

01-18-2019 LETTING ITEM 068

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

\* 17 + 1 = 18 TOTAL SHEETS

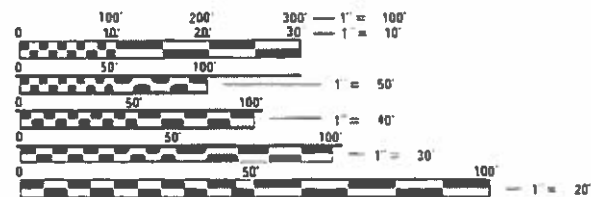
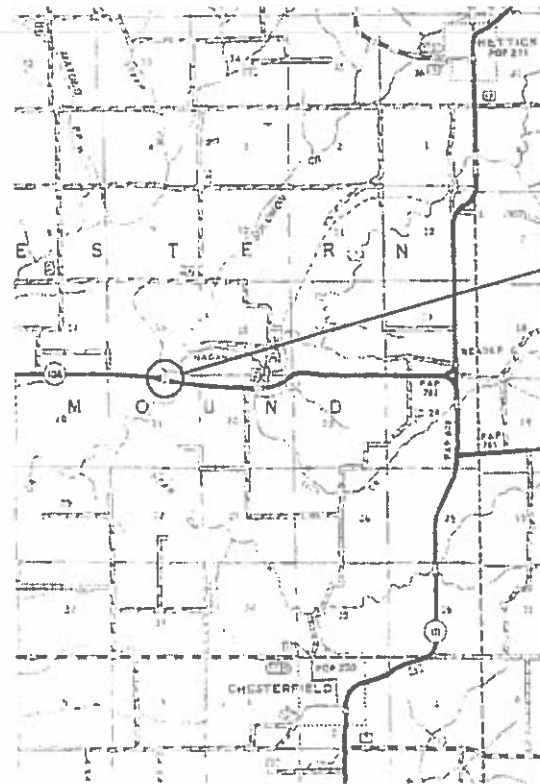
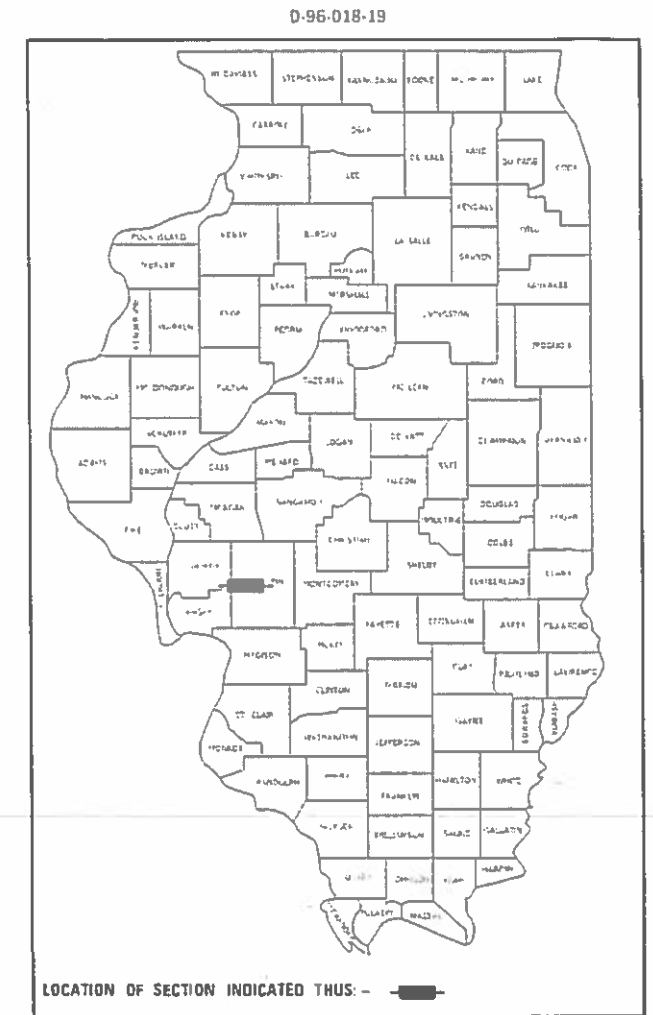
F.A.P. SITE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
761	(107) BDR, BJR, BP, BRR	MACOUPIN	17	1
ILLINOIS CONTRACT NO. 72K97				

FOR INDEX OF SHEETS, SEE SHEET NO. 2

# PROPOSED HIGHWAY PLANS

FAP ROUTE 761 (IL 108)  
SECTION (107) BDR, BJR, BP, BRR  
PROJECT STP-IP31(156)  
BRIDGE DECK OVERLAY  
MACOUPIN COUNTY

C-96-026-19



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

BRIDGE MAINTENANCE ENGINEER: BRANDON DUDLEY - (217) 785-9290

GROSS LENGTH = 453 FT. = 0.09 MILE  
NET LENGTH = 453 FT. = 0.09 MILE

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

SUBMITTED 17 October 2018

[Signature]  
REGIONAL ENGINEER

[Signature]  
ENGINEER OF DESIGN AND ENVIRONMENT

[Signature]  
DIRECTOR OF HIGHWAYS PROJECT IMPLEMENTATION

PRINTED BY THE AUTHORITY  
OF THE STATE OF ILLINOIS

CONTRACT NO. 72K97

REV. - MS

INDEX OF SHEETS

- 1 COVER SHEET
- 2 INDEX, STANDARDS, SIGNATURES, GENERAL NOTES, & SCHEDULES
- 3-4 SUMMARY OF QUANTITIES
- 5 TYPICAL SECTIONS
- 6 ROADWAY PLAN
- 7 STAGING PLAN
- 8 TRAFFIC CONTROL PLAN
- \* 9-17 SN 059-0035 BRIDGE PLANS

\* INCLUDES SHEET 14A

GENERAL NOTES:

BASE COURSE WIDENING SHALL BE COMPLETED PRIOR TO STAGING TRAFFIC.

AREAS OF DECK REPAIRS SHOWN ARE ESTIMATED. THE ENGINEER SHALL SHOW ACTUAL LOCATIONS OF DECK REPAIRS ON AS-BUILT PLANS.

STANDARDS

- 000001-07
- 001001-02
- 001006
- 701001-02
- 701006-05
- 701201-05
- 701301-04
- 701321-17
- 701326-04
- 701901-08
- 704001-08
- 780001-05
- 782006

PAVING SCHEDULE

STA	TO	STA	BIT MATL (TACK CT) (POUND)	HMA SURF COURSE (TON)	INCLD HMA SURF (TON)
637+70	-	638+55	119	26	-
638+55	-	639+45	144	32	-
640+75	-	642+40	264	58	-
HAGAMAN RD.			36	-	9
TOTALS			563	116	9

PAVEMENT MARKING REMOVAL SCHEDULE

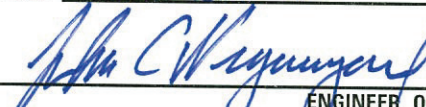
STA	TO	STA	LOC.	LINE TYPE	PAVT MARK REM (SQ FT)
STAGE I					
635+20	-	639+00	CL	DOUBLE SOLID	317
638+50	-	641+90	RT	SOLID	142
641+25	-	643+90	CL	SOLID/SKIP	138
STAGE II					
638+00	-	639+45	LT	SOLID	60
640+75	-	641+90	LT	SOLID	48
TOTAL					705

SHOULDER IMPROVEMENT SCHEDULE


STA	TO	STA	SIDE	BASE COURSE WIDENING 8" (SQ YD)	PAVED SHLDR REM (SQ YD)	EARTH EX. WIDENING (CU YD)	AGG WEDGE SHLDR (TON)
637+70	-	639+25	LT	-	-	-	5.9
638+55	-	639+25	RT	31	23	6.9	2.7
640+95	-	642+40	LT	-	-	-	5.5
640+95	-	642+40	RT	65	49	14.3	5.5
TOTALS				96	72	21.2	19.6

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
DISTRICT 6**


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EXAMINED October 16<sup>th</sup> 2018  
  
 ENGINEER OF OPERATIONS

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EXAMINED Oct 17<sup>th</sup> 2018  
  
 ENGINEER OF PROJECT IMPLEMENTATION

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EXAMINED October 12 2018  
  
 ENGINEER OF PROGRAM DEVELOPMENT

MIXTURE USE(S)	HMA BASE CSE WIDENING *	HMA SURFACE CSE
AC/PG	PG 64-22	PG 64-22
DESIGN AIR VOIDS	4.0% @ N50	4.0% @ N50
MIX COMPOSITION (GRADATION MIXTURE)	IL 19.0	IL 9.5
FRICITION AGGREGATE	N/A	MIX "C"
QUALITY MANAGEMENT	OC/OA	OC/OA
SUBLOT SIZE	N/A	N/A

\* BASE COURSE PAY ITEM ALLOWS FOR HMA OR PCC USE.

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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**INDEX OF SHEETS, STANDARDS, GENERAL  
NOTES, SIGNATURES, & QUANTITY SCHEDULES**

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
761	(107) BDR, BJR, BP, BRB	MACOUPIN	17	2
CONTRACT NO. 72K97				
ILLINOIS FED. AID PROJECT				

SCALE: SHEET OF SHEETS STA. TO STA.

6-01032-0000  
 SN 059-0035  
 80/20 FED/ST

6-01032-0000  
 SN 059-0035  
 80/20 FED/ST

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	BRIDGE
				0047 MACOUPIN
20200500	EARTH EXCAVATION (WIDENING)	CU YD	21.2	21.2
35650300	BASE COURSE WIDENING 8"	SQ YD	96	96
40600290	BITUMINOUS MATERIALS (TACK COAT)	POUND	563	563
40600982	HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT	SQ YD	753	753
40600990	TEMPORARY RAMP	SQ YD	125	125
40603310	HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N50	TON	116	116
40800050	INCIDENTAL HOT-MIX ASPHALT SURFACING	TON	9	9
48102100	AGGREGATE WEDGE SHOULDER, TYPE B	TON	20	20
50102400	CONCRETE REMOVAL	CU YD	3.8	3.8
50300255	CONCRETE SUPERSTRUCTURE	CU YD	4.4	4.4
50300260	BRIDGE DECK GROOVING	SQ YD	425	425
50300300	PROTECTIVE COAT	SQ YD	18	18
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	700	700
50800515	BAR SPLICERS	EACH	12	12

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	BRIDGE
				0047 MACOUPIN
52000110	PREFORMED JOINT STRIP SEAL	FOOT	76	76
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	6	6
67100100	MOBILIZATION	L SUM	1	1
70100405	TRAFFIC CONTROL AND PROTECTION, STANDARD 701321	EACH	1	1
70100450	TRAFFIC CONTROL AND PROTECTION, STANDARD 701201	L SUM	1	1
70100500	TRAFFIC CONTROL AND PROTECTION, STANDARD 701326	L SUM	1	1
70106500	TEMPORARY BRIDGE TRAFFIC SIGNALS	EACH	1	1
70106700	TEMPORARY RUMBLE STRIPS	EACH	3	3
70300100	SHORT TERM PAVEMENT MARKING	FOOT	100	100
70300150	SHORT TERM PAVEMENT MARKING REMOVAL	SQ FT	33	33
70400100	TEMPORARY CONCRETE BARRIER	FOOT	400	400
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	350	350
70600260	IMPACT ATTENUATORS, TEMPORARY (FULLY REDIRECTIVE, NARROW), TEST LEVEL 3	EACH	2	2
70600332	IMPACT ATTENUATORS, RELOCATE (FULLY REDIRECTIVE, NARROW), TEST LEVEL 3	EACH	2	2

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**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**SUMMARY OF QUANTITIES**

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
761	(107) BDR, BJR, BP, BRR	MACOUPIN	17	3
CONTRACT NO. 72K97			ILLINOIS FED. AID PROJECT	

6-01032-0000  
 SN 059-0035  
 80/20 FED/ST

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	BRIDGE
				0047 MACOUPIN
* 78001120	PAINT PAVEMENT MARKING - LINE 5"	FOOT	1900	1900
78300200	RAISED REFLECTIVE PAVEMENT MARKER REMOVAL	EACH	4	4
X0327979	PAVEMENT MARKING REMOVAL - GRINDING	SQ FT	705	705
70107025	CHANGEABLE MESSAGE SIGN	CAL DA	120	120
X7200201	WIDTH RESTRICTION SIGNING	L SUM	1	1
* Z0007114	CONTAINMENT AND DISPOSAL OF NON-LEAD PAINT CLEANING RESIDUES	L SUM	1	1
* Z0010501	CLEANING AND PAINTING STEEL BRIDGE NO. 1	L SUM	1	1
Z0012130	BRIDGE DECK SCARIFICATION, 3/4"	SQ YD	448	448
Z0012164	BRIDGE DECK MICROSILICA CONCRETE OVERLAY, 2-1/2"	SQ YD	448	448
Z0012754	STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 INCHES)	SQ FT	50	50
Z0016002	DECK SLAB REPAIR (FULL DEPTH, TYPE II)	SQ YD	14	14
Z0018051	DRAINAGE SCUPPERS TO BE ADJUSTED	EACH	2	2

