6110203 Acceptance Procedures for Traffic Control Signals and Devices
COMMENTS FROM INTERNAL/INDUSTRY REVIEW

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Gordon L. Johnson
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Comment: (4-9-14)
I was reviewing the 611 change and noticed that the Department was requesting an electronic file of all Traffic Control & ITS devices to include DATE OF PURCHASE and DATE OF INSTALLATION. I wasn't sure what the objective of having these two reference points included on the form was. They could add to confusion. Date of Purchase can be either as Purchase Order date or Delivery Date. If it is delivery date, some devices come in component pieces which are not purchased all at the same time and sometimes not from the same vendor, but are paid for as a single item. The Date of Installation could represent a partial assembly and could be materially different from date of activation or date of acceptance. I couldn't think of why these two pieces of information would be relevant to the department unless they have some bearing on the product warranty. These warranty terms however are defined from project acceptance date regardless of purchase date.

Response: The date of purchase and date of installation have relevance to items other than warranty terms. However, at this time, the Department believes information necessary for asset management and other activities can either be extracted from other sources or reasonably estimated based upon date of project acceptance. The latest draft of the specification does not require the contractor provide "date of purchase" or "date of installation" information.
Change made.

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Lou Buenaventura
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Comment: (4-9-14)
I previewed this last week. We note this proposed specification describes a much more detailed As-Built submittal requirement. We have previously seen this level of detail on some ITS jobs, but I interpret this new spec to require the same level of detail for all Traffic Control system as-builts. Obviously, the new requirements will increase costs for additional data gathering and the plotting of the data.

Response: Correct. This specification applies to all Traffic Control Signals and Devices, including equipment provided and installed on what have historically been categorized as Signalization and ITS projects. This information has been delivered in as-built information for past projects, but was not clearly mandated in the Standard Specifications. The Department believes that it is important that this information is consistently gathered and documented. The overall cost impact relating to data capture and producing acceptable documentation is expected to be negligible.
No change made.

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Bruce Boyd
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Comment: (4-17-14)

1. 611-2.3.1 Paragraph 1 – PCS suggests the State allow for & include reference to electronic (PDF/CAD) asbuilts in lieu of (or in addition to) the printed ones. We ALL need to go more paperless and if the FDOT would use electronic media the Maintainers can actually retrieve it or forward it to "next project engineer". And we are CURRENTLY doing this and it is being accepted in. It is our opinion (and experience with Districts) that electronic media are more readily retrieved than "reproductions" that get stored or lost. It also eliminates the need to store old prints that have a warehousing cost.

Response: Agree. We will incorporate this comment into the spec. revision.
Change made.

2. 611-2.3.1 Paragraph 2 – PCS suggests we actually "define" the accuracy required…as sub-foot, not differential (which is sub-meter). The focus of all the District Maintainers is for more accurate & detailed information. And attaining sub-foot in today's survey tools is standard.

Response: The proposed language meets the Department's current needs as well as being consistent with Florida Board of Professional Surveyors and Mappers requirements.
No change made.

3. 611-2.3.1 Paragraph 3 – PCS simply suggests splitting P3 into 2 paragraphs …and…adding a comment that allows for the electronic media noted above.

Response: Agree. We will incorporate this comment into the spec. revision.
Change made.

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Rodney Wallen

Comment: (4-17-14)

1.) Move this paragraph up below the top paragraph.

( If, in the opinion of the Engineer, the changes can-not be clearly delineated on *the existing drawings above* ~~reproductions of the original 11 inch by 17 inch sheets~~, clearly delineate all changes on 11 inch by 17 inch detail sheets, enlarged 200% from the reproductions. )

Response: Agree.
Change made.

2.) Strikethrough "Differential" and "D" in DGPS.

*As-built submittals must include an electronic file with an inventory of all traffic control devices, including intelligent transportation system (ITS) features. The inventory must include horizontal position using geographic coordinate data collected using ~~Differential~~ Global Positioning System (~~D~~GPS) equipment with sub-foot accuracy. The inventory must include the manufacturer, model, serial number, date of purchase, and date of installation of each device.*

Response: The existing text was based upon input from FDOT's State Surveyor and we believe it is sufficient at this time.
No Change made.

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Peter Vega

Comment: (5-1-14)
1.) I remember hearing in one of the Statewide Meetings that the Survey Group has brought up an issue with us requiring any less than 3 foot accuracy on our GPS requirements. They have said that sub-foot accuracy will require a licensed surveyor to sign and seal the plans/tables. The DGPS is a very accurate (up to a 10 cm accuracy) technology which may result in survey needing to be involved.

