



## **INDIANA DEPARTMENT OF TRANSPORTATION**

### **Division of Materials and Tests**

#### **Directive 602**

#### **Structural Member Fabrication**

The process for acceptance of structural steel members and precast prestressed concrete structural members that are considered to not be within Standard Specification requirements will be in accordance with the following procedures:

#### **GENERAL**

The INDOT Fabrication Inspector will contact the District Testing Engineer (DTE) for determination of the final disposition of the structural member when a minor or major defect in the structural member is observed. All communications between the Fabricator, Prime Contractor, PE/S, DTE, and Fabricator Inspector may be done by means of written or electronic notification. Acceptance or rejection of the structural member will be done by the DTE. The District Field Engineer in the Division of Construction Management or the Division of Materials and Tests may be contacted if there are any questions concerning the quality of the structural member.

#### **MINOR DEFECTS**

If the defects are cosmetic or minor in nature that will not affect the structural capacity or structural integrity of the member, the DTE will request a written repair procedure from the Fabricator. The Fabricator shall send the repair procedure to the Prime Contractor and the DTE. Examples of minor defects in precast prestressed concrete structural members include minor honeycombs, bug holes, or minor cracks. Examples of minor defects in structural steel members include a misdrilled hole, defects found during non-destructive examination of the welds, or delaminated portions of the steel. If the repair procedure is acceptable, the DTE will inform the Fabricator and the Prime Contractor that the structural member may be repaired in accordance with the approved repair procedure. The structural member repairs shall be done in the presence of the Fabrication Inspector. Once repaired, the structural member will be accepted. A Disposition of Rejected Materials form (TD 305) will not be issued.

#### **MAJOR DEFECTS**

If the DTE believes the defects could affect the structural capacity or structural integrity of the member, the DTE will issue a TD 305 and send copies to the Prime Contractor, Fabricator, and PE/S. Examples of major defects in precast prestressed concrete structural members include stirrups not extending high enough above the top of the beam, fewer than the required number of strands extending from the end of the beam, or wrong reinforcing bars used in the beam. Examples of major defects in structural steel members include cuts in the wrong location,

misdrilled holes, defects found during non-destructive examination of the welds, or delaminated portions of the steel.

The Prime Contractor is responsible for consulting with the Fabricator concerning the acceptance or rejection of the structural member. The procedures shall be as follows:

1. If the Prime Contractor elects not to have INDOT pursue an investigation, the DTE will notify the Fabricator that the structural member is unacceptable and a new structural member will be required.
2. If the Prime Contractor elects to have INDOT pursue an investigation of the structural member, a written repair procedure shall be required by the Fabricator. Copies of the repair procedure shall be sent by the Fabricator to the Prime Contractor, PE/S, and the DTE.
3. The DTE will forward the repair procedure to the Designer of Record for an investigation.
4. The Designer of Record will review the repair procedure and make a recommendation to the DTE for acceptance of the repair procedure to the structural member or rejection of the structural member. The expenses incurred by the Designer of Record to evaluate the structural member will be submitted to the DTE.
5. If the Designer of Record does not accept the recommendation for repair of the structural member, the DTE will document on the TD 305 that the structural member is unacceptable and a new structural member will be required.
6. If the Designer of Record accepts the recommendation for repair of the structural member, the DTE will document the required repairs on the TD 305.
7. The DTE will issue the final recommendation and may either concur with the Designer of Record recommendation or provide another recommendation. The DTE will complete the TD 305 with the appropriate recommendation and send a copy to the Prime Contractor, Fabricator, PE/S, Fabrication Inspector and the Office of Materials Management of the final decision regarding the acceptance or rejection of the structural member.
8. The costs for the evaluation of the structural member will be assessed to the Prime Contractor by means of the TD 305. These costs will include the DTE expenses for the time and travel to inspect the structural member, the Designer of Record expenses to evaluate the structural member, the Fabricator Inspector

expenses for the time to monitor the repair, and any other incurred expenses. An additional penalty may be assessed for structural members that do not meet the specification requirements and have defects that are determined to not affect the structural capacity or structural integrity of the member. A minimum of \$1000.00 or the actual cost of the investigation if more than \$1000.00 will be assessed.

9. The Prime Contractor may appeal the decision of the DTE by sending a notification to appeal to the DTE within 15 days from the date of the notification of the failure. The basis of appeal in detail shall be included in the notification. The DTE will review the appeal and send the decision to the Prime Contractor.

### **REJECTION OF STRUCTURAL MEMBER**

If the defects are significant, the quality of the structural member does not meet specification requirements, and the DTE decides that the structural member cannot be modified to meet the specification requirements, the DTE may reject the structural member by sending a notification to the Fabricator. A TD 305 will not be issued. The Fabricator may appeal the failed materials decision by sending a notification to appeal to the DTE within 15 days from the date of the notification of the failure. The basis of appeal in detail shall be included in the notification. The DTE will review the appeal and send the decision to the Fabricator.