

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	D9 BRIDGE REPAIR 2020-8	WILLIAMSON	24	1
ILLINOIS			CONTRACT NO. 78768	

FOR INDEX OF SHEETS, SEE SHEET NO. 3  
FOR SUMMARY OF QUANTITIES, SEE SHEETS NO. 4-7

**PROPOSED  
HIGHWAY PLANS**

F.A.I. 57 (I-57)  
ILLINOIS 148 OVER F.A.I. ROUTE 57  
SECTION D9 BRIDGE REPAIR 2020-8  
PROJECT NHP-24LC(010)  
BRIDGE REPAIRS  
WILLIAMSON COUNTY

C-99-027-20

**TRAFFIC DATA**

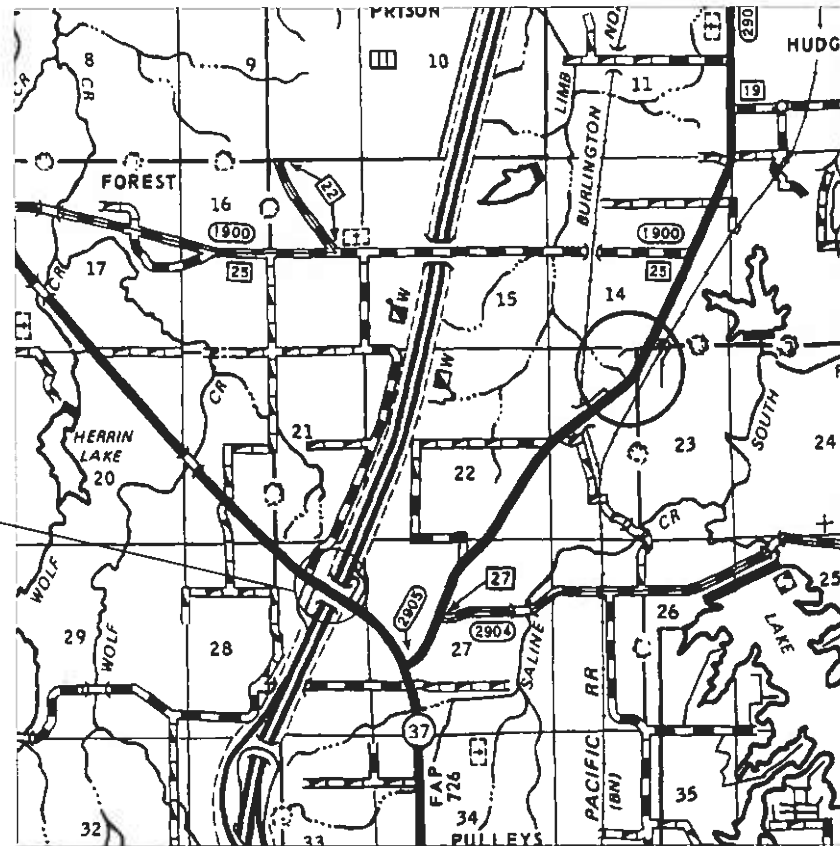
IL 148  
ADT: 5810  
%TRUCK: 13%

I-57  
TWO-WAY ADT: 34,310  
%TRUCK: 44%

**TOWNSHIP**  
SOUTHERN

**POSTED SPEED**  
IL 148: 55MPH  
I-57: 70MPH

REPAIR LOCATION  
WILLIAMSON COUNTY  
STRUCTURE 100-0039 (E)  
IL 148 OVER I-57



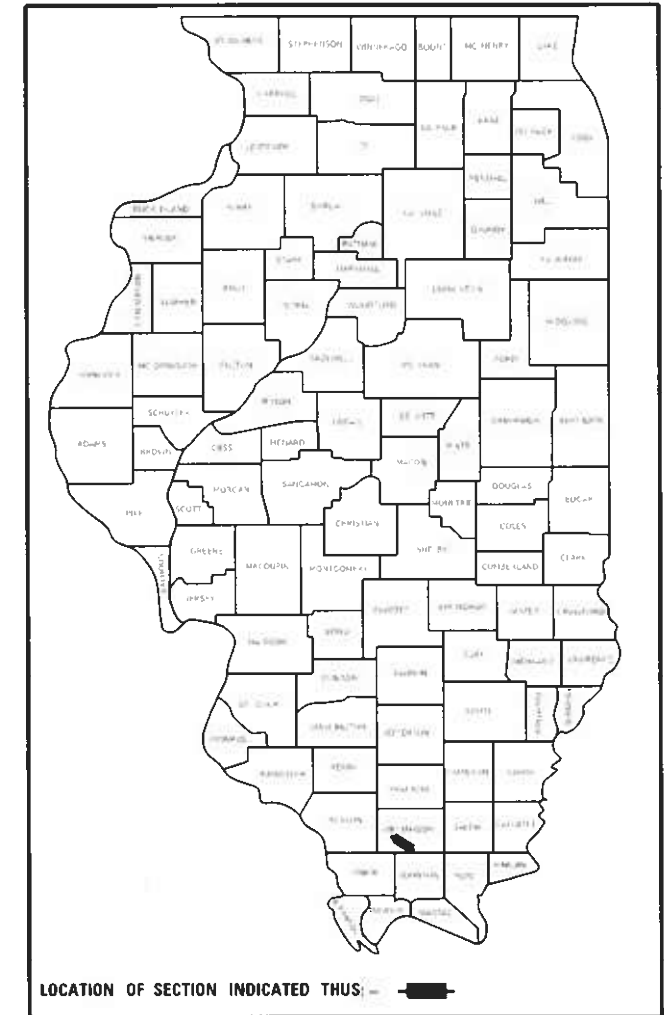
GROSS LENGTH = 340.92 FT. = 0.065 MILE  
NET LENGTH = 340.92 FT. = 0.065 MILE

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

PROJECT ENGINEER: DAVID PICHE  
PROJECT DESIGNER: DAVID WILSON

CONTRACT NO. 78768

D-99-019-20



LOCATION OF SECTION INDICATED THUS: [black rectangle]

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

SUBMITTED 08-12-20  
[Signature]  
REGION FIVE ENGINEER  
October 2, 2020  
[Signature]  
ENGINEER OF DESIGN AND ENVIRONMENT  
October 2, 2020  
[Signature]  
DIRECTOR OF HIGHWAYS PROJECT IMPLEMENTATION

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**INDEX OF SHEETS**

1	COVER SHEET
2	SIGNATURE SHEET
3	GENERAL NOTES, INDEX OF SHEETS, AND STANDARDS
4-7	SUMMARY OF QUANTITIES
8	SCHEDULES
9	WIDTH RESTRICTION SIGNING
10	GENERAL PLAN AND ELEVATION SN 100-0039
11	STAGING DETAILS
12	DECK AND APPROACH SLAB REPAIRS
13	ABUTMENT JOINT DETAILS
14	PIER JOINT DETAILS
15	TEMPORARY CONCRETE BARRIER FOR STAGE CONSTRUCTION
16	PREFORMED JOINT STRIP SEAL
17	BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
18	PARAPET REPAIRS
19	I-57 SHOULDER CLOSURE FOR REPAIRS TO PIERS 1 AND 3
20	PIER 1 DETAILS
21	PIER 2 DETAILS
22	PIER 3 DETAILS
23	PIER CAP DETAILS
24	BUTT JOINT DETAILS

**STANDARDS**

000001-07	STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
001006	DECIMAL OF AN INCH AND OF A FOOT
701001-02	OFF-RD OPERATIONS, 2L, 2W, MORE THAN 15' AWAY
701011-04	OFF-RD MOVING OPERATIONS, 2L, 2W, DAY ONLY
701101-05	OFF-RD MOVING OPERATIONS, MULTILANE, 15' TO 24" FROM PAVEMENT EDGE
701106-02	OFF-RD MOVING OPERATIONS, MULTILANE, MORE THAN 15' AWAY
701201-05	LANE CLOSURE, 2L, 2W, DAY ONLY, FOR SPEEDS ≥ 45 MPH
701301-04	LANE CLOSURE, 2L, 2W, SHORT TIME OPERATIONS
701311-03	LANE CLOSURE, 2L, 2W, MOVING OPERATIONS - DAY ONLY
701321-18	LANE CLOSURE, 2L, 2W, BRIDGE REPAIR WITH BARRIER
701400-09	APPROACH TO LANE CLOSURE, FREEWAY / EXPRESSWAY
701401-12	LANE CLOSURE, FREEWAY / EXPRESSWAY
701411-09	LANE CLOSURE, MULTILANE, AT ENTRANCE OR EXIT RAMP, FOR SPEEDS ≥ 45 MPH
701421-08	LANE CLOSURE, MULTILANE, DAY OPERATIONS ONLY, FOR SPEEDS ≥ 45 MPH TO 55 MPH
701426-09	LANE CLOSURE, MULTILANE, INTERMITTENT OR MOVING OPER., FOR SPEEDS ≥ 45 MPH
701428-01	TRAFFIC CONTROL SETUP AND REMOVAL FREEWAY / EXPRESSWAY
701901-08	TRAFFIC CONTROL DEVICES
780001-05	TYPICAL PAVEMENT MARKINGS
862001-01	UNINTERRUPTIBLE POWER SUPPLY

**GENERAL NOTES**

- 1) 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/CUYD
- 2) THE ELECTRICAL CONDUIT FOR LIGHTING ON THE BRIDGE SHALL BE REMOVED AS NEEDED AND REINSTALLED AFTER THE CONCRETE REPAIRS ARE COMPLETED. COST INCLUDED IN STRUCTURAL REPAIR OF CONCRETE.

**COMMITMENTS**

NONE

**MIXTURE REQUIREMENTS**

Locations	Hot-Mix Asphalt Surface Course
Mixture Use(s):	Hot-Mix Asphalt Surface Course, Mix D, N70
AC/PG:	PG64-22
ABR% (Max):	See Special Provision
Design Air Voids:	4.0%, 70 Gyration Design
Mixture Composition: (Gradation Mixture)	IL-9.5 mm
Friction Aggregate:	D Surface
Quality Management Program:	QCQA

REV. - MS

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USER NAME = WILSONDA	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>GENERAL NOTES, INDEX OF SHEETS, AND STANDARDS</b>	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
	DRAWN -	REVISED -			57	D9 BRIDGE REPAIR 2020-8	WILLIAMSON	24	3	
PLOT SCALE = 100.0000' / in.	CHECKED -	REVISED -			CONTRACT NO. 78768					
PLOT DATE = 8/27/2020	DATE -	REVISED -			ILLINOIS FED. AID PROJECT					
				SCALE:	SHEET	OF	SHEETS	STA.	TO STA.	

# SUMMARY OF QUANTITIES

ROUTE:	FAI 57 (I-57)
COUNTY:	WILLIAMSON
FUNDING:	90% FEDERAL / 10% STATE
LOCATION:	RURAL
	SN 100-0039
	0013

CODE NUMBER	ITEM DESCRIPTION	UNIT	
40600290	BITUMINOUS MATERIALS (TACK COAT)	POUND	75
40600982	HOT-MIX ASPHALT SURFACE REMOVAL-BUTT JOINT	SQ YD	110
40600990	TEMPORARY RAMP	SQ YD	54
40604022	HOT-MIX ASPHALT SURFACE COURSE, IL-9.5FG, MIX "D", N70	TON	39
50102400	CONCRETE REMOVAL	CU YD	22.2
50300225	CONCRETE STRUCTURES	CU YD	3
50300255	CONCRETE SUPERSTRUCTURE	CU YD	25.6
50300260	BRIDGE DECK GROOVING	SQ YD	988
50300300	PROTECTIVE COAT	SQ YD	1081
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	4880
50800515	BAR SPLICERS	EACH	56
52000110	PREFORMED JOINT STRIP SEAL	FOOT	150
60300105	FRAMES AND GRATES TO BE ADJUSTED	EACH	4

REV. - MS

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PLOT DATE = 8/13/2020	DATE -	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**SUMMARY OF QUANTITIES**

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	D9 BRIDGE REPAIR 2020-8	WILLIAMSON	24	4
CONTRACT NO. 78768				
ILLINOIS FED. AID PROJECT				

# SUMMARY OF QUANTITIES

ROUTE:	FAI 57 (I-57)
COUNTY:	WILLIAMSON
FUNDING:	90% FEDERAL / 10% STATE
LOCATION:	RURAL
	SN 100-0039
	0013

CODE NUMBER	ITEM DESCRIPTION	UNIT	
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	4
67100100	MOBILIZATION	L SUM	1
70100205	TRAFFIC CONTROL AND PROTECTION, STANDARD 701401	EACH	1
70100405	TRAFFIC CONTROL AND PROTECTION, STANDARD 701321	EACH	1
70100420	TRAFFIC CONTROL AND PROTECTION, STANDARD 701411	EACH	2
70100450	TRAFFIC CONTROL AND PROTECTION, STANDARD 701201	L SUM	1
70103815	TRAFFIC CONTROL SURVEILLANCE	CAL DA	6
70106500	TEMPORARY BRIDGE TRAFFIC SIGNALS	EACH	1
70106700	TEMPORARY RUMBLE STRIPS	EACH	6
70107025	CHANGEABLE MESSAGE SIGN	CAL DA	56
70200100	NIGHTTIME WORK ZONE LIGHTING	L SUM	1
70300100	SHORT TERM PAVEMENT MARKING	FOOT	341
70300150	SHORT TERM PAVEMENT MARKING REMOVAL	SQ FT	114

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PLOT DATE = 8/13/2020	DATE -	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

<b>SUMMARY OF QUANTITIES</b>	
SCALE:	SHEET OF SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	D9 BRIDGE REPAIR 2020-8	WILLIAMSON	24	5
CONTRACT NO. 78768				
ILLINOIS FED. AID PROJECT				

