

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
612	(109G-BR)BRR	FULTON	20	1
		ILLINOIS	CONTRACT NO. 68H94	

INDEX OF SHEETS

- 1 COVER SHEET
- 2 GENERAL NOTES
- 3-4 SUMMARY OF QUANTITIES
- 5 SCHEDULE OF QUANTITIES
- 6-8 TRAFFIC CONTROL PLANS
- 9-20 SN 029-0022 STRUCTURE SHEETS

HIGHWAY STANDARDS

- 000001-08 701901-09
- 701001-02 704001-08
- 701006-05 780001-05
- 701311-03 781001-04
- 701321-16 782006-01
- 701326-04

DESIGN DESIGNATION

IL 100: MINOR ARTERIAL
ADT: 675 (2021)
SU: 30
MU: 130



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.

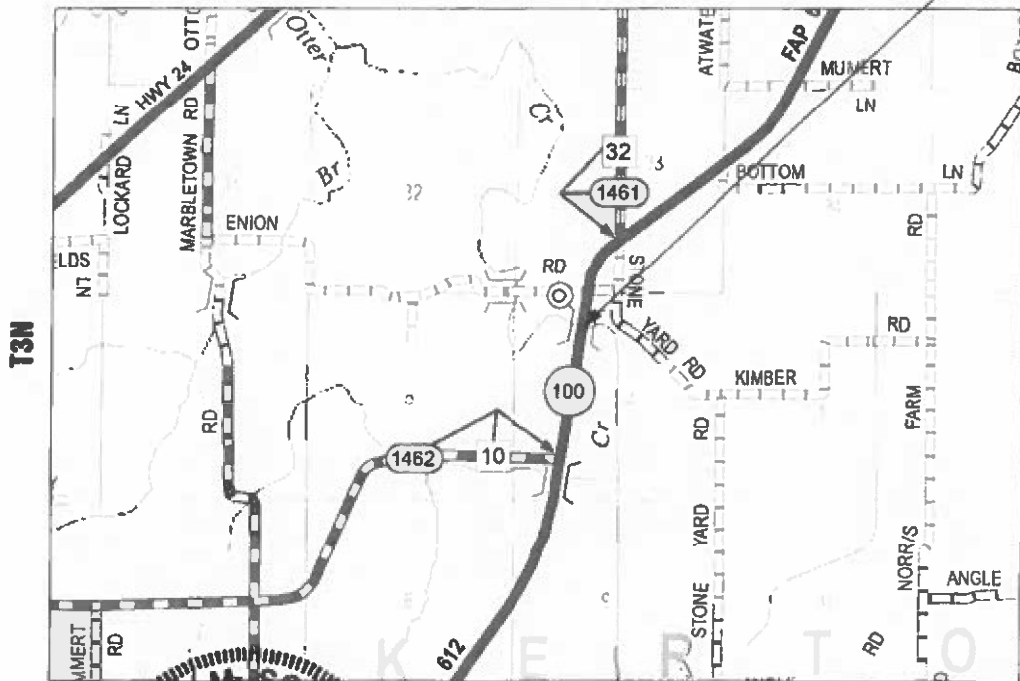
J.U.L.I.E.
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATORS
1-800-892-0123
OR 811

PROJECT ENGINEER: BEN TELLEFSON (309) 671-3333
PROJECT MANAGER: WILL MOSER (309) 671-3333
CATALOG NO. 036460-000
CONTRACT NO. 68H94

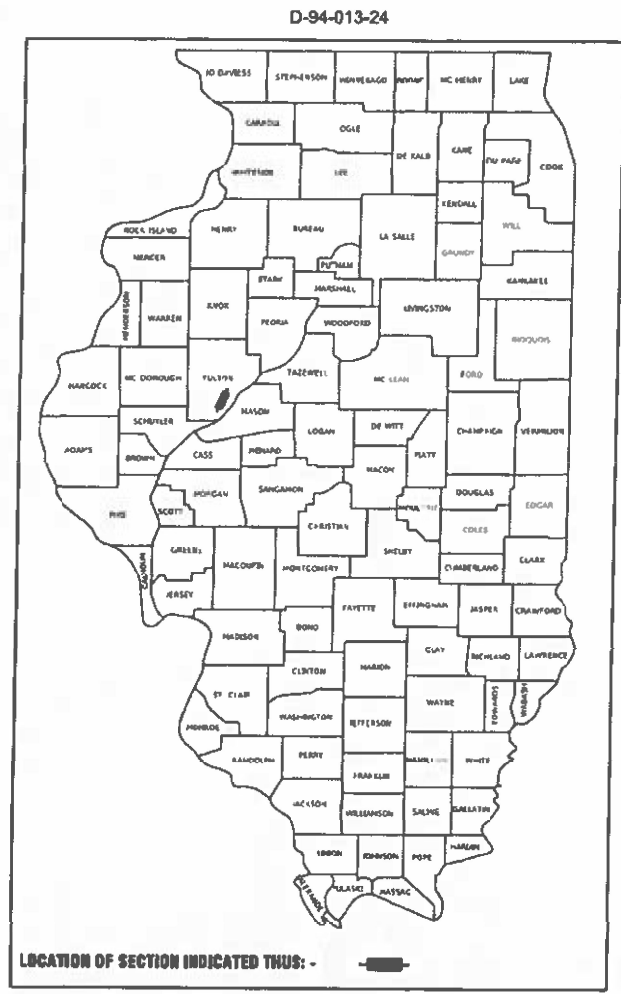
PROPOSED
HIGHWAY PLANS

FAP ROUTE 612 (IL 100)
SECTION (109G-BR)BRR
FULTON COUNTY

C-94-013-24
R3E



LOCATION OF IMPROVEMENT
SN 029-0022



AARON M. SCHAFER
082-065354
REGISTERED
PROFESSIONAL
ENGINEER
OF
ILLINOIS

AARON M. SCHAFER
DATE 10/24/2023
REGISTERED PROFESSIONAL ENGINEER
STATE OF ILLINOIS NO. 082-065354
LICENSE EXPIRES NOVEMBER 30, 2025

GROSS LENGTH = 293.4 FT. = 0.044 MILE
NET LENGTH = 233.4 FT. = 0.044 MILE

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& ASSOCIATES, P.C.
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Galesburg, Illinois
49 North Prairie Street
309.342.4042
Quincy, IL Hannibal, MO
Burlington, IA Peoria, IA Columbia, MO
Des Moines, IA Carbondale, IL
DESIGN FIRM NO. 184-2738

PROJECT DESCRIPTION:
BRIDGE EXPANSION JOINT REPLACEMENT AND
INSTALLATION OF NEW STEEL DIAPHRAGMS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
SUBMITTED October 24, 2023
Keril A. Barnett
REGIONAL ENGINEER
December 8, 2023
Scott A. Etkin
ENGINEER OF DESIGN AND ENVIRONMENT
December 8, 2023
Stephen M. Smith
DIRECTOR OF HIGHWAYS PROJECT IMPLEMENTATION

PRINTED BY THE AUTHORITY
OF THE STATE OF ILLINOIS

COMMITMENTS

COMMITMENTS ARE NOT TO BE ALTERED WITHOUT THE WRITTEN APPROVAL OF ALL PARTIES TO WHICH THE COMMITMENT WAS MADE.

THERE ARE NO COMMITMENTS INCLUDED IN THIS PROJECT.

JOB SPECIFICATIONS

1. FLAGGERS, WHEN SHOWN, SHALL BE INCLUDED IN THE COST OF TRAFFIC CONTROL STANDARD PAY ITEMS.
2. TWO CHANGEABLE MESSAGE SIGNS SHALL BE PLACED IN ADVANCE OF THE PROJECT. ONE PER EACH DIRECTION OF TRAVEL ON IL 100 ONE WEEK PRIOR TO CONSTRUCTION.

HOT-MIX ASPHALT MIXTURE REQUIREMENTS

POLYMERIZED BITUMINOUS MATERIALS (TACK COAT) RATES

SURFACE TYPE	RESIDUAL RATE
MILLED (HMA OR PCC)	0.08 LB/SF
EXISTING PAVEMENT	0.08 LB/SF
FOG COAT (BETWEEN LIFTS)	0.08 LB/SF

HOT-MIX ASPHALT REQUIREMENTS

LOCATIONS:	SHOULDERS
MIXTURE USES:	HMA BINDER COURSE 8"
PG:	PG 64-22 OR PG 70-22
DESIGN AIR VOIDS	4% @ N50
MIXTURE COMPOSITION:	IL-9.5
FRICTION AGGREGATE:	N.A.
QUALITY MANAGEMENT:	QC/QA

NOTES:

- 1) INDIVIDUAL LIFT THICKNESS OF EACH MIX TYPE WILL BE NO LESS THAN (3) TIMES NOMINAL MAXIMUM AGGREGATE SIZE AND NO MORE THAN FIVE (5) TIMES NOMINAL AGGREGATE MAXIMUM SIZE, UNLESS OTHERWISE APPROVED BY ENGINEER.
- 2) FOR DESIGN PURPOSES, MIXTURE WEIGHT FOR ALL MIXES IS DETERMINED TO BE 112.0 LB./S.Y./IN., UNLESS OTHERWISE NOTED.
- 3) SUBLOT SIZES FOR PFP AND QCP MIXES WILL BE 1,000 TONS, UNLESS OTHERWISE AGREED TO BY THE ENGINEER AND THE PAVING CONTRACTOR.

GENERAL NOTES

1. THE THICKNESS OF BITUMINOUS MIXTURES SHOWN ON THE PLANS IS THE NOMINAL THICKNESS. DEVIATIONS FROM THE NOMINAL THICKNESS WILL BE PERMITTED WHEN SUCH DEVIATIONS OCCUR DUE TO THE IRREGULARITIES IN THE EXISTING SURFACE OR BASE ON WHICH THE BITUMINOUS MIXTURE IS PLACED.
2. THE CONTRACTOR SHALL PROTECT AND CAREFULLY PRESERVE ALL PROPERTY MARKERS AND MONUMENTS UNTIL THE OWNER, AUTHORIZED AGENT, OR LAND SURVEYOR HAS WITNESSED OR OTHERWISE REFERENCED THEIR LOCATION. WHERE SECTION OR SUB-SECTION MONUMENTS ARE ENCOUNTERED, THE ENGINEER SHALL BE NOTIFIED BEFORE SUCH MONUMENTS ARE REMOVED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR HAVING AN AUTHORIZED SURVEYOR RE-ESTABLISH ANY SECTION OR SUB-SECTION MONUMENTS DESTROYED BY HIS OPERATIONS.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING UTILITY PROPERTY FROM CONSTRUCTION OPERATIONS AS OUTLINED IN ARTICLE 107.31 OF THE STANDARD SPECIFICATIONS. THE J.U.L.I.E. NUMBER IS 1-800-892-0123. A MINIMUM OF 48 HOURS ADVANCE NOTICE IS REQUIRED.
4. THE LOCATION OF BURIED AND ABOVE GROUND UTILITIES SHOWN ARE APPROXIMATE AND ARE SHOWN FOR THE CONTRACTOR INFORMATIONAL USE ONLY. LOCATIONS ARE NOT TO BE REFERENCED FOR CONSTRUCTION PURPOSES. THE IMPLIED PRESENCE OR ABSENCE OF UTILITIES IS NOT TO BE CONSTRUED BY THE OWNER, ENGINEER, CONTRACTOR, OR SUBCONTRACTORS TO BE AN ACCURATE AND COMPLETE REPRESENTATION OF UTILITIES THAT MAY OR MAY NOT EXIST ON THE CONSTRUCTION SITE. BURIED AND ABOVE GROUND UTILITY LOCATIONS, IDENTIFICATION, AND MARKING ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. REROUTING, DISCONNECTION, PROTECTION, ETC. OF ANY UTILITIES MUST BE COORDINATED BETWEEN THE CONTRACTOR, UTILITY COMPANY, AND OWNER. SITE SAFETY, INCLUDING THE AVOIDANCE OF HAZARDS ASSOCIATED WITH BURIED AND ABOVE GROUND UTILITIES, REMAINS THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
5. IN ADDITION TO FIELD SURVEYS, PLAN DIMENSIONS AND DETAILS RELATIVE TO THE EXISTING FACILITIES HAVE BEEN TAKEN FROM EXISTING PLANS AND ARE SUBJECT TO CONSTRUCTION VARIATIONS. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO VERIFY SUCH DIMENSIONS AND DETAILS IN THE FIELD. SUCH VARIATIONS SHALL NOT BE A CAUSE FOR ADDITIONAL COMPENSATION DUE TO 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. THE THICKNESS OF BITUMINOUS MIXTURES SHOWN ON THE PLANS IS THE NOMINAL.
6. ANY REFERENCE TO A STANDARD IN THESE PLANS SHALL BE INTERPRETED TO MEAN THE EDITION AS INDICATED BY THE SUB-NUMBER IN THE INDEX OF SHEETS OR THE COPY OF THE STANDARD INCLUDED IN THESE PLANS.
7. ANY EXISTING ROAD SIGNS THAT INTERFERE WITH CONSTRUCTION WILL BE REMOVED OR RELOCATED AS DIRECTED BY THE ENGINEER. AFTER THE CONSTRUCTION IS COMPLETED, THE CONTRACTOR WILL REPLACE THE SIGNS AS DIRECTED BY THE ENGINEER. THIS WORK WILL BE DONE AT NO ADDITIONAL COST TO THE STATE.
8. ALL SAW CUTS, NECESSARY TO COMPLETE THE WORK DETAILED IN THESE PLANS, SHALL BE INCLUDED IN THE COST FOR THE VARIOUS PAY ITEMS INVOLVED.

RATES OF APPLICATION TABLE

AGGREGATE (SURFACE, BASE, SUBBASE, OR BACKFILL) 2.05 TON / CU YD
STONE DUMPED RIPRAP 1.50 TON / CU YD

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PLOT SCALE = 100,0000' / in.	DRAWN -	REVISED -
PLOT DATE = 10/24/2023	CHECKED -	REVISED -
	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**FAP 612 (IL 100)
GENERAL NOTES**

SCALE: NONE SHEET 1 OF 1 SHEETS STA. NONE TO STA. NONE

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
612	(109G-BR)BRR	FULTON	20	2
CONTRACT NO. 68H94				
ILLINOIS FED. AID PROJECT				

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CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE							
				FULTON COUNTY							
				SN 029-0022							
				0013							
				100% STATE							
20200500	EARTH EXCAVATION (WIDENING)	CU YD	73	73							
35600716	HOT-MIX ASPHALT BASE COURSE WIDENING, 10"	SQ YD	262	262							
42001300	PROTECTIVE COAT	SQ YD	41	41							
50102400	CONCRETE REMOVAL	CU YD	12.8	12.8							
50300255	CONCRETE SUPERSTRUCTURE	CU YD	12.8	12.8							
50500405	FURNISHING AND ERECTING STRUCTURAL STEEL	POUND	3990	3990							
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	1832	1832							
50800515	BAR SPLICERS	EACH	36	36							
52000110	PREFORMED JOINT STRIP SEAL	FOOT	96	96							
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							
70103815	TRAFFIC CONTROL SURVEILLANCE	CAL DA	5	5							

KLINGNER & ASSOCIATES, P.C.
 Engineers • Architects • Surveyors
 Galesburg, Illinois
49 North Park Street, Galesburg, IL 62541, USA
 309.343.4444

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PLOT DATE = 10/24/2023	CHECKED -	REVISED -
	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FAP 612 (IL 100)
SUMMARY OF QUANTITIES

SCALE: NONE SHEET 1 OF 2 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
612	(109G-BR)BRR	FULTON	20	3
CONTRACT NO. 68H94			ILLINOIS FED. AID PROJECT	

