

# DISTRICT THREE DESIGN NEWSLETTER



Volume 8, Issue 3

[HTTP://WWW11.MYFLORIDA.COM/RDDESIGN/D-3/FILES/D3.HTM](http://www11.myflorida.com/rddesign/d-3/files/d3.htm)

JULY—SEPTEMBER 2003



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### *District III Quarterly Design Newsletter*

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## *From the Editor's Desk*

Larry Kelley, P.E., District Design Engineer



As everyone should know by now, Mr. Gene Martin will be leaving DOT October 31. He has had a long tenure as Director of Production and provided a real comfort zone for everyone dealing with production. Gene will be missed, but life and DOT goes on. Mr. Tommy Barfield has already been selected to fill the Director of Production job and is off and running. I've already had the opportunity to meet with Mr. Barfield a few times in his new role and I can assure you the DOT is in good hands in the area of production. Mr. Barfield is interested in quality and fairness and those two issues mean a lot to me and to you, I'm sure.

Another change that has taken place is that Ms. Regina Battles, formerly Environmental Management Engineer, has accepted the position of Program Development Manager, which now is organized under The Director of Administration rather than production. I have worked extensively with Mr. Battles in the past and she is a very common sense manager who also will be a credit to DOT in her new role.

All this to remind you again that life and work is "change". If you cannot adapt to change you will be left behind. If you cannot maintain quality as you change, you will also fall short of the goal.

Besides management changes, there are also other changes as we move forward toward full service contracts, electronic deliverables and electronic lettings. Nobody can approach a road or bridge design as they did even five years ago. Some of the basic engineering logic and process may be the same, but technology and business practices have changed many times over.

There is no time to whine. The successful designer these days "beats the bushes" and educates himself on what's new and then coordinates and communicates with the appropriate personnel to determine how to meet new requirements and goals. As we have gone forward with full service contracts on RRR projects all of us have been reminded of the importance of communication. It's much better (and profitable) to communicate than to assume and get it wrong and have to pay to correct it.

In real estate it may be "location, location, location"; but in our business it's "communication, communication, communication".

**If you're not using your smile, you're like a man with a million dollars in the bank and no checkbook.**  
 ---Les Giblin

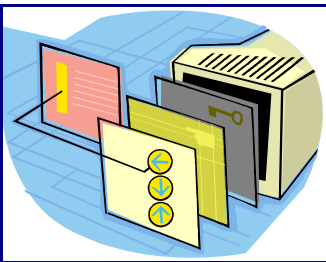
## *Electronic Plans Delivery*

**Russell Armstrong, QA-QC Electronic Deliveries Manager**

We continue to hear more and more about electronic delivery of contract documents and the success of the E-Delivery Pilot Projects. Building upon knowledge gained with the Electronic Delivery of Specification Packages, it was only a matter of time before the anticipated rollout of *E-Delivery of Contract Documents* was announced. With July 2005 set as the deadline for full conversion to full Electronic Delivery, Design is gearing-up to implement their portion of the process. The CADD Manual defines what is required, when it is required and who is responsible. For Design, this means creation of the "Seed Project Delivery", secured utilizing PEDDS and delivery to the Consultant. The "Seed Project" is a template of specific folders, in a specific structure, which gives all current FDOT Projects the same CADD foundation. The effect is consistency in project data storage and file structure. Every job –no matter how large or small- is created using the same technique, contains the same folders and has the same directory structure.

### The Department's Role

The E-Delivery software creates the template, or Seed Project. Once the Seed Project is created, PEDDS is utilized to complete the other initial processes. Many of you have been hearing about PEDDS for the past couple of years. While known primarily for the Electronic Signing and Sealing of Plans function, it has other uses. Initial use of PEDDS involves creation of the PEDDS Project ID file. This file contains project specific data and is utilized to retrieve the project at some future date.

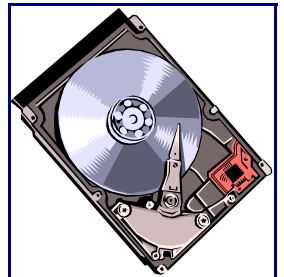


Next, PEDDS is used to secure the data. A "manifest", or security report, is created. The manifest is submitted with the initial Seed Project Delivery CD to the Consultant. Consultants use this manifest to verify the integrity of the delivery. This is accomplished by comparing the manifest to the "authentication report", which the Consultant develops upon receipt of the CD.

