

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70		FAYETTE	39	1
D-7 BRIDGE REPAIRS 2018-1		ILLINOIS	CONTRACT NO. 74763	

FOR INDEX OF SHEETS, SEE SHEET NO. 2

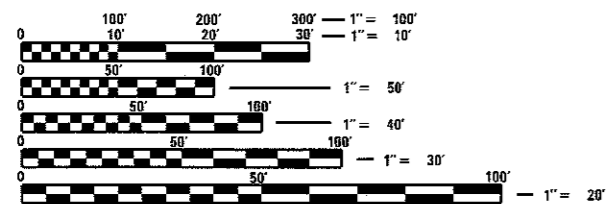
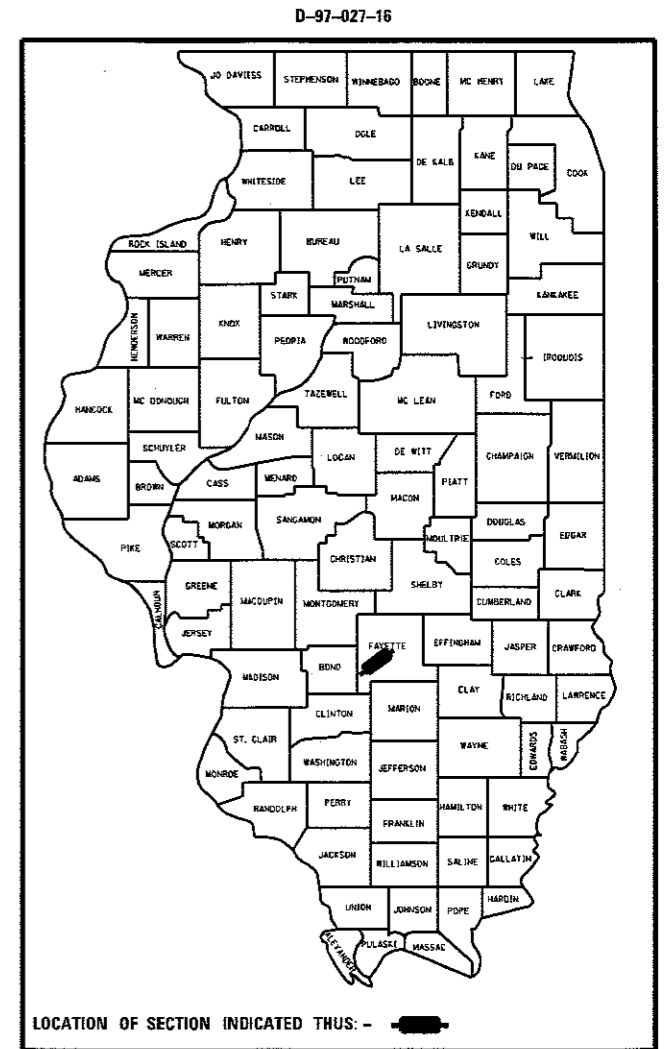
ADT = 19,900 (2015)

**PROPOSED
HIGHWAY PLANS**

F.A.I. ROUTE 70 (I 70)
SECTION D-7 BRIDGE REPAIRS 2018-1
BRIDGE REPAIRS
FAYETTE COUNTY

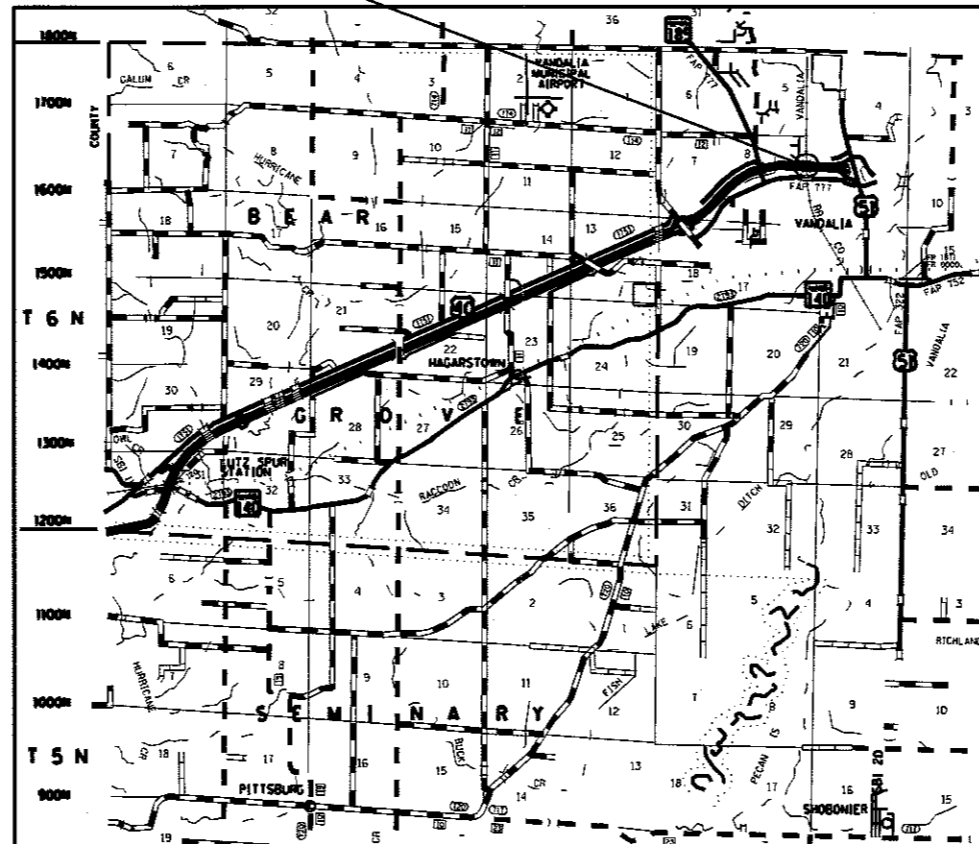
C-97-056-16

PROJECT LOCATION:
STRUCTURE #026-0015 &
STRUCTURE #026-0016



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



GROSS LENGTH = 150 FT. = 0.03 MILE
NET LENGTH = 150 FT. = 0.03 MILE

PROJECT ENGINEER: TOM RONAN
PROJECT MANAGER: MATTHEW METTE
PHONE: (217)-342-8320
CONTRACT NO. 74763

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUBMITTED SEPTEMBER 6 2017
Jeffrey M South / 6
REGIONAL ENGINEER

Oct 13 2017
Margaret M. Addis / PE
ENGINEER OF DESIGN AND ENVIRONMENT

Oct 13 2017
Amelia / 2
DIRECTOR OF PROGRAM DEVELOPMENT

PRINTED BY THE AUTHORITY
OF THE STATE OF ILLINOIS

URBAN
100%
STATE

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100%
STATE

SUMMARY OF QUANTITIES			TOTAL QUANTITIES	CONSTRUCTION TYPE CODE	
CODE NO	ITEM	UNIT		0014 SN 026-0015	0014 SN 026-0016
20700220	POROUS GRANULAR EMBANKMENT	CU YD	79.6	39.8	39.8
31101000	SUBBASE GRANULAR MATERIAL, TYPE B	TON	141.5	70.7	70.8
35400500	PORTLAND CEMENT CONCRETE BASE COURSE WIDENING 10"	SO YD	1242.2	620.9	621.3
42000060	WELDED WIRE REINFORCEMENT	SO YD	1242.2	620.9	621.3
44004250	PAVED SHOULDER REMOVAL	SO YD	1242.2	620.9	621.3
50102400	CONCRETE REMOVAL	CU YD	99.2	49.6	49.6
50157300	PROTECTIVE SHIELD	SO YD	510	255	255
50200100	STRUCTURE EXCAVATION	CU YD	79.6	39.8	39.8
50300100	FLOOR DRAINS	EACH	32	16	16
50300225	CONCRETE STRUCTURES	CU YD	25.6	12.8	12.8
50300255	CONCRETE SUPERSTRUCTURE	CU YD	70	35	35
50300300	PROTECTIVE COAT	SO YD	1437	718.5	718.5
50500405	FURNISHING AND ERECTING STRUCTURAL STEEL	POUND	4300	2150	2150

SUMMARY OF QUANTITIES			TOTAL QUANTITIES	CONSTRUCTION TYPE CODE	
CODE NO	ITEM	UNIT		0014 SN 026-0015	0014 SN 026-0016
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	9280	4640	4640
50800515	BAR SPLICERS	EACH	104	52	52
50800530	MECHANICAL SPLICERS	EACH	172	86	86
52000110	PREFORMED JOINT STRIP SEAL	FOOT	168	84	84
52100010	ELASTOMERIC BEARING ASSEMBLY, TYPE I	EACH	14	7	7
52100020	ELASTOMERIC BEARING ASSEMBLY, TYPE II	EACH	14	7	7
52100520	ANCHOR BOLTS, 1"	EACH	56	28	28
52200010	TEMPORARY SHEET PILING	SO FT	184	92	92
64200116	SHOULDER RUMBLE STRIPS, 16 INCH	FOOT	1511	755	756
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	6	3	3
67100100	MOBILIZATION	LSUM	1	0.5	0.5
70100207	TRAFFIC CONTROL AND PROTECTION, STANDARD 701402	EACH	2	1	1
70100800	TRAFFIC CONTROL AND PROTECTION, STANDARD 701401	LSUM	1	0.5	0.5

5

5

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SUMMARY OF QUANTITIES			TOTAL QUANTITIES	CONSTRUCTION TYPE CODE	
CODE NO	ITEM	UNIT		0014 SN 026-0015	0014 SN 026-0016
70103815	TRAFFIC CONTROL SURVEILLANCE	CAL DA	8	4	4
70107007	PAVEMENT MARKING BLACKOUT TAPE, 7"	FOOT	1112	581	531
70300100	SHORT TERM PAVEMENT MARKING	FOOT	88	44	44
70300150	SHORT TERM PAVEMENT MARKING REMOVAL	SO FT	678	354	324
70400100	TEMPORARY CONCRETE BARRIER	FOOT	750	375	375
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	750	375	375
70600250	IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE), TEST LEVEL 3	EACH	2	1	1
70600350	IMPACT ATTENUATORS, RELOCATE (NON-REDIRECTIVE), TEST LEVEL 3	EACH	2	1	1
78000200	THERMOPLASTIC PAVEMENT MARKING - LINE 4"	FOOT	2226	1112	1114
78000400	THERMOPLASTIC PAVEMENT MARKING - LINE 6"	FOOT	74	37	37
X5030250	BRIDGE DECK GROOVING (LONGITUDINAL)	SO YD	856	428	428
X7010410	SPEED DISPLAY TRAILER	CAL MO	6	3	3
X7015005	CHANGEABLE MESSAGE SIGN	CAL DA	28	14	14

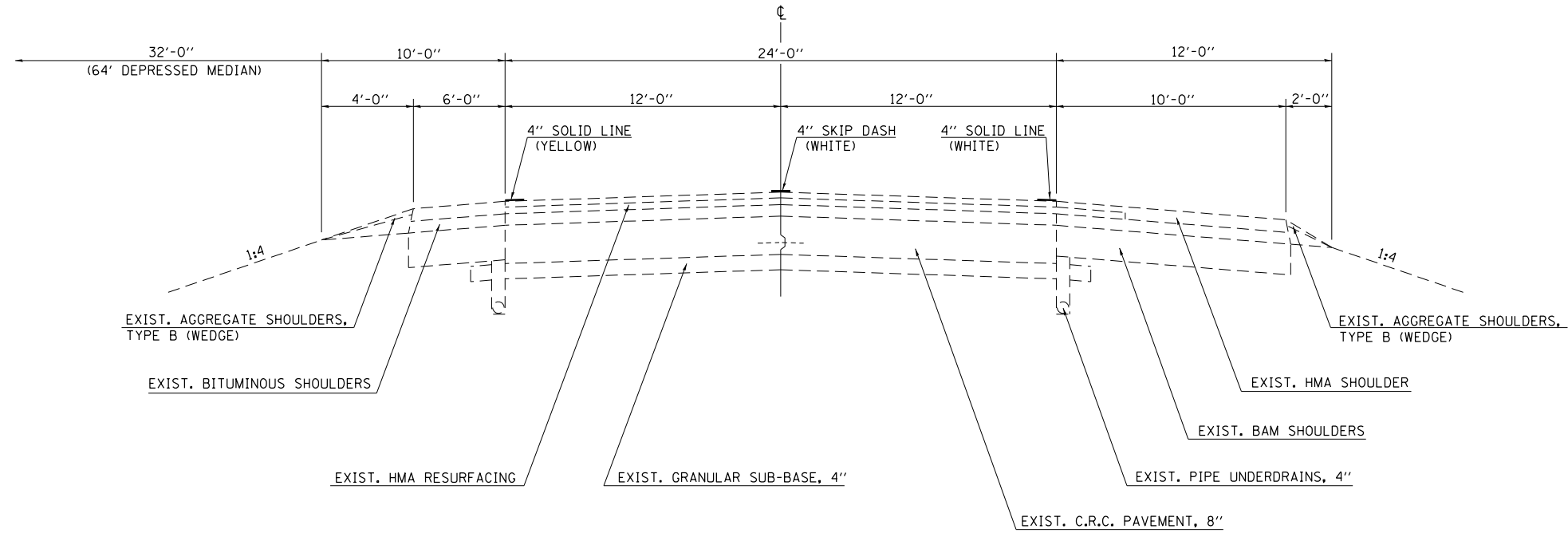
SUMMARY OF QUANTITIES			TOTAL QUANTITIES	CONSTRUCTION TYPE CODE	
CODE NO	ITEM	UNIT		0014 SN 026-0015	0014 SN 026-0016
X7830070	GROOVING FOR RECESSED PAVEMENT MARKING 5"	FOOT	2226	1112	1114
X7830074	GROOVING FOR RECESSED PAVEMENT MARKING 7"	FOOT	74	37	37
Z0001899	JACK AND REMOVE EXISTING BEARINGS	EACH	28	14	14
Z0001903	STRUCTURAL STEEL REMOVAL	POUND	1180	590	590
Z0004556	HOT-MIX ASPHALT SURFACE REMOVAL (DECK)	SO YD	1264	632	632
Z0005010	HOT-MIX ASPHALT FOR PATCHING POTHOLES (COLD MIX)	TON	2	1	1
Z0012114	BRIDGE DECK FLY ASH OR GGBF SLAG CONCRETE OVERLAY, 3 1/4"	SO YD	1264	632	632
Z0012130	BRIDGE DECK SCARIFICATION 3/4"	SO YD	1264	632	632
Z0012754	STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 INCHES)	SO FT	45.3	21.5	23.8
Z0015802	PLUG EXISTING DECK DRAINS	EACH	8	4	4
Z0016001	DECK SLAB REPAIR (FULL DEPTH, TYPE I)	SO YD	12	6	6
Z0016002	DECK SLAB REPAIR (FULL DEPTH, TYPE II)	SO YD	92	63	29

*SPECIALTY ITEM

FILE NAME =	USER NAME = steffennk	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SUMMARY OF QUANTITIES	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
Default	Documents\DDT Offices\District 7\Projects\747	CHECKED -	REVISED -			70	FAYETTE	39	4	
	PLOT SCALE = 100.0000' / in.	DATE -	REVISED -			* D7 Bridge Repairs 2018-1		CONTRACT NO. 74763		
	PLOT DATE = 9/6/2017					ILLINOIS FED. AID PROJECT				

EXISTING TYPICAL CROSS SECTION

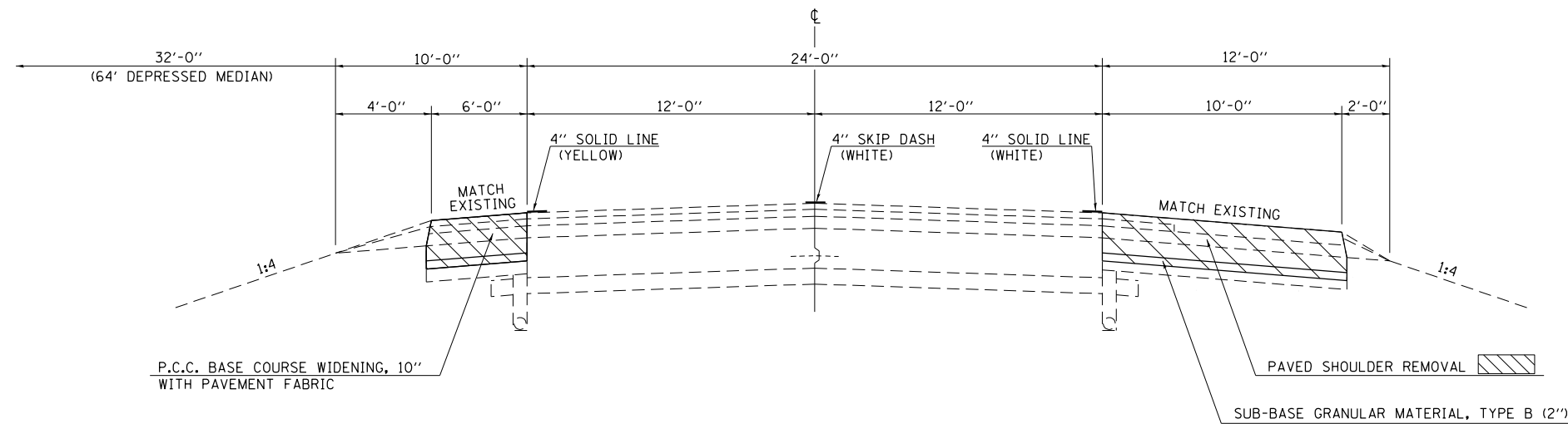
STA. 480+27 TO STA. 486+34 (WB)
 STA. 479+58 TO STA. 485+65 (EB)



NOTE: NOT TO SCALE

PROPOSED TYPICAL CROSS SECTION

STA. 480+27 TO STA. 486+34 (WB)
 STA. 479+58 TO STA. 485+65 (EB)



NOTE: NOT TO SCALE

FILE NAME =	USER NAME = steffenmk	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TYPICAL CROSS SECTIONS			F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
pw:\IL\084EBIDINTEG.illinois.gov\PIWIDOT\Documents\IDOT Offices\District 7\Projects\74753\Drawings\CAD\Sheets\0774763-sht-typical.dgn	DESIGNED -	REVISED -	70						FAYETTE	39	6	
PLOT SCALE = 6.6667' / in.	CHECKED -	REVISED -	• D-7 BRIDGE REPAIRS 2018-1			CONTRACT NO. 74763						
Default	DATE -	REVISED -	SCALE: N/A		SHEET 1	OF 1 SHEETS	STA.	TO STA.	ILLINOIS FED. AID PROJECT			

WIDENING SCHEDULE

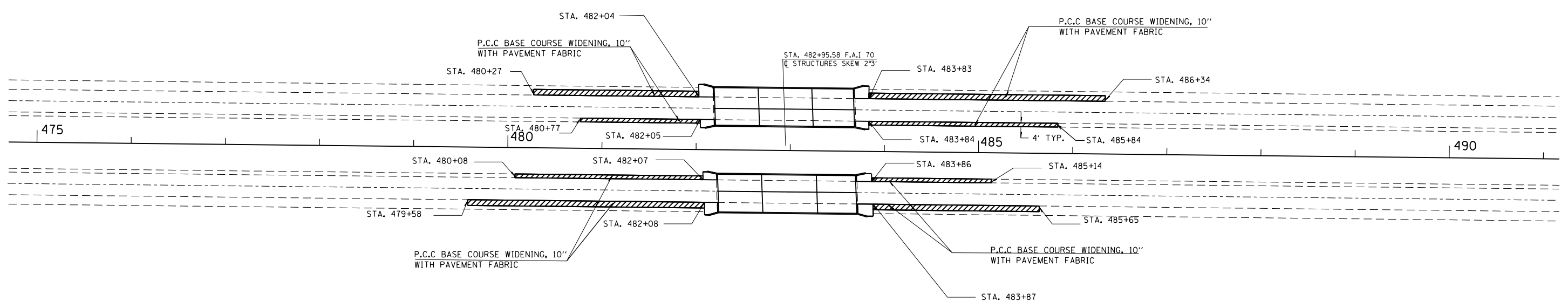
STATION	TO	STATION	SUBBASE GRANULAR MATERIAL, TYPE B TON	PORTLAND CEMENT CONCRETE BASE COURSE WIDENING, 10" SQ YD	WELDED WIRE REINFORCEMENT SQ YD	PAVED SHOULDER REMOVAL SQ YD	SHOULDER RUMBLE STRIPS, 16" FOOT
EB							
479+58	TO	482+08	31.6	277.8	277.8	277.8	250.0
483+87	TO	485+65	22.5	197.8	197.8	197.8	178.0
480+08	TO	482+07	10.1	88.4	88.4	88.4	199.0
483+86	TO	485+14	6.5	56.9	56.9	56.9	128.0
EAST BOUND TOTALS			70.7	620.9	620.9	620.9	755.0
WB							
480+27	TO	482+04	22.4	196.7	196.7	196.7	177.0
483+83	TO	486+34	31.8	278.9	278.9	278.9	251.0
480+77	TO	482+05	6.5	56.9	56.9	56.9	128.0
483+84	TO	485+84	10.1	88.9	88.9	88.9	200.0
WEST BOUND TOTALS			70.8	621.3	621.3	621.3	756.0
TOTAL			141.5	1242.2	1242.2	1242.2	1511

TRAFFIC CONTROL DEVICES

STATION	TO	STATION	TEMPORARY CONCRETE BARRIER FOOT	RELOCATE TEMPORARY CONCRETE BARRIER FOOT	IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE), TEST LEVEL 3 EACH	IMPACT ATTENUATORS, RELOCATE (NON-REDIRECTIVE), TEST LEVEL 3 EACH
STAGE I						
EB						
EB	480+24	TO 481+86	162.5	-	1	-
EB	481+86	TO 483+99	212.5	-	-	-
WB						
WB	481+93	TO 484+05	212.5	-	-	-
WB	484+05	TO 485+68	162.5	-	1	-
STAGE II						
EB						
EB	480+24	TO 481+86	-	162.5	-	1
EB	481+86	TO 483+99	-	212.5	-	-
WB						
WB	481+93	TO 484+05	-	212.5	-	-
WB	484+05	TO 485+68	-	162.5	-	1
TOTALS			750	750	2	2

PAVEMENT MARKING SCHEDULE

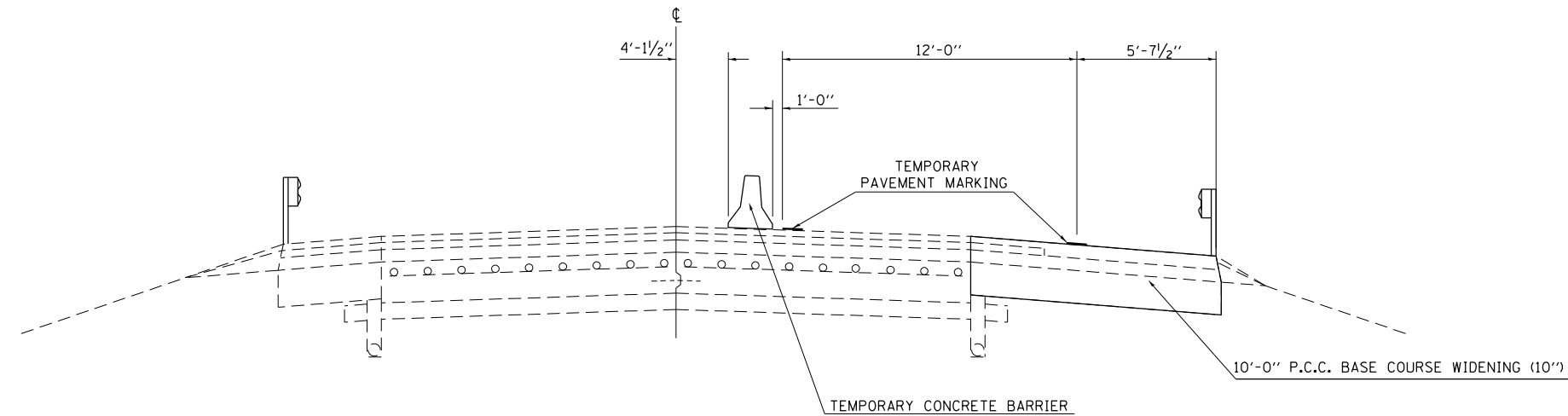
STATION	TO	STATION	PAVEMENT MARKING BLACKOUT TAPE - 7"	SHORT TERM PAVEMENT MARKING	SHORT TERM PAVEMENT MARKING REMOVAL	GROOVING FOR RECESSED PAVEMENT MARKING 5"	THERMOPLASTIC PAVEMENT MARKING - LINE 4"	GROOVING FOR RECESSED PAVEMENT MARKING 7"	THERMOPLASTIC PAVEMENT MARKING - LINE 6"
			FOOT	FOOT	SQ FT	FOOT	FOOT	FOOT	FOOT
EB									
466+86	TO	479+58	318.0	-	185.5	-	-	-	-
479+58	TO	481+86	57.0	20.0	39.9	406.0	406.0	-	-
481+86	TO	482+23	9.3	4.0	6.7	74.0	74.0	-	-
482+23	TO	483+72	149.0	-	86.9	298.0	298.0	37.3	37.3
483+72	TO	483+99	6.8	4.0	5.3	54.0	54.0	-	-
483+99	TO	485+64	41.3	16.0	29.4	280.0	280.0	-	-
EAST BOUND TOTALS			581.3	44.0	353.7	1112.0	1112.0	37.3	37.3
WB									
480+27	TO	481+93	41.5	16.0	29.5	282.0	282.0	-	-
481+93	TO	482+20	6.8	4.0	5.3	54.0	54.0	-	-
482+20	TO	483+68	148.0	-	86.3	296.0	296.0	37.0	37.0
483+68	TO	484+05	9.3	4.0	6.7	74.0	74.0	-	-
484+05	TO	486+34	57.3	20.0	40.1	408.0	408.0	-	-
486+34	TO	497+05	267.8	-	156.2	-	-	-	-
WEST BOUND TOTALS			530.5	44.0	324.1	1114.0	1114.0	37.0	37.0
TOTAL			1112	88	678	2226	2226	74	74



PAVED SHOULDER REMOVAL 

FILE NAME =	USER NAME = steffenmk	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PLAN			F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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	PLOT DATE = 9/6/2017	DATE -	REVISED -		ILLINOIS FED. AID PROJECT							

