



# DISTRICT THREE DESIGN

Vol. 1 No. 1  
JANUARY-MARCH 1996

State of Florida Department of Transportation

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### INSIDE

*Welcome to Our First Edition!*  
..... 1

*Unclassified Excavation  
and Borrow Material* ..... 1

*No Passing Zones* ..... 1

*Load Ratings* ..... 2

*District Bidability Team* ..... 2

*Seeding Rates for Third  
District Projects* ..... 2

*Information from Estimates*  
..... 3

*Temporary Pavement Marking  
Specification B1020033* ..... 3

*Plan Quantity Rule and Forms* . . . 3

*Supplemental Agreement Errors  
Addressed* ..... 4

*Update: District Three  
Geotechnical Plans Review  
Procedure* ..... 4

*Railroad Notification* ..... 5

*Design Issues* ..... 5

*MOT Plans (Lane Widths)* ..... 5

## Welcome to Our First Edition!

Brian Blanchard  
District Design Engineer

Welcome to District Three's first Design newsletter. We intend to publish this Newsletter each quarter to provide feedback to designers. Our objective is to promote communication between all parties involved with plans development. This communication tool will allow designers to learn from past experience and benefit from others. Some specific objectives will be a reduction in repetitive review comments, clarifying standards and criteria, and reducing supplemental agreements, cost overruns and time extensions.

We would like to get feedback from the consultant industry. Please send us your comments, questions or suggestions for future topics. ❖

120-5.1 and 120-6.1 of the standard specifications. If there are no classifications of the soils on a project, it will be difficult for a contractor to bid on the possibility of suitable soil use. As there were no instructions as to where and how the contractor was to use the unclassified excavation; Construction contended the contractor would merely overrun the borrow and file a claim.

After a long discussion, it was concluded, in the future, we should not assume what the contractor will do or should do with the useable excavated material. We should figure the job as all borrow needed and then let the contractor be able to use the useable excavated material as a bidding advantage. A few examples of this would be; the contractor could figure on using the useable excavated material and base his bid appropriately, the contractor could figure selling the useable excavated material out, etc.

Therefore, please make a note, all excavated material is to become property of the contractor to be removed from the right-of-way or disposed of (if allowable) within the project limits. This will be limited to RRR projects where no soil classification has been done. ❖

### DISTRICT THREE DESIGN

Florida Department of  
Transportation

*If you are interested in  
obtaining a copy of this free  
quarterly Newsletter, contact  
Brian Blanchard, District  
Design Engineer.*

(904) 638-0250 X-425  
FAX (904) 638-6148

## Unclassified Excavation and Borrow Material

Brian Blanchard

On February 1, 1996, a meeting was held concerning State Project No.: 58080-3515. District Construction brought to our attention that they had concerns about a possible claim arising from the subject project.

The soils on this project did not have any classifications. It had some unique notes about assuming 50% of the excavated material would be used on the project. Please look at

## No Passing Zones

Brian Blanchard

This is to inform all designers as of the January 1996 letting, "no passing zone" studies are to be performed by the design consultant. For projects that did not include this wording in the design scope, it will be the project manager's responsibility to supplement the consultant's post design services to cover this additional work. A note should be included in plans alerting the contractor that the design

(continued....)

consultant will perform the "no passing zone" study. If a consultant has an outdated scope with no post design services, this work effort can be handled with a district-wide miscellaneous consultant or with in-house personnel.

Limits of pavement markings for "no passing zones" will be established by one of the following methods:

1.) On projects where existing roadway conditions (vertical and horizontal alignments) are to remain unaltered by construction, the "no passing zone" study will be accomplished as part of the design phase. This will be either by in-house staff or included in design consultant contracts.

The limits of the no passing zones will be included in the contract documents, and a note to this effect shown on the plans.

2.) On projects with new or altered vertical and horizontal alignments, limits for no passing zones will be established during construction. The required traffic study and field determination of limits will be performed through a design consultant as a post-design service, or as part of a district-wide consultant contract for such services.

