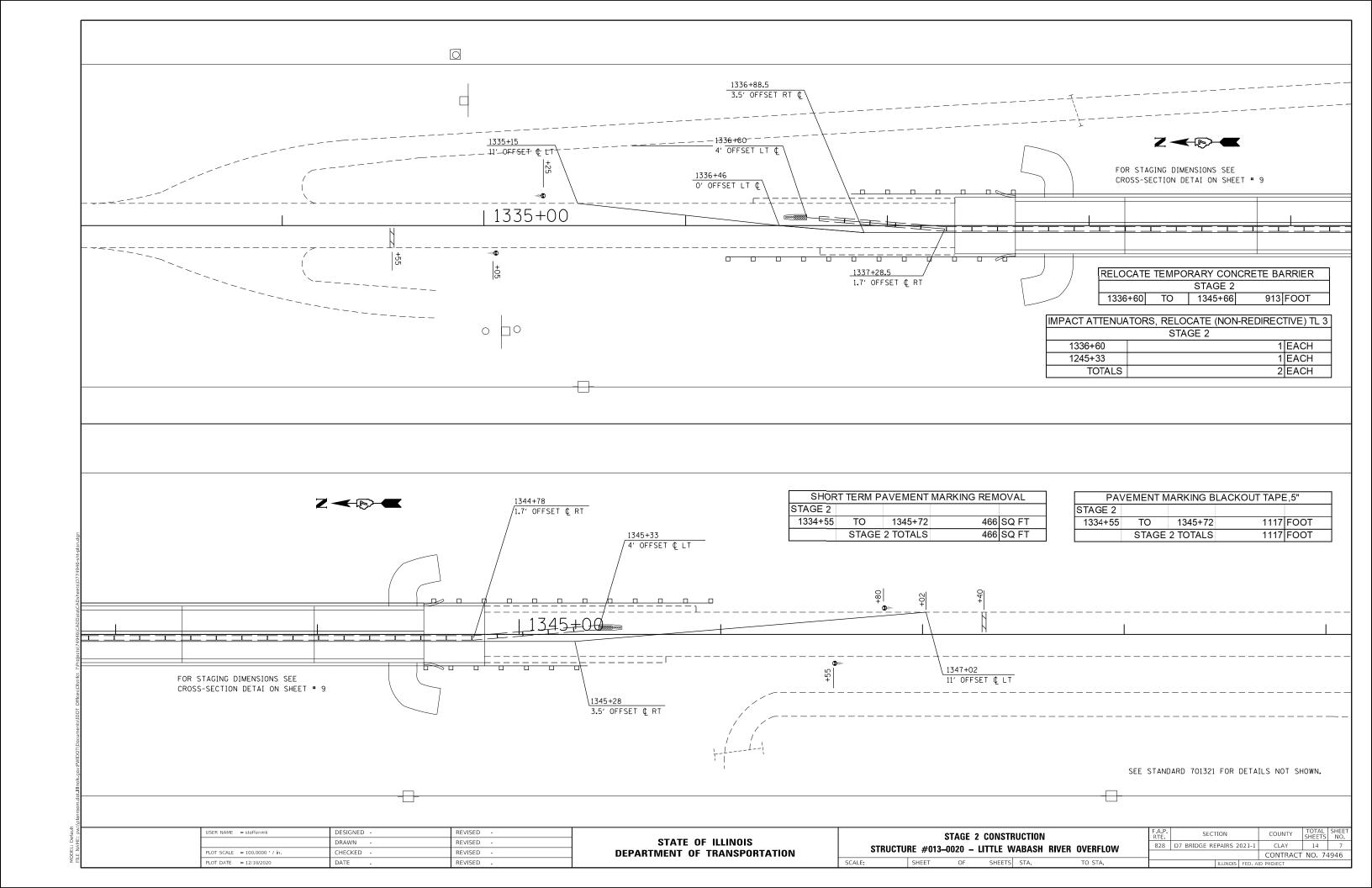


APPROACH PAVEMENT TYPICAL SECTION

USER NAME = steffenmk	DESIGNED -	REVISED -				TVP	ICAL SEC	PIONS		F.A.P.	SECTION	COUNTY	TOTAL	SHEET
	DRAWN -	REVISED -	STATE OF ILLINOIS				IUAL ULC			828	D7 BRIDGE REPAIRS 2021-1	CLAY	14	4
PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED -	DEPARTMENT OF TRANSPORTATION									CONTRACT	NO. 74	946
PLOT DATE = 12/10/2020	DATE -	REVISED -		SCALE:	SHEET	OF	SHEETS	STA.	TO STA.		ILLINOIS FED. AID	PROJECT		







