

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	*	CHAMPAIGN	9	1

*(10-7B-1 & 10-7VB)

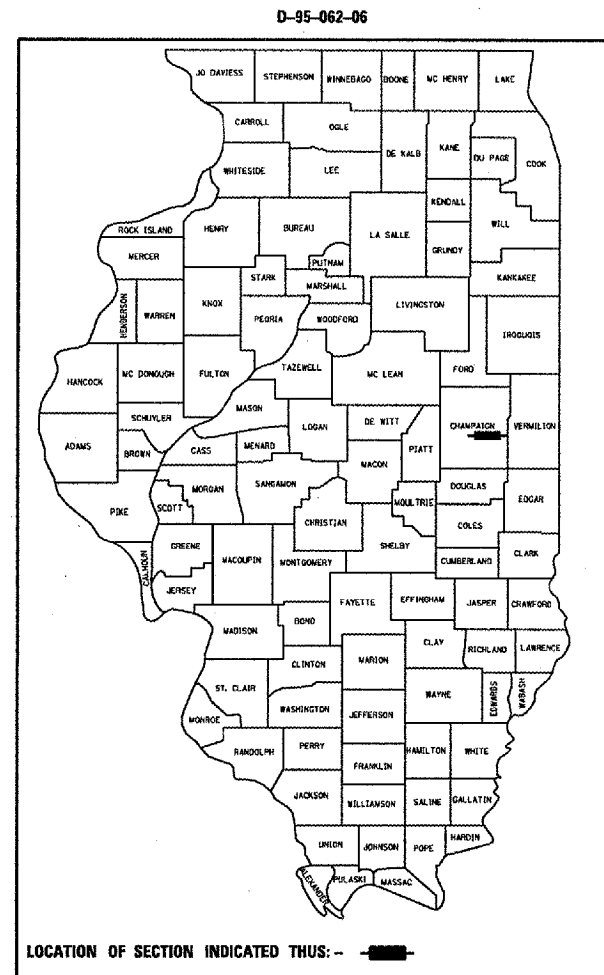
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

**PROPOSED
HIGHWAY PLANS**

FAI ROUTE 74 (E-74)
SECTION (10-7B-1 & 10-7VB)I
CHAMPAIGN COUNTY

C-95-063-06

BRIDGE REHABILITATION OVER SALT FORK RIVER WEST OF ST. JOSEPH &
BRIDGE REHABILITATION OVER UNION PACIFIC RAILROAD 1.5 MILE EAST OF ST. JOSEPH

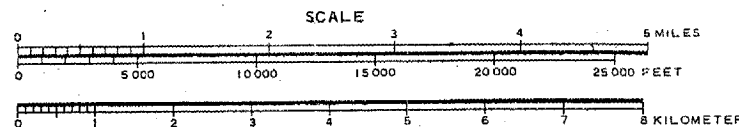
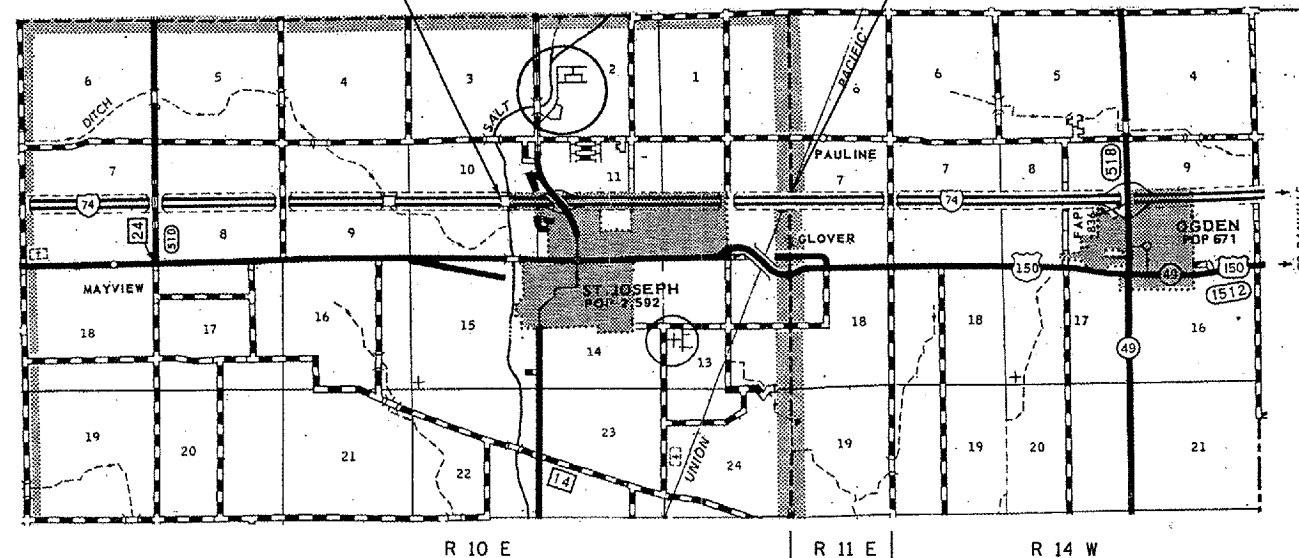


DESIGNER: GREG EAGLIN
SQUAD LEADER: CHRIS GREESON
PROJECT ENGINEER: KENSIL GARNETT (217)465-4181

FOR INDEX OF SHEETS, SEE SHEET NO. 2
FOR SUMMARY OF QUANTITIES, SEE SHEET NO. 3

STRUCTURE NO. 010-0030
SECTION BEGINS STA. 738+42.00
FAI ROUTE 74 (WESTBOUND)
SECTION (10-7B-1)I
SECTION ENDS STA. 740+02.00

STRUCTURE NO. 010-0032
SECTION BEGINS STA. 857+24.75
FAI ROUTE 74 (WESTBOUND)
SECTION (10-7VB)I
SECTION ENDS STA. 858+91.25



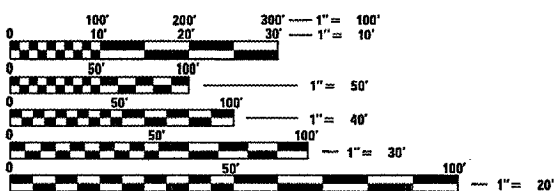
TOTAL LENGTH OF SECTION & PROJECT = 326.50 FEET = 0.062 MILES
NET LENGTH OF SECTION & PROJECT = 326.50 FEET = 0.062 MILES

