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## **Structures Engineering Instructions (SEI)**

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**Distribution:** Structures, Director PDD, Assistant Director PDD, PDD Section Managers, Chief of Contract Admin., Director Ops., Assistant Director Ops., Consultants

**Approved:** Wm. Michael Hedges      **Date:** 12/17/07  
Wm. Michael Hedges,  
Structures Program Manager

**Subject:**      **Issuance - VT Joint Structures Detail Sheet**

### **Administrative Information:**

**Effective Date:** This SEI shall be effective for the Structures Section projects from the date of approval.

**Superseded SEI:** None.

**Exceptions:** Exceptions may be approved by the Project Manager.

**Disposition of SEI Content:** The SEI will be stored to document the timing of the revision and reasons for changes to the Structures Detail Sheet. The VT Joint Structures Detail Sheet will be immediately available for use.

### **Purpose:**

The VT Joint Structures Detail Sheet has been updated to address noted performance issues with the anchor ferrule threads stripping after installation. The revision also updates the sheet to conform to the 2006 Standard Specifications for Construction.

### **Technical Information:**

Summary of changes made to VT Joint Structures Detail Sheet:

- 1) All specification references have been updated and checked for use with the 2006 Standard Specifications for Construction.
- 2) The joint was revised to require bolts and nuts in conformance with subsection 714.05. This was a change from the anchor ferrule that was previously specified. The anchor ferrules were incompatible with the high strength bolts used to attach the joint bars. The result was bolts loosening in service due to thread strip out in several joints. Because a closed ferrule will not longer be required, the threads that project beyond the nut are to be greased prior to placing concrete to facilitate removal if required in the future.
- 3) The cover from the face of backwall to the edge of the ½"x9"x8" anchor plate was increased from 1 ½" to 2 ½". The coating of the anchor plate was made optional. Standard practice now is to not coat the anchor plate or connected shear studs. The bracket dimensions were adjusted to accommodate the change.

- 4) Notes were added to emphasize the need to grind the corners of the plate and angle components prior to galvanizing or metalizing and to prohibit welding shipping attachments to the joint.
- 5) Designer notes have been added to the file to advise the designer that the minimum depth of the drain trough needs to be determined based on the actual geometry of the bridge.

Note: Structures Detail Sheets are standardized sheets that are included in project plans as necessary. These sheets are developed and accepted by the Structures Section and should be used with minimal revisions.

### **Implementation:**

This sheet shall be used for all new bridge projects that utilize a VT Joint and have not yet been detailed. For new bridge projects that have previously been detailed, the designer shall verify that the details in the plan set are updated as a minimum to address the anchor ferrule revision and to meet 2006 specifications.

For bridge rehabilitation projects, the VT Joint Structures Detail sheet may be modified as required to fit the actual geometry of the bridge. The materials and construction notes shall be as consistent as possible with the content of the standard detail.

### **Transmitted Materials:**

The new VT Joint Structures Detail Sheet will be named VTEpJoint07.dgn and located in the following location T:\CADD\Workspace\Projects\English\dgn\details. The standard detail sheet is available to consultants upon request from the project manager.