

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	3-2HB-2-HDF	BOND	4	1
		ILLINOIS	CONTRACT NO.	76E50

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

**PROPOSED
HIGHWAY PLANS**

FAI ROUTE 70 (I-70)

SECTION 3-2HB-2-HDF

STRAIGHTENING AND STRENGTHENING OF THE EAST
FASCIA BEAM - SN 003-0043

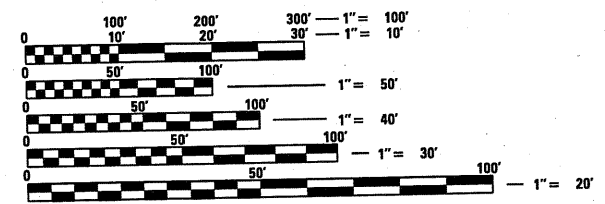
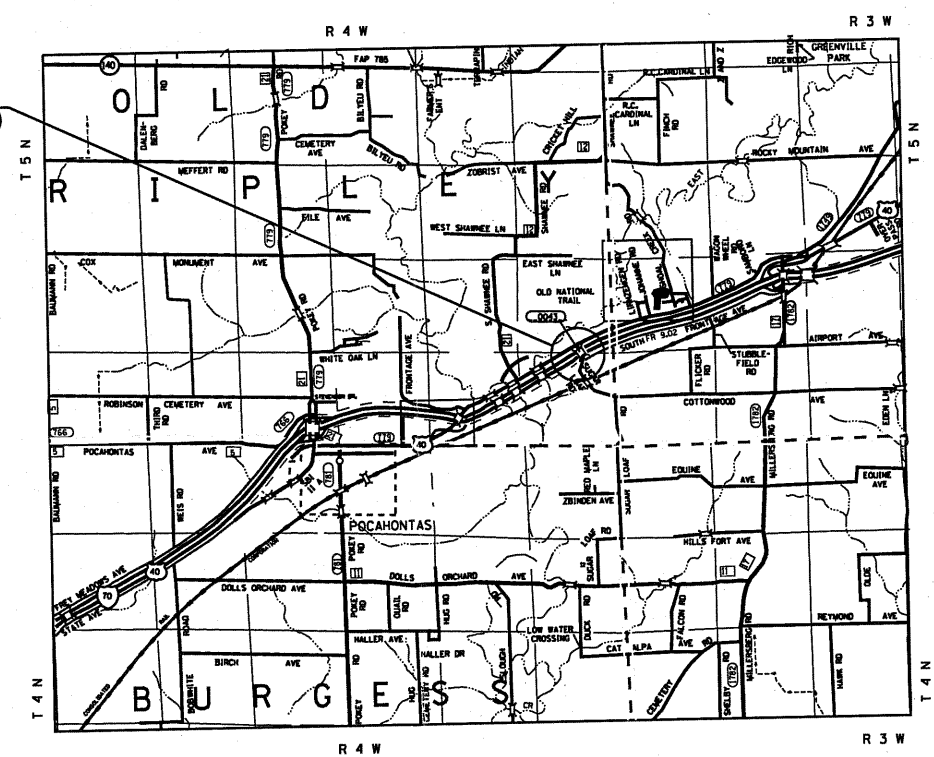
BOND COUNTY
C-98-135-10

FOR INDEX OF SHEETS, SEE SHEET NO. 2

TRAFFIC DATA	
I-70	TR 112 (SUGAR LOAF RD)
ADT: 22400 (2010)	ADT: 200 (2010)
27300 (2030)	250(2030)
SU: 3.4%	
MU: 30.6%	
EB 49.6% WB 50.4%	

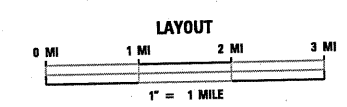


PROJECT LOCATION
TR 112 (SUGAR LOAF RD)
OVER I-70
SN 003-0043
STA 2278 + 50.00



FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

J.U.L.I.E.
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION
1-800-892-0123
OR 811



