

DESIGNER: CLARK JONES  
PHONE: (309)671-3452

PROJECT ENGINEER: JIM MILLER  
PHONE: (309)671-3451

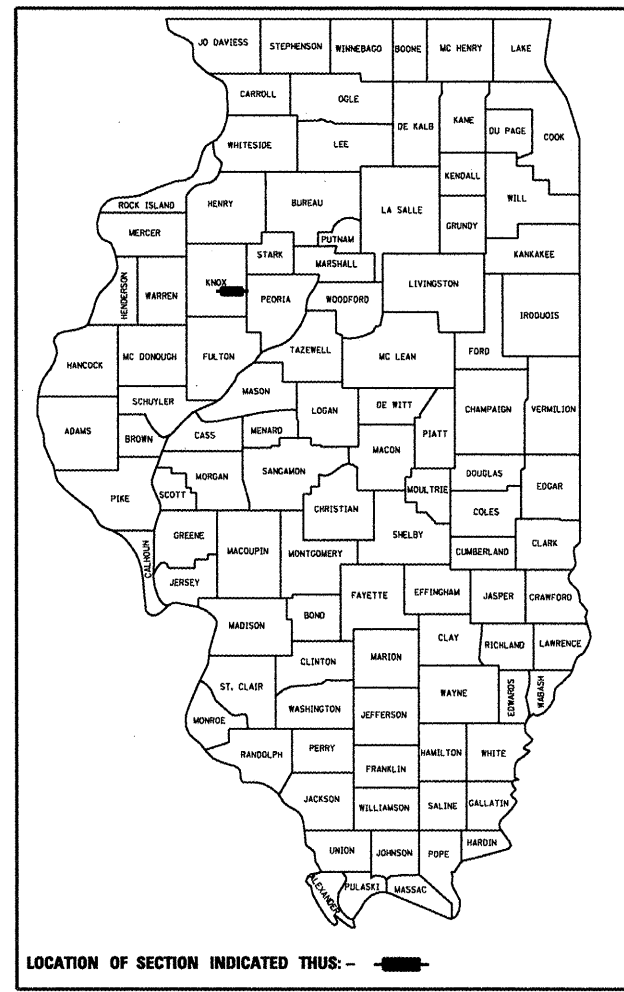
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	(48-29B)I-2	KNOX	9	1
FED. ROAD DIST. NO. 4		ILLINOIS	CONTRACT NO. 68858	

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

**PROPOSED  
HIGHWAY PLANS**

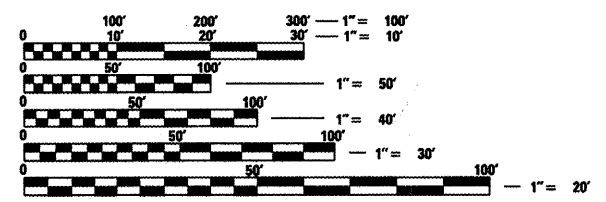
FAI 74 (I-74)  
SECTION (48-29B)I-2  
REPAIR IMPACT DAMAGE  
KNOX COUNTY

D-94-019-09



- INDEX OF SHEETS:
1. COVER SHEET
  2. COMMITMENTS & GENERAL NOTES
  3. SUMMARY OF QUANTITIES
  4. EXISTING CROSS SECTIONS
  5. SCHEDULE OF QUANTITIES
  6. PROPOSED TRAFFIC CONTROL
  7. ROADWAY PLAN REPAIR DETAILS
  - 8-9. REPAIR DETAILS

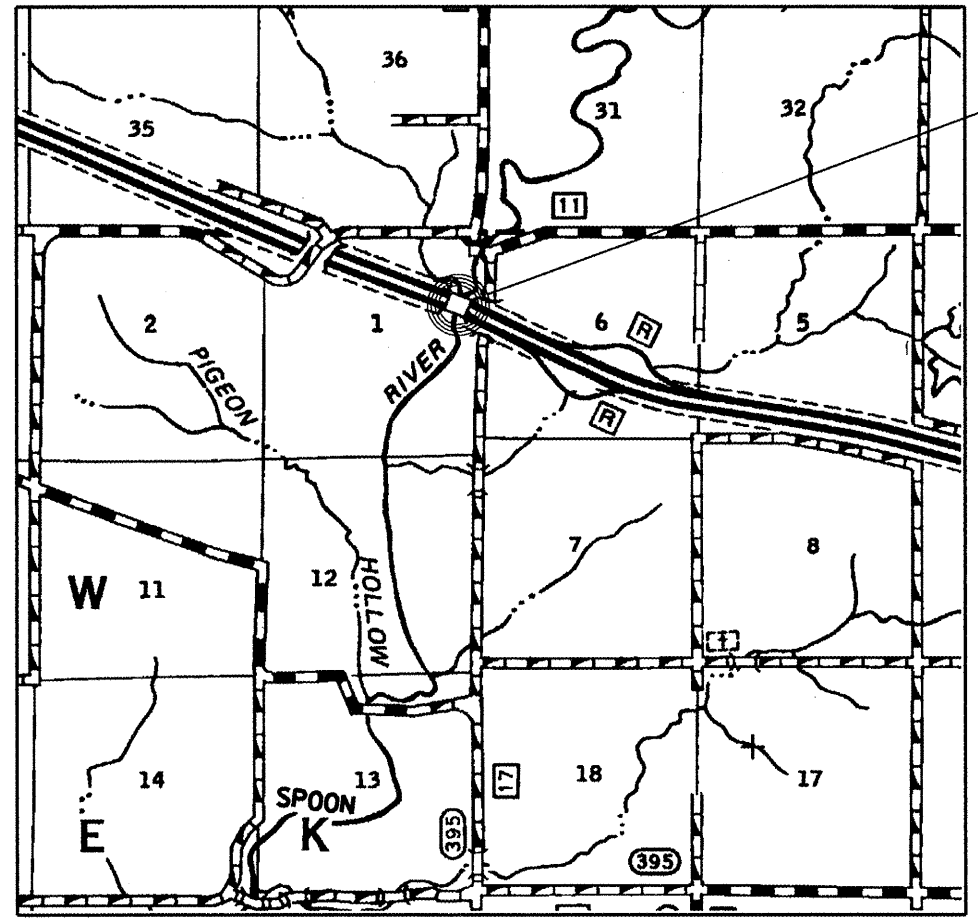
<b>STANDARDS:</b>	<b>DISTRICT STANDARDS:</b>
420401-07	701402-07
483001-04	701901-01
701101-02	704001-05
701106-02	780001-02
701400-03	
	780001-D4



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

C-94-032-09



LOCATION MAP

SN.048-0052

PROJECT CONSISTS OF COLLISION DAMAGE REPAIR TO EAST ABUTMENT WALL AND WINGWALL OF STRUCTURE CARRYING EB. I-74 (SN.048-0052) OVER SPOON RIVER.

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

SUBMITTED April 29, 2009  
Joseph E. Crowe  
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

June 26, 2009  
Charles J. Ingersoll  
ENGINEER OF DESIGN AND ENVIRONMENT

June 26, 2009  
Christine M. Reed  
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

**PRINTED BY THE AUTHORITY  
OF THE STATE OF ILLINOIS**

PROJECT ENGINEER- JIM MILLER  
PROJECT MANAGER- MAUREEN ADDIS

CONTRACT NO. 68858 CAT. NO. 034176-00D

**COMMITMENTS**

No commitments have been made for this project.

