

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
116		CUMBERLAND	19	1
		ILLINOIS	CONTRACT NO. 74805	

*D-7 BRIDGE REPAIRS 2018-4

D-97-026-17

FOR INDEX OF SHEETS, SEE SHEET NO. 2

ADT (2015) = 3300

PROPOSED
HIGHWAY PLANS

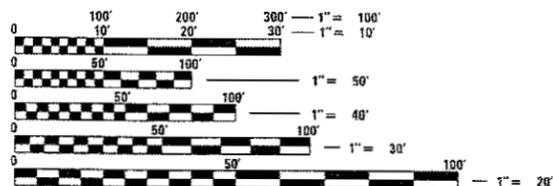
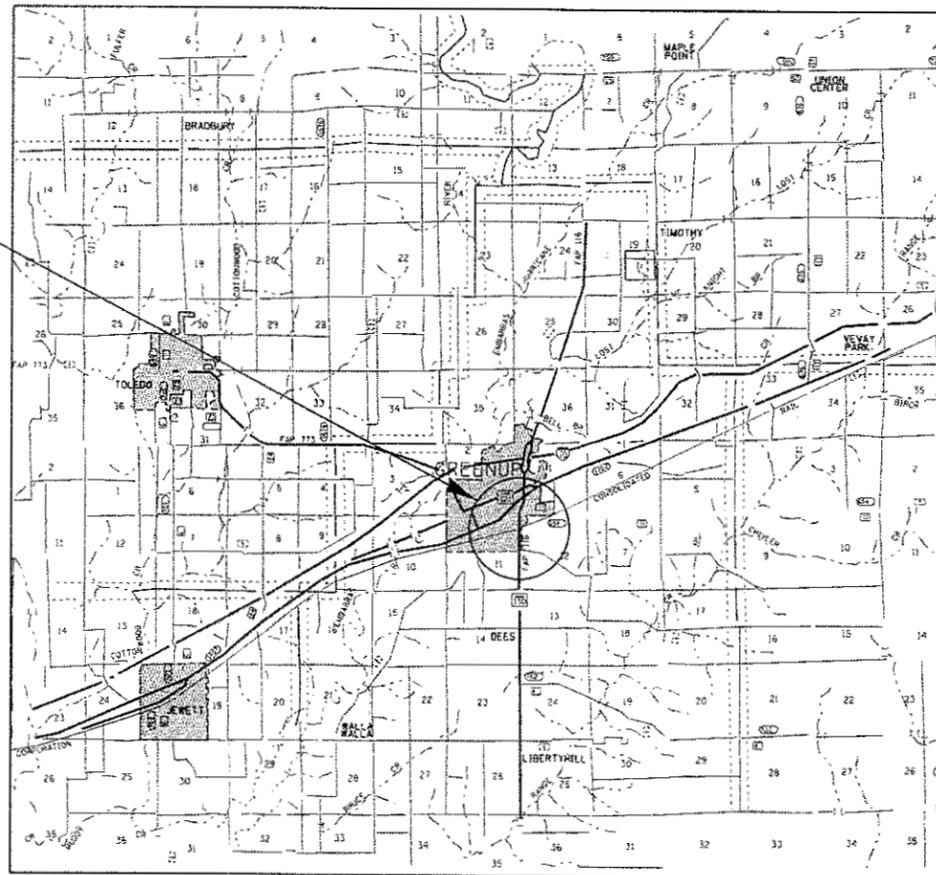
F.A.P. ROUTE 116 (IL 130)
SECTION D7 BRIDGE REPAIRS 2018-4

BRIDGE REPAIR
CUMBERLAND COUNTY

C-97-059-17



STRUCTURE:
SN 018-0026
STA 498 + 60.60



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: MARK DAUGHERTY
PROJECT MANAGER: BRANDON HEMMEN

CONTRACT NO. 74805

GROSS LENGTH = 128 FT. = 0.02 MILE
NET LENGTH = 128 FT. = 0.02 MILE

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUBMITTED NOVEMBER 30 2017
Jeffrey M. South REGIONAL ENGINEER
NOV 30 2017
Maureen M. Addis ENGINEER OF DESIGN AND ENVIRONMENT
NOV 30 2017
Maureen M. Addis 2
DIRECTOR OF PROGRAM DEVELOPMENT

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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
5	TYPICAL CROSS SECTIONS
6-7	STAGED TRAFFIC CONTROL
8-15	STRUCTURE REPAIR PLANS
16-19	PAVEMENT MARKING DETAILS

THE FOLLOWING STANDARDS ARE A PART OF THESE PLANS AND ARE INCLUDED AFTER SHEET NO. 19:

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
701001-02	OFF-ROAD OPERATIONS, 2L2W, 15' MINIMUM AWAY FROM PAVEMENT EDGE
701006-05	OFF-ROAD OPERATIONS, 2L2W, 15' MINIMUM AWAY TO EDGE OF PAVEMENT
701011-04	OFF-ROAD MOVING OPERATION, 2L2W, DAY ONLY
701201-04	LANE CLOSURE, 2L2W, DAY ONLY
701301-04	LANE CLOSURE, 2L2W, SHORT TIME OPERATIONS
701311-03	LANE CLOSURE, 2L,2W, MOVING OPERATIONS - DAY ONLY
701321-17	LANE CLOSURE, 2L,2W, BRIDGE REPAIR WITH BARRIER
701326-04	LANE CLOSURE, 2L,2W, PAVEMENT WIDENING, FOR SPEEDS GREATER THAN OR EQUAL TO 45 MPH
701901-07	TRAFFIC CONTROL DEVICES
704001-08	TEMPORARY CONCRETE BARRIER
780001-05	TYPICAL PAVEMENT MARKINGS

GENERAL NOTES

PLAN DIMENSIONS AND DETAILS RELATIVE TO THE EXISTING STRUCTURE 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 WORK ON THIS PROJECT IS LOCATED IN CUMBERLAND COUNTY ON IL 130 AT STRUCTURE NUMBER 018-0026 OVER CSXT RR 0.5 MILES SOUTH OF US 40.

THE WORK INCLUDED IN THIS SECTION CONSISTS OF BRIDGE DECK PATCHING, STRUCTURAL CONCRETE REPAIRS, TRAFFIC CONTROL, JOINT REPLACEMENT, PAVEMENT MARKING AND ANY OTHER WORK NECESSARY TO COMPLETE THIS SECTION

THE EXISTING PAVEMENT MARKINGS THAT CONFLICT WITH STAGE I & II OF STANDARD 701321 SHALL BE REMOVED BY WATER BLASTING. THE REMOVAL WILL BE PAID FOR AS PAVEMENT MARKING REMOVAL-WATER BLASTING.

PAINT PAVEMENT MARKING - 4" SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE STANDARDS, AS SHOWN IN THE PLANS, AND AS DETERMINED BY THE ENGINEER. THE TOTAL QUANTITY CALCULATED CONSISTS OF 1107 FEET OF YELLOW AND 254 FEET OF WHITE.

THE INLETS IN TRAFFIC CONTROL STAGING SHALL BE COVERED BY A STEEL PLATE SO THAT TRAFFIC CAN DRIVE OVER THE INLETS. THE STEEL PLATE SHALL BE SECURED TO WITHSTAND TRAFFIC FOR THE DURATION OF THE STAGED TRAFFIC. THE COST TO COVER THE INLETS SHALL BE INCLUDED IN THE COST OF TRAFFIC CONTROL AND PROTECTION, STANDARD 701321.

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 650 PSI.

FILTER FABRIC WILL BE USED TO COVER THE BALLAST ALONG THE RAILROAD TRACKS. THE FILTER FABRIC SHALL BE REMOVED ONCE THE CONSTRUCTION IS COMPLETE AND SHALL BE INCLUDED IN THE COST OF THE FILTER FABRIC. FILTER FABRIC IS TO PREVENT DEBRIS FROM COVERING BALLAST FROM THE BRIDGE CONSTRUCTION AND BE PLACED FROM THE TRACKS TO THE PIERS AND EXTEND 25 FT EAST AND WEST OF BRIDGE.

FILE NAME =	USER NAME = biermenbj	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	INDEX OF SHEETS AND GENERAL NOTES			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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	PLOT DATE = 11/13/2017	DATE -	REVISED -		SCALE: N/A	SHEET 1	OF 1	SHEETS	STA.	TO STA.		

100 %
STATE

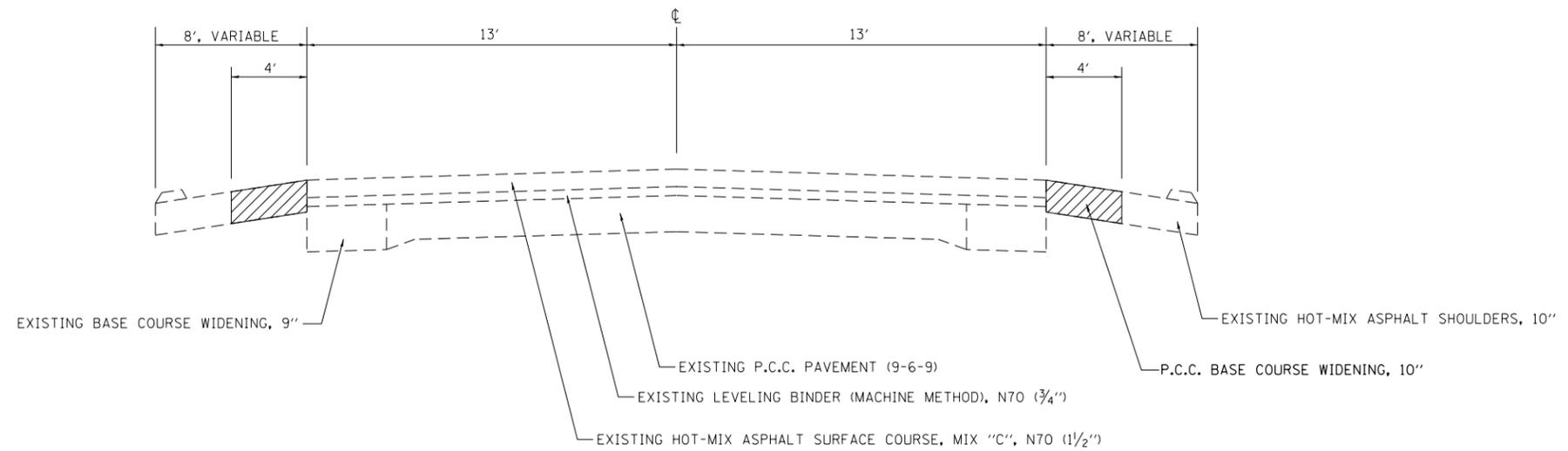
100 %
STATE

SUMMARY OF QUANTITIES			TOTAL QUANTITIES	CONSTRUCTION TYPE CODE		
CODE NO	ITEM	UNIT		0047		
28200200	FILTER FABRIC	SQ YD	283	283		
35400500	PORTLAND CEMENT CONCRETE BASE COURSE WIDENING 10"	SQ YD	224	224		
44004250	PAVED SHOULDER REMOVAL	SQ YD	224	224		
50102400	CONCRETE REMOVAL	CU YD	11.5	11.5		
50157300	PROTECTIVE SHIELD	SQ YD	138	138		
50300255	CONCRETE SUPERSTRUCTURE	CU YD	11.5	11.5		
50300300	PROTECTIVE COAT	SQ YD	36	36		
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	820	820		
50800515	BAR SPLICERS	EACH	32	32		
52000110	PREFORMED JOINT STRIP SEAL	FOOT	71	71		
67000500	ENGINEER'S FIELD OFFICE, TYPE B	CAL MO	5	5		
67100100	MOBILIZATION	LSUM	1	1		
70100405	TRAFFIC CONTROL AND PROTECTION, STANDARD 701321	EACH	1	1		
70100450	TRAFFIC CONTROL AND PROTECTION, STANDARD 701201	LSUM	1	1		

SUMMARY OF QUANTITIES			TOTAL QUANTITIES	CONSTRUCTION TYPE CODE		
CODE NO	ITEM	UNIT		0047		
70100500	TRAFFIC CONTROL AND PROTECTION, STANDARD 701326	LSUM	1	1		
70103815	TRAFFIC CONTROL SURVEILLANCE	CAL DA	5	5		
70106500	TEMPORARY BRIDGE TRAFFIC SIGNALS	EACH	1	1		
70106700	TEMPORARY RUMBLE STRIPS	EACH	6	6		
70400100	TEMPORARY CONCRETE BARRIER	FOOT	300	300		
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	300	300		
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	1361	1361		
* 78100300	REPLACEMENT REFLECTOR	EACH	6	6		
78300200	RAISED REFLECTIVE PAVEMENT MARKER REMOVAL	EACH	6	6		
X0327980	PAVEMENT MARKING REMOVAL - WATER BLASTING	SQ FT	284	284		
X7015005	CHANGEABLE MESSAGE SIGN	CAL DA	28	28		

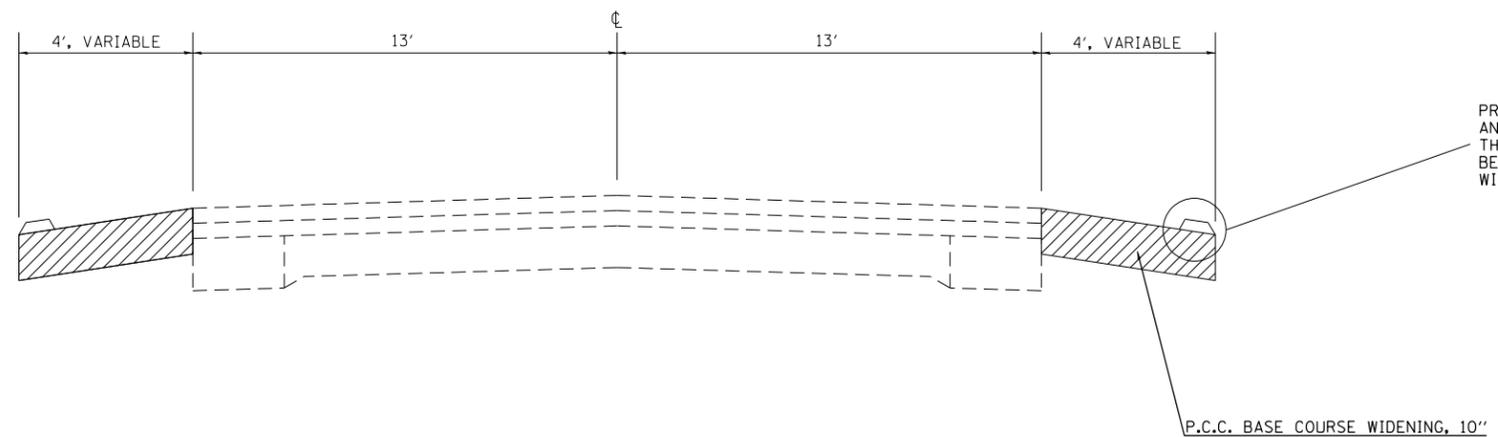
* SPECIALTY ITEM

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											ILLINOIS FED. AID PROJECT



