ORIGINATION FORM

Date: June 29, 2012
Originator: Jeff Morgan
Contact Information:
Traffic Engineering and Operations, Traffic Systems Section
850-410-5600

Specification Title:
ELECTRICAL POWER SERVICE ASSEMBLIES.
Specification Section, Article, or Subarticle Number: 639

Why does the existing language need to be changed? The specification must be updated to allow additional wire and breaker sizes depending upon project needs.

Summary of the changes: The changes replace a specific requirement for No. 6 AWG wire and a minimum 40A circuit breaker with language that allows the wire and breaker size be as shown in the plans and in accordance with the NEC with respect to acceptable voltage drop.

Are these changes applicable to all Department jobs? If not, what are the restrictions?
Applicable to jobs where electrical power service assemblies are required.

Will these changes result in an increase or decrease in project costs? If yes, what is the estimated change in costs? No significant increase or decrease in project costs is expected.

With who have you discussed these changes? Traffic Engineering and Operations staff, Specifications Office staff.

What other offices will be impacted by these changes? Specifications and Estimates, Construction, Maintenance, and Roadway Design.

Are changes needed to the PPM, Design Standards, SDG, CPAM or other manual? No.

Is a Design Bulletin, Construction Memo, or Estimates Bulletin needed? No.

Contact the State Specifications Office for assistance in completing this form.
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M E M O R A N D U M

DATE: July 23, 2012

TO: Specification Review Distribution List

FROM: Trey Tillander, III, State Specifications Engineer

SUBJECT: Proposed Specification: **6390000 Electrical Power Service Assemblies.**

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

This change was proposed by Jeff Morgan of the State Traffic Engineering and Operations Office to update the language to allow additional wire and breaker sizes depending upon project need.

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 SP965TT or trey.tillander@dot.state.fl.us. Comments received after **August 20, 2012,** may not be considered. Your input is encouraged.

TT/dt
Attachment

ELECTRICAL POWER SERVICE ASSEMBLIES.
(REV ~~1-17-12~~*7-2-12*) ~~(FA 1-30-12) (7-12)~~

SECTION 639 (Pages 750 – 752) is deleted and the following substituted:

SECTION 639
ELECTRICAL POWER SERVICE ASSEMBLIES

639-1 Description.

Install electrical power service assemblies for either overhead service or underground service *as shown on the Plans and* in accordance with the ~~details shown in the~~ Design Standards, Index No. 17736.

639-2 Definitions.

(a) Overhead Service: A service assembly which is supplied electrical power from an overhead power company source. Include with an overhead electrical power service assembly the following components:

(1) Weatherhead
(2) Conduit
(3) Electrical Service wire
(4) Meter base (when required)
(5) Service disconnect
(6) Surge Protective Device

(b) Underground Service: A service assembly which is supplied electrical power from an underground power company source. Include with an underground electrical power service assembly the following components:

(1) Conduit
(2) Electrical Service wire
(3) Meter base (when required)
(4) Service disconnect
(5) Surge Protective Device

639-3 Materials.

639-3.1 Weatherhead: Use a weatherhead made of a copper free aluminum alloy with three electrical service wire entrance holes, meeting NEC requirements.

639-3.2 Conduit: Use conduit meeting the requirements of Section 630. Meet the requirements of Section 562 for coating all field cut and threaded galvanized pipe.

639-3.3 Electrical Service Wire: Use ~~No. 6 AWG~~ stranded copper wire with XHHW (cross-linked polyethylene (XLPE) high heat-resistant, water-resistant) insulation, rated at 600 V in dry and wet condition.

639-3.4 Meter Base: Use meter bases approved by the local electric power company.

639-3.5 Service Disconnect:

639-3.5.1 Enclosure (Cabinet): Use an enclosure conforming to NEMA Standards for Type 3R, Type 3S or Type 4, made of galvanized steel, aluminum, stainless steel or other materials approved by the Engineer. Ensure that the enclosure has a hinged door which

can be locked with a padlock. Provide padlock and two keys. Do not use external handles or switches. Ensure that the inside dimensions meet NEC requirements.