**GENERAL NOTES**

Plan dimensions and details relative to existing plans are subject to routine 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 based upon the unit price bid for the work.

**ENVIRONMENTAL REVIEWS**

Prior to the use of any proposed borrow areas, use areas (temporary access roads, detours, run-arounds, etc.) and/or waste areas, the Contractor shall file the required environmental resource request surveys according to Section 107.22 of the Standard Specifications. These surveys are required in order for the Department to conduct cultural and biological resource surveys for the proposed site.

Prior to any waste materials being removed from the construction site the required environmental resource surveys will need to be obtained and filed by the Contractor. Excess waste products removed from the construction site shall be disposed of as required in Section 202.03 of the Standard Specifications.

Any protruding metal bars shall be removed prior to the disposal of broken concrete at approved disposal sites.

The required environmental resource documentation shall include the following:

- \* BDE Form 2289 (Environmental Survey Request)
- \* A location map showing the size limits and location of the use area
- \* Signed property owner agreement form-D4 PI0100
- \* Color photographs depicting the use area
- \* Borrow Area Entry Agreement form-D4 PI0101

Please note that a minimum of two weeks shall be allowed for the District to obtain the required environmental clearances.

**JOB SPECIFIC NOTES**

Any excavation required to complete this work shall be entirely backfilled with CLSM (controlled low strength material) flowable fill. If undermining of the approach pavement occurs, the Contractor is to assure that all voids are completely filled with CLSM to the satisfaction of the Engineer. This may require boring a hole through the approach pavement in order to allow the complete filling of any areas of air entrapment.

Excavation and CLSM will not be paid for separately, but will be considered incidental to the project.

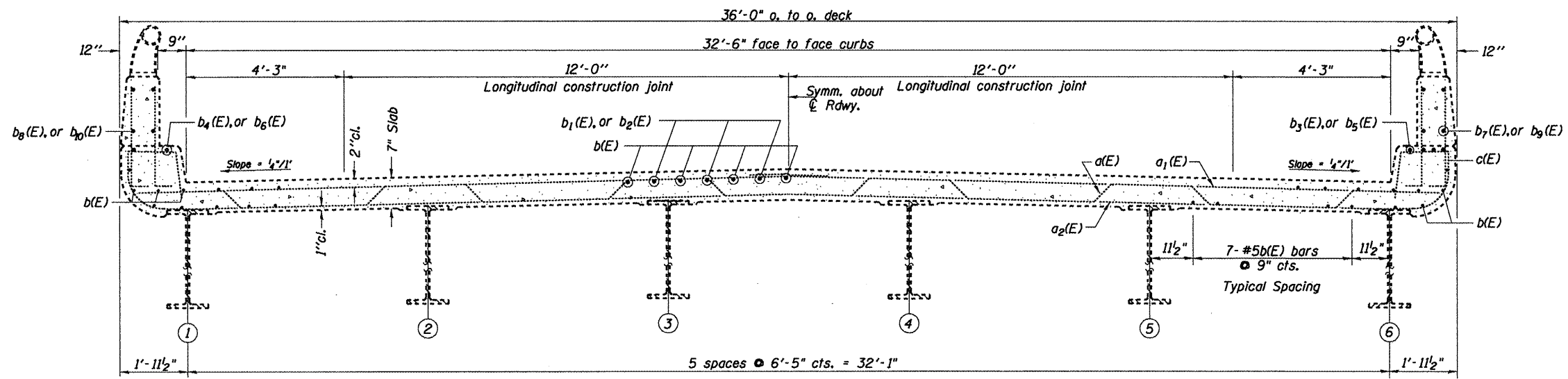
If it is necessary to remove railing near parapet removal area the railing shall be removed, salvaged, and replaced according to Section 509.05 of the Standard Specifications. Cost to be included in Concrete Superstructure.

Woven Wire Fence and accessories necessary to be moved for project access shall be salvaged and reinstalled according to section 665.03 of the Standard Specifications. Cost to be included in Concrete Removal.

SN.048-0052 I-74  
over Spoon Riv.

FILE NAME = SN048-0052 EB.I-74 ovr SpoonRiv.dgn	USER NAME = jonesce	DESIGNED - CEJ	REVISED - ---	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>COMMITMENTS &amp; GENERAL NOTES</b>				F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN - CEJ	REVISED - ---		74	(48-29B)-2	KNOX	9	2				
		CHECKED - ---	REVISED - ---		REPAIR IMPACT DAMAGE	CONTRACT NO. 68858							
		DATE - 04/09/2009	REVISED - ---		FED. ROAD DIST. NO. 4 ILLINOIS FED. AID PROJECT								
				SCALE: _____	SHEET NO. _____	OF _____	SHEETS	STA. _____	TO STA. _____				



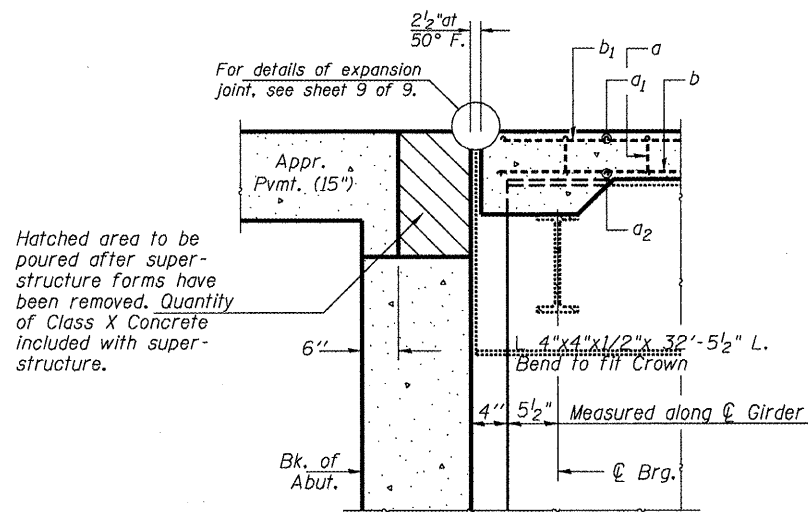


NEAR PIER

**CROSS SECTION**

(SN. 048-0052)

NEAR MIDSPAN



**SECTION THRU ABUTMENT**

Notes :  
All horizontal dimensions are at right angles to beam ends.  
Hatched area to be poured after concrete wearing surface is in place.

Notes:  
Reinforcement bars designated (E) shall be epoxy coated.  
Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.  
Section views drawn "FOR INFORMATION ONLY" to be used as reference for beam repair.

**FOR INFORMATION ONLY**

SN.048-0052 I-74  
over Spoon Riv.

