DISTRICT ONE – DESIGN – PLAN PREPARATION ENGINEER: KEN ENG / ROBERT BORO (847) 705-4178

SHEET TOTAL **NUMBER SHEETS** COUNTY **SECTION** ROUTE KANE 14 8R-B-I-1 **FAP 345**

FOR INDEX OF SHEETS SEE SHEET 2

STATE OF ILLINOIS **DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS DISTRICT ONE PROPOSED HIGHWAY PLANS**

OVER FOX RIVER SECTION 8R-B-I-1 **BRIDGE REPAIR** KANE COUNTY C-91-216-05

FAP ROUTE 345: US 20 SN 045-0004

R8W

STATE OF ILLINOIS **DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS**

CONTRACT NO. 62963

D-91-216-05

SUBMITTED:

LOCATION OF IMPROVEMENT INDICATED THUS:

DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

ENGINEER OF DESIGN AND ENVIRONMENT

PRINTED BY THE AUTHORITY OF THE STATE OF ILLINOIS

J.U.L.I.E.: JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION (800) 892-0123

LOCATION OF IMPROVEMENT AT SN 045-0004

TRAFFIC DATA:

SPEED LIMIT = 55 MPH 2001 ADT = 53,300

IMPROVEMENT IS LOCATED IN

THE CITY OF ELGIN

CONTRACT NO. 62963

ELGIN TOWNSHIP

			TOTAL	SHEET
ROUTE	SECTION	COUNTY	SHEETS	NUMBER
FAP 345	8R-B-I-1	KANE	14	2

CONTRACT NO: 62963

INDEX OF SHEETS

1	TITLE SHEET .
2	INDEX OF SHEETS, STATE STANDARDS AND GENERAL NOTES
3	SUMMARY OF QUANTITIES
4 - 5	TRAFFIC STAGING
6 - 13	BRIDGE REPAIR PLAN SHEETS
14	TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTIONS AND DRIVEWAYS

STATE STANDARDS

STANDARD NO	DESCRIPTION
701411 - 03	LANE CLOSURE, MULTILANE, AT ENTRANCE OR EXIT RAMP, FOR SPEEDS > 45 MPH
701422 - 01	LANE CLOSURE, MULTILANE, FOR SPEEDS > 45 MPH TO 55 MPH
701426 - 02	LANE CLOSURE, MULTILANE, INTERMITTENT OR MOVING OPER., FOR SPEED ≥ 45 MPH
702001 - 0 6	TRAFFIC CONTROL DEVICES

GENERAL NOTES

BEFORE STARTING ANY EXCAVATION, THE CONTRACTOR SHALL CALL J.U.L.I.E. AT 800-892-0123 FOR FIELD LOCATIONS OF BURIED ELECTRIC, TELEPHONE AND GAS UTILITIES (48 HOURS NOTIFICATION IS REQUIRED).

THE CONTRACTOR WILL NOT BE ALLOWED TO SET UP A YARD OR FIELD OFFICE ON STATE PROPERTY WITHOUT WRITTEN PERMISSION FROM THE DEPARTMENT.

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL DIMENSIONS AND CONDITIONS EXISTING IN THE FIELD PRIOR TO CONSTRUCTION AND ORDERING OF MATERIALS.

THE CONTRACTOR SHALL CONTACT THE DISTRICT ONE TRAFFIC CONTROL SUPERVISOR AT (847) 705-4470 A MINIMUM OF 72 HOURS IN ADVANCE OF BEGINNING WORK.

THE CONTRACTOR SHALL BE REQUIRED TO PROVIDE ACCESS TO ABUTTING PROPERTY AT ALL TIMES DURING THE CONSTRUCTION OF THIS PROJECT.

DO NOT SCALE PLANS FOR CONSTRUCTION DIMENSIONS.

THE CONTRACTOR SHALL COORDINATE CONSTRUCTION ACTIVITIES WITH UTILITY COMPANIES.

WHEN ARTIFICIAL LIGHTING IS USED IN NIGHT OPERATIONS, THE CONTRACTOR SHALL EXERCISE THE UPMOST PRECAUTIONS IN PREVENTING ADVERSE VISIBILITY TO THE MOTORING PUBLIC AND ADJOINING RESIDENTIAL AREAS.