EXISTING STRUCTURE:

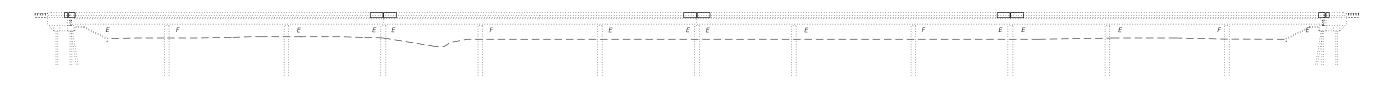
Existing Structure No. 013-0020 built in 1952 as F.A. Rte. 160 Sec. 107B,F at Sta 1341+08.12 consists of a 4 unit, 12 span reinforced concrete deck on steel WF beams supported on spill-thru, pile supported abutments and open pile bent piers, measuring 689'-3" back to back of abutments and 28'-0" out to out of deck.

One lane of traffic to be maintained using stage construction.

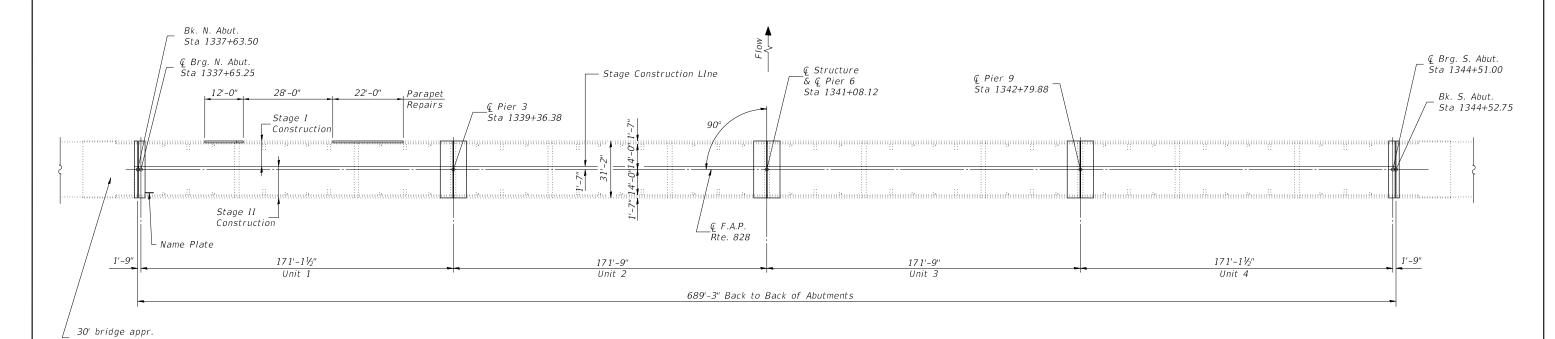
SALVAGE: No salvage

INDEX OF SHEETS

- General Plan and Elevation
- C. General Notes and Bill of Material
- 3. Expansion Joint Replacement Details 4. Expansion Joint Replacement Details
- 5. Preformed Joint Strip Seal
- 6. Parapet Repair Details
- 7. Bar Splicer Assembly and Mechanical Splicer Details



ELEVATION



PLAN

Bradley J. Hummer Date: 12/30/20

Bradley B. Hummert, P.E., S.E.

Licensed Structural Engineer in Illinois

License #081-005428

pavement, typ.

Proposed rehabilitation

Proposed rehabilitation

River

I Little Wabash River

Clay City

LOCATION SKETCH

SCALE:

