

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
873		FRANKLIN	11	1
		ILLINOIS	CONTRACT NO. 78594	
*09 BRIDGE REPAIR 2018-3				

FOR INDEX OF SHEETS, SEE SHEET NO. 2  
FOR SUMMARY OF QUANTITIES, SEE SHEET NO. 3-5  
FOR STRUCTURAL PAVEMENT DESIGN INFORMATION, SEE SHEET NO. N/A

**PROPOSED  
HIGHWAY PLANS**

FAP 873 (IL 149)  
OVER STEVENS CREEK  
SECTION: D9 BRIDGE REPAIR 2018-3

FRANKLIN COUNTY

C-99-048-17

**TRAFFIC DATA**

IL 149 TRAFFIC DATA

2015 ADT = 2300  
6 % TRUCKS

**TOWNSHIP**

CAVE TOWNSHIP

DESIGN DESIGNATION : N/A

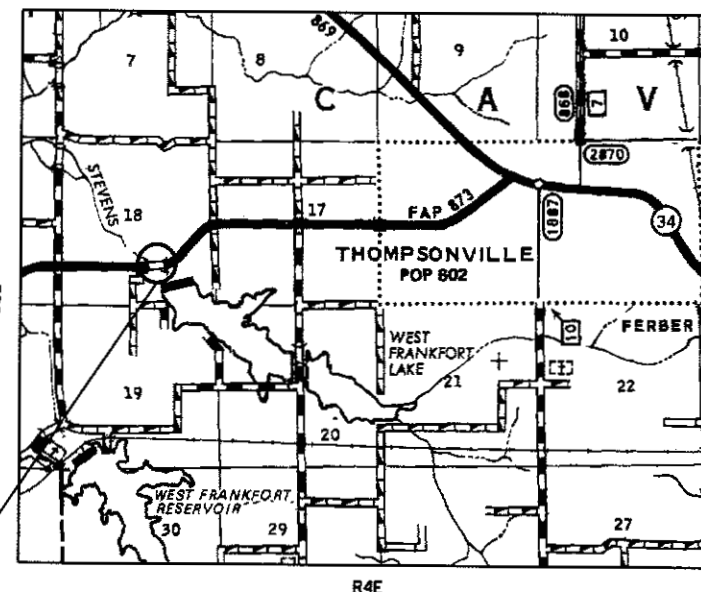
COORDINATE SYSTEM : ILLINOIS COORDINATE SYSTEM, EAST ZONE

POSTED SPEED : 55 MPH

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

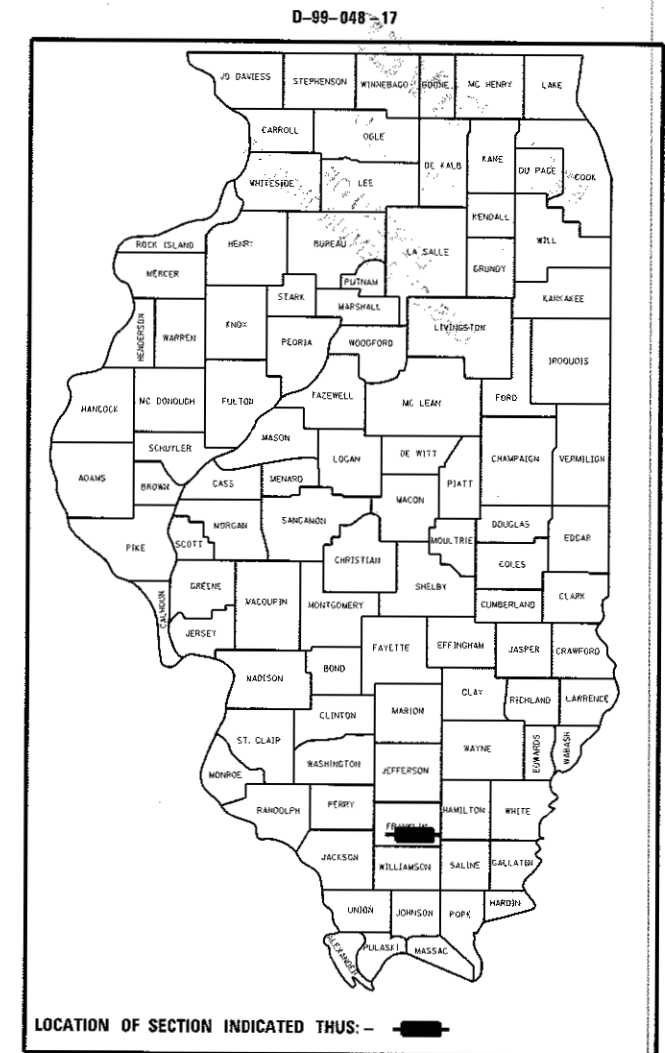
PROJECT ENGINEER: DAVID PICHE (618) 351-5227  
PROJECT DESIGNER: DAVID HOLLMANN (618) 351-5228