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CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE							
				FULTON COUNTY							
				SN 029-0022							
				0013							
				100% STATE							
70106500	TEMPORARY BRIDGE TRAFFIC SIGNALS	EACH	1	1							
70106700	TEMPORARY RUMBLE STRIPS	EACH	6	6							
70107025	CHANGEABLE MESSAGE SIGN	CAL DA	14	14							
70300100	SHORT TERM PAVEMENT MARKING	FOOT	90	90							
70300150	SHORT TERM PAVEMENT MARKING REMOVAL	SQ FT	30	30							
70400100	TEMPORARY CONCRETE BARRIER	FOOT	462.5	462.5							
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	462.5	462.5							
70600250	IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE), TEST LEVEL 3	EACH	2	2							
70600350	IMPACT ATTENUATORS, RELOCATE (NON-REDIRECTIVE), TEST LEVEL 3	EACH	2	2							
* 78001120	PAINT PAVEMENT MARKING - LINE 5"	FOOT	1795	1795							
* 78200006	GUARDRAIL REFLECTORS, TYPE B	EACH	46	46							
78300200	RAISED REFLECTOR PAVEMENT MARKER REMOVAL	EACH	3	3							
78300202	PAVEMENT MARKING REMOVAL - WATER BLASTING	SQ FT	411	411							

*= SPECIALTY ITEM



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	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**FAP 612 (IL 100)
SUMMARY OF QUANTITIES**

SCALE: NONE SHEET 2 OF 2 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
612	(109G-BR)BRR	FULTON	20	4
CONTRACT NO. 68H94			ILLINOIS FED. AID PROJECT	

TRAFFIC CONTROL AND PROTECTION

LOCATION	70106500	70106700	70400100	70400200	70600250	70600350	78200006
	TEMP BRIDGE TRAFFIC SIGNALS	TEMP RUMBLE STRIPS	TEMP CONCRETE BARRIER	RELOCATE TEMP CONC BARRIER	IMPACT ATTENUATORS TEMP NRD, TL3	IMPACT ATTN RELOCATE NRD, TL3	GUARDRAIL REFLECTORS, TYPE B
	EACH	EACH	FOOT	FOOT	EACH	EACH	EACH
IL 100 (STAGE 1)			462.5		2		24
IL 100 (STAGE 2)	1	6		462.5		2	22
TOTALS	1	6	462.5	462.5	2	2	46

SHORT TERM PAVEMENT MARKING

LOCATION	DESCRIPTION	70300100
		YELLOW FOOT
IL 100	CL (DASHED)	89.2
TOTAL		89.2
USE		90

PAINT PAVEMENT MARKING - LINE 5"

LOCATION	DESCRIPTION	78001120	
		WHITE	YELLOW
		FOOT	
IL 100			
RT	EDGE LINE	797.5	
LT	EDGE LINE	797.5	
CL	DASHED LINE		199.4
TOTAL		1595	199.4
USE		1795	

PAVEMENT MARKING REMOVAL - WATER BLASTING

LOCATION	DESCRIPTION	78300202
		SQ FT
IL 100		
STAGE 1		
LT	EDGE LINE	181.5
CL	DASHED LINE	45.9
STAGE 2		
RT	EDGE LINE	181.5
CL	DASHED LINE	1.3
TOTAL		410.2
USE		411

SHORT TERM PAVEMENT MARKING REMOVAL

LOCATION	DESCRIPTION	70300150
		YELLOW SQ FT
IL 100	CL (DASHED)	29.7
TOTAL		29.7
USE		30

SHOULDER WIDENING

LOCATION	SHOULDER WIDTH	SHOULDER LENGTH	20200500	35600716
			EARTH EXCAVATION (WIDENING)	HMA BASE COURSE WIDENING, 10"
		FOOT	CU YD	SQ YD
IL 100				
PRE-STAGE 1				
LT	4	99.0	12.2	44.0
LT	4	225.0	27.8	100.0
STAGE 1				
RT	4	150.0	18.5	66.7
RT	4	115.0	14.2	51.1
TOTALS			72.7	261.8
USE			73	262

CHANGEABLE MESSAGE SIGN

LOCATION	70107025
	CAL DA
IL 100	14
TOTAL	14

RAISED REFLECTIVE PAVEMENT MARKERS

LOCATION	78300200	
	RAISED REFLECTIVE PAVT MARKER REMOVAL	
		EACH
IL 100	3	
TOTALS	3	

TRAFFIC CONTROL SURVEILLANCE

LOCATION	70103815
	CAL DA
IL 100	5
TOTAL	5

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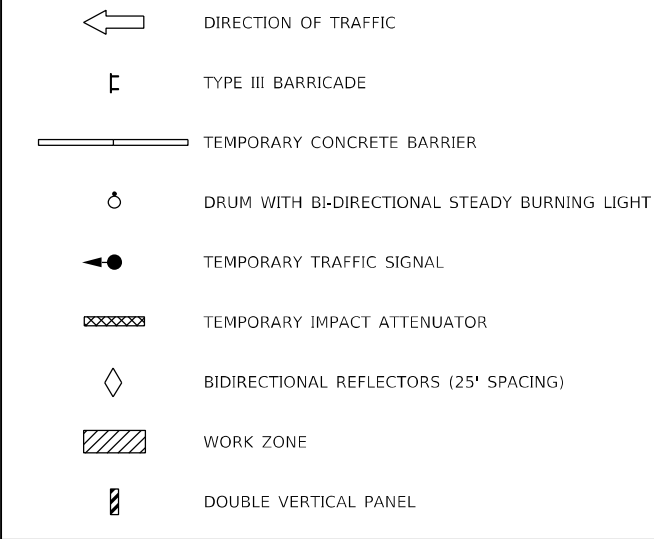
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FAP 612 (IL 100)
SCHEDULE OF QUANTITIES

SCALE: NONE SHEET 1 OF 1 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
612	(109G-BR)BRR	FULTON	20	5
CONTRACT NO. 68H94				
ILLINOIS		FED. AID PROJECT		

LEGEND



STAGE CONSTRUCTION SEQUENCE

THE FOLLOWING STAGE CONSTRUCTION SEQUENCE IS FOR INFORMATION ONLY. THE CONTRACTOR IS RESPONSIBLE FOR PLANNING AND EXECUTING THIS PROJECT WHICH SHALL BE SUBJECT TO THE APPROVAL OF THE ENGINEER.

PRE-STAGE 1:

CONSTRUCT HOT-MIX ASPHALT BASE COURSE WIDENING 10" ALONG NORTHBOUND AND SOUTHBOUND LANES. UTILIZE TRAFFIC CONTROL AND PROTECTION STANDARD 701326. EXISTING GUARDRAIL TO REMAIN IN PLACE. SET UP STAGE 1 TRAFFIC CONTROL.

STAGE 1:

CONSTRUCT EAST HALF OF SN 029-0022 IMPROVEMENTS. EXISTING GUARDRAIL TO REMAIN IN PLACE. REMOVE STAGE 1 TRAFFIC CONTROL.

GENERAL NOTES

VERTICAL PANELS, DRUMS WITH STEADY BURNING LIGHTS, TYPE III BARRICADES, SIGNS, GUARDRAIL REFLECTORS, BARRIER WALL REFLECTORS, AND DETECTOR LOOPS, SHALL BE INCLUDED IN THE COST OF THE PAY ITEM "TRAFFIC CONTROL AND PROTECTION, STANDARD 701321"

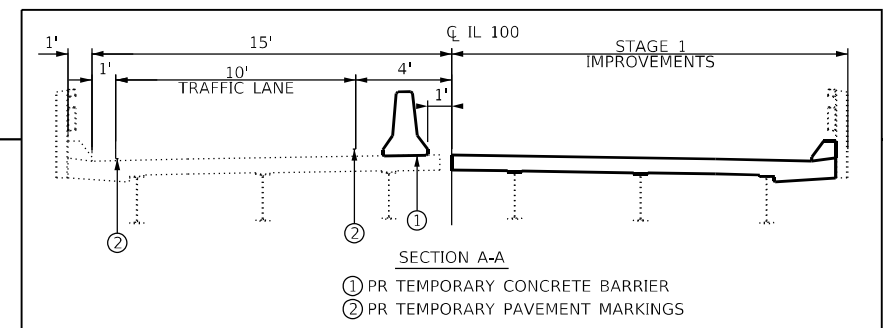
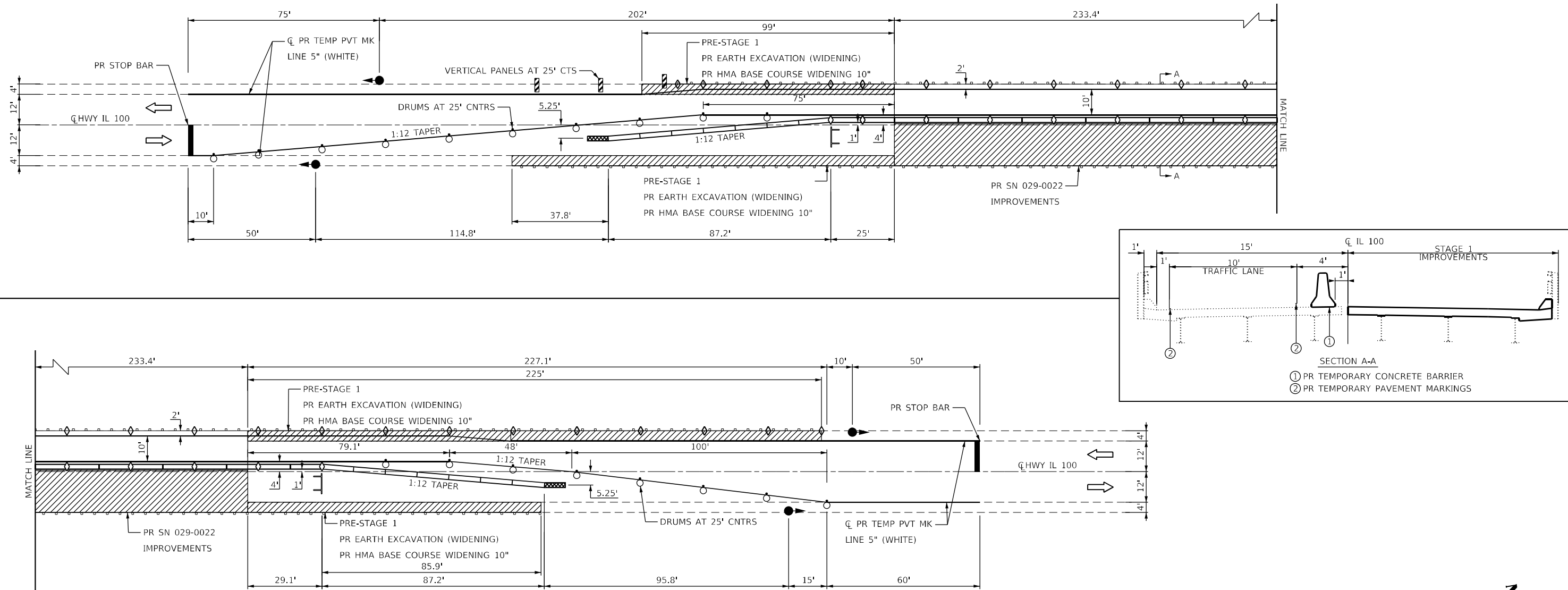
THIS WORK SHALL SUPPLEMENT AND BE IN ACCORDANCE WITH HIGHWAY STANDARD 701321.

FOR DIMENSIONS AND SPACING NOT SHOWN, SEE HIGHWAY STANDARD 701321.

THE CONTRACTOR SHALL PLACE MAX WIDTH SIGNS BEFORE IMPLEMENTING ANY STAGE TRAFFIC CONTROL.

REMOVE ALL CONFLICTING PAVEMENT MARKINGS.

TRAFFIC CONTROL MAY BE ADJUSTED DUE TO FIELD CONDITIONS APPROVED BY ENGINEER.



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DATE: 10/24/2023

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Engineers • Architects • Surveyors
Galesburg, Illinois

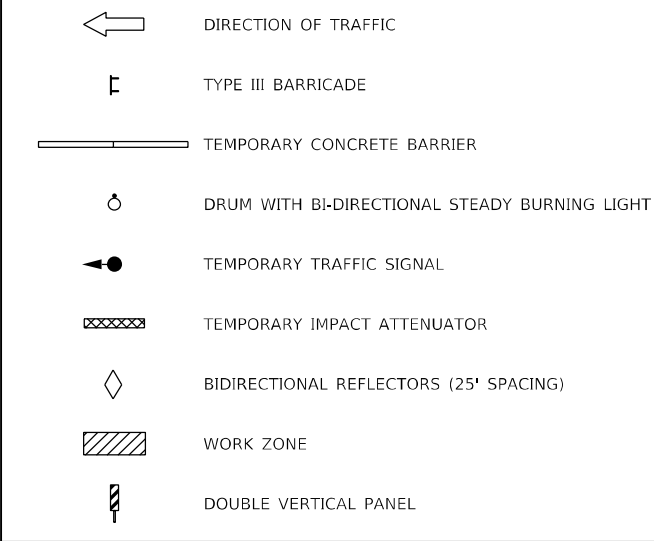
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	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

FAP 612 (IL 100) TRAFFIC CONTROL PLAN (STAGE 1)		
SCALE: 1"=20'	SHEET 1 OF 2 SHEETS	STA. N/A TO STA. N/A

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
612	(109G-BR)BRR	FULTON	20	6
CONTRACT NO. 68H94				
ILLINOIS FED. AID PROJECT				

LEGEND



STAGE CONSTRUCTION SEQUENCE

THE FOLLOWING STAGE CONSTRUCTION SEQUENCE IS FOR INFORMATION ONLY. THE CONTRACTOR IS RESPONSIBLE FOR PLANNING AND EXECUTING THIS PROJECT WHICH SHALL BE SUBJECT TO THE APPROVAL OF THE ENGINEER.

STAGE 2:
 SET UP STAGE 2 TRAFFIC CONTROL.
 CONSTRUCT WEST HALF OF SN 029-0022 IMPROVEMENTS.
 EXISTING GUARDRAIL TO REMAIN IN PLACE.
 REMOVE STAGE 2 TRAFFIC CONTROL.

STAGE 3:
 INSTALL PAVEMENT MARKINGS.
 UTILIZE TRAFFIC CONTROL AND PROTECTION STANDARD 701311.