FILE NAME =	USER NAME = jonesce	DESIGNED - CEJ	REVISED -
SN048-0052 EB.I-74 ovr SpoonRiv.dgn		DRAWN - CEJ	REVISED -
	PLOT SCALE = 1/32" = 1' / IN.	CHECKED -	REVISED -
	PLOT DATE = 4/23/2009	DATE -	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**EXISTING CROSS SECTIONS**

SCALE: \_\_\_\_\_ SHEET NO. \_\_\_\_ OF \_\_\_\_ SHEETS STA. \_\_\_\_\_ TO STA. \_\_\_\_\_

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	(48-29B)I-2	KNOX	9	4
REPAIR IMPACT DAMAGE			CONTRACT NO. 68858	
FED. ROAD DIST. NO. 4 ILLINOIS FED. AID PROJECT				

# SCHEDULE OF QUANTITIES

### MOBILIZATION

LOCATION	LSUM
Jobsite - SN.048-0052	1
<b>TOTAL</b>	<b>1</b>

### TEMPORARY CONCRETE BARRIER

LOCATION	FOOT
Sta. 1067+25 to 1071+25	400
<b>TOTAL</b>	<b>400</b>

### REINFORCEMENT BARS, EPOXY COATED

LOCATION	POUND
E Abutment & NE Parapet Wall	400
<b>TOTAL</b>	<b>400</b>

### EPOXY MARKING - LINE, 4"

LOCATION	FOOT
Sta. 1067+84.5 to 1071+84.0	800
<b>TOTAL</b>	<b>800</b>

### TRAFFIC CONTROL & PROTECTION STANDARD 701402

LOCATION	LSUM
Jobsite - SN.048-0052	1
<b>TOTAL</b>	<b>1</b>

### PAVEMENT MARKING TAPE TYPE III, 4"

LOCATION	FOOT
☉ along Barrier & Tapers	3150
<b>TOTAL</b>	<b>3150</b>

### CONCRETE SUPERSTRUCTURE

LOCATION	CUYD
E Abutment & NE Parapet Wall	4.2
<b>TOTAL</b>	<b>4.2</b>

### EROSION CONTROL BLANKET

LOCATION	SQYD
East Abutment & Parapet Wall Shoulder & Shoulder Slope	166.7
<b>TOTAL</b>	<b>166.7</b>

### IMPACT ATTENUATORS, TEMPORARY NRD, TEST LEVEL 3

LOCATION	EACH
West end of Temp. Conc. Barrier	1
<b>TOTAL</b>	<b>1</b>

### BRIDGE APPROACH PAVEMENT REMOVAL

LOCATION	SQYD
Sta. 1070+85.5 Lt. to 1071+15.5 Lt.	17.2
<b>TOTAL</b>	<b>17.2</b>

### BRIDGE APPROACH PAVEMENT

LOCATION	SQYD
Sta. 1070+85.5 Lt. to 1071+15.5 Lt.	17.2
<b>TOTAL</b>	<b>17.2</b>

### PAVEMENT MARKING REMOVAL

LOCATION	FOOT
☉ along Barrier & Tapers	800
<b>TOTAL</b>	<b>800</b>

### CONCRETE REMOVAL

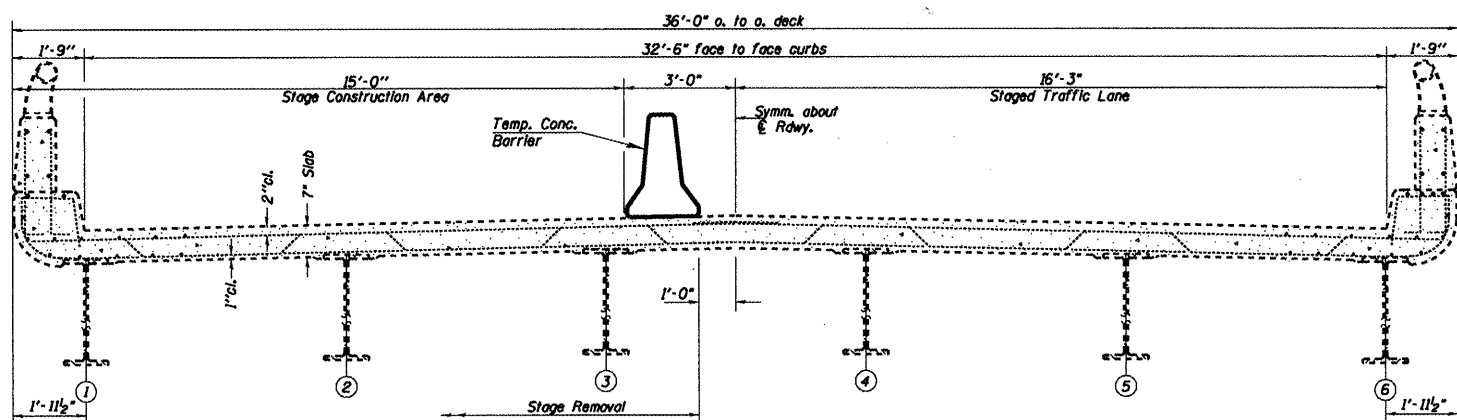
LOCATION	CUYD
E Abutment & NE Parapet Wall	3.2
<b>TOTAL</b>	<b>3.2</b>

### WORKZONE PAVEMENT MARKING REMOVAL

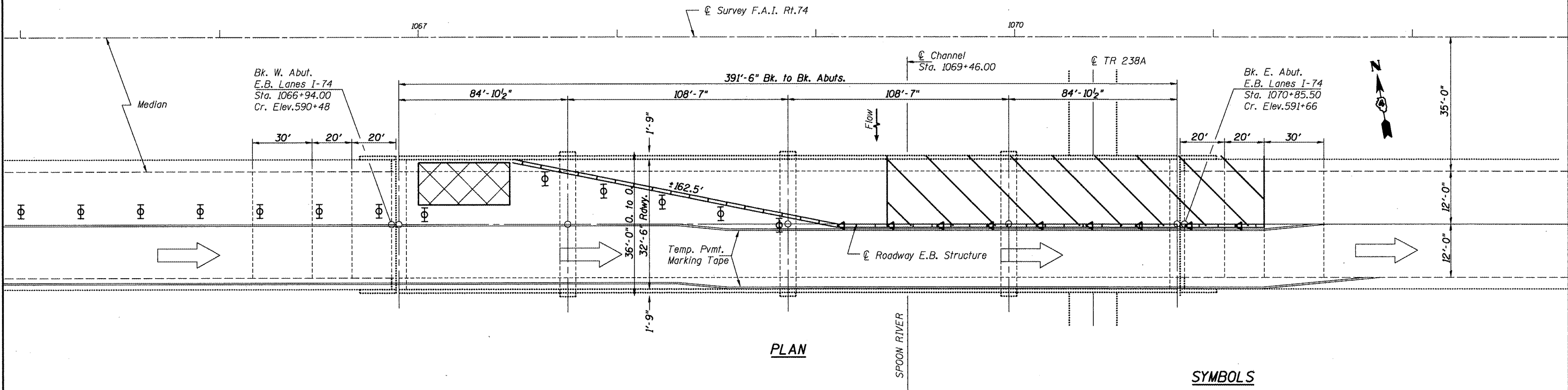
LOCATION	SQFT
Sta. 1067+84.5 to 1071+84	1050
<b>TOTAL</b>	<b>1050</b>

SN.048-0052 I-74  
over Spoon Riv.

