Florida Department of Transportation

RON DESANTIS
GOVERNOR

605 Suwannee Street
Tallahassee, FL 32399-0450

JARED W. PERDUE, P.E.
SECRETARY

August 11, 2025

Abi Domond
Civil Rights Analysis Intern
Federal Highway Administration
3500 Financial Plaza, Suite 400
Tallahassee, Florida 32312

Re: State Specifications Office
Section: 461
Proposed Specification: **4610100 Multirotational Bearings**

Dear Ms. Domond:

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

The changes are proposed by Ben Goldsberry to move Long-Term Deterioration (LTD) testing for multirotational bearings from the Specifications to the Materials Manual.

Please review and transmit your comments, if any, within two weeks (10 business days). Comments should be sent via email daniel.strickland@dot.state.fl.us.

If you have any questions relating to this specification change, please call me at (850) 414-4130.

Sincerely,

Signature on File

Daniel Strickland, P.E.
State Specifications Engineer

DS/jb
Attachment
cc: Florida Transportation Builders' Assoc.
State Construction Engineer

MULTIROTATIONAL BEARINGS
(REV 4-28-25)

ARTICLE 461-1 is deleted and the following substituted:

461-1 Description.

Furnish and install multirotational bearings in accordance with the recommendations of the fabricator~~manufacturer~~ and details shown in the Plans. Obtain all multirotational bearings from a fabricator that is currently on the Department's Production Facility Listing. Provide bearings on each bridge from the same fabricator~~manufacturer~~. This Section covers the following types of multirotational bearings:

1. Pot bearings
2. Disc bearings

ARTICLE 461-2 is deleted and the following substituted:

461-2 Materials.

Provide materials in accordance with the AASHTO LRFD Bridge Design Specifications and as follows:~~.~~

Structural Steel ..... ASTM A709 Grade 50W
Stainless Steel ..... ASTM A240, Type 316, 16 gage minimum thickness
Metalizing Wire ..... ASTM B833, 85% zinc/15% aluminum (Z30700)
Galvanized Anchor Rods, Nuts, and Washers ..... Section 962

~~**461-2.1 Structural Steel:**~~
~~Furnish structural steel conforming to ASTM A709 Grade 50W.~~
~~**461-2.2 Stainless Steel:**~~
~~Furnish stainless steel conforming to ASTM A240, Type 316, 16 gage minimum thickness.~~
~~**461-2.3 Metalizing Wire:**~~
~~Furnish metalizing wire in accordance with ASTM B833, having an 85% zinc/15% aluminum (Z30700) composition.~~
~~**461-2.4 Anchor Rods, Nuts and Washers:**~~
~~Furnish galvanized anchor rods, nuts and washers in accordance with Section 962.~~

ARTICLE 461-4 is deleted and the following substituted:

461-4 Shop Drawings.

Submit shop drawings in accordance with Section 5. Include design calculations, signed and sealed by a Specialty Engineer, confirming that all components are in conformance with the requirements of this Section. Include the following information on the shop drawings:

1. Items listed in AASHTO LRFD Bridge Construction Specifications Article 18.1.1.

2. The bearing fabricator's~~manufacturer's~~ instructions for proper installation, including the proper positioning settings for a minimum 100°F temperature range.

3. Items required in 461-6.1 and 461-6.3.

ARTICLE 461-6 is deleted and the following substituted:

461-6 Testing and Certification.

461-6.1 General: Test ~~the materials used to fabricate the bearings and the~~ completed bearings ~~themselves~~ in accordance with the AASHTO LRFD Bridge Construction Specifications. Submit all test results ~~including visual documentation of the bearing both during testing and upon disassembly after testing~~ to the Engineer prior to bearing installation. Production bearings must be fabricated using the same materials, methods, and quality control procedures as those used for prequalification testing.

461-6.2 Long-Term Proof Load Test: Conduct long-term proof load testing on full-size bearings on a per LOT basis using the reactions, rotations, and movements shown in the Plans for each type of bearing.

461-6.3 Certification~~Long-Term Deterioration Test~~: Furnish a certification from the bearing fabricator stating that the bearings have been tested as defined herein.~~Long-term deterioration testing requirements will be considered satisfied by either of the following:~~

~~1. Testing of full-size bearings on a per LOT basis.~~

~~2. Prequalification in accordance with Materials Manual Chapter 11.1. The capacity of successfully tested bearings must be within 25% of the required demand specified in the Plans (reactions and resultant compressive stresses, rotations, and movements) for prequalification testing to be considered satisfied for a project. Test results for bearings of a given type and configuration are valid for five years from the original date of testing.~~

~~Production bearings must be manufactured using the same materials, methods, and quality control procedures as those used for testing.~~

ARTICLE 461-7 is deleted and the following substituted:

461-7 Installation.

