RESPONSE TO COMMENTS RECEIVED FROM INDUSTRY REVIEW

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Larry Rivera

File: 6300003 - Installation Requirements - Conduit for Fiber Optic Cable
Username: Larry Rivera
UserEmail: larry.rivera@dot.state.fl.us

Comments:

In Reviewing the Spec, District 5 has the following comments:

1) Why a separate spec? We use AWG 14 for locate wire; in addition all locate wire should be placed outside of conduit.

Response: Section 630-3.1.1, Paragraph 1, Line 5

Comment noted. The two sections (traffic signals and ITS) have been harmonized and have been replaced by a general spec covering both.

The specification has been modified to refer to placing locate wire outside of the conduit. The wire thickness is specified in Section A630 of the Minimum Specifications for Traffic Control Signal Devices.

2) Add language that all locate wire splicing shall be in pull boxes; no in-line splicing allowed. Splices at the pullbox for the tone wire shall meet NEC requirements for continuity.

Response: Section 630-3.1.1, Paragraph 9, Line 34

Comment accepted. The verbiage provided in the comment has been slightly modified and incorporated in the document.

3) The conduit runs along the Interstate shall be HDPE SDR 11.

Response: Section 630-3.1.1, Paragraph 3, Line 14

Comment accepted. Document has not been changed. This requirement will be added to Section A630 of the Minimum Specification for Traffic Control Signal Devices.

4) The conduit shall be run straight through the pull boxes at a depth of 30 inches in ITS installations and there shall be a minimum of 6 inches between the conduit and the bottom of the box.

Response: Section 630-3.1.1, Paragraph 3, Line 14

Comment accepted. This requirement has been included in the specification.

5) The Contractor will be allowed to connect inner duct (Interstate)/ conduit (Arterials) from plow portion or underground conduit to bore portion by means of approved connection methods. The connection conduit method and material shall be submitted for approval to the FDOT Project Manager (pull boxes will no longer be required at directional bores or driveways).

Response: Section 630-3.1.1, Paragraph 3, Line 15

Comment accepted. This requirement has been included in the specification.

6) Conduit shall be placed on the Interstate and shall have a minimum spacing of pull boxes at 2600 feet if possible.

Response: Section 630-3.1.1, Paragraph 3, Line 14

Comment accepted. The requirement for fiber optic access point spacing will be provided in the Fiber Optic Communication System Specification.

7) Conduit shall be placed on the Arterials and shall have a minimum spacing of pull boxes at 1320 feet if possible.

Response: Section 630-3.1.1, Paragraph 3, Line 14

Comment accepted. The requirement for fiber optic access point spacing will be provided in the Fiber Optic Communication System Specification.

8) Conduit for arterials are 2 - 2" runs and for interstate 4 - 1 1/4 " SDR 11 conduits (white, orange, red, yellow).

Response: Section 630-3.1.1, Paragraph 3, Line 14

Comment accepted. Document has not been changed. This requirement will be added in Section A630 of the Minimum Specification for Traffic Control Signal Devices.

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Lori E. Williams

Fifth paragraph - " maintain Reasonable physical strength" . This word will not work, we must define minimum strength.

Response: Section 630-3.1.1, Paragraph 5, Line 23

Comment noted. Due to the ambiguity of the phrase, it has been deleted from the document.

I'm sure you have been made aware that one paragraph was repeated.

Response: Section 630-3.1.1, Paragraph 1, Line 5

Comment noted. The repeated paragraphs were for two different installations (ITS and traffic signals). The two sections have been harmonized and repetitions have been removed.

The term "minimum bend radius" needs to be explained.

Response: Section 630-3.1.1, Paragraph 2, Line 12

Comment accepted. A paragraph has been included identifying the bend radius requirement for the fiber optic cable.