GENERAL PLAN & ELEVATION

MONTROSE-CLAY CITY ROAD OVER

LITTLE WABASH RIVER OVERFLOW

F.A.P. ROUTE 828

SECTION D7 BRIDGE REPAIRS 2021-1

CLAY COUNTY

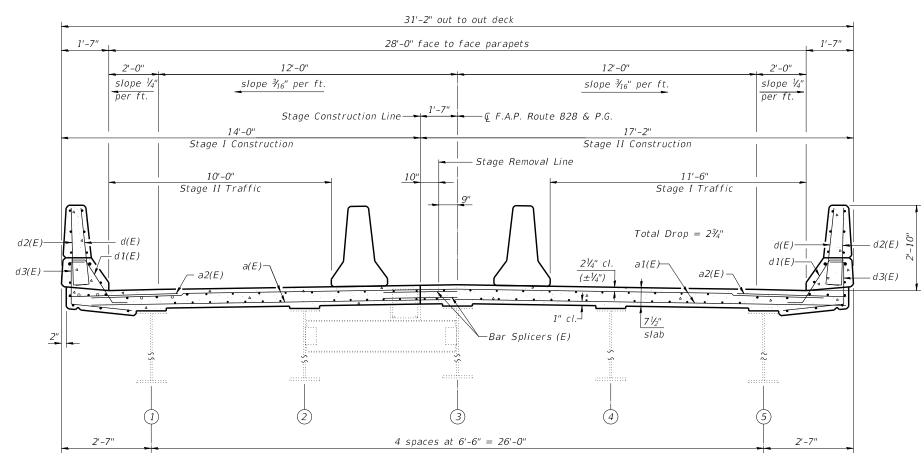
STATION 1341+08.12

STRUCTURE NO. 013-0020

Expires: No	vember 30, 2022	?		
FILE NAME = H:\7322	_IDOT_D7_Var\7322_08_WO8	_74946_FAP828_BridgeRepairPlans\013-0020 BBS CA	ADD Deck Repl Plans - CN94438\CAD Sheets\7322_Sheet_01_	gpeRElyHSED -
1111/1/	HMG ENGINEERS, INC.		DESIGNED	REVISED -
	9360 HOLY CROSS LANE BREESE, ILLINOIS 62230	PLOT SCALE = 30.0009 ' / in.	DRAWN	REVISED -
	(618) 526-9611	PLOT DATE = 12/30/2020	CHECKED	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

							·									
_									F.A.P. SECTION			COUNTY	TOTAL SHEETS	SHEET NO.		
G	GENERAL PLAN AND ELEVATION							828	D7 BRIDGE REPAIRS 2021-1			CLAY	14	8		
									CONTRACT NO. 74946							
	SHEET	1	OF	7	SHEETS	STA.	TC	STA.				ILLINOIS	FED. AI	D PROJECT		



CROSS SECTION

(Looking South)

GENERAL NOTES

Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work

Reinforcement bars designated (E) shall be epoxy coated.

Prior to pouring the new concrete deck, all heavy or loose rust, loose mill scale, and other loose or potentially detrimental foreign material shall be removed from the surfaces in contact with concrete. Tightly adhered paint may remain unless otherwise noted. Removal shall be accomplished by methods that will not damage the steel and the cost will be included in the pay item covering removal of the existing concrete.

Existing reinforcement bars extending into the removal area shall be cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal shall be replaced with an approved bar splicer or anchorage system. Cost included with Concrete Removal.

Joint openings shall be adjusted according to Article 520.04 of the Standard Specifications when the deck is poured at an ambient temperature other than 50° F.

Protective Coat to be applied to areas of new concrete only.