NOTE: NOT TO SCALE

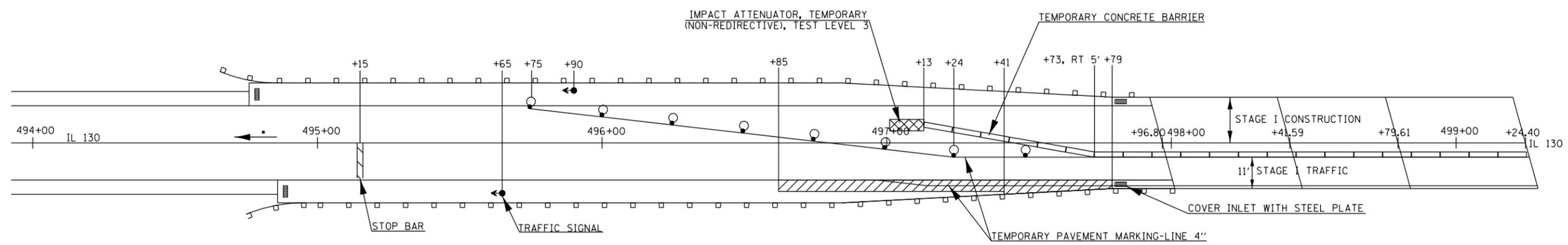
PROPOSED TYPICAL
 STA 496+85 TO STA 497+41
 STA 499+79 TO STA 500+52



NOTE: NOT TO SCALE

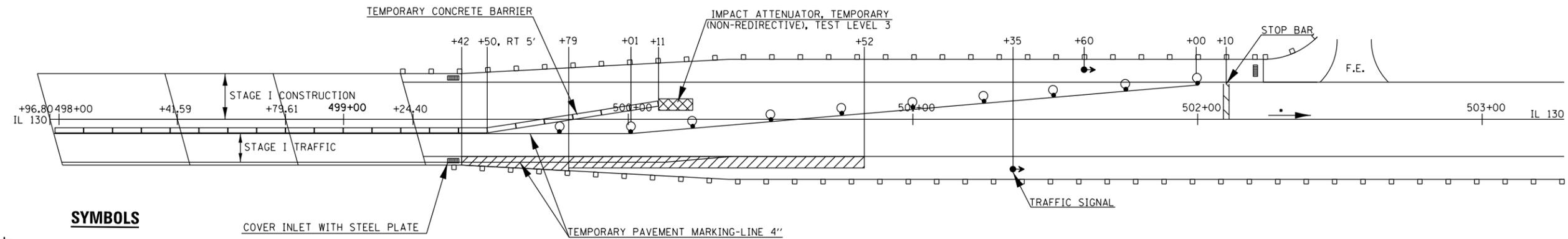
PROPOSED TYPICAL
 STA 497+41 TO STA 497+79
 STA 499+42 TO STA 499+79

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	PLOT DATE = 11/2/2017	DATE -	REVISED -					ILLINOIS FED. AID PROJECT					



SEE STANDARD 701321 FOR TRAFFIC CONTROL NOT SHOWN

NOTE: AREA NOT SURVEYED, DESIGNED FROM OLD PLANS.



SYMBOLS

-  TYPE III BARRICADE
-  TRAFFIC SIGNAL
-  DRUM WITH STEADY BURNING BI-DIRECTIONAL LIGHT
-  IMPACT ATTENUATOR
-  TEMPORARY CONCRETE BARRIER

SUGGESTED SEQUENCE OF CONSTRUCTION: STAGE 1

- 1) COMPLETE RT SIDE BASE COURSE WIDENING 10" USING STD. 701326-04.
- 2) SET UP STAGE 1 TRAFFIC CONTROL AS SHOWN.
- 3) COMPLETE STAGE 1 CONSTRUCTION.
- 4) COMPLETE LT SIDE BASE COURSE WIDENING 10".
- 5) SWITCH STAGE TRAFFIC CONTROL OVER TO STAGE 2.

SEE STANDARD 701321 FOR TRAFFIC CONTROL NOT SHOWN

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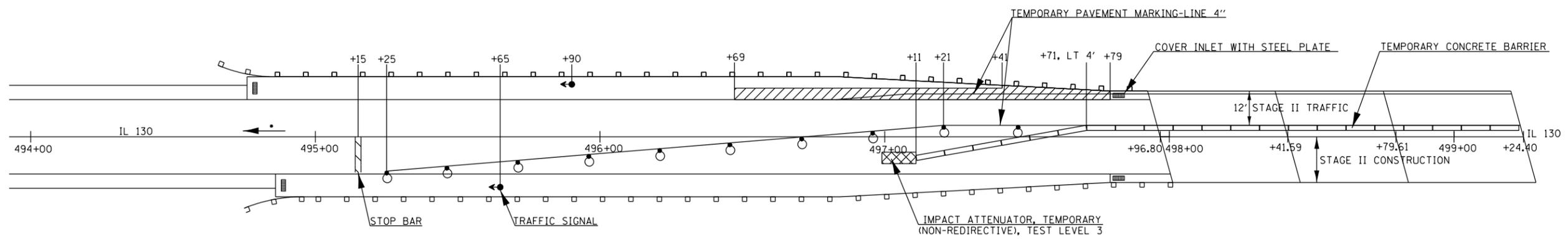
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PLOT DATE = 11/2/2017	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

STAGE 1 TRAFFIC CONTROL

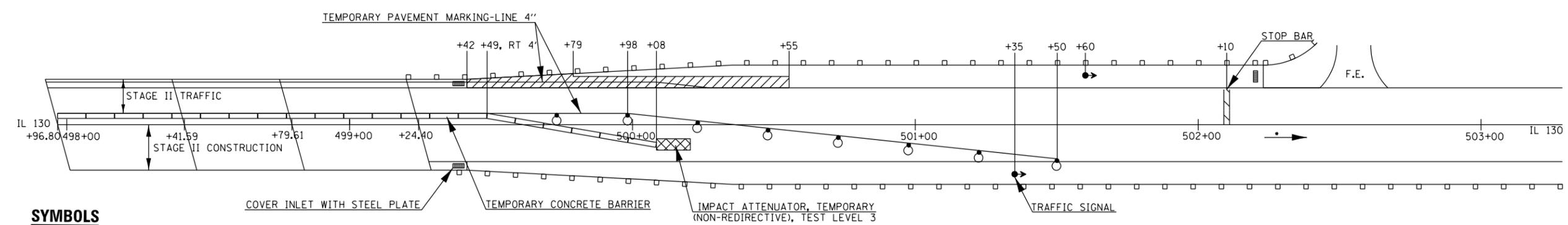
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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
116	*	CUMBERLAND	19	6
CONTRACT NO. 74805				
ILLINOIS FED. AID PROJECT				



• SEE STANDARD 701321 FOR TRAFFIC CONTROL NOT SHOWN

NOTE: AREA NOT SURVEYED, DESIGNED FROM OLD PLANS.



SYMBOLS

-  TYPE III BARRICADE
-  TRAFFIC SIGNAL
-  DRUM WITH STEADY BURNING BI-DIRECTIONAL LIGHT
-  IMPACT ATTENUATOR
-  TEMPORARY CONCRETE BARRIER

• SEE STANDARD 701321 FOR TRAFFIC CONTROL NOT SHOWN

- SUGGESTED SEQUENCE OF CONSTRUCTION: STAGE 2
- 1) COMPLETE STAGE 2 CONSTRUCTION.
 - 2) REMOVE STAGE TRAFFIC CONTROL.
 - 3) COMPLETE PERMANENT STRIPING USING STD. 701311-03.

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PLOT DATE = 11/2/2017	DATE -	REVISED -

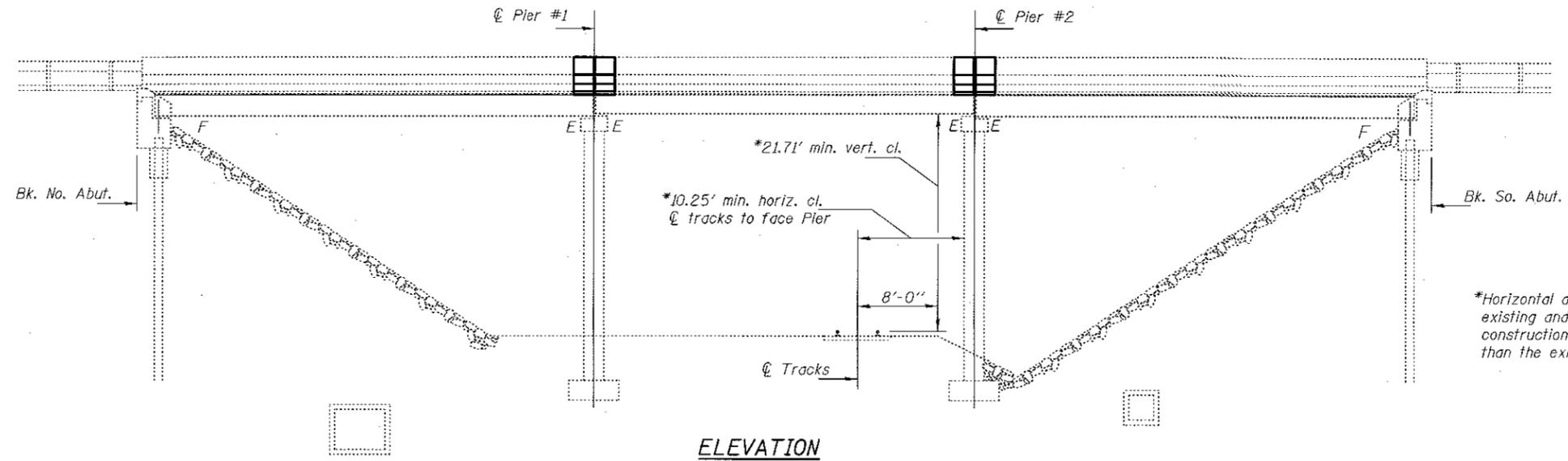
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

STAGE 2 TRAFFIC CONTROL

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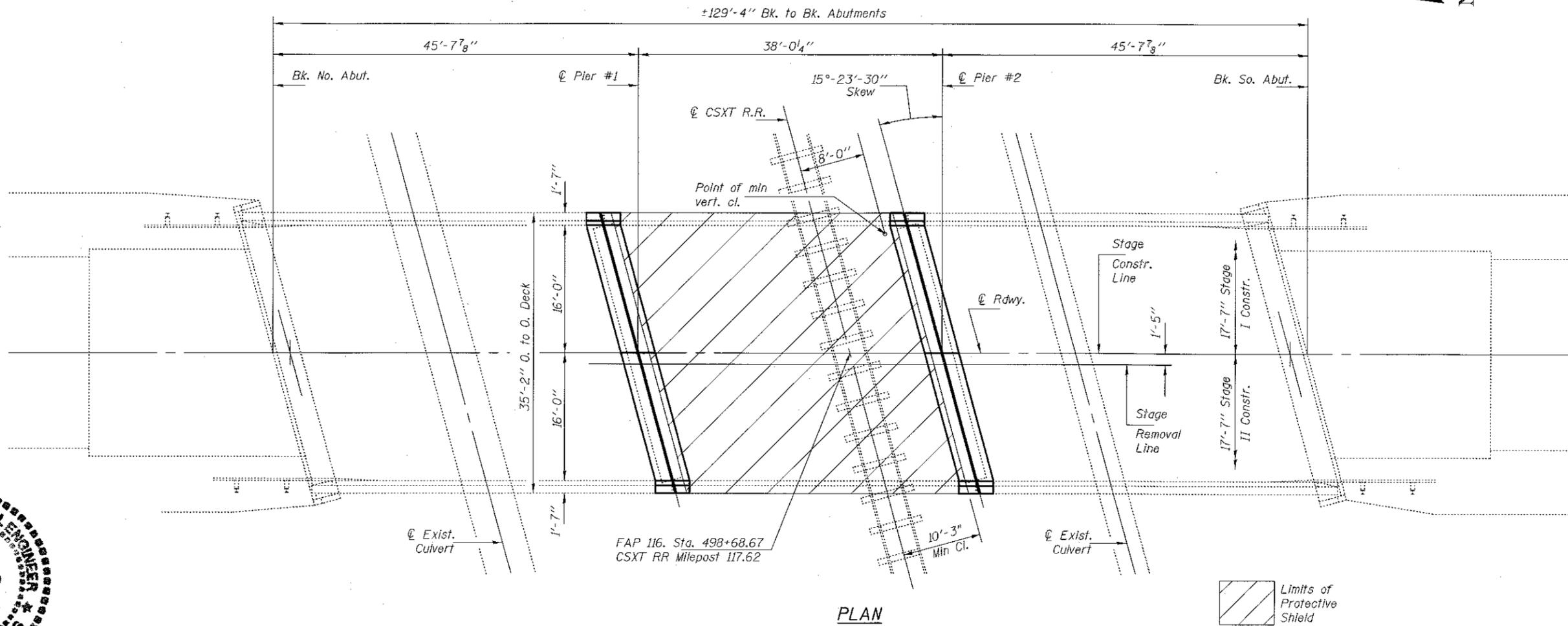
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
116	*	CUMBERLAND	19	7
CONTRACT NO. 74805				
ILLINOIS FED. AID PROJECT				

Structure 018-0026 is a three span, steel multi-beam, simple span bridge. 018-0026 carries ILL-130 (FAP 116) over the CSXT Railroad. The proposed project consists of replacement of expansion joint assemblies at both piers, partial and full-depth deck repairs, repairs to ends of steel beams at both piers and both abutments, structural concrete repairs to the north abutment, and associated traffic control.



*Horizontal and Vertical Clearances shown represent existing and proposed conditions. At no time during construction shall the clearances be reduced to less than the existing values.

ELEVATION



PLAN



DESIGNED	<i>Stephan M. Puzos</i>	EXAMINED	<i>Tim A. Dole</i>	DATE	NOVEMBER 27, 2017
CHECKED	<i>Stephan M. Puzos</i>				
DRAWN	<i>J. Schneller</i>	PASSED	<i>Shawn M. Puzos</i>	REVISED	
CHECKED	<i>CCC</i>			REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PLAN AND ELEVATION
ILL. 130 OVER CSXT RAILROAD
SN 018-0026
SHEET NO. 1 OF 8 SHEETS

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
116	D-7 BRIDGE REPAIRS 2018-4	CLUMBERLAND	19	8
CONTRACT NO. 74805			ILLINOIS FED. AID PROJECT	

TOTAL BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Concrete Removal	Cu. Yd.	11.5
Concrete Superstructure	Cu. Yd.	11.5
Preformed Joint Strip Seal	Foot	71
Reinforcement Bars, Epoxy Coated	Pound	820
Structural Steel Repairs	Pounds	1510
Bar Splicers	Each	32
* Protective Coat	Sq. Yd.	36
Deck Slab Repair (Full Depth, Type II)	Sq. Yd.	7
Deck Slab Repair (Partial Depth)	Sq. Yd.	11.1
Protective Shield	Sq. Yd.	138
Temporary Shoring and Cribbing	Each	5
Structural Repair of Concrete (Depth Equal to or Less Than 5")	Sq. Ft.	62

* On new concrete only

GENERAL NOTES

Existing reinforcement bars extending into the removal area shall be cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal shall be replaced with an approved bar splicer or anchorage system. Cost included with Concrete Removal.

