12-13-2024 SPECIAL LETTING ITEM 015

0

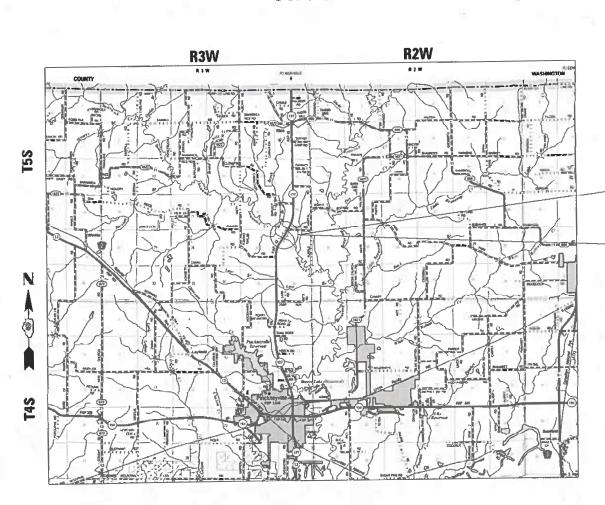
0

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

PROPOSED HIGHWAY PLANS

FAP ROUTE 42 (IL 127)
SECTION (8-1B,8-1B-1)BRR-1
BR-U6D3(736)
BRIDGE REPAIR
PERRY COUNTY

C-99-029-24



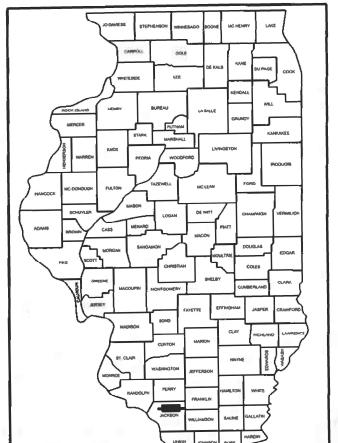
GROSS LENGTH = 590 FT. = 0.111 MILE NET LENGTH = 590 FT. = 0.111 MILE

D-99-006-24

(8-18,8-18-1)BRR-1

PERRY

CONTRACT NO. 78A27



SN 073-0026

IL 127 OVER SWANWICK CREEK OVERFLOW PERRY COUNTY

SN 073-0025

IL 127 OVER SWANWICK CREEK PERRY COUNTY

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUBMITTED Angust 15 20 2 4

REGIONAL ENGINEER

October 4, 2024

ENGINEER OF DESIGN AND ENVIRONMENT
October 4, 2024

DIRECTOR OF HIGHWAYS PROJECT IMPLEMENTATION 13

LOCATION OF SECTION INDICATED THUS: - -

PRINTED BY THE AUTHORITY OF THE STATE OF ILLINOIS

FOR SUMMARY OF QUANTITIES, SEE SHEET NO. 3

TRAFFIC DATA

STRUCTURE NO. 073-0025 & 073-0026 2024 ADT = 3,400 11.91% Trucks

TOWNSHIPS

BEAUCOUP PINCKNEYVILLE NO. 6/8

DESIGN DESIGNATION: N/A

COORDINATE SYSTEM: N/A

POSTED SPEED: 55 MPH



FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

J.U.L.I.E.
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION
1-800-892-0123
OR 811

PROJECT ENGINEER EHREN KIRBY PROJECT MANAGER DEREK SNIDER

CONTRACT NO. 78A27

Prepared By: DISTRICT STUDIES & PLANS ENGINEER

Examined By: DISTRICT LAND ACQUISITION ENGINEER

Examined By:

DISTRICT PROGRAM DEVELOPMENT ENGINEER

Examined By: DISTRICT OPERATIONS ENGINEER

Examined By:

DISTRICTPROJECT IMPLEMENTATION ENGINEER

Examined By:

Burnell By: DISTRICT CONSTRUCTION ENGINEER

Examined By: Aan Day

SIGNATURE SHEET STATE OF ILLINOIS REVISED -**DEPARTMENT OF TRANSPORTATION** CHECKED REVISED CONTRACT NO. 78A27

INDEX OF SHEETS

I COVER SHEET

2 SIGNATURES

3 GENERAL NOTES, INDEX OF SHEETS, AND STANDARDS

4-6 SUMMARY OF QUANTITIES

7-II SN 073-0025 REPAIR DETAILS

I2-I6 SN 073-0025 & SN 073-0026 DETAIL SHEETS

SN 073-0026 REPAIR DETAILS

17-22

STANDARDS

80-100000 STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS AREAS OF REINFORCEMENT BARS 001001-02 OFF-ROAD OPERATIONS, 2L, 2W, MORE THAN 15' AWAY 701001-02 OFF-ROAD OPERATIONS, 2L, 2W, 15' to 24" FROME PAVEMENT EDGE 701006-05 LANE CLOSURE, 2L, 2W DAY ONLY 701201-05 LANE CLOSURE, 2L, 2W, BRIDGE REPAIR WITH BARRIER 701321-18 LANE CLOSURE, 2L ,2W, PAVEMENT WIDENING, FOR SPEEDS 2 45 MPH 701326-04 701901-09 TRAFFIC CONTROL DEVICES 704001-08 TEMPORARY CONCRETE BARRIER 780001-05 TYPICAL PAVEMENT MARKINGS 862001-01 UNINTERRUPTABLE POWER SUPPLY (UPS) 001006 DECIMAL OF AN INCH AND OF A FOOT 420001-10 PAVEMENT JOINTS 631031-18 TRAFFIC BARRIER TERMINAL, TYPE 6 643001-02 SAND MODULE IMPACT ATTENUATORS 782006-01 GUARDRAIL AND BARRIER WALL REFLECTOR MOUNTING DETAILS

GENERAL NOTES

FACTORS USED FOR ESTIMATING PLAN QUANTITIES ARE AS FOLLOWS AND SHALL NOT BE USED FOR THE BASIS OF FINAL QUANTITIES:
ALL HOT MIX ASPHALT
2.016 TONS/CU YD

COMMITMENTS: NONE

MIX REQUIREMENTS

Location(s):	Hot-Mix Asphalt Surface Course (IL-127)
Mixture Use(s):	Hot-Mix Asphalt Surface Course, Mix C, N70
PG:	PG64-22
Design Air Voids:	4.0%, 70 Gyration Design
Mixture Composition:(Gradation Mixture)	IL-9.5mm
Friction Aggregate:	Mix C
Mixture Weight:	112 lbs/sq yd/in
Quality Management Program:	QC/QA
Sublot Size:	3000 tons
Material Transfer Device (Required?):	No

REV - MS

USER NAME = derek.snider	DESIGNED -	REVISED -		IN	DRY OF SI	ET SG	IN IRAI	I NOT F	S TAND	R DS	F.A.P RTF.	SECTION	COUNTY	TOTAL	SHEET
	DRAWN -	REVISED -	STATE OF ILLINOIS	IN DEK OF SHIET ŞG EN ERAL NOT EŞ STAN DAR DS			in Do	42	(8-1B.8-1B-1)BRR-1	PERRY	22	3			
	CHECKED -	REVISED -	DEPARTMENT OF TRANSPORTATION									(CONTRAC		A27
PLOT DATE = 8/6/2024	DATE -	REVISED -		SCALE:	SHEET	OF	SHEET	S STA.		TO STA.		ILLINOIS FED.	IID PROJECT		

SUMMARY OF QUANTITIES

COUNTY:	PERRY CO	PERRY CO
ROUTE:	FAP 42 (IL 127)	FAP 42 (IL 127)
FUNDING:	80% FEDERAL 20% STATE	80% FEDERAL 20% STATE
LOCATION:	BRIDGE	BRIDGE
TOTAL	SN 073-0025	SN 073-0026
QUANTITY	0013	0013
373	184	189

			LOCATION:	BRIDGE	BRIDGE
CODE	ITEM DESCRIPTION	UNIT	TOTAL	SN 073-0025	SN 073-0026
NUMBER	TIEM DESCRIPTION	81111	QUANTITY	0013	0013
35400500	PORTLAND CEMENT CONCRETE BASE COURSE WIDENING 10"	SQ YD	373	184	189
				•	
40600290	BITUMINOUS MATERIALS (TACK COAT)	POUND	240	120	120
40604052	HOT-MIX ASPHALT SURFACE COURSE, IL-9.5, MIX "C", N70	TON	60	30	30
44000157	HOT-MIX ASPHALT SURFACE REMOVAL, 2"	SQ YD	536	268	268
44004250	PAVED SHOULDER REMOVAL	SQ YD	373	184	189
				· · · · · · · · · · · · · · · · · · ·	
50102400	CONCRETE REMOVAL	CU YD	28.9	14.3	14.6
50300255	CONCRETE SUPERSTRUCTURE	CU YD	29.1	14.3	14.8
50300260	BRIDGE DECK GROOVING	SQ YD	1,689	639	1,050
			0		
50300300	PROTECTIVE COAT	SQ YD	1,816	693	1123
					-
50500405	FURNISHING AND ERECTING STRUCTURAL STEEL	POUND	6,400	3,200	3,200
					5
50500505	STUD SHEAR CONNECTORS	EACH	216	108	108
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	2,380	1,190	1,190
50800515	BAR SPLICERS	EACH	48	24	24
					_
52000110	PREFORMED JOINT STRIP SEAL	FOOT	184	92	92
E0000300	EDOXY CDACK INJECTION	FOOT	F.O.	0	F0
59000200	EPOXY CRACK INJECTION	FOOT	58	0	58

