

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

FAI ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	D7 BRIDGE DECK REPAIRS	CLARK	28	1
		ILLINOIS	CONTRACT NO. 74885	

FOR INDEX OF SHEETS, SEE SHEET NO. 2

ADT = 22,400 (2017)

# PROPOSED HIGHWAY PLANS

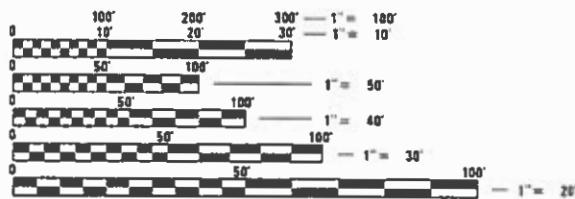
FAI ROUTE 70 (I-70)  
SECTION D7 BRIDGE DECK REPAIRS 2019-2

BRIDGE JOINT REPAIR, BRIDGE DECK REPAIR  
CLARK COUNTY

C-97-122-18



BRIDGE DECK REPAIRS  
EB S.N. 012-0050 STA. 1015 + 18.97  
WB S.N. 012-0051 STA. 1018 + 74.53



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: DEBRA BARRETT  
PROJECT MANAGER: KYLE PRICE

CONTRACT NO. 74885



GROSS LENGTH = 671 FT. = 0.127 MILE  
NET LENGTH = 671 FT. = 0.127 MILE

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

SUBMITTED DECEMBER 20, 2018  
Jeffrey M. Smith REGIONAL ENGINEER  
Feb 1, 2019  
Paul E. [Signature] ENGINEER OF DESIGN AND ENVIRONMENT  
Feb 1, 2019  
Paul E. [Signature] DIRECTOR OF HIGHWAYS PROJECT IMPLEMENTATION

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OF THE STATE OF ILLINOIS

## INDEX OF SHEETS

SHEET NO.	DESCRIPTION
1	COVER SHEET
2	INDEX, GENERAL NOTES, HIGHWAY STANDARDS
3-4	SUMMARY OF QUANTITIES
5	TYPICAL CROSS SECTIONS
6	SCHEDULE OF QUANTITIES
7	BASE COURSE WIDENING, SHOULDERS
8-11	TRAFFIC CONTROL LAYOUT DETAILS
12-26	BRIDGE PLANS
27-28	DISTRICT 7 DETAIL NO. 78000002 - TYP. APPLICATION OF INTERSTATE PAVEMENT MARKING

## GENERAL NOTES

CONSTRUCTION OF THE RUMBLE STRIPS 16" WILL TAKE PLACE AFTER TRAFFIC CONTROL 701402 HAS BEEN REMOVED AT THE END OF THE PROJECT.

## HIGHWAY STANDARDS

STANDARD NO.	DESCRIPTION
000001-07	STANDARD SYMBOLS, ABBREVIATIONS, AND PATTERNS
001001-02	AREAS OF REINFORCEMENT BARS
642001-02	SHOULDER RUMBLE STRIPS, 16"
701101-05	OFF-RD OPERATIONS, MULTILANE, 15' TO 24" FROM PAVEMENT EDGE
701106-02	OFF-RD OPERATIONS, MULTILANE, MORE THAN 15' AWAY
701400-09	APPROACH TO LANE CLOSURE, FREEWAY/EXPRESSWAY
701401-12	LANE CLOSURE, FREEWAY/EXPRESSWAY
701402-12	LANE CLOSURE, FREEWAY/EXPRESSWAY, WITH BARRIER
701901-08	TRAFFIC CONTROL DEVICES
704001-08	TEMPORARY COCRETE BARRIER
782006	GUARDRAIL AND BARRIER WALL REFLECTOR MOUNTING DETAILS

REV. - MS

\* D7 BRIDGE REPAIRS 2019-2

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USER NAME = steffenmk	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>INDEX OF SHEETS, STANDARDS, &amp; GENERAL NOTES</b>	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
	DRAWN -	REVISED -			70	*	CLARK	28	2	
PLOT SCALE = 100.0000' / in.	CHECKED -	REVISED -			CONTRACT NO. 74885					
PLOT DATE = 12/21/2018	DATE -	REVISED -			SCALE:	SHEET	OF	SHEETS	STA.	TO STA.

100%  
STATE

SUMMARY OF QUANTITIES			TOTAL QUANTITIES	CONSTRUCTION TYPE CODE		
CODE NO	ITEM	UNIT		013		
35400200	PORTLAND CEMENT CONCRETE BASE COURSE WIDENING 7"	SO YD	1695	1695		
42000060	WELDED WIRE REINFORCEMENT	SO YD	1695	1695		
44004250	PAVED SHOULDER REMOVAL	SO YD	1695	1695		
50102400	CONCRETE REMOVAL	CU YD	18.1	18.1		
50300100	FLOOR DRAINS	EACH	96	96		
50300255	CONCRETE SUPERSTRUCTURE	CU YD	18.2	18.2		
50300300	PROTECTIVE COAT	SO YD	2925	2925		
50500405	FURNISHING AND ERECTING STRUCTURAL STEEL	POUND	3770	3770		
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	3100	3100		
50800515	BAR SPLICERS	EACH	48	48		
52000110	PREFORMED JOINT STRIP SEAL	FOOT	148	148		
52100010	ELASTOMERIC BEARING ASSEMBLY, TYPE I	EACH	24	24		
52100520	ANCHOR BOLTS, 1"	EACH	48	48		

100%  
STATE

SUMMARY OF QUANTITIES			TOTAL QUANTITIES	CONSTRUCTION TYPE CODE		
CODE NO	ITEM	UNIT		013		
64200116	SHOULDER RUMBLE STRIPS, 16 INCH	FOOT	3815	3815		
67000500	ENGINEER'S FIELD OFFICE, TYPE B	CAL MO	3	3		
67100100	MOBILIZATION	L SUM	1	1		
70100207	TRAFFIC CONTROL AND PROTECTION, STANDARD 701402	EACH	2	2		
70100800	TRAFFIC CONTROL AND PROTECTION, STANDARD 701401	L SUM	1	1		
70103815	TRAFFIC CONTROL SURVEILLANCE	CAL DA	5	5		
70107005	PAVEMENT MARKING BLACKOUT TAPE, 5"	FOOT	5160	5160		
70107007	PAVEMENT MARKING BLACKOUT TAPE, 7"	FOOT	1318	1318		
70107025	CHANGEABLE MESSAGE SIGN	CAL DA	28	28		
70300150	SHORT TERM PAVEMENT MARKING REMOVAL	SO FT	2919	2919		
70400100	TEMPORARY CONCRETE BARRIER	FOOT	1125	1125		
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	1125	1125		

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\* D7 BRIDGE REPAIRS 2019-2

USER NAME = steffenmk	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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PLOT DATE = 12/21/2018	CHECKED -	REVISED -		CONTRACT NO. 74885				
	DATE -	REVISED -		SCALE:	SHEET	OF	SHEETS	STA.

ILLINOIS FED. AID PROJECT

100%  
STATE

SUMMARY OF QUANTITIES			TOTAL QUANTITIES	CONSTRUCTION TYPE CODE		
CODE NO	ITEM	UNIT		013		
70600250	IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE), TEST LEVEL 3	EACH	2	2		
70600350	IMPACT ATTENUATORS, RELOCATE (NON-REDIRECTIVE), TEST LEVEL 3	EACH	2	2		
X0326649	LINEAR DELINEATOR PANELS, 6 INCH	EACH	180	180		
X7040125	PINNING TEMPORARY CONCRETE BARRIER	EACH	6	6		
Z0001899	JACK AND REMOVE EXISTING BEARINGS	EACH	24	24		
Z0012754	STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 INCHES)	SO FT	204	204		
Z0012755	STRUCTURAL REPAIR OF CONCRETE (DEPTH GREATER THAN 5 INCHES)	SO FT	28	28		
Z0016001	DECK SLAB REPAIR (FULL DEPTH, TYPE I)	SO YD	44	44		
Z0016002	DECK SLAB REPAIR (FULL DEPTH, TYPE II)	SO YD	14	14		
Z0016200	DECK SLAB REPAIR (PARTIAL)	SO YD	93	93		

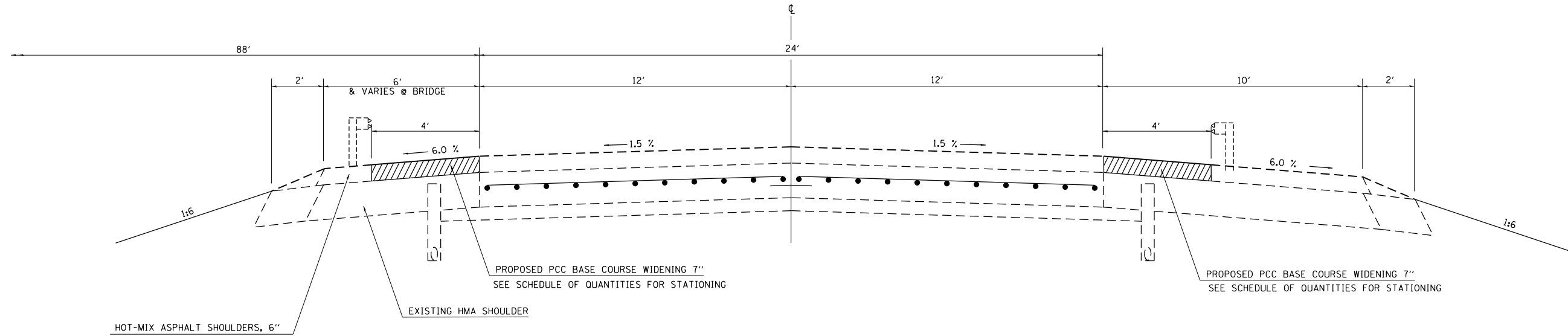
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\* D7 BRIDGE REPAIRS 2019-2

USER NAME = steffenmk	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	F.A.I. RTE.:	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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PLOT DATE = 12/21/2018	CHECKED -	REVISED -		CONTRACT NO. 74885				
	DATE -	REVISED -		SCALE:	SHEET OF SHEETS	STA. TO STA.	ILLINOIS FED. AID PROJECT	

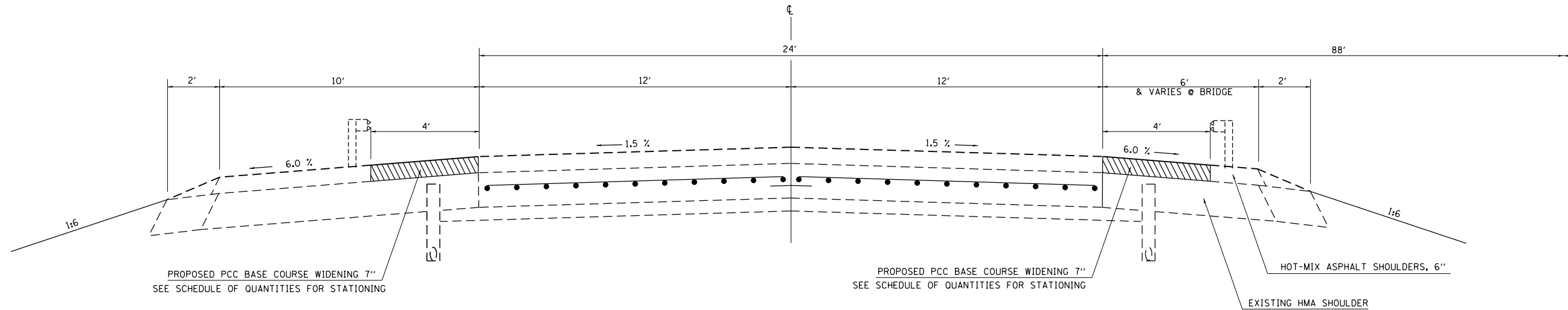
### EAST BOUND I-70 TYPICAL CROSS SECTION

STA. 995+00.00 TO STA. 1015+18.97  
STA. 1018+54.47 TO STA. 1039+00.00



### WEST BOUND I-70 TYPICAL CROSS SECTION

STA. 995+00.00 TO STA. 1015+39.03  
STA. 1018+74.53 TO STA. 1039+00.00



\* D7 BRIDGE REPAIRS 2019-2

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	DRAWN -	REVISED -
PLOT SCALE = 100.4179' / in.	CHECKED -	REVISED -
PLOT DATE = 1/25/2019	DATE -	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**TYPICAL CROSS SECTIONS**