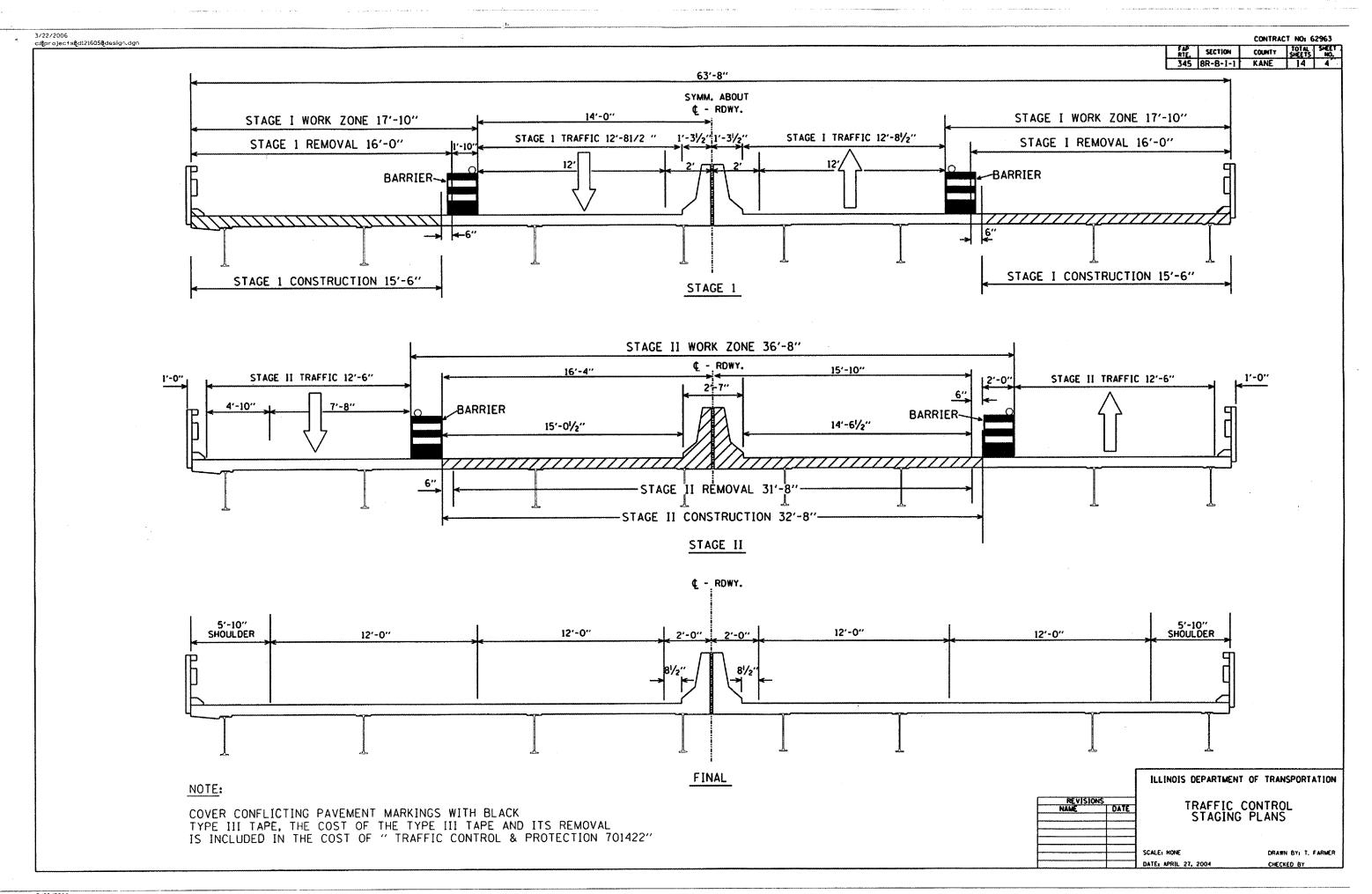
ANY PAVEMENT MARKINGS OBLITERATED BY THE WORK SHALL BE REPLACED AND PAID FOR IN KIND. BEFORE BEGINNING WORK, THE CONTRACTOR SHALL RETAIN AND RECORD (FOR FUTURE REFERENCE), ALL EXISTING PAVEMENT MARKING LINES AND RAISED REFLECTIVE PAVEMENT MARKERS IN ORDER THAT THESE LOCATIONS CAN BE RE-ESTABLISHED FOR STRIPING. EXACT LOCATIONS OF ALL STRIPING SHALL BE AS DIRECTED BY THE ENGINEER.

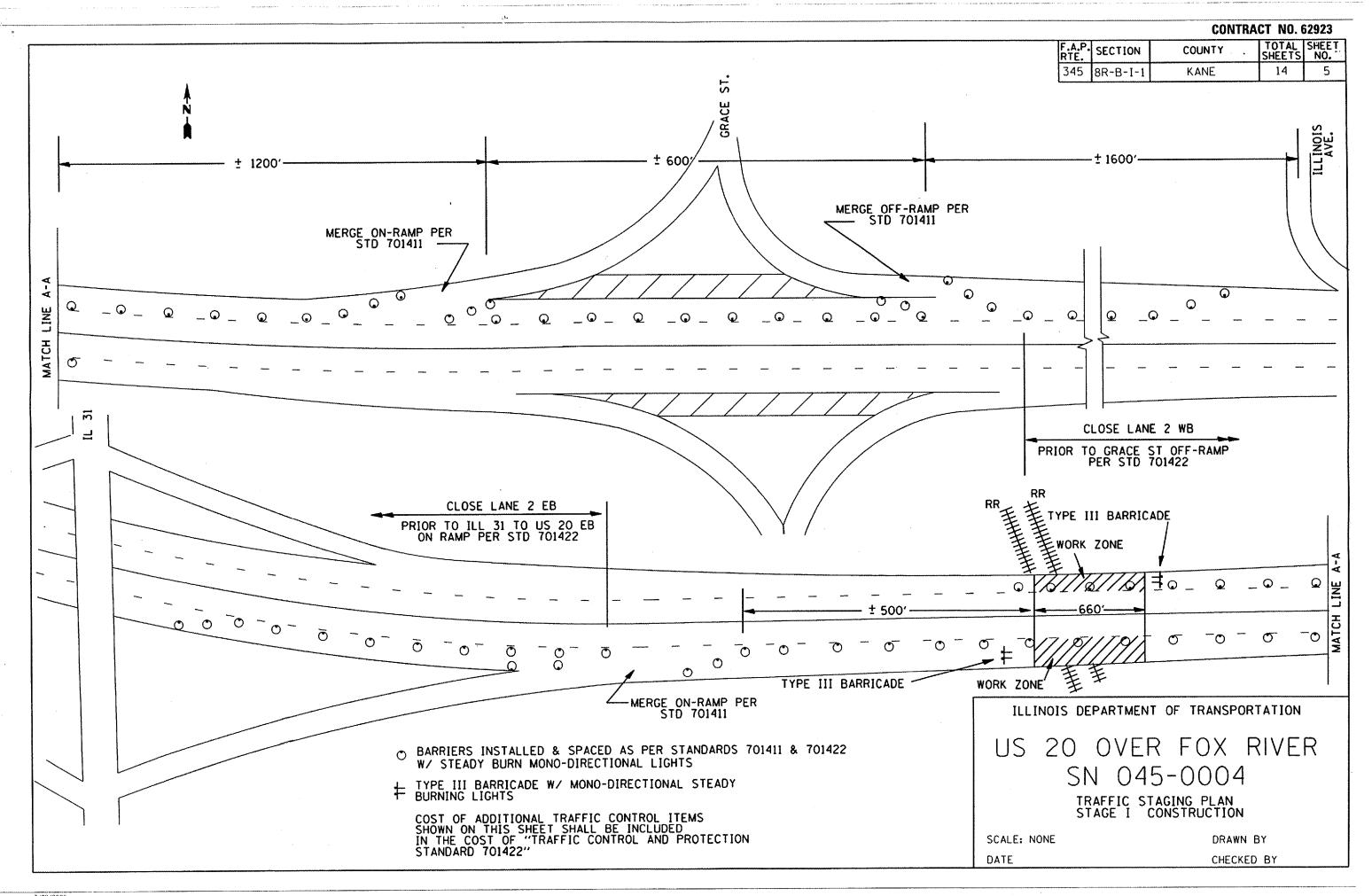
THESE PLANS HAVE BEEN PREPARED FROM NOTES RECEIVED FROM FIELD MAINTENACE ENGINEERS.