FILE NAME = SN048-0052 EB.1-74 over SpoonRiv.dgn	USER NAME = jonesce	DESIGNED - CEJ	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>SCHEDULE OF QUANTITIES US 24 (FAP 317) US 150</b>	F.A.I. RTE. 74	SECTION (48-29B)1-2	COUNTY MOX	TOTAL SHEETS 9	SHEET NO. 5
PLOT SCALE = 1/8" = 100' / IN.		DRAWN - CEJ		SCALE: _____ SHEET NO. _____ OF _____ SHEETS STA. _____ TO STA. _____		REPAIR IMPACT DAMAGE CONTRACT NO. 68858				
PLOT DATE = 4/27/2009		DATE - 04/15/2009				FED. ROAD DIST. NO. 4 ILLINOIS FED. AID PROJECT				



**CROSS SECTION**  
(E.B. Looking East)



**PLAN**

**SYMBOLS**

- Barrier Wall Marker
- Temporary Concrete Barrier
- Type III Barricade
- Drum w/steady burning light
- Impact Attenuator
- Work Area
- Temporary Concrete Barrier
- Direction indicator barricade w/steady burn monodirectional light
- Traffic
- Type II barricade, drum, or vertical barricade w/steady burn monodirectional light

**NOTE**  
Refer to Highway Standard 701400 and 701402 in conjunction with this sheet for exact placement of traffic management devices and other clarifications as construction staging symbols and dimensioning were duplicated off of these standards.

FILE NAME =	USER NAME = jonesce	DESIGNED - CEJ	REVISED -
SN048-0052 EB.I-74 ovr SpoonRiv.dgn		DRAWN - CEJ	REVISED -
	PLOT SCALE = 103.7851' / IN.	CHECKED -	REVISED -
	PLOT DATE = 4/23/2009	DATE - 04/14/2009	REVISED -

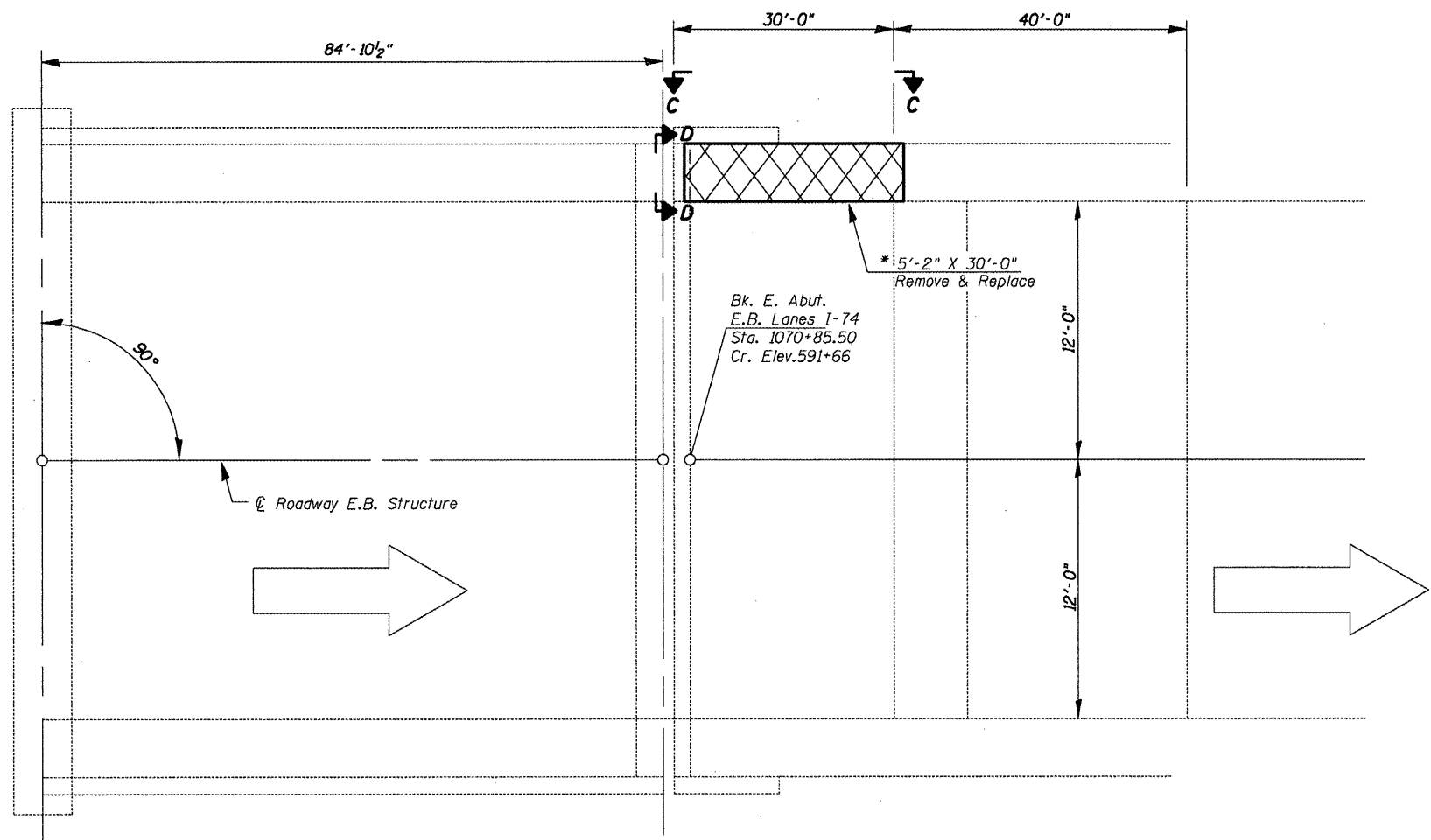
**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**PROPOSED TRAFFIC CONTROL**

SCALE: 4.4'/1.0" SHEET NO. \_\_\_ OF \_\_\_ SHEETS STA. \_\_\_\_\_ TO STA. \_\_\_\_\_

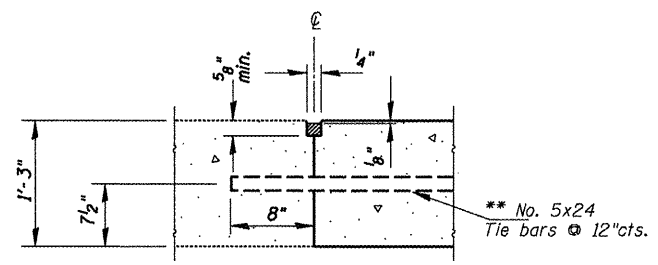
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	(X3-17)BI-2	KNOX	9	6
PARAPET/ABUTMENT REPAIR			CONTRACT NO. 68858	
FED. ROAD DIST. NO. 4 ILLINOIS FED. AID PROJECT				