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	*	CLARK	28	5
CONTRACT NO. 74885				
ILLINOIS FED. AID PROJECT				

# SCHEDULE OF QUANTITIES

## TEMPORARY CONCRETE BARRIER LINEAR DELINEATION PANELS

STATION	TO	STATION	LENGTH (FEET)	TEMPORARY CONCRETE BARRIER 70400100 (FEET)	RELOCATE TEMPORARY CONCRETE BARRIER 70400200 (FEET)	LINEAR DELINEATION PANELS X0326649 (EACH)
EAST BOUND - S.N. 012-0050						
1013+32.03		1014+93.97	162.5	162.5	162.5	26
1014+93.97		1018+93.97	400.0	400.0	400.0	64
WEST BOUND - S.N. 012-0051						
1014+99.53		1018+99.53	400.0	400.0	400.0	64
1018+99.53		1020+61.53	162.5	162.5	162.5	26
TOTAL=				1125.0	1125.0	180

## PCC BASE COURSE WIDENING, 7" WELDED WIRE REINFORCEMENT PAVED SHOULDER REMOVAL

LOCATION	STA. - STA.	LENGTH (FEET)	WIDTH (FEET)	AREA (SQ YD)	PORTLAND CEMENT CONCRETE BASE COURSE WIDENING, 7" 35400200 (SQ YD)	WELDED WIRE REINFORCEMENT 42000060 (SQ YD)	PAVED SHOULDER REMOVAL 44004250 (SQ YD)
EB DL	1010+23.97 - 1015+16.40	492.43	4.0	218.86	218.9	218.9	218.9
EB DL	1018+51.91 - 1023+13.97	462.06	4.0	205.36	205.4	205.4	205.4
EB PL	1010+23.97 - 1015+22.44	498.47	4.0	221.54	221.5	221.5	221.5
EB PL	1018+57.03 - 1023+13.97	456.94	4.0	203.08	203.1	203.1	203.1
WB PL	1010+79.53 - 1015+36.47	456.94	4.0	203.08	203.1	203.1	203.1
WB PL	1018+71.06 - 1023+65.53	494.47	4.0	219.76	219.8	219.8	219.8
WB DL	1010+79.53 - 1015+42.45	462.92	4.0	205.74	205.7	205.7	205.7
WB DL	1018+77.09 - 1023+65.53	488.44	4.0	217.08	217.1	217.1	217.1
TOTAL					1694.5	1694.5	1694.5

(DL) = DRIVING LANE (PL) = PASSING LANE

## PAVEMENT MARKING BLACKOUT TAPE SHORT TERM PAV. MARKING REMOVAL

STATION	TO	STATION	LOCATION	LENGTH (FEET)	WIDTH (INCH)	PAV. MARK. BLACKOUT TAPE, 7" 70107007 (FEET)	PAV. MARK. BLACKOUT TAPE, 5" 70107005 (FEET)	SHORT TERM PAV. MARK. REMOVAL 70300150 (SQ FT)
EAST BOUND - S.N. 012-0050								
995+23.97		1014+93.97	SKIPS/RPM	1970.0	7.0	543		1149.2
1018+93.97		1023+13.97	SKIPS/RPM	420.0	7.0	116		245.0
1010+23.97		1023+13.97	PL EOP	1290.0	5.0		1290.0	537.5
1010+23.97		1023+13.97	DL EOP	1290.0	5.0		1290.0	537.5
WEST BOUND - S.N. 012-0051								
1010+79.53		1014+99.53	SKIPS/RPM	420.0	7.0	116		245.0
1018+99.53		1038+69.53	SKIPS/RPM	1970.0	7.0	543		1149.2
1010+79.53		1023+69.53	DL EOP	1290.0	5.0		1290.0	537.5
1010+79.53		1023+69.53	PL EOP	1290.0	5.0		1290.0	537.5
TOTALS						1318	5160.0	2919

(DL) = DRIVING LANE (PL) = PASSING LANE

## SHOULDER RUMBLE STRIP, 16"

LOCATION	STA. - STA.	LENGTH (FEET)	SHOULDER RUMBLE STRIPS, 16 INCH 64200116 (FEET)
EB DL	1010+23.97 - 1015+16.40	492.43	493.0
EB DL	1018+51.91 - 1023+13.97	462.06	462.0
EB PL	1010+23.97 - 1015+22.44	498.47	499.0
EB PL	1018+57.03 - 1023+13.97	456.94	457.0
WB PL	1010+79.53 - 1015+36.47	456.94	457.0
WB PL	1018+71.06 - 1023+65.53	494.47	495.0
WB DL	1010+79.53 - 1015+42.45	462.92	463.0
WB DL	1018+77.09 - 1023+65.53	488.44	489.0
TOTAL			3815.0

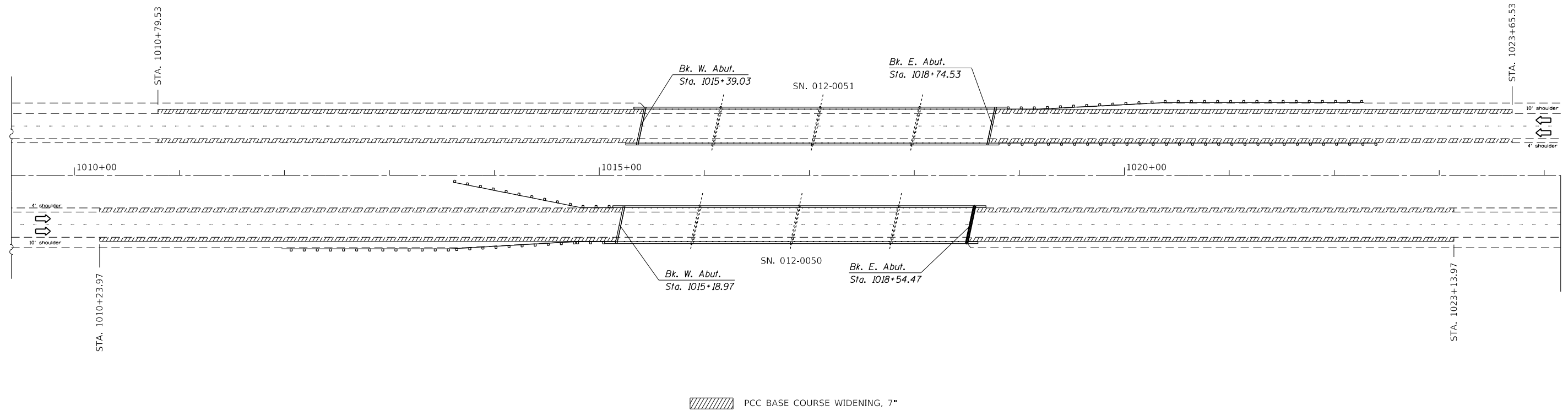
(DL) = DRIVING LANE (PL) = PASSING LANE

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\* D7 BRIDGE REPAIRS 2019-2

USER NAME = stefenmk	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>SCHEDULE OF QUANTITIES</b>	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
	DRAWN -	REVISED -			70	*	CLARK	28	6	
PLOT SCALE = 100,0000' / in.	CHECKED -	REVISED -			CONTRACT NO. 74885					
PLOT DATE = 12/21/2018	DATE -	REVISED -			SCALE:	SHEET	OF	SHEETS	STA.	TO
ILLINOIS FED. AID PROJECT										

# I-70 PCC BASE COURSE WIDENING



LOCATION	STA. - STA.	LENGTH (FT)	WIDTH (FT)	AREA (SQYD)
EB DL	1010+23.97 - 1015+16.40	492.43	4.0	218.86
EB DL	1018+51.91 - 1023+13.97	462.06	4.0	205.36
EB PL	1010+23.97 - 1015+22.44	498.47	4.0	221.54
EB PL	1018+57.03 - 1023+13.97	456.94	4.0	203.08
WB PL	1010+79.53 - 1015+36.47	456.94	4.0	203.08
WB PL	1018+71.06 - 1023+65.53	494.47	4.0	219.76
WB DL	1010+79.53 - 1015+42.45	462.92	4.0	205.74
WB DL	1018+77.09 - 1023+65.53	488.44	4.0	217.08

WELDED WIRE REINFORCEMENT TO BE USED IN THE PCC BASE COURSE WIDENING.

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DRAWN -	REVISED -	
PLOT SCALE = 100.6917' / in.	CHECKED -	REVISED -
PLOT DATE = 1/25/2019	DATE -	REVISED -

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

**PORTLAND CEMENT CONCRETE BASE COURSE WIDENING**  
 SCALE: SHEET OF SHEETS STA. TO STA.

F.A.I. RTE. 70	SECTION *	COUNTY CLARK	TOTAL SHEETS 28	SHEET NO. 7
ILLINOIS FED. AID PROJECT			CONTRACT NO. 74885	

\* D7 BRIDGE REPAIRS 2019-2



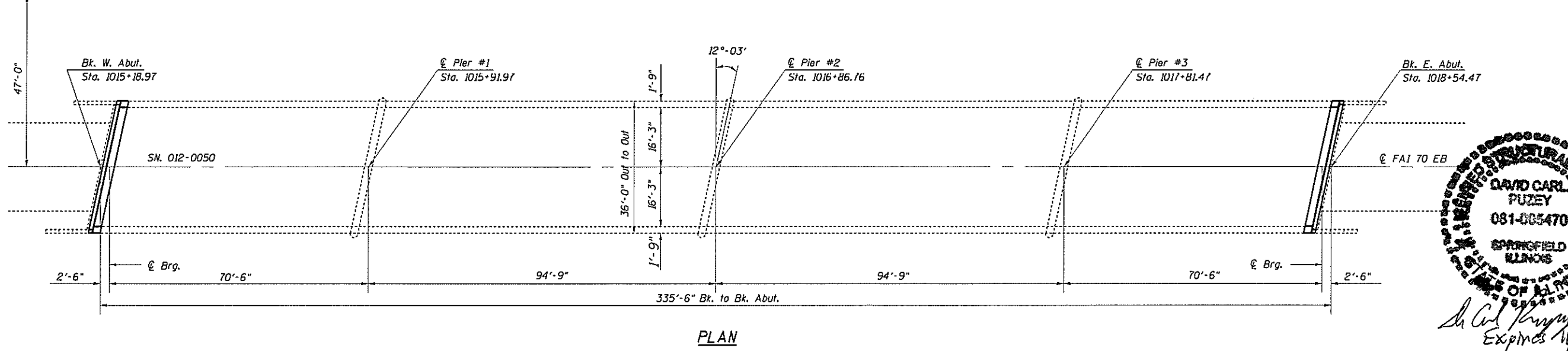
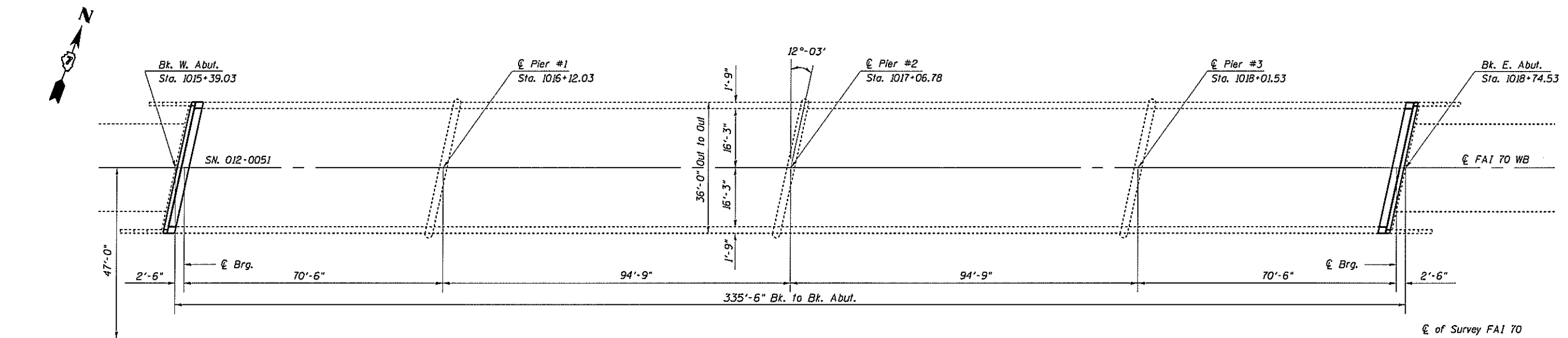
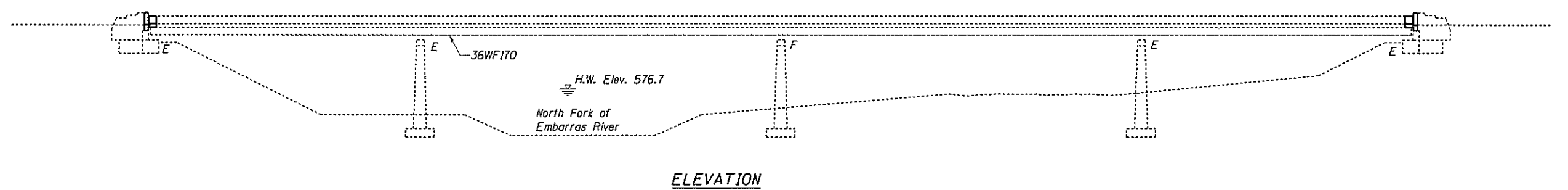








The existing four span continuous steel multi-beam dual structures were constructed in 1968 as FAI 70 section 12-50B at Sta. 1016+46. SN. 012-0050 carries FAI 70 (I-70 Eastbound) and SN. 012-0051 carries FAI 70 (I-70 Westbound) over the North Fork Embarras River. The proposed project consists of replacement of the expansion joints with new strip seals, bearing replacement at abutments with new elastomeric bearings, full & partial depth deck repair, structural repair of concrete, and deck drain removal & replacement.



