

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64		WAYNE	11	1

• (96-4HB-1)DL-05

D-97-013-06

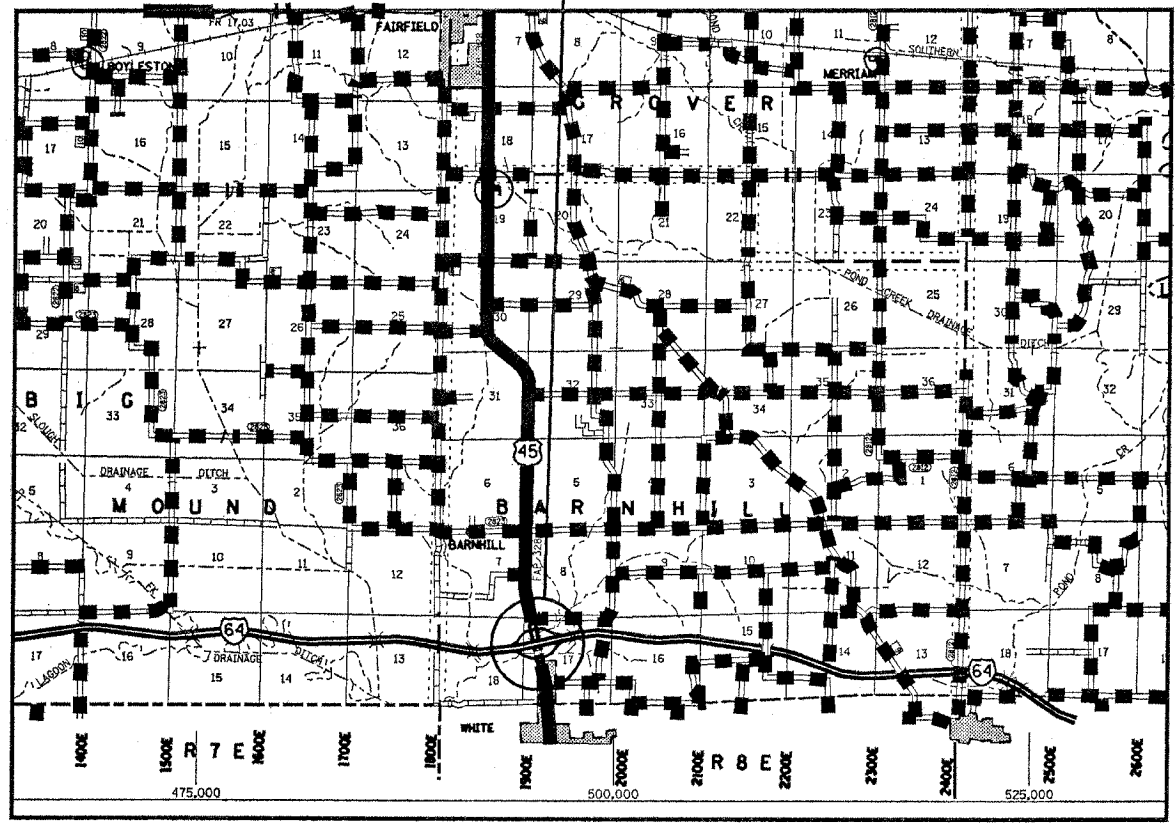


LOCATION OF SECTION INDICATED THUS: - [black box] -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
**PROPOSED
HIGHWAY PLANS**
FAI ROUTE 64 (I-64)
SECTION (96-4HB-1)BR-06
WAYNE COUNTY

C-97-024-06

SECTION (96-4HB-1)DL-05 CONSISTS OF STRUCTURAL STEEL REPAIR AND REPLACEMENT TO SN 096-0053. THIS STRUCTURE, WHICH CARRIES FAI ROUTE 64 (WBL) OVER US ROUTE 45, IS LOCATED AT THE FAI 64/US 45 INTERCHANGE NORTH OF MILL SHOALS.



GROSS LENGTH = FEET = MILES
NET LENGTH = FEET = MILES

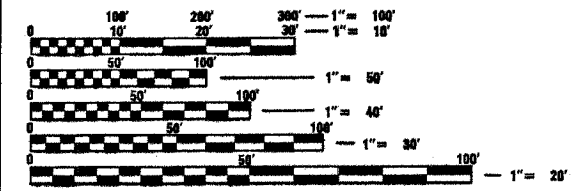
INDEX OF SHEETS

SHEET NO.	DESCRIPTION
1	TITLE SHEET WITH LOCATION MAP, & INDEX OF SHEETS
2	GENERAL NOTES & SUMMARY OF QUANTITIES
3 - 11	BRIDGE REPAIR DETAILS - S.N. 096-0053 & S.N. 096-0059

THE FOLLOWING STANDARDS ARE A PART OF THESE PLANS AND ARE INCLUDED AFTER SHEET NUMBER 11:

STD. NO.	DESCRIPTION
000001-04	STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
701006-02	OFF-ROAD OPERATIONS, 2L, 2W 15' TO PAVEMENT EDGE FOR SPEEDS >=45 MPH
701101-01	OFF-RD OPERATIONS, MULTILANE, 15' TO 24" FROM PAVEMENT EDGE
701201-02	LANE CLOSURE, 2L, 2W, DAY ONLY, FOR SPEEDS >= 45 MPH
701400-02	APPROACH TO LANE CLOSURES, FREEWAY / EXPRESSWAY
701402-05	LANE CLOSURE, FREEWAY / EXPRESSWAY WITH BARRIER
702001-06	TRAFFIC CONTROL DEVICES
704001-02	TEMPORARY CONCRETE BARRIER

M.C.H.D. CLAIM NO. 709570



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
1-800-992-0123

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED May 9, 2006
Robert H. Reed
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

June 30, 2006
Mike Hine
ENGINEER OF DESIGN AND ENVIRONMENT

June 30, 2006
Milton R. Sees, P.E.
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

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

CONTRACT NO. 74140

ADT (1999) = 2450

district 5/16/2006
c:\projects\dejlabor\fat64way\05.dgn

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64		WAYNE	11	2
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	
• (96-4HB-1)DL-05				

GENERAL NOTES

THIS SECTION SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE PLANS: THE "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" ADOPTED JANUARY 1, 2002; THE "SUPPLEMENTAL SPECIFICATIONS AND RECURRING SPECIAL PROVISIONS" ADOPTED JANUARY 1, 2006 AND THE SPECIAL PROVISIONS INCLUDED IN THE PROPOSAL.

THIS PROJECT IS LOCATED ON THE BRIDGES CARRYING WESTBOUND F. A. I. ROUTE 64 OVER U. S. ROUTE 45 NORTH OF MILL SHOALS IN WAYNE COUNTY.

THE WORK INCLUDED IN THIS PROJECT CONSISTS OF BEAM REPLACEMENT, STRAIGHTENING OF DEFORMED BEAMS, WHICH INCLUDES TEMPORARY SHORING AND CRIBBING, STRUCTURAL STEEL REMOVAL AND REPAIR, AND REMOVING AND RE-ERECTING THE EXISTING RAILING, TRAFFIC CONTROL AND ANY OTHER WORK ITEMS REQUIRED COMPLETING THIS PROJECT.

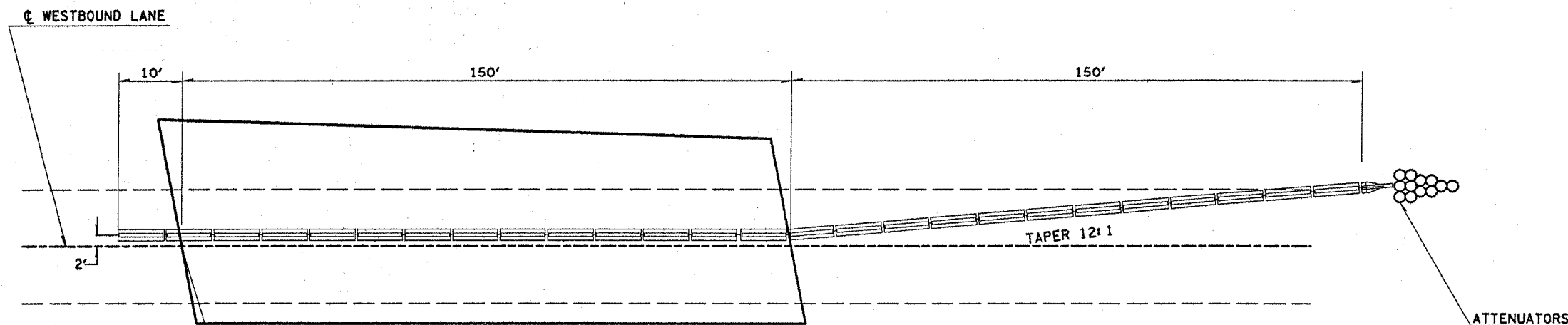
PLAN DIMENSIONS AND DETAILS RELATIVE TO THE EXISTING STRUCTURE HAVE BEEN TAKEN FROM EXISTING PLANS AND ARE SUBJECT TO NORMAL CONSTRUCTION VARIATIONS. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO VERIFY SUCH DIMENSIONS AND DETAILS IN THE FIELD AND MAKE NECESSARY APPROVED ADJUSTMENTS PRIOR TO CONSTRUCTION OR ORDERING OF MATERIAL. SUCH VARIATIONS SHALL NOT BE CAUSE FOR ADDITIONAL COMPENSATION OR FOR A CHANGE 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.

STATE OWNED TEMPORARY CONCRETE BARRIERS WHICH ARE TO BE USED ON THIS PROJECT ARE STORED AT THE IDOT MAINTENANCE YARD AT LAWRENCEVILLE, WHICH IS LOCATED NORTH OF LAWRENCEVILLE ON IL ROUTE 1. A MINIMUM OF 48 HOURS NOTICE WILL BE REQUIRED TO ARRANGE FOR PICK UP AND RETURN OF THE BARRIERS. STATE MAINTENANCE FORCES WILL NOT LOAD OR UNLOAD THE BARRIERS.

VERIFY CONCRETE SOUNDNESS ON EAST BOUND WORK AT THE COMPLETION OF WORK EACH DAY PRIOR TO OPENING TO TRAFFIC.

