

## Chapter 16

### Design Submittals

The following are changes, additions or deletions to the January 2003, Topic #625-000-007, Plans Preparation Manual (PPM) - English, for use on Turnpike projects only:

#### **16.2.3 Typical Section Package**      *Revise paragraph 2 on page 16-6 as follows*

- C.     A crossroad exists.
- E.     If there are realigned local roads, frontage roads, cul-de-sacs, railroads, canals, aerial transmission lines, etc. as applicable.

*Add to paragraph 3 on page 16-6*

When cross roads or other facilities are maintained by another agency, they should sign and date their approval on the typical itself before Turnpike concurrence. If this is not possible, a letter will be written to the agency confirming their concurrence and requesting a concurrence signature. In that case, the design documentation will include a copy of the local agency standard to document design conformance. (The maintaining agency does not need to upgrade their typicals to meet higher FDOT or Turnpike criteria.)

*Add to list for "Proposed Roadway Typical Section Drawing"*

- Future lane widths (types and locations).
- AADT
- Clear zone

If major changes will be made after initial construction, a separate future typical should be prepared. Future lanes on proposed crossroad typicals should be dashed and labeled "Future, By Others". Future typicals may be urban while proposed or may be rural with different design speeds. (See PPPH Chapter 2 on future lanes and Profile Grade Lines, PGLs.)

- Note:
1.     Drafts of the Typical Section Package may be submitted electronically to the Turnpike Roadway Engineer (TRE) for review.
  2.     The TRE will review and coordinate with the Turnpike Design Engineer (TDE). Upon approval the TRE will advise the Project Manager to instruct the Consultant to submit 4 signed and sealed originals to the TRE who will forward the typical section package to the TDE with a recommendation of approval. After receiving concurrence by the Turnpike Designer (TDE), a signed copy will be returned to the Consultant.

## **16.2.4 Preliminary Drainage Design**

*Add the following paragraph*

Complex projects may require a preliminary 45% (Red Line) drainage submittal. The intention of this submittal is to verify the design methodology adequately documents compliance with FDOT and Turnpike Drainage Criteria.

## **16.2.5 Preliminary Geometry and Grades**

*Add Section 16.2.5.1*

### **16.2.5.1 Turnpike Preliminary Line and Grade Submittal**

The Design Consultant shall submit preliminary (approximately 15%) alignment and grade sketches/computer plots depicting the proposed geometric design. The submittal shall include horizontal geometry for all mainline roadways, ramps, cross streets and side roads. As a minimum, vertical geometry shall be provided for all mainline roadways and cross streets. Vertical geometry for ramps and side roads will be provided where critical to the project. The sketches or computer plots can be in sheet or roll form and will be at a reasonable and useable scale.

Supporting calculations/computer printouts shall also be submitted. Specific elements which should be addressed in the supporting documentation include but are not limited to design speed, lane widths, shoulder widths, bridge widths, horizontal and vertical clearances, stopping sight distance, intersection sight distance, aesthetics, access management and base clearance. The various elements should be developed to a level of detail consistent with the objectives of the preliminary (15%) submittal as described below. Continued development and refinement of the geometric elements for subsequent Phase submittals is anticipated.

The primary objectives of the Preliminary (15%) Geometric Submittal are to:

- Check consistency with the intent and scope of the Project Concept Report.
- Evaluate the impacts of changes to the Project Concept, resulting from the normal design development process as well as those due to changes in scope, identification of adverse site conditions, etc.
- Verify the geometric viability of the project for the desired design speed and traffic volumes.
- Provide a basis for early coordination with other disciplines (drainage, structures, etc.) and for early identification of design constraints or problems.
- Document off-site and pavement drainage constraints.

## 16.2.6 Preliminary Traffic Control Plan

*Add bullet*

- Document off-site and pavement drainage constraints.

## 16.2.7 Pavement Selection and Design

*Add Section 16.2.7.1*

### 16.2.7.1 Turnpike Pavement Design Submittals

Draft Pavement Design Reports shall be submitted to the TRE for review. Upon approval, resubmit 4 signed and sealed originals to the TRE. He will forward to the TDE for his concurrence and signature. A signed copy will be returned.

## 16.4.1 Phase III Submittals

If the Scope of Services calls for a Phase III review, this is the last opportunity for all reviewers to comment on plans. Phase III plans submitted for review must be “complete” as described in Section 2.3.2.3, Vol. 2, PPM. This submittal must include: 1) complete plans, 2) preliminary specifications with Technical Special Provisions, 3) a constructibility checklist as described in Section 1.1, Construction Project Administration Manual (CPAM) plus the building checklist in Exhibit 16-A, PPPH, and 4) supporting documents.

It is the responsibility of the Turnpike’s Project Manager to insure the submittal is complete. If the submittal is not complete, it will be returned to the Consultant for resubmittal. Also, on major projects a PS&E field review will be held to resolve any pending issues.

