

1-18-13 LETTING ITEM 050

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

**PROPOSED
HIGHWAY PLANS**

F.A.I. ROUTE 70 (I-70)
SECTION D7 BRIDGE REPAIRS 2013-1

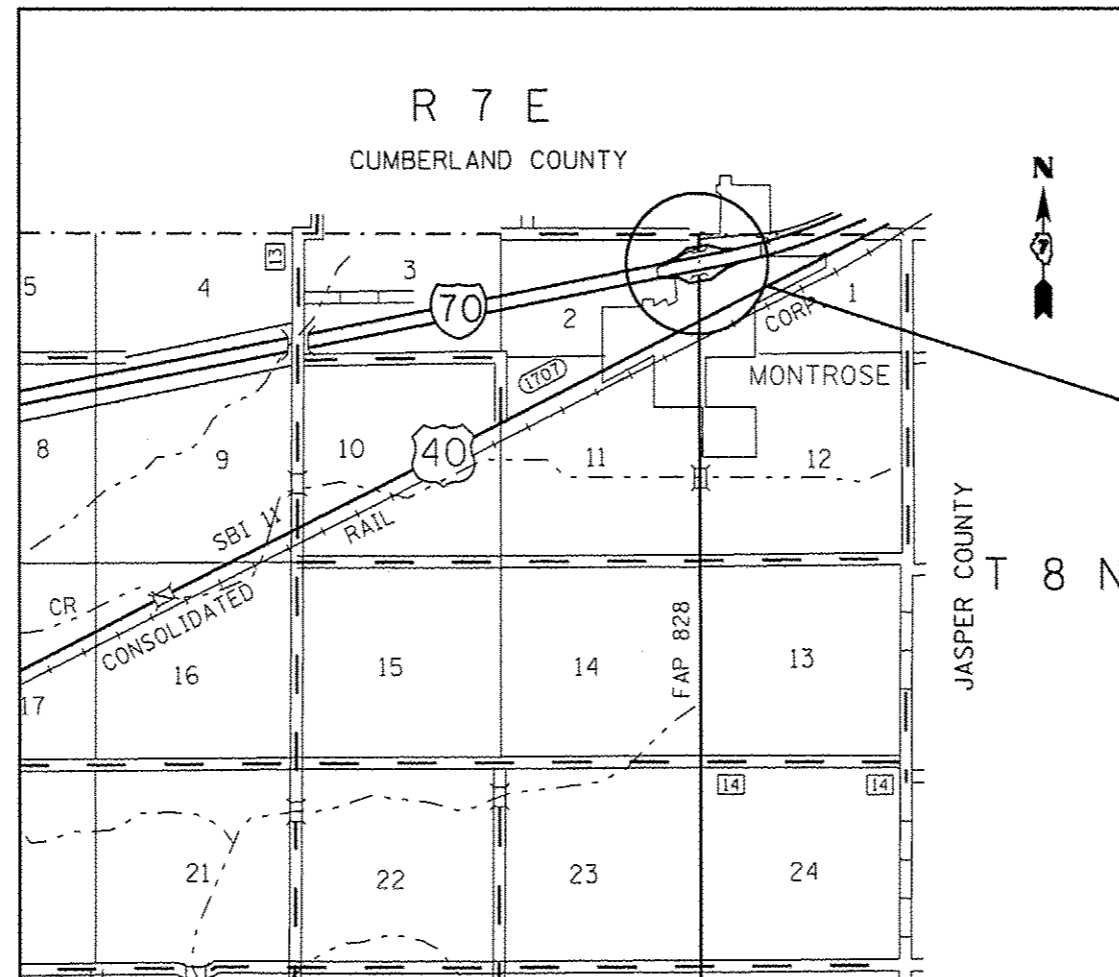
BRIDGE REPAIRS
EFFINGHAM COUNTY
C-97-116-12

FOR INDEX OF SHEETS, SEE SHEET NO. 2

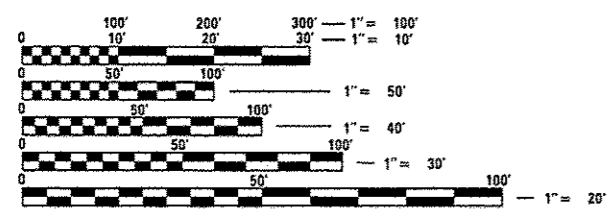
ADT = 19,900 (2010)

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	-	EFFINGHAM	33	1
ILLINOIS			CONTRACT NO. 74589	

• D7 BRIDGE REPAIRS 2013-1



S.N. 025-0016
S.N. 025-0017



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

PROJECT ENGINEER: TOM RONAN
PROJECT MANAGER: TOM RONAN
PHONE: (217)-342-8320
CONTRACT NO. 74589

GROSS LENGTH = 556 FT. = 0.11 MILE
NET LENGTH = 556 FT. = 0.11 MILE

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED Oct 23 20 12
Roger L. Dinsdale
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

Dec 7 20 12
John D. Baranzelli P.E.
ENGINEER OF DESIGN AND ENVIRONMENT

Dec 7 20 12
William R. Frey
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

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OF THE STATE OF ILLINOIS

INDEX OF SHEETS

SHEET NO.	ITEM
1	COVER SHEET
2	INDEX OF SHEETS AND GENERAL NOTES
3-4	SUMMARY OF QUANTITIES
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6-7	SCHEDULE OF QUANTITIES
8	PLAN DETAIL
9-13	STAGE I TRAFFIC CONTROL
14-18	STAGE II TRAFFIC CONTROL
19-20	PAVEMENT MARKING DETAILS
21-33	STRUCTURE REPAIR PLANS

THE FOLLOWING STANDARDS ARE A PART OF THESE PLANS AND ARE INCLUDED AFTER SHEET NO. 33:

STD. NO.	DESCRIPTION
000001-06	STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
001001-02	AREAS OF REINFORCEMENT BARS
001006	DECIMAL OF AN INCH AND OF A FOOT
420701-02	PAVEMENT FABRIC
642001-02	SHOULDER RUMBLE STRIP 16 INCH
701001-02	OFF-ROAD OPERATIONS, 2L2W, 15' MINIMUM AWAY FROM PAVEMENT EDGE
701006-04	OFF-ROAD OPERATIONS, 2L2W, 15' AWAY TO EDGE OF PAVEMENT
701011-03	OFF-ROAD MOVING OPERATION, 2L2W, DAY ONLY
701101-03	OFF-ROAD OPERATIONS, MULTI-LANE, 15' TO 24" FROM PAVEMENT EDGE AWAY
701106-02	OFF-ROAD, MULTI-LANE, 15' MINIMUM AWAY FROM PAVEMENT EDGE
701201-04	LANE CLOSURE, 2L2W, DAY ONLY
701400-06	APPROACH TO LANE CLOSURE, FREEWAY/EXPRESSWAY
701401-07	LANE CLOSURE, FREEWAY/EXPRESSWAY
701402-09	LANE CLOSURE, FREEWAY/EXPRESSWAY, WITH BARRIER
701411-08	LANE CLOSURE, MULTI-LANE, ENTRANCE OR EXIT RAMP
701901-03	TRAFFIC CONTROL DEVICES
704001-07	TEMPORARY CONCRETE BARRIER
780001-03	TYPICAL PAVEMENT MARKINGS
781001-03	TYPICAL APPLICATION RAISED REFLECTIVE PAVEMENT MARKERS

GENERAL NOTES

THIS SECTION SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE PLANS; THE "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" ADOPTED JANUARY 1, 2012; AND THE SPECIAL PROVISIONS INCLUDED IN THE PROPOSAL.

THIS PROJECT IS LOCATED ON FAI 70 IN EFFINGHAM COUNTY, AT THE MONTROSE INTERCHANGE, AT STRUCTURE NUMBERS 025-0016 AND 025-0017. THE WORK INCLUDED IN SECTION 07 BRIDGE REPAIRS 2013-1 CONSISTS OF PCC BASE COURSE WIDENING, TRAFFIC CONTROL, BRIDGE DECK REPAIRS, PAVEMENT MARKING, AND ANY OTHER WORK NECESSARY TO COMPLETE THE SECTION.

PLAN DIMENSIONS AND DETAILS RELATIVE TO THE EXISTING STRUCTURES HAVE BEEN TAKEN FROM EXISTING PLANS AND ARE SUBJECT TO NOMINAL CONSTRUCTION VARIATIONS. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO VERIFY DIMENSIONS AND DETAILS IN THE FIELD AND MAKE NECESSARY APPROVED ADJUSTMENTS PRIOR TO CONSTRUCTION OR ORDERING OF MATERIAL. SUCH VARIATIONS SHALL NOT BE CAUSE FOR ADDITIONAL COMPENSATION FOR A CHANGE IN THE SCOPE OF THE WORK. THE CONTRACTOR WILL BE PAID FOR THE QUANTITY FURNISHED AT THE UNIT PRICE BID FOR THE WORK.

THE SAW CUT REQUIRED FOR THE PAVED SHOULDER REMOVAL SHALL BE INCLUDED IN THE COST OF PAVED SHOULDER REMOVAL AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED. ANY EXCAVATION NECESSARY FOR CONSTRUCTION OF THE PCC BASE COURSE WIDENING, 12" SHALL BE INCLUDED IN THE COST OF THE PCC BASE COURSE WIDENING, 12" AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED. THE PCC BASE COURSE WIDENING, 12" SHALL BE REINFORCED WITH PAVEMENT FABRIC. THE REINFORCEMENT WILL BE PAID FOR SEPARATELY AT THE CONTRACT UNIT PRICE PER SQUARE YARD FOR PAVEMENT FABRIC.

GENERAL NOTES (Cont'd)

PAVEMENT MARKING SHALL BE APPLIED IN ACCORDANCE WITH SECTION 780 OF THE STANDARD SPECIFICATIONS.

THE TOTAL QUANTITY OF PAINT PAVEMENT MARKING-LINE 4" CONSISTS OF 1112 FEET OF WHITE AND 1112 FEET OF YELLOW.

THE TOTAL QUANTITY OF PAINT PAVEMENT MARKING-LINE 6" CONSISTS OF 278 FEET OF WHITE.

REMOVAL OF ANY EXISTING RAISED REFLECTIVE PAVEMENT MARKERS SHALL BE INCLUDED IN THE COST OF REMOVING THE EXISTING HMA WEARING SURFACE AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

THE RAISED REFLECTIVE PAVEMENT MARKERS SHALL BE PLACED AS DOUBLE MARKERS AS SHOWN ON STANDARD 781001-03.

THE CONTRACTOR WILL BE REQUIRED TO CONSTRUCT RUMBLE STRIPS IN THE PCC BASE COURSE WIDENING UPON COMPLETION OF STAGED CONSTRUCTION BRIDGE REPAIRS. THIS WORK SHALL BE COMPLETED AND PAID FOR AS SPECIFIED IN THE PLANS AND STANDARD SPECIFICATIONS.

IN ADDITION TO THE REQUIREMENTS FOR PORTABLE CHANGEABLE MESSAGE SIGNS IN ARTICLE 701.15(I), A LAPTOP COMPUTER TO CONTROL THE MESSAGE SIGNS SHALL ALSO BE SUPPLIED BY THE CONTRACTOR.

THE FOLLOWING MIXTURE REQUIREMENTS ARE APPLICABLE FOR THIS PROJECT:

BRIDGE APPROACH:

SURFACE MIX (1 1/2")	POLYMERIZED HOT MIX ASPHALT SURFACE COURSE, MIX D, N90
APPLICATION:	SBS PG 70-22
PG GRADE:	4.0% @ NDESIGN = 90
DESIGN AIR VOIDS:	IL- 9.5
MIXTURE COMPOSITION:	MIX D
FRICITION AGGREGATE:	

THE FOLLOWING RATES OF APPLICATION HAVE BEEN USED IN CALCULATING PLAN QUANTITIES:
 BITUMINOUS MATERIALS (PRIME COAT) 0.10 GAL/SQ YD
 HOT-MIX ASPHALT 112 LBS/SQ YD/INCH

* D7 BRIDGE REPAIRS 2013-1

FILE NAME	USER NAME	DESIGNED	REVISED	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION		INDEX OF SHEETS AND GENERAL NOTES		F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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Default		CHECKED	REVISED									
		DATE	REVISED									

CONTRACT NO. 74589
ILLINOIS FED. AID PROJECT

SUMMARY OF QUANTITIES			TOTAL QUANTITIES	CONSTRUCTION TYPE CODE		
CODE NO	ITEM	UNIT		100% STATE		
35400520	PORTLAND CEMENT CONCRETE BASE COURSE WIDENING 12"	SO YD	1160	1160		
40600100	BITUMINOUS MATERIALS (PRIME COAT)	GALLON	24	24		
40603545	POLYMERIZED HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N90	TON	20	20		
42001200	PAVEMENT FABRIC	SO YD	1160	1160		
44000155	HOT-MIX ASPHALT SURFACE REMOVAL, 1 1/2"	SO YD	214	214		
44004250	PAVED SHOULDER REMOVAL	SO YD	1160	1160		
50102400	CONCRETE REMOVAL	CU YD	28.8	28.8		
50157300	PROTECTIVE SHIELD	SO YD	404	404		
50300255	CONCRETE SUPERSTRUCTURE	CU YD	28.8	28.8		
50300260	BRIDGE DECK GROOVING	SO YD	1008	1008		
50300300	PROTECTIVE COAT	SO YD	80	80		
50500405	FURNISHING AND ERECTING STRUCTURAL STEEL	POUND	3970	3970		
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	3920	3920		

SUMMARY OF QUANTITIES			TOTAL QUANTITIES	CONSTRUCTION TYPE CODE		
CODE NO	ITEM	UNIT		100% STATE		
50800515	BAR SPLICERS	EACH	56	56		
52000110	PREFORMED JOINT STRIP SEAL	FOOT	174	174		
52100010	ELASTOMERIC BEARING ASSEMBLY, TYPE I	EACH	18	18		
52100020	ELASTOMERIC BEARING ASSEMBLY, TYPE II	EACH	18	18		
52100520	ANCHOR BOLTS, 1"	EACH	72	72		
64200116	SHOULDER RUMBLE STRIPS, 16 INCH	FOOT	1740	1740		
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	8	8		
67100100	MOBILIZATION	L SUM	1	1		
70100420	TRAFFIC CONTROL AND PROTECTION, STANDARD 701411	EACH	2	2		
70100450	TRAFFIC CONTROL AND PROTECTION, STANDARD 701201	L SUM	1	1		
70100800	TRAFFIC CONTROL AND PROTECTION, STANDARD 701401	L SUM	1	1		
70103815	TRAFFIC CONTROL SURVEILLANCE	CAL DA	4	4		

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	PLOT DATE * 10/23/2012	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES

SCALE: N/A SHEET 1 OF 2 SHEETS STA. TO STA.

* D7 BRIDGE REPAIRS 2013-1

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	-	EFFINGHAM	33	3
CONTRACT NO. 74589			ILLINOIS FED. AID PROJECT	

SUMMARY OF QUANTITIES			TOTAL QUANTITIES	CONSTRUCTION TYPE CODE		
CODE NO	ITEM	UNIT		100% STATE 0014		
70300100	SHORT TERM PAVEMENT MARKING	FOOT	200	200		
70301000	WORK ZONE PAVEMENT MARKING REMOVAL	SO FT	66	66		
70400100	TEMPORARY CONCRETE BARRIER	FOOT	675	675		
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	675	675		
70600250	IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE), TEST LEVEL 3	EACH	2	2		
70600350	IMPACT ATTENUATORS, RELOCATE (NON-REDIRECTIVE), TEST LEVEL 3	EACH	2	2		
*78001110	PAINT PAVEMENT MARKING - LINE 4"	FOOT	2224	2224		
*78001130	PAINT PAVEMENT MARKING - LINE 6"	FOOT	278	278		
*78100105	RAISED REFLECTIVE PAVEMENT MARKER (BRIDGE)	EACH	8	8		
78300100	PAVEMENT MARKING REMOVAL	SO FT	660	660		
X7010208	TRAFFIC CONTROL AND PROTECTION, STANDARD 701402 (SPECIAL)	EACH	2	2		
Z0001899	JACK AND REMOVE EXISTING BEARINGS	EACH	36	36		

SUMMARY OF QUANTITIES			TOTAL QUANTITIES	CONSTRUCTION TYPE CODE		
CODE NO	ITEM	UNIT		100% STATE 0014		
Z0004556	HOT-MIX ASPHALT SURFACE REMOVAL (DECK)	SO YD	1018	1018		
Z0012112	BRIDGE DECK FLY ASH OR GGBF SLAG CONCRETE OVERLAY, 2 3/4"	SO YD	1018	1018		
Z0012130	BRIDGE DECK SCARIFICATION 3/4"	SO YD	1018	1018		
Z0016001	DECK SLAB REPAIR (FULL DEPTH, TYPE I)	SO YD	2	2		
Z0016002	DECK SLAB REPAIR (FULL DEPTH, TYPE II)	SO YD	30	30		

*SPECIALTY ITEM

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

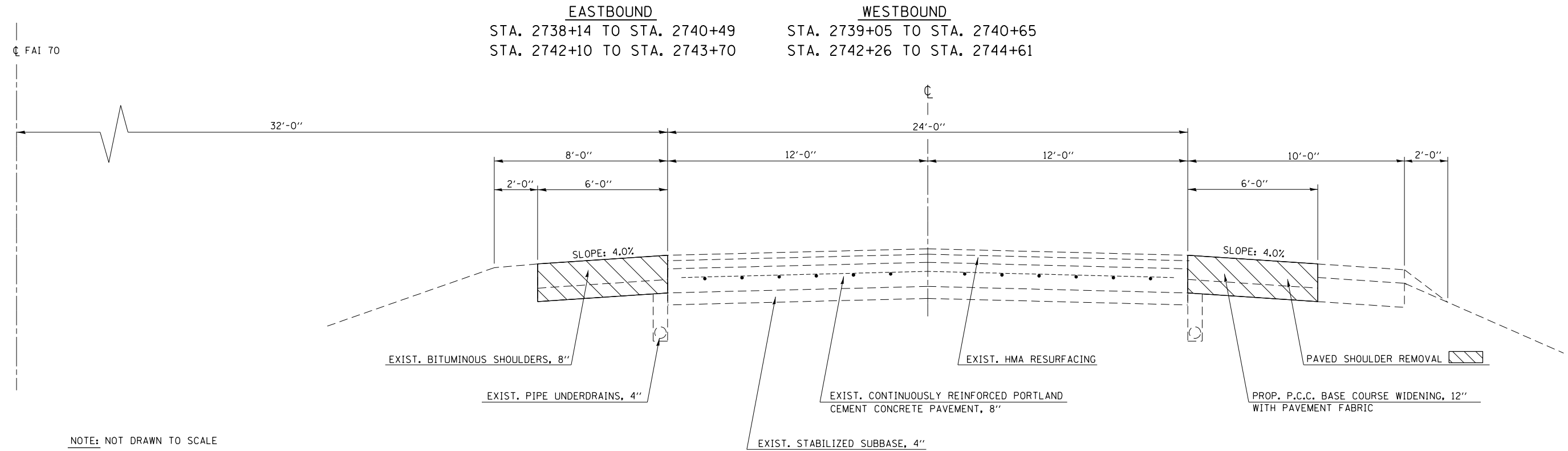
SUMMARY OF QUANTITIES

SCALE: N/A SHEET 2 OF 2 SHEETS STA. TO STA.

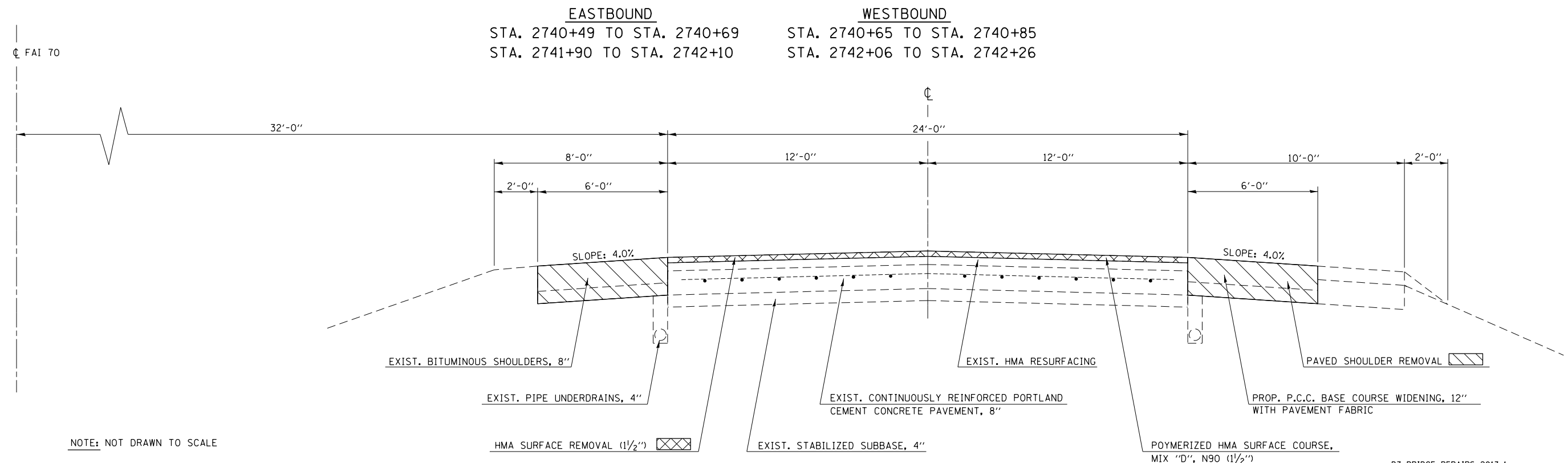
D7 BRIDGE REPAIRS 2013-1

F.A.I. RIE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TO	-	EFFINGHAM	33	4
CONTRACT NO. 74589			ILLINOIS FED. AID PROJECT	

TYPICAL CROSS SECTION



TYPICAL CROSS SECTION



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.
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PLOT DATE = 10/23/2012		DATE -	REVISED -		SCALE: N/A	SHEET NO. 1 OF 1 SHEETS	STA. TO STA.					

