



Florida Department of Transportation

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GOVERNOR

605 Suwannee Street
Tallahassee, FL 32399-0450

KEVIN J. THIBAUT, P.E.
SECRETARY

July 2, 2020

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

Re: State Specifications Office
Section: **995**
Proposed Specification: **9950201 TRAFFIC CONTROL SIGNAL AND DEVICE MATERIALS.**

Dear Mr. Nguyen:

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

This change was proposed by Derek Vollmer to address cabinet requirements and electrical specifications of the wrong way vehicle detection systems.

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

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

Sincerely,

Signature on file

Daniel Strickland, P.E.
State Specifications Engineer

DS/dh

Attachment

cc: Florida Transportation Builders' Assoc.
State Construction Engineer

TRAFFIC CONTROL SIGNAL AND DEVICE MATERIALS (REV 5-5-20)

SUBARTICLE 995-2.1 is deleted and the following substituted:

995-2 Vehicle Detection Systems.

995-2.1 General: All vehicle detection systems shall be listed on the Department's Approved Product List (APL). Manufacturers seeking evaluation of their product shall submit an application in accordance with Section 6.

All equipment shall be permanently marked with manufacturer name or trademark, part number, and date of manufacture or serial number. All parts shall be constructed of corrosion-resistant materials, such as plastic, stainless steel, anodized aluminum, brass, or gold-plated metal. All fasteners exposed to the elements be Type 304 or 316 passivated stainless steel.

If the assembly includes a cabinet, the cabinet must be currently listed on the APL or meet the applicable cabinet material requirements listed in Section 676.

Detectors shall meet the environmental requirements of NEMA TS-2-2016.

SUBARTICLE 995-2.7.2 is deleted and the following substituted:

995-2.7.2 Communications: Major components of the WWVDS (such as the sensor and any separate hardware used for contact closures) shall include a minimum of one serial or Ethernet communications interface and shall meet the following criteria:

1. The serial interface and connector conforms to TIA-232 standards and the serial ports support data rates up to 115200 bps; error detection utilizing parity bits (i.e., none, even, and odd); and stop bits (1 or 2).

2. Wired Ethernet interfaces provides, at a minimum, a 10/100 Base TX connection. Verify that all unshielded twisted pair/shielded twisted pair network cables and connectors comply with TIA-568.

3. Wireless communications are secure and that wireless devices are FCC certified. The FCC identification number is displayed on an external label and all WWVDS devices operate within their FCC frequency allocation.

4. Cellular communications devices are compatible with the cellular carrier used by the agency responsible for system operation and maintenance.

5. The system can be configured and monitored via one or more communications interface.

6. The WWVDS is compatible with the Department's SunGuide® software ~~at the time of installation. For WWVDS installed on ramps, the device shall send an alert and a sequence of images for up to ten seconds to the SunGuide® software that covers a configurable time before and after the wrong-way vehicle detection.~~

7. For WWVDS installed on ramps, the device shall:

a. Send an alert and a sequence of images for up to ten seconds to the SunGuide® software that covers a configurable time before and after the wrong-way vehicle detection.

b. Activate all highlighted signs associated with the WWVDS.

SUBARTICLE 995-2.7 is expanded by the following:

995-2.7.3 Electrical Specifications: Equipment shall operate on solar power or with an input voltage ranging from 89 to 135 V_{AC} a nominal voltage of 120 V alternating current (VAC). If the device requires operating voltages of less than 120 V_{AC}VAC, supply the appropriate voltage converter. Solar powered systems shall be designed to operate for minimum of 5 activations per day and provide 10 days of operation without sunlight.

SUBARTICLE 995-2.11 is deleted and the following substituted:

995-2.11 Wrong Way Vehicle (WWVDS) Detection System Performance

Requirements: To verify conformance with the accuracy requirements in this Section and as a precondition for listing on the APL, the wrong way detection system will be evaluated at the State-FDOTthe State Traffic Engineering Research Lab (TERL). Under controlled conditions at the TERL facility, the wrong way detection system must be capable of meeting the detection accuracy of 100% and zero false positive readings, using a sample size of 200 vehicles.

TRAFFIC CONTROL SIGNAL AND DEVICE MATERIALS
(REV 5-5-20)

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995-2 Vehicle Detection Systems.

995-2.1 General: All vehicle detection systems shall be listed on the Department's Approved Product List (APL). Manufacturers seeking evaluation of their product shall submit an application in accordance with Section 6.

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If the assembly includes a cabinet, the cabinet must be currently listed on the APL or meet the applicable cabinet material requirements listed in Section 676.

Detectors shall meet the environmental requirements of NEMA TS-2-2016.

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995-2.7.2 Communications: Major components of the WWVDS (such as the sensor and any separate hardware used for contact closures) shall include a minimum of one serial or Ethernet communications interface and shall meet the following criteria:

1. The serial interface and connector conforms to TIA-232 standards and the serial ports support data rates up to 115200 bps; error detection utilizing parity bits (i.e., none, even, and odd); and stop bits (1 or 2).

2. Wired Ethernet interfaces provides, at a minimum, a 10/100 Base TX connection. Verify that all unshielded twisted pair/shielded twisted pair network cables and connectors comply with TIA-568.

3. Wireless communications are secure and that wireless devices are FCC certified. The FCC identification number is displayed on an external label and all WWVDS devices operate within their FCC frequency allocation.

4. Cellular communications devices are compatible with the cellular carrier used by the agency responsible for system operation and maintenance.

5. The system can be configured and monitored via one or more communications interface.

6. The WWVDS is compatible with the Department's SunGuide® software.

7. For WWVDS installed on ramps, the device shall:

a. Send an alert and a sequence of images for up to ten seconds to the SunGuide® software that covers a configurable time before and after the wrong-way vehicle detection.

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