GENERAL NOTES

VERTICAL PANELS, DRUMS WITH STEADY BURNING LIGHTS, TYPE III BARRICADES, SIGNS, GUARDRAIL REFLECTORS, BARRIER WALL REFLECTORS, AND DETECTOR LOOPS, SHALL BE INCLUDED IN THE COST OF THE PAY ITEM "TRAFFIC CONTROL AND PROTECTION, STANDARD 701321"

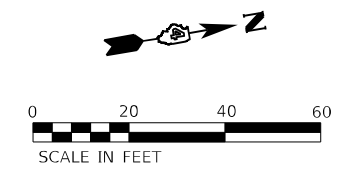
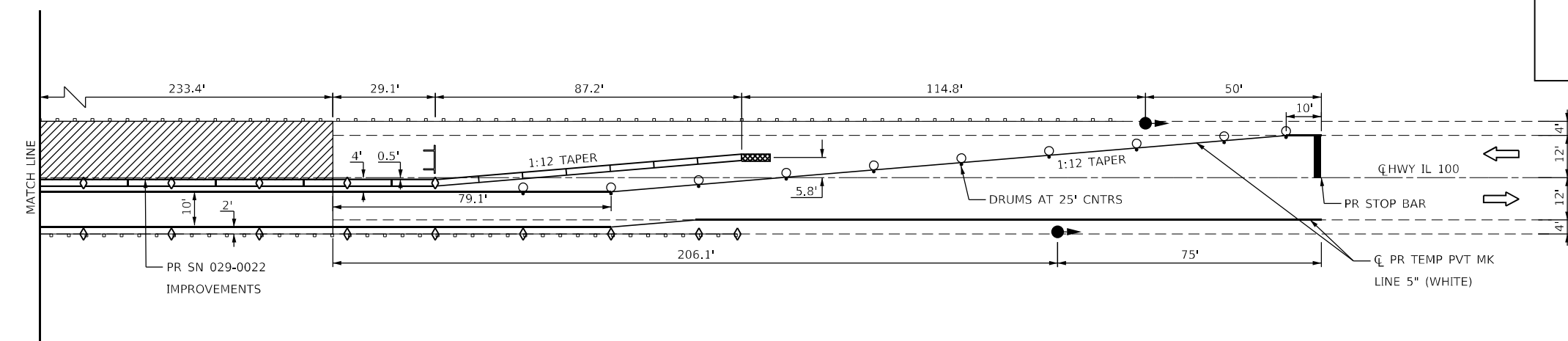
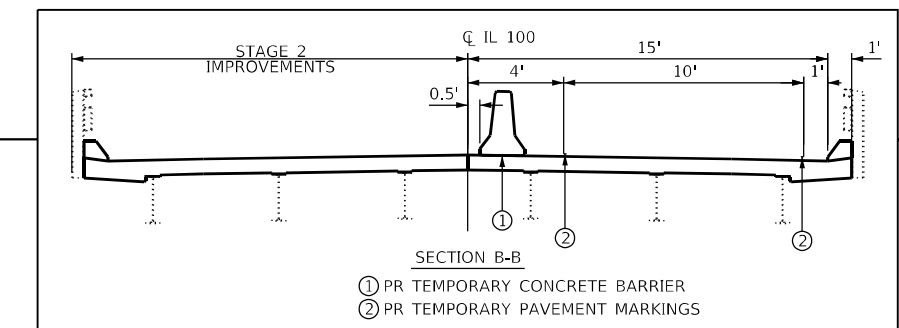
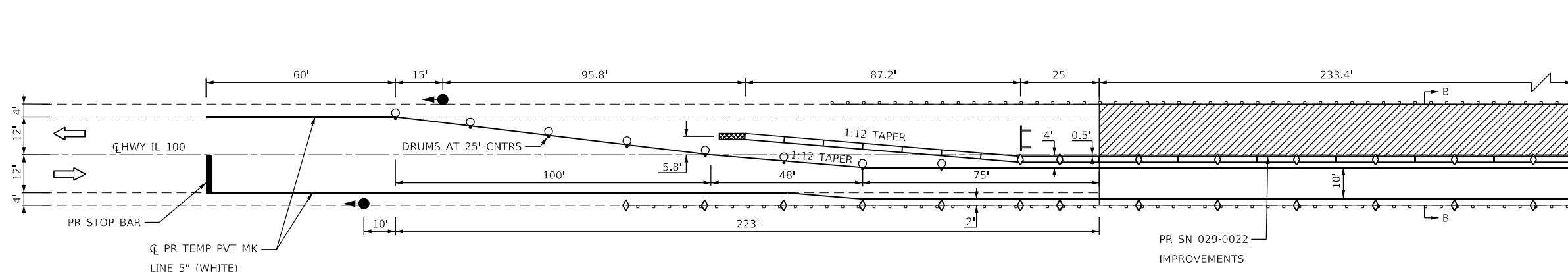
THIS WORK SHALL SUPPLEMENT AND BE IN ACCORDANCE WITH HIGHWAY STANDARD 701321.

FOR DIMENSIONS AND SPACING NOT SHOWN, SEE HIGHWAY STANDARD 701321.

THE CONTRACTOR SHALL PLACE MAX WIDTH SIGNS BEFORE IMPLEMENTING ANY STAGE TRAFFIC CONTROL.

REMOVE ALL CONFLICTING PAVEMENT MARKINGS.

TRAFFIC CONTROL MAY BE ADJUSTED DUE TO FIELD CONDITIONS APPROVED BY ENGINEER.



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KLINGNER & ASSOCIATES, P.C.
 Engineers - Architects - Surveyors
 Galesburg, Illinois

USER NAME = mrich	DESIGNED -	REVISED -
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	DATE -	REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

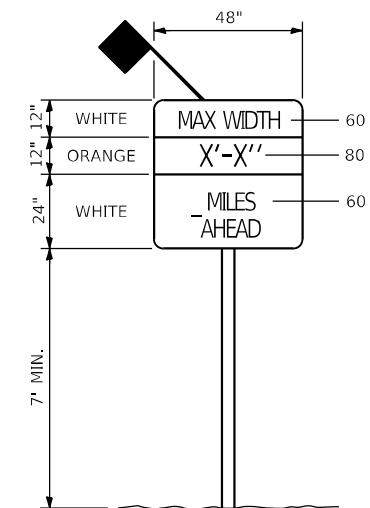
**FAP 612 (IL 100)
 TRAFFIC CONTROL PLAN (STAGE 2)**

SCALE: 1"=20' SHEET 2 OF 2 SHEETS STA. N/A TO STA. N/A

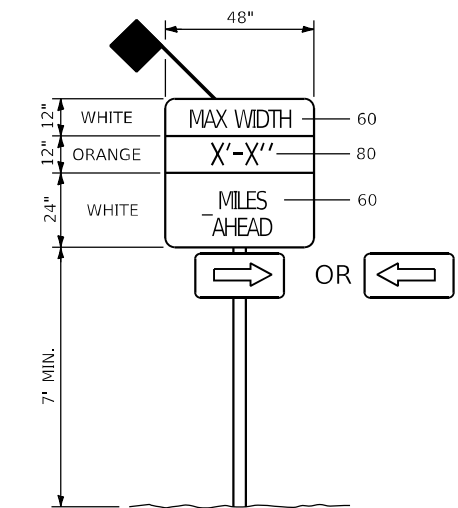
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
612	(109G-BR)BRR	FULTON	20	7
CONTRACT NO. 68H94				
ILLINOIS FED. AID PROJECT				



LOCATION	SIGN(S)	DISTANCE
1 IL 100 AT WOODLAND RD	A/C	7.8 MILES
2 WOODLAND RD AT IL 100	B	7.8 MILES
3 IL 100 NB AT E MORNING STAR HIGHWAY	A/C	5.7 MILES
4 IL 100 NB AT E COUNTY HIGHWAY 10	A/C	0.7 MILES
5 E COUNTY HIGHWAY 10 AT IL 100	B	0.7 MILES
6 E ENION RD AT IL 100	B	0.2 MILES
7 IL 100 SB AT E ENION RD	A/D	0.2 MILES
8 N COUNTY HIGHWAY 32 AT IL 100	B	0.5 MILES
9 IL 100 SB AT N COUNTY HIGHWAY 32	A/D	0.5 MILES
10 US 136 EB AT IL 100	B/D	3 MILES
11 IL 100 AT US 136	A/D	3 MILES
12 US 136 WB AT IL 100	B/D	3 MILES



SIGN A
(WIDTH RESTRICTION SIGN)



SIGN B
(WIDTH RESTRICTION SIGN)



SIGN C
"NORTH" - M3-1 (2412)
"IL 100" - M1-100 (2424)



SIGN D
"SOUTH" - M3-3 (2412)
"IL 100" - M1-100 (2424)



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 Galesburg, Illinois
 49 1/2 East Park Street
 62502-4400

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 Engineers • Architects • Surveyors
 Galesburg, Illinois

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PLOT DATE = 10/24/2023	CHECKED -	REVISED -
	DATE -	REVISED -

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DEPARTMENT OF TRANSPORTATION

FAP 612 (IL 100) MAXIMUM WIDTH SIGNING DETAIL		F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		612	(109G-BR)BRR	FULTON	20	8
SCALE: 1"=3250'		SHEET 1 OF 1 SHEETS		STA. N/A TO STA. N/A		CONTRACT NO. 68H94
		ILLINOIS		FED. AID PROJECT		

INDEX OF SHEETS

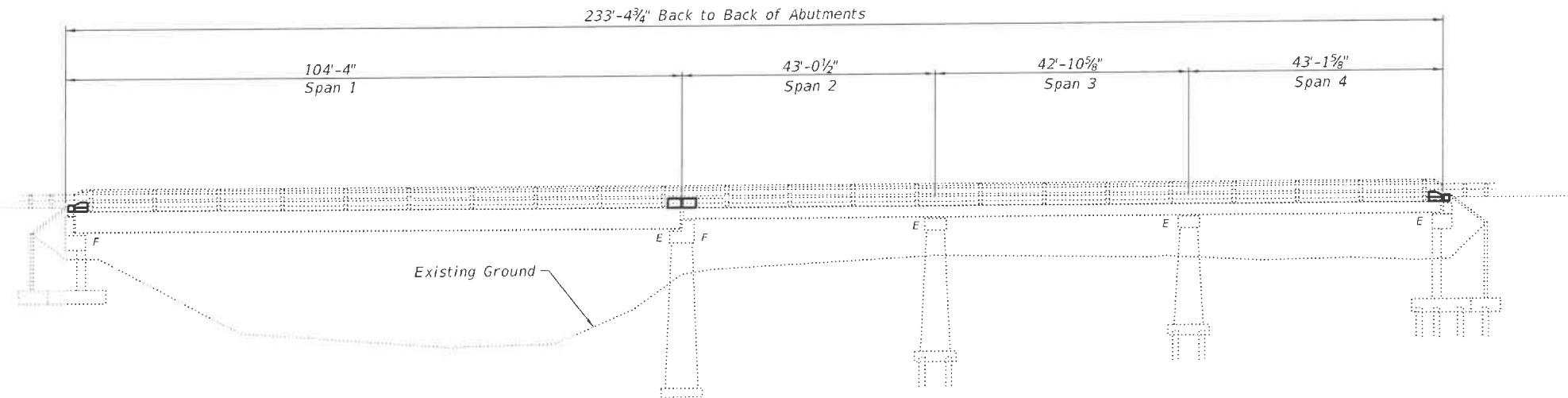
- 1 General Plan and Elevation
- 2 General Notes & Details
- 3 Staging
- 4-7 Superstructure Details
- 8 Preformed Joint Strip Seal
- 9 Temporary Concrete Barrier
- 10 Framing Plan
- 11 Structural Steel Details
- 12 Bar Splicer Assembly & Mechanical Splicer Details

Existing S.N. 029-0022: The existing structure was built in 1934 as S.B.I. Rte. 100 under Section 109-B. In 1987 the superstructure was reconstructed with new steel plate girders in span 1 and steel wide flange beams in spans 2 through 4. The existing bridge is four spans, width a back-to-back abutment length of 233'-4 $\frac{3}{4}$ " with a 32'-0" out-to-out width and 30'-0" between curbs.

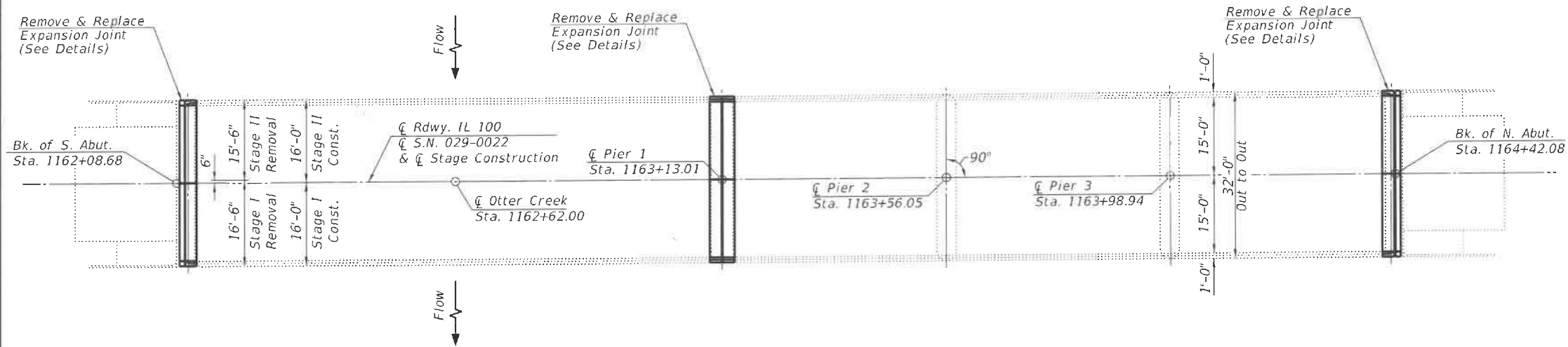
Structure improvements include joint replacements and erecting additional steel diaphragms.

Traffic to be maintained utilizing stage construction.

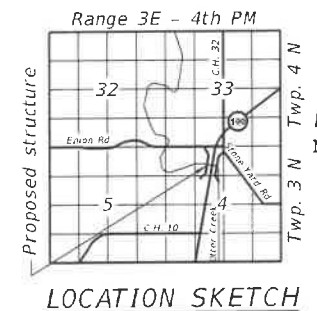
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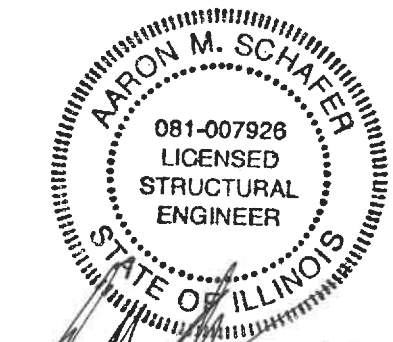
ELEVATION



PLAN



LOCATION SKETCH



Aaron M. Schaffer
 Aaron M. Schaffer
 Licensed Structural Engineer
 State of Illinois No. 081-007926
 License Expires 11/30/2024

12/7/2023
 Date

GENERAL PLAN & ELEVATION
F.A.P. ROUTE 612 (IL 100) OVER OTTER CREEK
SECTION (109G-BR)BRR
FULTON COUNTY
STATION 1162+62.00
STRUCTURE NO. 029-0022

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GENERAL PLAN AND ELEVATION
STRUCTURE NO. 029-0022

SHEET 1 OF 12 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
612	(109G-BR)BRR	FULTON	20	9
			CONTRACT NO. 68H94	
ILLINOIS FED. AID PROJECT				

SCOPE OF WORK

1. Set-up traffic control.
2. Remove and replace expansion joints at abutments and Pier #1 for Stage I.
3. Erect new steel diaphragms for Stage I.
4. Repeat Steps 1 thru 3 for Stage II.

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Concrete Removal	Cu. Yd.	12.8		12.8
Concrete Superstructure	Cu. Yd.	12.8		12.8
* Protective Coat	Sq. Yd.	41		41
Furnishing and Erecting Structural Steel	Pound	3,990		3,990
Reinforcement Bars, Epoxy Coated	Pound	1,830		1,830
Bar Splicers	Each	36		36
Preformed Joint Strip Seal	Foot	96		96

*Apply to new concrete only.

GENERAL NOTES

Fasteners shall be ASTM A325 Type 1, mechanically galvanized bolts (in painted areas and ASTM A325 Type 3 in unpainted areas). Bolts 3/4" Ø, holes 1 1/16" Ø, unless otherwise noted. Two hardened washers shall be required at diaphragm connections.

No field welding is permitted except as specified in the contract documents. Reinforcement bars designated (E) shall be epoxy coated.

Prior to pouring the new concrete deck, all heavy or loose rust, loose mill scale, and other loose or potentially detrimental foreign material shall be removed from the surfaces in contact with concrete. Tightly adhered paint may remain unless otherwise noted. Removal shall be accomplished by methods that will not damage the steel and the cost will be included in the pay item covering removal of the existing concrete.

Plan dimensions and details relative to 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.

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

The Inorganic Zinc Rich Primer / Acrylic / Acrylic Paint System shall be used for shop and field painting of new structural steel except where otherwise noted. The color of the final finish coat for all steel surfaces shall be gray, Munsell No. 5B 7/1. Cost included with Furnishing and Erecting Structural Steel.

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".

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".

LOADING HS20-44 (New Const.)

DESIGN SPECIFICATIONS (New Const.)