When this service is included as part of post design services, sufficient time will be included to accomplish the required field operations without delaying or interfering with the construction process. ❖

## Load Ratings

Brian Blanchard

This is a reminder that all bridge culverts require a load rating. We have consistently included this wording in our scopes. However, the Maintenance Office (Structures) does not always receive load ratings at final plan stages. The following should be forwarded to the District Structures Maintenance Engineer for approval:

1. Load Rating using BARS program (hard copy)
2. One disk of the BARS input/output
3. Completed one page summary sheet (signed and sealed) of the load rating for the seven legal truck types and the HS-20 truck.

If the Consultant or the District Structures Design Engineer is aware of changes to the bridge during construction, it is that individuals responsibility to notify the Engineer of record so that the load rating can be modified. ❖

## District Bidability Team

Brian Blanchard

You may have heard of them, but do you know who they are? The newly formed Bidability Team is staffed by Mac Watters, Eugene Toole, Kenny Sapp and Paula Roberts. All members of the team are long time employees of the Department and bring with them the expertise and knowledge required for the team to meet its objectives.

The main objectives of the team are to:

1. Identify and eliminate plans' errors and omissions

2. Review of justification and need of supplemental agreements prior to approval
3. Review of requirements for pavement design, geo-technical, specifications and traffic operations
4. Assist construction field personnel in identifying and resolving plans' errors
5. Provide feedback to designers by contributing to the district's quarterly design newsletter.

In the future, it is anticipated we will see a noticeable reduction in plans' errors and omissions, thereby reducing the potential for claims and supplemental agreements caused by these deficiencies. ❖

## Seeding Rates for Third District Projects

Brian Blanchard

The memoranda from Ralph Carter are to be used for calculating seeding quantities on all future projects and /or projects which have not had final quantities calculated as of this date.

The basis of an estimate for the seeding quantities will need to be shown in the plans and computation booklet since they are different from those showed on Standard Index 104 and 105. Also, please contact Ralph and get his input on using Asphalt Mulch on all projects in areas where sandy soil's conditions exist. Normally asphalt mulch is not used when an item for topsoil is called for in the plans, but in some areas the topsoil is sand mixed with a lot of organic material and it erodes very easily. In these areas, asphalt mulch would be very beneficial in establishing plant growth on our projects.

SEEDING RATES FOR DISTRICT THREE PER ACRE		
Type of Seed	March to November	November to March
Permanent Grass		
Hulled Bermuda	20	
Unhulled Bermuda	20	40
Bahia-Argentina or Pensacola	40	40
TOTAL:	80	80
Quick Grow:		
Brown Top Millet	20 to 30	
Annual Rye Grass		20 to 30

(continued....)

Two changes need to be made: Pounds per acre increase and the addition of hulled bermuda (scarified) during spring and summer months. Dates for seasonal change of quick grow are not ironclad. In other words about October 1, the mix should be half rye grass and half millet; reverse this procedure as spring approaches. Urban projects should be addressed on a project by project basis as to species or types of grass establishment. If you have any questions on this article, you may call Ralph Carter @ extension 243. ❖

## Information from Estimates

W.C. Cobb

The 1996 English and Metric Edition of the Basis of Estimates Handbooks should be used on all projects. Copies may be obtained by sending a check or money order to:

Florida Department of Transportation  
Office of Maps and Publications,  
Mail Station 12  
605 Suwannee Street  
Tallahassee, FL 32399-0450

The annual cost of the handbook is \$22.50, plus the appropriate sales tax for your county. This price includes the cost of one mid-year update.

For projects let in and after July 1996, designers should use the 710 Series Pay Items for MOT pavement markings on all plans. Designers will continue to document the Quantities in the Computation Book and tabulate the quantity of work zone pavement markings in the summary of Roadway Pay Items (Group 20). Note: Existing Pay Items for Pavement Markings Temporary (2102-921-XXA and 2102-922-XXA series Metric) (102-921-XXA and 102-922-XXA series English) will be PERMANENTLY BLOCKED June 30, 1996.

Pay Item 120-71-(English), 2120-71-(Metric), Regular Excavation-(3 R projects only) is a LS Item and should be loaded only as 1 in CES. The designer will continue to show the summary of Earthwork in the plans. The summary should show all quantities and adjustments.

## Temporary Pavement Marking Specification B1020033

Cheryl Adams

The above noted specification is mandatory for January 1996 projects and changes the way the designers are currently paying for and calculating temporary pavement markings. This specification states that all work zone pavement markings (temporary pavement markings) are to be paid for under permanent pavement marking pay item numbers.