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

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

Reinforcement bars designated (E) shall be epoxy coated.

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

The deck surface shall have its final finish tined according to Article 420.09(e)(1) of the Standard Specifications. Cost included with Concrete Superstructure.

Fasteners shall be high strength bolts. Bolts $\frac{3}{4}$ " ϕ , open holes $\frac{13}{16}$ " ϕ , unless otherwise noted.

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

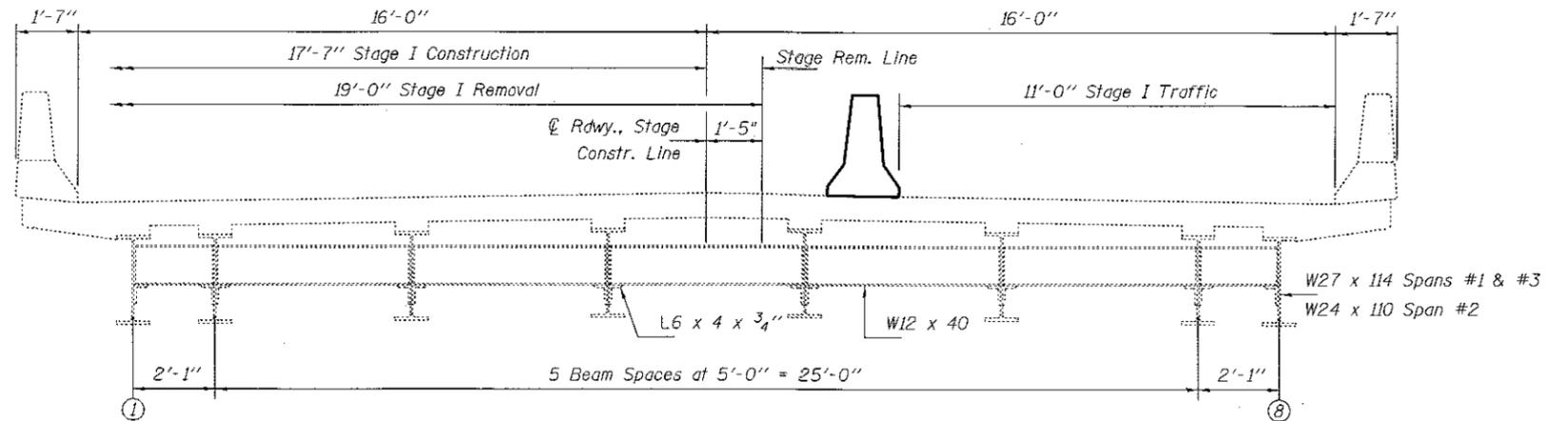
Existing structural steel that will be in contact with new structural steel shall be cleaned and painted prior to erection as required by the GBSP "Cleaning and Painting Contact Surface Areas of Existing Steel Structures".

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

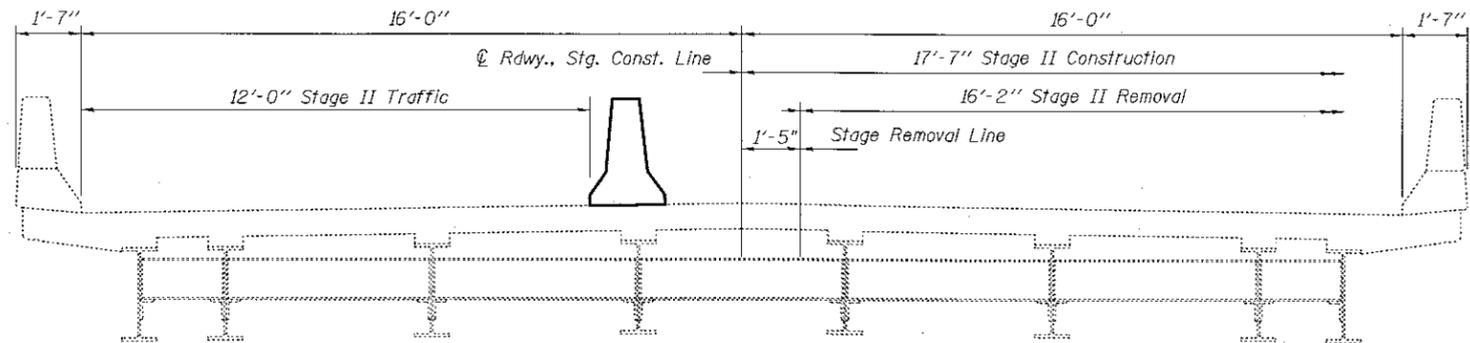
All structural steel shall conform to AASHTO Classification M-270 Gr. 36, unless otherwise noted.

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

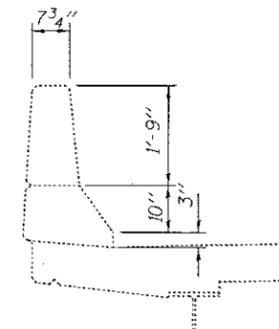
The contractor shall take all measures necessary to ensure that no debris from deck slab repair, concrete removal or structural repair of concrete is allowed to reach the railroad drainage areas, track or ballast. Cost to be included with appropriate removal item.



CROSS SECTION - STAGE I
(Looking South)



CROSS SECTION - STAGE II
(Looking South)



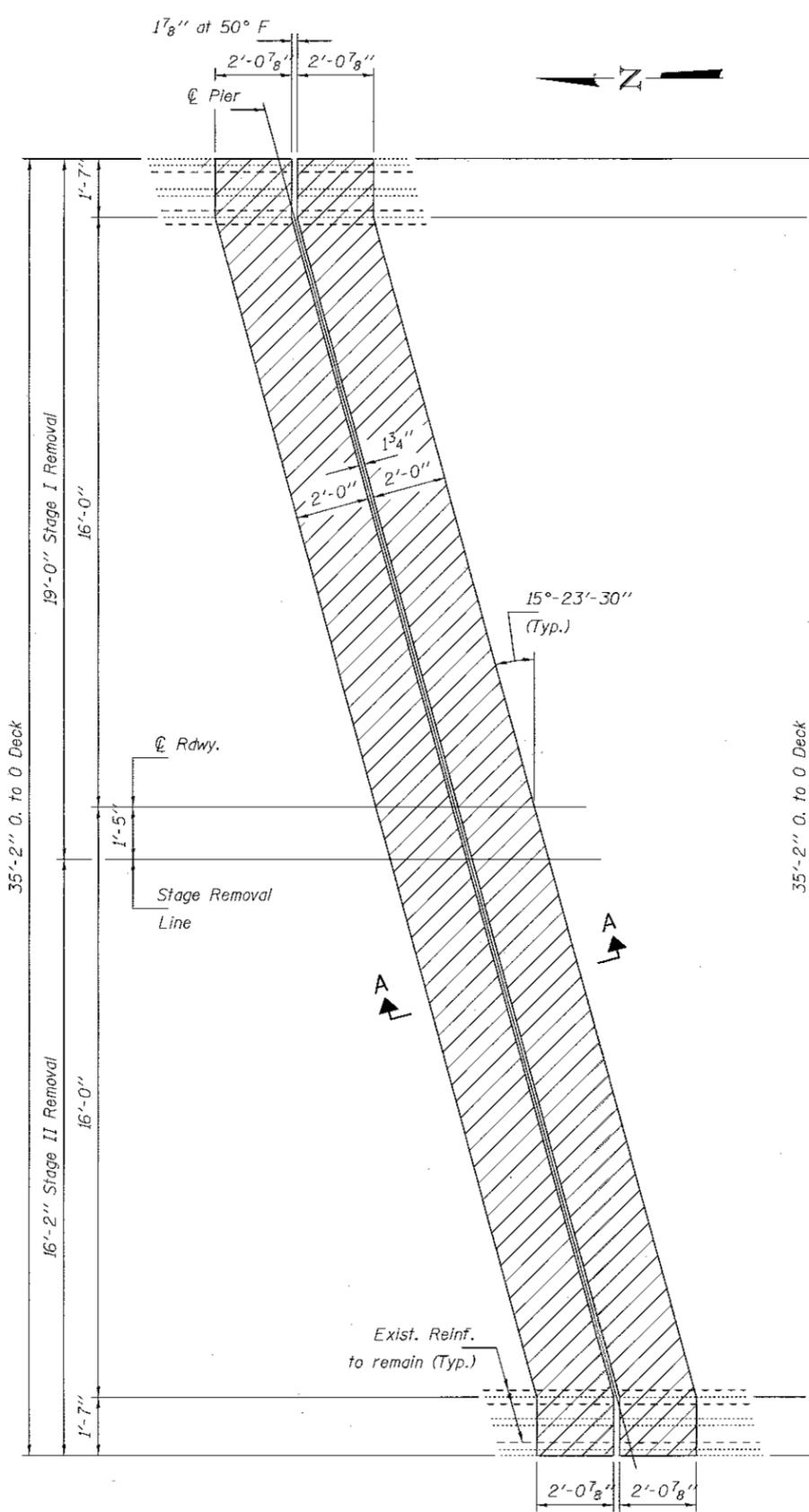
SECTION THRU PARAPET

DESIGNED CCC	EXAMINED <i>Timothy A. Anhalt</i>	DATE NOVEMBER 27, 2017
CHECKED SMR	ENGINEER OF STRUCTURAL SERVICES	
DRAWN J. Schneller	PASSED <i>Carl Kreyer</i>	REVISED
CHECKED CCC SMR	ENGINEER OF BRIDGES AND STRUCTURES	REVISED

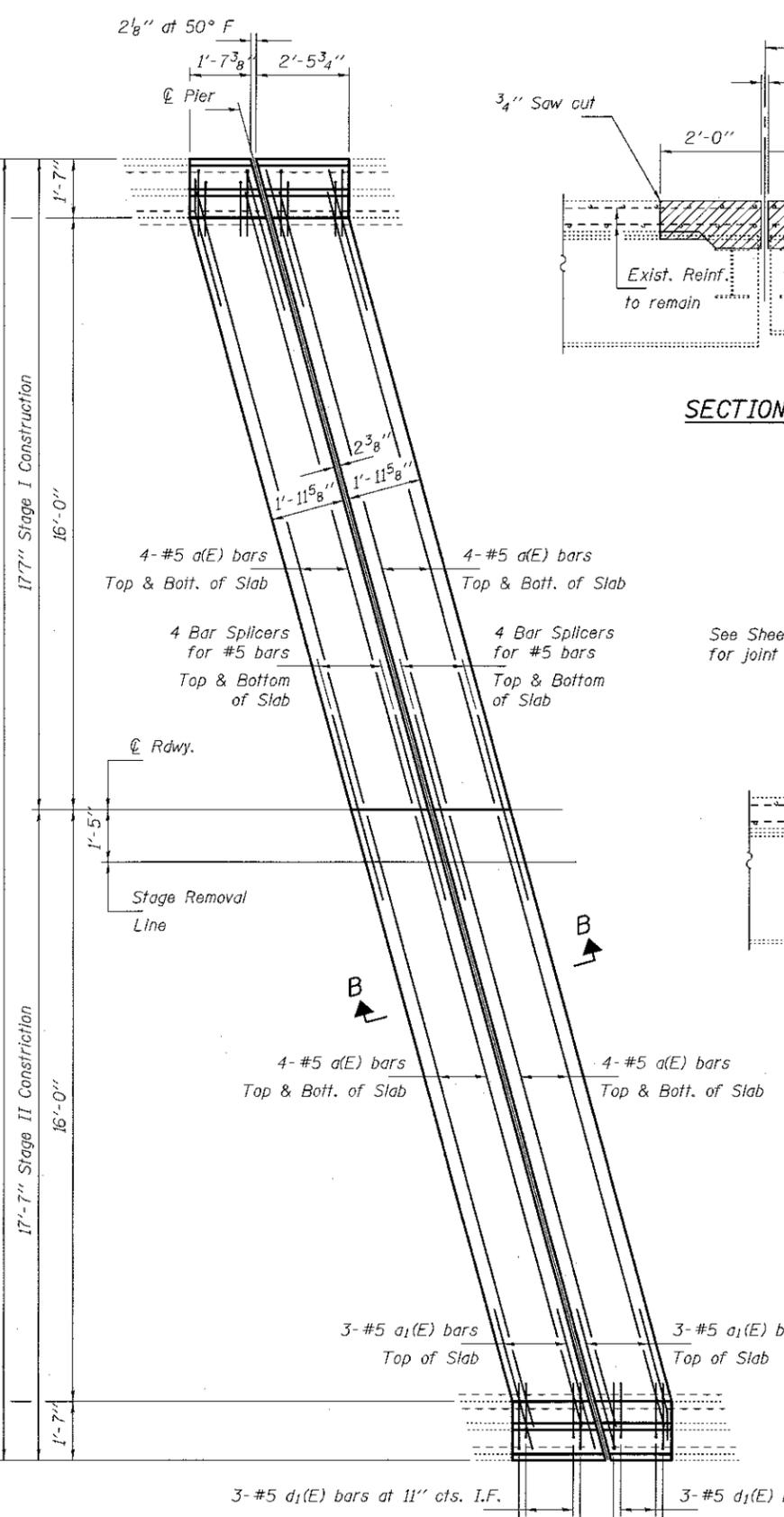
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES & BILL OF MATERIALS
ILL-130 OVER CSXT RAILROAD
SN 018-0026
SHEET NO. 2 OF 8 SHEETS

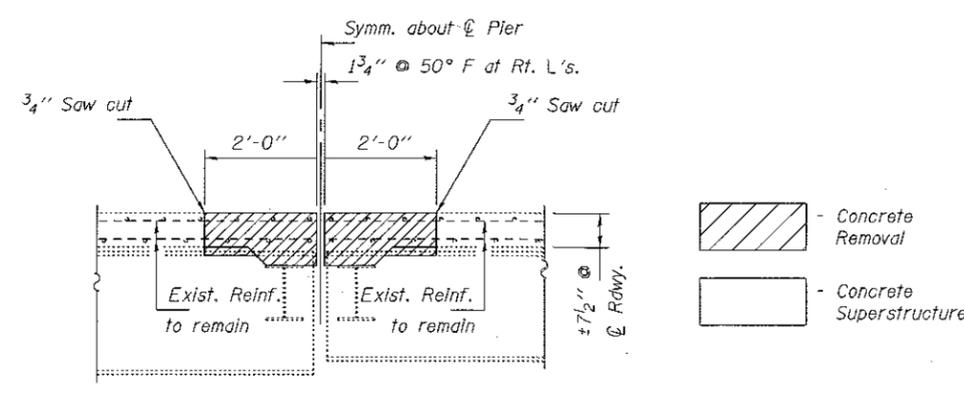
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
116	D-7 BRIDGE REPAIRS 2018-4	CUMBERLAND	19	9
CONTRACT NO. 74805			ILLINOIS FED. AID PROJECT	