• 07 BRIDGE REPAIRS 2013-1

WIDENING SCHEDULE

		PORTLAND CEMENT CONCRETE BASE COURSE WIDENING, 12"	PAVEMENT FABRIC	PAVED SHOULDER REMOVAL	SHOULDER RUMBLE STRIPS, 16"
		SO YD	SO YD	SO YD	FOOT
CORNER	LOCATION				
SN 025-0016 (FB)					
SW	2738+14 TO 2740+69	170.0	170.0	170.0	255
NW	2738+14 TO 2740+69	170.0	170.0	170.0	255
SE	2741+90 TO 2743+70	120.0	120.0	120.0	180
NE	2741+90 TO 2743+70	120.0	120.0	120.0	180
SN 025-0017 (WB)					
NE	2742+06 TO 2744+61	170.0	170.0	170.0	255
SE	2742+06 TO 2744+61	170.0	170.0	170.0	255
NW	2739+05 TO 2740+85	120.0	120.0	120.0	180
SW	2739+05 TO 2740+85	120.0	120.0	120.0	180
TOTALS		1160	1160	1160	1740

PAVEMENT MARKING SCHEDULE

STATION TO STATION	PAINT PAVEMENT MARKING - LINE 4"	PAINT PAVEMENT MARKING - LINE 6"	PAVEMENT MARKING REMOVAL	SHORT TERM PAVEMENT MARKING	WORK ZONE PAVEMENT MARKING REMOVAL	RAISED REFLECTIVE PAVEMENT MARKER (BRIDGE)
	FOOT	FOOT	SO FT	FOOT	SO FT	EACH
SN 025-0016 (FB)						
2738+14.00 TO 2740+69.00	510.0	63.8	170.0	45.9	15.3	
2740+69.00 TO 2741+90.00	242.0	30.3	40.3	21.8	7.3	4.0
2741+90.00 TO 2743+70.00	360.0	45.0	120.0	32.4	10.8	
SN 025-0017 (WB)						
2739+05.00 TO 2740+85.00	360.0	45.0	120.0	32.4	10.8	
2740+85.00 TO 2742+06.00	242.0	30.3	40.3	21.8	7.3	4.0
2742+06.00 TO 2744+61.00	510.0	63.8	170.0	45.9	15.3	
TOTALS						
	2224.0	278.0	661.0	200.0	67.0	8.0

• 07 BRIDGE REPAIRS 2013-1

FILE NAME =	USER NAME = steffenmk	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SCHEDULE OF QUANTITIES			F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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Default	PLOT DATE = 10/23/2012	CHECKED -	REVISED -		SCALE: N/A SHEET 1 OF 2 SHEETS STA. TO STA.			CONTRACT NO. 74589				
		DATE -	REVISED -		ILLINOIS FED. AID PROJECT							

TRAFFIC CONTROL DEVICES

STATION TO STATION	TEMPORARY CONCRETE BARRIER	RELOCATE TEMPORARY CONCRETE BARRIER	IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE), TEST LEVEL 3	IMPACT ATTENUATORS, RELOCATE (NON-REDIRECTIVE), TEST LEVEL 3
	FOOT	FOOT	EACH	EACH
STAGE I				
EB 2738+62.50 TO 2740+25.00	162.5	0.0	1.0	0.0
EB 2740+25.00 TO 2742+00.00	175.0	0.0	0.0	0.0
STAGE II				
EB 2738+62.50 TO 2740+25.00	0.0	162.5	0.0	1.0
EB 2740+25.00 TO 2742+00.00	0.0	175.0	0.0	0.0
STAGE I				
WB 2740+75.00 TO 2742+50.00	175.0	0.0	0.0	0.0
WB 2742+50.00 TO 2744+12.50	162.5	0.0	1.0	0.0
STAGE II				
WB 2740+75.00 TO 2742+50.00	0.0	175.0	0.0	0.0
WB 2742+50.00 TO 2744+12.50	0.0	162.5	0.0	1.0
TOTALS	675.0	675.0	2.0	2.0

PAVING SCHEDULE

STATION TO STATION	LENGTH	WIDTH	AREA	HMA SURFACE REMOVAL, (1 1/2")	POLYMERIZED HMA SURFACE COURSE, MIX "D", N90	BITUMINOUS MATERIAL (PRIME COAT)
	FOOT	FOOT	SO FT	SO YD	TON	GALLON
SN 025-0016 (EB)						
2740+49.00 TO 2740+69.00	20.0	24.0	480.0	53.3	5	6
2741+90.00 TO 2742+10.00	20.0	24.0	480.0	53.3	5	6
SN 025-0017 (WB)						
2740+65.00 TO 2740+85.00	20.0	24.0	480.0	53.3	5	6
2742+06.00 TO 2742+26.00	20.0	24.0	480.0	53.3	5	6
TOTALS				213.3	20	24

• 07 BRIDGE REPAIRS 2013-1

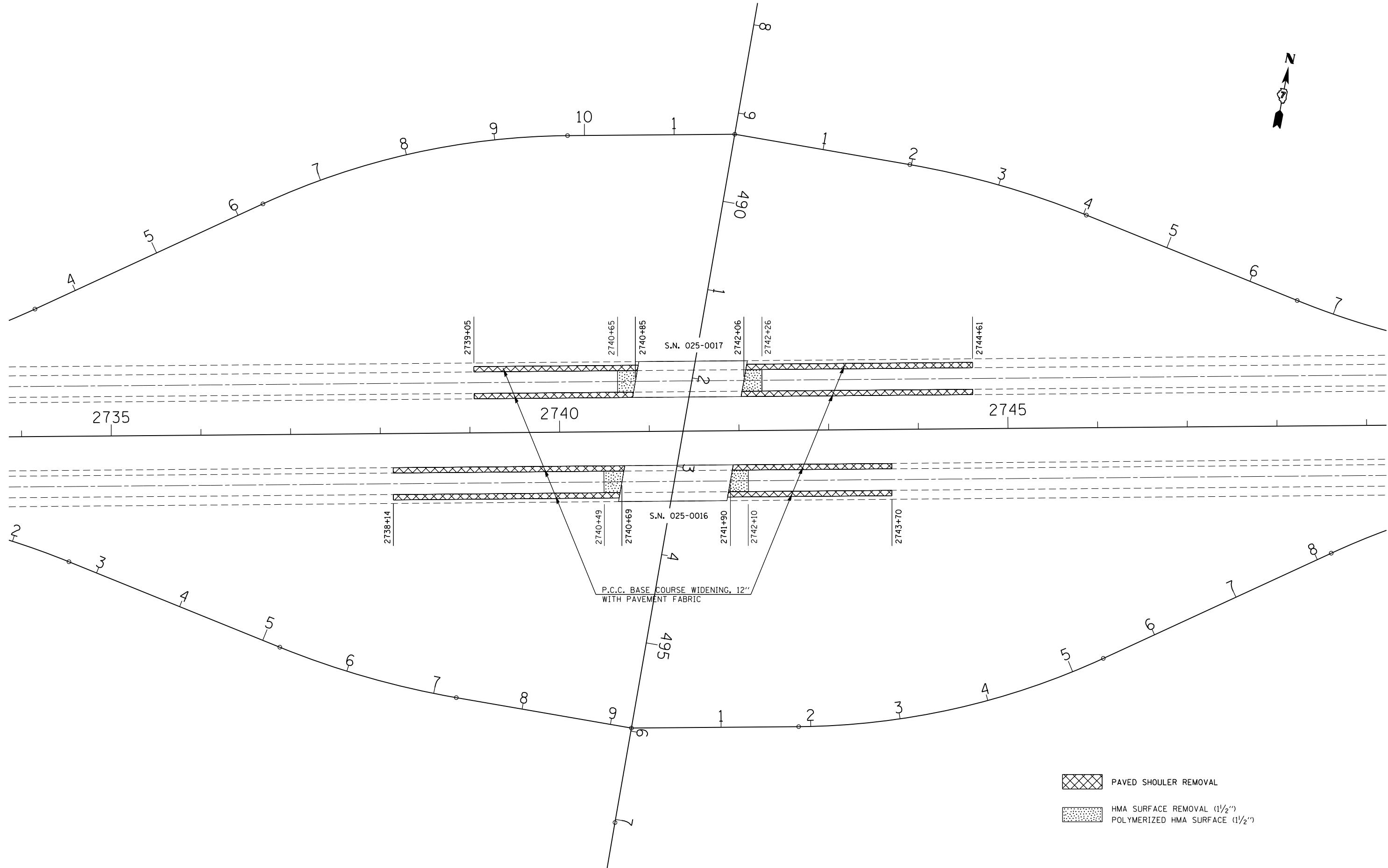
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SCHEDULE OF QUANTITIES

SCALE: N/A SHEET 2 OF 2 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	EFFINGHAM	33	7
CONTRACT NO. 74589			ILLINOIS FED. AID PROJECT	



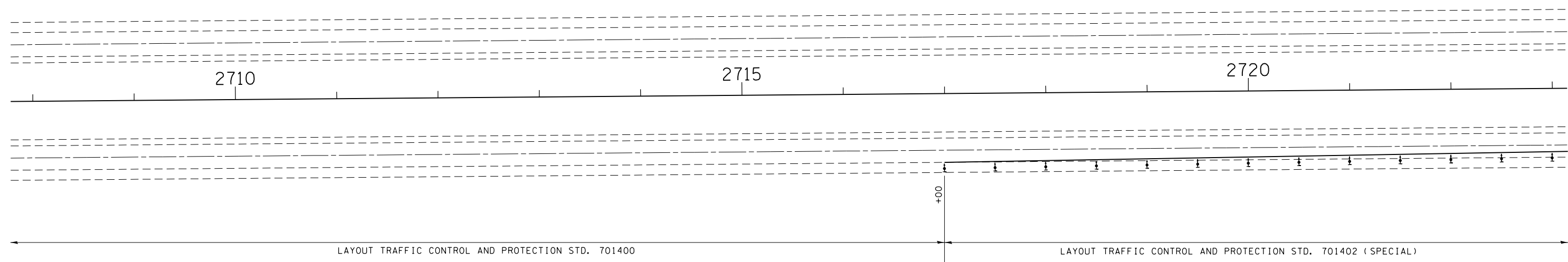
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**


PLAN DETAIL


SCALE: 50 SHEET 1 OF 1 SHEETS STA. 2734+00 TO STA. 2749+00


• D7 BRIDGE REPAIRS 2013-1			
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS
70	•	EFFINGHAM	33
			SHEET NO. 8
			CONTRACT NO. 74589
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

• D7 BRIDGE REPAIRS 2013-1

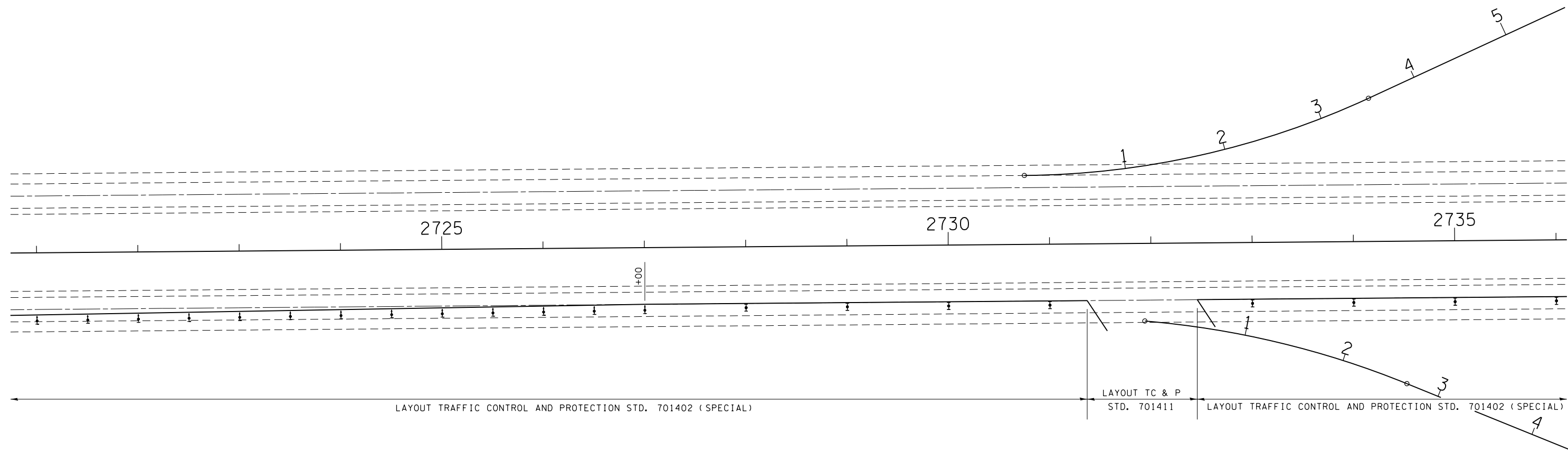
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**




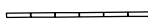
STAGE 1 TRAFFIC CONTROL

SCALE: 50 SHEET 1 OF 5 SHEETS STA. 2708+00 TO STA. 2723+00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	EFFINGHAM	33	9
CONTRACT NO. 74589				
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

• D7 BRIDGE REPAIRS 2013-1

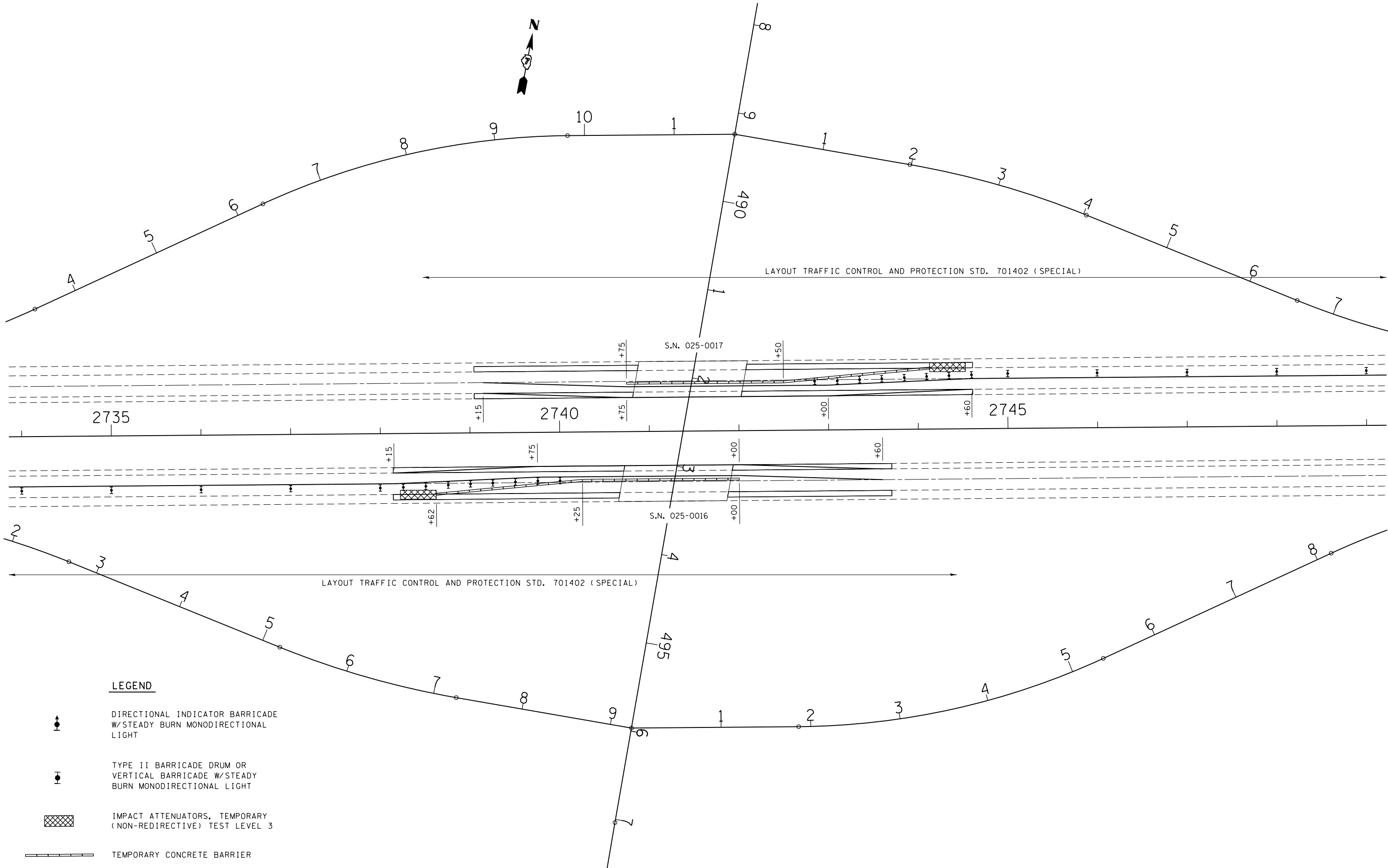
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	PLOT DATE = 10/23/2012	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**




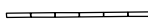
STAGE 1 TRAFFIC CONTROL

SCALE: 50 SHEET 2 OF 5 SHEETS STA. 2721+00 TO STA. 2736+00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	EFFINGHAM	33	10
CONTRACT NO. 74589			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

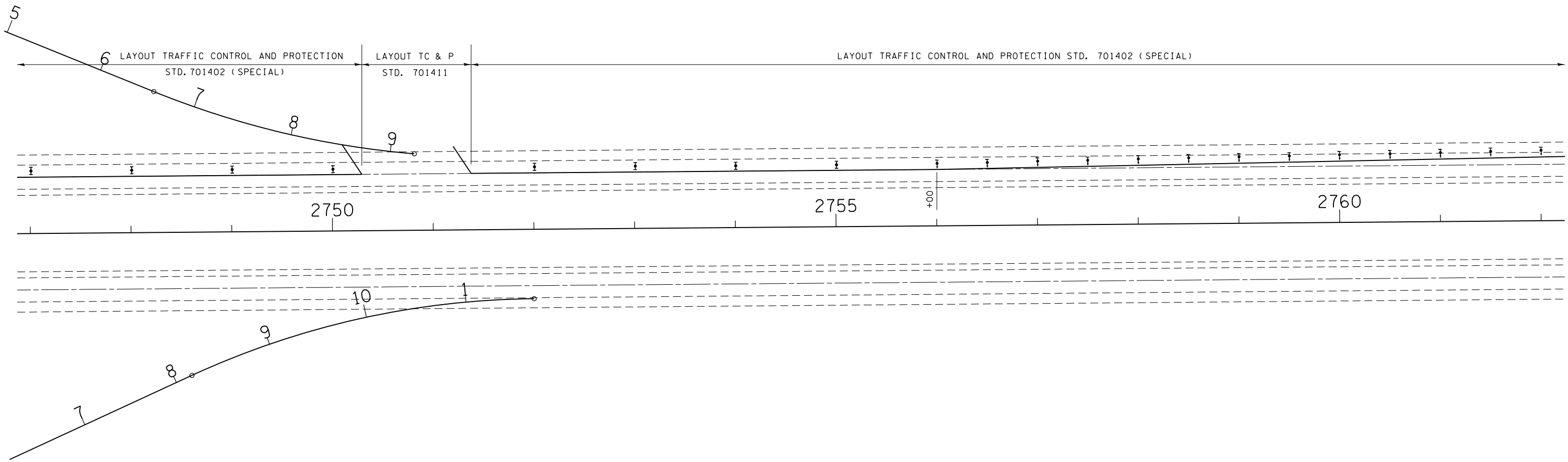
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**


STAGE 1 TRAFFIC CONTROL


SCALE: 50 SHEET 3 OF 5 SHEETS STA. 2734+00 TO STA. 2749+00

• D7 BRIDGE REPAIRS 2013-1				
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	EFFINGHAM	33	11
			CONTRACT NO. 74589	
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

• D7 BRIDGE REPAIRS 2013-1

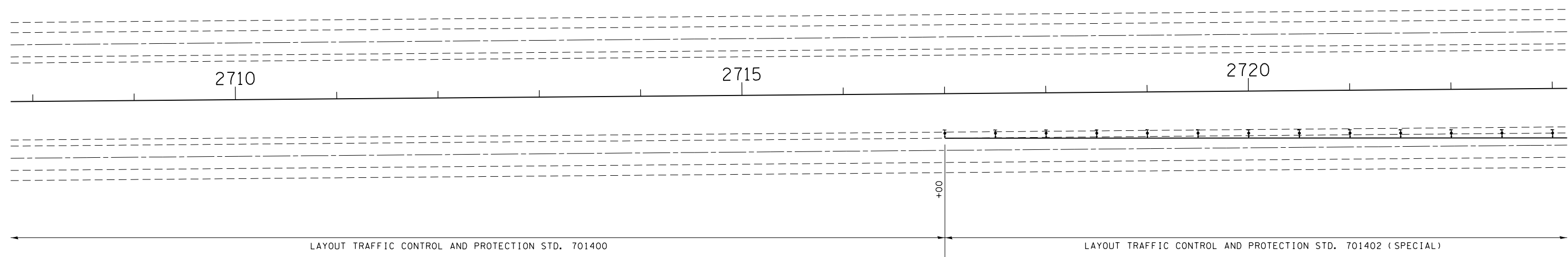
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	PLOT DATE = 10/23/2012	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**