Some of the designers are not aware of this

specification being inserted in all projects starting January 1996 and are still using the old pay item numbers. For projects let in January 1996 through June 1996, the new specifications B1020033, M1020033 and B102FIX1, M102FIX1 will need to be inserted in the specifications. For projects to be let after July 1996, the designers will use the 710 series pay items for MOT marking on all plans.

Designers should continue to document the quantities in the computation book and tabulate the quantity of work zone pavement markings in the summary of roadway pay items (Group 20). ❖

## Plan Quantity Rule and Forms

Brian Blanchard and Eugene Toole

We continually receive computation sheets without backup data and computations. We have stressed the need for this time and time again. We feel that requiring signatures to be shown will insure the necessary information is provided. Construction and Final Estimates must have our cooperation in this matter. It will result in reduced manpower, recalculations, and probably reduced claims and proper documentation for use in claims negotiation. The solution is simple -*All quantities that are to be paid for by "plan quantity" require back-up calculations and a certain log book form that has appropriate blanks for the name and signature of the person providing this back-up calculation.*

Many of the consultants are still using out-dated computation book forms. The designers also need to be reminded of a few other pointers:

A.) Do not write anything to the right of the line dividing the "original" and "final" columns nor below the blank column spaces provided for the original computations. The remarks column and spaces for explanation at the bottom of the form is reserved for field and final estimates personnel.

B.) The designers should remember that the computation book does not go to the Contractor before he prepares his bid. The plans must offer to the Contractor the same information contained in the computation booklet. The designer should follow the instructions included in the Basis of Estimates Manual. (Note: The successful bidder may purchase a copy of the computation booklet.)

C.) The computation booklet label should be completed as instructions indicate. This includes the person responsible for the over-all preparation of the booklet as well as the person responsible for checking the computations.

D.) The designer should also take into account the legibility of the computation booklet. He should remember that, though not part of the legal contract, the computation booklet accompanies the plans to: Specifications, Tallahassee, to the field, thru district estimates, back to Tallahassee, thru final estimates and must be reproduced several times for use by different groups and individuals.

E.) For the Project Managers, (on both sides of the fence), there must be appropriate time given to the task of preparing the computation booklet. A well prepared and documented computation booklet does not just happen. It must be *prepared for.....*and then prepared. ❖

## Supplemental Agreement Errors Addressed

Mac Watters

During the past 3 months the Bidability Team has been reviewing supplemental agreements generated during construction. From the Design side, the top 3 design errors or omissions are:

1. Missing Pay Items
2. Typical Sections
3. Omission of Quantities

Examples are as follows:

### Missing Pay Items

<u>SPN</u>	<u>Description of Problem</u>
55050-3515	No pay item for relocating barrier wall.
48260-3463	Needed pay item to install conduit.
"	Needed pay item to remove asphalt.
99903-3562	Needed pay item for regular excavation.
57000-3611	Needed pay item for Rip Rap.

### Typical Sections

<u>SPN</u>	<u>Description of Problem</u>
48260-3463	Did not meet Roadway and Traffic Design Standard.
54020-3511	Cross slopes of existing pavement did not match Typical.
53002-3434	Typical Section did not take drainage into consideration.
46090-3520	Limits of re-working shoulders do not extend far enough to encompass the limits of shoulder preparation required.

### Omissions of Quantities

<u>SPN</u>	<u>Description of Problem</u>
54020-3511	Additional removal and reconstruction of ditch pavement.
57000-3611	Removal of existing asphalt and concrete.
48270-3432	Underground conduit and pull box locations not sufficient.
"	Additional ground rods needed.
51020-3530/ 51020-3528/ 51020-3527	Signs duplicated in counting.
48030-3513	Removal of existing pavement not sufficient.
"	Additional sodding required.