639-3.5.2 Circuit Breaker: Use a manually resettable circuit breaker which has a current rating above the current rating of the circuit breaker to which electrical power is provided. ~~Do not use less than a 40A circuit breaker.~~

639-3.6 Surge Protective Device: Use a lightning arrester rated for a maximum permissible line to ground voltage of 175 VAC.

639-3.7 Attachment Hardware: Use attachment hardware that meets the requirements of Section 603.

639-4 Installation Requirements.

639-4.1 General: Meet the following requirements for the installation of individual components of the electrical power service assembly:

Use extreme care and caution in the installation of all components of the electrical power service assembly.

Follow installation procedures recommended by NEC and National Electrical Safety Code (NESC).

Consider the location of electrical power service assemblies as shown in the plans to be approximate, and coordinate with the appropriate electrical power company authority to determine the exact locations of each assembly.

639-4.2 Weatherhead: Securely attach the weatherhead to the upper end of the conduit which extends upward from the meter base (or service disconnect if a meter base is not required) to a minimum height of 22 feet above grade.

639-4.3 Conduit: Securely attach all conduit to the pole or cabinet with a maximum distance of 5 feet between conduit attachment hardware.

639-4.4 Electrical Service Wire: Install the electrical service wire in a manner which will ensure that damage to the installation will not occur.

Ensure that the service wire is of sufficient length after installation in the conduit to provide for attachment to the power company service and for termination within the cabinet for which power is required.

639-4.5 Meter Base: When a meter base is required, securely fasten the meter base to the pole or cabinet. Install pole mounted meter bases at a minimum height of 5-1/2 feet above grade when measured from the center of the meter base or meet the local electric power company requirement, whichever is greater.

639-4.6 Service Disconnect: Securely fasten the service disconnect to the pole (or cabinet with the Engineers approval), and electrically position the service disconnect between the service meter and the traffic control device cabinet to which electrical service is being supplied. Install pole mounted service disconnects a minimum of 4 feet above grade when measured from the bottom of the disconnect. For cabinet installations, mount the service disconnect at a height approved by the Engineer or as shown in the plans.

639-5 Method of Measurement.

639-5.1 General: Measurement for payment will be in accordance with the following work tasks.

Payment for Electrical Service Wire is based upon the distance of the cable run and includes payment for all conductors used in the run.

Payment for conduit and electrical service wire which is vertically attached to the electrical power assembly is considered incidental and paid under item 639-1.

639-5.2 Furnish and Install: The Contract unit price per foot of Electrical Service Wire, or the Contract unit price each for Electrical Service Disconnect, furnished and installed, will include furnishing all materials and hardware as specified in the Contract Documents, and all labor, equipment, and miscellaneous materials necessary for a complete and accepted installation.

639-5.3 Furnish: The Contract unit price per foot of Electrical Service Wire, or the Contract unit price each, for Electrical Service Disconnect, furnished, will include the cost of the required materials and hardware as specified in the Contract Documents, plus all shipping and handling costs involved in delivery as specified in the Contract Documents.

639-5.4 Install: The Contract unit price per foot of Electrical Service Wire, or the Contract unit price each, for Electrical Service Disconnect, installed, will include all labor, equipment, and miscellaneous materials necessary for a complete and accepted installation. The Engineer will supply electrical service wire or electrical service disconnect.

639-5.5 Electrical Power Service: The Contract unit price per assembly for Electrical Power Service will include furnishing and installing all material and hardware as specified in the Contract Documents, and all labor and equipment necessary to make a complete and accepted installation.

639-6 Basis of Payment.

Prices and payments will be full compensation for all work specified in this Section.

Payment will be made under:

Item No. 639-	1-	Electrical Power Service - per assembly.
Item No. 639-	2-	Electrical Service Wire - per foot.
Item No. 639-	3-	Electrical Service Disconnect - each.