STAGE 1 TRAFFIC CONTROL


SCALE: 50 SHEET 4 OF 5 SHEETS STA. 2747+00 TO STA. 2762+00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	EFFINGHAM	33	12
CONTRACT NO. 74589			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

• D7 BRIDGE REPAIRS 2013-1

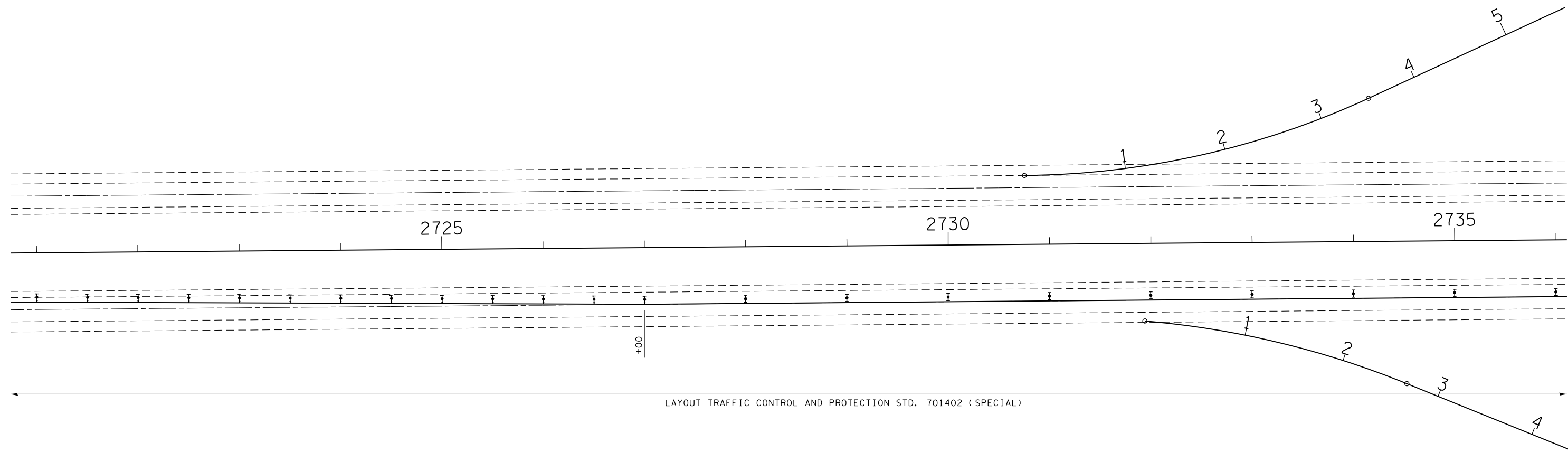
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**


STAGE 2 TRAFFIC CONTROL


SCALE: 50 SHEET 1 OF 5 SHEETS STA. 2708+00 TO STA. 2723+00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	EFFINGHAM	33	14
CONTRACT NO. 74589			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

• D7 BRIDGE REPAIRS 2013-1

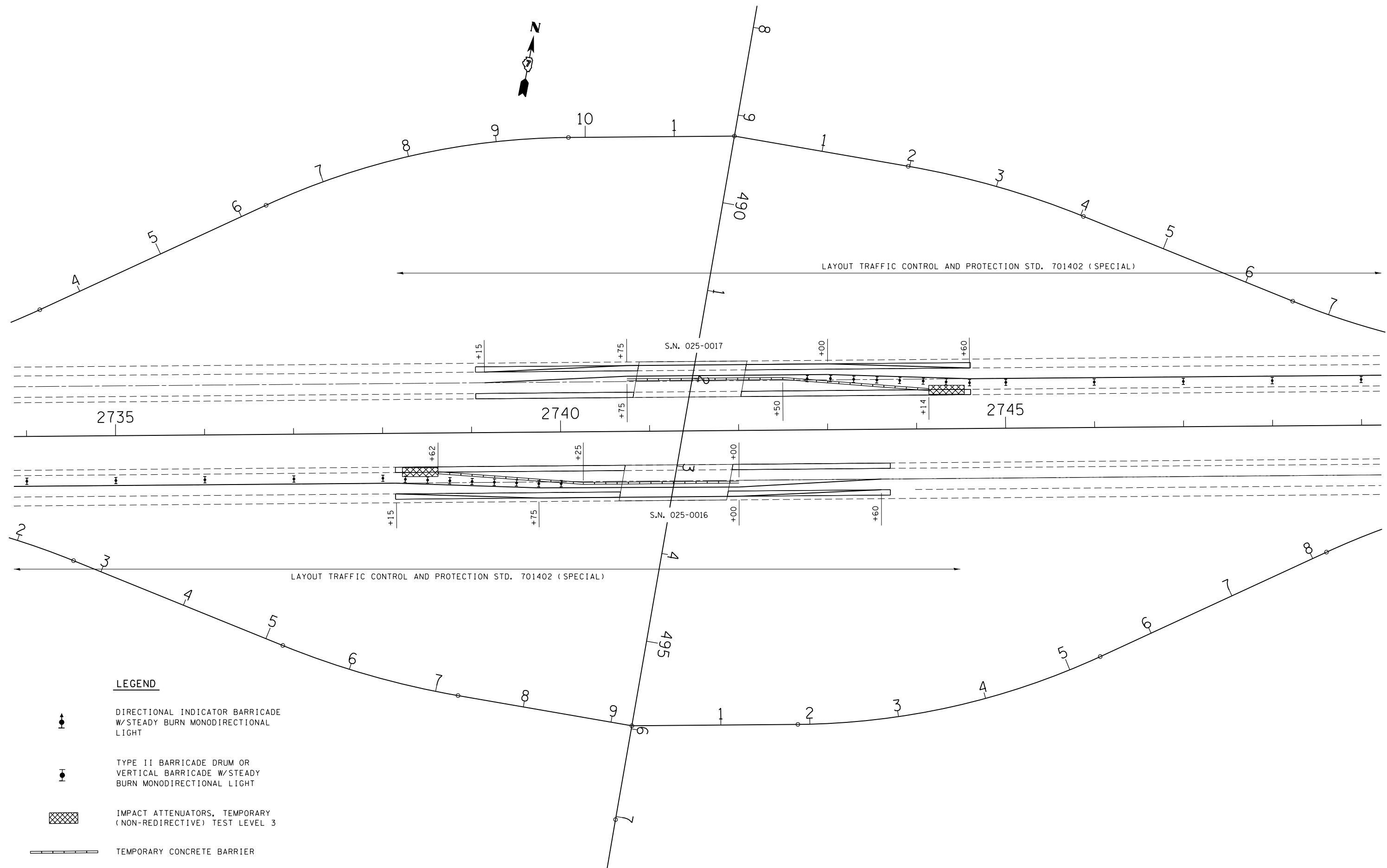
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**





STAGE 2 TRAFFIC CONTROL

SCALE: 50 SHEET 2 OF 5 SHEETS STA. 2721+00 TO STA. 2736+00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	EFFINGHAM	33	15
CONTRACT NO. 74589			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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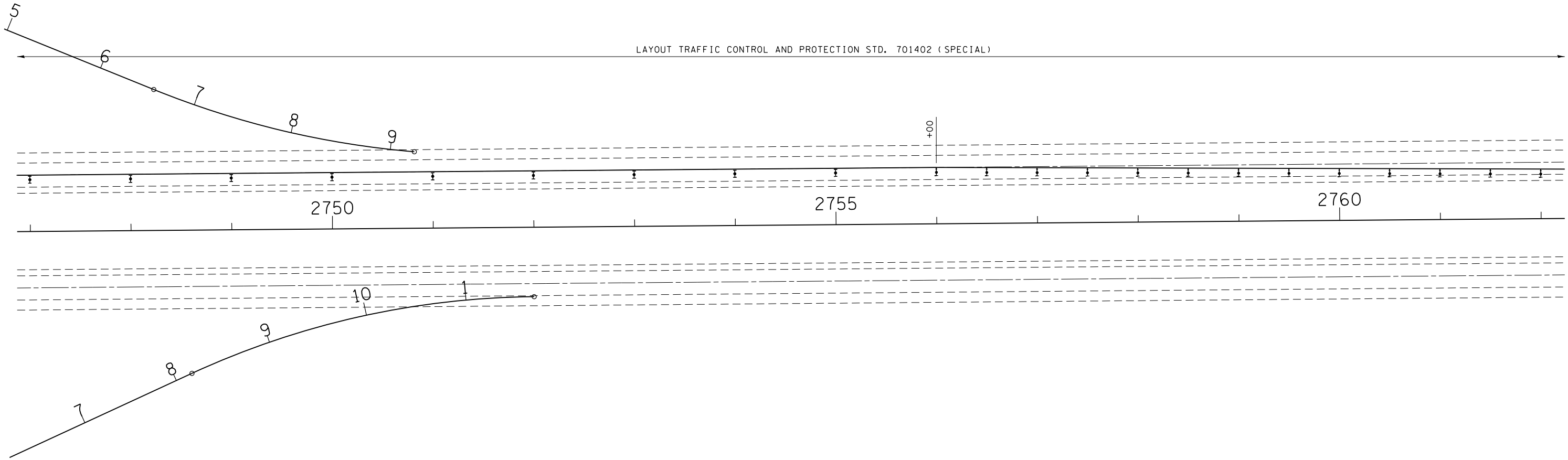
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

STAGE 2 TRAFFIC CONTROL			
SCALE: 50	SHEET 3	OF 5 SHEETS	STA. 2734+00 TO STA. 2749+00




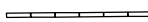
• D7 BRIDGE REPAIRS 2013-1			
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS
70	•	EFFINGHAM	33
			SHEET NO. 16
			CONTRACT NO. 74589
ILLINOIS FED. AID PROJECT			



LAYOUT TRAFFIC CONTROL AND PROTECTION STD. 701402 (SPECIAL)



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

• D7 BRIDGE REPAIRS 2013-1

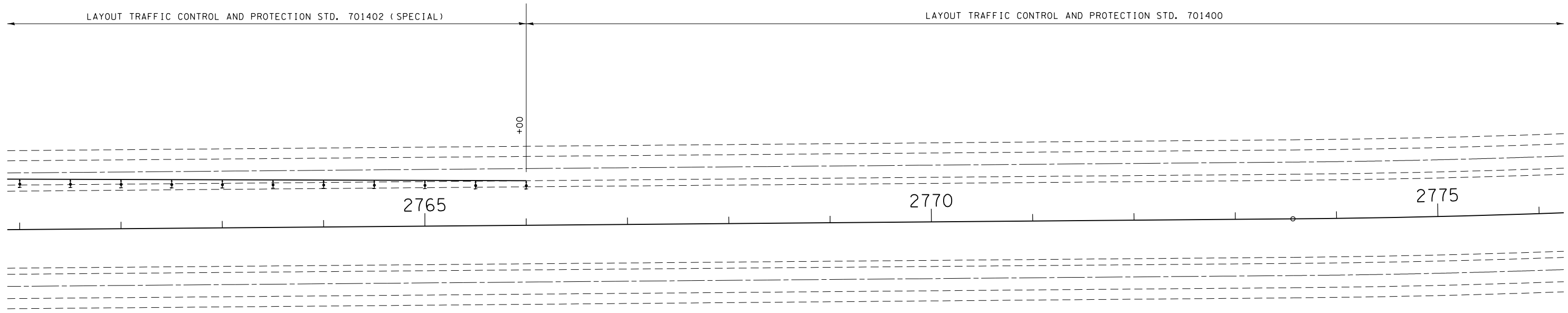
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**




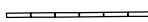
STAGE 2 TRAFFIC CONTROL

SCALE: 50 SHEET 4 OF 5 SHEETS STA. 2747+00 TO STA. 2762+00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	EFFINGHAM	33	17
CONTRACT NO. 74589			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

• D7 BRIDGE REPAIRS 2013-1

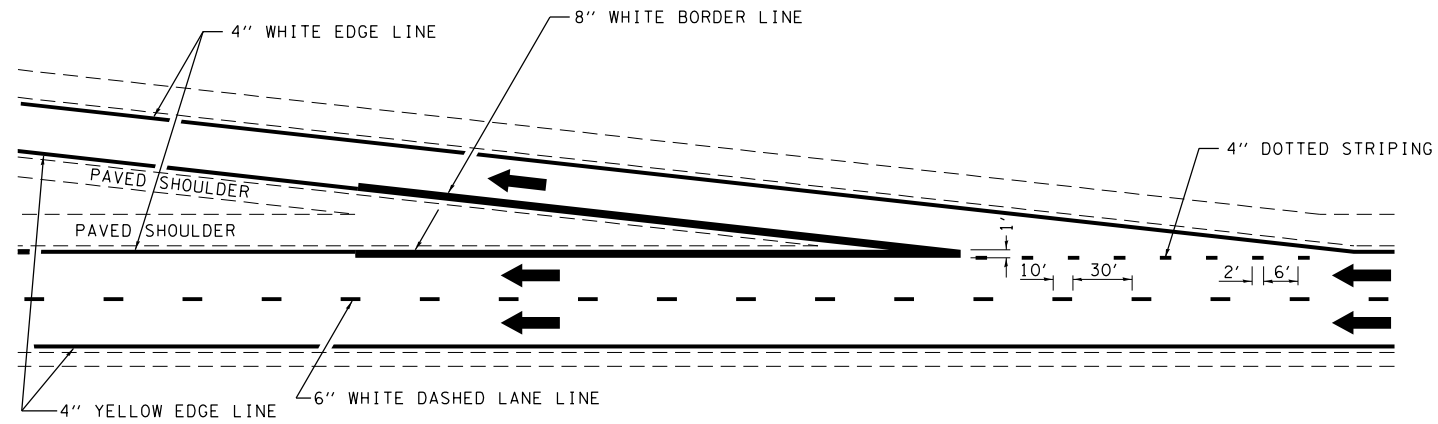
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

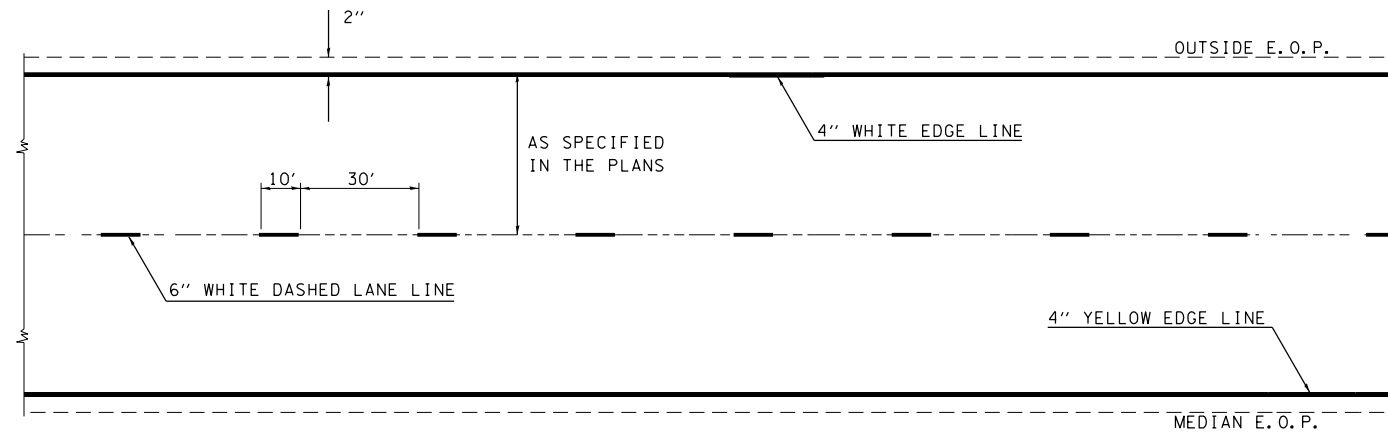
STAGE 2 TRAFFIC CONTROL

SCALE: 50 SHEET 5 OF 5 SHEETS STA. 2761+00 TO STA. 2776+00

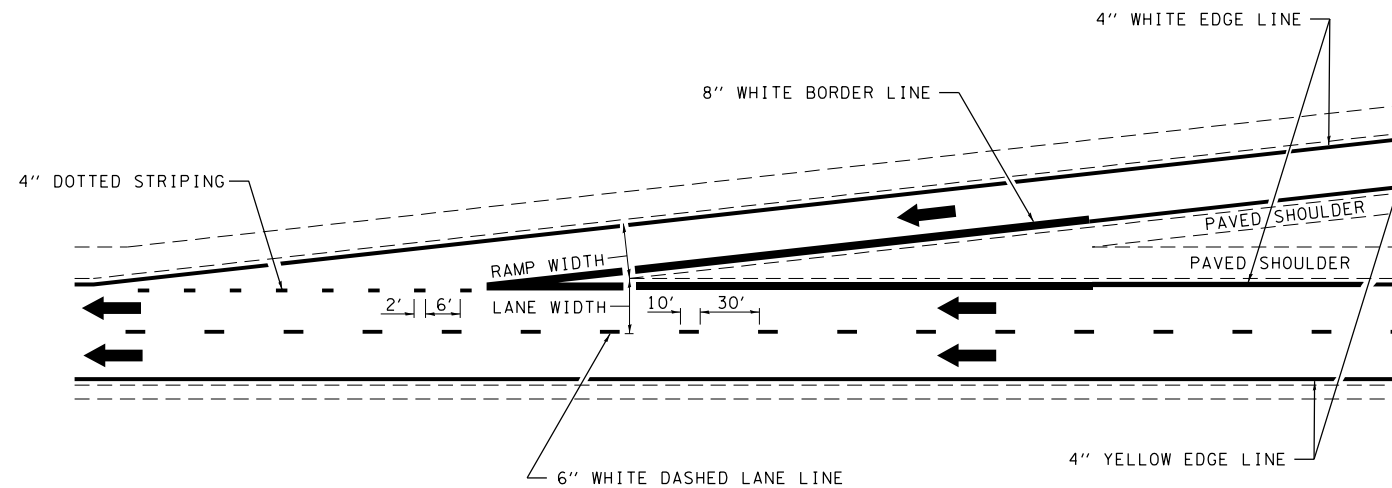
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	EFFINGHAM	33	18
CONTRACT NO. 74589			ILLINOIS FED. AID PROJECT	



TYPICAL EXIT RAMP MARKING



TYPICAL CENTERLINE & EDGELINE MARKINGS



TYPICAL ENTRANCE RAMP MARKING

NOT TO SCALE

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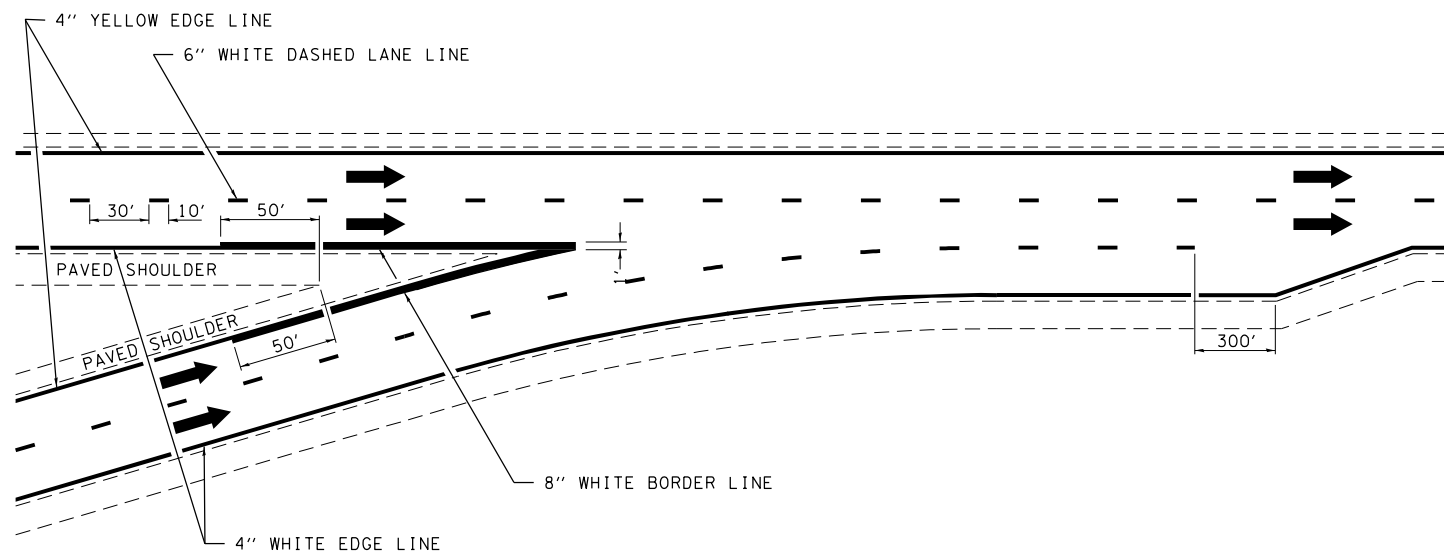
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TYPICAL APPLICATIONS OF INTERSTATE PAVEMENT MARKING