# SUMMARY OF QUANTITIES

ROUTE:	FAI 57 (I-57)
COUNTY:	WILLIAMSON
FUNDING:	90% FEDERAL / 10% STATE
LOCATION:	RURAL
	SN 100-0039
	0013

CODE NUMBER	ITEM DESCRIPTION	UNIT	QUANTITY
70400100	TEMPORARY CONCRETE BARRIER	FOOT	725
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	388
70600250	IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE) TEST LEVEL 3	EACH	2
70600260	IMPACT ATTENUATORS, TEMPORARY(FULLY REDIRECTIVE, NARROW)TEST LEVEL 3	EACH	2
70600350	IMPACT ATTENUATORS, RELOCATE (NON-DIRECTIVE), TEST LEVEL 3	EACH	2
* 78001110	PAINT PAVEMENT MARKING-LINE 4"	FOOT	1364
78300200	RAISED REFLECTIVE PAVEMENT MARKER REMOVAL	EACH	4
* 86200300	UNINTERRUPTABLE POWER SUPPLY, EXTENDED	EACH	1
X0325748	ACRYLIC COATING	SQ YD	33
X0325749	FIBER WRAP	SQ FT	292
X0327979	PAVEMENT MARKING REMOVAL -GRINDING	SQ FT	149
X7010216	TRAFFIC CONTROL AND PROTECTION, (SPECIAL)	L SUM	1
X7040125	PINNING TEMPORARY CONCRETE BARRIER	EACH	30

\* SPECIALTY ITEM

REV. - MS

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PLOT SCALE = 100.0000' / in.	CHECKED -	REVISED -
PLOT DATE = 8/13/2020	DATE -	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**SUMMARY OF QUANTITIES**

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	D9 BRIDGE REPAIR 2020-8	WILLIAMSON	24	6
CONTRACT NO. 78768				
ILLINOIS FED. AID PROJECT				



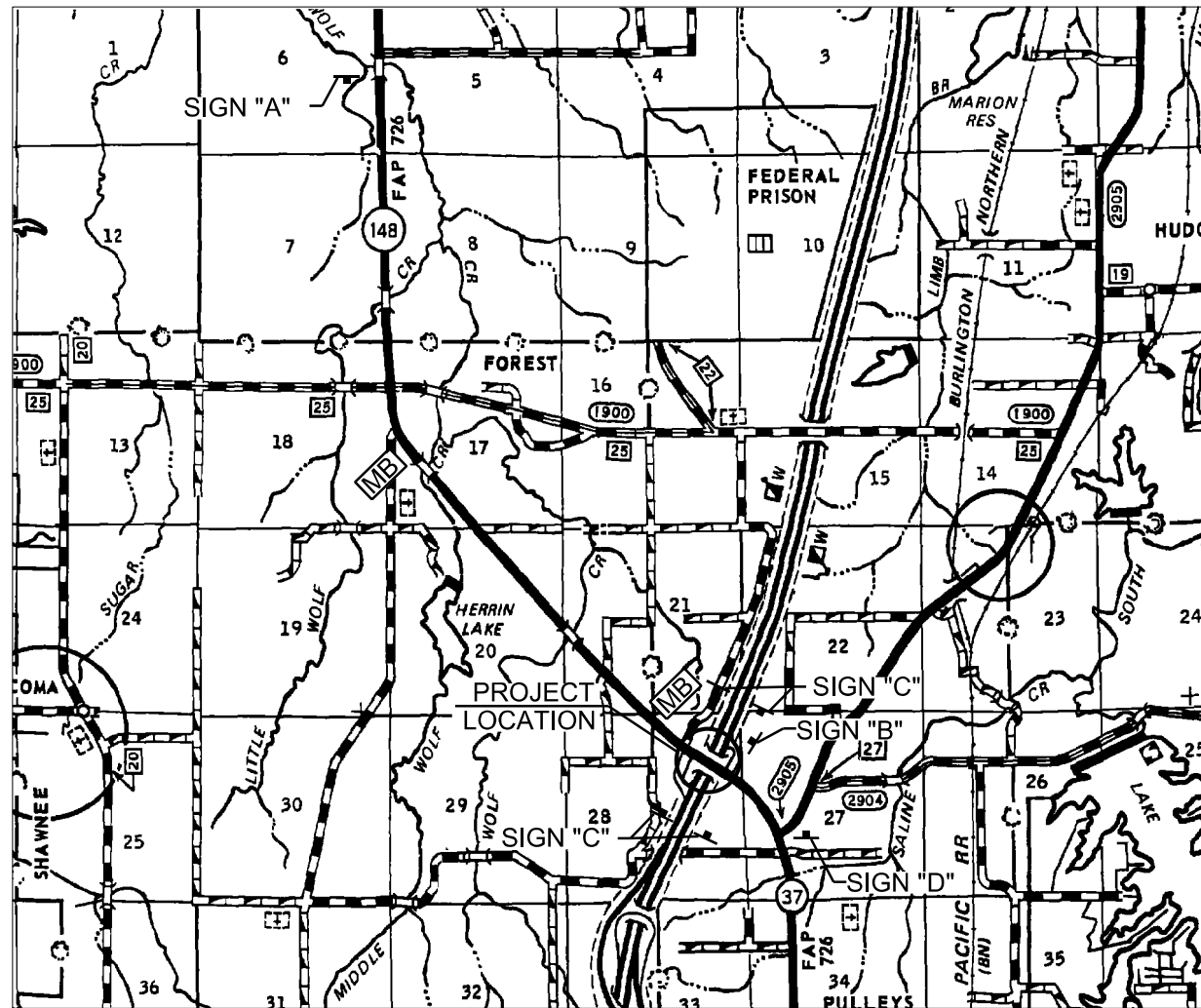
TEMPORARY CONCRETE BARRIER SCHEDULE						
LOCATION	TEMPORARY CONCRETE BARRIER	RELOCATE TEMPORARY CONCRETE BARRIER	PINNING TEMPORARY CONCRETE BARRIER	IMPACT ATTENUATORS, TEMP (NRD) TEST LEVEL 3	IMPACT ATTENUATORS RELOCATE (NRD) TEST LEVEL 3	IMPACT ATTENUATORS, TEMP (FD, NARROW) TEST LEVEL 3
	FOOT	FOOT	EACH	EACH	EACH	EACH
IL 148 STAGE I TRAFFIC CONTROL	400			2		
IL 148 STAGE II TRAFFIC CONTROL		388			2	
I-57 NBL SHOULDER	162.5		15			1
I-57 SBL SHOULDER	162.5		15			1
<b>TOTAL</b>	<b>725</b>	<b>388</b>	<b>30</b>	<b>2</b>	<b>2</b>	<b>2</b>

PAVEMENT MARKING SCHEDULE						
STATION		NOTES		PAINT PAVEMENT MARKING - LINE 4"		
				SOLID WHITE	WHITE SKIP DASH	SOLID YELLOW
				FOOT	FOOT	FOOT
SN 100-0039						
20+41.77	RT TO	23+82.69	RT	341		
20+41.77		23+82.69				682
20+41.77	LT TO	23+82.69	LT	341		
SUBTOTAL				682	0	682
TOTAL					1364	

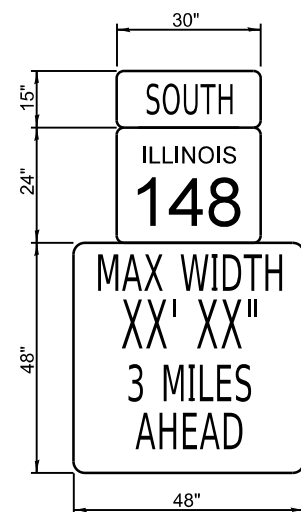
CONCRETE AND REINFORCEMENT SCHEDULE				
LOCATION	CONCRETE REMOVAL (CU YD)	CONCRETE STRUCTURES (CU YD)	CONCRETE SUPERSTRUCTURE (CU YD)	REINFORCEMENT, EPOXY COATED (POUND)
PARAPETS	2.0		2.0	150
ABUT. JOINTS	10.1		11.6	1330
PIER 1&3 JOINTS	10.1		12.0	1600
PIER 1&3 CAPS		3.0		1800
<b>TOTAL</b>	<b>22.2</b>	<b>3.0</b>	<b>25.6</b>	<b>4880</b>

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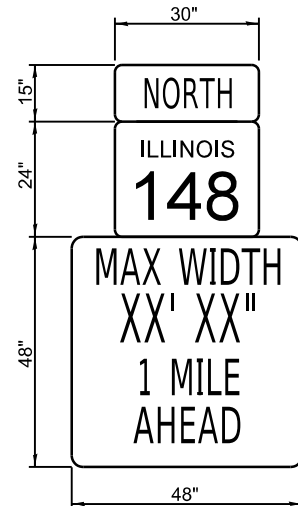
**SIGNING PLAN**



**SIGN A**

W12-1103 48" X 48" WITH XX' XX''  
LETTERS BLACK ON ORANGE  
MAX WIDTH & 2 MILES AHEAD  
BLACK ON WHITE WITH M3-3 30X15  
AND M1-1100 30X24

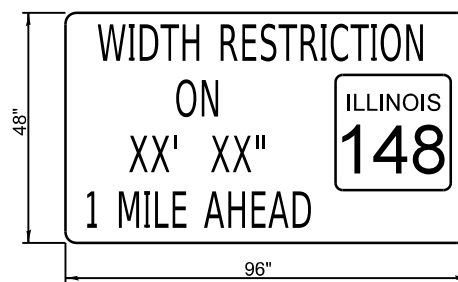
LOCATED SOUTH OF THE INTERSECTION  
OF IL 148 AND OGDEN ROAD (CH 25)



**SIGN B**

W12-1103 48" X 48" WITH XX' XX''  
LETTERS BLACK ON ORANGE  
MAX WIDTH & 2 MILES AHEAD  
BLACK ON WHITE WITH M3-1 30X15  
AND M1-1100 30X24

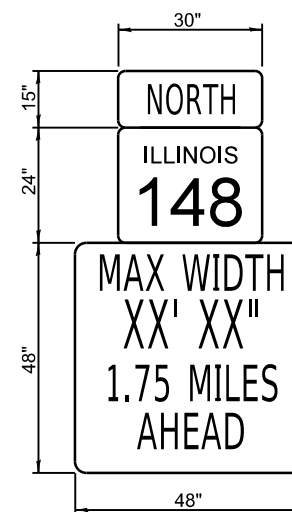
LOCATED EAST OF I-57 ON IL 148



**SIGN C**

CUSTOM WIDTH RESTRICTION SIGN  
BLACK ON ORANGE 96"X48" WITH  
IL 148 SIGN BLACK ON WHITE 24"X24"

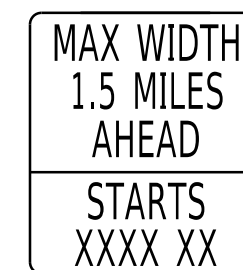
LOCATED ON BOTH SIDES OF I-57  
APPROXIMATELY ONE MILE SOUTH  
& NORTH OF THE I-57 OFF RAMP



**SIGN D**

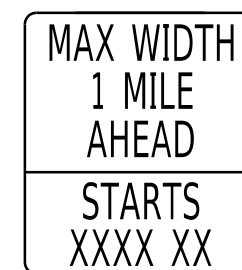
W12-1103 48" X 48" WITH XX' XX''  
LETTERS BLACK ON ORANGE  
MAX WIDTH & 1.75 MILES AHEAD  
BLACK ON WHITE WITH M3-3 30X15  
AND M1-1100 30X24

LOCATED NORTH OF THE INTERSECTION  
OF IL 148 AND DAY ROAD



**MESSAGE BOARD**

LOCATED WEST OF THE INTERSECTION  
OF IL 148 AND I-57 OFF RAMP



**MESSAGE BOARD**

LOCATED NORTH OF THE DRIVEWAY  
NORTH OF SNEED ROAD ON IL 148

MESSAGE BOARDS TO BE PLACED TWO  
WEEKS BEFORE CONSTRUCTION BEGINS

**STAGING GENERAL NOTES**

1. TRAFFIC CONTROL SHALL BE ERECTED AS SHOWN AND ACCORDING TO TRAFFIC CONTROL AND PROTECTION, STANDARD 701321. SEE STANDARD 701321 FOR THE COMPLETION OF STAGE CONSTRUCTION TRAFFIC CONTROL THAT IS NOT SHOWN THAT INCLUDES, BUT IS NOT LIMITED TO, ADVANCE SIGNING, ADVANCE LOOP PLACEMENT, DRUMS WITH STEADY BURNING LIGHTS, DOUBLE VERTICAL PANELS AND BARRIER WALL/GUARDRAIL MARKERS.
2. SEE SPECIAL PROVISIONS FOR ADDITIONAL TRAFFIC CONTROL REQUIREMENTS.
3. TEMPORARY RUMBLE STRIPS SHOWN ON STANDARD 701321 WILL BE REQUIRED.
4. THE DIMENSION SHOWN ON THE WIDTH RESTRICTION SIGN (W12-10210)-48) SHOWN ON STANDARD 701321 AND ON THE ADVANCE WARNING SIGN (W12-1103) SHOWN ON THIS SHEET SHALL BE 12'-10" FOR STAGE I CONSTRUCTION AND 13'-10" FOR STAGE II CONSTRUCTION.
5. THE CENTERLINE PAVEMENT MARKING SHALL BE REMOVED FROM THE STOP BAR TO THE SAND ATTENUATORS OR DRUMS, EDGE LINE PAVEMENT MARKING SHOULD BE REMOVED IF A 10 FT. LANE WIDTH CANNOT BE MAINTAINED. TEMPORARY EDGE LINES SHOULD BE INSTALLED WHEN THE EDGE LINES ARE REMOVED.
6. THE TEMPORARY SIGNALS SHALL REMAIN IN OPERATION AND THE TEMPORARY BARRIERS SHALL REMAIN IN PLACE UNTIL THE CONCRETE OVERLAY IS COMPLETED. AFTER COMPLETION OF THE DESIGNATED WORK THE TEMPORARY SIGNALS WILL BE EITHER REMOVED OR TURNED OFF AND COVERED AND THE TEMPORARY CONCRETE BARRIER REMOVED.
7. THE COST OF PROVIDING SIGNS A, B, C & D AND THEIR POSTS AND ALL WORK NECESSARY TO INSTALL THEM IS INCLUDED IN THE COST OF TRAFFIC CONTROL AND PROTECTION STANDARD 701321.

