



Florida Department of Transportation

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Tallahassee, FL 32399-0450

KEVIN J. THIBAUT
SECRETARY

July 8, 2019

Khoa Nguyen
Director, Office of Technical Services
Federal Highway Administration
3500 Financial Plaza, Suite 400
Tallahassee, Florida 32312

Re: State Specifications Office
Section: **960**
Proposed Specification: **9600201 Post-Tensioning Components.**

Dear Mr. Nguyen:

We are submitting, for your approval, two copies of the above referenced Supplemental Specification.

The changes are proposed by Jacqueline Petrozzino-Roche from Structures Design Office to allow testing according to the updated EAD document.

Please review and transmit your comments, if any, within two weeks. Comments should be sent via email to stefanie.maxwell@dot.state.fl.us.

If you have any questions relating to this specification change, please call me at 414-4140.

Sincerely,

Signature on file

Stefanie D. Maxwell, P.E.
Manager, Program Management Office

SM/rf

Attachment

cc: Florida Transportation Builders' Assoc.
State Construction Engineer

POST-TENSIONING COMPONENTS (REV 5-10-19)

SUBARTICLE 960-2.1 is deleted and the following substituted:

960-2.1 Anchorage Assembly:

1. Construct anchorages from ferrous metal.
2. Anchorages shall develop at least 96% of PT steel actual ultimate strength when tested in an unbonded state, without exceeding anticipated anchor set.
3. Average concrete bearing stress shall be in compliance with AASHTO LRFD Bridge Design Specifications and AASHTO LRFD Bridge Construction Specifications.
4. Test anchorages with typical local zone reinforcement shown in system drawings.
5. Test anchorages in accordance with AASHTO LRFD Bridge Construction Specifications, ~~or the Guideline for European Technical Approval of Post Tensioning Kits for Prestressing of Structures (ETAG 013, June 2002 edition)~~ or the European Assessment Document Post-Tensioning Kits for Prestressing of Structures (EAD 160004-00-0301, September 2016 Edition) with the exception that the design concrete strength used in the testing will be 6,500 psi. For anchorages that will be used for tendons with flexible filler, test anchorages in accordance with ~~ETAG 013 Section 6.1.2-I~~ EAD 160004-00-0301 Section C.3 Resistance to Fatigue.
6. Anchorages with grout or flexible filler outlets shall be suitable for inspection from either top or front of anchorage. Anchorages may be fabricated to facilitate both inspection locations or may be two separate anchorages of the same type, each providing singular inspection entry locations.
7. Geometry of grout and flexible filler outlets must facilitate access for borescope inspection directly behind wedge plate using a straight 3/8 inch diameter drill bit.
8. Ferrous metal components of an anchorage that are to be embedded in concrete shall be galvanized in accordance with Section 962. Other anchorage assembly components, including wedges, wedge plates, and local zone reinforcement need not be galvanized.
9. All anchorages shall have a permanent vented anchorage cap bolted to the anchorage.

SUBARTICLE 960-2.3.2.2 is deleted and the following substituted:

960-2.3.2.2 Bar:

1. Prestressing bars shall be in accordance with Section 933.
2. Bar couplers shall be in compliance with AASHTO LRFD Bridge Design Specifications and AASHTO LRFD Bridge Construction Specifications.
3. Test bar couplers in accordance with AASHTO LRFD Bridge Construction Specifications ~~or the Guideline for European Technical Approval of Post-Tensioning Kits for Prestressing of Structures (ETAG 013, June 2002 edition)~~ or the European Assessment Document Post-Tensioning Kits for Prestressing of Structures (EAD 160004-00-0301, September 2016 Edition). For bar couplers that will be used for tendons with flexible filler,

test bar couplers in accordance with ~~ETAG-013-Section-6.1.2-I~~ the EAD 160004-00-0301 Section C.3 Resistance to Fatigue.

4. Use only spherical nuts to anchor bars at bearing plates.

POST-TENSIONING COMPONENTS
(REV 5-10-19)

SUBARTICLE 960-2.1 is deleted and the following substituted:

960-2.1 Anchorage Assembly:

1. Construct anchorages from ferrous metal.
2. Anchorages shall develop at least 96% of PT steel actual ultimate strength when tested in an unbonded state, without exceeding anticipated anchor set.
3. Average concrete bearing stress shall be in compliance with AASHTO LRFD Bridge Design Specifications and AASHTO LRFD Bridge Construction Specifications.
4. Test anchorages with typical local zone reinforcement shown in system drawings.
5. Test anchorages in accordance with AASHTO LRFD Bridge Construction Specifications, or the European Assessment Document Post-Tensioning Kits for Prestressing of Structures (EAD 160004-00-0301, September 2016 Edition) with the exception that the design concrete strength used in the testing will be 6,500 psi. For anchorages that will be used for tendons with flexible filler, test anchorages in accordance with EAD 160004-00-0301 Section C.3 Resistance to Fatigue.
6. Anchorages with grout or flexible filler outlets shall be suitable for inspection from either top or front of anchorage. Anchorages may be fabricated to facilitate both inspection locations or may be two separate anchorages of the same type, each providing singular inspection entry locations.
7. Geometry of grout and flexible filler outlets must facilitate access for borescope inspection directly behind wedge plate using a straight 3/8 inch diameter drill bit.
8. Ferrous metal components of an anchorage that are to be embedded in concrete shall be galvanized in accordance with Section 962. Other anchorage assembly components, including wedges, wedge plates, and local zone reinforcement need not be galvanized.
9. All anchorages shall have a permanent vented anchorage cap bolted to the anchorage.

SUBARTICLE 960-2.3.2.2 is deleted and the following substituted:

960-2.3.2.2 Bar:

1. Prestressing bars shall be in accordance with Section 933.
2. Bar couplers shall be in compliance with AASHTO LRFD Bridge Design Specifications and AASHTO LRFD Bridge Construction Specifications.
3. Test bar couplers in accordance with AASHTO LRFD Bridge Construction Specifications or the European Assessment Document Post-Tensioning Kits for Prestressing of Structures (EAD 160004-00-0301, September 2016 Edition). For bar couplers that will be used for tendons with flexible filler, test bar couplers in accordance with the EAD 160004-00-0301 Section C.3 Resistance to Fatigue.
4. Use only spherical nuts to anchor bars at bearing plates.