SN. 048-0052 I-74  
over Spoon River

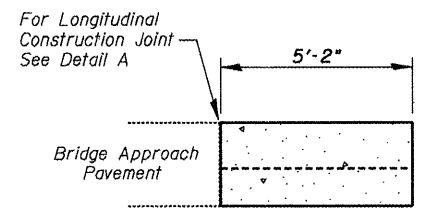


**PLAN**

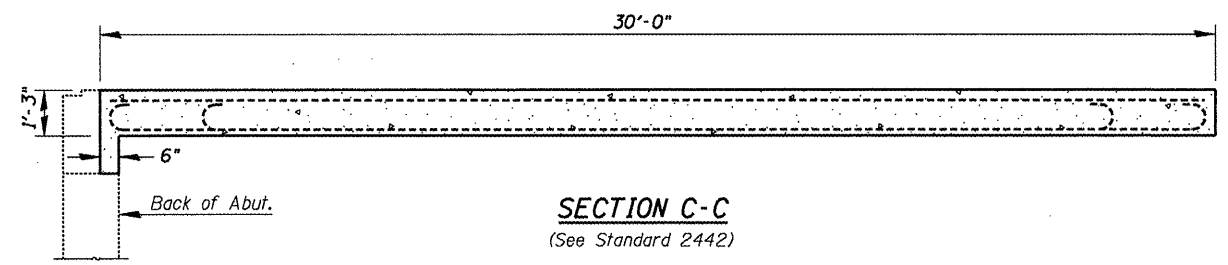
\* Full depth saw-cut following existing saw-cut. Beginning at midpoint joint shall be drilled & epoxied for #5 tie bars @ 12" centers. See slab reinforcement detail and sizing on "Bridge Approach" Standard 2442.



**DETAIL A**  
(Tie Bar Grouted in Place)



**SECTION D-D**



**SECTION C-C**  
(See Standard 2442)

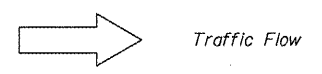
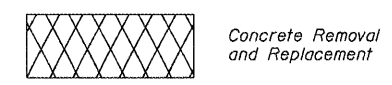
\*\* Epoxy grout Tie bars in 8" min. holes according to Article 584 of the Standard Specification. Cost included with Tie bars.

**BILL OF MATERIALS**

Bar	No.	Size	Length	Shape
a(E)	10	#9	29'-6"	
a <sub>1</sub> (E)	4	#4	29'-6"	
b(E)	30	#5	4'-10"	—
b <sub>1</sub> (E)	8	#4	4'-10"	—
***Tie Bars			EACH	30
Bridge Approach				
Pavement Removal			SOYD	17.2
Bridge Approach				
Pavement			SOYD	17.2
***Reinforcement Bars,				
Epoxy coated			POUND	1560

\*\*\* (Cost of item incidental to BRIDGE APPROACH PAVEMENT)

**SYMBOLS**



**NOTE**  
Reinforcement bars shall conform to the requirements of ATSM A 706 Gr 60. See Special Provisions.  
The cost of subbase, tie bars, reinforcement bars, excavation and placement of all materials necessary to perform this work shall be considered included in the unit cost of BRIDGE APPROACH PAVEMENT.  
Seeding, fertilizing, and mulching repair of disturbed embankment shall be done in accordance with Article 250 of the Standard Specifications. All materials and placement shall be included in the unit cost of EROSION CONTROL BLANKET.

SN.048-0052 I-74  
over Spoon Riv.

FILE NAME = SN048-0052 EB.I-74 ovr SpoonRiv.dgn	USER NAME = jonesce	DESIGNED - CEJ	REVISED - ---	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>ROADWAY PLAN REPAIR DETAILS</b>	F.A.I. RTE. 74	SECTION (48-29B)1-2	COUNTY KNOX	TOTAL SHEETS 9	SHEET NO. 7
PLOT SCALE = 1/83.7051' / IN.	DRAWN - CEJ	CHECKED - MSE	REVISED - ---			REPAIR IMPACT DAMAGE	CONTRACT NO. 68858			
PLOT DATE = 4/24/2009	DATE - 04/20/2009	REVISED - ---	REVISED - ---			FED. ROAD DIST. NO. 4	ILLINOIS FED. AID PROJECT			
SCALE: _____ SHEET NO. ___ OF ___ SHEETS		STA. _____ TO STA. _____								