MOORE, J. Default  
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PROJECT: 78768  
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USER NAME = WILSONDA	DESIGNED -	REVISED -
	DRAWN -	REVISED -
PLOT SCALE = 100.0000' / in.	CHECKED -	REVISED -
PLOT DATE = 8/27/2020	DATE -	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**WIDTH RESTRICTION SIGNING  
SN 100-0039**

SCALE: SHEET OF SHEETS STA. TO STA.

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57	D9 BRIDGE REPAIR 2020-8	WILLIAMSON	24	9
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ILLINOIS FED. AID PROJECT				

**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.

Prior to pouring the new concrete deck section, 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 the Concrete Removal.

Reinforcement bars designated (E) shall be epoxy coated.

Areas of deck repairs shown are estimated. The Engineer shall show actual locations of deck repairs on as-built plans.

For Section A-A, see sheet 23 of 24.

Synthetic fibers shall be added to the Bridge Deck Microsilica Concrete Overlay, see Special Provisions.

**TOTAL BILL OF MATERIAL**

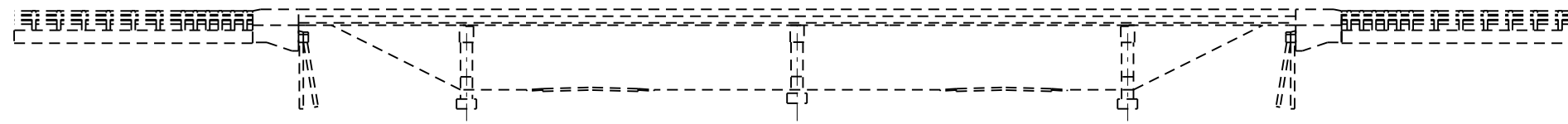
ITEM	UNIT	QUANTITY
Concrete Removal	Cu. Yd.	22.2
Concrete Superstructure	Cu. Yd.	25.6
Reinforcement Bars, Epoxy Coated	Pound	4880
Bar Splicers	Each	56
Preformed Joint Strip Seal	Foot	150
Hot-Mix Asphalt Surface Course, IL-9.5 FG, N70	Ton	39
Structural Repair of Concrete (Depth ≤ 5")	Sq. Ft.	458
Deck Slab Repair (Partial Depth)	Sq. Yd.	2
Approach Slab Repair (Partial Depth)	Sq. Yd.	9
Bridge Deck Scarification 1/2"	Sq. Yd.	988
Bridge Deck Microsilica Concrete Overlay 2 1/2"	Sq. Yd.	988
Bridge Deck Grooving	Sq. Yd.	988
* Protective Coat	Sq. Yd.	1081
Frames and Grates to be Adjusted	Each	4
Fiber Wrap	Sq. Ft.	292
Acrylic Coating	Sq. Yd.	33
Concrete Structures	Cu. Yd.	3.0
Bituminous Materials (Tack Coat)	Pound	75
Hot-Mix Asphalt Surface Removal-Butt Joint	Sq. Yd.	110
Temporary Ramp	Sq. Yd.	54
Temporary Shoring and Cribbing	Each	14

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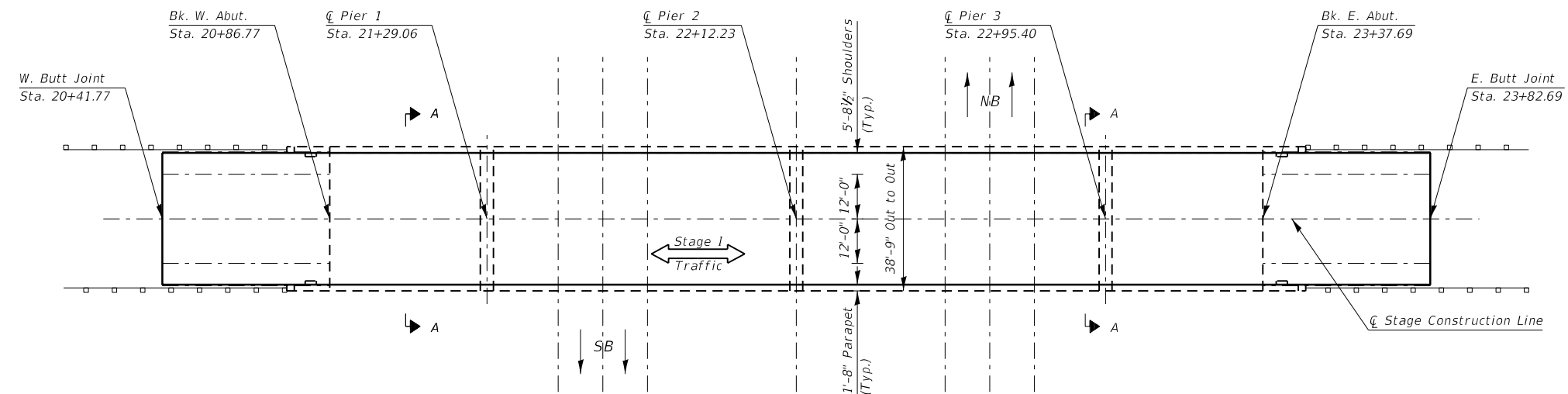
\* on new concrete adjacent to joints and overlay.

\*\* for reference only

**GENERAL PLAN**  
**IL ROUTE 148 OVER I-57**  
**F.A.I. ROUTE 57- D9 BRIDGE REPAIR 2020-7**  
**WILLIAMSON COUNTY**  
**STATION 22+12.33**  
**STRUCTURE NO. 100-0039**



**ELEVATION**



**PLAN**

**SCOPE OF WORK**

1. Full depth Joint Reconstruction with Strip Seals at Abutments and Piers 1 & 3.
2. Staging using Temporary Concrete Barrier.
3. Microsilica Concrete Overlay using 1/2" Scarification; 2 1/2" overlay.
4. Partial Deck and Approach Slab repairs.
5. Pier repairs at Piers 1 and 3.
6. Parapet Repairs



Expires 11-30-2020

*David Carl Puzey*

9/21/2020

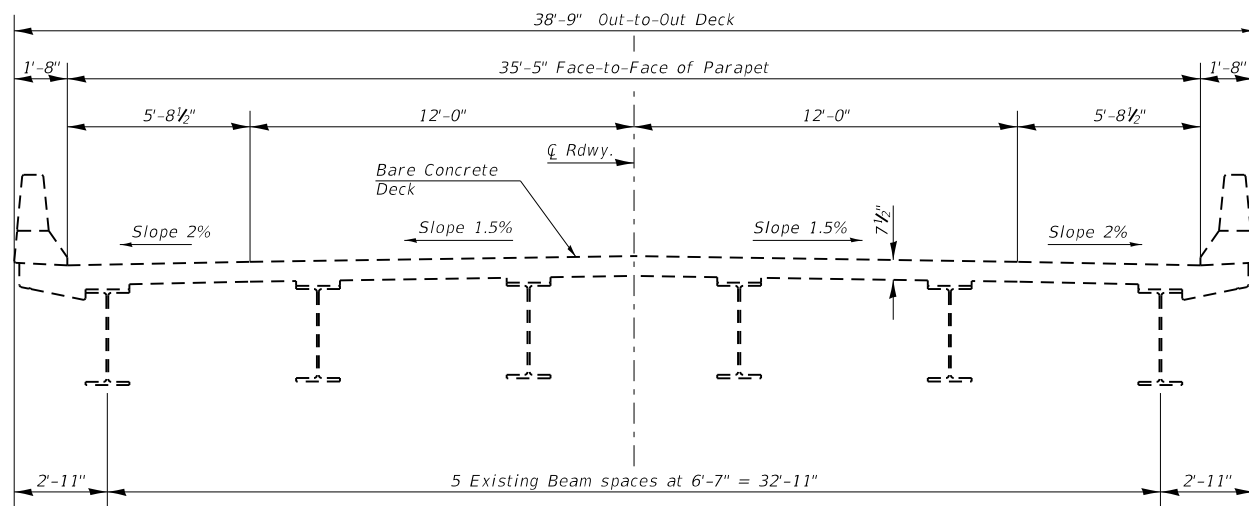
**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**GENERAL PLAN AND ELEVATION**  
**SN 100-0039**

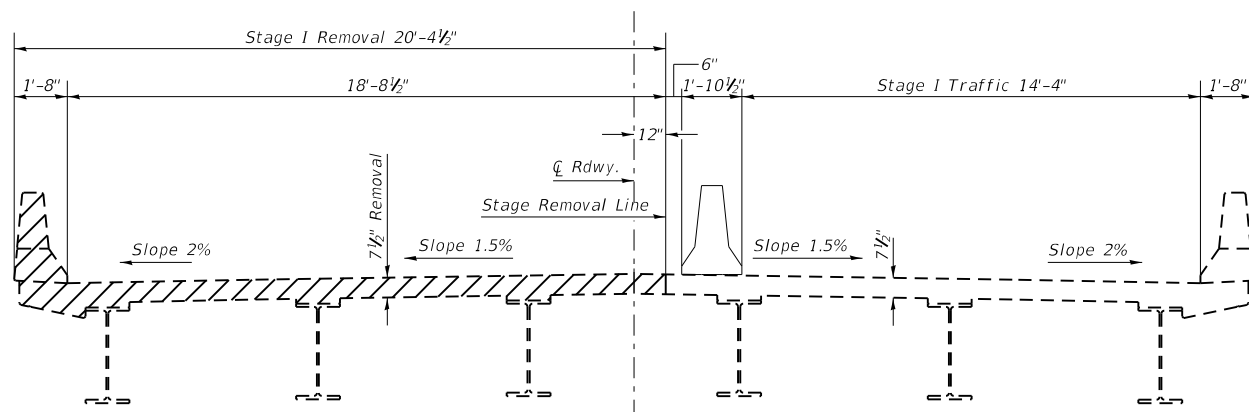
SCALE: SHEET OF SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	D9 BRIDGE REPAIR 2020-8	WILLIAMSON	24	10
			CONTRACT NO. 78768	
ILLINOIS FED. AID PROJECT				

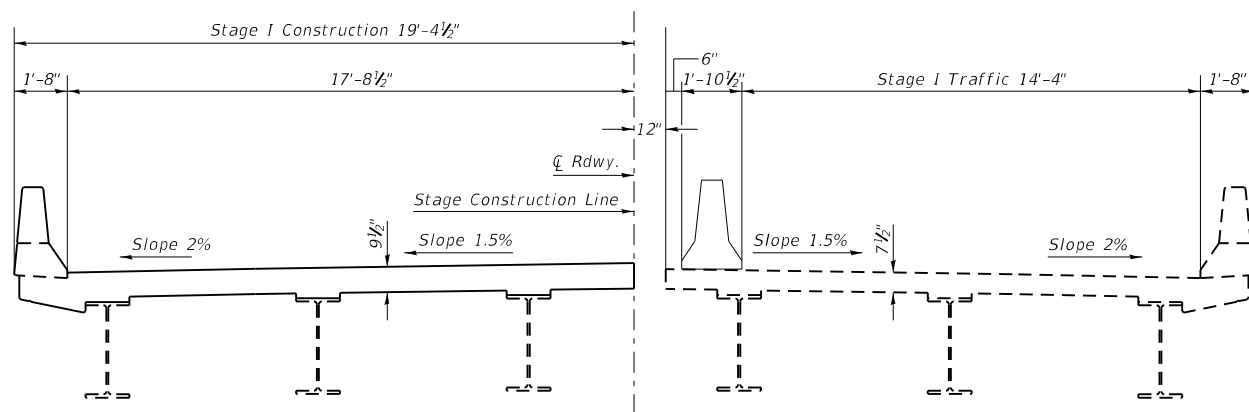
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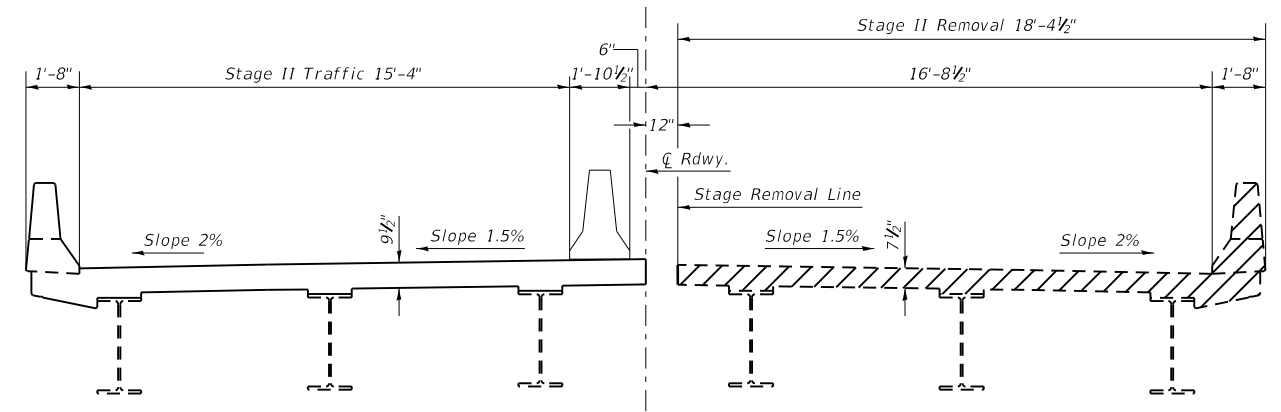
TYPICAL BRIDGE SECTION - EXISTING