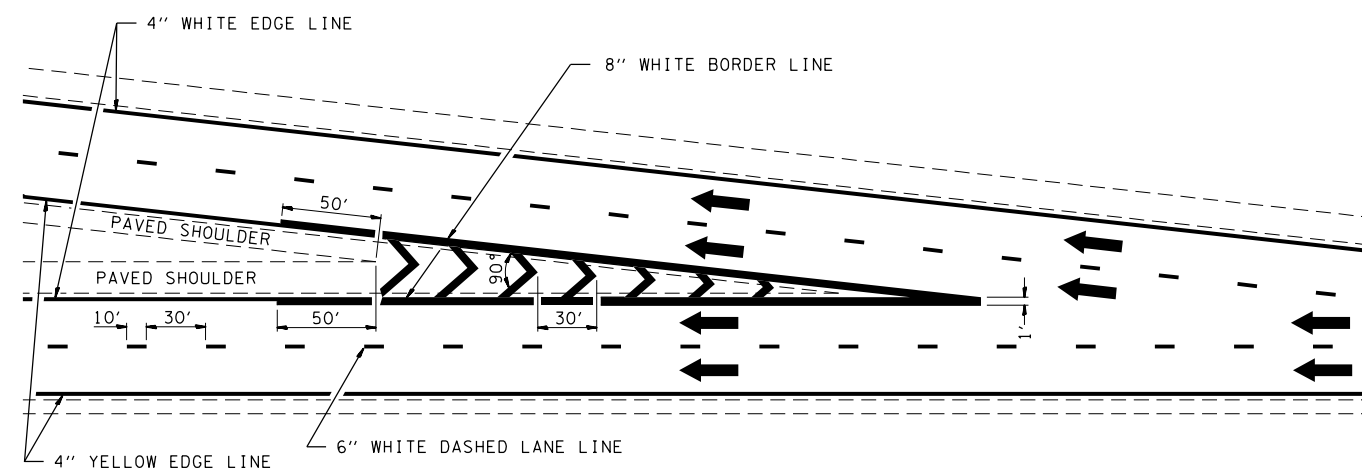
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DISTRICT 7 DETAIL NO. 7800002

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	07 BRIDGE REPAIRS 2013-1	EFFINGHAM	33	19
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT			CONTRACT NO. 74589	

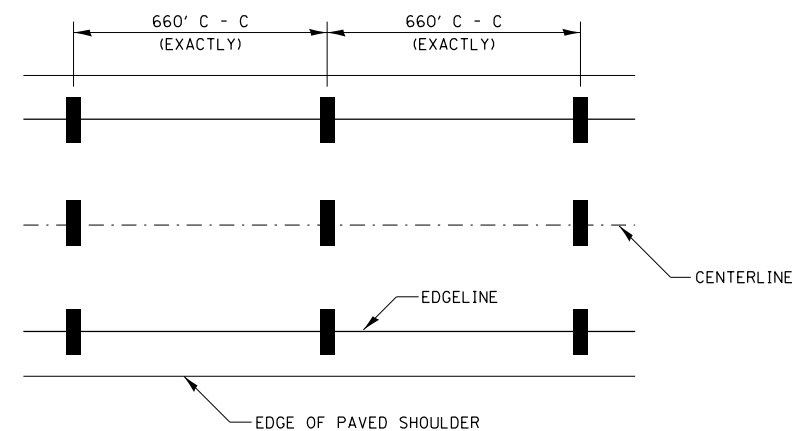


TYPICAL CONVERGENCE MARKING

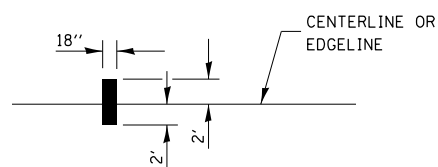


TYPICAL DIVERGENCE MARKING

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

DISTRICT 7 DETAIL NO. 7800002

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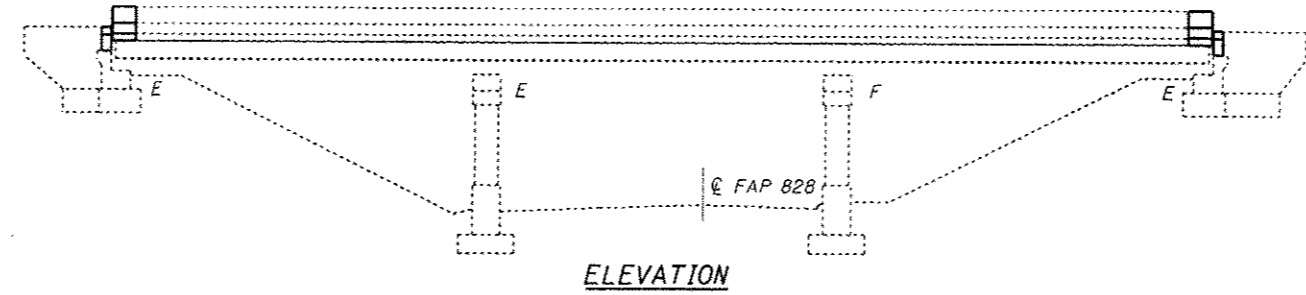
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TYPICAL APPLICATIONS OF INTERSTATE PAVEMENT MARKING

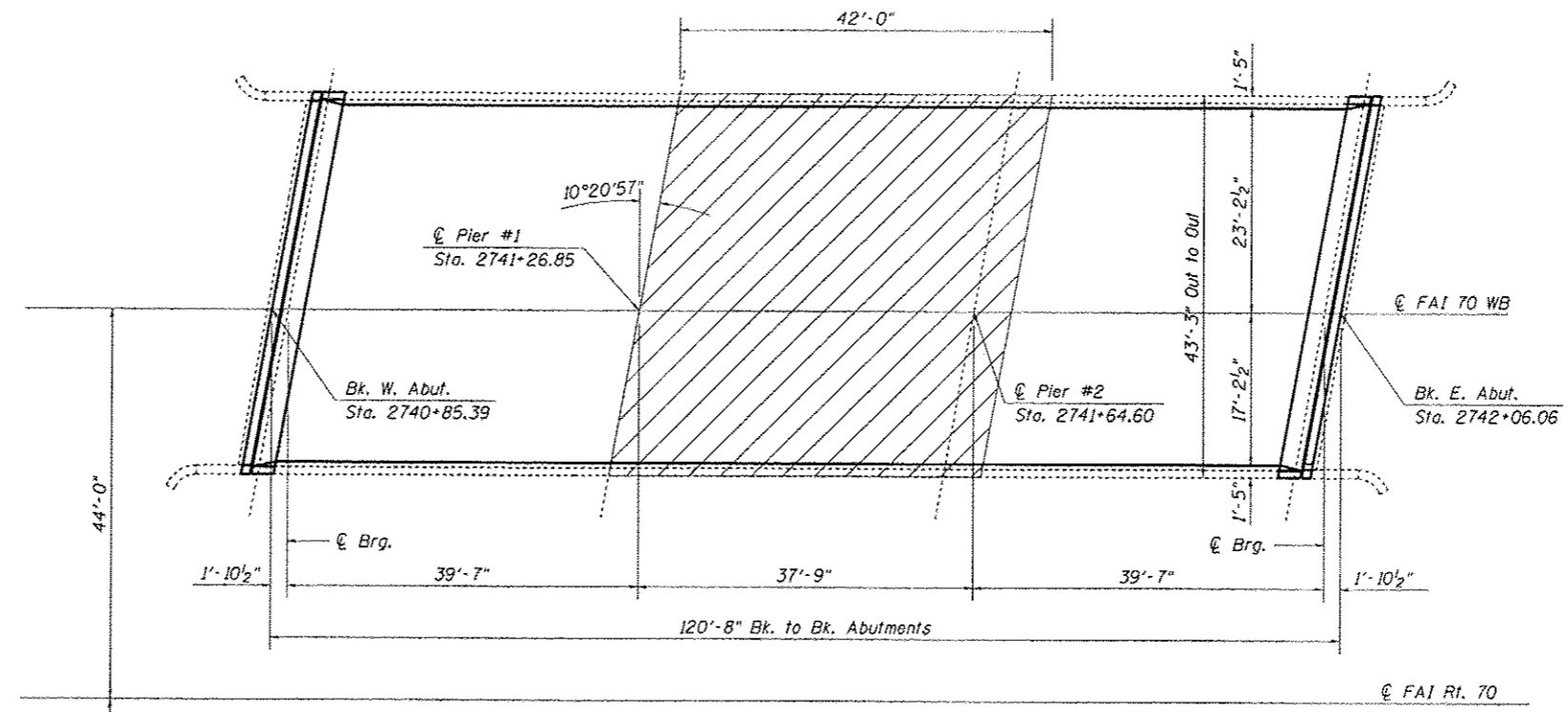
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F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	07 BRIDGE REPAIRS 2013-1	EFFINGHAM	33	20
FED. ROAD DIST. NO.			ILLINOIS FED. AID PROJECT	

The existing three span continuous steel multi-beam dual structures were constructed in 1960 as FAI-70 section 25-5HB-5 at Sta. 2741+37.68. SN. 025-0016 carries FAI-70 (Interstate 70 Eastbound). SN. 025-0017 carries FAI-70 (Interstate 70 Westbound). The proposed project consists of new expansion joints, new elastomeric bearings, full depth deck repair and new concrete wearing surface.



ELEVATION

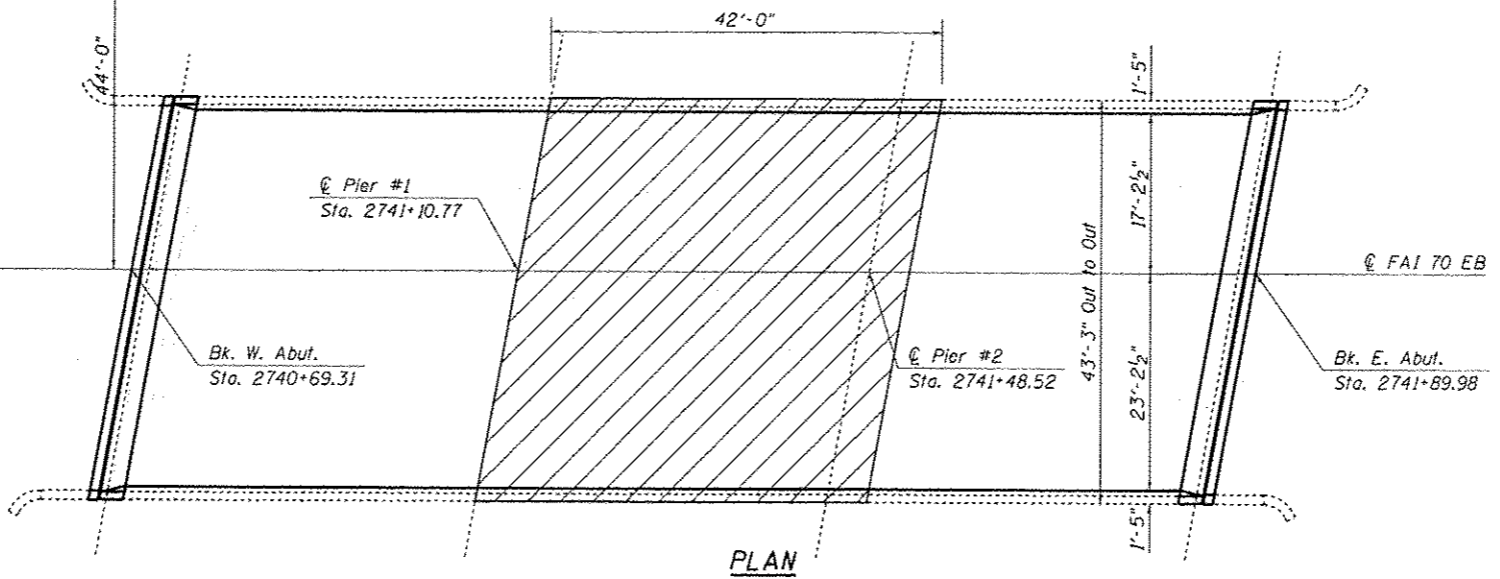


DESIGN STRESSES
 $f_c = 1400$ psi.
 $f_s = 20,000$ psi. (Reinf.)
 $f_s = 18,000$ psi. (Struct.)
 $vc = 75$ psi. (Footings)
 $n = 10$



Dr. Carl Puzey 11/20/12
 Expires 11/30/14

LIMITS OF PROTECTIVE SHIELD



PLAN

FILE NAME	USER NAME = staff\erick	DESIGNED - KLB	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GENERAL PLAN & ELEVATION		• 07 BRIDGE REPAIRS 2013-1		
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	PLT1 DATE = 10/23/2012	DATE - 07/12/12	REVISED -		SCALE: N/A	SHEET 1	OF 13 SHEETS	STA.	TO STA.
					SN. 025-0016 (EB) & 025-0017 (WB)		CONTRACT NO. 74589		
					ILLINOIS FED. AID PROJECT				

GENERAL NOTES

Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

Reinforcement Bars designated (E) shall be epoxy coated.

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 in CONCRETE REMOVAL.

Joint openings shall be adjusted according to Article 520.04 of the Standard Specifications when the deck is poured at an ambient temperature other than 50°F.

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

Removal and reinstallation of guardrail sections will be necessary for construction of the expansion joints. All existing embedded anchors that are within the concrete removal area shall be cleaned and incorporated in the new construction or new approved alternatives shall be supplied and installed. This work and all materials shall be included in the contract unit price for CONCRETE SUPERSTRUCTURE.

Prior to pouring the new concrete deck, all heavy and 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.

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

TOTAL BILL OF MATERIALS

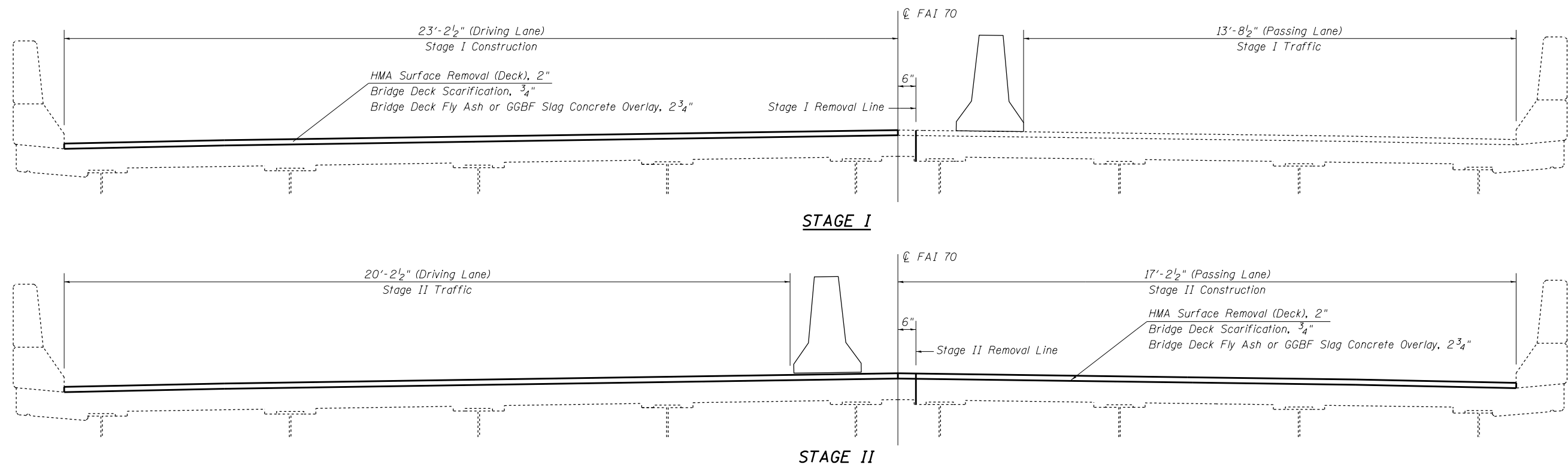
SN. 025-0016 (EB)

ITEM	UNIT	QUANTITY
Concrete Removal	Cu. Yd.	14.4
Concrete Superstructure	Cu. Yd.	14.4
Reinforcement Bars, Epoxy Coated	Pound	1960
Bar Splicers	Each	28
Preformed Joint Strip Seal	Foot	87.0
HMA Surface Removal (Deck)	Sq Yd	509
Bridge Deck Scarification, 3/4"	Sq Yd	509
Bridge Deck Fly Ash or GGBF Slag Concrete Overlay, 2 3/4"	Sq Yd	509
Bridge Deck Grooving	Sq Yd	504
Protective Coat	Sq Yd	40
Deck Slab Repair (Full Depth, Type I)	Sq Yd	1
Deck Slab Repair (Full Depth, Type II)	Sq Yd	9
Protective Shield	Sq Yd	202
Elastomeric Bearing Assembly, Type I	Each	9
Elastomeric Bearing Assembly, Type II	Each	9
Jack and Remove Existing Bearings	Each	18
Furnishing and Erecting Structural Steel	Pound	1985
Anchor Bolts, 1"Ø	Each	36

TOTAL BILL OF MATERIALS

SN. 025-0017 (WB)

ITEM	UNIT	QUANTITY
Concrete Removal	Cu. Yd.	14.4
Concrete Superstructure	Cu. Yd.	14.4
Reinforcement Bars, Epoxy Coated	Pound	1960
Bar Splicers	Each	28
Preformed Joint Strip Seal	Foot	87.0
HMA Surface Removal (Deck)	Sq Yd	509
Bridge Deck Scarification, 3/4"	Sq Yd	509
Bridge Deck Fly Ash or GGBF Slag Concrete Overlay, 2 3/4"	Sq Yd	509
Bridge Deck Grooving	Sq Yd	504
Protective Coat	Sq Yd	40
Deck Slab Repair (Full Depth, Type I)	Sq Yd	1
Deck Slab Repair (Full Depth, Type II)	Sq Yd	21
Protective Shield	Sq Yd	202
Elastomeric Bearing Assembly, Type I	Each	9
Elastomeric Bearing Assembly, Type II	Each	9
Jack and Remove Existing Bearings	Each	18
Furnishing and Erecting Structural Steel	Pound	1985
Anchor Bolts, 1"Ø	Each	36



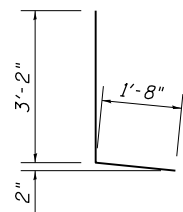
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

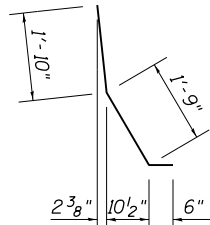
**GENERAL NOTES & BILL OF MATERIALS
SN. 025-0016 (EB) & 025-0017 (WB)**

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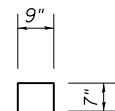
• D7 BRIDGE REPAIRS 2013-1			
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS SHEET NO.
70	•	EFFINGHAM	33 22
			CONTRACT NO. 74589
ILLINOIS FED. AID PROJECT			



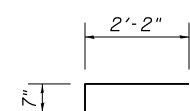
Bar d(E)



Bar d1(E)



Bar u(E)



Bar x(E)