REV - MS

PLOT DATE = 8/13/2024	DATE	REVISED =
	CHECKED	REVISED -
	DRAWN -	REVISED
USER NAME = derek.snider	DESIGNED 12-	REVISED =

STATE OF ILLINOIS					
DEPARTMENT OF TRANSPORTATION					

	SUMMARY OF QUANITIES		F.A.P RTE.	SECTION	COUNTY TO					
				42	(8-1B,8-1B-1)BRR-1	PERRY	22			
						CONTRAC	Γ NO. 7			
EET	OF	SHEETS STA.	TO STA.		ILLINOIS FED. AID PROJECT					

SUMMARY OF QUANTITIES - CONT

COUNTY:	PERRY CO	PERRY CO
ROUTE:	FAP 42 (IL 127)	FAP 42 (IL 127)
FUNDING:	80% FEDERAL 20% STATE	80% FEDERAL 20% STATE
LOCATION:	BRIDGE	BRIDGE
TOTAL	CN 072 0025	SN 073-0026

				FUNDING:	80% FEDERAL 20% STATE	80% FEDERAL 20% STATE
				LOCATION:	BRIDGE	BRIDGE
ľ	CODE	ITEM DECCRIPTION	LINIT	TOTAL	SN 073-0025	SN 073-0026
ı	NUMBER	ITEM DESCRIPTION	UNIT	QUANTITY	0013	0013
1						
$_*$	63302700	REMOVE AND REERECT TRAFFIC BARRIER TERMINALS, TYPE 6	EACH	8	4	4
ł				-		
ł				-		
ŀ						
ŀ						
ŀ	67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	8	4	4
ı					*	
ļ	67100100	MOBILIZATION	L SUM	1	0.5	0.5
١						
-	70100405	TRAFFIC CONTROL AND PROTECTION, STANDARD 701321	EACH	2	1	1
-[, 1	
ı	70100450	TRAFFIC CONTROL AND PROTECTION, STANDARD 701201	L SUM	1	0.5	0.5
Ì						
Ì	70100500	TRAFFIC CONTROL AND PROTECTION, STANDARD 701326	L SUM	1	0.5	0.5
Ì					2	
ı	70103815	TRAFFIC CONTROL SURVEILLANCE	CAL DA	12	6	6
ı						
ł	70106500	TEMPORARY BRIDGE TRAFFIC SIGNALS	EACH	2	1	1
ł						
ł	70106700	TEMPORARY RUMBLE STRIPS	EACH	12	6	6
ł	70100700	TEM ONANT NOMBLE STAILS	LACIT	12	0	0
ļ				1 0 0		
ŀ	70107025	CHANGEABLE MESSAGE SIGN	CAL DA	56	28	28
ı					-	
١	70300100	SHORT TERM PAVEMENT MARKING	FOOT	134	63	71
١						
ı	70300150	SHORT TERM PAVEMENT MARKING REMOVAL	SQ FT	45	21	24
	70300221	TEMPORARY PAVEMENT MARKING - LINE 4"- PAINT	FOOT	1,549	671	878
Ì	70400100	TEMPORARY CONCRETE BARRIER	FOOT	787.5	337.5	450.0
ł				-		
-1						

* SPECIALTY ITEM

REV - MS

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	PLOT DATE = 8/13/2024	DATE	REVISED =
		CHECKED	REVISED -
		DRAWN -	REVISED -
	USER NAME = derek.snider	DESIGNED :	REVISED =

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANITIES		F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	S					
				42	(8-1B,8-1B-1)BRR-1	PERRY	22				
						CONTRACT	NO. 78/	2			
HEET	OF	SHEETS STA.	TO STA.	ILLINOIS FED AID PROJECT							

SUMMARY OF QUANTITIES - CONT

ı	COUNTY:	PERRY CO	PERRY CO
ı	ROUTE:	FAP 42 (IL 127)	FAP 42 (IL 127)
ı	FUNDING:	80% FEDERAL 20% STATE	80% FEDERAL 20% STATE
	LOCATION:	BRIDGE	BRIDGE
1	TOTAL	SN 073-0025	SN 073-0026

		FUNDING:	80% FEDERAL 20% STATE	60 % FEDERAL 20 % STATE
		LOCATION:	BRIDGE	BRIDGE
		TOTAL	SN 073-0025	SN 073-0026
TIEM DESCRIPTION	UNII	QUANTITY	0013	0013
RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	737.5	312.5	425.0
IMPACT ATTENUATORS, TEMPORARY (NON- REDIRECTIVE), TEST LEVEL 3	EACH	4	2	2
IMPACT ATTENUATORS, RELOCATE (NON- REDIRECTIVE), TEST LEVEL 3	EACH	4	2	2
PAINT PAVEMENT MARKING - LINE 4"	FOOT	1,549	671	878
RAISED REFLECTIVE PAVEMENT MARKER REMOVAL	EACH	3	2	1
PAVEMENT MARKING REMOVAL - GRINDING	SQ FT	886	396	490
UNINTERRUPTABLE POWER SUPPLY, EXTENDED	EACH	2	1	1
APPROACH SLAB REPAIR (PARTIAL DEPTH)	SQ YD	11	11	0
STRUCTURAL STEEL REMOVAL	POUND	6,400	3,200	3,200
BRIDGE DECK SCARIFICATION 2 3/4"	SQ YD	1,771	671	1,100
BRIDGE DECK MICROSILICA CONCRETE OVERLAY 2 3/4"	SQ YD	1,771	671	1,100
STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 INCHES)	SQ FT	165	9	156
STRUCTURAL REPAIR OF CONCRETE (DEPTH GREATER THAN 5 INCHES)	SQ FT	43	34	9
DECK SLAB REPAIR (FULL DEPTH, TYPE II)	SQ YD	20	0	20
	IMPACT ATTENUATORS, TEMPORARY (NON- REDIRECTIVE), TEST LEVEL 3 IMPACT ATTENUATORS, RELOCATE (NON- REDIRECTIVE), TEST LEVEL 3 PAINT PAVEMENT MARKING - LINE 4" RAISED REFLECTIVE PAVEMENT MARKER REMOVAL PAVEMENT MARKING REMOVAL - GRINDING UNINTERRUPTABLE POWER SUPPLY, EXTENDED APPROACH SLAB REPAIR (PARTIAL DEPTH) STRUCTURAL STEEL REMOVAL BRIDGE DECK SCARIFICATION 2 3/4" STRUCTURAL REPAIR OF CONCRETE OVERLAY 2 3/4" STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 INCHES)	RELOCATE TEMPORARY CONCRETE BARRIER FOOT IMPACT ATTENUATORS, TEMPORARY (NON- REDIRECTIVE), TEST LEVEL 3 EACH IMPACT ATTENUATORS, RELOCATE (NON- REDIRECTIVE), TEST LEVEL 3 EACH PAINT PAVEMENT MARKING - LINE 4" FOOT RAISED REFLECTIVE PAVEMENT MARKER REMOVAL EACH PAVEMENT MARKING REMOVAL - GRINDING SO FT UNINTERRUPTABLE POWER SUPPLY, EXTENDED EACH APPROACH SLAB REPAIR (PARTIAL DEPTH) SO YD STRUCTURAL STEEL REMOVAL POUND BRIDGE DECK SCARIFICATION 2 3/4" SO YD STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 INCHES) SO FT STRUCTURAL REPAIR OF CONCRETE (DEPTH GREATER THAN 5 INCHES) SO FT	ITEM DESCRIPTION UNIT TOTAL QUANTITY RELOCATE TEMPORARY CONCRETE BARRIER FOOT 737.5 IMPACT ATTENUATORS, TEMPORARY (NON- REDIRECTIVE), TEST LEVEL 3 EACH 4 IMPACT ATTENUATORS, RELOCATE (NON- REDIRECTIVE), TEST LEVEL 3 EACH 4 PAINT PAVEMENT MARKING - LINE 4" FOOT 1.549 RAISED REFLECTIVE PAVEMENT MARKER REMOVAL EACH 3 PAVEMENT MARKING REMOVAL - GRINDING SO FT 886 UNINTERRUPTABLE POWER SUPPLY, EXTENDED EACH 2 APPROACH SLAB REPAIR (PARTIAL DEPTH) SO YD 11 STRUCTURAL STEEL REMOVAL POUND 6.400 BRIDGE DECK MICROSILICA CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 INCHES) SO FT 165 STRUCTURAL REPAIR OF CONCRETE (DEPTH GREATER THAN 5 INCHES) SO FT 43	LOCATION: BRIDGE SN 073-0025 SN 073-00

* SPECIALTY ITEM

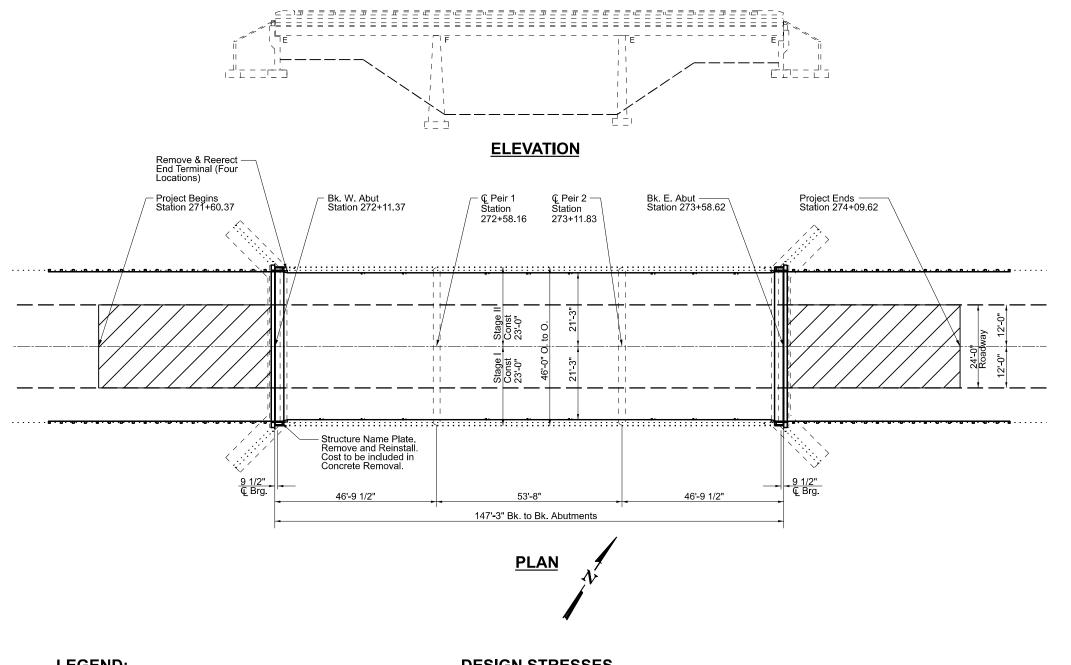
REV - MS

USER NAME = derek.snider	DESIGNED 12	REVISED -
	DRAWN -	REVISED -
	CHECKED	REVISED -
 PLOT DATE = 8/13/2024	DATE	REVISED 2