PROJECT ENGINEER: PATTI LEBEAU (618) 346-3179
PROJECT MANAGER: HERVE GELIN (618) 346-3323

CONTRACT NO. 76E50

LATITUDE: 38.84223333 LONGITUDE: - 90.49153611

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED August 12 20 10
Mark C. Jamel
DEPUTY DIRECTOR OF HIGHWAYS, REGION 5 ENGINEER

October 1 20 10
Scott E. Stitt, P.E.
acting ENGINEER OF DESIGN AND ENVIRONMENT

October 1 20 10
Christine M. Reed
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

PRINTED BY THE AUTHORITY
OF THE STATE OF ILLINOIS

INDEX OF SHEETS

1. COVER PAGE
2. INDEX OF SHEETS/HIGHWAY STANDARDS/GENERAL NOTES/COMMITMENTS SUMMARY OF QUANTITIES
3. PLAN AND ELEVATION
4. REPAIR DETAILS

HIGHWAY STANDARDS

000001-05
001006
701400-04
701406-05
701901-01

GENERAL NOTES

1. THE STANDARDS AND REVISION NUMBERS SHALL APPLY TO THIS PROJECT.
2. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS IN THE FIELD PRIOR TO CONSTRUCTION AND ORDERING MATERIALS.
3. ILLINOIS STATE LAW REQUIRES A 48-HOUR NOTICE BE GIVEN TO ALL UTILITIES BEFORE DIGGING. FIELD MARKING OF FACILITIES MAY BE OBTAINED BY CONTACTING J.U.L.I.E. OR FOR NON-MEMBERS, THE UTILITY COMPANY DIRECTLY. AGENCIES KNOWN TO HAVE FACILITIES WITHIN THE PROJECT AREA ARE AS FOLLOWS:
 - AT&T ILLINOIS
 - BOND MADISON WATER COMPANY
 - FRONTIER COMMUNICATIONS COMPANY
 - SOUTHWESTERN ELECTRIC COOPERATIVE, INC.

MEMBERS OF J.U.L.I.E. (800)-892-0123 ARE INDICATED BY *. NON J.U.L.I.E. MEMBERS MUST BE NOTIFIED INDIVIDUALLY.
4. NO OVERNIGHT LANE CLOSURES WILL BE ALLOWED.
5. FLAGMEN SHALL BE PRESENT DURING ALL LANE CLOSURE HOURS, INCLUDING LUNCH HOUR, AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

