03-08-2024 LETTING ITEM 084

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STATE OF ILLINOIS

DEPARTMENT OF TRANSPORTATION

869 D9 BRIDGE OVERLAY 2023-8 FRANKLIN 27 1 JUNOIS CONTRACT NO. 78997

0-99-031-23



STATE OF ILLINOIS **DEPARTMENT OF TRANSPORTATION** SUBMITTED Dec 1/ 20 23 Kirk H. Brown REGION FIVE ENGINEER February 2, 2024 ENGINEER OF DESIGN AND ENVIRONMENT February 2, 2024 DIRECTOR OF HIGHWAYS PROJECT IMPLEMENTATION

> PRINTED BY THE AUTHORITY OF THE STATE OF ILLINOIS

FOR INDEX OF SHEETS, SEE SHEET NO. 3

FOR SUMMARY OF QUANTITIES, SEE SHEET NO. 4-6

TRAFFIC DATA

2023: ADT = 3,880 (11% TRUCKS) 2033: ADT = 4,280 (11% TRUCKS) 2043: ADT = 4,730 (11% TRUCKS)

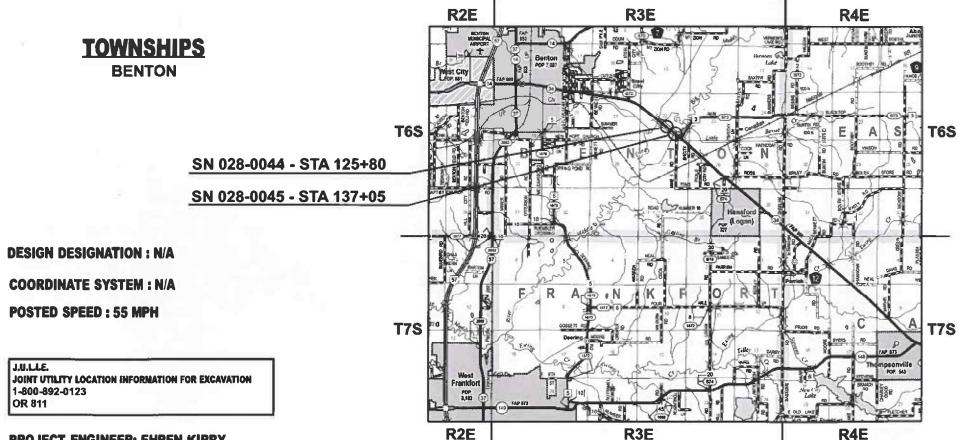
PROPOSED HIGHWAY PLANS

FAP ROUTE 869 (IL 34) D9 BRIDGE OVERLAY 2023-8 PROJECT HBFP-245Z(153) BRIDGE DECK OVERLAY FRANKLIN COUNTY

C-99-044-23

GROSS LENGTH = 458.00 FT. = 0.09 MILES

NET LENGTH = 458 .00 FT. = 0 .09 MILES



PROJECT ENGINEER: EHREN KIRBY PROJECT DESIGNER: ZACH LOMAX

CONTRACT NO. 78997

Prepared By: Charles

Examined By:

Examined By: Canular

DISTRICT PROGRAM DEVELOPMENT ENGINEER

Examined By: DISTRICT OPERATIONS ENGINEER

Examined By:

DISTRICT PROJECT IMPLEMENTATION ENGINEER

Examined By: District Construction Engineer

Examined By: A and and DISTRICT MATERIALS ENGINEER

DESIGNED . DRAWN REVISED -PLOT SCALE # 0,16668633 1/ In. CHECKED REVISED -

STATE OF ILLINOIS **DEPARTMENT OF TRANSPORTATION** SIGNATURE SHEET

SHEET 2 OF 27 SHEETS STA.

869 D9 BRIDGE OVERLAY 2023-8 FRANKLIN 27 CONTRACT NO. 78997

INDEX OF SHEETS

SHEET NO	DESCRIPTION
1	COVER SHEET
2	SIGNATURE SHEET
3	INDEX OF SHEETS, HIGHWAYSTANDARDS, GENERAL NOTES, AND COMMITMENTS
4-6	SUMMARY OF QUANTITIES
7	SCHEDULES
8	TYPICAL SECTION - SN 028-0044 & SN 028-0045
9	STAGE CONSTRUCTION - SN 028-0044 & SN 028-0045
10	HMA BUTT-JOINT DETAILS - SN 028-0044 & SN 028-0045
11	GUARDRAIL DETAILS
12-13	STAGE I DETAILS
14-15	STAGE II DETAILS
16	STAGE III DETAILS
17	STAGE IV DETAILS
18	GENERAL PLAN AND ELEVATION - SN 028-0044
19	CON CRETE WEARING SURFACE PLAN - SN 028-0044
20	REINFORCEMENT DETAILS - SN 028-0044
21	GENERAL PLAN AND ELEVATION - SN 028-0045
22	CON CRETE WEARING SURFACE PLAN - SN 028-0045
23	REINFORCEMENT DETAILS - SN 028-0045
24	BAR SPLICER ASSEMBLY - SN 028-0044 & SN 028-0045
25	STEEL RAILING DETAILS - SN 028-0044 & SN 028-0045
26	TEMP ORARY CONCRETE BARRIER DETAILS - SN 028-0044 & SN 028-0045
27	DRAIN DETAILS - SN 028-0044 & SN 028-0045

HIGHWAY STANDARDS

000001-08	STANDARD SYMBOLS ABBREVIATIONS
001001-02	AREAS OF REINFORCEMENT BARS
001006	DECIMALOF AN INCH & OF A FOOT
630001-13	STEEL PLATE BEAM GUARDRAIL
701001-02	OFF-ROAD OPERATIONS, 2L, 2W, MORE THAN 15' (4.5 m) AWAY
701006-05	OFF-ROAD OPERATIONS, 2L, 2W, 15' (4.5 m) TO 24" (600 mm) FROM PAVEMENT EDGE
701011-04	OFF-ROAD MOVING OPERATIONS 2L2W DAY ONLY
701201-05	LANE CLOSURE, 2L, 2W, DAY ONLY, FOR SPEEDS ≥ 45 MPH
701301-04	LANE GLOSURE, 2L2W, SHORT TIME OPERATIONS
701306-04	LANE CLOSURE, 2L2W, \$LOW MOVING OPERATIONS DAY ONLY, FOR \$PEEDS ≥45 MPH
701311-03	LANE CLOSURE 2L2W MOVING OPERATIONS DAY ONLY
701321-18	LANE CLOSURE, 2L, 2W, BRIDGE REPAIR WITH BARRIER
7 <mark>01</mark> 3 <mark>26</mark> -04	LANE CLOSURE, 2L2W, PAVEMENT WIDENING FOR SPEEDS ≥ 45 MPH
701901-09	TRAFFIC CONTROL DEVICES
704001- <mark>0</mark> 8	TEMPORARY CONCRETE BARRIER
780001-05	TYPICAL PAVEMENT MARKINGS
782006-01	GUARDRAIL AND BARRIER REFLECTOR MOUNTING DETAILS
420001-10	PAVEMENT JOINTS
630301-09	SHOULDER WIDENING FOR TYPE 1 (SPECIAL) GUARDRAIL TERMINALS
631066	TRAFFIC BARRIER TERMINAL, TYPE 14
862001-01	UNINTERRUPTABLE POWER SUPPLY (UPS)

GENERAL NOTES

FACTORS USED FOR ESTIMATING PLAN QUANTITIES AREA AS FOLLOWS AND SHALL NOT BE USED AS BASIS OF FINALS QUANTITIES.

ALL HOT MIX ASPHALT

2.016 TONS/CU. YD.

THE QUANTITY OF SHORT TERM PAVEMENT MARKING SHOWN IN THE PLANS IS BASED ON ONE APPLICATION EACH FOR THE HMA SURFACE REMOVAL, BINDER COURSE, AND SURFACE COURSE

COMMITMENTS: NONE

HMA MIXTURE REQUIREMENTS TABLES

Locations	Hot-Mix Asphalt Surface Course	
Mixture Use(s):	Hot-Mix Asphalt Surface Course, Mix C, N70	
AB/PG:	PG64-22	
ABR % (Max):	See Special Provision	
Design Air Voids:	4.0 %, 70 Gyration Design	
Mixture Composition:	IL-9.5 mm	
(Gradation Mixture)		
Friction Aggregate:	C Surface	
Mixture Weight:	112 lbs/Sq Yd/in	
Quality Management Program:	QC/QA	
Sublot Size:	3,000 tons	
Material Transfer Device (Required?)	No	

Locations	Hot-Mix Asphalt Binder Course
Mixture Use(s):	Hot-Mix Asphalt Binder Course, IL-9.5FG, N70
AB/PG:	PG64-22
ABR % (Max):	See Special Provision
Design Air Voids:	4.0 %, 70 Gyration Design
Mixture Composition:	IL-9.5FG mm
(Gradation Mixture)	
Friction Aggregate:	None
Mixture Weight:	112 lbs/Sq Yd/in
Quality Management Program:	QC/QA
Sublot Size:	3,000 tons
Material Transfer Device (Required?)	No

	USER NAME = david.a.wilson	DESIGNED -	REVISED -
		DRAWN -	REVISED -
	PLOT SCALE = 0.16666633 ' / in.	CHECKED -	REVISED -
- 1	PLOT DATE = 12/4/2023	DATE -	REVISED -

SUMMARY OF QUANTITIES

COUNTY:	FRANKLIN CO	FRANKLIN CO
ROUTE:	IL 34 (FAP 869)	IL 34 (FAP 869)
FUNDING:	80% FEDERAL 20% STATE	80% FEDERAL 20% STATE

			LOCATION:	RURAL	RURAL
CODE	TEN DECOMPTON		TOTAL	SN 028-0044	SN 028-0045
NUMBER	ITEM DESCRIPTION	UNIT	QUANTITY	0047	0047
_					
20200500	EARTH EXCAVATION (WIDENING)	CU YD	98	48	50
35400500	PORTLAND CEMENT CONCRETE BASE COURSE WIDENING 10"	SQ YD	351	172	179
40600290	BITUMINOUS MATERIALS (TACK COAT)	POUND	528	264	264
40000230	BITOPHNOOS PARTETURES (TACK COAT)	100112	320	204	204
40600982	HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT	SQ YD	231	115.5	115.5
40600990	TEMPORARY RAMP	SQ YD	263	131.5	131.5
40602970	HOT-MIX ASPHALT BINDER COURSE, IL-9.5FG, N70	TON	37	18.5	18.5
40604052	HOT-MIX ASPHALT SURFACE COURSE, IL-9.5, MIX "C", N70	TON	96	48	48
44000151	HOT-MIX ASPHALT SURFACE REMOVAL, 1/2"	SQ YD	578	28 <mark>9</mark>	289
50300100	FLOOR DRAINS	EACH	12	6	6
50300260	BRIDGE DECK GROOVING	SQ YD	554	277	277
50300300	PROTECTIVE COAT	SQ YD	574	287	287
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	7,280	3,640	3,640
50800515	BAR SPLICERS	EACH	180	90	90
50900207	STEEL RAILING, TYPE CO-10	FOOT	3 <u>5</u> 6	178	178
63000001	STEEL PLATE BEAM GUARDRAIL, TYPE A, 6 FOOT POSTS	FOOT	400	200	200

* SPECIALTY ITEM

USER NAME = david.a.wilson DESIGNED -REVISED -DRAWN -REVISED -PLOT SCALE = 0.16666633 '/ in. CHECKED -REVISED -DATE -PLOT DATE = 12/11/2023 REVISED -

STATE OF ILLINOIS **DEPARTMENT OF TRANSPORTATION**

SUMMARY OF QUANTITIES SHEET 4 OF 27 SHEETS STA

SUMMARY OF QUANTITIES - CONT

COUNTY:	FRANKLIN CO	FRANKLIN CO
ROUTE:	IL 34 (FAP 869)	IL 34 (FAP 869)
FUNDING:	80% FEDERAL 20% STATE	80% FEDERAL 20% STATE
LOCATION:	RURAL	RURAL