Store multirotational bearings delivered to the bridge site under cover on a platform above the ground surface. Protect bearings at all times from damage and ensure they are clean, dry and free from dirt, oil, grease or other foreign substances before placement. Install the bearings in accordance with the recommendations of the fabricator~~manufacturer~~, contract drawings, and as may be directed by the Engineer. If there is any discrepancy between the recommendations of the fabricator~~manufacturer~~, these Specifications, and Contract Drawings, the Engineer will be the sole judge in reconciling any such discrepancy.

A bearing fabricator's technical representative must be present~~Obtain the services of a qualified technical representative, employed by the manufacturer of the bearings,~~ to supervise the first installation of each type of bearing (expansion pot, fixed pot, expansion disc, fixed disc or other type as defined by the Engineer) but for only one size of each type. ~~Submit to the Engineer a certified statement from the manufacturer that its representative has the necessary technical experience and knowledge to supervise bearing installations and to train Contractor personnel about proper bearing installation procedures and methods. Do not install the bearings before the~~

~~Engineer receives the certification and the representative is on the job site. Assume this responsibility at no further expense to the Department.~~

Perform any required touchup repair and field metalizing~~ as directed by the Engineer~~.

SUBARTICLE 461-9.1 is deleted and the following substituted:

461-9.1 Basic Items of Bearings: The Contract unit price per each for bearings will be full compensation for all work and materials necessary for the complete installation. Such price and payment will include, but not limited to, the following specific incidental items:

1. testing,
2. tools and equipment required for installation,
3. any work to replace rejected bearings,
4. any repairs to the metalized coating on the bearings,
5. all costs associated with the fabricator's technical representative~~manufacturer's installation technician~~,
6. sole plate, masonry plate, high strength bolt assemblies, and anchor rod assemblies.

MULTIROTATIONAL BEARINGS
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2. Disc bearings

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461-2 Materials.

Provide materials in accordance with the AASHTO LRFD Bridge Design Specifications and as follows:

Structural Steel..... ASTM A709 Grade 50W
Stainless Steel ..... ASTM A240, Type 316, 16 gage minimum thickness
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Galvanized Anchor Rods, Nuts, and Washers .....Section 962

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Submit shop drawings in accordance with Section 5. Include design calculations, signed and sealed by a Specialty Engineer, confirming that all components are in conformance with the requirements of this Section. Include the following information on the shop drawings:

1. Items listed in AASHTO LRFD Bridge Construction Specifications Article 18.1.1.
2. The bearing fabricator's instructions for proper installation, including the proper positioning settings for a minimum 100°F temperature range.
3. Items required in 461-6.1 and 461-6.3.

ARTICLE 461-6 is deleted and the following substituted:

461-6 Testing and Certification.

461-6.1 General: Test completed bearings in accordance with the AASHTO LRFD Bridge Construction Specifications. Submit all test results to the Engineer prior to bearing installation. Production bearings must be fabricated using the same materials, methods, and quality control procedures as those used for prequalification testing.

461-6.2 Long-Term Proof Load Test: Conduct long-term proof load testing on full-size bearings on a per LOT basis using the reactions, rotations, and movements shown in the Plans for each type of bearing.

461-6.3 Certification: Furnish a certification from the bearing fabricator stating that the bearings have been tested as defined herein.

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A bearing fabricator's technical representative must be present to supervise the first installation of each type of bearing (expansion pot, fixed pot, expansion disc, fixed disc or other type as defined by the Engineer) but for only one size of each type.

Perform any required touchup repair and field metalizing.

SUBARTICLE 461-9.1 is deleted and the following substituted:

461-9.1 Basic Items of Bearings: The Contract unit price per each for bearings will be full compensation for all work and materials necessary for the complete installation. Such price and payment will include, but not limited to, the following specific incidental items:

1. testing,
2. tools and equipment required for installation,
3. any work to replace rejected bearings,
4. any repairs to the metalized coating on the bearings,
5. all costs associated with the fabricator's technical representative,
6. sole plate, masonry plate, high strength bolt assemblies, and anchor rod assemblies.