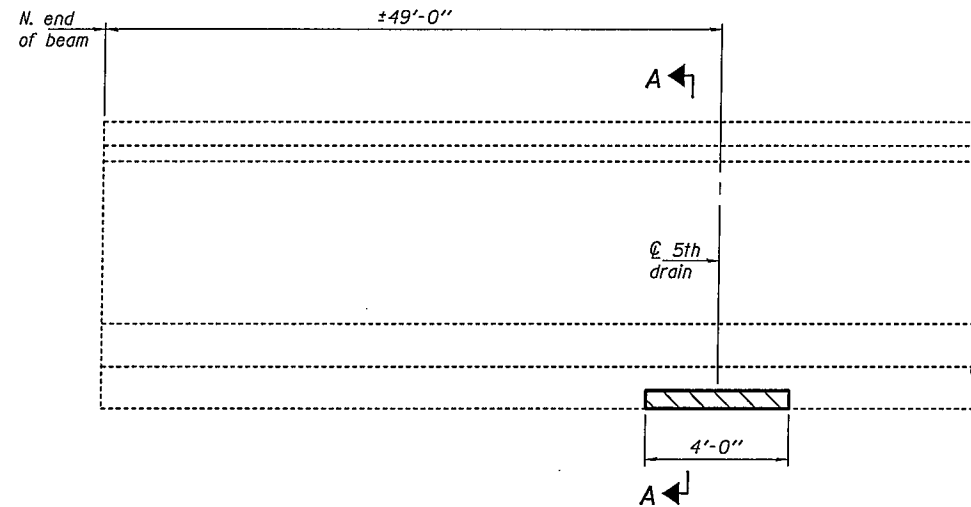
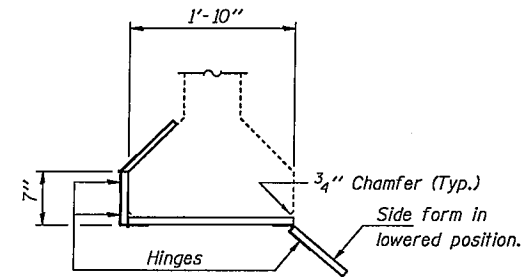


STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



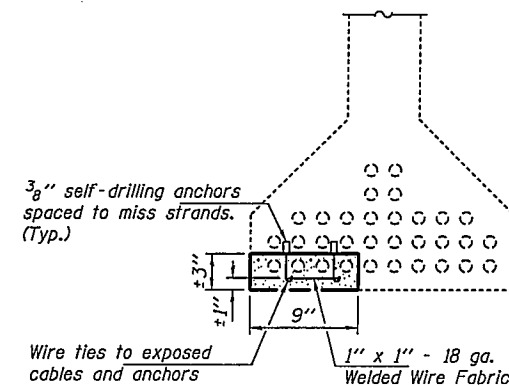
PARTIAL ELEVATION BEAM 8
(Looking East)



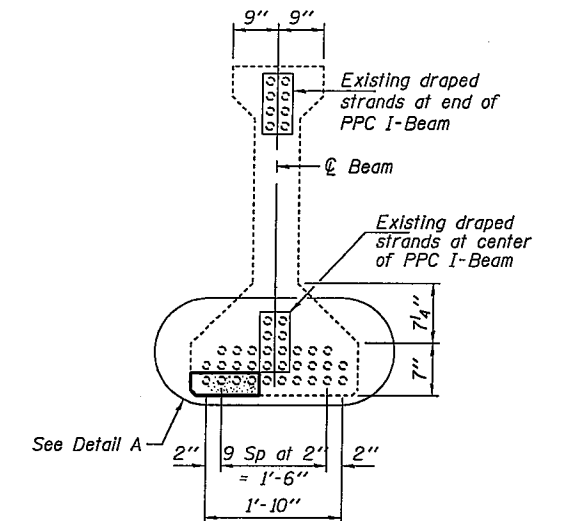
SUGGESTED FORM DETAIL

REPAIR PROCEDURES FOR BEAM 8 SPAN 3

1. The damaged area of the beam shall be cleaned of all loose and spalled concrete and sealant. All loose material shall be removed to sound concrete until coarse aggregate will break under chipping rather than dislodging. 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.
2. Using the same tools, remove the existing concrete to sound concrete, as described above, 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. The entire area of existing concrete against which new concrete will be placed and any exposed portions of the prestressing strands shall be sandblasted. The concrete shall be sandblasted to expose clean, well bonded aggregate.
3. 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. 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.
4. The surface of the existing concrete against which new concrete will be placed shall be prepared as a bonded construction joint according to Article 503.09(b)(2) of the Standard Specifications. Other minor mortar repair, crack sealing or surface sealing of gouges on the beam shall be performed as directed by the Engineer.
5. The repair shall be made using a material from the "Approved List of Non-Shrink Grouts" maintained by the Bureau of Materials and Physical Research. The repair material chosen shall be appropriate for the thickness of repair to be made. Coarse aggregate with maximum size of 3/8" shall be added with the amount as specified by the manufacturer. Place the lower form on the bottom of the beam and compact by vibrating (or other approved methods) the mix into the voids. After accessible voids have been filled and compacted, the side 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 PPCI-Beam flange.
6. Preloading, if specified, and forms shall be kept in place for 3 days after completion of concrete repair or until the repair material has reached an ultimate strength of 5,000 psi. Timing of form removal shall be modified as necessary to meet curing requirements as specified by the manufacturer.



DETAIL A



**SECTION A-A
PATCHING DETAIL**
Beam 8, Span 3

Note:
The cost of concrete removal, non-shrink grout, power driven pins, wire ties, wire mesh, Epoxy Crack Sealing and all other work required to perform repairs on Beam 8 in Span 3 shall be included in the cost of P.P.C. I Beam Repairs.

DESIGNED	VHV
CHECKED	DAB
DRAWN	baliva
CHECKED	VHV DAB

FEBRUARY 9, 2009
EXAMINED *Carl Perry*
ENGINEER OF STRUCTURAL SERVICES
PASSED *Ralph E. Anderson*
ENGINEER OF BRIDGES AND STRUCTURES

REPAIR DETAILS
FAI 172 OVER BN RR
SN 001-0051

SHEET NO. 8 8 SHEETS	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	172	(1-5)RS-1; (1-6)RS	ADAMS	108	108
FED. ROAD DIST. NO.			ILLINOIS	FED. AID PROJECT	
CONTRACT NO. 72694					