Thanks,
Lori E. Williams, M.E., P.E.
District Construction Landscape Coordinator
Gainesville Construction
(352) 381-4211, SC 643-4211

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Steve Nunnery

File: 6300003 - Installation Requirements - Conduit for Fiber Optic Cable
Username: Steve Nunnery
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Comments:

Prevent the ingress of water, dirt, sand, and other foreign materials prior to, during and after construction, into the conduit. Run an AWG #12 copper single conductor locate wire outside the conduit when installed underground. The locate wire must be laid so its final position is 3" or less from the conduit. Insulate the wire with a .0045 mil minimum thickness polyethylene sheath that is orange in color and marked to indicate the manufacturer’s identification and conductor size.

I am curious how we should spec directionally bored conduits to insure that the outside of the conduit locate wire ends up beside the conduit the entire length of the bore?

Response: Section 630-3.1.1, Paragraph 6, Line 27

Comment accepted. The document has been revised to require that the locate wire be placed in an encasement if boring is performed.

Should we include a test that ensures we have conductivity in the locate wire?
The locate wire called for outside the conduit must be laid simultaneously with the conduit to avoid damage to the conduit.

Response: Section 630-3.1.1, Paragraph 8, Line 31

The document has been revised to include continuity testing for the locate wire. This test would confirm the conductivity of the wire. The locate wire is preferably installed along with the conduit. It is assumed that all the wires and the conduits are pulled together.

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William Richards

File: 6300003 - Installation Requirements - Conduit for Fiber Optic Cable
Username: Wiilliam Richards
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Comments:

There is a need to add the following information to both 630-3.1.1 and 630-3.1.2:

You need to require splices of the locate wire to only occur in a pull box unless approved by the engineer. Splices made in the middle of a conduit run would be difficult to detect and repair. Also, the wire termination must occur only at the top of a pull box.

Response: Section 630-3.1.1, Paragraph 9, Line 34

Comment accepted. The document has been revised to state that all splices shall be done inside the pull box and that the wire termination occurs at the top of the pull box.

You need to require the wire to be tested to show it continuous and has no breaks. If it is broken, have the contractor replace at no additional cost to the Department.

Response: Section 630-3.1.1, Paragraph 8, Line 31

Comment accepted. The document has been revised to require that the contractor replace the locate wire at no additional cost if the installation of the locate wire is not continuous.

What about boring of conduit? Will locate wire be the same? Need to indicate. Boring conduit creates more of a reason to place wire inside of the conduit. See comments below. You might want to check with Ken Weldon (State Utility Engineer) concerning the success of boring items with a locate wire attached. I do not believe there is a high success rate.

Response: Section 630-3.1.1, Paragraph 6, Line 27

Comment accepted. The document has been revised to require that the locate wire be placed in an encasement if boring is performed.

For 630-3.1.2, suggest you consider placing the wire in conduit. If not, require the wire to be wrapped around the conduit and not placed next to or on top of the conduit.

Response: Section 630-3.1.1, Paragraph 6, Line 27

Comment noted. The document has been revised to require that the locate wire be placed in an encasement if boring is performed.

For 630-4.1, add the cost of testing the wire.

Response: Sections 630-4.2 and 630-4.4, Paragraph 1, Lines 43 and 49

The cost of testing has been added in Section 630-4.2 and Section 630-4.4.

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Clyde Green

Re: Proposed revision to 6300003 – Installation Requirements – Conduit for Fiber Optic Cable

Conduit - Locate Wire
I suggest with the locate wire that the gage be the same for both Signals and ITS.

They are proposing # 12 for the ITS and 14 for Signals. If #12 is required for ITS, then we should use the same gauge for both. Conduit for either installation is located at the same depth. This will simplify the size wire required.

Response: Section 630-3.1.1, Paragraph 4, Line 18

Comment noted. The requirement for the thickness of the wire has been moved to the Minimum Specification for Traffic Control Signal Devices. The minimum gauge for locate wire is specified as AWG #14.

Clyde Green
D3, Traffic Plans Coordinator
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