SUMMARY OF QUANTITIES

ITEM	UNIT	TOTAL	SFTY-ZA 100% STATE	
			WESTBOUND	EASTBOUND
50102400	CONCRETE REMOVAL	CU YD	19.2	19.2
50300100	FLOOR DRAINS	EACH	2	2
50300255	CONCRETE SUPERSTRUCTURE	CU YD	19.2	19.2
50500405	FURNISHING AND ERECTING STRUCTURAL STEEL	POUND	11510	11510
50500505	STUD SHEAR CONNECTORS	EACH	144	144
50501110	STRUCTURAL STEEL REMOVAL	POUND	11690	11690
50501130	STRUCTURAL STEEL REPAIR	POUND	3620	1260
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	4040	4040
50900905	REMOVING AND RE-ERECTING EXISTING RAILING	FOOT	73	73
67100100	MOBILIZATION	L SUM	1	1
70100450	TRAFFIC CONTROL AND PROTECTION, STANDARD 701201	L SUM	1	1
70100805	TRAFFIC CONTROL AND PROTECTION, STANDARD 701402	L SUM	1	1
70400500	TEMPORARY CONCRETE BARRIER (STATE OWNED)	FOOT	310	310
Z0003600	BEAM STRAIGHTENING	L SUM	1	0.33
Z0030250	IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE), TEST LEVEL 3	EACH	1	1
Z0047300	PROTECTIVE SHIELD	SQ YD	100	100
Z0073300	TEMPORARY SHORING AND CRIBBING	L SUM	1	1



TEMPORAY CONCRETE BARRIER PLACEMENT DETAIL

BRG WEST ABUTMENT
STATION 4334+02.18

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
**GENERAL NOTES
AND
SUMMARY OF QUANTITIES**

SCALE: VERT. DATE: HORIZ. DRAWN BY: CHECKED BY:

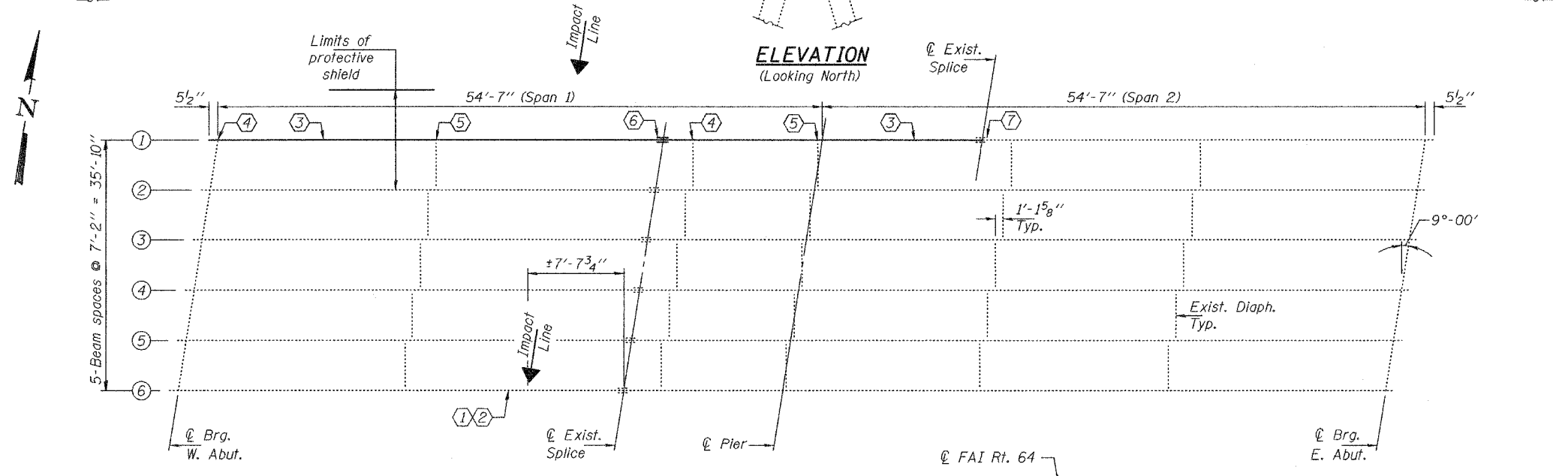
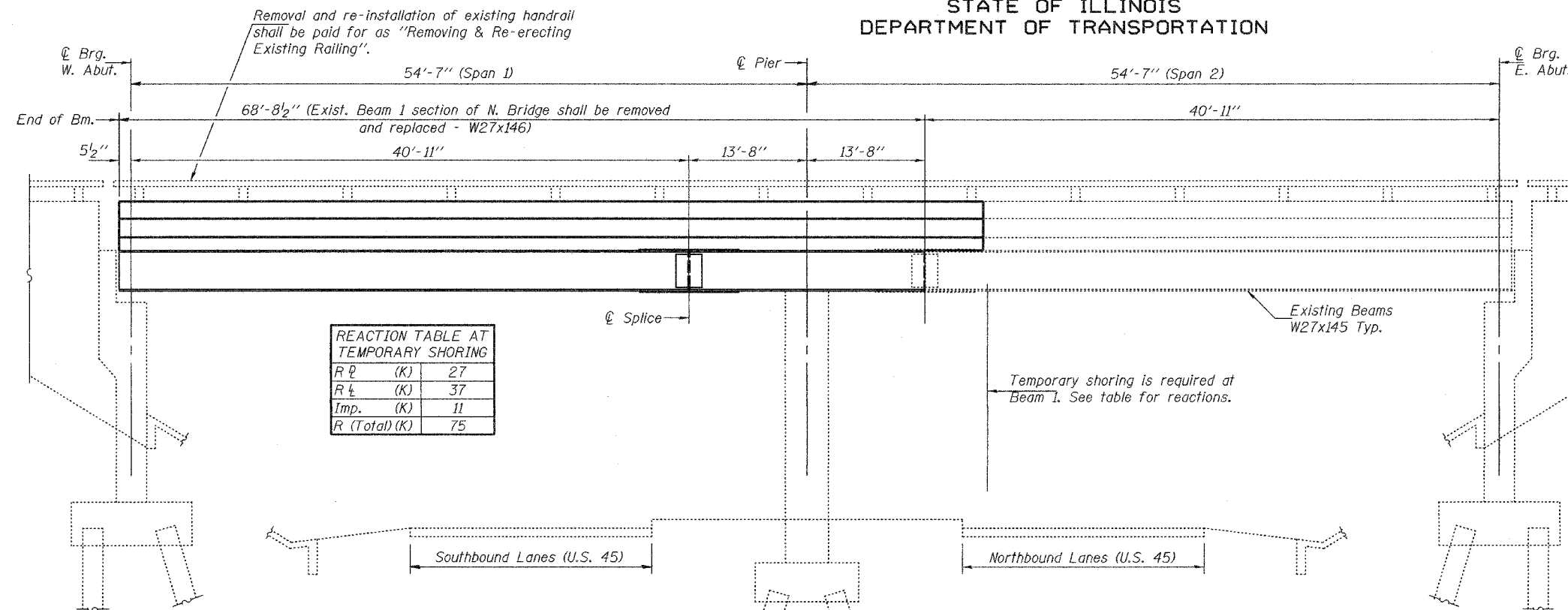
dist-101
5/18/2006
c:\projects\delabor\fa164way05.dgn

PLT DATE = 5/18/2006
PLT TIME = 10:00 AM
PLT SCALE = 1/8"=1'-0"
USER NAME = delabor

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET NO.	TOTAL SHEETS
FAI 64		WAYNE	11	3
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 1
6 SHEETS



- DECK FRAMING PLAN**
(North Bridge)
- ① - Straighten damaged beam.
 - ② - Strengthen bottom flange and web.
 - ③ - Replace existing beam segment.
 - ④ - Replace diaphragm clip angles.
 - ⑤ - Salvage and reuse diaphragm clip angles. (Provide new HS bolts).
 - ⑥ - Replace existing splice plates.
 - ⑦ - Salvage and reuse splice plates.

GENERAL NOTES

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

Fasteners shall be high strength bolts. Bolts 3/4"φ, open holes 13/16"φ, unless otherwise noted.

The Contractor shall provide a shoring system for the beam in the area of existing beam removal. See Special Provision "Temporary Shoring and Cribbing".

Cost of removal and/or re-installation of all members necessary to complete the work as detailed on the plans and as specified in the Special Provisions shall be included in the cost of Furnishing and Erecting Structural Steel.

The inorganic zinc rich primer/acrylic/acrylic paint system shall be used for shop and field painting of new structural steel except where otherwise noted. The color of the acrylic finish coat for interior surfaces shall be Gray, Munsell No. 5B 7/1 and the exterior and bottom flange of fascia beams shall be Interstate Green, Munsell No. 7.5G 4/8. See Special Provision "Cleaning and Painting New Metal Structures".

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

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

Prior to pouring the new concrete deck, all loose rust, loose mill scale and other loose potentially detrimental foreign material shall be removed from the surfaces of the beams in contact with concrete. The cost of this work will be included in the pay item covering removal of the existing concrete. All heavy rust and other tightly adhered potentially detrimental foreign matter shall also be removed from the surfaces of the beams in contact with concrete. Tightly adhered paint may remain unless otherwise noted. This removal shall be accomplished by methods that will not damage the steel. The cost of this work will be paid for according to Article 109.04 of the Standard Specifications.

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 for a change 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.

After beam straightening operations have been completed, the Engineer in the field shall check to see that the top flange is tight against the slab. If not, the Contractor shall inject epoxy between the existing concrete deck and the top flange of the beam. See Special Provision "Epoxy Injection".

The deck surface shall have its final finish tined according to Article 420.11(e)(1) of the Standard Specifications. Cost included with Concrete Superstructure.

The main load carrying member components subject to tensile stress shall conform to the Supplemental Requirements for Notch Toughness Zone 2. These components are the wide flange beams and all splice plate material except fill plates.

TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Concrete Removal	Cu. Yd.	19.2
Concrete Superstructure	Cu. Yd.	19.2
Reinforcement Bars (Epoxy Coated)	Lbs.	4040
Furnishing and Erecting Structural Steel	Lbs.	11510
Floor Drains	Each	2
Beam Straightening	LS	0.33
Temporary Shoring and Cribbing	LS	1
Structural Steel Removal	Pound	11690
Structural Steel Repair	Pound	1260
Removing & Re-erecting Existing Railing	Foot	73
Stud Shear Connectors	Each	144
Protective Shield	Sq. Yd.	100

PLAN AND ELEVATION
FAI 64 (WB) OVER US 45
WAYNE COUNTY
SN 096-0053 (WB)

DESIGNED Mike Trelo VHV
CHECKED Adrian T. Holloway
DRAWN boliva
CHECKED MT VHV/AJH

JUNE 6, 2006
EXAMINED John A. Morris
ENGINEER OF STRUCTURAL SERVICES
PASSED Robert E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