CURRENT ADT
F. A. I. 74 (WESTBOUND)

S. N. 010-0030	=	19,600 (2006)
S. N. 010-0032	=	12,500 (2006)

DESIGN DESIGNATION

N/A



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 ST. JOSEPH TOWNSHIP

CONTRACT NO. 70548

FAI ROUTE 74 SECTION (10-7B-1 & 10-7VB)I CHAMPAIGN COUNTY

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED: 3/30/06

Joseph E. Coover
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

May 12, 2006
Mike Hine
ENGINEER OF DESIGN AND ENVIRONMENT

May 12, 2006
Milton R. Sees, P.E.
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

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

PLOT DATE = 3/29/2006
FILE NAME = c:\p\objects\d506206\w8\cover.dgn
PLOT SCALE = 43.2355 / IN.
USER NAME = pier.sorbr

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	*	CHAMPAIGN	9	2
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	

• (10-7B-1 & 10-7VB)

INDEX OF SHEETS

<u>SHEET NO.</u>	<u>ITEM</u>
1	COVER SHEET
2	INDEX OF SHEETS
2	LIST OF HIGHWAY STANDARDS
2	GENERAL NOTES
3	SUMMARY OF QUANTITIES
4	PLAN VIEW FOR S.N. 010-0030 & S.N. 010-0032
5	STAGE CONSTRUCTION TRAFFIC CONTROL FOR S.N. 010-0030
6-7	BRIDGE OFFICE PLANS FOR S.N. 010-0030
8-9	BRIDGE OFFICE PLANS FOR S.N. 010-0032

LIST OF STANDARDS

<u>STANDARD NUMBER</u>	<u>NAME OF STANDARD</u>
000001-04	STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
001001	AREAS OF REINFORCEMENT REBARS
001006	DECIMAL OF AN INCH AND OF A FOOT
701400-02	APPROACH TO LANE CLOSURE, FREEWAY/EXPRESSWAY
701401-03	LANE CLOSURE, FREEWAY/EXPRESSWAY
701406-04	LANE CLOSURE, FREEWAY/EXPRESSWAY, DAY OPERATIONS ONLY
702001-06	TRAFFIC CONTROL DEVICES

GENERAL NOTES

PLAN DIMENSIONS AND DETAILS RELATIVE TO THE EXISTING STRUCTURES HAVE BEEN TAKEN FROM EXISTING PLANS AND ARE SUBJECT TO NOMINAL CONSTRUCTION VARIATIONS. IT SHALL BE THE 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 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.

G. N. - 100

ENGLISH UNITS OF MEASUREMENT SHALL GOVERN OVER AND SUPERSEDE ANY METRIC UNITS SHOWN IN THIS CONTRACT. WHERE INCLUDED, METRIC UNITS ARE FOR INFORMATION ONLY.

CONTRACT NO. 70548				
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	*	CHAMPAIGN	9	3
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		
* (10-7B-1 & 10-7VB1)				

SUMMARY OF QUANTITIES

LOCATION OF WORK:

FAI ROUTE 74
S. N. 010-0030
RURAL
STA. 738+42.00
TO
STA. 740+02.00

FAI ROUTE 74
S. N. 010-0032
RURAL
STA. 857+24.75
TO
STA. 858+91.25

FUNDING BREAKOUT:

100% STATE

100% STATE

CONSTRUCTION TYPE CODE:

SFTY-2A

SFTY-2A

CODE NO	ITEM	UNIT	TOTAL QUANTITY	QUANTITY	QUANTITY
67100100	MOBILIZATION	L SUM	1.0	0.7	0.3
70100700	TRAFFIC CONTROL AND PROTECTION, STANDARD 701406	L SUM	1.0		1.0
70100800	TRAFFIC CONTROL AND PROTECTION, STANDARD 701401	L SUM	1.0	1.0	
X0322194	POLYMER MODIFIED PORTLAND CEMENT MORTAR	SO FT	2.0	2.0	
X0322905	PPC I-BEAM REPAIRS	L SUM	1.0	0.7	0.3
X0323984	PORTABLE TEMPORARY BARRIER SYSTEM	FOOT	208.0	208.0	
X7015005	CHANGEABLE MESSAGE SIGN	CAL DA	14.0	7.0	7.0

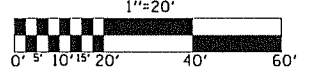
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F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	.	CHAMPAIGN	9	4

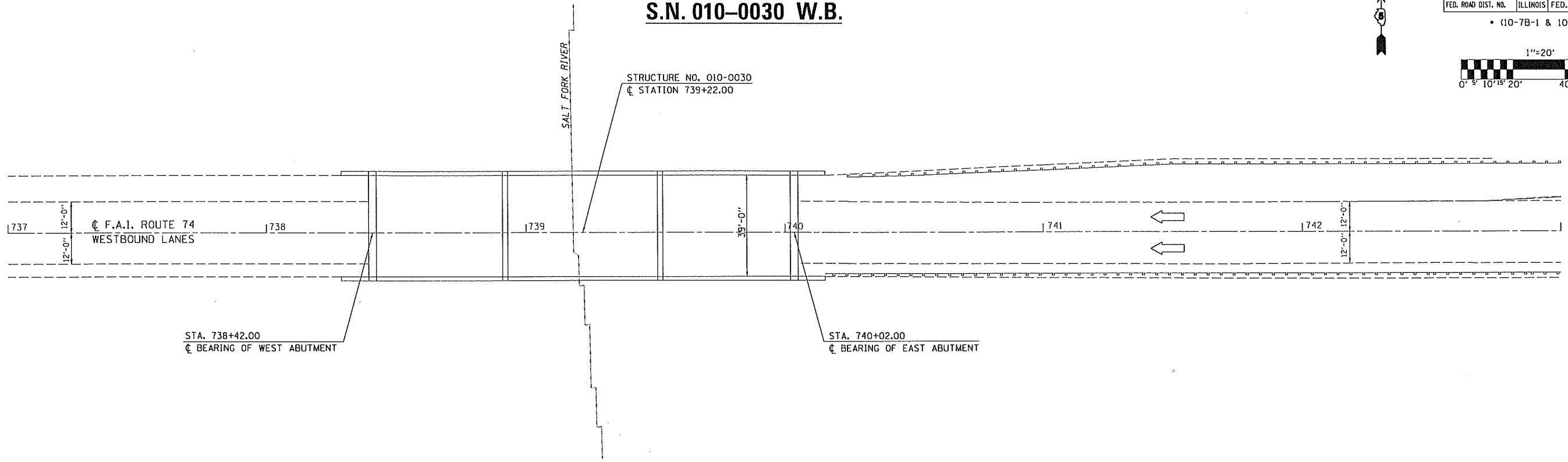
STA. TO STA.

FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT

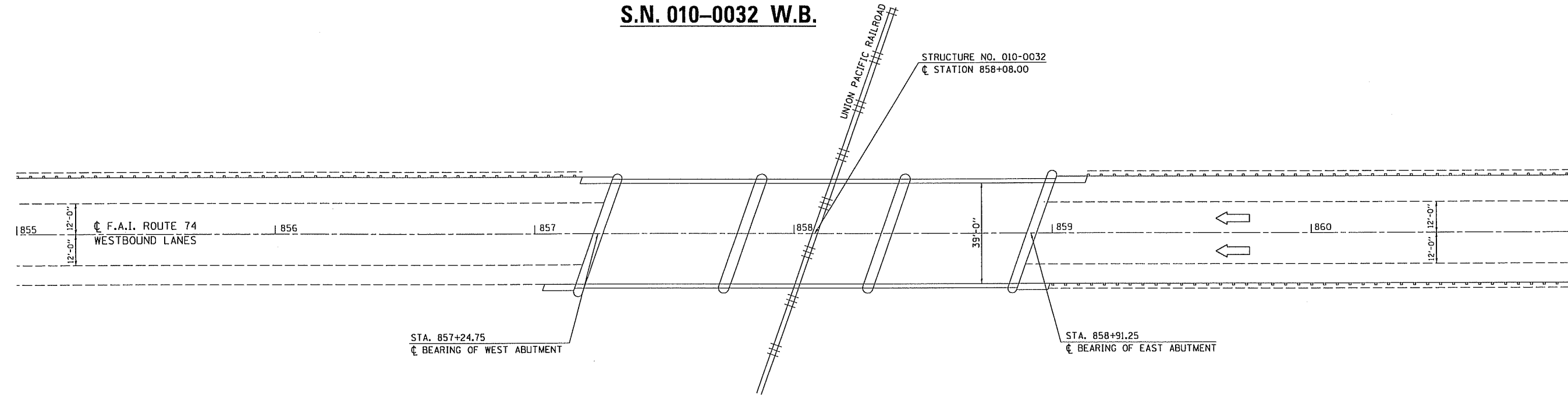
• (10-7B-1 & 10-7VB)I



PLAN VIEW
S.N. 010-0030 W.B.



PLAN VIEW
S.N. 010-0032 W.B.

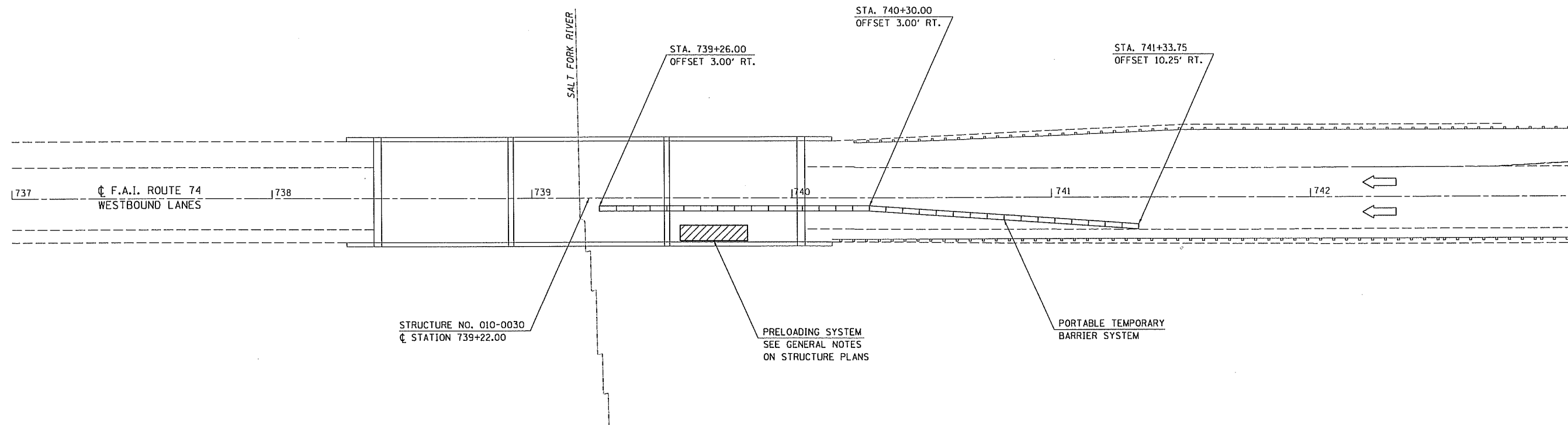
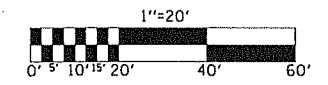


PLOT DATE = 3/23/2006
 FILE NAME = c:\p010032\p010032.dgn
 PLOT SCALE = 43.2355 / IN.
 USER NAME = p1er-sonbr

STAGE CONSTRUCTION TRAFFIC CONTROL

S.N. 010-0030 W.B.

CONTRACT NO. 70548				
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	*	CHAMPAIGN	9	5
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



SCHEDULE

PORTABLE TEMPORARY BARRIER SYSTEM

STATION	OFFSET	TO	STATION	OFFSET	LENGTH (FOOT)
739+26.00	3.00' RT.	TO	740+30.00	3.00' RT.	104.0
740+30.00	3.00' RT.	TO	741+33.75	10.25' RT.	104.0
TOTAL = 208.0 FOOT					

NOTES

STAGE CONSTRUCTION TRAFFIC CONTROL DETAIL SHALL BE USED IN CONJUNCTION WITH HIGHWAY STANDARDS 701400 AND 701401 FOR PPC I-BEAM REPAIRS ON STRUCTURE NUMBER 010-0030.