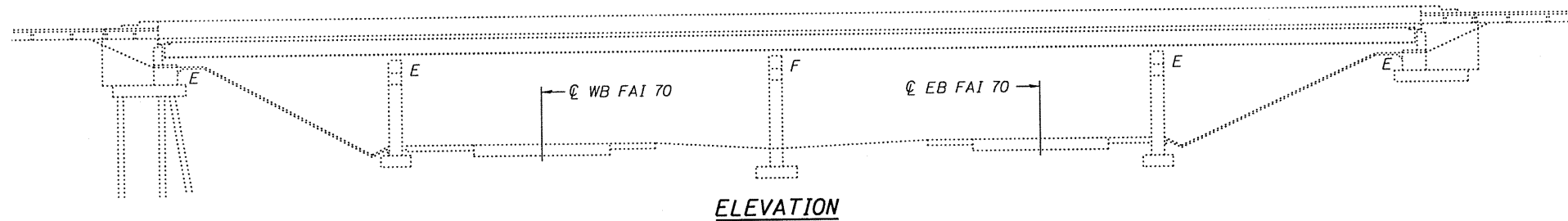
COMMITMENTS

NONE

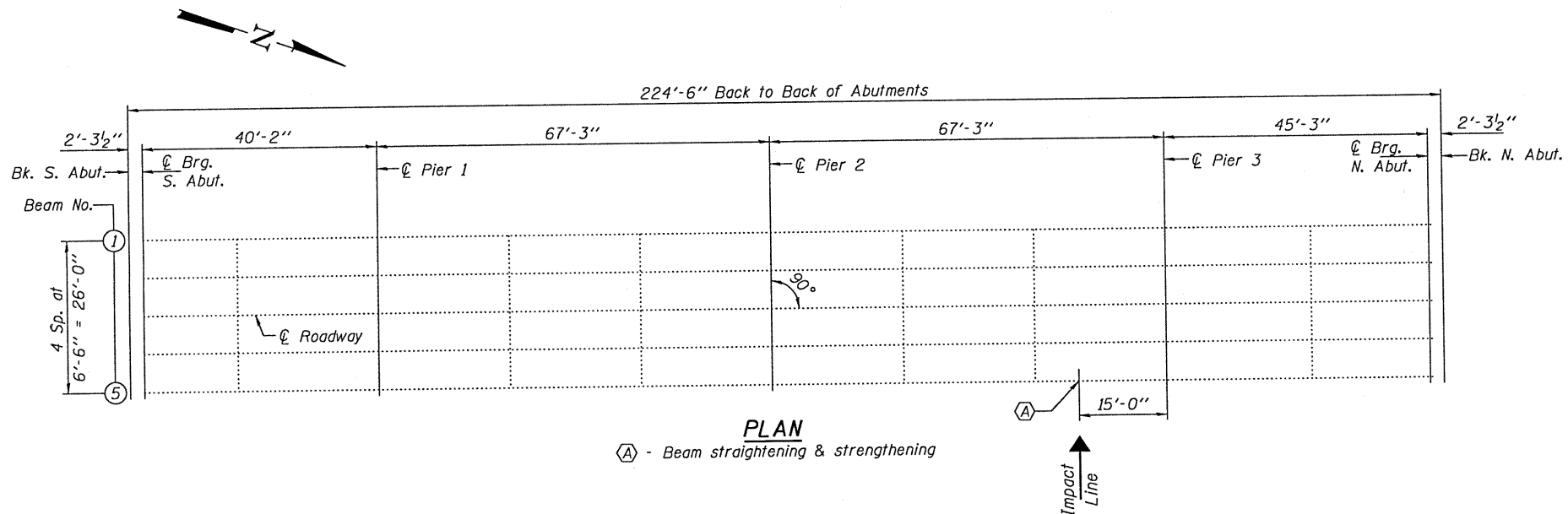
SUMMARY OF QUANTITIES

SUMMARY OF QUANTITIES			TOTAL QUANTITIES	CONSTRUCTION TYPE CODE	
CODE NO	ITEM	UNIT		100% STATE	-----
Z0001905	STRUCTURAL STEEL REPAIR	POUND	230	230	
67100100	MOBILIZATION	L SUM	1	1	
70100700	TRAFFIC CONTROL AND PROTECTION, STANDARD 701406	L SUM	1	1	
Z0003600	BEAM STRAIGHTENING	L SUM	1	1	

FILE NAME =	USER NAME = galinh	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	INDEX OF SHEETS /HIGHWAY STANDARDS /GENERAL NOTES /COMMITMENTS AND SUMMARY OF QUANTITIES	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
cc:\pwwork\pwwork\galinh\0211698\d87655-1\11-11-11\plan.dgn		DRAWN -	REVISED -			70	3-2HB-2-HDF	BOND	4	2
PLOT SCALE = 50.0000 / 1 IN.		CHECKED -	REVISED -		SCALE: _____			CONTRACT NO. 76E50		
PLOT DATE = 8/9/2010		DATE -	REVISED -		SHEET NO. 1 OF 1 SHEETS	STA. _____	TO STA. _____	FED. ROAD DIST. NO. _____	ILLINOIS	FED. AID PROJECT