DAVID CARL PUZEY  
 081-005470  
 SPRINGFIELD ILLINOIS  
 REGISTERED PROFESSIONAL ENGINEER  
 STATE OF ILLINOIS

*Sh. Carl Puzeuy 1/27/19  
 Expires 11/30/20*

USER NAME = steffennk PLLOT SCALE = 40.0000' / 1" = 40:1 PLLOT DATE = 12/21/2019		DESIGNED - S. Kossel DRAWN - S. Kossel CHECKED - D. Macklin DATE - 05/31/18		REVISED - D. Macklin REVISED - REVISED - REVISED -		STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION		GENERAL PLAN AND ELEVATION SN. 012-0050 (EB) & 0051 (WB)		F.A.I. RTE. TO SECTION COUNTY CLARK CONTRACT NO. 74885		TOTAL SHEETS 28 SHEET NO. 12	
SCALE: SHEET 1 OF 15 SHEETS STA. 1015+18.97 TO STA. 1018+74.53								ILLINOIS FED. AID PROJECT					

• DT Bridge Deck Repairs 2019-2

**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.

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

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 with 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.

The Name Plates shall be removed from the existing wingwalls and embedded into the new wingwall concrete at approximately the same location. This work and all materials shall be included in the contract unit price for Concrete Superstructure.

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

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 point 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.

Removal and reinstallation of the handrail sections and support posts at both abutments will be necessary for construction of the expansion joints. The existing handrail sections and support posts shall be reused. New bolts, shim plates and post support anchor assemblies, as detailed in the plans, are to be provided and installed for the replacement of the handrail sections. This work and all materials shall be included in the contract unit price for Concrete Superstructure.

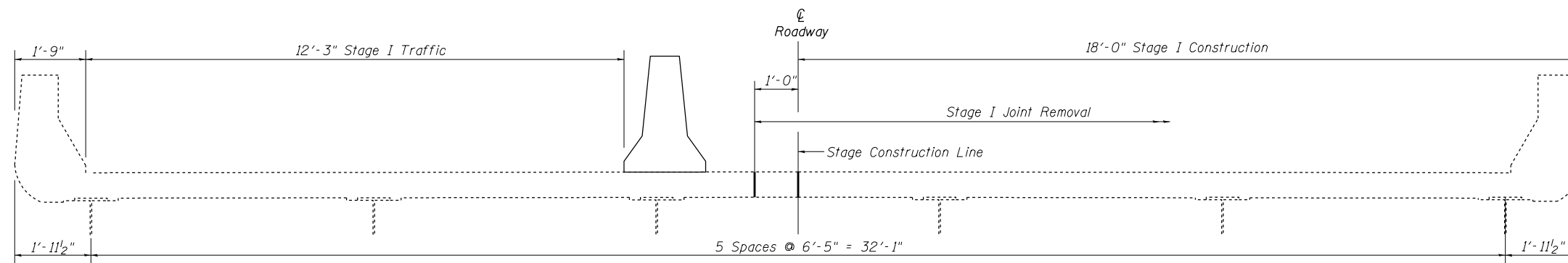
All structural steel shall conform to AASHTO Classification M-270 Gr. 36 unless otherwise noted.

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.

**TOTAL BILL OF MATERIALS**

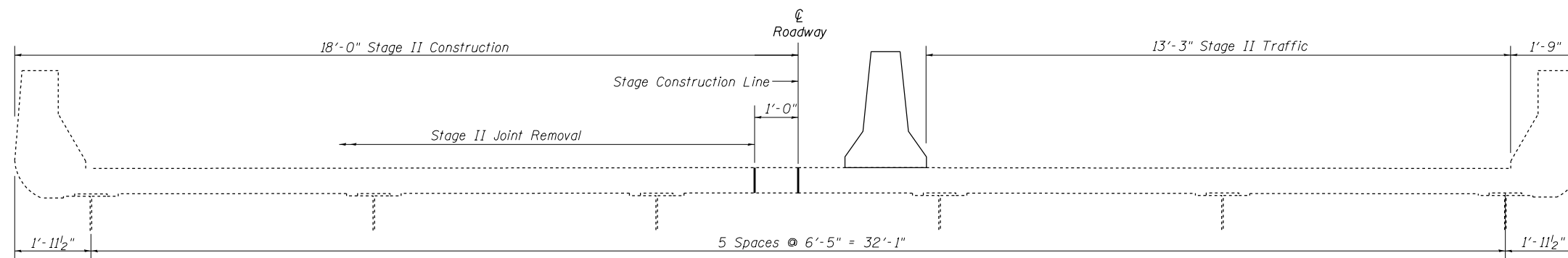
Structures 012-0050 & 012-0051

ITEM	UNIT	QUANTITY
Concrete Removal	Cu Yd	18.1
Concrete Superstructure	Cu Yd	18.2
Reinforcement Bars, Epoxy Coated	Pound	3100
Bar Splicers	Each	48
Preformed Joint Strip Seal	Foot	148
Protective Coat	Sq Yd	2925
Deck Slab Repair (Partial Depth)	Sq Yd	93
Deck Slab Repair (Full Depth, Type I)	Sq Yd	44
Deck Slab Repair (Full Depth, Type II)	Sq Yd	14
Floor Drains	Each	96
Structural Repair of Concrete (Depth Equal to or Less Than 5")	Sq Ft	204.0
Structural Repair of Concrete (Depth Greater Than 5")	Sq Ft	28.0
Elastomeric Bearing Assembly, Type I	Each	24
Jack and Remove Existing Bearings	Each	24
Furnishing and Erecting Structural Steel	Pound	3770
Anchor Bolts, 1"φ	Each	48



**CROSS\_SECTION - STAGE I**

Eastbound Looking East / Westbound Looking West

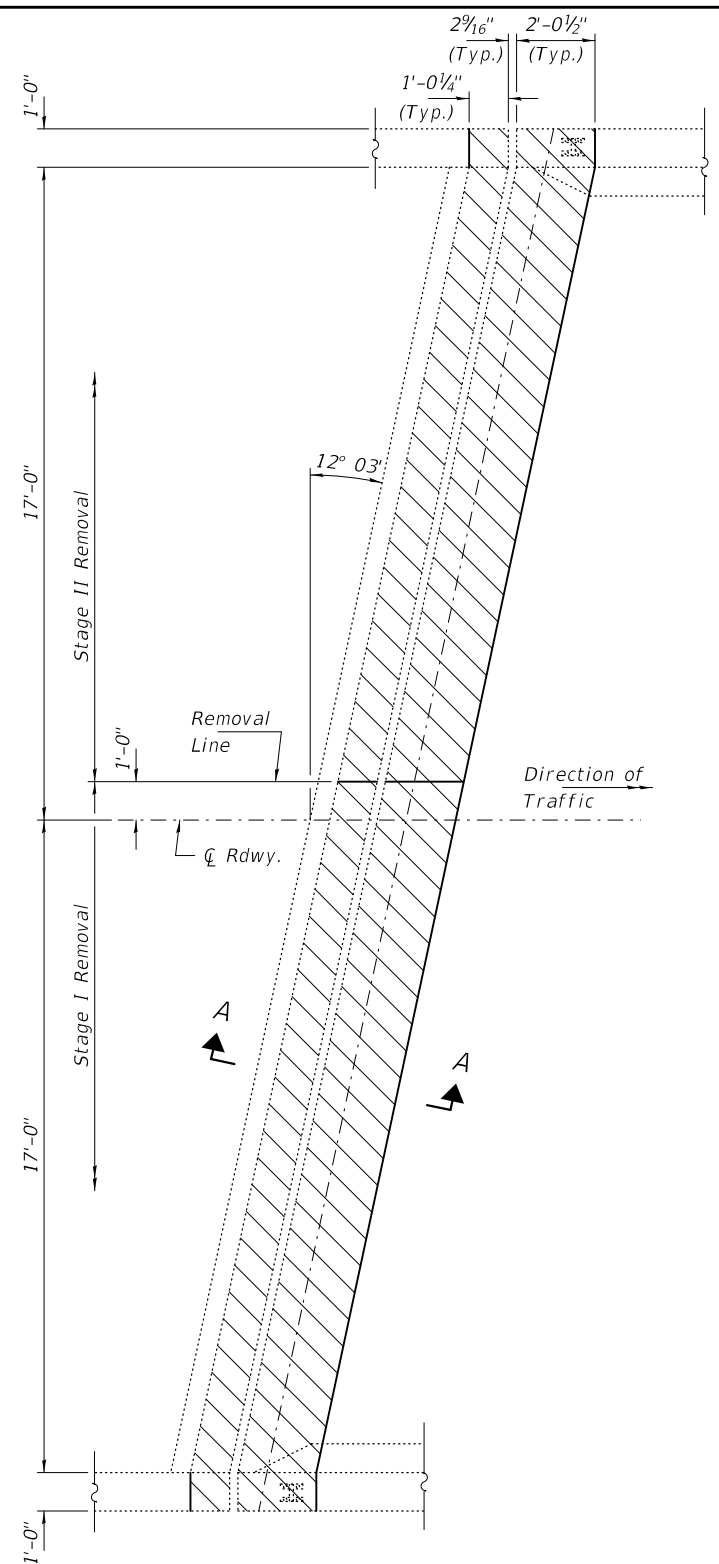


**CROSS\_SECTION - STAGE II**

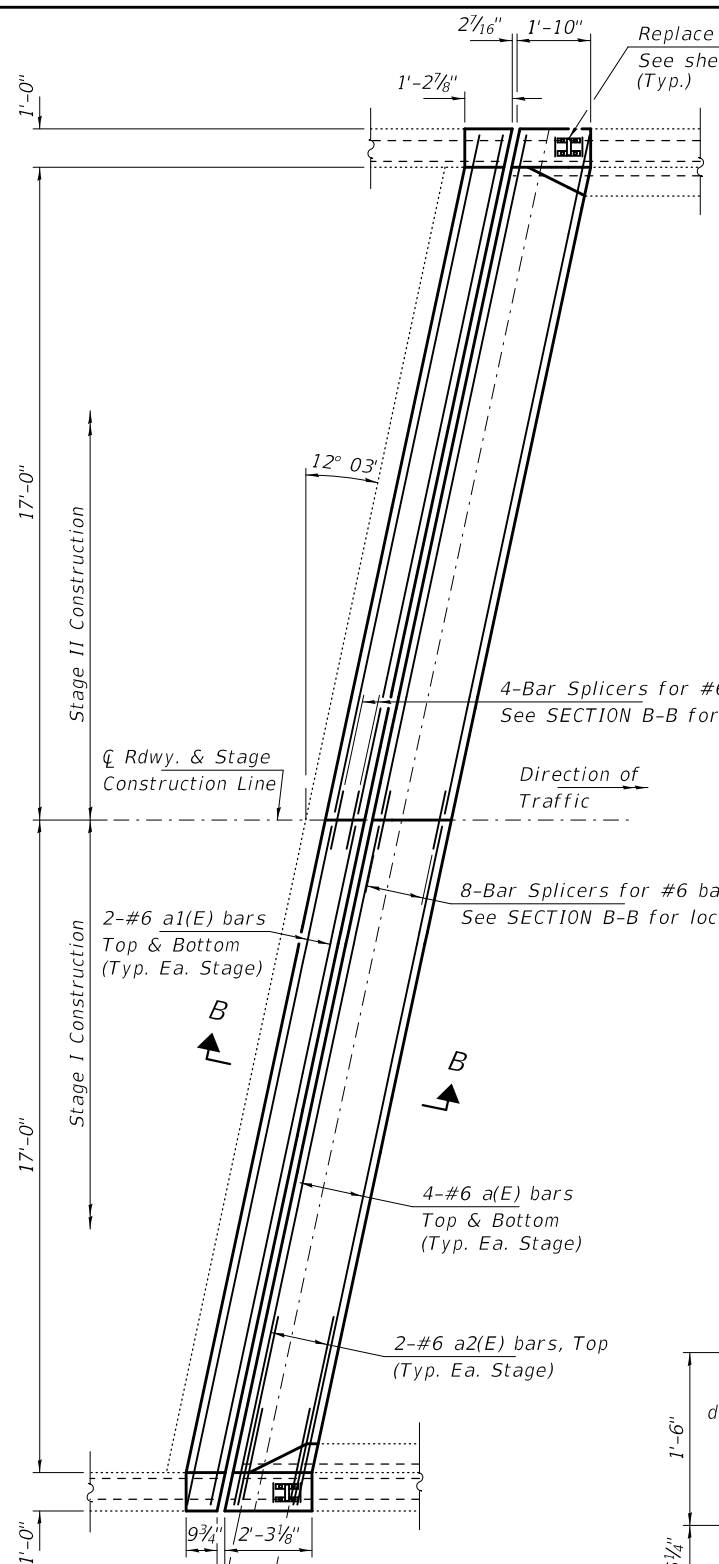
Eastbound Looking East / Westbound Looking West