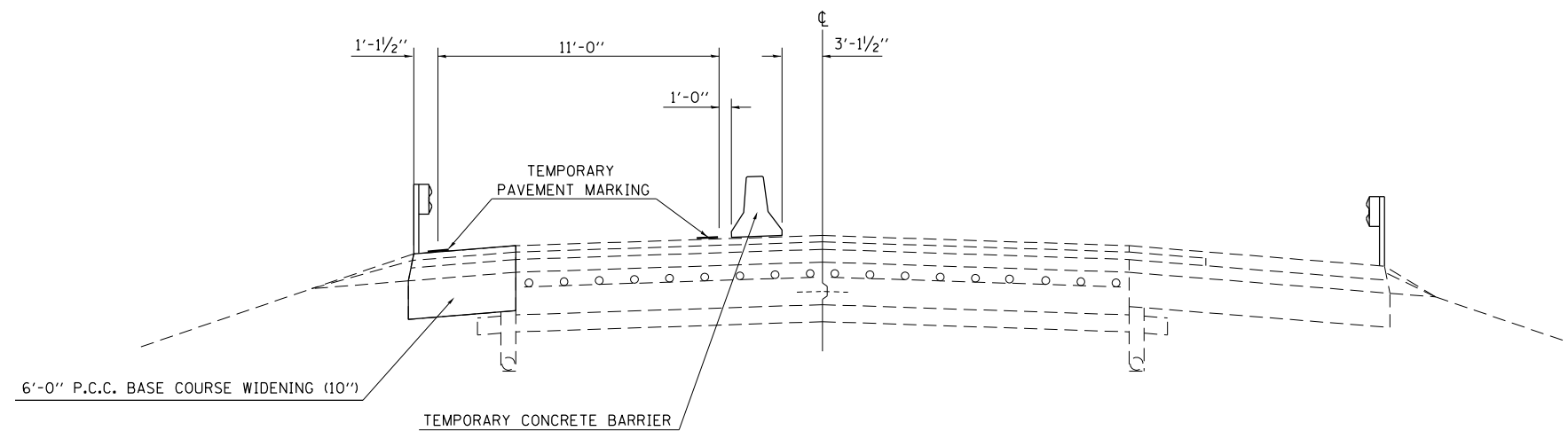
STAGE 1



NOTE:
ALL TEMPORARY PAVEMENT MARKING AND ITS REMOVAL SHALL BE INCLUDED IN THE COST OF TRAFFIC CONTROL AND PROTECTION, STANDARD 701402

NOTE: NOT TO SCALE

STAGE 2



NOTE:
ALL TEMPORARY PAVEMENT MARKING AND ITS REMOVAL SHALL BE INCLUDED IN THE COST OF TRAFFIC CONTROL AND PROTECTION, STANDARD 701402

NOTE: NOT TO SCALE

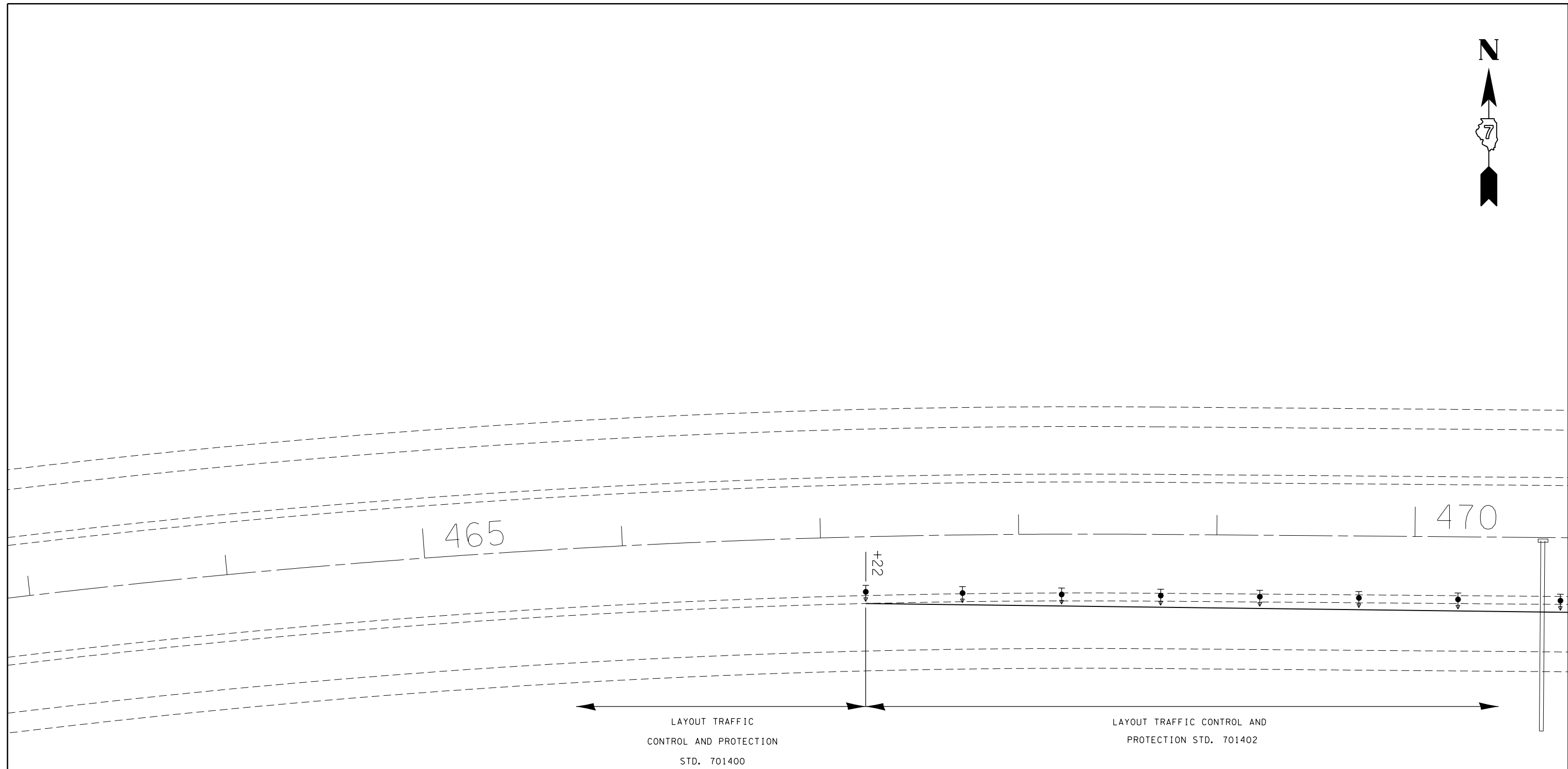
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**




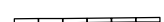
STAGE CONSTRUCTION DETAILS

SCALE: N/A SHEET 1 OF 1 SHEETS STA. TO STA.

F.A.I. RE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70		FAYETTE	39	10
• D-7 BRIDGE REPAIRS 2018-1			CONTRACT NO. 74763	
ILLINOIS FED. AID PROJECT				



LEGEND

-  DIRECTIONAL INDICATOR BARRICADE W/STEADY BURN MONODIRECTIONAL LIGHT
-  TYPE II BARRICADE DRUM OR VERTICAL BARRICADE W/STEADY BURN MONODIRECTIONAL LIGHT
-  IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE) TEST LEVEL 3
-  TEMPORARY CONCRETE BARRIER

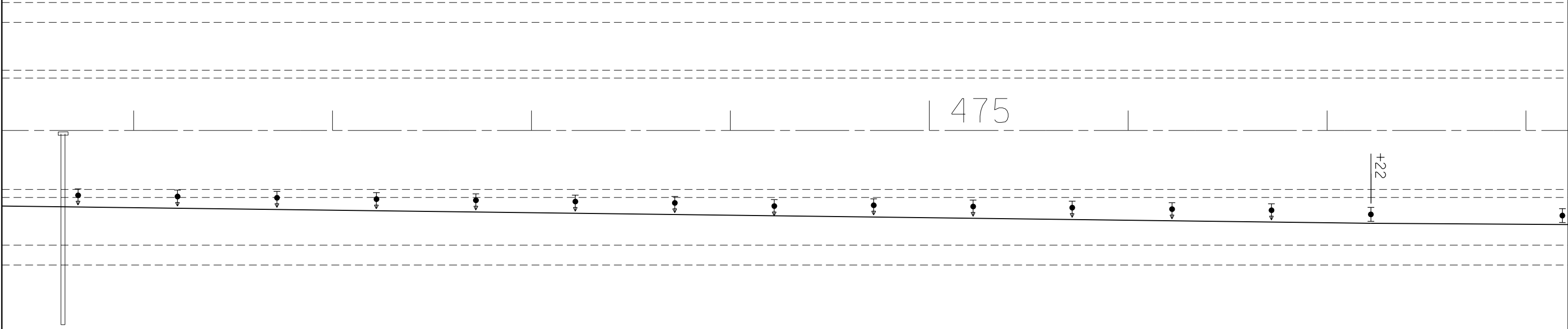
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**




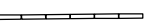
STAGE 1 TRAFFIC CONTROL

SCALE: SHEET 1 OF 5 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70		FAYETTE	39	11
D-7 BRIDGE REPAIRS 2018-1			CONTRACT NO. 74763	
ILLINOIS FED. AID PROJECT				



LEGEND

- 
 DIRECTIONAL INDICATOR BARRICADE
W/STEADY BURN MONODIRECTIONAL
LIGHT
- 
 TYPE II BARRICADE DRUM OR
VERTICAL BARRICADE W/STEADY
BURN MONODIRECTIONAL LIGHT
- 
 IMPACT ATTENUATORS, TEMPORARY
(NON-REDIRECTIVE) TEST LEVEL 3
- 
 TEMPORARY CONCRETE BARRIER

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Default	PLOT SCALE = 50.0000' / in.	CHECKED -	REVISED -
	PLOT DATE = 9/6/2017	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

STAGE 1 TRAFFIC CONTROL

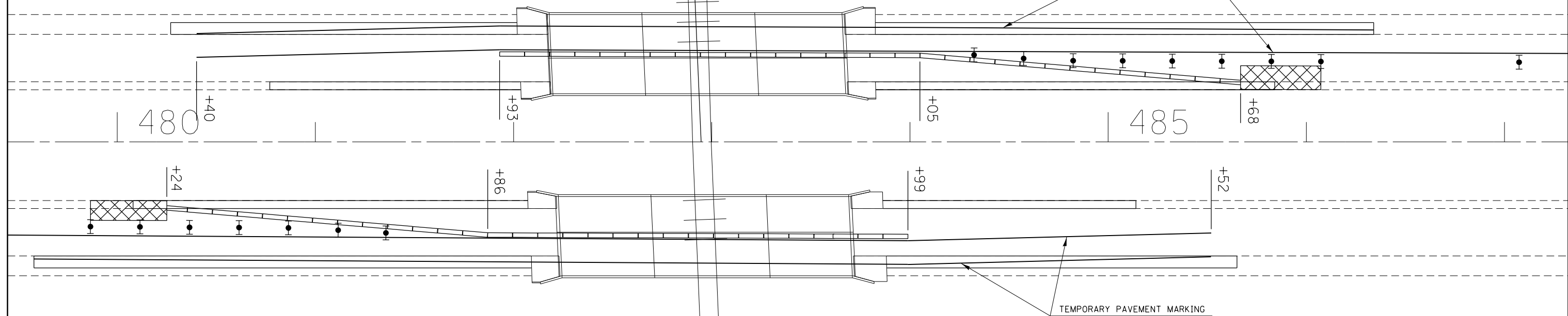
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F.A.I. RE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70		FAYETTE	39	12
• D7 Bridge Repairs 2018-1			CONTRACT NO. 74763	
ILLINOIS FED. AID PROJECT				



SN 026-0016





STA. 482+95.58 F.A.I. 70
 STRUCTURES SKEW 2°3'



SN 026-0015

NOTE:
 ALL TEMPORARY PAVEMENT MARKING AND ITS REMOVAL
 SHALL BE INCLUDED IN THE COST OF TRAFFIC CONTROL
 AND PROTECTION, STANDARD 701402

LEGEND

-  DIRECTIONAL INDICATOR BARRICADE W/STEADY BURN MONODIRECTIONAL LIGHT
-  TYPE II BARRICADE DRUM OR VERTICAL BARRICADE W/STEADY BURN MONODIRECTIONAL LIGHT
-  IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE) TEST LEVEL 3
-  TEMPORARY CONCRETE BARRIER

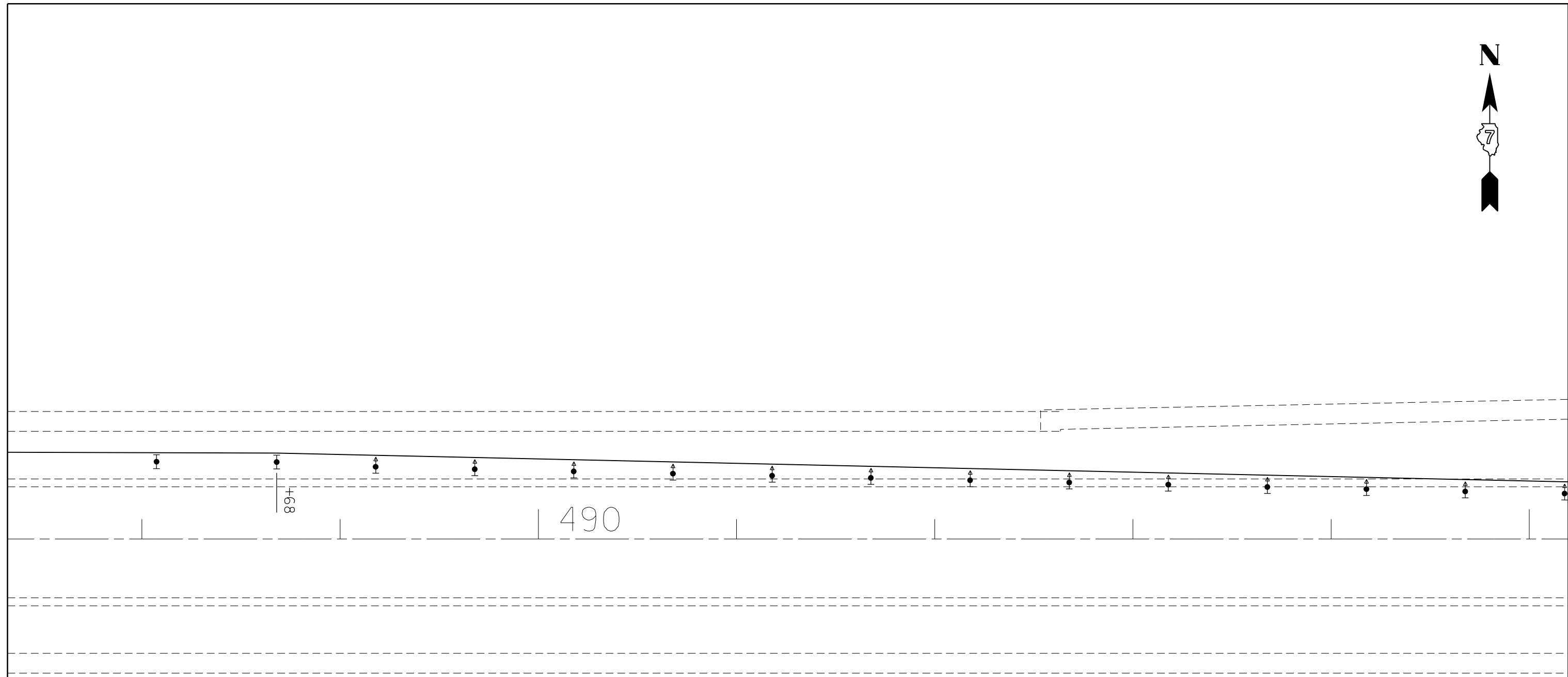
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**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**





STAGE 1 TRAFFIC CONTROL

SCALE: 50 SHEET 3 OF 5 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70		FAYETTE	39	13
• D7 Bridge Repairs 2018-1			CONTRACT NO. 74763	
ILLINOIS FED. AID PROJECT				



LEGEND

-  DIRECTIONAL INDICATOR BARRICADE W/STEADY BURN MONODIRECTIONAL LIGHT
-  TYPE II BARRICADE DRUM OR VERTICAL BARRICADE W/STEADY BURN MONODIRECTIONAL LIGHT
-  IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE) TEST LEVEL 3
-  TEMPORARY CONCRETE BARRIER

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Default	PLOT SCALE = 50.0000' / in.	CHECKED -	REVISED -
	PLOT DATE = 9/6/2017	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

STAGE 1 TRAFFIC CONTROL

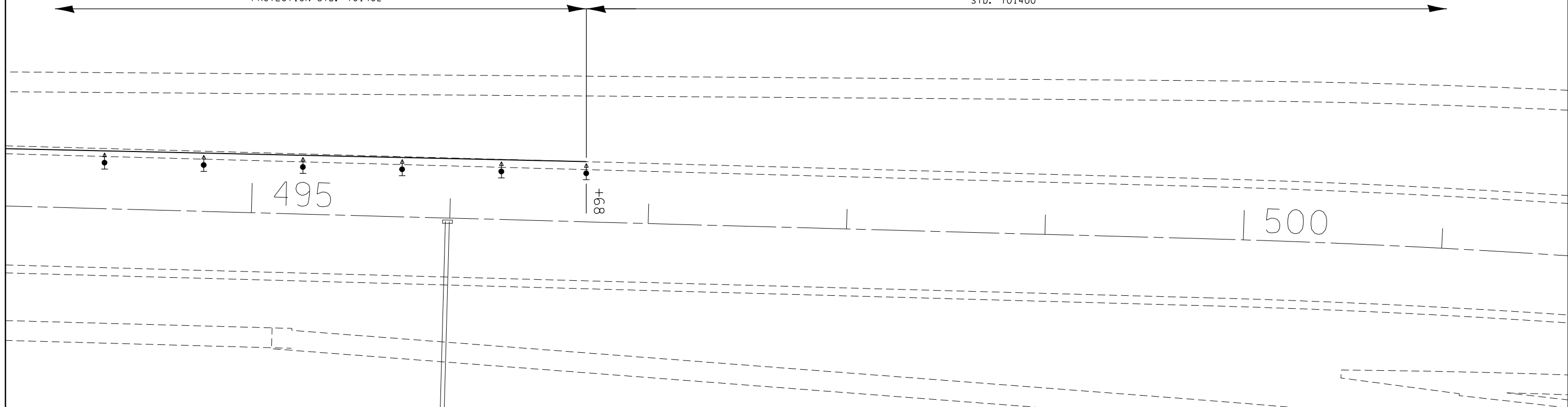
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F.A.I. R.T.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70		FAYETTE	39	14
• D7 Bridge Repairs 2018-1			CONTRACT NO. 74763	
ILLINOIS FED. AID PROJECT				



LAYOUT TRAFFIC CONTROL AND PROTECTION STD. 701402

LAYOUT TRAFFIC CONTROL AND PROTECTION STD. 701400



LEGEND



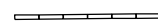
DIRECTIONAL INDICATOR BARRICADE W/STEADY BURN MONODIRECTIONAL LIGHT



TYPE II BARRICADE DRUM OR VERTICAL BARRICADE W/STEADY BURN MONODIRECTIONAL LIGHT



IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE) TEST LEVEL 3



TEMPORARY CONCRETE BARRIER

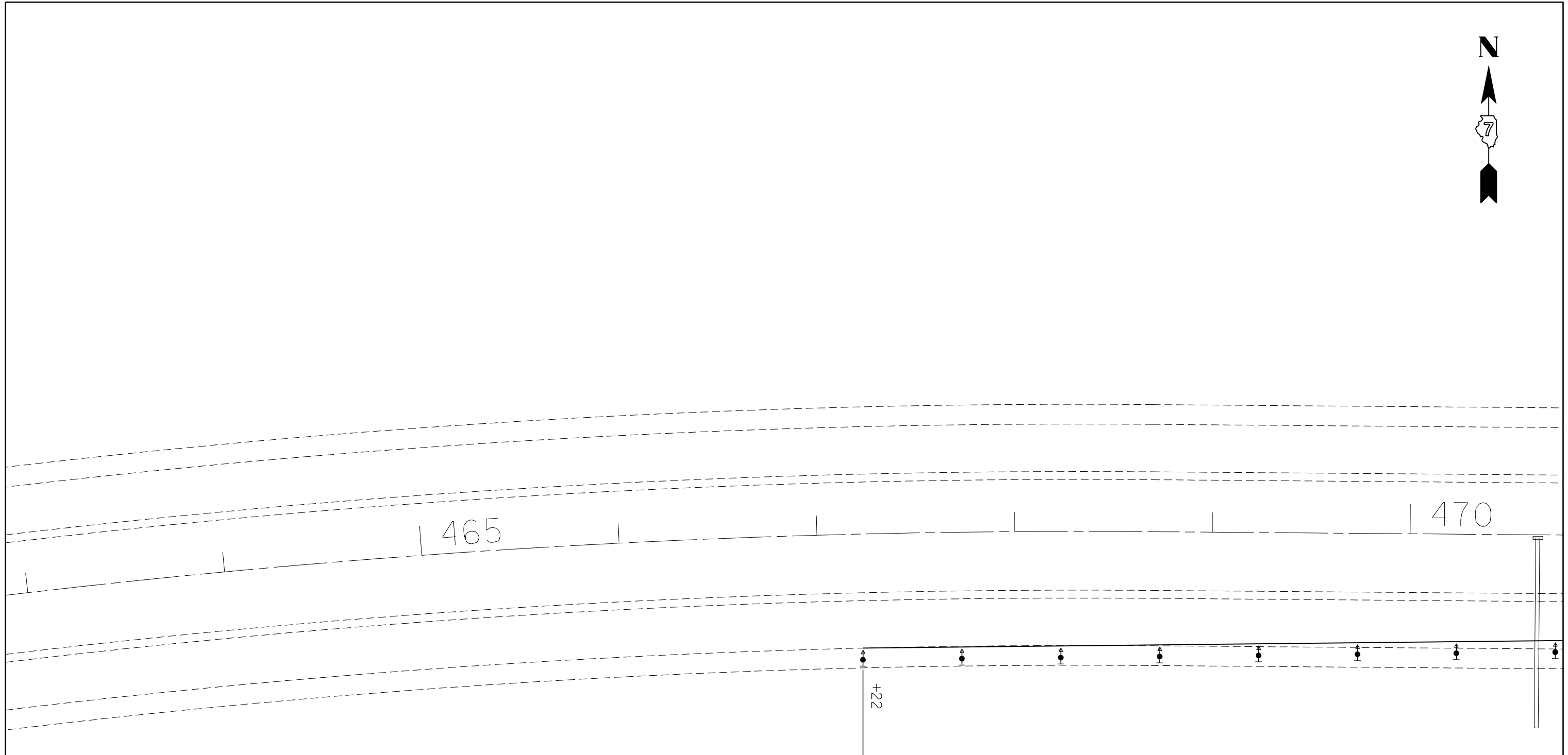
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	PLOT DATE = 9/6/2017	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

STAGE 1 TRAFFIC CONTROL

SCALE: SHEET 5 OF 5 SHEETS STA. TO STA.





F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70		FAYETTE	39	15
• D-7 BRIDGE REPAIRS 2018-1			CONTRACT NO. 74763	
ILLINOIS FED. AID PROJECT				



LAYOUT TRAFFIC CONTROL AND PROTECTION
STD. 701400

LAYOUT TRAFFIC CONTROL AND PROTECTION STD. 701402

LEGEND

-  DIRECTIONAL INDICATOR BARRICADE W/STEADY BURN MONODIRECTIONAL LIGHT
-  TYPE II BARRICADE DRUM OR VERTICAL BARRICADE W/STEADY BURN MONODIRECTIONAL LIGHT
-  IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE) TEST LEVEL 3
-  TEMPORARY CONCRETE BARRIER

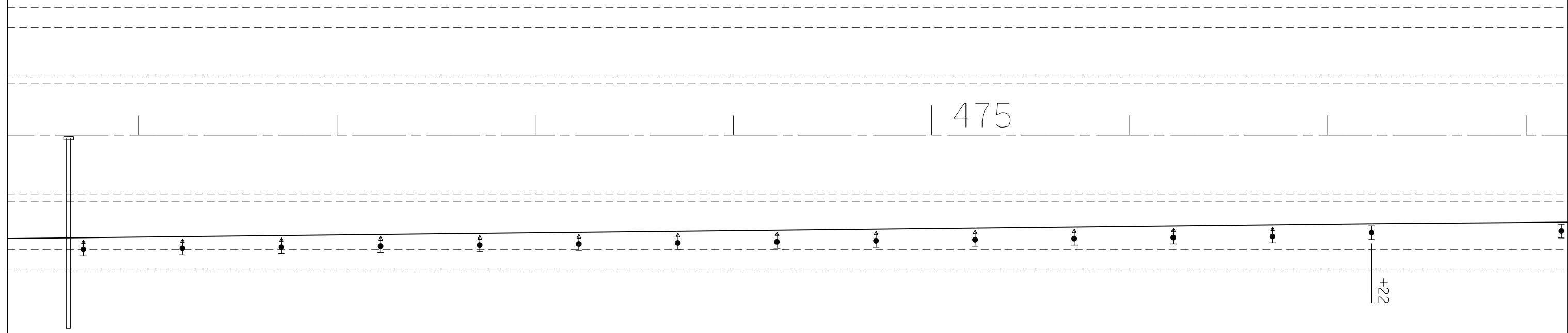
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Default	PLOT SCALE = 50.0000' / in.	CHECKED -	REVISED -
	PLOT DATE = 9/6/2017	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**





STAGE 2 TRAFFIC CONTROL

SCALE: SHEET 1 OF 5 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70		FAYETTE	39	16
• D-7 BRIDGE REPAIRS 2018-1			CONTRACT NO. 74763	
ILLINOIS FED. AID PROJECT				



LEGEND

-  DIRECTIONAL INDICATOR BARRICADE W/STEADY BURN MONODIRECTIONAL LIGHT
-  TYPE II BARRICADE DRUM OR VERTICAL BARRICADE W/STEADY BURN MONODIRECTIONAL LIGHT
-  IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE) TEST LEVEL 3
-  TEMPORARY CONCRETE BARRIER

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Default	PLOT SCALE = 50.0000' / in.	CHECKED -	REVISED -
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

STAGE 2 TRAFFIC CONTROL

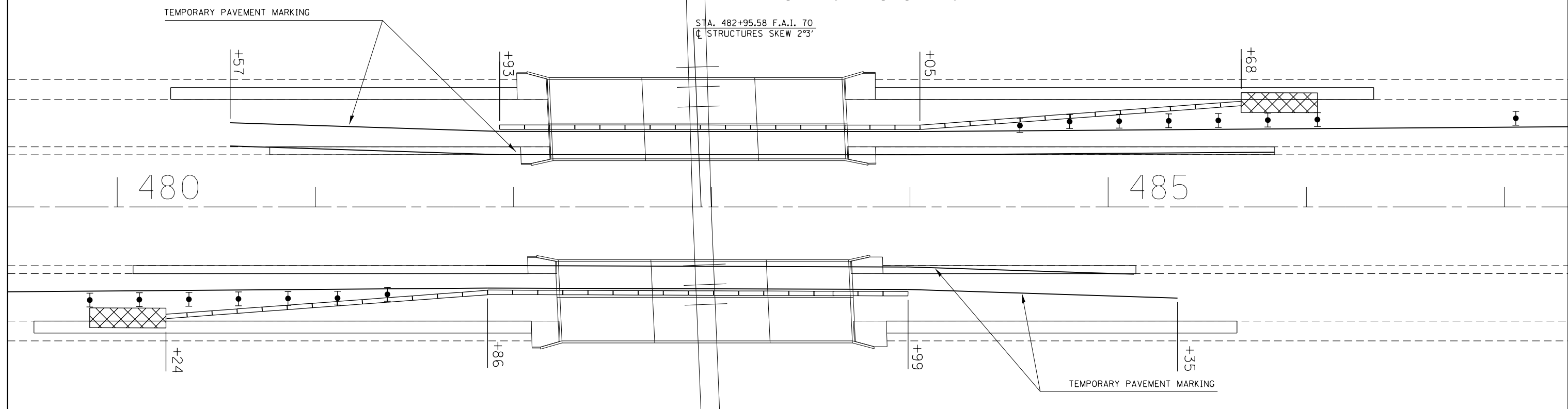
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F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70		FAYETTE	39	17
• D7 Bridge Repairs 2018-1			CONTRACT NO. 74763	
ILLINOIS FED. AID PROJECT				