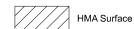
STATE OF ILLINOIS	
DEPARTMENT OF TRANSPORTATION	N

	SUMMAR	Y OF QUANI	TIES	F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
		SUMMARY OF QUANITIES		42	(8-1B,8-1B-1)BRR-1		PERRY	22	6
							CONTRACT	NO. 78/	427
ΞT	OF	SHEETS STA	A. TO STA.		ILLINOIS	FFD All	D PROJECT		

ofullinois.gov_derek.snider@illinois.gov/d0986417\D9xxxxx-ShtC-S



LEGEND:



SCOPE OF WORK

Approach Slab Repair (Partial) Structual Repair of Concrete Preformed Joint Strip Seal Microsillica Deck Overlay

DESIGN STRESSES

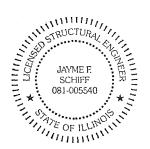
(From Existing Plans)

Design Loading HS 20-44 Design Stresses f'c=3,500 psi fy=60,000psi (Reinf.) fy=27,000 psi (Structure)

(New)

f'c=4,000 psi fy=60,000psi (Reinf.) fy=50,000 psi (M270 Grade 36)

Design Specifications 2002 AASHTO Standard Specifications for Highway Bridges, 17 Edition.



GENERAL NOTES

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.

Plan dimensions and details relative to the existing structure have been taken from existing plans and 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.

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 Std. Specs. when the deck is poured at an ambient temperature other than 50°F.

All structural steel shall conform to AASHTO Classification M-270 Gr. 36, unless otherwise noted

All new structural steel and bearing assembly shall be hot-dip galvanized. See special Provisions for "Hot Dip Galvanizing for Structural Steel"

Existing structural steel that will be in contact with new structual steel shall be cleaned and painted prior to erection as required by the Special Provision "Cleaning and Painting Contact Surface Areas of Existing Steel Structures".

Protective Coat shall be applied to all new concrete superstructure and all new concrete overlays as specified in Article 503.19 of Standard Specifications.

Fasteners shall be ASTM F 3125 Type 1. Fasteners shall be hot dipped galvanized. See Special Provisions for "Hot Dip Galvanizing for Structural Steel." Diaphragm connection bolts shall be 3/4" diameter, holes 15/16" diameter, unless otherwise noted. Two hardened washers shall be required at diaphragm connections.

Removal of existing diaphragms to be paid for as Structural Steel Removal. New diaphragms and associated hardware to be paid for as Furnishing and Erecting Structural Steel.

TOTAL BILL OF MATERIAL

17544		OLIANIETY
ITEM	UNIT	QUANITY
HMA Surface Course, IL-9.5, Mix "C", N70	Ton	30
HMA Surface Removal 2"	Sq. Yd.	268
Portland Cement Concrete Base Course Widening, 10"	Sq. Yd.	184
Bituminous Material (Tack Coat)	Pound	120
Approch Slab Repair (Partial Depth)	Sq. Yd.	11
Bar Splicers	Each	24
Concrete Superstructure	Cu. Yd.	14.3
Concrete Removal	Cu. Yd.	14.3
Reinforcement Bars, Epoxy Coated	Pound	1190
Preformed Joint Strip Seal	Foot	92
Structual Repair of Concrete (Depth ≤ 5")	Sq Ft	9
Structual Repair of Concrete (Depth ≥ 5")	Sq Ft	34
Protective Coat	Sq. Yd.	693
Bridge Deck Scarification 2 3/4"	Sq Yd.	671
Bridge Deck Microsilica Concrete Overlay 2 3/4"	Sq Yd.	671
Bridge Deck Grooving	Sq Yd.	639
Structural Steel Removal	Pound	3200
Furnishing and Erecting Structural Steel	Pound	3200
Stud Sheer Connectors	Each	108

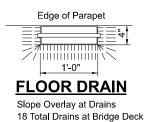
^{*} On New Concrete Only

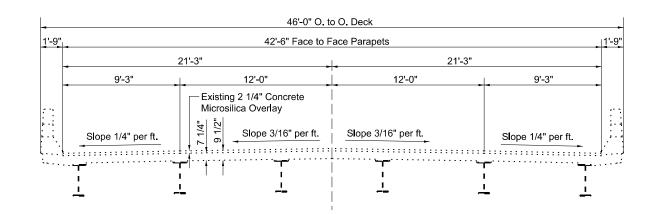
GENERAL PLAN & ELEVATION IL 127 OVER SWANWICK CREEK FAP 42 - (8-1B,1B-1)BRR-1 **PERRY COUNTY STRUCTURE NO. 073-0025**

USER NAME = derek.snider	DESIGNED -	REVISED -
	DRAWN -	REVISED -
	CHECKED -	REVISED -
PLOT DATE = 10/4/2024	DATE -	REVISED -

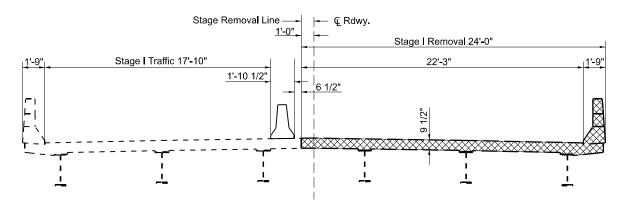
STATE OF ILLINOIS **DEPARTMENT OF TRANSPORTATION**

		GEN	ERA	L PI	LAN & E	LEVATI	ION	F.A.P RTE	SECTION	COUNTY	TOTAL SHEETS	SHE
	SN 073-0025				42	(8-1B,8-1B-1)BRR-1	PERRY 22		7			
3N 073-0025					070 002	.0				CONTRACT	NO. 78	\27
	SHEET	1	OF	5	SHEETS	STA.	TO STA.		ILLINOIS FED. AI	D PROJECT		

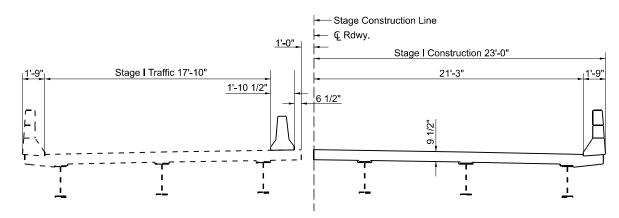




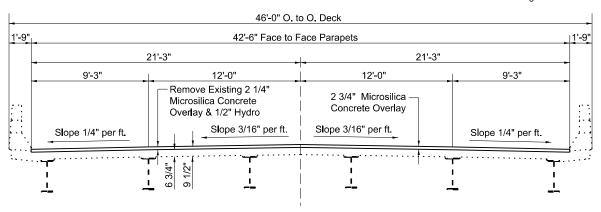
TYPICAL BRIDGE SECTION - EXISTING



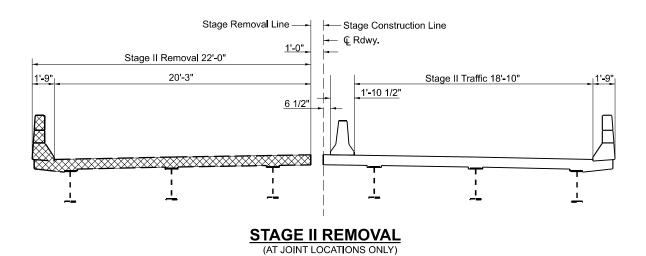
STAGE I REMOVAL (AT JOINT LOCATIONS ONLY)

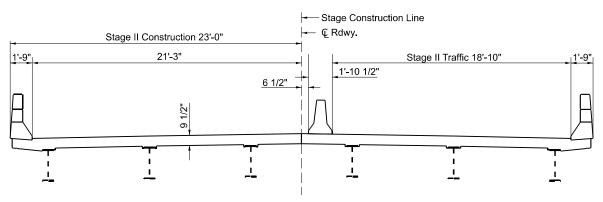


STAGE I CONSTRUCTION (AT JOINT LOCATIONS ONLY)