TOTAL BILL OF MATERIAL

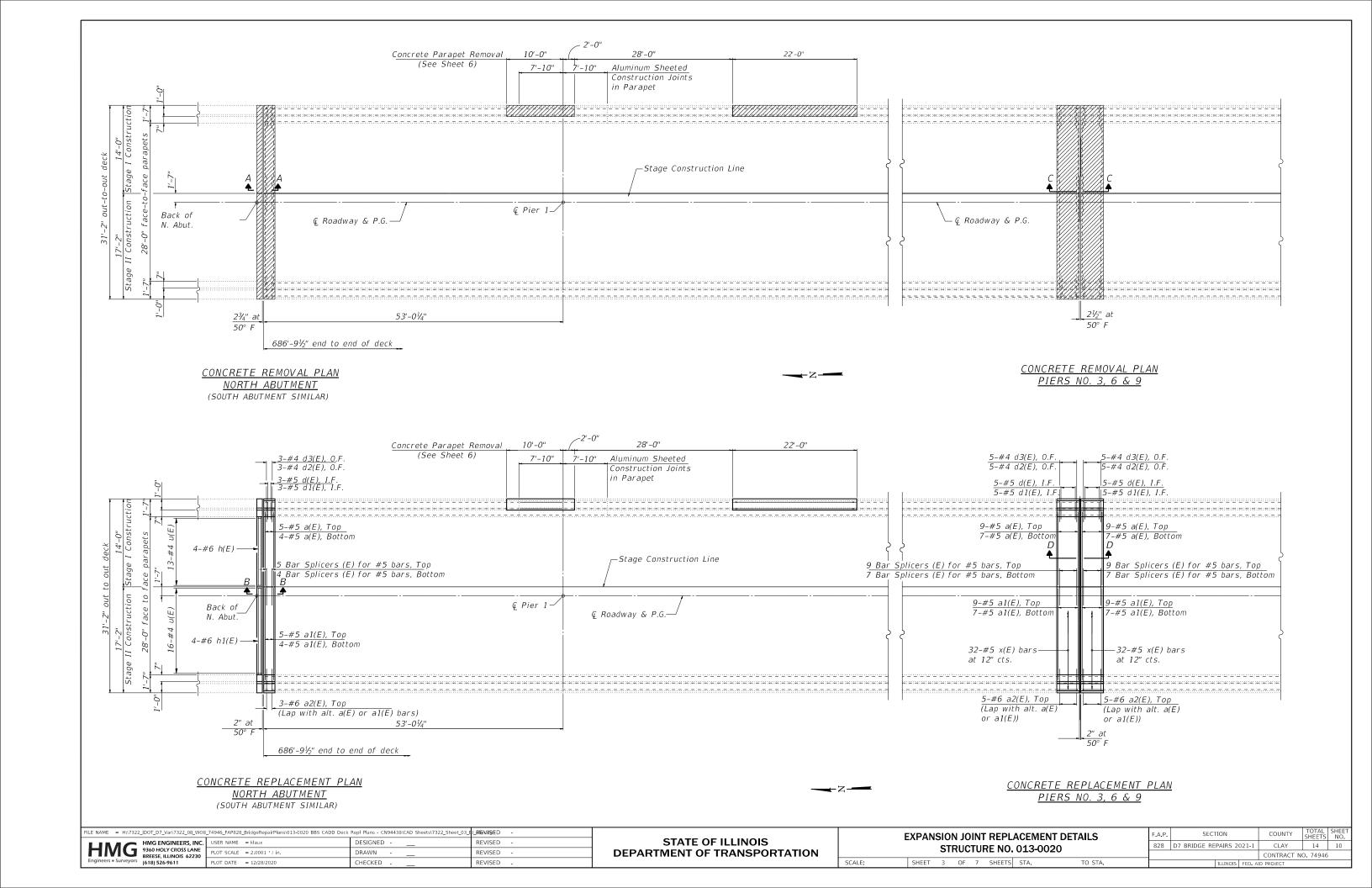
ITEM	UNIT	QUANTITY
Protective Coat	Sq Yd	127
Concrete Removal	Cu Yd	37.2
Concrete Superstructure	Cu Yd	37.2
Reinforcement Bars, Epoxy Coated	Pound	6,190
Preformed Joint Strip Seal	Foot	150
Bar Splicers	Each	122
Mechanical Splicers	Each	12