USER NAME = steffernik	DESIGNED - S. Kassel	REVISED - D. Macklin	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>STAGED CONSTRUCTION DETAILS, GENERAL NOTES &amp; BILL OF MATERIALS</b>				F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
PLOT SCALE = 48.0000' / in.	DRAWN - S. Kassel	REVISED -						70	.	CLARK	28	13
PLOT DATE = 12/21/2018	CHECKED - D. Macklin	REVISED -		SN. 012-0050 (EB) & 0051 (WB)				CONTRACT NO. 74885				
	DATE - 06/01/18	REVISED -		SCALE:	SHEET 2	OF 15 SHEETS	STA. 1015+18.97	TO STA. 1018+74.53	ILLINOIS FED. AID PROJECT			

• 07 Bridge Deck Repairs 2019-2

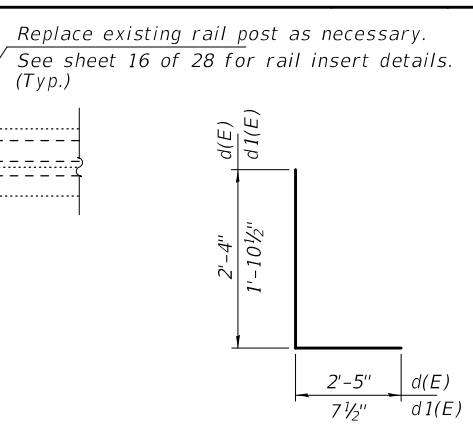


**CONCRETE REMOVAL DETAILS**  
 West Abutment (SN 0050)  
 shown, East Abutment  
 (SN 0050) similar by rotation.  
 (Typ. at SN 0051)

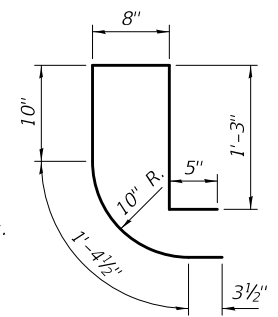


**CONCRETE PLACEMENT DETAILS**  
 West Abutment (SN 0050)  
 shown, East Abutment  
 (SN 0050) similar by rotation.  
 (Typ. at SN 0051)

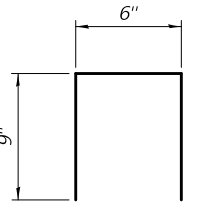
Note:  
 Hatched areas indicate  
 Concrete Removal.



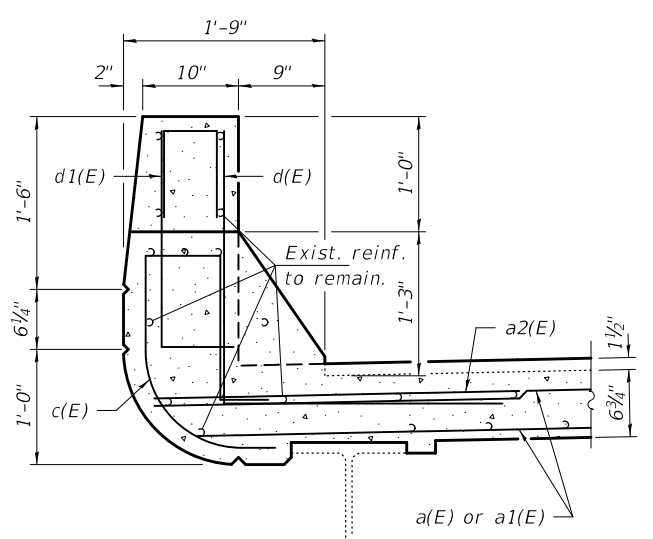
**BARS d(E) & d1(E)**



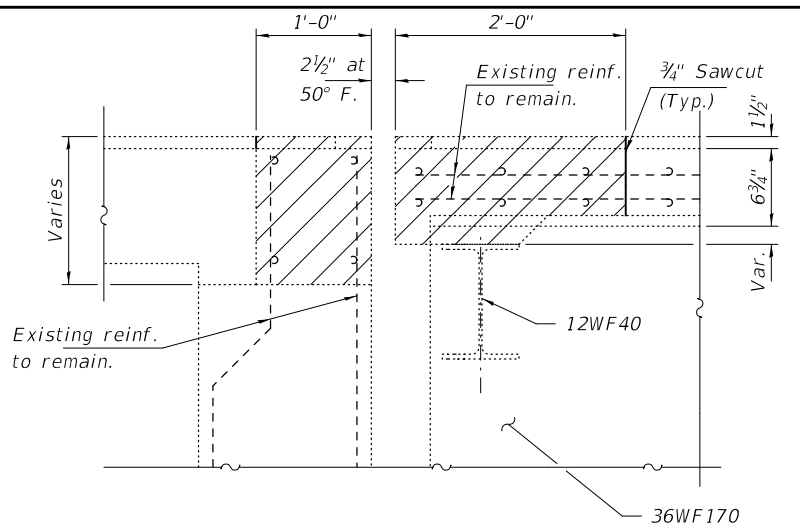
**BAR c(E)**



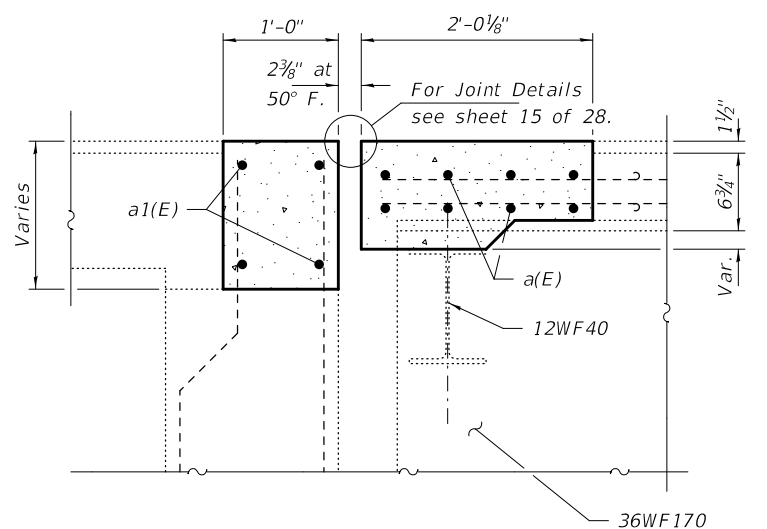
**BAR d2(E)**



**TYPICAL SECTION THRU  
 BRIDGE PARAPET**



**SECTION A-A**



**SECTION B-B**

**BILL OF MATERIAL - 4 ABUTS.**

Bar	No.	Size	Length	Shape
a(E)	64	#6	18'-0"	—
a1(E)	32	#6	18'-0"	—
a2(E)	16	#6	4'-0"	—
c(E)	32	#4	4'-10"	U
d(E)	32	#6	4'-9"	L
d1(E)	32	#4	2'-6"	L
d2(E)	16	#4	2'-0"	Π
Concrete Removal			Cu. Yd.	18.1
Concrete Superstructure			Cu. Yd.	18.2
Reinforcement Bars, Epoxy Coated			Pound	3100
* Protective Coat			Sq. Yd.	55

\* Apply to new concrete only.

DESIGNED - JSB  
 CHECKED - SMR  
 DRAWN - daburdell  
 CHECKED - JSB SMR

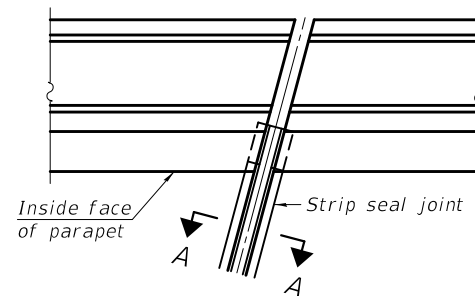
EXAMINED  
 PASSED  
 ENGINEER OF STRUCTURAL SERVICES  
 ENGINEER OF BRIDGES AND STRUCTURES

DATE - JANUARY 22, 2019  
 REVISED -  
 REVISED -

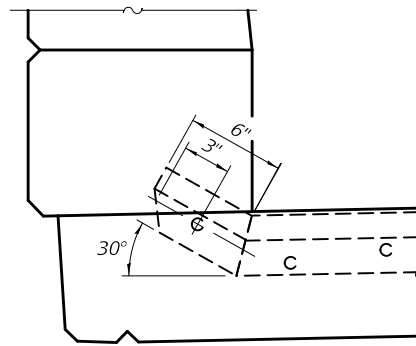
**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**JOINT REMOVAL AND REPLACEMENT  
 SN 012-0050 (EB) & 0051 (WB)**

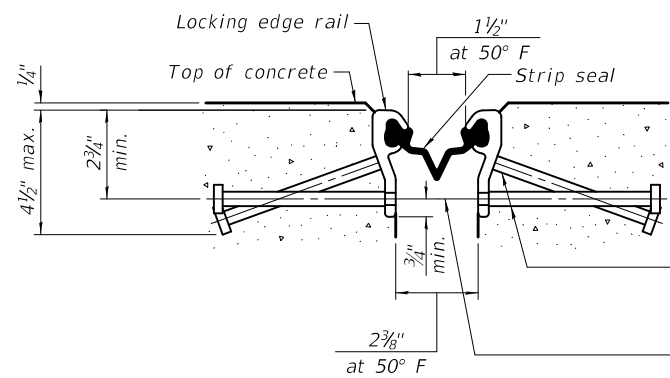
F.A.I. RTE. SECTION COUNTY TOTAL SHEETS SHEET NO.  
 70 D7 Bridge Deck Repairs 2019-2 CLARK 28 14  
 CONTRACT NO. 74885  
 ILLINOIS FED. AID PROJECT



FOR SKEWS  $\leq 30^\circ$   
PLAN AT PARAPET



ELEVATION AT PARAPET  
 (Skews  $\leq 30^\circ$ )



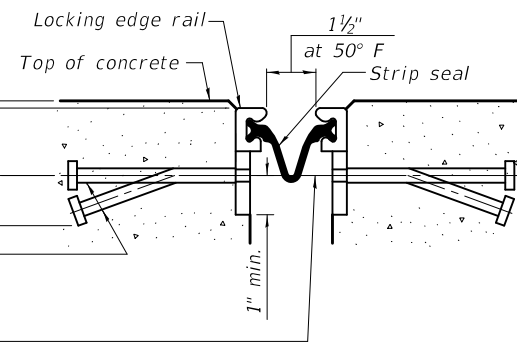
SHOWING ROLLED RAIL JOINT

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

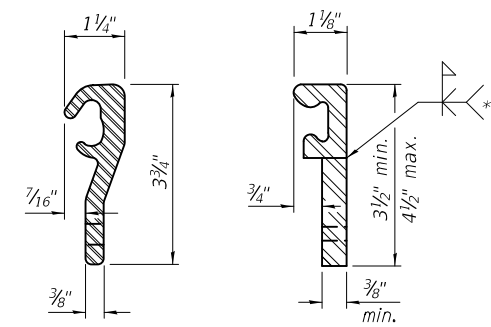
$\frac{3}{8}$ "  $\emptyset$  threaded rods in  $\frac{7}{16}$ "  $\emptyset$  holes at  $\pm 4$ "-0" cts. for holding the proper joint opening based on the temperature during the deck pour. Place to miss studs. All rods shall be burned, or sawed off flush with the plates after concrete is set.

