



**Keeping Up  
With The Times...**



**Plans Preparation Manual  
January 1, 2008 Updates**

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## Plans Preparation Manual

# Presentation Agenda

### Overview of PPM Update Process



PPM Volume I – Highlights

PPM Volume II – Highlights



## Plans Preparation Manual

# Overview

- **Two Volumes**
- **English Units**
- **Electronic Version**



To obtain your own copy of the Manual,

you may download it from:

<http://www.dot.state.fl.us/rddesign/PPMManual/PPM.htm>

(NOTE: Printed and CD versions are no longer available from the Department.)



## Plans Preparation Manual

# Overview

To ensure  
you receive notification of  
all updates or revisions:

# Register Yourself!



## Plans Preparation Manual

# Overview

### For Information Regarding Registration

- Edit Personal Information

Name Address  
Place of Business  
Phone Email

- Edit Areas of Interest

PPM  
Florida Greenbook  
Design Standards

Log into the Contact Management database at:

<http://www2.dot.state.fl.us/contactmanagement/>



## Plans Preparation Manual

# Overview

For Questions About PPM Content  
or Roadway Design Issues...

Contact:

**Rob Quigley**

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*Roadway Design Office*

*605 Suwannee Street, MS 32*

*Tallahassee, FL 32399-0450*

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*850-414-4356*



## Plans Preparation Manual

# Overview

### Senior Designers Team

- Primary designer from each district
- Monthly meetings / teleconferences



### Draft Submittals

- Received throughout the year
- Reviewed prior to meeting



### District Design Engineers

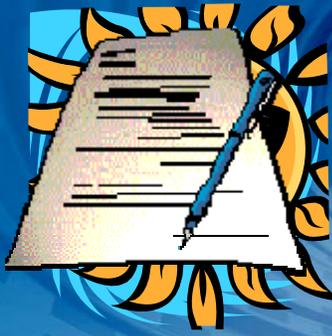
- Quarterly meetings
- September: Review Final PPM Draft for approval



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Plans Preparation Manual  
Overview



Or...  
Design  
Bulletin

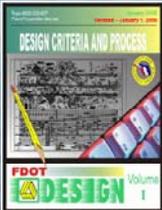
*There's always the Web!*  
<http://www.dot.state.fl.us/rddesign/>

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Plans Preparation Manual  
Overview

- Online
- PPM Updates
  - Implementation Letter
  - Sheet Inserts for Printing
  - Complete Manual

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# Plans Preparation Manual

## Overview

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*We want to hear from you...*



STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION  
**SUGGESTIONS AND COMMENTS  
 PLANS PREPARATION MANUAL  
 VOLUME I**

NAME OF FIRM OR  
 FDOT DEPARTMENT: \_\_\_\_\_

PHYSICAL ADDRESS: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

NAME OF PERSON  
 RESPONSIBLE FOR  
 SUGGESTIONS OR  
 COMMENTS: \_\_\_\_\_

EMAIL ADDRESS: \_\_\_\_\_

TELEPHONE NO.: \_\_\_\_\_

FAX NO.: \_\_\_\_\_

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 OR COMMENTS: \_\_\_\_\_  
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(Comments or suggestions may be attached as marked up copies of pages from the manual)  
 Please complete the requested information on a copy of this sheet and return to:

FLORIDA DEPARTMENT OF TRANSPORTATION  
 SCHEMATIC DESIGN OFFICE  
 MAIL STATION 12  
 600 N. WASHINGTON STREET  
 TALLAHASSEE, FLORIDA 32303-0400  
 FAX NUMBER (904) 414-1041