ILLINOIS DEPARTMENT OF TRANSPORTATION

INDEX OF SHEETS STATE STANDARDS GENERAL NOTES

				ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NUMBER
				FAP 345	8R-B-I-1	KANE	14	3
			URBAN 100% STATE SFTY – 2A				CONTRA	ACT NO.: 62963
	CONSTRUCTION CODE TYPE: SFTY – 2A		KANE CO.					
CODE NO.	ITEMS .	UNITS	TOTAL QUANTITIES	5				
50102400	CONCRETE REMOVAL	CU YD	27.7					
50300255	CONCRETE SUPERSTRUCTURE	CU YD	27.7					
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	4760					
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	2		·			
67100100	MOBILIZATION	L SUM	1					
70100320	TRAFFIC CONTROL AND PROTECTION, STANDARD 701422	L SUM	1					
X0322467	TEMPORARY INFORMATION SIGNING FOR LANE CLOSURE	SQ FT	48					
X7011420	TRAFFIC CONTROL AND PROTECTION, STANDARD 701411	L SUM	1					
X7015000	CHANGEABLE MESSAGE SIGN	CAL MO	2					
X0325294	PREFORMED JOINT STRIP SEAL	FOOT	184					
Z0002600	BAR SPLICERS	EACH	108					
Z0048665	RAILROAD PROTECTIVE LIABILITY INSURANCE	L SUM	1					
X0325305	STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 INCHES)	SQ FT	534					
						·		
						ILLINOIS DEPART	MENT OF TRAN	ISPORTATION
						SUMMAR	Y OF QUAN	TITIES
					Rev,			