SECTION A-A

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

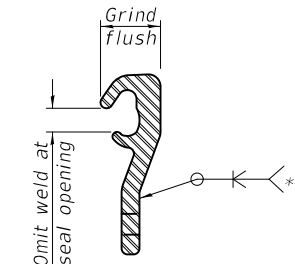


SHOWING WELDED RAIL JOINT



LOCKING EDGE RAILS

\*\* Back gouge not required if complete joint penetration is verified by mock-up.



LOCKING EDGE RAIL SPLICE

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

BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	148

Notes:  
 The strip seal shall be made continuous and shall have a minimum thickness of  $\frac{1}{4}$ ". 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  $4\frac{1}{2}$ " 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  $\frac{3}{16}$ " 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.  
 The concrete opening below the strip seal will vary based on the locking edge rail chosen by the Contractor. Deck and parapet lengths shown elsewhere in the plans are dimensioned to the concrete opening, not the joint opening, and are based on the rolled locking edge rail. If the Contractor elects to use a different locking edge rail, dimensional adjustments may be required. One exception to this would be the strip seal joint at the end of the precast bridge approach slab. For these cases the pavement connector length shall be adjusted, not the length of the bridge approach slab.

DESIGNED - JSB  
 CHECKED - SMR  
 DRAWN - daburdell  
 CHECKED - JSB SMR

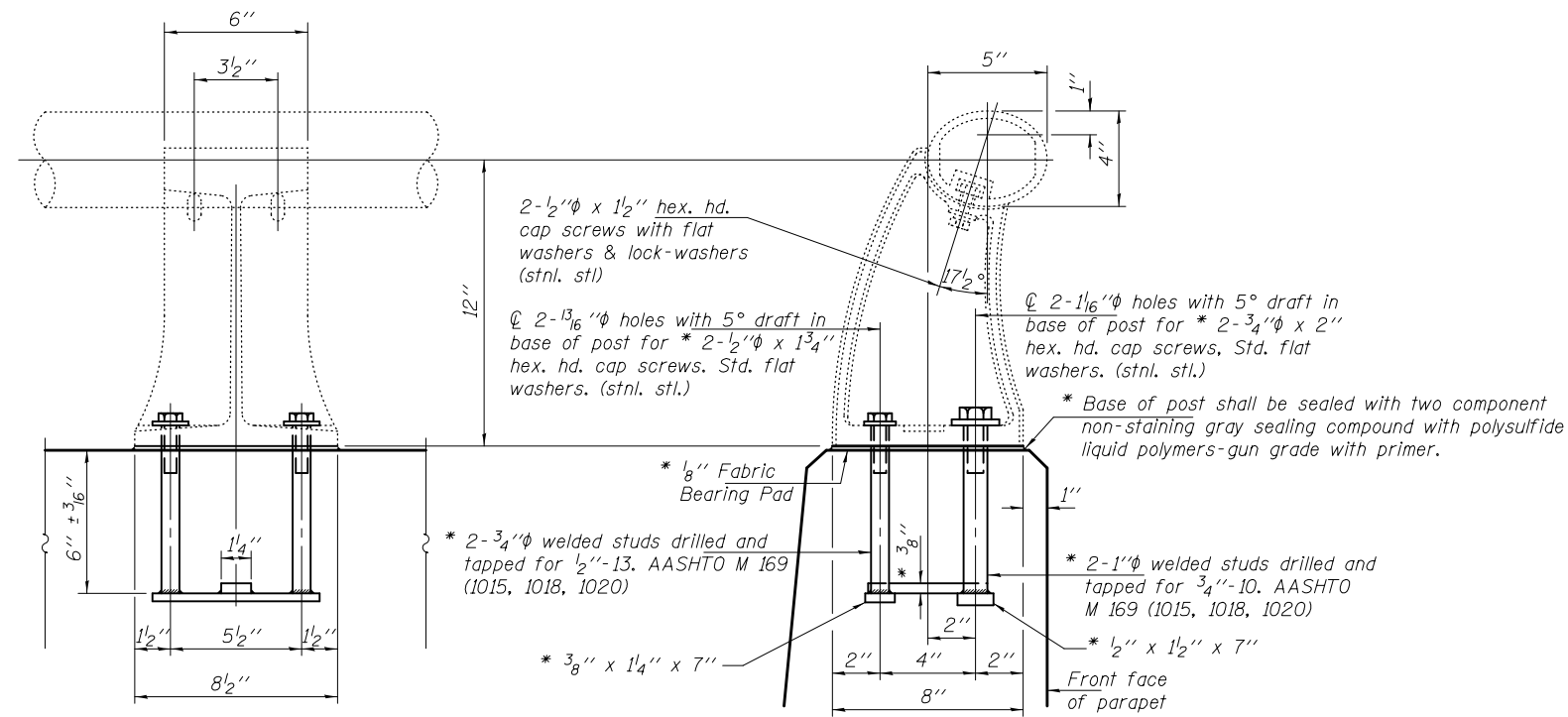
EXAMINED  
 PASSED  
 Timothy A. Daburdell  
 ENGINEER OF STRUCTURAL SERVICES  
 Carl R. Meyer  
 ENGINEER OF BRIDGES AND STRUCTURES

DATE - JANUARY 22, 2019  
 REVISED -  
 REVISED -

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

PREFORMED JOINT STRIP SEAL  
 SN 012-0050 (EB) & 0051 (WB)

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	D7 Bridge Deck Repairs 2019-2	CLARK	28	15
CONTRACT NO. 74885				
ILLINOIS FED. AID PROJECT				



**RAIL POST DETAILS**

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

DESIGNED - JSB  
 CHECKED - SMR  
 DRAWN - daburdell  
 CHECKED - JSB SMR

EXAMINED  
*Timothy A. Daulton*  
 ENGINEER OF STRUCTURAL SERVICES  
 PASSED  
*Carl Berger*  
 ENGINEER OF BRIDGES AND STRUCTURES

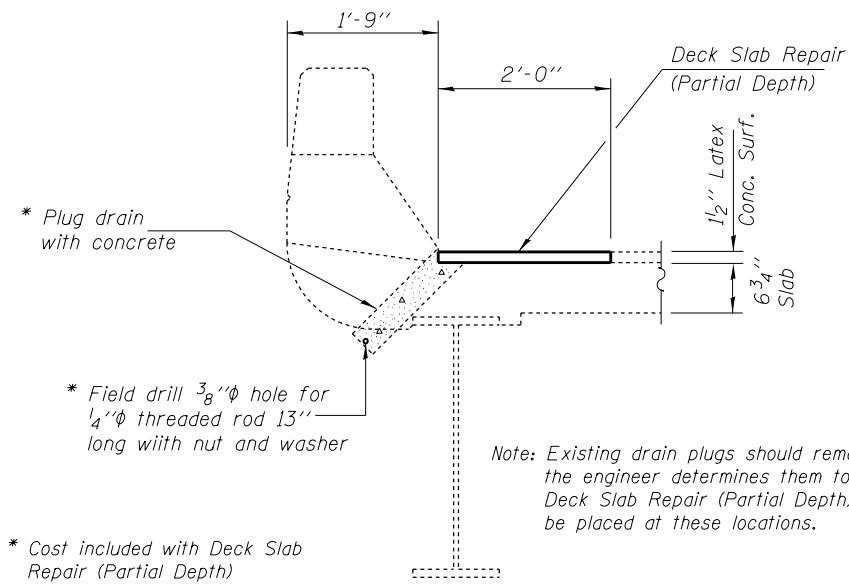
DATE - JANUARY 22, 2019  
 REVISED -  
 REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

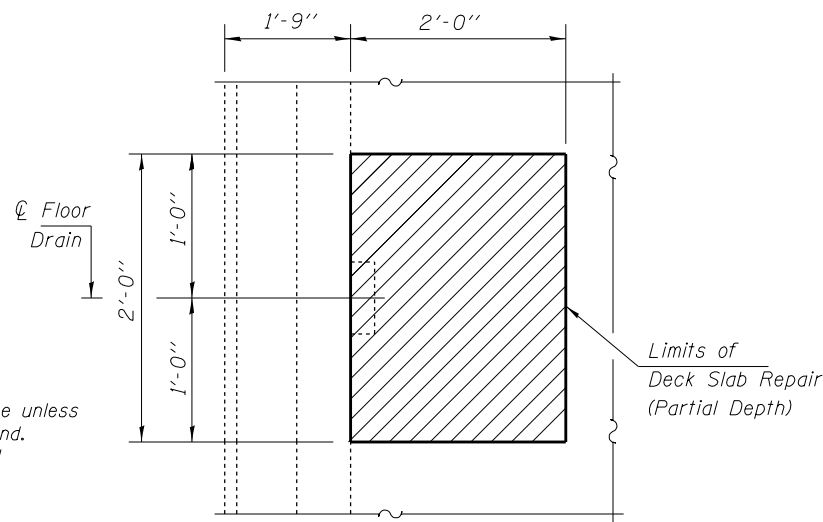
**REPAIR DETAILS  
 SN 012-0050 (EB) & 0051 (WB)**

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	D7 Bridge Deck Repairs 2019-2	CLARK	28	16
			CONTRACT NO. 74885	
ILLINOIS FED. AID PROJECT				



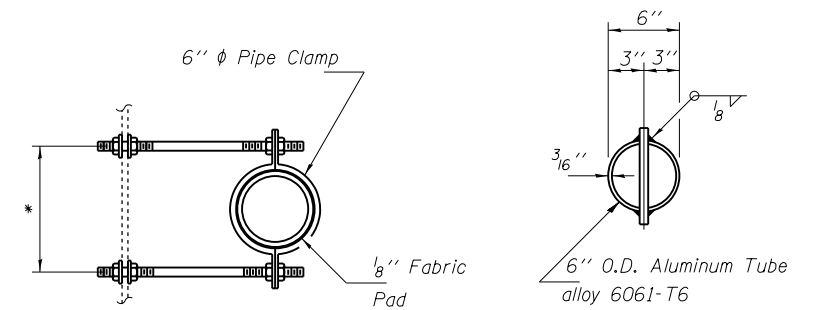


**SECTION THRU DRAIN TO BE PLUGGED**  
(120 Locations - See Sheets 7 to 12 of 15)



**TOP PLAN AT DRAIN TO BE PLUGGED**

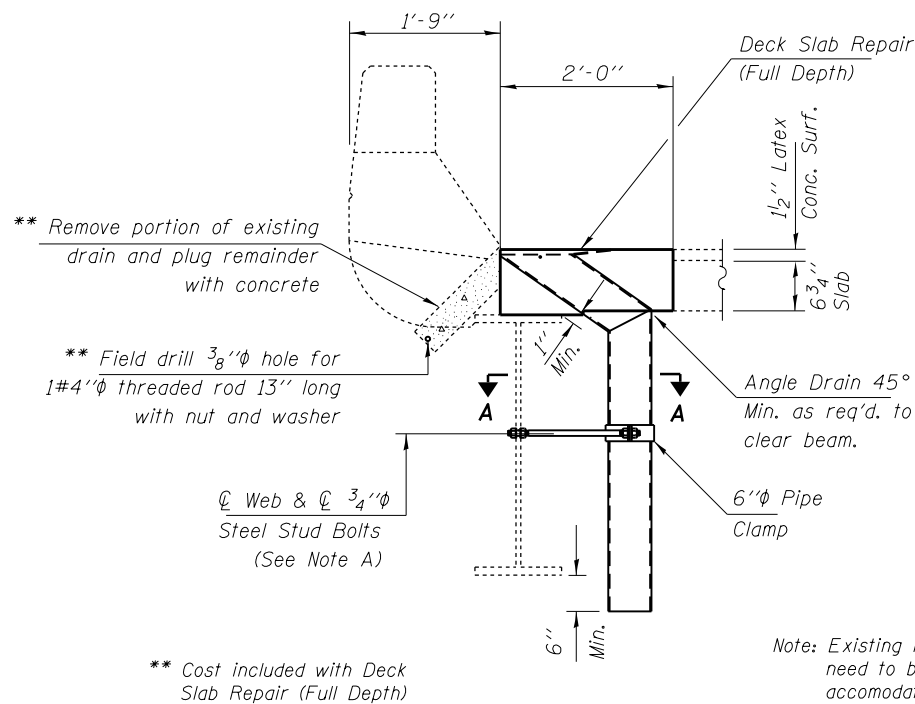
Notes:  
Drains shall be located clear of all diaphragms.  
The top portion of the aluminum floor drains shall be coated to minimize reaction with wet concrete.  
Fiberglass pipe alternative shall not be allowed for floor drains.  
Galvanize clamping device according to AASHTO M232. Cost of clamping device and inserts is included with Floor Drains.  
The Contractor shall use extreme care during concrete removal so as not to damage the steel I Beam at drain removal locations.