THE PORTABLE TEMPORARY BARRIER SYSTEM SHALL INCLUDE STEADY BURN MONODIRECTIONAL LIGHTS AND TYPE C MONODIRECTIONAL REFLECTORS FOR NIGHTTIME DELINEATION. THE SPACING SHOULD NOT EXCEED 20 FEET, BUT MAY VARY DEPENDING ON THE TYPE OF SYSTEM USED. NIGHTTIME DELINEATION WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE PRICE OF THE PORTABLE TEMPORARY BARRIER SYSTEM.

CHANGEABLE MESSAGE SIGNS SHALL BE IN PLACE ONE WEEK PRIOR TO THE START OF CONSTRUCTION AND MAY BE ADJUSTED TO MEET FIELD CONDITIONS.

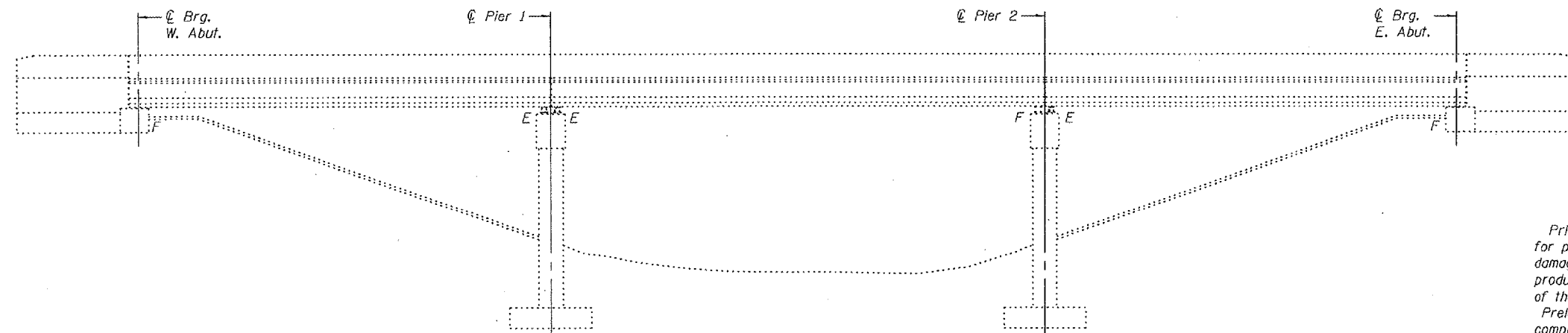
THE RESIDENT ENGINEER AND TRAFFIC CONTROL SUPERVISOR WILL PROVIDE APPROPRIATE MESSAGE FOR THE CHANGEABLE MESSAGE SIGN.

PLOT DATE = 3/24/2006
 PLOT SCALE = 1"=20'
 USER NAME = piersonbr

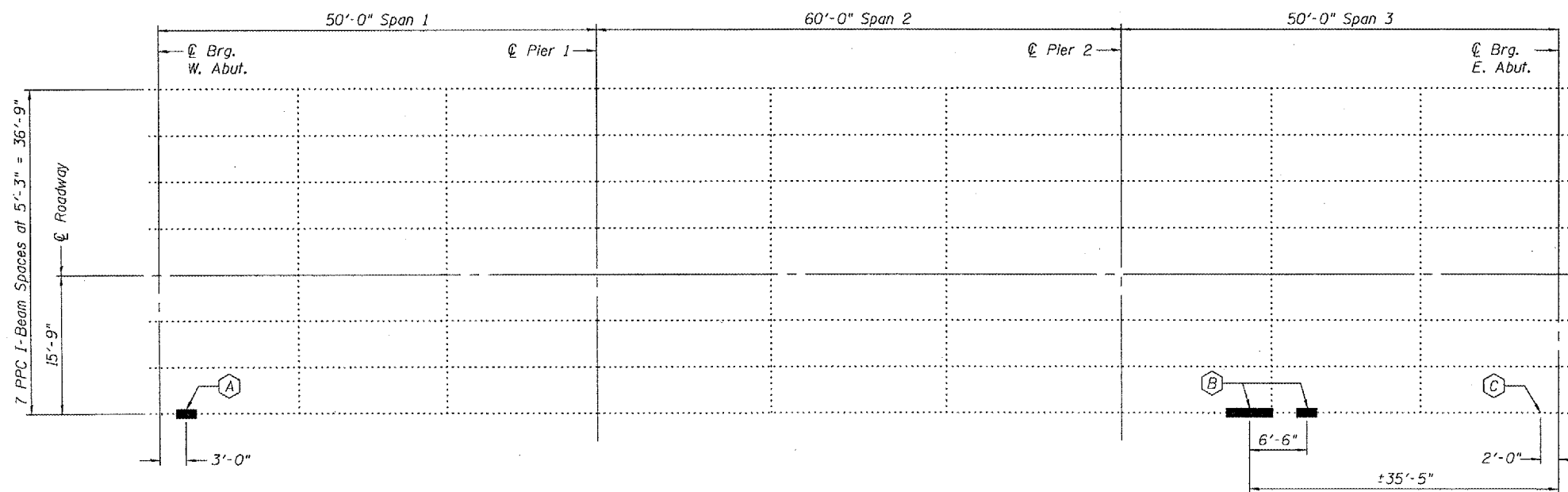
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET NO. 1
		Champaign	96	2 SHEETS
FED. AID DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

Contract Number: 70518



ELEVATION



PLAN

- (A) Location of PPC I-Beam Repairs.
- (B) Location of PPC I-Beam Repairs with Pre-Loading
- (C) Location of Polymer Modified Portland Cement Mortar Repair.

GENERAL NOTES

Prior to beginning any repair work, the contractor shall be responsible for providing a preloading system on the bridge deck over the existing damaged beam at the specified locations. The preloading system should produce a total maximum service load moment as shown at the centerline of the damaged area.

Preloading shall be kept in place for at least three (3) days after completion of concrete repair or until the concrete has reached an ultimate strength of 5,000 psi.

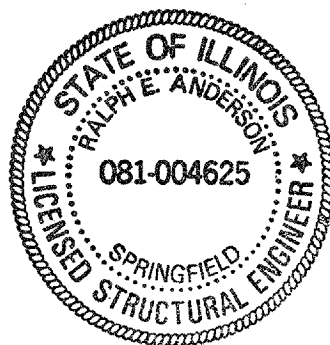
The contractor's proposed preloading system, with computations, sealed and signed by an Illinois Structural Engineer shall be submitted to the Bureau of Bridges and Structures for approval. The preloading system shall be placed shortly after bridge closure for repairs.

The preloading system shall not be paid for separately but will be included in the unit price for PPC-I Beam Repairs.