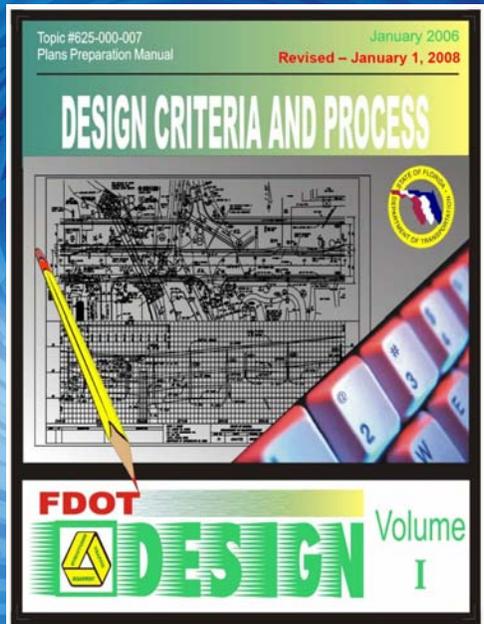
January 1, 2005

**As customers, your input is important to us!**

## Plans Preparation Manual

**Volume I**

**Design Criteria and Process**





## PPM Volume 1

### Chapter 2 – Design Geometrics and Criteria

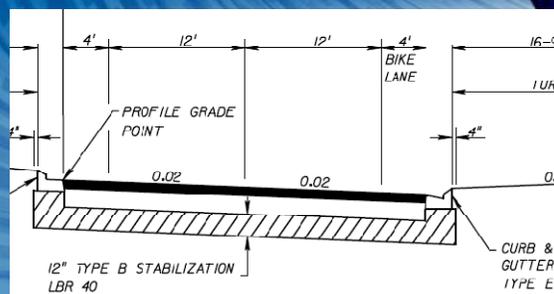
- Section 2.1.6.1 Alternative Roadway Paving Treatments
  - ◆ Added requirements and restrictions for using alternative roadway paving techniques:
    - Architectural Pavers
    - Patterned/Textured Pavement
  - ◆ References to FDOT Standard Specifications
    - Section 526
    - Section 523



## PPM Volume 1

### Chapter 2 – Design Geometrics and Criteria

- Section 2.3.3 Use of Curb on High Speed Roadways
  - ◆ New Section - Replaces Section 1.9.1
  - ◆ Address the use of curb on high speed roadways
    - FDOT Suburban Section
    - FDOT High Speed Urban Section
    - Directional Median Openings
    - Transit Stops
  - ◆ Only Type E curb





## PPM Volume 1

### Chapter 2 – Design Geometrics and Criteria

- Table 2.11.1 Horizontal Clearance for Traffic Control Signs
  - ◆ The term “frangible” has been replaced with the term “breakaway”
  - ◆ Corresponding changes have been made to Sections 4.6.1, 7.2.1, 7.3, 7.3.2.1, and Tables 2.11.3, 2.11.10, 21.2, 25.4.14.2, and 25.4.14.4
- Table 2.11.5 Horizontal Clearance to Trees
  - ◆ Revised to be consistent with Index 700 of the Design Standards

#### **REVISED** Table 2.11.5 Horizontal Clearance to Trees

Minimum Horizontal Clearance to trees where the diameter is or is expected to be greater than 4 inches measured 6 inches above the ground shall be outside the clear zone except as follows:

- Urban Curb or Curb and Gutter where speeds are  $\leq 45$  mph and where right of way is restricted:
  - 4 ft. from face of outside curbs.
  - 6 ft. from edge of inside traffic lane.



## PPM Volume 1

### Chapter 4 – Roadside Safety

- Section 4.7 Non-Standard Roadside Safety Devices
  - ◆ New Section
  - ◆ Addresses the requirements for using roadside safety devices not listed on the Qualified Products List (QPL) including:
    - barrier wall gates
    - aesthetic guard rails
    - temporary steel barriers
    - crashworthy stop gates
  - ◆ Designer must document:
    - FHWA Acceptance Letter
    - Crash Test Reports,
    - Compatibility with adjacent and/or connecting standard roadside safety devices
    - Maintenance requirements and characteristics





## PPM Volume 1

### Chapter 7 – Traffic and Intelligent Transportation System (ITS) Design



#### Section 7.2.9 Delineators and Object Markers

- ◆ New Section
- ◆ Provides guidance on use of delineators and object markers
- ◆ Roadway Design Bulletin 07-07/Estimates Bulletin 07-02
- ◆ More from Chester...