\* SPECIALTY ITEM

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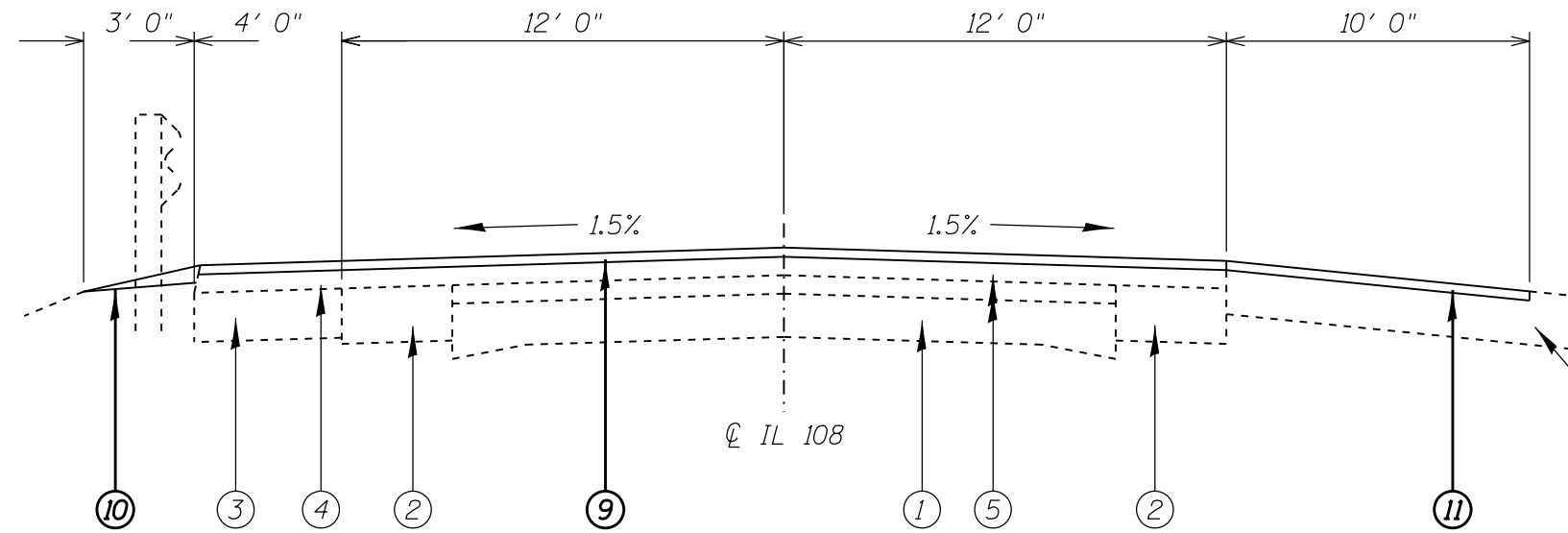
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**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**SUMMARY OF QUANTITIES**

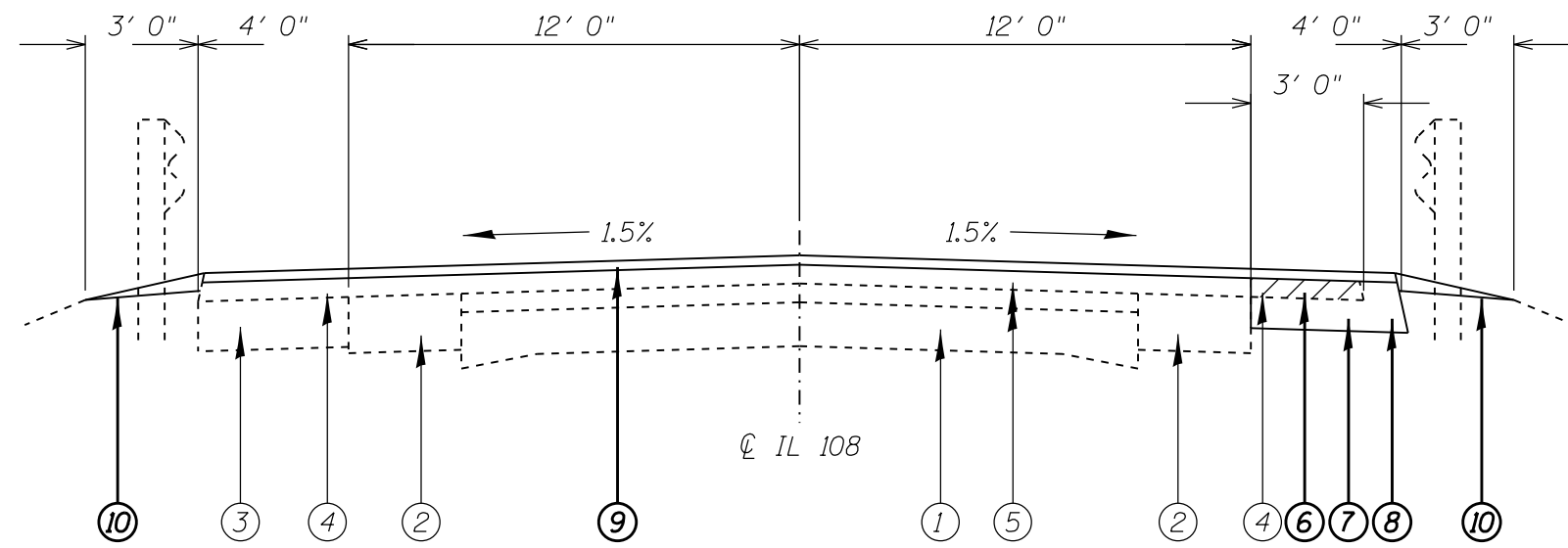
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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
761	(107) BDR, BJR, BP, BRR	MACOUPIN	17	4
			CONTRACT NO. 72K97	
ILLINOIS FED. AID PROJECT				



STA 637+70.00 TO STA 639+55.00

- ① EXISTING PCC PAVEMENT (9-7-9)
- ② EXISTING HMA BASE COURSE WIDENING
- ③ EXISTING PCC SHOULDER
- ④ EXISTING HMA SHOULDER, ±3"
- ⑤ EXISTING HMA OVERLAYS
- ⑥ PROPOSED PAVED SHOULDER REMOVAL
- ⑦ PROPOSED EARTH EXCAVATION (WIDENING)
- ⑧ PROPOSED BASE COURSE WIDENING, 8"
- ⑨ PROPOSED HMA SURFACE COURSE, 1-3/4"
- ⑩ PROPOSED AGGRAGATE WEDGE SHOULDER - TYPE B
- ⑪ PROPOSED INCIDENTAL HMA SURFACE



STA 638+55.00 TO STA 639+44.99 \*  
 STA 640+75.02 TO STA 642+40.00 \*

\* BRIDGE APPROACH PAVEMENT  
 STA 639+24.99 TO STA 639+44.99  
 STA 640+75.02 TO STA 640+95.02

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STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

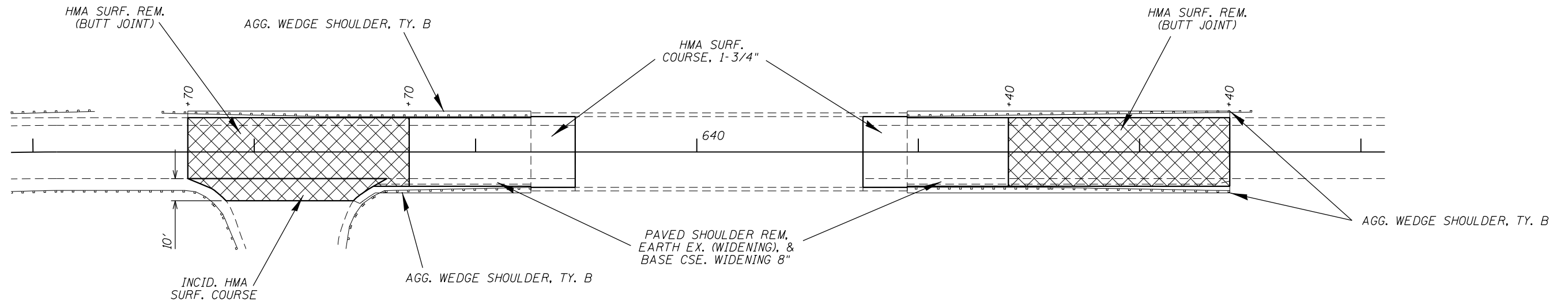
TYPICAL SECTIONS	
SCALE:	SHEET OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
761	(107) BDR, BJR, BP, BRR	MACOUPIN	17	5
CONTRACT NO. 72K97				
ILLINOIS FED. AID PROJECT				



STA 637+70.00 TO STA 639+55.00

STA 637+70.00 TO STA 639+55.00



**ROADWAY PLAN**

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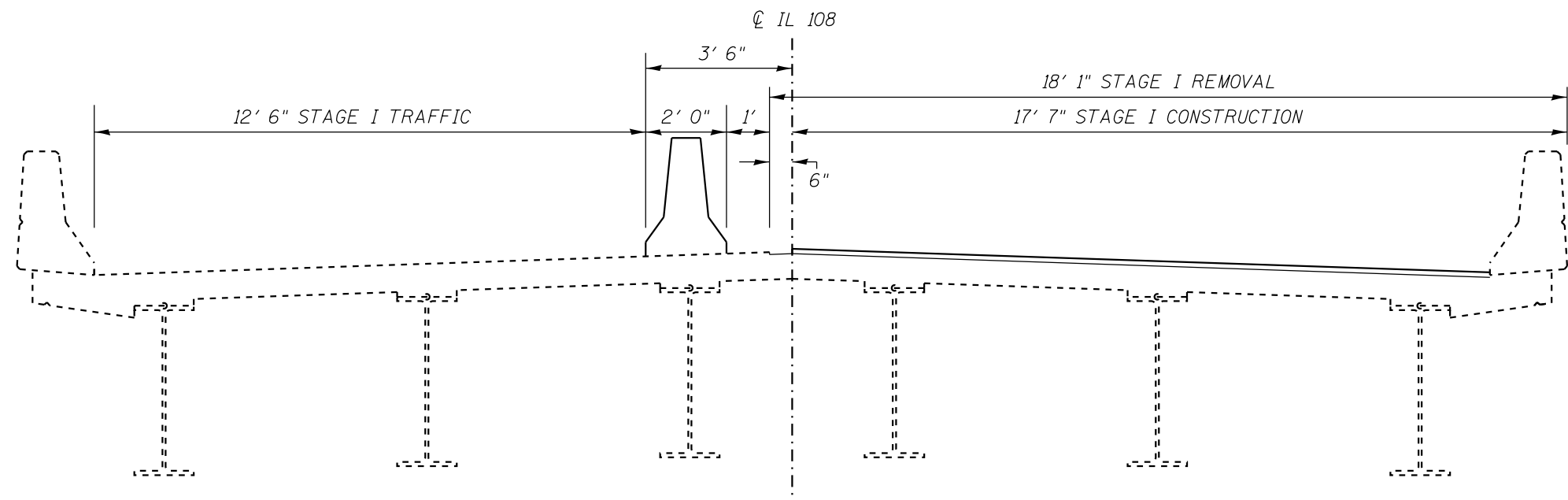
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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