During each newsletter we will bring the most prevalent design errors and omissions to your attention. We recommend you make every effort to eliminate these types of deficiencies. ❖

## Update: District Three Geotechnical Plans Review Procedure

Randy Bellmann

The following letter was mailed out to all active District Three Consultants on March 20, 1996:

This is a reminder of the requirement for the Designer to provide plans to the Designer's Geotechnical Engineer for review. This requirement exists regardless of the contractual arrangement of the services, be it prime-sub, prime-sub-sub or any other combination. This review procedure is intended to ensure that all geotechnical matters are properly interpreted and all recommendations are included in the plan's package. Unfortunately, this requirement is not yet being successfully implemented.

In an effort to correct this situation, all Design Contracts that involve a significant amount of geotechnical work are being advertised with group 9.0 as a major work activity. This will provide the District Geotechnical office with an opportunity to grade the performance of both the prime consultant and the geotechnical sub in the development and use of the geotechnical information.

In addition, the plans review procedure is being emphasized during the scope of services meeting and the generic geotechnical scope has been modified to include the following paragraph:

The prime consultant shall provide the geotechnical consultant the opportunity to review plans as they are being developed. Generally, a plans review will take place at the 30%, 60%, 90%, and 100% stages. The geotechnical consultant's comments and their response/resolution shall be included with each level of the plans submitted for review. The geotechnical work effort will not be considered complete until the plans review comments and their resolutions meet the approval of the District Geotechnical Office.

The requirement for this communication and review were presented to the Design Consultants at the State Design Conference (August '95), and to the Geotechnical Consultants at the Geotechnical Materials Engineering Conference in May 1995.

This office is requiring that the review process, as described above, be followed on all active and future projects. Your compliance is being monitored and your cooperation will be appreciated.

It is imperative that the Designer's Geotechnical Engineer be given the opportunity to review each plans package prior to the submittal for FDOT review. In the future, FDOT QC Geotechnical Plans Reviews will not be performed without first being provided with some evidence that the plans have been approved by the Designer's Geotechnical consultant. Please call Randy Bellmann at SUNCOM 767-1504 or William F. Knight

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at SUNCOM 767-1620 if you have any questions or feel you need to discuss this matter in greater detail. ❖

### Railroad Notification

G. W. Clark

One of the District's top two problems was "work on, near or affecting the railroad property without proper authorization from or notification to the Railroad Company is presenting problems in District Three." One of the Task Team's proposed solutions is to make everyone aware of the problem so that occurrences will be eliminated or greatly diminished.

Through the effort of the design section in District Three, those occurrences have diminished. Please continue the great effort that the Design Section has been doing in keeping awareness of this problem in the minds of not only DOT employees, but consultants as well. ❖

### Design Issues

Brian Blanchard

Designers should always use new standards for clear zone when deciding whether to use mitered end sections, setting guard rail lengths, extending boxes, etc. However, less than the new standards for clear zone should be used if right of way acquisition can be avoided.

Designers should make an effort to minimize the resurfacing costs per mile (\$130,000 per lane mile). Design variances and exceptions should be a consideration if the accident history (safety study) is acceptable.

A recurring problem is geotechnical investigations for unscheduled activities, i.e., overhead signs, signal poles, pipe extensions (single pipes 36" and greater and multiple pipes), temporary and permanent walls, etc. Temporary walls are often required late in the design phase to minimize wetland fill, for maintenance of traffic, phased construction etc. Additional in-house geotechnical investigations will usually take up to 10 weeks depending on the project. Please keep this in mind during the design of a project.

A recent value engineering proposal requested deleting the temporary raised pavement markers on the friction course. This proposal was approved. Please note that temporary raised pavement markers are not required on the friction course. Permanent raised markers should be used after laying the friction course. ❖

## MOT Plans (Lane Widths)

Larry Kelly and Brian Blanchard

Blanket permits for oversized loads require at least a 16' clearance with 18' desirable lane widths. MOT plans should be specific enough to show a minimum dimension of 18' of clearance when placing temporary barrier walls or any other type lane reduction measures. There is such a large volume of projects at this point that alternative routes are not available; (Both I-10 and US 90 cannot be narrowed to 12' clearance.)

However, there are exceptions. For bridge projects with Bailey or Acrow Type II bridging, the above clearances cannot be provided. The designer should provide advanced signing at the nearest intersections (two signs per intersection minimum). This will provide advanced warning to oversized loads that the lane widths are restricted. ❖

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### DISTRICT THREE DESIGN NEWSLETTER

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