



## *Florida Department of Transportation*

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July 21<sup>st</sup>, 2023

Mr. Chris Stermer, Chair  
Ms. Tara Miller, Vice Chair  
Florida Utility Coordinating Committee (FUCC)  
PO Box 2561  
DeLand, FL 32721

### **Subject: Utility Coordination using NexGen Plans**

Mr. Stermer and Ms. Miller:

We have received your letter dated May 8, 2023, and wish to thank you for sharing your concerns. Utility coordination is critical to the success of delivering the Department's work program and FDOT will work diligently with your committee and other interested stakeholders to resolve any issues that are a barrier to completing the necessary process. We support your recommendation to hold an in-person workshop to discuss and explore mutually agreed upon solutions that address the needs of the Utility Agency Owners (UAO).

Below are our initial responses to the "Summary of Concerns". We look forward to further discussions on these topics.

1. Concern: Not many NexGen projects to date.

The use of FDM 900 series (Model-centric) for plans production has been required for projects developed using Bentley's Open Roads Designer (ORD) CADD platform for more than four years. What is called "NexGen Plans" have been making their way to construction on increasing numbers over the last year. Examples of these plans will be provided.

2. Concern: Large Format Sheets (24"x36", 36"x48", or 36"x72").

FDM Table 900.3.1 provides a summary of allowable sheet sizes for each sheet used in the Contract Plans. When multiple sizes are allowed, the designer is to select the size that will most efficiently display the information. The information is complete and to the same scale regardless of sheet size selected.

When the large format size is selected for the Contract Plans, and the UAO has expressed the need for 11"x17" paper prints, the Department can provide Work Sheets. These Work Sheets have the same content and accuracy as the contract plan sheet.

3. Concern: Costs associated with purchasing technology to support NexGen.

Plans have been delivered to UAO as PDFs for more than 15 years. UAO staff should be familiar opening and viewing these files on a computer (desktop or laptop) using a free PDF Reader. PDF Readers also provide the ability to measure, markup, provide comments, and zoom in to get a better view of areas of concern.

It is acknowledged that some UAOs that are not as advanced with technology and require paper plans for field work. As stated above, 11"x17" Work Sheets can be provided for large format contracts plan sheets.

For a project requiring utility coordination, it is expected that a plan set would have no more than three large format sheets. The approximate cost to plot a black & white large format sheet at a reprographics company (Staples, Kinko, Blueprint Printing) is as follows:

- 24"x36" \$2 - \$3
- 36"x48" \$4 - \$8
- 36"x72" \$6 - \$10

4. Concern: FDOT has not provided documentation, mandate, or State Statute.

The transition from legacy plan sets (FDM 300 series) to model-centric plan sets (FDM 900 series) began in the fall of 2018. This transition was caused by a change in the CADD application used to produce the plan sheets. As part of the transition, large format plans were introduced to support the Department's digital initiatives, increase plans production efficiencies, and adapt to the new workflows required by the new CADD platform.

It is acknowledged that the UAM 5.1.2 states that "project drawings are provided to the UAO for markup in an agreeable format". Additional discussions are needed to jointly determine what is needed for UAOs to complete their work.

5. Concern: Utility Work Sheets

The information provided in the Work Sheets is mirror copy, and at the same scale as the large format contract plan sheet. Currently, it is not the intent to add call outs to the level required of a contract plan set. There may be Work Sheets that do not have certain call outs. If the user is unsure what the line is representing, they will need to look at a previous sheet that has the call out, or the contract plan sheet for clarification, and then note it on the sheet that does not have the call out.

The Department's staff hour forms are being modified to compensate consultants for the development and delivery of Work Sheets.

## 6. Concern: New Drainage Structure Sheet

The Drainage Structure Sheet contains plan view and profile views that show vertical and horizontal relationship between existing utilities and drainage structures. The table data provides flow line and structure bottom elevations. The Department also provides a Utility Conflict Matrix to further identify locations of concern.

The major change is the production of profile views in lieu of drainage cross sections. A profile view of the drainage system is shown from the highest structure elevation to the outfall, illustrating pipe, structures, utilities, and existing and proposed ground.

## 7. Concern: Cross Sections Sheets

Cross section sheets are required to be generated and delivered separately (outside the plans set) for each design phase submittal. The Department's staff hour forms continue to have a line item to produce cross section sheets.

These sheets are batch plotted and most often are large format sheets. These sheets are considered informational and not a contract document.

## 8. Concern with electronic format

The Department provides all required documents in PDF format. The use of a CADD application is not needed.

## 9. Large File size of the NexGen Plans

One large format sheet can display up to 2 miles of the project corridor. That same 2 miles would require 15 11"x17" sheets. The large format sheet is significantly smaller in file size than the equivalent 11"x17" sheets. It is when aerial images are used in a plan set that the file size can be big.

## 10. Permitting Requirements per UAM

Profile views of the drainage structure system is provided in the plans. Drainage structure cross sections are no longer produced. Cross section sheets are provided as a separate PDF. Further discussion is needed to understand the issues with permitting.

We look forward to partnering with Fucc to assure continued success with the utility coordination process,

DocuSigned by:  
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