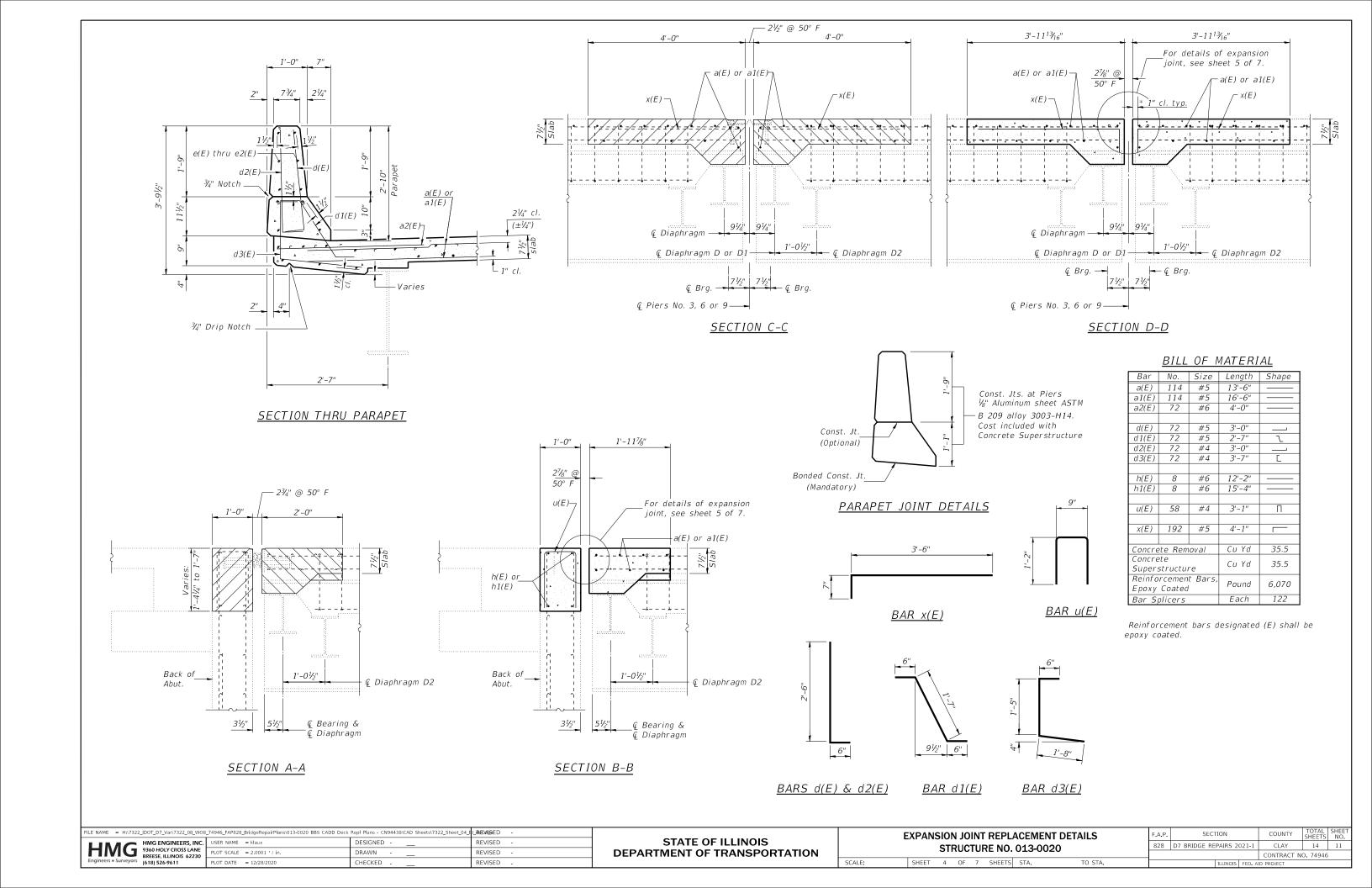
FILE NAME = H:\7322_IDOT_D7_Var\7322_08_W08	ILE NAME = H.17322_IDOT_D7_Van/7322_08_W08_74946_FAP828_BridgeRepairPlans(013-0020 BBS CADD Deck Repl Plans - CN94438/CAD Sheets/7322_Sheet_02_rot REM/6 ED									
HMG ENGINEERS, INC.		DESIGNED -	REVISED -							
HMG ENGINEERS, INC. 9360 HOLY CROSS LANE BREESE, ILLINOIS 62230	PLOT SCALE = 2.0001 '/ in.	DRAWN	REVISED -							
Engineers • Surveyors (618) 526-9611	PLOT DATE = 12/30/2020	CHECKED	REVISED -							

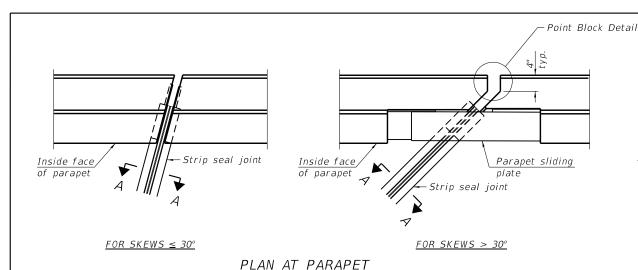
STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

GEN						LL OF 13-00	MATERIAL 020
SCALE:	SHEET	2	OF	7	SHEETS	STA.	TO STA.

F.A.P.	SECTION		COUNTY	TOTAL SHEETS	SHEE NO.
828	D7 BRIDGE REPAIRS 2021	-1	CLAY	14	9
			CONTRACT N	0. 74946	
	ILLINOIS FEI	э . А	ID PROJECT		

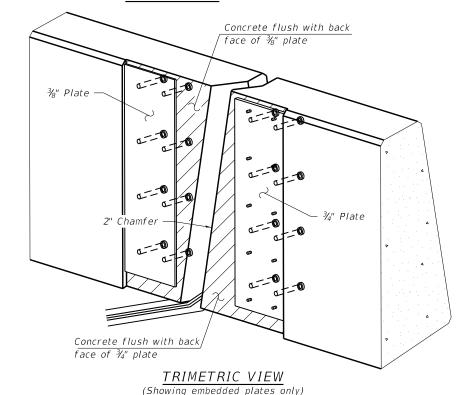






* ¾" Ø x 6" Studs 1'-0" (8 per side 39" parapet) (10 per side 44" parapet) ° 🎖 ¾" Embedded plate full depth ¾" Embedded plate, full depth Min. lap 6" 1/2" Parapet sliding plate ¾" Ø Countersunk bolts 1'-0" (10 per side 39" parapet) (12 per side 44" parapet) <u>Direction</u> of traffic

SECTION B-B



SCALE:

seal shall match the configuration of the locking edge rails. Open or "webbed" strip seal gland configurations are not permitted. The gland shall be sized for a maximum rated movement of 4 inches. The locking edge rails depicted are configured for typical applications and are conceptual only. The actual configuration of the locking edge rails and matching strip seal may vary from manufacturer to manufacturer provided they fit the application

and meet the minimum anchorage shown. Flanged edge rails,

however, will not be allowed. Locking edge rails may exceed the

The strip seal shall be made continuous and shall have a minimum thickness of $\frac{1}{4}$ ". The configuration of the strip

Notes:

shall be followed.