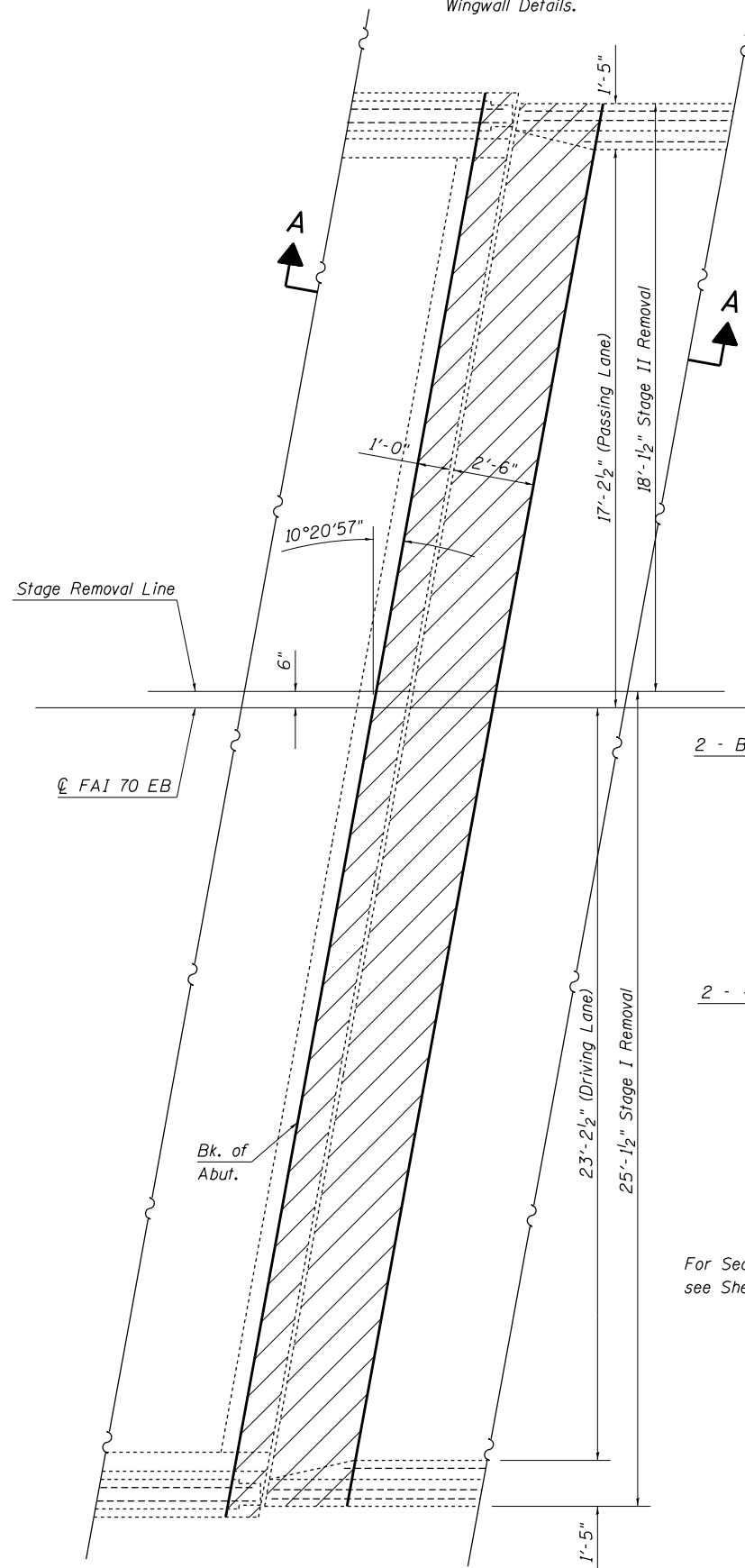
BILL OF MATERIAL

PER ABUTMENT

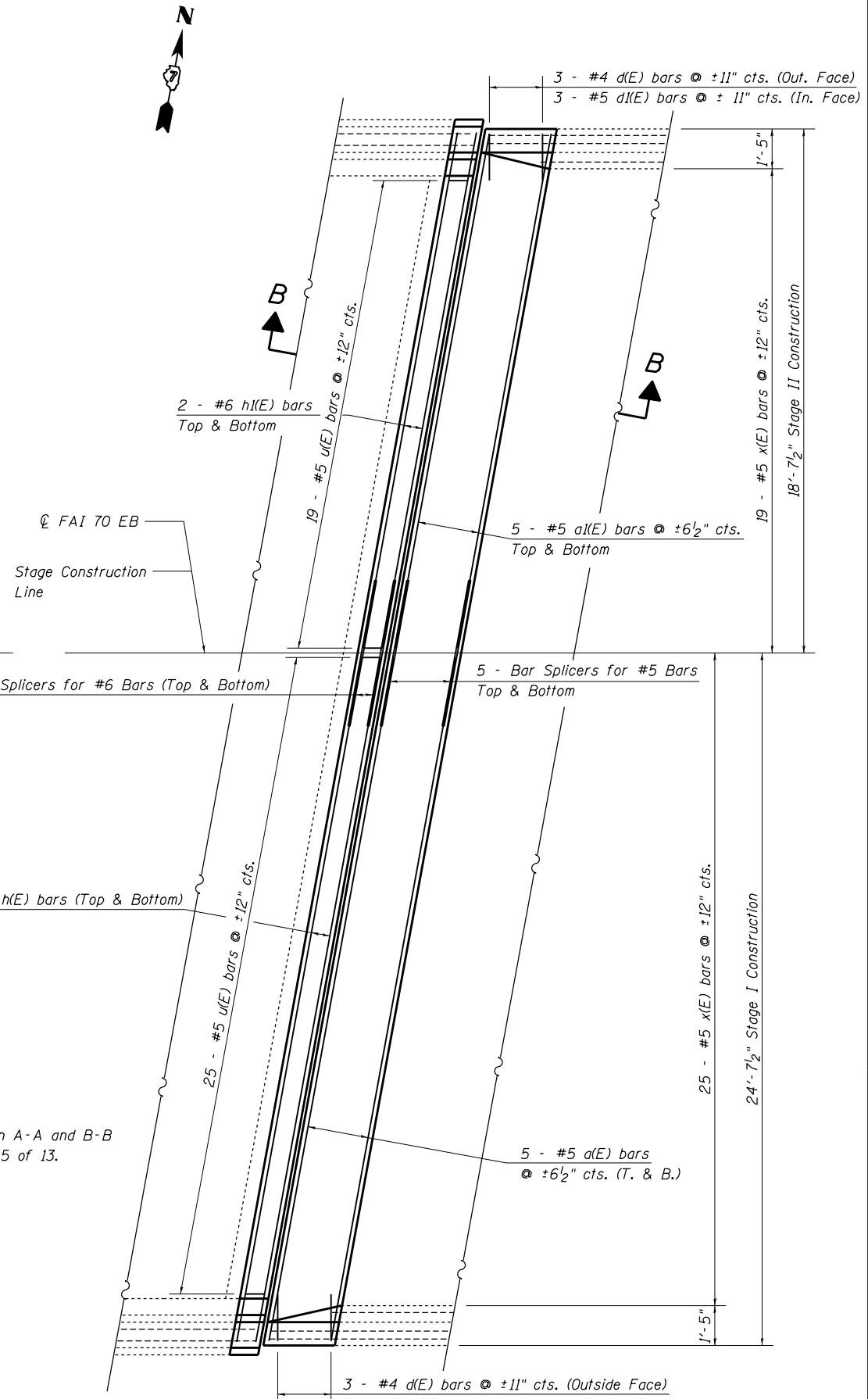
BAR	NUMBER OF BARS		TOTAL	SIZE	LENGTH	SHAPE
	STAGE I	STAGE II				
a (E)	10		10	#5	24'-8"	—
a1(E)		10	10	#5	18'-7"	—
d (E)	3	3	6	#4	4'-10"	L
d1(E)	3	3	6	#5	4'-1"	\
h (E)	4		4	#6	24'-9"	—
h1(E)		4	4	#6	18'-7"	—
u (E)	25	19	44	#5	1'-11"	□
x (E)	25	19	44	#5	2'-9"	□
REINFORCEMENT BARS (EPOXY COATED)					POUND	980
CONCRETE REMOVAL					CU YD	7.2
CONCRETE SUPERSTRUCTURE					CU YD	7.2

Hatching indicates removal.

See Sheet 6 of 13 for Wingwall Details.



EXISTING PARTIAL PLAN
(West Abutment shown; East Abutment similar)



PROPOSED PARTIAL PLAN
(West Abutment shown; East Abutment similar)

For Section A-A and B-B see Sheet 5 of 13.

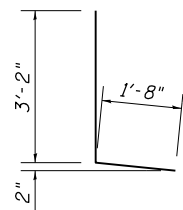
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	PLOT DATE = 10/23/2012	DATE - 07/12/12	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

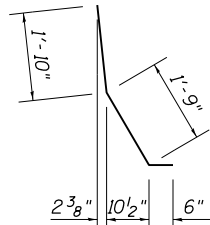
EXPANSION JOINT REPLACEMENT DETAILS
SN. 025-0016 (EB)

SCALE: N/A SHEET 3 OF 13 SHEETS STA. TO STA.

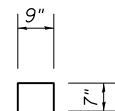
• D7 BRIDGE REPAIRS 2013-1			
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS
70	.	EFFINGHAM	33
			SHEET NO. 23
		CONTRACT NO.	74589
ILLINOIS FED. AID PROJECT			



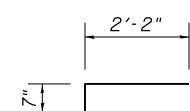
Bar d(E)



Bar d1(E)



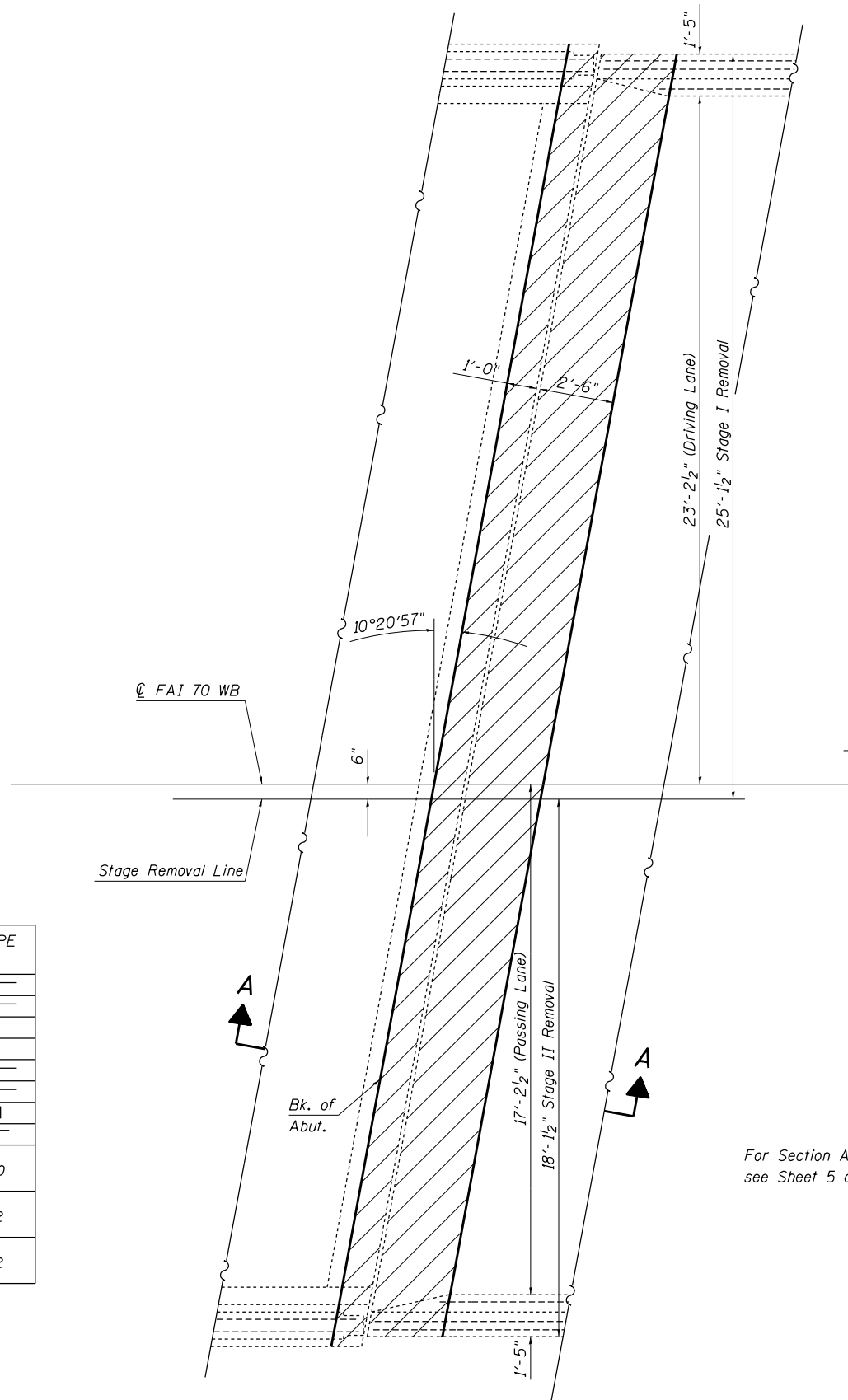
Bar u(E)



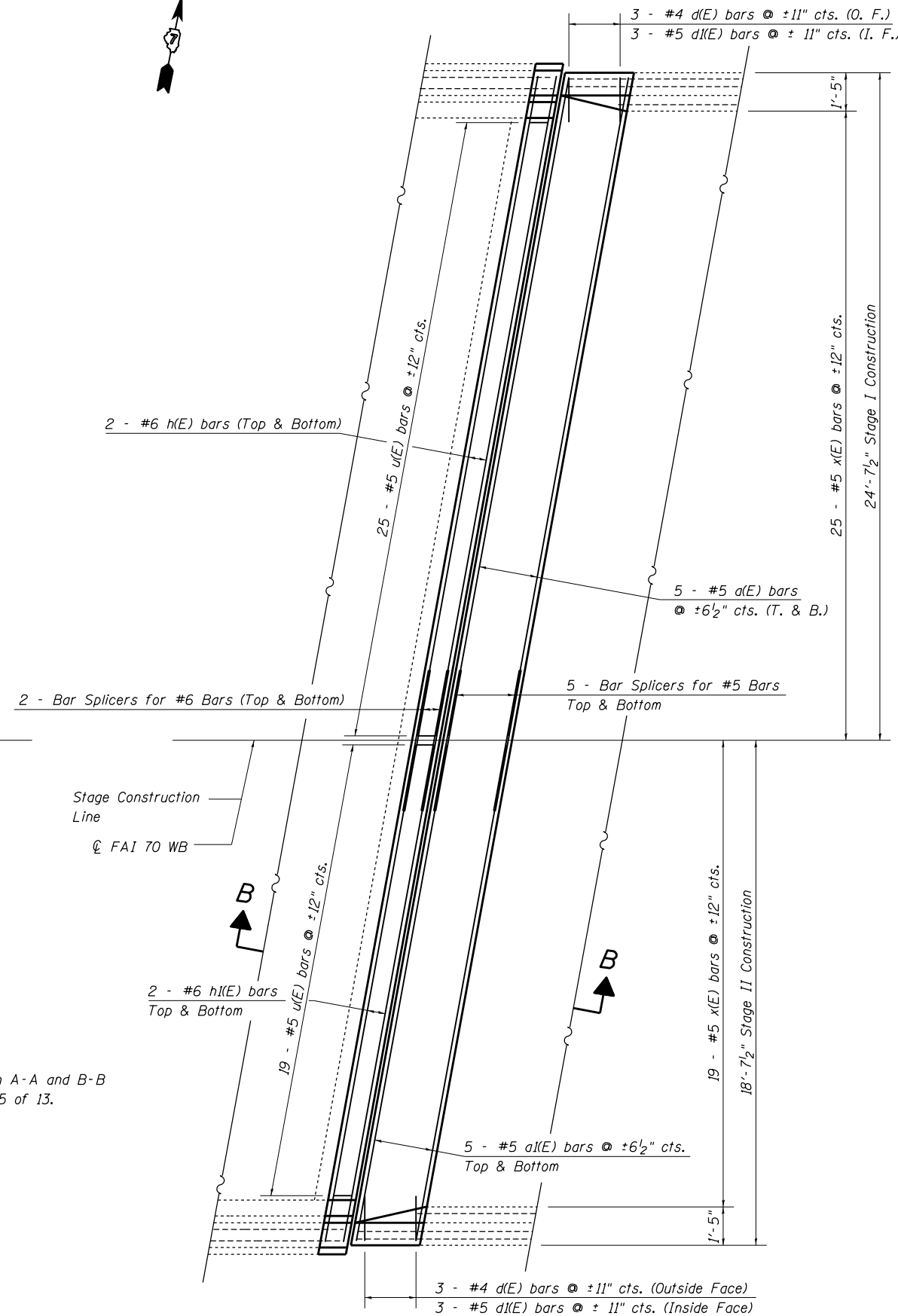
Bar x(E)

Hatching indicates removal.

See Sheet 6 of 13 for Wingwall Details.



EXISTING PARTIAL PLAN
(West Abutment shown; East Abutment similar)



PROPOSED PARTIAL PLAN
(West Abutment shown; East Abutment similar)

BILL OF MATERIAL

PER ABUTMENT

BAR	NUMBER OF BARS		TOTAL	SIZE	LENGTH	SHAPE
	STAGE I	STAGE II				
a (E)	10		10	#5	24'-8"	—
a1(E)		10	10	#5	18'-7"	—
d (E)	3	3	6	#4	4'-10"	L
d1(E)	3	3	6	#5	4'-1"	∩
h (E)	4		4	#6	24'-9"	—
h1(E)		4	4	#6	18'-7"	—
u (E)	25	19	44	#5	1'-11"	□
x (E)	25	19	44	#5	2'-9"	□
REINFORCEMENT BARS (EPOXY COATED)					POUND	980
CONCRETE REMOVAL					CU YD	7.2
CONCRETE SUPERSTRUCTURE					CU YD	7.2

For Section A-A and B-B see Sheet 5 of 13.

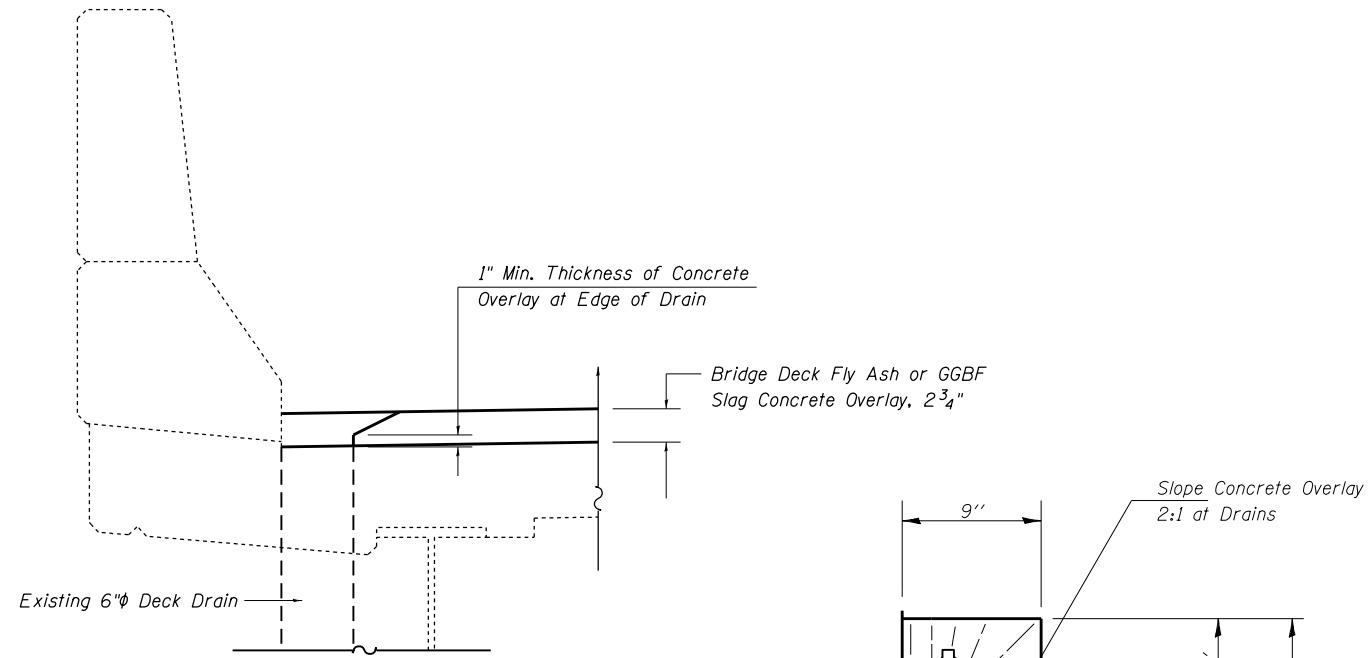
FILE NAME =	USER NAME = steffenmk	DESIGNED - KLB	REVISED -
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Default	PLOT SCALE = 40.0000' / in.	CHECKED - MEA	REVISED -
	PLOT DATE = 10/23/2012	DATE - 07/12/12	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

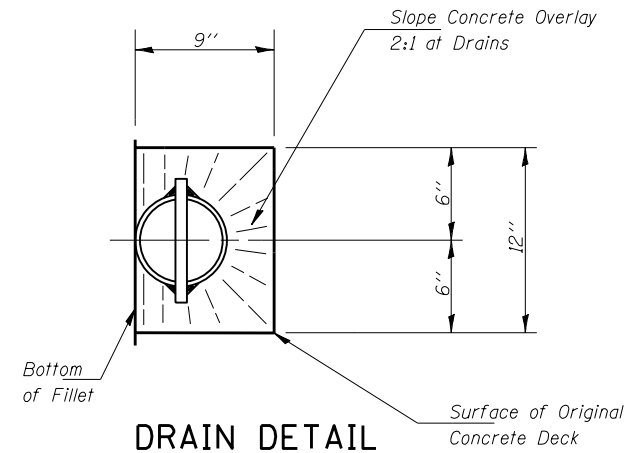
EXPANSION JOINT REPLACEMENT DETAILS
SN. 025-0017 (WB)

SCALE: N/A SHEET 4 OF 13 SHEETS STA. TO STA.