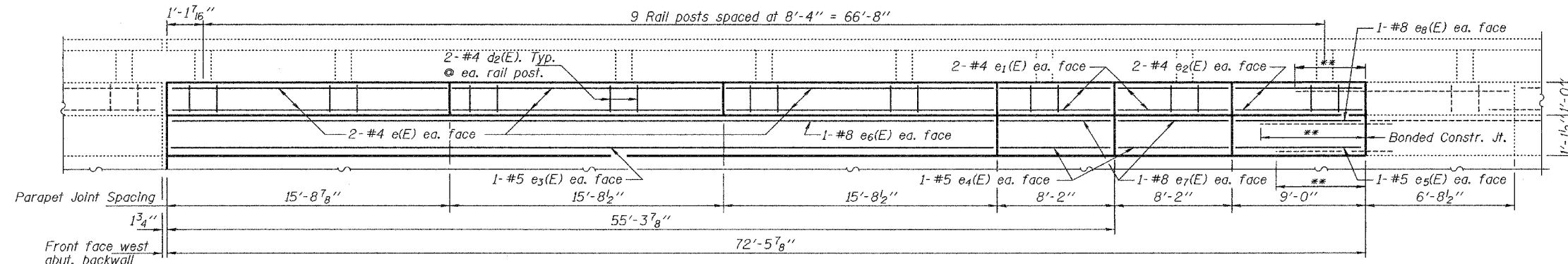


EXPIRES 11-30-2006

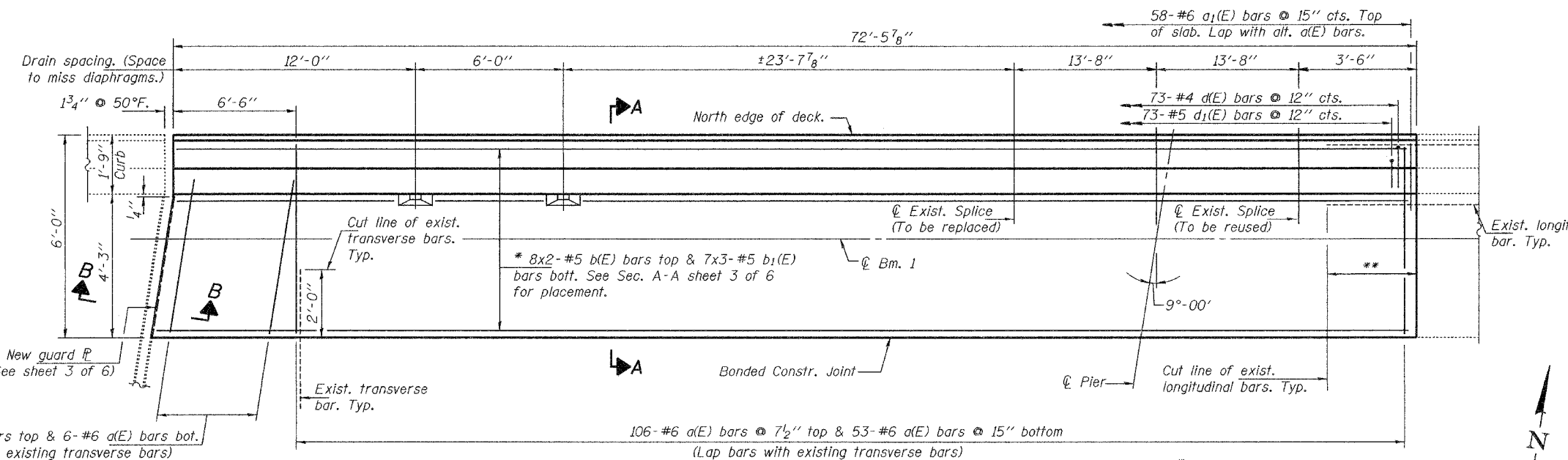
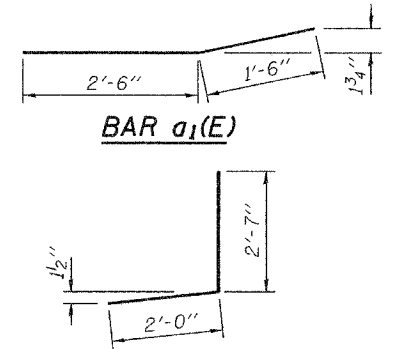
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 64		WAYNE	11	4
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 2
6 SHEETS



PARAPET ELEVATION



PARTIAL DECK SLAB PLAN - NORTH BRIDGE
(For Reinforcement Bars)

BAR d1(E)

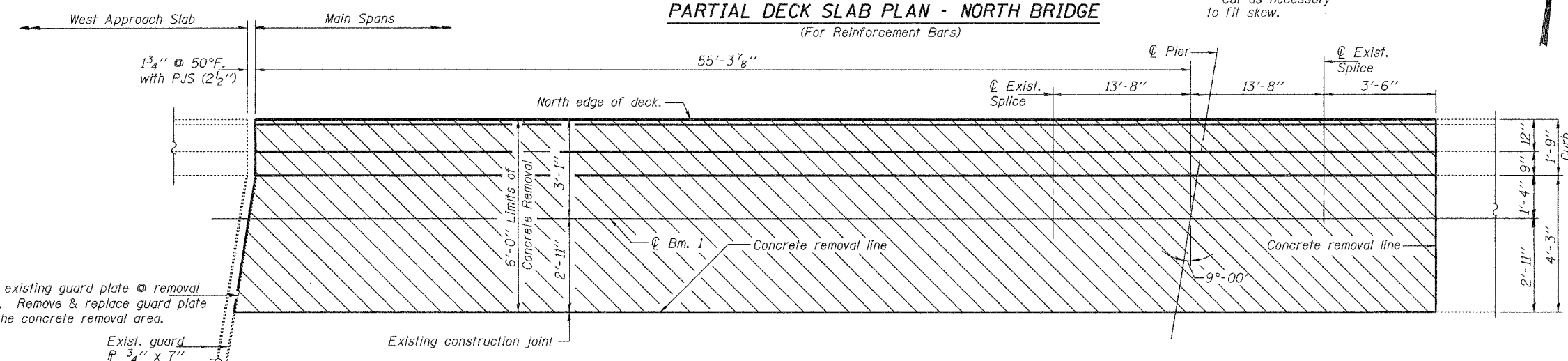
MIN. BAR LAPS
#5 bar = 1'-8"
#8 bar = 3'-5"

BAR d2(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	176	#6	4'-11"	—
a1(E)	58	#6	4'-0"	—
b(E)	16	#5	37'-3"	—
b1(E)	21	#5	25'-6"	—
d(E)	73	#4	4'-7"	J
d1(E)	73	#5	3'-3"	J
d2(E)	18	#4	2'-1"	□
e(E)	12	#4	15'-5"	—
e1(E)	8	#4	7'-10"	—
e2(E)	4	#4	8'-8"	—
e3(E)	2	#5	46'-9"	—
e4(E)	4	#5	7'-10"	—
e5(E)	2	#5	8'-8"	—
e6(E)	2	#8	46'-9"	—
e7(E)	4	#8	7'-10"	—
e8(E)	2	#8	8'-8"	—
Concrete Removal		Cu. Yds.	19.2	
Reinforcement Bars, Epoxy Coated		Pound	4040	
Concrete Superstructure		Cu. Yds.	19.2	

** Cut Line of existing Longitudinal Bars:
#8 bar = 4'-6"
#5 bar = 2'-2"
#4 bar = 1'-8"



PARTIAL DECK SLAB PLAN - NORTH BRIDGE
(For Partial Removal and Replacement)

Hatched areas indicate concrete sections to be removed and replaced. Perimeters of concrete removal areas shall be saw cut 3/4" prior to the removal of concrete.

Notes:
For Sections A-A & B-B and details for the drain and guard angles see sheet 3 of 6.
Reinforcement bars designated (E) shall be epoxy coated.
Bars indicated thus 1 x 2-#5 etc. indicates 1 line of bars with 2 lengths per line.

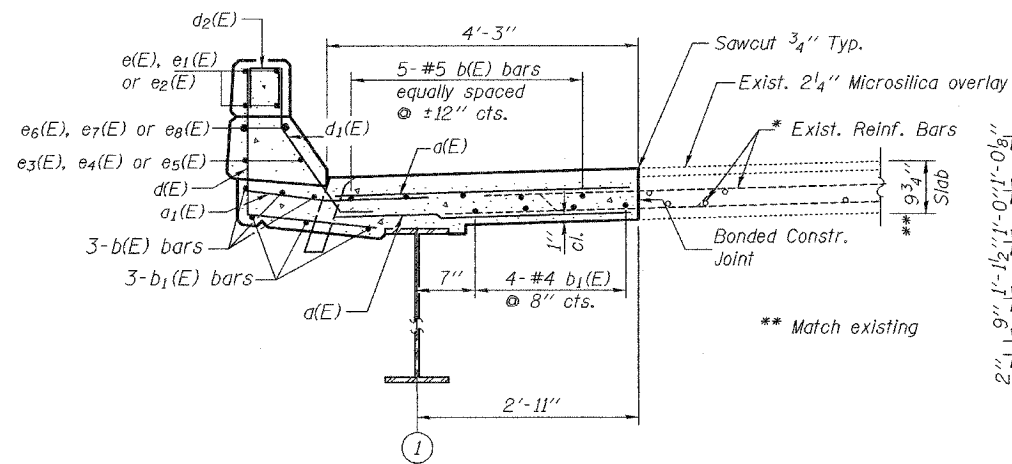
BRIDGE REPAIRS
FAI 64 (WB) OVER US 45
WAYNE COUNTY
SN 096-0053 (WB)

DESIGNED	MJT	EXAMINED	John A. Morris ENGINEER OF STRUCTURAL SERVICES
CHECKED	ATH	PASSED	Ralph E. Anderson ENGINEER OF BRIDGES AND STRUCTURES
DRAWN	baliva		
CHECKED	MJT ATH		

JUNE 6, 2006

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

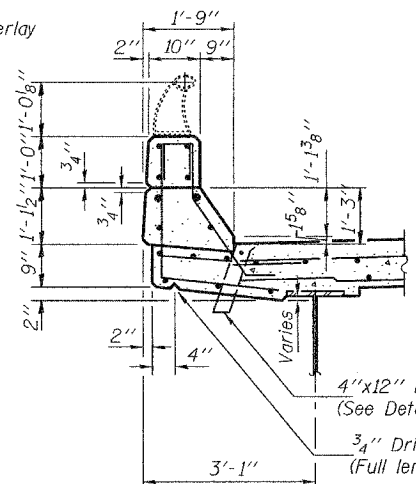
ROUTE NO.	SECTION	COUNTY	DATE	SHEET	SHEET NO. 3 6 SHEETS
FAI 64		WAYNE	11	5	
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-			



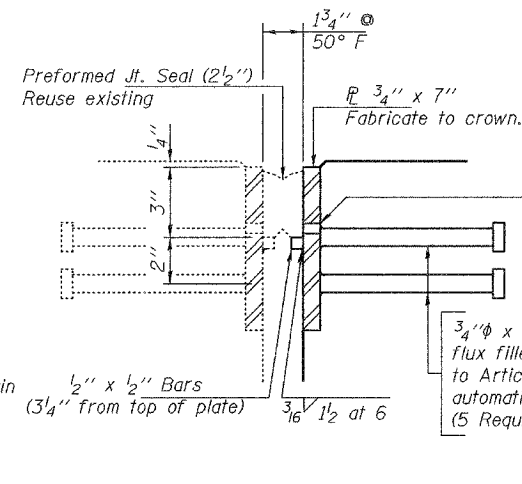
SECTION A-A

(See Curb Detail for dimensions.)