- Section 7.5 ITS Components

- ◆ New Sections with guidance/design criteria for ITS Components:
  - Roadway Weather Information System (Section 7.5.4.3 )
  - Equipment Shelter (Section 7.5.8.4 )



## PPM Volume 1

### Chapter 8 – Pedestrian, Bicycle and Public Transit Facilities

- Section 8.3.2 Disability Considerations

- ◆ Revised to provide guidance for the application of detectable warning systems for an asphalt surface
  - Use system that works with asphalt
  - Use short section of concrete that can accommodate any system
- ◆ Clarification that ADA requirements apply to pedestrian crossings
  - Grade
  - Cross slope
- ◆ Corresponding changes in Section 8.3.3

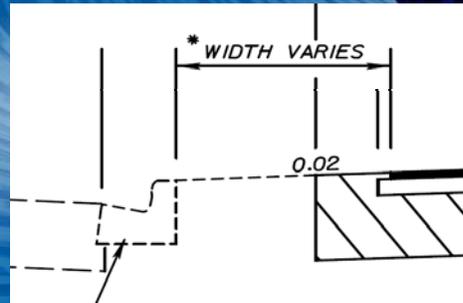




## PPM Volume 1

### Chapter 8 – Pedestrian, Bicycle and Public Transit Facilities

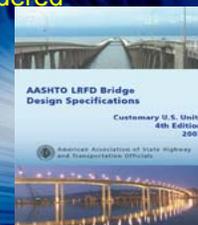
- Section 8.6.10 Separation between Shared Use Path and Roadway
  - ◆ New criteria for the separation between a shared use path and a curbed roadway
  - ◆ This separation revised to 4 feet measured from the back of curb
    - Previously, measured 5 feet from the outside edge of traveled way
  - ◆ Corresponding changes made to Volume 2, Exhibit TYP-15



## PPM Volume 1

### Chapter 8 – Pedestrian, Bicycle and Public Transit Facilities

- Section 8.8 Drop-off Hazards for Pedestrians and Bicyclists
  - ◆ New criteria for the minimum railing heights for bicyclists
  - ◆ Generally, same as the minimum pedestrian railing height of 42 inches, but a railing height of 54 inches should be considered under some circumstances
  - ◆ AASHTO LRFD Bridge Design Specifications (2007 Interims) reduced minimum bicycle railing height to 42 inches
  - ◆ Corresponding changes in Figures 2.0.4, 2.12.2, 2.12.3, 2.12.7 and also in July 1, 2008 Design Standards Modifications





## PPM Volume 1

### Chapter 9 – Landscaping

- Section 9.4 Community Structures
  - ◆ Updated the naming convention from “Community Identification Structures and Landscapes” to “Community Structures”
  - ◆ Clarification that this criteria does not apply to Place Name Signs or Customized Place Name Signs
  - ◆ Corresponding changes made to Sections 1.7.2, 9.4.1, and 21.5.10



## PPM Volume 1

### Chapter 10 – Transportation Management Plan

- Section 10.12.9 Detours, Diversions, and Lane Shifts
  - ◆ Clarified existing requirements for off state highway system detours
    - Coordination with local agencies
    - Documentation of agreements with local agencies
  - ◆ Corresponding changes made to Section 10.3.1.1.1





## PPM Volume 1

### Chapter 13 – Initial Engineering Design Process

- Section 13.5.2.3 Projects Involving Bridge Demolition
  - ◆ New Section Corresponding changes made in Sections 26.8.2 & 26.9.2 in response to Section 1805, SAFETEA-LU
  - ◆ Requires the Department to notify government agencies of the availability of demolished bridge debris for beneficial use
    - Shore erosion control and stabilization
    - Ecosystem restoration
    - Marine habitat restoration



## PPM Volume 1

### Chapter 13 – Initial Engineering Design Process

- Section 13.5.2.3 Projects Involving Bridge Demolition
  - ◆ To develop a Joint Project Agreement, determine:
    - Volume of raw debris
    - Timeframe of debris availability
    - Delivery location
    - Estimated cost for debris delivery (receiving agency will pay FDOT)
  - ◆ Include debris delivery instructions in plans
  - ◆ Requirements for agency notification (w/Sample Notification Letter) and the Joint Project Agreement are in the Project Management Handbook (Chap. 3)