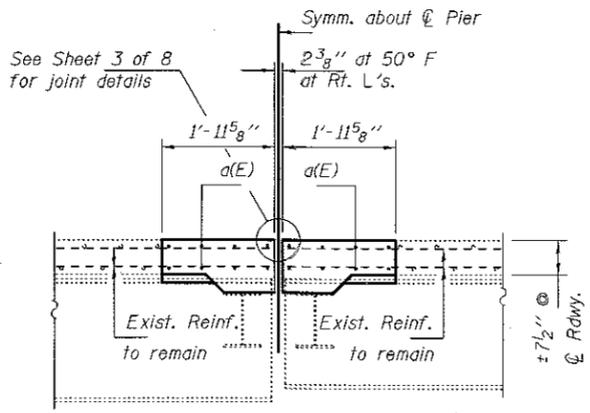
REMOVAL PLAN PIERS #1 & #2



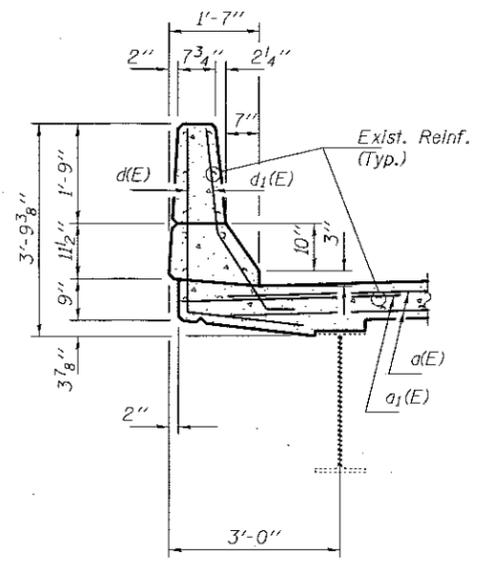
REPLACEMENT PLAN PIERS #1 & #2



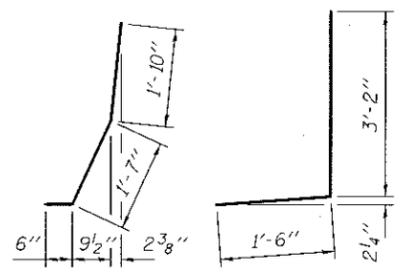
SECTION A-A



SECTION B-B



SECTION THRU PARAPET



BAR d₁(E) BAR d(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
d(E)	32	#5	16'-6"	—
d ₁ (E)	24	#5	4'-0"	—
d(E)	24	#4	4'-8"	J
d ₁ (E)	24	#5	3'-11"	J
Concrete Removal			Cu. Yd.	11.5
Concrete Superstructure			Cu. Yd.	11.5
Reinforcement Bars, Epoxy Coated			Lbs.	820
Bar Splicers			Each	32

DESIGNED CCC
 CHECKED SMR
 DRAWN J. Schneller
 CHECKED CCC SMR

EXAMINED
 PASSED
 ENGINEER OF STRUCTURAL SERVICES
 ENGINEER OF BRIDGES AND STRUCTURES

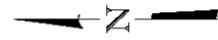
DATE NOVEMBER 27, 2017
 REVISED
 REVISED

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

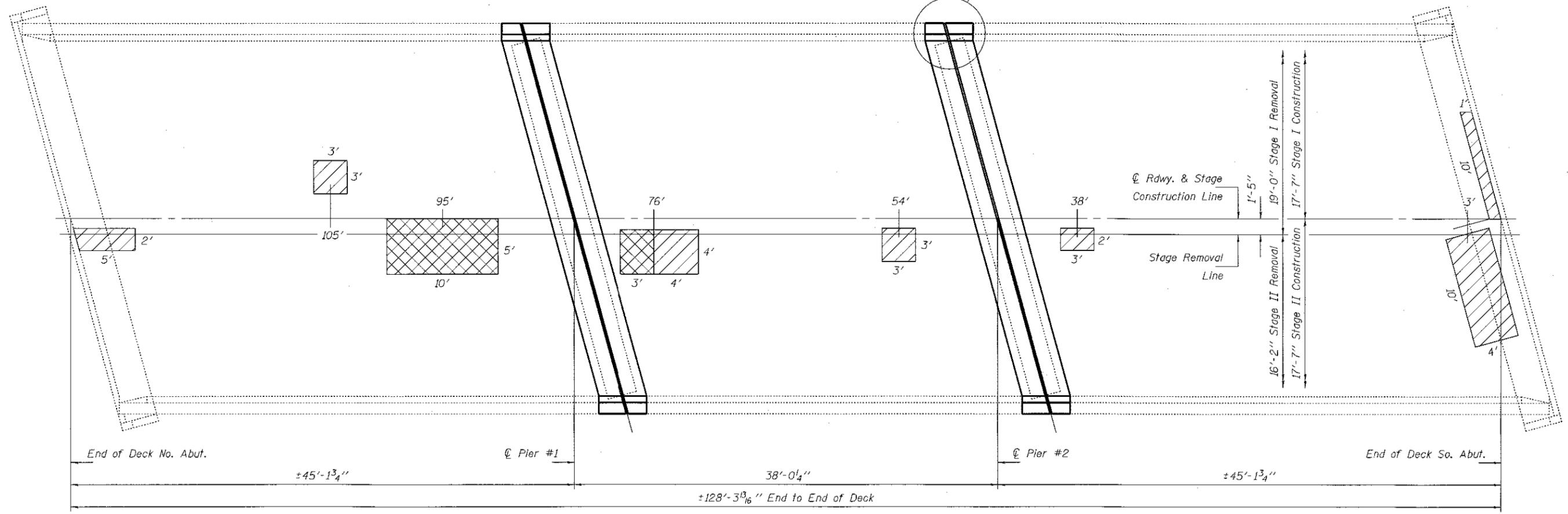
JOINT REPAIR DETAILS PIERS #1 & #2
 SN 018-0026

SHEET NO. 3 OF 8 SHEETS

F.A. RTE. 116
 SECTION D-7 BRIDGE REPAIRS 2018-4
 COUNTY CUMBERLAND
 TOTAL SHEETS 19
 SHEET NO. 10
 CONTRACT NO. 74805
 [ILLINOIS] FED. AID PROJECT



See Sheet
3 of 8, (Typ.)



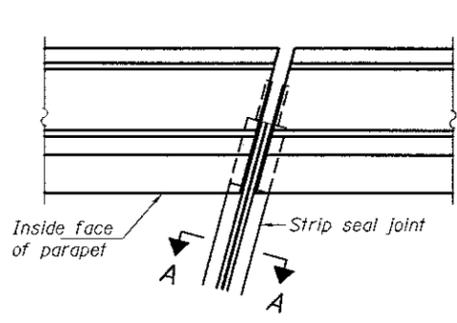
PLAN

- Deck Slab Repair (Partial), Sq. Yd.
- Deck Slab Repair (Full Depth, Type II), Sq. Yd.
- Concrete Superstructure
See Sheet 3 of 8 for summarized repair quantity.

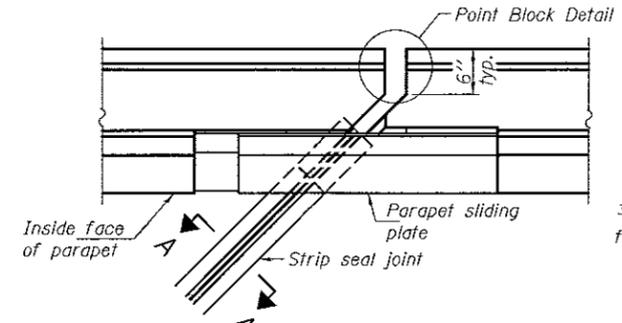
Note:
Areas of deck repairs shown are estimated. The Engineer shall show actual locations of deck repairs on As-built Plans.

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Deck Slab Repair (Partial Depth)	Sq. Yd.	11.1
Deck Slab Repair (Full Depth, Type II)	Sq. Yd.	7

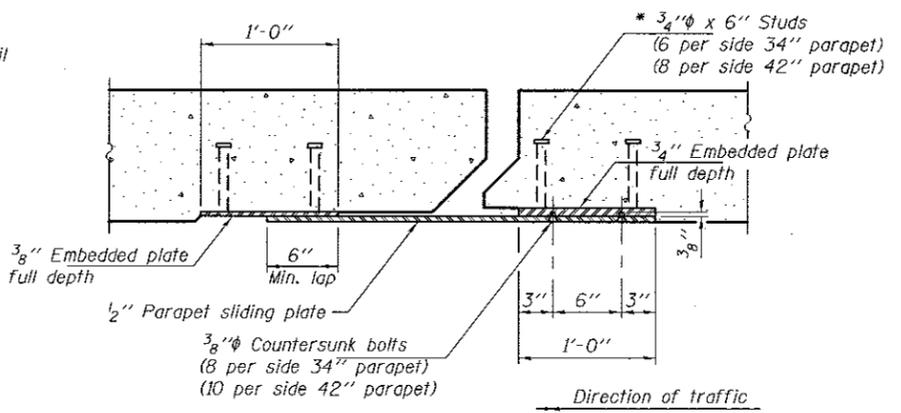


FOR SKEWS = 30°

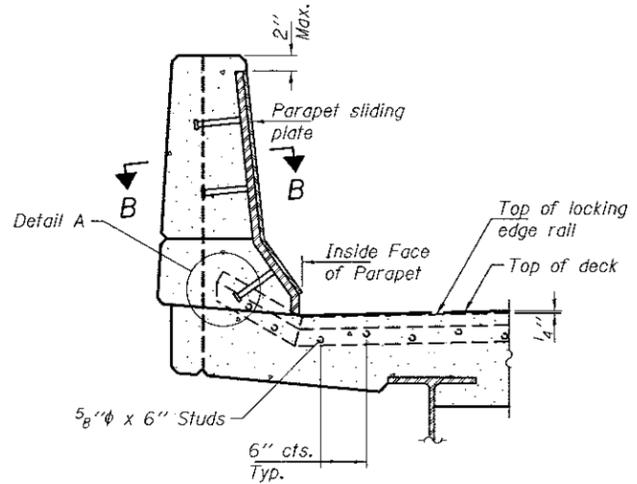


FOR SKEWS > 30°

PLAN AT PARAPET

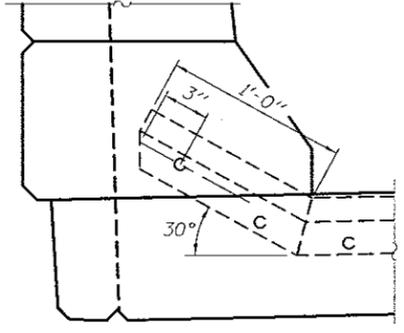


SECTION B-B

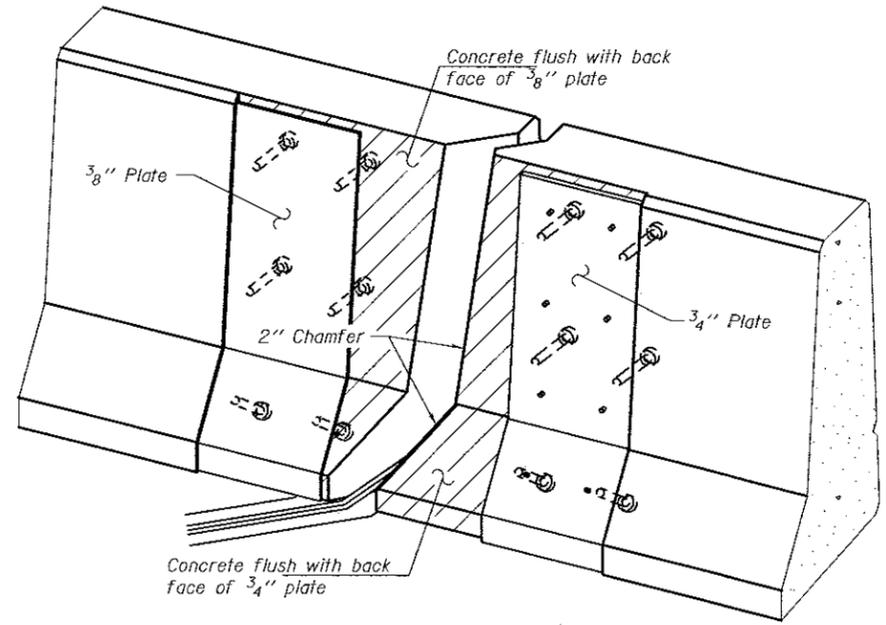


ELEVATION AT PARAPET

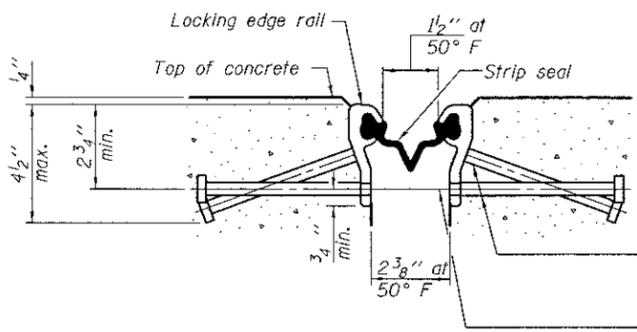
(Skews > 30° shown. Skews ≤ 30° similar except as shown in plan view.)



DETAIL A



TRIMETRIC VIEW
(Showing embedded plates only)



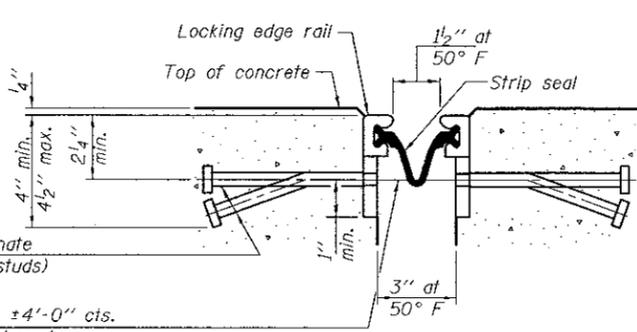
SHOWING ROLLED RAIL JOINT

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

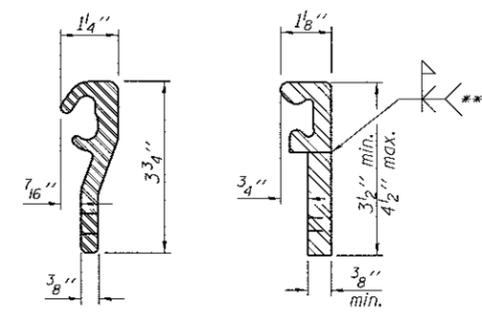
3/8" φ threaded rods in 7/16" φ holes at ±4'-0" cts. for holding the proper joint opening based on the temperature during the deck pour. Place to miss studs. All rods shall be burned, or sawed off flush with the plates after concrete is set.