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES

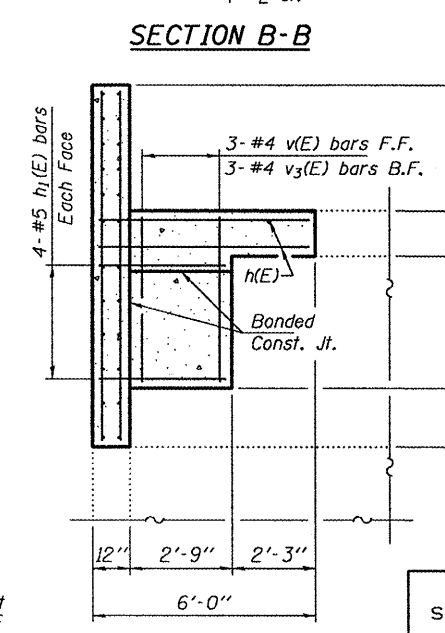
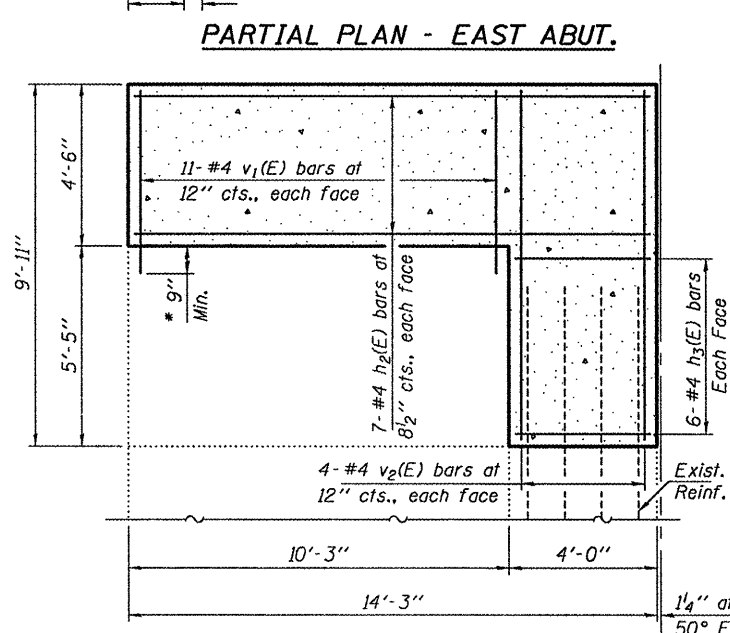
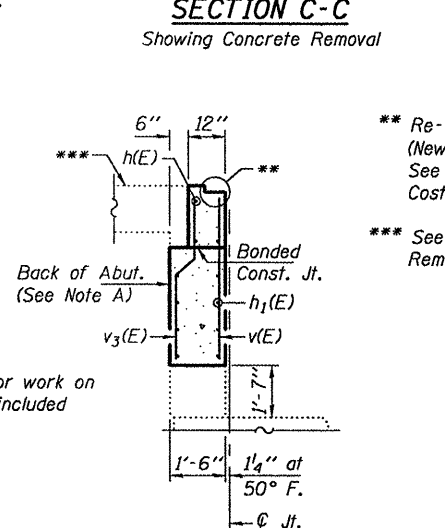
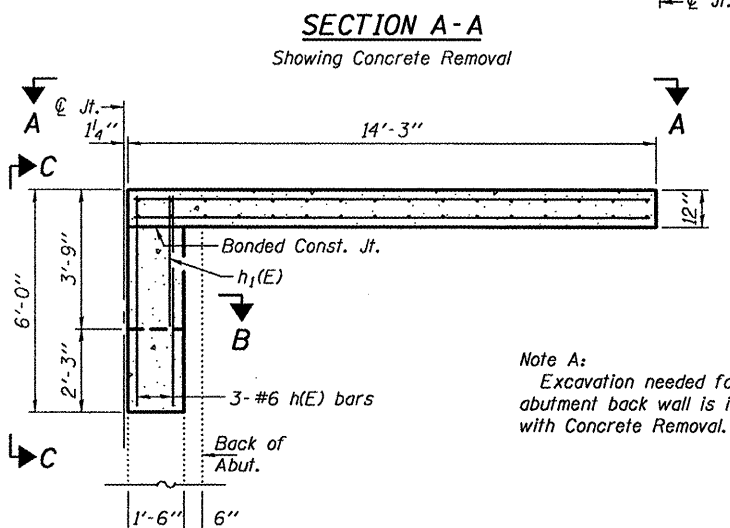
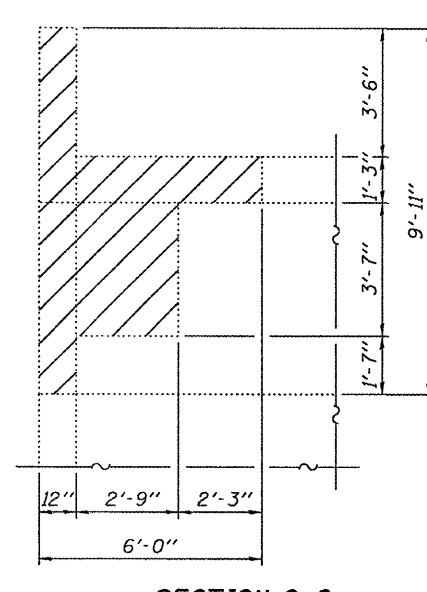
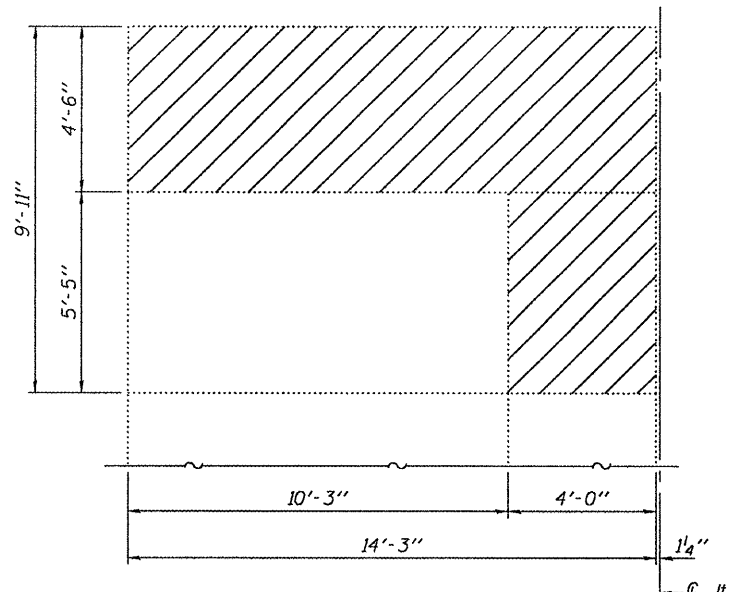
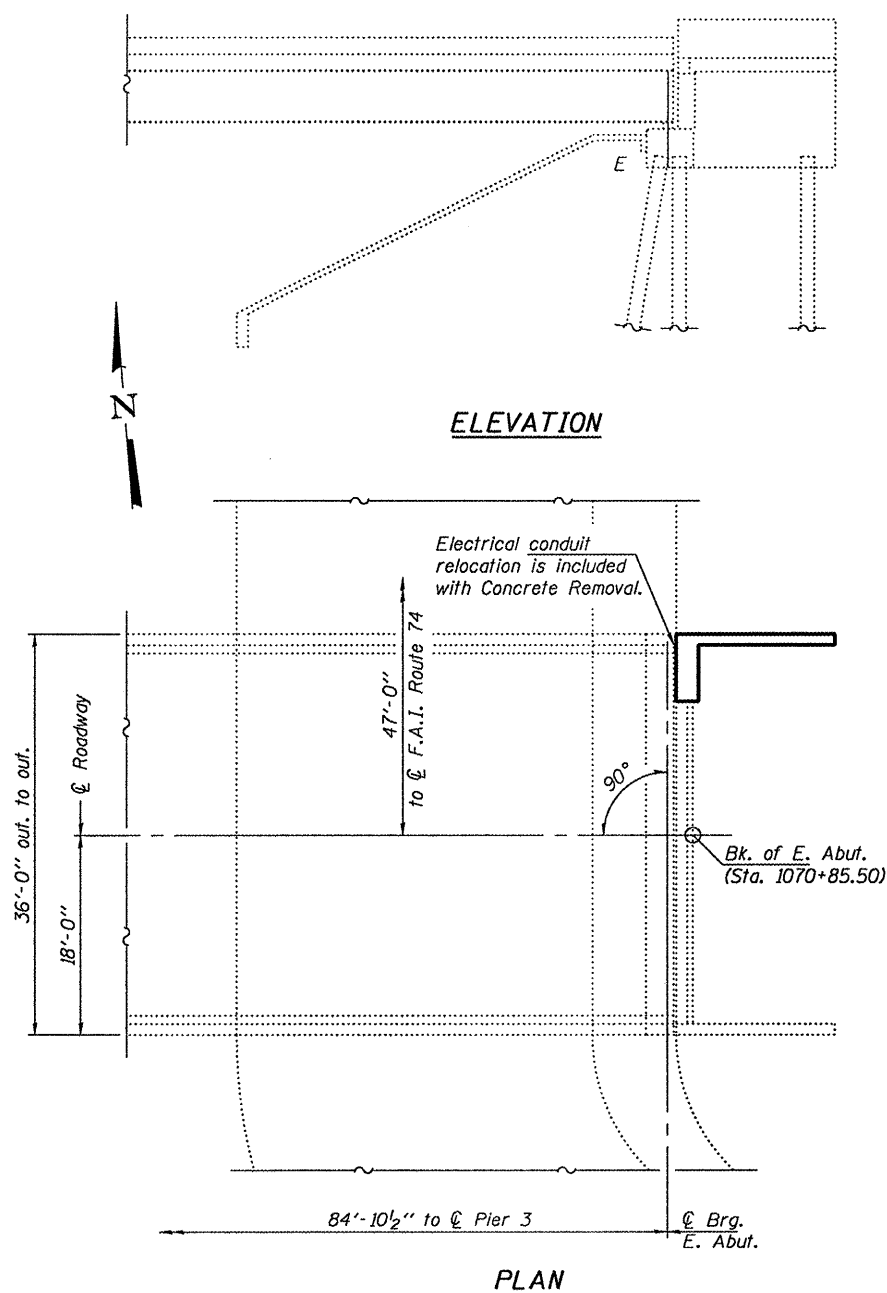
Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60. See Special Provisions.