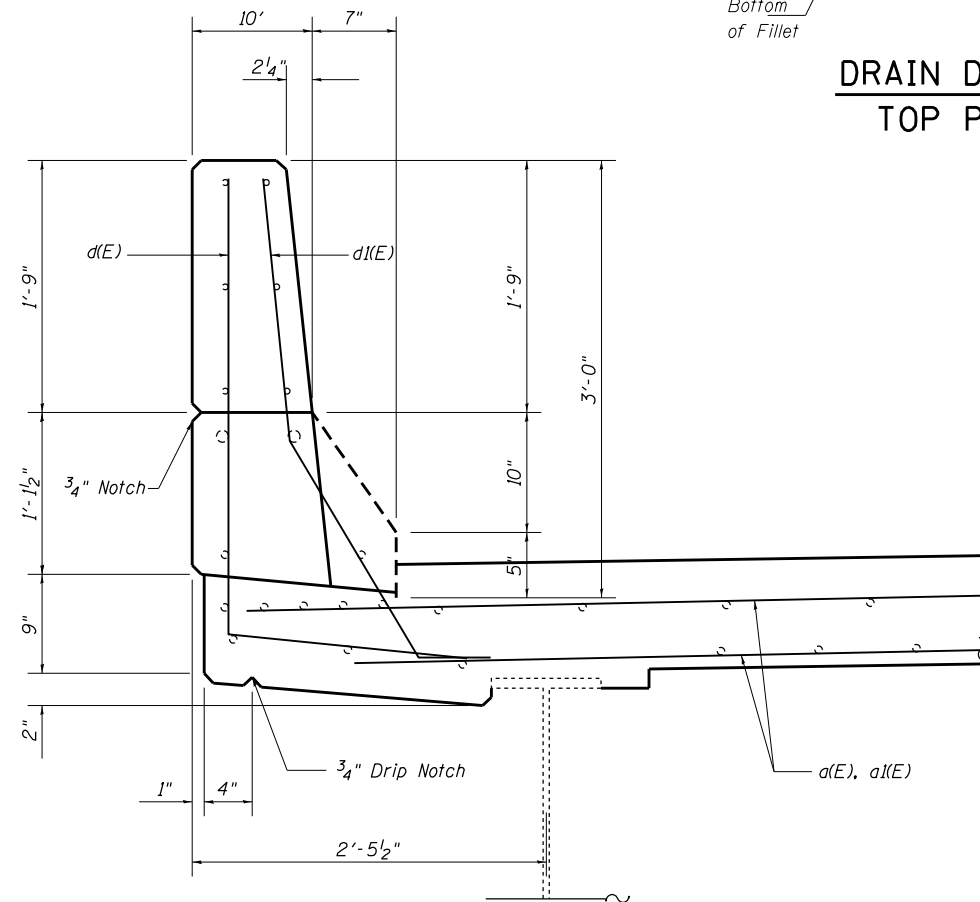
• D7 BRIDGE REPAIRS 2013-1			
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS
70	.	EFFINGHAM	33
CONTRACT NO. 74589			SHEET NO. 24
ILLINOIS FED. AID PROJECT			



FLOOR DRAIN DETAIL

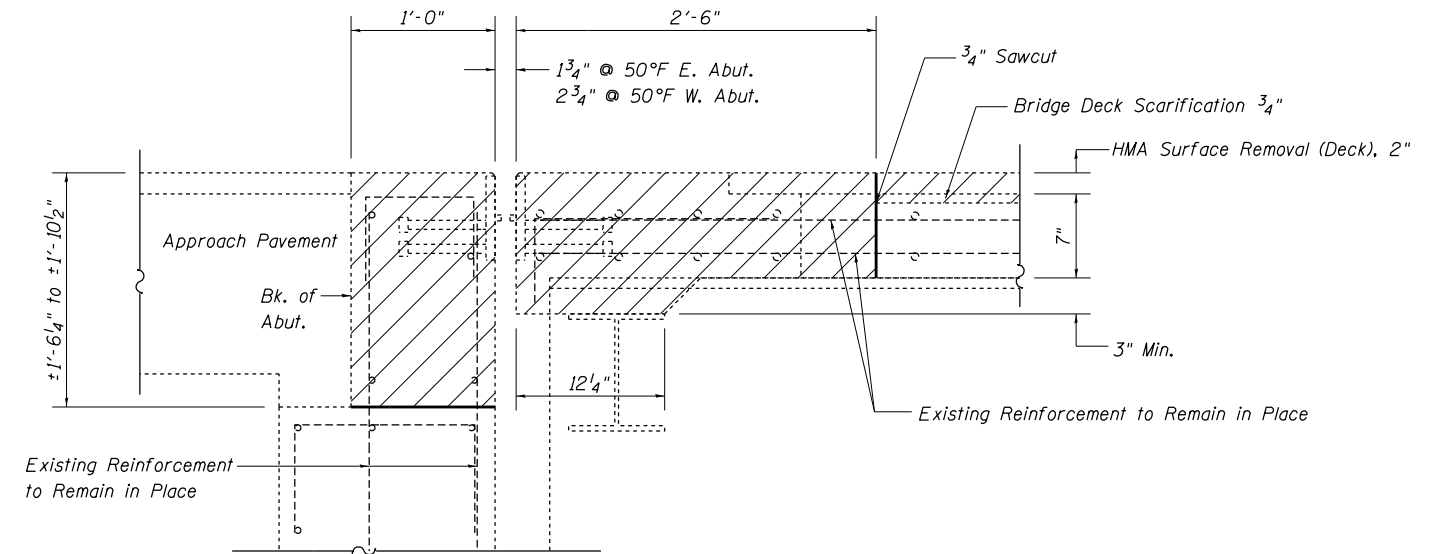


DRAIN DETAIL TOP PLAN



SECTION THRU PARAPET

Hatching indicates removal.

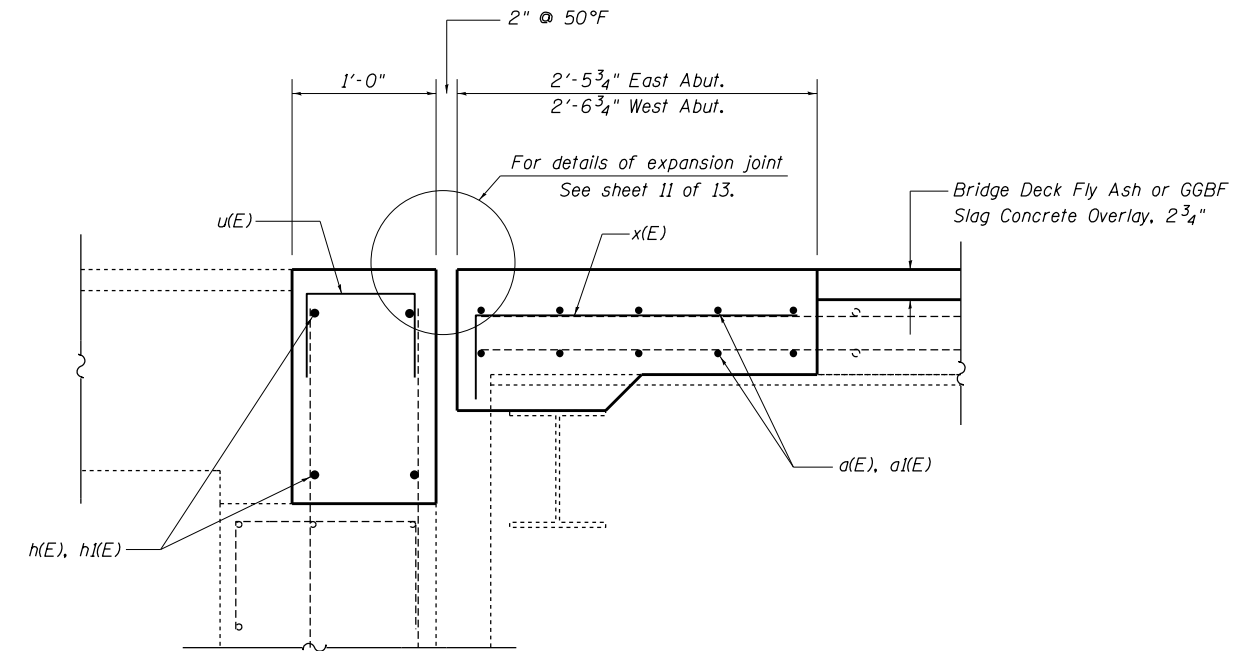


SECTION A-A

(Dimensions at Rt. L's to end of deck)

Note: Removal and disposal of the existing expansion joint is included in the cost of CONCRETE REMOVAL.

- Existing Reinforcement
- Proposed Reinforcement



SECTION B-B

(Dimensions at Rt. L's to end of deck)

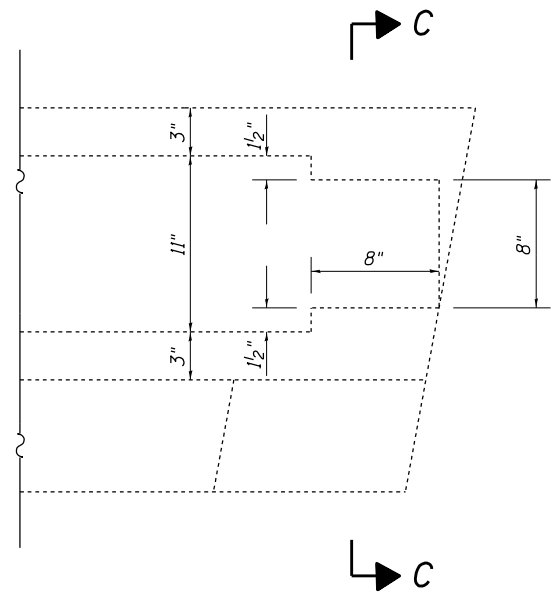
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Default	PLOT SCALE = 40.0000' / in.	CHECKED - MEA	REVISED -
	PLOT DATE = 10/23/2012	DATE - 07/12/12	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

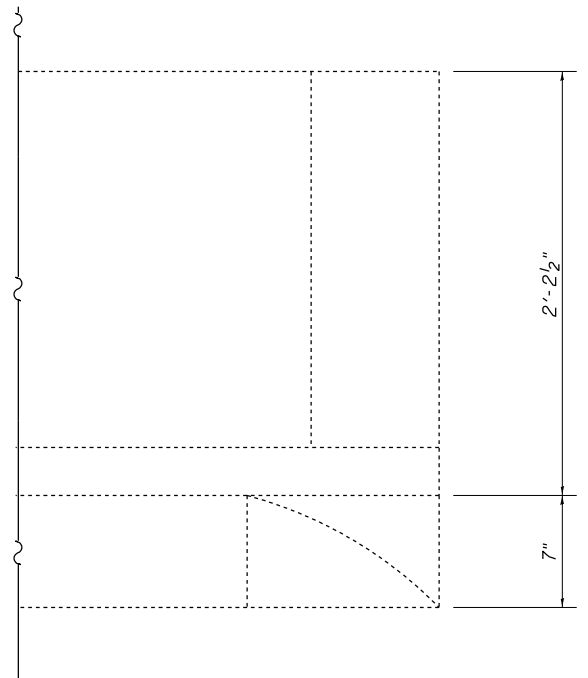
**EXPANSION JOINT REPLACEMENT DETAILS
SN. 025-0016 (EB) & 025-0017 (WB)**

SCALE: N/A SHEET 5 OF 13 SHEETS STA. TO STA.

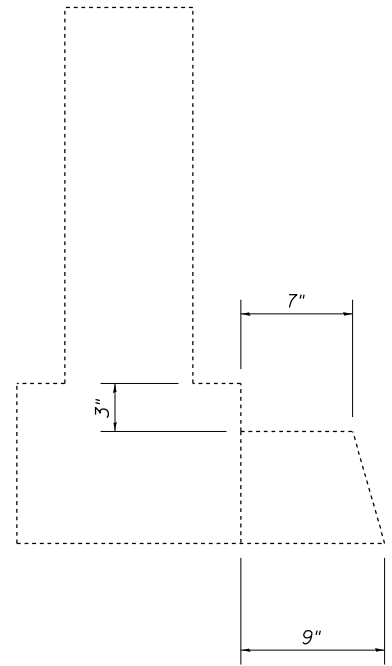
• D7 BRIDGE REPAIRS 2013-1				
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	EFFINGHAM	33	25
			CONTRACT NO. 74589	
ILLINOIS FED. AID PROJECT				



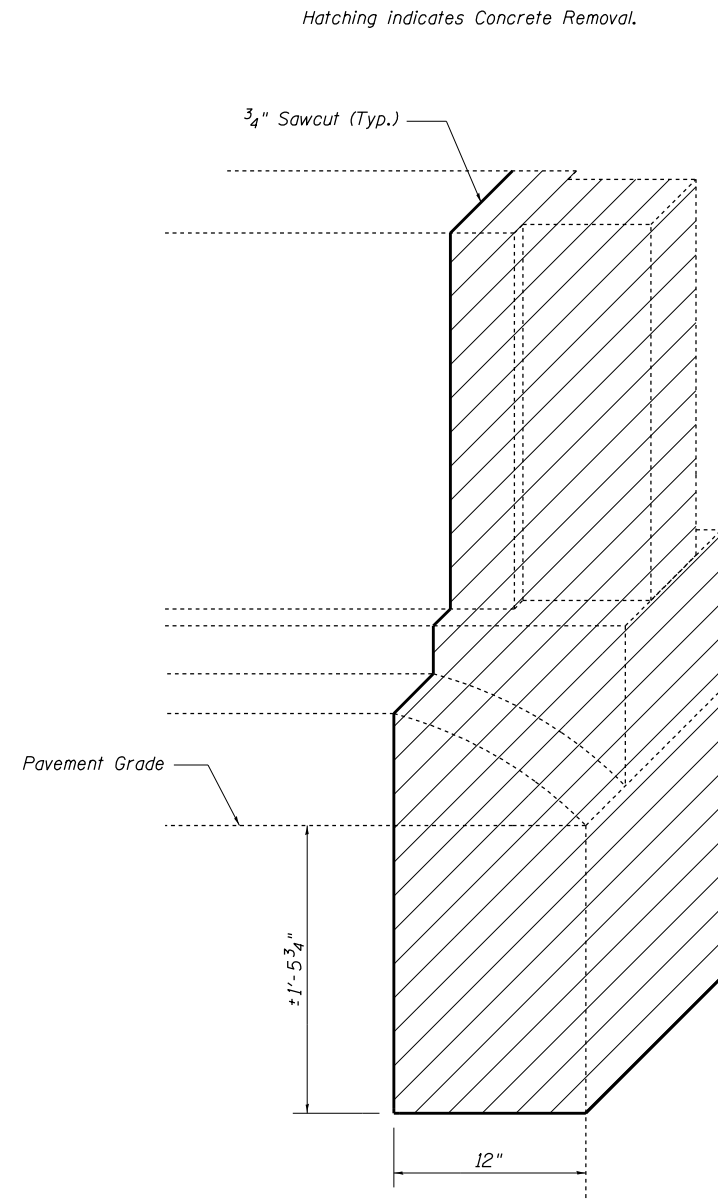
PLAN



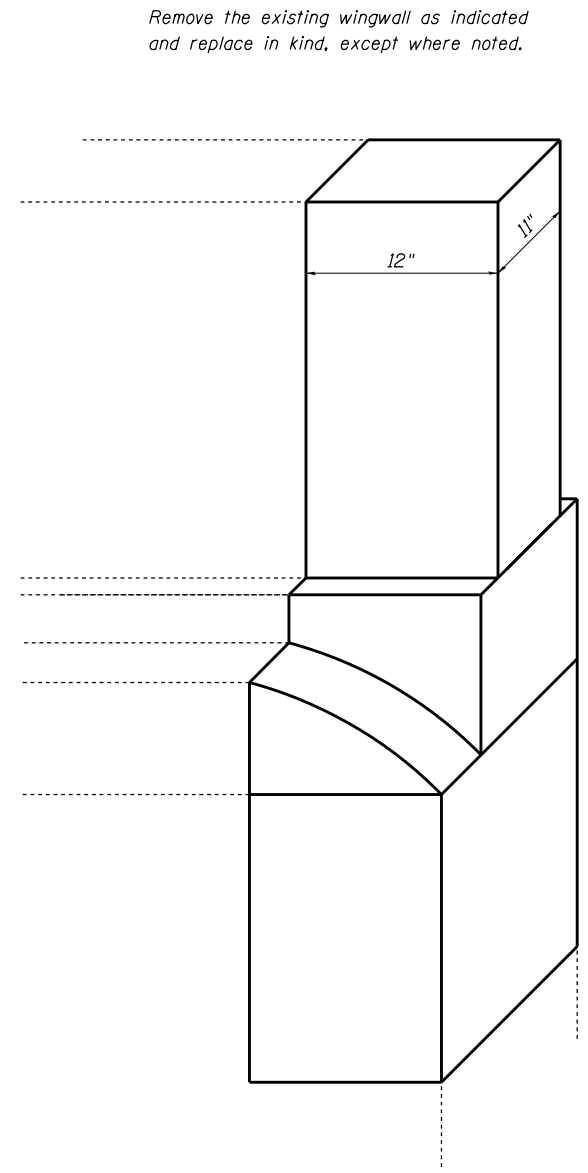
ELEVATION



SECTION C-C



EXISTING PARTIAL PLAN



PROPOSED PARTIAL PLAN

FILE NAME =	USER NAME = steffenk	DESIGNED - KLB	REVISED -
ci:\pw\work\p\idot\stefenk\d0307594\0744589-sht-br\details-025-001617.dgn		DRAWN - KLB	REVISED -
Default	PLOT SCALE = 40.0000' / in.	CHECKED - MEA	REVISED -
	PLOT DATE = 10/23/2012	DATE - 07/12/12	REVISED -

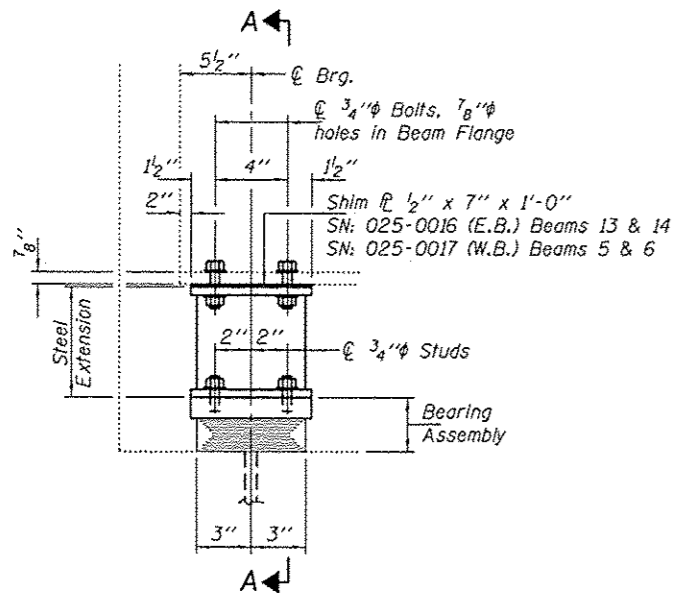
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**WINGWALL DETAILS
SN. 025-0016 (EB) & 025-0017 (WB)**

SCALE: N/A SHEET 6 OF 13 SHEETS STA. TO STA.

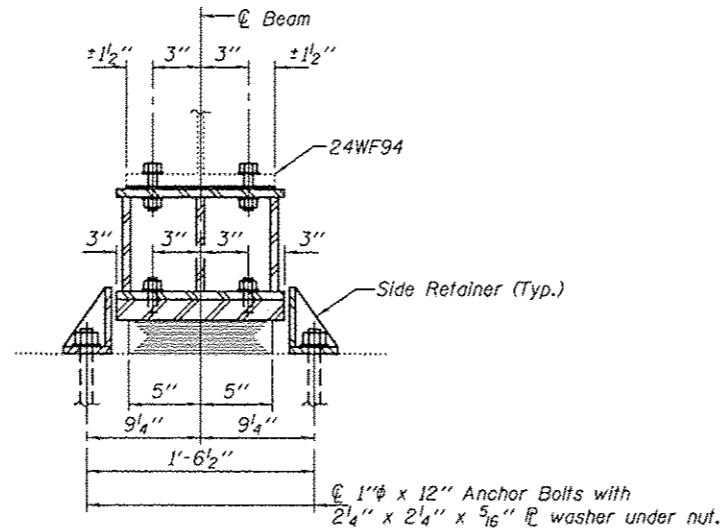
• 07 BRIDGE REPAIRS 2013-1

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	EFFINGHAM	33	26
CONTRACT NO. 74589			ILLINOIS FED. AID PROJECT	



ELEVATION AT EAST ABUTMENT

TYPE I ELASTOMERIC EXP. BRG.

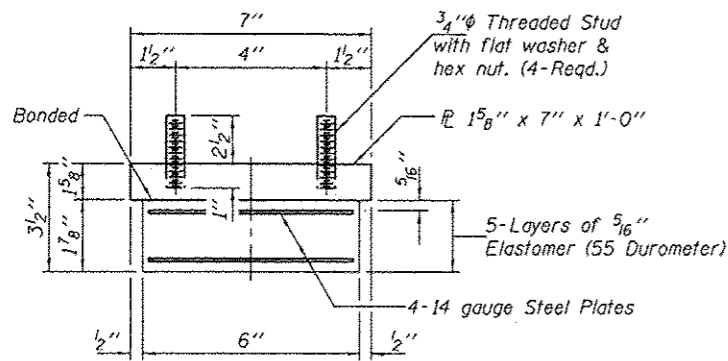


SECTION A-A

BEAM REACTIONS

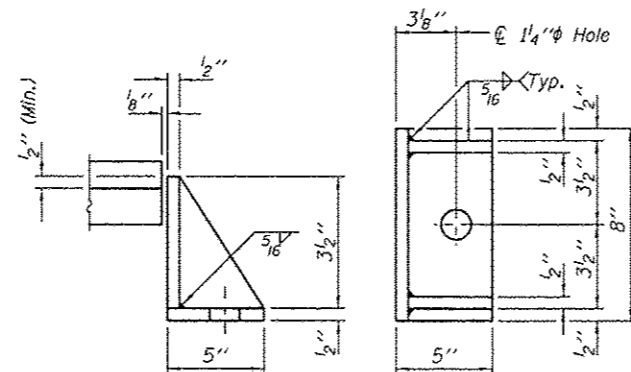
R _P	(K)	12.5
R _L	(K)	24.6
Imp.	(K)	7.4
R (Total)	(K)	44.5

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. Min. jack capacity = 25 Tons.
 Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grades 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.
 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 I.