CONTRACT NO. 78594



PROJECT LOCATION  
SN 028-0041

GROSS LENGTH = 275.25 FT. = 0.05 MILES  
NET LENGTH = 275.25 FT. = 0.05 MILES



STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

SUBMITTED August 10 2017

*Jeffrey Z Keir*  
REGION FIVE ENGINEER

*Monica M. Addis P.E.*  
ENGINEER OF DESIGN AND ENVIRONMENT

*Amel [Signature]*  
DIRECTOR OF PROGRAM DEVELOPMENT

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OF THE STATE OF ILLINOIS



# SUMMARY OF QUANTITIES

COUNTY:	FRANKLIN
ROUTE:	FAP 873
FUNDING:	100% STATE ✓
LOCATION:	RURAL ✓
	ROADWAY
	0014 ✓

CODE NUMBER	ITEM DESCRIPTION	UNIT	
40600982	HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT	SQ YD	172
40600990	TEMPORARY RAMP	SQ YD	42
40700100	BITUMINOUS MATERIALS (TACK COAT)	POUND	224
58100200	WATERPROOFING MEMBRANE SYSTEM	SQ YD	313
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	3
67100100	MOBILIZATION	LSUM	1
70100100	TRAFFIC CONTROL AND PROTECTION, STANDARD 701316	EACH	1
70100450	TRAFFIC CONTROL AND PROTECTION, STANDARD 701201	LSUM	1
70106500	TEMPORARY BRIDGE TRAFFIC SIGNALS	EACH	1
70300100	SHORT TERM PAVEMENT MARKING	FOOT	142

10

• D9 BRIDGE REPAIR 2018-3

FILE NAME =	USER NAME = hollmand	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>SUMMARY OF QUANTITIES</b>			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
pw\ML084EBID\INTEG.illinois.gov\PWIDOT\Documents\DOT Offices\District 9\Projects\78594\CADData\CADsheets\78594		DRAWN -	REVISED -					873		FRANKLIN	11	3
Default	PLOT SCALE = 100.0000' / 1"l.	CHECKED -	REVISED -		SCALE: SHEET OF SHEETS STA. TO STA.			CONTRACT NO. 78594				
	PLOT DATE = 8/18/2017	DATE -	REVISED -		ILLINOIS FED. AID PROJECT							

# SUMMARY OF QUANTITIES - CONT

COUNTY:	FRANKLIN
ROUTE:	FAP 873
FUNDING:	100% STATE
LOCATION:	RURAL
	ROADWAY
	0014

CODE NUMBER	ITEM DESCRIPTION	UNIT	QUANTITY
70300150	SHORT TERM PAVEMENT MARKING REMOVAL	SO FT	48
70300220	TEMPORARY PAVEMENT MARKING - LINE 4"	FOOT	1,420
* 78001110	PAINT PAVEMENT MARKING - LINE 4"	FOOT	1,420
* 86200300	UNINTERRUPTABLE POWER SUPPLY, EXTENDED	EACH	1
X0327979	PAVEMENT MARKING REMOVAL - GRINDING	SO FT	214
X7015005	CHANGEABLE MESSAGE SIGN	CAL DA	28
Z0001800	APPROACH SLAB REPAIR (PARTIAL DEPTH)	SO YD	35
Z0001903	STRUCTURAL STEEL REMOVAL	POUND	80
Z0001905	STRUCTURAL STEEL REPAIR	POUND	520
Z0016200	DECK SLAB REPAIR (PARTIAL)	SO YD	21

10

\* SPECIALTY ITEM

• D9 BRIDGE REPAIR 2018-3

FILE NAME =	USER NAME = hdlmamd	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>SUMMARY OF QUANTITIES</b>	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
pw\ill054EBID\INTEG\illinois.gov\FWIDOT\Documents\DOT	Office\District 9\Project\78594\CADData\CADsheets\78594	DRAWN -	REVISED -			873		FRANKLIN	11	4	
Default	PLOT SCALE = 100.0000" / in.	CHECKED -	REVISED -			CONTRACT NO. 78594					
	PLOT DATE = 8/18/2017	DATE -	REVISED -			SCALE:	SHEET	OF	SHEETS	STA.	TO STA.

# SUMMARY OF QUANTITIES - CONT

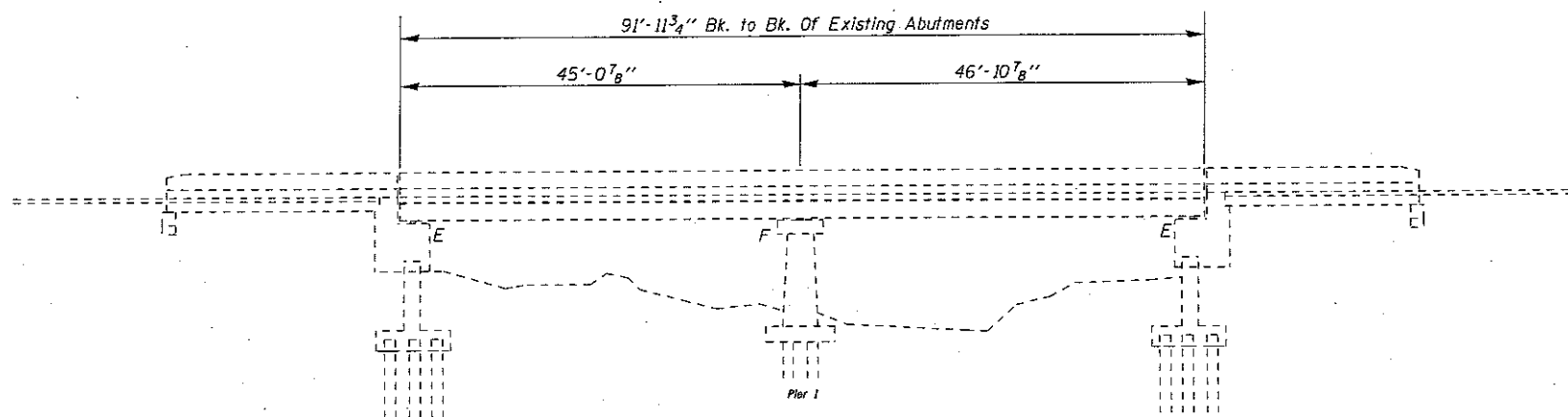
COUNTY:	FRANKLIN
ROUTE:	FAP 873
FUNDING:	100% STATE
LOCATION:	RURAL
	ROADWAY
	0014