12				LOCATION: RURAL		RURAL	
1	CODE	ITEM DESCRIPTION	UNIT	TOTAL	SN 028-0044	SN 028-0045	
١	NUMBER	TIEM DESCRIPTION	ONIT	QUANTITY	0047	0047	
ĸ	63100119	TRAFFIC BARRIER TERMINAL, TYPE 14	EACH	8	4	4	
					-		
k	63 100 167	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	EACH	8	4	4	
	63200310	GUARDRAIL REMOVAL	FOOT	800	400	400	
9	67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	4	2	2	
					c -		
	67 100100	MOBILIZATION	L SUM	1	0.5	0.5	
ļ							
4	70100405	TRAFFIC CONTROL AND PROTECTION, STANDARD 701321	EACH	1	0.5	0.5	
ļ							
4	70100450	TRAFFIC CONTROL AND PROTECTION, STANDARD 701201	L SUM	1	0.5	0.5	
	70100460	TRAFFIC CONTROL AND PROTECTION, STANDARD 701306	L SU <mark>M</mark>	1	0.5	0.5	
75	70100400	TIVATTIC CONTROL AND PROTECTION, STANDARD 701300	L 3011	1	0.5	0.5	
-	70 10 05 00	TRAFFIC CONTROL AND PROTECTION, STANDARD 701326	L SUM	1	0.5	0.5	
İ							
	70 10 3 <mark>8 1</mark> 5	TRAFFIC CONTROL SURVEILLANCE	CAL DA	12	6	6	
	70 10 65 00	TEMPORARY BRIDGE TRAFFIC SIGNALS	EACH	1	0.5	0.5	
	70106700	TEMPORARY RUMBLE STRIPS	EACH	6	3	3	
ļ	70 10 7 <mark>0 2</mark> 5	CHANGEABLE MESSAGE SIGN	CAL DA	42	21	21	
)	70300100	SHORT TERM PAVEMENT MARKING	FOOT	181	90.5	90.5	
	70300150	SHORT TERM PAVEMENT MARKING REMOVAL	SQ FT	61	30.5	30.5	
					9		

* SPECIALTY ITEM

PLOT DATE = 12/11/2023	DATE -	REVISED -
PLOT SCALE = 0.16666633 ' / in.	CHECKED -	REVISED -
	DRAWN -	REVISED -
USER NAME = david.a.wilson	DESIGNED =	REVISED _

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SL MMARY OF QUANTITIES		F.A.P RTE.			TOTAL SHEETS	SHE
		869	D9 BRIDGE OVERLAY 2023-8	FRANKLIN	27	5
				CONTRACT	NO. 789	97
IEET 5	OF 27 SHEETS STA TO STA		HUNDE FED AID DROJECT			

SUMMARY OF QUANTITIES - CONT

COUNTY:	FRANKLIN CO	FRANKLIN CO
ROUTE:	IL 34 (FAP 869)	IL 34 (FAP 869)
FUNDING:	80% FEDERAL 20% STATE	80% FEDERAL 20% STATE
LOCATION:	RURAL	RURAL

				LUCATION.		KOKAL
	CODE	ITEM DESCRIPTION	UNIT	TOTAL	SN 028-0044	SN 028-0045
N	UMBER	TEN DESCRIPTION		QUANTITY	0047	0047
7	70300221	TEMPORARY PAVEMENT MARKING - LINE 4"- PAINT	FOOT	3,957	1,978.5	1,978.5
7	0400100	TEMPORARY CONCRETE BARRIER	FOOT	600	300	300
7	70 <mark>4</mark> 00125	PINNING TEMPORARY CONCRETE BARRIER	EACH	48	24	24
7	'0 <mark>4</mark> 00200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	587.5	300.0	287.5
7	70600260	IMPACT ATTENUATORS, TEMPORARY (FULLY REDIRECTIVE, NARROW), TEST LEVEL 3	EACH	4	2	2
7	0600332	IMPACT ATTENUATORS, RELOCATE (FULLY REDIRECTIVE, NARROW), TEST LEVEL 3	EACH	4:	2	2
7	72501000	TERMINAL MARKER - DIRECT APPLIED	EACH	8	4	4
7	8001110	PAINT PAVEMENT MARKING - LINE 4"	FOOT	3,957	1,978.5	1.978.5
7	8200005	GUARDRAIL REFLECTORS, TYPE A	EACH	16	8	8
7	/8 <mark>30</mark> 0201	PAVEMENT MARKING REMOVAL - GRINDING	SQ FT	2,638	1,319	1,319
8	6200300	UNINTERRUPTABLE POWER SUPPLY, EXTENDED	EACH	1	0.5	0.5
Х	(5030305	CONCRETE WEARING SURFACE, 5"	SQ YD	554	277	277
X	5870015	BRIDGE DECK CONCRETE SEALER	SQ FT	1,040	520	520
	,					
Z	(0012136	BRIDGE DECK SCARIFICATION 1 1/2"	SQ YD	554	277	277
7	20016001	DECK SLAB REPAIR (FULL DEPTH, TYPE I)	SQ YD	4.0	2.0	2.0
	10001001	DECK SOAD REPAIR (TOLL DEPTH, TIPE I)	30 10	4.0	2.0	2.0

* SPECIALTY ITEM

USER NAME = david.a.wilson	DESIGNED =	REVISED -		SUMMARY OF QUANTITIES			F.A.P	SECTION	COUNTY	TOTAL SHEET	SHEE
	DRAWN -	REVISED _	STATE OF ILLINOIS				869	D9 BRIDGE OVERLAY 2023-8	FRANKLIN	27	6
PLOT SCALE = 0.16666633 '/in.	CHECKED -	REVISED _	DEPARTMENT OF TRANSPORTATION						CONTRAC	T NO. 78	3997
PLOT DATE = 12/11/2023	DATE -	REVISED -		SCALE:	SHEET 6 OF 27 SHEETS STA	TO STA.		ILLINOIS FED AL	O PRO IECT		

ILE NAME: pw://ildot-pw.bentley.com:PWIDOT/Documents/ID

		PAVEMENT	MAR	KII	NG	SCHED	ULE			
START	END		PAINT PAVEMENT MARKING LINE- 4" YELLOW			PAVEMENT MARKING	SHORT TERM PAVEMENT	SHORT TERM PAVEMENT	TEMPORARY PAVEMENT MARKING -	
STATION	STATION	NOTES	SOL I D	SOLID SKIP- LT DASH		REMOVAL - GRINDING	MARKING	MARK ING REMOVAL	LINE 4" - PAINT	
			FT	FT	FT	SQ FT	FT	SQ FT	FT	
IL 3	4 - SN 028-	-0044 TO SN 028-0045 STAGE 1								
122+56.50	140+61.95					1,319				
IL 34	- SN 028-0	0044 TO SN 028-0045 STAGE III								
122+56.50	140+61.95						181			
IL 34	- SN 028-	0044 TO SN 028-0045 STAGE IV								
122+56.50	140+61.95		1,692	460	1,805	1,319		61	3,957	
		PROJECT TOTALS		3,957		2,638	181	61	3,957	

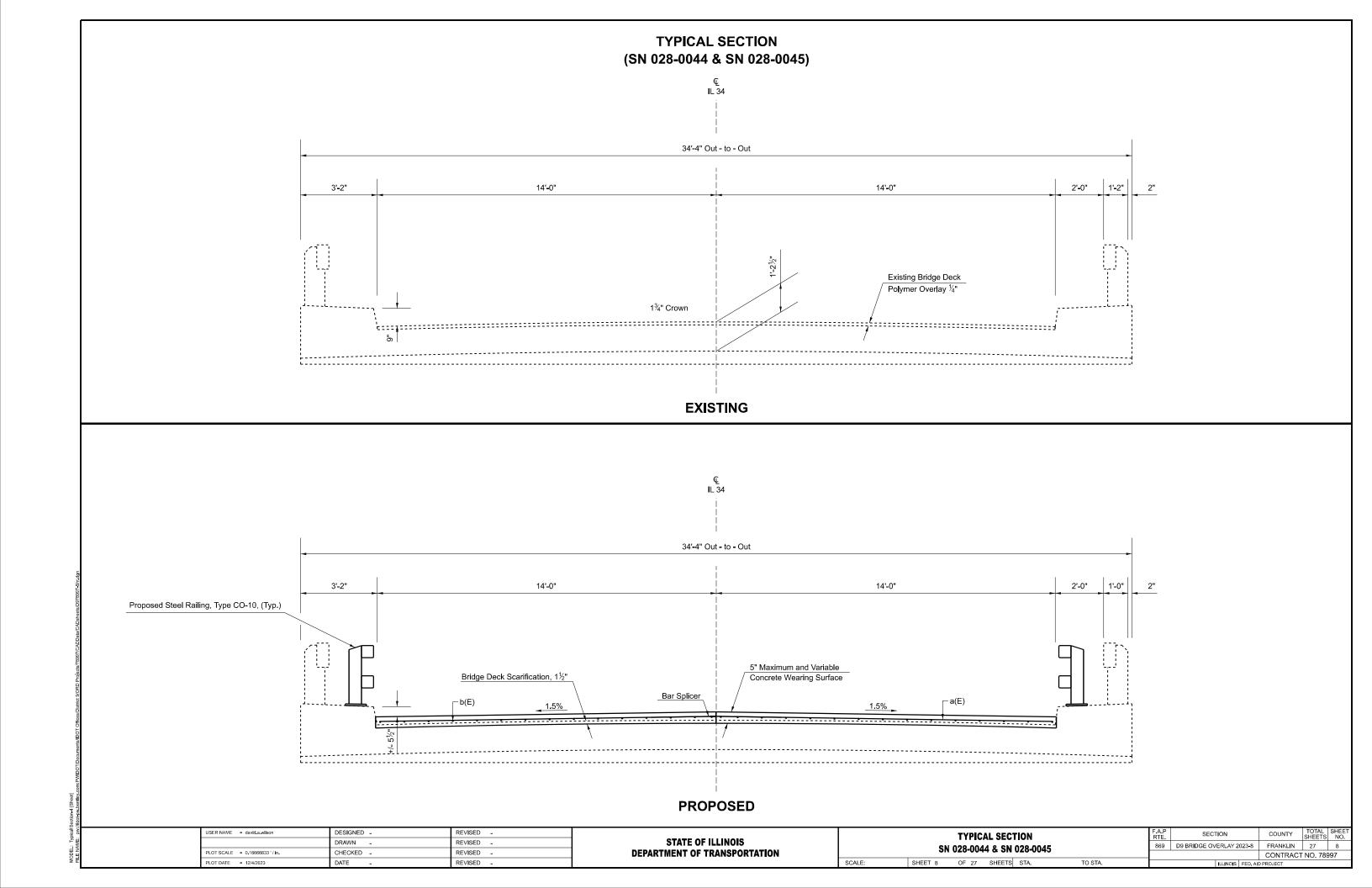
					W I	DE	NINC	S SCHI	DULE	
LOCATION							LENGTH	PROPOSED WIDENING WIDTH	PCC BASE COURSE WIDENING	REMARKS
								FOR INFORMATIONAL PURPOSES ONLY		
							FT	FT	SQ YD	
	IL 3	4 - 51	N 02	28-00	14					
STA	124+09.50	LT	TO	STA	125+35.50	LT	126.0	3	42	
STA	123+99.50	RT	TO	STA	125+35.50	RT	136.0	3	46	
STA	126+24.50	LT	TO	STA	127+50.50	LT	126.0	3	42	
STA	126+24.50	RT	TO	STA	127+50.50	RT	126.0	3	42	
	IL 3	4 - 51	N 02	28-00	45					
STA	125+34.50	LT	TO	STA	126+60.50	LT	126.0	3	42	
STA	135+34.50	RT	TO	STA	136+60.50	RT	126.0	3	42	
STA	137+49.50	LT	TO	STA	139+08.50	LT	159.0	3	53	
51A	13/+49.50	RI	10	STA	138175.50	RT	126.0	3	4.2	
PROJECT TOTALS									351	