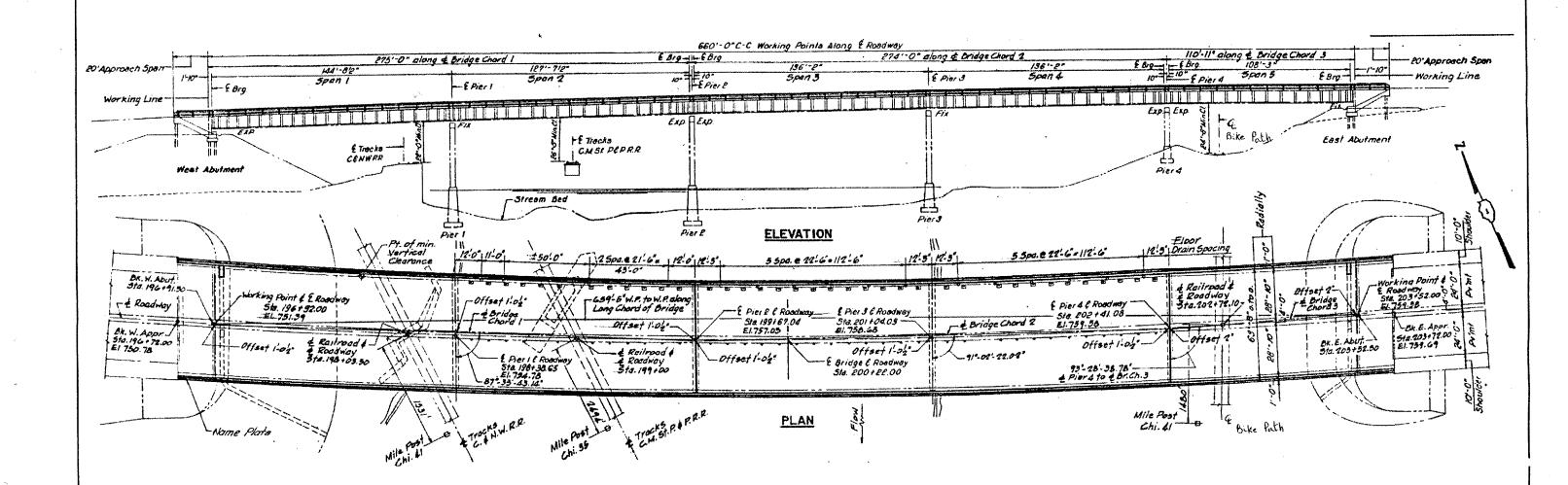




				TOTAL	SHEET
	ROUTE	SECTION	COUNTY	SHEETS	NUMBER
	FAP 345	8R-B-I-1	KANE	14	6

CONTRACT 62963

SHEET 1 OF 8



FOR INFORMATION ONLY

ILLINOIS DEPARTMENT OF TRANSPORTATION

US 20 OVER FOX RIVER PLAN AND ELEVATION SN: 045 - 0004

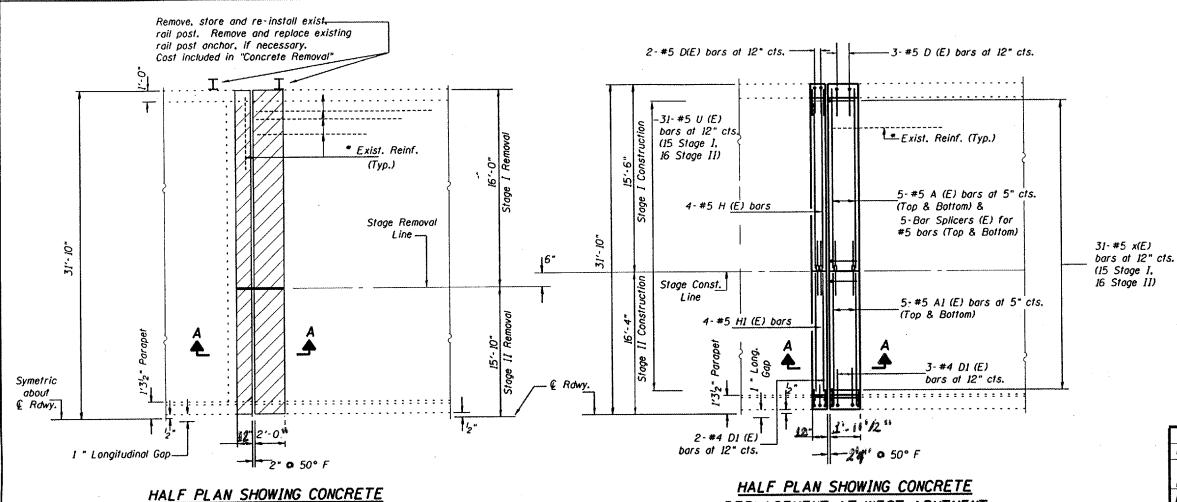
CONTRACT NO. 62963 TOTAL SHEET NO. F.A.P. SECTION COUNTY 345 8R-B-I-1 KANE 14 7 SHEET 2 OF 8 € BIKE TRAIL € RR ę RR € US 20 WEST ABUTMENT EAST ABUTMENT PIER 2 PIER 3 PIER 1 PIER 4 <u>PLAN</u> **GENERAL NOTES:** PLAN DIMENSIONS AND DETAILS RELATIVE TO EXISTING STRUCTURE HAVE BEEN TAKEN FROM EXISTING PLANS AND ARE SUBJECT TO NOMINAL CONSTRUCTION VARIATIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY SUCH DIMENSIONS AND DETAILS IN THE FIELD AND MAKE NECESSARY APPROVED ADJUSTMENTS PRIOR TO CONSTRUCTION OR ORDERING OF MATERIALS. SUCH VARIATIONS SHALL NOT BE CAUSE FOR ADDITIONAL COMPENSATION CONCRETE REMOVAL & CONCRETE SUPERSTRUCTURE (AT JOINTS) FOR A CHARGE IN THE SCOPE OF THE WORK; HOWEVER THE CONTRACTOR WILL BE PAID FOR THE QUANTITY ACTUALLY FURNISHED AT THE UNIT PRICE BID FOR THE WORK. FOR SECTIONS A-A & B-B SEE SHEETS SEE SHEET 3 & 4 OF 8 ILLINOIS DEPARTMENT OF TRANSPORTATION US 20 OVER FOX RIVER BRIDGE JOINT REPAIR

SCALE: VERT.

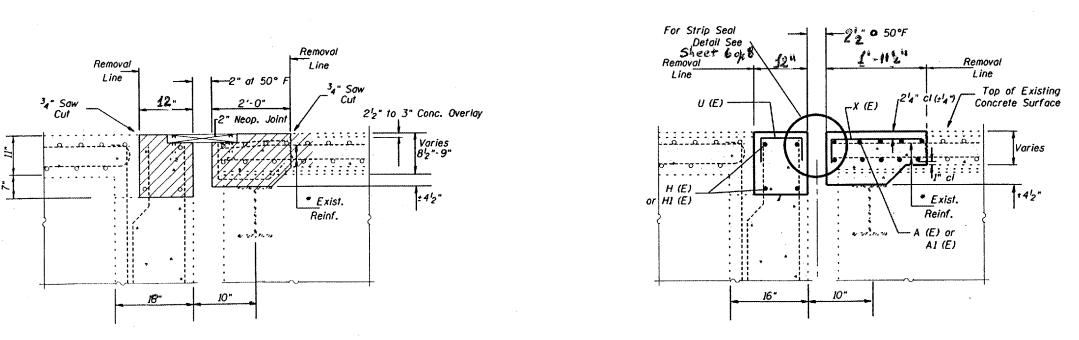
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E = 3/28/2006 E = entymojects/df21665/des E = see 2019 / ju

PLOT DATE = 3/28 FILE NAME = crips PLOT SCALE = 186.4



HALF PLAN SHOWING CONCRETE REPLACEMENT AT WEST ABUTMENT



SECTION A-A (Proposed)

TOTAL SHEETS NO. SHEET F.A.P. RTE. COUNTY . SECTION 14 345 8R-B-I-1 KANE

CONTRACT NO. 62963

SHEET 3 OF 8

NOTES:

Skew angle varies. Place "A(E)" bars parallel to the joint.

* Existing longitudinal reinforcement 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 shall be included with Concrete Removal.

OPEN AREA SHALL BE PLATED WHEN WORKERS ARE NOT PRESENT. COST OF PLATE IS INCLUDED IN COST OF CONCRETE REMOVAL

BILL OF MATERIAL (ABUT.)