CODE NUMBER	ITEM DESCRIPTION	UNIT	
Z0021908	SILICONE JOINT SEALER, 2"	FOOT	94
Z0041895	POLYMER CONCRETE	CU FT	9.4
X0300002	HOT-MIX ASPHALT SURFACE COURSE, IL-9.5FG, N70	TON	95

3

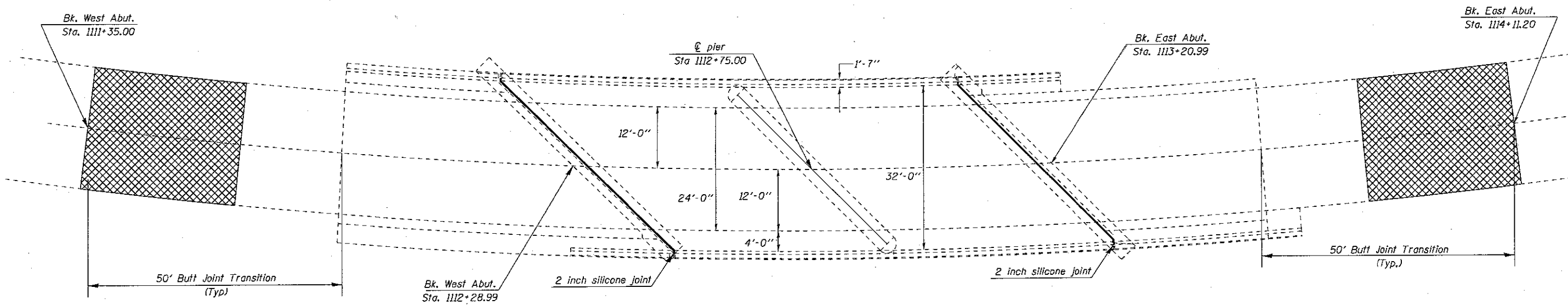
• D9 BRIDGE REPAIR 2018-3

FILE NAME =	USER NAME = holmandb	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>SUMMARY OF QUANTITIES</b>	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
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Default	PLOT SCALE = 100.0000' / in.	DATE -	REVISED -			CONTRACT NO. 78594					
	PLOT DATE = 8/18/2017					ILLINOIS FED. AID PROJECT					



**ELEVATION**

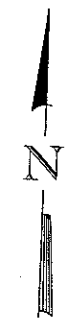
**GENERAL NOTES**  
 Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. 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.  
 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.



**PLAN**

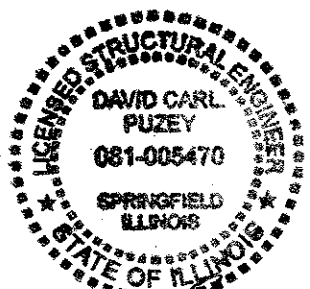
**TOTAL BILL OF MATERIAL**

ITEM	UNIT	QUANTITY
Hot-Mix Asphalt Surface Course, IL-9.5FG, N70	Ton	95
Waterproofing Membrane System	Sq. Yd.	313
Deck Slab Repair (Partial)	Sq. Yd.	21
Approach Slab Repair (Partial)	Sq. Yd.	35
Silicone Joint Sealer, 2"	Foot	94
Polymer Concrete	Cu Ft	9.4
Structural Steel Removal	Pound	80
Structural Steel Repair	Pound	520



Butt Joint Surface Removal

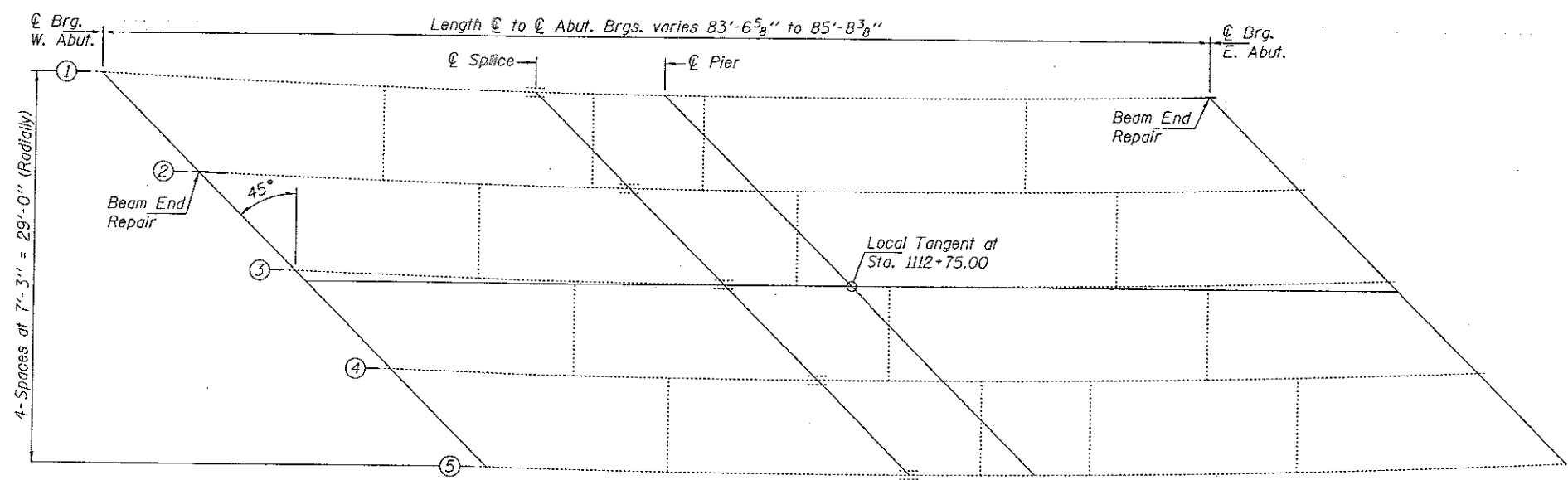
**Design Stresses**  
 FIELD UNITS (New Construction)  
 $f'_c = 3,500$  psi  
 $f_y = 60,000$  psi (reinforcement)  
 FIELD UNITS (Existing Construction)  
 $f'_c = 3,500$  psi  
 $f_y = 50,000$  psi (structural steel)  
 $f_y = 60,000$  psi (reinforcement)  
 $n = 9$