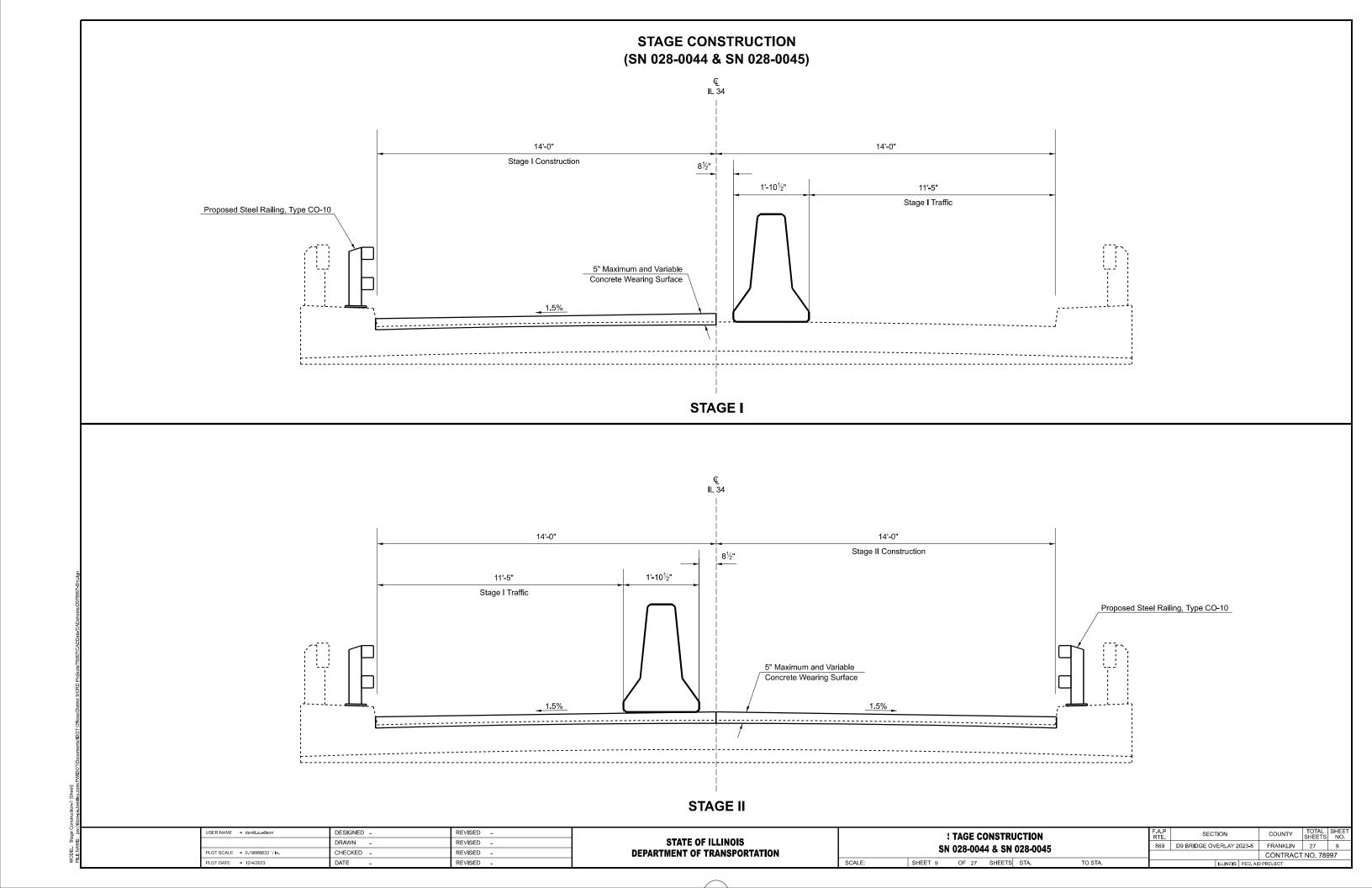
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USER NAME = david a wilson	DESIGNED -	REVISED -	
	DRAWN -	REVISED -	
PLOT SCALE = 0.16666633 ' / in.	CHECKED -	REVISED -	
PLOT DATE = 12/11/2023	DATE -	REVISED -	

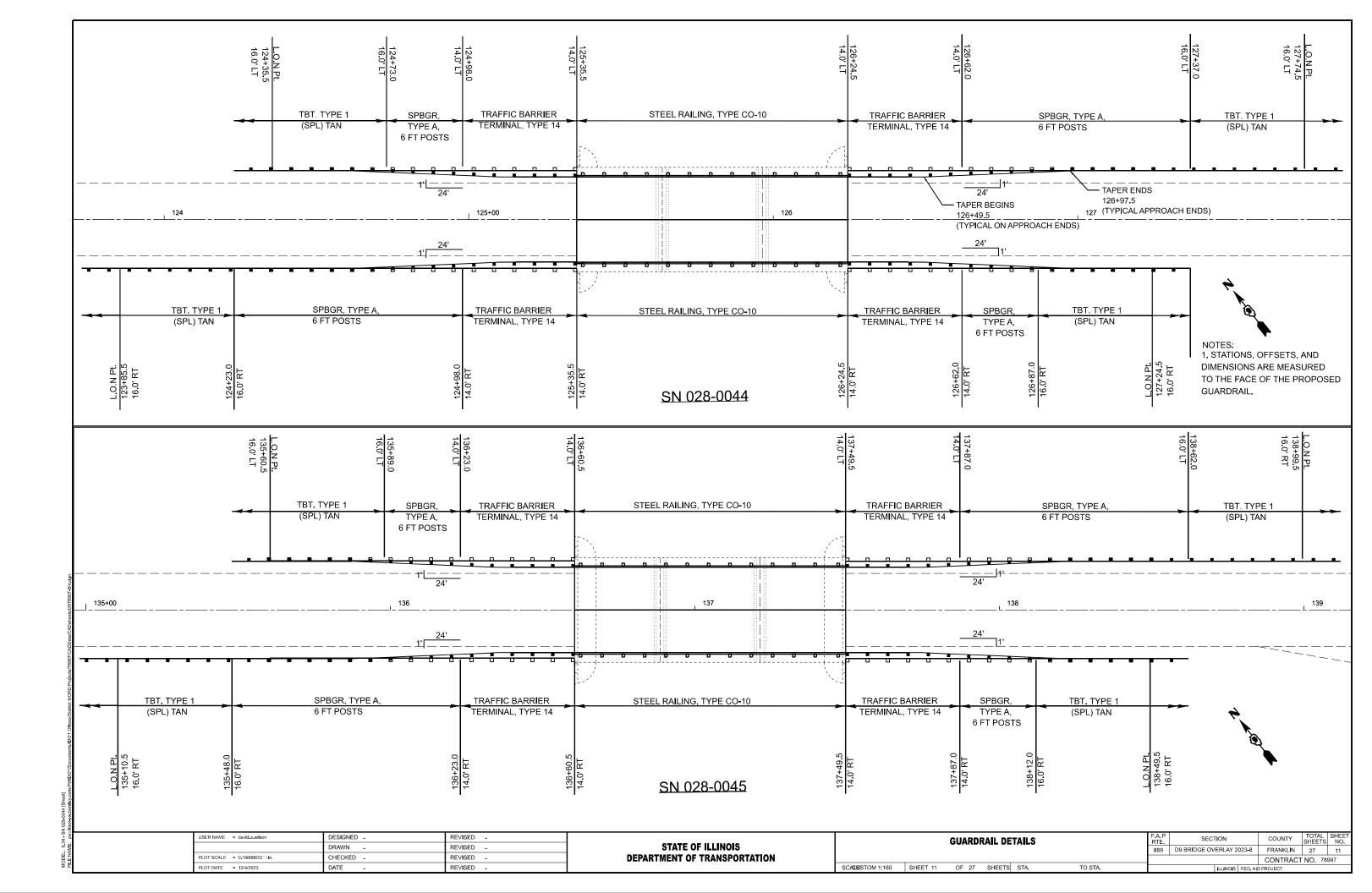
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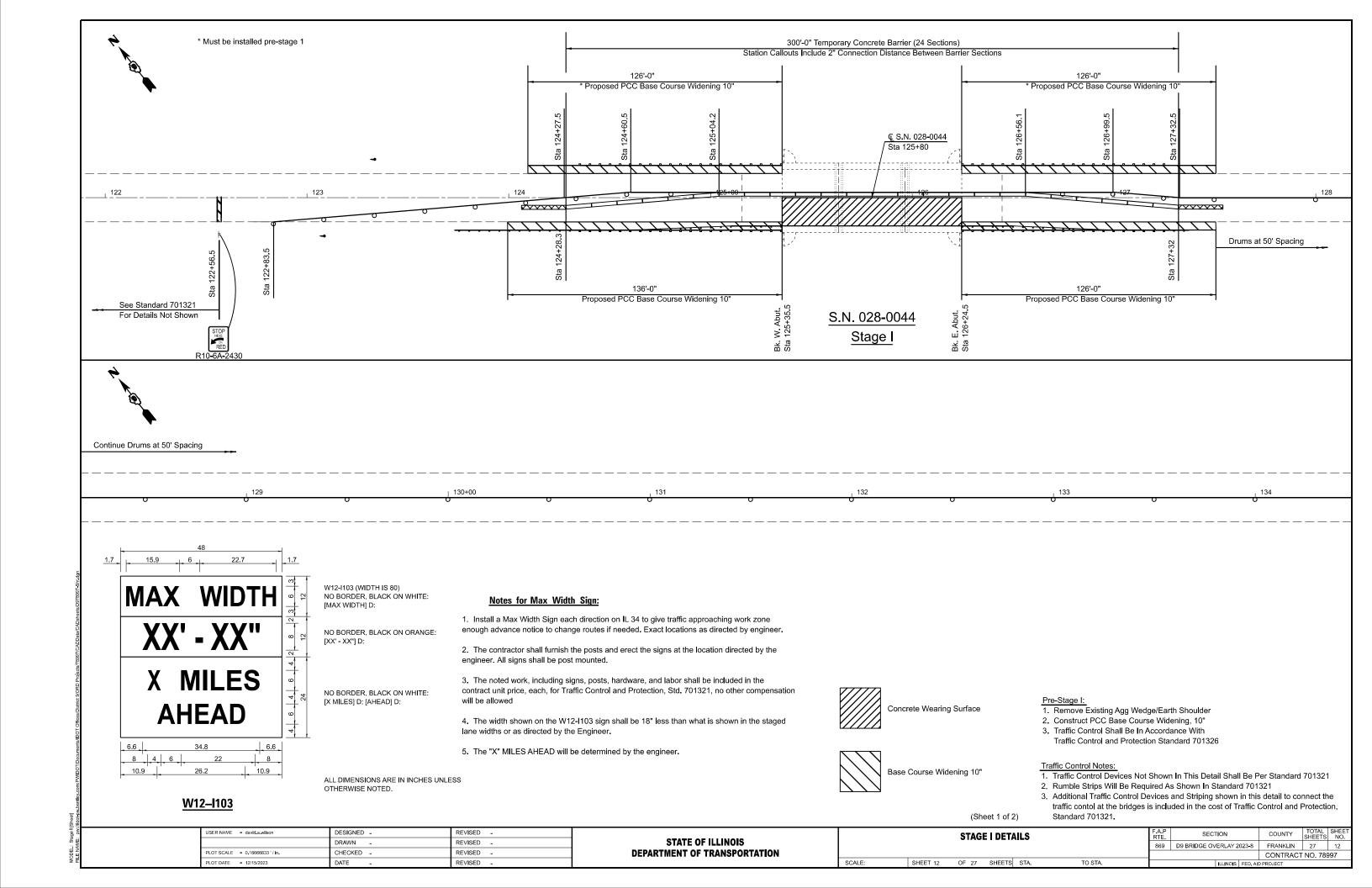
	SCI	IEDULE	S		F.A.P RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
					869	D9 BRIDGE OVERLAY 2023-8	FRANKLIN	27	7
							CONTRACT	NO. 789	997
HEET 7	OF 27	SHEETS	STA.	TO STA.		ILLINOIS FED. A	D PROJECT		