TOTAL BILL OF MATERIAL

ITEM	UNIT	QUANTITY
PPC I-Beam Repairs	L.S.	0.7
Polymer Modified Portland Cement Mortar	S.F.	2.0

PLAN AND ELEVATION
F.A.I. RT 74
W.B. I-74 / SALT FORK RIVER
CHAMPAIGN COUNTY
SN 010-0030



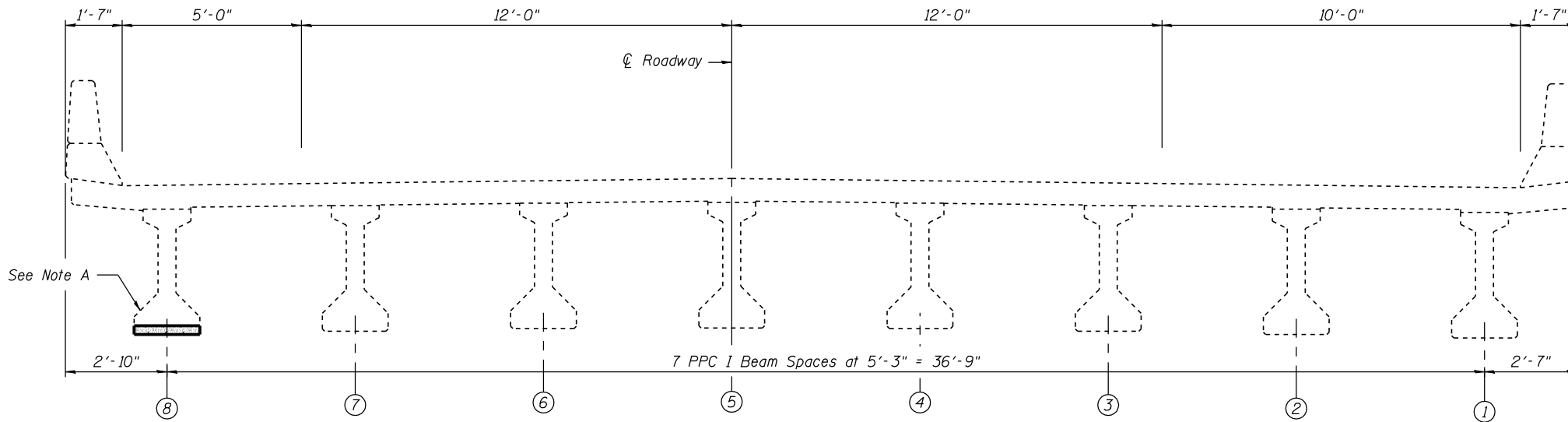
Expires November 30, 2006

DESIGNED	Victor H. Veltz	May 8, 2006
CHECKED	Att. (B) (K)	EXAMINED John A. Morris
DRAWN	Drew Christopher	PASSED Ralph E. Anderson
CHECKED	S.J.B./VHV	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

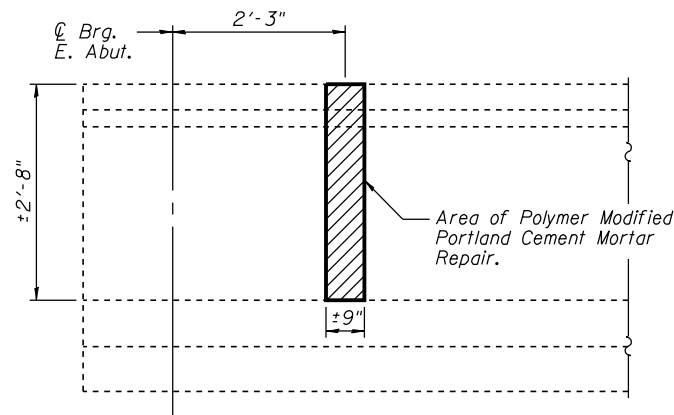
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 2 2 SHEETS
		Champaign	9	7	
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

Contract Number: 70548



CROSS SECTION SPANS 1 AND 3
(Looking West)

Note A:
PPC I-Beams to be repaired as detailed.



ELEVATION BEAM 8
(Looking South)

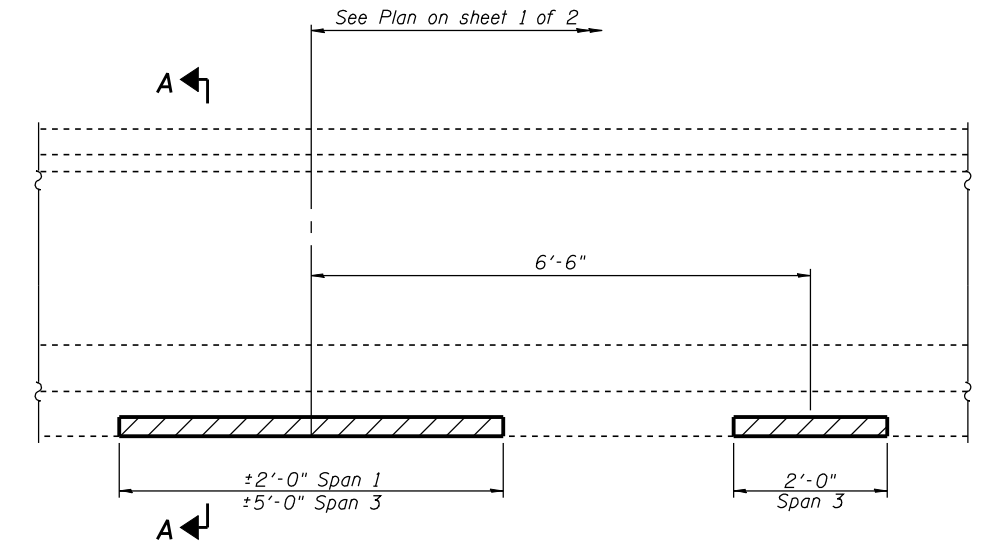
PRELOADING FOR PPC I-BEAM REPAIRS
(Service Moment)

SOUTH FASCIA

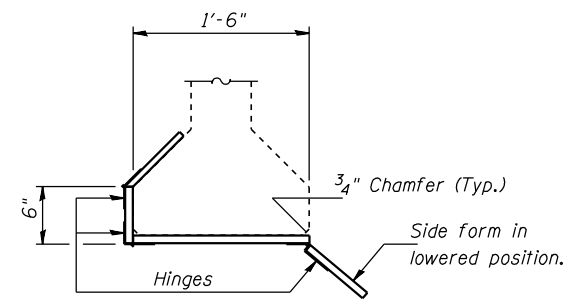
Span	Location		Moment (kip-ft)
	From	Distance	
3	E. Abutment	35'-0"	490