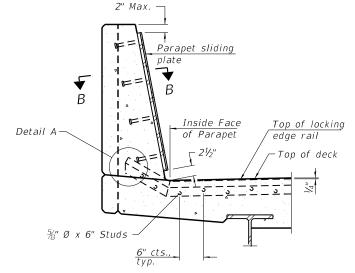
4½" maximum depth provided the anchorage system is revised according to the manufacturer's recommendation. The manufacturer's recommended installation methods

All steel components shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications.

The Maximum space between locking edge rail segments shall be $\frac{3}{16}$ " and sealed with a suitable sealant; however, any rail joint within 10' measured perpendicular to the face of the curb or parapet shall be welded as shown in the locking edge rail splice detail.

Cost of parapet sliding plates, embedded plates, and anchorage studs included with Preformed Joint Strip Seal. 39" constant slope barrier shown, 44" constant slope barrier

similar as noted. The concrete opening below the strip seal will vary based on the locking edge rail chosen by the Contractor. Deck and parapet lengths shown elsewhere in the plans are dimensioned to the concrete opening, not the joint opening, and are based on the rolled locking edge rail. If the Contractor elects to use a different locking edge rail, dimensional adjustments may be required. One exception to this would be the strip seal joint at the end of the precast bridge approach slab. For these cases the pavement connector length shall be adjusted, not the length of the bridge approach slab.

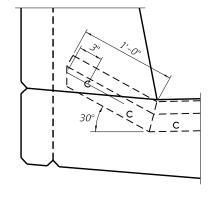


SECTION AT PARAPET

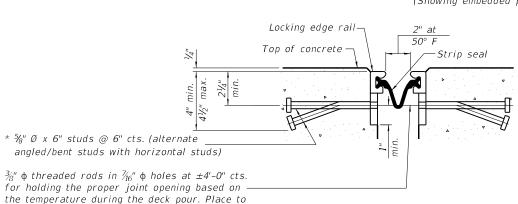
(Skews > 30° shown. Skews ≤ 30° similar except as shown in plan view.)

Locking edge rail

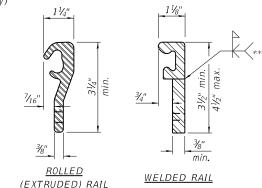
Top of concrete



DETAIL A

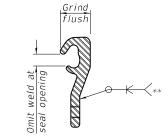


SHOWING WELDED RAIL JOINT off flush with the plates after concrete is set.



LOCKING EDGE RAILS

** Back gouge not required if complete joint penetration is verified by mock-up.



LOCKING EDGE RAIL SPLICE

The inside of the locking edge rail groove shall be free of weld residue. Rolled rail shown, welded rail similar.

BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	150
·		

SECTION A-A

* Granular or solid flux filled headed studs conforming to Article 1006.32 of the Std. Specs., automatically end welded

miss studs. All rods shall be burned, or sawed

EJ-SS

1-1-2020

50° F

SHOWING ROLLED RAIL JOINT

FILE NAME = H:\7322_IDOT_D7_Var\7322_08_V	08_74946_FAP828_BridgeRepairPlans\013-0020 BBS CADD Deck	Repl Plans - CN94438\CAD Sheets\7322_Sheet_05_s	tri <u>r</u> evised -
HMG ENGINEERS, IN	C. USER NAME = klaux	DESIGNED	REVISED -
HMG ENGINEERS, IN 9360 HOLY CROSS LAN BREESE, ILLINOIS 6223		DRAWN	REVISED -
Engineers • Surveyors (618) 526-9611	PLOT DATE = 12/30/2020	CHECKED	REVISED -

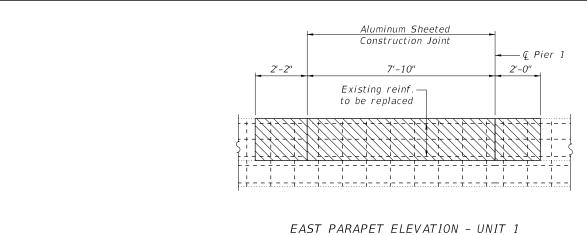
STATE OF ILLINOIS

					STRIP SEAL 013-0020
SHEET	5	OF	7	SHEETS	STA.