Reinforcement bars designated (E) shall be epoxy coated.

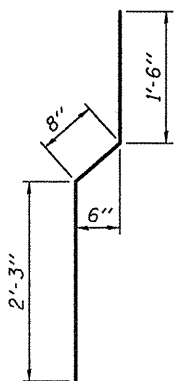
Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall 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.

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.



- \*\*\* Re-use existing neoprene expansion joint. (New studs to be installed as needed) See sheet 2 of 2 for anchor bolt locations. Cost included with Concrete Superstructure.
- \*\*\* See Roadway Plans for Approach Pavement Removal and Replacement Details.



BILL OF MATERIAL

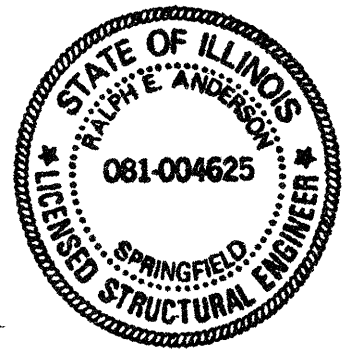
Bar	No.	Size	Length	Shape
h(E)	3	#6	5'-9"	—
h1(E)	8	#5	3'-6"	—
h2(E)	14	#4	14'-0"	—
h3(E)	12	#4	3'-9"	—
v(E)	3	#4	4'-5"	—
v1(E)	22	#4	5'-2"	—
v2(E)	8	#4	9'-8"	—
v3(E)	3	#4	5'-4"	—
Concrete Removal			Cu. Yd.	3.0
Concrete Superstructure			Cu. Yd.	4.0
Reinforcement Bars, Epoxy Coated			Pound	360

TOTAL BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Concrete Removal	Cu. Yd.	3.0
Concrete Superstructure	Cu. Yd.	4.0
Reinforcement Bars, Epoxy Coated	Pound	360

PLAN, ELEVATION, & REPAIR DETAILS  
E.B. F.A.I. RT. 74 OVER SPOON RIVER  
SN 048-0052

DESIGNED: *Angie Dejean*  
CHECKED: *[Signature]*  
DRAWN: Kyle M. Steffen  
CHECKED: *ASB GLE*  
EXAMINED: *[Signature]*  
PASSED: *[Signature]*  
JUNE 18, 2009  
ENGINEER OF STRUCTURAL SERVICES  
ENGINEER OF BRIDGES AND STRUCTURES



Expires: November 30, 2010

SHEET NO. 1 2 SHEETS	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	74	(48-29B)1-2	KNOX	9	8
FED. ROAD DIST. NO.			ILLINOIS FED. AID PROJECT		
CONTRACT NO. 68858					



Joint Size	"C" at 50°F	"D" at 50°F
2"	2"	1 1/2" Min.
2 1/2"	2 1/2"	1 3/4" Min.
4"	3"	2 1/2" Min.

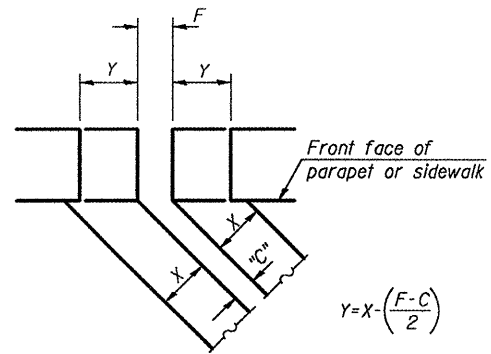
**INSTALLATION NOTES**

- ① Install continuous seal in roadway, parapet, curb, and sidewalk.
- ② Install anchor blocks as indicated.

Note A:  
Maximum spacing of anchor bolts shall be 12" centers.

**SKEW LIMITATIONS**

The details of the anchor blocks and the elastomeric membrane in the parapet, as shown, are for up to 50° skews. For skews greater than 50°, the anchor blocks and the elastomeric membrane, installed according to dimension "D", might require modifications to insure a minimum clearance of 1/2" from centerline of anchor studs to edge of parapet opening. The anchor blocks and the elastomeric membrane shall also be installed to the top of the parapet with the anchor studs spaced at ±12" cts.

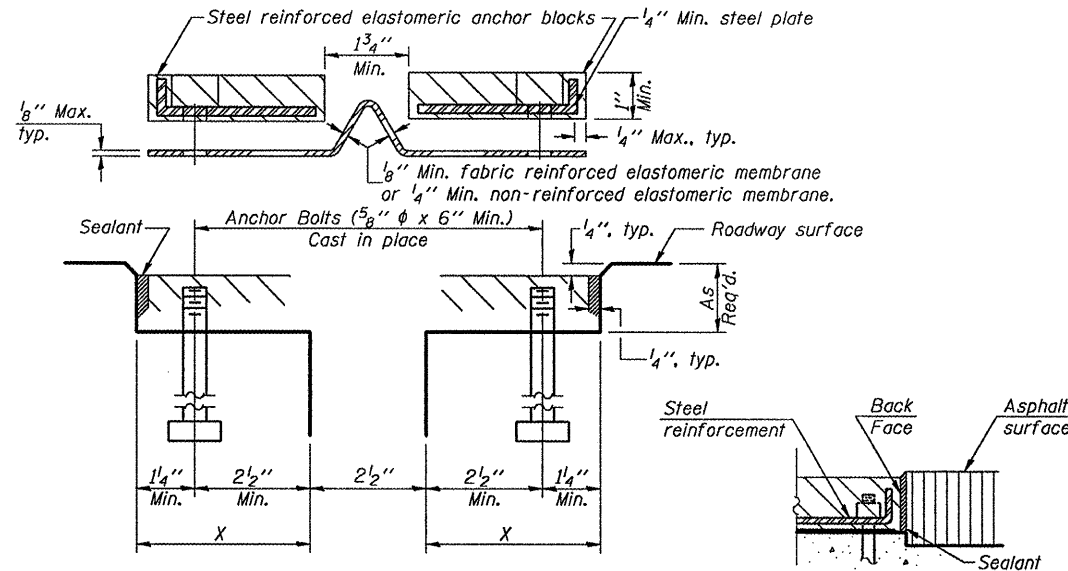


**FORMING BLOCKOUT SKETCH**

$$Y = X \left( \frac{F - C}{2} \right)$$

For dimension "F" see sheet #

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



**CROSS SECTION**

**ANCHOR BLOCK WITH ASPHALT SURFACE**

**GENERAL NOTES**

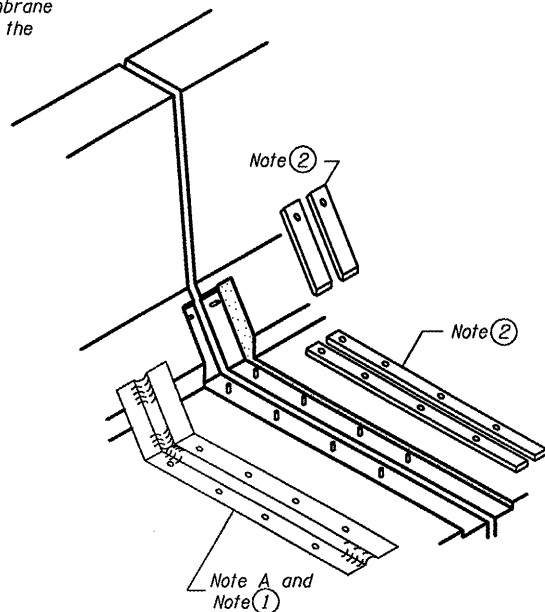
Continuous Seal Neoprene Expansion Joint shall consist of molded anchor blocks of elastomer and steel, field assembled over continuous lengths of elastomeric membrane.