ELEVATION



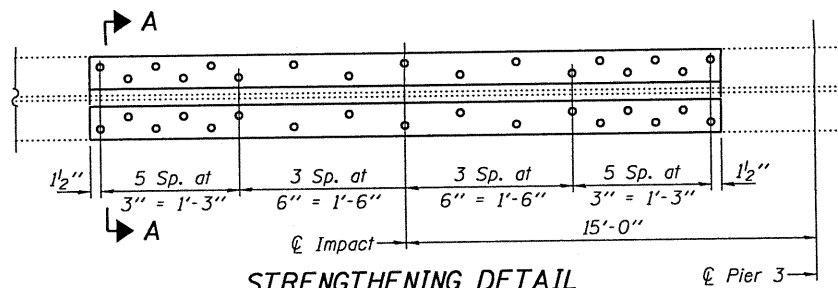
PLAN

(A) - Beam straightening & strengthening

Impact Line

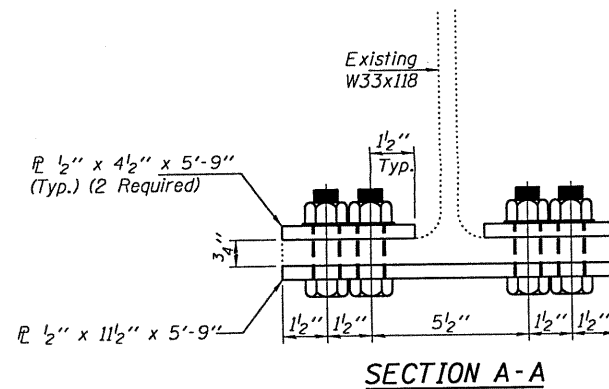


EXPIRES 11-30-2010



STRENGTHENING DETAIL

See Section A-A for dimensions not shown.



SECTION A-A

GENERAL NOTES

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

Fasteners shall be high strength bolts. Bolts 7/8"φ, open holes 15/16"φ, unless otherwise noted.

After the new beam is in its final position and/or 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".

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

The existing structural steel coating contains lead. The Contractor shall 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".

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

TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Beam Straightening	LS	1
Structural Steel Repair	Pound	230

TR 112 OVER FAI 70
SN 003-0043

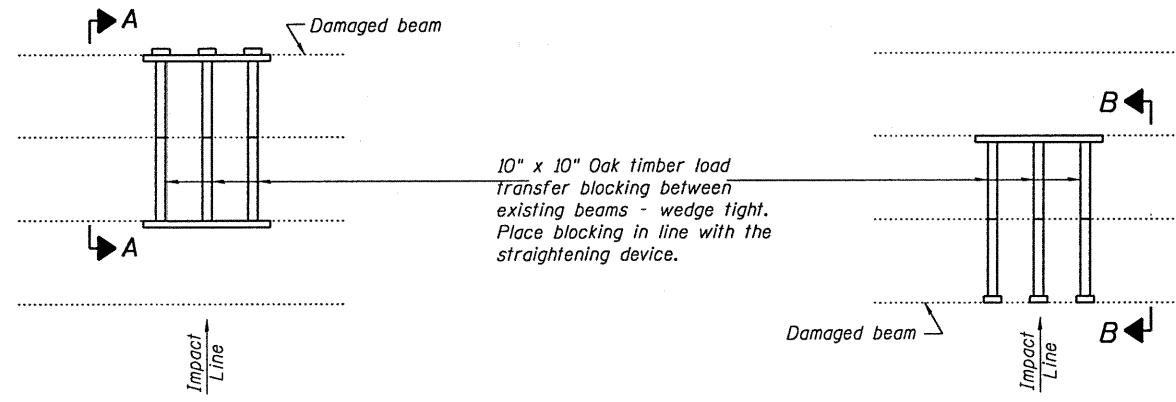
DESIGNED BY <i>[Signature]</i>	EXAMINED BY <i>[Signature]</i>	DATE
CHECKED BY <i>[Signature]</i>	PASSED BY <i>[Signature]</i>	SEPTEMBER 15, 2010
DRAWN BY <i>[Signature]</i>		
CHECKED BY <i>[Signature]</i>		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PLAN AND ELEVATION