2002 AASHTO Standard Specifications for Highway Bridges, 17th Edition

DESIGN STRESSES

FIELD UNITS (New Construction)

$f_c = 4,000$ psi
 $f_y = 60,000$ psi (Reinforcement)
 $f_y = 36,000$ psi (Structural Steel)

FIELD UNITS (Exist. Construction)

$f_t = 3,500$ psi
 $f_y = 60,000$ psi (Reinforcement)
 $f_y = 50,000$ psi (Structural Steel)(M223 Grade 50)
 $f_y = 36,000$ psi (Structural Steel)

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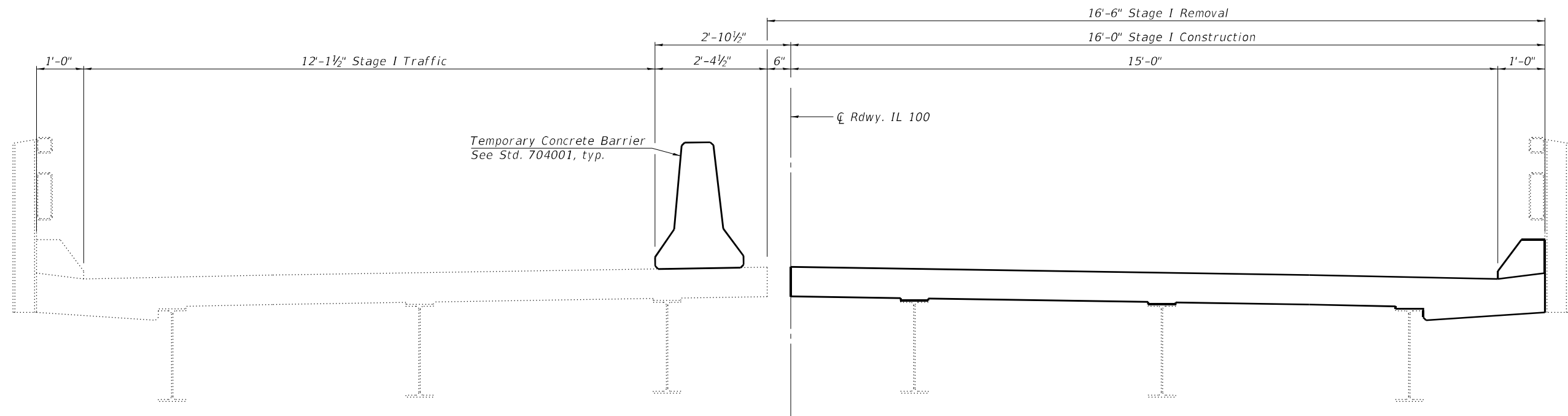
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**GENERAL NOTES & DETAILS
 STRUCTURE NO. 029-0022**

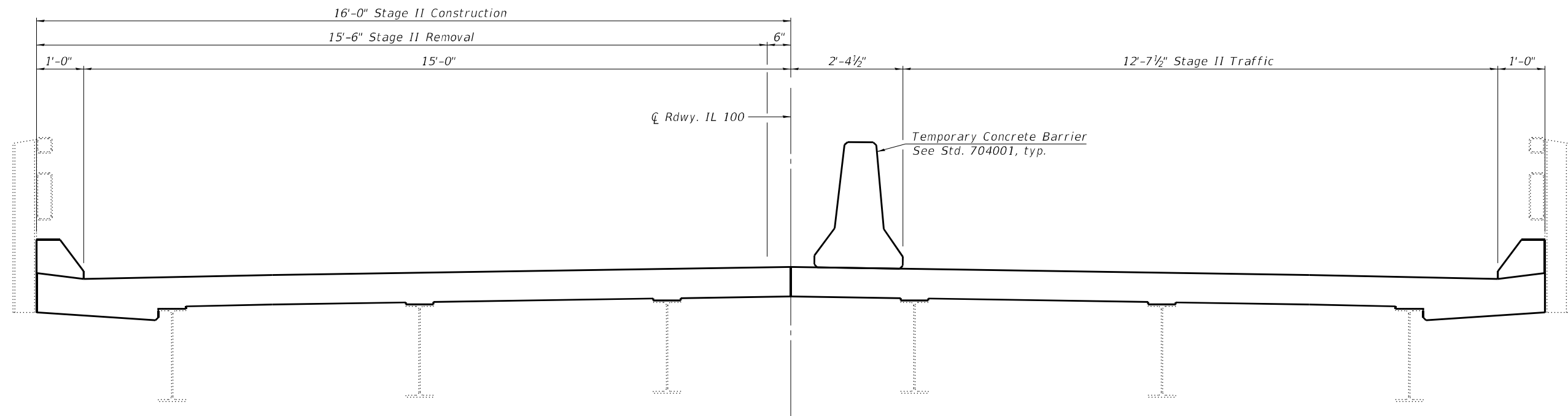
SHEET 2 OF 12 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
612	(109G-BR)BRR	FULTON	20	10
			CONTRACT NO. 68H94	
		ILLINOIS FED. AID PROJECT		

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STAGE I CONSTRUCTION THRU EXPANSION JOINT
 (Looking North)



STAGE II CONSTRUCTION THRU EXPANSION JOINT
 (Looking North)

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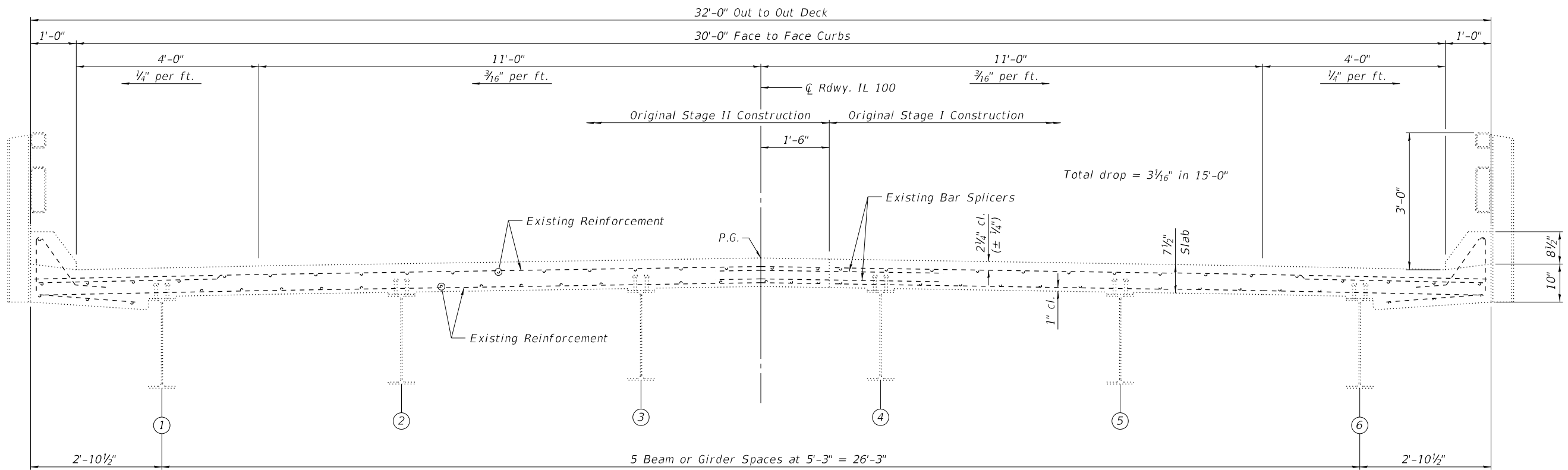
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**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**STAGING
 STRUCTURE NO. 029-0022**

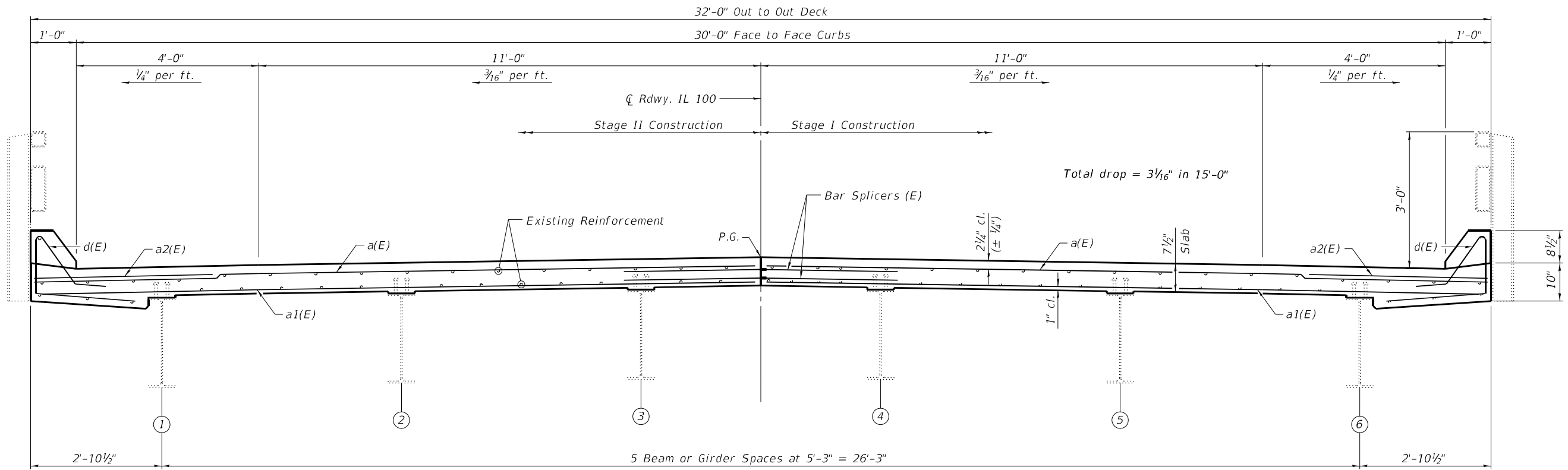
SHEET 3 OF 12 SHEETS

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612	(109G-BR)BRR	FULTON	20	11
CONTRACT NO. 68H94				
ILLINOIS FED. AID PROJECT				



EXISTING CROSS SECTION THRU EXPANSION JOINT
(Looking North)

Note:
The longitudinal reinforcement bars in the area of slab and curb removal shall remain in place and shall be cleaned and incorporated into new construction. Any reinforcement bars that are damaged during concrete removal shall be replaced as directed by the Engineer. Cost included with Concrete Removal.



PROPOSED CROSS SECTION THRU EXPANSION JOINT
(Looking North)

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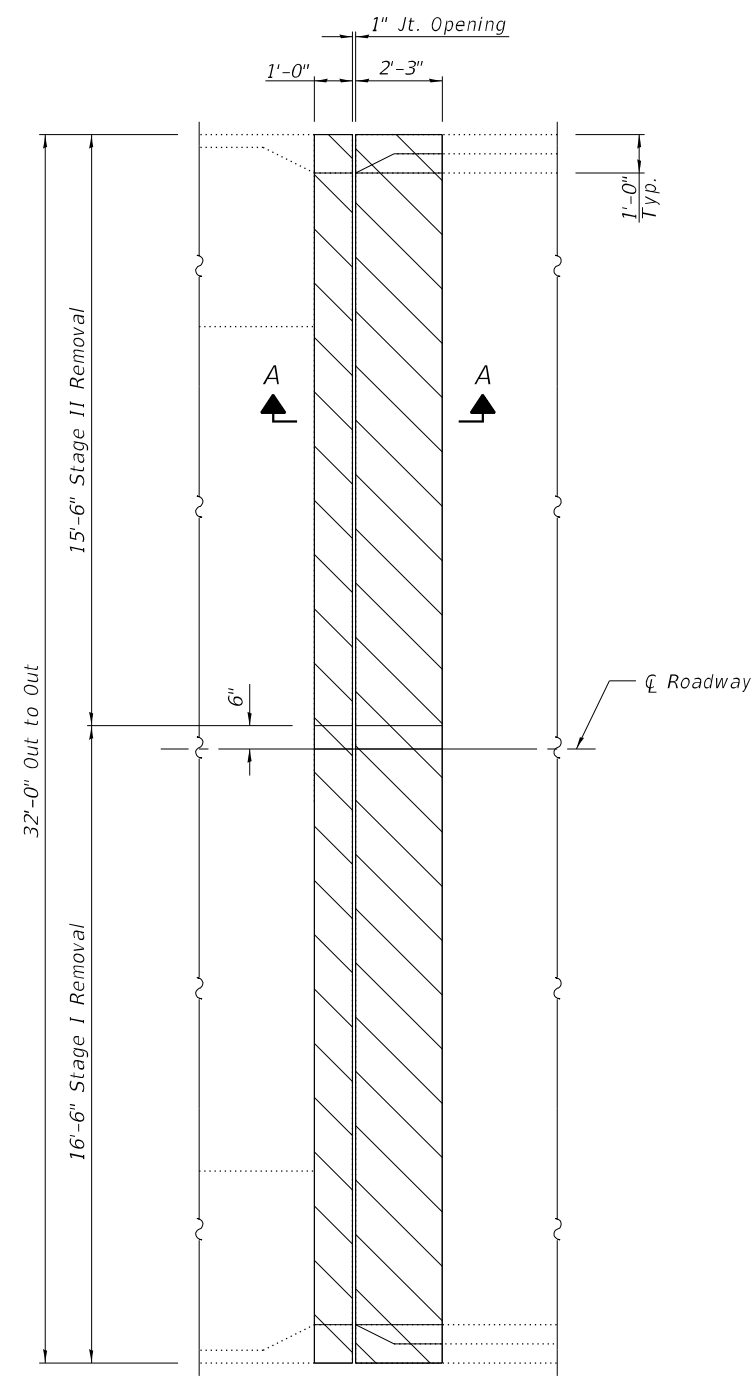
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DEPARTMENT OF TRANSPORTATION**

**SUPERSTRUCTURE DETAILS
STRUCTURE NO. 029-0022**

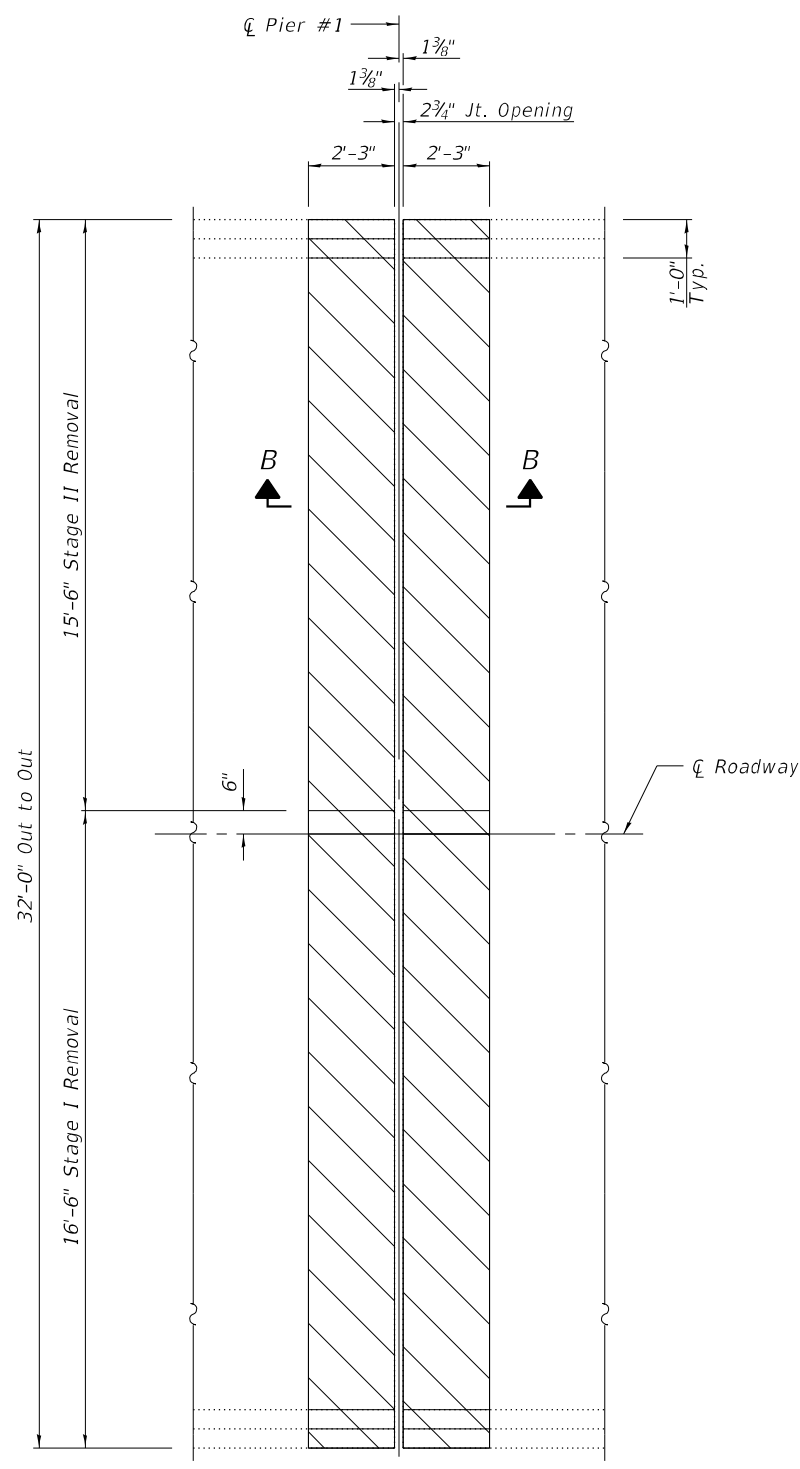
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ILLINOIS		FED. AID PROJECT		