SN 026-0016





STA. 482+95.58 F.A.I. 70
 STRUCTURES SKEW 2°3'



SN 026-0015

NOTE:
 ALL TEMPORARY PAVEMENT MARKING AND ITS REMOVAL
 SHALL BE INCLUDED IN THE COST OF TRAFFIC CONTROL
 AND PROTECTION, STANDARD 701402

LEGEND

-  DIRECTIONAL INDICATOR BARRICADE W/STEADY BURN MONODIRECTIONAL LIGHT
-  TYPE II BARRICADE DRUM OR VERTICAL BARRICADE W/STEADY BURN MONODIRECTIONAL LIGHT
-  IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE) TEST LEVEL 3
-  TEMPORARY CONCRETE BARRIER

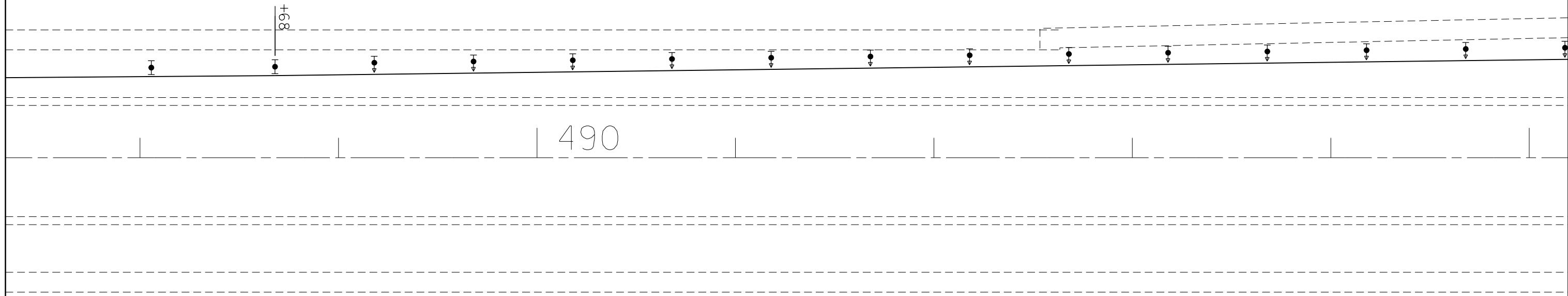
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Default	PLOT SCALE = 50.0000' / in.	CHECKED -	REVISED -
	PLOT DATE = 9/6/2017	DATE -	REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

STAGE 2 TRAFFIC CONTROL

SCALE: 50 SHEET 3 OF 5 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70		FAYETTE	39	18
• D7 Bridge Repairs 2018-1			CONTRACT NO. 74763	
ILLINOIS FED. AID PROJECT				



LEGEND

- DIRECTIONAL INDICATOR BARRICADE W/STEADY BURN MONODIRECTIONAL LIGHT
- TYPE II BARRICADE DRUM OR VERTICAL BARRICADE W/STEADY BURN MONODIRECTIONAL LIGHT
- IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE) TEST LEVEL 3
- TEMPORARY CONCRETE BARRIER

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Default	PLOT SCALE = 50.0000' / in.	CHECKED -	REVISED -
	PLOT DATE = 9/6/2017	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

STAGE 2 TRAFFIC CONTROL

SCALE: 50 SHEET 4 OF 5 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70		FAYETTE	39	19
• D7 Bridge Repairs 2018-1			CONTRACT NO. 74763	
ILLINOIS FED. AID PROJECT				



LAYOUT TRAFFIC CONTROL AND PROTECTION STD. 701402


LAYOUT TRAFFIC CONTROL AND PROTECTION STD. 701400


+68

495

500

LEGEND

 DIRECTIONAL INDICATOR BARRICADE W/STEADY BURN MONODIRECTIONAL LIGHT

 TYPE II BARRICADE DRUM OR VERTICAL BARRICADE W/STEADY BURN MONODIRECTIONAL LIGHT

 IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE) TEST LEVEL 3

 TEMPORARY CONCRETE BARRIER

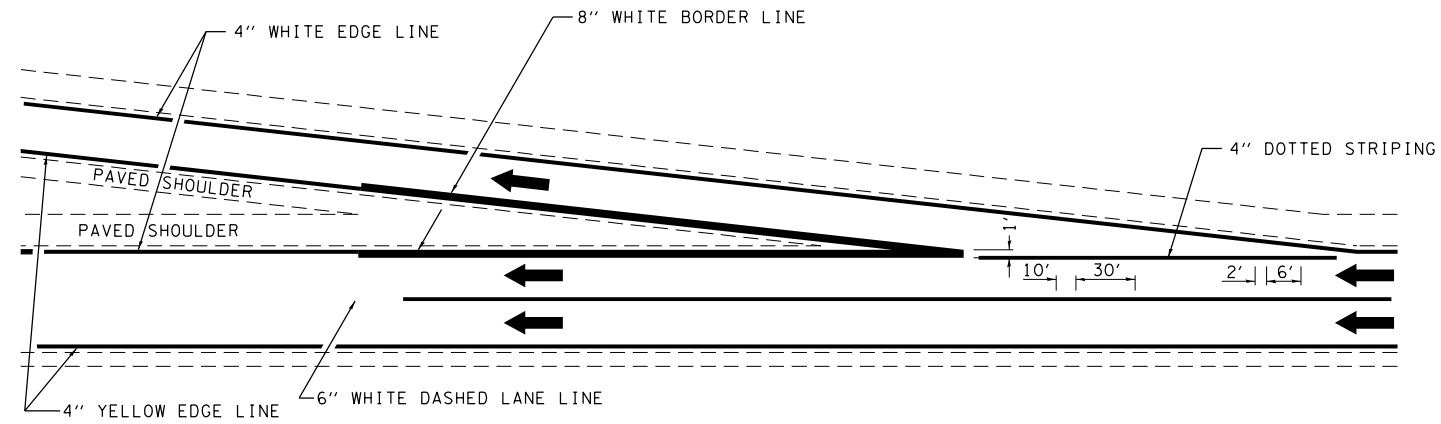
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Default	PLOT SCALE = 50.0000' / in.	CHECKED -	REVISED -
	PLOT DATE = 9/6/2017	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

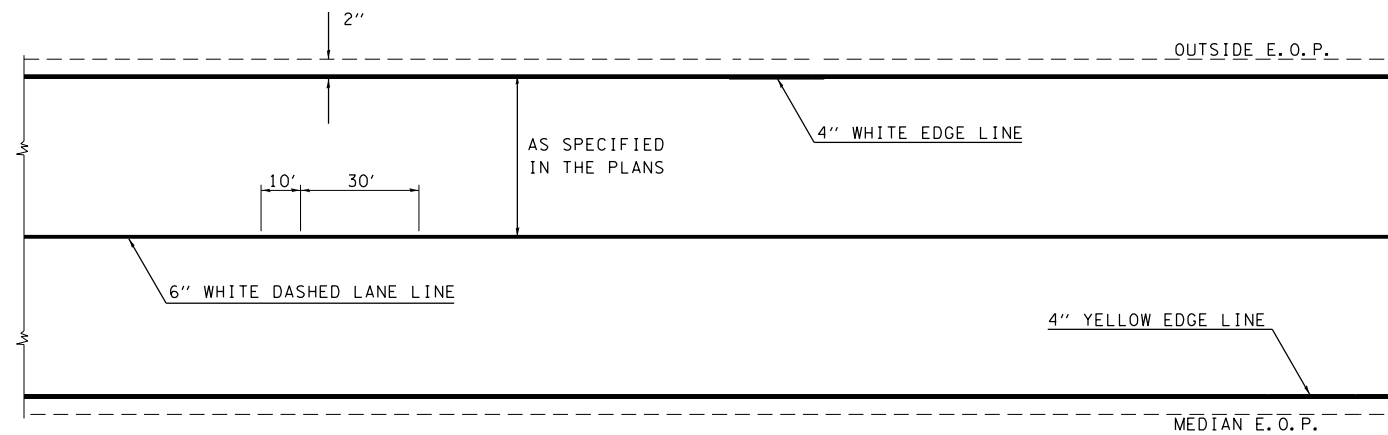
STAGE 2 TRAFFIC CONTROL

SCALE: SHEET 5 OF 5 SHEETS STA. TO STA.

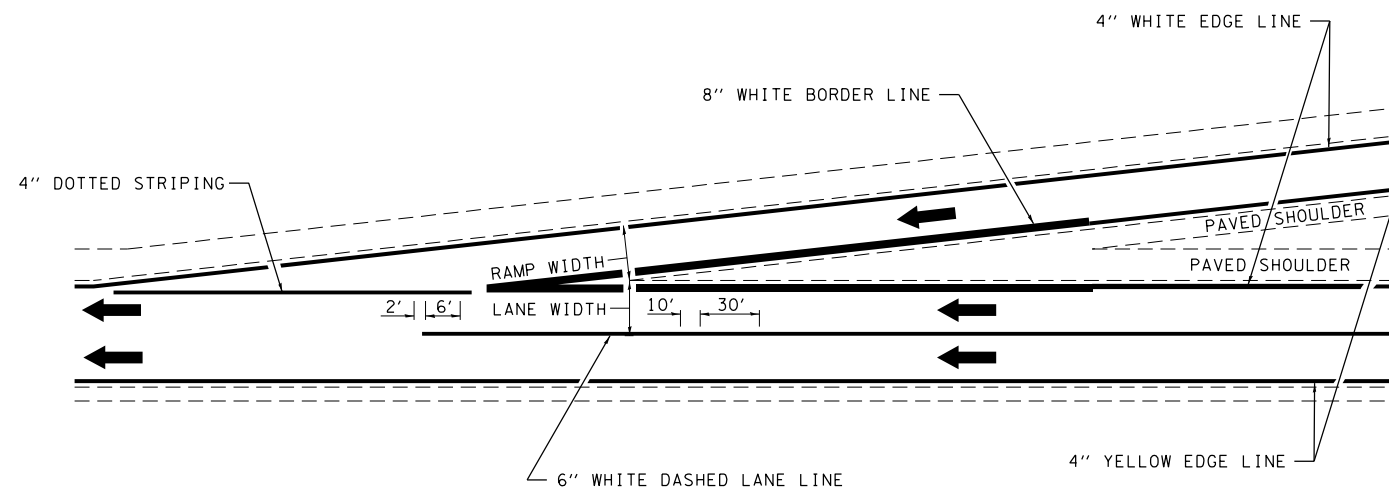
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70		FAYETTE	39	20
• D-7 BRIDGE REPAIRS 2018-1			CONTRACT NO. 74763	
ILLINOIS FED. AID PROJECT				



TYPICAL EXIT RAMP MARKING



TYPICAL CENTERLINE & EDGELINE MARKINGS



TYPICAL ENTRANCE RAMP MARKING

NOT TO SCALE

FILE NAME =	USER NAME = steffenmk	DESIGNED -	REVISED - DRM 08-04
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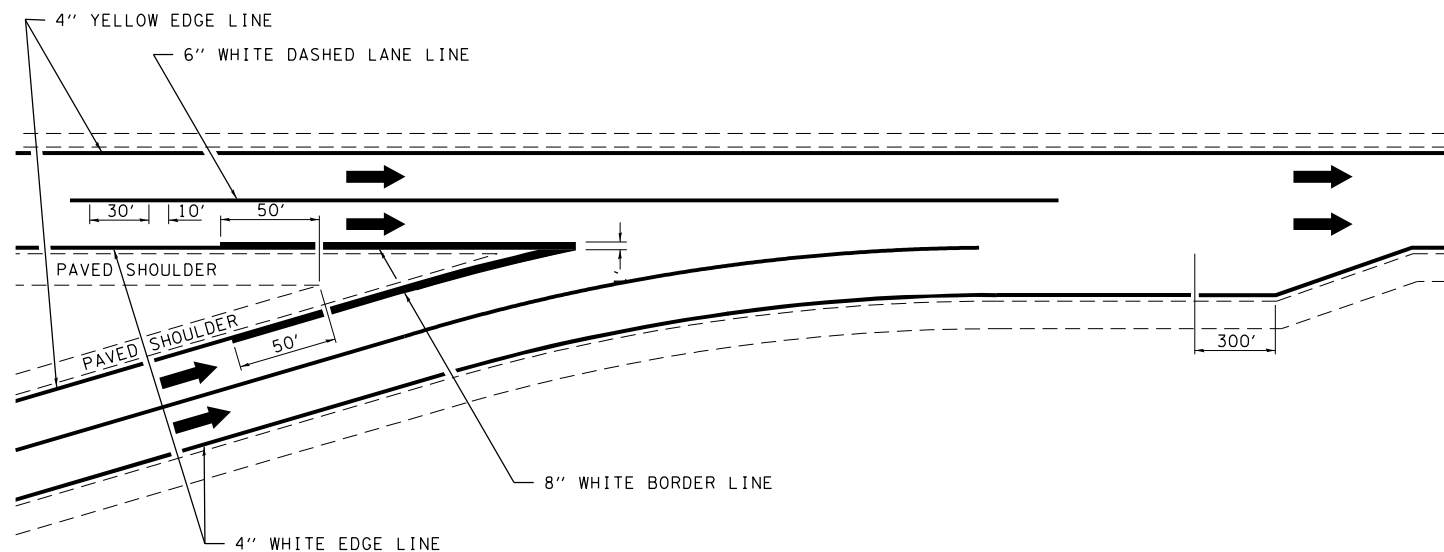
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TYPICAL APPLICATIONS OF INTERSTATE PAVEMENT MARKING

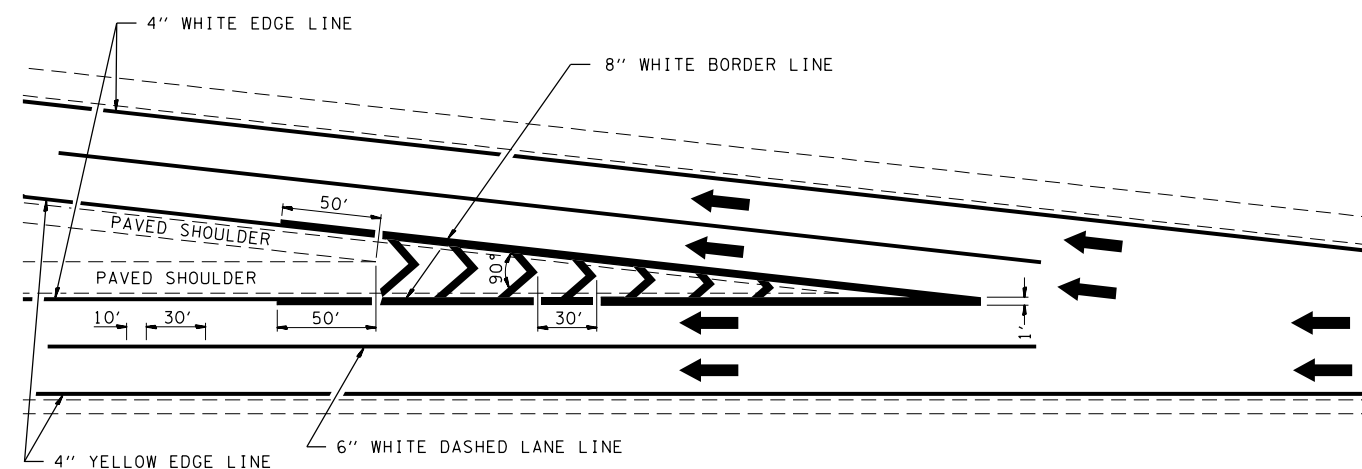
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DISTRICT 7 DETAIL NO. 78000002

F.A.I. RE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70		FAYETTE	39	21
• D-7 BRIDGE REPAIRS 2018-1			CONTRACT NO. 74763	
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		

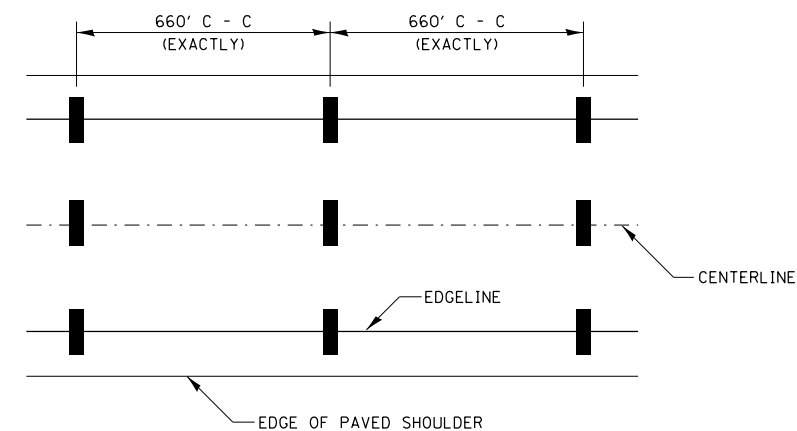


TYPICAL CONVERGENCE MARKING

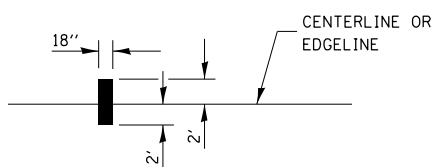


TYPICAL DIVERGENCE MARKING

AERIAL SPEED CHECK ZONES



IT WILL BE NECESSARY TO HAVE A REPRESENTATIVE OF THE STATE POLICE PRESENT SO THAT THE ACCURACY OF MEASUREMENT CAN BE ATTESTED TO IN COURT.



NOT TO SCALE

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	PLOT DATE = 9/6/2017	DATE -	REVISED - DRM 01-09

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TYPICAL APPLICATIONS OF INTERSTATE PAVEMENT MARKING

SCALE: N/A SHEET NO. 2 OF 2 SHEETS STA. TO STA.

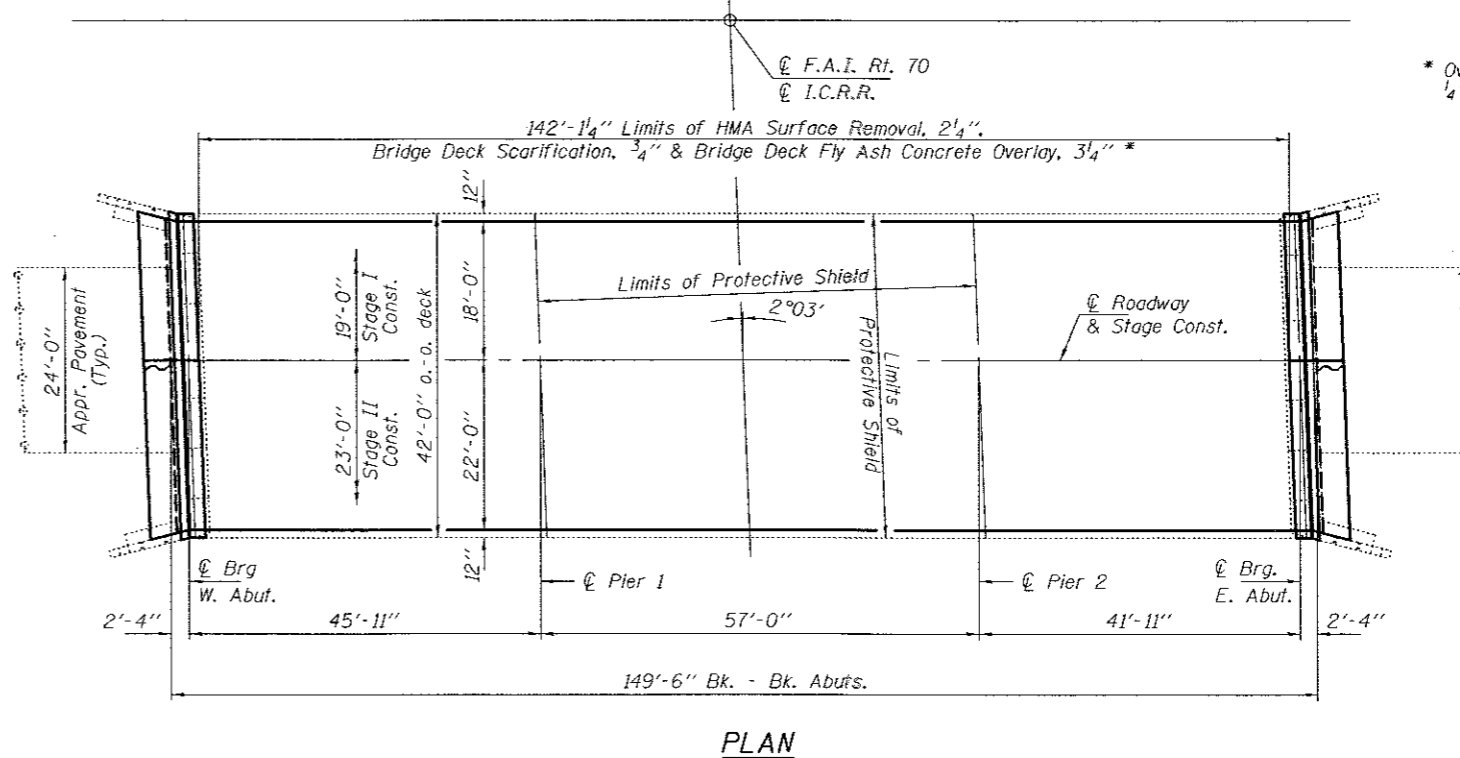
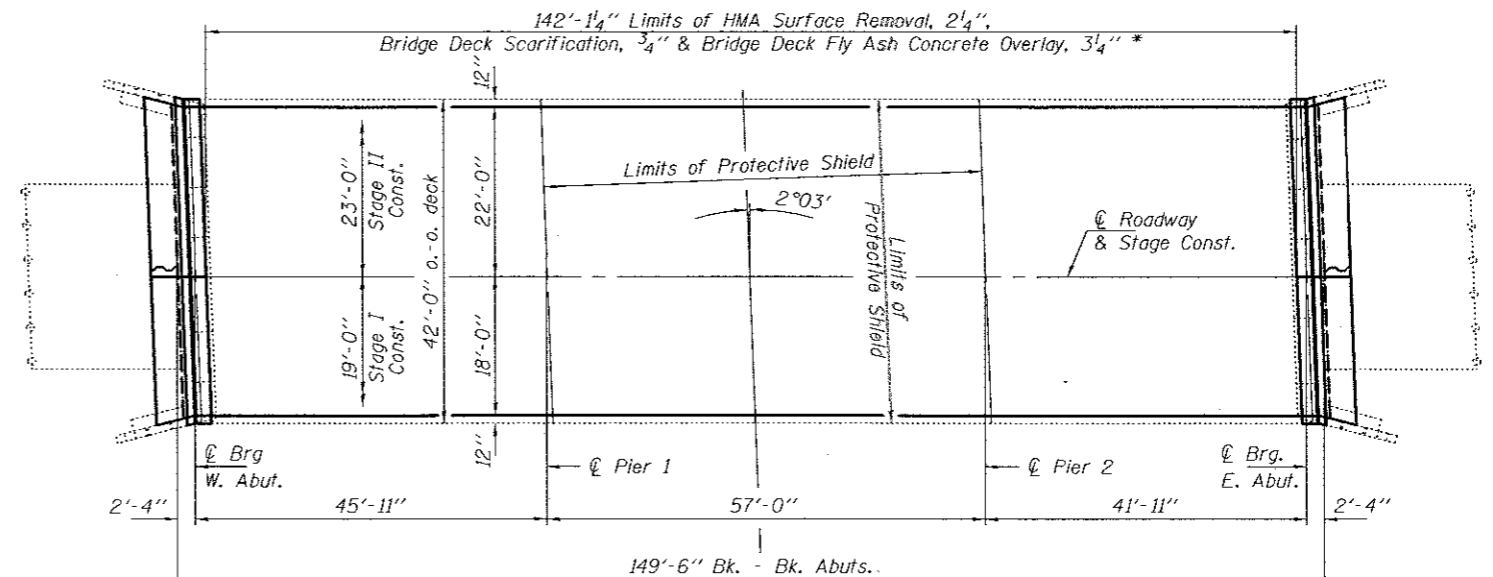
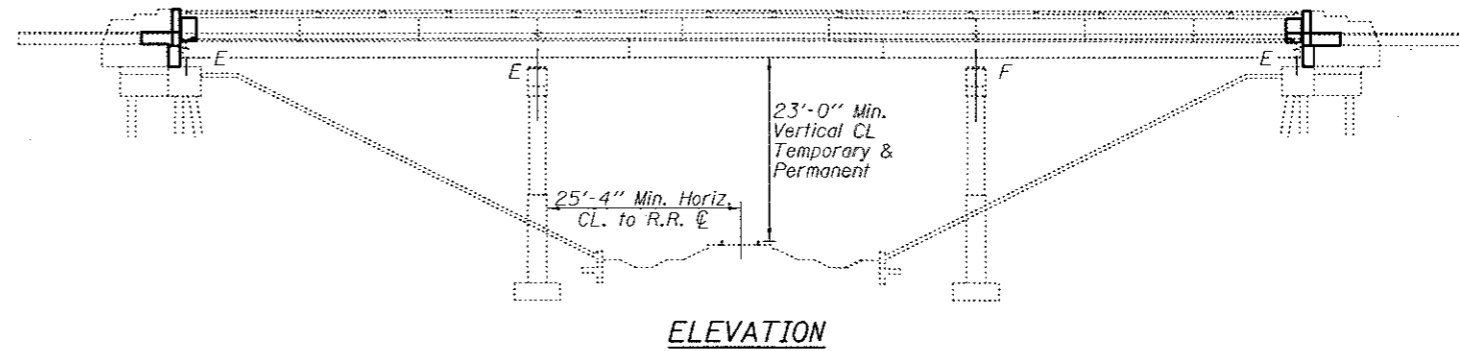
DISTRICT 7 DETAIL NO. 78000002

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70		FAYETTE	39	22
• D-7 BRIDGE REPAIRS 2018-1			CONTRACT NO. 74763	
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		

The existing three span continuous steel multi-beam dual structures were constructed in 1964 as FAI-70 section 26-2VB at Sta. 482+95.58. SN. 026-0015 carries FAI-70 Eastbound and SN. 026-0016 carries FAI-70 Westbound over the Vandalia Railroad. The proposed project consists of partial replacement of approach slabs, replacing the back walls of the abutments, new expansion joints, full depth deck repair, formed concrete repair, new concrete wearing surface, new bearings at abutments, four new diaphragms and new floor drains.