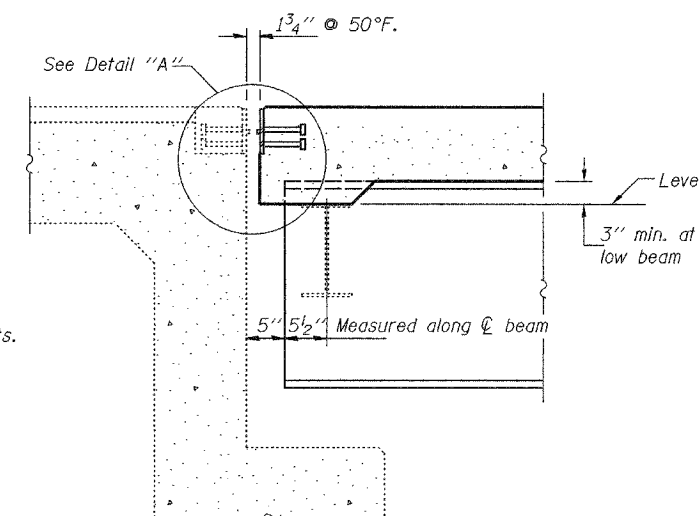
* Existing reinforcement extending into the removal area shall be cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal shall be replaced with an approved bar splicer or anchorage system. Cost shall be included with Concrete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



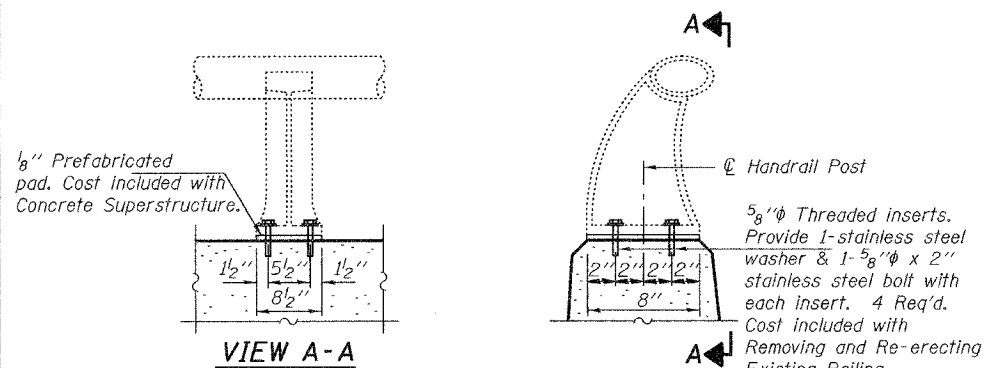
CURB DETAIL



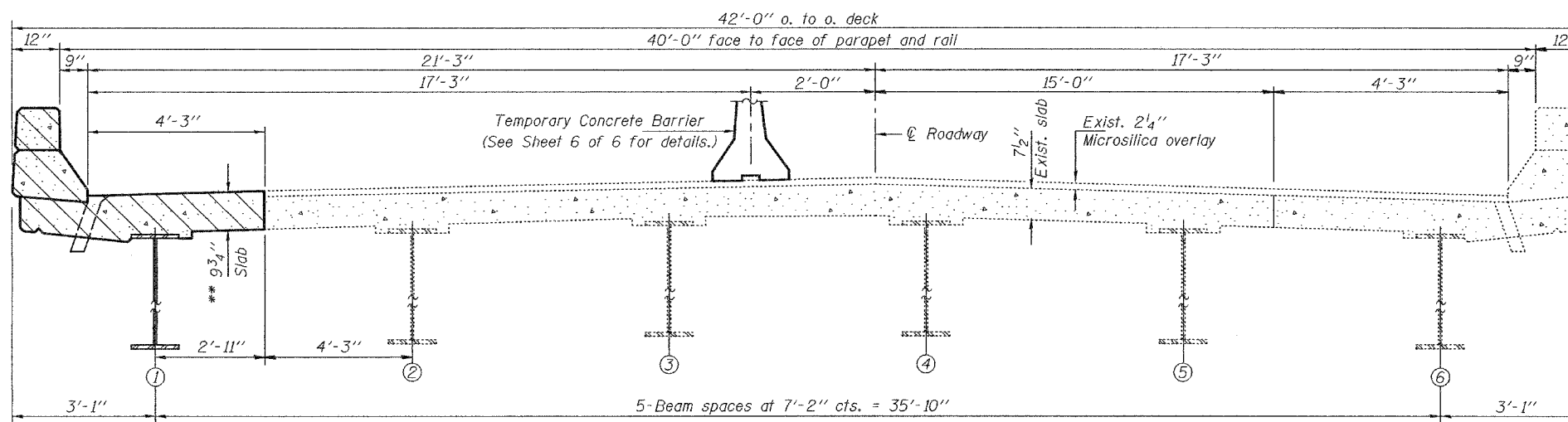
DETAIL A



SECTION B-B



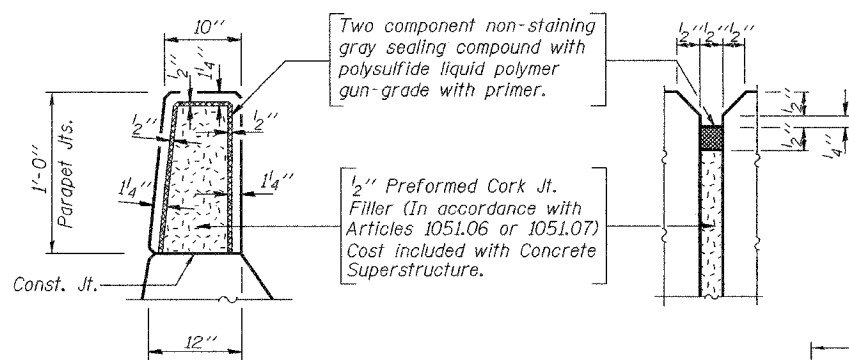
HANDRAIL POST DETAILS



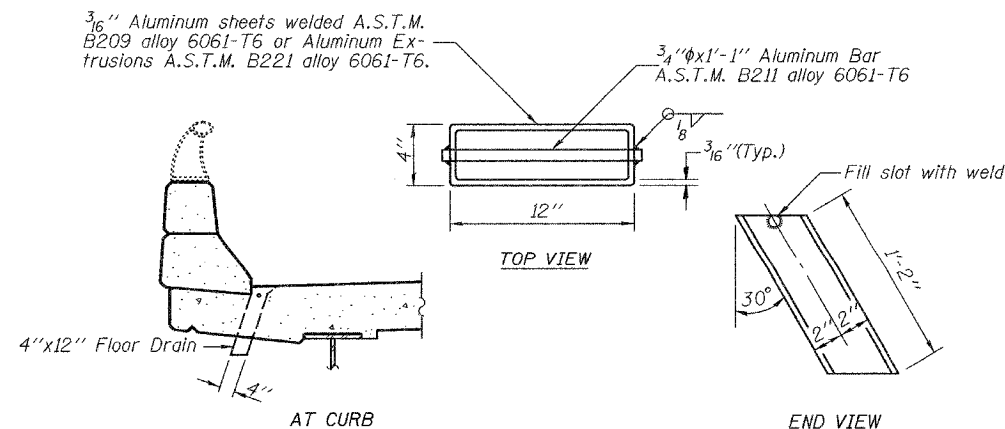
CROSS SECTION

(Looking East)

Note:
Hatched area indicates concrete removal.

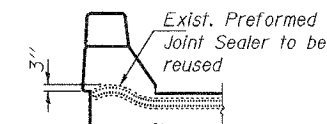


PARAPET JOINT DETAILS



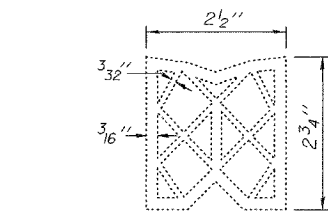
FLOOR DRAIN DETAILS

(2 Required)



TYP. END OF SEAL

(For Information Only)



EXIST. PREFORMED JOINT SEAL

(For Information Only)

DESIGNED	MJT
CHECKED	ATH
DRAWN	balva
CHECKED	MJT ATH

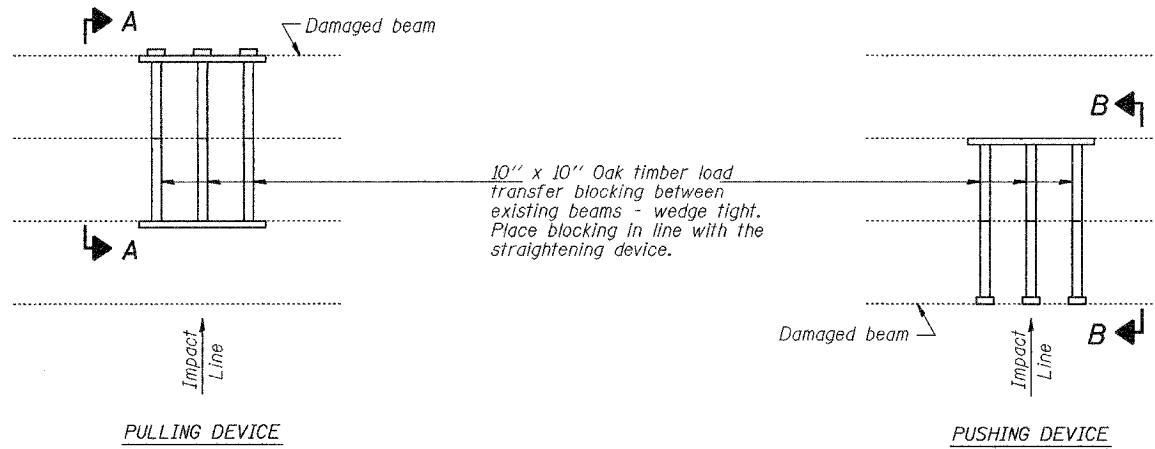
JUNE 6, 2006
EXAMINED *John A. Morris*
ENGINEER OF STRUCTURAL SERVICES
PASSED *Ralph E. Anderson*
ENGINEER OF BRIDGES AND STRUCTURES

BRIDGE REPAIRS
FAI 64 (WB) OVER US 45
WAYNE COUNTY
SN 096-0053 (WB)

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

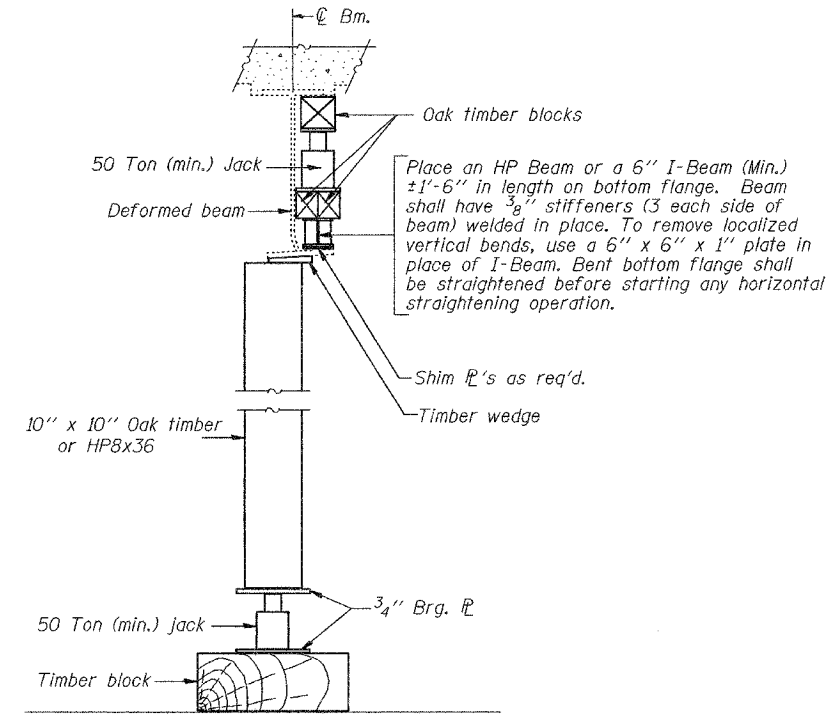
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 64		WAYNE	11	6
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 4
6 SHEETS

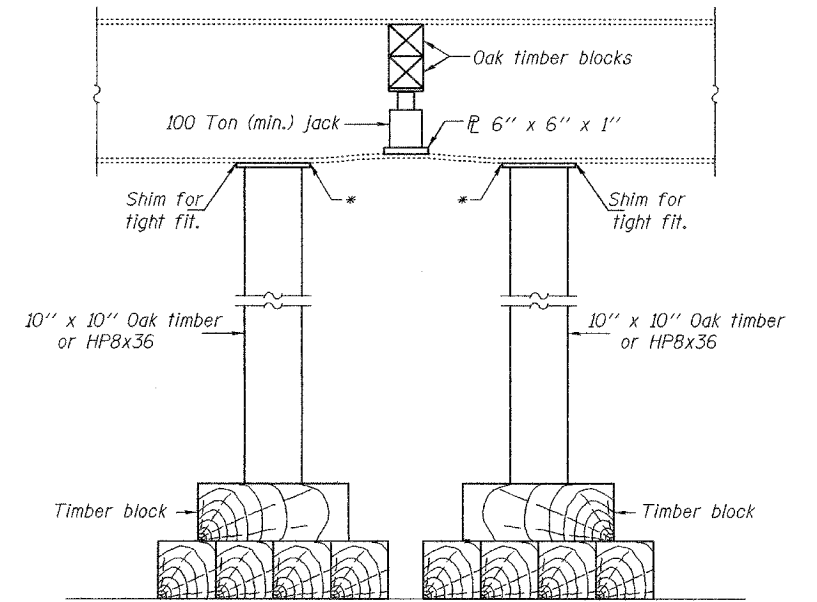


**PARTIAL PLANS
SUGGESTED BEAM STRAIGHTENING METHODS**

Straightening force shall be maintained on all load transfer blocking during beam straightening.