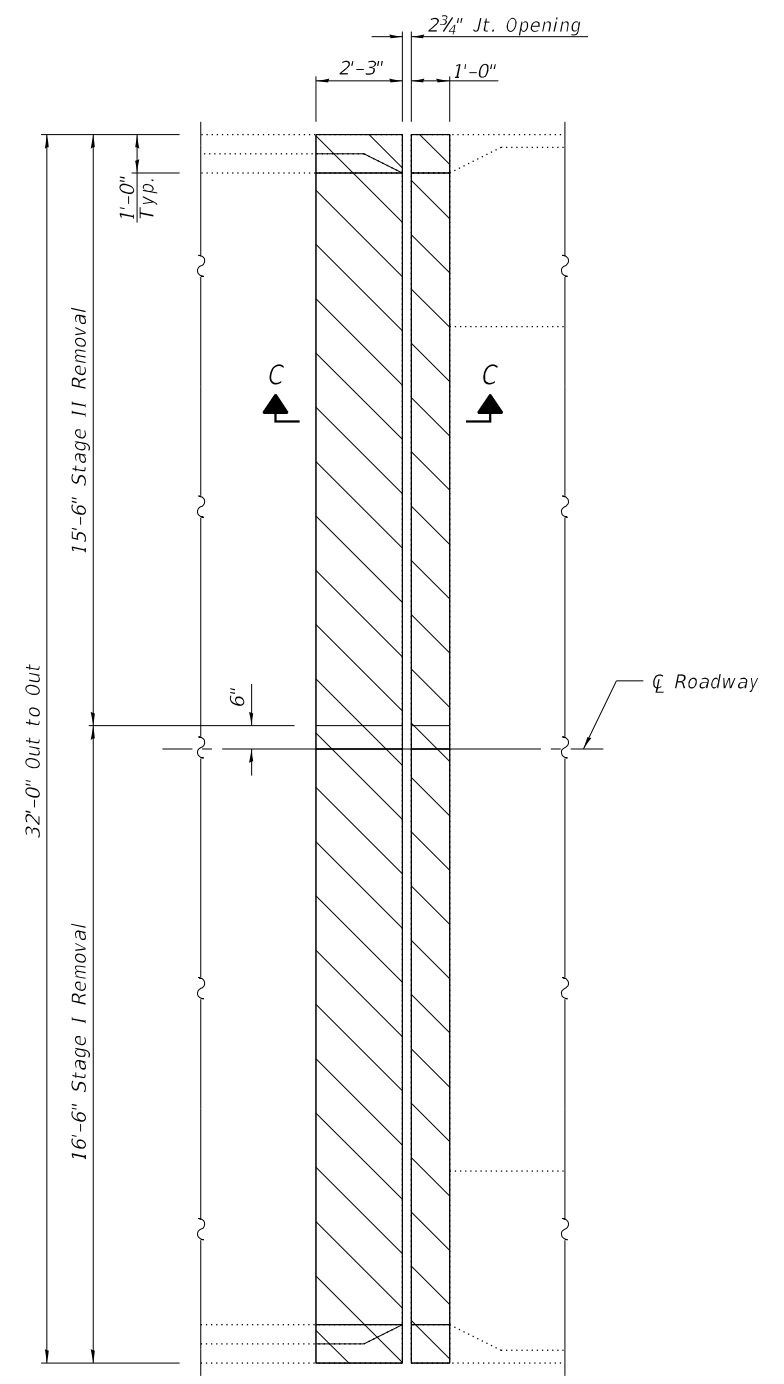
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JOINT REMOVAL PLAN
 (South Abutment)



JOINT REMOVAL PLAN
 (Pier 1)



JOINT REMOVAL PLAN
 (North Abutment)



Notes:
 Hatched areas indicate Concrete Removal.
 Removal of existing expansion joint shall be included in the Concrete Removal.
 For Sections A-A, B-B, and C-C, bar details & Bill of Material, see Sheet 7 of 12.
 The longitudinal reinforcement bars in the area of slab and curb removal shall remain in place and shall be cleaned and incorporated into new construction. Any reinforcement bars that are damaged during concrete removal shall be replaced as directed by the Engineer. Cost included with Concrete Removal.

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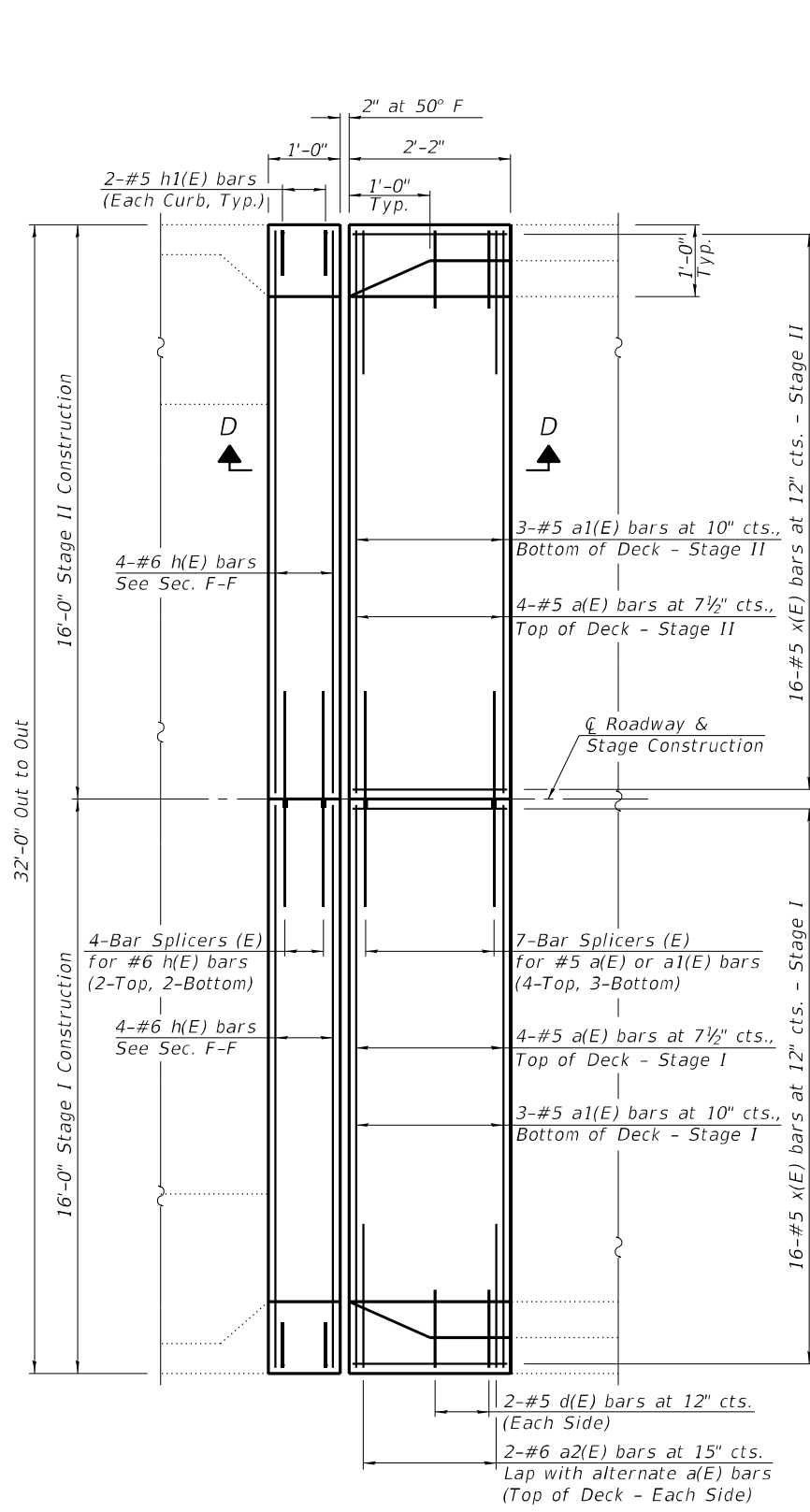
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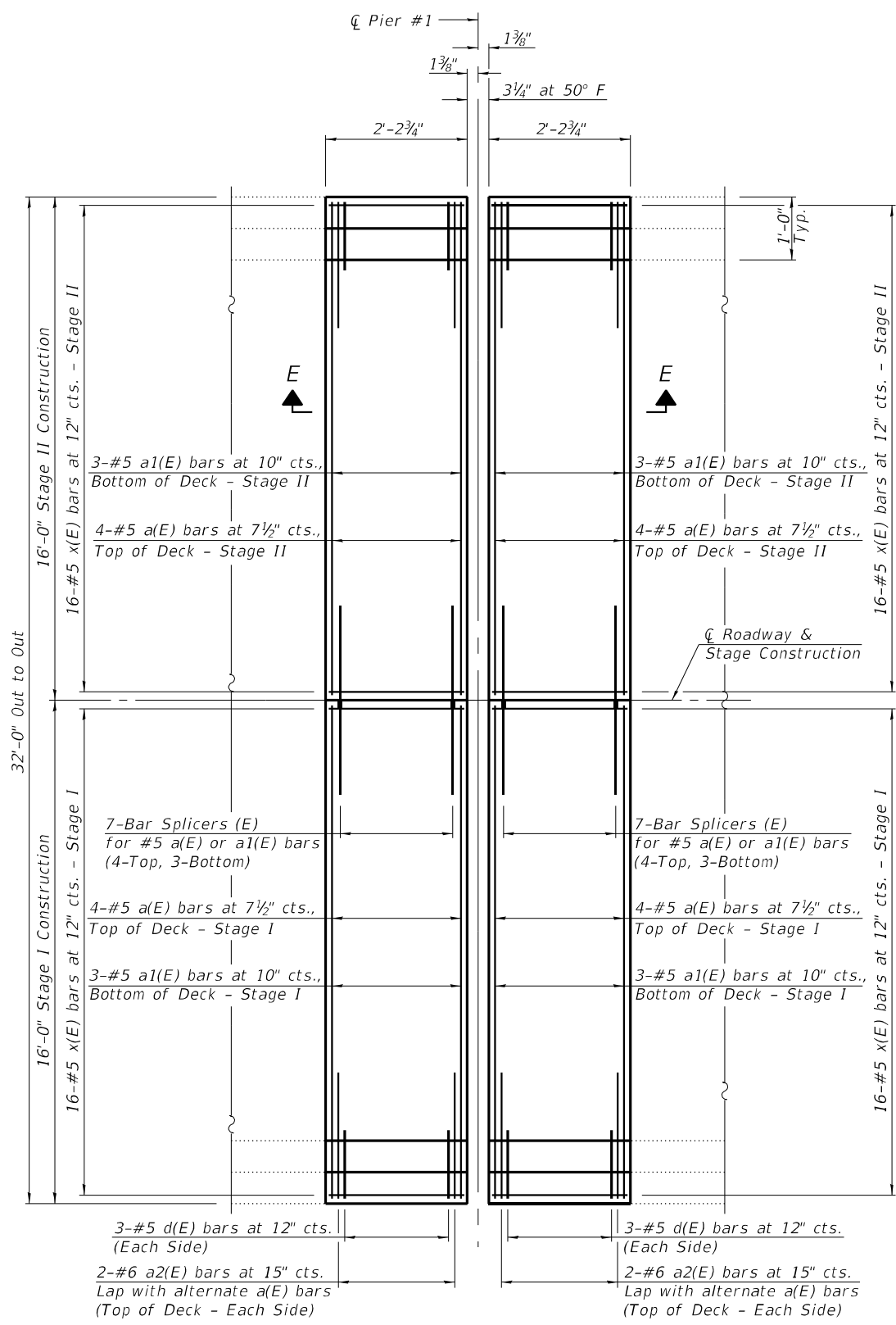
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STRUCTURE NO. 029-0022
 SHEET 5 OF 12 SHEETS

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ILLINOIS FED. AID PROJECT				

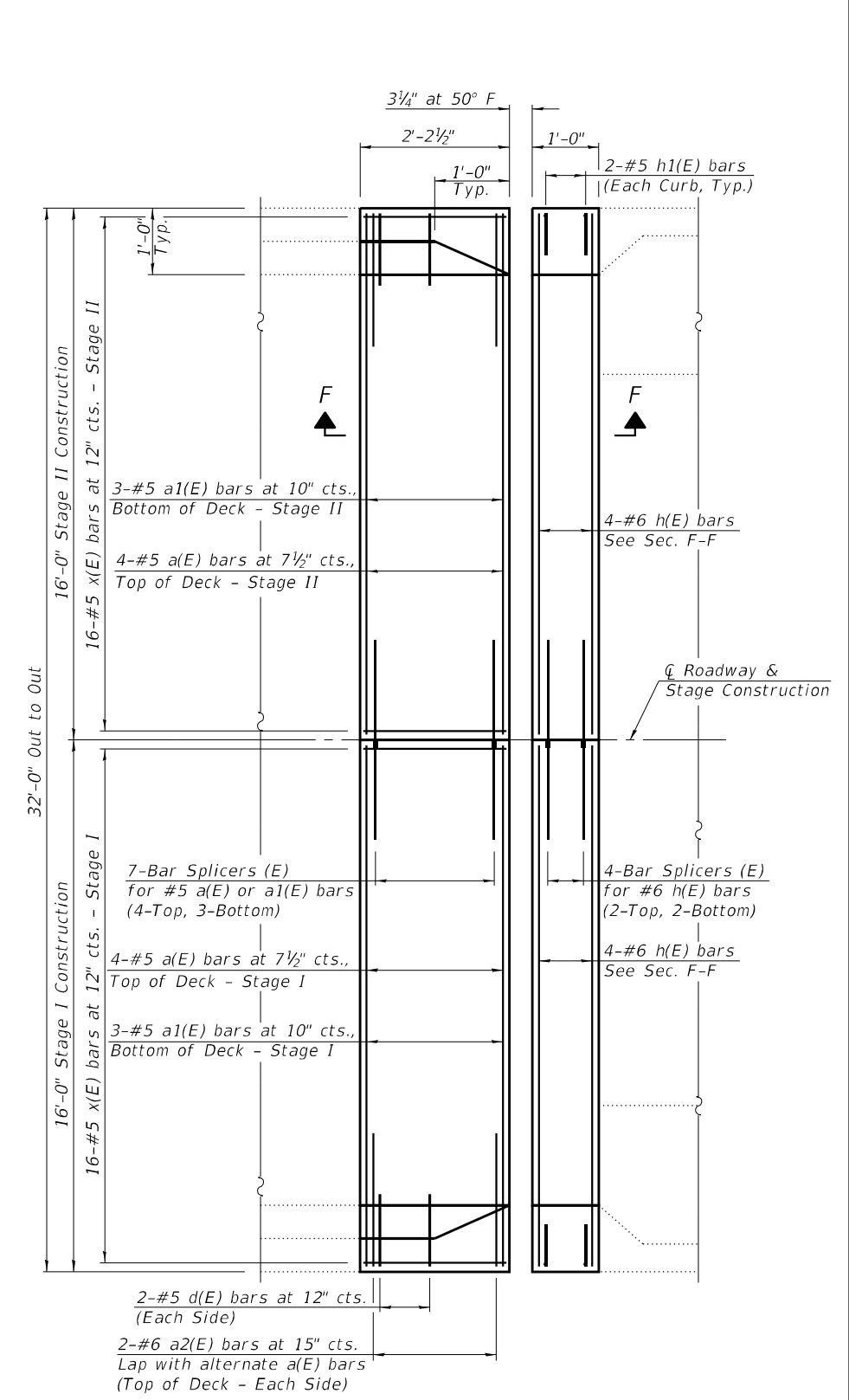
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JOINT REPLACEMENT PLAN
 (South Abutment)



JOINT REPLACEMENT PLAN
 (Pier 1)



JOINT REPLACEMENT PLAN
 (North Abutment)



Note:
 For Sections D-D, E-E, and F-F, bar details & Bill of Material, see Sheet 7 of 12.

