# ORIGINATION FORM
## Proposed Revisions to the Specifications

(Please provide all information - incomplete forms will be returned)

**Date:** October 10, 2016

**Specification Section:** Section 646

**Originator:** Chester A. Henson, P.E.

**Articles/Subarticles:** 646-2

**Telephone:** 414-4117

**email:** chester.henson@dot.state .fl.us

**Will the proposed revision involve Design Standard Index changes?** Yes ○ No ●

**Roadway Design staff contacted (name):**

**Structures Design staff contacted (name):** Andre Pavlov

**Will the proposed revision involve PPM changes?** Yes ○ No ●

**Roadway Design staff contacted (name):**

**Will the proposed revision involve CPAM changes?** Yes ○ No ●

**Construction staff contacted (name):**

**Will the proposed revision involve Pay Item changes?** Yes ○ No ●

**Estimates staff contacted (name):**

**Will the proposed revision involve SDG changes?** Yes ○ No ●

**Structures staff contacted (name):**

**Will the proposed revision involve APL changes?** Yes ○ No ●

**Product Evaluation staff contacted (name):** Jeff Morgan

**Will the proposed revision involve Material Manual changes?** Yes ○ No ●

**State Materials Office staff contacted (name):**

**Will this revision necessitate any of the following:**

**Design Bulletin** ☐ **Construction Bulletin** ☐ **Estimates Bulletin** ☐ **Materials Bulletin** ☐

**Are all references to external publications current?** Yes ● No ○

**If not, what references need to be updated? (Please include changes in the redline document.)**

**Why does the existing language need to be changed?**

The reference for poles had been superceded and the Structures office modified the foundation to be consistent with other foundation details. It was found during the review of APL approvals that the bolt circles varied by manufacture from 13" to 14".

**Summary of the changes:**

The reference for poles was changed from ASTM B241 to ASTM B429. The bolt circle of 14" was modified to be based on manufacturers recommendations. The anchor bolt specification was changed to match other Indexes.

**Are these changes applicable to all Department jobs?** Yes ● No ○

**If not, what are the restrictions?**

*Florida Department of Transportation*

RICK SCOTT
GOVERNOR

605 Suwannee Street
Tallahassee, FL 32399-0450

JIM BOXOLD
SECRETARY

**M E M O R A N D U M**

**DATE:** October 24, 2016

**TO:** Specification Review Distribution List

**FROM:** Dan Hurtado, P.E., State Specifications Engineer

**SUBJECT:** Proposed Specification: **6460200 Aluminum Poles, Pedestals, and Posts.**

In accordance with Specification Development Procedures, we are sending you a copy of a proposed specification change.

This change was proposed by Chester Henson of the State Roadway Design Office to update the language.

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 online at http://www2.dot.state.fl.us/ProgramManagement/Development/IndustryReview.aspx . Comments received after **November 21, 2016,** may not be considered. Your input is encouraged.

DH/dt
Attachment

**ALUMINUM POLES, PEDESTALS, AND POSTS.**
**(REV 10-11-16)**

ARTICLE 646-2 is deleted and the following substituted:

**646-2 Materials.**

**646-2.1 Poles and Posts:** Use nominal 4 inch diameter Schedule 40 aluminum poles and posts meeting the requirements of The Aluminum Association Alloy 6061-T6 and ASTM B~~241~~429. Poles used with transformer bases must be threaded with No. 8 NPT threads. Sufficient threads are required to fully seat the pole into the hub of the pedestal base.

**646-2.2 Transformer Base:** Use transformer bases listed on the Department's Approved Product List (APL).

Manufacturers seeking APL approval of proprietary transformer bases must submit an application in accordance with Section 6, independent laboratory test report, and calculations and drawings showing details, notes, materials, dimensions, and sizes that the transformer base meets the following requirements:

1. Materials: Meets the material requirements of Aluminum Association Alloy 319 or 356-T6 and ASTM B26 or ASTM B108.

2. Height: Base is 12 to 18 inches in height with a threaded hub at the top for mounting a nominal 4 inch Schedule 40 aluminum pole. The threaded hub must be tapped to allow full pole engagement.

3. Fastening: Provides for fastening to a foundation with four 3/4 inch anchor bolts located 90 degrees apart. ~~and a~~The bolt circle diameter ~~shallof 14 inches~~must be based on the base manufacturer recommendations. The base design must allow for bolts that are placed off-center.

4. Door: Provides a door opening of not less than 8 inches by 8 inches. The door must be constructed of fiberglass or other non-combustible, non-aluminum material. Attach the door to the base with cleats and one stainless steel socket button head screw or by other means suitable for NEMA 3 electrical enclosures.

5. Moment Capacity: Supports an ultimate moment capacity of 10,000 foot-pounds. Submit certified test reports from the manufacturer verifying that each base model meets the moment capacity without breaking, cracking or rupturing in any manner.

6. Breakaway: Meets the requirements in the latest revision of the AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals. Submit the FHWA certification for product approval.

7. Identification: Is legibly and visibly marked with the manufacturer's name or logo and the model number.

**646-2.3 Anchor Bolts:** Provide ASTM F1554 Grade 55 right angle bend anchor bolts, 3/4 inch diameter, 18 inches long, ~~3 inch leg and with a 5 inch UNC thread length~~with double nuts per ASTM F1554 Grade 55. For each bolt, provide two 3/4 inch ASTM A563 Grade A or higher heavy hex nuts and one 3/16 inch thick by 3 inch round ASTM A36 plate washer or one ASTM F436 Type 1 washer. Anchor bolts, washers and hex nuts must be galvanized in accordance with ASTM F2329.

**646-2.4 End Caps:** Provide end caps sized for nominal 4 inch diameter Schedule 40 aluminum poles. The cap must be a minimum of 1/4 inch thick and tapped for at least two set screws. Set screws will be provided with the end cap.

**646-2.5 Shims:** Provide U-shaped galvanized steel shims 2 inches wide by 2-1/2 inches long, shaped to fit around a 3/4 inch anchor bolt.

**646-2.6 Concrete:** Use Class 1 concrete meeting the requirements of Section 346.