The CPAM can be found at the following web address:

[http://www.dot.state.fl.us/construction/manuals/cpam/CPAM70000000/Old%20PDF Files/intro.pdf](http://www.dot.state.fl.us/construction/manuals/cpam/CPAM70000000/Old%20PDF%20Files/intro.pdf)

## 16.4.2 Phase IV Submittals

The plans and the specifications package submitted for this review must be “final”, as described in Section 2.3.2.4, Vol. 2, PPM. This submittal is distributed only to Turnpike reviewers who had Phase III comments. All comments made during the Phase III review should have been addressed. This submittal includes: 1) “final” Contract Plans with the Proposal Summary of Pay Items, 2) the Specifications Package, 3) a constructibility checklist in Section 1.1, CPAM, plus the building checklist in Exhibit 16-A, PPPH, 4) a preliminary Design CD (not-sealed), and 5) support documents.

After comments are reviewed and issues are resolved by the specialty Reviewers, the Project Manager and/or the PS&E calls a Phase IV final resolution meeting to ascertain all comments have been addressed, and there are no contradictions between specialties. Comments made at this meeting (addressing old issues) are provided to the Consultant for correction prior to submittal of sealed documents.

## **16.4.3 Final Submittal**

### **16.4.3.1 Full Electronic Seal**

The Consultant submits design plans and specifications electronically sealed in accordance with Section 19.2.2, Vol. 1, PPM, the CADD Manual and the CADD Production Criteria Handbook. This submittal includes: 1) PEDDS sealed Plans and Specifications in a Design CD, 2) PEDDS generated signature and manifest paper sheets, signed and/or sealed by the professional(s) of record, 3) responses to reviewer's comments generated at the phase IV submittal, 4) .dgn files and support files in a Design CD, 5) the original computation book and other support documents, 6) Consultant's certification stating that documents are free from errors and/or omissions and ready to be processed (Exhibit 16-B). In addition, two paper copies of the plans and one paper copy of the specifications are included.

After these documents are reviewed and all comments are resolved by the Turnpike PM and the PS&E Coordinator, the Plans Package is ready for processing (Production Date).

### **16.4.3.2 Partial Electronic Seal**

When a plan's component or Technical Special Provision cannot be sealed in accordance with Section 19.2.2, Vol. 1, PPM, such as Architectural plans, the Consultant submits those components as .pdf images copied into an electronically secured Design CD. Otherwise, this submittal is similar to those making use of full electronic seal. However, the paper sealed components remains the record set (of that component) and must be preserved in accordance with the document retention schedules for those documents.

### **16.4.3.3 Architectural Plans**

Additional requirements for architectural plans (Toll Plaza/Building)

- One sealed paper set of original CADD plots,
- One copy of sealed plans,
- One additional copy of the Design CD with AutoCadd/ Microstation files,
- One additional sealed paper copy of Technical Special Provisions,
- Any Architectural Technical Special Provision must be provided in .pdf and MSWord format in the Design CD.

**EXHIBIT 16-A**

**12. BUILDING**

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1. Availability of temporary power, water, sewer and telephone.
2. Sufficiency of conduits for future wiring, size, number, and correct location.
3. Access for construction equipment.
4. Presence of hazardous materials.
5. Time allocations for outside contractors to perform their work are adequate and shown in the plans if appropriate.
6. Provisions for microwave and radio communications.
7. Traffic Control Plan are to keep traffic outside of the footprint of the building and canopy until tolls are collectable.
8. State Fire Marshall and Department of Management review of construction documents.

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Item No.      Description of Change

Designer's  
Name

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Item No.      Description of Change

Designer's  
Name

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Item No.      Description of Change

Designer's  
Name

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**EXHIBIT 16-B****Date**

Nancy A. Clements, P.E.  
Director of Planning & Production  
Florida's Turnpike Enterprise  
Florida Department of Transportation  
P.O. Box 613069  
Ocoee, Florida 34761

**Re: Certification of Plans, Specifications and Quantities**  
**Financial Project ID: 408694-1-52-01**  
**County: Martin**  
**Description: Drainage and Safety Improvements at Stuart Interchange**

Dear Ms. Clements:

The undersigned Joe Doe, P.E. hereby certifies that the plans, specifications and estimates for the above referenced project are free from design errors or omissions, and are ready to process for contract Letting. Further:

- All work has been prepared in accordance with this project Scope of Services.
- Engineering design conforms to the current Florida Department of Transportation (FDOT) Plans Preparation Manual and Design Standards.
- All plans components are complete, accurate, and up to date.
- The Specifications Package has been prepared in accordance with FDOT Specifications Package Preparation Procedure. Included are any necessary Technical Special Provisions.
- All applicable general notes and pay item footnotes are included. All notes are clear and free of ambiguities and contradictions.
- Pay item numbers and quantities are consistent with related pay item notes. The Summary of Pay Items agrees with work called for in the plans.
- Required construction operations will not conflict with each other.

Nancy A. Clements, P.E.

Date

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- The project is constructable and traffic can be maintained efficiently.
- All conditions included in permits issued to the Department have been addressed.
- Public Involvement requirements have been met and are documented in the project file.

If you should have any questions, please feel free to give me a call.

Sincerely,  
HOWARD, BRACKINS & ASSOCIATES, INC.

Joe Doe, P.E.  
Principal-in-Charge

cc: Project Manager w/ attachments  
Christopher Lory  
William Sloup