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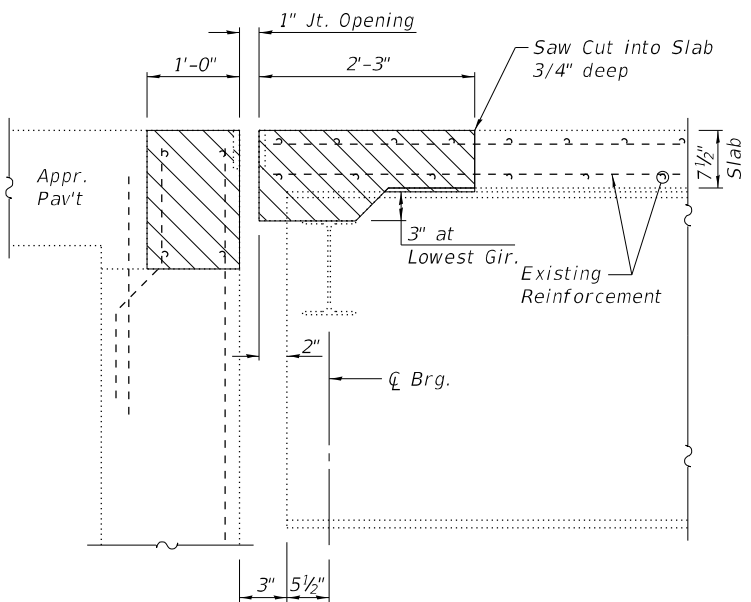
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SUPERSTRUCTURE DETAILS
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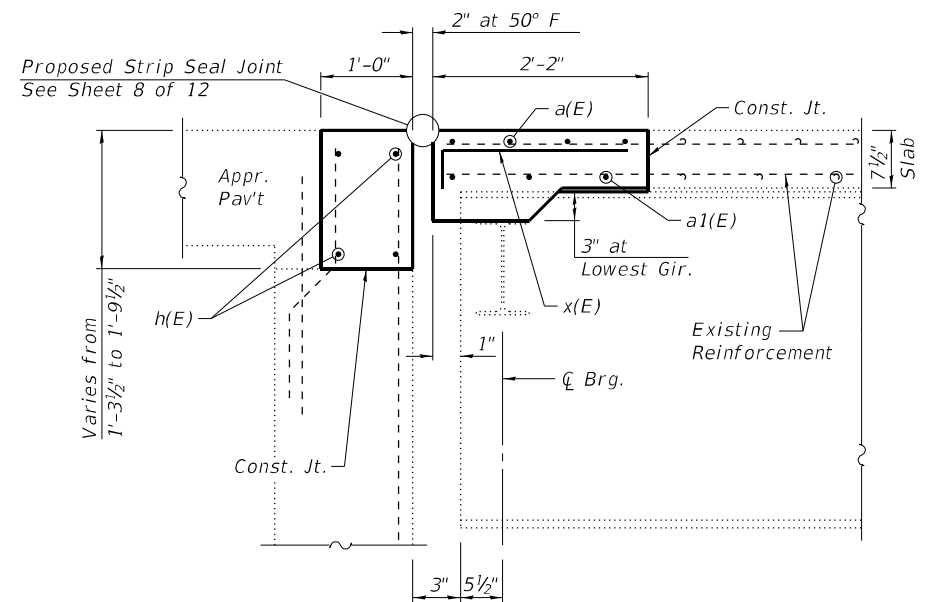
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CONTRACT NO. 68H94			ILLINOIS FED. AID PROJECT	

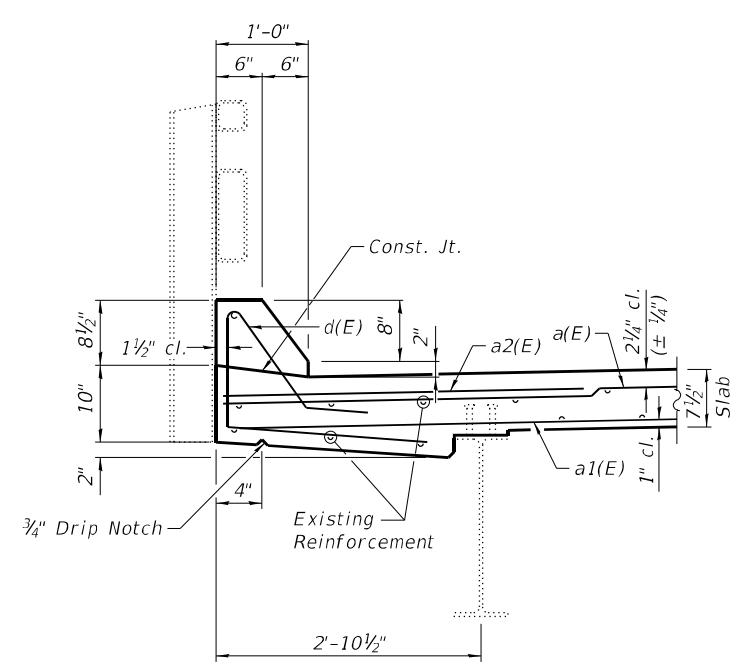
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SECTION A-A



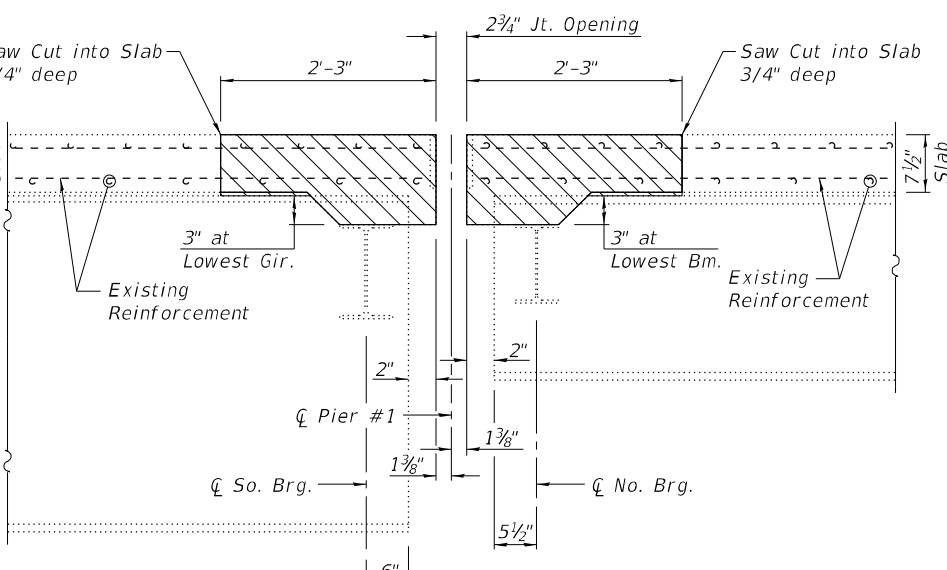
SECTION D-D



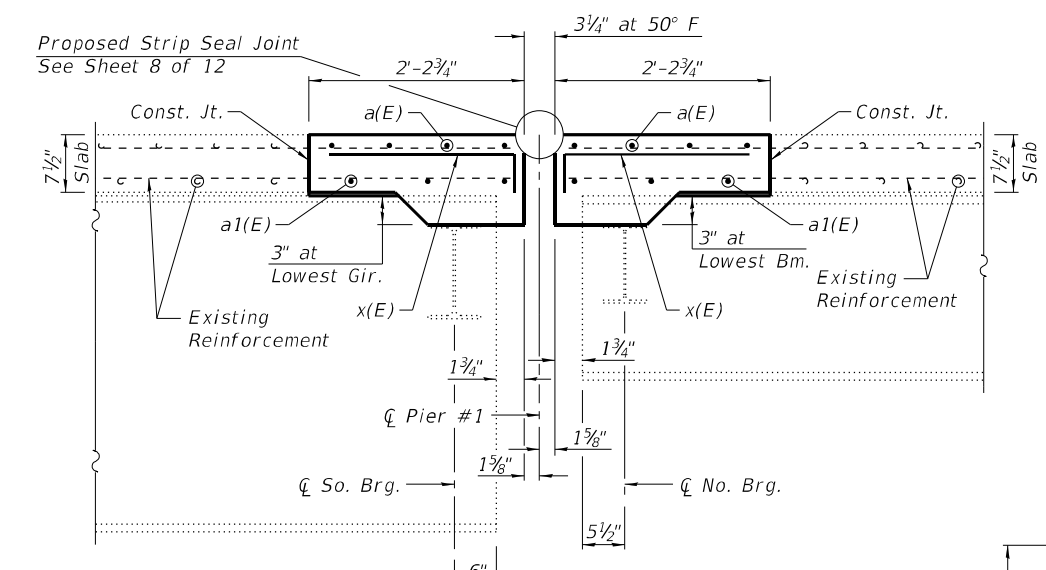
SECTION THRU CURB

SUPERSTRUCTURE BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	32	#5	15'-8"	—
a1(E)	24	#5	15'-6"	—
a2(E)	16	#6	4'-0"	—
d(E)	20	#5	5'-7"	└
h(E)	16	#6	15'-8"	—
h1(E)	8	#5	3'-9"	└
x(E)	128	#5	2'-3"	└
Concrete Removal			Cu. Yd.	12.8
Concrete Superstructure			Cu. Yd.	12.8
Protective Coat			Sq. Yd.	41
Reinforcement Bars, Epoxy Coated			Lbs.	1,830
Bar Splicers			Each	36
Preformed Joint Strip Seal			Foot	96

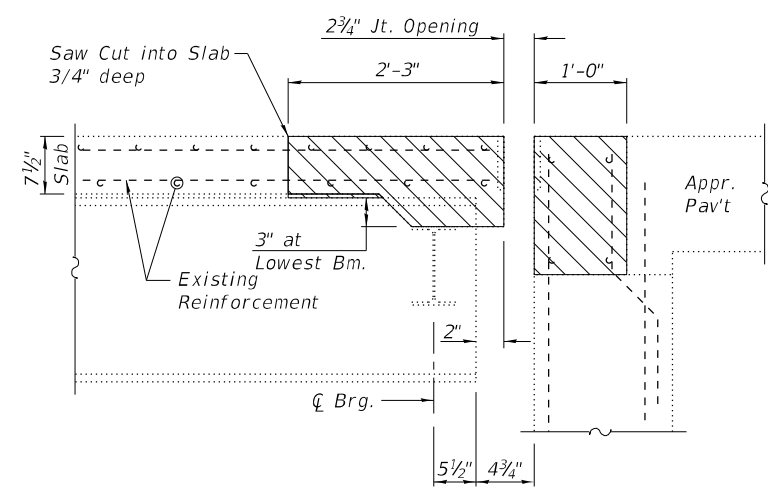


SECTION B-B

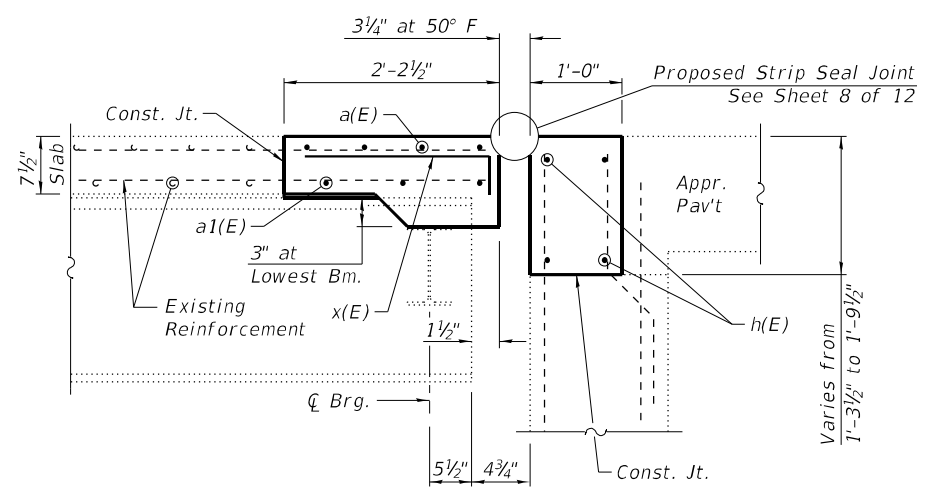


SECTION E-E

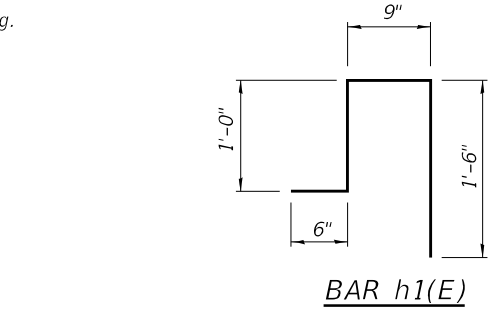
Notes:
 Hatched areas indicate Concrete Removal.
 Removal of existing expansion joint shall be included in the Concrete Removal.
 The longitudinal reinforcement bars in the area of slab and curb removal shall remain in place and shall be cleaned and incorporated into new construction. Cost included with Concrete Removal.
 Perimeter of concrete removal areas shall be saw cut 3/4 inch prior to removal of the concrete.



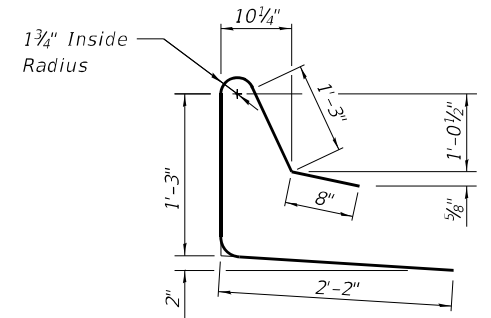
SECTION C-C



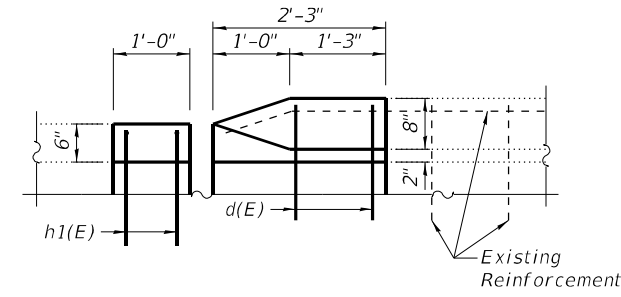
SECTION F-F



BAR h1(E)

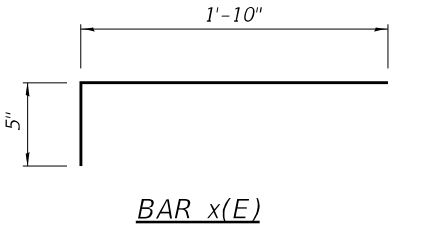


BAR d(E)



END OF CURB DETAILS

(Abutment Ends Only)



BAR x(E)

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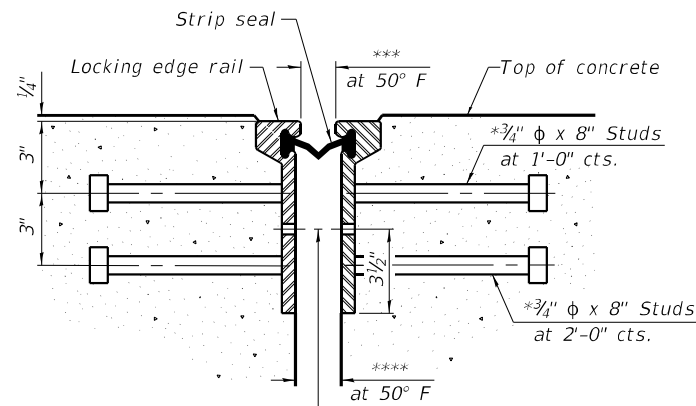
SUPERSTRUCTURE DETAILS
 STRUCTURE NO. 029-0022

SHEET 7 OF 12 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
612	(109G-BR)BRR	FULTON	20	15
CONTRACT NO. 68H94				
ILLINOIS FED. AID PROJECT				

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

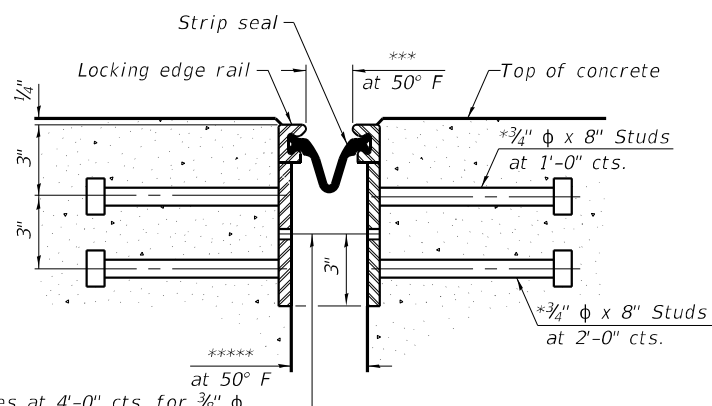
*** 1 1/2" - South Abutment
2 3/4" - Pier #1 & North Abutment



7/16" ϕ holes at 4'-0" cts. for 3/8" ϕ bolts. All bolts shall be burned, sawed, or chipped off flush with the plates after forms are removed, typ.