TYPICAL BRIDGE SECTION - PROPOSED





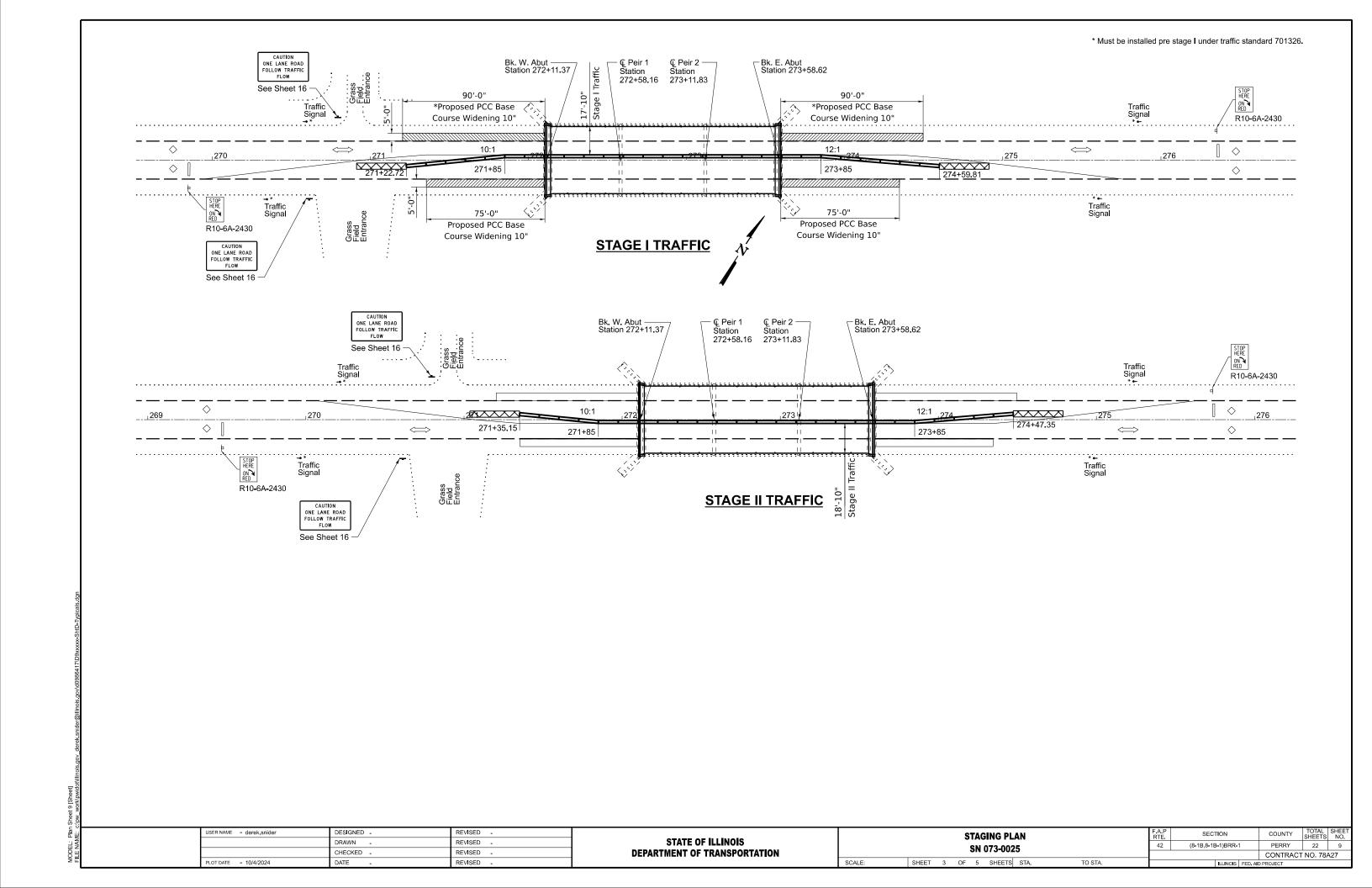
STAGE II CONSTRUCTION

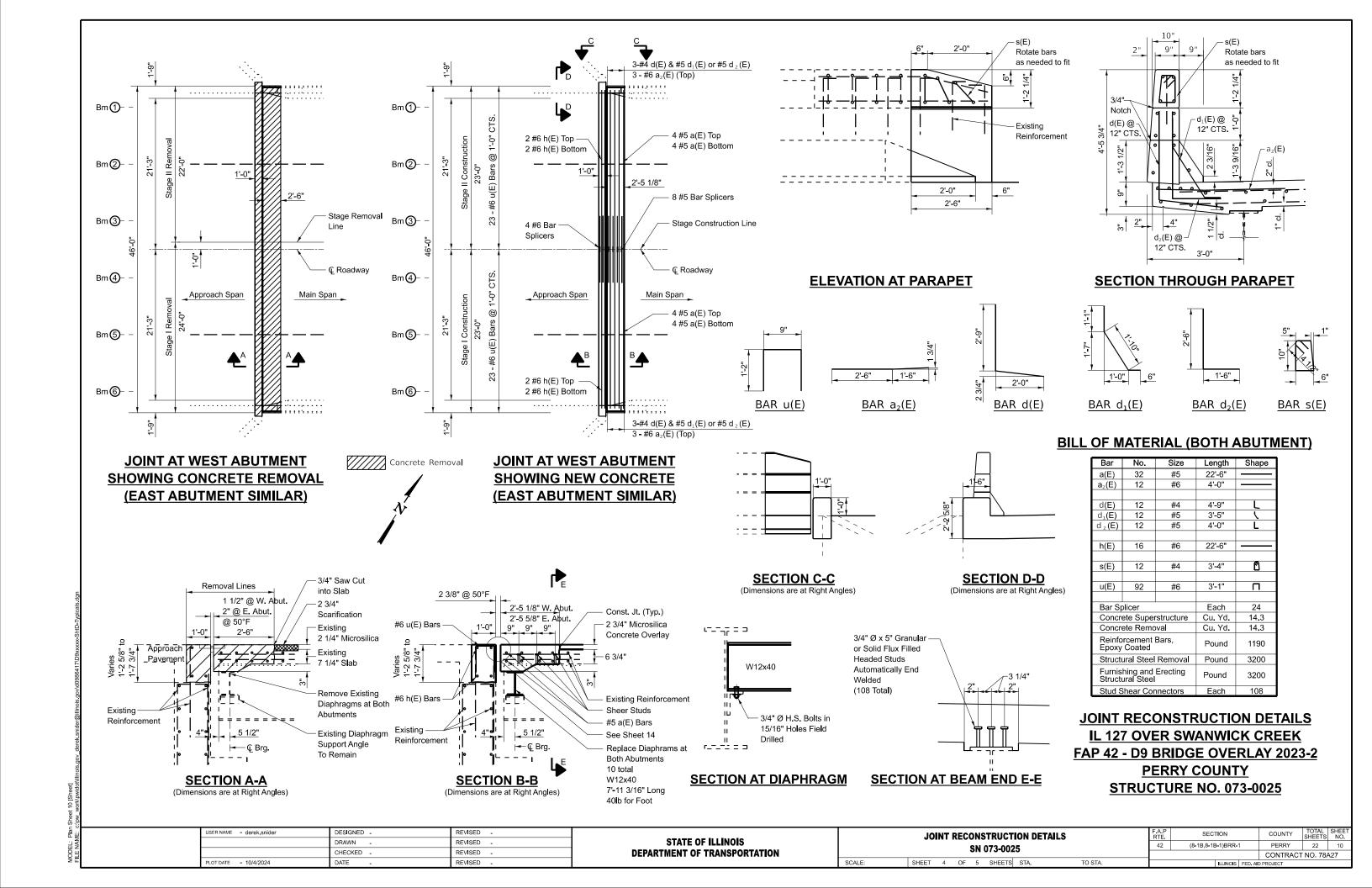
(AT JOINT LOCATIONS ONLY)