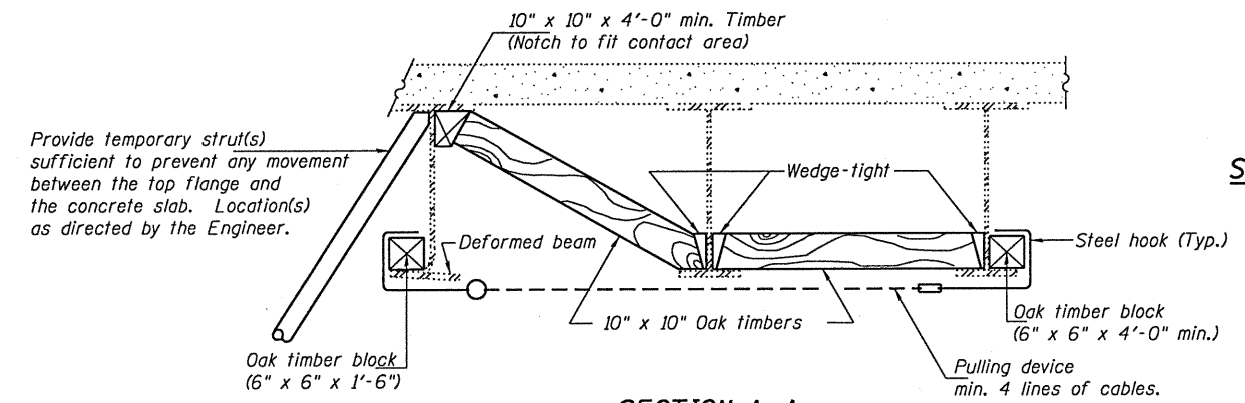
SHEET NO. 1 OF 2 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	3-2NB-2-HOF	BOND	4	3
CONTRACT NO. 76E50				
ILLINOIS FED. AID PROJECT				

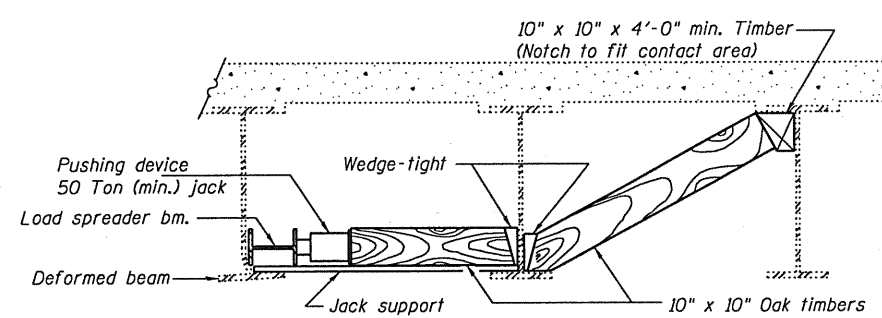


**PARTIAL PLANS
SUGGESTED BEAM STRAIGHTENING METHODS**

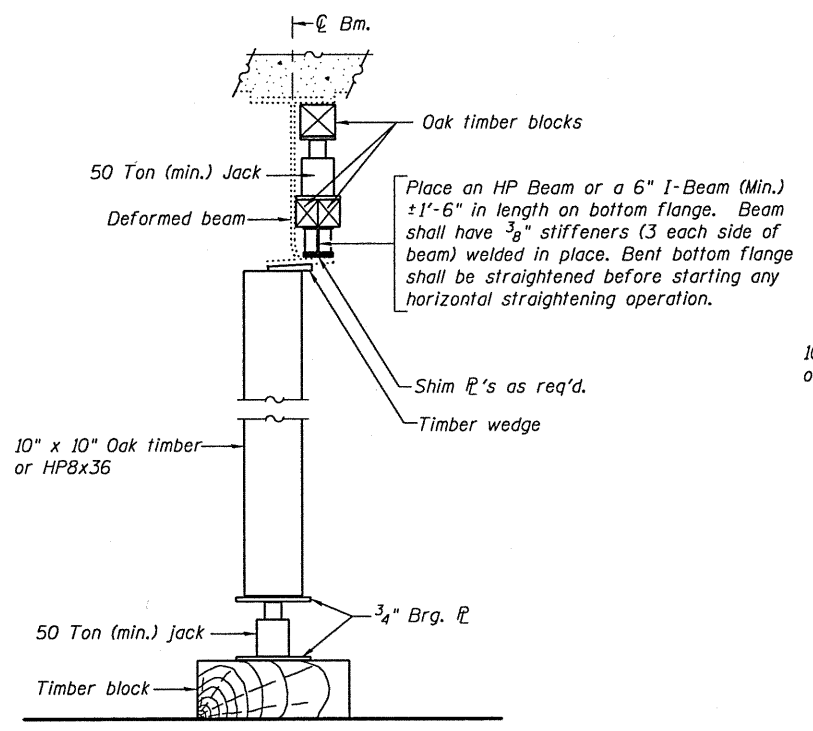
Straightening force shall be maintained on all load transfer blocking during beam straightening.