SECTION THRU ROLLED RAIL JOINT

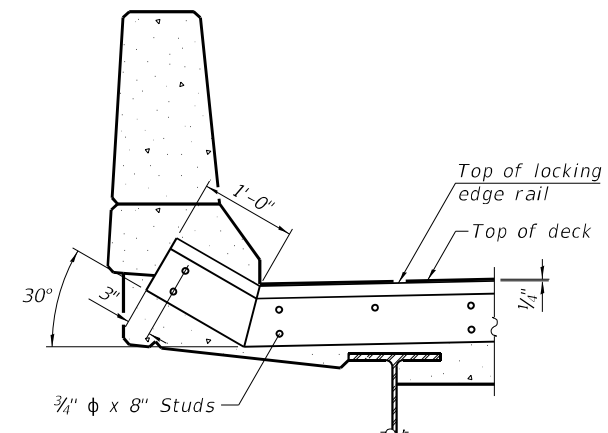
**** 2" - South Abutment
3 1/4" - Pier #1 & North Abutment



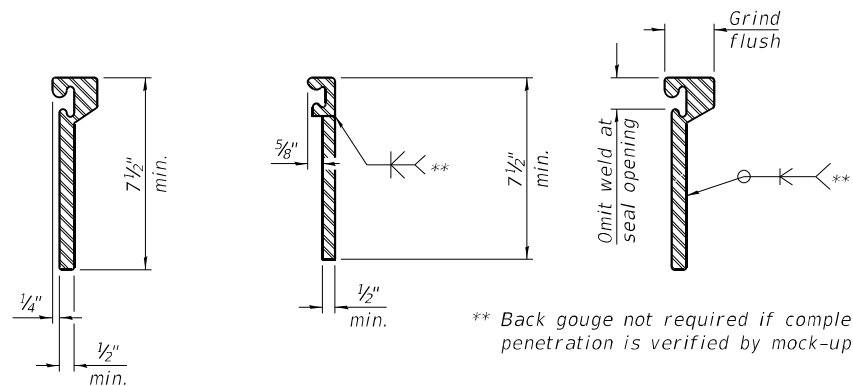
7/16" ϕ holes at 4'-0" cts. for 3/8" ϕ bolts. All bolts shall be burned, sawed, or chipped off flush with the plates after forms are removed, typ.

SECTION THRU WELDED RAIL JOINT

**** 2 3/4" - South Abutment
4" - Pier #1 & North Abutment



TYPICAL END TREATMENT AT CURB



ROLLED EXTRUDED RAIL

WELDED RAIL

LOCKING EDGE RAIL SPLICE

The inside of the locking edge rail groove shall be free of weld residue. Rolled rail shown, welded rail similar.

LOCKING EDGE RAILS

Notes:

The strip seal shall be made continuous and shall have a minimum thickness of 1/4". The configuration of the strip seal shall match the configuration of the locking edge rails. Open or "webbed" strip seal gland configurations are not permitted. The gland shall be sized for a maximum rated movement of 4 inches.

The locking edge rails depicted are configured for typical applications and are conceptual only. The actual configuration of the locking edge rails and matching strip seal may vary from manufacturer to manufacturer provided they fit the application and meet the minimum anchorage shown. Flanged edge rails, however, will not be allowed.

The manufacturer's recommended installation methods shall be followed.

All steel components shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications.

The Maximum space between locking edge rail segments shall be 3/16" and sealed with a suitable sealant; however, any rail joint within 10' measured perpendicular to the face of the curb or parapet shall be welded as shown in the locking edge rail splice detail.

Cost of embedded plates and anchorage studs included with Preformed Joint Strip Seal.

The concrete opening below the strip seal will vary based on the locking edge rail chosen by the Contractor. Deck and parapet lengths shown elsewhere in the plans are dimensioned to the concrete opening, not the joint opening, and are based on the rolled locking edge rail. If the Contractor elects to use a different locking edge rail, dimensional adjustments may be required.

BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	96

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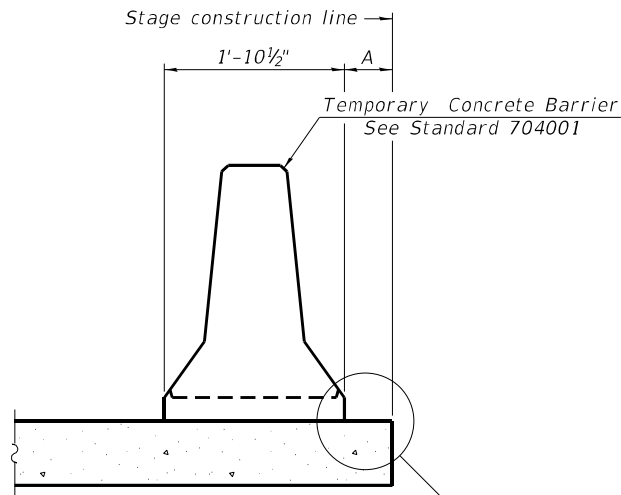
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PREFORMED JOINT STRIP SEAL
STRUCTURE NO. 029-0022

SHEET 8 OF 12 SHEETS

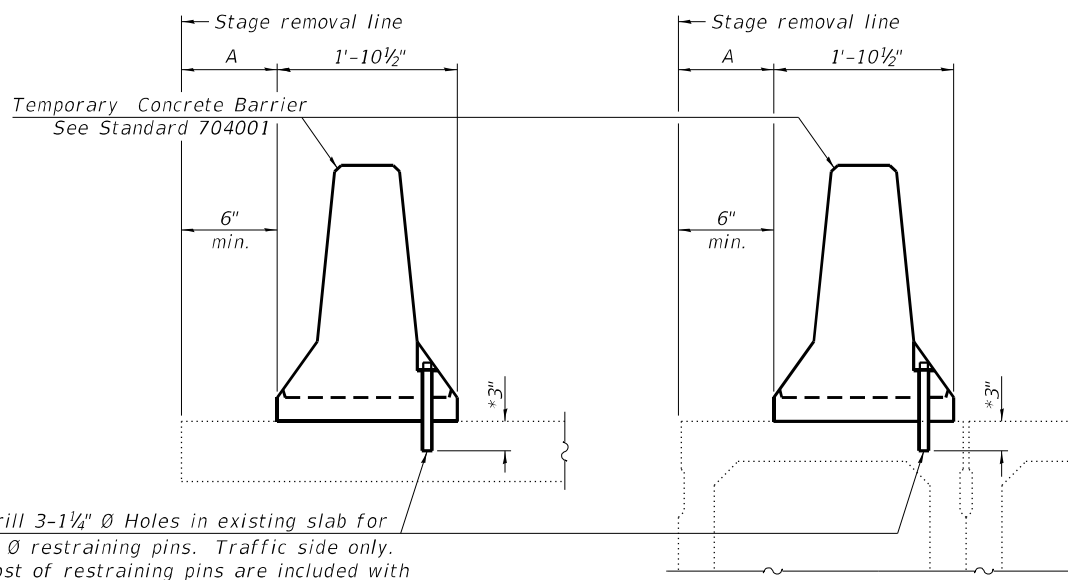
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CONTRACT NO. 68H94				
ILLINOIS FED. AID PROJECT				

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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



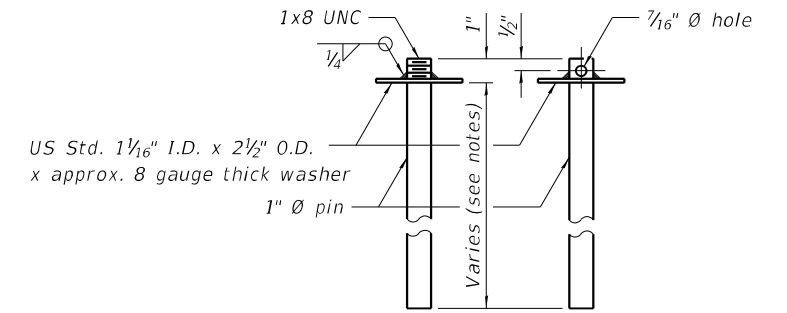
Drill 3-1/4" Ø Holes in existing slab for 1" Ø restraining pins. Traffic side only. Cost of restraining pins are included with Temporary Concrete Barrier. No restraint is required when "A" is greater than 3'-1".

EXISTING SLAB

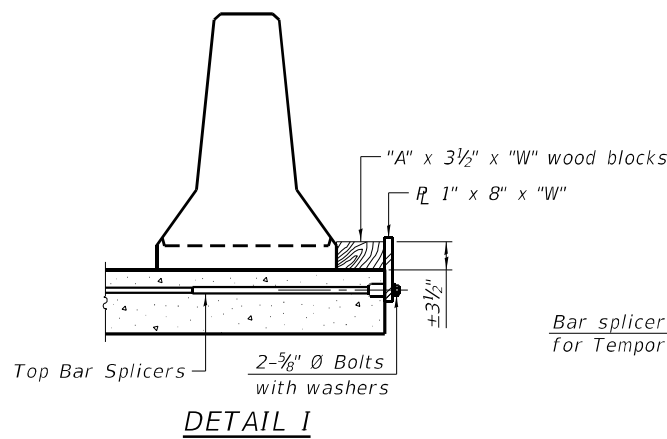
EXISTING DECK BEAM

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

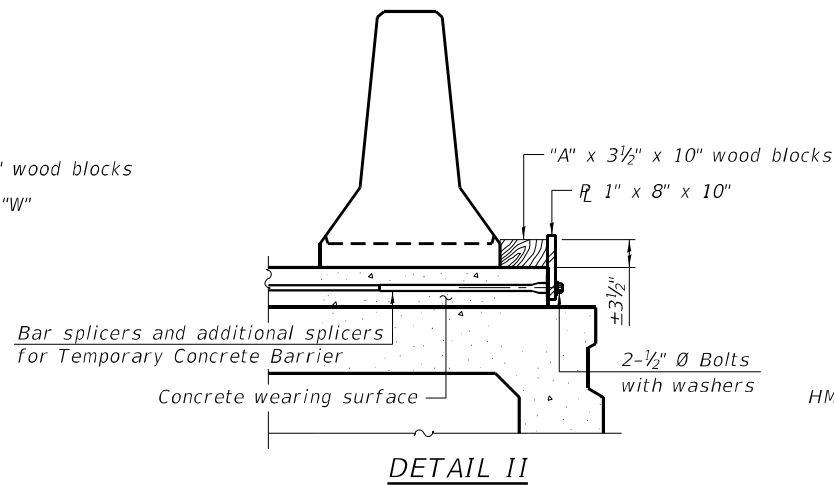
SECTIONS THRU SLAB OR DECK BEAM



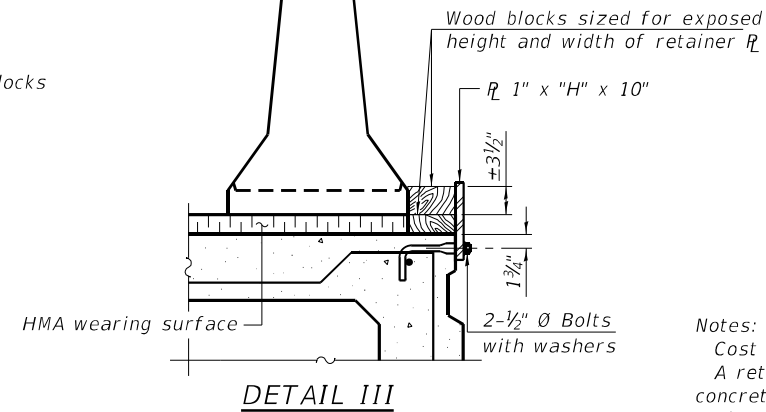
RESTRAINING PIN



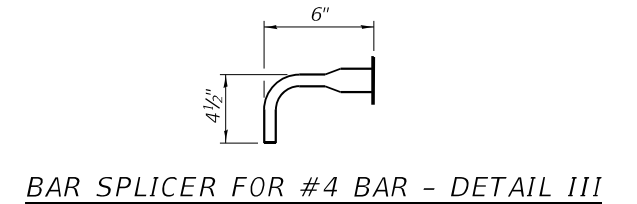
DETAIL I



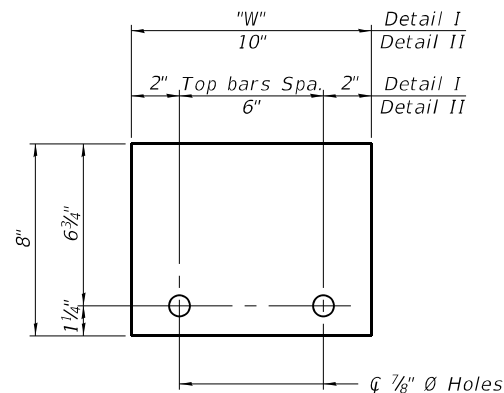
DETAIL II



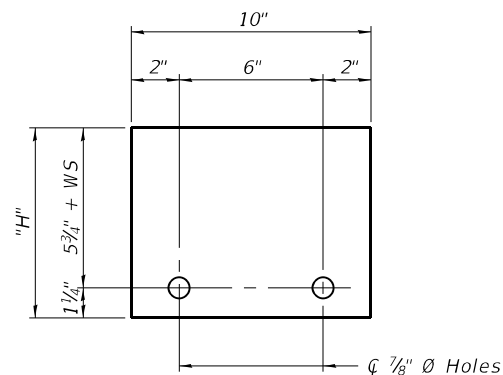
DETAIL III



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 C 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.