TOTAL BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Porous Granular Embankment	Cu. Yd.	79.6
Concrete Removal	Cu. Yd.	99.1
Structure Excavation	Cu. Yd.	79.6
Concrete Structures	Cu. Yd.	25.6
Concrete Superstructure	Cu. Yd.	69.9
Protective Coat	Sq. Yd.	1437
Furnishing and Erecting Structural Steel	Pound	4300
Reinforcement Bars, Epoxy Coated	Pound	9280
Bar Splicers	Each	104
Mechanical Splicers	Each	172
Preformed Joint Strip Seal	Foot	168
Elastomeric Bearing Assembly Type I	Each	14
Elastomeric Bearing Assembly Type II	Each	14
Anchor Bolts 1"φ	Each	56
Temporary Sheet Piling	Sq. Ft.	184
Jack and Remove Existing Bearings	Each	28
Structural Steel Removal	Pound	1180
HMA Surface Removal Deck	Sq. Yd.	1264
Bridge Deck Grooving (Longitudinal)	Sq. Yd.	856
Diamond Grinding (Bridge Section)	Sq. Yd.	1427
Bridge Deck Scarification, 3/4"	Sq. Yd.	1264
Bridge Deck Fly Ash or GGBF Slag Concrete Overlay, 3/4"	Sq. Yd.	1264
Floor Drains	Each	32
Plug Existing Deck Drains	Each	8
Deck Slab Repair (Full Depth Type I)	Sq. Yd.	12
Deck Slab Repair (Full Depth Type II)	Sq. Yd.	92
Structural Repair of Concrete (Depth, < 5")	Sq. Ft.	45.3
Protective Shield	Sq. Yd.	508.7



DESIGNED: *[Signature]*
 CHECKED: *[Signature]*
 DRAWN: *[Signature]*
 CHECKED: *[Signature]*

PASSED: *[Signature]*
 ENGINEER OF BRIDGES AND STRUCTURES

DATE: SEPTEMBER 20, 2017
 REVISED: _____
 REVISED: _____

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

PLAN & ELEVATION
 FAI RTE. 70 OVER ICRR
 SN 026-0015 (EB) & 026-0016 (WB)
 SHEET NO. 1 OF 17 SHEETS

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	D7 BRIDGE REPAIRS 2018-1	FAYETTE	39	23
				CONTRACT NO. 74763
ILLINOIS FED. AID PROJECT				

GENERAL NOTES

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

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

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.

Diaphragm connection holes shall be $\frac{13}{16}$ " ϕ for $\frac{3}{4}$ " ϕ bolts. Two hardened washers shall be required at diaphragm connections.

The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.

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

All new structural steel shall be shop painted with the inorganic zinc rich primer per AASHTO M300, Type 1. Cost included with Furnishing and Erecting Structural Steel.

Cost of removal and re-installation of all members necessary to complete the work as detailed on the plans and as specified in the Special Provisions shall be included with Furnishing and Erecting Structural Steel.

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 operations shall be replaced using an approved bar splicer or anchorage system. Cost included with Concrete Removal.

Removal and reinstallation of aluminum railing sections will be necessary for construction of the expansion joints. All existing embedded anchors that are within the concrete removal area replaced with new Rail Post anchorage devices at each location where posts are connected to new construction. This work and all materials shall be included with Concrete Superstructure.

The existing Name Plate extends into the concrete removal area of the wingwall. The Contractor shall use extreme care during concrete removal so as not to damage the Name Plate. Cost included with Concrete Removal.

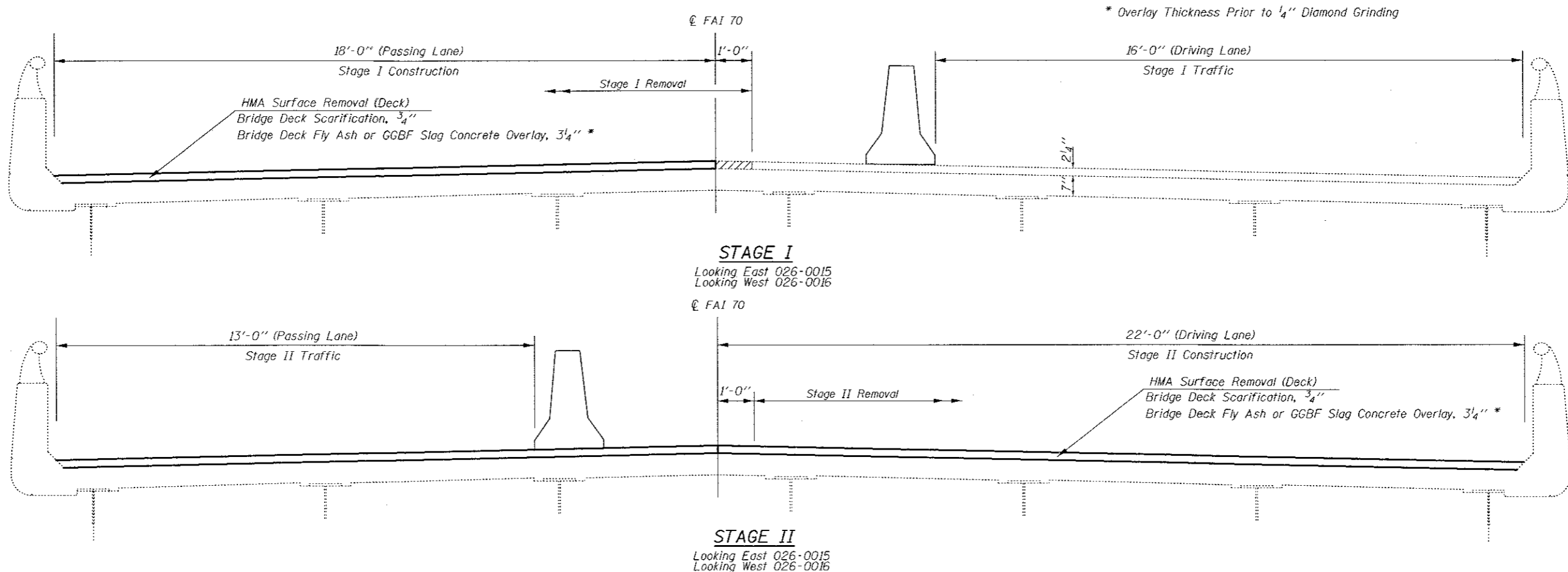
Synthetic fibers should be added to the bridge Deck Fly Ash or GGBF Slag Overlay, $3\frac{1}{4}$ ". See Special Provisions.

The contractor shall take all measures necessary to ensure that no debris from deck slab repair, concrete removal or structural repair of concrete is allowed to reach the railroad track or ballast. Cost to be included with appropriate removal pay item.

The work shall not change the quantity and/or character of the flow in the railway's ditches and/or drainage structures.

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.

Full depth deck slab repairs performed in the exterior bays of the bridge deck (between the parapet walls and the first interior beams) shall be limited to individual lengths no greater than 10'. In these portions of the deck, repair areas longer than 10' shall be divided into segments not greater than 10' in length, and the segments shall be poured in alternating sequence. Subsequent segments repaired in sequence shall not be removed until 72 hours shall have elapsed from the end of the previous, adjacent pour and the adjacent pour shall have attained a minimum modulus of rupture of 650psi.



DESIGNED JSB
CHECKED NRM
DRAWN daburdell
CHECKED JSB NRM

PASSED

D. Carl Perry
ENGINEER OF BRIDGES AND STRUCTURES

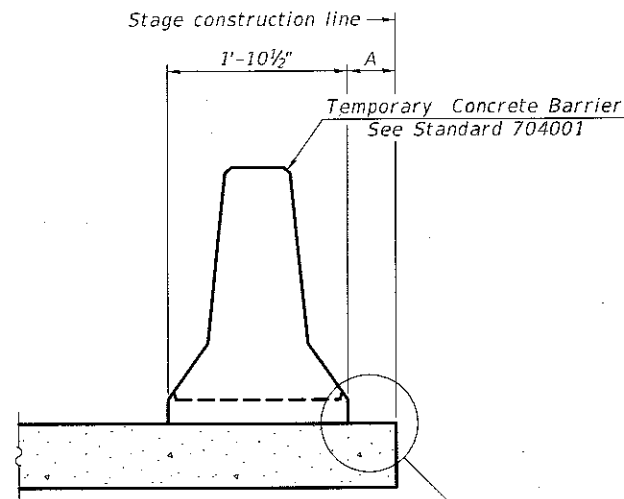
DATE SEPTEMBER 20, 2017
REVISED
REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES & BILL OF MATERIAL
SN 026-0015 (EB) & 026-0016 (WB)

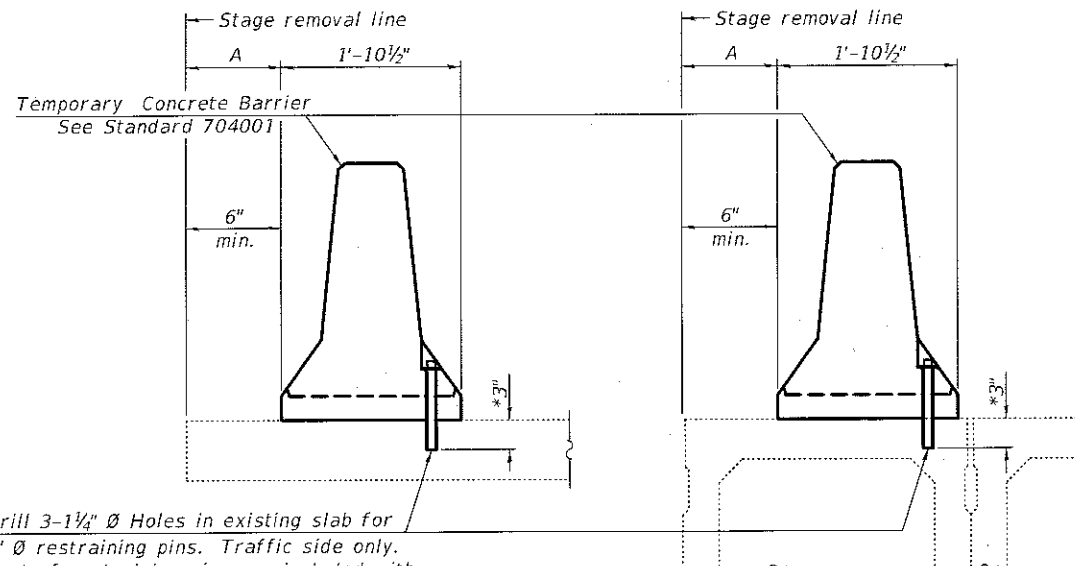
SHEET NO. 2 OF 17 SHEETS

F.A. RTE. 70	SECTION 07 BRIDGE REPAIRS 2018-1	COUNTY FAYETTE	TOTAL SHEETS 39	SHEET NO. 24
CONTRACT NO. 74763			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

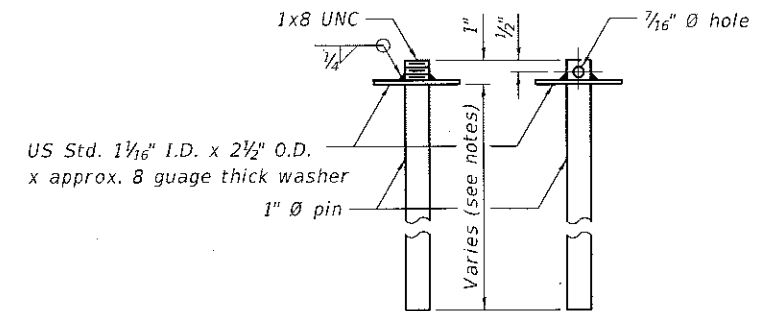


Drill 3-1/4" Ø Holes in existing slab for 1" Ø restraining pins. Traffic side only. Cost of restraining pins are included with Temporary Concrete Barrier. No restraint is required when "A" is greater than 3'-1".

EXISTING SLAB

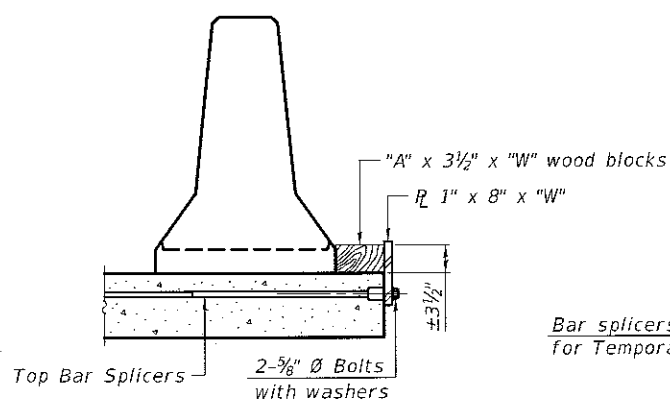
EXISTING DECK BEAM

SECTIONS THRU SLAB OR DECK BEAM

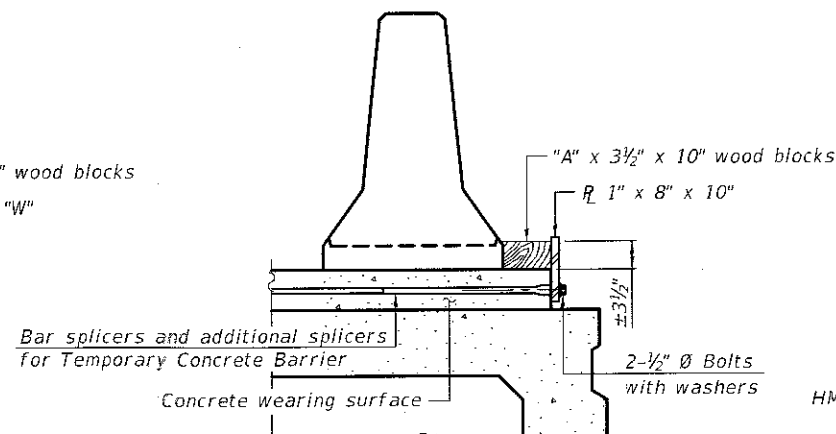


RESTRAINING PIN

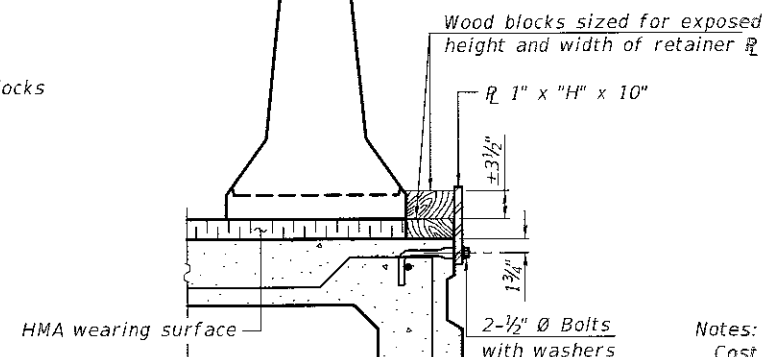
US Std. 1 1/16" I.D. x 2 1/2" O.D. x approx. 8 gauge thick washer



DETAIL I

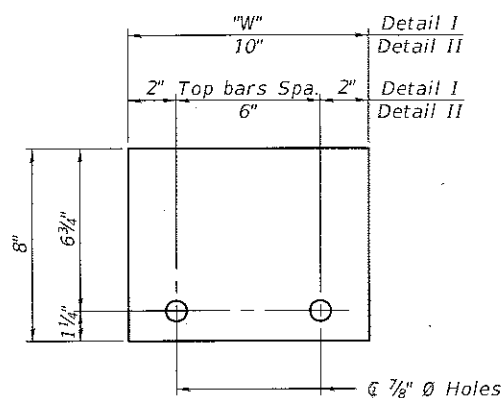


DETAIL II



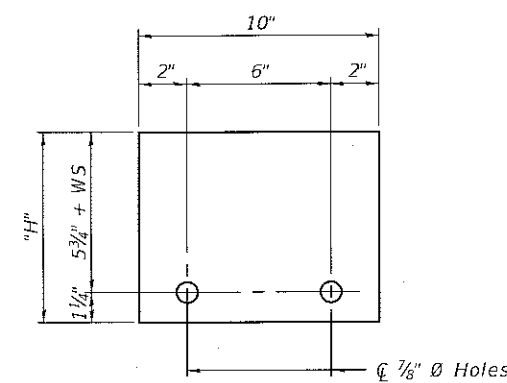
DETAIL III

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 \bar{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.

R-27

2-17-2017

DESIGNED JSB
CHECKED NRM
DRAWN daburdell
CHECKED JSB NRM

PASSED

Carl Perry
ENGINEER OF BRIDGES AND STRUCTURES

DATE SEPTEMBER 20, 2017

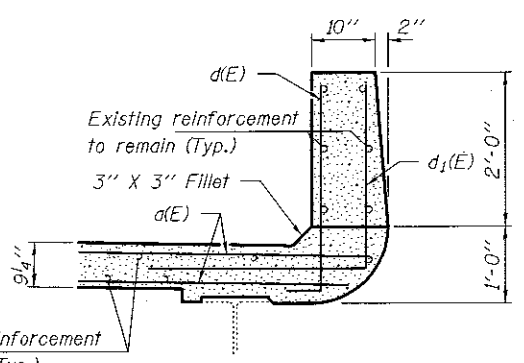
REVISED
REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

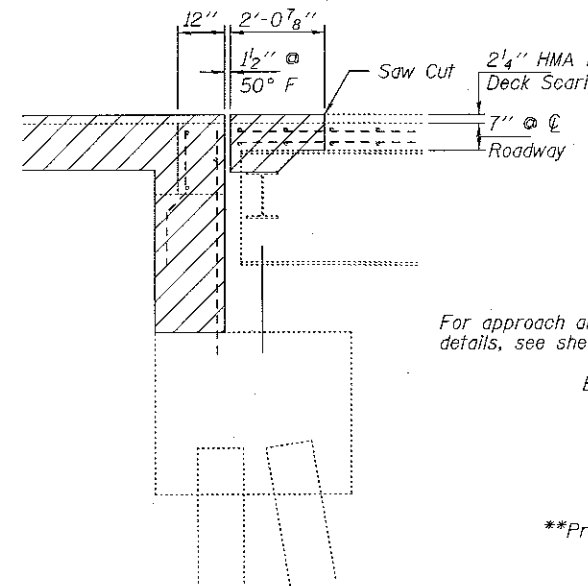
TEMPORARY CONCRETE BARRIER FOR STAGE CONSTRUCTION
SN 026-0015 (EB) & 026-0016 (WB)

SHEET NO. 3 OF 17 SHEETS

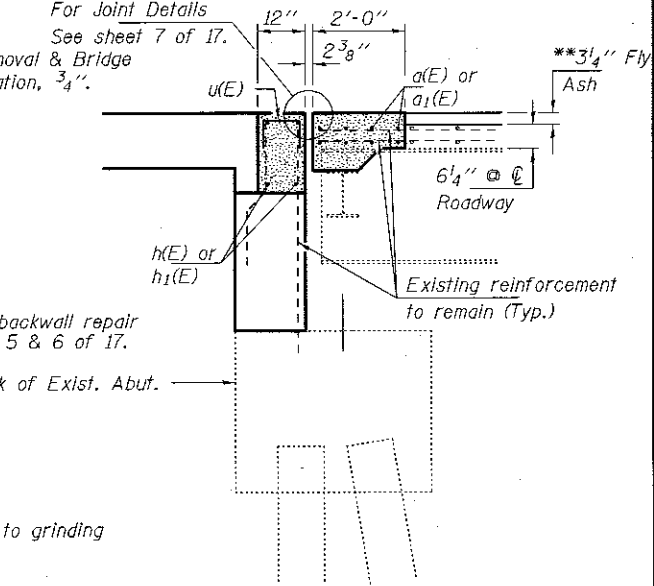
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	DT BRIDGE REPAIRS 2018-1	FAYETTE	39	25
CONTRACT NO. 74763			ILLINOIS FED. AID PROJECT	



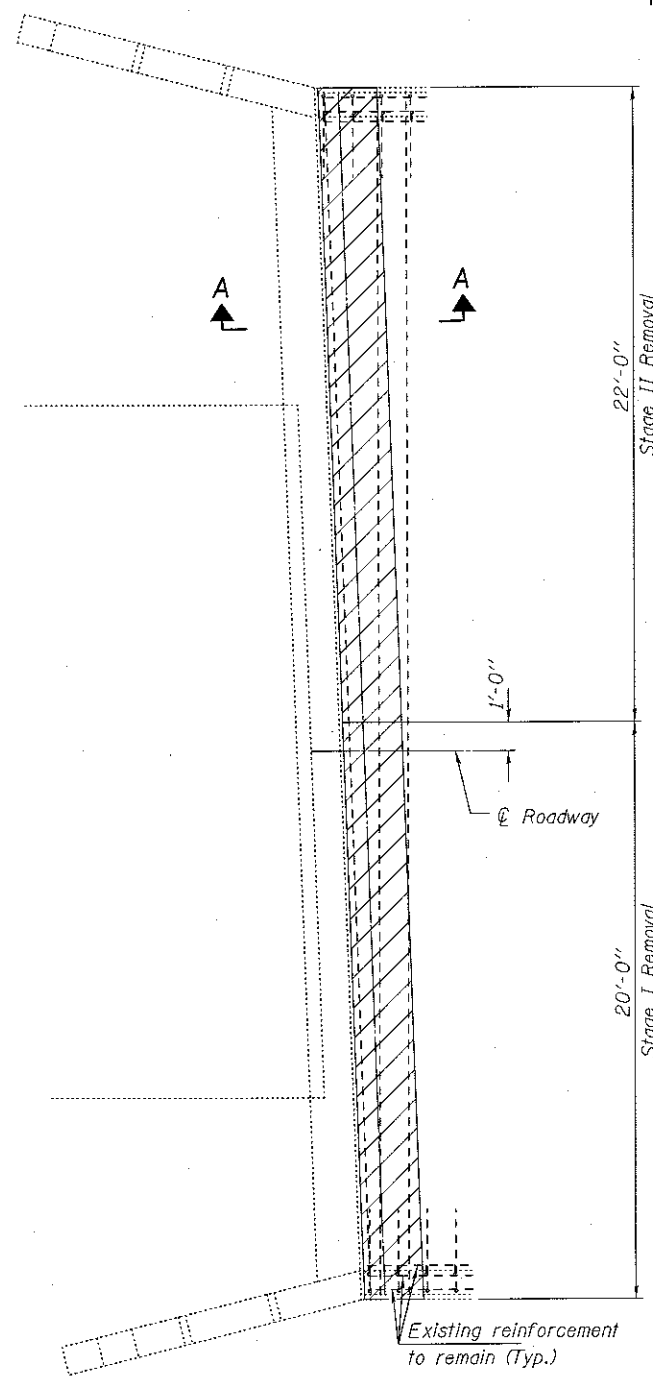
SECTION THRU PARAPET



SECTION A-A

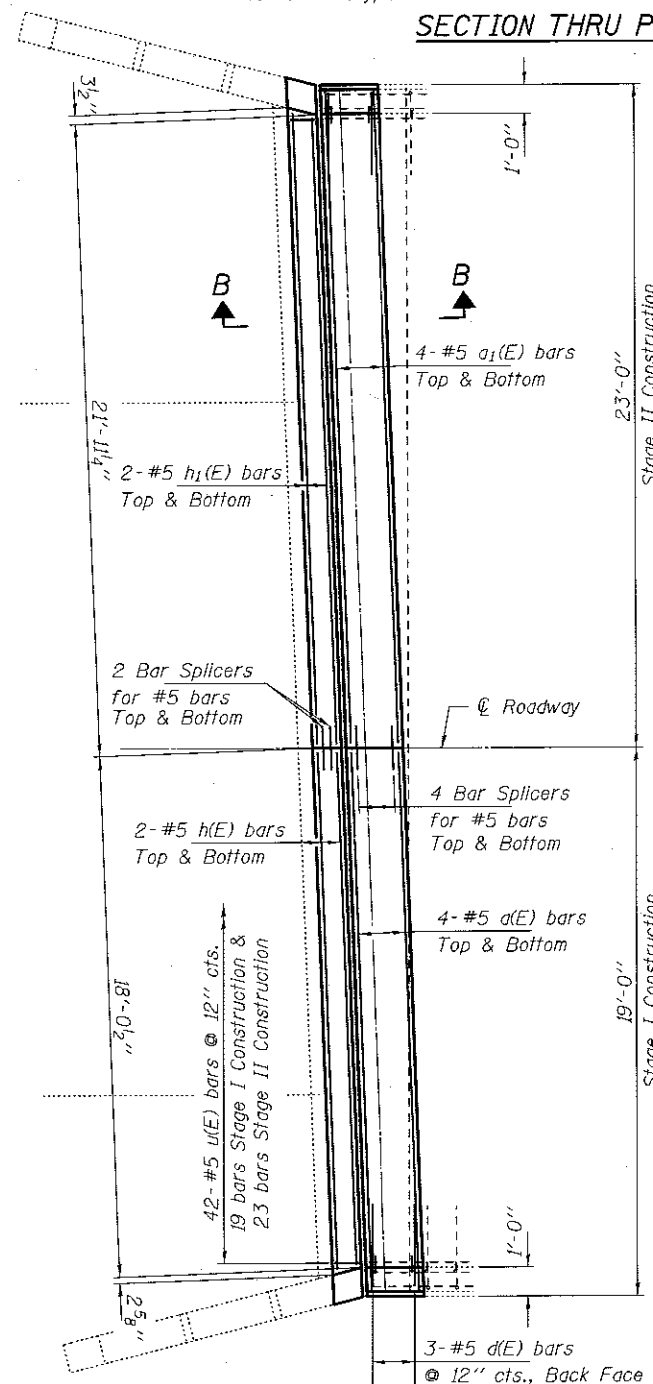


SECTION B-B

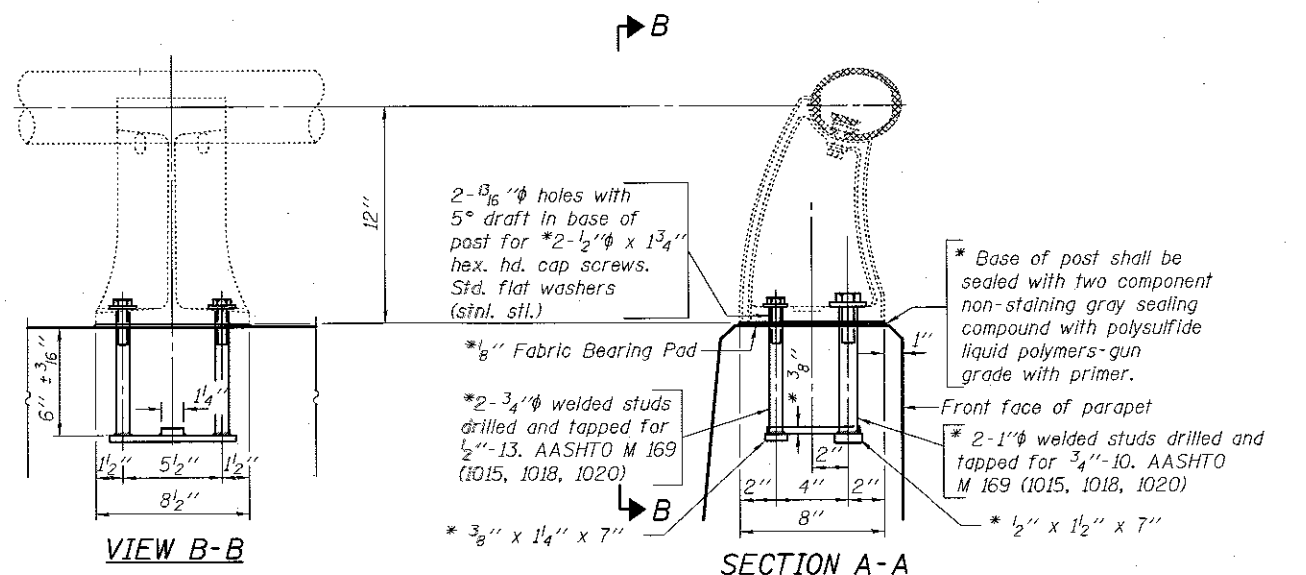


REMOVAL PLAN

NW Abutment shown SE similar by rotation.
SW & NE Abutments similar by mirroring.