TO STA.

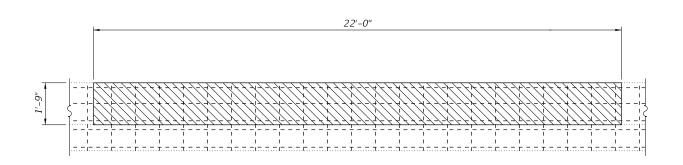
F.A.P.	SECT	ΠΟΝ		COUNTY	TOTAL SHEETS	SHEE NO.
828	D7 BRIDGE RE	PAIRS 2	021-1	CLAY	14	12
			CONTRACT N	O. 74946		
		ILLINOIS	FED. A	ID PROJECT		

DEPARTMENT OF TRANSPORTATION



EAST PARAPET ELEVATION - UNIT 1 CONCRETE REMOVAL

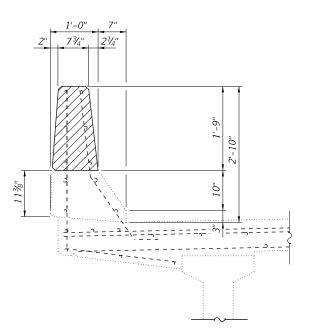
(Inside Elevation looking East) Hatched area indicates removal



EAST PARAPET ELEVATION - UNIT 1

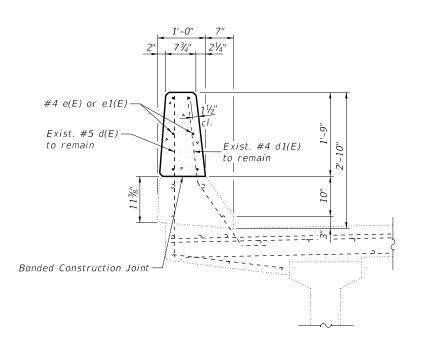
SUPERSTRUCTURE CONCRETE

(Inside Elevation looking East) Hatched area indicates removal



SECTION THRU PARAPET CONCRETE REMOVAL

Hatched area indicates removal (Areas of Parapet Removal only)



SECTION THRU PARAPET (Areas of Parapet Removal only)

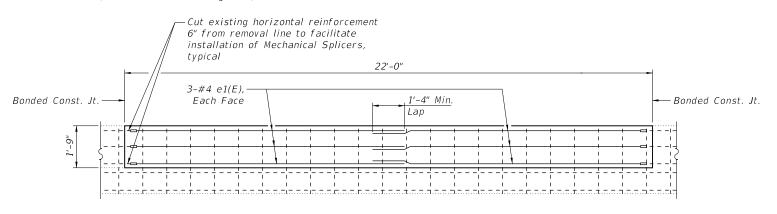
Aluminum Sheeted
Construction Joint

Q Pier 1

3-#4 e(E),
Each Face

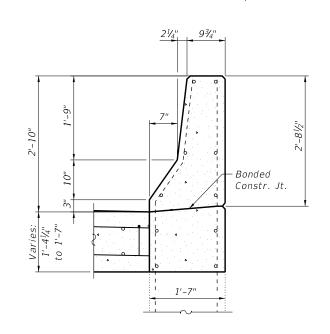
<u>EAST PARAPET ELEVATION - UNIT 1</u> SUPERSTRUCTURE CONCRETE

(Inside Elevation looking East)



EAST PARAPET ELEVATION - UNIT 1

SUPERSTRUCTURE CONCRETE
(Inside Elevation looking East)

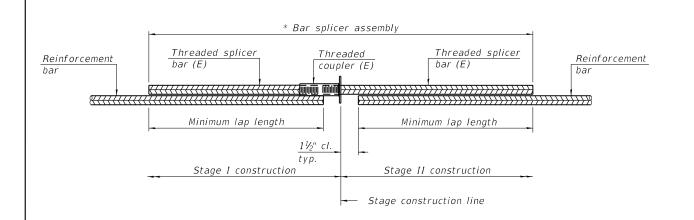


BILL OF MATERIAL

Bar	No.	Size	Length	Shape
e(E)	6	#4	7'-7"	
e1(E)	12 #4		11'-3"	
Concre	te Rem	oval	Cu Yd	1.7
Concre			Cu Yd	1.7
Supers	structu	re	Curu	1.7
Reinfo	rcemen	t Bars,	Pound	120
Ероху	Coated		Found	120
Mechai	nical Sp	olicers	Each	12