*David Carl Puzey* 9/22/17  
 Expires 11/30/18

**BRIDGE REPAIR**  
 IL 149 (FAP 873) OVER STEVENS CREEK  
 FRANKLIN COUNTY  
 D9 CM BRIDGE REPAIR 2018-3  
 STA. 1112+75.00  
 SN 028-0041

FILE NAME	USER NAME = hcjmandb	DESIGNED - DBH	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GENERAL PLAN AND ELEVATION				F.A.P. RTE. 42	SECTION	COUNTY PERRY	TOTAL SHEETS 11	SHEET NO. 8
		CHECKED - DBS	REVISED -		SCALE:	SHEET	OF	SHEETS	STA.	TO STA.	CONTRACT NO. 78594		
		DATE	REVISED -		ILLINOIS FED. AID PROJECT								



**FRAMING PLAN**

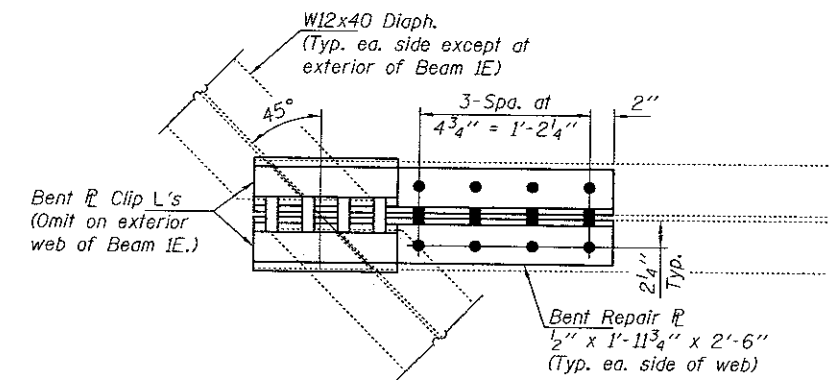
**NOTES**  
 All structural steel shall conform to AASHTO Classification M-270 Gr. 50, unless otherwise noted.  
 Fasteners shall be high strength bolts. Bolts 3/4"φ, open holes 13/16"φ, unless otherwise noted.  
 Diaphragm connection holes shall be 5/16"φ for 3/4"φ bolts. Two hardened washers shall be required at diaphragm connections.  
 The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.  
 Existing structural steel that will be in contact with new structural 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".  
 All structural steel shall be shop painted with the inorganic zinc rich primer per AASHTO M300, Type 1. Cost included with Structural Steel Repair.



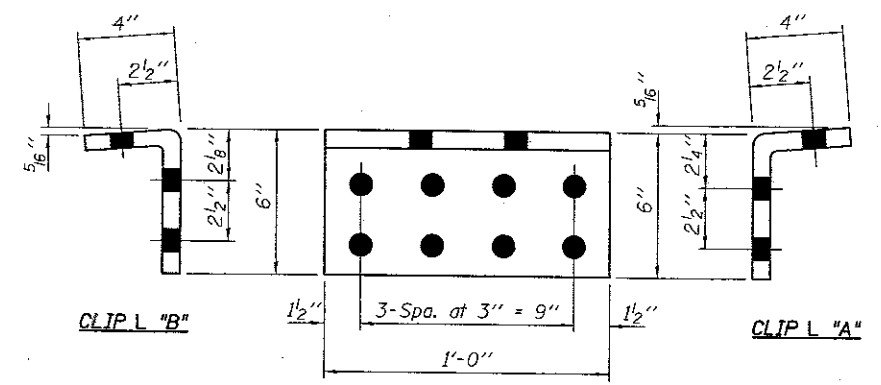
**BOLT HOLE LEGEND**

- - Shop drilled holes.
- - Field drilled holes.

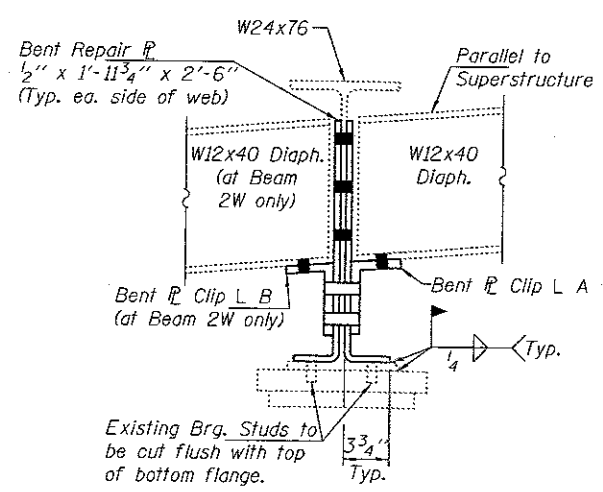
Note:  
 Field drill holes in Bent Repair P using holes in new Bent P Clip L's as template.