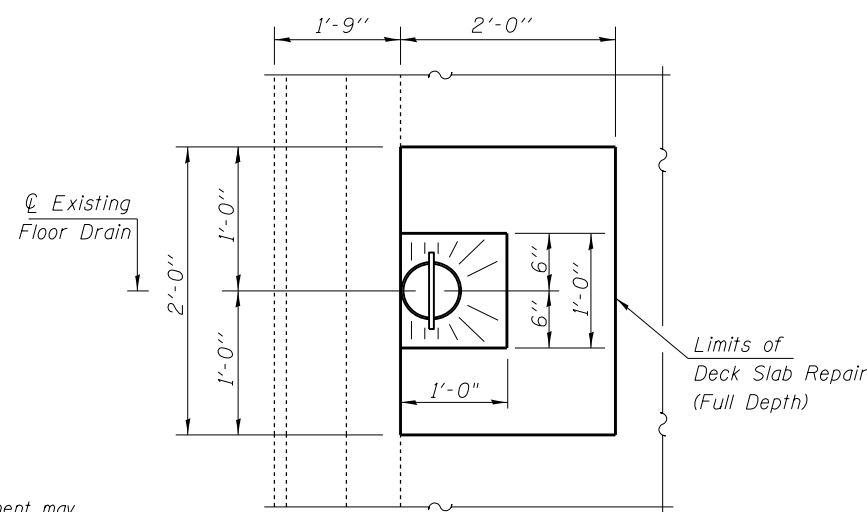
**SECTION A-A**

\* Dimension as required by Pipe Clamp

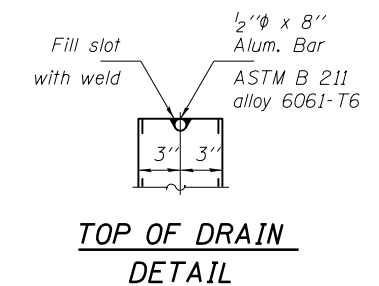
**TOP PLAN**



**SECTION THRU DRAIN TO BE REPLACED**  
(96 Locations - See Sheets 7 to 12 of 15)



**TOP PLAN AT DRAIN TO BE REPLACED**



**TOP OF DRAIN DETAIL**

**BILL OF MATERIAL**

ITEM	UNIT	TOTAL
Floor Drains	Each	96

USER NAME = steffernik	DESIGNED - D. MACKLIN	REVISED -
	DRAWN - D. MACKLIN	REVISED -
PLOT SCALE = 40.0000' / in.	CHECKED - S. KASSEL	REVISED -
PLOT DATE = 12/21/2018	DATE - 4/25/2018	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

DRAIN DETAILS			
SN. 012-0050 (EB) & 0051 (WB)			
SCALE:	SHEET 6	OF 15 SHEETS	STA. TO STA.

\* 07 Bridge Deck Repairs 2019-2

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	.	CLARK	28	17
CONTRACT NO. 74885				
ILLINOIS FED. AID PROJECT				



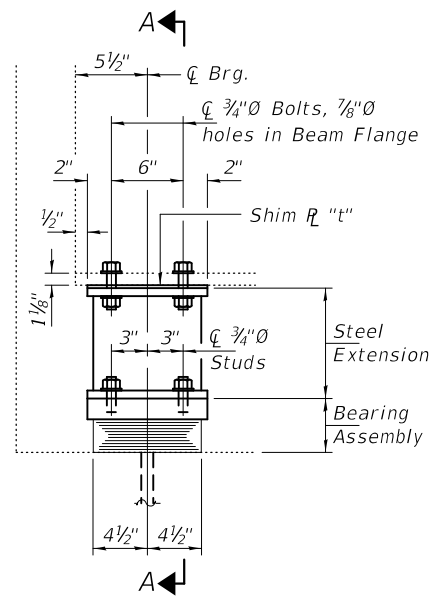






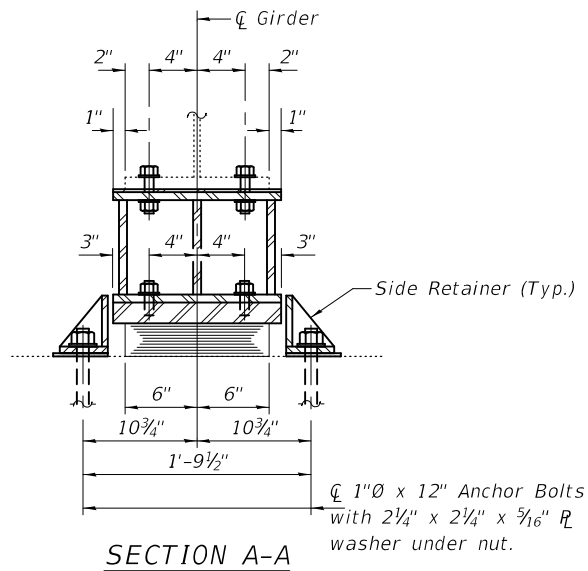






ELEVATION AT ABUTMENT

TYPE I ELASTOMERIC EXP. BRG.



SECTION A-A

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 = 35 Tons.

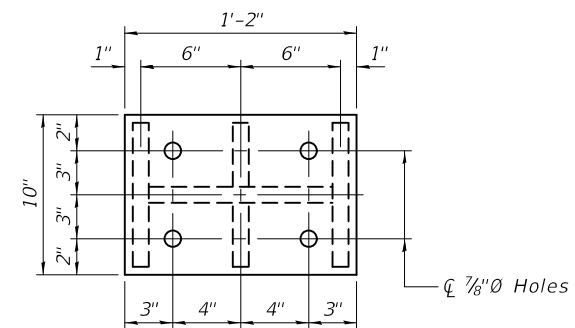
Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. ASTM A307 Grade C anchor bolts may be used in lieu of ASTM F1554 Grade 36 (Fy=36ksi). The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of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

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

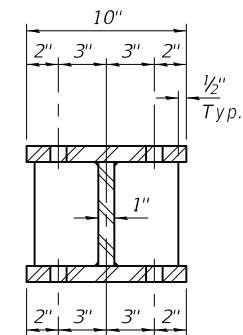
Cost of Side retainers and Stainless Steel plates shall be included in the cost of Elastomeric Bearing Assembly, Type I.

BEAM REACTIONS

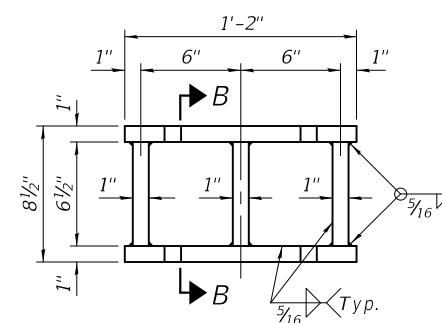
R <sub>∅</sub>	(K)	23.3
R <sub>L</sub>	(K)	35.1
Imp.	(K)	9.0
R (Total)	(K)	67.4



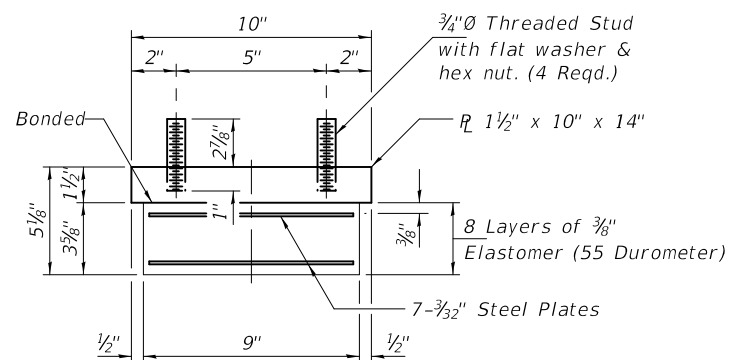
PLAN TOP AND BOTTOM PLATE



SECTION B-B

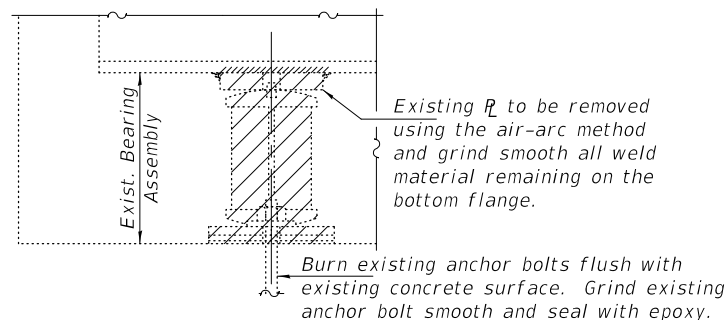


STEEL EXTENSION DETAIL



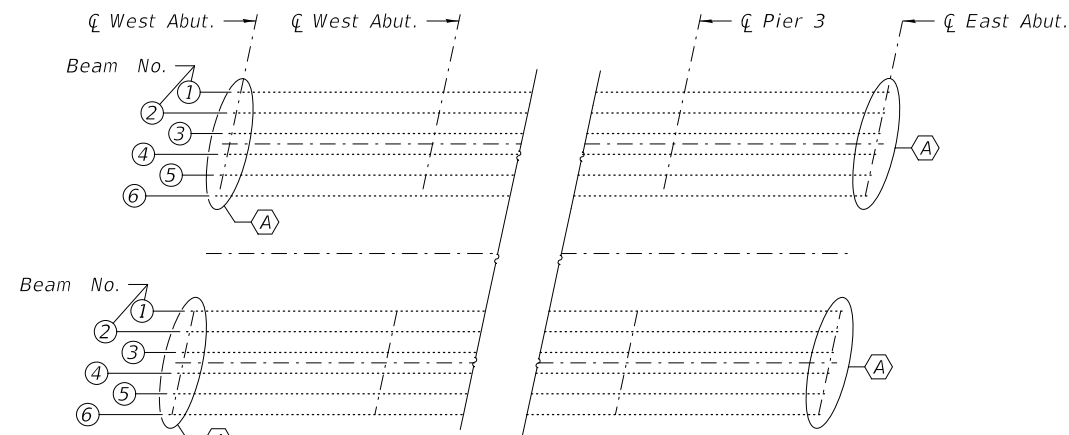
BEARING ASSEMBLY

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



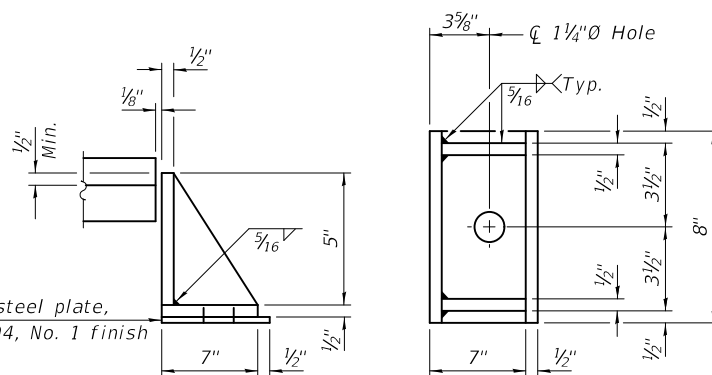
EXISTING BEARING REMOVAL DETAIL

Cost included with Jack and Remove Existing Bearings.