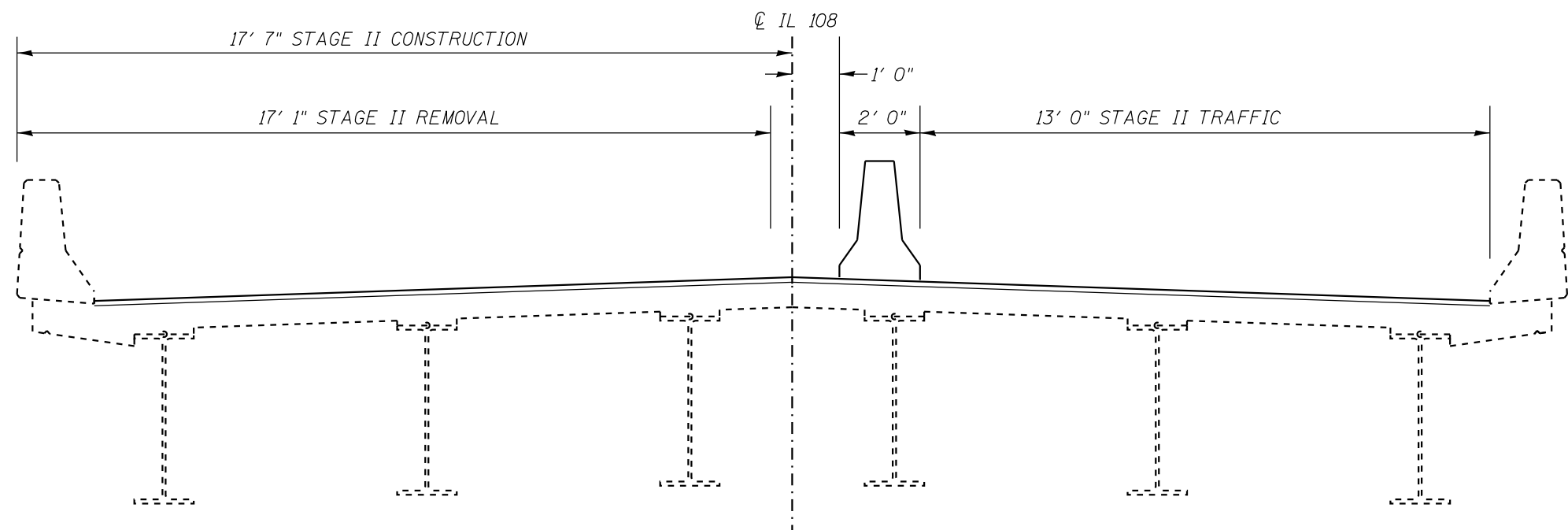
**ROADWAY PLAN**

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
761	(107) BDR, BJR, BP, BRR	MACOUPIN	17	6
CONTRACT NO. 72K97				
ILLINOIS FED. AID PROJECT				



STAGE I CROSS SECTION (LOOKING EAST)



STAGE II CROSS SECTION (LOOKING EAST)

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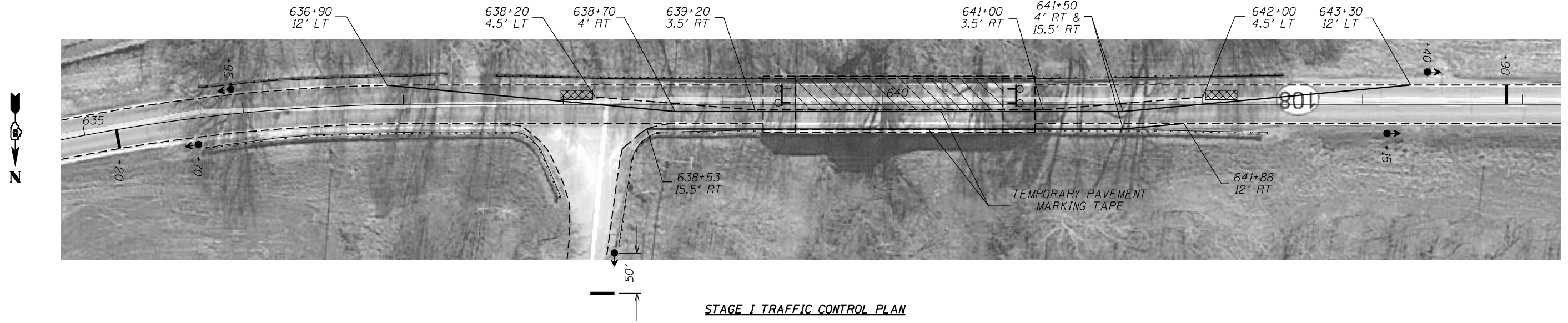
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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

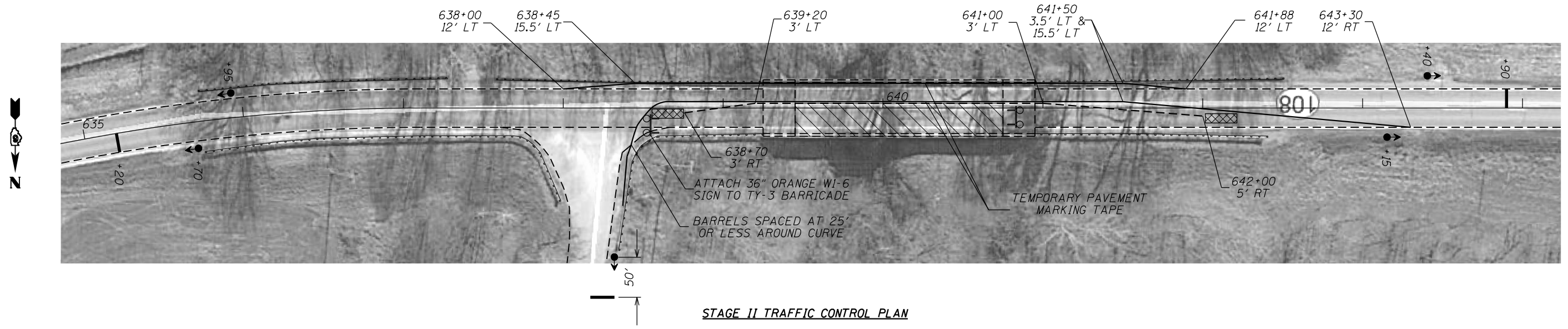
TRAFFIC STAGING PLAN

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
761	(107) BDR, BJR, BP, BRR	MACOUPIN	17	7
CONTRACT NO. 72K97				
ILLINOIS FED. AID PROJECT				








STAGE I TRAFFIC CONTROL PLAN



STAGE II TRAFFIC CONTROL PLAN

**SYMBOLS**

-  WORK AREA
-  TEMPORARY CONCRETE BARRIER
-  IMPACT ATTENUATOR
-  TRAFFIC SIGNAL
-  TYPE III BARRICADE WITH FLASHING LIGHTS

TRAFFIC CONTROL NOTES:

1. TRAFFIC CONTROL DEVICES NOT SHOWN IN THIS DETAIL SHALL BE PER STANDARD 701321. DEVICES AND TEMPORARY PAVEMENT MARKINGS SHOWN IN THIS DETAIL SHALL BE INCLUDED IN THE COST OF TRAFFIC CONTROL AND PROTECTION, STANDARD 701321. IMPACT ATTENUATORS, AND TEMPORARY CONCRETE BARRIER SHALL BE PAID SEPARATELY.
2. TEMPORARY CONCRETE BARRIER OFFSETS GIVEN IN THIS DETAIL REFER TO THE EDGE OF THE BARRIER NEAREST TO LIVE TRAFFIC. ALL STAGE I BARRIER WALL TAPERS SHALL BE 12:1. FOR STAGE II, THE WEST BARRIER WALL TAPER SHALL BE 12:1 AND THE EAST SHALL BE 8:1.
3. RUMBLE STRIPS SHOWN IN STANDARD 701321 WILL ONLY BE REQUIRED ON THE WESTBOUND LANE.

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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL PLAN

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
761	(107) BDR, BJR, BP, BRR	MACOUPIN	17	8
CONTRACT NO. 72K97				
ILLINOIS		FED. AID PROJECT		



USER NAME	addh@ans
PLT SCALE	= 3/8"=1'-0"
PLT DATE	= 10/12/2018

DESIGNED	BMD
CHECKED	SMR
DATE	

REVISION	
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REVISION	

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

SCALE: SHEET OF SHEETS STA. TO STA.

BRIDGE PLAN & ELEVATION  
 SN 059-0035

F&P RATE	761	SECTION	MACQUHRIE	TOTAL SHEETS	17
					9

**STRUCTURE GENERAL NOTES:**

SYNTHETIC FIBERS SHALL BE ADDED TO THE BRIDGE DECK MICROSILICA CONCRETE OVERLAY. SEE SPECIAL PROVISIONS.

ALL STRUCTURAL STEEL SHALL BE AASHTO M-270 GRADE 36, UNLESS OTHERWISE NOTED.

REINFORCEMENT BARS DESIGNATED (E) SHALL BE EPOXY COATED.

PRIOR TO POURING THE NEW CONCRETE DECK, ALL HEAVY OR 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 CONCRETE REMOVAL.

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 THE SCOPE OF WORK, HOWEVER, THE CONTRACTOR WILL BE PAID FOR THE QUANTITY ACTUALLY FURNISHED AT THE UNIT PRICE BID FOR THE WORK.

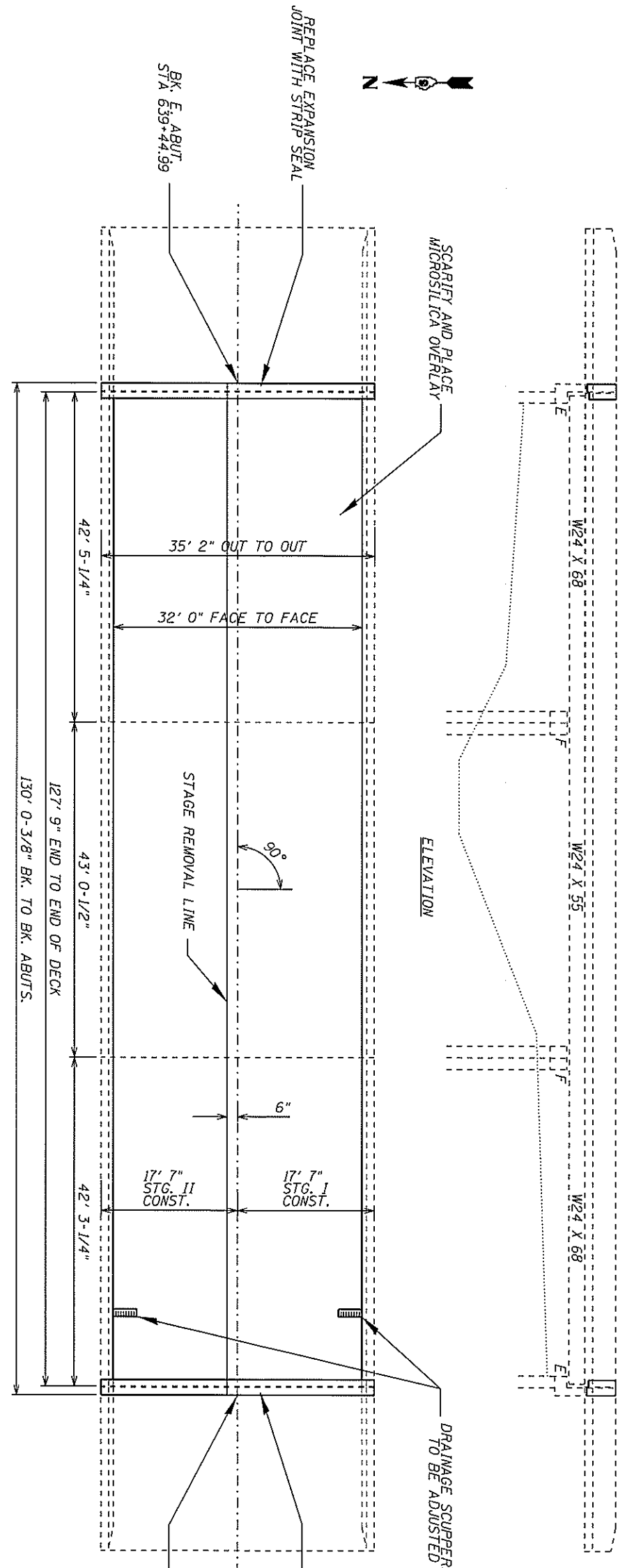
EXISTING REINFORCEMENT BARS EXTENDING INTO THE REMOVAL AREA SHALL BE CLEANED, STRAIGHTENED, AND INCORPORATED INTO THE NEW CONSTRUCTION. ANY REINFORCEMENT BARS THAT ARE DAMAGED DURING CONCRETE REMOVAL SHALL BE REPLACED WITH AN APPROVED BAR SPLICER OR ANCHORAGE SYSTEM. COST INCLUDED WITH CONCRETE REMOVAL.

JOINT OPENINGS SHALL BE ADJUSTED ACCORDING TO ARTICLE 500.04 OF THE STANDARD SPECIFICATIONS WHEN THE DECK IS POURED AT AN AMBIENT TEMPERATURE OTHER THAN 50°F.

THE ABUTMENT AND DECK SURFACES IN THE AREAS OF EXPANSION JOINT REPLACEMENT SHALL HAVE A TINED FINISH AS PER ARTICLE 420.09(6)(II) OF THE STANDARD SPECIFICATIONS. COST INCLUDED WITH CONCRETE SUPERSTRUCTURE.

PROTECTIVE COAT SHALL ONLY BE APPLIED TO THE DECK AND PARAPETS ADJACENT TO THE PROPOSED EXPANSION JOINTS AND NOT THE MICROSILICA OVERLAY.