The elastomeric membrane shall be premolded with a single or a double upward convolution that will have a "memory" to return to its molded position upon joint closure.

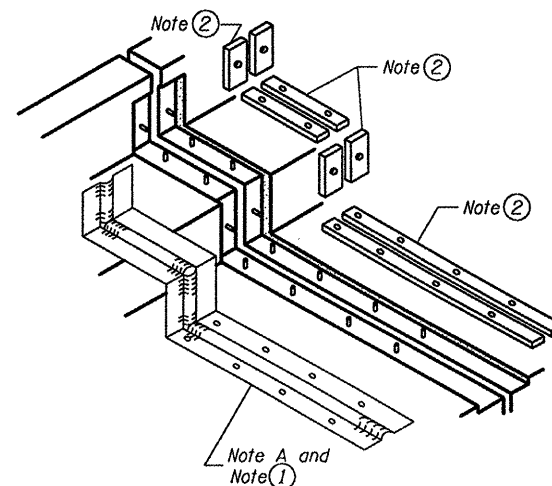
The convolution length shall be such that the extended length will not be greater than the manufactured length when the joint is fully expanded in its design range and will not protrude above the anchor blocks when the joint is fully compressed.

Joint openings shall be adjusted according to Article 503.10(c) of the Standard Specifications when the deck is poured at an ambient temperature other than 50° F.

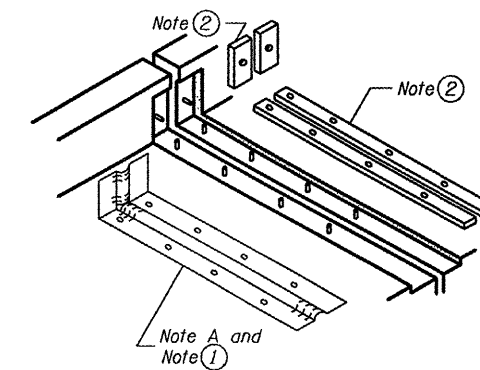
The parapet and roadway membrane shall be made continuous by an approved vulcanizing process. Lapping will not be permitted.



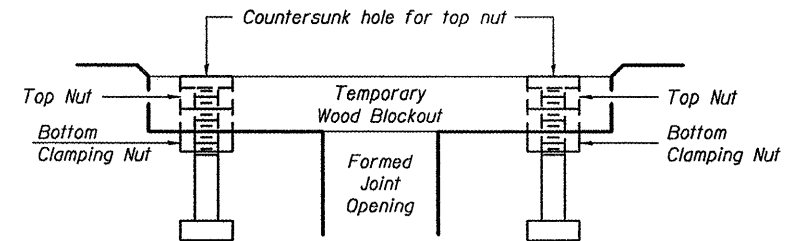
**AT PARAPET**



**AT SIDEWALK OR MEDIAN**



**AT WALL**

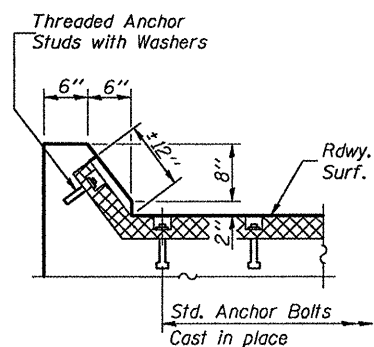


**RECOMMENDED BLOCKOUT DETAIL**

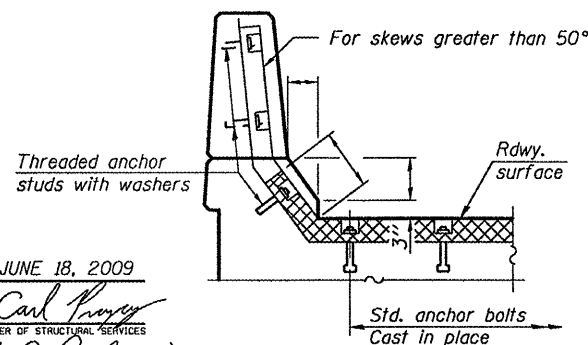
Note:  
Stud needs to be threaded lower to allow for use of clamping nut.

Anchor studs should be stainless

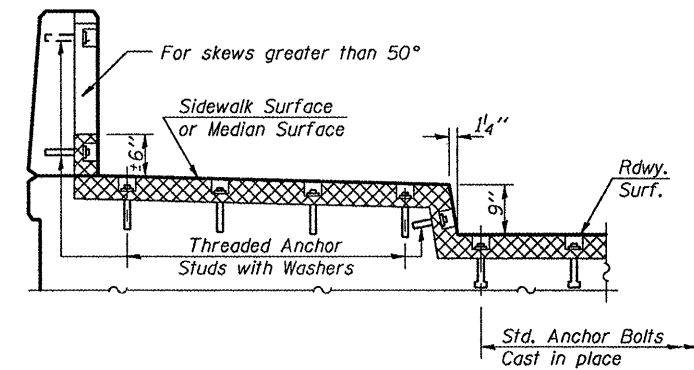
**FOR INFORMATION ONLY**



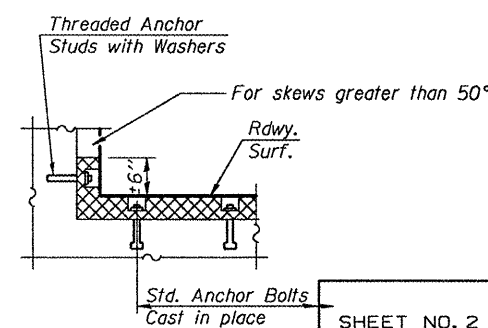
**AT CURB**



**AT PARAPET**



**AT SIDEWALK OR MEDIAN TYPICAL END TREATMENTS**



**AT WALL**

DESIGNED	AJB
CHECKED	GGE
DRAWN	Kyle M. Steffen
CHECKED	AJB GGE

JUNE 18, 2009  
 EXAMINED *Carl Prosser*  
 ENGINEER OF STRUCTURAL SERVICES  
 PASSED *Ralph E. Anderson*  
 ENGINEER OF BRIDGES AND STRUCTURES

EJ-CS 10-22-04

**REPAIR DETAILS**  
**F.A.I. RT. 74 OVER SPOON RIVER**  
**SN 048-0052**

SHEET NO. 2 2 SHEETS	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	74	(48-29B)I-2	KNOX	9	9
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		CONTRACT NO. 68858	