The Consultant imports the authenticated project from the CD to their server or workstation and Plans Production begins.

### Delivery to FDOT

Consultants process their submittal by securing the project in PEDDS and then copies the project data onto a CD. Next, authenticate the data *from the CD*. Authenticating from the CD verifies the Department can access your submittal. Copying the data to the CD is simple in concept; however, if done incorrectly PEDDS will lock up your workstation. PEDDS must recognize the CD as being "closed". **As the Consultant, you should authenticate your CD prior to submittal to the Department. The Department must also authenticate your CD upon delivery; therefore, you must select the "Finalize CD" option which will close both the session and the CD. This option is selected in the process of copying the secured Project Data onto the delivery CD.**



Production schedules are tight enough as is. Neither the Department nor the Consultant can afford multiple submittal attempts. **Always complete the Certification Checklist.** Remember to review the Project ID File and make any necessary updates prior to each submittal. If you have any questions, please feel free to contact me at 850-638-0250, x305.

*(Author's note: Special thanks to Mr. Bryan Brannon of District Three for his valuable assistance in development of this article.)*

Days are scrolls: write on them only what you want remembered.  
*Rabbi Bahya ibn Pakuda (fl. c. 1050) Spanish Jewish jurist and writer*



## *Design Spotlight, Danny Deal*

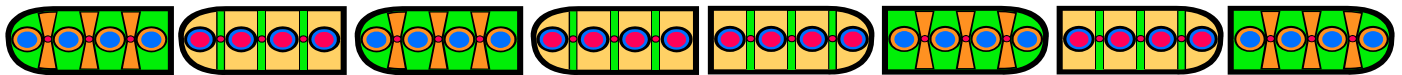
**Larry Kelley, P.E., District Design Engineer**

On July 1 District Three made some organizational changes as a result of the first wave of employees completing DROP. Surveying is now a section within the Design Department. We are lucky to have Danny Deal leading that section now called Design Surveying.

Danny was born in Geneva, Alabama and grew up in north Holmes County, Florida. After graduating from Bethlehem High School, Danny pursued course work in Civil/Survey Drafting. Danny started his career at FDOT in Pensacola in 1991 on the survey crew where he began training in electronic survey data collection. After transferring to Chipley Surveying in 1993, Danny was involved in assisting and training in-house and consultant survey crews in the use of Electronic Field Book (EFB) and Computer Aided Civil Engineering (CAiCE) Software.

In 2001, Danny passed the Florida Surveying Exam. Danny was selected in April 2003 to replace Wayne Younge as District Land Surveyor. I find Danny to be a very enjoyable person to work with. He knows the technical issues associated with Design Surveying and has the maturity and leadership skills to handle all situations. It's great to have someone of Danny's caliber in the Design Department. Danny's knowledge and cooperative attitude will no doubt enhance design and survey coordination for a smarter and leaner process which will benefit the Department and the public.

When asked about his new role at DOT, Danny stated "I enjoy the technical challenges associated with the surveying profession and I am proud to be the District Surveyor. I'm fortunate to have such a great group of people in the surveying section to help me and I look forward to many years with them and everyone else in the Design Department."



## *Under-Drained Ponds*

**Jim Kapinos, P.E., District Drainage Engineer**

So you're designing or constructing an underdrained storm water management facility! Why?

Did you run out of right of way, project funding, time, or ideas? An underdrained pond is not necessarily the answer. But if you just have to design and construct one, give it the best chance of working. They all work on paper. Here are a few thoughts on design and construction, based in part, on some ponds that did not work.

Design the underdrain area conservatively large. If you provide a large enough filter area the pond will continue to recover for a longer period. The rate of discharge through the filter is usually not enough to add significantly to the post-condition discharge and lags most storm events. Maintenance will also appreciate not having to clean it out or re-bed it as often. But eventually, it will have to be cleaned out or rebuilt so design it with that in mind.

Use the right materials. District III has had problems with limerock used as the coarse aggregate. It has softened and fused together into an impervious mass. We like the use of silica based, correctly sized stream washed stone. Limerock also tends to generate its own fines as it is handled, dumped, hauled, and staged on site before finally being placed.

Construct it right. The last underdrained pond District III had to rebuild because it never worked, had the outfall manifold crushed and completely dysfunctional. Design and build a temporary underdrain for use during construction. The pond has to be constructed first and operating during roadway construction and this is the period of heaviest sediment and debris loading, like limerock



(Continued from page 3)

base fines and silt from unstabilized areas.

The temporary underdrain should be installed in the pond bottom. Use a Type V underdrain (Std. Index 286) which is intended for use as a filter to meet DEP treatment requirements. While its site specific the pond should generally be constructed to within one foot of finished bottom grade for the temporary system. Keep this in place until all roadway construction areas are stabilized with seed and /or sod then remove it and construct the permanent underdrain. It also helps to keep up with erosion control measures. Use and follow specific plan notes for phasing the construction. This helps the contractor understand that the CEI is paying particular attention to all aspects of pond construction.

Last but not least. Don't you have a better idea?



**If you were standing in the middle of a bridge spanning a wilderness gorge, at the bottom of which was a spectacular white-water river, what would you do?**

**FEMALE RESPONSE: Admire the view.**

**MALE RESPONSE: Spit.**

**Dave Barry** (b. 1947) American humorist  
*Miami Herald* (12 May 1996)



## *Supplemental Agreement Report—June*

**Larry Kelley, P.E., District Design Engineer**

This is the Supplemental Agreement Report for the month of June 2003. The two (2) categories of supplemental agreements that are included in this monthly report are codes 101 and 012. 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.**

**FPID: 220253-1-52-01 (Okaloosa County)**

**Reason:** Improvements under this contract consist of intersection work at SR 123 and SR 85 North and adding approximately 9800' of passing lane between the bridges on SR 123.

This supplemental agreement is for providing an advance warning arrow panel for closing the inside Northbound travel lane of SR 85 prior to the SR 123 intersection in accordance with Phase I of the Traffic Control Plan and Standard Index no. 613 at a unit price of \$16.50 each day. The Designer did not provide a pay item in the contract for an advance warning arrow panel.

**Increase = \$4,294.00**

**Response:** This supplemental agreement was the result of a design error. However the CEI did not assess any premium cost for the additional work.

**Description Code 012: Deterioration/damage (not weather related) sustained on project subsequent to design.**

**FPID: 220253-1-52-01 (Okaloosa County)**

**Reason:** Improvements under this contract consist of intersection work at SR 123 and SR 85 North and adding approximately 9800' of passing lane between the bridges on SR 123.

This supplemental agreement is for providing required maintenance of traffic, labor, materials and equipment to seed and mulch 48,884 S.Y. of front slopes and ditches in accordance with applicable FDOT Standard Specifications at a unit price of \$0.19 per S.Y. The existing grassing in areas of the front slopes and ditches throughout the project was in such a deteriorated condition that new grassing was required to prevent the possibility of erosion in the future.

**Increase = \$9,287.96**

**Response:** This supplemental agreement was not the result of a design error.

## *Supplemental Agreement Report—July*

Larry Kelley, P.E., District Design Engineer

This is the Supplemental Agreement Report for the month of July 2003. The two (2) categories of supplemental agreements that are included in this monthly report are codes 861 and 126. 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 861: Disputes Review Board recommended cost in excess of Engineer's estimate and entitlement analysis.**

**Reason:** Improvements under this contract consist of multi-lane construction.

During clearing and grubbing operations the Contractor encountered extra depth identifiable pavement of depths that exceeded the anticipated thickness. The Contractor was directed to remove and dispose of this material.

The Department and Contractor were unable to reach an agreement as to compensation due the Contractor for the additional work encountered. The Department provided compensation by Unilateral Payment to the Contractor in the amount deemed by the Engineer to be fair and equitable for the performance of this work. The Contractor subsequently put the Department on notice of intent to file a claim for additional compensation for this work. The original supplemental agreement was included in a previous report and is included below for reference.



The Department and the Contractor requested a quantum hearing by the Dispute Review Board. The Dispute Review Board's entitlement recommendation on the issue ruled that compensation was due for removal of all asphalt material below 4". The Dispute Review Board calculated the cost for removal of the extra depth asphalt at Three Hundred Ninety Six Thousand, Two Hundred and Six Dollars and Forty Seven Cents (\$396,206.47) less the \$150,855.00 already paid by the earlier supplemental agreement.

**Increase = \$245,351.47**

**Response:** See response to description code 103 below.

**Original Supplemental Agreement:**

**Description Code 103: Incorrect/insufficient subsoil information in plans (included in plans but not adequate). This differs from 001 in that information is in plans but incorrect or inadequate.**

**Reason:** Improvements under this contract consist of multi-lane construction.

The Contractor's claim was regarding the encounter of flexible pavement depths. The Contractor was seeking compensation for removal and disposal of identifiable pavement for depths that exceed three (3) inches. The range of depths for identifiable pavement varied from nine (9) inches to twenty-seven (27) inches. The identifiable types of pavement were FC-1, Type S, Type II and SBRM.

The Contractor was directed to remove the entire depth of the pavement. The asphalt removal is included in the lump-sum price for clearing and grubbing, per Standard Specification, Section 110-11.3. There is no compensation due for the removal of asphalt. However, since the Department has decided that SBRM (Sand Bituminous Roadway Mixture) is not considered to be flexible pavement, the Contractor was entitled to compensation for the removal and disposal of the SBRM.

**Increase = \$150,855.00**

**Response:** This supplemental agreement is not being attributed to a design error. However, Designer's should be forewarned that the thickness and lateral limits of the existing asphalt pavement and concrete pavement must be shown on the cross sections, if the cross sections are included in the plans. This would include any type of asphalt/bituminous pavement, i.e. miscellaneous asphalt and asphalt base courses.

**Description Code 126: Computation error.**

**Reason:** Improvements under this contract consist of multi-lane construction.

This supplemental agreement is to provide for an overrun of asphalt for black base (overbuild), which was inadvertently omitted by the Designer.

**Increase = \$89,079.04**

**Response:** This supplemental agreement is being attributed to a design error with no premium cost assessed.

## *Supplemental Agreement Report—August*

Larry Kelley, P.E., District Design Engineer

This is the Supplemental Agreement Report for the month of August 2003. The two (2) categories of supplemental agreements that are included in this monthly report are codes 101 and 126. 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 not included.**

**Reason:** Improvements under this contract consist of multi-lane construction, bridge construction, drainage improvements, highway lighting, signalization and signing and pavement markings.

An on site review revealed a need for a permanent steel sheet pile wall and concrete cap to prevent the proposed embankment front slope from encroaching into an existing retention pond.

This supplemental agreement is to compensate the Contractor for the installation of the steel sheet piling wall with a concrete cap as required by the drawing provided by the Designer.

**Increase = \$118,374.17**

**Response:** This supplemental agreement is being attributed to a design error with an estimated premium cost of \$580.78. No action to collect premium is necessary at this time.

**Description Code 126: Computation error.**

**Reason:** Improvements under this contract consist of new multi-lane construction, safety and drainage improvements, highway lighting, signalization and signing and pavement markings.

Subsequent to commencement of construction errors were detected in the roadway calculations which resulted in insufficient quantities of base, superpave asphalt concrete and asphalt concrete friction course. The base was increased by 46,923 meters squared, superpave was increased 49,886 meters squared and friction course was increased 1,906.4 metric tons.

**Increase = \$1,044,920.10**

**Response:** This supplemental agreement is being attributed to a design error with no premium cost assessed.

# UPDATES!!

## STATE DESIGN CONFERENCE

FDOT Central Office will host the Bi-Annual State Design Conference  
July 12-14, 2004. Details on location, agenda and etc. will be forthcoming from  
Brian Blanchard, State Roadway Design Engineer.

## DISTRICT THREE DESIGN CONFERENCE

The District will be hosting the District Design Conference every other  
year; in the year the State Design Conference is not held. Therefore there will be  
no District Conference in 2004. The next District Design Conference  
will be in the Spring of 2005.