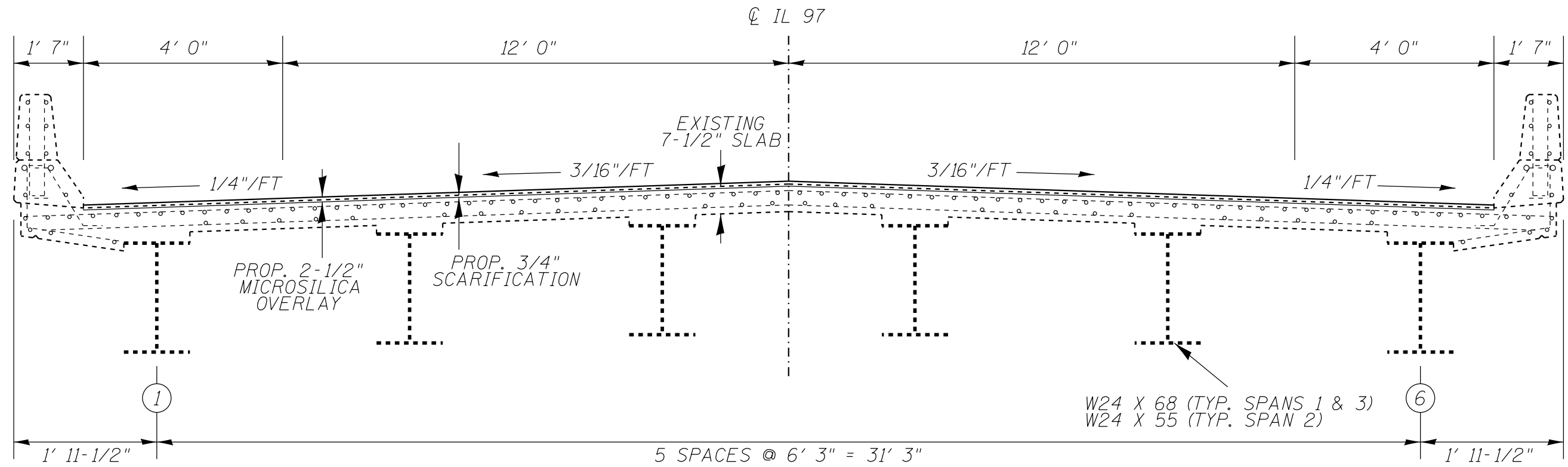
AREAS TO BE CLEANED AND PAINTED SHALL ONLY CONSIST OF ALL BEAM ENDS, END DIAPHRAGMS, AND STEEL COMPONENTS OF BEARINGS AT BOTH ABUTMENTS. BEAM END PAINTING (2 ENDS) SHALL EXTEND 5' FROM THE ENDS OF THE BEAMS LONGITUDINALLY. BEAM END PAINTING AT THE EAST END OF THE SOUTH FASCIA BEAM ONLY SHALL EXTEND 10' FROM THE END OF THE BEAM LONGITUDINALLY. CLEANING AND PAINTING OF THE EXISTING STRUCTURAL STEEL SHALL BE AS SPECIFIED IN THE SPECIAL PROVISIONS FOR "CLEANING AND PAINTING EXISTING STEEL STRUCTURES". ALL AREAS TO BE PAINTED SHALL BE CLEANED PER NEAR WHITE BLAST CLEANING PER SSPC SP-10. ALL EXISTING STEEL CLEANED SHALL BE PAINTED ACCORDING TO THE REQUIREMENTS OF PAINT SYSTEM 1 - 02/E/V. THE COLOR OF THE FINAL FINISH COAT FOR THE OUTSIDE AND BOTTOM OF THE FASCIA BEAMS SHALL BE INTERSTATE GREEN, MUNSELL 7.5G 4/8. ALL OTHER SURFACES SHALL BE GRAY, MUNSELL 5B 7/1. THE SSPC-OP-1 PAINTING CONTRACTOR CERTIFICATION WILL BE REQUIRED. THE USE OF AIR MONITORS SHALL NOT BE APPLIED UNTIL AFTER ALL ADJACENT STRUCTURAL WORK IS COMPLETED.



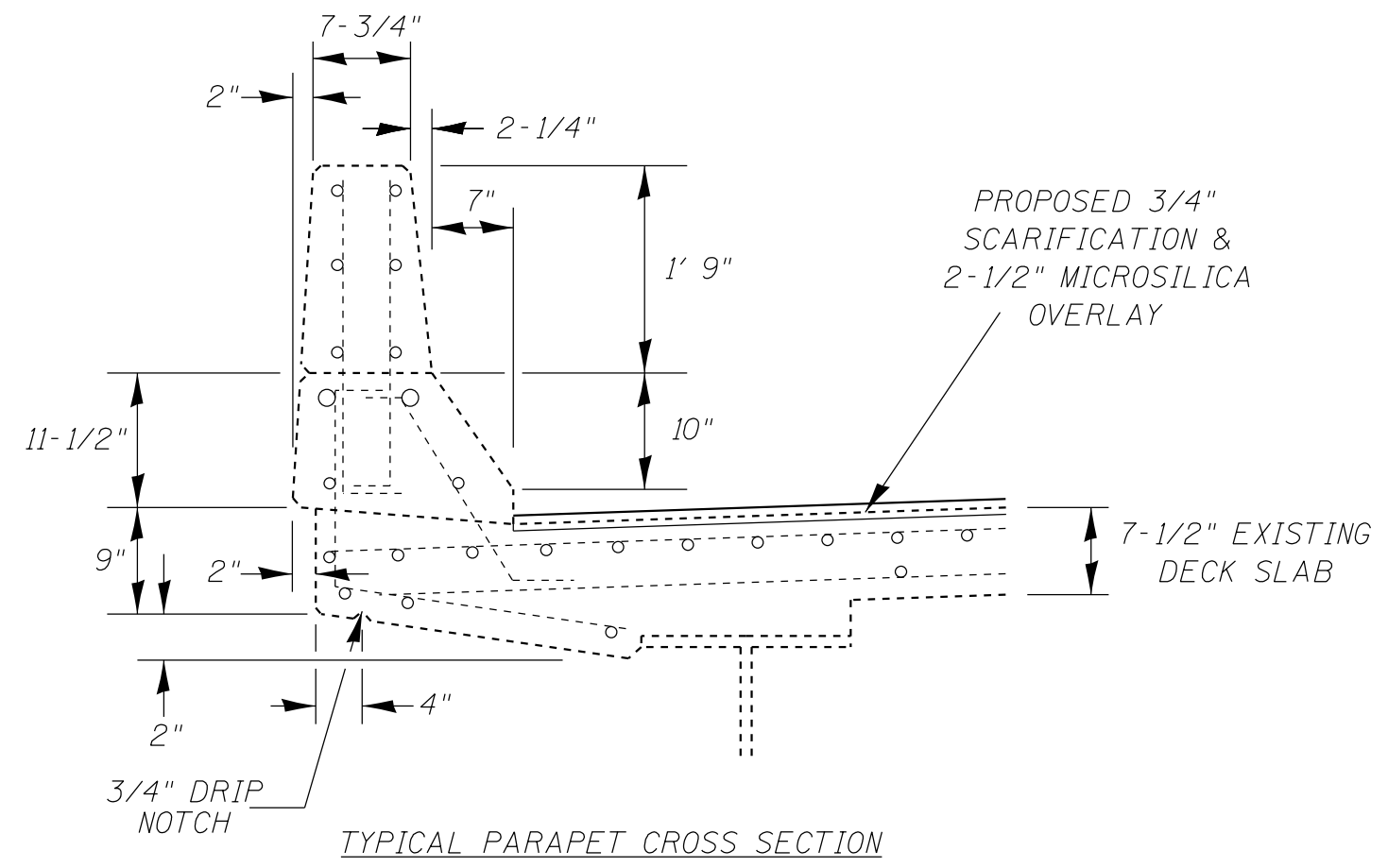
TOTAL BILL OF MATERIAL (059-0035)

ITEM	UNIT	QUANTITY
Concrete Removal	Cu. Yd.	3.8
Concrete Superstructure	Cu. Yd.	4.4
Bridge Deck Grooving	Sq. Yd.	425
Reinforcement Bars, Epoxy Coated	Pound	700
Bar Splicers	Each	12
Preformed Joint Strip Seal	Foot	76
Bridge Deck Scarification, 3/4"	Sq. Yd.	448
Bridge Deck Microsilica Concrete Overlay, 2-1/2"	Sq. Yd.	448
Deck Slab Repair (Full Depth, Type II)	Sq. Yd.	14
Protective Coat	Sq. Yd.	18
Containment and Disposal of Non-Lead Paint Cleaning Residues No. 1	L. Sum	1
Cleaning And Painting Steel Bridge No. 1	L. Sum	1
Drainage Scuppers To Be Adjusted	Each	2
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq. Ft.	50

Seal of the State of Illinois, Department of Transportation, with a signature and date: *W. Carl ... 11/20/18*



BRIDGE CROSS SECTION, LOOKING WEST



TYPICAL PARAPET CROSS SECTION

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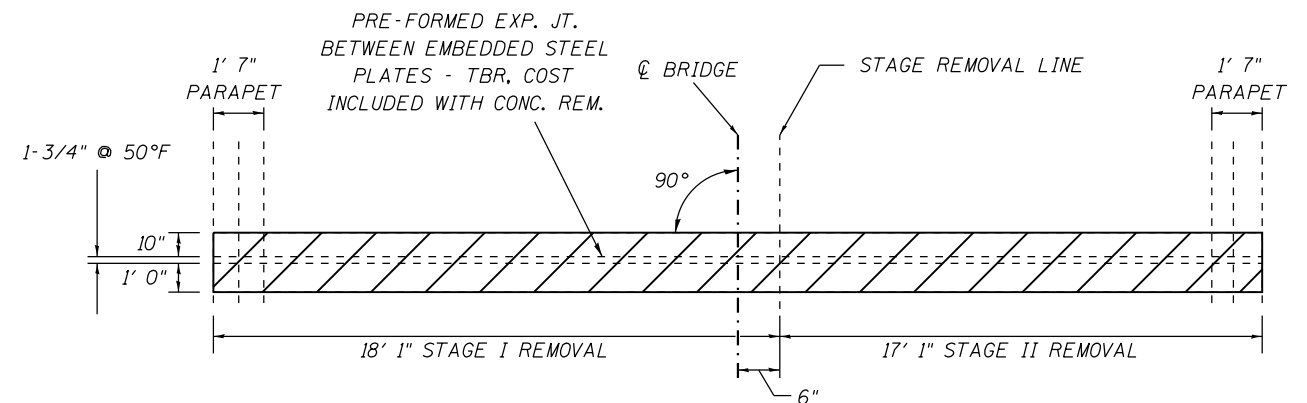
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	DATE -	REVISED -

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

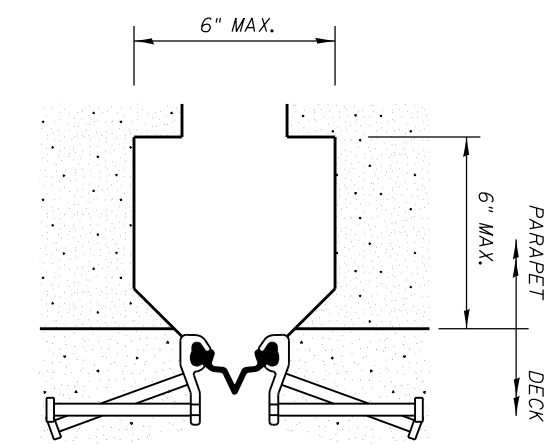
**BRIDGE CROSS SECTION**  
**SN 059-0035**

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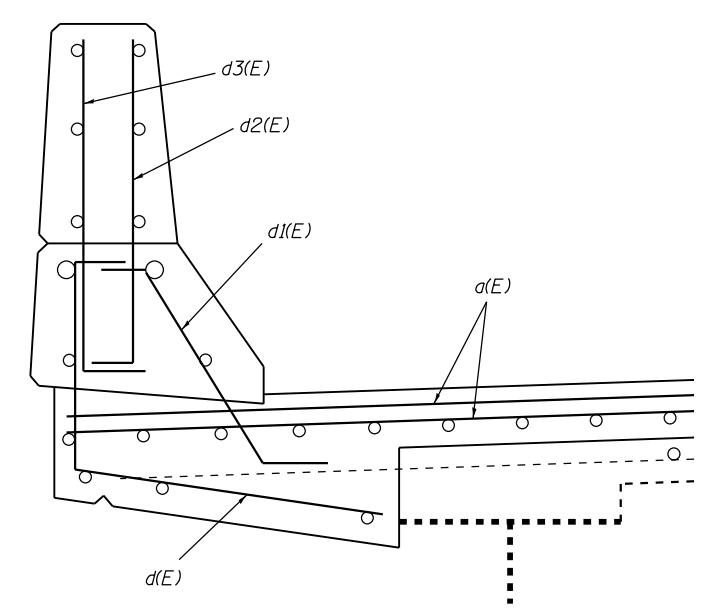
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761	(107) BDR, BJR, BP, BRR	MACOUPIN	17	10
CONTRACT NO. 72K97				
ILLINOIS FED. AID PROJECT				