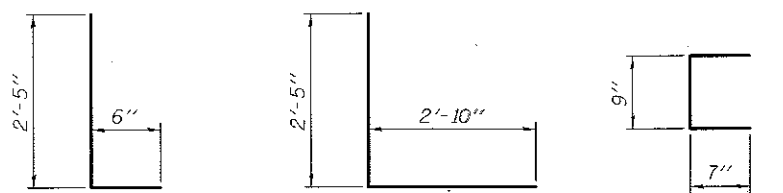


REPLACEMENT PLAN



RAIL POST DETAILS

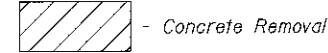
* New Rail Post anchorage devices will be required at each location where posts are connected to new construction. Cost to be included in "Concrete Superstructure".



BAR d(E)

BAR d₁(E)

BAR u(E)

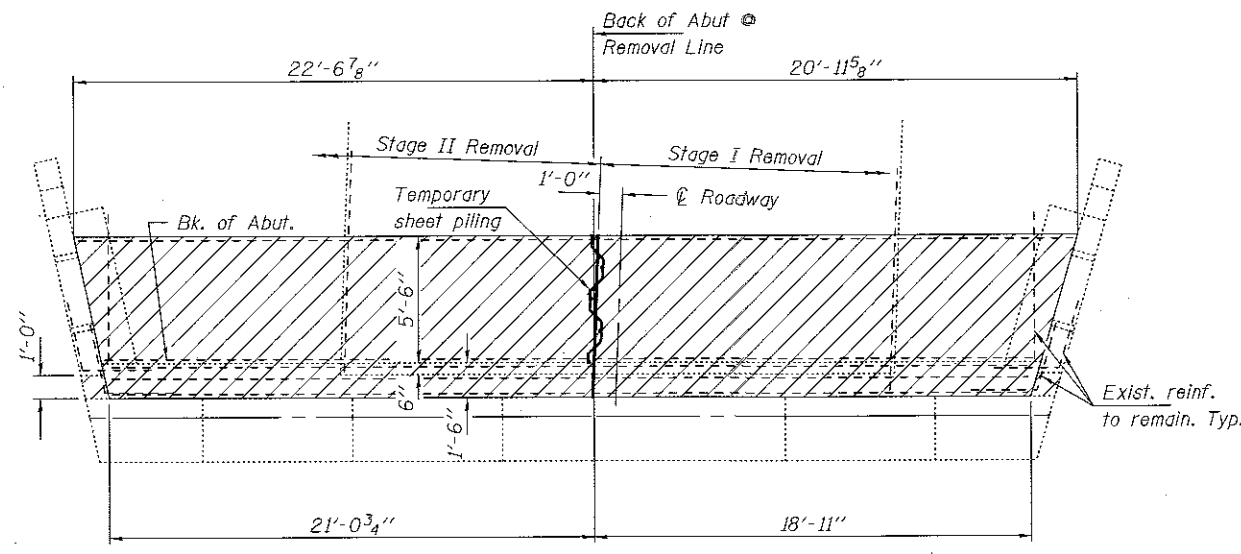


Concrete Removal

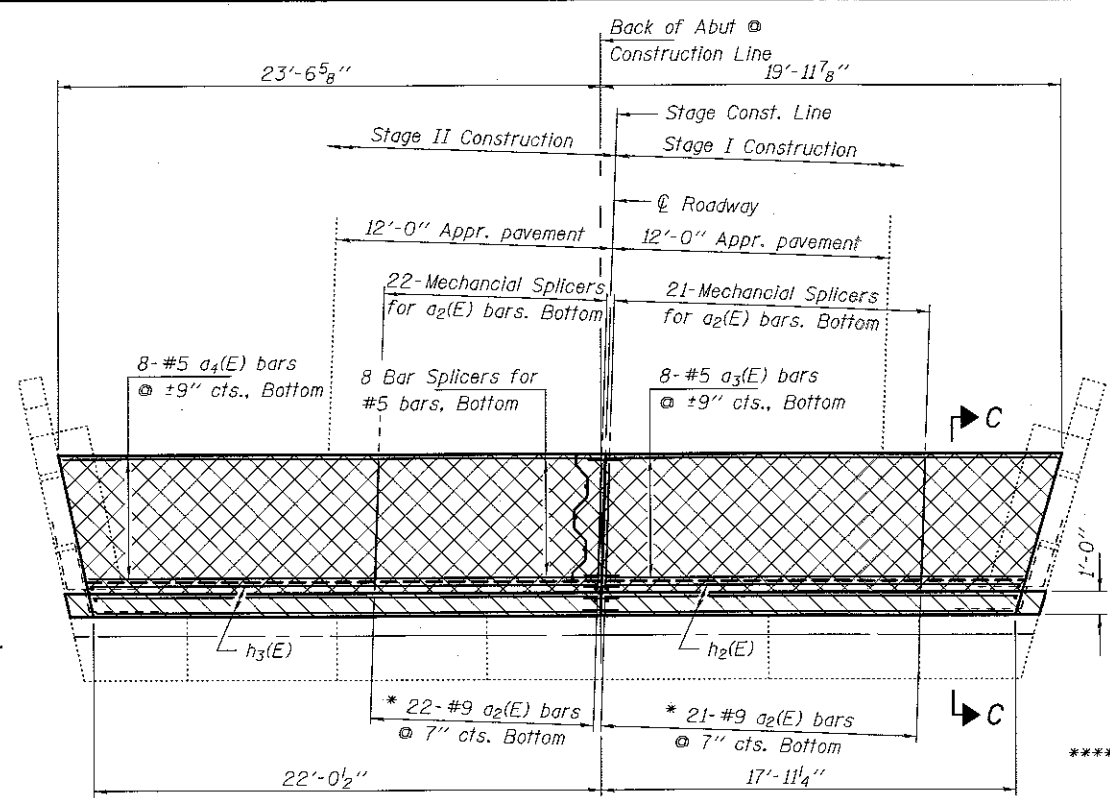
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
d(E)	32	#5	18'-9"	—
a ₁ (E)	32	#5	22'-9"	—
h(E)	8	#5	17'-10"	—
h ₁ (E)	8	#5	21'-10"	—
d(E)	24	#5	3'-1"	J
d ₁ (E)	24	#5	5'-3"	J
u(E)	168	#5	1'-11"	□
Concrete Removal			Cu. Yd.	12.9
Concrete Superstructure			Cu. Yd.	2.11
Reinforcement Bars, Epoxy Coated			Lbs.	2260
Bar Splicers			Each	48

Reinforcement bars designated (E) shall be epoxy coated.

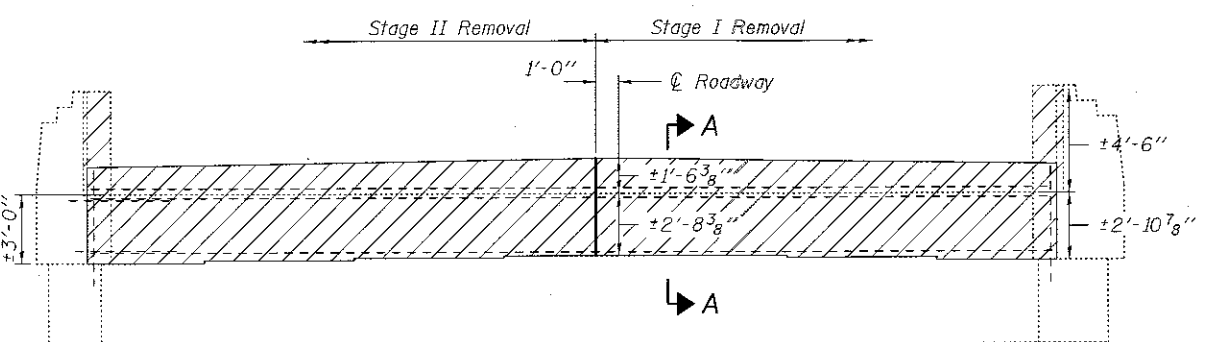


REMOVAL PLAN

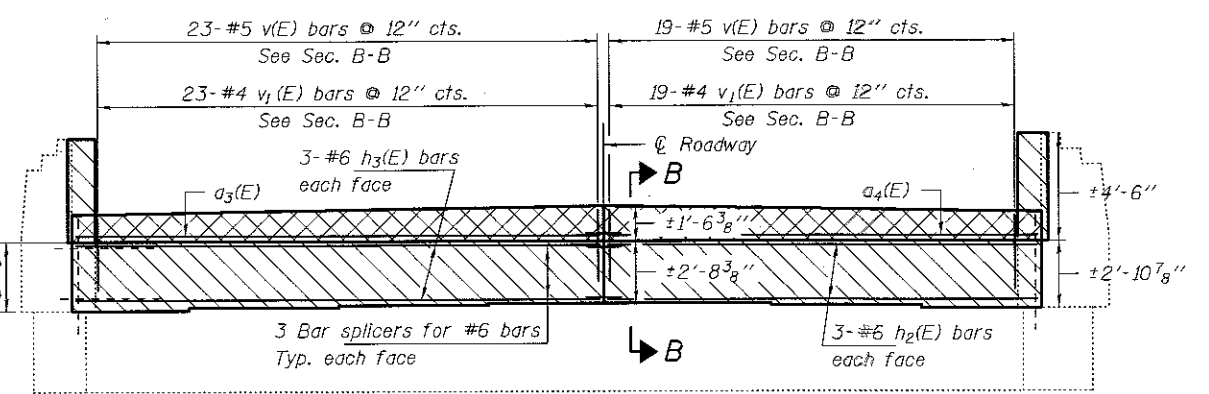


REPLACEMENT PLAN

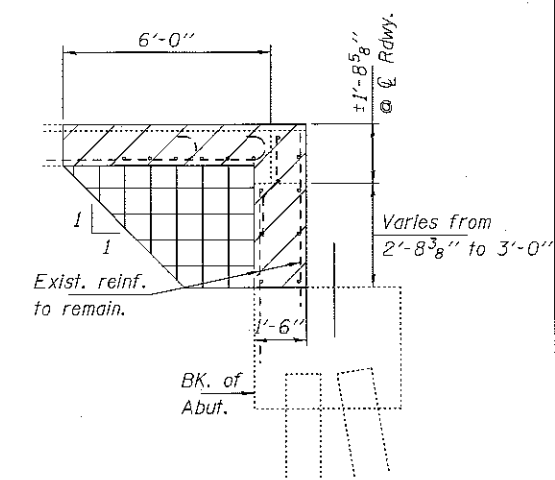
** Cut existing longitudinal reinforcement at bottom of approach pavement 6" from removal line for installation of mechanical splicer.
 **** Prior to grinding.



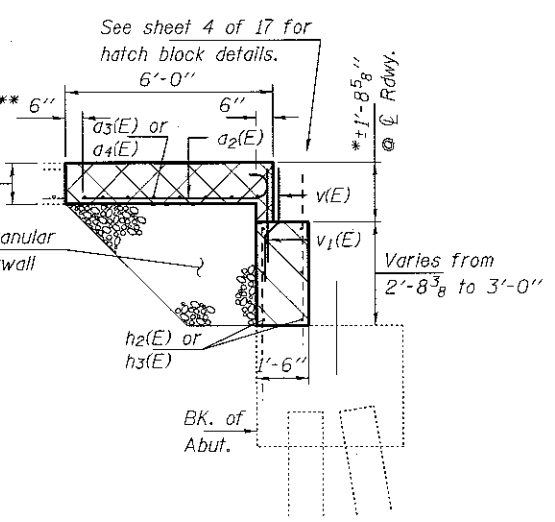
REMOVAL ELEVATION



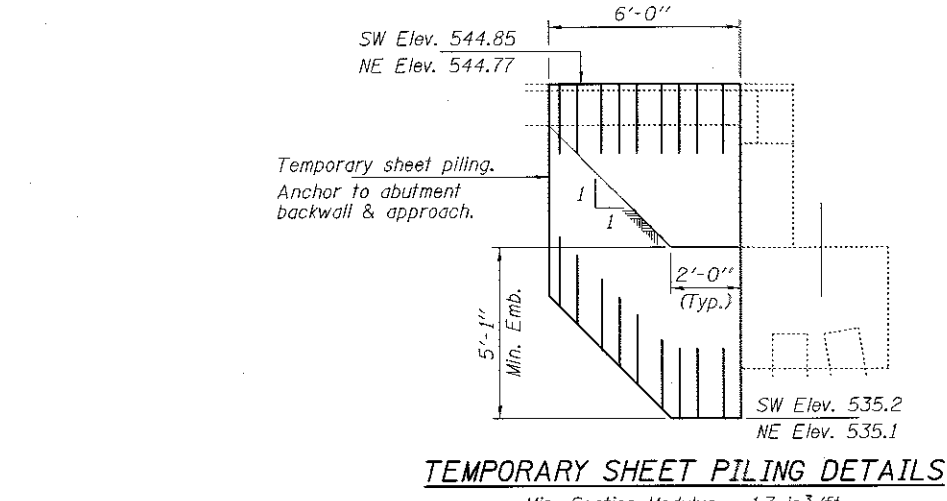
REPLACEMENT ELEVATION



SECTION A-A

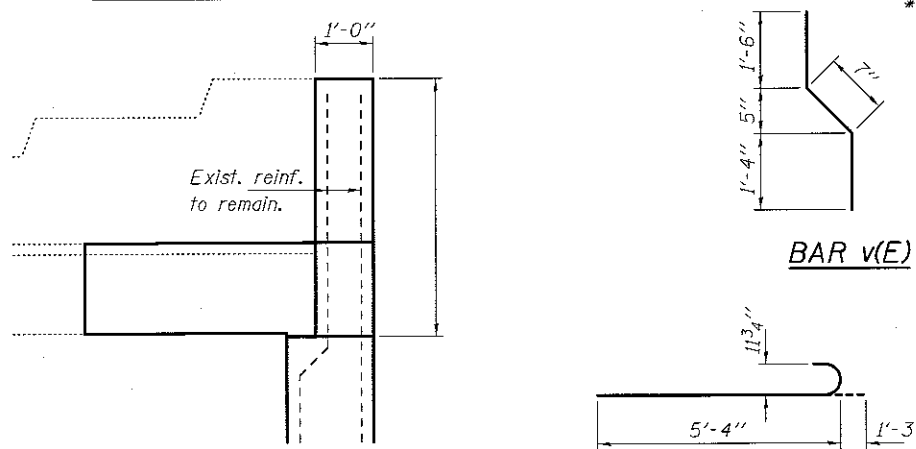


SECTION B-B

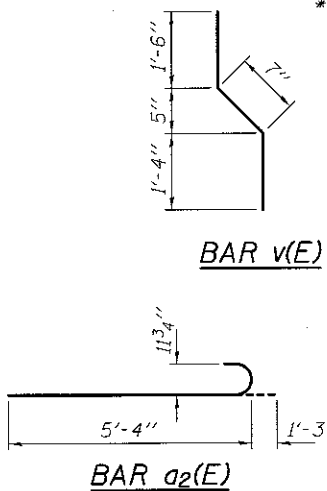


TEMPORARY SHEET PILING DETAILS

- Concrete Removal
- Concrete Structures
- Concrete Superstructure
- Structure Excavation



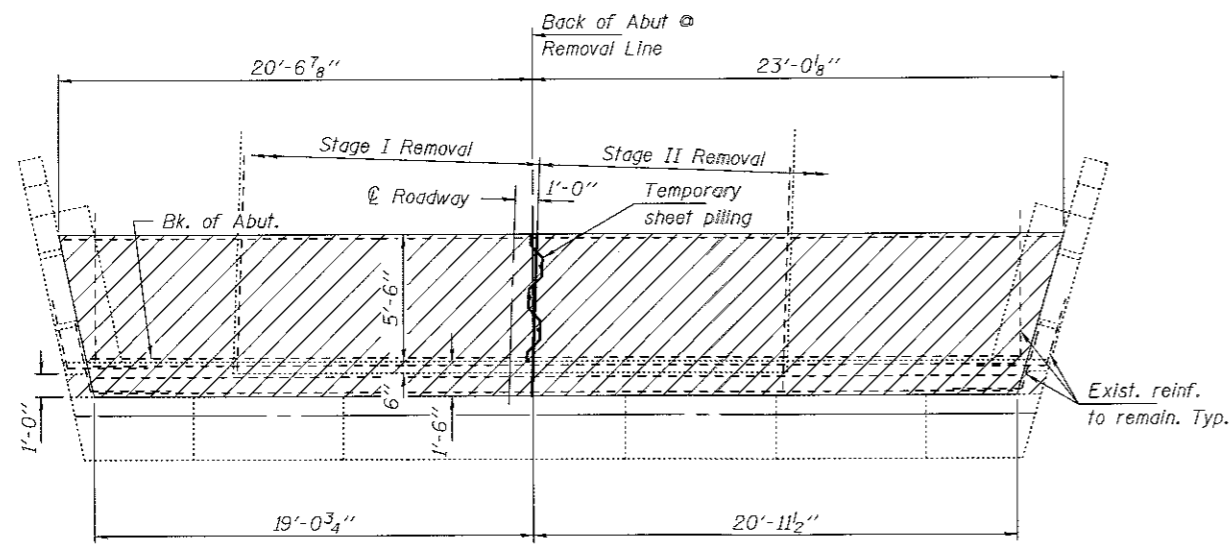
SECTION C-C



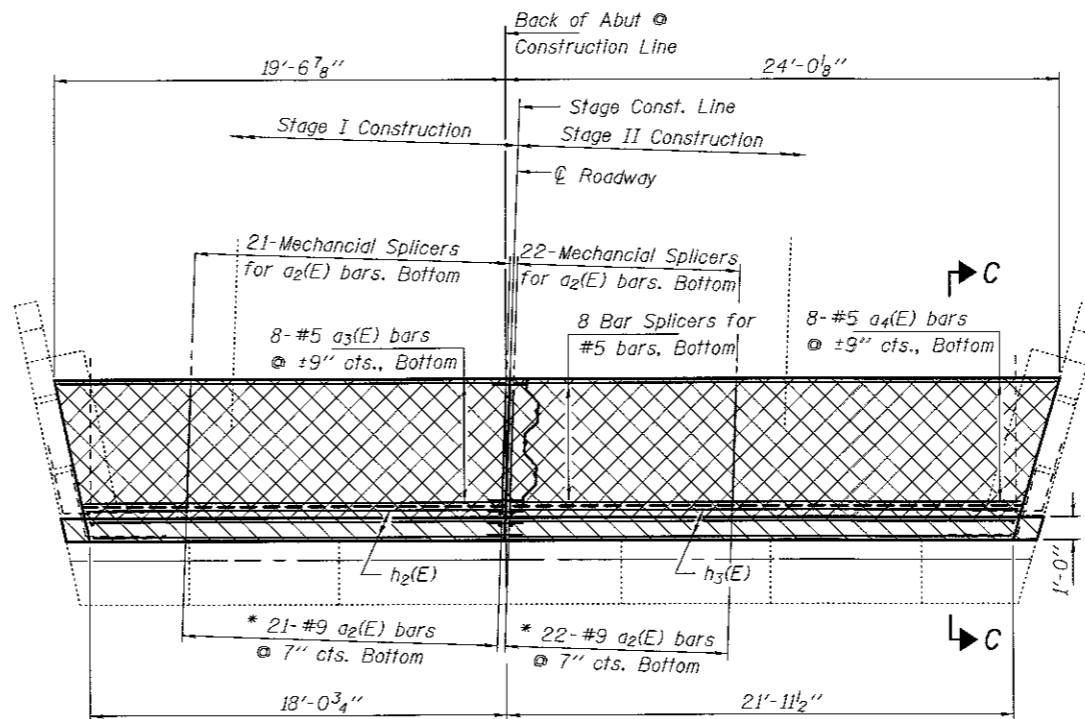
BILL OF MATERIAL - 2 ABUTS.

Bar	No.	Size	Length	Shape
a2(E)	86	#9	6'-7"	—
a3(E)	16	#4	19'-8"	—
a4(E)	16	#4	23'-8"	—
h2(E)	12	#6	17'-10"	—
h3(E)	12	#6	21'-10"	—
v(E)	84	#4	3'-5"	—
v1(E)	84	#5	2'-6"	—
Porous Granular Embankment			Cu. Yd.	39.8
Concrete Removal			Cu. Yd.	43.1
Structure Excavation			Cu. Yd.	39.8
Concrete Structures			Cu. Yd.	12.8
Concrete Superstructure			Cu. Yd.	24.4
Reinforcement Bars, Epoxy Coated			Lbs.	3510
Bar Splicers			Each	28
Mechanical Splicers			Each	86
Temporary Sheet Piling			Sq. Ft.	92

Reinforcement bars designated (E) shall be epoxy coated.

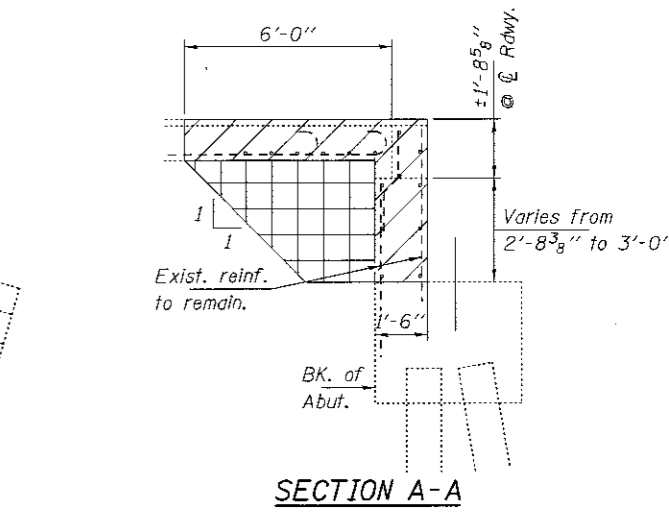


REMOVAL PLAN

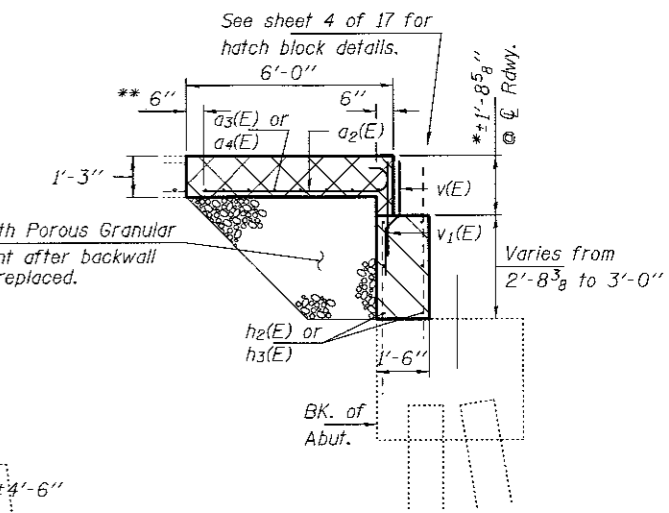


REPLACEMENT PLAN

** Cut existing longitudinal reinforcement at bottom of approach pavement 6" from removal line for installation of mechanical splicer.

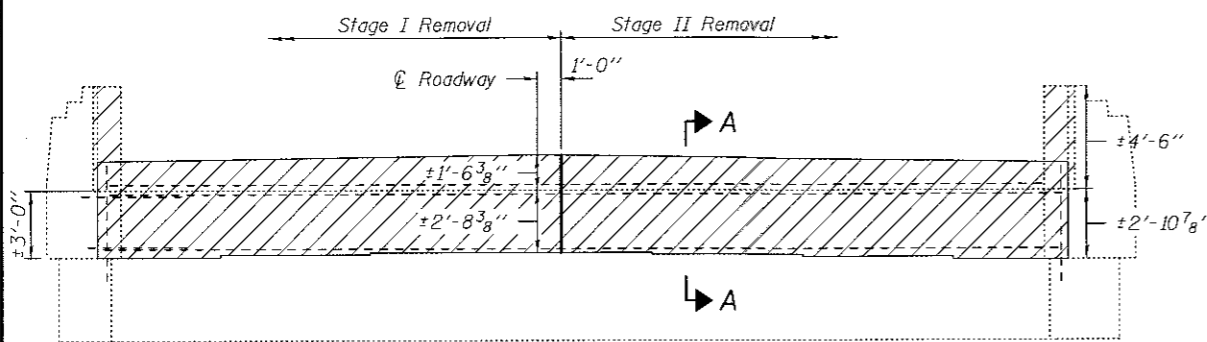


SECTION A-A

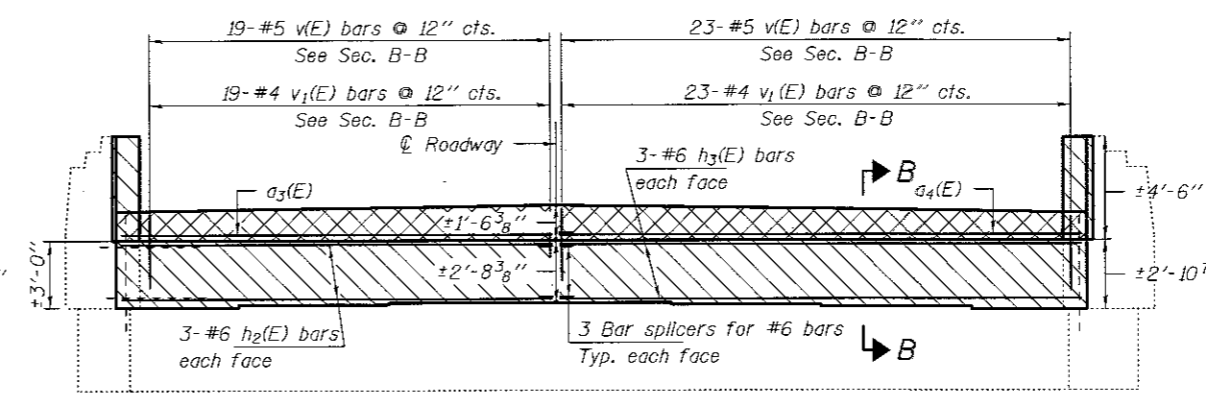


SECTION B-B

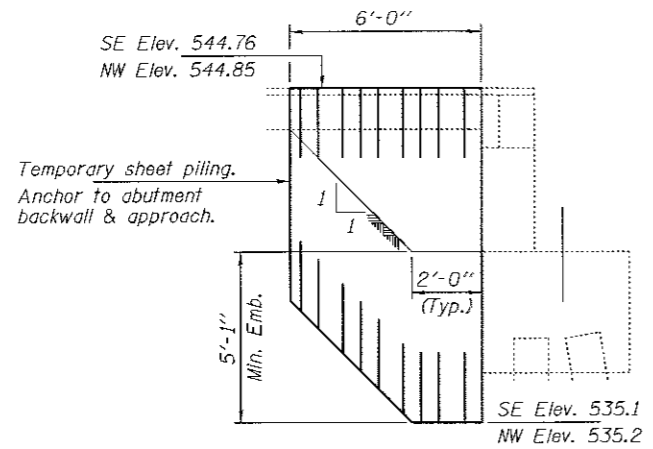
* Match existing deck elevation.
*** Cut to fit in the field.