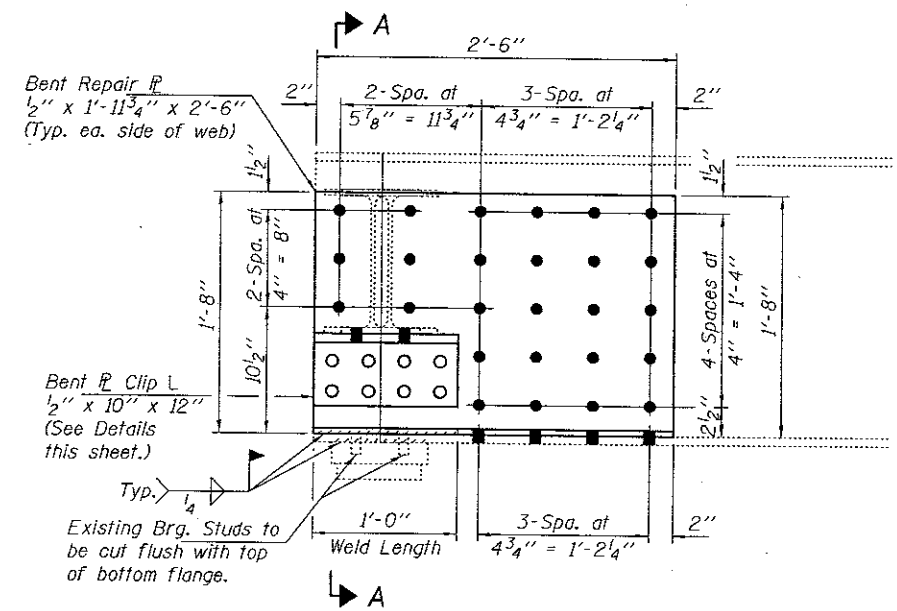
**BEAM END REPAIR PLAN VIEW**  
 (Beam 2W shown, Beam 1E similar except as noted.)



**BENT P CLIP L DETAILS**  
 Clip L "A" 1/2" x 10" x 1'-0" (2-Req'd)  
 Clip L "B" 1/2" x 10" x 1'-0" (1-Req'd)



**SECTION A-A**  
 (Beam 2W shown, Beam 1E similar except as noted.)



**BEAM END REPAIR DETAILS**

**BILL OF MATERIAL**

ITEM	UNIT	QUANTITY
Structural Steel Removal	Pound	80
Structural Steel Repair	Pound	520

DESIGNED - CSE  
 CHECKED - RPN  
 DRAWN - Kyle M. Steffen  
 CHECKED -

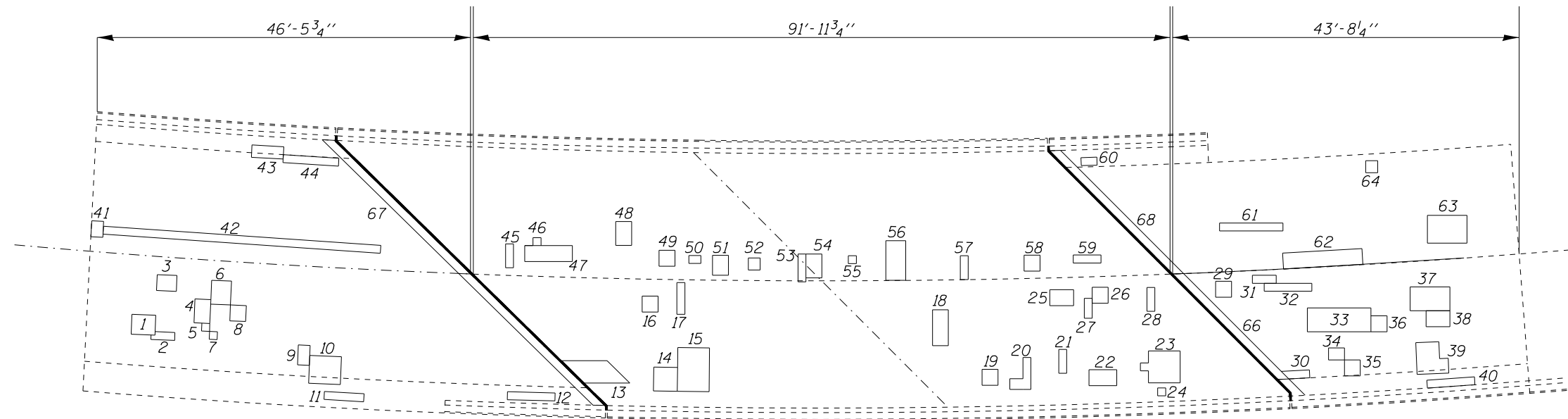
DATE - SEPTEMBER 20, 2017  
 PASSED  
 ENGINEER OF BRIDGES AND STRUCTURES

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

GENERAL PLAN & ELEVATION  
 ILLINOIS ROUTE 149 OVER STEVENS CREEK  
 SN 028-0041  
 SHEET NO. 1 OF 1 SHEETS

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
873	D9 BRIDGE REPAIR 2018-3	FRANKLIN	11	7