SECTION THRU WING WALL

	(Areas	of Parapet Removal only)											
FILE NAME = H:\7322_IDOT_D7_Var\7322_08_W08_74946_FAP828_BridgeRepairPlans\013-0020 BBS CADD Deck Repl Plans - CN94438\CAD Sheets\7322_Sheet_06_par\textbf{xiev} ar\textbf{xiev} -						PARAPET REPAIR DETAILS					SECTION	COUNTY	TOTAL SHEET
	HMG ENGINEERS, INC.	USER NAME = klaux	DESIGNED	REVISED - STATE OF ILLINOIS STRUCTURE NO, 013-0020 STATE OF ILLINOIS STRUCTURE NO, 013-0020 STRUCTURE NO, 013-0020	14 13								
	BREESE, ILLINOIS 62230	PLOT SCALE = 2.0001 ' / in.	DRAWN	REVISED -	DEPARTMENT OF TRANSPORTATION		STRUCTURE NO. (713-0020				CONTRACT N	O. 74946
En	ngineers • Surveyors (618) 526-9611	PLOT DATE = 12/30/2020	CHECKED -	REVISED -		SCALE:	SHEET 6 OF 7 SHEETS	STA.	TO STA.		ILLINOIS FED. A	ID PROJECT	



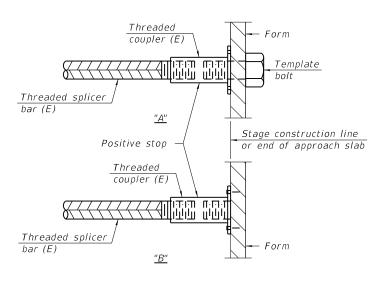
STANDARD BAR SPLICER ASSEMBLY PLAN

(All components shall be provided from one supplier)

Threaded splicer bar length = min. lap length + $1\frac{1}{2}$ " + thread length

* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

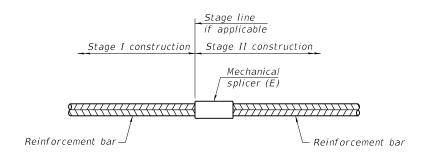
Location	Bar	No. assemblies	Minimum
Location	size	required	lap length
Expansion Joints	#5	114	3'-3"
Abut ment s	#6	8	3'-10"



INSTALLATION AND SETTING METHODS

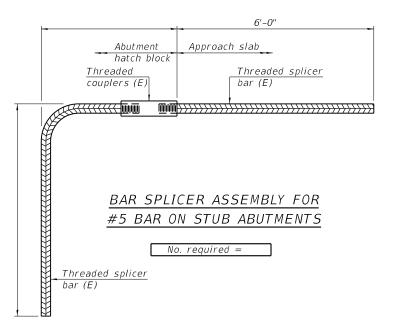
"A": Set bar splicer assembly by means of a template bolt "B": Set bar splicer assembly by nailing to wood forms or cementing to steel forms.

(E): Indicates epoxy coating.



STANDARD MECHANICAL SPLICER

	_	
Location	Bar	No. assemblies
Location	size	required
Parapet	#4	12



Notes:

Splicer bars shall be deformed with threaded ends and have a minimum 60 ksi yield strength.

All reinforcement shall be lapped and tied to the splicer bars.

Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars. See Section 508 of the Standard Specifications. See approved list of bar splicer assemblies and mechanical splicers for alternatives.

BSD-1

1-1-2020

	FILE NAME = H:\7322_IDOT_D7_Var\7322_08_WO8	plike:VilseD -		
	HMG ENGINEERS, INC.	USER NAME = klaux	DESIGNED	REVISED -
HMG	PIVIG 9360 HOLY CROSS LANE BREESE, ILLINOIS 62230	PLOT SCALE = 2.0001 '/ in.	DRAWN	REVISED -
	Engineers • Surveyors (618) 526-9611	PLOT DATE = 12/28/2020	CHECKED	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SCALE:

BAR SPLI	BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS					F.A.P. SECTION				COUNTY	TOTAL SHEETS	SHEET NO.		
STRUCTURE NO. 013-0020						STRUCTURE NO. 012 0020 828 D7 BRIDGE					021-1	CLAY	14	14
	31110010HE 140.013-0020											CONTRACT N	O. 74946	5
LE:	SHEET	7	OF	7	SHEETS	STA.	TO STA.	TILINOIS FED AID PROJECT						