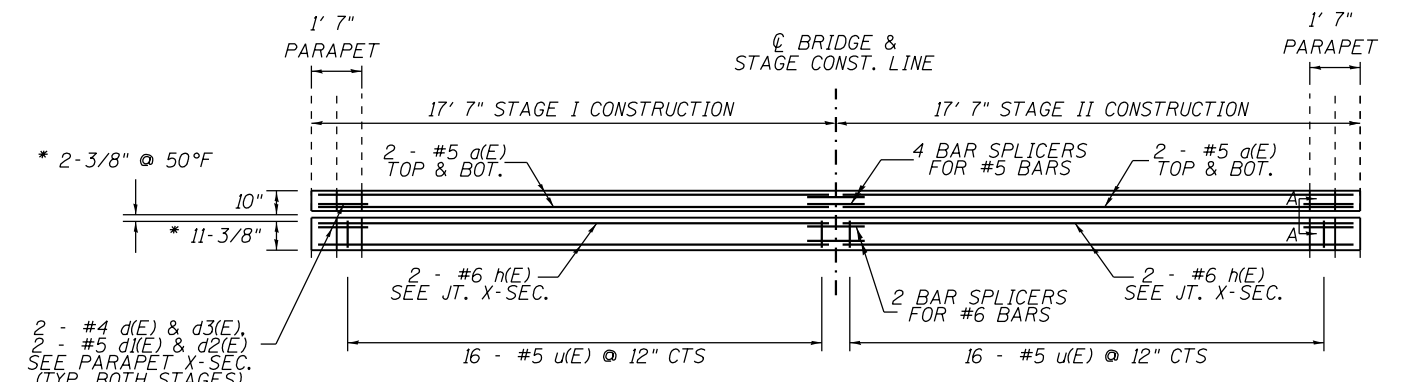
**JOINT REMOVAL PLAN,  
EAST JOINT SHOWN, WEST JOINT SIMILAR**



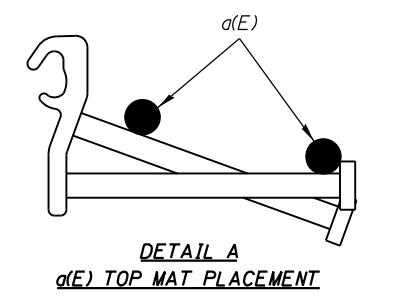
**SECTION A-A  
JOINT BLOCKOUT DETAIL  
(TYPICAL ALL JOINTS)**



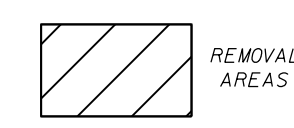
**PARAPET CROSS SECTION AT JOINT**



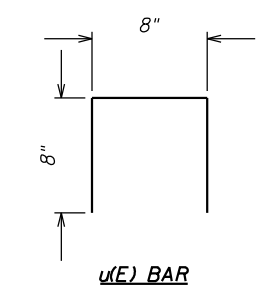
**JOINT PLAN,  
EAST JOINT SHOWN, WEST JOINT SIMILAR**



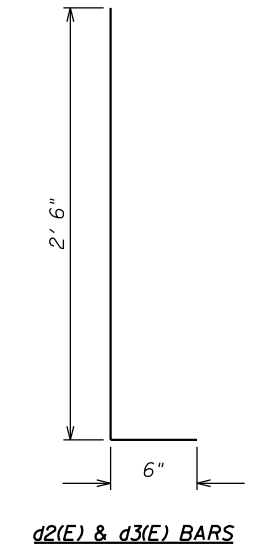
**DETAIL A  
d(E) TOP MAT PLACEMENT**



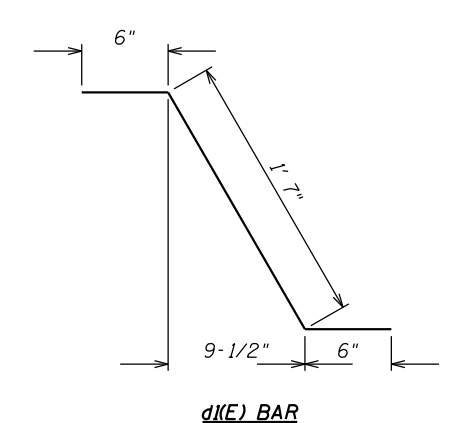
**REMOVAL AREAS**



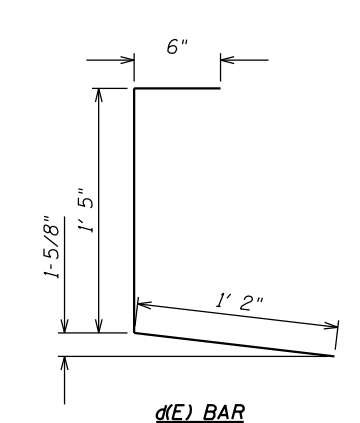
**u(E) BAR**



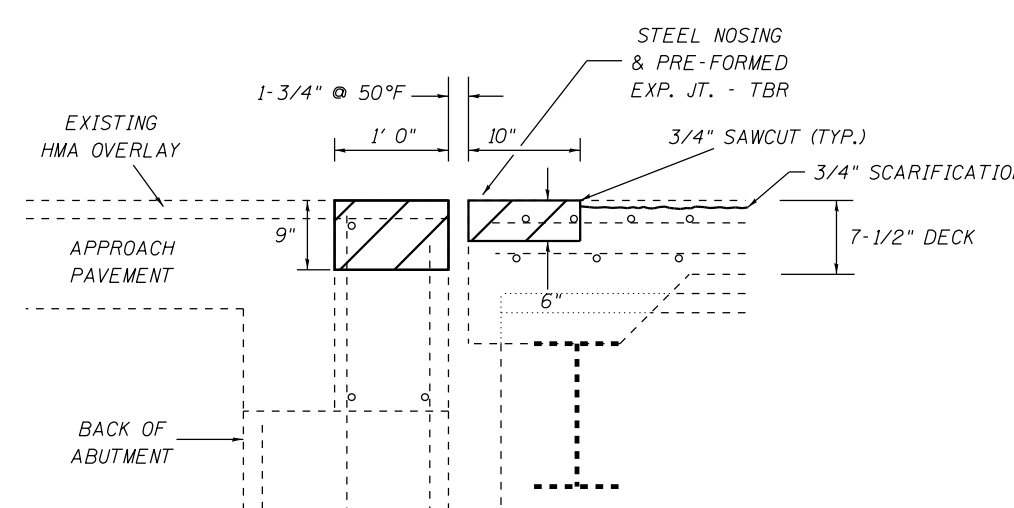
**d2(E) & d3(E) BARS**



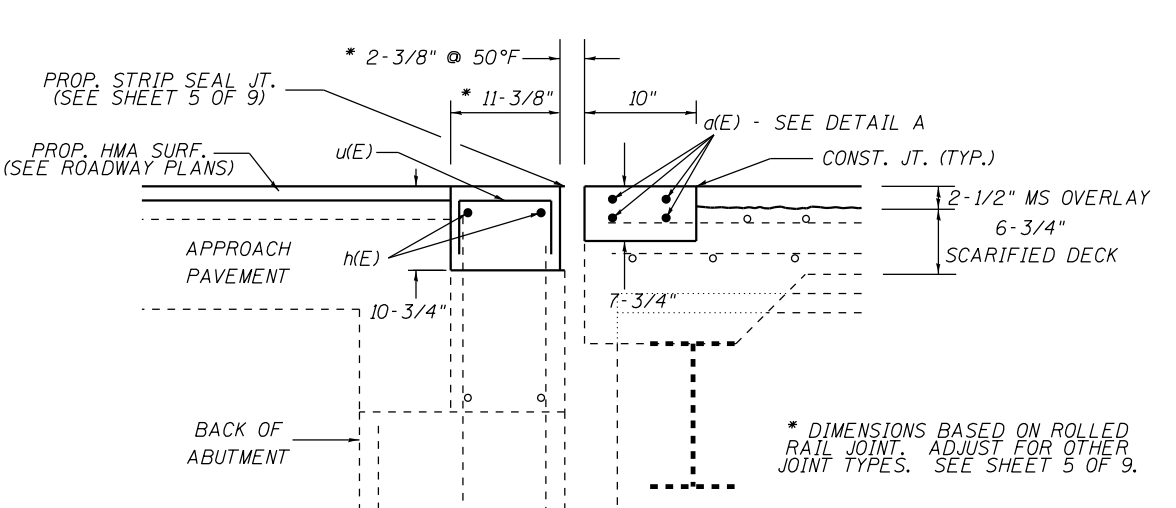
**d1(E) BAR**



**d(E) BAR**



**JOINT REMOVAL CROSS SECTION - TYP.**



**JOINT CROSS SECTION - TYP.**

\* DIMENSIONS BASED ON ROLLED RAIL JOINT. ADJUST FOR OTHER JOINT TYPES. SEE SHEET 5 OF 9.

BILL OF MATERIAL - 2 JOINTS				
BAR	#	SIZE	LENGTH	SHAPE
d(E)	16	#5	17' 0"	—
d(E)	8	#4	3' 1"	┌
d1(E)	8	#5	2' 7"	↘
d2(E)	8	#5	3' 0"	└
d3(E)	8	#4	3' 0"	└
h(E)	8	#6	17' 0"	—
u(E)	64	#5	2' 0"	□
REINFORCEMENT BARS (EPOXY COATED)		POUND	700	
CONC. SUPERSTRUCTURE		CU YD	4.4	
CONC. REMOVAL		CU YD	3.8	

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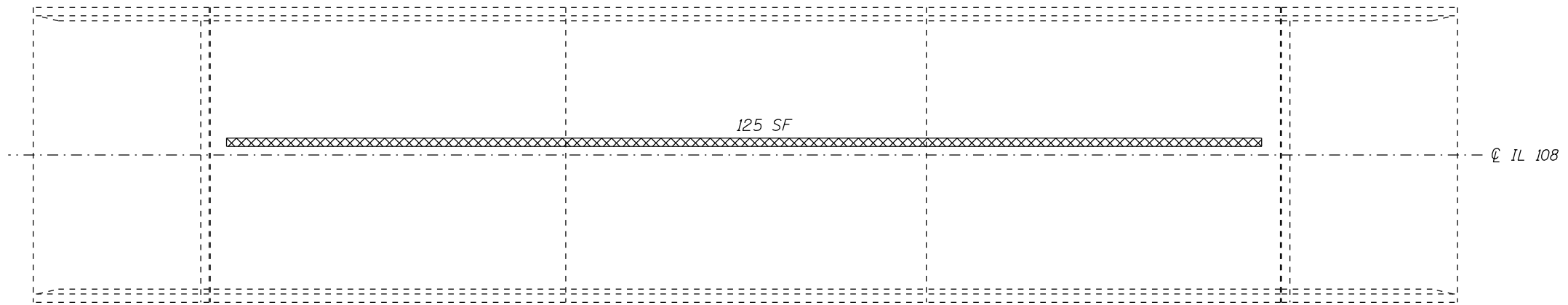
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	DATE -	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

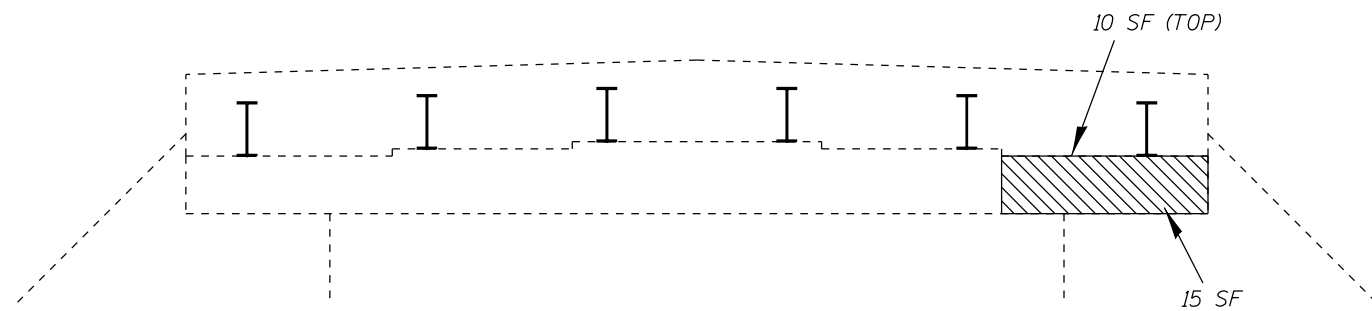
**JOINT REPLACEMENT DETAIL  
SN 059-0035**

SCALE: SHEET OF SHEETS STA. TO STA.