CONTRACT NO. 78594  
 ILLINOIS FED. AID PROJECT



PARTIAL DEPTH PATCHES

Patch No.	Length	Width	Area (Sq Yd)
13	4.00	4.00	1.78
14	3.00	3.00	1.00
15	4.00	5.50	2.44
16	2.00	2.00	0.44
17	1.00	4.00	0.44
18	2.00	4.50	1.00
19	2.00	2.00	0.44
20	1.00	4.00	0.44
21	1.00	3.00	0.33
22	3.50	2.00	0.78
23	4.00	4.00	1.78
24	1.00	1.00	0.11
25	3.00	2.00	0.67
26	2.00	2.00	0.44
27	1.00	2.50	0.28
28	1.00	3.00	0.33
45	1.00	3.00	0.33
46	1.00	1.00	0.11
47	6.00	2.00	1.33
48	2.00	3.00	0.67
49	2.00	2.00	0.44
50	1.50	1.00	0.17
51	2.00	2.50	0.56
52	1.50	1.50	0.25
53	1.00	3.50	0.39
54	2.00	3.00	0.67
55	1.00	1.00	0.11
56	2.50	5.00	1.39
57	1.00	3.00	0.33
58	2.00	2.00	0.44
59	3.50	1.00	0.39

APPROACH SLAB PATCHES

Patch Number	Length	Width	Area (Sq Yd)
1	3.00	2.50	0.83
2	3.00	1.00	0.33
3	2.50	2.00	0.56
4	2.00	3.00	0.67
5	1.00	1.00	0.11
6	2.50	3.00	0.83
7	1.00	1.00	0.11
8	2.00	2.00	0.44
9	1.50	2.50	0.42
10	4.00	3.50	1.56
11	5.00	1.00	0.56
12	6.00	1.00	0.67
29	2.00	2.00	0.44
30	1.00	3.00	0.33
31	3.00	1.00	0.33
32	6.00	1.00	0.67
33	8.00	3.00	2.67
34	2.00	1.50	0.33
35	2.00	2.00	0.44
36	2.00	2.00	0.44
37	5.00	3.00	1.67
38	3.00	2.00	0.67
39	3.50	4.00	1.56
40	6.00	1.00	0.67
41	1.50	2.00	0.33
42	3.50	1.00	0.39
43	4.00	1.50	0.67
44	7.00	1.00	0.78
60	2.00	1.00	0.22
61	8.00	1.00	0.89

APPROACH SLAB PATCHES

Patch No.	Length	Width	Area (Sq Yd)
62	10.00	2.00	2.22
63	5.00	3.50	1.94
64	1.50	1.50	0.25
65	1.00	22.00	2.44
66	1.00	22.00	2.44
67	1.00	22.00	2.44
68	1.00	22.00	2.44

**BILL OF MATERIAL**

Item	Unit	Total
Deck Slab Repair (Partial Depth)	Sq Yd	20.31
Approach Slab Repair (Partial Depth)	Sq Yd	34.78

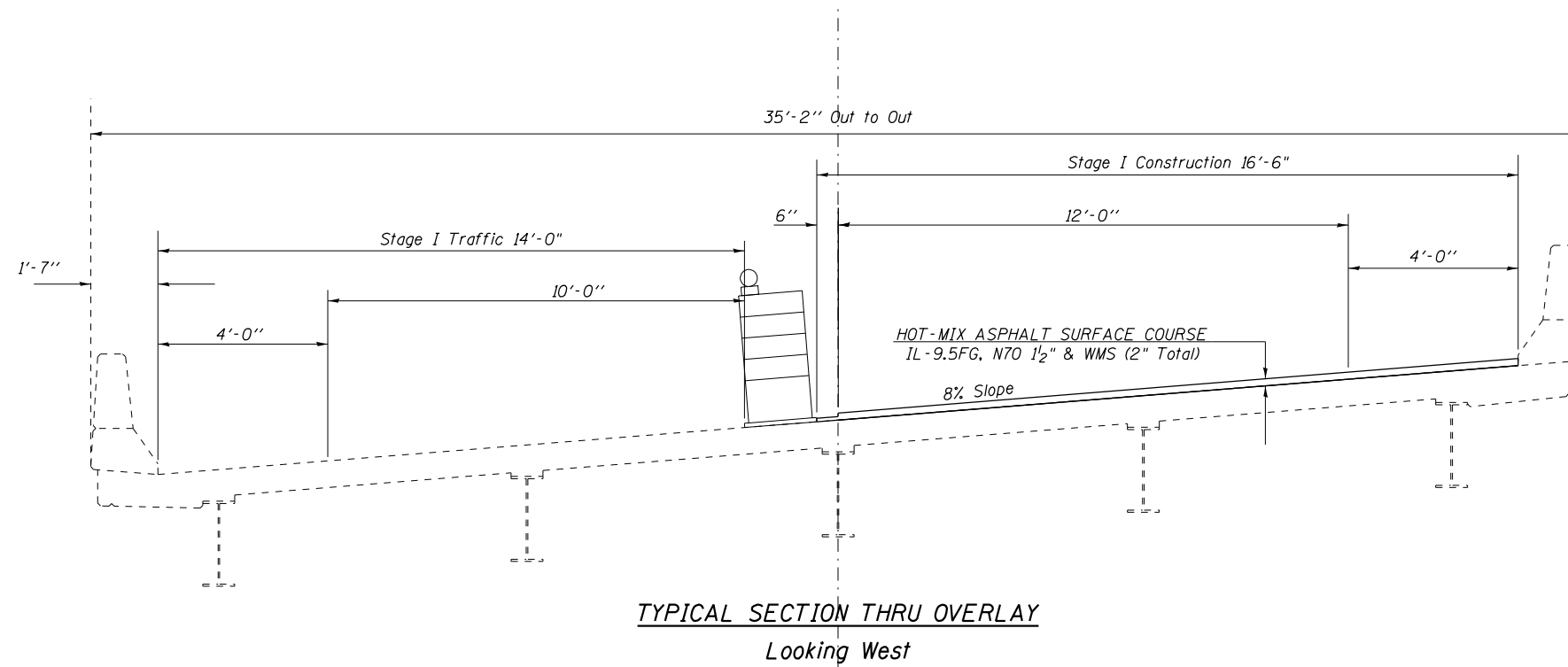
**DECK SLAB REPAIRS  
STRUCTURE NO. 028-0041**

Notes: Deck sounding was performed in February 2017  
The Resident Engineer will determine final patch locations and quantities in the field before bridge deck patching operations begin.