Concrete Removal	Cu. Yd.	8.2
Concrete Superstructure	Cu. Yd.	8.2
Reinforcement Bars, Epoxy Coated	Lbs.	1280
Bar Splicers	Each	28

Reinforcement bars designated (E) shall be epoxy coated.

For bar details and bar list see Sheet 5 of 8.

ILLINOIS DEPARTMENT OF TRANSPORTATION

US 20 OVER FOX RIVER SN 045-0004 JOINT DETAILS (West Abutments)

SCALE: NONE

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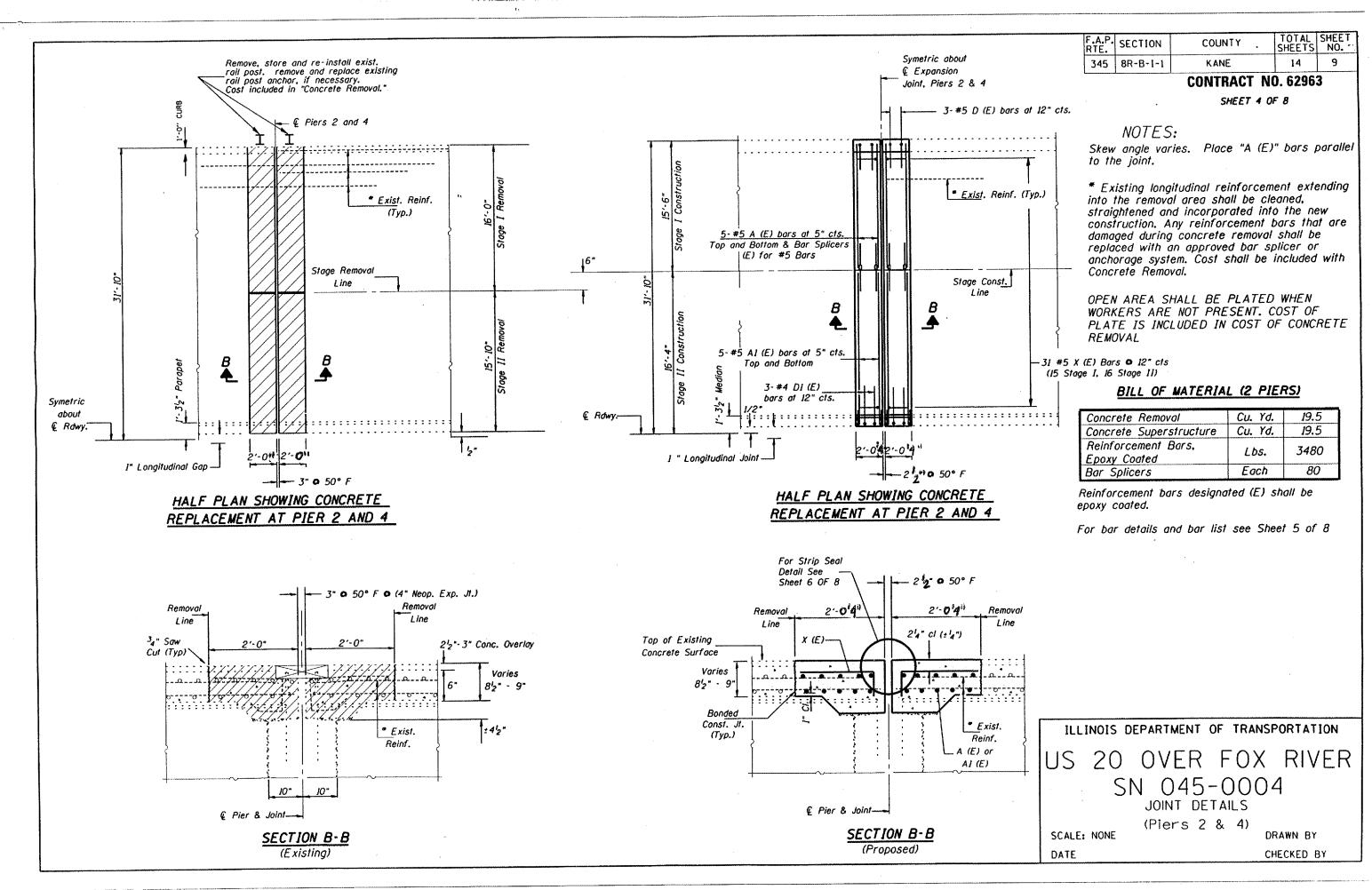
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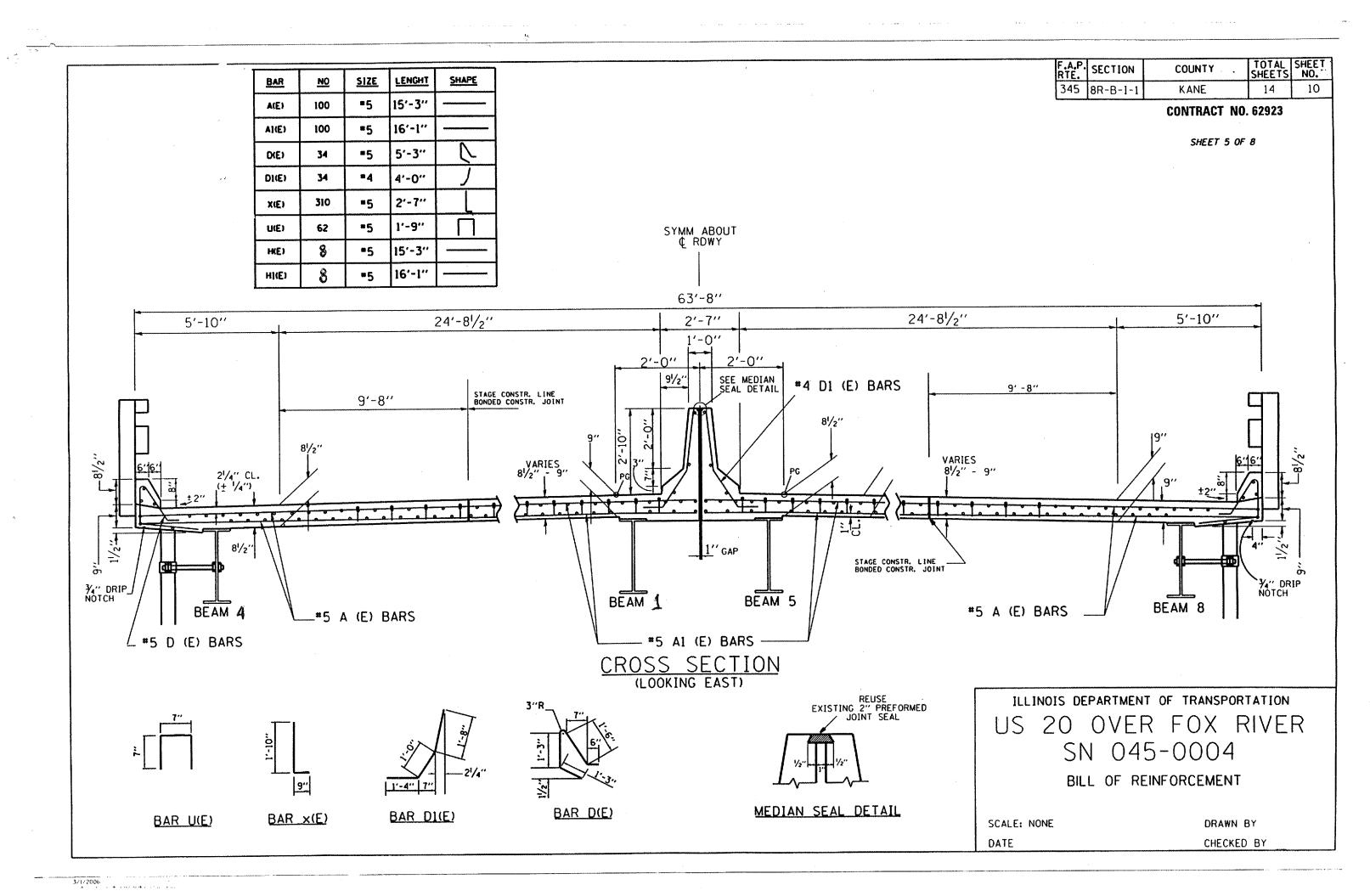
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REMOVAL AT WEST ABUTMENT