RAILING CRITERIA

NCHRP 350 Test Level	3
Railing Weight (plf)	440

R-27 10-12-2021

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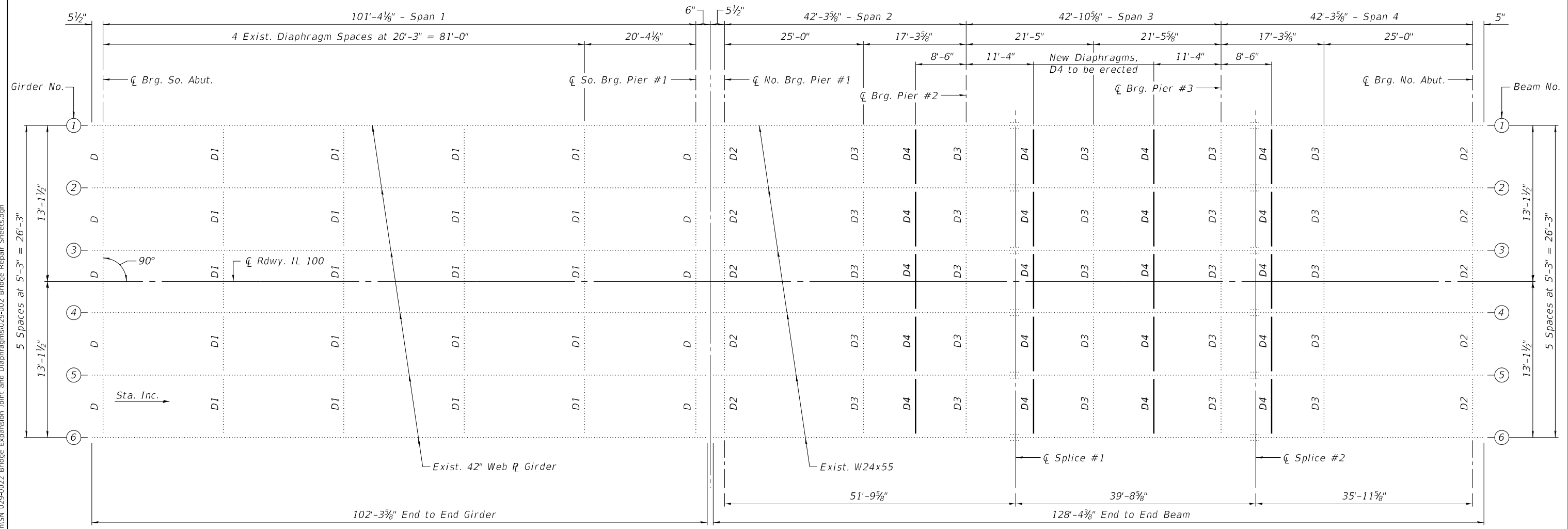
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 DEPARTMENT OF TRANSPORTATION**

**TEMPORARY CONCRETE BARRIER
 STRUCTURE NO. 029-0022**

SHEET 9 OF 12 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
612	(109G-BR)BRR	FULTON	20	17
CONTRACT NO. 68H94				
ILLINOIS FED. AID PROJECT				

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FRAMING PLAN

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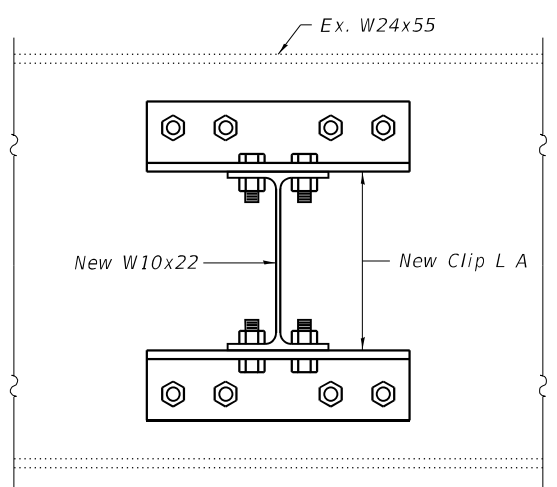
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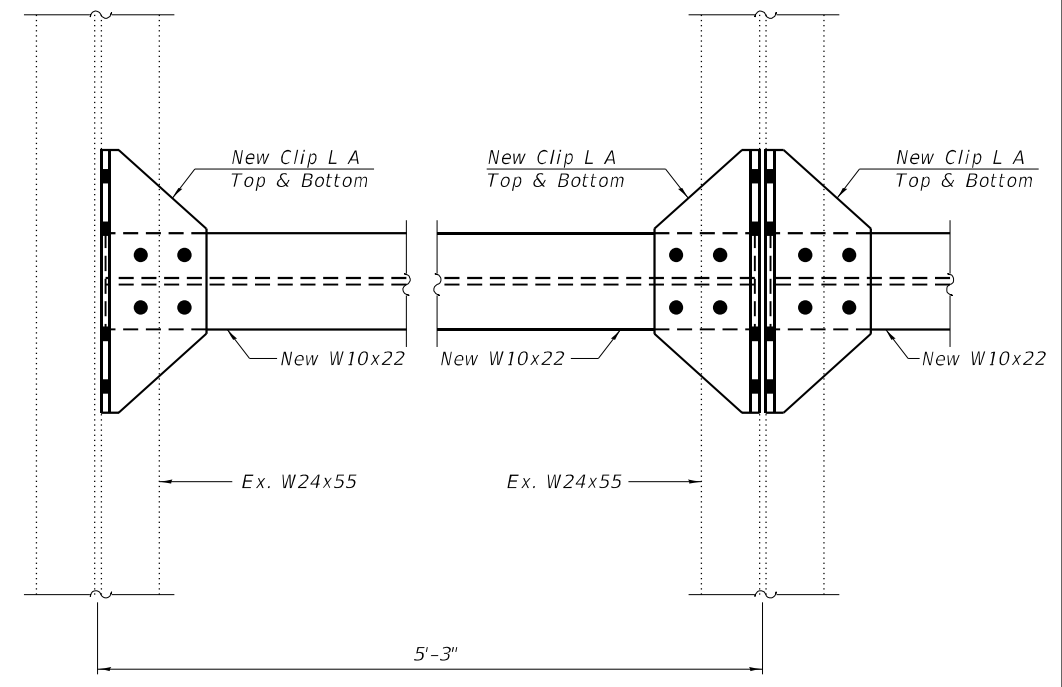
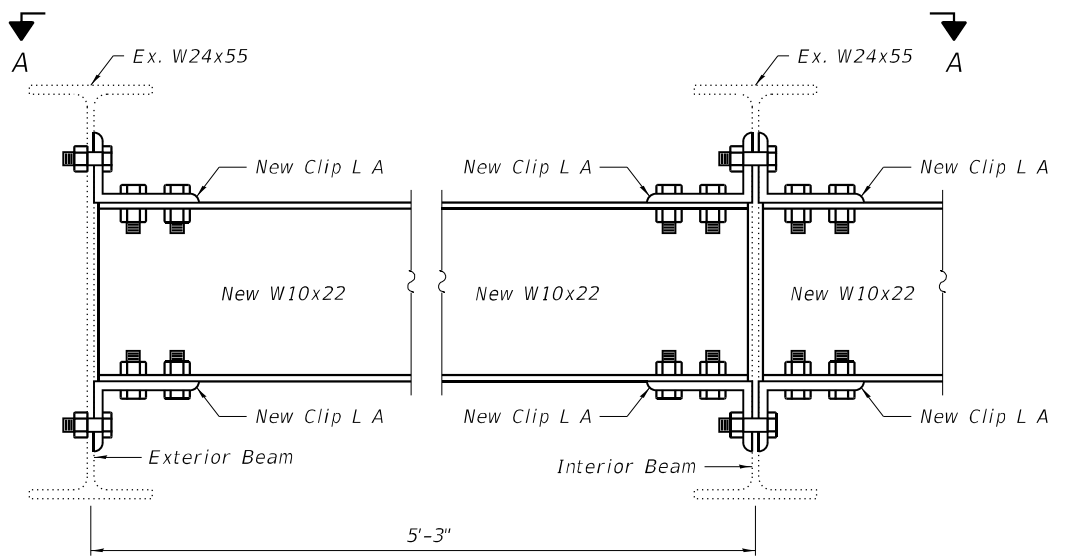
FRAMING PLAN
 STRUCTURE NO. 029-0022
 SHEET 10 OF 12 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 68H94			ILLINOIS FED. AID PROJECT	

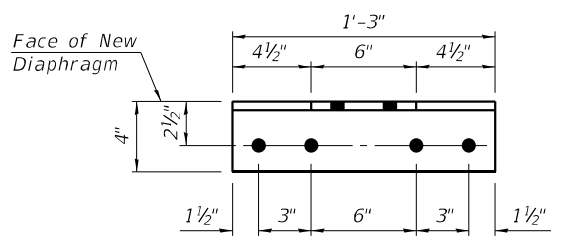
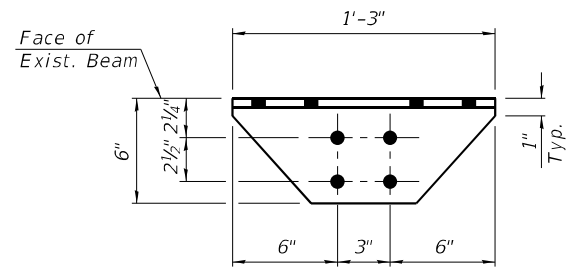
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NEW DIAPHRAGM, D4
 (20 Required)



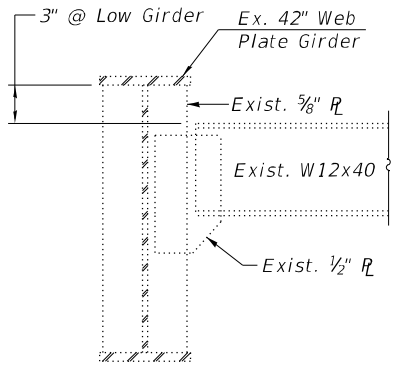
SECTION A-A



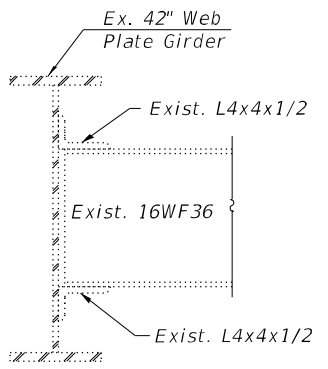
CLIP ANGLE A
 (L 6x4x1/2" x 1'-3" long)
 (80 Required)

BILL OF MATERIAL

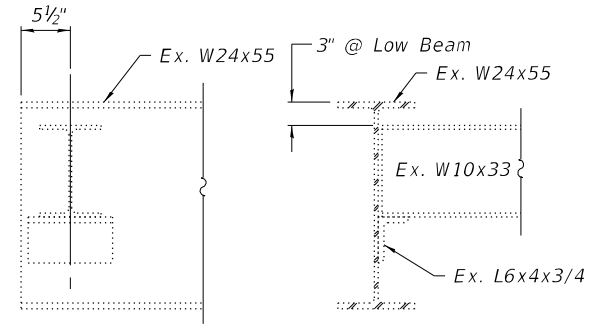
Item	Unit	Total
Furnishing and Erecting Structural Steel	Pound	3,990



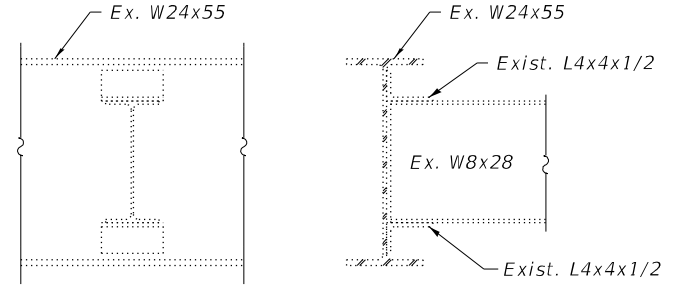
EXISTING END DIAPHRAGM, D
 (for information only)



EXISTING DIAPHRAGM, D1
 (for information only)



EXISTING END DIAPHRAGM, D2
 (for information only)



EXISTING DIAPHRAGM, D3
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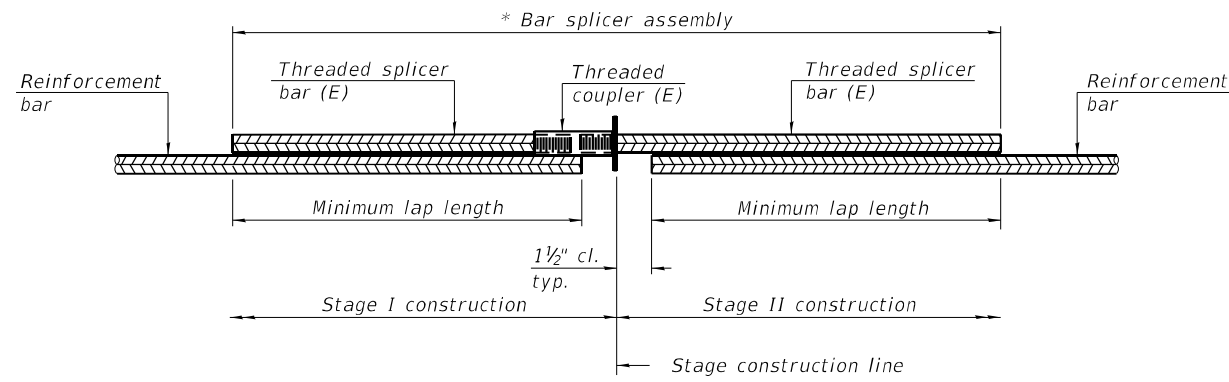
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**STRUCTURAL STEEL DETAILS
 STRUCTURE NO. 029-0022**

SHEET 11 OF 12 SHEETS

F.A.P. RTE. 612	SECTION (109G-BR)BRR	COUNTY FULTON	TOTAL SHEETS 20	SHEET NO. 19
			CONTRACT NO. 68H94	
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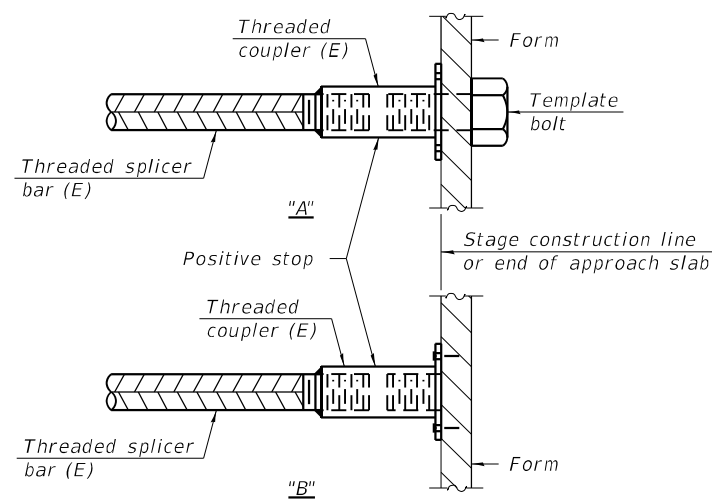
STANDARD BAR SPLICER ASSEMBLY PLAN

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

Threaded splicer bar length = min. lap length + 1 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
Abut. Hatch Blocks	#6	8	3'-7"
Deck - South End	#5	7	3'-0"
Deck - Pier#1	#5	14	3'-0"
Deck - North End	#5	7	3'-0"

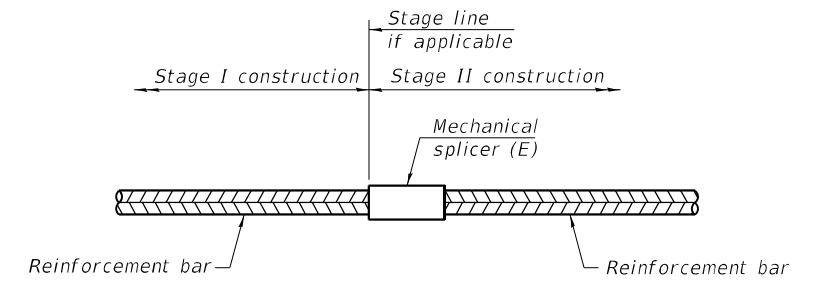


INSTALLATION AND SETTING METHODS

"A" : Set bar splicer assembly by means of a template bolt.

"B" : Set bar splicer assembly by nailing to wood forms or cementing to steel forms.

(E) : Indicates epoxy coating.



STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required

Notes:

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

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

Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars. See Section 508 of the Standard Specifications.

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

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BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
STRUCTURE NO. 029-0022

SHEET 12 OF 12 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
612	(109G-BR)BRR	FULTON	20	20
			CONTRACT NO. 68H94	
		ILLINOIS	FED. AID PROJECT	