SECTION A-A

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

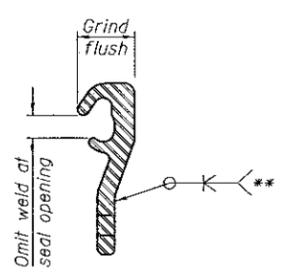


SHOWING WELDED RAIL JOINT



LOCKING EDGE RAILS

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



LOCKING EDGE RAIL SPLICE

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

BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	71

Notes:
 The strip seal shall be made continuous and shall have a minimum thickness of 1/4". The configuration of the strip seal shall match the configuration of the locking edge rails. Open or "webbed" strip seal gland configurations are not permitted. The gland shall be sized for a maximum rated movement of 4 inches.
 The locking edge rails depicted are configured for typical applications and are conceptual only. The actual configuration of the locking edge rails and matching strip seal may vary from manufacturer to manufacturer provided they fit the application and meet the minimum anchorage shown. Flanged edge rails, however, will not be allowed. Locking edge rails may exceed the 4 1/2" maximum depth provided the anchorage system is revised according to the manufacturer's recommendation.
 The manufacturer's recommended installation methods shall be followed.
 All steel components shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications.
 The Maximum space between locking edge rail segments shall be 3/16" and sealed with a suitable sealant; however, any rail joint within 10' measured perpendicular to the face of the curb or parapet shall be welded as shown in the locking edge rail splice detail.
 Cost of parapet sliding plates, embedded plates, and anchorage studs included with Preformed Joint Strip Seal.
 34" F-shape barrier shown, 42" F-shape similar as noted.
 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.

EJ-SS

4-10-17

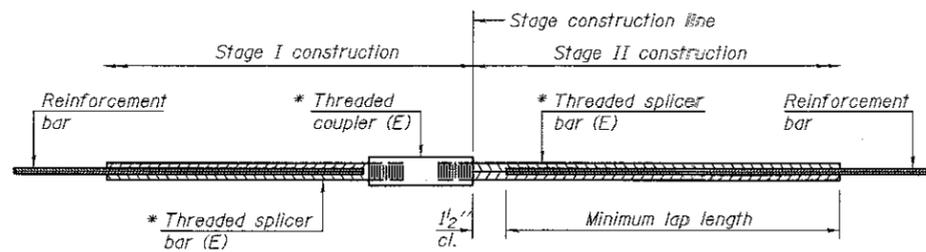
DESIGNED CCC	EXAMINED <i>Timothy A. Anhalt</i>	DATE NOVEMBER 27, 2017
CHECKED SMR	ENGINEER OF STRUCTURAL SERVICES	
DRAWN J. Schneller	PASSED <i>A. Carl Boyer</i>	REVISOR
CHECKED CCC SMR	ENGINEER OF BRIDGES AND STRUCTURES	REVISOR

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PREFORMED JOINT STRIP SEAL
SN 018-0026

SHEET NO. 5 OF 8 SHEETS

F.A. RTE. 116	SECTION D-7 BRIDGE REPAIRS 2018-4	COUNTY CUMBERLAND	TOTAL SHEETS 19	SHEET NO. 12
CONTRACT NO. 74805			ILLINOIS FED. AID PROJECT	

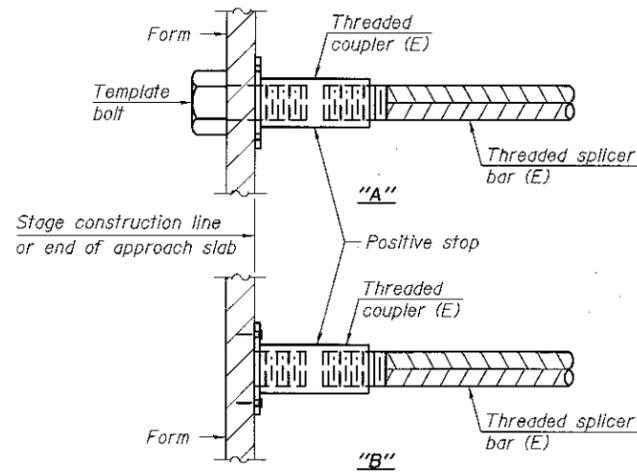


STANDARD BAR SPLICER ASSEMBLY

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

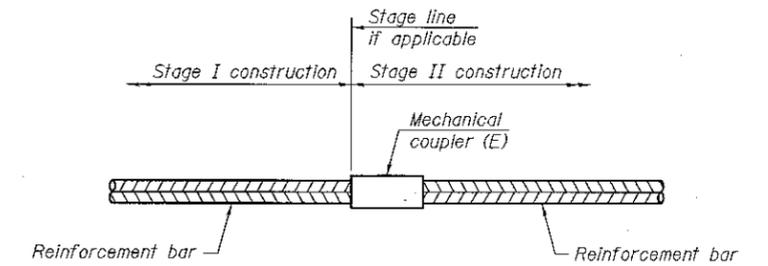
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Minimum lap length
Piers #1 & #2	#5	32	3'-6"



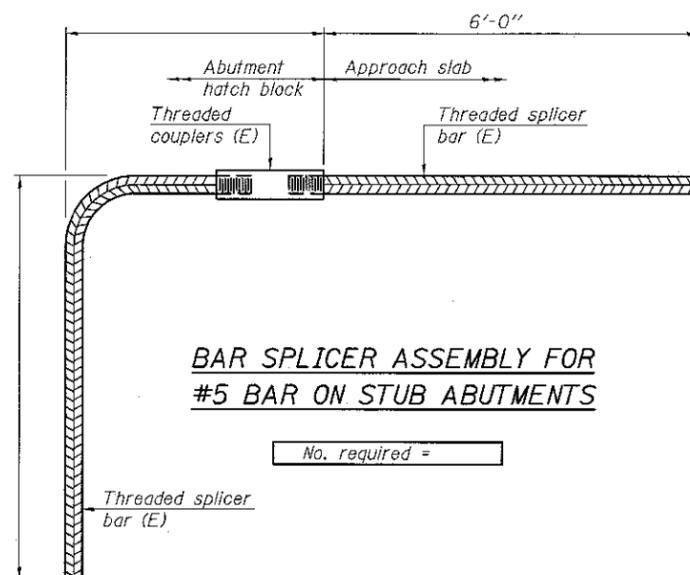
INSTALLATION AND SETTING METHODS

"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

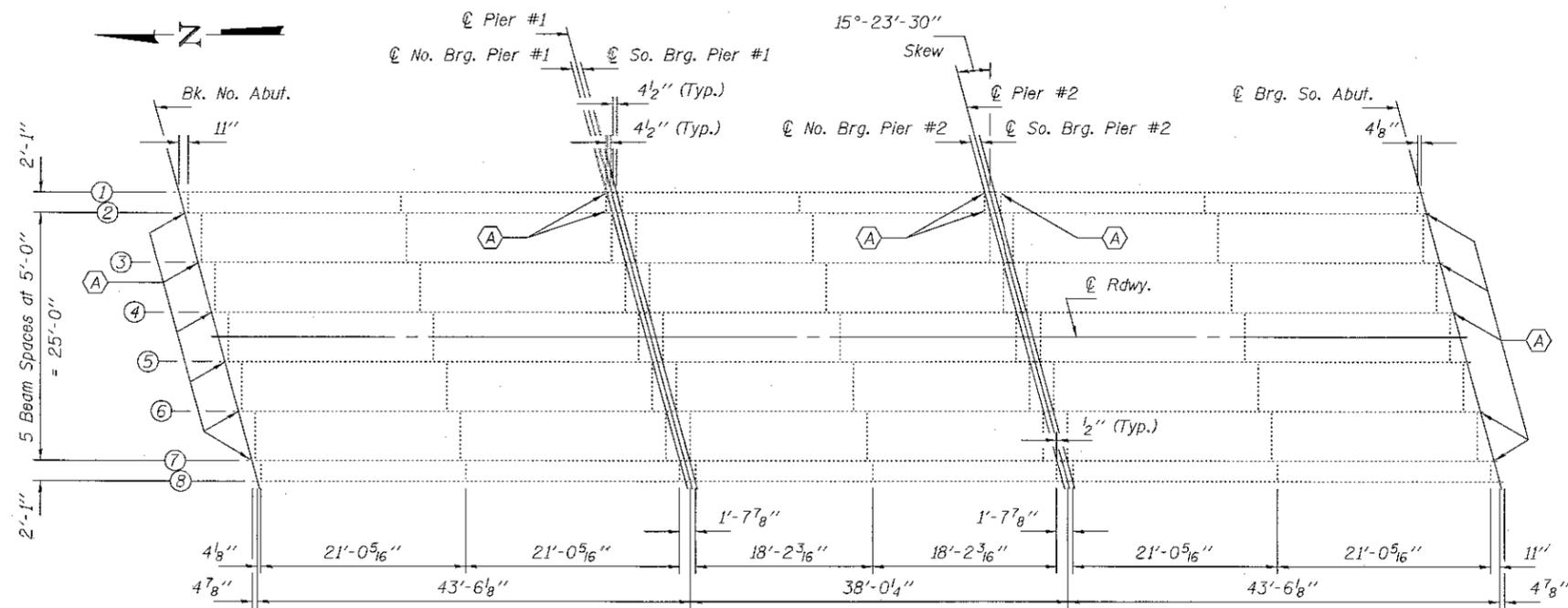
DESIGNED CCC	EXAMINED	DATE NOVEMBER 27, 2017
CHECKED SMR		
DRAWN J. Schneller	PASSED	
CHECKED CCC SMR		

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
 SN 018-0026

SHEET NO. 6 OF 8 SHEETS

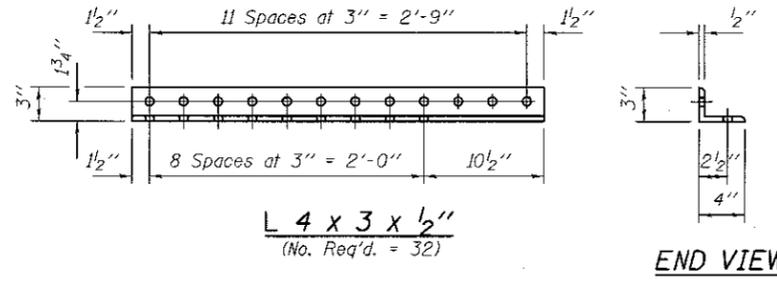
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
116	D-7 BRIDGE REPAIRS 2018-4	CLUMBERLAND	19	13
CONTRACT NO. 74805				
ILLINOIS FED. AID PROJECT				



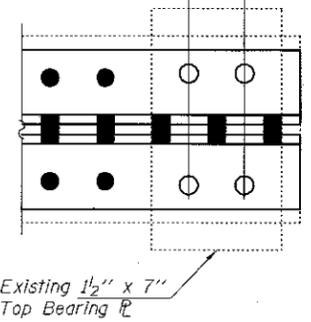
PLAN

(A) - Beam End Repairs

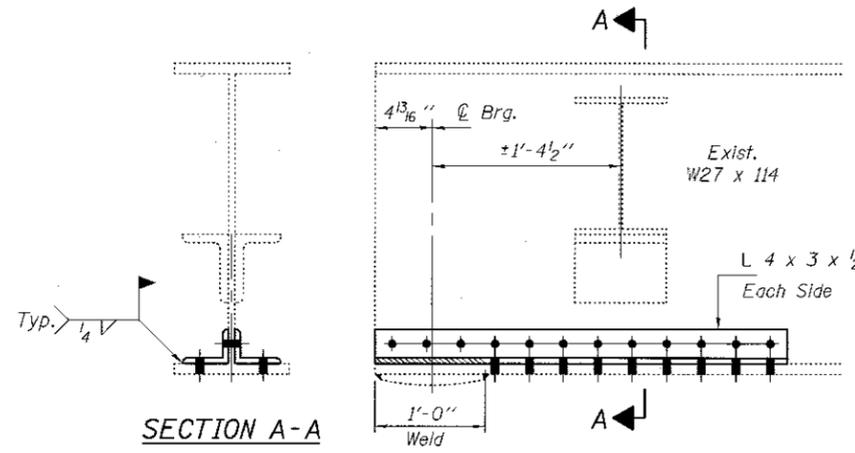
Remove & Replace existing 3/4" ϕ Threaded Studs, Typ. (Field drill holes in Repair L using existing holes in flange as template.)



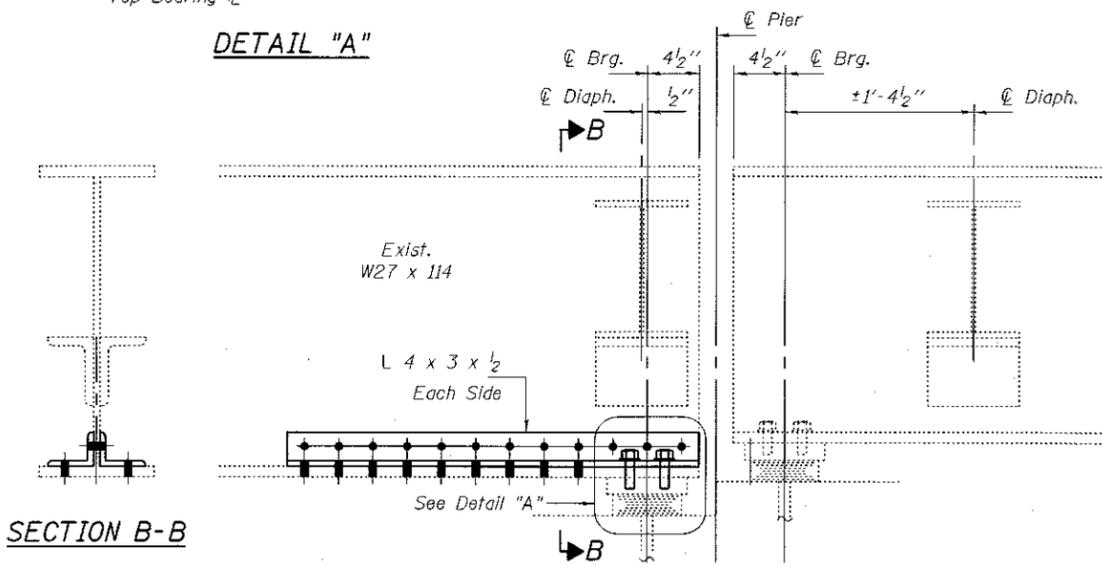
END VIEW



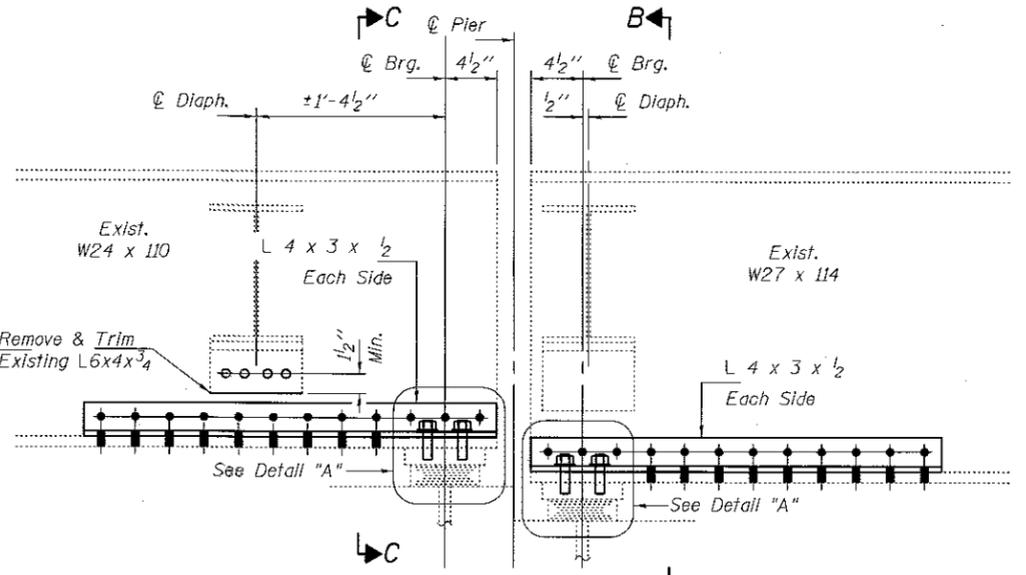
DETAIL "A"