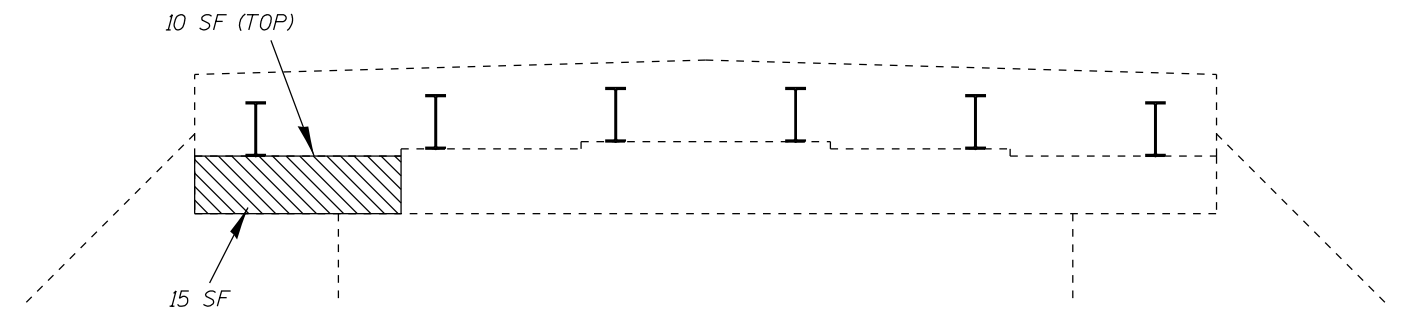
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
761	(107) BDR, BJR, BP, BRR	MACOUPIN	17	11
CONTRACT NO. 72K97				
ILLINOIS		FED. AID PROJECT		



DECK PATCHING PLAN



EAST ABUTMENT ELEVATION



WEST ABUTMENT ELEVATION

 PROPOSED STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 INCHES)

 PROPOSED DECK SLAB REPAIR (FULL DEPTH)

NOTES:

IDENTIFIED PATCHING LOCATIONS ARE ESTIMATED FROM A DECK SURVEY PERFORMED ON 7/6/2018. THESE LOCATIONS INDICATE PORTIONS OF THE DECK THAT HAVE HIGHER POTENTIAL FOR REQUIRING FULL DEPTH REPAIRS. THE CONTRACTOR SHALL NOT PERFORM FULL DEPTH PATCHING ANYWHERE ON THE DECK UNLESS SCARIFICATION OPERATIONS REVEAL THE NEED TO DO SO. THE PATCHING SURVEY INFORMATION IS INCLUDED FOR INFORMATION ONLY.

THE ENGINEER SHALL SHOW ACTUAL LOCATIONS OF DECK REPAIRS ON AS-BUILT PLANS.

DECK PATCHING & SUBSTRUCTURE REPAIR BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Deck Slab Repair (Full Depth, Type II)	Sq. Yd.	14
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq. Ft.	50

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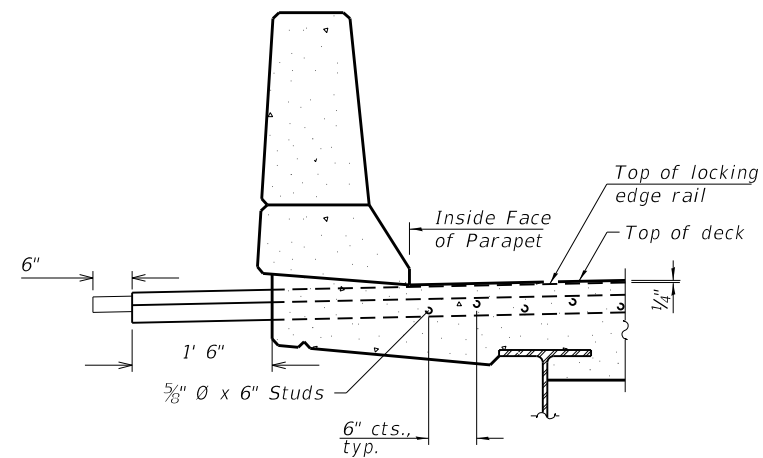
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PLOT DATE = 10/17/2018	CHECKED -	REVISED -
	DATE -	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

DECK & SUBSTRUCTURE REPAIR DETAILS  
SN 059-0035

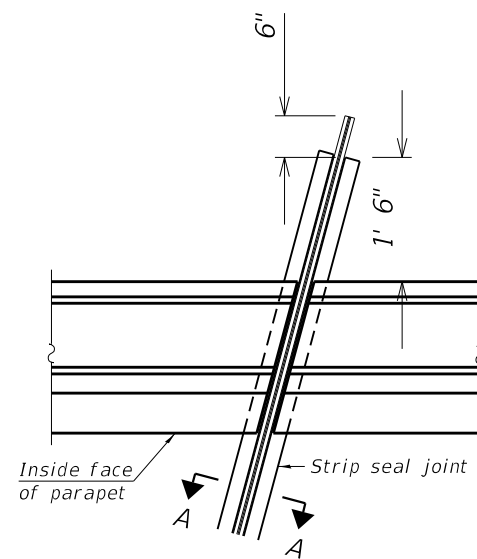
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ILLINOIS FED. AID PROJECT			CONTRACT NO. 72K97	



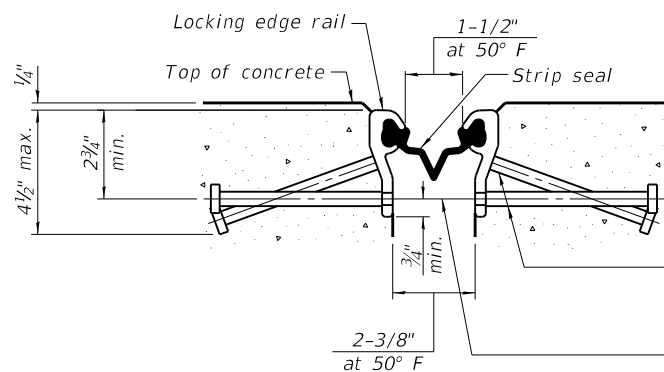
**ELEVATION AT PARAPET**

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



**PLAN AT PARAPET**

(Skews < 30°)



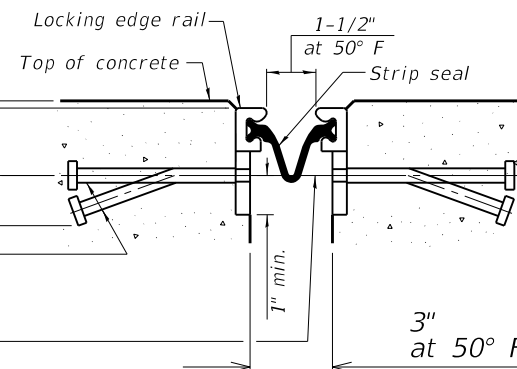
**SHOWING ROLLED RAIL JOINT**

\* 5/8" Ø x 6" studs @ 6" cts. (alternate angled/bent studs with horizontal studs)

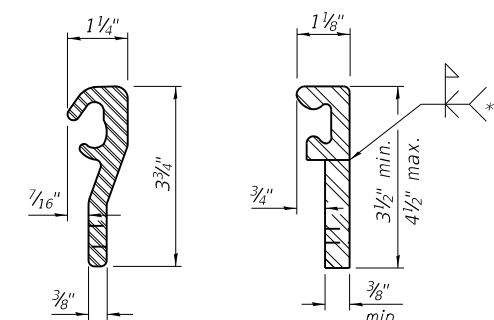
3/8" φ threaded rods in 7/16" φ holes at ±4'-0" cts. for holding the proper joint opening based on the temperature during the deck pour. Place to miss studs. All rods shall be burned, or sawed off flush with the plates after concrete is set.

**SECTION A-A**

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

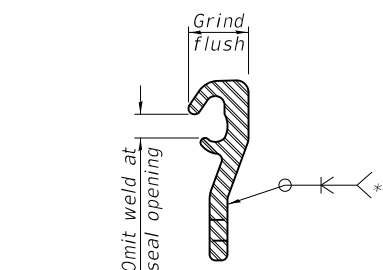


**SHOWING WELDED RAIL JOINT**



**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	76

EJ-SS (MODIFIED) 8-11-17

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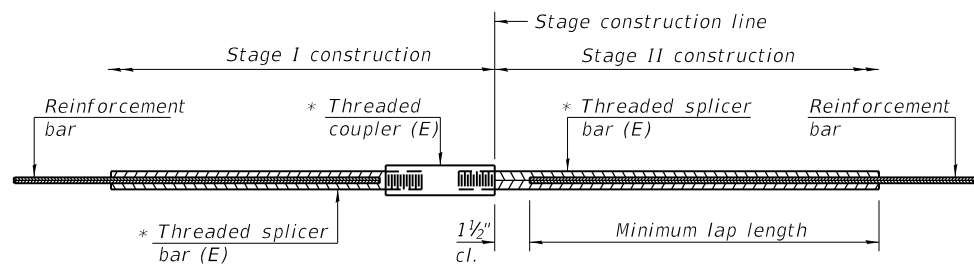
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	DATE -	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**PREFORMED JOINT STRIP SEAL  
STRUCTURE NO. 059-0035**

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
761	(107) BDR, BJR, BP, BRR	MACOUPIN	17	13
CONTRACT NO. 72K97				
ILLINOIS FED. AID PROJECT				

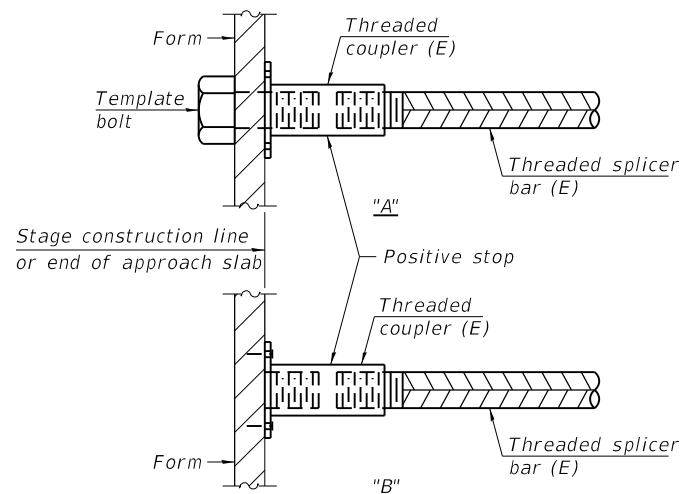


**STANDARD BAR SPLICER ASSEMBLY**

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

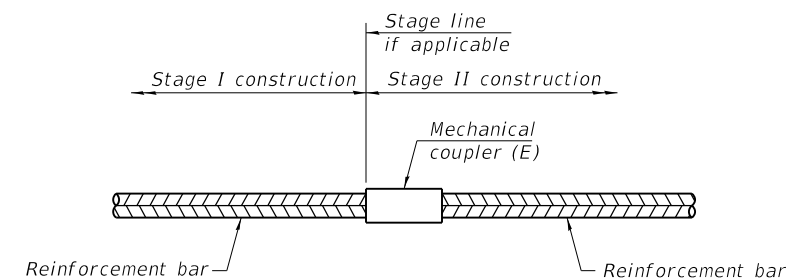
\* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Minimum lap length
Abuts. (deck side)	#5	8	3' 6"
Abuts. (appr. side)	#6	4	4' 0"



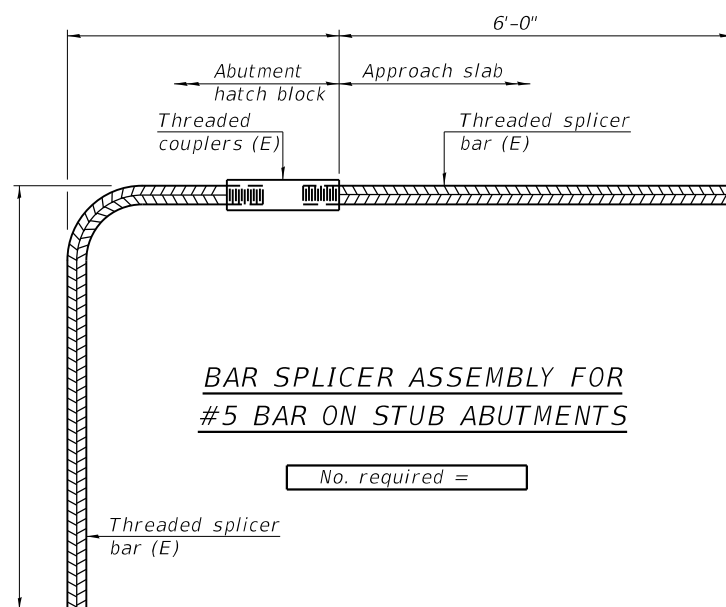
**INSTALLATION AND SETTING METHODS**

"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



**BAR SPLICER ASSEMBLY FOR #5 BAR ON STUB ABUTMENTS**

No. required =

**NOTES**

Splicer bars shall be deformed with threaded ends and have a minimum 60 ksi yield strength.  
 All reinforcement shall be lapped and tied to the splicer bars.  
 Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars. See Section 508 of the Standard Specifications.  
 See approved list of bar splicer assemblies and mechanical splicers for alternatives.