REPAIR PROCEDURES FOR BEAM 8
(SPANS 1 AND 3)

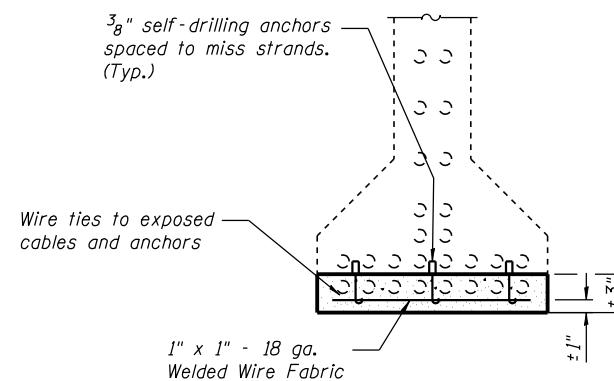
- The damaged area of the beam shall be cleaned of all loose and spalled concrete, and sealant. Hand tools shall be used for the removal of concrete adjacent to the prestressing strands. While a 15 pound chipping hammer may be used away from prestressing strands, extreme care shall be taken not to damage the exposed prestressing strands. Any exposed portions of the strands shall be sandblasted.
- Using the same tools, remove the existing concrete to sound concrete along the edges of the damaged area to a depth of 1" min. to 1½" max. The edges shall be saw cut ¾" deep or less.
- Power driven pins as shown in Detail A shall be placed at 9" alternate centers along damaged length of beam at locations shown in Detail A. Use wire ties in areas where the strands are exposed as shown in Detail A. Place 1" x 1" x 18 gauge welded wire fabric in repair areas and attach it to the pins or strands with wire ties. The clearance between the finished surface of the new concrete and the welded wire fabric shall be 1" minimum. All beams involved in this work shall be rebuilt to their original dimensions.
- All surfaces of existing concrete and reinforcing strands in the area to be repaired shall be coated with an epoxy-resin primer bonding agent. The concrete beam to be repaired or crack sealed must be at a temperature of at least 50° F. or higher. All other minor mortar repair, crack sealing, or surface sealing of gouges on the beam shall be performed as directed by the Engineer.
- The repair shall be made using a concrete meeting all the requirements specified in Section 1020 of the Standard Specifications for Class PS Concrete for precast prestressed concrete members, except the maximum size of the aggregate shall be ½". Place the lower form on the bottom of the beam and compact by vibrating (or other approved methods) the concrete mix into the voids. After accessible voids have been filled and compacted, the top vertical form shall be raised into position and the remaining voids filled and compacted. The sloping upper surface shall be finished to the configuration of the existing PPC I-Beam flange.



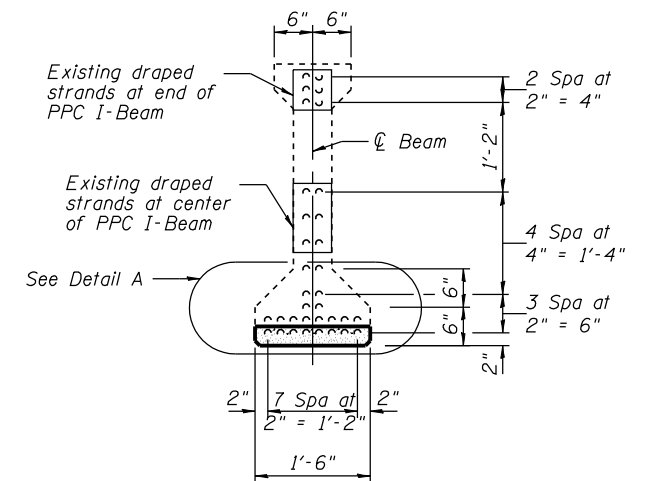
ELEVATION BEAM 8
(Looking North)



SUGGESTED FORM DETAIL



DETAIL A



SECTION A-A
PATCHING DETAIL
Beam 8, Spans 1 and 3

Note:
The cost of concrete removal, Class PS Concrete, power driven pins, wire ties, wire mesh, epoxy bonding agent, Epoxy Crack Sealing and all other work required to perform repairs on Beam 8 in Spans 1 and 3 shall be included in the cost of P.P.C. I Beam Repairs.

PPC - BEAM REPAIR DETAILS
F.A.I. RT 74
W.B. I-74 / SALT FORK RIVER
CHAMPAIGN COUNTY
SN 010-0030

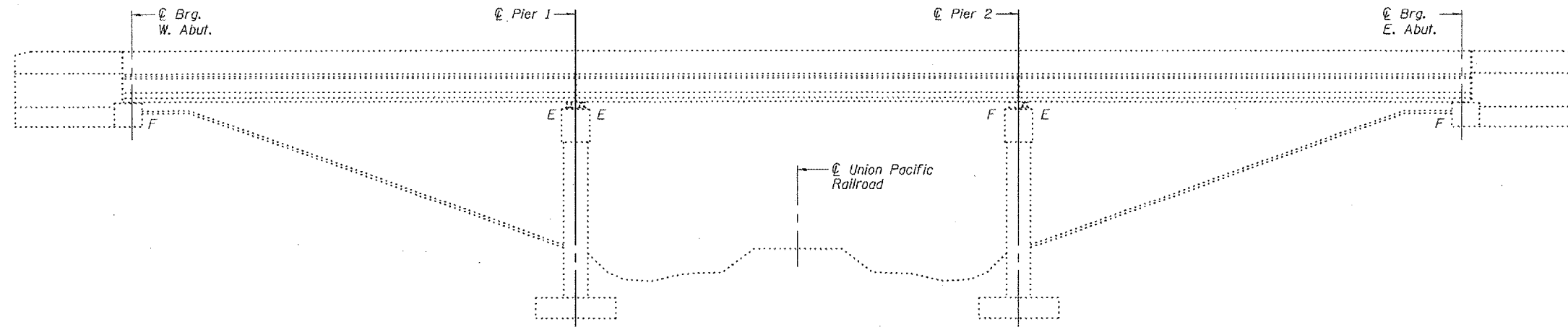
DESIGNED	V.H.V.
CHECKED	S.J.B.
DRAWN	Drew Christopher
CHECKED	V.H.V. S.J.B.