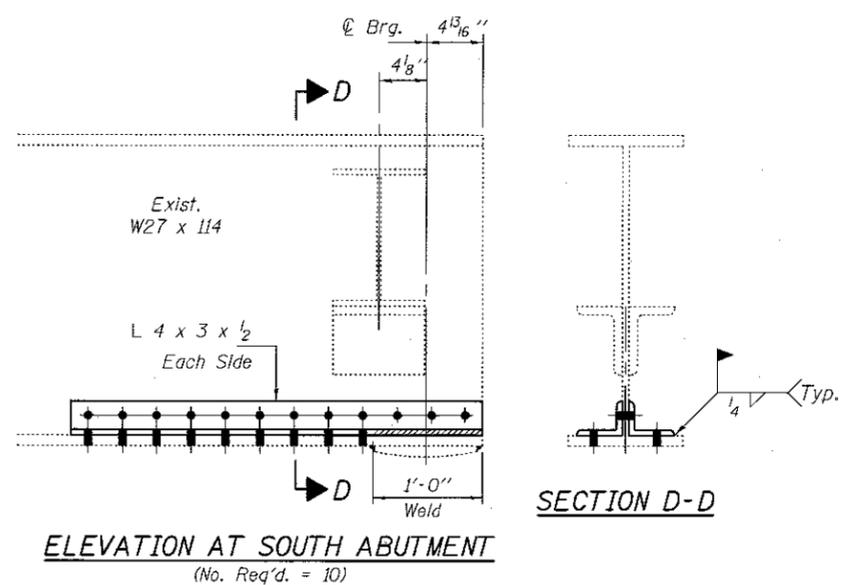
ELEVATION AT NORTH ABUTMENT
(No. Req'd. = 12)



ELEVATION AT PIER #1
(No. Req'd. 4)



ELEVATION AT PIER #2
(Span #2 - No. Req'd. 4)
(Span #3 - No. Req'd. 2)



ELEVATION AT SOUTH ABUTMENT
(No. Req'd. = 10)

Notes:
See Detail "A" for plan view of Bearing \bar{L} at piers.
Remove, trim & reinstall diaphragm clip angle in field to miss Repair L.
Existing 3/4" ϕ Threaded Studs and Nut at bearings to be removed and replaced.

BILL OF MATERIAL

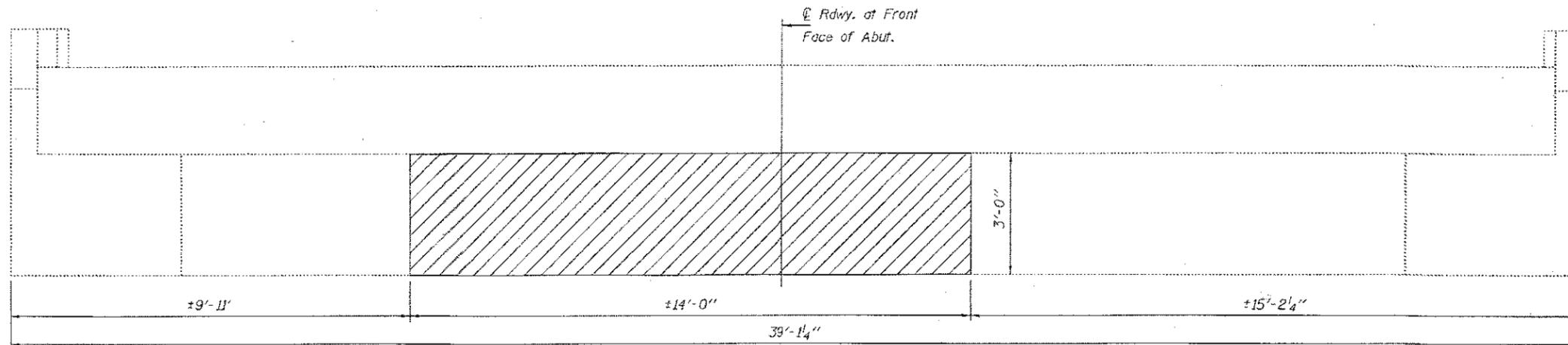
ITEM	UNIT	QUANTITY
Structural Steel Repairs	Pound	1510

DESIGNED CCC	EXAMINED <i>Timothy A. Anhalt</i>	DATE NOVEMBER 27, 2017
CHECKED SMR	ENGINEER OF STRUCTURAL SERVICES	
DRAWN J. Schneller	PASSED <i>Carl Perry</i>	REVISOR
CHECKED CCC SMR	ENGINEER OF BRIDGES AND STRUCTURES	REVISOR

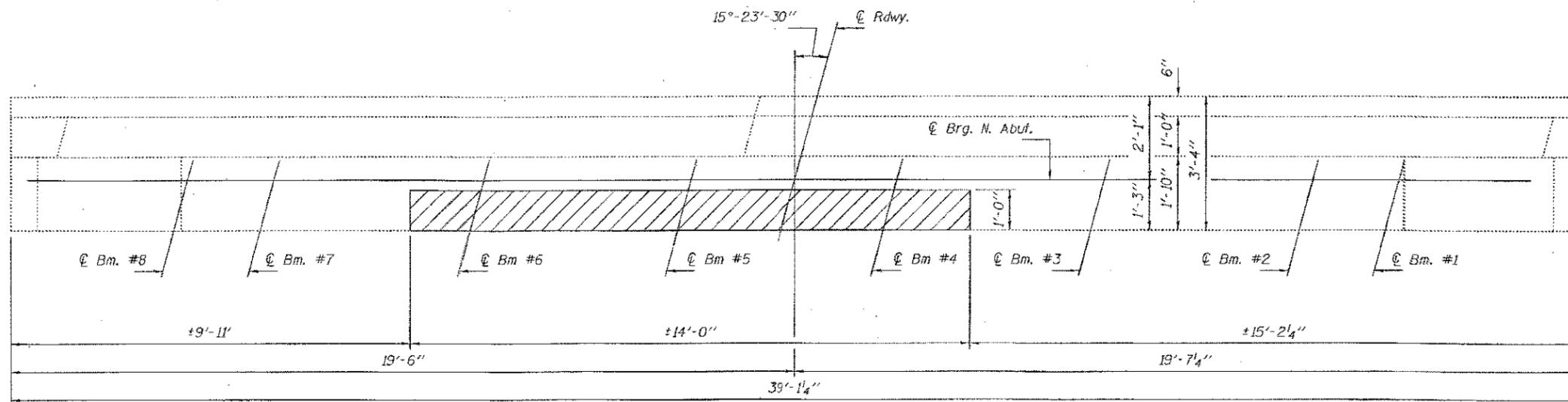
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BEAM END REPAIRS
SN 018-0026
SHEET NO. 7 OF 8 SHEETS

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
116	D-7 BRIDGE REPAIRS 2018-4	CUMBERLAND	19	14
CONTRACT NO. 74805			ILLINOIS FED. AID PROJECT	



ELEVATION
(Looking North)



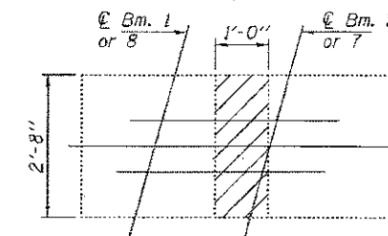
PLAN
NORTH ABUTMENT REPAIRS

INTERIOR GIRDER REACTION
TABLE NORTH ABUTMENT

R _E (k)	18.5
L _E (k)	25.7
Imp. (k)	7.7
R(TOTAL) (k)	51.9

INTERIOR GIRDER REACTION
TABLE PIER 2, SPAN 2

R _E (k)	15.8
L _E (k)	24.7
Imp. (k)	7.4
R(TOTAL) (k)	47.9



PARTIAL PLAN

Hatched areas indicate Structural Repair of Concrete (Depth Equal to or Less Than 5")



Note:
Beams 2 & 7 in Span 2 shall be shored during pier 2 repairs.
The contractor will not be allowed to shore from the ground while completing the work.

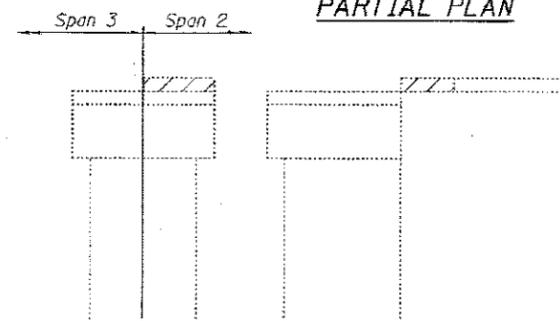
* The contractor must ensure that the concrete is properly consolidated under the bearing plates.

BILL OF MATERIAL N. ABUT.

ITEM	UNIT	QUANTITY
Structural Repair of Concrete (Depth Equal to or Less Than 5")	Sq. Ft.	56
Temporary Shoring and Cribbing	Each	3

BILL OF MATERIAL PIER 2

ITEM	UNIT	QUANTITY
Structural Repair of Concrete (Depth Equal to or Less Than 5")	Sq. Ft.	6
Temporary Shoring and Cribbing	Each	2



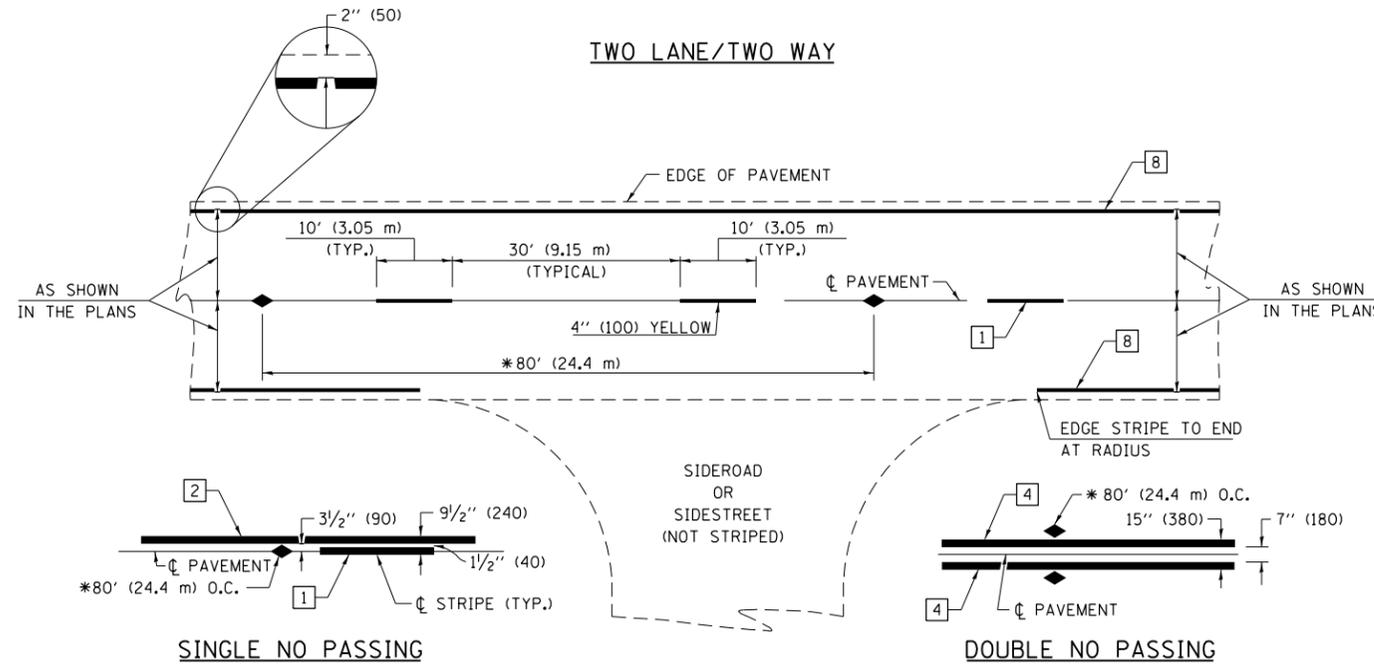
END VIEW

ELEVATION
(Looking South)

* PIER 2 REPAIRS
(Typ. E. & W. end)

REVIS 1-5-2018

DESIGNED CCC	EXAMINED <i>Timothy A. Bault</i> ENGINEER OF STRUCTURAL SERVICES	DATE NOVEMBER 27, 2017	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SUBSTRUCTURE REPAIRS SN 018-0026	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS
CHECKED SMR	PASSED <i>Carl Perry</i> ENGINEER OF BRIDGES AND STRUCTURES	REVISED			116	D-7 BRIDGE REPAIRS 2018-4	CLUMBERLAND	18
DRAWN J. Schneller		REVISED	SHEET NO. 5 OF 8 SHEETS		CONTRACT NO. 74805			
CHECKED CCC SMR					ILLINOIS FED. AID PROJECT			



* REDUCE TO 40' (12.2 m) O.C. ON CURVES WITH POSTED OR ADVISORY SPEEDS OF 45 mph (70 km/h) OR LESS.