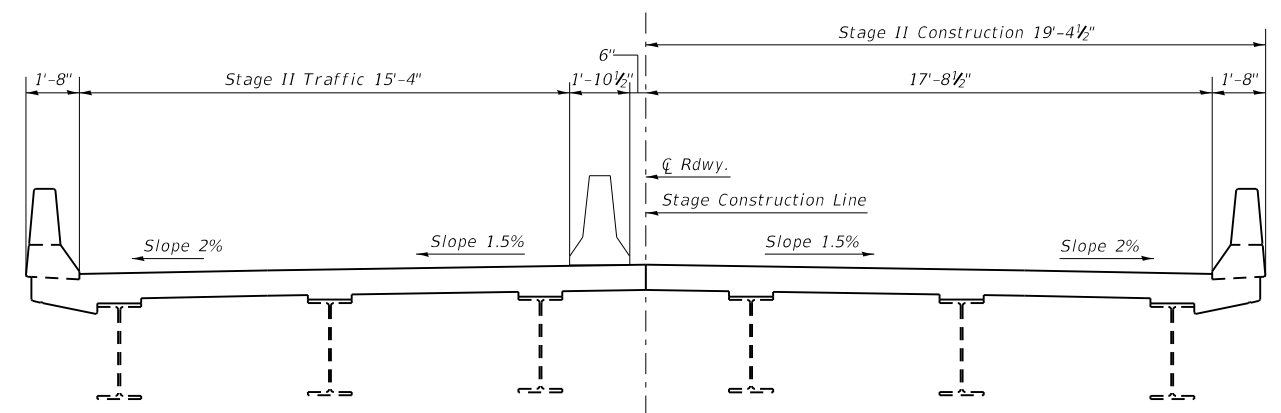
STAGE I REMOVAL



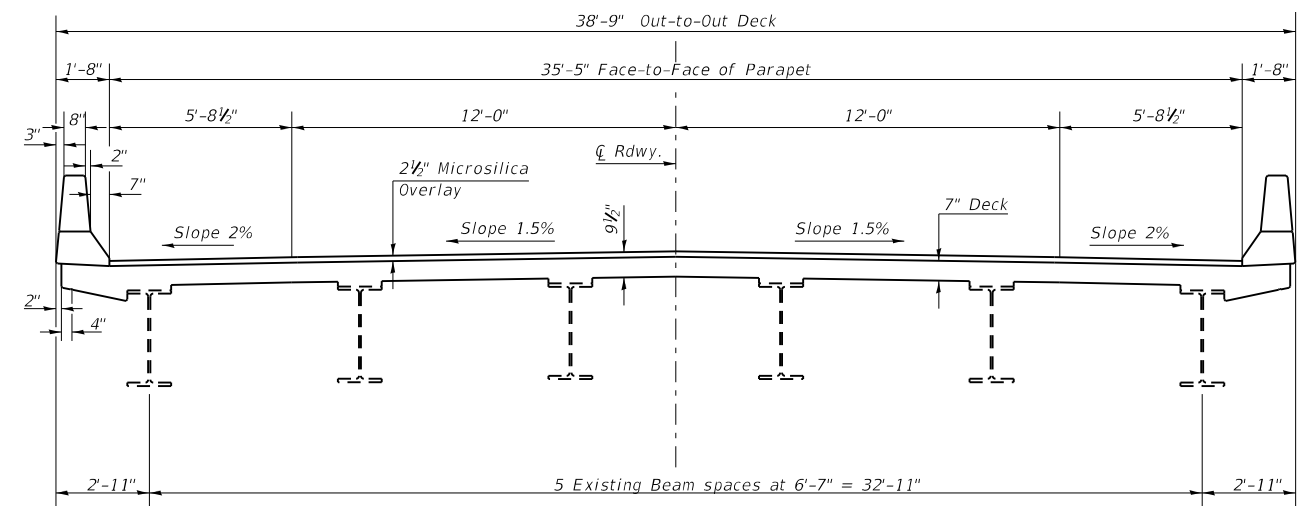
STAGE I CONSTRUCTION



STAGE II REMOVAL



STAGE II CONSTRUCTION



TYPICAL BRIDGE SECTION - OUTSIDE LIMITS OF JOINT

ALL SECTIONS LOOKING EAST



Concrete Removal (at joint locations)

STAGING DETAILS  
 IL ROUTE 148 OVER I-57  
 F.A.I. ROUTE 57 - D9 BRIDGE REPAIR 2020-7  
 WILLIAMSON COUNTY  
 STATION 22+12.23  
 STRUCTURE NO. 100-0039

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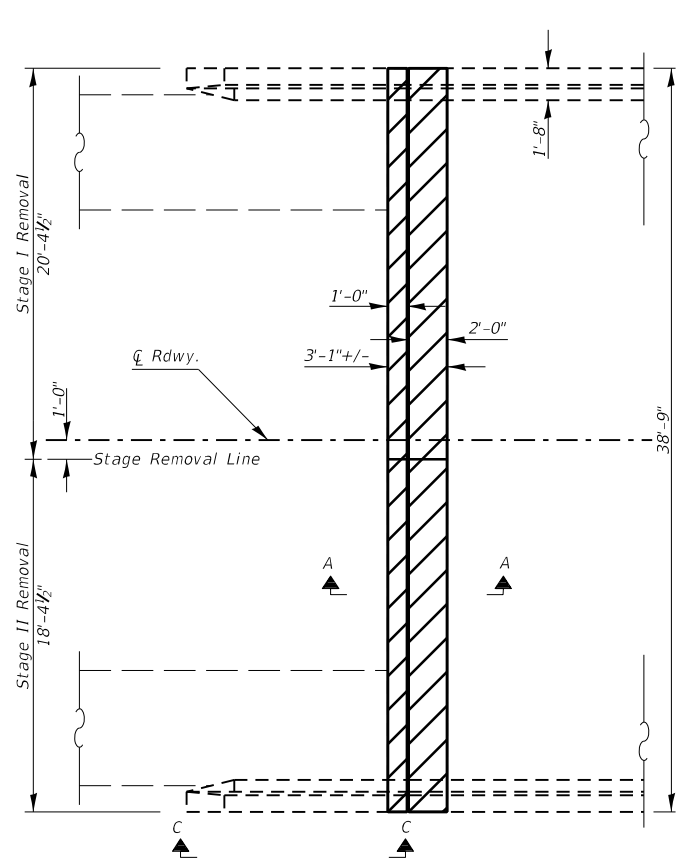
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STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

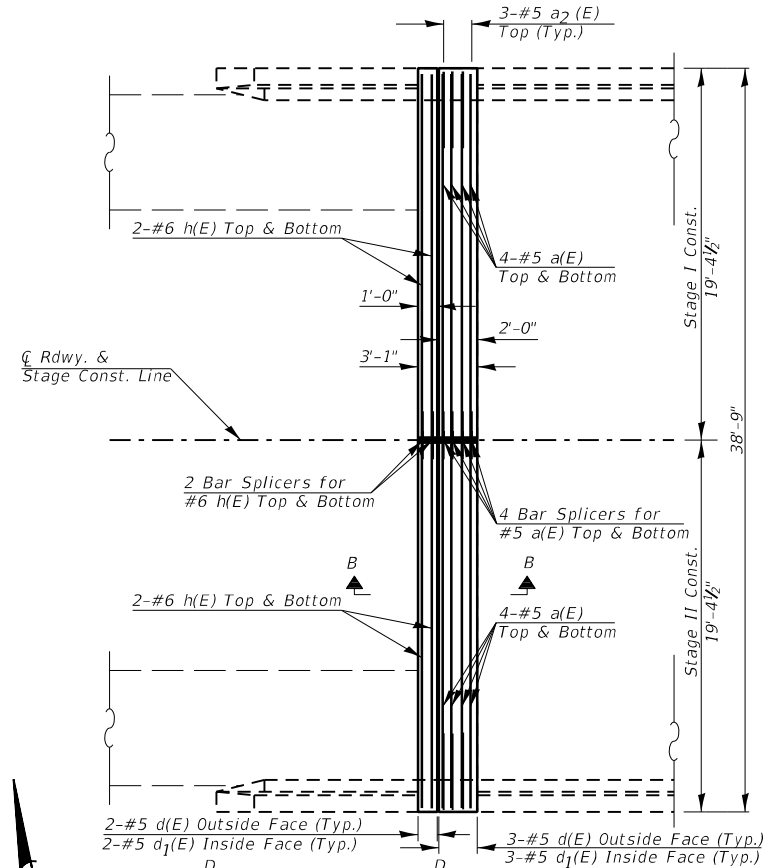
STAGING DETAILS				
SN 100-0039				
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F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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ILLINOIS FED. AID PROJECT			CONTRACT NO. 78768	

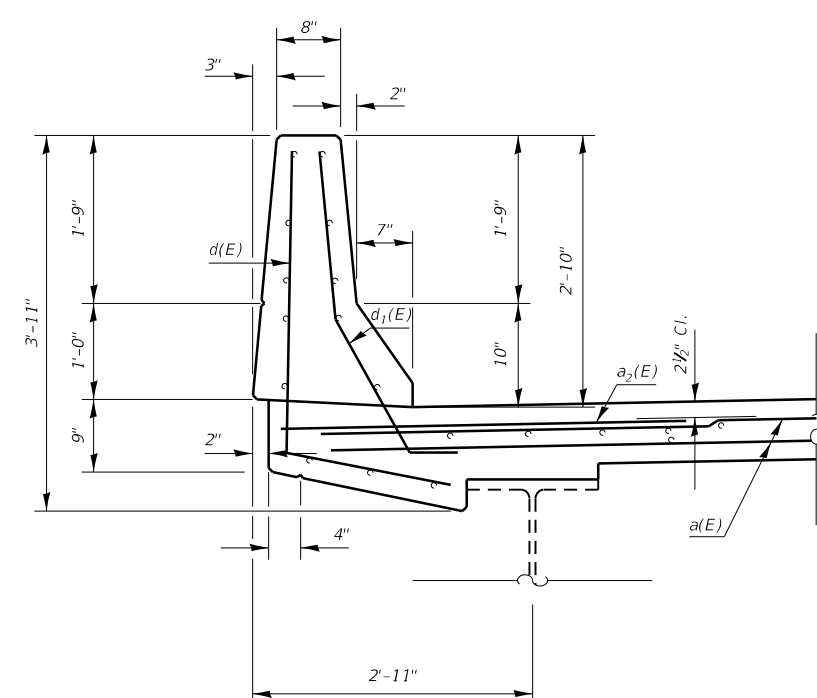
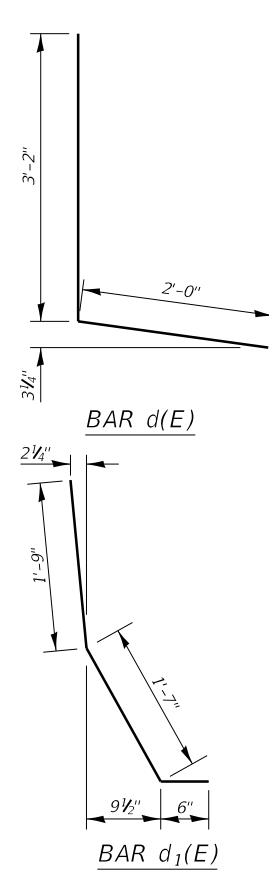




WEST ABUT. PLAN  
SHOWING CONCRETE REMOVAL  
(East Abutment similar by 180° rotation)



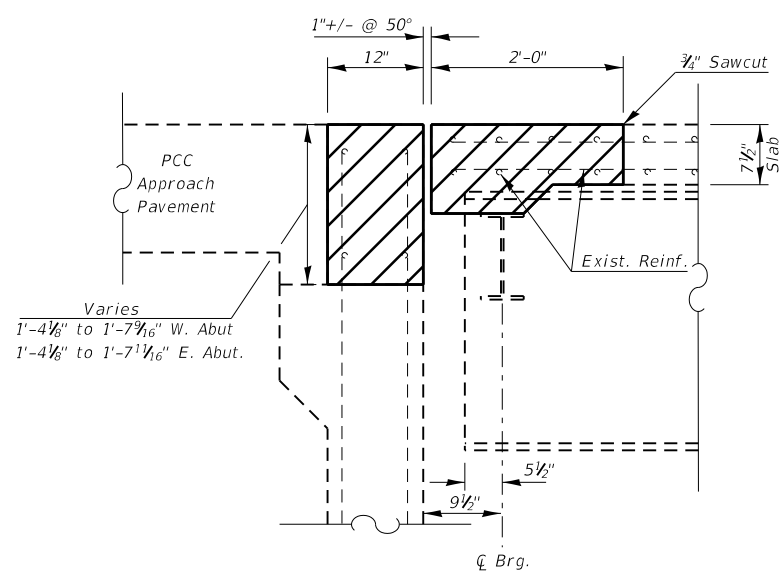
WEST ABUT. PLAN  
SHOWING NEW CONCRETE  
(East Abutment similar by 180° rotation)



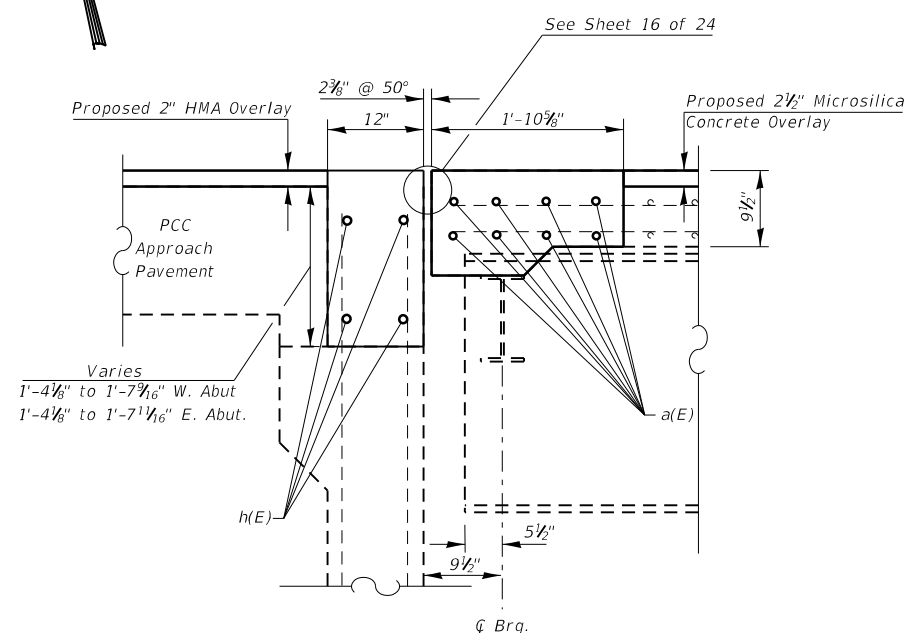
SECTION THRU PARAPET

BILL OF MATERIAL (2 ABUTMENTS)