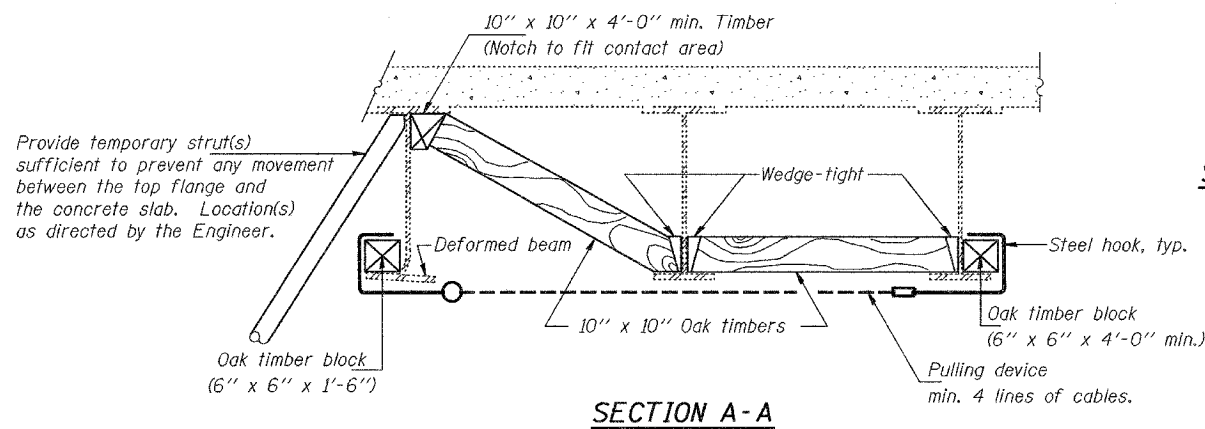
**SUGGESTED VERTICAL STRAIGHTENING DETAIL
(To correct flange rotation.)**



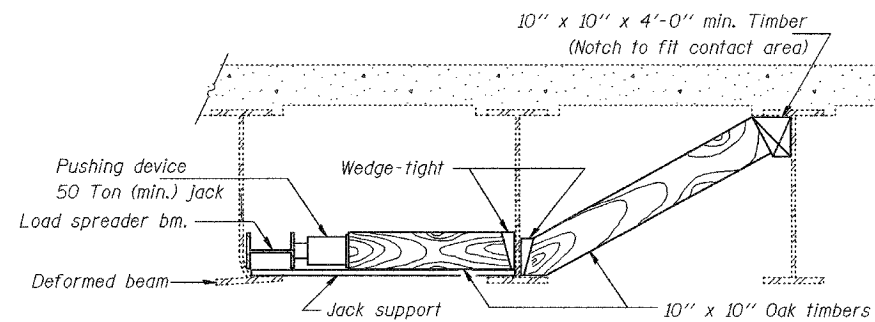
**SUGGESTED VERTICAL STRAIGHTENING DETAIL
(To correct localized vertical flange deformations.)**

* Edge of plate shall line up with edge of deformation.

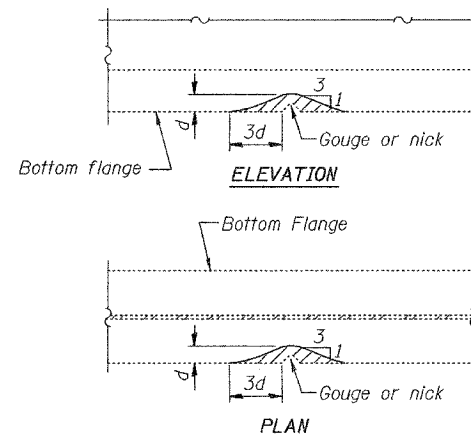
Note:
Braces and jack assembly shall be placed on same side of web.
Bent bottom flange shall be straightened before starting any horizontal straightening operations.



SECTION A-A

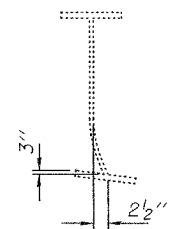


SECTION B-B



GRINDING DETAIL

Grind existing nicks, gouges and shallow cracks in the damaged beams as detailed. Ground surfaces shall be inspected for cracks using magnetic particle testing prior to initiating any beam straightening operations. Cost included with Beam Straightening. Any cracks that cannot be removed by grinding approximately 1/4" deep shall be identified and reported to the Bureau of Bridges and Structures for further disposition. Ground surfaces shall be spot cleaned and painted with an aluminum epoxy mastic primer followed by a finish coat to match the color of the existing beam. Cost of grinding, testing and spot painting included with Beam Straightening.



**EXISTING DEFORMATION
TO BE STRAIGHTENED**

(Looking East)
(Approximate max. deflections)
Deflected length of beam to be straightened is approximately 10'-0".

DESIGNED	MJT
CHECKED	ATH
DRAWN	baliva
CHECKED	MJT ATH

JUNE 6, 2006
EXAMINED *John A. Morris*
ENGINEER OF STRUCTURAL SERVICES
PASSED *Ralph E. Anderson*
ENGINEER OF BRIDGES AND STRUCTURES

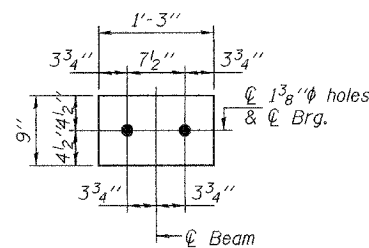
REP-1 1-14-2005

**BRIDGE REPAIRS
FAI 64 (WB) OVER US 45
WAYNE COUNTY
SN 096-0053 (WB)**

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

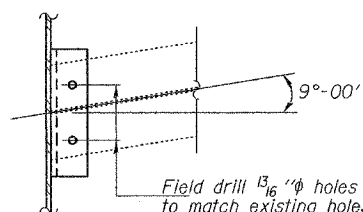
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 64		WAYNE	11	7
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 5
6 SHEETS



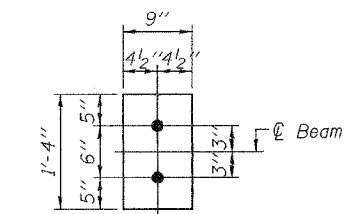
DETAIL A

Sole PL 1 3/16" x 9" x 1'-3"



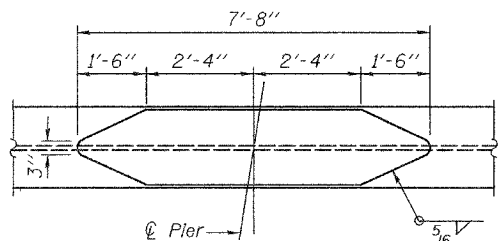
SECTION D-D

Field drill 1 5/16" holes to match existing holes in diaphragm.

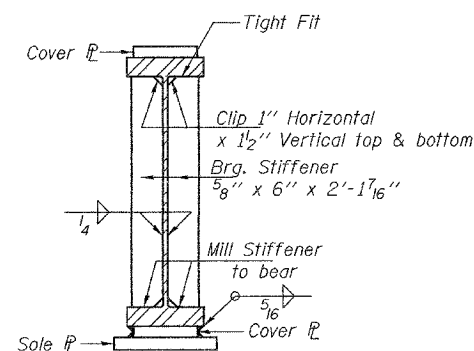


DETAIL B

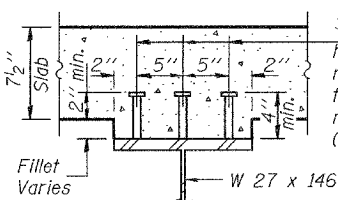
Sole PL 1" x 9" x 1'-4"



TOP & BOTTOM COVER PLATE
PL 3/16" x 13" x 7'-8" (NTR). (2 Ea.)

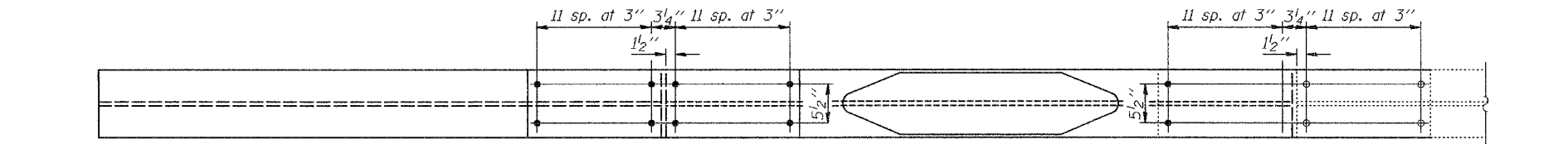


SECTION C-C

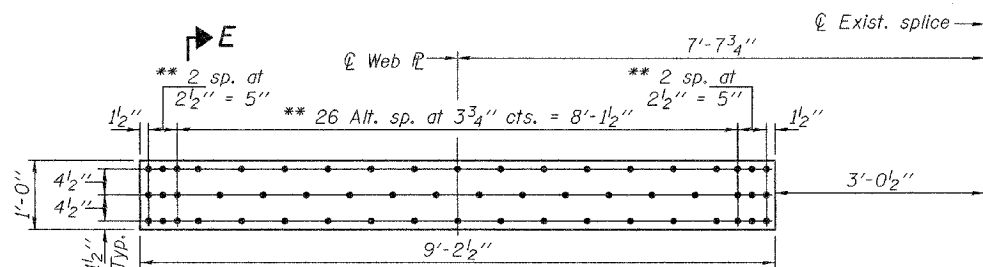


SHEAR CONNECTORS

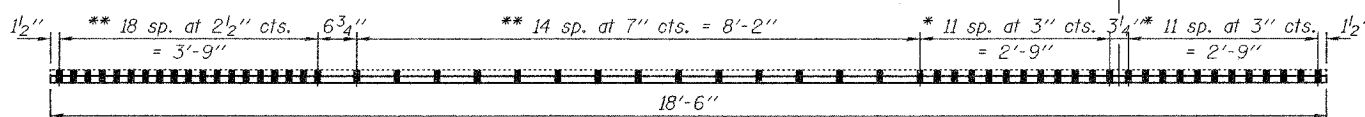
3/4" Granular or solid flux filled headed studs, conforming to the requirements of Art. 706.32 of the Standard Specifications, automatically end welded to flange. (144 Required)