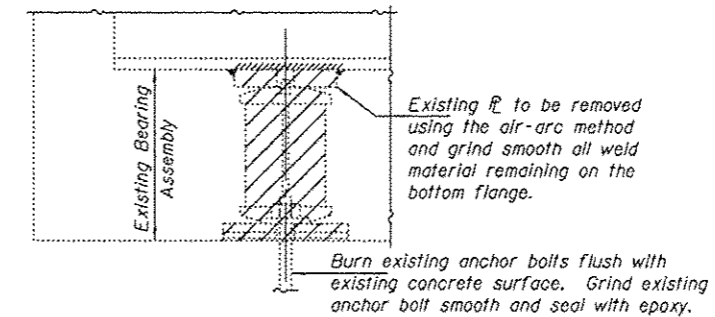
BEARING ASSEMBLY

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



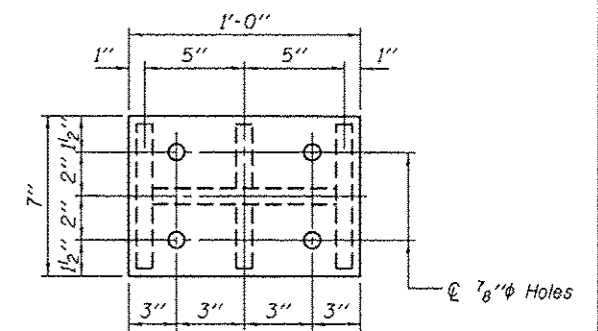
SIDE RETAINER

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

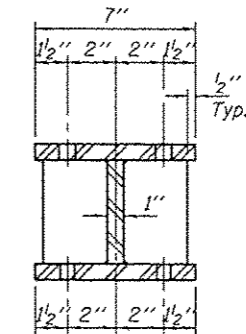


EXISTING BEARING REMOVAL DETAIL

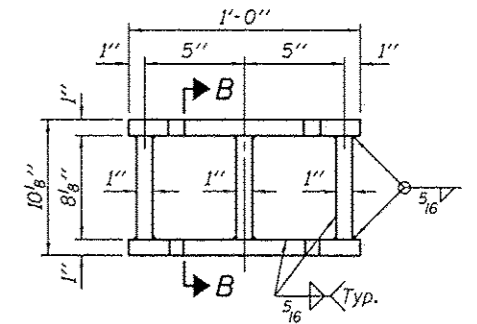
Cost Included with Jack and Remove Existing Bearings.



PLAN TOP AND BOTTOM PLATE



SECTION B-B



STEEL EXTENSION DETAIL

BILL OF MATERIAL

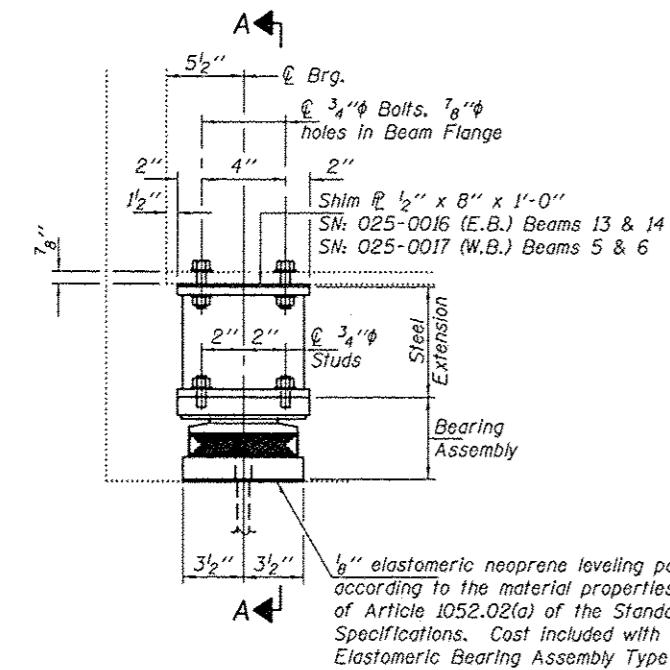
Item	Unit	Total
Elastomeric Bearing Assembly, Type I	Each	18
Jack and Remove Existing Bearings	Each	18
Furnishing and Erecting Structural Steel	Pound	2020
Anchor Bolts 1"φ	Each	36

EXPIRES 11-30-2014

TYI/REPS 12-03-2008

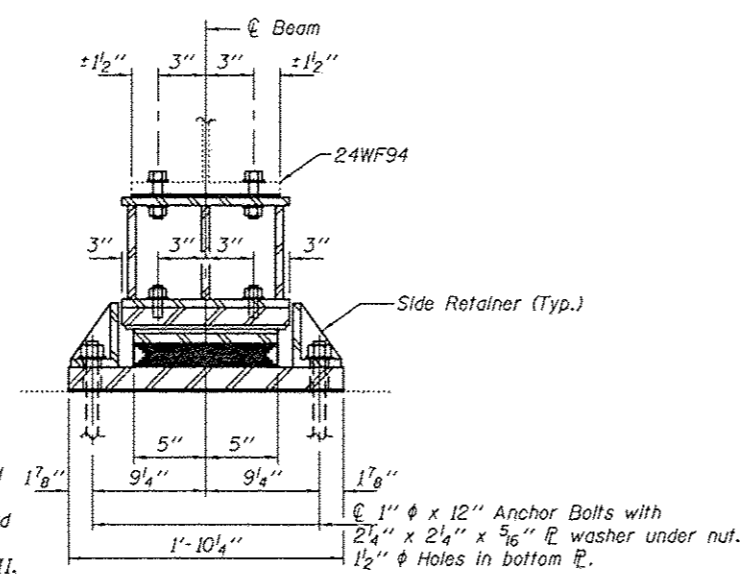
DESIGNED -	EXAMINED -	DATE - NOVEMBER 16, 2012	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BEARING REPLACEMENT DETAILS AT EAST ABUTMENT SN 025-0016 (E.B.) & 0017 (W.B.)	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
CHECKED -	ACTING ENGINEER OF STRUCTURAL SERVICES	REVISED			70	07 BRIDGE REPAIRS 2013-1	EFFINGHAM	33	29	
DRAWN - Kyle M. Steffen	PASSED	REVISED			CONTRACT NO. 74589					
CHECKED -	ACTING ENGINEER OF BRIDGES AND STRUCTURES	REVISED			SHEET NO. 9 OF 13 SHEETS					

ILLINOIS FED. AID PROJECT



ELEVATION AT WEST ABUTMENT

TYPE II TFE ELASTOMERIC EXP. BRG.

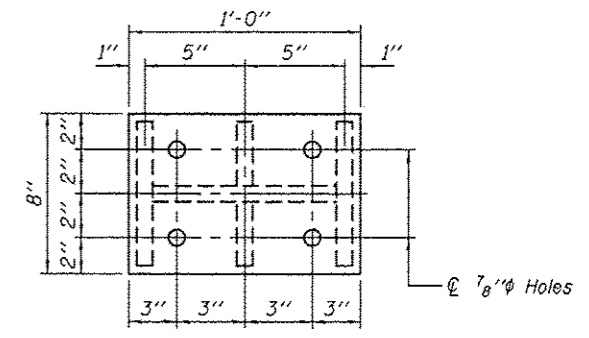


SECTION A-A

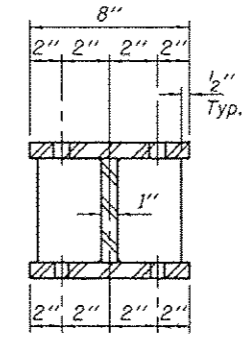
BEAM REACTIONS

R _P	(K)	12.5
R _L	(K)	24.6
Imp.	(K)	7.4
R (Total)	(K)	44.5

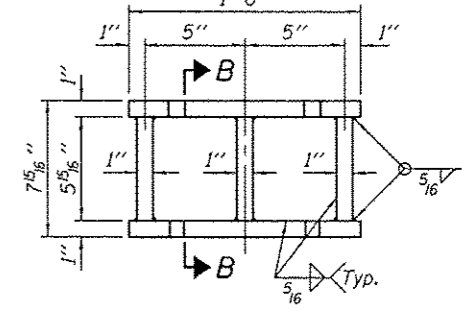
Notes:
 Diaphragm removal and reinstallation may be required to facilitate drilling holes. Cost included with Furnishing and Erecting Structural Steel.
 New steel extensions, shim plates and connection bolts are included with Furnishing and Erecting Structural Steel.
 Prior to ordering any material, the Contractor shall verify in the field all bearing height and shim thickness dimensions. Min. jack capacity = 25 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 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" 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" PTFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer.



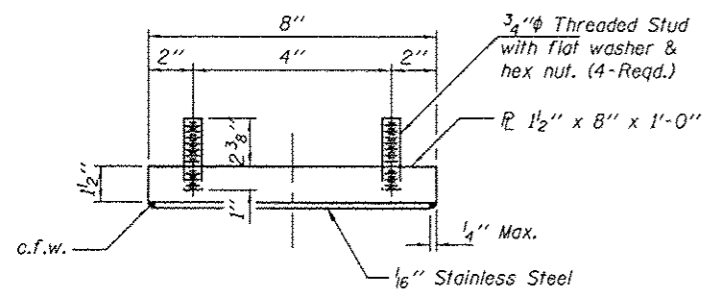
PLAN TOP AND BOTTOM PLATE



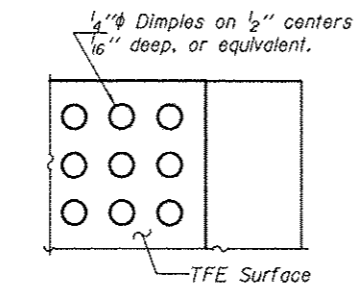
SECTION B-B



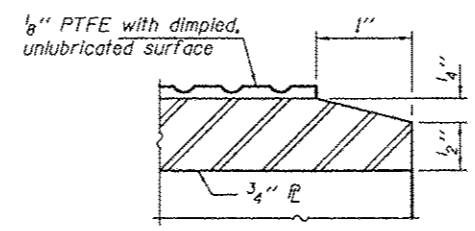
STEEL EXTENSION DETAIL



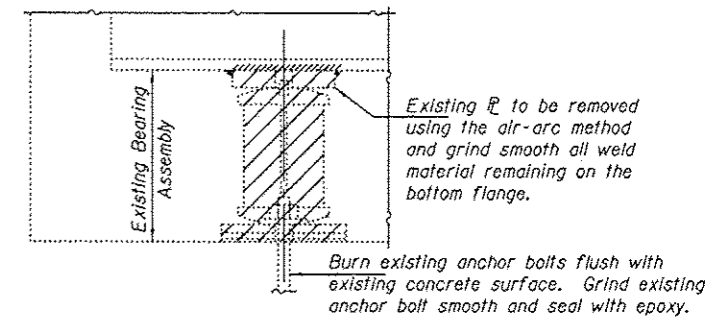
TOP BEARING ASSEMBLY



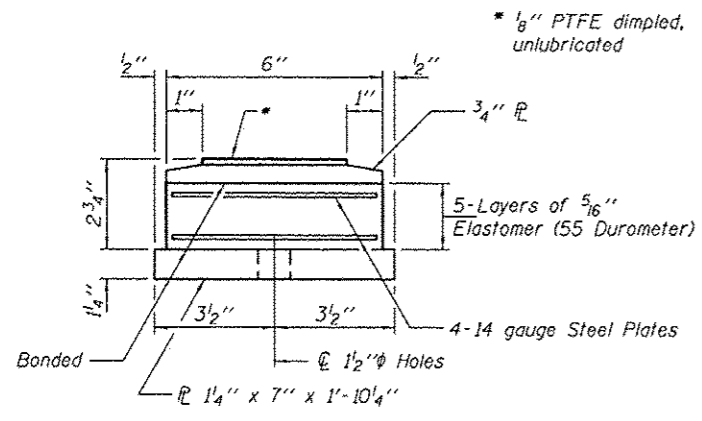
PLAN-PTFE SURFACE



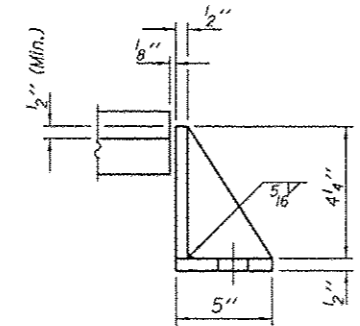
SECTION THRU PTFE



EXISTING BEARING REMOVAL DETAIL

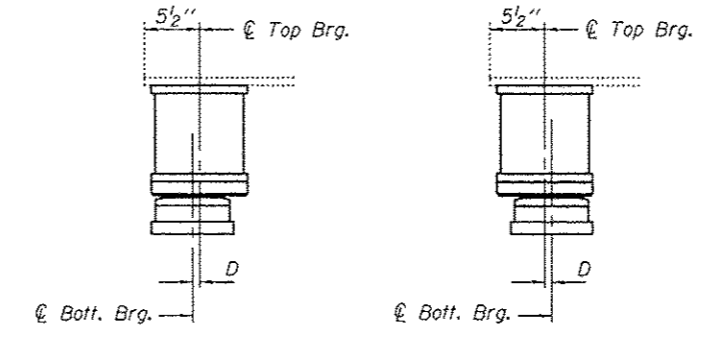


BOTTOM BEARING ASSEMBLY



SIDE RETAINER

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



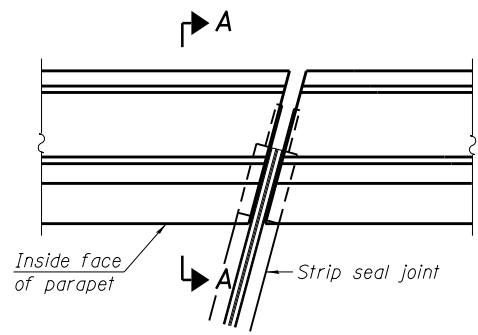
SETTING ANCHOR BOLTS AT EXP. BRG.

D = 1/8" per each 100' of expansion for every 15° temp. change from the normal temp. of 50°F.

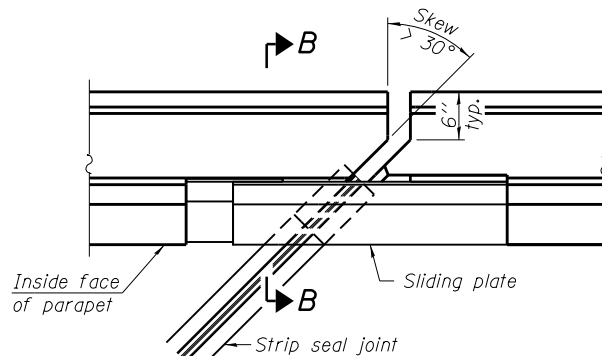
Cost included with Jack and Remove Existing Bearings.

BILL OF MATERIAL

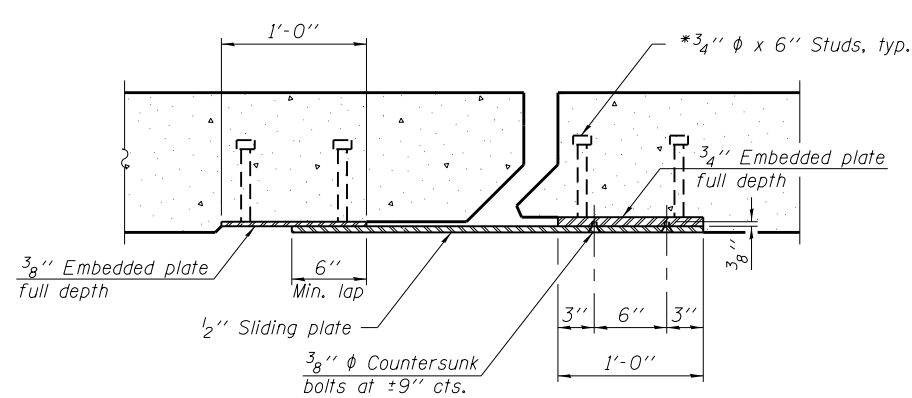
Item	Unit	Total
Elastomeric Bearing Assembly, Type II	Each	18
Jack and Remove Existing Bearings	Each	18
Furnishing and Erecting Structural Steel	Pound	1950
Anchor Bolts 1"φ	Each	36



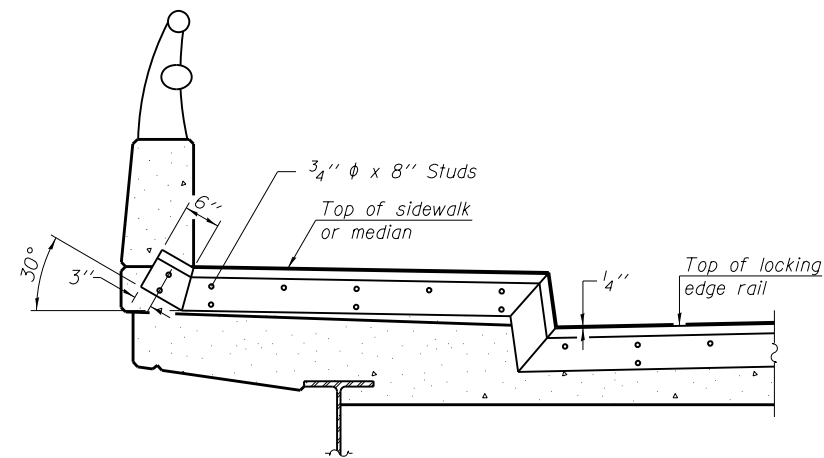
PLAN
(For skews $\leq 30^\circ$)



PLAN
(For skews $> 30^\circ$)
Showing point block

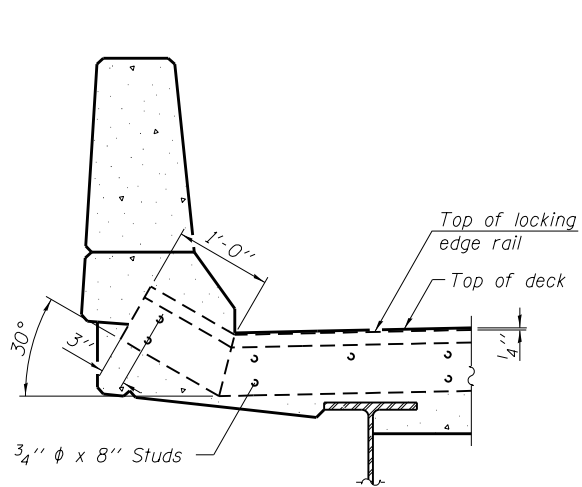


SECTION C-C

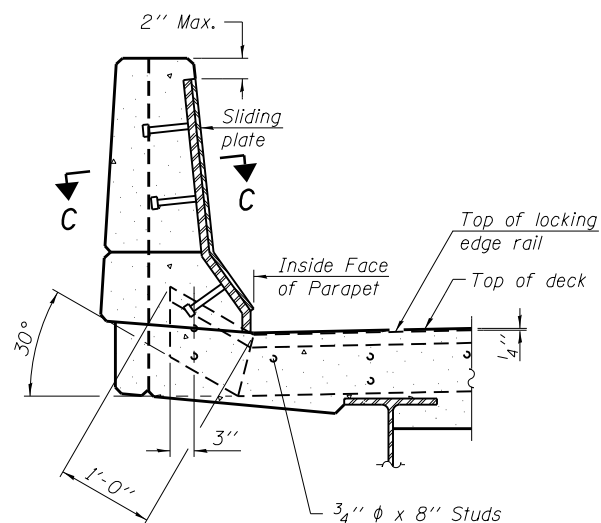


**TYPICAL END TREATMENT
AT SIDEWALK OR MEDIAN**

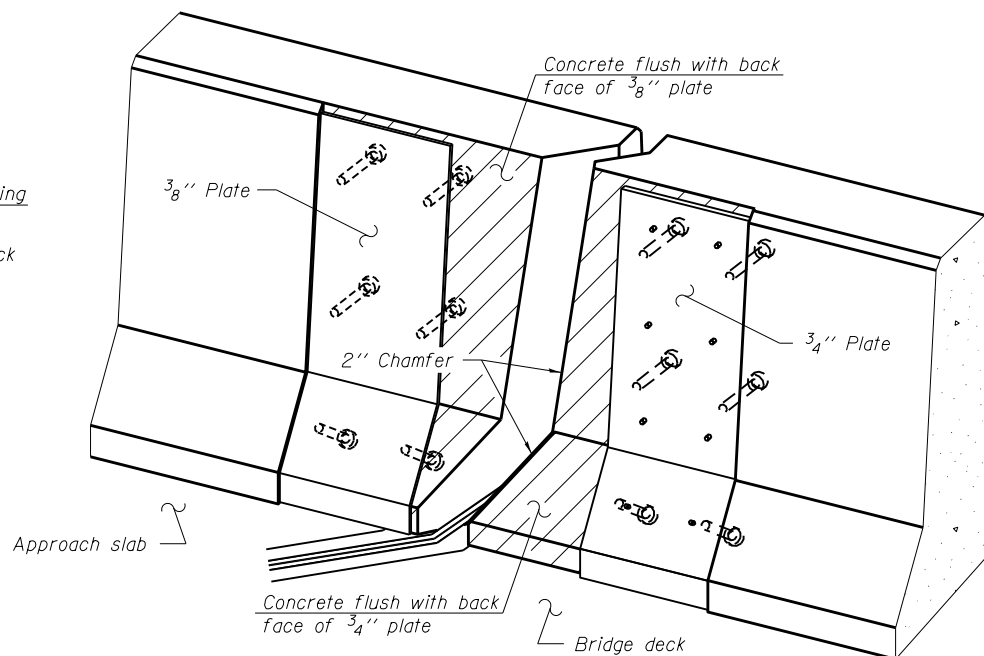
Shorter plates with a single row of studs at 12" cts. may be necessary on medians which are shallower than 9". See manufacturer's recommendation.