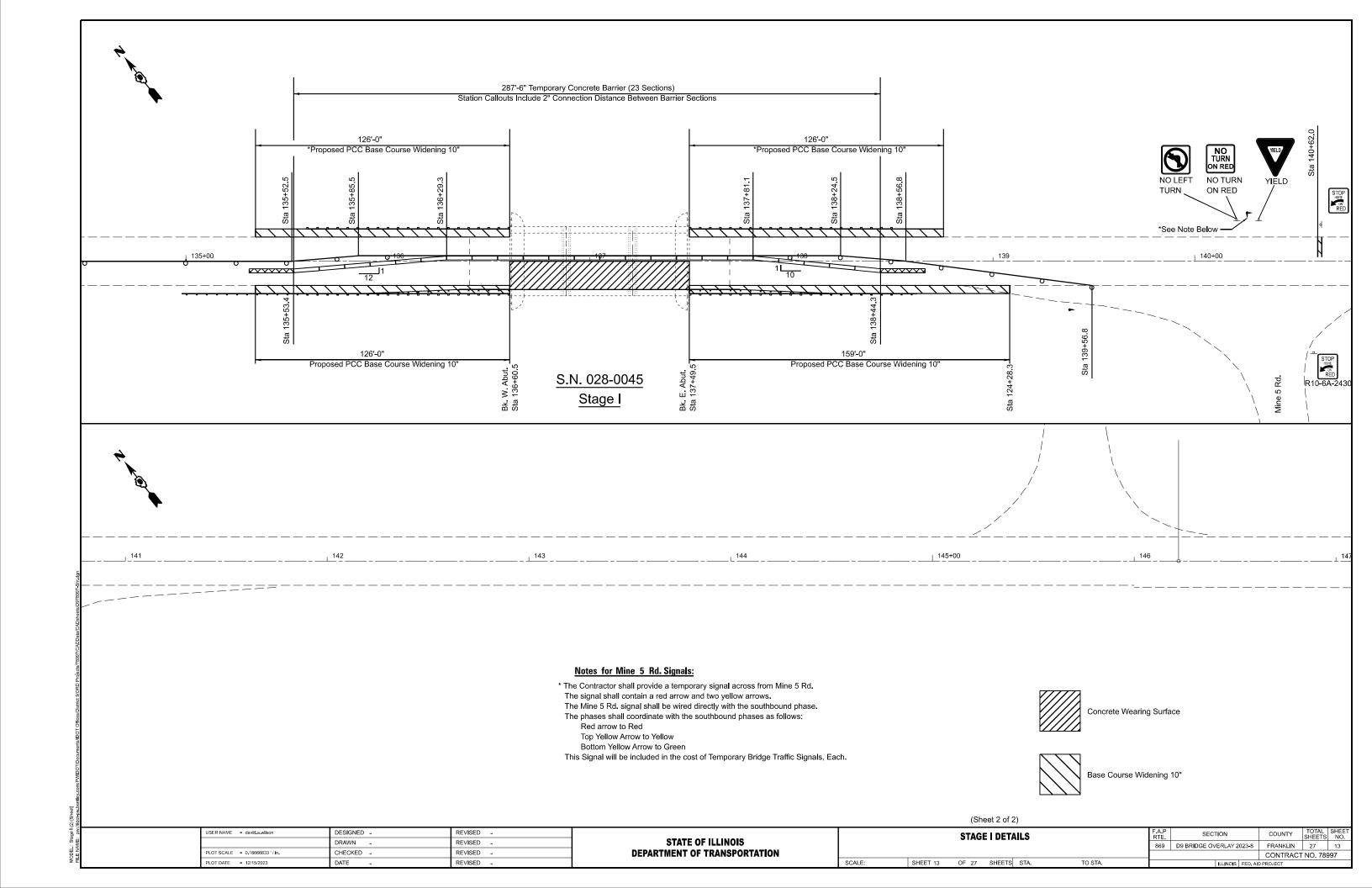


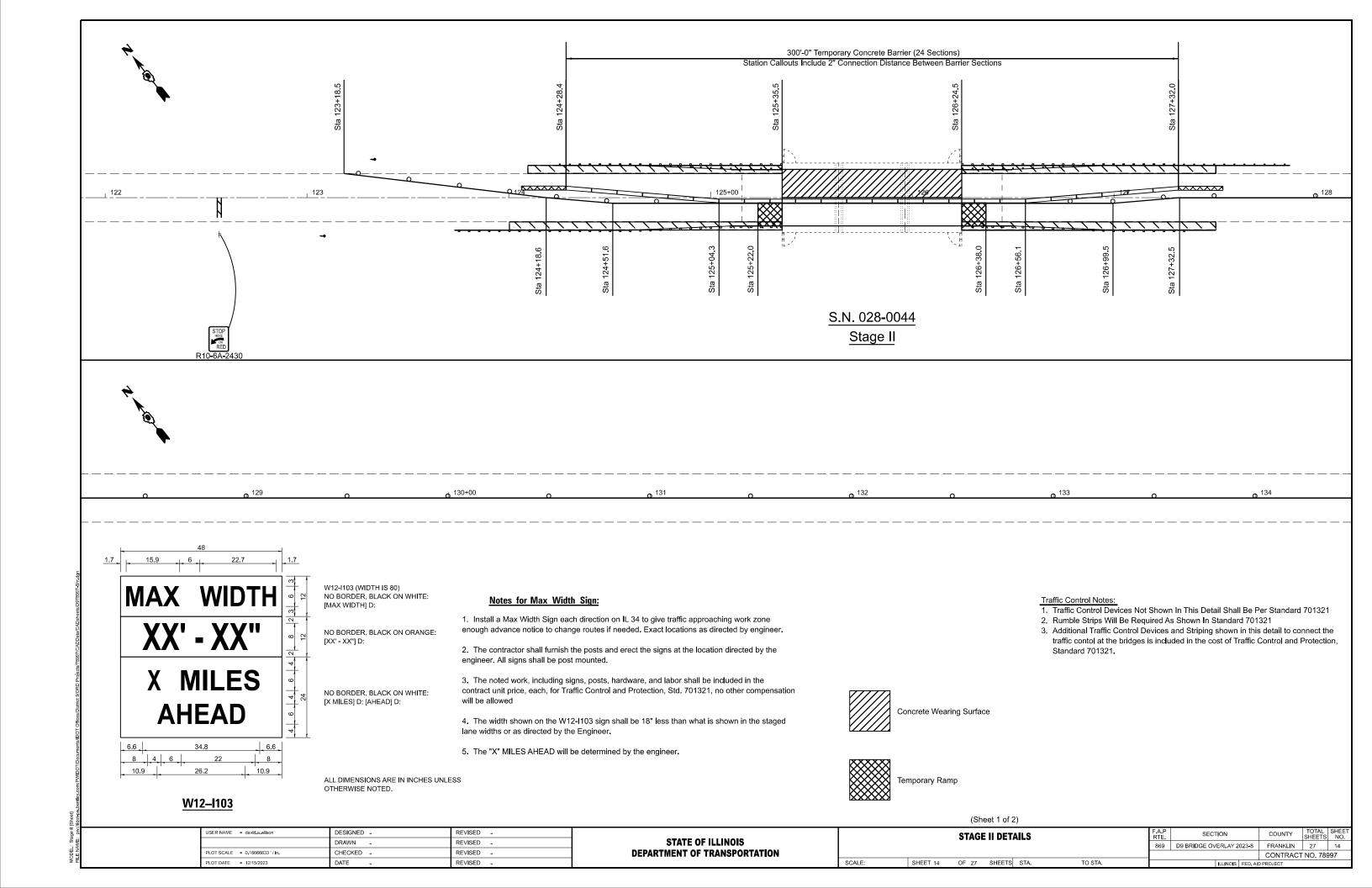


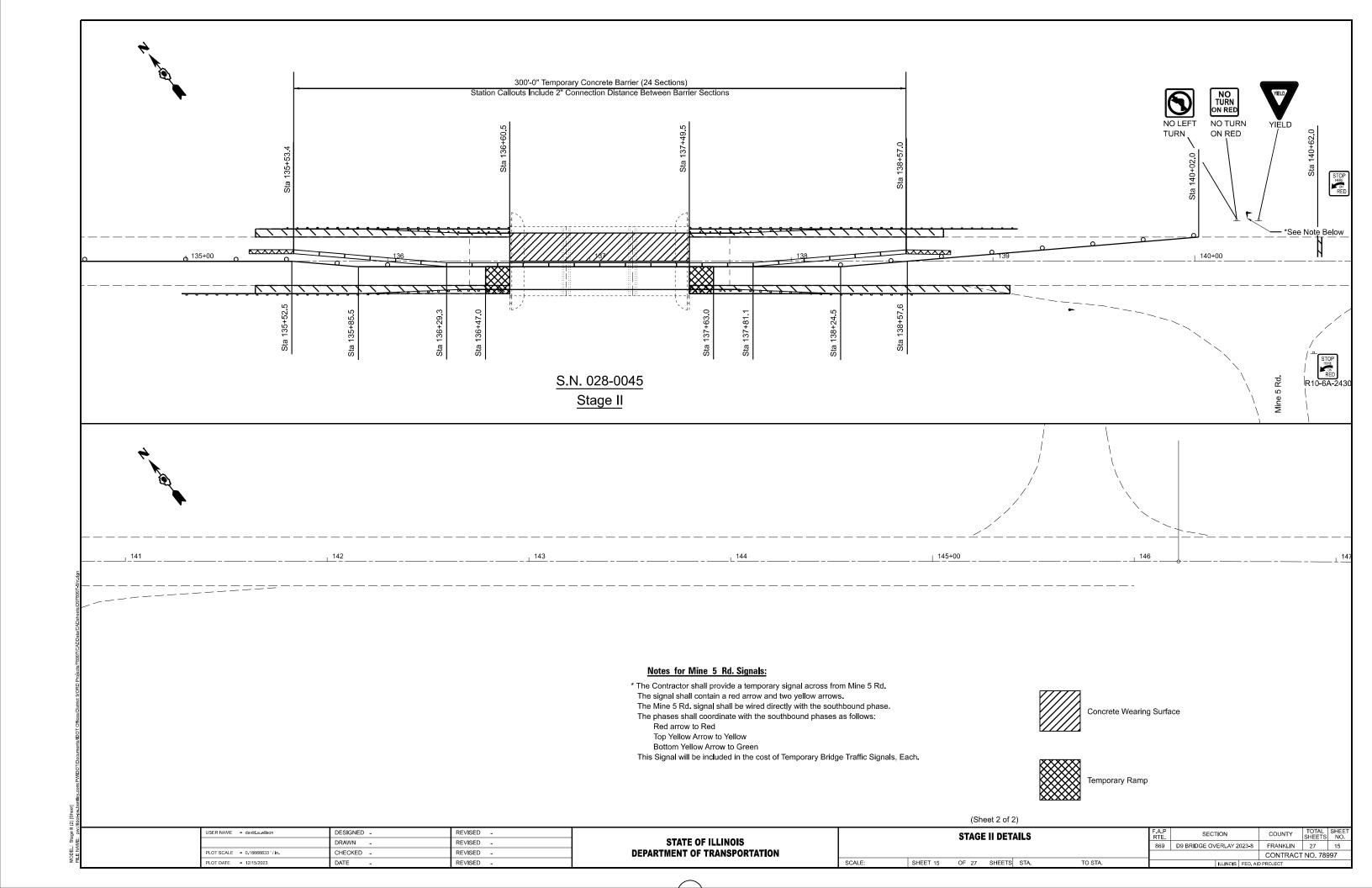
HMA BUTT-JOINT WITH MILLING PROPOSED PCC BASE COURSE WIDENING - **ℚ** IL 34 PROPOSED PCC BASE COURSE WIDENING SN 028-0044 - STA 125+35.5 SN 028-0044 - STA 126+24.5 SN 028-0045 - STA 136+60.5 SN 028-0045 - STA 137+49.5 TRANSITION ½" HMA SURFACE REMOVAL 25' VARIABLE HMA SURFACE COURSE 20' HMA SURFACE REMOVAL 25' VARIABLE HMA BINDER COURSE CONCRETE WEARING SURFACE, 5" -BUTT JOINT BRIDGE DECK SCARIFICATION, 11/2" 13.5' TEMP. RAMP TEMP. RAMP 1¼" MIN— 1½" MIN-HMA BINDER COURSE, 11/4" HMA SURFACE COURSE, 11/2' EXISTING HMA RESURFACED EXISTING PAVEMENT EXISTING BRIDGE DECK BRIDGE APPROACH **SECTION A-A** JSER NAME = david a wilson DESIGNED -REVISED -HI |A BUTT-JOINT DETAILS STATE OF ILLINOIS DRAWN -REVISED -SN 028-0044 & SN 028-0045 **DEPARTMENT OF TRANSPORTATION** CHECKED -REVISED CONTRACT NO. 78997 PLOT DATE = 12/4/2023 DATE REVISED SHEET 10 OF 27 SHEETS STA. TO STA.