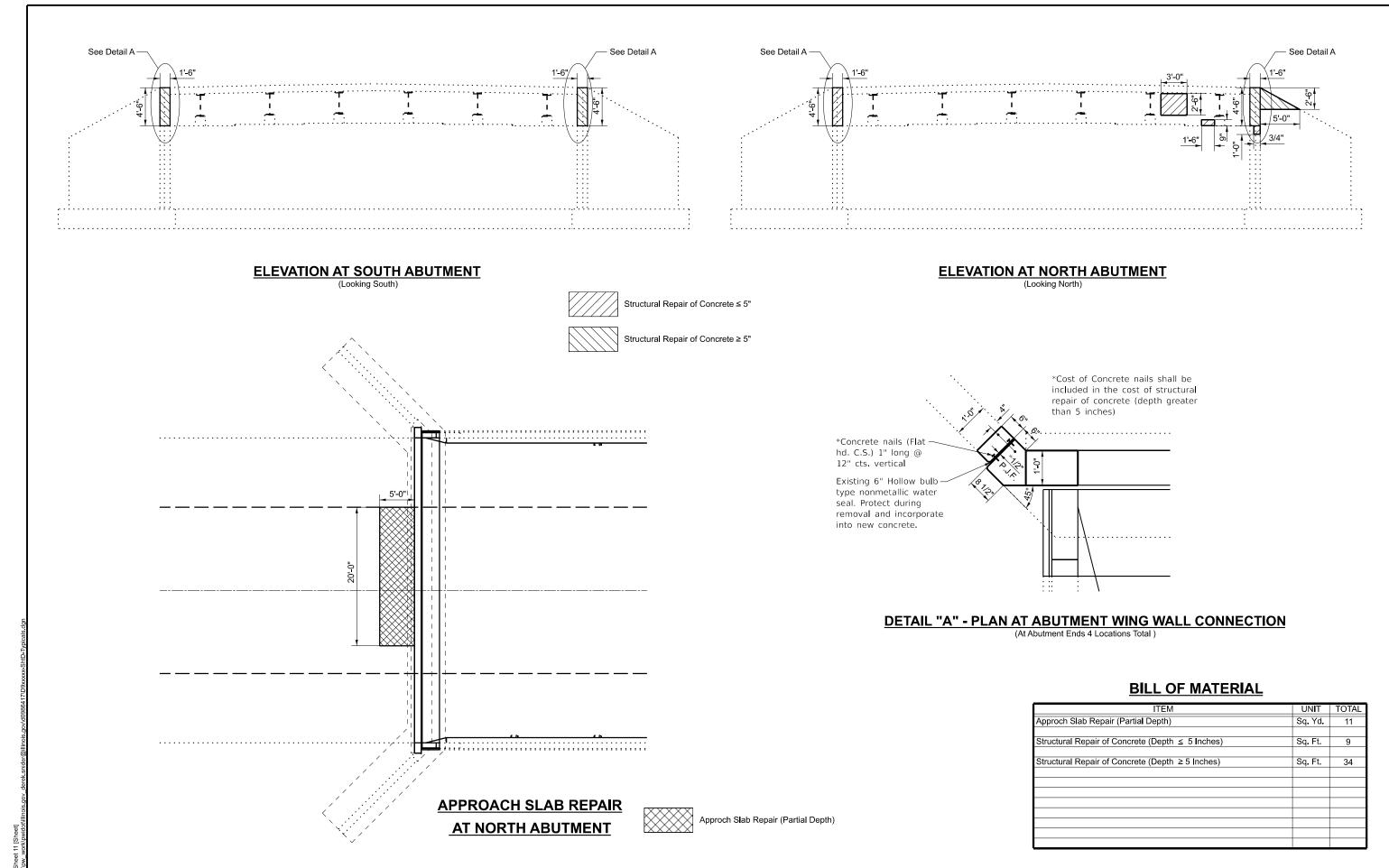
Concrete Removal

Notes: All Sections Looking Upstation

USER NAME = derek.snider	DESIGNED -	REVISED -			TYPICAL SECTIONS F.A.P. SECTION COUNTY	COUNTY	TOTAL :	SHEET			
	DRAWN -	REVISED -	STATE OF ILLINOIS				42	(8-1B.8-1B-1)BRR-1	PERRY	22	8
	CHECKED -	REVISED -	DEPARTMENT OF TRANSPORTATION		SN 0/3-0025			(,,	CONTRACT	NO. 78A	27
PLOT DATE = 10/4/2024	DATE -	REVISED -		SCALE:	SHEET 2 OF 5 SHEETS STA.	TO STA.	1	ILLINOIS FED. A	ID PROJECT		





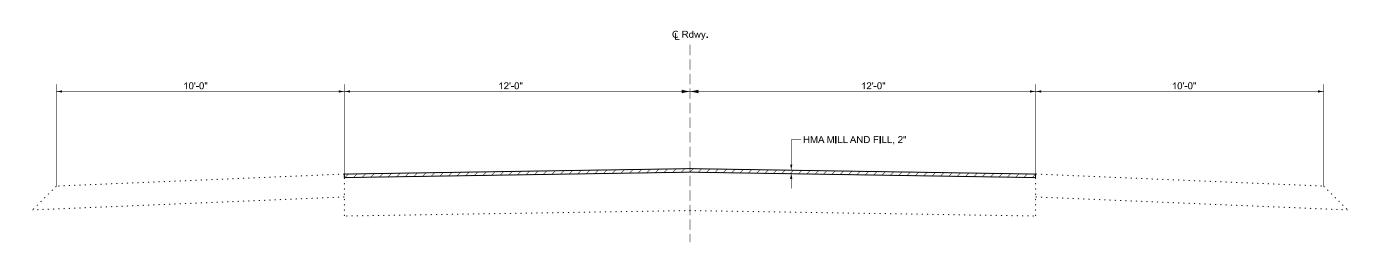


JSER NAME = derek.snider DESIGNED -REVISED DRAWN REVISED -CHECKED -REVISED PLOT DATE = 10/4/2024 DATE REVISED

STATE OF ILLINOIS **DEPARTMENT OF TRANSPORTATION** APPROCH SLAB PATCHING & STRUCTURAL REPAIR OF CONCRETE SECTION (8-1B,8-1B-1)BRR-1 42 SN 073-0025 SHEET 5 OF 5 SHEETS STA.

PERRY 22 CONTRACT NO. 78A27

		PAVEM	ENT SCHEDULE	
9	OITAT	N	HMA SURFACE REMOVAL 2"	HMA SURFACE COURSE, IL-9.5, MIX "C", N70
			SQ YD	TON
PERRY COU	NTY SI	N 073-0025		
271 + 60.37	271 + 60.37 TO 272 + 10.37		134	15
273 + 59.62	ТО	274 + 09.62	134	15
PERRY COU	NTY SI	N 073-0026		
280 + 55.91	ТО	281 + 05.91	134	15
283 + 46.09	ТО	283 + 96.09	134	15
GRA	ND TC	TAL	536	60



TYPICAL SECTION

USER NAME = derek.snider	DESIGNED -	REVISED -		MILL AND FILL AT APPROCH PAVEMENT			F.A.P RTE	SECTION	COUNTY	TOTAL	TAL SHEET NO. 2 12 . 78A27		
	DRAWN -	REVISED -	STATE OF ILLINOIS				25 & SN 073-0026		42	(8-1B,8-1B-1)BRR-1	SHEETS NO.		
	CHECKED -	REVISED -	DEPARTMENT OF TRANSPORTATION		. or	1 073-00	23 & 3N U/3-UU20				CONTRACT	NO 78/	127
PLOT DATE = 8/7/2024	DATE -	REVISED -		SCALE:	SHEET	OF	SHEETS STA.	TO STA.		ILLINOIS FED. AIC	D PROJECT		

STANDARD BAR SPLICER ASSEMBLY PLAN

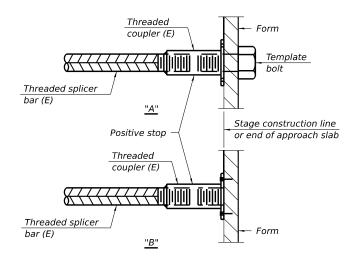
Only bar splicer assemblies as presented on the approved QPL list may be used.

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

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

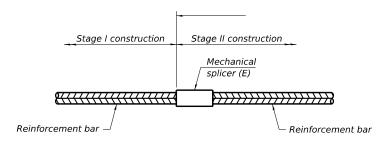
SN 073-0025										
Location	Bar	No. assemblies	Minimum							
Location	size	required	lap length							
Deck	#5	16	3'-6"							
Hatchblock	#6	8	4'-0"							
·										

SN 073-0026						
Location	Bar	No. assemblies	Minimum			
Location	size	required	lap length			
Deck	#5	16	3'-6"			
Hatchblock	#6	8	4'-0"			



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.

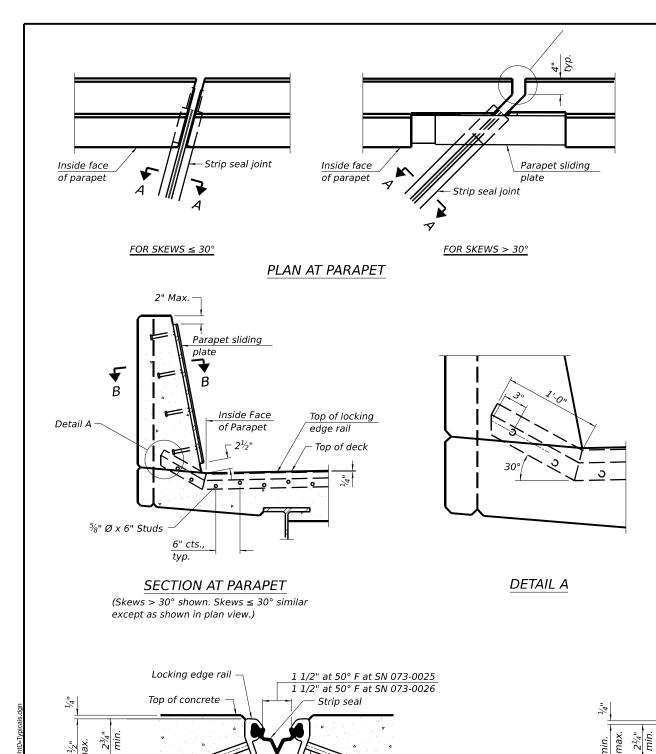
See approved list of bar splicer assemblies and mechanical splicers for alternatives.

BSD-1

5-15-2023

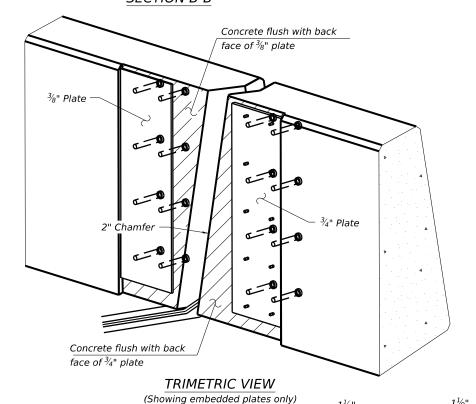
USER NAME = derek.snider	DESIGNED -	REVISED -
	DRAWN -	REVISED -
	CHECKED -	REVISED -
PLOT DATE = 8/7/2024	DATE -	REVISED -

SCALE:



¾" Ø x 6" Studs (8 per side 39" parapet) (10 per side 44" parapet) $\prod \frac{3}{4}$ " Embedded plate full depth 3/8" Embedded plate full depth 6" ½" Parapet sliding plate 3/8" Ø Countersunk bolts (10 per side 39" parapet) 1'-0" (12 per side 44" parapet) Direction of traffic

SECTION B-B



Notes:

The strip seal shall be made continuous and shall have a minimum thickness of $\frac{1}{4}$ ". The configuration of the strip 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 $4\frac{1}{2}$ " maximum depth provided the anchorage system is revised according to the manufacturer's recommendation.

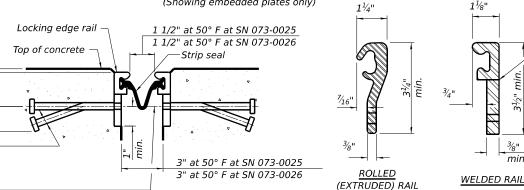
The manufacturer's recommended installation methods shall be followed.