## PPM Volume 1

### Chapter 20 – Plans Processing and Revisions

- Exhibit 20-C Revision Memo
  - ◆ Provide examples of revisions that involve revised, added or deleted pay items
    - Example Revision Memo
    - Example Summary of Pay Items Sheet

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION
3/14/07	REVIS <sup>Δ</sup> ED AND ADDED PAY ITEMS	7/14/07	TRNS <sup>Δ</sup> PORT UPDATED
6/15/07	DELETED PAY ITEM 104-5		
6/11/07	ADDED PAY ITEMS		

- ◆ Exhibit 20-C has also been updated to provide an area to indicate if the contract time is revised

SUPPLEMENTAL SPECIFICATIONS PACKAGE NUMBER \_\_\_\_\_ (\_\_\_\_ Pages).  
 PLANS REVISION NUMBER \_\_\_\_ (\_\_\_\_ Sheets):     Hardcopy     Electronic  
 CONTRACT TIME REVISED:     No     Yes    (If yes, \_\_\_\_\_ Calendar Days)



## PPM Volume 1

### Chapter 20 – Plans Processing and Revisions

- Section 20.6 Retention of Electronic Documents
  - ◆ New Section
  - ◆ Provides info on the different storage systems for retaining electronic records
  - ◆ Figure 20.3 provides detailed information on the different systems

TIMS	PEDDS DATABASE	Electronic Data Management System (EDMS)			
		DESIGN EDMS	CONTRACTS EDMS	CONSTRUCTION EDMS	STRUCTURES MANAGEMENT EDMS
File management system for in-house CADD file check in/out.	Electronic Vault for Storage of electronically signed files	<u>Design Records</u> <u>Groups</u> Architectural Community Involvement Drainage Environmental Permits Estimates FDOT Publications Geotechnical/Materials Landscaping Lighting Product Evaluation Project Management	<u>Contracts Records</u> <u>Groups</u> Construction Contracts: - Amendments - Bid Blank - Certificate Of Insurance - Contract - Federal Aid Contract Provisions - Permits - Pertinent Pages - Proposal - Special Provisions	<u>Construction Records</u> <u>Groups</u> Claim Compliance Contract Changes Includes Design Errors and Omissions, Field S&W, Orders and SA/Change Orders Contract Documents <b>Does not include Plans</b> Daily Diary Estimates Final Estimates	<u>Maintenance Records</u> <u>Groups</u> Bridge Plans and Specifications Bridge Record Bridge Shop Drawings Correspondence Geotechnical High Mast Record Sign Record Structural Calculations - As-Bid Plans - As-Built Plans
Allows for multiple users to work on same files. Working files only. Can be used	For Storage of: -Project CD -Plans and Specs CD -Revisions CD -Cat II Bridge As-Built files Files stored in the				



## PPM Volume 1

### Chapter 23 - Exceptions and Variations

- **Section 23.3 Approval**
  - ◆ Rewritten to clarify approval authority
  - ◆ Design variation requirements for structural capacity due to deficient bridge load ratings
  - ◆ Corresponding changes have been made to Section 23.5 (item “t”) and Section 23.8
  - ◆ Roadway Design Bulletin 07-04/Structures Temporary Design Bulletin C07-02
- **Section 23.5 Documentation for Central Office Approval**
  - ◆ Describe the documentation that should be included with design exceptions or design variations requiring Central Office approval
  - ◆ Corresponding changes have been made to Section 23.6 & Exhibit 23-A



## PPM Volume 1

### Chapter 24 - Federal Aid Project Certification

- **Exhibit 24-A Approval and Concurrence Process**
  - ◆ Now gives the District Roadway Design Engineer concurrence authority for phase review plans.