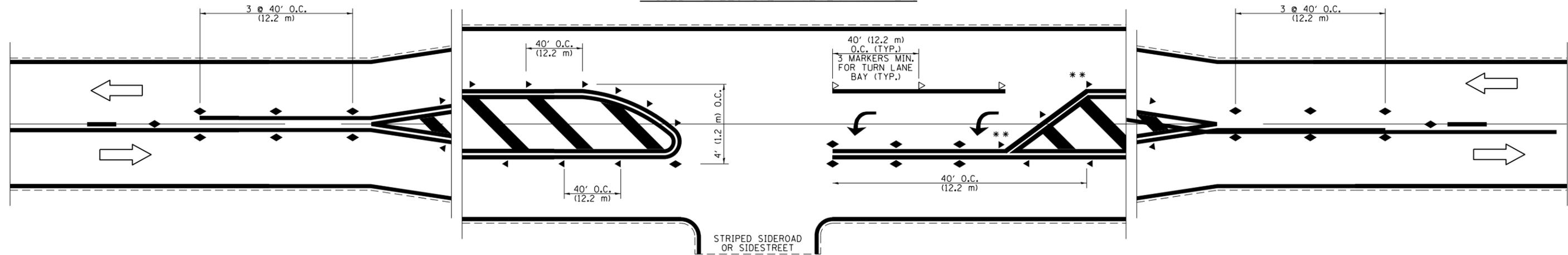
PAVEMENT MARKING LEGEND

- 1 4" (100) SKIP-DASH (YELLOW)
- 2 4" (100) SOLID (YELLOW)
- 3 12" (300) DIAGONAL (YELLOW)
- 4 4" (100) DOUBLE YELLOW (NARROW)
- 5 RESERVED
- 6 RESERVED
- 7 6" (150) SKIP-DASH (WHITE)
- 8 4" (100) SOLID (WHITE)
- 9 12" (300) DIAGONAL (WHITE)
- 10 6" (150) SOLID (WHITE)
- 11 24" (600) STOP BAR (WHITE)
- 12 8" (200) SOLID (WHITE)
- 13 4" (100) PARKING WHITE

TYPICAL PAVEMENT MARKERS LEGEND

- ◆ TWO-WAY AMBER MARKER
- ▶ ONE-WAY AMBER MARKER
- ▷ ONE-WAY CRYSTAL MARKER

RAISED REFLECTIVE PAVEMENT MARKERS



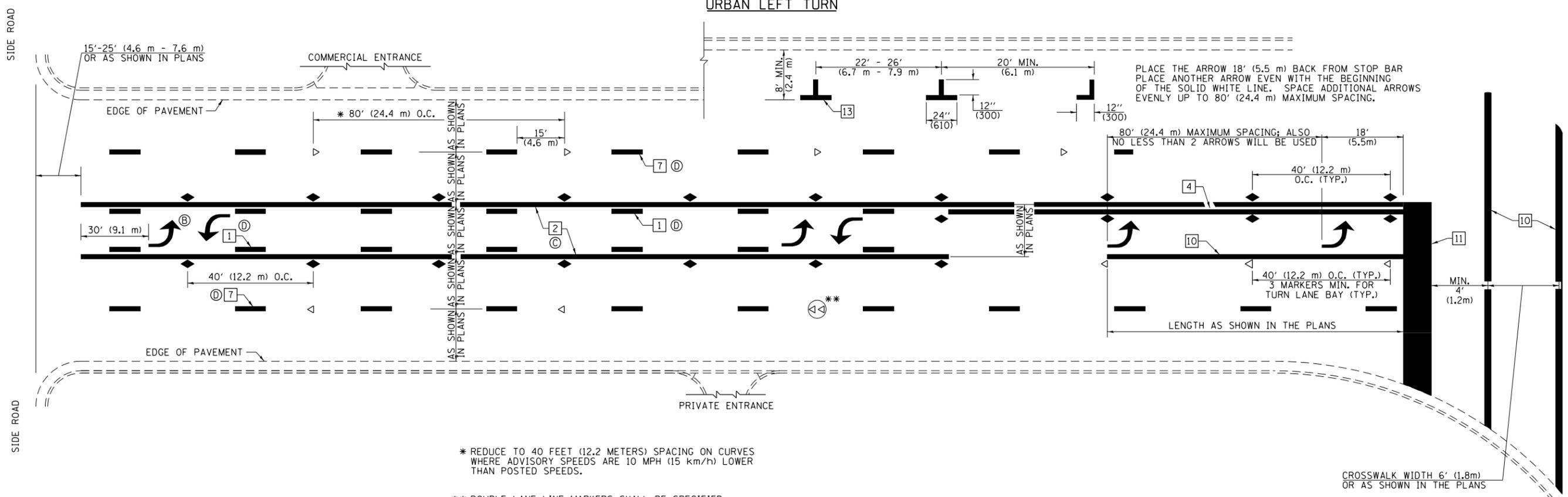
** REDUCE SPACING IF NECESSARY TO ASSURE MARKERS AT CORNER POINTS.

NOT TO SCALE
 Note: All dimensions are in INCHES (millimeters) unless otherwise shown.

DISTRICT 7 DETAIL NO. 7800001

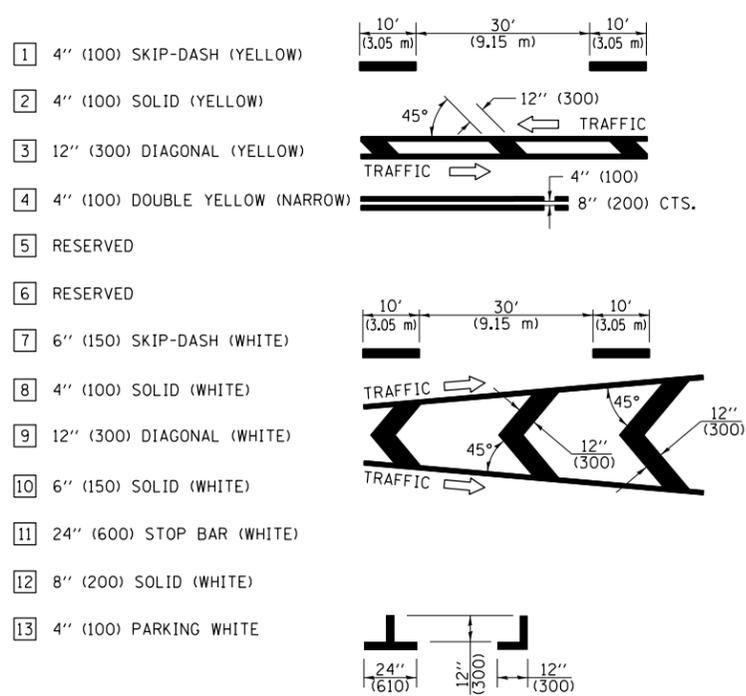
FILE NAME =	USER NAME = teasleyck	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PAVEMENT MARKING AND RAISED REFLECTIVE PAVEMENT MARKERS (RURAL & URBAN APPLICATIONS)			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
pw:\IL\084EBIDINTEG\illinois.gov\PWIDOT\Documents\DOT Offices\District 7\Projects\74805\Drawings\CAB\Drawings\74805-shd-details.dwg	PLotted SCALE = 100.0000' / 1" =	CHECKED -	REVISED -					116	.	CUMBERLAND	19	16
	PLOT DATE = 11/2/2017	DATE -	REVISED -		SCALE: NA SHEET NO. 2 OF 4 SHEETS STA. TO STA.			CONTRACT NO. 74805				
								ILLINOIS FED. AID PROJECT				

URBAN LEFT TURN



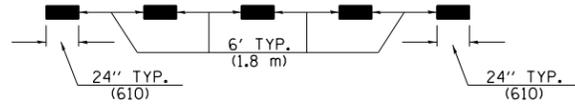
- * REDUCE TO 40 FEET (12.2 METERS) SPACING ON CURVES WHERE ADVISORY SPEEDS ARE 10 MPH (15 km/h) LOWER THAN POSTED SPEEDS.
- ** DOUBLE LANE LINE MARKERS SHALL BE SPECIFIED AND SPACED AS SHOWN IN HIGHWAY STANDARD 781001 FOR MULTI-LANE DIVIDED AND UNDIVIDED HIGHWAYS.

PAVEMENT MARKING LEGEND

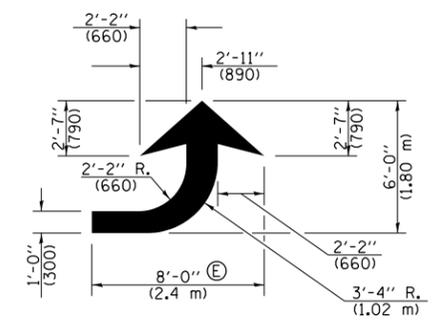


GENERAL NOTES

1. TURN ARROW PAIRS SHALL BE PLACED AT 250' (75 m) INTERVALS AND SHALL BE EVENLY SPACED BETWEEN BOTH ENDS OF THE BIDIRECTIONAL LEFT TURN LANE. USE A MINIMUM OF TWO PAIRS PER BLOCK.
2. THE SOLID YELLOW PAVEMENT MARKINGS [2] SHOULD GENERALLY START OR END NEAR THE RADIUS POINT OF EACH STREET RETURN EXCEPT WHERE ONE OR BOTH ENDS WOULD INCLUDE STOP BARS.
3. THE SKIP-DASH PAVEMENT MARKINGS [1] OR [7] SHOULD BE CENTERED BETWEEN BOTH ENDS OF EACH CITY BLOCK AND SHALL BE PLACED SO THEY LINE UP ACROSS FROM EACH OTHER.
4. USE LARGE ARROW SIZE FOR BOTH RURAL AND URBAN LOCATIONS. (SEE LAST PAGE OF SECTION 780x FOR SYMBOLS TABLE)
5. LANE LINE EXTENSIONS SHALL BE THE SAME COLOR AND WIDTH AS THE LANE LINE BEING EXTENDED.

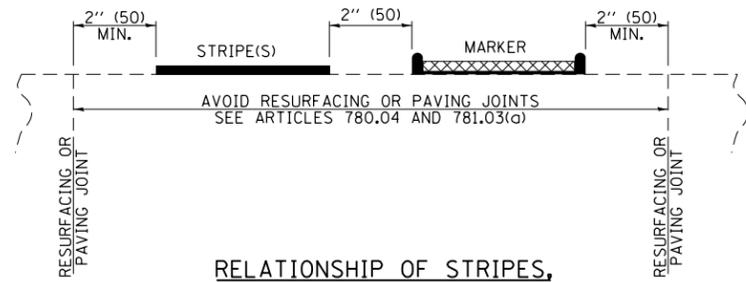


LANE LINE EXTENSIONS

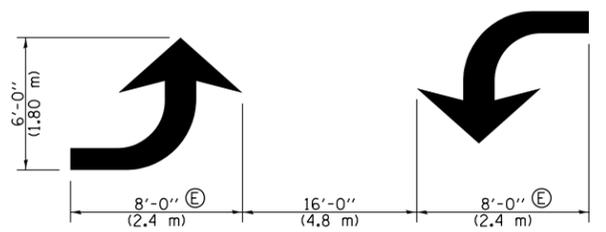


LEFT ARROW

REVERSE FOR RIGHT ARROW
AREA = 15.6 SQ. FT. (1.47 m²)
(WHITE)



RELATIONSHIP OF STRIPES, MARKERS AND JOINTS



TYPICAL DOUBLE TURN ARROWS (WHITE)

NOT TO SCALE
Note: All dimensions are in INCHES (millimeters) unless otherwise shown.

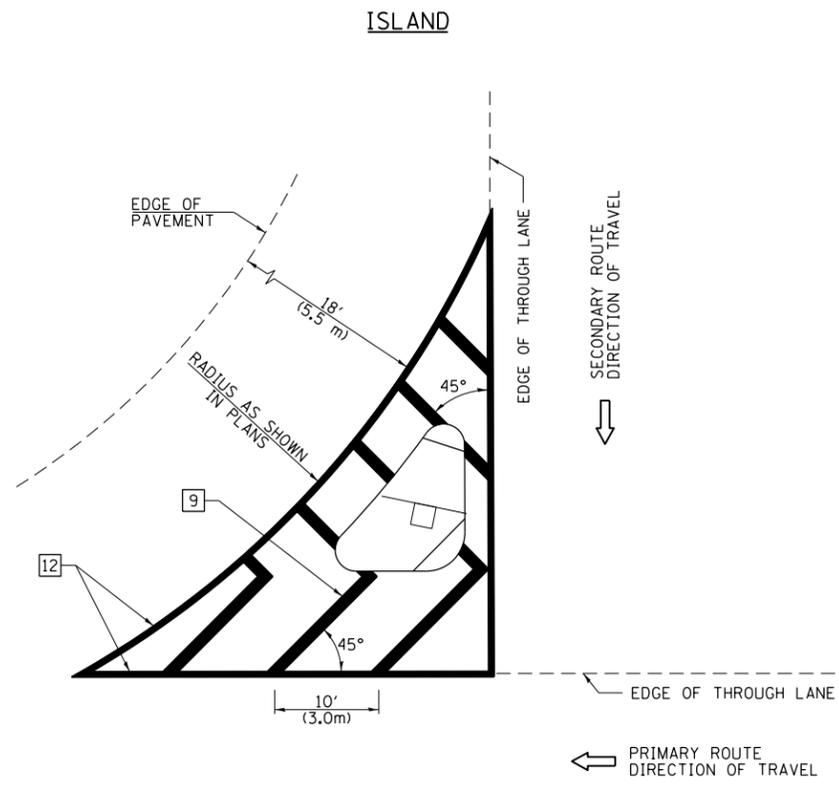
FILE NAME =	USER NAME = teasleyk	DESIGNED -	REVISED -
pw:\11\084EBIDINTEG.illinois.gov\PIWIDOT\Documents\DOT Offices\District 7\Projects\7480000\Drawings\CABsheets\0774805-sht-details.dwg		CHECKED -	REVISED -
		DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKING AND RAISED REFLECTIVE PAVEMENT MARKERS
(RURAL & URBAN APPLICATIONS)

SCALE: NA SHEET NO. 2 OF 4 SHEETS STA. TO STA.

DISTRICT 7 DETAIL NO. 78000001				
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
116	.	CUMBERLAND	19	17
CONTRACT NO. 74805				
ILLINOIS FED. AID PROJECT				

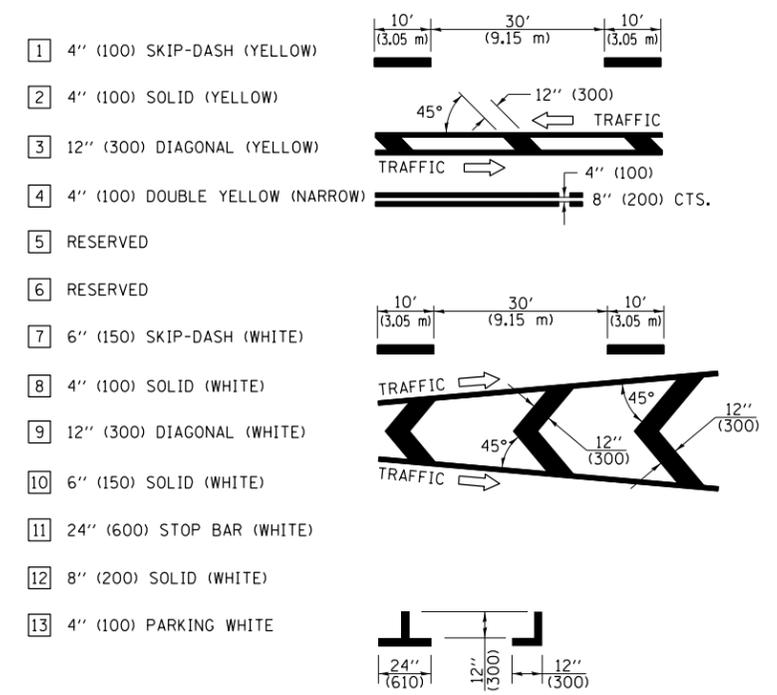


GENERAL NOTES

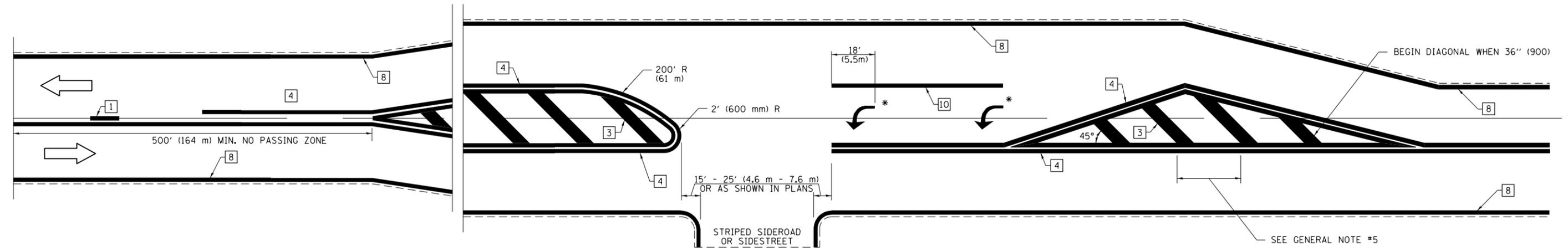
1. RAISED AND CORRUGATED MEDIANS SHALL BE OUTLINED WITH [2] IF PRESENT.
2. SOME OF THE INFORMATION INCLUDED WITH THIS DETAIL MAY NOT BE APPLICABLE TO THIS IMPROVEMENT.
3. PAVEMENT MARKINGS ARE TO BE EXTENDED THROUGH OMISSIONS WHEN APPLICABLE.
4. FINAL PAVEMENT MARKINGS SHALL BE IN PLACE PRIOR TO PLACING ANY RAISED REFLECTIVE PAVEMENT MARKERS.
5. THE FOLLOWING CRITERIA SHALL BE USED FOR SELECTING THE DIAGONAL PAVEMENT MARKING SPACING:

< 30 MPH (< 50 km/h)	15' (4.5 m)
30-45 MPH (50-75 km/h)	20' (6.0 m)
> 45 MPH (> 75 km/h)	30' (9.0 m)

PAVEMENT MARKING LEGEND



RURAL LEFT TURN STRIPING



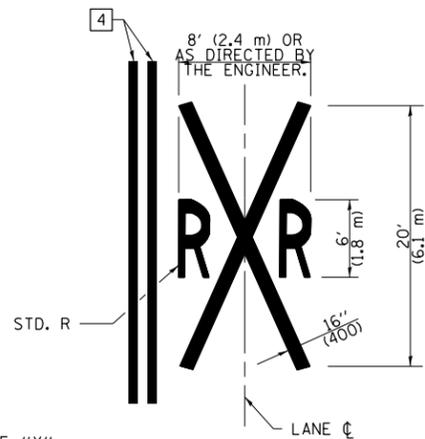
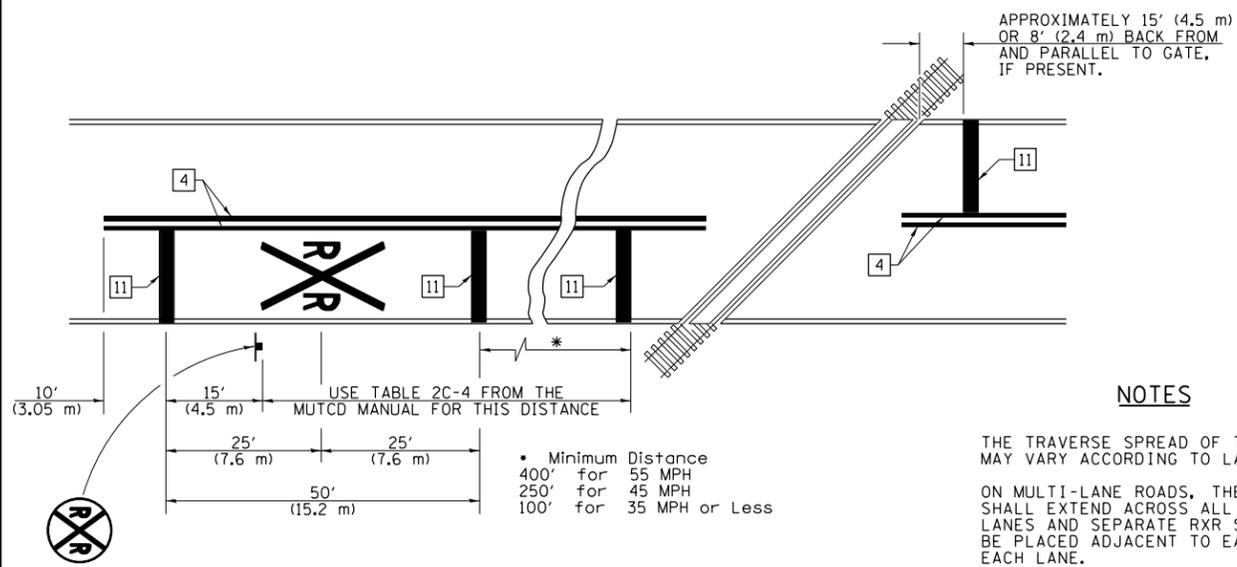
* PLACE AN ARROW 18' (5.5 m) BACK FROM STOP BAR. PLACE ANOTHER ARROW EVEN WITH THE BEGINNING OF THE SOLID WHITE LINE. SPACE ADDITIONAL ARROWS EVENLY UP TO 80' (24.4 m) MAXIMUM SPACING. USE MINIMUM OF 2 ARROWS.

NOT TO SCALE
 Note: All dimensions are in INCHES (millimeters) unless otherwise shown.

DISTRICT 7 DETAIL NO. 7800001

FILE NAME =	USER NAME = teasleyck	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PAVEMENT MARKING AND RAISED REFLECTIVE PAVEMENT MARKERS (RURAL & URBAN APPLICATIONS)	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
pw:\IL\084EBIDINTEG.illinois.gov\PIWIDOT\Documents\IDOT Offices\District 7\Projects\74805\Drawings\CABsheets\0774805-sht-details.dwg	DESIGNED BY	CHECKED -	REVISED -			116	.	CUMBERLAND	19	18	
	PLOT SCALE = 100.0000' / in.	CHECKED BY	REVISED BY			CONTRACT NO. 74805					
	PLOT DATE = 11/2/2017	DATE -	REVISED -			ILLINOIS FED. AID PROJECT					

PAVEMENT MARKINGS AT RAILROAD-HIGHWAY GRADE CROSSING



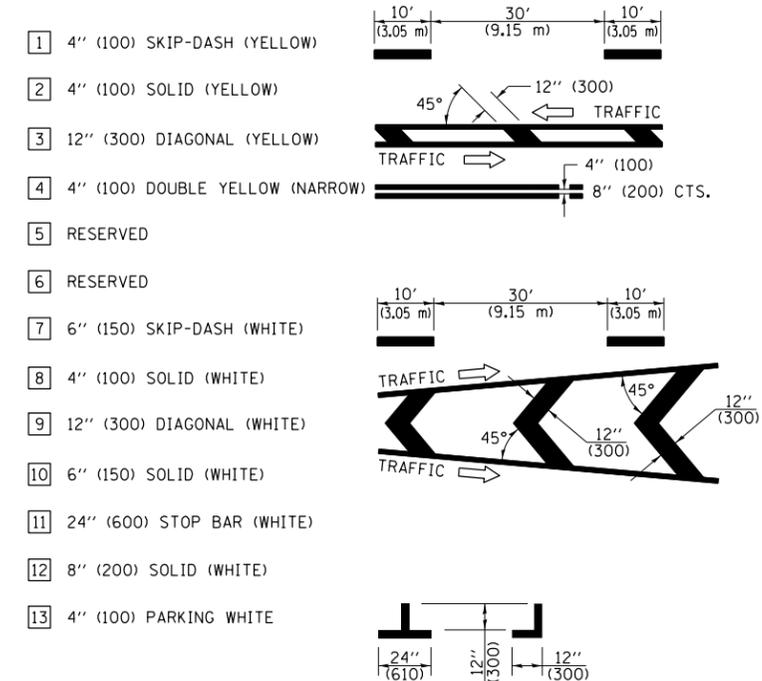
NOTES

THE TRAVERSE SPREAD OF THE "X" MAY VARY ACCORDING TO LANE WIDTH.

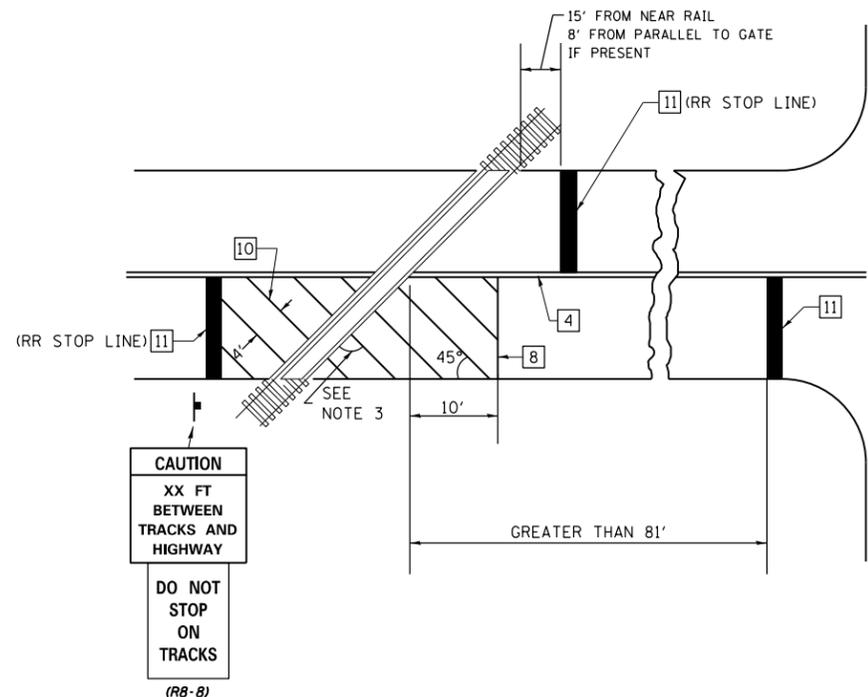
ON MULTI-LANE ROADS, THE STOP LINES SHALL EXTEND ACROSS ALL APPROACH LANES AND SEPARATE RXR SYMBOLS SHALL BE PLACED ADJACENT TO EACH OTHER IN EACH LANE.

WHEN THE PAVEMENT MARKING SYMBOL IS USED, A PORTION OF THE SYMBOL SHOULD BE LOCATED DIRECTLY ADJACENT TO THE ADVANCE WARNING SIGN (W10-1) AS PLACED BY TABLE II-1, CONDITION B OF THE MUTCD.

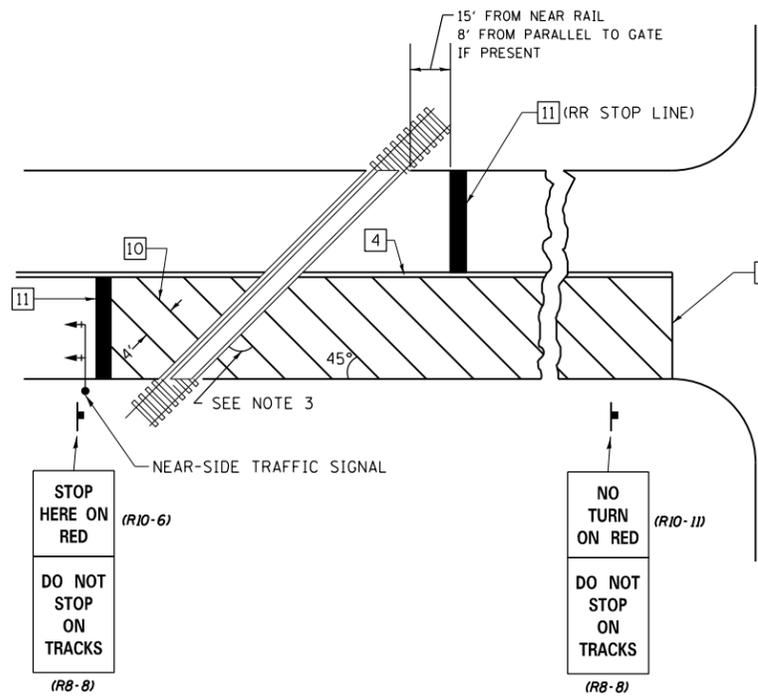
PAVEMENT MARKING LEGEND



RAILROAD CROSSING WITH INTERCONNECT ONLY



RAILROAD CROSSING WITH INTERCONNECT AND PRE-SIGNALS



GENERAL NOTES

1. SUPPLEMENTAL PAVEMENT MARKINGS TO BE INSTALLED ONLY ON APPROACHES TO INTERSECTIONS CONTROLLED BY TRAFFIC SIGNALS WHICH ARE INTERCONNECTED WITH THE RAILROAD WARNING SIGNALS.
2. EXTEND PAVEMENT MARKINGS TO THE INTERSECTION ONLY WHERE NEAR-SIDE TRAFFIC SIGNALS ARE USED.
3. WHERE THE ANGLE BETWEEN THE DIAGONAL PAVEMENT MARKINGS AND THE TRACK WOULD BE LESS THAN 20°, THE PAVEMENT MARKINGS SHOULD BE PLACED IN THE OPPOSITE DIRECTION FROM THAT SHOWN.

SUPPLEMENTAL PAVEMENT MARKING TREATMENT FOR RAILROAD-HIGHWAY GRADE CROSSING

NOT TO SCALE

Note: All dimensions are in INCHES (millimeters) unless otherwise shown.

DISTRICT 7 DETAIL NO. 7800001

FILE NAME =	USER NAME = teasleyk	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PAVEMENT MARKING AND RAISED REFLECTIVE PAVEMENT MARKERS (RURAL & URBAN APPLICATIONS)	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
pw:\IL\084EBIDINTEG.illinois.gov\PIWIDOT\Documents\IDOT Offices\District 7\Projects\74805\Drawings\CAB\Drawings\74805-shd-details.dwg	PLT SCALE = 100.0000' / in.	CHECKED -	REVISED -			116		CUMBERLAND	19	19	
	PLT DATE = 11/2/2017	DATE -	REVISED -			CONTRACT NO. 74805					
						ILLINOIS FED. AID PROJECT					