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 c" 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.

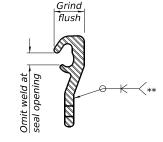
Cost of parapet sliding plates, embedded plates, and anchorage studs included with Preformed Joint Strip Seal. 39" constant slope barrier shown, 44" constant slope barrier

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.



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

SN 073-0025				
Item	Unit	Total		
Preformed Joint Strip Seal	Foot	92		

SN 073-002	6	
Item	Unit	Total
Preformed Joint Strip Seal	Foot	92

SECTION A-A

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

 $\frac{3}{8}$ " Ø threaded rods in $\frac{7}{16}$ " Ø holes at 4'-0" ± cts. for holding the proper joint opening based on

the temperature during the deck pour. Place to

miss studs. All rods shall be burned, or sawed

off flush with the plates after concrete is set.

* $\frac{5}{8}$ " Ø x 6" studs @ 6" cts. (alternate

angled/bent studs with horizontal studs)

5-15-2023

2 3/8" at 50° F at SN 073-0025

2 3/8" at 50° F at SN 073-0026

USER NAME = derek.snider	DESIGNED -	REVISED -
	DRAWN -	REVISED -
	CHECKED -	REVISED -
PLOT DATE = 8/7/2024	DATE -	REVISED -

STATE OF ILLINOIS **DEPARTMENT OF TRANSPORTATION**

SHOWING WELDED RAIL JOINT

PREFORMED JOINT STRIP SEALS SN 073-0025 & SN 0073-0026

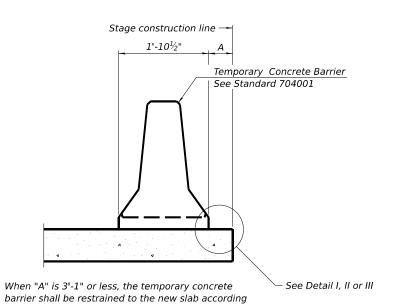
SECTION COUNTY (8-1B,8-1B-1)BRR-1 42 PERRY 22 14 CONTRACT NO. 78A27

OF 22 SHEETS STA.

EI-SS

SHOWING ROLLED RAIL JOINT

TO STA.



Stage removal line 1'-10½" 1'-10½" Temporary Concrete Barrier See Standard 704001 6" min. min. :....... Drill 3-1 $\frac{1}{4}$ " Ø Holes in existing slab for 1" Ø restraining pins. Traffic side only. Cost of restraining pins are included with Temporary Concrete Barrier. No restraint * When hot-mix asphalt wearing surface is present, embedment

1x8 UNC US Std. $1\frac{1}{16}$ " I.D. $\times 2\frac{1}{2}$ " O.D. x approx. 8 gauge thick washer 1" Ø pin RESTRAINING PIN

to Detail I, II or III. No restraint is required

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

NEW SLAB OR NEW DECK BEAM

EXISTING SLAB

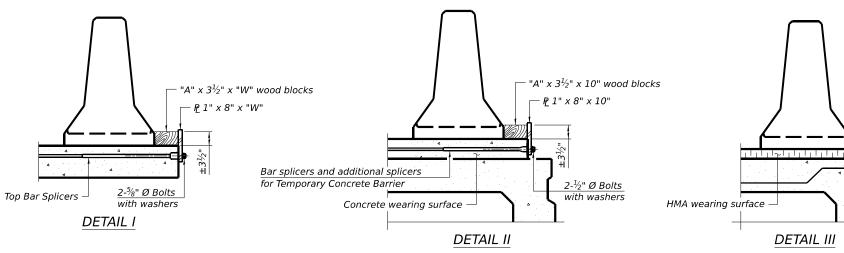
EXISTING DECK BEAM

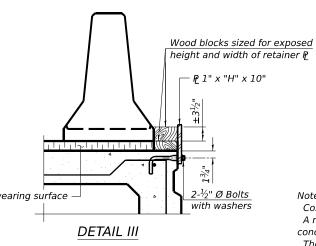
shall be 3" plus the wearing surface depth.

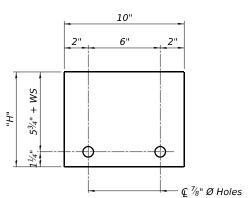
Stage removal line

SECTIONS THRU SLAB OR DECK BEAM

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







STEEL RETAINER P 1" x "H" x 10"

Notes:

Cost of retainer assembly is included with Temporary Concrete Barrier. A retainer assembly shall be located at the approximate **©** of each temporary

BAR SPLICER FOR #4 BAR - DETAIL III

The retainer plate shall not be removed until the concrete on the adjacent stage is ready to be poured. For Detail III applications the retainer plate shall not be removed until just prior to placing the adjacent beam.

When the 'A' dimension is less than $1\frac{1}{2}$ ", the wood block shall be omitted and the barrier shall be placed in direct contact with the steel retainer plate. For deck beam applications the minimum required 'A' distance is 6" to accommodate the shear key clamping device.

Detail I - Installation for a new bridge deck or bridge slab.

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.

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.

	L-	"W"		Detail I
		10"	Detail II	
	2"_	Top bars Spa.	2"_	Detail I
		6"		Detail II
 				
3""				
	_ ا			
17/4)—·—·	<u> </u>	
		•	L ($\mathfrak{T}^{ 7}\!\! 8$ " Ø Holes

STEEL RETAINER P 1" x 8" x "W"

(Detail I and II)

RAILING CRITERIA NCHRP 350 Test Level 440 Railing Weight (plf)

R-27 5-15-2023

USER NAME = derek.snider	DESIGNED -	REVISED -
	DRAWN -	REVISED -
	CHECKED -	REVISED -
0/3/0004	DATE	DE) 40ED

STATE OF ILLINOIS	
DEPARTMENT OF TRANSPORTATION	

TEMPORARY CONCRETE BARRIER FOR STAGE CONSTRUCTION		F.A.P RTE	SECTION		COUNTY	TOTAL SHEETS	SHEET NO.			
		42	(8-1B,8-1B-1)BR	₹-1	PERRY	22	15			
TOR STAGE CONSTRUCTION						CONTRAC	T NO. 78	\27		
HEET	OF 22	SHEETS	QTA ATS	TO STA		II I INC	o FED A	D DDO IECT		

ENTRANCE SIGN FOR USE WITH TEMPORARY SIGNALS (2) 22.31 27.38 22.31 LANE ROAD FOLLOW TRAFFIC BLACK NON-REFLECTORIZED LEGEND AND BORDER COLOR BACKGROUND ORANGE REFLECTOR**I**ZED 2.25" Radius, 0.88" Border, 0.50" IndenT; This sign shall be installed at entrances located between [CAUTION] D; [ONE LANE ROAD] D; the temporary signals as shown in the staging plans. [FOLLOW TRAFFIC] D; [FLOW] D **Table Of Widths And Spaces** 22.31 3.36 0.62 4.18 0.94 3.36 0.94 3.04 0.94 1.17 3.52 3.36 **GENERAL NOTES** Ε All work to furnish and install these signs shall be 1.17 3.04 8.23 3.51 3.36 1.18 included in the cost of the specified traffic control standards and shall not be paid separately. Ν All Illinois Standard signs shall conform to the latest edition of the "Illinois Standard Highway Signs Book" 5.00 3.05 0.31 4.18 0.94 3.36 1.17 3.05 in effect on the date of invitation for bids. Signs shall meet the applicable portions of Sections 701 D and 720 of the Standard Specifications. 0.93 3.52 0.94 4.18 0.93 3.36 8.23 5.00 3.36 All dimensions are in inches unless otherwise noted. 0 0 W 7.43 3.04 0.94 3.52 3.04 0.94 3.05 0.94 3.51 0.94 С Α 3.05 0.94 0.94 4.18 0.93 3.05 0.94 3.04 0.94 0.78 3.35 7.43 W 0 DRAWN 3-2-16 D2 REVISED 03-12-24 3.05 0.94 3.04 0.94 3.52 0.93 4.38 27.60 Sign not to scale STD. 9-34 REVISED DESIGNED -REVISED -STATE OF ILLINOIS DRAWN REVISED -CHECKED . REVISED

JSER NAME = derek.snider

PLOT DATE = 8/7/2024

DATE

REVISED

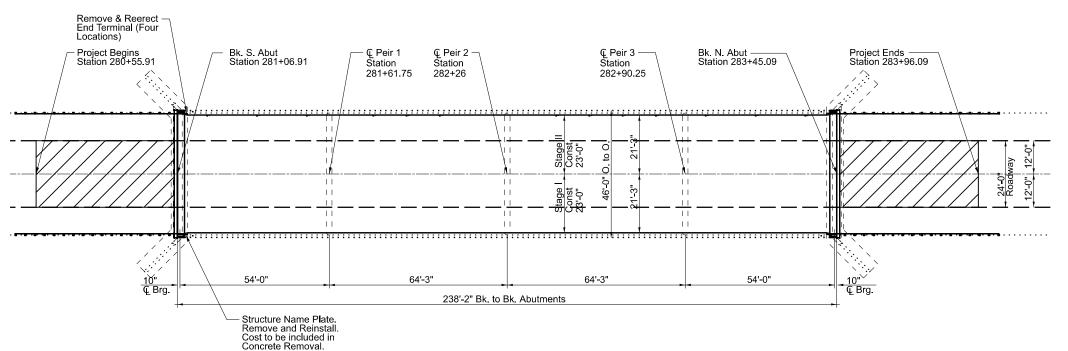
DEPARTMENT OF TRANSPORTATION

SECTION **CAUTION ONE LANE ROAD SIGN DETAIL** 42 SHEET OF 22 SHEETS STA.