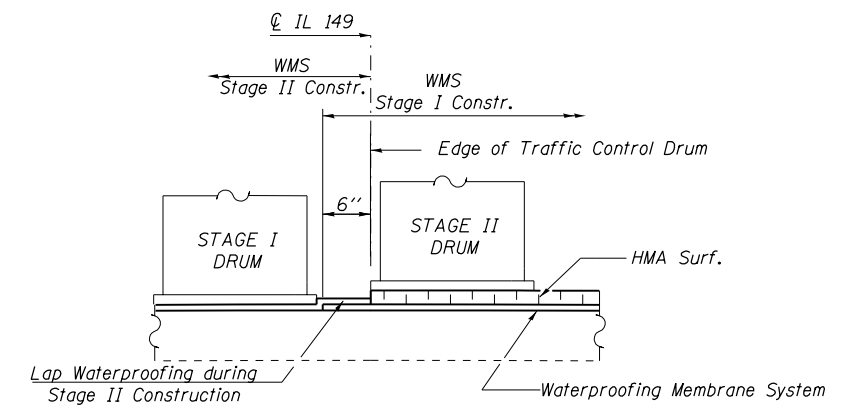
•D9 CM BRIDGE REPAIR 2018-3



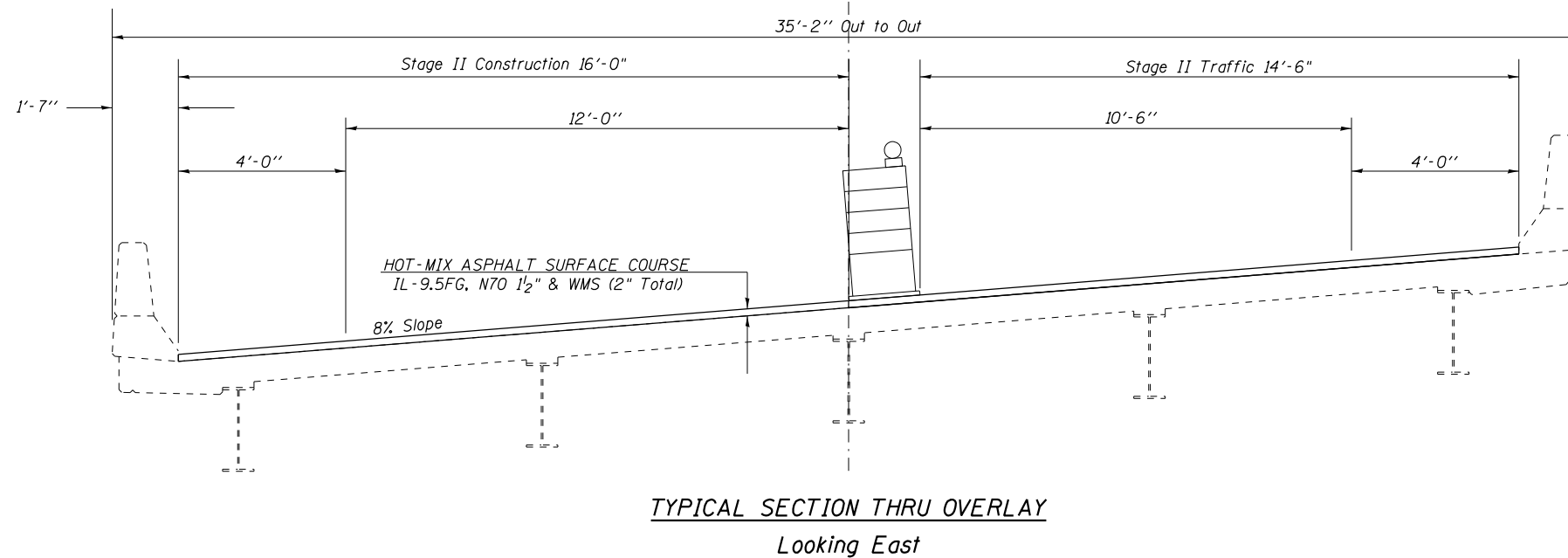




TYPICAL SECTION THRU OVERLAY  
Looking West



WATERPROOFING TREATMENT  
AT STAGE CONSTRUCTION LINE



TYPICAL SECTION THRU OVERLAY  
Looking East

TYPICAL SECTION  
SN 028-0041  
FRANKLIN COUNTY

•D9 CM BRIDGE REPAIR 2018-3

MODEL: Default  
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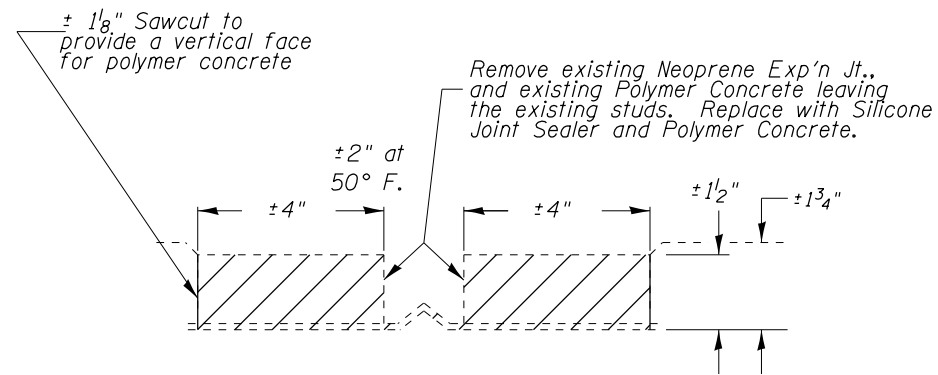
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	DRAWN -	REVISED -
PLOT SCALE = 4.0000' / in.	CHECKED -	REVISED -
PLOT DATE = 8/18/2017	DATE -	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

