ORIGINATION FORM

THE INFORMATION BELOW IS TO BE PROVIDED BY THE ORIGINATOR

X Modify Specification ____SS4620000_____.
Section/File number

☐ New Section _____.
Section number

Subject: Post Tensioning – Steel Pipes, Shear Transfer Mechanism

Origination date: 10/31/07

Originator: Charles Boyd
Office/Phone: 414-4275
Email address/ Userid: charles.boyd@dot.state.fl.us
st986cb

Problem statement: Due to a change in philosophy about post-tensioning requirements concerning the ability to readily detect if a tendon has broken at the anchorage or within the diaphragm, the requirements for providing a shear transfer mechanism within the tendon at the anchorage are being deleted.

Information source: FDOT Structures Design Office engineers familiar with post-tensioning systems and bridge inspection techniques.

Background data: See problem statement.

Recommended Usage Note: All projects that require post-tensioning.

Estimated fiscal impact, if implemented: None. Some small cost reduction may actually occur but it is unlikely it will appear in the bid prices for post-tensioning due to its magnitude.

Implementation of these changes, if and when approved, will begin with the July 2008 letting.

Florida Department of Transportation

CHARLIE CRIST
GOVERNOR

605 Suwannee Street
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STEPHANIE KOPELOUSOS
SECRETARY

M E M O R A N D U M

DATE: December 17, 2007

TO: Specification Review Distribution List

FROM: Duane F. Brautigam, P.E., State Specifications Engineer

SUBJECT: Proposed Specification Change: 4620425 Post Tensioning-Steel Pipes

In accordance with Specification Development Procedures, we are sending you a copy of a proposed new specification change for Post Tensioning-Steel Pipes.

This change was proposed by Charles Boyd of the State Structures Office to remove the requirements for a shear transfer mechanism and delete the testing and certification requirements.

Please share this proposal with others within your responsibility. Review comments are due within four weeks and should be sent to Mail Station 75 or to my attention via e-mail at SP965DB or duane.brautigam@dot.state.fl.us. Comments received after January 14, 2008 may not be considered. Your input is encouraged.

DFB/dm

Attachment

COMMENTS: _____

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Submitted by: _____ Phone #: _____

POST-TENSIONING STEEL PIPES.
(REV 10/31/07)

SUBARTICLE 462-4.2.5.4 (Page 567) is deleted and the following substituted:

462-4.2.5.4 Steel Pipes: Use galvanized schedule 40 steel pipes where shown in the plans and in all deviation blocks *and diaphragms*. ~~Ensure that steel pipes used in the tendon anchorage zones are equipped with a shear transfer mechanism. Test and provide written certification that the shear transfer mechanism can resist at least 68% of the tendon GUTS in a shear transfer pull-out test described below:~~

~~Shear Transfer Mechanism Pullout Test Procedure:~~

~~1) Cast Anchorage, Shear Transfer Mechanism and Duct in a test block of concrete with minimum dimensions of 2'-6" X 2'-6" X Required Diaphragm Length (6 ft. min.)~~

~~2) Stress tendon to 80% GUTS. Grout tendon.~~

~~3) Transfer force from wedge plate to shear transfer mechanism. Alternate procedures to safely obtain the required resistance force for the shear transfer mechanism may be used.~~

~~4) Measure tendon release force. (Must be greater than 68% of tendon GUTS).~~

~~5) Remove shim plates from behind anchor head and transfer tendon force through grout/shear transfer mechanism into test block.~~

~~6) Record lowest transfer force measured over a sustained period of one hour.~~

~~6) Record lowest transfer force measured over a sustained period of one hour.~~