SECTION A-A

(Existing)

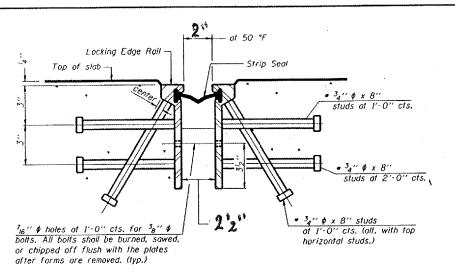


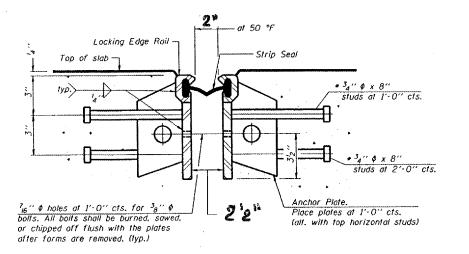


14

TOTAL SHEET SHEETS NO.

11





GENERAL NOTES

COUNTY

CONTRACT NO. 62963

SHEET 6 OF 8

KANE

F.A.P. SECTION

345 | 8R-B-I-1

The strip seal shall be made continuous and shall have a minimum thickness of ${}^{\prime}_4$ ". The configuration of the strip seal shall match the configuration of the Locking Edge Rails.

The height and thickness of the Locking Edge Rails shown are minimum dimensions. 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 and stage construction joints.

The manufacturer's recommended installation methods shall be followed.

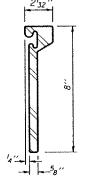
SECTION THRU ROLLED RAIL EXP. JOINT

(916 Studs Required)

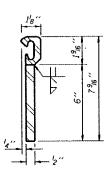
* Granular or solid flux filled headed studs conforming to Article 1006.32 of the Std. Specs., automatically end welded.

SECTION THRU WELDED RAIL EXP. JOINT

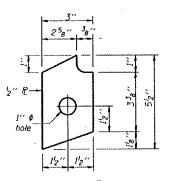
(550 Studs Required)
(366 Anchor Plates Required)





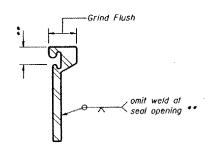


WELDED RAIL



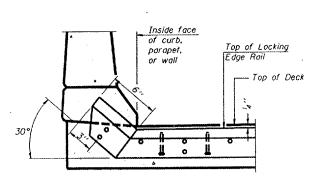
ANCHOR P

LOCKING EDGE RAILS



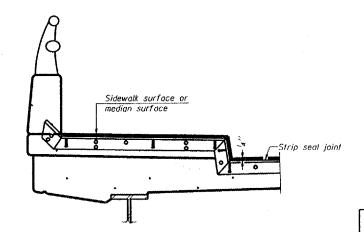
LOCKING EDGE RAIL SPLICE

The inside of the locking edge rail groove shall be free of weld residue.