<b>APPROVAL OF PHASE REVIEW PLANS (Roadway and Structures)</b>	
Approved:	6
Concurrence:	3 4 5 7 or District Roadway Design Engineer ( <i>PPM Vol. I, Chap. 16</i> )



## PPM Volume 1

### Chapter 25 – Florida's Design Criteria for RRR of Streets and Highways

- Section 25.3.4.2 Definition of Levels of Survey Effort
  - ◆ Updated to remove reference to the NGVD 29 datum
  - ◆ New projects must use NAVD 88
  - ◆ Corresponding changes have been made in Volume 2: Exhibit BHD-1, Exhibit 5-1, and Exhibit 10-1



## PPM Volume 1

### Chapter 26 – Bridge Project Development

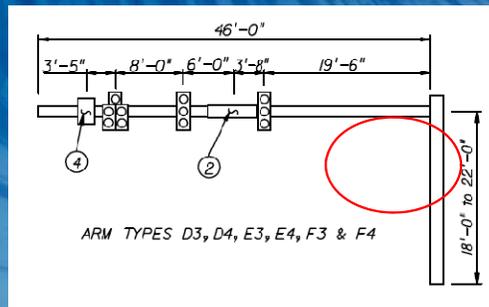
- Section 26.9.7 Bridge Security
  - ◆ New Section
  - ◆ Provides new bridge security requirements including anti-terrorist countermeasure designs and strategies
- Section 26.16 Bridge Load Rating
  - ◆ Updated to clarify the requirements for bridge widening and rehabilitation
  - ◆ Roadway Design Bulletin 07-03/Structures Temporary Design Bulletin C07-01



## PPM Volume 1

### Chapter 29 – Structural Supports for Signs, Luminaires, and Traffic Signals

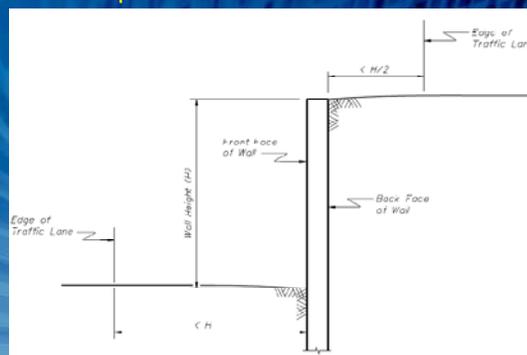
- Figure 29.2 Standard Mast Arm Design Loading Trees
  - ◆ Modified to remove the depiction of the internally illuminated sign attached to the pole
  - ◆ Clarification that these signs are permitted on either the pole or the arm of a mast arm assembly
  - ◆ Also see July 1, 2008 DSM for Interim Design Standard 17748



## PPM Volume 1

### Chapter 30 – Retaining Walls

- Section 30.3 Critical Temporary Walls
  - ◆ Clarification of requirements for plans with MSE or steel sheet pile critical temporary walls
  - ◆ Figure 30.1 was also added to illustrate the location of critical temporary walls with respect to traffic lanes





## PPM Volume 1

### Chapter 32 – Sound Barriers

- Section 32.6 Structural Design
  - ◆ Added requirement for specifying the environmental classification for corrosion rate evaluation if steel pilings can be considered for the sound barrier project
  - ◆ None currently on QPL
  - ◆ Corresponding changes have been made to Section 32.9



## PPM Volume 1

### Chapter 33 – Reinforced Concrete Box and Three-Sided Culverts

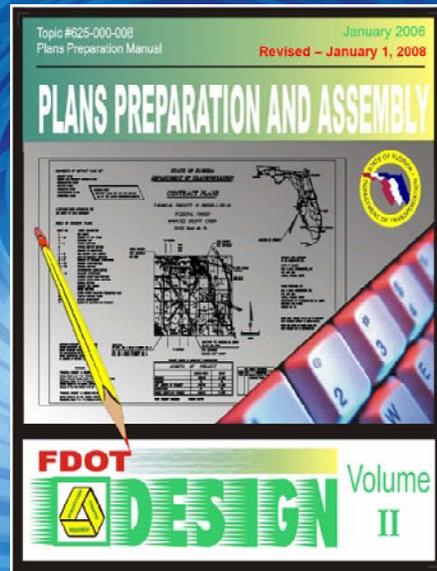
- Section 33.13 Computer Design and Analysis Programs
  - ◆ Updated to remove reference to LFD design and the associated program
  - ◆ Corresponding changes have been made to Sections 33.4, 33.5, 33.12, Table 33.1, and in Volume 2, Figure 2.1, and Sections 3.6, 7.3 and 22.4



# Plans Preparation Manual (PPM)

## Volume II

### