

DISTRICT THREE DESIGN NEWSLETTER



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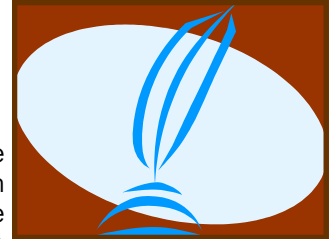
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From the Editor's Desk

Scott Golden, P.E., Assistant District Design Engineer

I want to thank each of you that attended the District Three Design Conference this past April. I thought that we had an excellent turnout this year. We had over 230 participants at the conference and it was nearly standing room only. One theme that was talked about (over and over and over) was the Department's expectations on design projects...District Three is looking for "quality" designs. Secretary Kelley stated in his opening comments that we (FDOT D3) are looking for consultants that have strong project management skills, good quality control, and deliver what they say they are going to deliver. The second day of the conference focused a great deal on improving the quality of the plans and contract documents. I have read all of the comments that were submitted and most of the comments were positive. There were a few comments that stated that the conference turned into a "consultant bashing." That was not the intent. Some of the comments stated that the conference concentrated on the right things while others thought that there should be more PPM and technical topics. While those are difficult things to balance, we are always looking for ways to improve. I would love to hear from you about our next Design Conference in 2009 and hope that we can provide a program that will ensure a friendly environment that will allow us all to grow and be better able to identify issues that can be solved by sound design practices.



Thank you for all of your efforts and I hope you have a safe summer.



District III Quarterly Design Newsletter

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Global Positioning System Coordinate Accuracy

Danny Deal, P.S.M., District Surveyor

After listening to other disciplines and Departments talk about using Global Positioning System (GPS) coordinate information from all different sources and units, I thought it was time to try to explain the basics and accuracies associated with these units.

There are primarily three different types of GPS units that our Consultants and we use at the Department. These are Handheld, Resource Grade and Survey Grade. The Handheld units are fairly inexpensive ranging in price from \$100 to \$500 and are generally easy to operate. The Resource Grade units step up in price ranging from \$1000 to \$5000 and come with download software which begins to get the user into some data processing. The Survey Grade units range in price from \$5000 to \$25,000. This is the type of unit that we use in the Surveying Office and is very precise and accurate. It requires very comprehensive software and in depth knowledge of Surveying to process the data collected in the field.



Lets look at the level of accuracy each unit is capable of:

Handheld	3-10 meters
Resource Grade	1-3 meters
Survey Grade	1-3 centimeters

The accuracy level from each unit changes dramatically based on cost and complexity. The range of accuracy also depends on satellite availability and satellite geometry. This means that if you have very few satellites visible or if they are all bunched together with bad geometry as they orbit, the accuracy will be on the poor side of the range.

As you see there are a lot of variables (many not mentioned) in determining the accuracy of the GPS coordinates submitted to you or collected by you. So my purpose in explaining the very basics is just to say the following. Numbers out to three or four places past the decimal are not always as accurate as they appear. Please be cautious and realistic when dealing with these coordinate positions from all sources. Also GPS units are only tools for our toolboxes, it's up to us to know how to use them and to know their limitations.

How often we fail to realize our good fortune in living in a country where happiness is more than a lack of tragedy.

~Paul Sweeney

Design Spotlight - Ronnie Peel

Scott Golden, P.E., Assistant District Design Engineer

Mr. Peel graduated from Chipley High School in 1967, Chipola Junior College in 1969 and began his career with the FDOT in April, 1971. Ronnie married Rita Jane Howell, a Jacksonville native that moved to Graceville about her junior year. She is the bookkeeper at Roulhac Middle School. They have one son, Brent. He is a graduate of the University of Florida and is currently working on his masters' degree at the University of South Carolina. Ronnie and Jane have attended New Prospect Baptist Church all of their married life and both have been involved in teaching Sunday school and church training classes as well as holding other positions within the church. Ronnie's hobbies include fishing, gardening and doing honey-do's around the house for his wife and, not necessarily in that order.



Ronnie has worked for the Department for over 36 years. Of those 36 years, 34.5 years have been in the District Three Design Office with 1.5 years in Defuniak Springs Maintenance as a Permits Technician. There have been drastic changes to the plans process over his career. Ronnie stated. "When I started, everything was drafted by hand; the calculators were mechanical and the only computer was in the Central Office with a printer located in a downstairs office. The coordinate geometry (cogo) commands had to be key punched with each one on a separate card and ran through a reading machine that was connected by phone lines to the Central office. One card out of order would ruin the whole job as each command usually depended on another command to provide a correct answer. Needless to say, we went up and down the stairs from the drafting room to the computer section many times before a good printout was obtained." His current job consists of reviewing design plans, typical section packages, pavement designs and other material as submitted by the Department's Consultants.

Ronnie has been an essential part of the District Design Office for a long time. Mr. Peel retires at the end of this year. His design skills, wealth of knowledge and his leadership skills will truly be missed! Please join me in wishing him a very happy retirement.

This country will not be a good place for any of us to live in unless we make it a good place for all of us to live in. ~Theodore Roosevelt

Supplemental Agreement Report –January-May, 2007

Scott Golden, P.E., Assistant District Design Engineer

.This is the Supplemental Agreement Report for the months of January through May 2007. The two (2) categories of supplemental agreements that are included in this report are codes 101 and 503. This report is included in the Quarterly Design Newsletter as a tool to inform designers of errors and omissions that can lead to Supplemental Agreements and unnecessary costs to the public.

Below is a description of those areas and our responses:

Description Code 101: Necessary pay item(s) not included

Reason: Improvements under this contract consist of milling and resurfacing, drainage improvements, mast arm upgrades and signing and pavement marking on a four lane highway in Escambia County.

The plans required two (2) 48" mitered end sections, but the designer did not include the necessary pay items.

Increase = \$4,375.01

Response: This supplemental agreement was the result of a design error. However, no premium cost was incurred.

Reason: Improvements under this contract consist of milling and resurfacing, drainage improvements, guardrail construction and signing and pavement marking on a four lane highway in Jackson County.

After the project was awarded to the contractor, it was discovered that some of the temporary striping items listed in the contract plans did not have the appropriate pay items in the contract.

Increase = \$28,670.25

Response: This supplemental agreement was the result of a design error. However, no premium cost was incurred.

Description Code 503: Change resulting from engineering decision.

Reason: Improvements under this contract consist of milling and resurfacing, bridge rail replacement, drainage improvements and signing and pavement marking on a two lane highway in Calhoun County.

The plans did not show sheet piling to be installed, but conditions on project dictated that sheet piling be used to ensure the safety of the traveling public and the construction workers.

Increase = \$51,631.00

Response: This supplemental agreement was not the result of a design error, but a decision made by the Project CEI and Department at the Contractor's request.