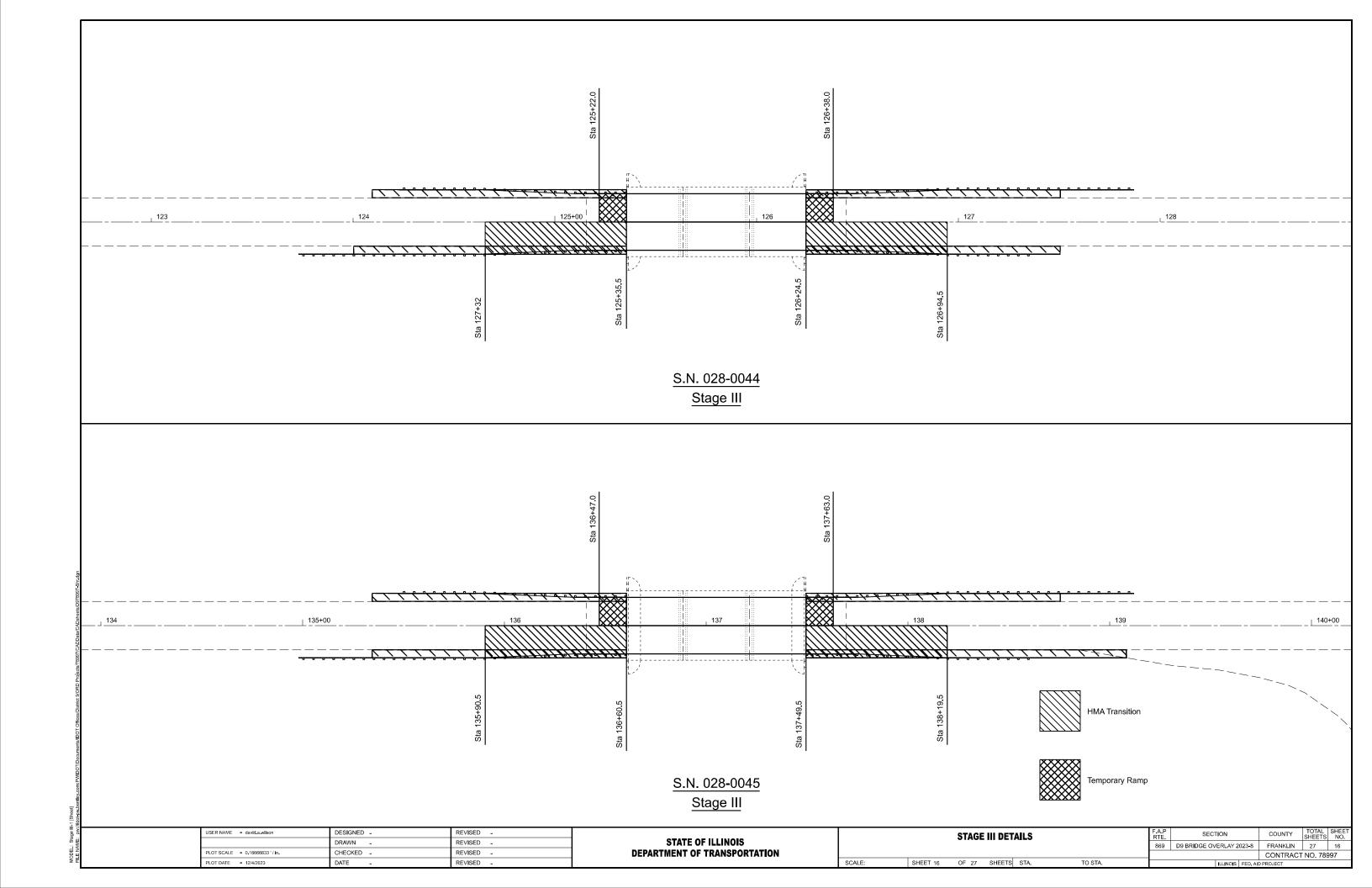


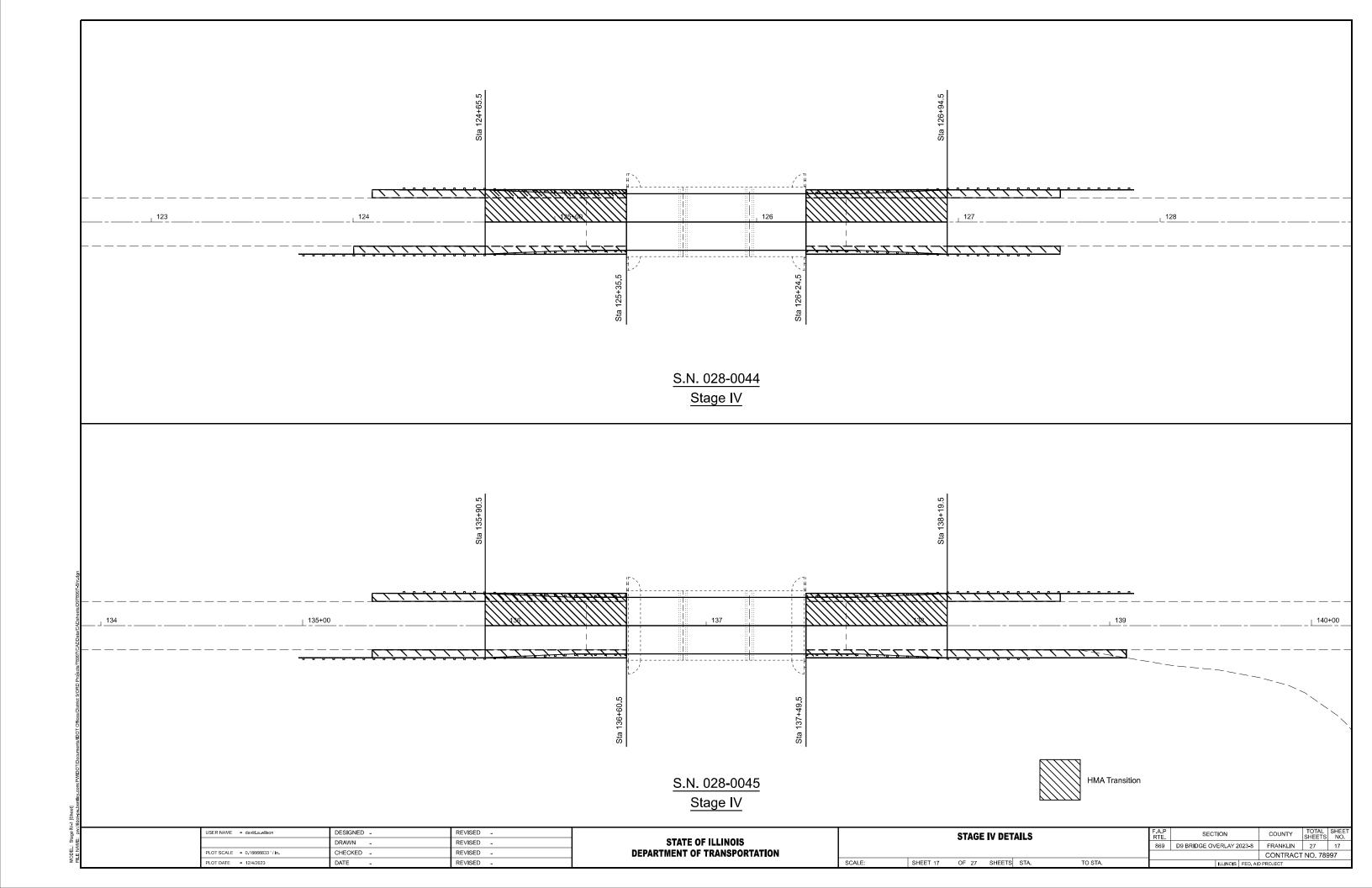


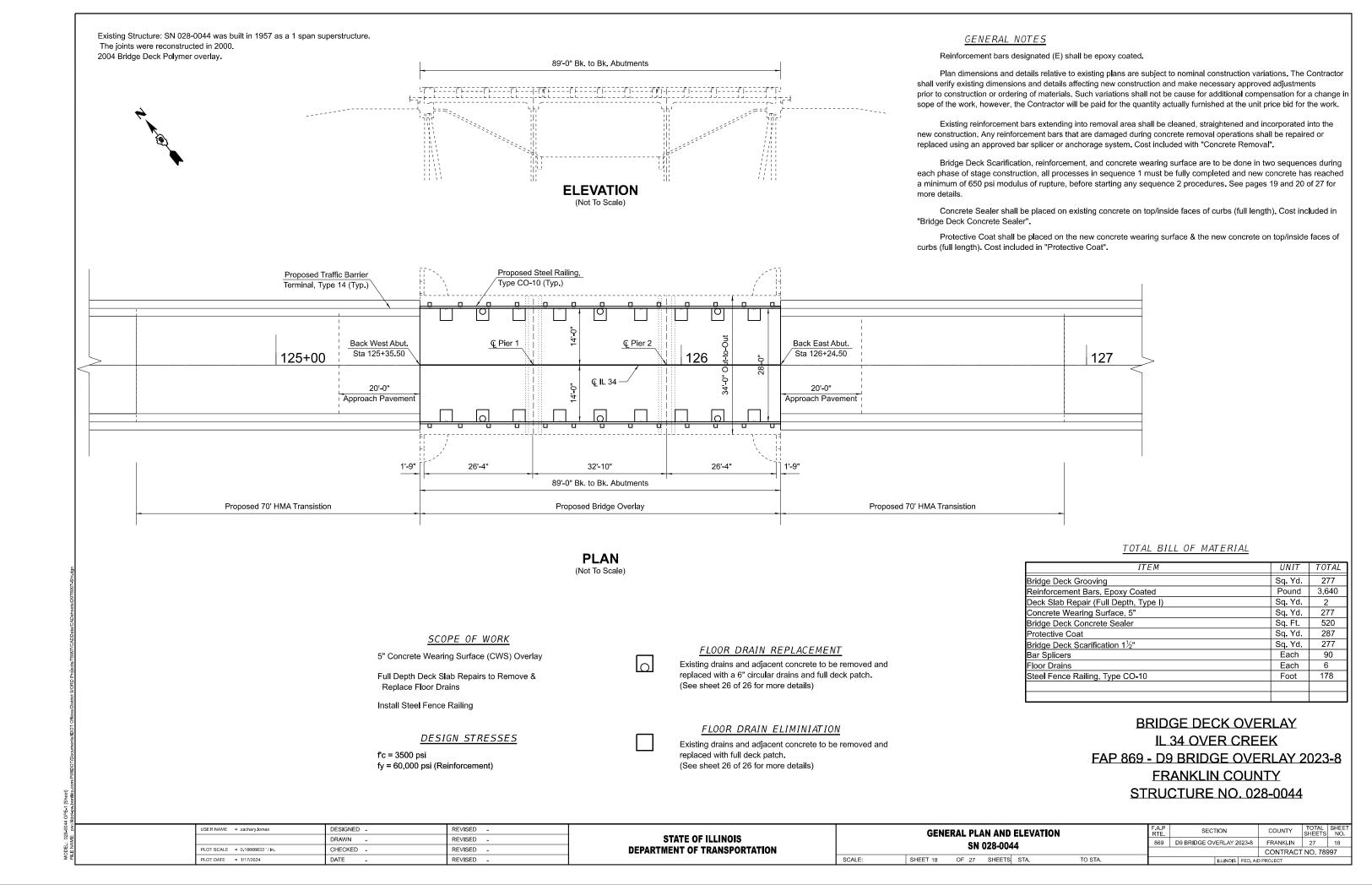


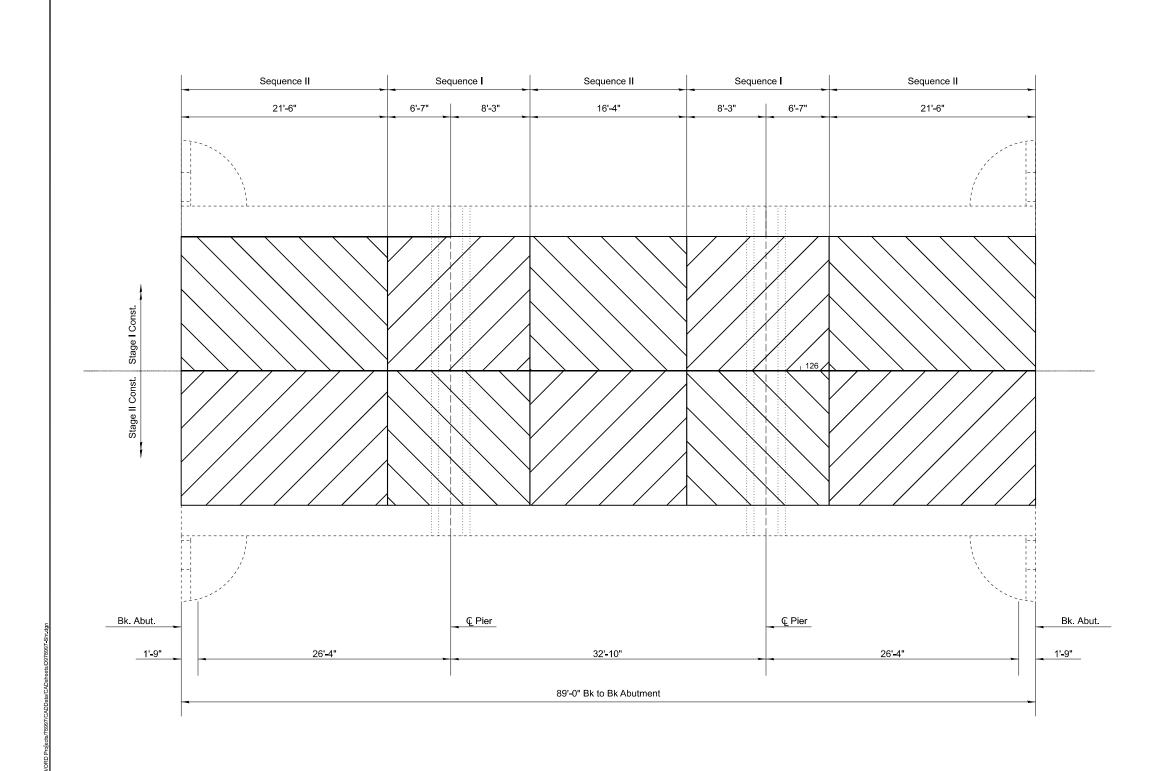












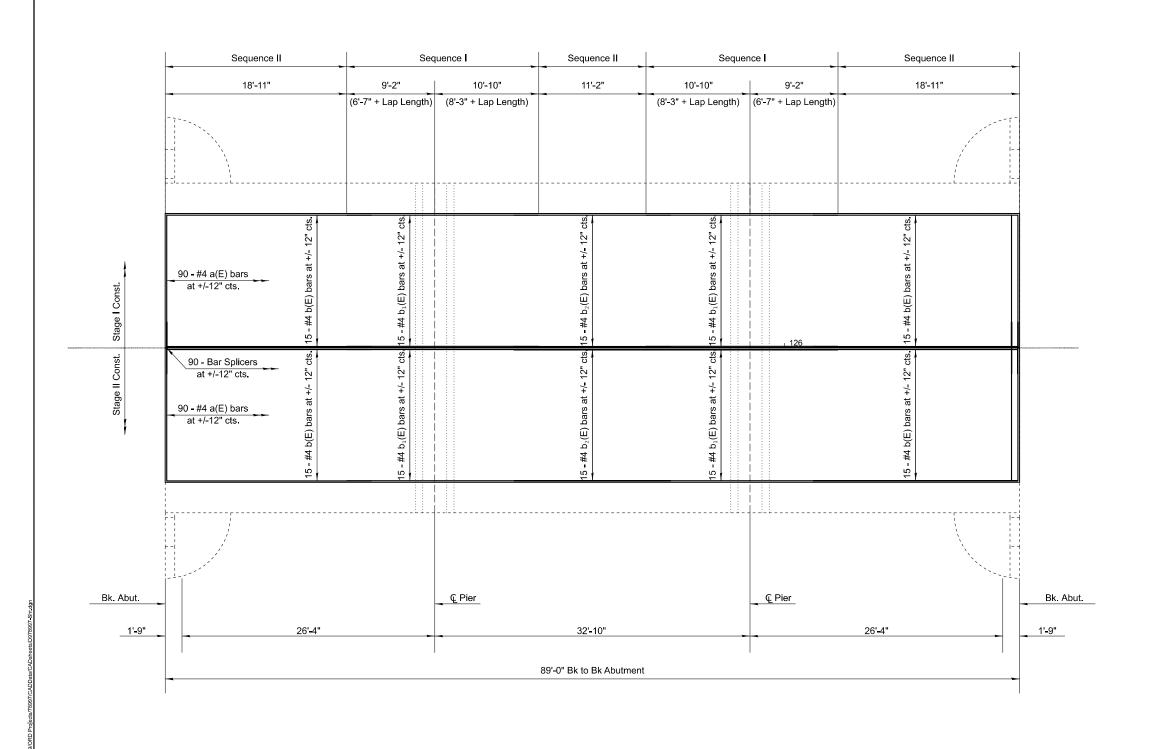
S.N. 028-0044 SUPERSTRUCTURE BILL OF MATERIAL

. Yd.	277
Yd.	277
. Ft.	520
Yd.	287
	. Yd. . Ft. . Yd.

USER NAME = zachary.lomax	DESIGNED -	REVISED -
	DRAWN -	REVISED -
PLOT SCALE = 0.16666633 ' / in.	CHECKED -	REVISED -
PLOT DATE = 1/17/2024	DATE -	REVISED -

SCALE:

CONCR	ETE WE	URFACE	PLAN	F.A.P RTE	SECTION	COUNTY	TOTAL SHEETS	SHEE NO.		
SN 028-0044					869	D9 BRIDGE OVERLAY 2	023-8	FRANKLIN	27	19
3N U20-UU44								CONTRACT	NO. 789	997
SHEET 19	OF 27	SHEETS	STA.	TO STA.		ILLINOIS	FED. AII	O PROJECT		



Provide Lap Length #4 bars = 2'-7"

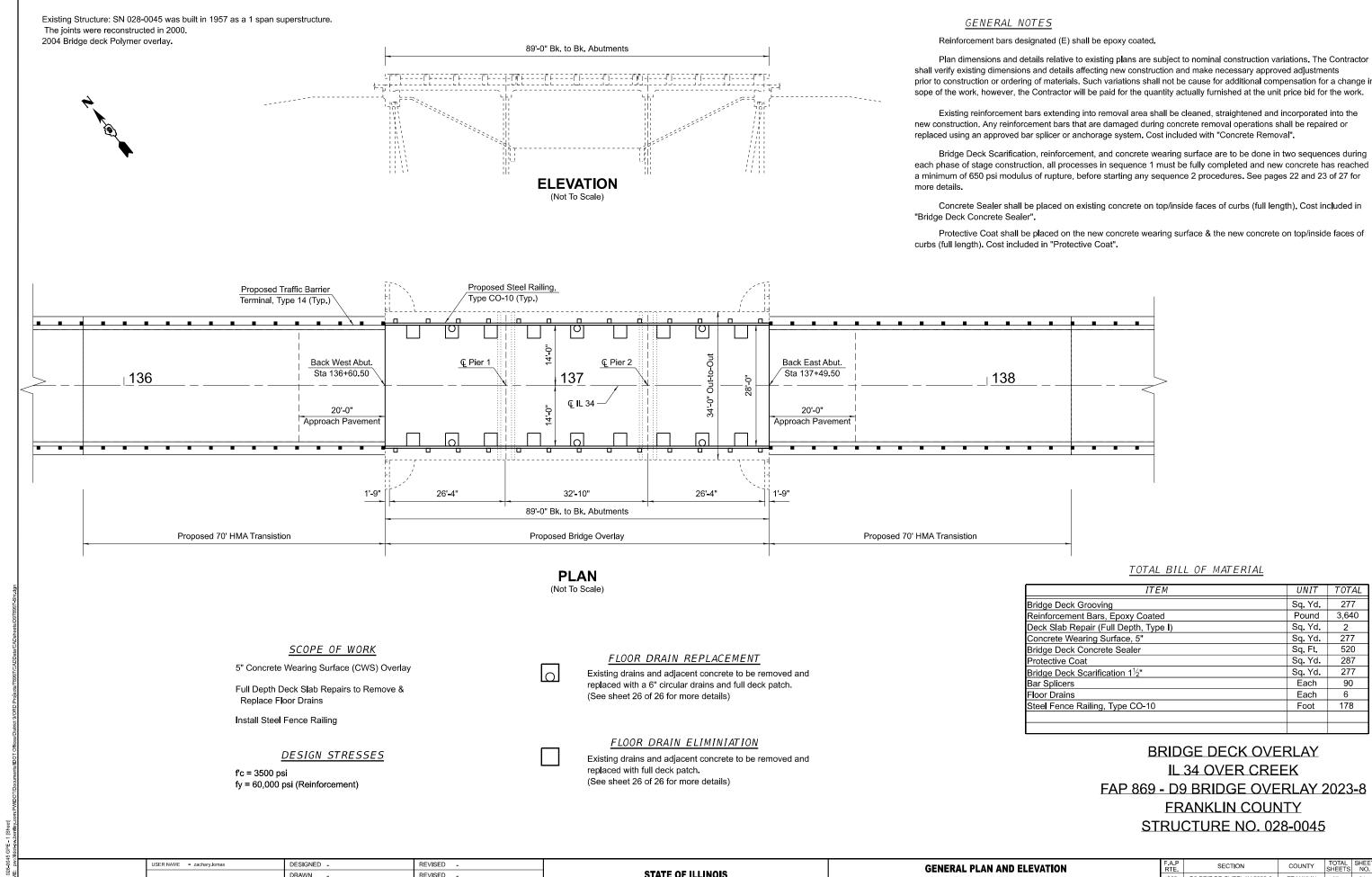