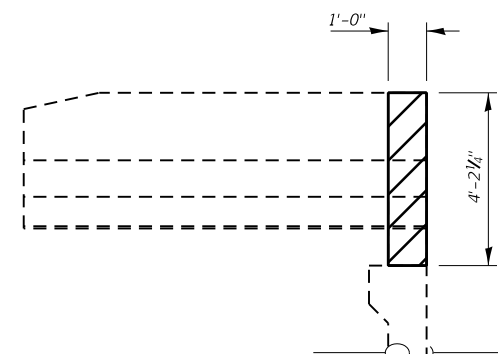
BAR	NO.	SIZE	LENGTH (Ft.)	SHAPE
a(E)	32	#5	19'-0"	—
a <sub>2</sub> (E)	12	#5	4'-0"	—
h(E)	16	#6	19'-0"	—
d(E)	20	#5	5'-2"	L
d <sub>1</sub> (E)	20	#5	3'-10"	L
Bar Splicers			Each	24
Concrete Superstructure			Cu Yd	11.6
Concrete Removal			Cu Yd	10.1
Reinforcement Bars, Epoxy Coated			Pound	1330



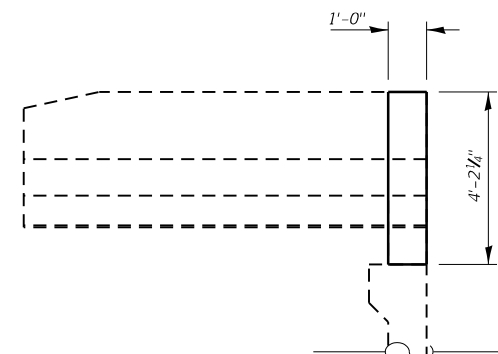
SECTION A-A



SECTION B-B



SECTION C-C  
Showing Concrete Removal



SECTION D-D  
Showing Concrete Superstructure

ABUTMENT JOINT  
REPLACEMENT DETAILS  
SN 100-0039  
IL 148 OVER I-57  
WILLIAMSON COUNTY

MCE: I: Defaul  
FILE: MCE: I: Defaul  
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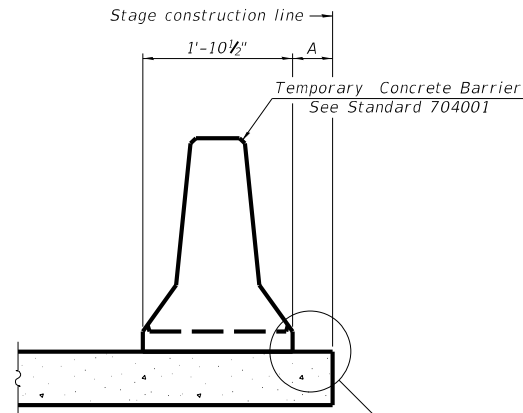
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ABUTMENT JOINT DETAILS  
SN 100-0039

SCALE: SHEET OF SHEETS STA. TO STA.

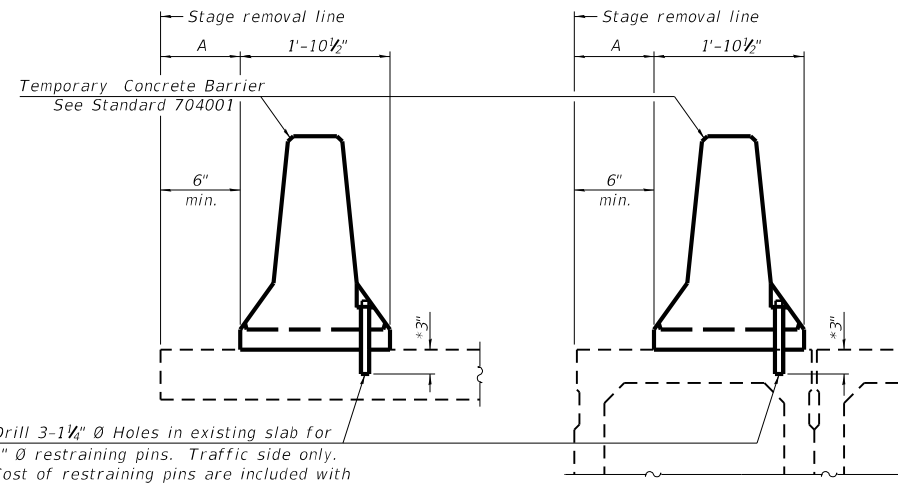
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	D9 BRIDGE REPAIR 2020-8	WILLIAMSON	24	13
			CONTRACT NO. 78768	
		ILLINOIS FED. AID PROJECT		





When "A" is 3'-1" or less, the temporary concrete barrier shall be restrained to the new slab according to Detail I, II or III. No restraint is required when "A" is greater than 3'-1".

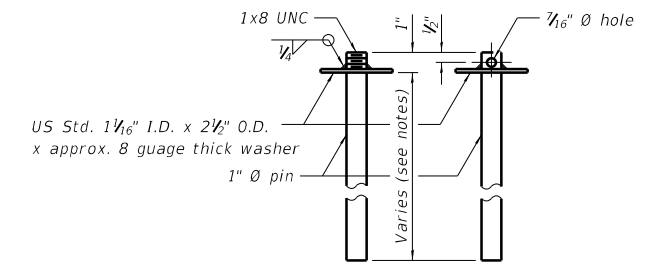
NEW SLAB OR NEW DECK BEAM



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

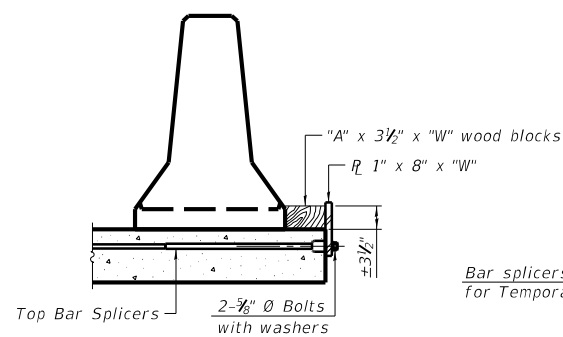
EXISTING SLAB

EXISTING DECK BEAM

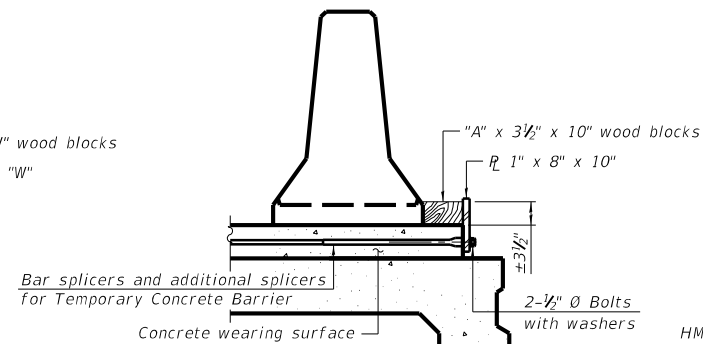


RESTRAINING PIN

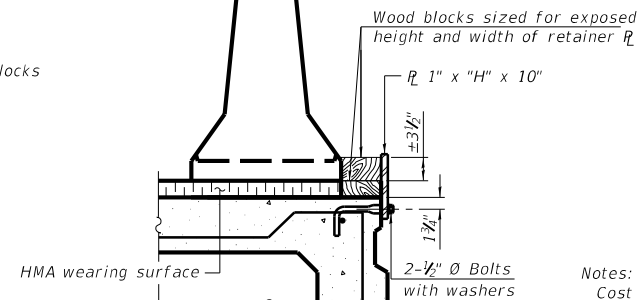
SECTIONS THRU SLAB OR DECK BEAM



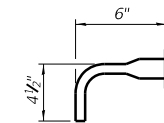
DETAIL I



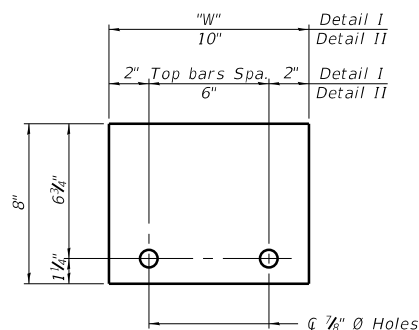
DETAIL II



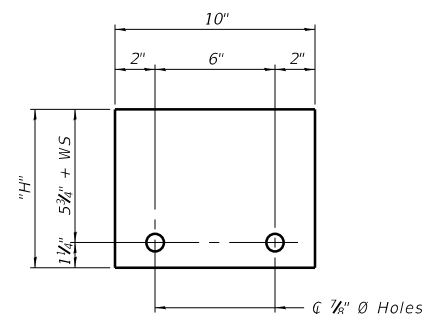
DETAIL III



BAR SPLICER FOR #4 BAR - DETAIL III



STEEL RETAINER R 1" x 8" x "W"  
(Detail I and II)



STEEL RETAINER R 1" x "H" x 10"  
(Detail III)

Notes:  
 Cost of retainer assembly is included with Temporary Concrete Barrier.  
 A retainer assembly shall be located at the approximate  $\frac{1}{2}$  of each temporary concrete barrier.  
 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 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.

MASH 2016 Test Level	3
NHCRP 350 Test Level	3
Railing Weight (plf)	440
Railing Require CVN	no

R-27 2-17-2017

TEMPORARY CONCRETE BARRIER FOR STAGE CONSTRUCTION  
STRUCTURE NO. 100-0039

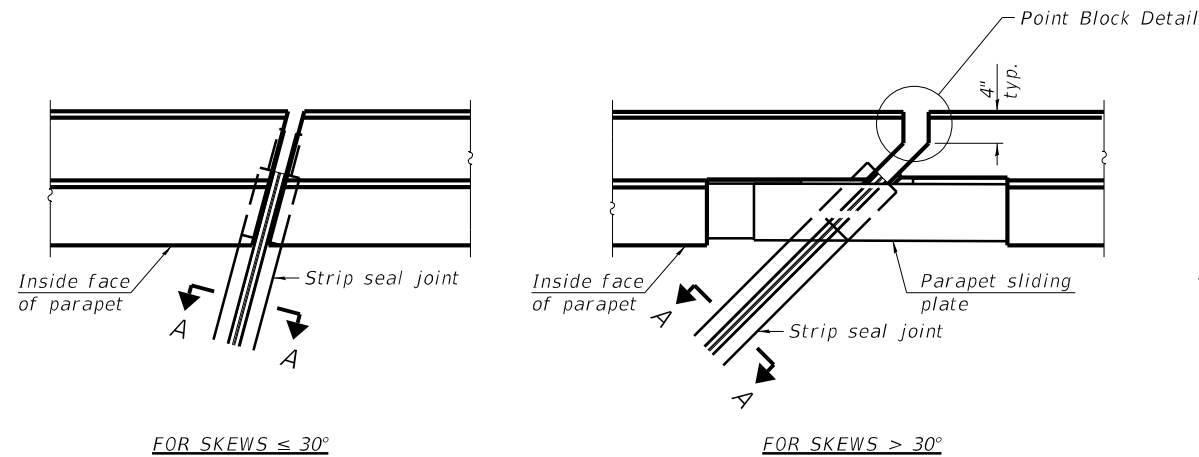
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

TEMPORARY CONCRETE BARRIER FOR STAGE CONSTRUCTION  
SN 100-0039

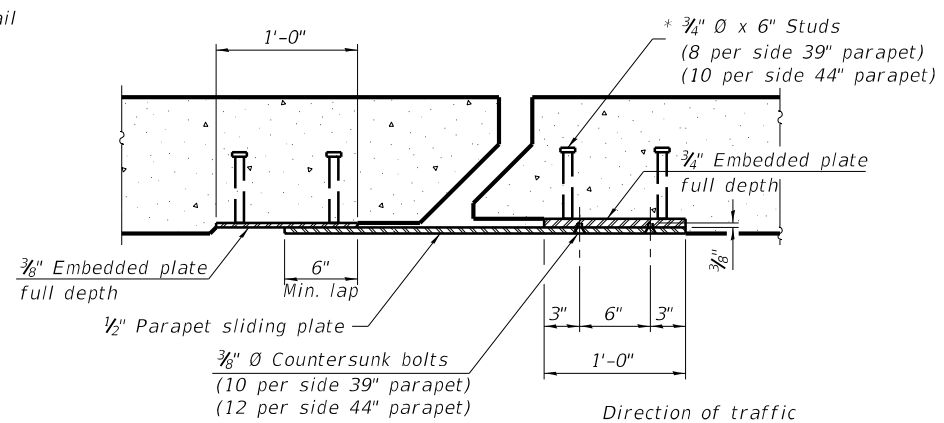
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57	D9 BRIDGE REPAIR 2020-8	WILLIAMSON	24	15
ILLINOIS FED. AID PROJECT			CONTRACT NO. 78768	

SCALE: SHEET OF SHEETS STA. TO STA.