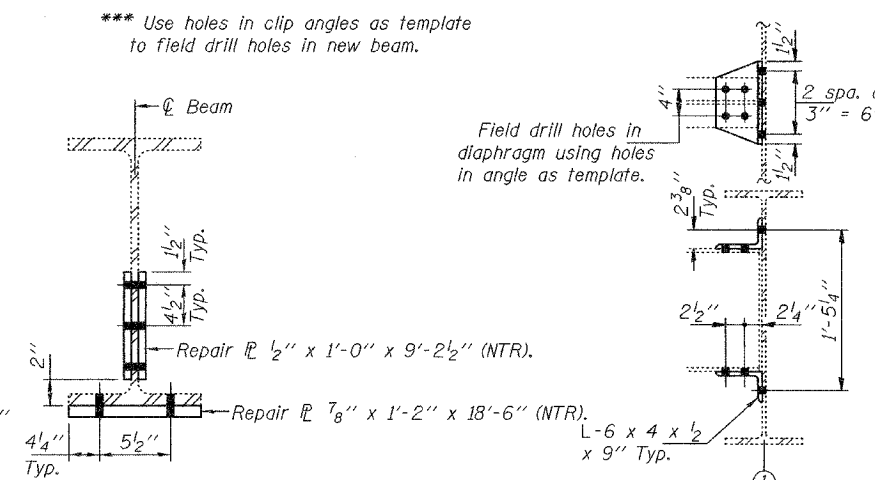
ELEVATION BEAM 1



WEB STRENGTHENING PLATE BEAM 6
PL - 1/2" x 1'-0" x 9'-2 1/2" (NTR). (1 ea. side)



BOTTOM FLANGE STRENGTHENING PLATE BEAM 6
1 PL - 7/8" x 1'-2" x 18'-6" (NTR) (Looking North)



SECTION E-E

CLIP ANGLE REPLACEMENT DETAIL

Notes:
Existing clip angles are to be removed from the existing interior diaphragm by the air-arc method. All weld material remaining on the existing diaphragm shall be ground smooth.
Diaphragm connection holes shall be 1 5/16" for 3/4" bolts.
Two hardened washers shall be required at diaphragm connections.
Natural camber of new beam shall be placed upward for fabrication.
Cost included with Furnishing and Erecting Structural Steel.

* Remove existing splice plate. Use existing holes in bottom flange as template to field drill holes in new plate.
** Use holes in new plate as template to field drill holes in beam.
Fasteners for beam strengthening shall be 3/4" high strength bolts, in 1 5/16" holes.
Cost of removal of existing bottom flange splice plate is included with Structural Steel Repair.
Existing bolts shall not be re-used.
The cost of the strengthening plates & field drilling required for installation of the steel plates is included with Structural Steel Repair.
Traffic shall be maintained at least one beam spacing away from Beam 6 while splice plate is being replaced.

DESIGNED	MJT
CHECKED	ATH
DRAWN	baliva
CHECKED	MJT ATH

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

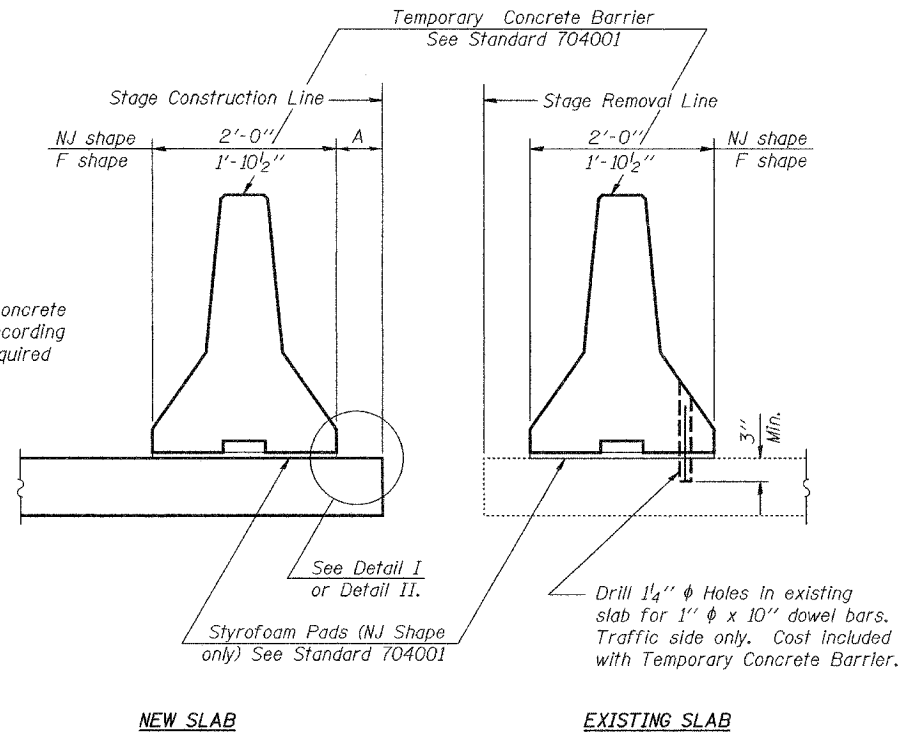
JUNE 6, 2006

BRIDGE REPAIRS
FAI 64 (WB) OVER US 45
WAYNE COUNTY
SN 096-0053 (WB)

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 64		WAYNE	11	8
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 6
6 SHEETS

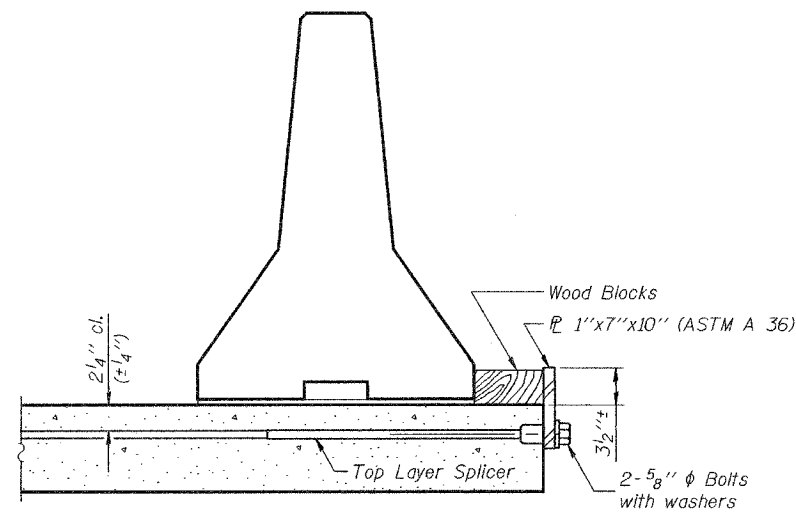


When "A" is 3'-6" or less, the temporary concrete barrier shall be anchored to the new slab according to Detail I or Detail II. No anchorage is required when "A" is greater than 3'-6".

NOTES

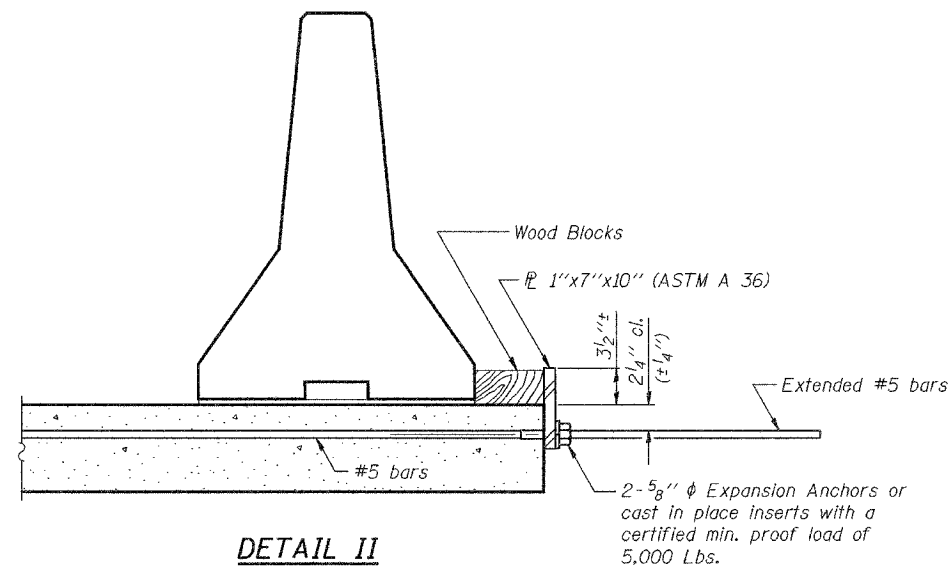
- Detail I - With Bar Splicer or Couplers:**
Connect one (1) 1"x7"x10" steel PL to the top layer of couplers with 2-5/8" φ bolts screwed to coupler at approximate C of each barrier panel.
- Detail II - With Extended Reinforcement Bars:**
Connect one (1) 1"x7"x10" steel PL to the concrete slab with 2-5/8" φ Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate C of each barrier panel.
- Cost of anchorage is included with Temporary Concrete Barrier.

SECTIONS THRU SLAB



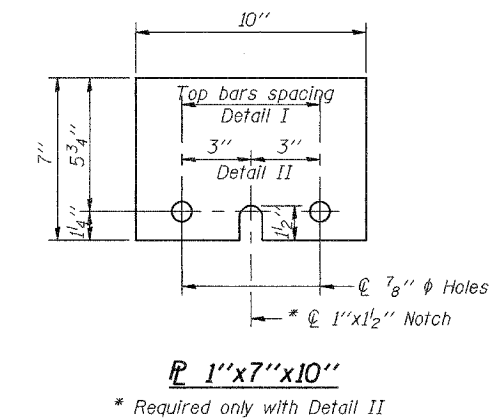
DETAIL I

The 1"x7"x10" Plate shall not be removed until Stage II Construction forms and reinforcement bars are in place.



DETAIL II

The 1"x7"x10" Plate shall not be removed until Stage II Construction forms and all reinforcement bars are in place and the concrete is ready to be placed.