COUNTY (8-1B,8-1B-1)BRR-1 PERRY 22 16 CONTRACT NO. 78A27



ELEVATION





LEGEND:



SCOPE OF WORK

Deck Slab Repair (Partial) Structual Repair of Concrete Preformed Joint Strip Seal Microsillica Deck Overlay

DESIGN STRESSES

(From Existing Plans)

Design Loading HS 20-44 Design Stresses f'c=3,500 psi fy=60,000psi (Reinf.) fy=27,000 psi (Structure)

(New)

f'c=4,000 psi fy=60,000psi (Reinf.) fy=50,000 psi (M270 Grade 36)

Design Specifications 2002 AASHTO Standard Specifications for Highway Bridges, 17 Edition.

GENERAL NOTES

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.

Plan dimensions and details relative to the existing structure have been taken from existing plans and 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.

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 Std. Specs. when the deck is poured at an ambient temperature other than 50°F.

All structural steel shall conform to AASHTO Classification M-270 Gr. 36, unless otherwise noted.

All new structural steel and bearing assembly shall be hot-dip galvanized. See special Provisions for "Hot Dip Galvanizing for Structural Steel"

Existing structural steel that will be in contact with new structual steel shall be cleaned and painted prior to erection as required by the Special Provision "Cleaning and Painting Contact Surface Areas of Existing Steel Structures".

Protective Coat shall be applied to all new concrete superstructure and all new concrete overlays as specified in Article 503.19 of Standard Specifications.

Fasteners shall be ASTM F 3125 Type 1. Fasteners shall be not dipped galvanized. See Special Provisions for "Hot Dip Galvanizing for Structural Steel." Diaphragm connection bolts shall be 3/4" diameter, holes 15/16" diameter, unless otherwise noted. Two hardened washers shall be required at diaphragm connections.

Removal of existing diaphragms to be paid for as Structural Steel Removal.

New diaphragms and associated hardware to be paid for as Furnishing and Erecting

Structural Steel.

TOTAL BILL OF MATERIAL

ITEM	UNIT	QUANITY
HMA Surface Course, IL-9.5, Mix "D", N70	Ton	30
HMA Surface Removal 2"	Sq. Yd.	268
Portland Cement Concrete Base Course Widening, 10"	Sq. Yd.	189
Bituminous Material (Tack Coat)	Pound	120
Deck Slab Repair (Full Depth, Type II)	Sq. Yd.	20
Bar Splicers	Each	24
Concrete Superstructure	Cu. Yd.	14.8
Concrete Removal	Cu. Yd.	14.6
Reinforcement Bars, Epoxy Coated	Pound	1190
Preformed Joint Strip Seal	Foot	92
Structual Repair of Concrete (Depth ≤ 5")	Sq Ft	156
Structual Repair of Concrete (Depth ≥ 5")	Sq Ft	9
Protective Coat	Sq. Yd.	1123
Bridge Deck Scarification 2 3/4"	Sq Yd.	1100
Bridge Deck Microsilica Concrete Overlay 2 3/4"	Sq Yd.	1100
Bridge Deck Grooving	Sq Yd.	1050
Structural Steel Removal	Pound	3200
Furnishing and Erecting Structural Steel	Pound	3200
Epoxy Crack Injection	Foot	58
Stud Sheer Connectors	Each	108
* On Now Concrete Only		

^{*} On New Concrete Only

GENERAL PLAN & ELEVATION

IL 127 OVER SWANWICK CREEK OVERFLOW

FAP 42 - (8-1B,1B-1)BRR-1

PERRY COUNTY

STRUCTURE NO. 073-0026

USER NAME = derek.snider	DESIGNED -	REVISED -
	DRAWN -	REVISED -
	CHECKED -	REVISED -
PLOT DATE = 10/4/2024	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN & ELEVATION
SN 073-0026

SHEET 1 OF 6 SHEETS STA. TO STA.

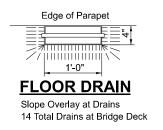
HILLER

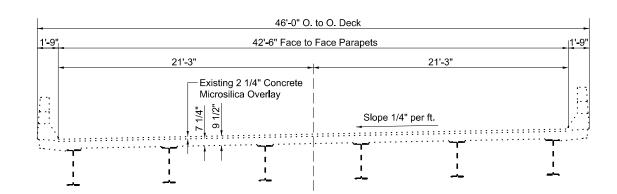
EXPIRES 11-30-2024

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

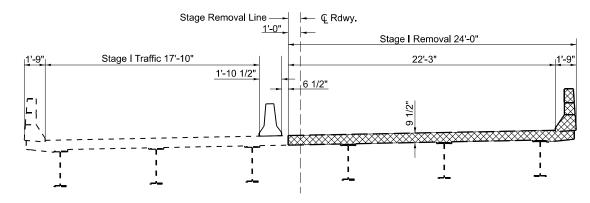
 42
 (8-1B,8-1B-1)BRR-1
 PERRY
 22
 17

 CONTRACT NO. 78A27

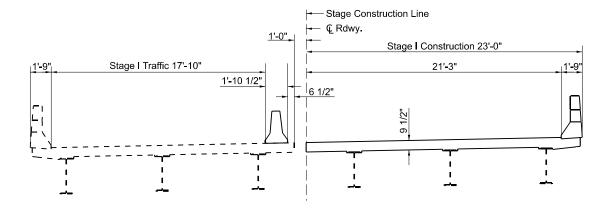




TYPICAL BRIDGE SECTION - EXISTING

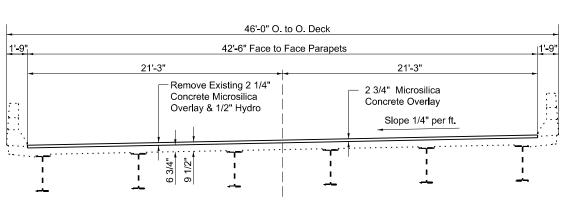


STAGE I REMOVAL (AT JOINT LOCATIONS ONLY)

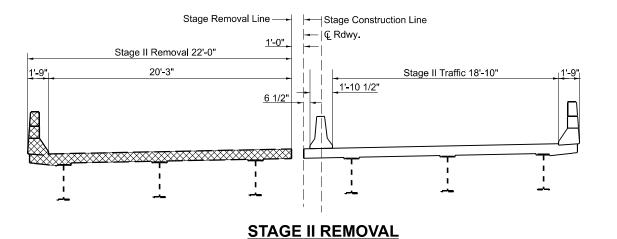


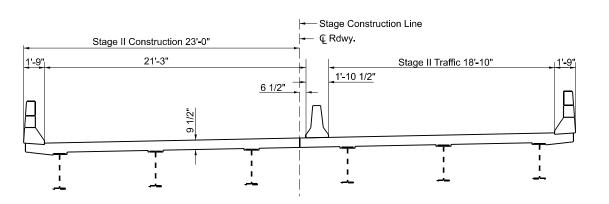
STAGE I CONSTRUCTION

(AT JOINT LOCATIONS ONLY)



TYPICAL BRIDGE SECTION - PROPOSED





(AT JOINT LOCATIONS ONLY)