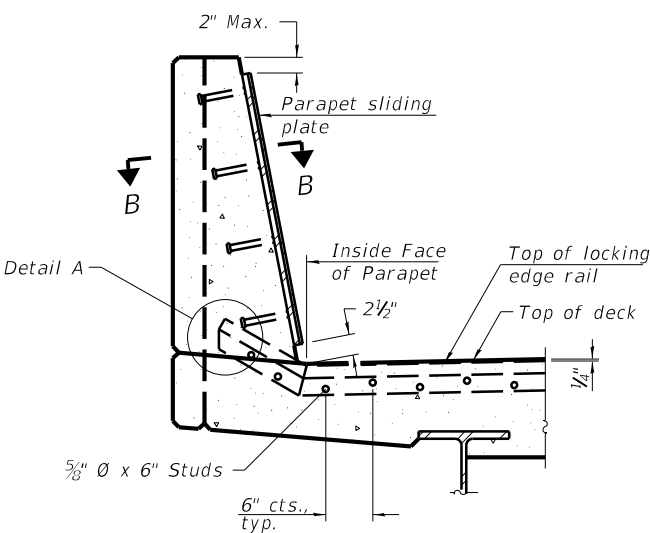
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PLAN AT PARAPET

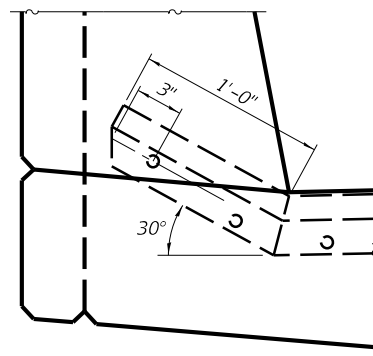


SECTION B-B

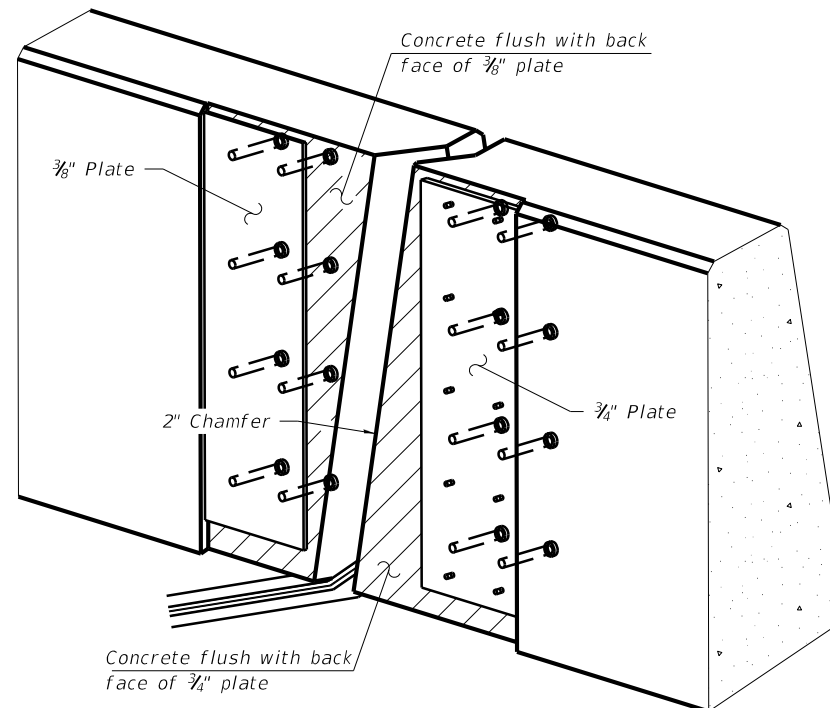


SECTION A-A

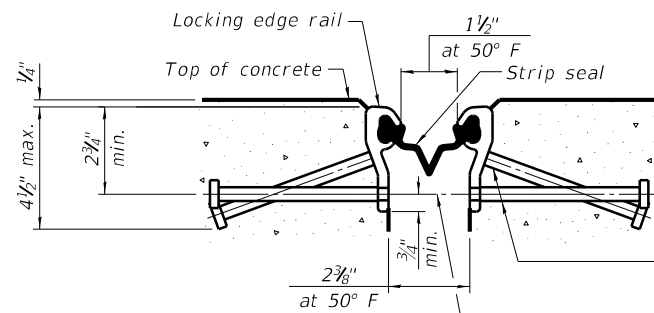
(Skews  $> 30^\circ$  shown. Skews  $\leq 30^\circ$  similar except as shown in plan view.)



DETAIL A



TRIMETRIC VIEW  
(Showing embedded plates only)



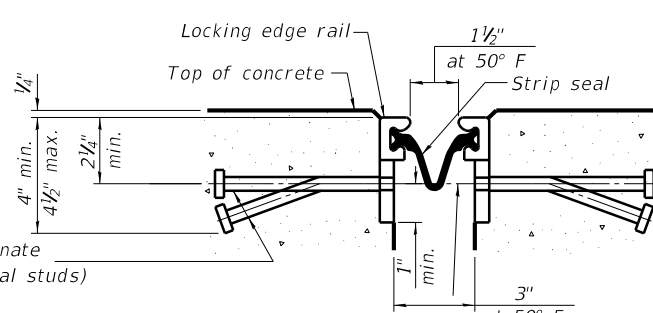
SHOWING ROLLED RAIL JOINT

\*  $\frac{5}{8}$ "  $\phi$  x 6" studs @ 6" cts. (alternate angled/bent studs with horizontal studs)

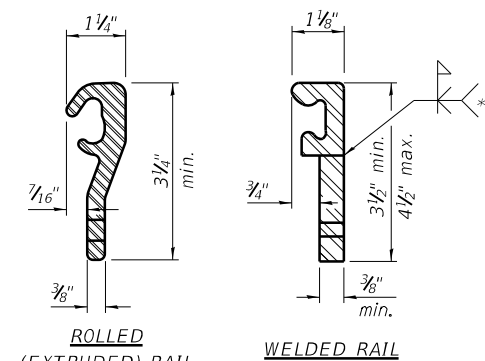
$\frac{3}{8}$ "  $\phi$  threaded rods in  $\frac{7}{16}$ "  $\phi$  holes at  $\pm 4$ "-0" cts. for holding the proper joint opening based on the temperature during the deck pour. Place to miss studs. All rods shall be burned, or sawed off flush with the plates after concrete is set.

SECTION A-A

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

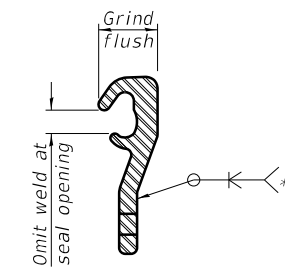


SHOWING WELDED RAIL JOINT



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

EJ-SS

1-1-2020

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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

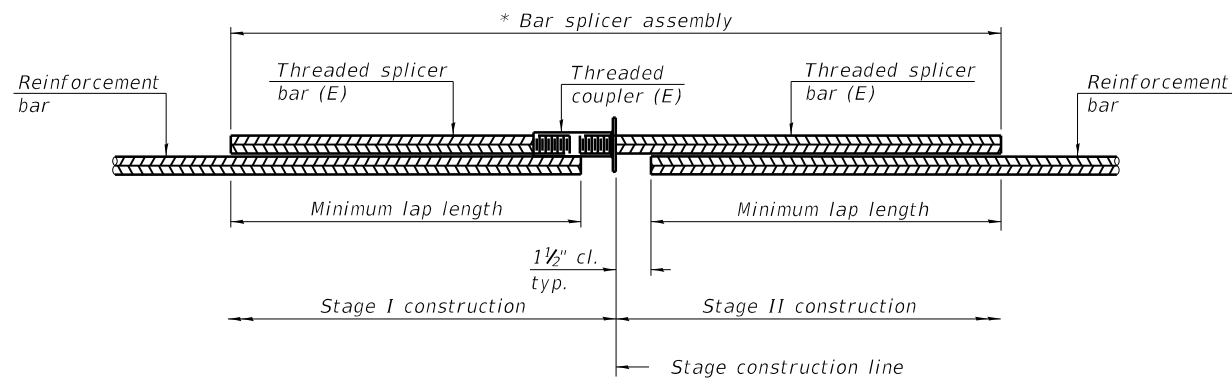
PREFORMED JOINT STRIP SEAL  
SN 100-0039

SCALE: SHEET OF SHEETS STA. TO STA.

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ILLINOIS FED. AID PROJECT			CONTRACT NO. 78768	

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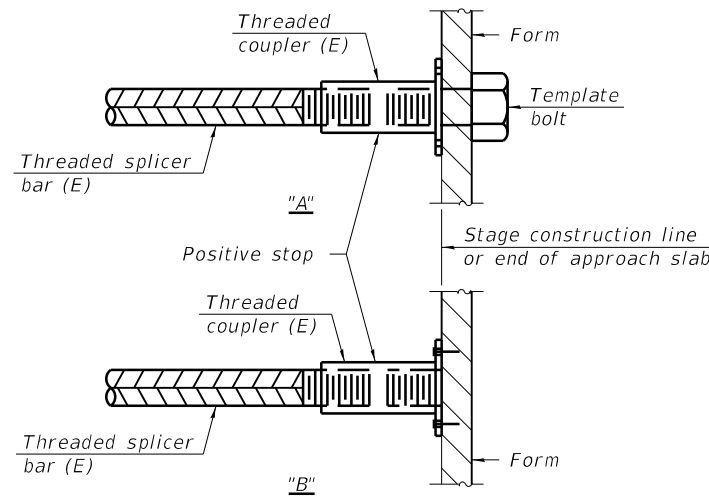


**STANDARD BAR SPLICER ASSEMBLY PLAN**  
(All components shall be provided from one supplier)

Threaded splicer bar length = min. lap length + 1 1/2" + thread length

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

Location	Bar size	No. assemblies required	Minimum lap length
Abutments (deck)	#5	16	3'-6"
Hatch Block	#6	8	4'-0"
Pier 1	#5	16	3'-6"
Pier 3	#5	16	3'-6"

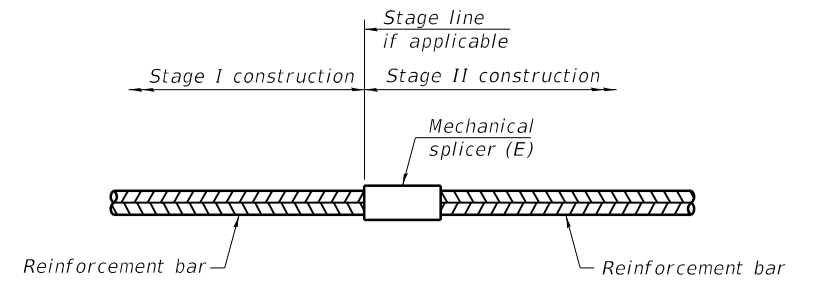


**INSTALLATION AND SETTING METHODS**

"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 1-1-2020

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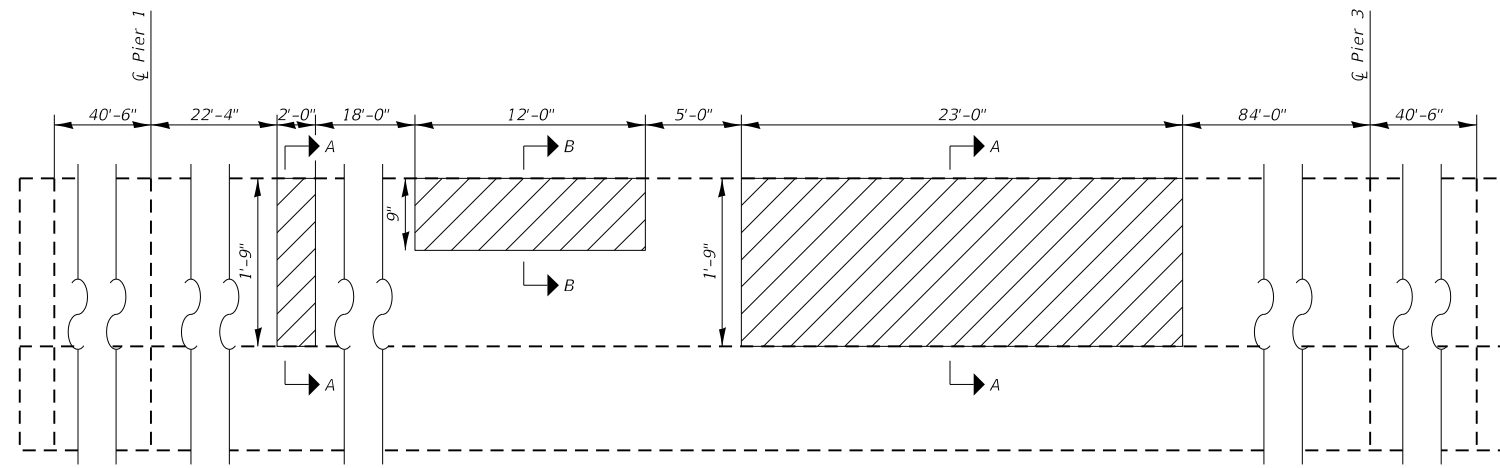
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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

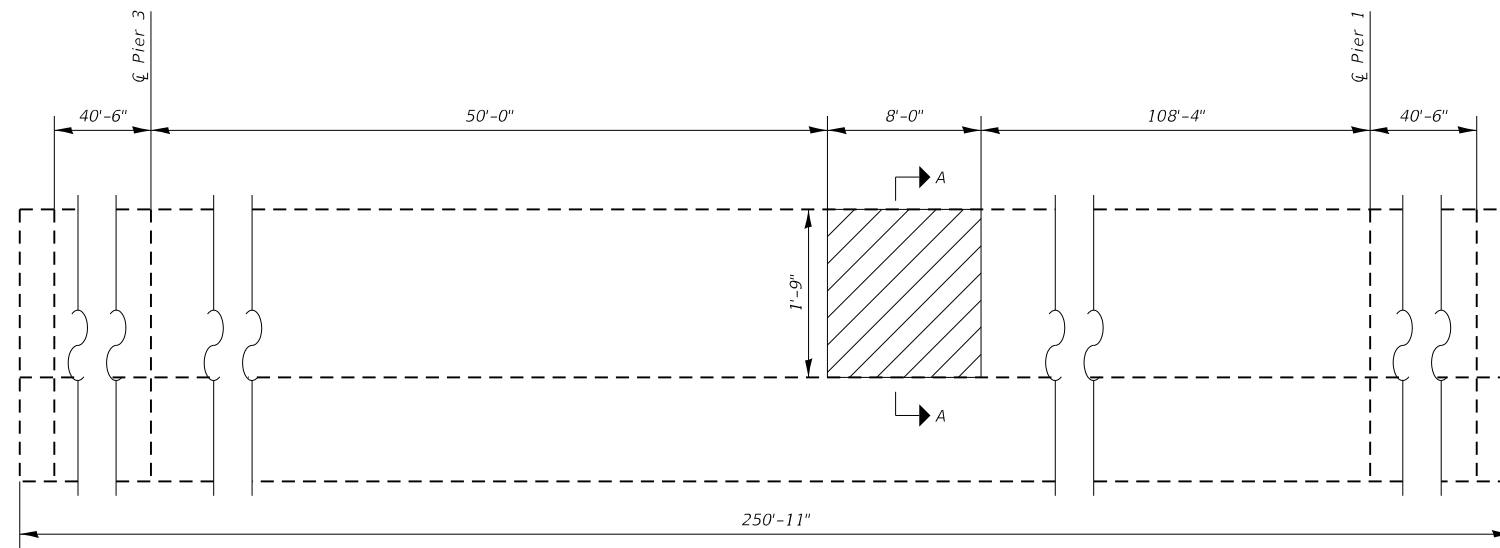
**BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS**  
**SN 100-0039**

SCALE: SHEET OF SHEETS STA. TO STA.