DESIGNED	MJT
CHECKED	ATH
DRAWN	baliva
CHECKED	MJT ATH

JUNE 6, 2006
EXAMINED *John A. Morris*
ENGINEER OF STRUCTURAL SERVICES
PASSED *Ralph E. Anderson*
ENGINEER OF BRIDGES AND STRUCTURES

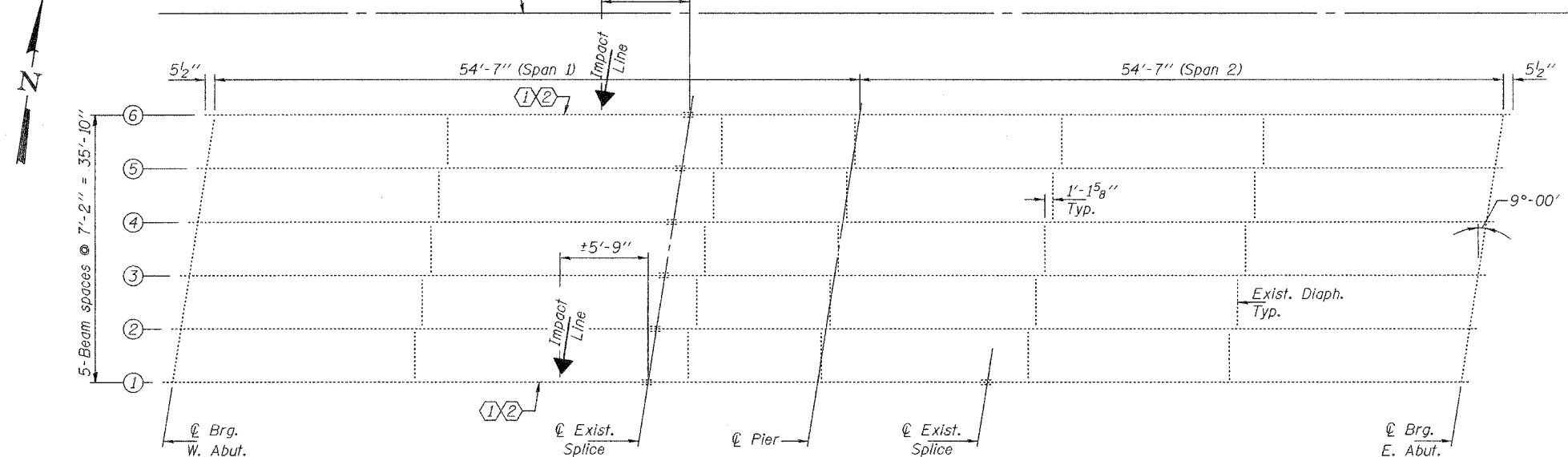
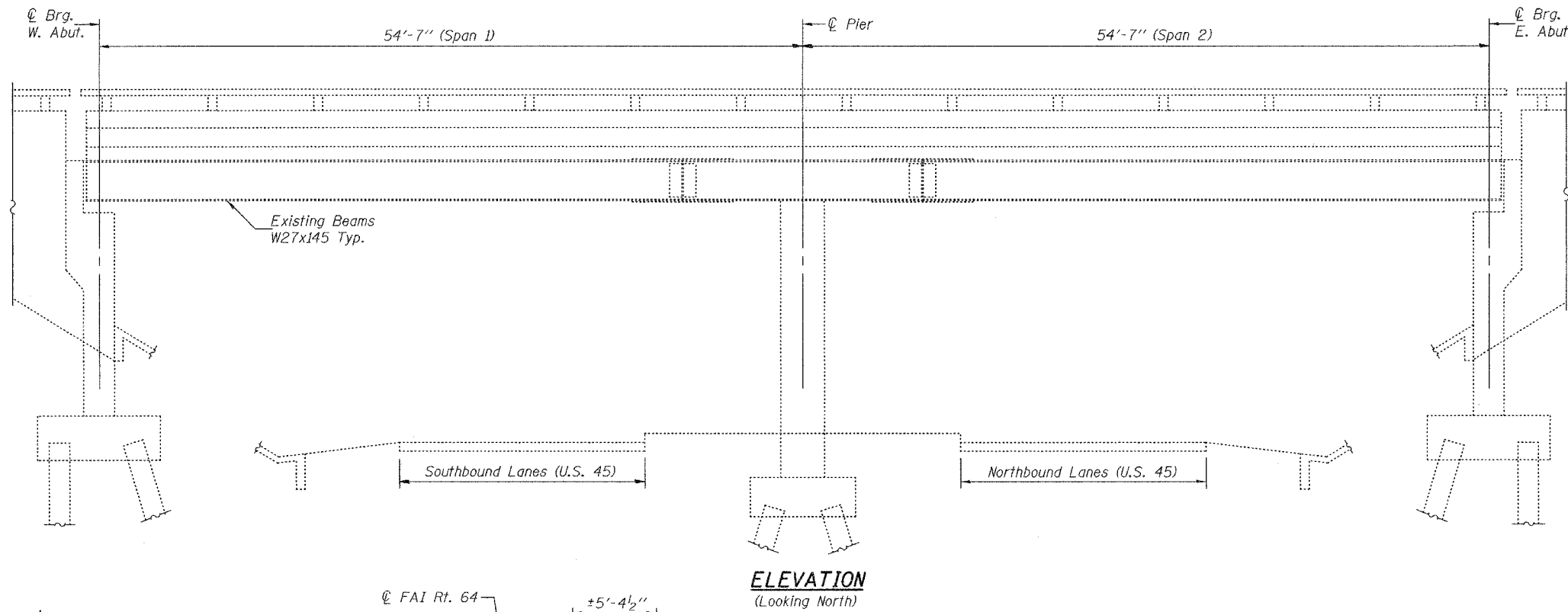
R-27 9-01-03

BRIDGE REPAIRS
FAI 64 (WB) OVER US 45
WAYNE COUNTY
SN 096-0053 (WB)

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEETS	SHEET NO.
FAI 64		WAYNE	11	9
FED. ROAD EST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 1
3 SHEETS



DECK FRAMING PLAN
(South Bridge)

① - Straighten damaged beam.
② - Strengthen bottom flange and web.

GENERAL NOTES

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

After beam straightening operations have been completed, the Engineer in the field shall check to see that the top flange is tight against the slab. If not, the Contractor shall inject epoxy between the existing concrete deck and the top flange of the beam. See Special Provision "Epoxy Injection".

Fasteners shall be high strength bolts. Bolts 3/4"φ, open holes 13/16"φ, unless otherwise noted.

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 for a change 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.

Cost of removal and/or re-installation of all members necessary to complete the work as detailed on the plans and as specified in the Special Provisions. Cost included with Structural Steel Repair.

The inorganic zinc rich primer/acrylic/acrylic paint system shall be used for shop and field painting of new structural steel except where otherwise noted. The color of the acrylic finish coat for interior surfaces shall be Gray, Munsell No. 5B 7/1 and the exterior and bottom flange of fascia beams shall be Interstate Green, Munsell No. 7.5G 4/8. See Special Provision "Cleaning and Painting New Metal Structures".

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

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

The main load carrying member components subject to tensile stress shall conform to the Supplemental Requirements for Notch Toughness Zone 2. These components are the repair plates.

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Beam Straightening	LS	0.67
Structural Steel Repair	Pound	2360

DESIGNED MIKE TRELLO *mt*

CHECKED Adrian T. Holloway

DRAWN baliva

CHECKED MT *mt* A.T.H.

JUNE 6, 2006

EXAMINED John A. Morris
ENGINEER OF STRUCTURAL SERVICES

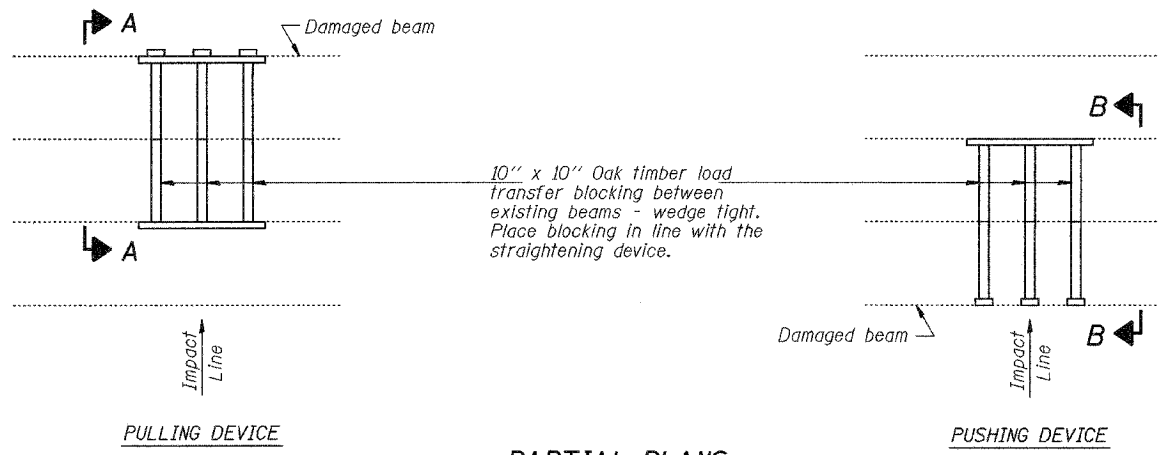
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

PLAN AND ELEVATION
FAI 64 (EB) OVER US 45
WAYNE COUNTY
SN 096-0059 (EB)

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

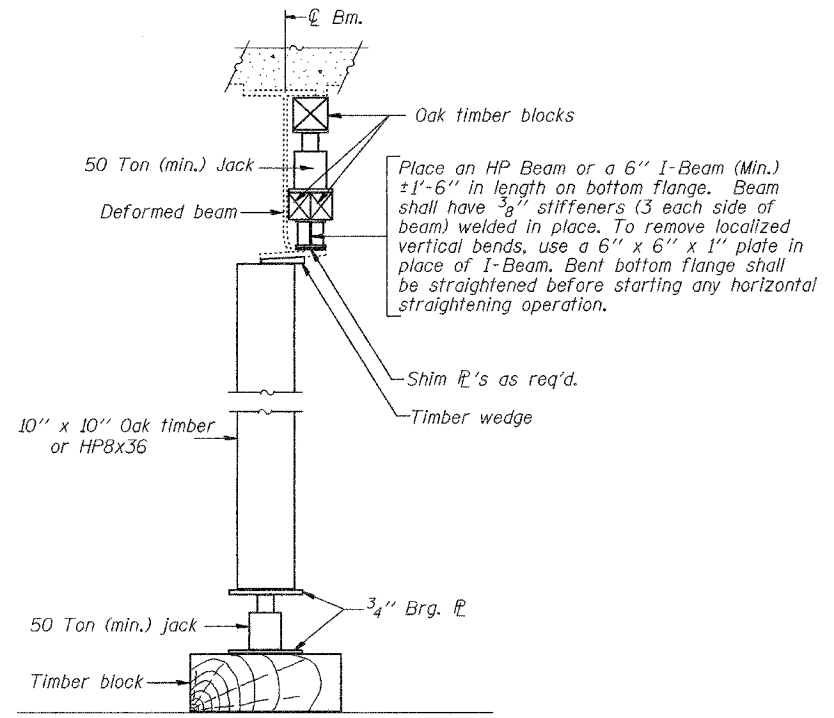
ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET
FAI 64		WAYNE	11	10
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. 2
3 SHEETS

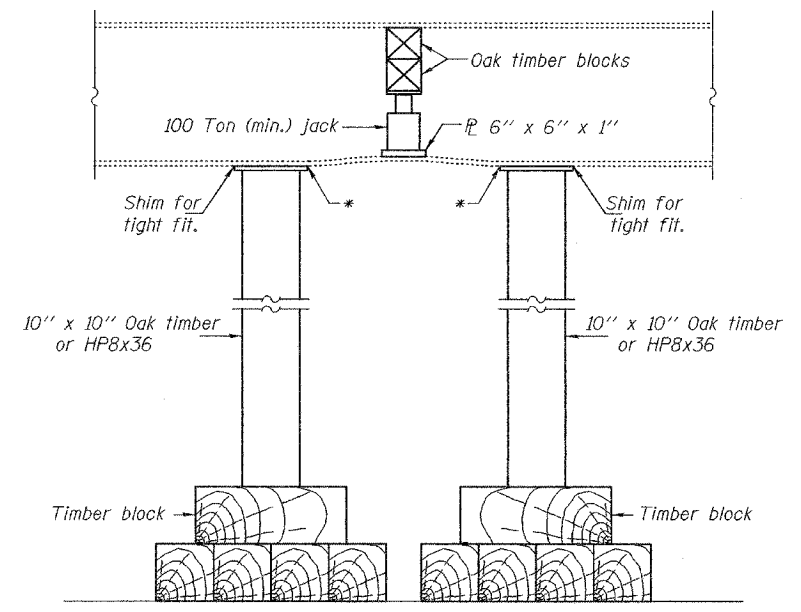


PARTIAL PLANS
SUGGESTED BEAM STRAIGHTENING METHODS

Straightening force shall be maintained on all load transfer blocking during beam straightening.