REMOVAL ELEVATION



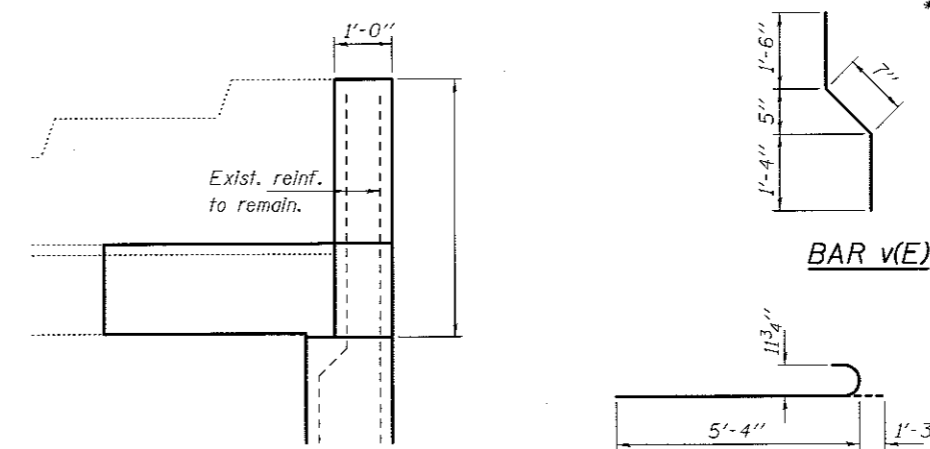
REPLACEMENT ELEVATION



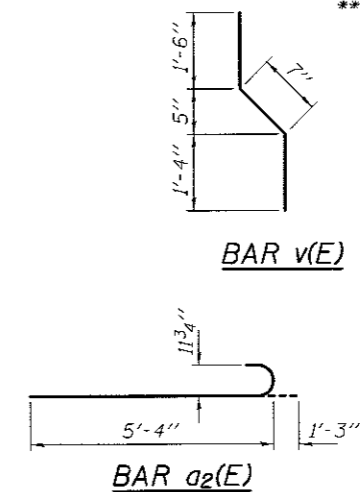
TEMPORARY SHEET PILING DETAILS

Min. Section Modulus = 1.3 in³/ft

- Concrete Removal
- Concrete Structures
- Concrete Superstructure
- Structure Excavation



SECTION C-C

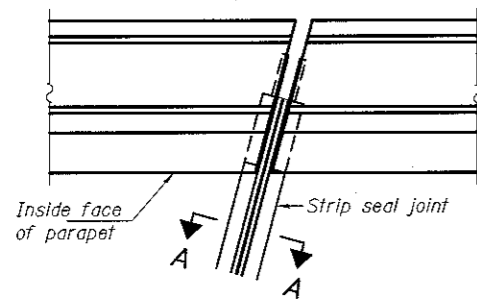


BAR a2(E)

BILL OF MATERIAL - 2 ABUTS.

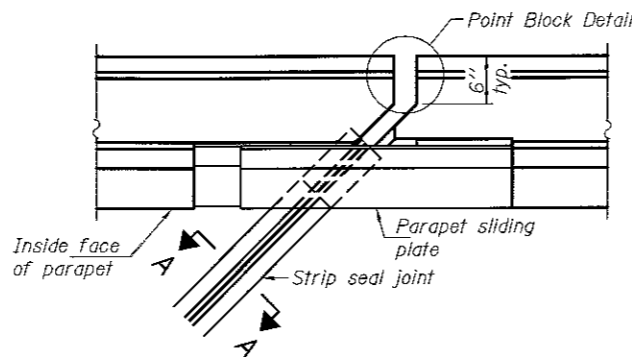
Bar	No.	Size	Length	Shape
a2(E)	86	#9	6'-7"	
a3(E)	16	#4	19'-8"	
a4(E)	16	#4	23'-8"	
h2(E)	12	#6	17'-10"	
h3(E)	12	#6	21'-10"	
v(E)	84	#4	3'-5"	
v1(E)	84	#5	2'-6"	
Porous Granular Embankment			Cu. Yd.	39.8
Concrete Removal			Cu. Yd.	43.1
Structure Excavation			Cu. Yd.	39.8
Concrete Structures			Cu. Yd.	12.8
Concrete Superstructure			Cu. Yd.	24.4
Reinforcement Bars, Epoxy Coated			Lbs.	3510
Bar Splicers			Each	28
Mechanical Splicers			Each	86
Temporary Sheet Piling			Sq. Ft.	92

Reinforcement bars designated (E) shall be epoxy coated.

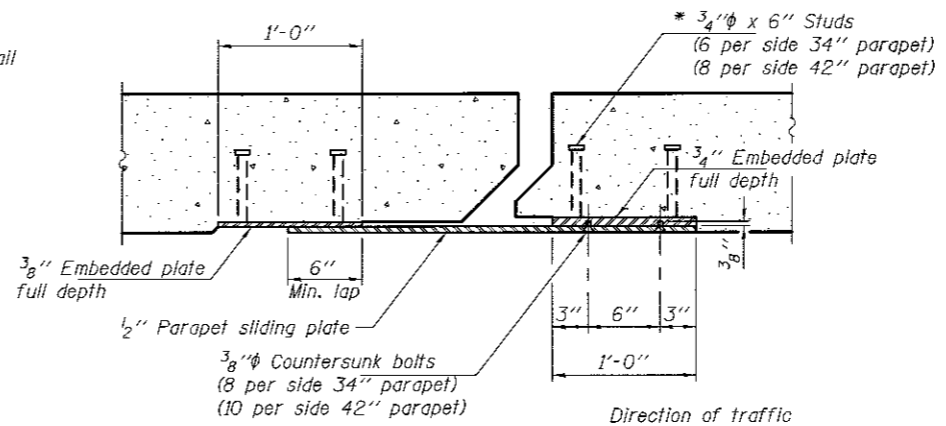


FOR SKEWS = 30°

PLAN AT PARAPET

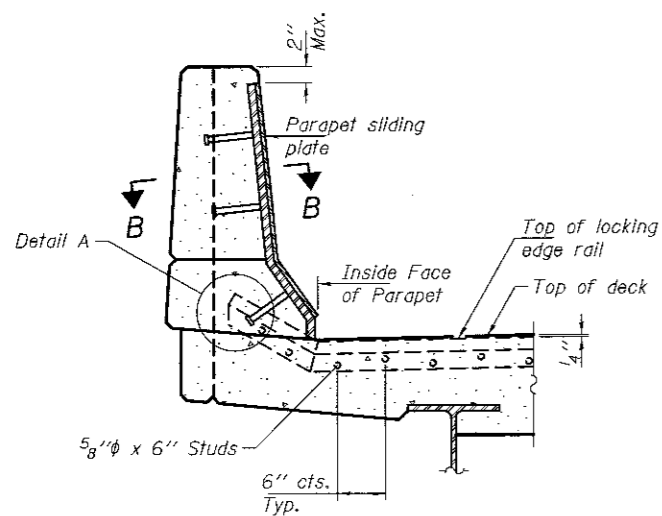


FOR SKEWS > 30°



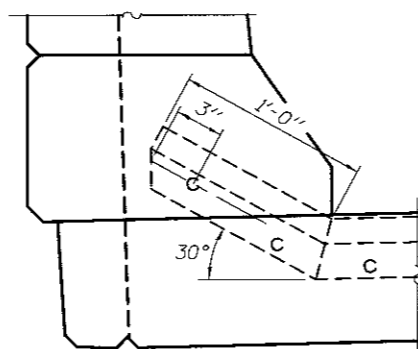
SECTION B-B

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. Locking edge rails may exceed the 4 1/2" maximum depth provided the anchorage system is revised according to the manufacturer's recommendation.
 The manufacturer's recommended installation methods shall be followed.
 All steel components shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications.
 The maximum space between locking edge rail segments shall be 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.



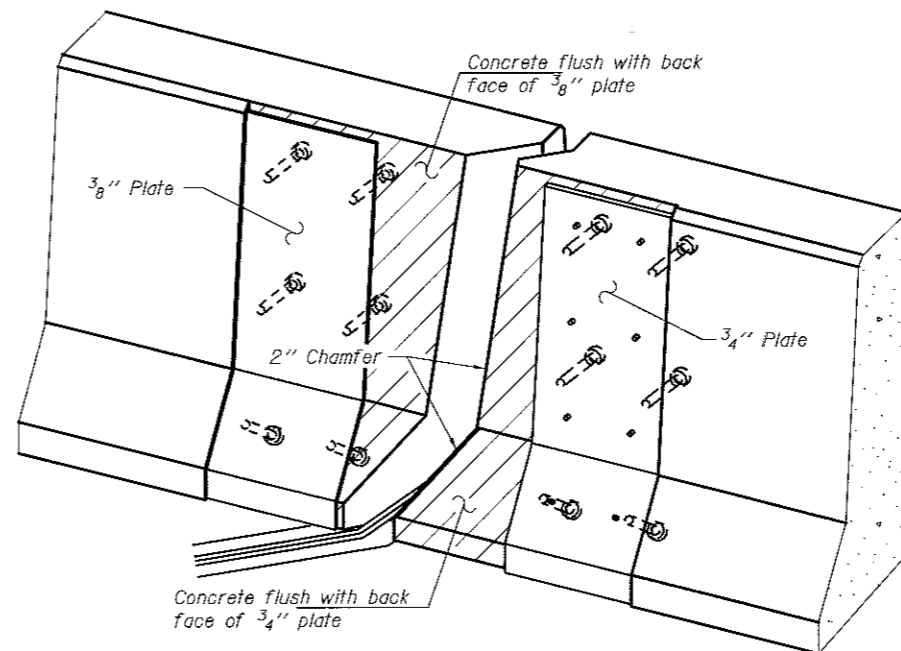
ELEVATION AT PARAPET

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



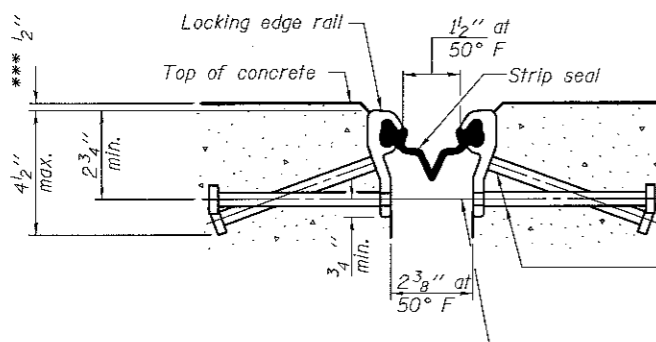
DETAIL A

*** Prior to grinding.



TRIMETRIC VIEW

(Showing embedded plates only)



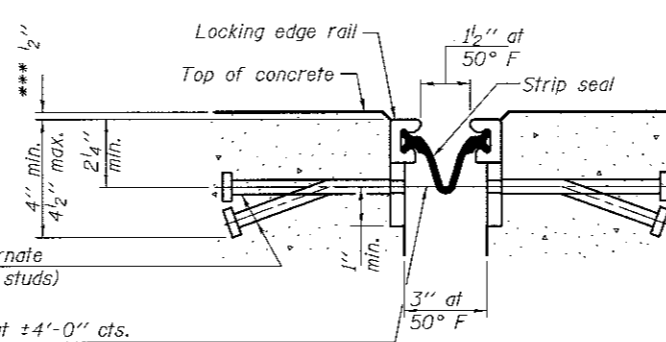
SHOWING ROLLED RAIL JOINT

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

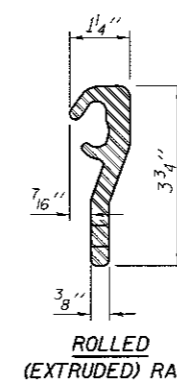
3/8" threaded rods in 7/16" holes at ±4'-0" cts. for holding the proper joint opening based on the temperature during the deck pour. Place to miss studs. All rods shall be burned, or sawed off flush with the plates after concrete is set.

SECTION A-A

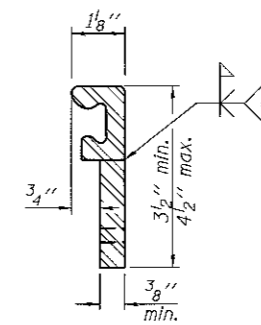
* Granular or solid flux filled headed studs conforming to Article 1006.32 of the Std. Specs., automatically end welded.



SHOWING WELDED RAIL JOINT



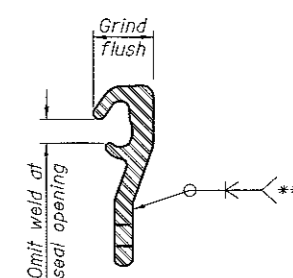
ROLLED (EXTRUDED) RAIL



WELDED RAIL

LOCKING EDGE RAILS

** Back gauge 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	168

DESIGNED JSB
 CHECKED NRM
 DRAWN daburdell
 CHECKED JSB NRM

PASSED

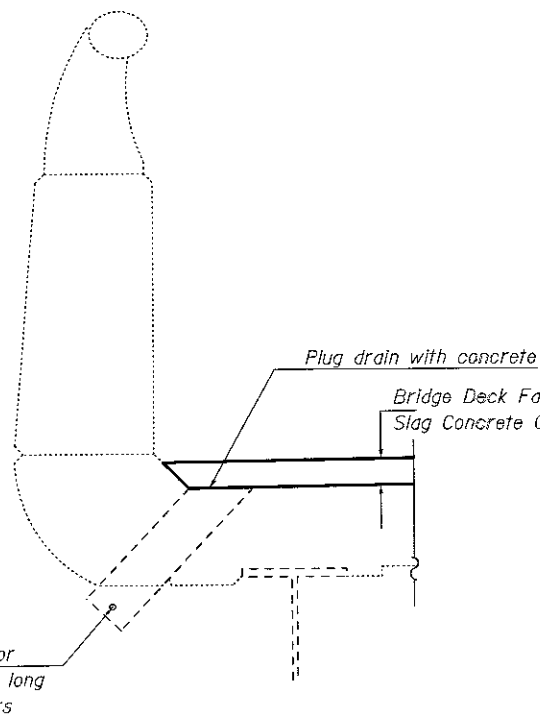
 ENGINEER OF BRIDGES AND STRUCTURES

DATE SEPTEMBER 20, 2017
 REVISED
 REVISED

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

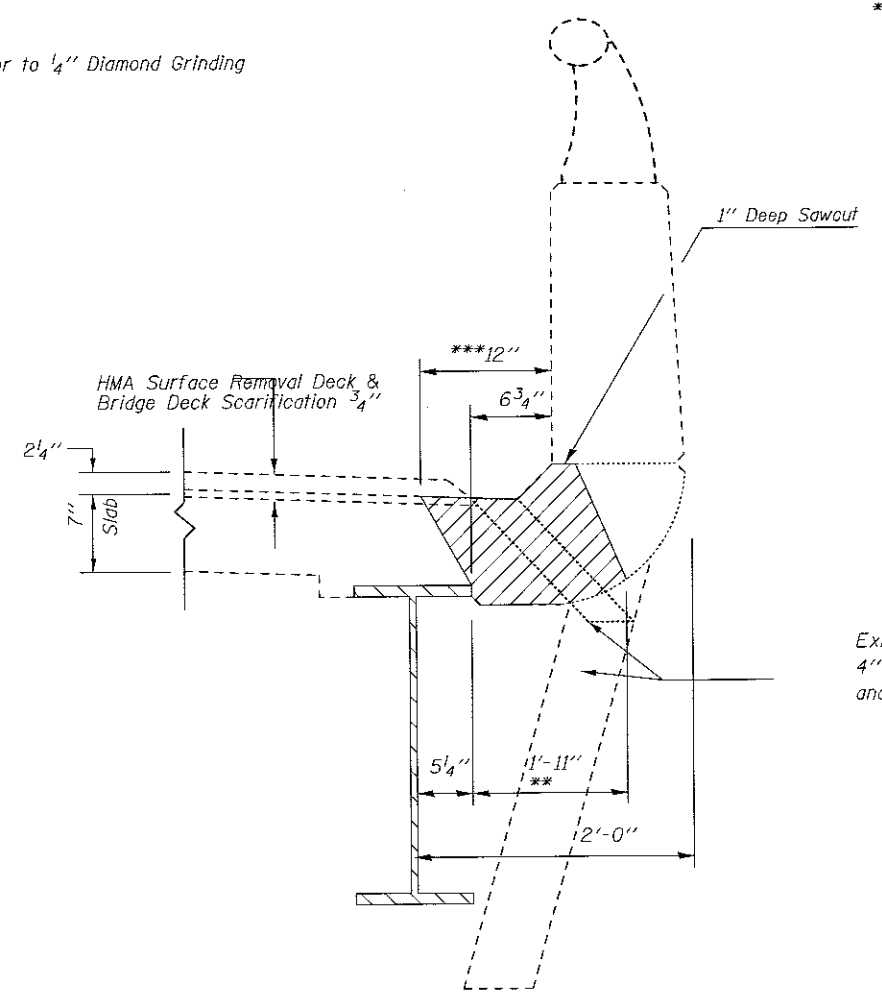
PREFORMED JOINT STRIP SEAL
 SN 026-0015 (EB) & 026-0016 (WB)
 SHEET NO. 7 OF 17 SHEETS

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7D	D7 BRIDGE REPAIRS 2018-1	FAYETTE	39	29
CONTRACT NO. 74763			ILLINOIS FED. AID PROJECT	



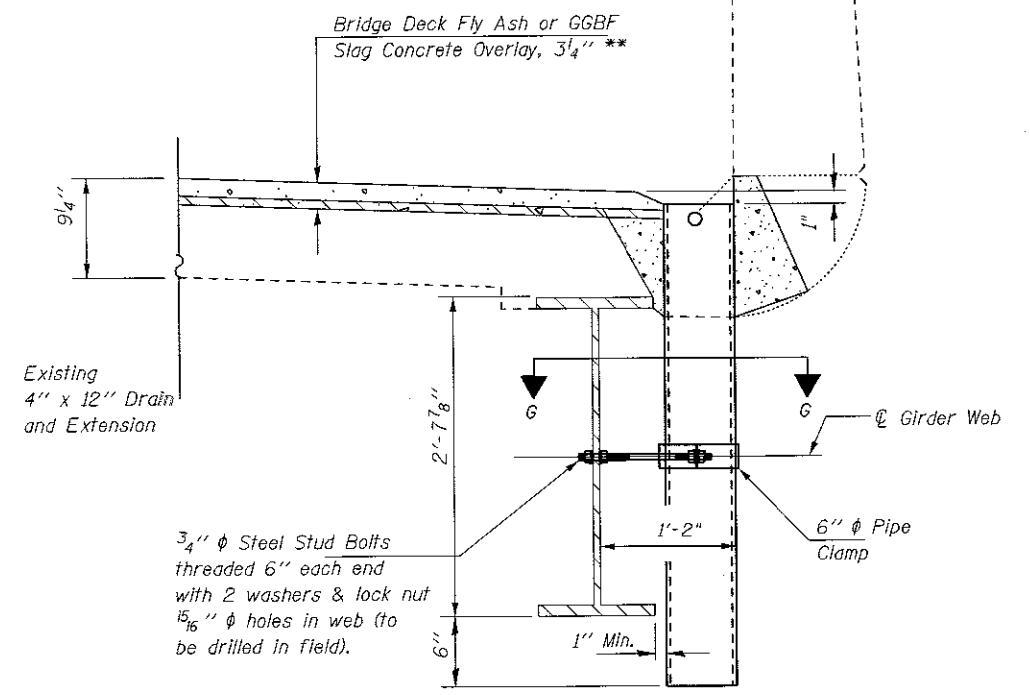
DRAINS TO BE PLUGGED DETAIL
(4 locations per structure)

** Overlay Thickness Prior to 1/4" Diamond Grinding



SECTION THRU EXISTING FLOOR DRAIN
Hatched area indicates removal limits for Deck Slab Repair (Full Depth)

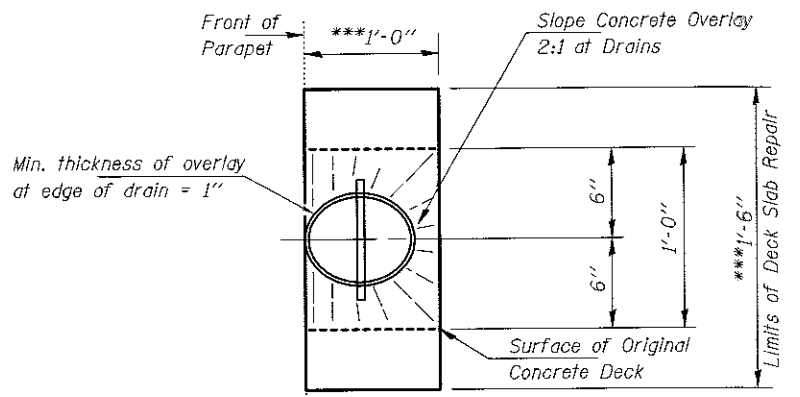
*** Actual dimensions of the Deck Slab Repair (FD, TY I) shall be determined by the Engineer based on the extent of deck deterioration at each drain.



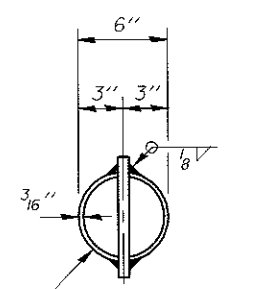
DRAIN REPLACEMENT DETAIL
(16 locations per structure)

Notes: The floor drains shall be painted to match the outside of the fascia beams. The exterior surfaces of the drains shall be cleaned according to Society of Protective Coatings Specification SSPC-SP1 prior to painting. Fiberglass pipe shall conform to ASTM D 2996, with short-time rupture strength hoop tensile stress of 30,000 p.s.i. minimum. Galvanize clamping device according to AASHTO M232. Cost of clamping device and galvanizing is included with Floor Drains. See sheets 9 and 10 of 17 for locations.

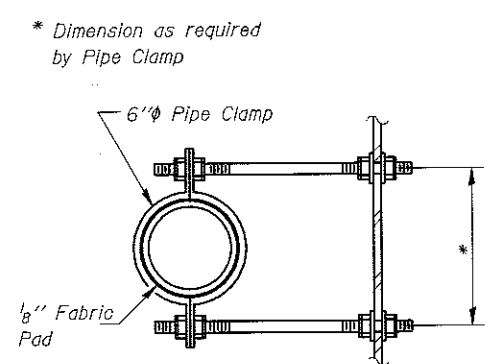
Note: Concrete removal and replacement quantities for drains are included in Deck Slab Repair (Full Depth, Type I & II) as shown on "Bridge Deck Patching" plan sheets.