BSD-1

2-17-2017

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	DRAWN -	REVISED -
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PLOT DATE = 10/17/2018	DATE -	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

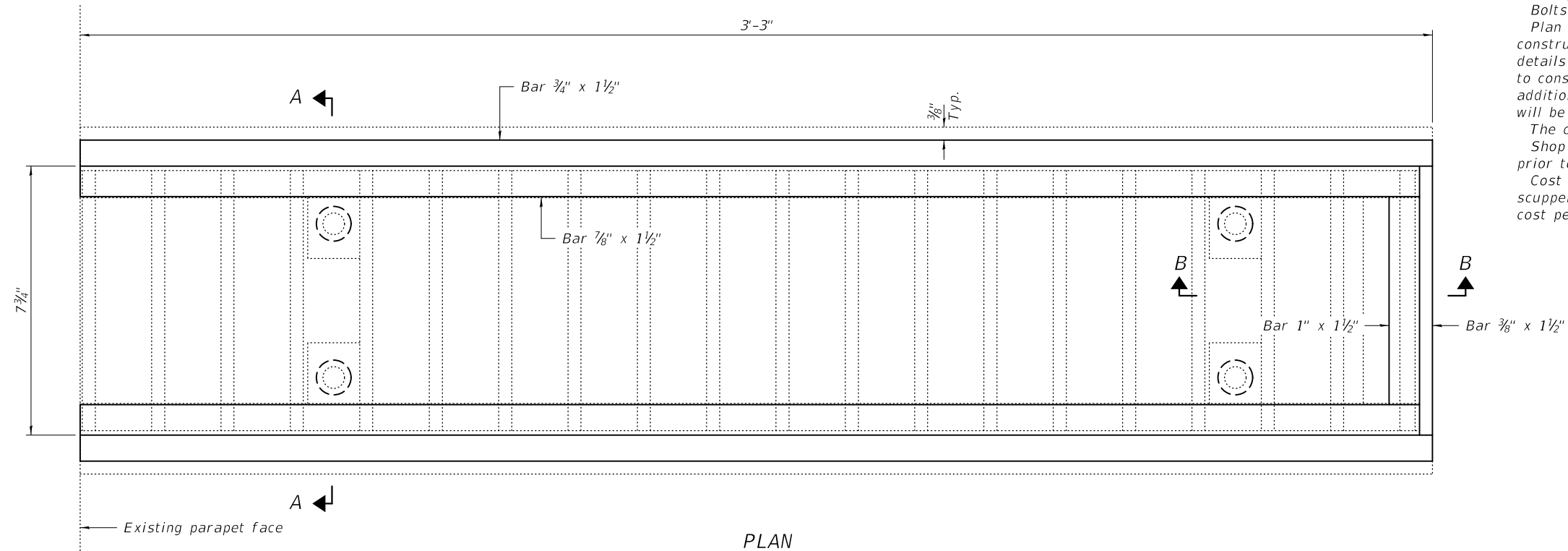
**BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS  
SN 059-0035**

SCALE: SHEET OF SHEETS STA. TO STA.

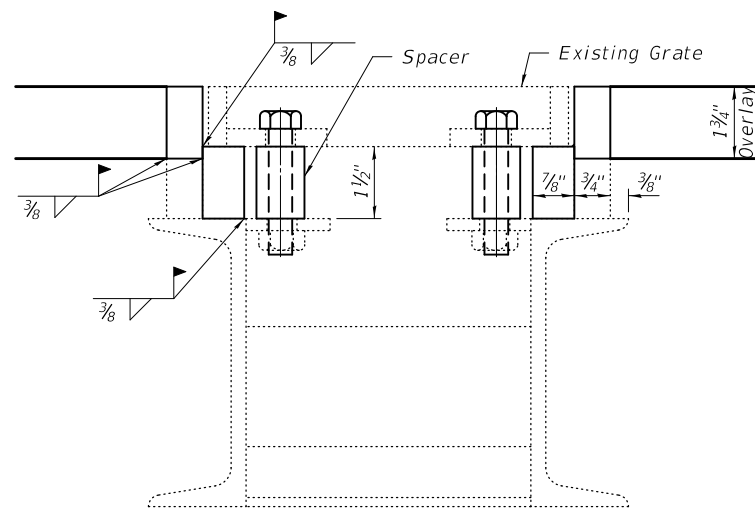
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
761	(107) BDR, BJR, BP, BRR	MACOUPIN	17	14
			CONTRACT NO. 72K97	
		ILLINOIS	FED. AID PROJECT	

**GENERAL NOTES**

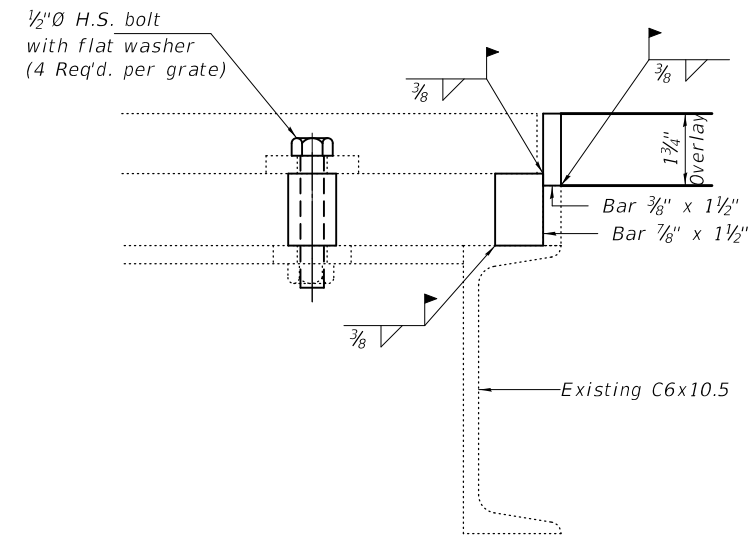
All structural steel shall conform to AASHTO Classification M-270 Gr. 36.  
 The adjusting scupper ring shall be galvanized.  
 Bolts shall be 1/2"Ø, AASHTO M164 Type 1, mechanically galvanized.  
 Plan dimensions and details relative to existing plans are subject to nominal construction variations. 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.  
 The contractor shall ensure that no damage is done to existing grates to be reused.  
 Shop plans for proposed adjusting scupper ring shall be submitted for approval prior to fabrication.  
 Cost of all labor and materials necessary to remove existing grates, clean existing scuppers, install adjusting scupper rings and reinstalling grates is included in the cost per unit each for Drainage Scuppers to be Adjusted.



**PLAN**



**SECTION A-A**



**SECTION B-B**

**BILL OF MATERIAL**

Item	Unit	Total
Drainage Scuppers to be Adjusted	Each	4

DESIGNED -	EXAMINED	DATE - NOVEMBER 19, 2018
CHECKED -	ENGINEER OF STRUCTURAL SERVICES	
DRAWN - daburdell	PASSED	REVISD -
CHECKED -	ENGINEER OF BRIDGES AND STRUCTURES	REVISD -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

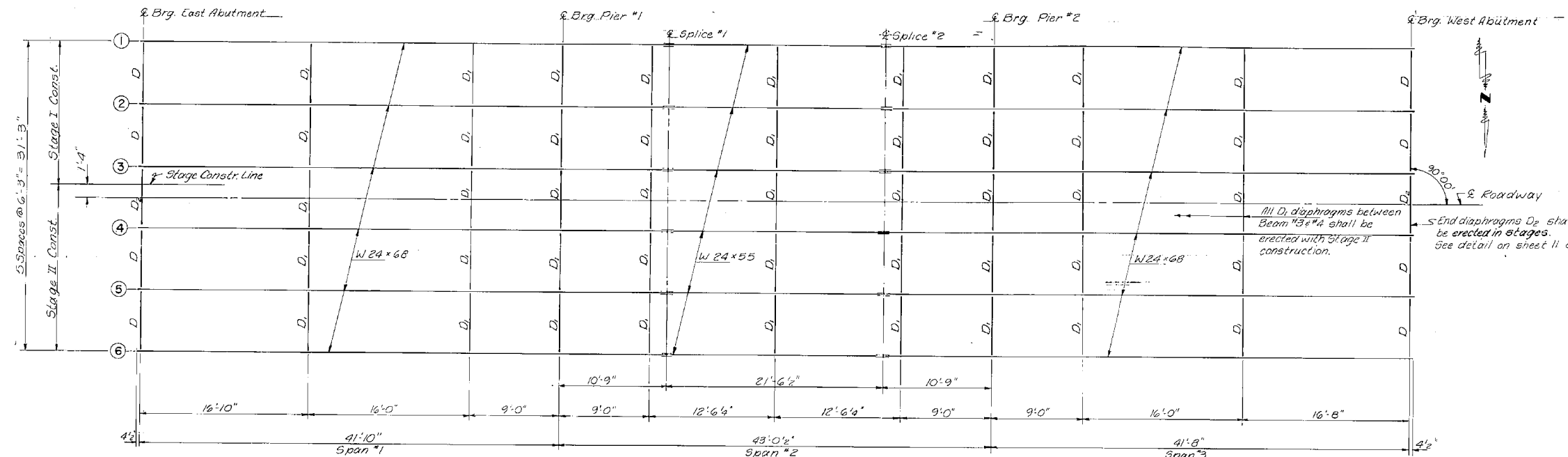
**ADJUSTING EXISTING SCUPPER  
 SN 059-0035**

SHEET NO. 1 OF 1 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
761	(107)BDR,BJR,BP,BRR	MACOUPIN	17	14A
ILLINOIS FED. AID PROJECT			CONTRACT NO. 72K97	





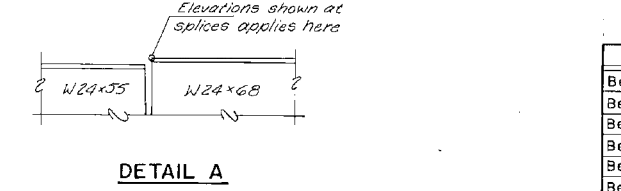
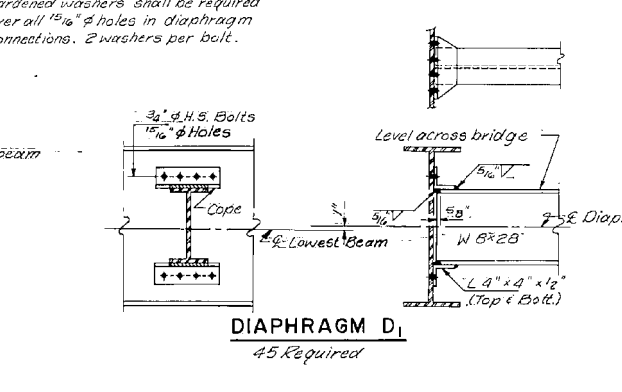
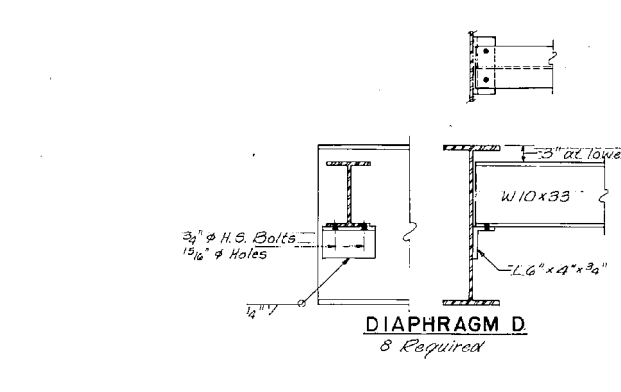
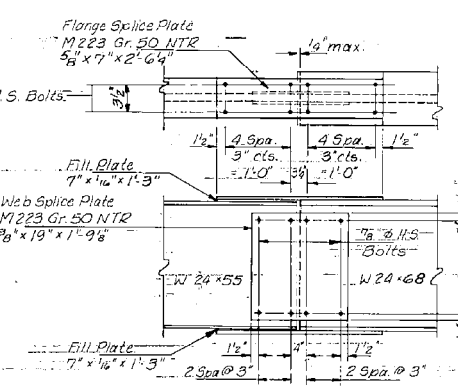
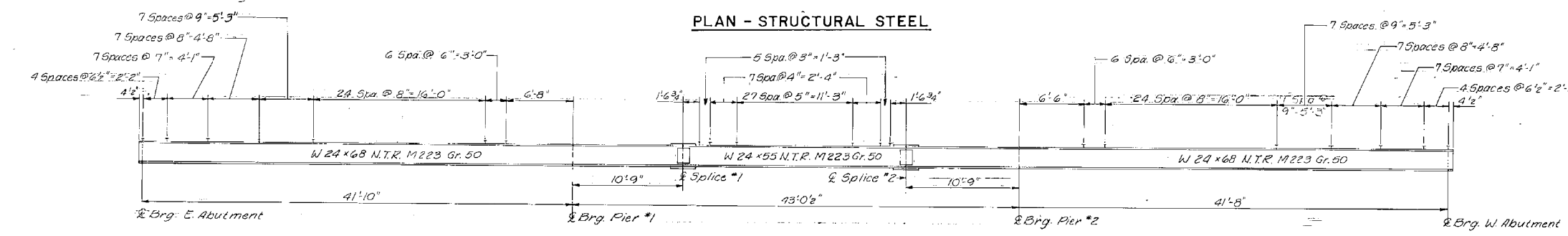