<u>S.N. 028-0044</u> <u>SUPERSTRUCTURE</u> BILL OF MATERIAL

Bar	No.	Size	Length	Shape		
a(E)	180	#4	13'-9"			
b(E)	60	#4	21'-4"			
b1(E)	1(E) 60 #4		20'-0"			
b2(E)	30	#4	16' - 4"			
Reinfor Epoxy (cement Ba Coated	Pound	3,640			
Bar Spl	icers	Each	90			
Bridge De	eck Scarifc	Sq. Yd.	277			

USER NAME = zachary.lomax	DESIGNED -	REVISED -
	DRAWN -	REVISED -
PLOT SCALE = 0.16666633 ' / in.	CHECKED -	REVISED -
PLOT DATE = 1/17/2024	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SCALE:



CHECKED

DATE

PLOT DATE = 1/17/2024

REVISED

REVISED

SECTION **GENERAL PLAN AND ELEVATION** STATE OF ILLINOIS 869 D9 BRIDGE OVERLAY 2023-8 FRANKLIN SN 028-0045 **DEPARTMENT OF TRANSPORTATION** SCALE: SHEET 21 OF 27 SHEETS STA. TO STA.

UNIT TOTAL

277

3,640

277

520

287

277

90

178

Sq. Yd.

Pound

Sq. Yd.

Sq. Yd.

Sq. Ft.

Sq. Yd.