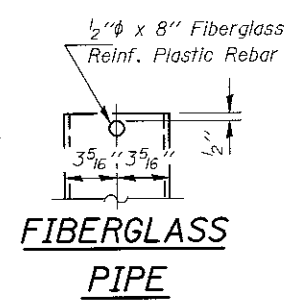
DRAIN REPLACEMENT TOP PLAN



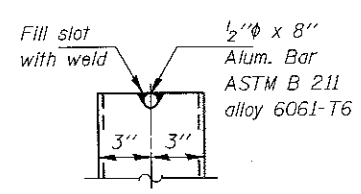
TOP PLAN
(Showing Aluminum Tube)



SECTION G-G



FIBERGLASS PIPE



ALUMINUM TUBE

BILL OF MATERIALS

ITEM	UNIT	TOTAL
Floor Drains	Each	32
Plug Existing Deck Drains	Each	8

DESIGNED JSB
CHECKED NRM
DRAWN daburdell
CHECKED JSB NRM

PASSED
Carl Perry
ENGINEER OF BRIDGES AND STRUCTURES

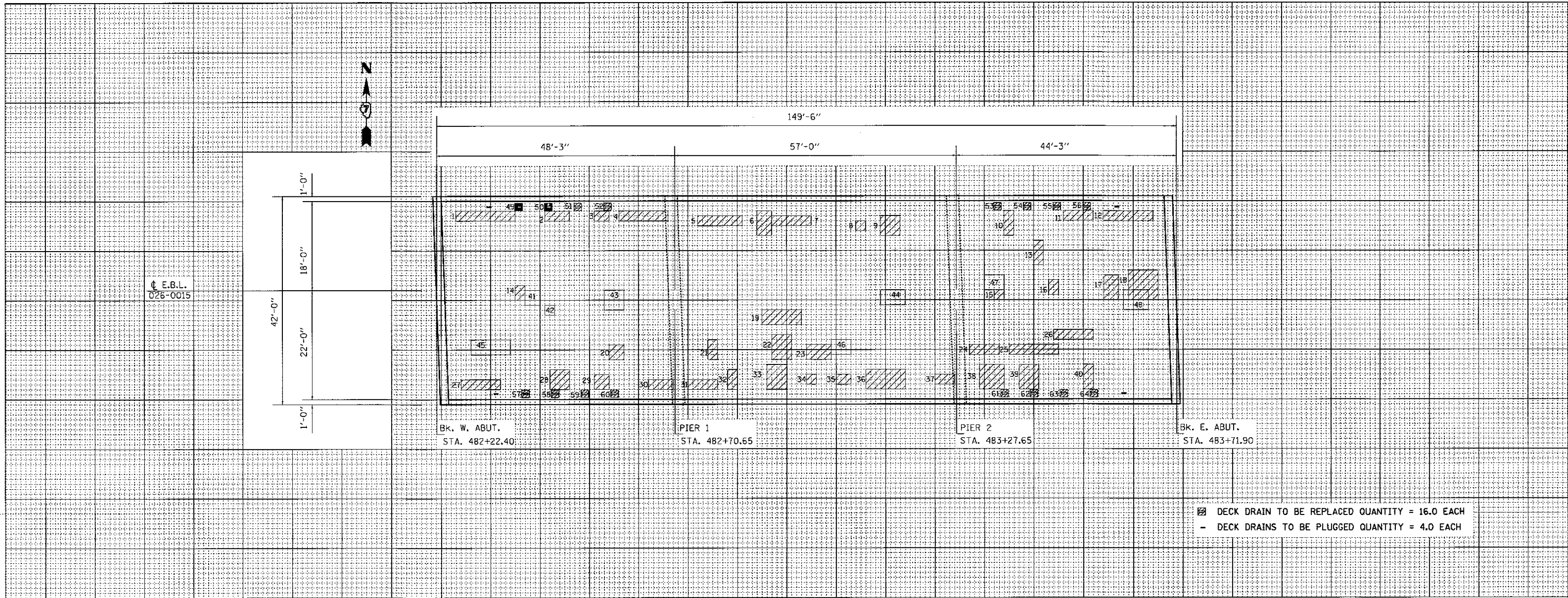
DATE SEPTEMBER 20, 2017
REVISED
REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DECK DRAIN DETAILS
SN 026-0015 (EB) & 026-0016 (WB)
SHEET NO. 8 OF 17 SHEETS

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	D7 BRIDGE REPAIRS 2018-1	FAYETTE	39	30

CONTRACT NO. 74763
ILLINOIS FED. AID PROJECT



PATCH NO.	SIZE	DECK SLAB REPAIR (PART DEPTH)		
		DECK SLAB REPAIR (PART DEPTH) SQ YD	DECK SLAB REPAIR (FD TY 1) SQ YD	DECK SLAB REPAIR (FD TY 2) SQ YD
1	12.0 x 2.0			2.67
2	5.0 x 2.0			1.11
3	3.0 x 2.0			0.67
4	10.0 x 2.0			2.22
5	9.0 x 2.0			2.00
6	3.0 x 5.0			1.67
7	8.0 x 2.0			1.78
8	2.0 x 2.0		0.44	
9	4.0 x 4.0			1.78
10	5.0 x 2.0			1.11
11	6.0 x 2.0			1.33
12	10.0 x 2.0			2.22
13	5.0 x 2.0			1.11
14	3.0 x 2.0			0.67
15	2.0 x 2.0		0.44	
16	2.0 x 3.0			0.67
17	5.0 x 3.0			1.67
18	8.0 x 6.0			5.33

PATCH NO.	SIZE	DECK SLAB REPAIR (PART DEPTH)		
		DECK SLAB REPAIR (PART DEPTH) SQ YD	DECK SLAB REPAIR (FD TY 1) SQ YD	DECK SLAB REPAIR (FD TY 2) SQ YD
19	8.0 x 3.0			2.67
20	3.0 x 3.0			1.00
21	4.0 x 2.0			0.89
22	5.0 x 4.0			2.22
23	5.0 x 3.0			1.67
24	6.0 x 2.0			1.33
25	10.0 x 2.0			2.22
26	8.0 x 2.0			1.78
27	8.0 x 2.0			1.78
28	4.0 x 4.0			1.78
29	3.0 x 3.0			1.00
30	5.0 x 2.0			1.11
31	2.0 x 6.0			1.33
32	4.0 x 2.0			0.89
33	5.0 x 4.0			2.22
34	2.0 x 2.0		0.44	
35	2.0 x 3.0			0.67
36	4.0 x 8.0			3.56

PATCH NO.	SIZE	DECK SLAB REPAIR (PART DEPTH)		
		DECK SLAB REPAIR (PART DEPTH) SQ YD	DECK SLAB REPAIR (FD TY 1) SQ YD	DECK SLAB REPAIR (FD TY 2) SQ YD
37	4.0 x 2.0			0.89
38	5.0 x 5.0			2.78
39	4.0 x 5.0			2.22
40	5.0 x 2.0			1.11
41	3.0 x 3.0	1.00		
42	2.0 x 2.0	0.44		
43	4.0 x 4.0	1.78		
44	5.0 x 3.0	1.67		
45	8.0 x 3.0	2.67		
46	3.0 x 4.0	1.33		
47	4.0 x 3.0	1.33		
48	4.0 x 5.0	2.22		
49	1.5 x 1.5		0.26	
50	1.5 x 1.5		0.26	
51	1.5 x 1.5		0.26	
52	1.5 x 1.5		0.26	
53	1.5 x 1.5		0.26	
54	1.5 x 1.5		0.26	

PATCH NO.	SIZE	DECK SLAB REPAIR (PART DEPTH)		
		DECK SLAB REPAIR (PART DEPTH) SQ YD	DECK SLAB REPAIR (FD TY 1) SQ YD	DECK SLAB REPAIR (FD TY 2) SQ YD
55	1.5 x 1.5		0.26	
56	1.5 x 1.5		0.26	
57	1.5 x 1.5		0.26	
58	1.5 x 1.5		0.26	
59	1.5 x 1.5		0.26	
60	1.5 x 1.5		0.26	
61	1.5 x 1.5		0.26	
62	1.5 x 1.5		0.26	
63	1.5 x 1.5		0.26	
64	1.5 x 1.5		0.26	
TOTAL		12.4	5.4	63.1

PATCH NO.	SIZE	DECK SLAB REPAIR (PART DEPTH)		
		DECK SLAB REPAIR (PART DEPTH) SQ YD	DECK SLAB REPAIR (FD TY 1) SQ YD	DECK SLAB REPAIR (FD TY 2) SQ YD
TOTAL PARTIAL DEPTH = 12.4				
USE 12 SQ YD FOR INFORMATION ONLY				
TOTAL FULL DEPTH, TYPE 1 = 5.4				
USE 6 SQ YD				
TOTAL FULL DEPTH, TYPE 2 = 63.1				
USE 63 SQ YD				

THE LOCATIONS AND SIZES SHOWN GRAPHICALLY ABOVE ARE APPROXIMATE. SEE THIS TABLE FOR ACTUAL SIZES.

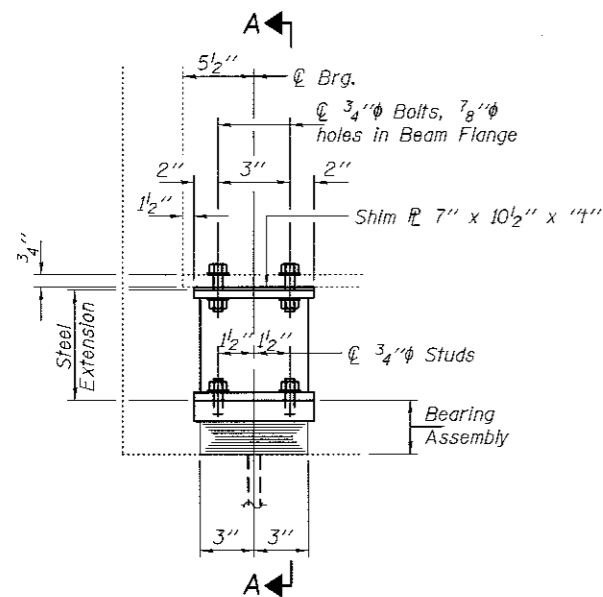
PATCHING LEGEND

□ PARTIAL DEPTH (FOR INFORMATION ONLY)

▨ FULL DEPTH

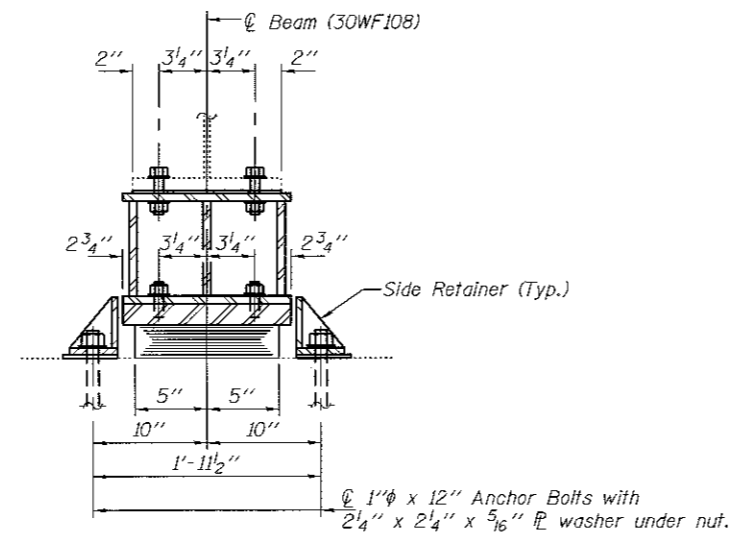
DATE OF SURVEY:
SURVEY BY:
METHOD OF SURVEY: VISUAL

BRIDGE DECK PATCHING
FAYETTE COUNTY
LOCATION
SN 026-0015



ELEVATION AT ABUTMENT

TYPE I ELASTOMERIC EXP. BRG.

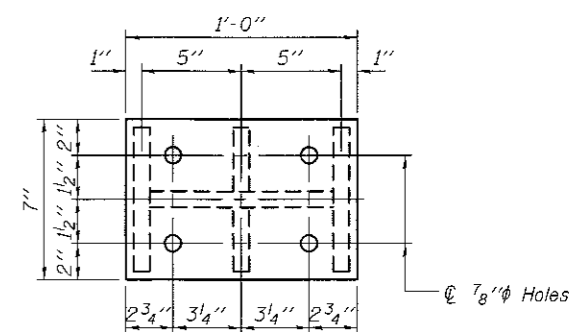


SECTION A-A

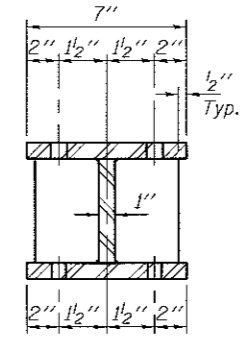
BEAM REACTIONS

R ₀	(K)	14.1
R _L	(K)	30.6
Imp.	(K)	9.2
R (Total)	(K)	53.9

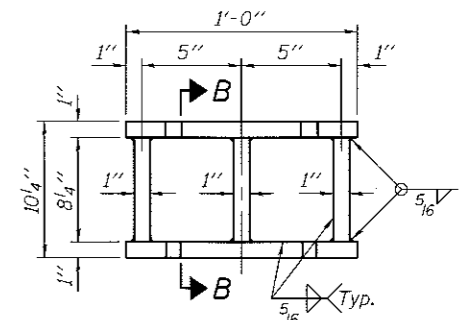
Notes:
 Diaphragm removal and reinstallation may be required to facilitate drilling holes. Cost included with Furnishing and Erecting Structural Steel.
 New steel extensions, shim plates and connection bolts are included with Furnishing and Erecting Structural Steel.
 Prior to ordering any material, the Contractor shall verify in the field all bearing height and shim thickness dimensions. Adjustment must account for deck heave due to pack rust (if present).
 Min. Jack capacity = 26 Tons.
 Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. ASTM A307 Grade C anchor bolts may be used in lieu of ASTM F1554 Grade 36 (F_y=36ksi). The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.
 Anchor bolts of fixed bearings may be either cast in place or installed in holes drilled after the supported member is in place.
 Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.
 Cost of Side retainers and Stainless Steel plates shall be included in the cost of Elastomeric Bearing Assembly, Type I.



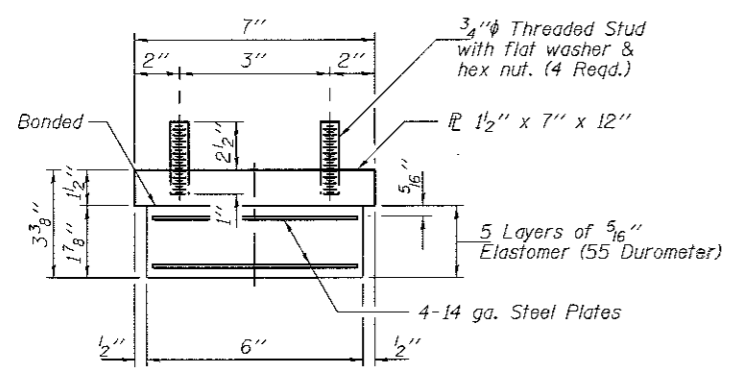
PLAN TOP AND BOTTOM PLATE



SECTION B-B



STEEL EXTENSION DETAIL



BEARING ASSEMBLY

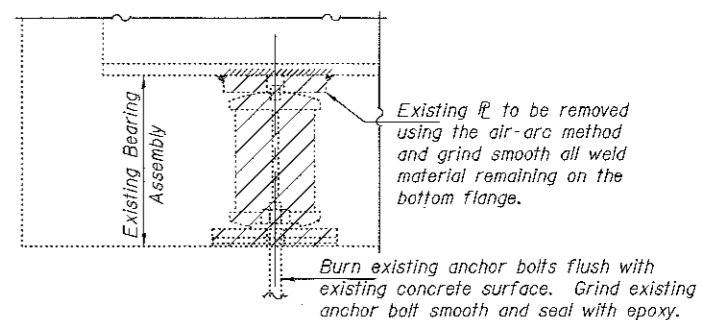
Note:
 Shim plates shall not be placed under Bearing Assembly.

SHIM PLATE "4"

SN 026-0015 SN 026-0016

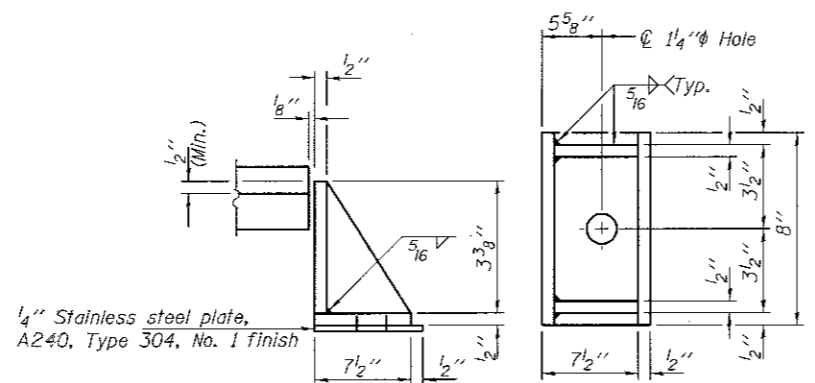
Beam	t
1	0
2	0
3	0
4	1/8"
5	3/8"
6	0
7	0

Beam	t
1	0
2	0
3	3/8"
4	1/8"
5	0
6	0
7	0



EXISTING BEARING REMOVAL DETAIL

Cost included with Jack and Remove Existing Bearings.



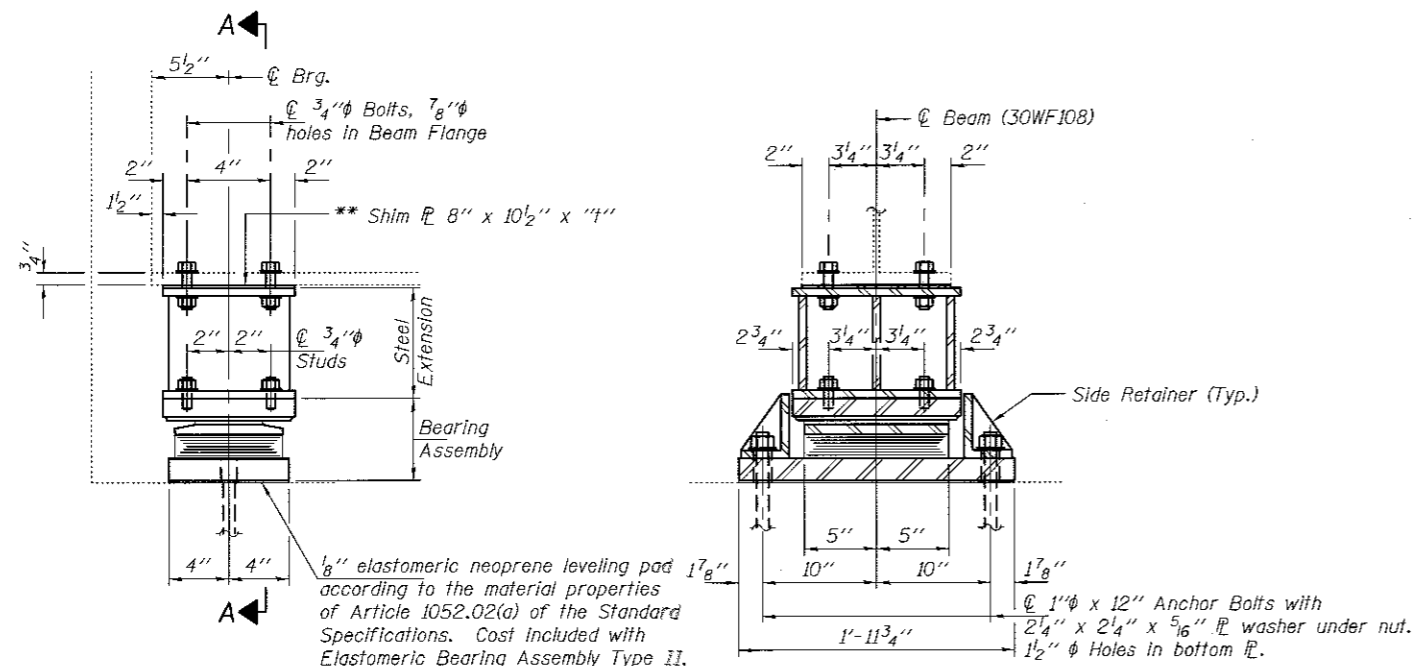
SIDE RETAINER

Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly, Type I	Each	14
Jack and Remove Existing Bearings	Each	14
Furnishing and Erecting Structural Steel	Pound	1580
Anchor Bolts 1"φ	Each	28

TYI/REPS 1-18-2017



ELEVATION AT ABUTMENT

SECTION A-A

TYPE II TFE ELASTOMERIC EXP. BRG.

BEAM REACTIONS

R _P	(K)	15.9
R _L	(K)	31.4
Imp.	(K)	9.2
R (Total)	(K)	56.5

Notes:
 Diaphragm removal and reinstallation may be required to facilitate drilling holes. Cost included with Furnishing and Erecting Structural Steel.
 New steel extensions, shim plates and connection bolts are included with Furnishing and Erecting Structural Steel.
 Prior to ordering any material, the Contractor shall verify in the field all bearing height and shim thickness dimensions. Adjustment must account for deck heave due to pack rust (if present).
 Min. jack capacity = 28 Tons.

Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. ASTM A307 Grade C anchor bolts may be used in lieu of ASTM F1554 Grade 36 (F_y=36ksi). The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.

Anchor bolts at fixed bearings may be either cast in place or installed in holes drilled after the supported member is in place.

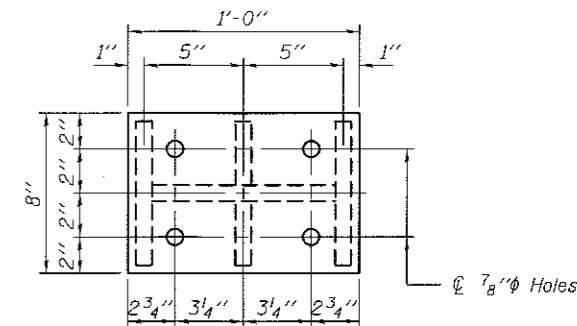
Anchor bolts for Type II bearings shall be placed in holes drilled through the bottom bearing plate after members are in place. Side retainers shall be placed after bolts are installed.

Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.

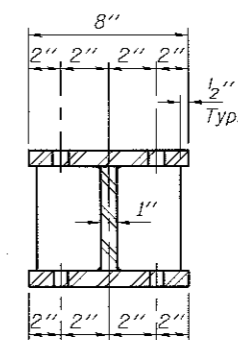
Side retainers shall be included in the cost of Elastomeric Bearing Assembly, Type II.

The 1/8 inch PTFE sheet shall be bonded directly to the top steel plate with a two-component, medium viscosity epoxy resin, conforming to the requirements of the Federal Specification MMM-A-134, Type I. The bond agent shall be applied on the full area of the contact surfaces.

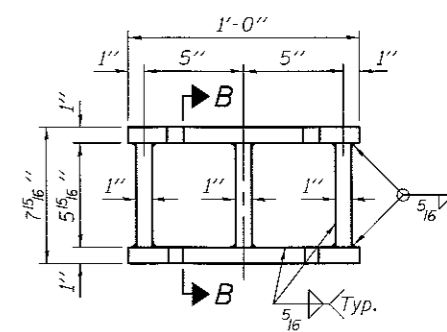
Bonding of 1/8 inch PTFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer.



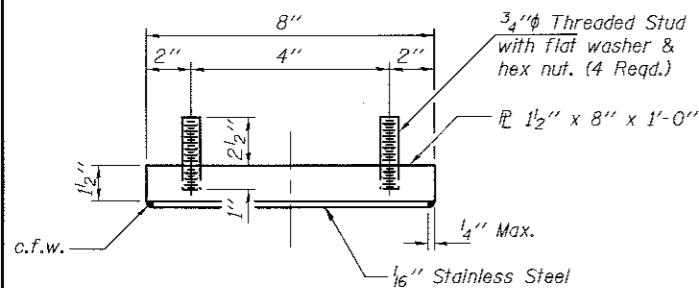
PLAN TOP AND BOTTOM PLATE



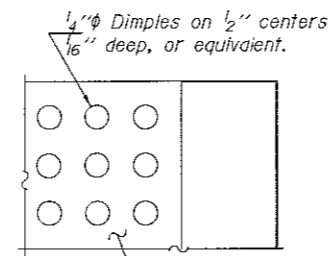
SECTION B-B



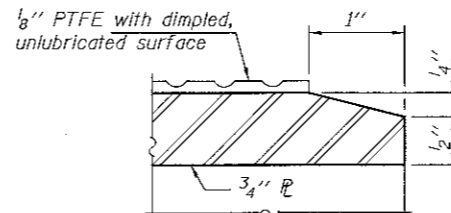
STEEL EXTENSION DETAIL



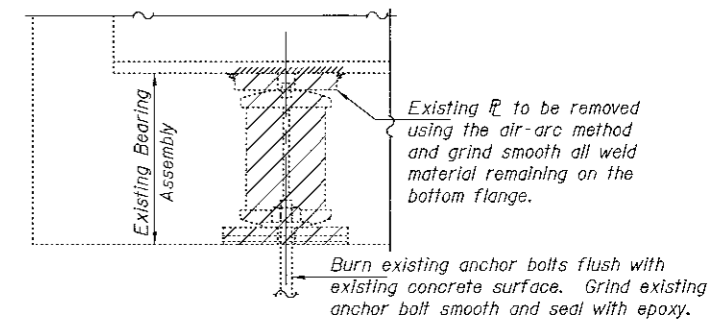
TOP BEARING ASSEMBLY



PLAN-PTFE SURFACE

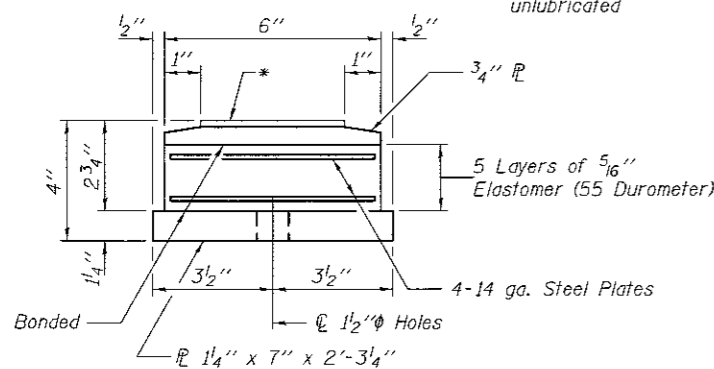


SECTION THRU PTFE

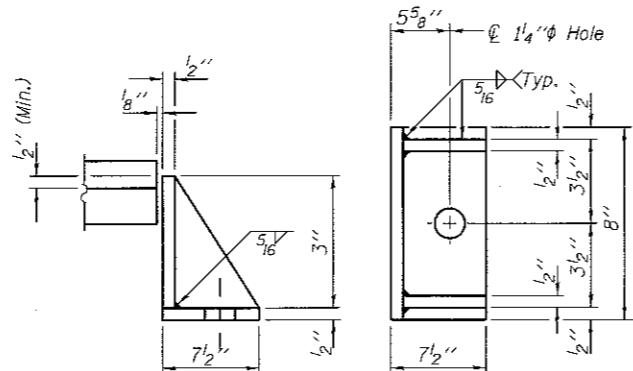


EXISTING BEARING REMOVAL DETAIL

Cost included with Jack and Remove Existing Bearings.

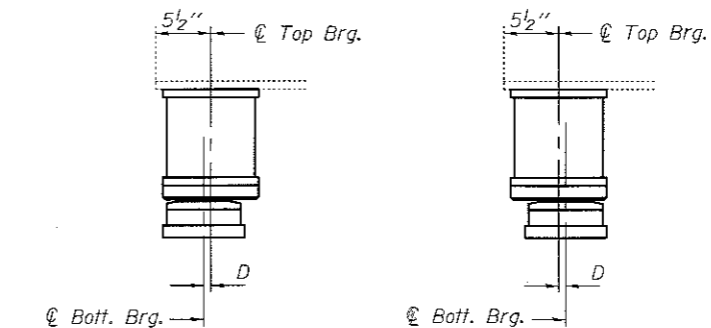


BOTTOM BEARING ASSEMBLY



SIDE RETAINER

Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.



BELOW 50° F.

ABOVE 50° F.

(Move bott. brg. away from fixed brg.) (Move bott. brg. toward fixed brg.)

SETTING ANCHOR BOLTS AT EXP. BRG.

D = 1/8 inch per each 100 feet of expansion for every 15 degrees temp. change from the normal temp. of 50 degrees F.