EXAMINED	John A. Morris ENGINEER OF STRUCTURAL SERVICES	MAY 8, 2006
PASSED	Ralph E. Anderson ENGINEER OF BRIDGES AND STRUCTURES	

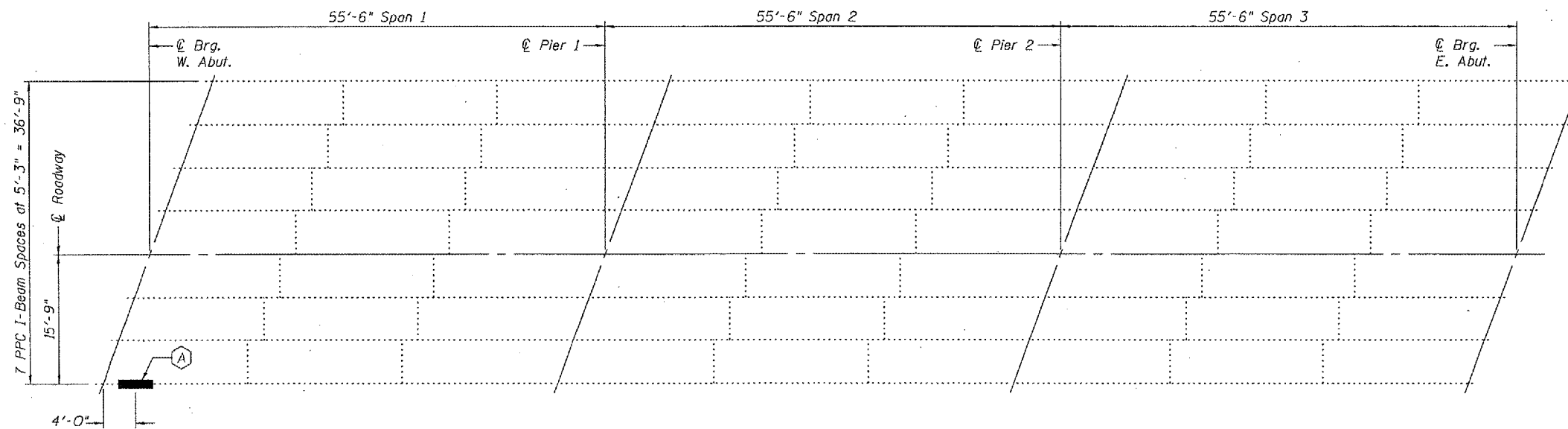
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. /
		Champaign	9	8	2 SHEETS
FED. ROAD DIST. NO. 7	ILL. HIGHWAY	FED. AID PROJECT			

Contract Number: 70548



ELEVATION



PLAN

(A) Location of PPC I-Beam Repairs.

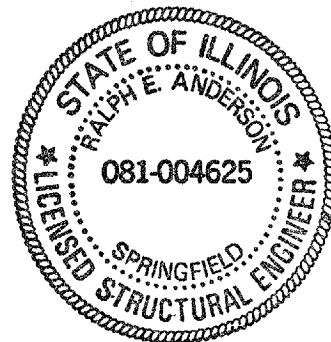
For repair procedure see sheet 2 of 2.

TOTAL BILL OF MATERIAL

ITEM	UNIT	QUANTITY
PPC I-Beam Repairs	L.S.	0.3

DESIGNED Vicko H. Veljko
 CHECKED Steve R. Etko
 DRAWN Drew Christopher
 CHECKED SJB / VHV

