Florida Department of Transportation

RICK SCOTT
GOVERNOR

605 Suwannee Street
Tallahassee, FL 32399-0450

ANANTH PRASAD, P.E.
SECRETARY

January 18, 2012

Monica Gourdine
Program Operations Engineer
Federal Highway Administration
545 John Knox Road, Suite 200
Tallahassee, Florida 32303

Re: Office of Design, Specifications
Section **639**
Proposed Specification: **6390000 Electrical Power Service Assemblies.**

Dear Ms. Gourdine:

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

These changes were proposed by the Traffic Operations, Product Evaluation, and Specifications Offices as part of an ongoing effort to consolidate the Minimum Specifications for Traffic Control Signals and Devices (MSTCSD) and Standard Specifications for Road and Bridge Construction. The material requirements for electrical power service assemblies have been moved from Section A639 to Section 639. Only editorial changes have been made to the material requirements.

Please review and transmit your comments, if any, within two weeks. Comments should be sent via Email to SP965RP or rudy.powell@dot.state.fl.us.

If you have any questions relating to this specification change, please call Rudy Powell, State Specifications Engineer at 414-4280.

Sincerely,

Signature on file

Rudy Powell, Jr., P.E.
State Specifications Engineer

RP/dt
Attachment
cc: Calvin Johnson, Chief Civil Litigation
Florida Transportation Builders' Assoc.
State Construction Engineer

ELECTRICAL POWER SERVICE ASSEMBLIES.
(REV ~~11~~*12*-~~30~~*12*-11)

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 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 ~~assembly~~
(6) ~~Transient~~ *Surge* Protecti~~on~~*ve* 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 ~~assembly~~
(5) ~~Transient~~ *Surge* Protecti~~on~~*ve* Device

639-3 Materials.

~~Use materials meeting the requirements of Section A639 of the current Minimum Specifications for Traffic Control Signal Devices (MSTCSD), except as provided in 603-2.2.~~

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 ~~Transient~~Surge Protection~~on~~ve 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.

~~Payment for conduit and electrical service wire as part of the electrical power service assembly will include only the conduit and service wire which is vertically attached to the assembly. Horizontal lengths of conduit and conductors required beyond the electrical power service assembly will be paid for under another pay item.~~

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.

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(REV 1-17-11)

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(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
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