AT CURB, PARAPET, OR WALL

TYPICAL END TREATMENTS



AT SIDEWALK OR MEDIAN"

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

MODIFIED EJ-BJS

10-22-04

ILLINOIS DEPARTMENT OF TRANSPORTATION

BRIDGE JOINT SYSTEM (EXPANSION) STRIP SEAL DETAILS

SCALE: NONE

DRAWN BY

DATE

CHECKED BY

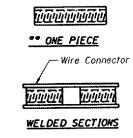
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.A.P.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
345	8R-B-I-1	KANE	14	12

SHEET 7 OF 8

The diameter of this part is the same as the diameter of the bar spliced.

The diameter of this part is equal or larger than the diameter of bar spliced.

ROLLED THREAD DOWEL BAR



SPLICER DETAIL

Stage I Construction

Reinforcement

Bars

Threaded or Coil

Loop Couplers (E)

- Stage Construction Line

Stage II Construction

Reinforcement

Bars

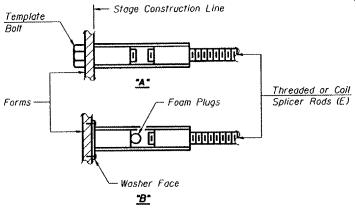
Threaded or Coil

Splicer Rods (E)

Bar Size	No. Assemblies Required	Location
#5	100	DECK
#5	8	SUBSTRUCTURE

BAR SPLICER ASSEMBLY ALTERNATIVES

** Heavy Hex Nuts conforming to ASTM A 563. Grade C. D or DH may be used.



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.

NOTES

Bar splicer assemblies shall be of an approved type and shall develop in tension at least 125 percent of the yield strength of the lapped reinforcement bars.

Splicer rods shall be of minimum 60 ksi yield strength, threaded or coiled full length. All reinforcement bars shall be lapped and tied to the splicer rods or dowel bars.

Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars.

Other systems of similar design may be submitted to the Engineer for approval. Approval shall be based on certified test results from an approved testing laboratory that the proposed bar splicer assembly satisfies the following requirements:

Minimum Capacity (Tension in kips) = 1.25 x fy x A₁

(Tension iii kips) Minimum **Pull-out Strength = 1.25 x fs_{ollow} x A_1

(Tension in kips)

Where fy = Yield strength of lapped reinforcement bars in ksi.

fs_{allow}= Allowable tensile stress in lapped reinforcement bars in ksi (Service Load) A_t = Tensile stress area of lapped reinforcement bars.
* = 28 day concrete

BAR SPLICER ASSEMBLIES				
***************************************		Strength Requirements		
Bar Size to be Spliced	Splicer Rod or Dowel Bar Length	Min. Capacity kips - tension	Min. Pull-Out Strength kips - tension	
#5	2'-0"	23.0	9.2	
#6	2'-7"	33.1	13.3	
#7	3′-5″	45.1	18.0	
#8	4'-6"	58.9	23.6	

Bar splicer assemblies shall be according to Section 508 of the Standard Specifications, except as noted. The furnishing and installation of bar splicer assemblies will be measured and paid for at the contract unit price each for "BAR SPLICERS."