SECTION A-A



SECTION B-B



TRIMETRIC VIEW
(Showing back plates only)

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 conceptual only, except for the minimum dimensions shown. The actual configuration of the Locking Edge Rails and matching strip seal may vary from manufacturer to manufacturer. Flanged edge rails will not be allowed. Locking Edge Rails may be spliced at slope discontinuities.

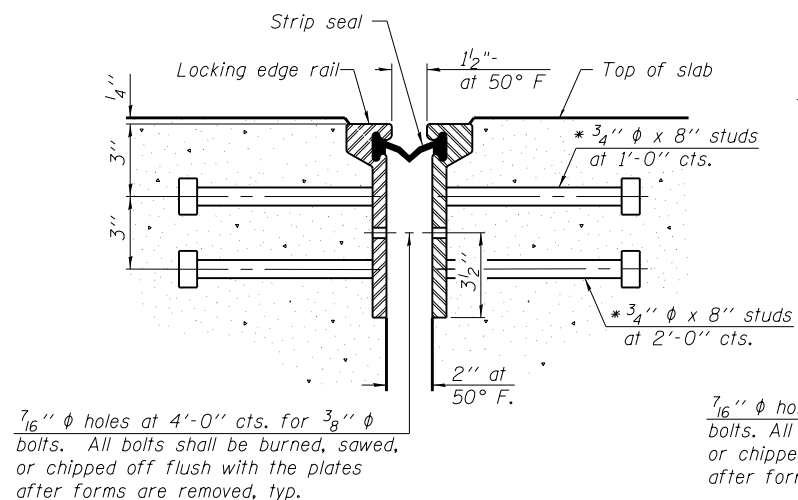
The manufacturer's recommended installation methods shall be followed.

The joint opening and deck dimensions detailed on the superstructure are based on a rolled rail expansion joint. If the Contractor elects to use the welded rail expansion joint, the opening and deck dimensions shall be modified according to the dimensions detailed on this sheet. Required modifications shall be made at no additional cost to the State.

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

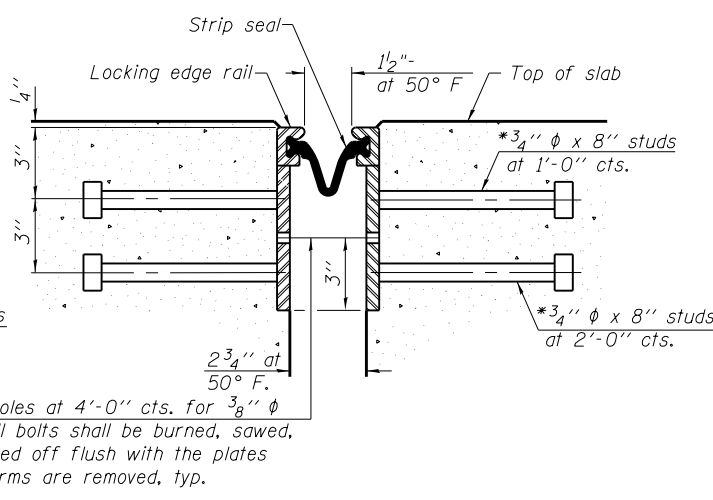
Maximum space between rail segments shall be 3/16", sealed with a suitable sealant. Joints in rails within 10 ft. of curbs shall be welded.

Parapet plates and anchorage studs for skews $> 30^\circ$ included in the cost of Preformed Joint Strip Seal.



**SECTION THRU
ROLLED RAIL JOINT**

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**

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

**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

BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	174.0

EJ-SSJ

1-27-12

FILE NAME =	USER NAME = steffennk	DESIGNED - KLB	REVISED -
ei:\pwwork\pwwid\stefennk\d0307594\0744589-sht-br\details-025-001617.dgn		DRAWN - KLB	REVISED -
Default	PLOT SCALE = 40.0000' / in.	CHECKED - MEA	REVISED -
	PLOT DATE = 10/23/2012	DATE - 07/12/12	REVISED -

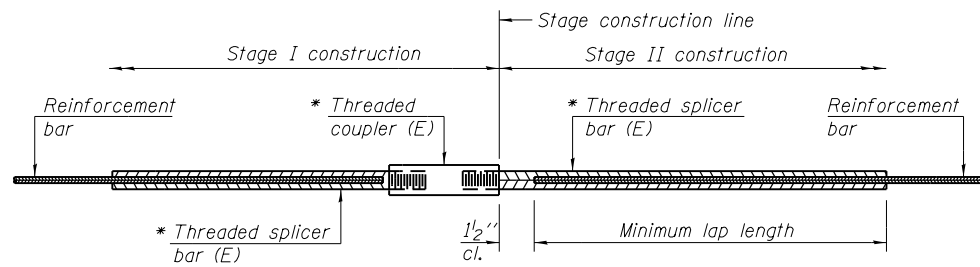
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**PREFORMED JOINT STRIP SEAL
STRUCTURE NO. 025-0016 (EB) & 025-0017 (WB)**

SCALE: N/A SHEET 11 OF 13 SHEETS STA. TO STA.

• 07 BRIDGE REPAIRS 2013-1

F.A.I. R.T.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	EFFINGHAM	33	31
			CONTRACT NO. 74589	
ILLINOIS FED. AID PROJECT				



STANDARD BAR SPLICER ASSEMBLY

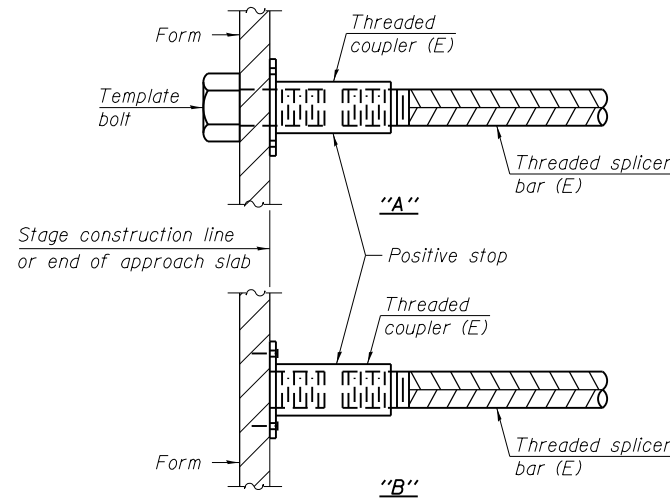
Bar size to be spliced	Minimum Lap Lengths					
	Table 1	Table 2	Table 3	Table 4	Table 5	Table 6
3, 4	1'-5"	1'-11"	2'-1"	2'-4"	2'-7"	2'-11"
5	1'-9"	2'-5"	2'-7"	2'-11"	3'-3"	3'-8"
6	2'-1"	2'-11"	3'-1"	3'-6"	3'-10"	4'-5"
7	2'-9"	3'-10"	4'-2"	4'-8"	5'-2"	5'-10"
8	3'-8"	5'-1"	5'-5"	6'-2"	6'-9"	7'-8"
9	4'-7"	6'-5"	6'-10"	7'-9"	8'-7"	9'-8"

- Table 1: Black bar, 0.8 Class C
- Table 2: Black bar, Top bar lap, 0.8 Class C
- Table 3: Epoxy bar, 0.8 Class C
- Table 4: Epoxy bar, Top bar lap, 0.8 Class C
- Table 5: Epoxy bar, Class C
- Table 6: Epoxy bar, Top bar top, Class C

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

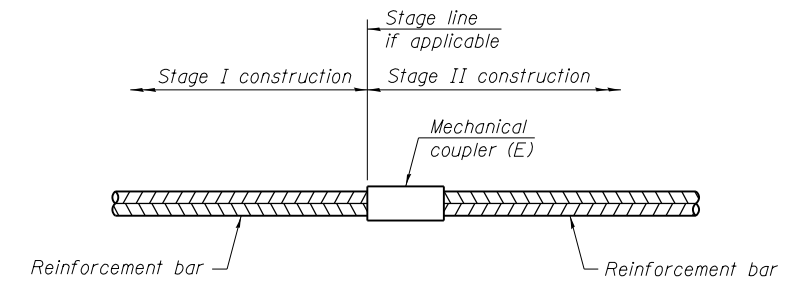
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Table for minimum lap length
025-0016	#5	20	Table 3
025-0016	#6	8	Table 3
025-0017	#5	20	Table 3
025-0017	#6	8	Table 3



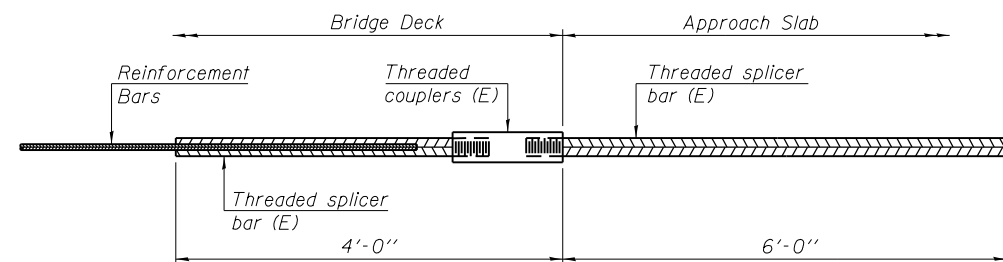
INSTALLATION AND SETTING METHODS

"A" : Set bar splicer assembly by means of a template bolt.
 "B" : Set bar splicer assembly by nailing to wood forms or cementing to steel forms.
 (E) : Indicates epoxy coating.



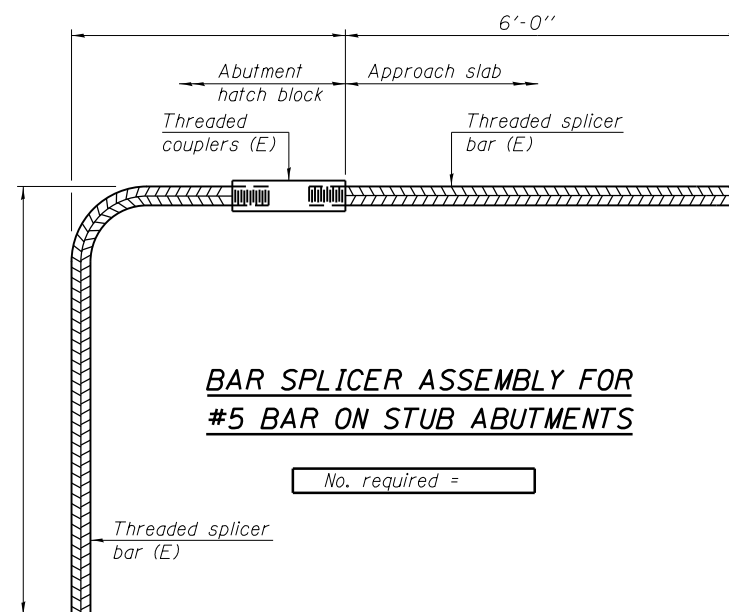
STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required



BAR SPLICER ASSEMBLY FOR #5 BAR ON INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

No. required =



BAR SPLICER ASSEMBLY FOR #5 BAR ON STUB ABUTMENTS

No. required =

NOTES

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

BSD-1

1-27-12

FILE NAME =	USER NAME = steffenmk	DESIGNED - KLB	REVISED -
		DRAWN - KLB	REVISED -
		CHECKED - MEA	REVISED -
		DATE - 07/12/12	REVISED -

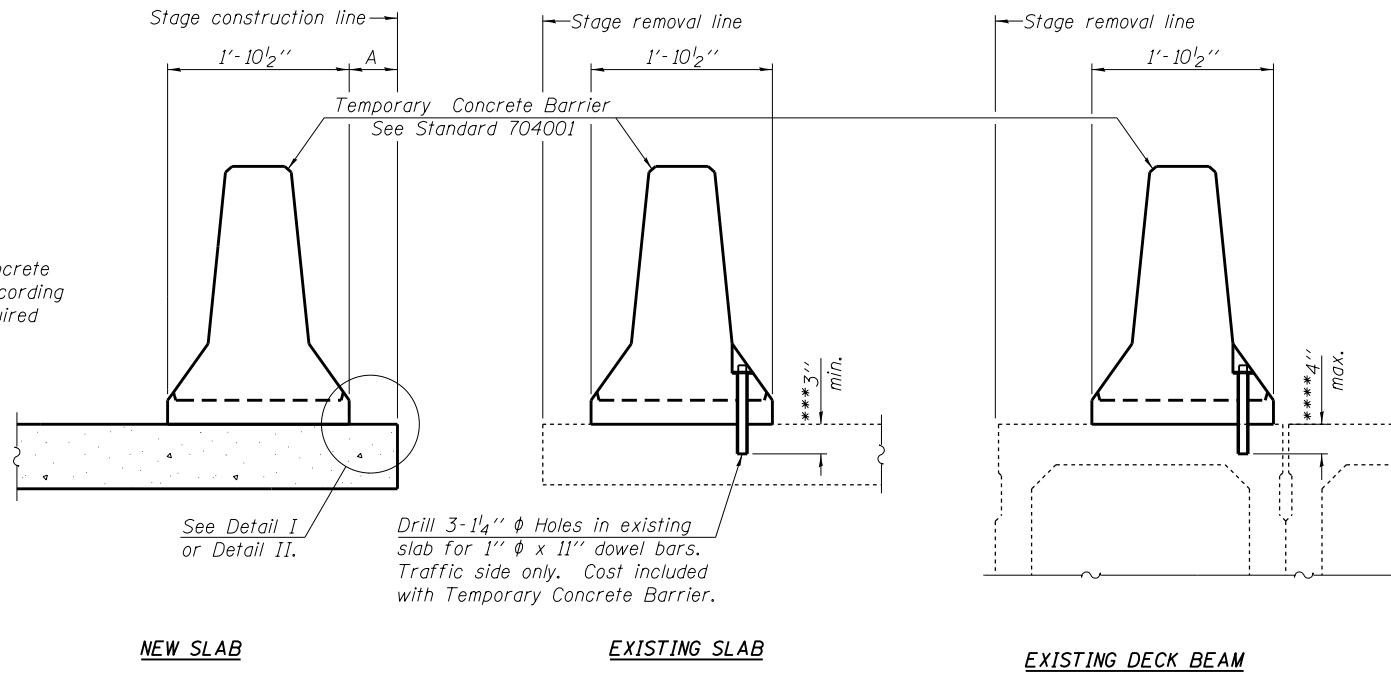
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
STRUCTURE NO. 025-0016 (EB) & 025-0017 (WB)

SCALE: N/A SHEET 12 OF 13 SHEETS STA. TO STA.

• 07 BRIDGE REPAIRS 2013-1			
F.A.I. R.T.E.	SECTION	COUNTY	TOTAL SHEETS SHEET NO.
70	•	EFFINGHAM	33 32
CONTRACT NO. 74589			ILLINOIS FED. AID PROJECT

When "A" is 3'-6" or less, the temporary concrete barrier shall be anchored to the new slab according to Detail I or Detail II. No anchorage is required when "A" is greater than 3'-6".



Drill 3-1/4" ϕ Holes in existing slab for 1" ϕ x 11" dowel bars. Traffic side only. Cost included with Temporary Concrete Barrier.

NOTES

Detail I - With Bar Splicer or Couplers:
Connect one (1) 1" x 7" x "W" steel \bar{L} to the top layer of couplers with 2-5/8" ϕ bolts screwed to coupler at approximate \bar{C} of each barrier panel.

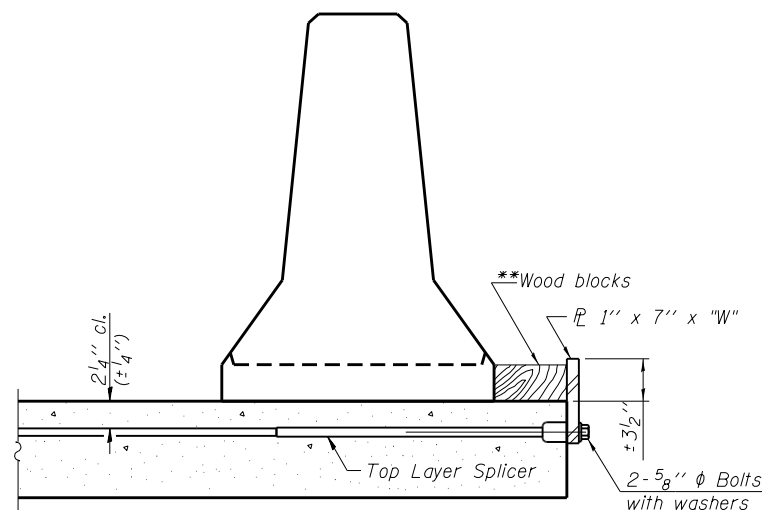
Detail II - With Extended Reinforcement Bars:
Connect one (1) 1" x 7" x "W" steel \bar{L} to the concrete slab or concrete wearing surface with 2-5/8" ϕ Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate \bar{C} of each barrier panel.

Cost of anchorage is included with Temporary Concrete Barrier. The 1" x 7" x "W" plate shall not be removed until stage II construction forms and all reinforcement bars are in place and the concrete is ready to be placed.

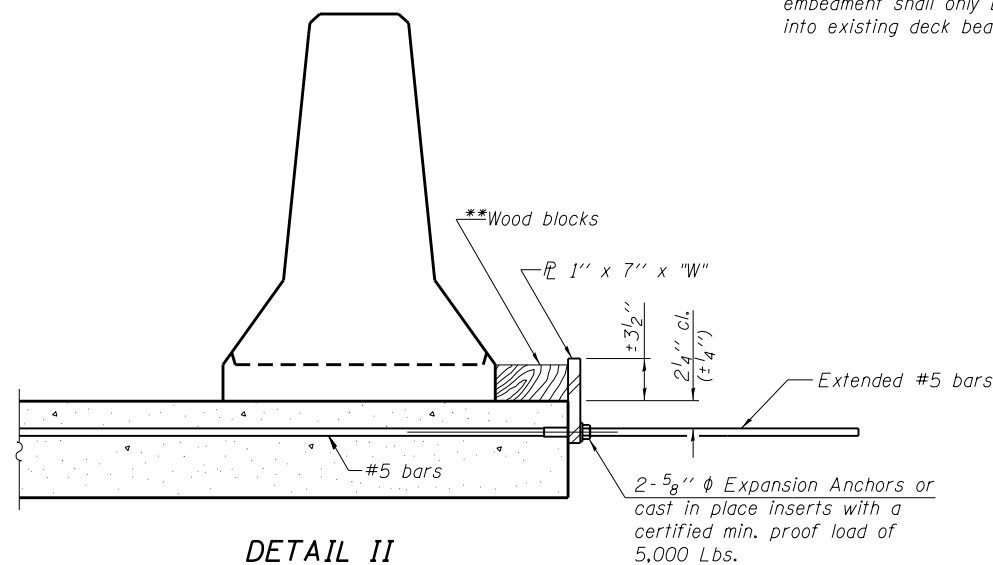
SECTIONS THRU SLAB OR DECK BEAM

*** Dimension shown is minimum required embedment into concrete. If hot-mix asphalt wearing surface is present, minimum embedment shall be in addition to wearing surface depth.

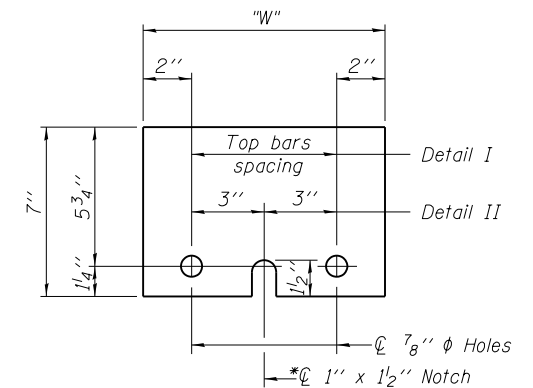
**** If existing deck beam is to remain in place after stage construction, embedment shall only be into wearing surface and not into existing deck beam concrete.



DETAIL I



DETAIL II



STEEL RETAINER \bar{L} 1" x 7" x "W"

* Required only with Detail II

** Wood blocks may be omitted when required to provide minimum stage traffic lane width. When the wood blocks are omitted, the concrete barrier shall be in direct contact with the steel retainer plate.

"W" = Top bars spacing + 4"

R-27

7-1-10

FILE NAME =	USER NAME = steffenk	DESIGNED - KLB	REVISED -
ci:\pw\work\p\dot\stefenk\d0307594\0744589-sht-br-details-025-001617.dgn		DRAWN - KLB	REVISED -
Default	PLOT SCALE = 40.0000 ' / in.	CHECKED - MEA	REVISED -
	PLOT DATE = 10/23/2012	DATE - 07/12/12	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**TEMPORARY CONCRETE BARRIER FOR STAGE CONSTRUCTION
STRUCTURE NO. 025-0016 (EB) & 025-0017 (WB)**

SCALE: N/A SHEET 13 OF 13 SHEETS STA. TO STA.

• D7 BRIDGE REPAIRS 2013-1				
F.A.I. RE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	EFFINGHAM	33	33
			CONTRACT NO. 74589	
ILLINOIS FED. AID PROJECT				