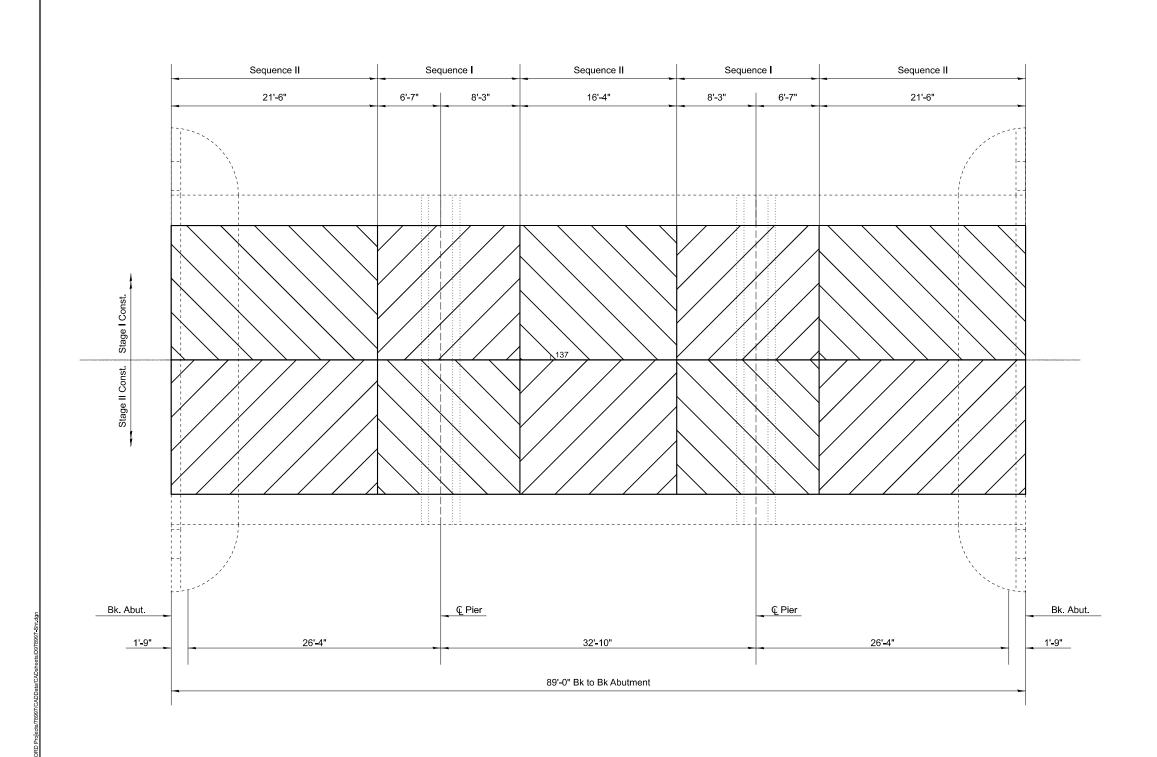
Sq. Yd.

Each

Each

Foot

CONTRACT NO. 78997



S.N. 028-0045 SUPERSTRUCTURE BILL OF MATERIAL

Item	Unit	Quantity
Concrete Wearing Surface, 5"	Sq. Yd.	277
Bridge Deck Grooving	Sq. Yd.	277
Bridge Deck Concrete Sealer	Sq. Ft.	520
Protective Coat	Sq. Yd.	287

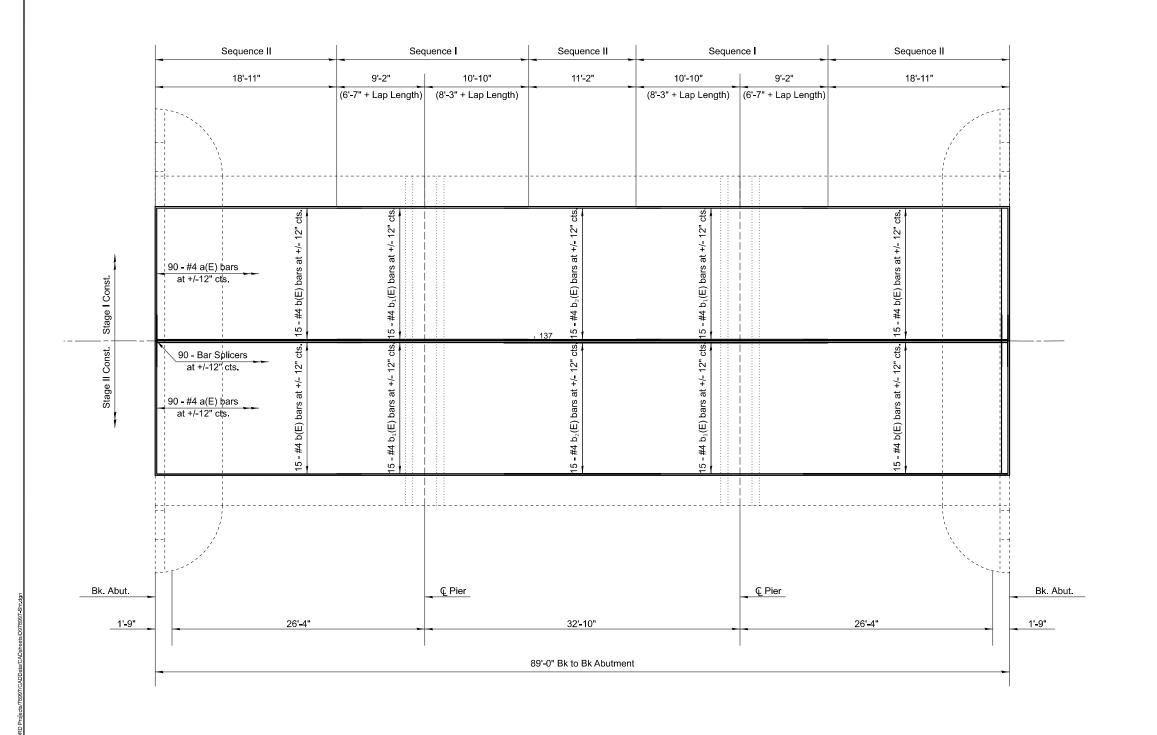
USER NAME = zachary.lomax DESIGNED -REVISED -DRAWN -REVISED -CHECKED -REVISED -PLOT DATE = 1/17/2024 DATE REVISED -

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

SCALE:

CONCRETE WEARING SURFACE PLAN SN 028-0045 SHEET 22 OF 27 SHEETS STA. TO STA.
 F.A.P RTE.
 SECTION
 COUNTY
 TOTAL SHEETS
 SHEETS NO.

 869
 D9 BRIDGE OVERLAY 2023-8
 FRANKLIN
 27
 22
 CONTRACT NO. 78997



Provide Lap Length #4 bars = 2'-7"

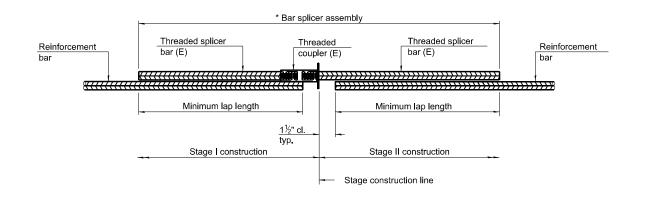
<u>S.N. 028-0045</u> <u>SUPERSTRUCTURE</u> BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	180	#4	13'-9"	
b(E)	60	#4	21'-4"	
b1(E)	60	#4	20'-0"	
b2(E)	30	#4	16' - 4"	
Reinforcement Bars, Epoxy Coated		Pound	3,640	
Bar Splicers		Each	90	
Bridge Deck Scarifcation 1½"		Sq. Yd.	277	

USER NAME = zachary.lomax	DESIGNED -	REVISED -
	DRAWN -	REVISED -
PLOT SCALE = 0.16666633 ' / in.	CHECKED -	REVISED -
PLOT DATE = 1/17/2024	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SCALE:



STANDARD BAR SPLICER ASSEMBLY PLAN

Only bar splicer assemblies as presented on the approved QPL list may be used.

Threaded splicer bar length = min. lap length + 1½" + thread length

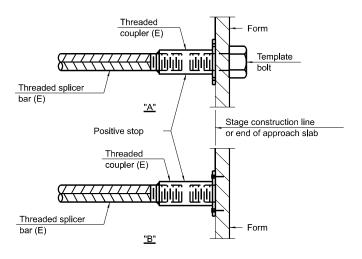
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

SN 028-0045

Location	Bar size	No. assemblies required	Minimum lap length
Wearing Surface	#4	90	2'-7"

SN 028-0044

Location	Bar size	No. assemblies required	Minimum lap length
Wearing Surface	#4	90	2'-7"

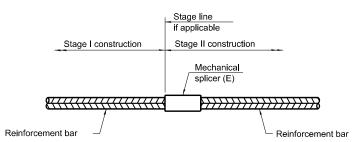


INSTALLATION AND SETTING METHODS

"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 size	No. assemblies required

Notes:

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

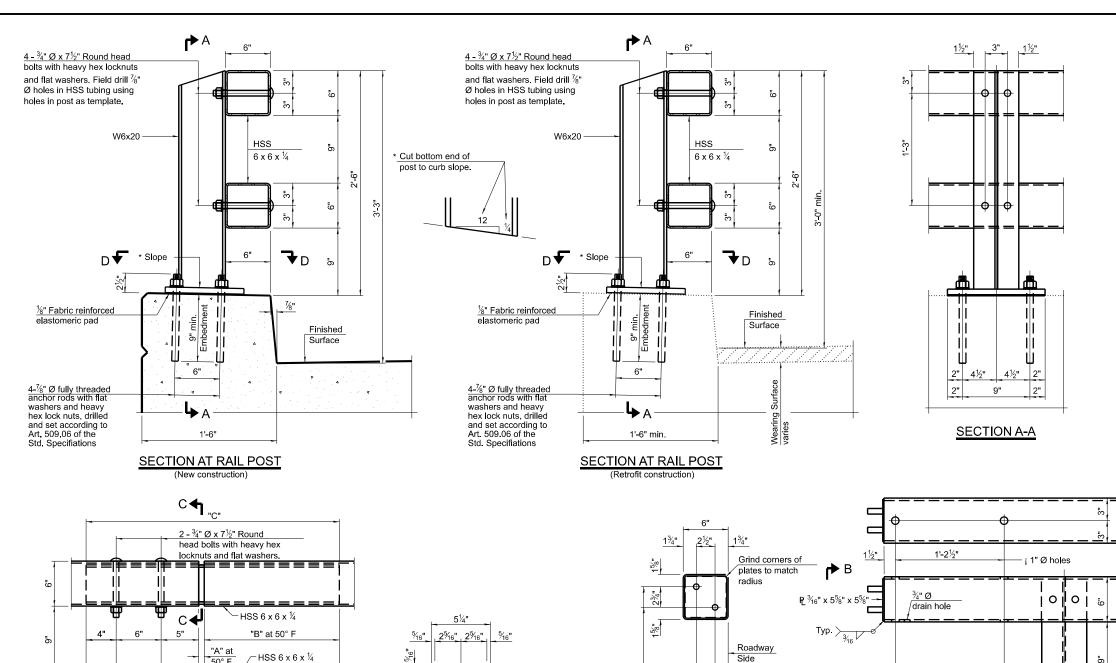
All reinforcement shall be lapped and tied to the splicer bars.

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 2-1-2023

BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS STRUCTURE NO. 028-0044 STRUCTURE NO. 028-0045

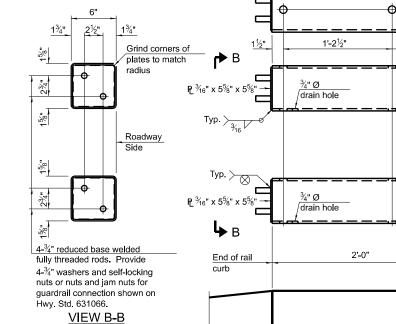
JSER NAME = david.a.wilson DESIGNED -REVISED -SECTION COUNTY BAR SPLICER ASSEMBLY DETAILS STATE OF ILLINOIS DRAWN REVISED 869 D9 BRIDGE OVERLAY 2023-8 FRANKLIN 27 24 SN 028-0044 & SN 028-0045 CHECKED -REVISED **DEPARTMENT OF TRANSPORTATION** CONTRACT NO. 78997 SHEET 24 OF 27 SHEETS STA. TO STA. PLOT DATE = 12/4/2023 DATE REVISED



PL3/8" x 45/8" x "C" each side

<u>P 5/16" x 45/8" x "C"</u>

top and bottom



TOP AND BOTTOM RAIL SPLICE ELEVATION

50° F

- Rail splice insert

RAILING CRITERIA

 $2 - \frac{3}{4}$ " Ø x $7\frac{1}{2}$ "

H.S. bolts with

heavy hex locknuts

and flat washers.