ILLINOIS DEPARTMENT OF TRANSPORTATION

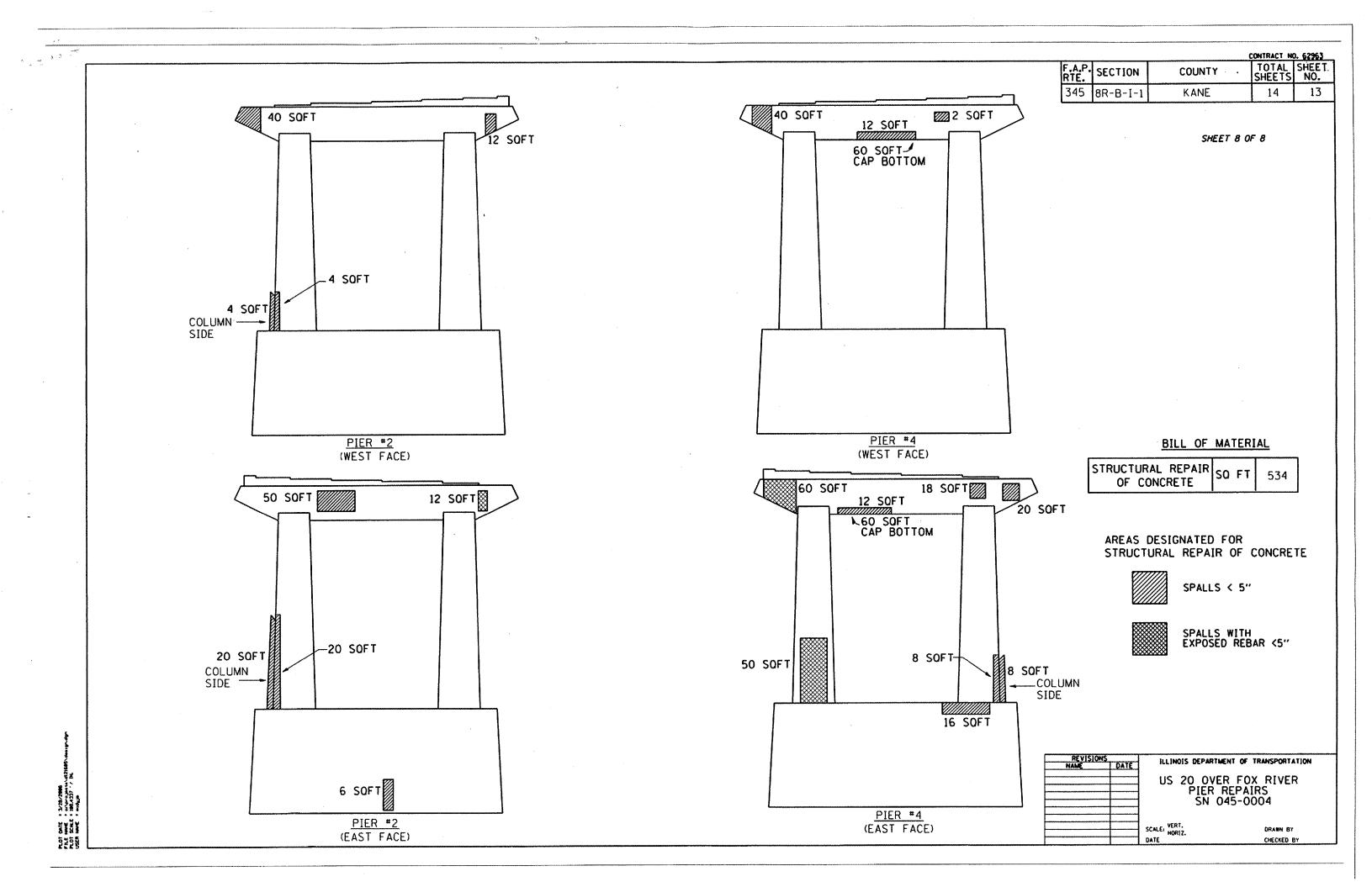
BAR SPLICER ASSEMBLY DETAILS

SCALE: VERT. HORIZ. DATE 3/1/2006

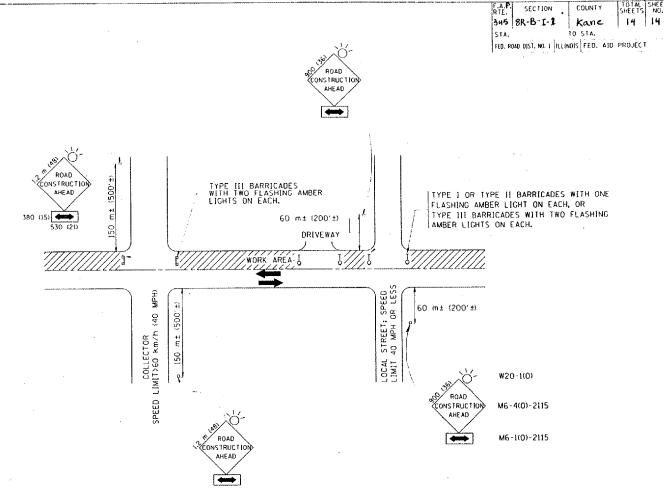
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Contract No: 62963



TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS

NOTES:

- A. FOR NO LANE RESTRICTION ON THE SIDE ROAD OR DRIVEWAYS
- 1. SIDE ROAD WITH A SPEED LIMIT OF 60 km/h (40 MPH) OR LESS AS SHOWN ON THE DRAWING AND AS DIRECTED BY THE ENGINEER:
- OF THE MAIN ROUTE.
- b) THE CLOSED PORTION OF THE MAIN ROUTE SHALL BE PROTECTED BY BLOCKING WITH TYPE I, TYPE II OR TYPE III BARRICADES. 1/3 OF THE CROSS SECTION OF THE CLOSED PORTION.
- 2. SIDE ROAD WITH A SPEED LIMIT GREATER THAN 60 km/h (40 MPH) AS SHOWN ON THE DRAWING AND AS DIRECTED BY THE ENGINEER:
- O) ONE ROAD CONSTRUCTION AHEAD SIGN 1.2 m x 1.2 m (48x48) WITH A FLASHER MOUNTED ON IT APPROXIMATELY 150 m (500') IN ADVANCE OF THE MAIN ROUTE.
- b) THE CLOSED PORTION OF THE MAIN ROUTE SHALL BE PROTECTED BY BLOCKING WITH TYPE III BARRICADES, 1/2 OF THE CROSS SECTION OF THE CLOSED PORTION.
- 3. WHEN THE SIDE ROAD LIES BETWEEN THE BEGINNING OF THE MAINLINE SIGNING AND THE WORK ZONE, A SINGLE HEADED ARROW (M6-1) SHALL BE USED IN LIEU OF THE DOUBLE HEADED ARROW (M6-4).

- B. FOR A LANE CLOSURE ON A SIDE ROAD OR DRIVEWAY:
- USE APPLICABLE PORTIONS OF THE TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES (STD. 701501, STD. 701606 OR THE APPROPRIATE STANDARD). THE SPACING OF SIGNS AND BARRICADES SHALL BE ADJUSTED FOR FIELD CONDITIONS AS DIRECTED BY THE ENCIMEER. THE DIRECTIONAL ARROW SHALL BE COVERED OR REMOVED WHEN NO LONGER CONSISTENT WITH THE SIDE ROAD LANE CLOSURE.
- C. ADVANCE WARNING SIGNS ARE TO BE OMITTED ON DRIVEWAY UNLESS OTHERWISE NOTED.
- D. THE TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS. INTERSECTIONS, AND DRIVEWAYS SHALL BE INCIDENTAL TO THE COST OF SPECIFIED TRAFFIC CONTROL STANDARDS OR ITEMS.

REVISIONS		THE INOIS DEPART	MENT OF TRANSPORTATION
NAME	DATE	icelhols ber and	THE ST CHARLEST GIVEN TO ST
LHA	6/89	TRAFFIC CONT	ROL AND PROTECTION
T. RAMMACHER	09/08/94	TIME TO COM	HOL WAY LHOTECTION
J. OBERLE	10/18/95	FOR	
A. HOUSEH	03/06/96	CIDE DOADC	THE PAR CALLONS AND
A. HOUSEH	10/15/36	SIDE RUADS,	INTERSECTIONS, AND
T. RAMMACHER	01/06/00	r	DRIVEWAYS
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		DATE 10/18/2002	CHECKED BY

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