	0.6 Span 1	Pier 1 or Pier 2	0.5 Span 2
$I_s$ (in <sup>4</sup> )	1830	1830	1350
$I_c$ (in <sup>4</sup> )	6073		4953
$S_x$ (in <sup>3</sup> )	154	154	114
$S_c$ (in <sup>3</sup> )	252		202
DL (ft-k)	0.702	0.972	0.702
MOL (ft-k)	103	174	29
SOL (ft-k)	0.270		0.270
Msol (ft-k)	44		22
MLL (ft-k)	247	115	190
MIMP (ft-k)	74	39	57
$M_u$ (ft-k)	535	248	412
$M_a$ (ft-k)	886	549	601
$M_u$ (ft-k)	1499	642	808
$f_s$ (ksi)	8.0	13.6	3.0
$f_s$ (S.D.) (ksi)	2.3		1.4
$f_s$ (LL+I) (ksi)	25.5	19.4	24.5
$f_s$ (Overload) (ksi)	35.8	33.0	28.9
$f_s$ (Total) (ksi)		42.9	37.6
$V_R$ (ksi)	43.1		33.1

	ABUTMENT	PIER
$R_{DL}$ (K)	16.8	45.9
$R_{LL}$ (K)	31.0	36.3
$R_{IMP}$ (K)	9.3	10.8
$R_{TOTAL}$ (K)	57.1	93.0

$M_a$  (Applied Moment) = 1.3 [ $M_{OL} + M_{SOL} + S_3(M_{LL} + I_m)$ ]

**\*\* Non-compact section.**  
 $I_s$  and  $S_x$  are the moment of inertia and section modulus of the steel section used in computing  $f_s$  (Total and Overload).  
 $I_c$  and  $S_c$  are the moment of inertia and section modulus of the composite section used in computing  $f_s$  (Total and Overload).  
 $V_R$  is the maximum  $\frac{1}{4}$  impact shear range in span.  
 \* The Moment Capacity ( $M_u$ ) is computed according to AASHTO 10.48 & 10.50.  
 $f_s$  (Total) is the sum of the stresses due to 1.3 [ $M_{OL} + M_{SOL} + S_3(M_{LL} + I)$ ].  
 $f_s$  (Overload) is the sum of the stresses due to  $M_{OL} + M_{SOL} + S_3(M_{LL} + I)$ .



	BRG. E. ABUT.	BRG. PIER NO. 1	SPLICE NO. 1	SPLICE NO. 2	BRG. PIER NO. 2	BRG. W. ABUT.
Beam 1	512.567	512.040	511.905	511.633	511.498	510.973
Beam 2	512.684	512.157	512.022	511.750	511.615	511.090
Beam 3	512.781	512.254	512.119	511.847	511.712	511.187
Beam 4	512.781	512.254	512.119	511.847	511.712	511.187
Beam 5	512.684	512.157	512.022	511.750	511.615	511.090
Beam 6	512.567	512.040	511.905	511.633	511.498	510.973

ITEM	QUANTITY
Furnishing & Erecting Structural Steel	Lump Sum 1
Stud Shear Connectors	Each 1968

Note: N.T.R. indicates Notch Toughness Requirements are applicable.

STRUCTURAL STEEL & DETAILS  
 ILLINOIS ROUTE 108 OVER  
 LICK CREEK  
 FAP 761 SECTION 107 BR-3  
 STATION 640+10  
 MACOUPIN COUNTY  
 STR. NO. 059-0035

auby, oglesby & bartolomucci consulting engineers  
 1323 south first street / Springfield, Illinois 62704  
 DRAWN T.M.W. DATE Jan 6, 1989 JOB NO. 87-61 SHEET NO. 10 of 16

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PLOT DATE = 10/17/2018	DATE -	REVISED -

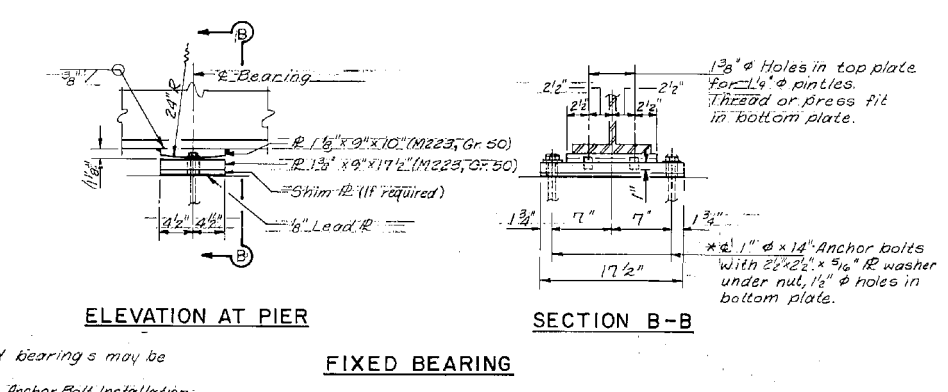
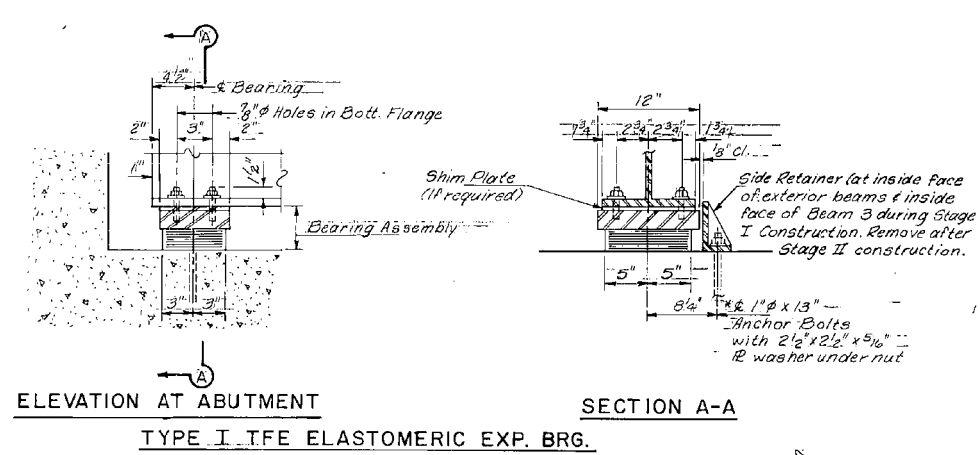
STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

EXISTING STRUCTURAL STEEL DETAILS  
 (FOR INFORMATION ONLY)

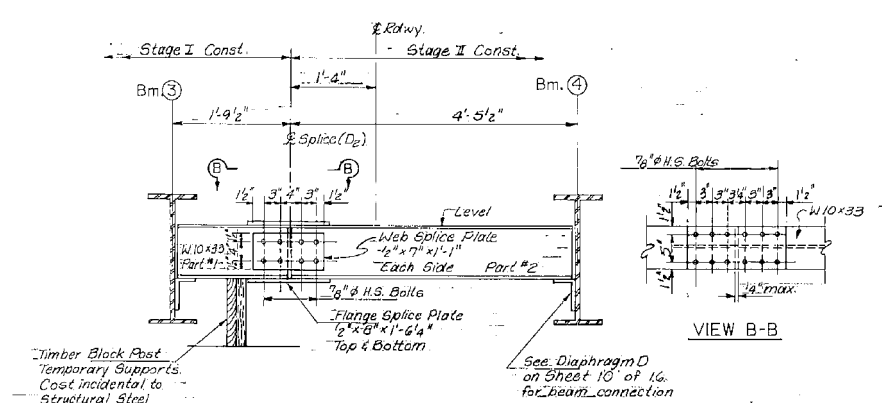
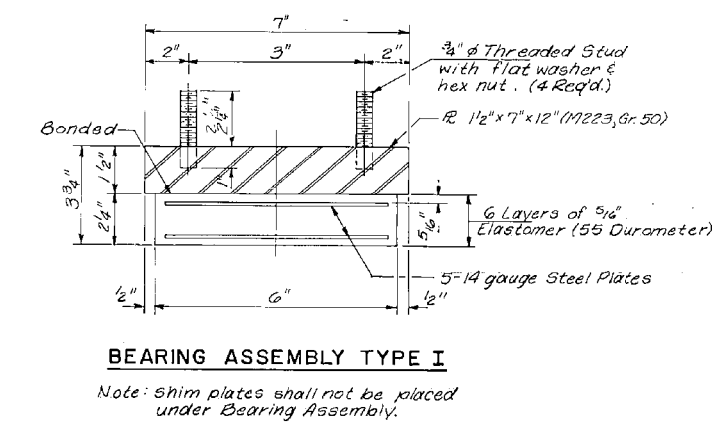
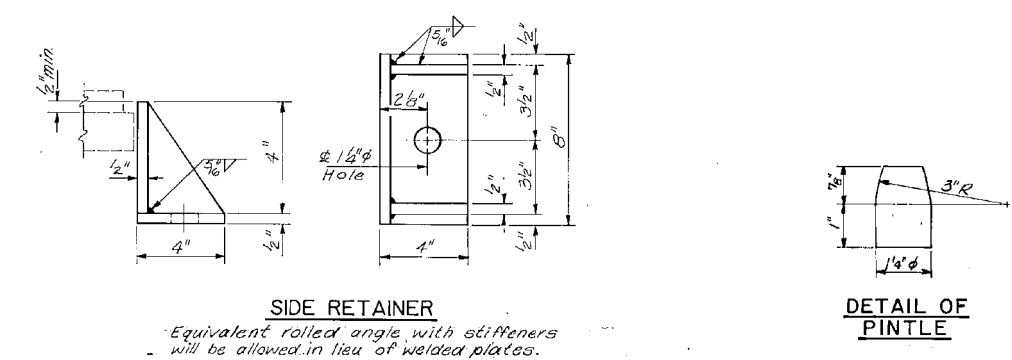
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
761	(107) BDR, BJR, BP, BRR	MACOUPIN	17	16
CONTRACT NO. 72K97				
ILLINOIS FED. AID PROJECT				

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F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
761	107 BR-3	MACOUPIN	27	16
ILLINOIS PROJECT		BRF-761(S)		



Notes:  
Anchor bolts at fixed bearings may be built into the masonry.  
See Sheet 12 of 16 for Anchor Bolt Installation.



**BILL OF MATERIAL**

ITEM	QUANTITY
Elastomeric Bearing Assembly, Type I	Each 12

**BEARINGS**  
ILLINOIS ROUTE 108 OVER LICK CREEK  
FAP 761 SECTION 107 BR-3  
STATION 640+10  
MACOUPIN COUNTY  
STR. NO. 059-0035

DRAWN T.M.W.	DATE Jan. 6, 1989	JOB NO. 87-61	SHEET NO. 11 of 16
CHECKED R.E.G.			

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	DATE -	REVISED -

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

**EXISTING STRUCTURAL STEEL DETAILS**  
**(FOR INFORMATION ONLY)**

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
761	(107) BDR, BJR, BP, BRR	MACOUPIN	17	17
CONTRACT NO. 72K97				
ILLINOIS		FED. AID PROJECT		