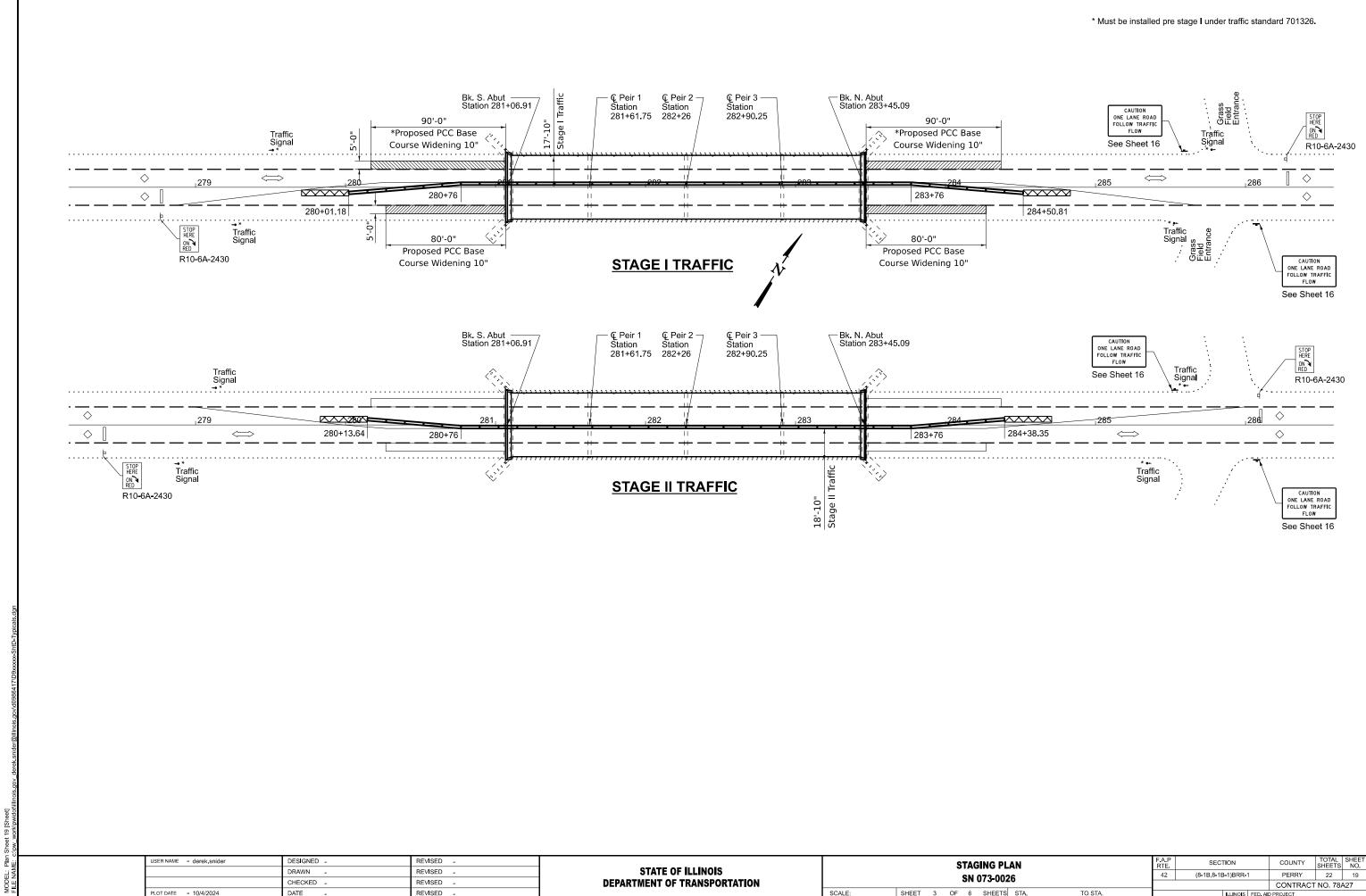
STAGE II CONSTRUCTION

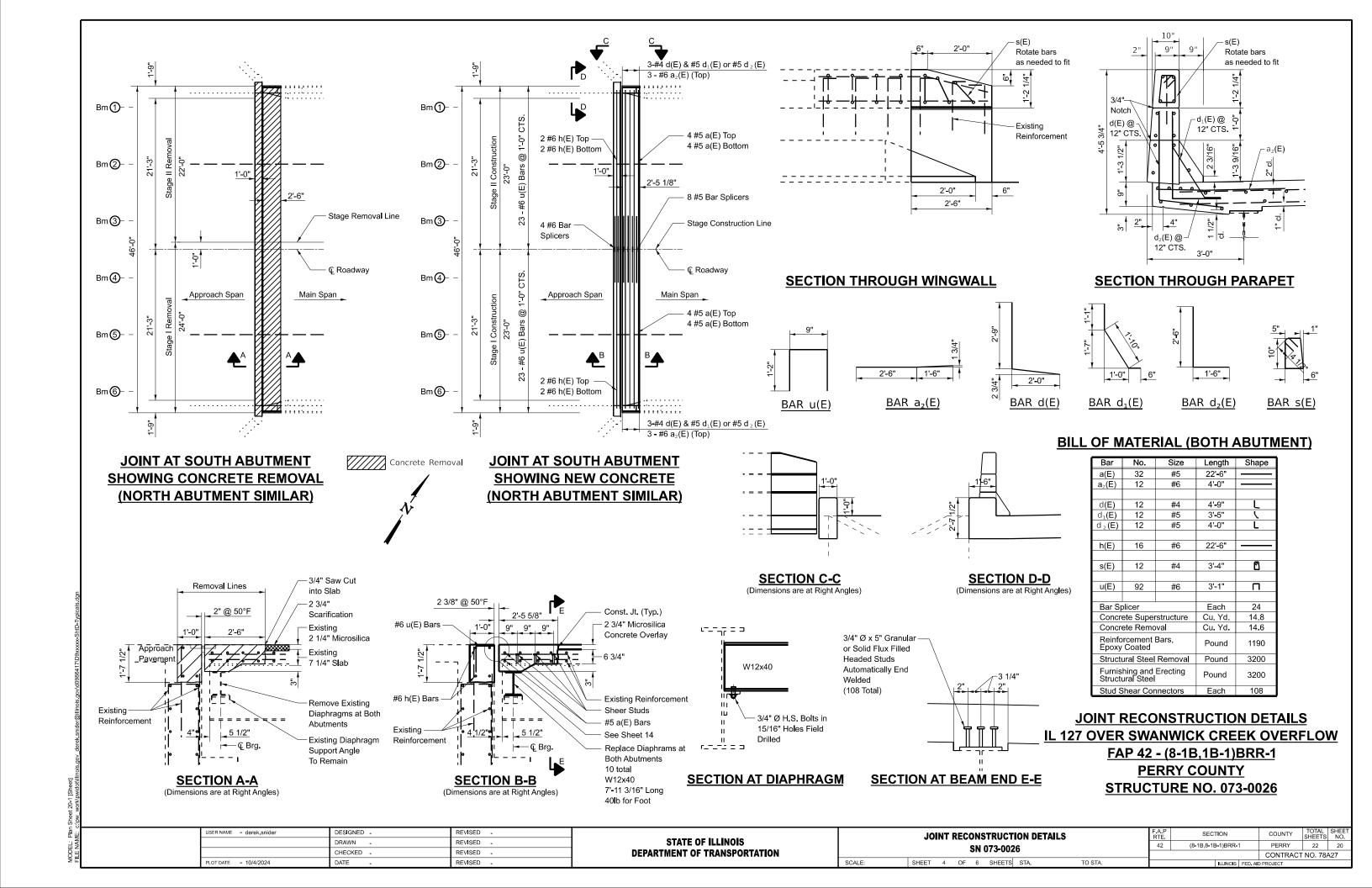
(AT JOINT LOCATIONS ONLY)

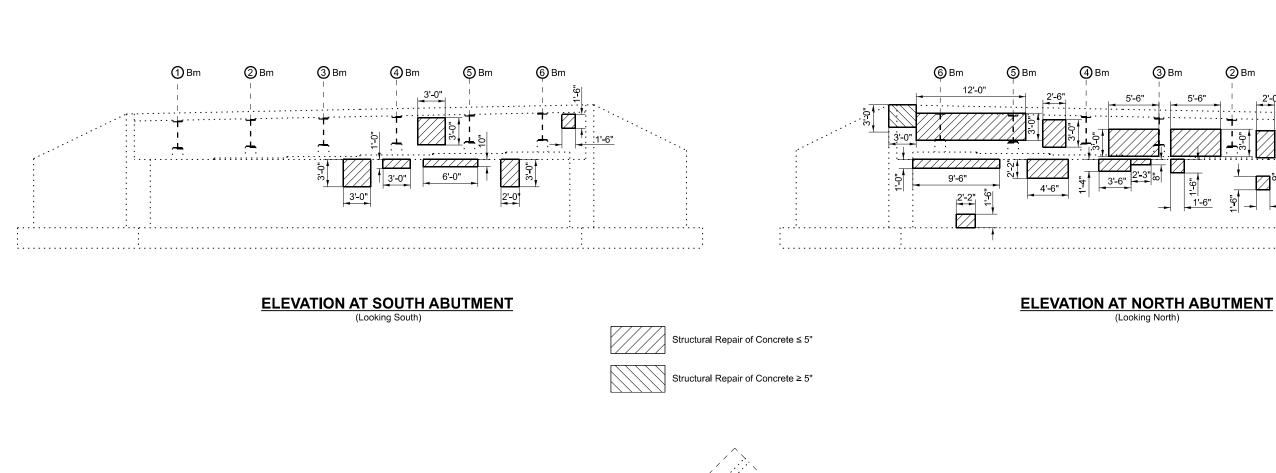
Concrete Removal

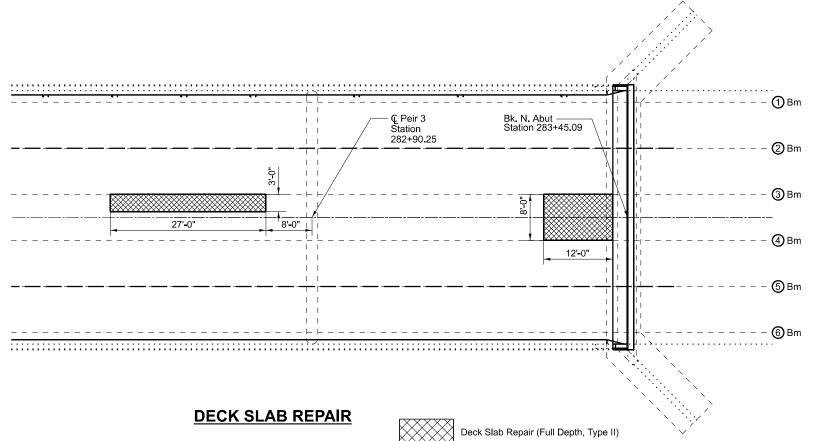
Notes: All Sections Looking Upstation

USER NAME = derek.snider	DESIGNED -	REVISED -		TYPICAL SECTIONS			F.A.P	SECTION	COUNTY	TOTAL SHEET		
	DRAWN -	REVISED -	STATE OF ILLINOIS			• • •			42	(8-1B,8-1B-1)BRR-1	PERRY	22 18
	CHECKED -	REVISED -	DEPARTMENT OF TRANSPORTATION	\$\ \text{SN 073-0026} \\ \text{SCALE:} \text{SHEET 2 OF 6 SHEETS STA.} \text{TO STA.} align*			CONTRACT NO. 78A27		NO. 78A27			
PLOT DATE = 10/4/2024	DATE -	REVISED -				TO STA.	ILLINOIS FED. AID PROJECT					









BILL OF MATERIAL

ITEM	UNIT	TOTAL
Deck Slab Repair (Full Depth, Type II)	Sq. Yd.	20
Structural Repair of Concrete (Depth ≤ 5 Inches)	Sq. Ft.	151
Structural Repair of Concrete (Depth ≥ 5 Inches)	Ca Ft	9
Structural Repair of Concrete (Deptil 2.3 Iliches)	Sq. Ft.	9

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		DRAWN -	REVISED -
		CHECKED -	REVISED -
PLOT DATE =	10/4/2024	DATE -	REVISED -

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

DECK SLAB PATCHING & STRUCTURAL REPAIR OF CONCRETE

SN 073-0026

SHEET 5 OF 6 SHEETS STA. TO STA.