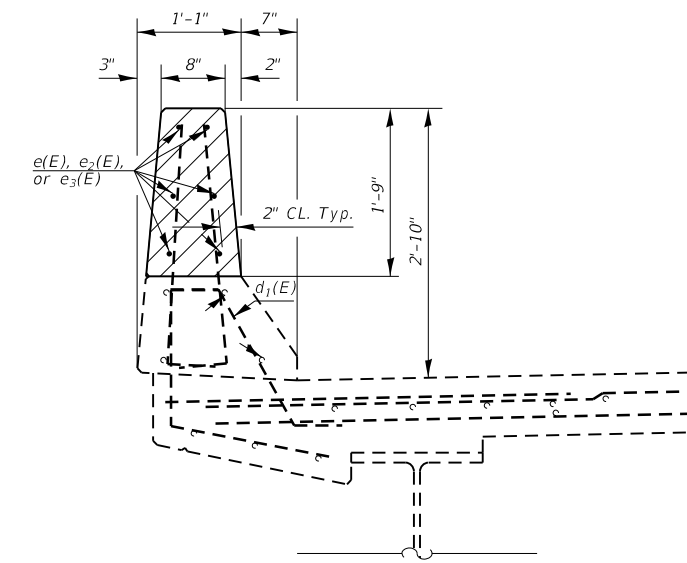
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57	D9 BRIDGE REPAIR 2020-8	WILLIAMSON	24	17
ILLINOIS FED. AID PROJECT			CONTRACT NO. 78768	



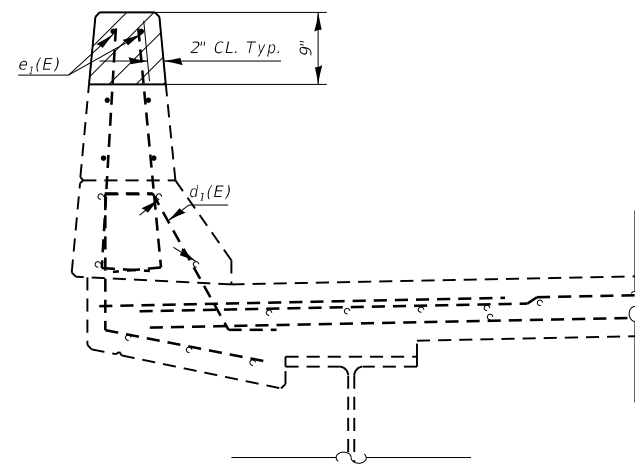
NORTH PARAPET  
(Looking North)



SOUTH PARAPET  
(Looking South)



SECTION A-A



SECTION B-B

MIN. BAR LAP  
#4 Bar = 2'-7"

Concrete Removal

BILL OF MATERIAL

BAR	NO.	SIZE	LENGTH (Ft.)	SHAPE
e(E)	6	#4	1'-9"	—
e <sub>1</sub> (E)	2	#4	11'-9"	—
e <sub>2</sub> (E)	6	#4	22'-9"	—
e <sub>3</sub> (E)	6	#4	7'-9"	—
Concrete Superstructure			Cu Yd	2
Concrete Removal			Cu Yd	2
Reinforcement Bars, Epoxy Coated			Pound	150

PARAPET REPAIR DETAILS  
SN 100-0039  
IL 148 OVER I-57  
WILLIAMSON COUNTY

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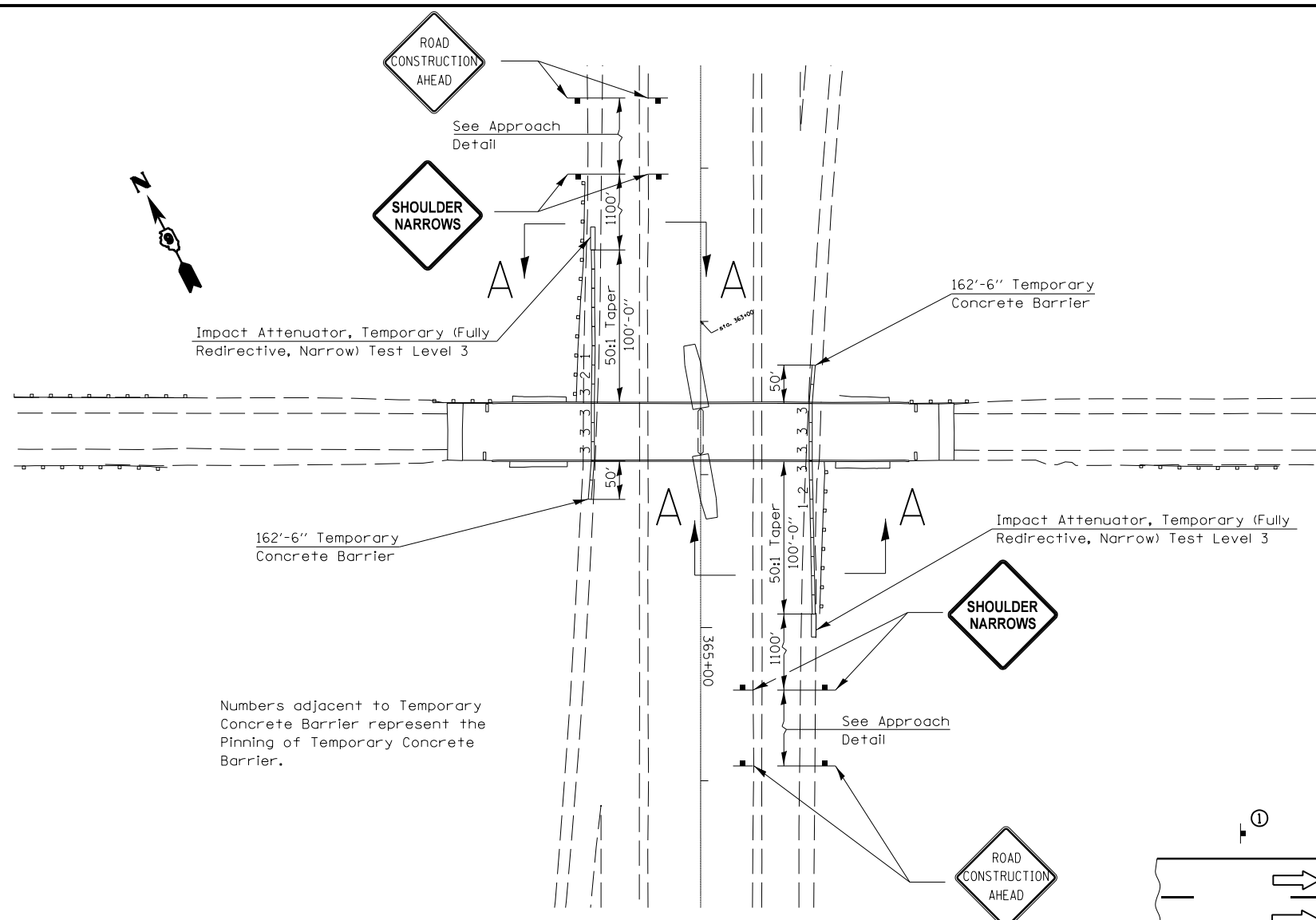
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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

PARAPET REPAIRS  
SN 100-0039

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	D9 BRIDGE REPAIR 2020-8	WILLIAMSON	24	18
CONTRACT NO. 78768				
ILLINOIS FED. AID PROJECT				



Impact Attenuator, Temporary (Fully Redirective, Narrow) Test Level 3

162'-6" Temporary Concrete Barrier

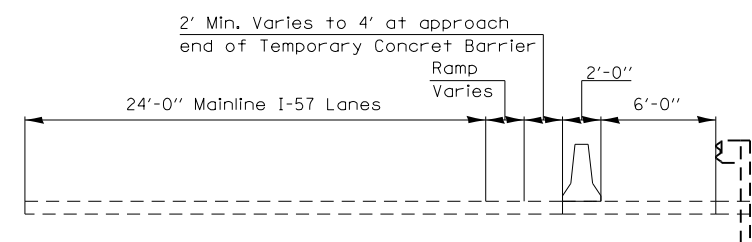
162'-6" Temporary Concrete Barrier

Impact Attenuator, Temporary (Fully Redirective, Narrow) Test Level 3

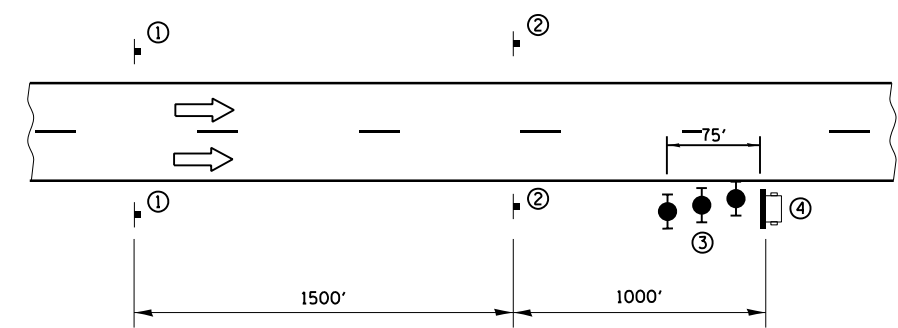
Numbers adjacent to Temporary Concrete Barrier represent the Pinning of Temporary Concrete Barrier.






**SIGN DETAIL**

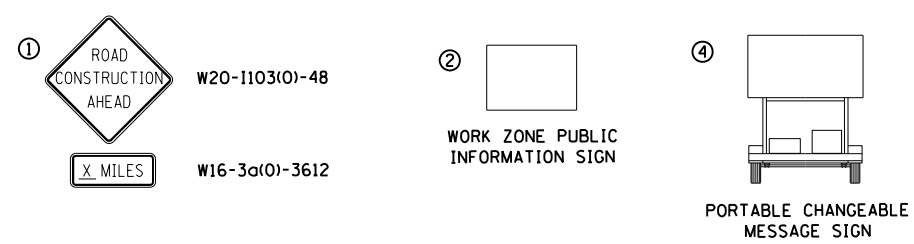


**SECTION A-A**



**LEGEND**

-  PORTABLE CHANGEABLE MESSAGE SIGN
-  SIGN
-  TYPE II BARRICADE, DRUM, OR VERTICAL BARRICADE WITH MONODIRECTIONAL FLASHING LIGHT



**APPROACH DETAIL**

- ① THE ROAD CONSTRUCTION AHEAD SIGN SHALL BE LOCATED 3 TO 5 MILES IN ADVANCE OF THE PROJECT LIMITS.
- ② THE MESSAGE AND SIZE OF THE WORK ZONE PUBLIC INFORMATION SIGN SHALL BE AS SPECIFIED BY THE DEPARTMENT.
- ③ THREE TYPE II BARRICADES, DRUMS, OR VERTICAL BARRICADES AT 25' CENTERS.
- ④ THE MESSAGE BOARD SHALL BE USED TO DISPLAY STATUS OF LANES WITHIN THE PROJECT. THE PRIMARY MESSAGES SHALL BE:  
"SHOULDER NARROWS" / " X MILES AHEAD" / "ALL LANES OPEN"

**GENERAL NOTES**

1. ALL TRAFFIC SIGNS SHALL BE POST MOUNTED.
2. COORDINATE LOCATION OF SIGNS WITH FINAL WORK AS DIRECTED BY THE ENGINEER.
3. ONE TYPE A LOW INTENSITY FLASHING LIGHT SHALL BE INSTALLED ABOVE EACH OF THE ROAD CONSTRUCTION AHEAD WARNING SIGNS.
4. ALL TRAFFIC CONTROL DEVICES SHOWN SHALL BE FURNISHED, ERECTED & MAINTAINED BY THE CONTRACTOR.
5. THE COST FOR TRAFFIC CONTROL SHOWN ON THIS SHEET WILL NOT BE PAID FOR SEPARATELY BUT WILL BE INCLUDED IN TRAFFIC CONTROL & PROTECTION, (SPECIAL).
6. ATTENUATOR BASES, WHEN REQUIRED BY THE MANUFACTURER, WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE CONSIDERED AS INCLUDED IN THE COST OF THE TEMPORARY IMPACT ATTENUATORS.