Response: Correct. The existing text was based upon input from FDOT's State Surveyor and we believe it is sufficient at this time.
No Change made.

2.) The requirements detailed call for the DGPS points for all ITS devices, including transportation system features. I think the term features is too broad. To me, these features include conduit, pull boxes, power services, transformers, etc… To a contractor, especially low bid, features will be a much more limited number of items, such as poles and cabinets.

Response: Agree. TCDs and ITSDs are clear, but the definition of features could lead to disagreements on what is a feature and what is not. Change made to refer to traffic control signals and devices, since this term is defined in 603-3, and include supporting structures (since they are not included in the 603-3 definition).
Change made.

3.) Section 611-2.3.2.1 Conduit and Cable states that the Contractor will "Identify all conduit and cable at 100 foot intervals and changes in direction with unique line styles for routing…" This causes concern correlated to the comment above, because this does not address the need for GPS or DGPS points along the conduit path so that it can be imported into ITS Facility Management system. If we don't get these points from the contractor, then we will either need to use the plan locations as a guide, which will not be accurate, or we will need to go out and GPS all conduit runs to get a precise location of the conduits. This will be extremely costly to the Department and more difficult to do as the grass will have already grown back over the trench line and the run may need to be located.

Response: Text modified to clarify that coordinate data is required for conduit path. This information has been delivered in as-built information for past projects, but was not clearly mandated in the Standard Specifications. The Department believes that it is important that this information is consistently gathered and documented. The overall cost impact relating to data capture and producing acceptable documentation is expected to be negligible.
Change made.

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Comment: (5-15-14) Dist 4 Const. has the following comments:
1. 611-2.3.1:

a. Please clarify what devices are to include GPS coordinates; i.e. do you want the GPS for the signal cabinet, or do you want every pole, vehicle detector, ped detector, ped indicator, pull box etc.? Same question in regards ITS equipment. Perhaps a form should be developed to capture this in lieu of leaving up to interpretation.

Response: Change made to refer to traffic control signals and devices, since this term is defined in 603-3, and include supporting structures (since they are not included in the 603-3 definition). The goal is to ensure that the installed location of traffic control signals and devices is captured for future use. The coordinate position provided for many of these items, such as components on a pole, may frequently be noted as the same location. Several options are currently being investigated to assist with the collection of this information, including existing web-based inventory tools used by the Department.
Change made.

b. As for the inventory list, it seems this would be covered by the use of form 700-010-22. Are we getting the same information twice or should one of these requirements be eliminated?

Response: Response: The information that this update requires is generally not provided on form 700-010-22, so there is no duplication.
No change made.

c. Since maintaining agencies will be the end users of this, have you polled any agencies for input?

Response: These changes have been routed through the standard specification development and review process. The information required is necessary at this time for central office asset management activities and other uses, though it will also have benefit to other users, including local maintaining agencies.
No change made.

2. 611-2.3.2.5: "Identify all signal heads with respect to the pavement markings..." Not sure what the intent is. Are you trying to get an offset dimension from each lane line to signal head? If so, I suggest re-wording.

Response: Intent is that as-built plans must reflect the final location of signal heads. Sentence reworded.
Change made.

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Shailesh Patel
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Comment: (5-16-14)

1: **Section 611-2.3.2 Components:** need to change “pull and spice boxes to “ pull and splice boxes”.

Response: Agree, corrected Specs Office.
Change made.

**2: Section 611-2.3.1( third line states):** As-built information may be provided electronically… However, the word may appears to conflict with the language stated in the third paragraph in the same section: As-built submittals must include an electronic file. Same section, third paragraph, also includes the allowance for the use of the Differential Global Positioning System (DGPS) for horizontal positioning geographic coordinates. This measure will facilitate the completion of the as-built drawings and it probably needs to be extended to specs 555, 556, 557. These sections do not allow the use of DGPS, and the elevations need to be referenced to a permanent FDOT feature.

Response: The coordinates must be provided electronically. Plan sheets may be hard copy or electronic. Electronic copies are preferred. Text modified to be similar to 555-5.2 regarding preference for electronic plans.
Change made.

**3: “Section 611-2.3.1 Submittal Requirements**: it is not clear that the as built plans to be signed and sealed by the contractor’s engineer.

Response: 611-2.3 edited to clarify that as-built drawings are to be signed and sealed.
Change made.

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