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly, Type II	Each	14
Jack and Remove Existing Bearings	Each	14
Furnishing and Erecting Structural Steel	Pound	1510
Anchor Bolts 1 inch diameter	Each	28

TYII/REPS 12-03-2008

DESIGNED JSB
 CHECKED NRM
 DRAWN daburdell
 CHECKED JSB NRM

PASSED

ENGINEER OF BRIDGES AND STRUCTURES

DATE SEPTEMBER 20, 2017

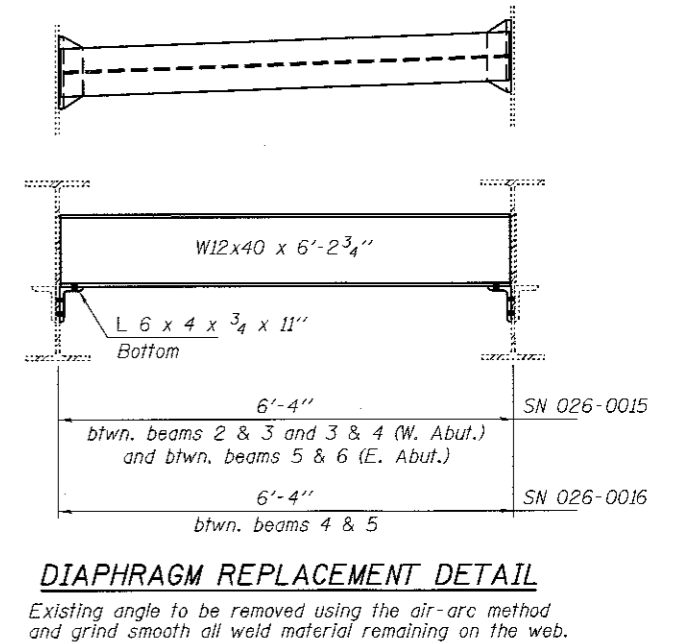
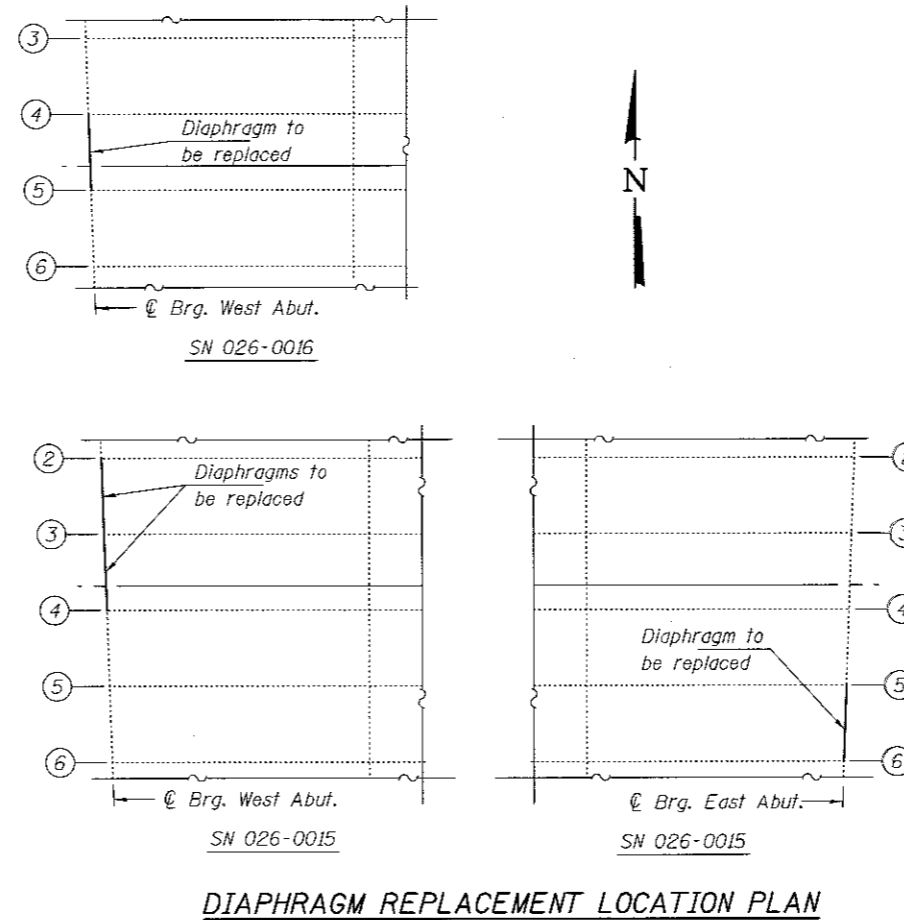
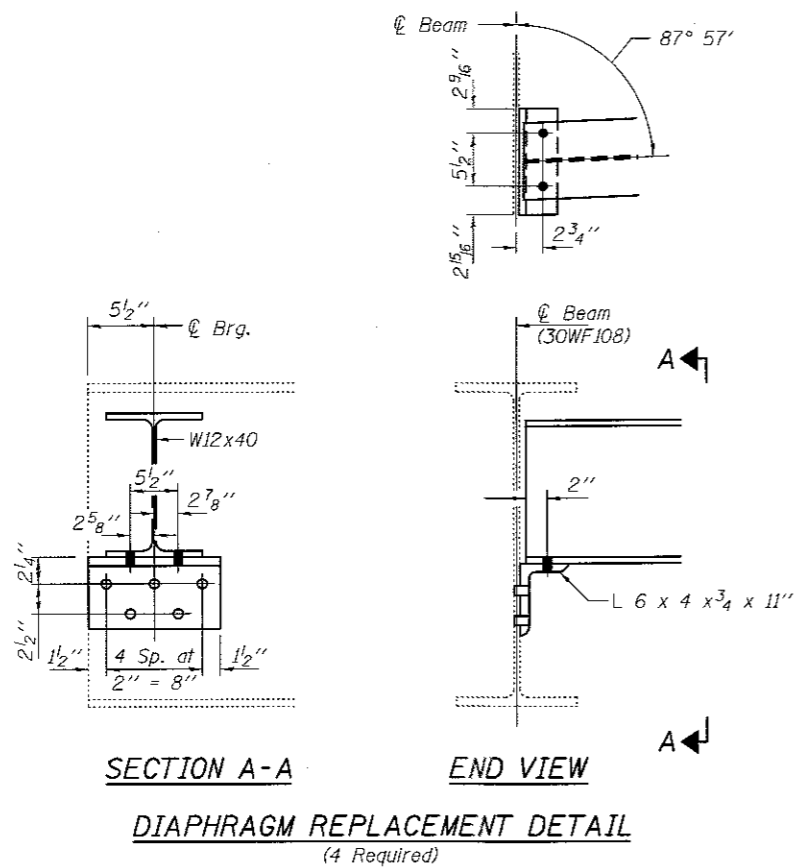
REVISED

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

BEARING DETAILS WEST ABUTMENT
 SN 026-0015 (EB) & 026-0016 (WB)

SHEET NO. 12 OF 17 SHEETS

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TO	D7 BRIDGE REPAIRS 2018-1	FAYETTE	39	34
			CONTRACT NO. 74763	
ILLINOIS FED. AID PROJECT				



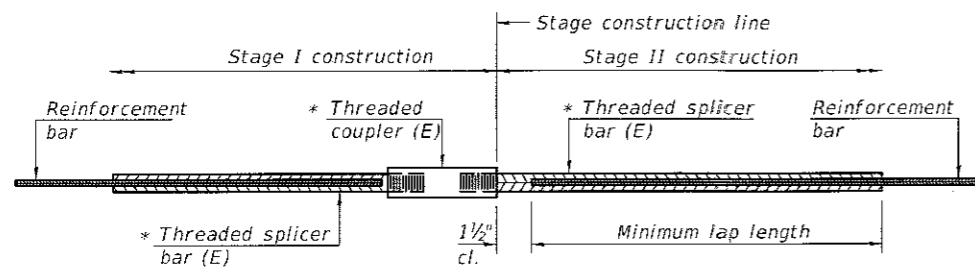
DESIGNED JSB
 CHECKED NRM
 DRAWN daburdell
 CHECKED JSB NRM

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

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

REPAIR DETAILS
 SN 026-0015 (EB) & 026-0016 (WB)
 SHEET NO. 13 OF 17 SHEETS

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TO	DT BRIDGE REPAIRS 2018-1	FAYETTE	39	35
CONTRACT NO. 74763				
ILLINOIS FED. AID PROJECT				

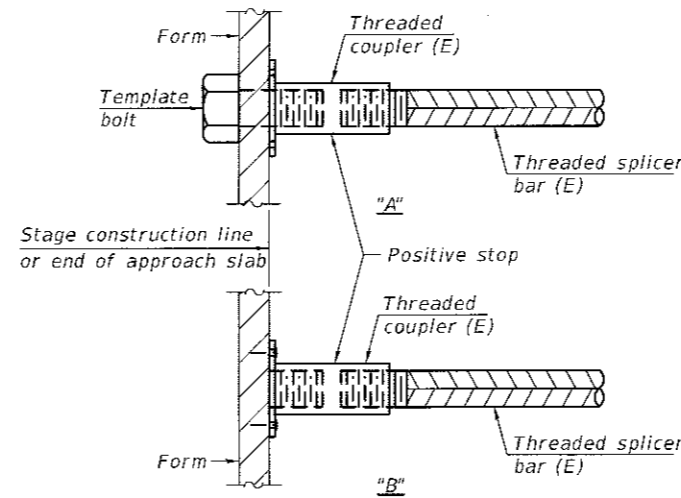


STANDARD BAR SPLICER ASSEMBLY

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
Bridge Deck	#5	48	3'-4"
Backwall	#6	24	4'-4"
Approach Slab	#5	32	3'-4"

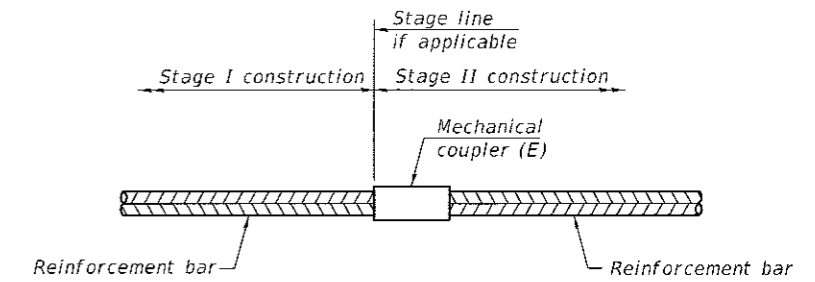


INSTALLATION AND SETTING METHODS

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

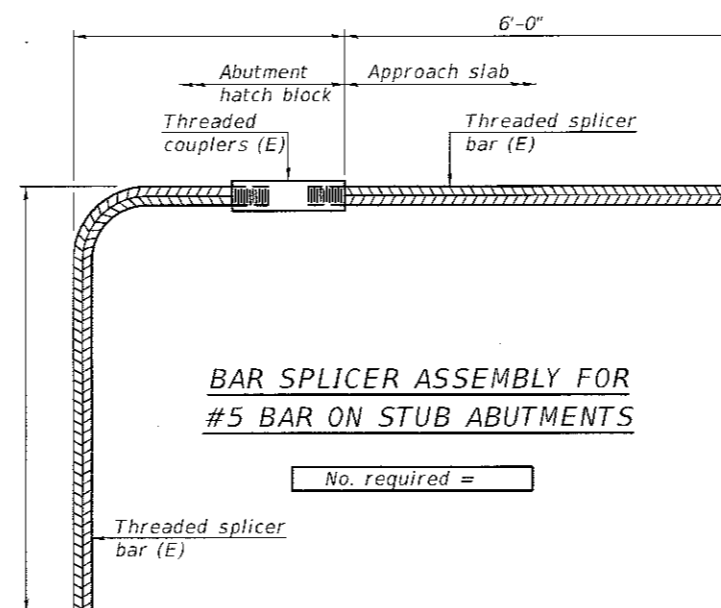
"B" : Set bar splicer assembly by nailing to wood forms or cementing to steel forms.

(E) : Indicates epoxy coating.



STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required
Approach Slab	#9	172



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

DESIGNED JSB
 CHECKED NRM
 DRAWN daburdell
 CHECKED JSB NRM

PASSED

Carl Perry
 ENGINEER OF BRIDGES AND STRUCTURES

DATE SEPTEMBER 20, 2017

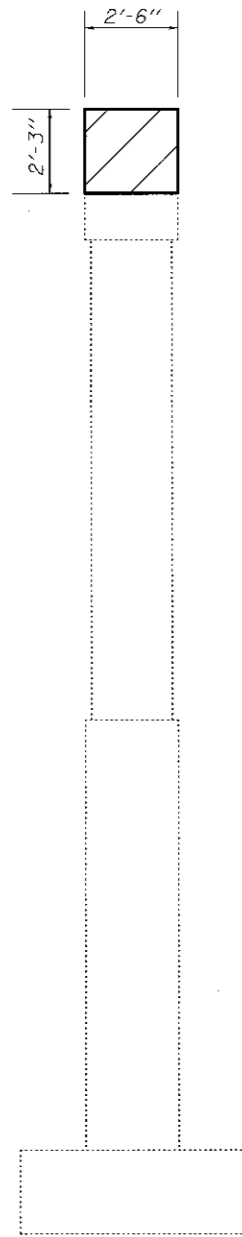
REVISED
 REVISED

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

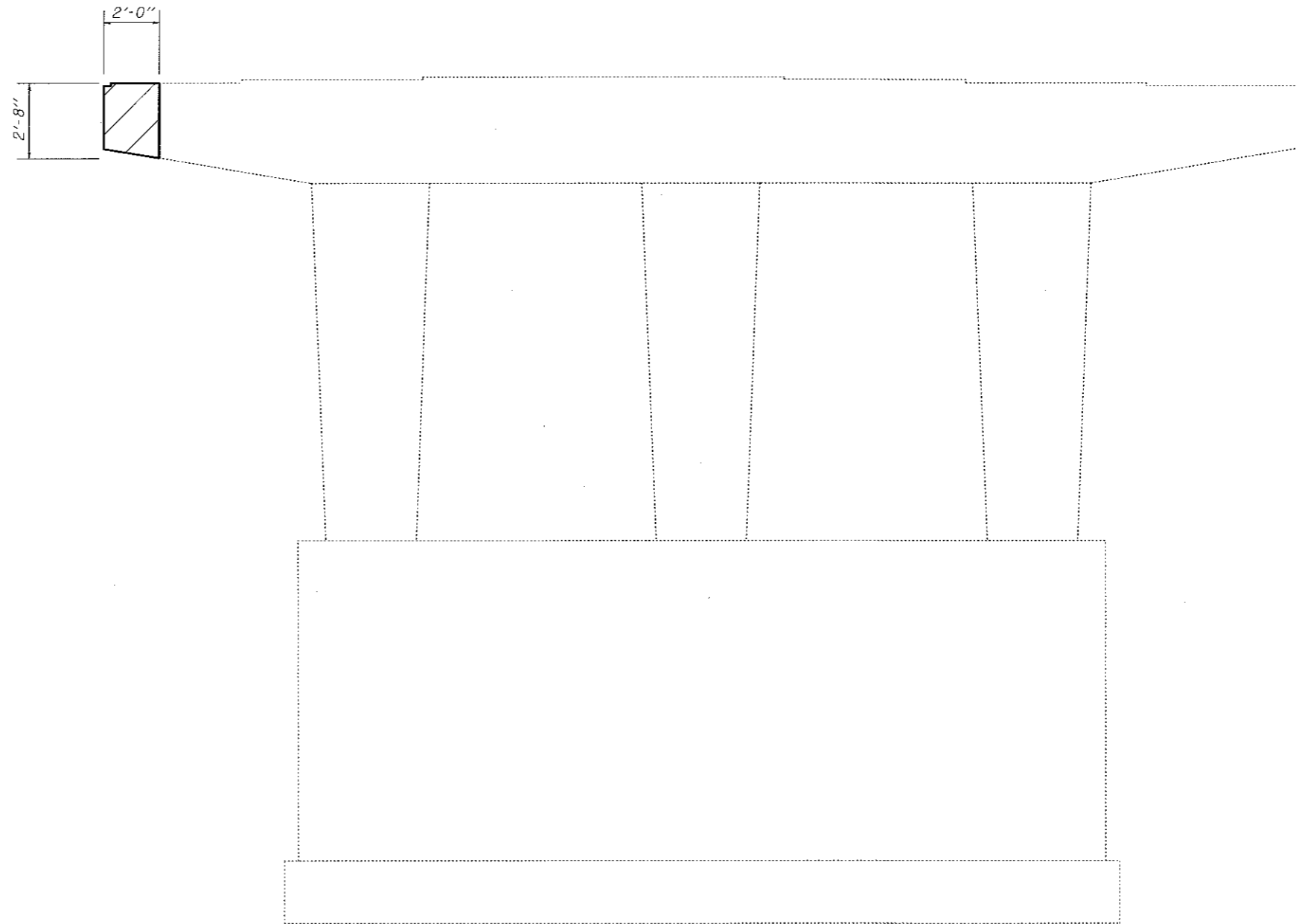
BAR SPLICER ASSEMBLY AND MECHANICAL
 SPLICER DETAILS SN 026-0015 (EB) & 026-0016 (WB)

SHEET NO. 14 OF 17 SHEETS

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TO	D7 BRIDGE REPAIRS 2018-1	FAYETTE	39	36
CONTRACT NO. 74763			ILLINOIS FED. AID PROJECT	




ELEVATION
(South Face)




ELEVATION
(East Face)

BILL OF MATERIAL

	Item Description	Unit	Quantity
	Structural Repair of Concrete (Depth equal to or less than 5").	Sq. Ft.	11.0

DESIGNED JSB
 CHECKED NRM
 DRAWN daburdell
 CHECKED JSB NRM

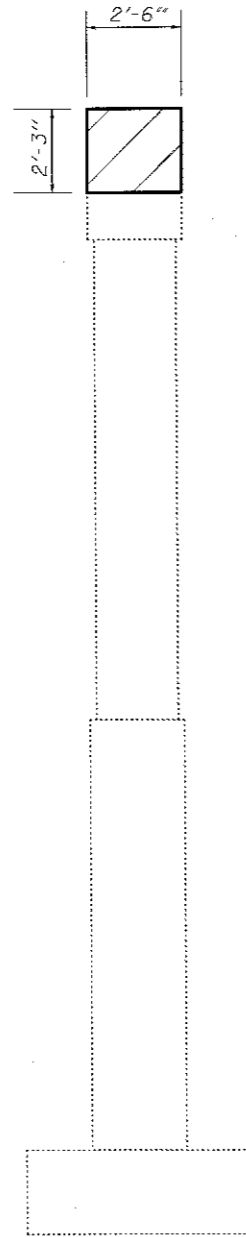
PASSED

 ENGINEER OF BRIDGES AND STRUCTURES

DATE SEPTEMBER 20, 2017
 REVISED
 REVISED

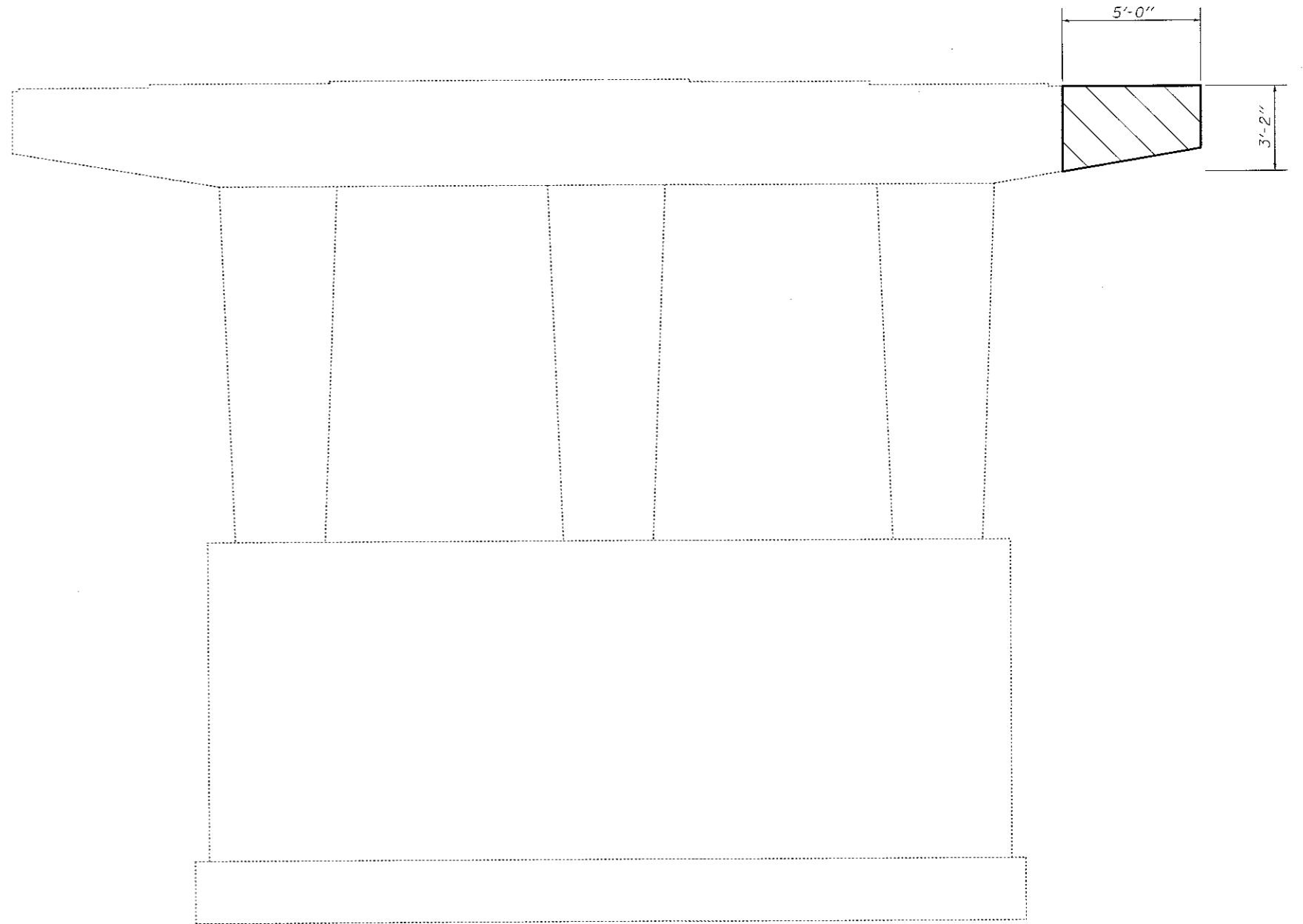
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

PIER 1 REPAIR
 SN 026-0015 (EB)
 SHEET NO. 15 OF 17 SHEETS

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	DT BRIDGE REPAIRS 2018-1	FAYETTE	39	37
			CONTRACT NO. 74763	
ILLINOIS FED. AID PROJECT				



ELEVATION
(South Face)



ELEVATION
(West Face)

BILL OF MATERIAL

	Item Description	Unit	Quantity
▨	Structural Repair of Concrete (Depth equal to or less than 5").	Sq. Ft.	21.5

DESIGNED JSB
 CHECKED NRM
 DRAWN ddburdell
 CHECKED JSB NRM

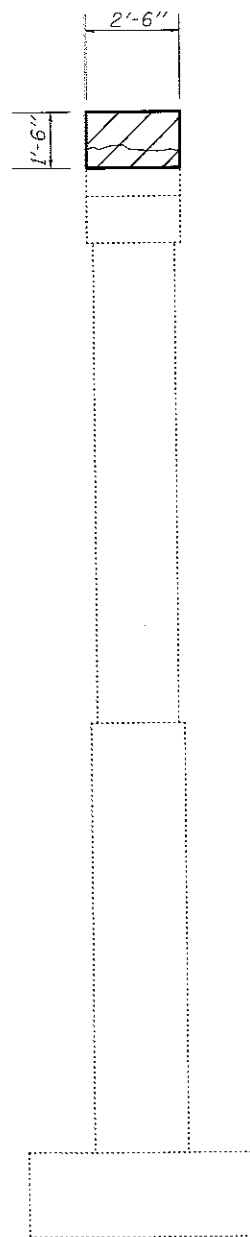
DATE SEPTEMBER 20, 2017
 PASSED *A. Carl Papp*
 ENGINEER OF BRIDGES AND STRUCTURES

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

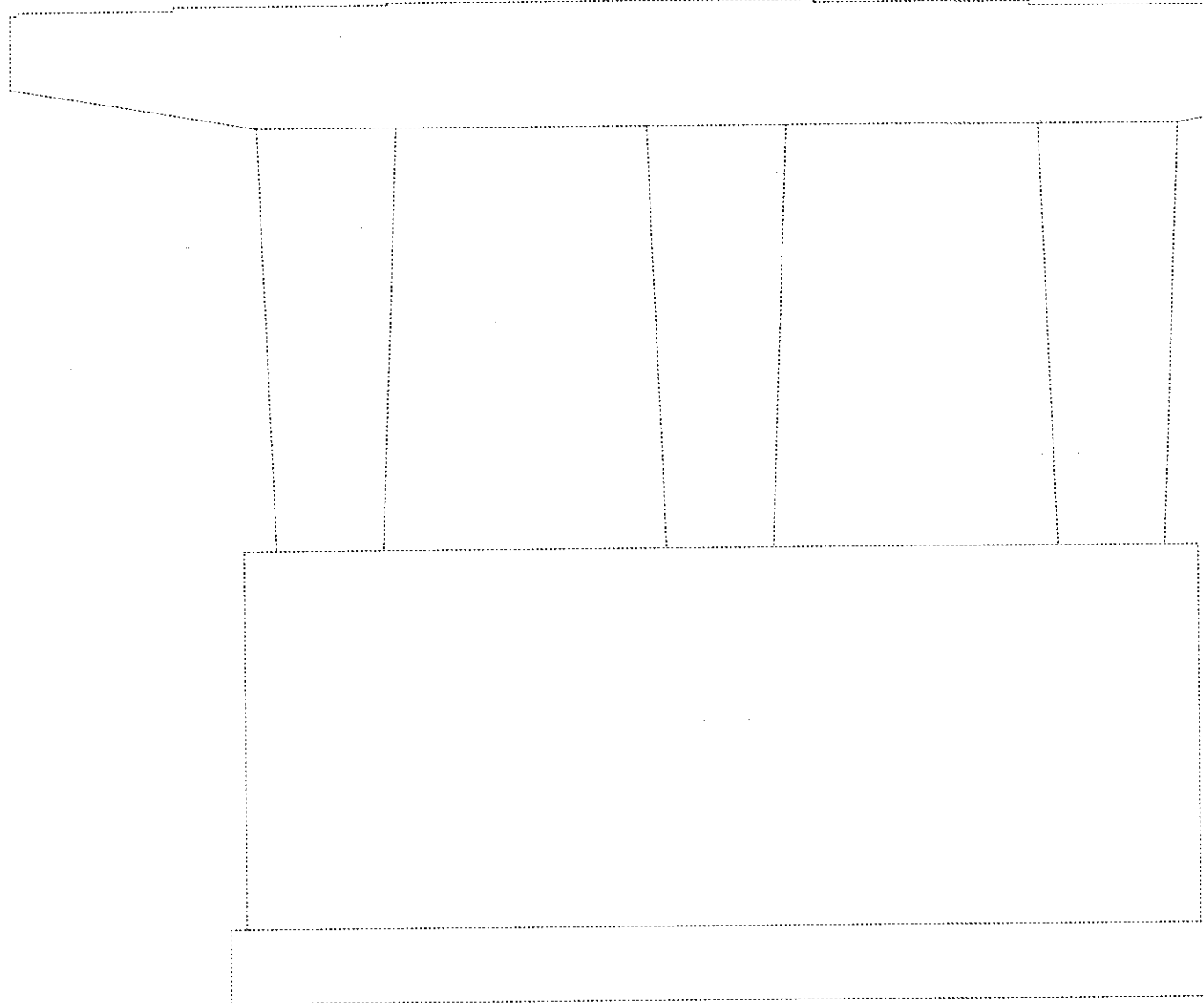
PIER 2 REPAIR
 SN 026-0015 (EB)
 SHEET NO. 16 OF 17 SHEETS

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	D7 BRIDGE REPAIRS 2018-1	FAYETTE	39	38

CONTRACT NO. 74763
 ILLINOIS FED. AID PROJECT



ELEVATION
(North Face)



ELEVATION
(East Face)

BILL OF MATERIAL

	Item Description	Unit	Quantity
▨	Structural Repair of Concrete (Depth equal to or less than 5").	Sq. Ft.	12.8

DESIGNED *JSB*
 CHECKED *NRM*
 DRAWN *daburdell*
 CHECKED *JSB NRM*

DATE SEPTEMBER 20, 2017
 PASSED *A. Carl Perry*
 ENGINEER OF BRIDGES AND STRUCTURES

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

PIER 1 REPAIR
SN 026-0016 (WB)
 SHEET NO. 17 OF 17 SHEETS

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	D7 BRIDGE REPAIRS 2018-1	FAYETTE	39	39
ILLINOIS FED. AID PROJECT			CONTRACT NO. 74763	