PARTIAL PLAN

Ⓐ Bearing Removal and Replacement



SIDE RETAINER

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

SHIM PLATE THICKNESS "t"

Location	Bm. 1	Bm. 2	Bm. 3	Bm. 4	Bm. 5	Bm. 6
W. Abut.	0	1/4"	3/4"	0	0	0
E. Abut.	0	1/4"	3/4"	0	0	0

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly, Type I	Each	24
Jack and Remove Existing Bearings	Each	24
Furnishing and Erecting Structural Steel	Pound	3770
Anchor Bolts, 1"∅	Each	48

TYI/REPS 5-11-2018

DESIGNED - JSB  
CHECKED - SMR  
DRAWN - daburdell  
CHECKED - JSB SMR

EXAMINED  
PASSED  
Timothy A. Daburdell  
ENGINEER OF STRUCTURAL SERVICES  
Carl R. Meyer  
ENGINEER OF BRIDGES AND STRUCTURES

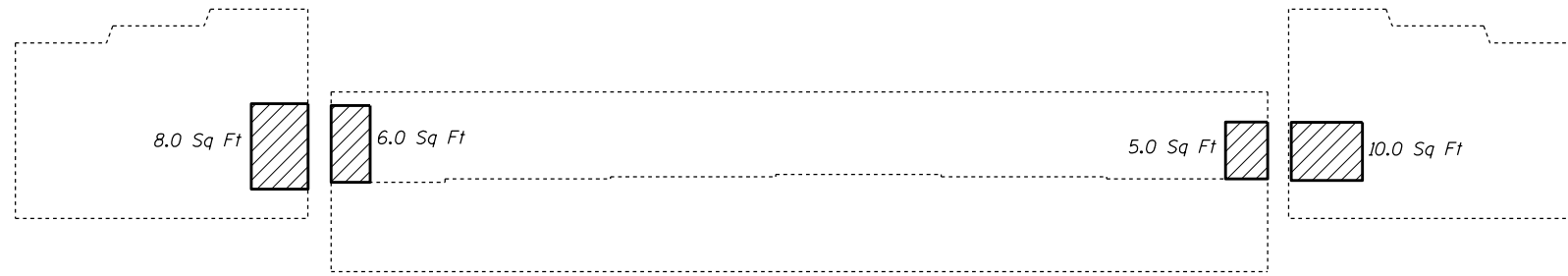
DATE - JANUARY 22, 2019  
REVISED -  
REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

BEARING DETAILS  
SN 012-0050 (EB) & 0051 (WB)

F.A.I. SECTION COUNTY TOTAL SHEETS SHEET NO.  
RTE. 70 D7 Bridge Deck Repairs 2019-2 CLARK 28 24  
CONTRACT NO. 74885  
ILLINOIS FED. AID PROJECT





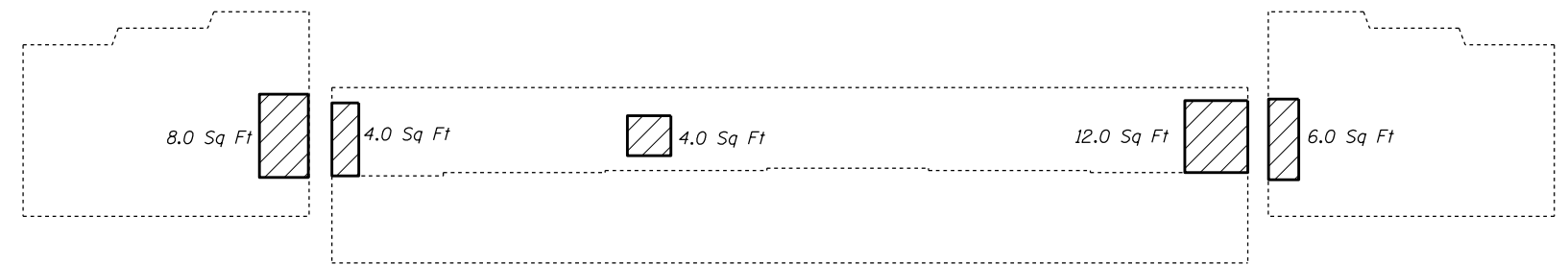
**SN 012-0050 EB - WEST ABUTMENT**



**SN 012-0050 EB - EAST ABUTMENT**



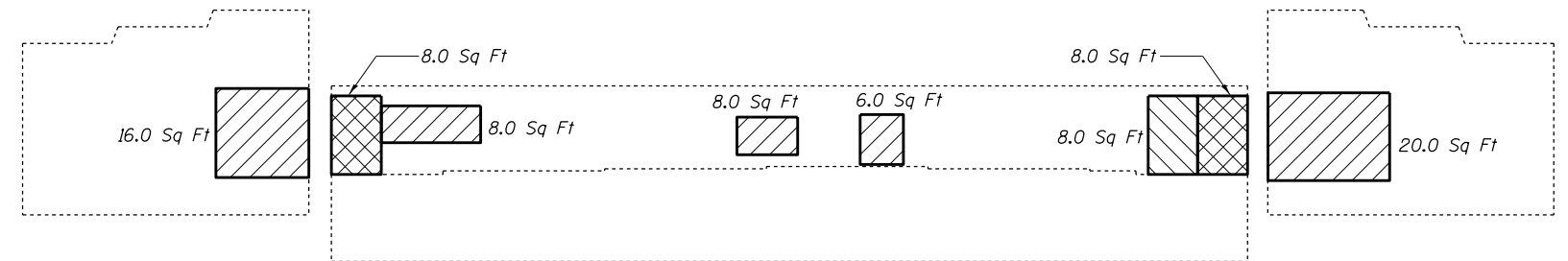
Note: Quantities are estimated. Actual quantities to be determined in the field by the Engineer.



**SN 012-0051 WB - WEST ABUTMENT**

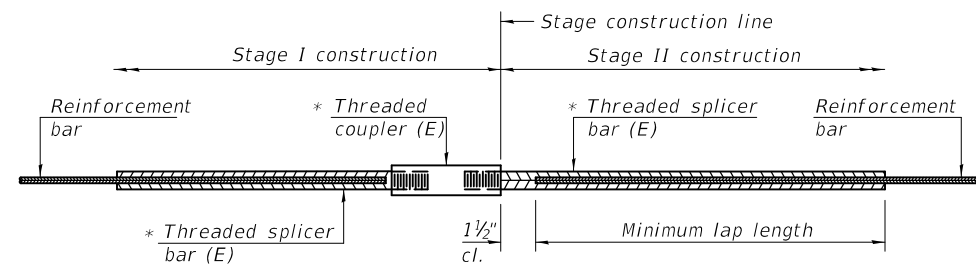
**BILL OF MATERIALS**

ITEM	UNIT	012-0050 EB	012-0051 WB	TOTAL
Structural Repair of Concrete (Depth Equal to or Less Than 5")	Sq Ft	104.0	100.0	204.0
Structural Repair of Concrete (Depth Greater Than 5")	Sq Ft	12.0	16.0	28.0



**SN 012-0051 WB - EAST ABUTMENT**

• 07 Bridge Deck Repairs 2019-2

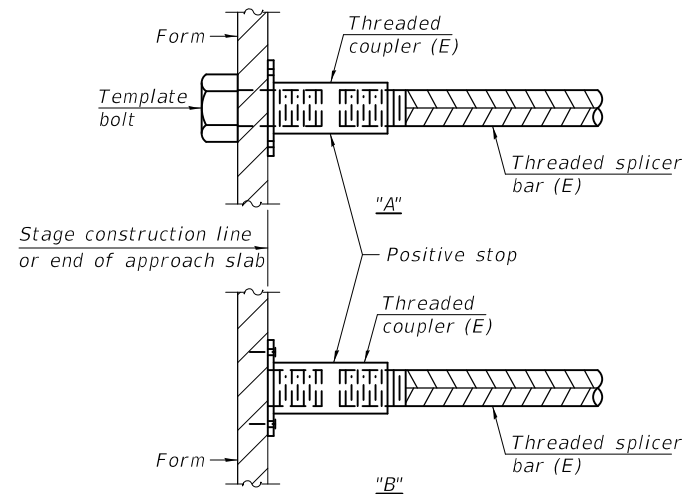


**STANDARD BAR SPLICER ASSEMBLY**

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
Top & Bott. Slab	#6	32	4'-10"
Hatch Block	#6	16	5'-0"

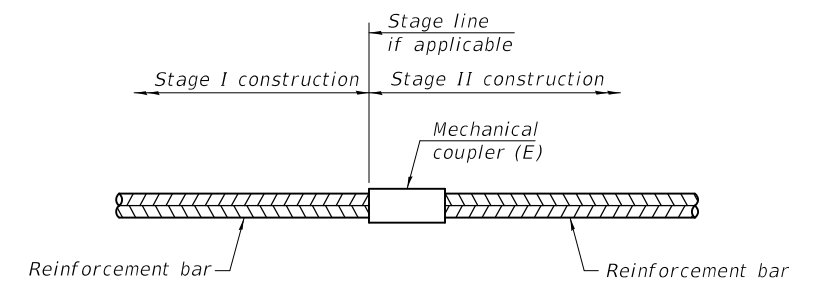


**INSTALLATION AND SETTING METHODS**

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

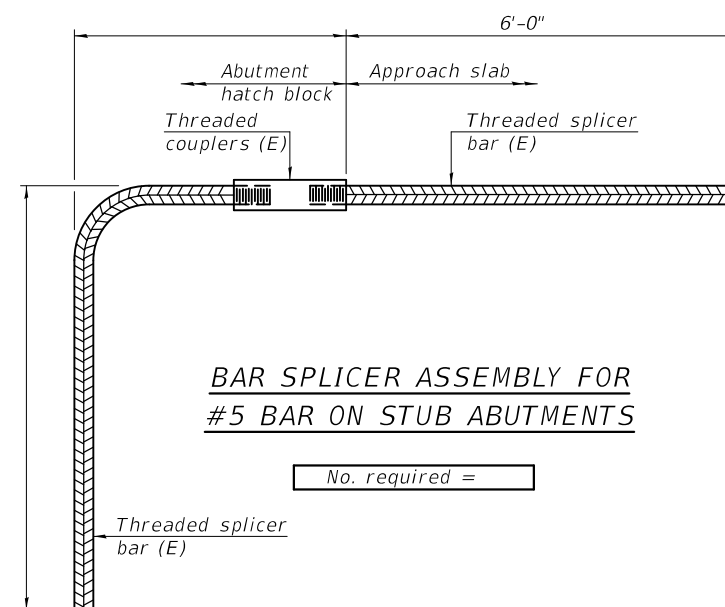
"B" : Set bar splicer assembly by nailing to wood forms or cementing to steel forms.

(E) : Indicates epoxy coating.



**STANDARD MECHANICAL SPLICER**

Location	Bar size	No. assemblies required



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

No. required =

**NOTES**

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

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

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

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

BSD-1

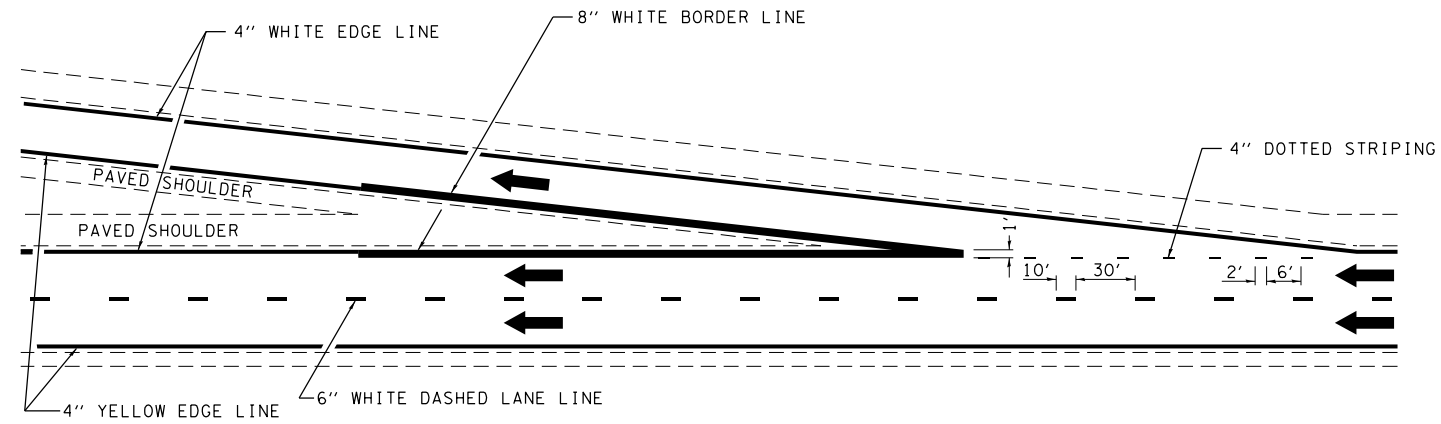
2-17-2017

DESIGNED - JSB	EXAMINED	DATE - JANUARY 22, 2019
CHECKED - SMR	<i>Timothy A. Daburdell</i> ENGINEER OF STRUCTURAL SERVICES	REVISED -
DRAWN - daburdell	PASSED	REVISED -
CHECKED - JSB SMR	<i>Carl R. Meyer</i> ENGINEER OF BRIDGES AND STRUCTURES	