STAGE CONSTRUCTION DETAILS


SCALE: SHEET OF SHEETS STA. TO STA.

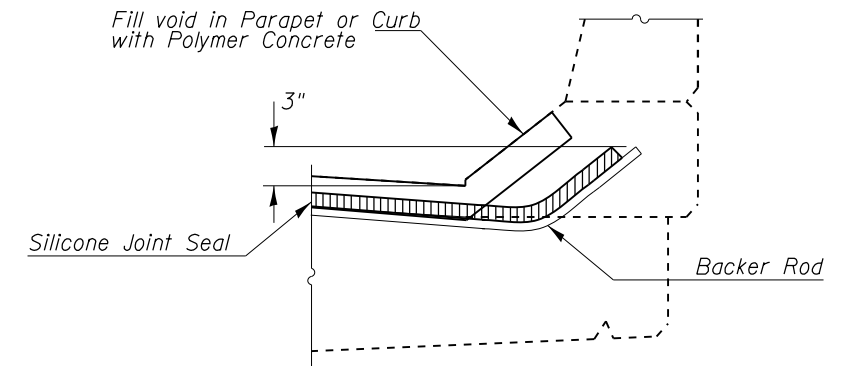
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
873	*	FRANKLIN	11	9
CONTRACT NO. 78594				
ILLINOIS FED. AID PROJECT				



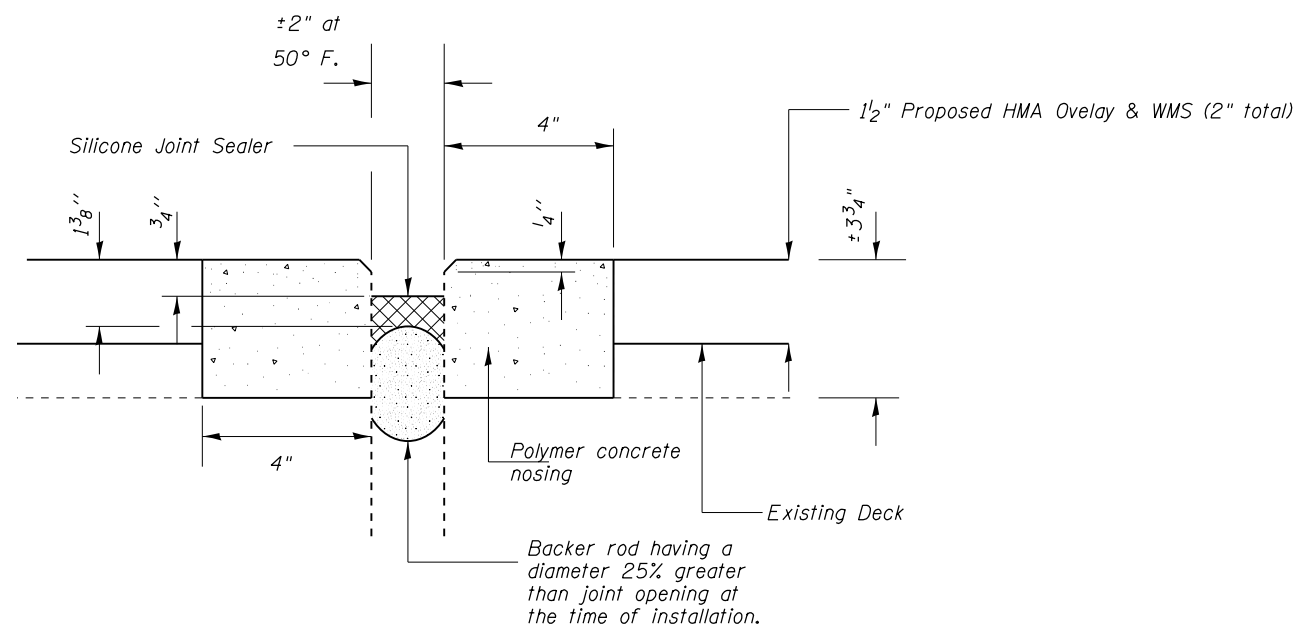
**SECTION AT  
EXISTING 2'' NEOPRENE JOINT DETAIL**

Both Abut SN 028-0041

 Removal of the Existing Neoprene Joint and Polymer Concrete. Cost included with Polymer Concrete.



**TYPICAL END OF SEAL TREATMENT  
AT EXPANSION JOINT**



**SILICONE JOINT SEALER DETAIL**

2'' JOINT DETAIL

Notes:  
All joints shall be staged along the centerline of Roadway.

**BILL OF MATERIALS**

Item description	Unit	Total
Polymer Concrete	Cu Ft.	9.4
Silicone Joint Sealer, 2''	Ft.	94

**JOINT REPAIRS  
SN 028-0041**

•D9 CM BRIDGE REPAIR 2018-3