MASH 2016 Test Level	4		
Railing Weight (plf)	75		
Min f'c (psi)	4,500		
Post Spacing Range	6'-8" - 10'-0'		
R-42	2 10-12-2021		

SPLICE DIMENSIONS

SECTION C-C

Location	T	Α	В	С
All locs. not over exp. jts.	0	1/2"	1'-6"	2'-9½"
Over Strip Seal Jt.	≤4"	2½"	1'-8"	3'-1½"
Over Finger or Modular Jt.	≤9½"	5½"	1'-10¾"	3'-71/4"
Over Finger or Modular Jt.	≤15"	8¼"	2'-1½"	4'-0¾"

T = ; total movement along centerline of roadway at expansion joint.

Notes:

All HSS tubing shall be ASTM A500 grade C. All plates shall be AASHTO M270 grade 50. All heavy hex nuts shall be according to ASTM A563 grade DH.

All fully threaded anchor rods shall be ASTM F1554 grade 105.

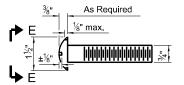
The post base plate shall be fastened to the curb snug tight and given an additional 1/8" turn. Posts shall not be located closer than 2'-6" to a bridge expansion joint.

Provide one $\frac{1}{8}$ " and two $\frac{1}{16}$ " steel shims for 25% of the posts. Shims shall be similar to base plates in size and holes.

All steel rail elements shall be galvanized according to Article 509,05 of the Standard Specifications. All HSS tubing shall be CVN tested according to Article 1006.34(b) of the Standard Specifications.

Rail splice inserts may be built out of 2 -%" bent plates in lieu of the 4 plate rail splice inserts shown, provided the outside dimensions are matched.

All round head bolts shall be ASTM A449. The centerline of rail splices shall be placed between 1'-8" to 2'-6" from the centerline of the posts. The free end of the splice tube shall be oriented



away from the closest post.

ROUND HEAD BOLT DETAIL



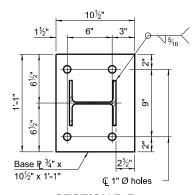
With Slot (shown) or Approved Recess

 \bigcirc

Without Slot

or Recess

VIEW E-E



SECTION D-D

BILL OF MATERIAL

SN 028-0044

Item	Unit	Quantity
Steel Railing, Type CO-10	Foot	178

BILL OF MATERIAL

SN 028-0045

TO STA.

Item	Unit	Quantity
Steel Railing, Type CO-10	Foot	178

JSER NAME = david.a.wilson DESIGNED -REVISED DRAWN REVISED CHECKED -REVISED LOT DATE = 12/4/2023 DATE REVISED

STATE OF ILLINOIS **DEPARTMENT OF TRANSPORTATION**

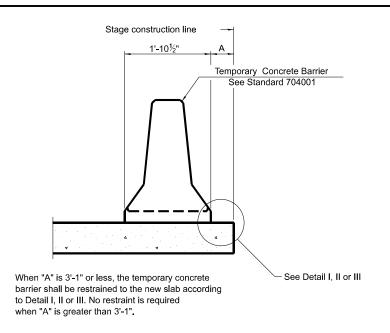
STEEL RAILING DETAILS SN 028-0044 & SN 028-0045 SHEET 25 OF 27 SHEETS STA.

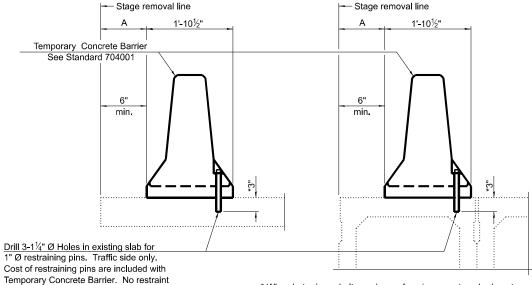
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STEEL RAILING, TYPE CO-10 STRUCTURE NO. 028-0044 STRUCTURE NO. 028-0045

END OF RAIL DETAILS

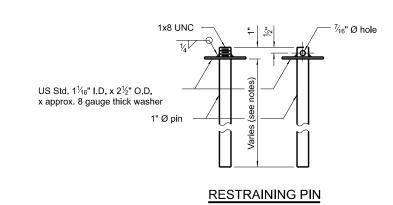
SECTION COUNTY 869 D9 BRIDGE OVERLAY 2023-8 FRANKLIN 27 25 CONTRACT NO. 78997





* When hot-mix asphalt wearing surface is present, embedment shall be 3" plus the wearing surface depth.

EXISTING DECK BEAM



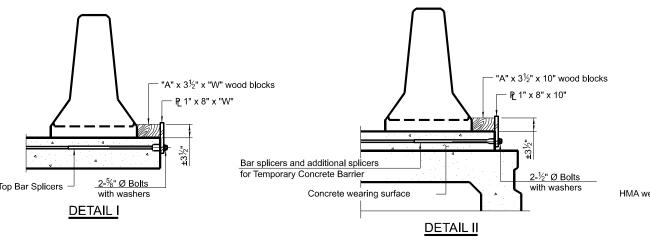
BAR SPLICER FOR #4 BAR - DETAIL III

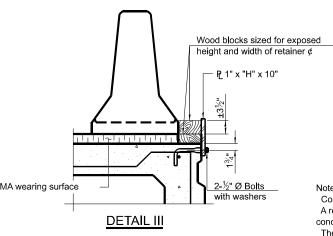
NEW SLAB OR NEW DECK BEAM

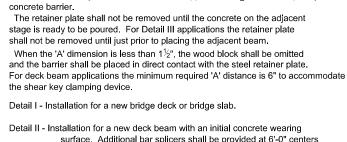
SECTIONS THRU SLAB OR DECK BEAM

EXISTING SLAB

is required when "A" is greater than 3'-1".







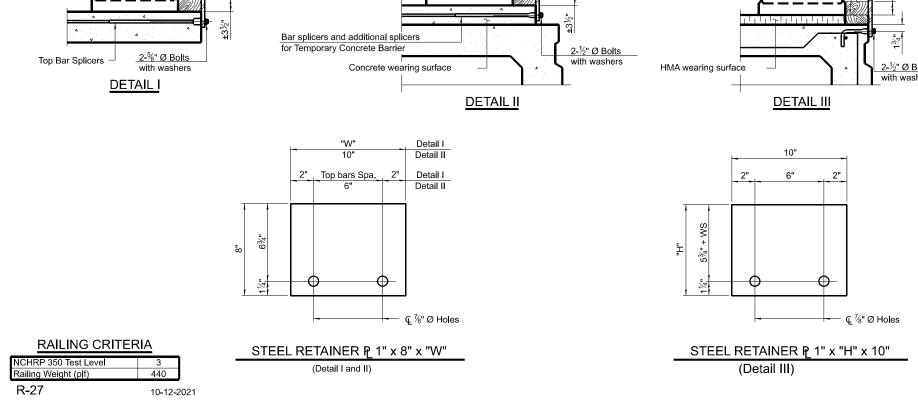
Detail II - Installation for a new deck beam with an initial concrete wearing surface. Additional bar splicers shall be provided at 6'-0" centers and paired with the bar splicers of the concrete wearing surface reinforcement to accommodate the installation of the retainer assemblies. The cost of the additional bar splicers is included with the concrete wearing surface.

Cost of retainer assembly is included with Temporary Concrete Barrier.

A retainer assembly shall be located at the approximate Q of each temporary

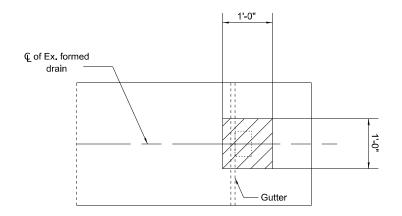
Detail III - Installation for a new deck beam with no initial wearing surface or with an initial hot-mix asphalt (HMA) wearing surface present. The deck beam directly beneath the temporary concrete barrier shall be fabricated with bar splicer inserts in the side of the beam, as detailed, to accommodate the installation of the retainer assemblies. A pair of bar splicers, 6" apart, shall be placed at 6'-0" centers along the length of the beam. The cost of the bar splicers is included with the deck beam.

TEMPORARY CONCRETE BARRIER
STRUCTURE NO. 028-0044
STRUCTURE NO. 028-0045

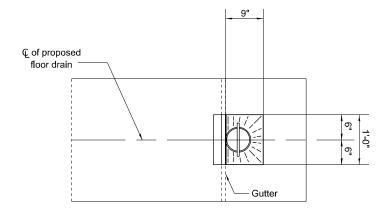


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STRUCTURE NO. 028-0044	
STRUCTURE NO. 028-0045	

USER NAME = david.a.wilson	DESIGNED -	REVISED -		TEMPORARY CONCRETE BARRIER DETAILS			F.A.P RTF	SECTION	COUNTY	TOTAL	SHEET			
	DRAWN -	REVISED -	STATE OF ILLINOIS					028-0045	AILU	869	D9 BRIDGE OVERLAY 2023-8	FRANKLIN	27	26
PLOT SCALE = 0.16666633 1 / in.	CHECKED -	REVISED -	DEPARTMENT OF TRANSPORTATION		91/	1 020-00	44 & 3N	028-0045				CONTRAC	T NO. 789	97
PLOT DATE = 12/4/2023	DATE -	REVISED -		SCALE:	SHEET 26	OF 27	SHEETS	STA.	TO STA.		ILLINOIS FED. AII	D PROJECT		

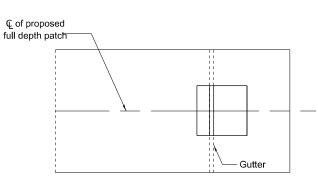


PLAN-REMOVAL OF EXISTING FORMED OPENING AND ADJACENT CONCRETE

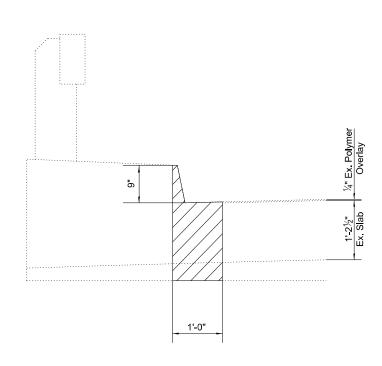


PLAN-PROPOSED FLOOR DRAIN & FULL DEPTH PATCH

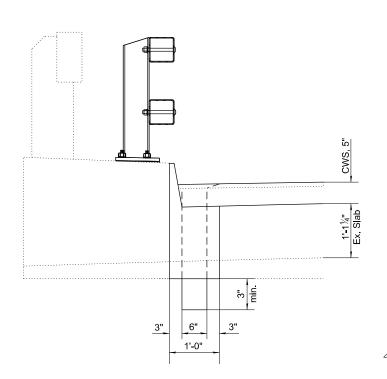
(See sheet 17 and 20 of 26 for locations to replace formed drain with floor drains & full depth patch)



PLAN-PROPOSED FULL DEPTH PATCH
@ ELIMINATED FLOOR DRAINS

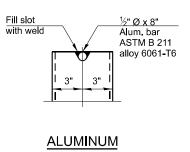


SECTION-REMOVAL OF EXISTING FORMED OPENING AND ADJACENT CONCRETE



SECTION-PROPOSED FLOOR DRAIN & FULL DEPTH PATCH

(Place top of drain 1" below top of proposed CWS)

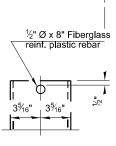


<u>ALUMINUM</u> <u>TUBE</u>

6" O.D. Aluminum tube alloy 6061-T6 or 6" φ fiberglass pipe

TOP PLAN

(Showing aluminum tube)



FIBERGLASS PIPE

BILL OF MATERIAL SN 028-044

ITEM	UNIT	TOTAL
eck Slab Repair (Full Depth, Type I)	Sq. Yd.	2
por Drains	Each	6

BILL OF MATERIAL SN 028-045

ITEM	UNIT	TOTAL
Peck Slab Repair (Full Depth, Type I)	Sq. Yd.	2
loor Drains	Each	6

JSER NAME = zachary.lomax DESIGNED -REVISED -**DRAIN DETAILS** SECTION COUNTY STATE OF ILLINOIS DRAWN REVISED -869 D9 BRIDGE OVERLAY 2023-8 FRANKLIN 27 27 SN 028-0044 & SN 028-0045 DEPARTMENT OF TRANSPORTATION PLOT SCALE = 0.16666633 '/ in. CHECKED -REVISED -CONTRACT NO. 78997 SCALE: SHEET 27 OF 27 SHEETS STA. TO STA. PLOT DATE = 1/17/2024 DATE REVISED -