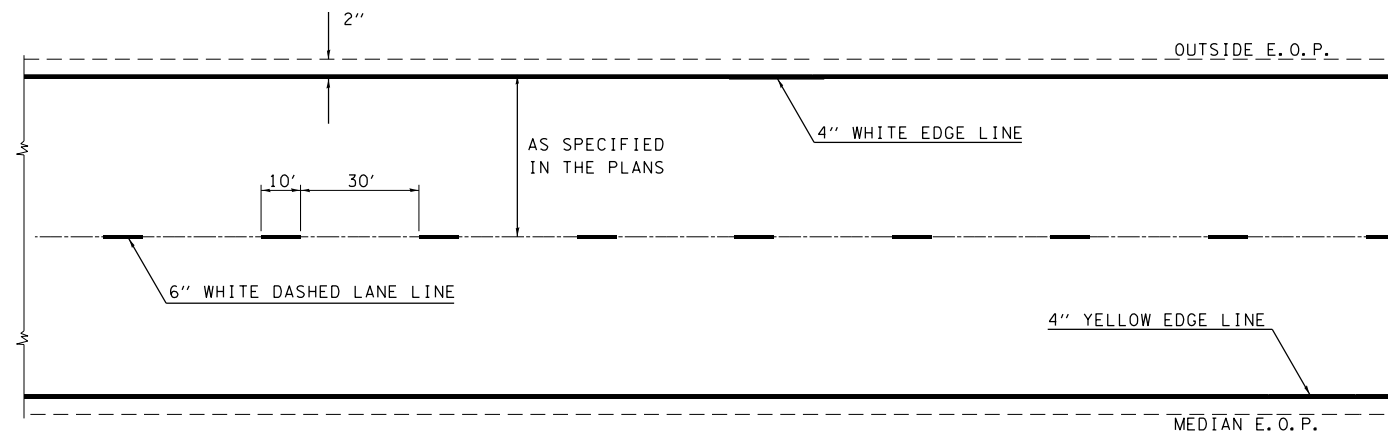
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS  
SN 012-0050 (EB) & 0051 (WB)

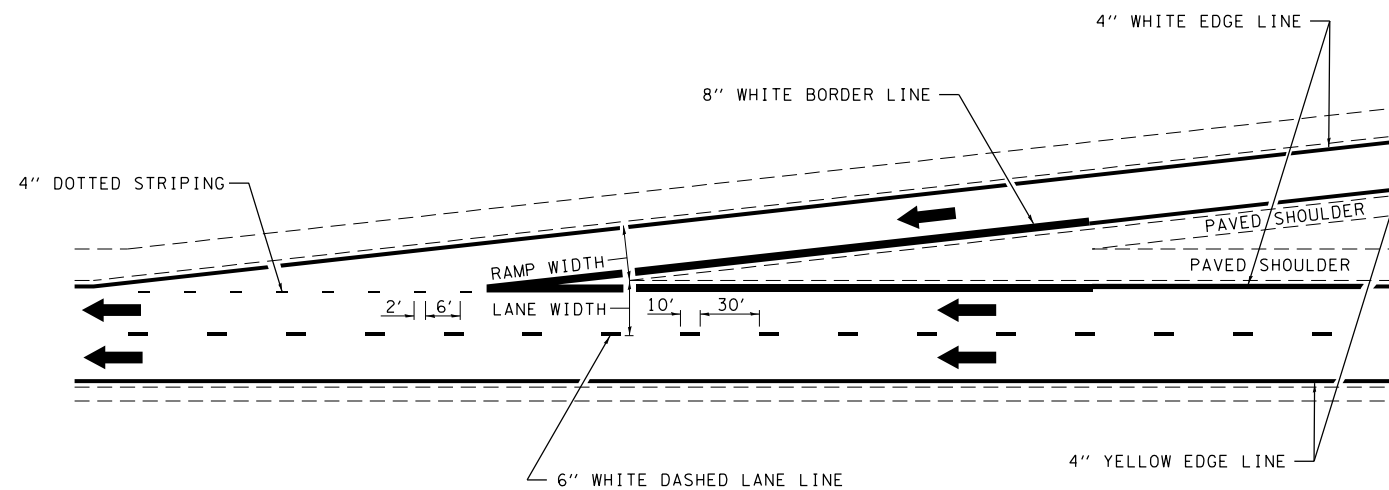
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	D7 Bridge Deck Repairs 2019-2	CLARK	28	26
CONTRACT NO. 74885				
ILLINOIS FED. AID PROJECT				



TYPICAL EXIT RAMP MARKING



TYPICAL CENTERLINE & EDGELINE MARKINGS



TYPICAL ENTRANCE RAMP MARKING

• D7 BRIDGE DECK REPAIRS 2019-2

NOT TO SCALE

**DISTRICT 7 DETAIL NO. 7800002**

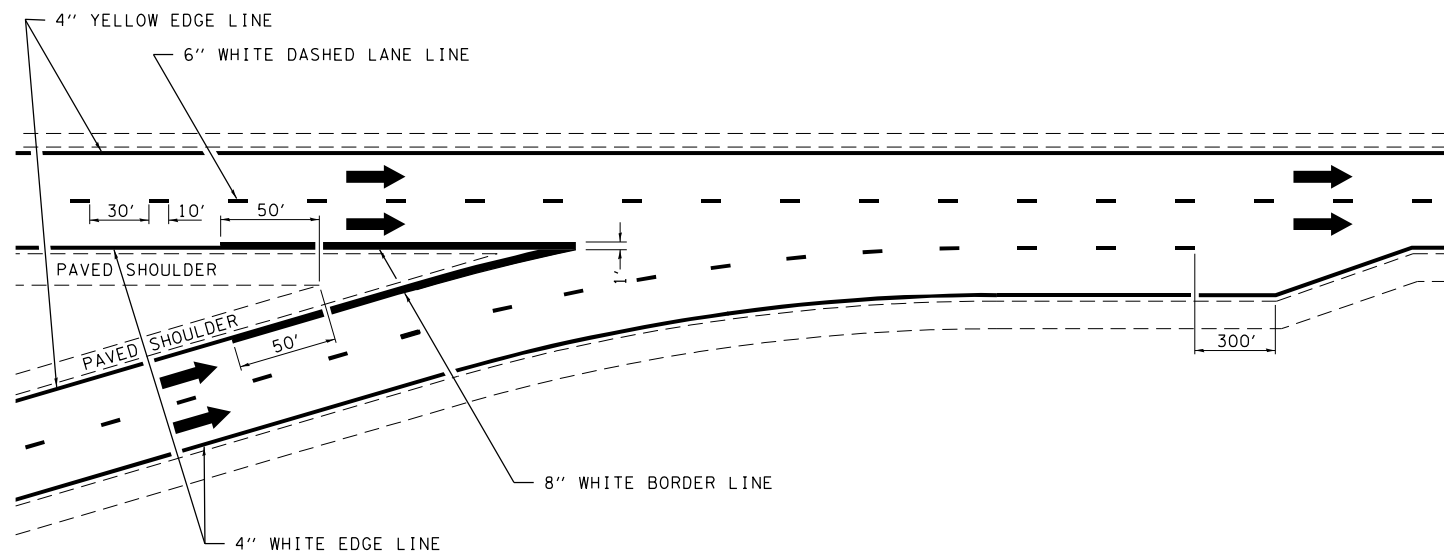
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	PLOT SCALE = 2.0000' / in.	CHECKED -	REVISED - DRM 01-09
	PLOT DATE = 12/21/2018	DATE -	REVISED - DRM 12-10

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

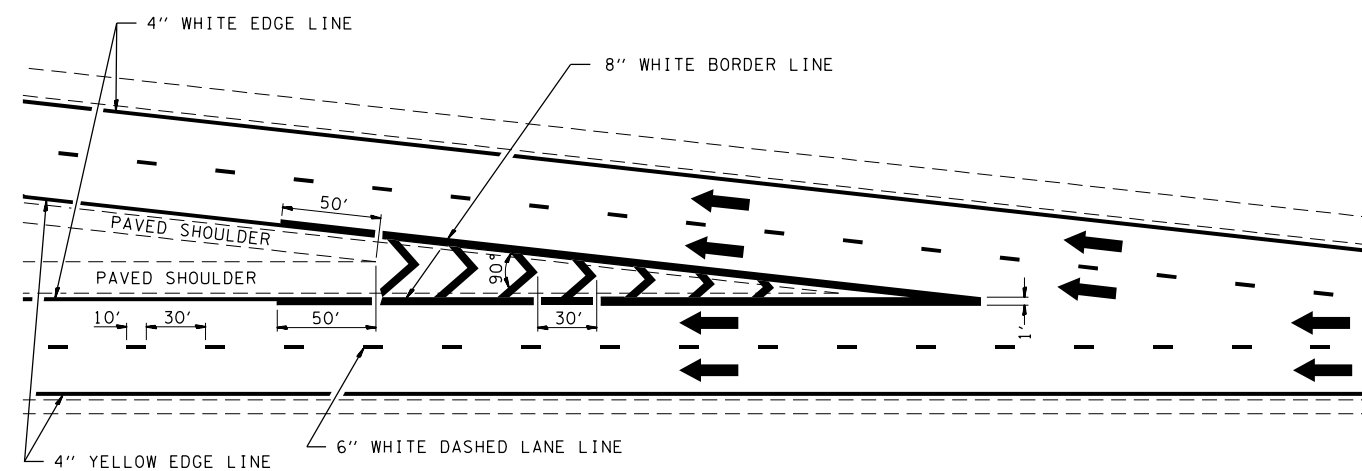
**TYPICAL APPLICATIONS OF INTERSTATE PAVEMENT MARKING**

SCALE: SHEET NO. 1 OF 2 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	CLARK	28	27
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT			CONTRACT NO. 74885	

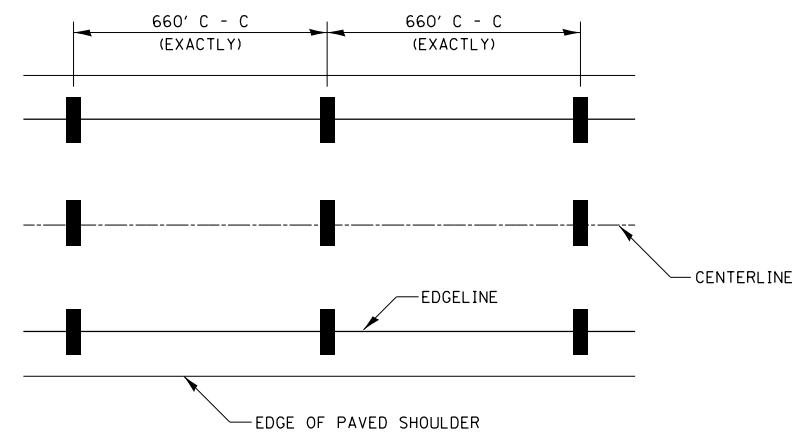


TYPICAL CONVERGENCE MARKING

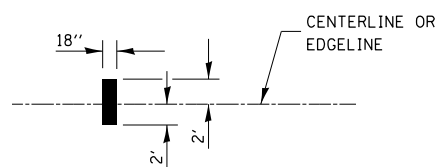


TYPICAL DIVERGENCE MARKING

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.



• D7 BRIDGE DECK REPAIRS 2019-2

NOT TO SCALE

**DISTRICT 7 DETAIL NO. 7800002**

FILE NAME =	USER NAME = steffenmk	DESIGNED -	REVISED - MMO 12-99
p:\11\084EBIDINTEG\illinois.gov\PIWIDOT\Documents\IDOT Offices\District 7\Projects\74885\Drawings\CABsheets\0774885-D7 STANDARD		DRAWN -	REVISED - DRM 08-04
	PLOT SCALE = 2.0000' / in.	CHECKED -	REVISED - MKS 04-08
	PLOT DATE = 12/21/2018	DATE -	REVISED - DRM 01-09

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**TYPICAL APPLICATIONS OF INTERSTATE PAVEMENT MARKING**

SCALE: SHEET NO. 2 OF 2 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	•	CLARK	28	28
			<b>74885</b>	
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		