

## Design Memorandum

TO: All Design Section Staff  
FROM: Bijan Khaleghi  
DATE: May 23, 2013  
SUBJECT: Self-Consolidating Concrete (SCC) for Prestressed Concrete Girder Bridges

This design memorandum describes WSDOT policies for use of Self-Consolidating Concrete (SCC) for prestressed concrete girders and other structural members.

Self-consolidating concrete (SCC) may be used in structural members such as precast noise wall panels, barriers, three-sided structures, etc. as described in Standard Specification Section 6-02.3(27), and may be used in prestressed concrete girders in accordance with Sections 6-02.3(25)B and 9-19.1.

### **Background:**

WSDOT has previously imposed limitation on the use of SCC for prestressed girders due to the concerns on mechanical and visco-elastic properties including lower modulus of elasticity, higher creep coefficient, higher shrinkage strain, longer bond transfer and development lengths of strands, flexural and shear strengths, etc. Recent bridge projects in Washington and other states, SCC production in PCI plants, and NCHRP research projects have demonstrated that SCC could successfully be used in precast concrete members. As a result WSDOT is lifting the limitation on the use of SCC for precast concrete bridge applications.

The Standard Specification Sections mentioned above will be revised to acknowledge the use of SCC for all precast concrete bridge applications.

If you have any questions regarding these issues, please contact Bijan Khaleghi at 360-705-7181 ([khalegb@wsdot.wa.gov](mailto:khalegb@wsdot.wa.gov)).

cc: Mark Gaines, Bridge Construction - 47354  
Craig Boone, Bridge and Structures – 47340

## **BDM Revisions**

The BDM revision should read as follows:

5.1.1-I - Self-Consolidating Concrete (SCC) – Self-consolidating concrete (SCC) may be used in structural members such as precast noise wall panels, barriers, three-sided structures, etc. as described in Standard Specification Section 6-02.3(27), and may be used in prestressed concrete girders in accordance with Sections 6-02.3(25)B and 9-19.1.