SECTION A-A

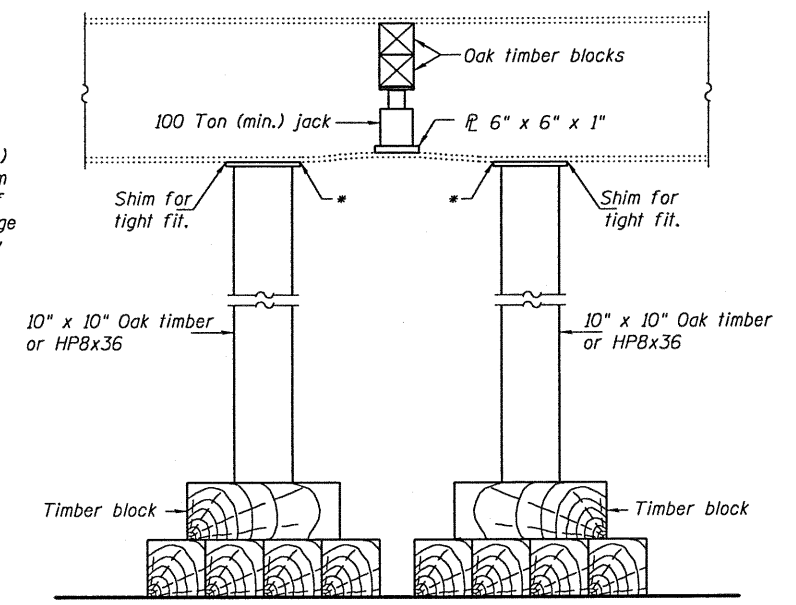


SECTION B-B



SUGGESTED VERTICAL STRAIGHTENING DETAIL

(To correct flange rotation.)

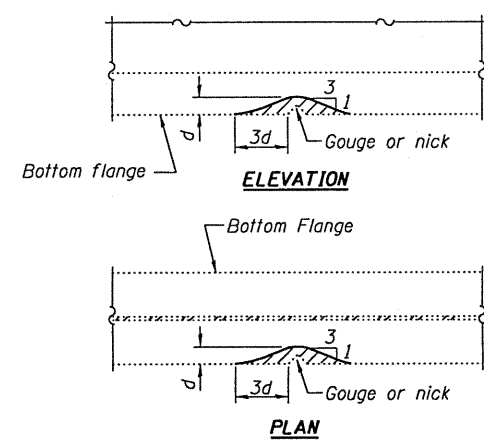


SUGGESTED VERTICAL STRAIGHTENING DETAIL

(To correct localized vertical flange deformations.)

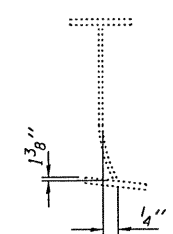
* Edge of plate shall line up with edge of deformation.

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.



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. 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 South)
(Approximate max. deflections)
Deflected length of beam to be straightened is approximately 2'-6".

**TR 112 OVER FAI 70
SN 003-0043**

REP-1 1-14-2005

DESIGNED DAB	EXAMINED
CHECKED IJL	PASSED
DRAWN baliva	
CHECKED DAB IJL	

DATE SEPTEMBER 15, 2010

Carl Proyer
ENGINEER OF STRUCTURAL SERVICES

Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

REPAIR DETAILS

SHEET NO. 2 OF 2 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	3-2HB-2-HOF	BOND	4	4
ILLINOIS FED. AID PROJECT			CONTRACT NO. 76E50	