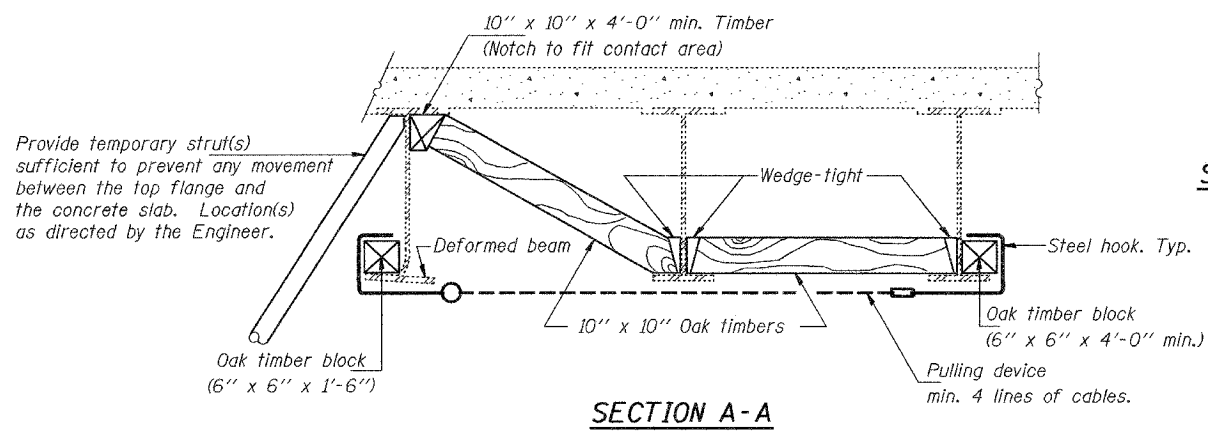
SUGGESTED VERTICAL STRAIGHTENING DETAIL
(To correct flange rotation.)



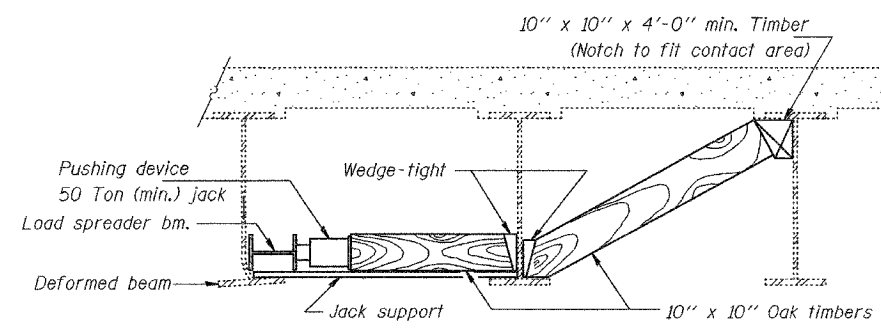
SUGGESTED VERTICAL STRAIGHTENING DETAIL
(To correct localized vertical flange deformations.)

* Edge of plate shall line up with edge of deformation.

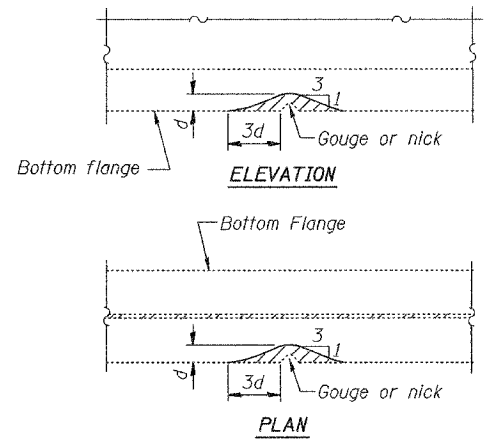
Note:
Braces and jack assembly shall be placed on same side of web.
Bent bottom flange shall be straightened before starting any horizontal straightening operations.



SECTION A-A

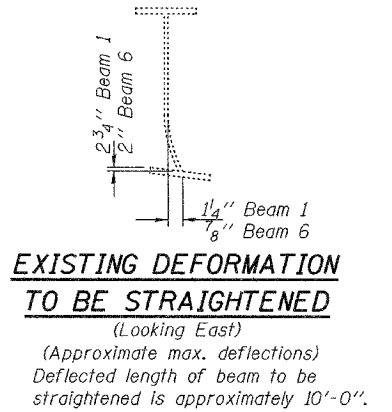


SECTION B-B



GRINDING DETAIL

Grind existing nicks, gouges and shallow cracks in the damaged beams as detailed. Ground surfaces shall be inspected for cracks using magnetic particle testing prior to initiating any beam straightening operations. Cost included with Beam Straightening. Any cracks that cannot be removed by grinding approximately 1/4" deep shall be identified and reported to the Bureau of Bridges and Structures for further disposition. Ground surfaces shall be spot cleaned and painted with an aluminum epoxy mastic primer followed by a finish coat to match the color of the existing beam. Cost of grinding, testing and spot painting included with Beam Straightening.



EXISTING DEFORMATION TO BE STRAIGHTENED

(Looking East)
(Approximate max. deflections)
Deflected length of beam to be straightened is approximately 10'-0".

DESIGNED	MJT
CHECKED	ATH
DRAWN	ballva
CHECKED	MJT ATH

JUNE 6, 2006
EXAMINED *John A. Morris*
ENGINEER OF STRUCTURAL SERVICES
PASSED *Ralph E. Anderson*
ENGINEER OF BRIDGES AND STRUCTURES

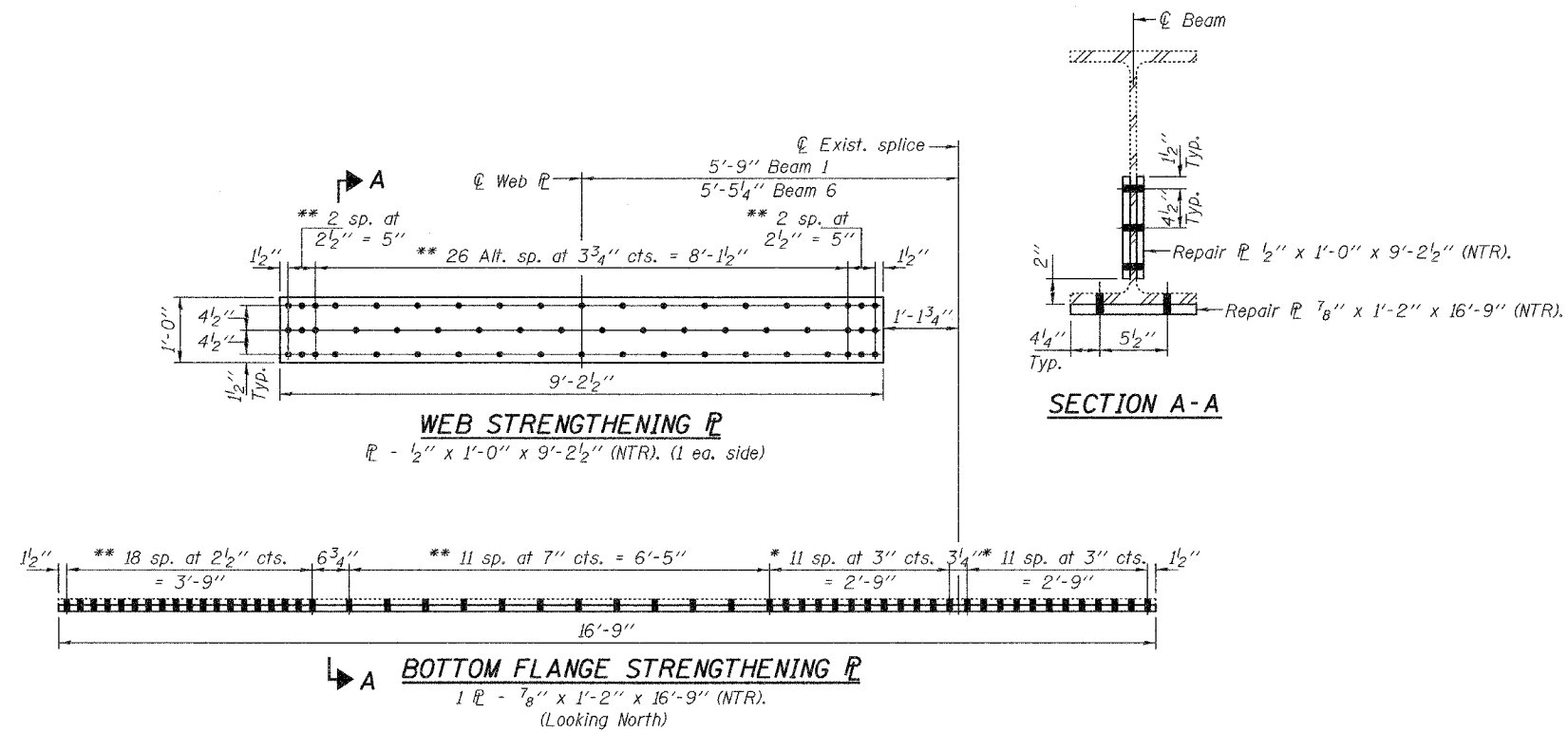
REP-1 1-14-2005

BEAM STRAIGHTENING DETAILS
FAI 64 (EB) OVER US 45
WAYNE COUNTY
SN 096-0059 (EB)

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 64		WAYNE	//	//
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. 3
3 SHEETS



* Remove existing splice plate. Use existing holes in bottom flange as template to field drill holes in new plate.
 ** Use holes in new plate as template to field drill holes in beam.
 Fasteners for beam strengthening shall be $\frac{3}{4}''$ high strength bolts, in $\frac{13}{16}''$ holes.
 Cost of removal of existing bottom flange splice plate is included with Structural Steel Repair.
 Existing bolts shall not be re-used.
 The cost of the strengthening plates and field drilling required for installation of the steel members is included with Structural Steel Repair.
 Traffic shall be maintained at least one beam spacing away from Girder 1 and 6 while splice plate is being replaced.

DESIGNED	MJT
CHECKED	ATH
DRAWN	baliva
CHECKED	MJT ATH

JUNE 6, 2006
 EXAMINED *John A. Morris*
 ENGINEER OF STRUCTURAL SERVICES
 PASSED *Ralph E. Anderson*
 ENGINEER OF BRIDGES AND STRUCTURES

STRUCTURAL STEEL REPAIR
FAI 64 (EB) OVER US 45
WAYNE COUNTY
SN 096-0059 (EB)