EXAMINED John A. Morris
 ENGINEER OF STRUCTURAL SERVICES
 PASSED Ralph E. Anderson
 ENGINEER OF BRIDGES AND STRUCTURES



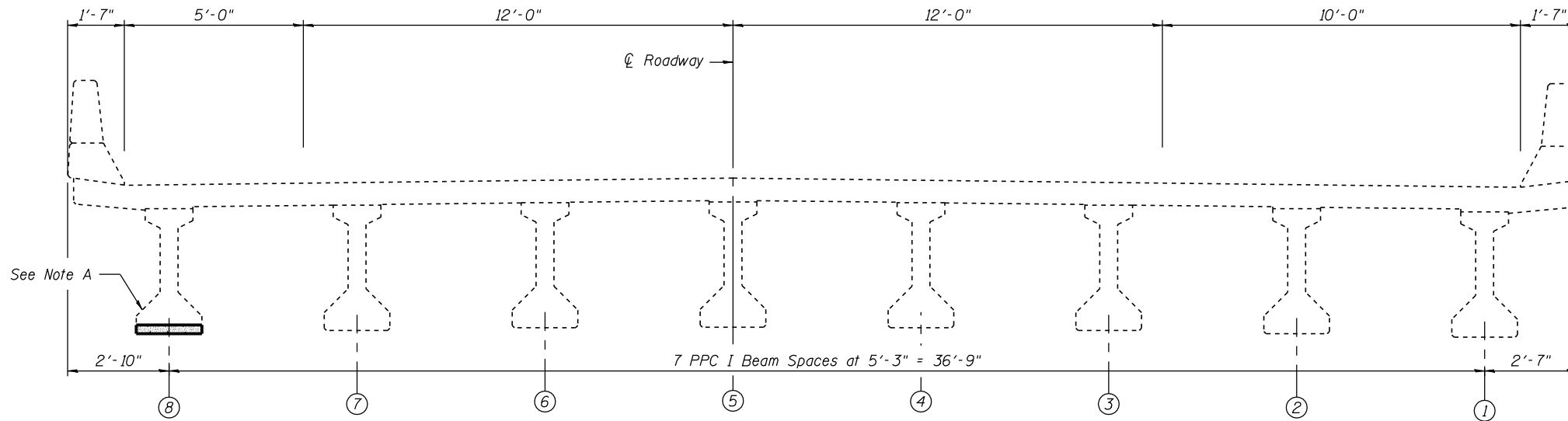
Expires: November 30, 2006

PLAN AND ELEVATION
F.A.I. RT 74
W.B. I-74 / U.P. RAILROAD
CHAMPAIGN COUNTY
SN 010-0032

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

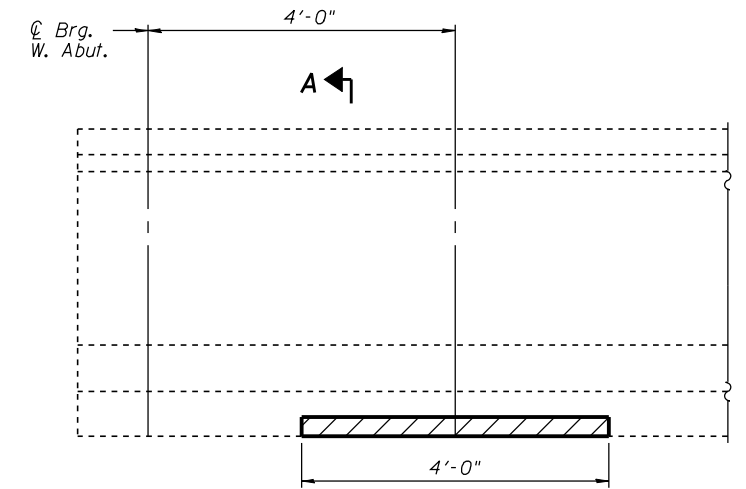
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 2 2 SHEETS
		Champaign	9	9	
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

Contract Number: 70548

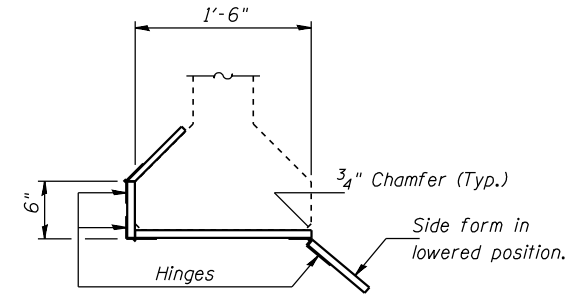


CROSS SECTION SPAN 1
(Looking West)

Note A:
PPC I-Beams to be repaired as detailed.



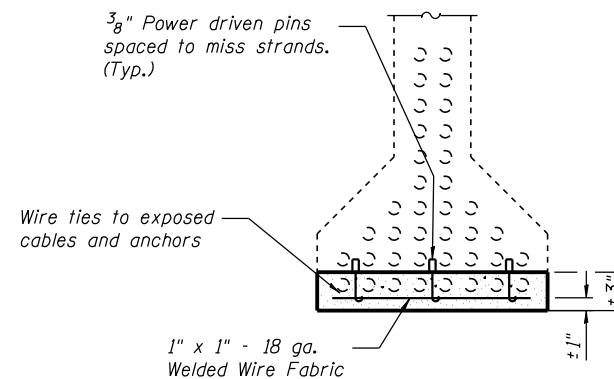
ELEVATION BEAM 8
(Looking North)



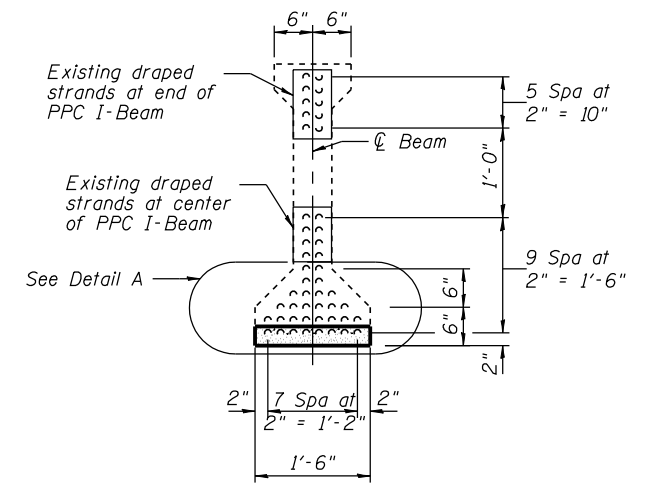
SUGGESTED FORM DETAIL

REPAIR PROCEDURES FOR BEAM 8
(SPAN 1)

- The damaged area of the beam shall be cleaned of all loose and spalled concrete, and sealant. Hand tools shall be used for the removal of concrete adjacent to the prestressing strands. While a 15 pound chipping hammer may be used away from prestressing strands, extreme care shall be taken not to damage the exposed prestressing strands. Any exposed portions of the strands shall be sandblasted.
- Using the same tools, remove the existing concrete to sound concrete along the edges of the damaged area to a depth of 1" min. to 1 1/2" max. The edges shall be saw cut 3/4" deep or less.
- Power driven pins as shown in Detail A shall be placed at 9" alternate centers along damaged length of beam at locations shown in Detail A. Use wire ties in areas where the strands are exposed as shown in Detail A. Place 1" x 1" x 18 gauge welded wire fabric in repair areas and attach it to the pins or strands with wire ties. The clearance between the finished surface of the new concrete and the welded wire fabric shall be 1" minimum. All beams involved in this work shall be rebuilt to their original dimensions.
- All surfaces of existing concrete and reinforcing strands in the area to be repaired shall be coated with an epoxy-resin primer bonding agent. The concrete beam to be repaired or crack sealed must be at a temperature of at least 50° F or higher. All other minor mortar repair, crack sealing, or surface sealing of gouges on the beam shall be performed as directed by the Engineer.
- The repair shall be made using a concrete meeting all the requirements specified in Section 1020 of the Standard Specifications for Class PS Concrete for precast prestressed concrete members, except the maximum size of the aggregate shall be 1/2". Place the lower form on the bottom of the beam and compact by vibrating (or other approved methods) the concrete mix into the voids. After accessible voids have been filled and compacted, the top vertical form shall be raised into position and the remaining voids filled and compacted.



DETAIL A



SECTION A-A
PATCHING DETAIL
Beam 8, Span 1

Note:
The cost of concrete removal, Class PS Concrete, power driven pins, wire ties, wire mesh, epoxy bonding agent, Epoxy Crack Sealing and all other work required to perform repairs on Beam 8 in Span 1 shall be included in the cost of P.P.C. I Beam Repairs.

PPC - BEAM REPAIR DETAILS
F.A.I. RT 74
W.B. I-74 / U.P. RAILROAD
CHAMPAIGN COUNTY
SN 010-0032

DESIGNED	V.H.V.
CHECKED	S.J.B.
DRAWN	Drew Christopher
CHECKED	V.H.V. S.J.B.

EXAMINED	John A. Morris ENGINEER OF STRUCTURAL SERVICES	MAY 8, 2006
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