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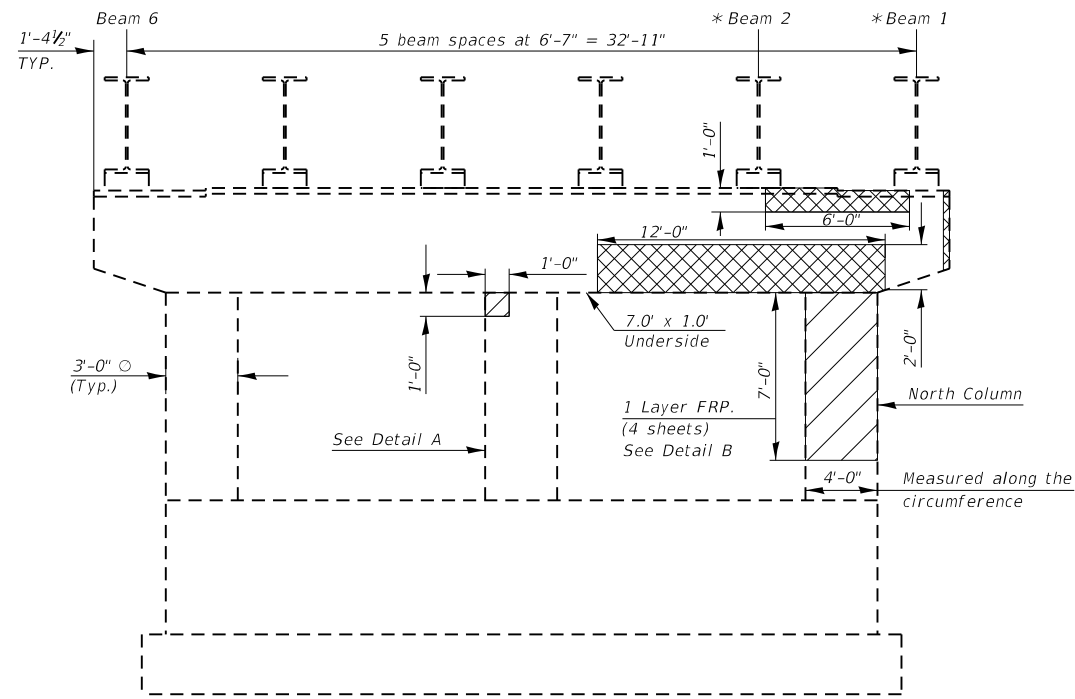
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PLOT SCALE = 100.0000' / in.	CHECKED -	REVISED -
PLOT DATE = 8/27/2020	DATE -	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**I-57 SHOULDER CLOSURE FOR REPAIRS TO PIERS 1 & 3  
SN 100-0039**

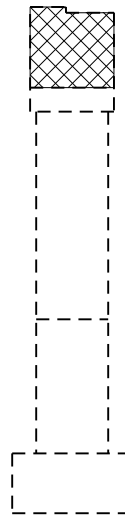
SCALE: SHEET OF SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	D9 BRIDGE REPAIR 2020-8	WILLIAMSON	24	19
			CONTRACT NO. 78768	
ILLINOIS FED. AID PROJECT				



East Face  
Looking West

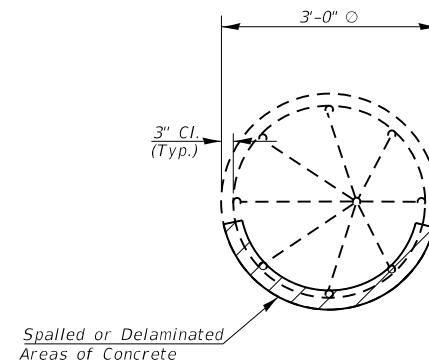
\* Temporary Shoring and Cribbing shall be in place for Pier 1 repairs to support the end of beams 1 and 2 in Span 2.



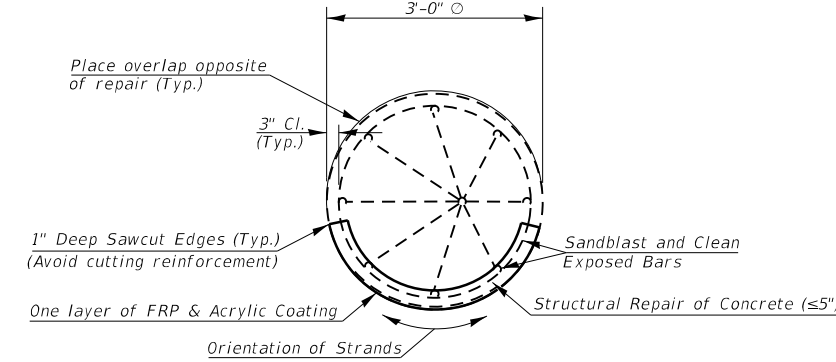
North End

- Delaminated Concrete & Structural Repair of Concrete ( $\leq 5"$ )
- Delaminated Concrete, Structural Repair of Concrete ( $\leq 5"$ ) used for preparation of new concrete & Concrete Structures

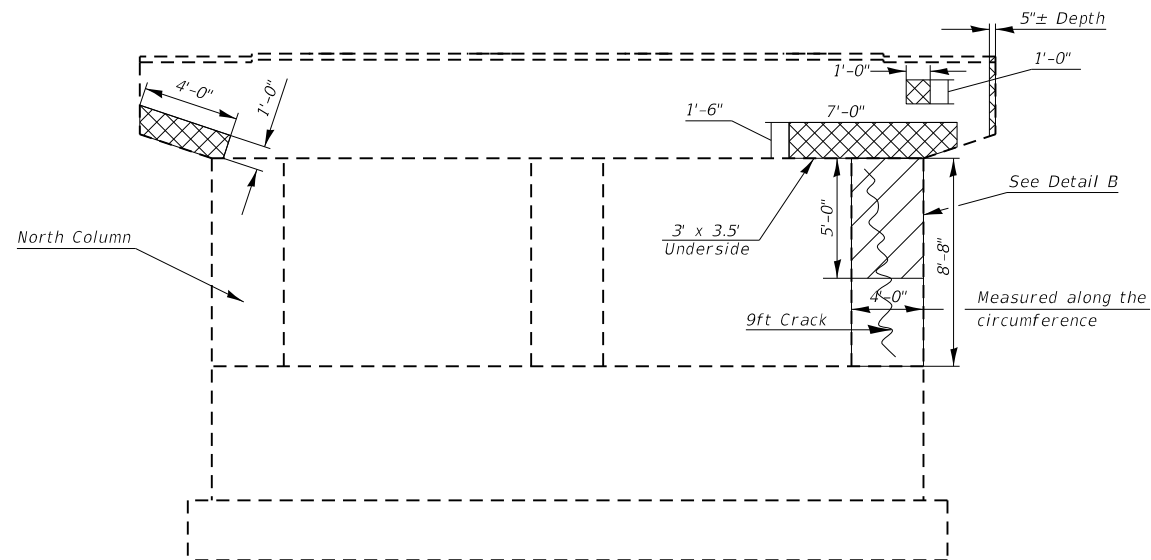
Note:  
Minimum FRP overlap shall be 3'.



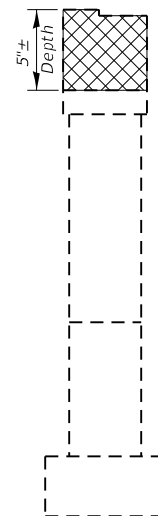
Typical Section Thru  
Existing Pier Column



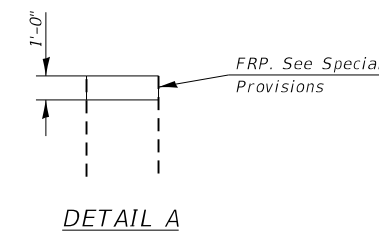
Typical Section Thru  
Pier Column Repair



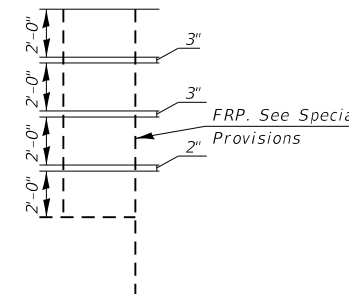
West Face  
Looking East



South End



DETAIL A



DETAIL B

(Place laps at alternate positions)

BEAM REACTION TABLE

	Pier 1 (Span 2)
R DL	42.8 kips
R LL	28.1 kips
R Imp	8.9 kips
R TOTAL	79.8 kips

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Temporary Shoring and Cribbing	Each	2
Structural Repair of Concrete ( $\leq 5"$ )	Sq. Ft.	130
Fiber Wrap	Sq. Ft.	160
Acrylic Coating	Sq. Yd.	18

Note:  
See Sheet 23 for quantity of Concrete Structures

PIER 1 DETAILS  
IL ROUTE 148 OVER I-57  
F.A.I. ROUTE 57 - D9 BRIDGE REPAIR 2020-7  
WILLIAMSON COUNTY  
STRUCTURE NO. 100-0039

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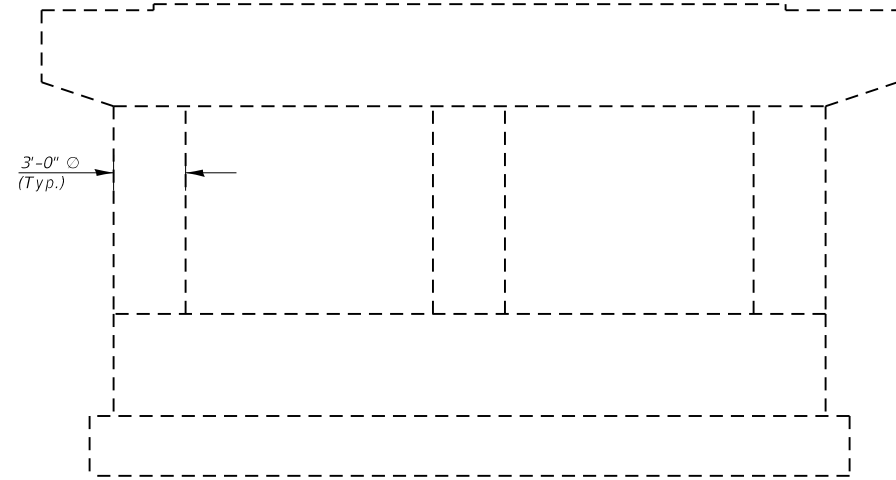
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	DATE -	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

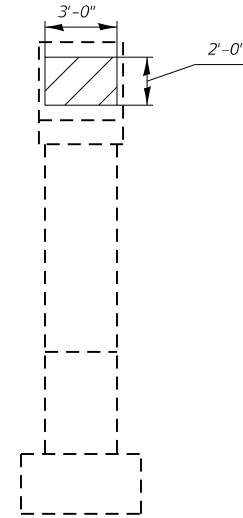
PIER 1 DETAILS  
SN 100-0039

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	D9 BRIDGE REPAIR 2020-8	WILLIAMSON	24	20
			CONTRACT NO. 78768	
		ILLINOIS	FED. AID PROJECT	



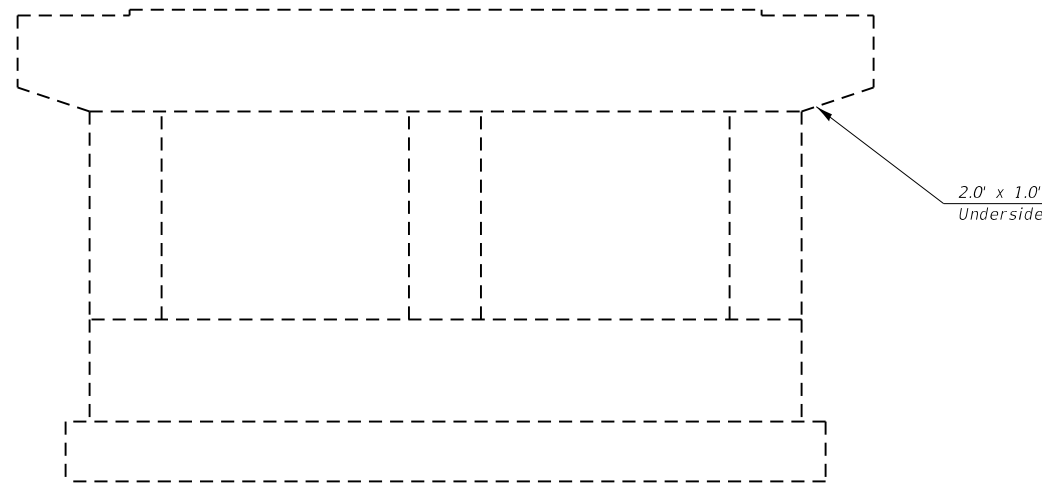
*East Face*  
(Looking West)



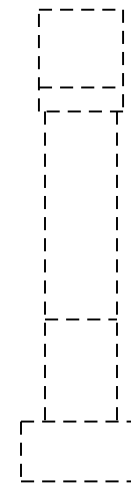
*North End*



Delaminated Concrete & Structural Repair of Concrete (≤5%)



*West Face*  
(Looking East)



*South End*

**BILL OF MATERIAL**

ITEM	UNIT	QUANTITY
Structure Repair of Concrete (≤5%)	Sq. Ft.	8

**PIER 2 DETAILS**  
**IL ROUTE 148 OVER I-57**  
**F.A.I. ROUTE 57 - D9 BRIDGE REPAIR 2020-7**  
**WILLIAMSON COUNTY**  
**STRUCTURE NO. 100-0039**

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	DATE -	REVISED -

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**PIER 2 DETAILS**  
**SN 100-0039**

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	D9 BRIDGE REPAIR 2020-8	WILLIAMSON	24	21
CONTRACT NO. 78768				
ILLINOIS		FED. AID PROJECT		





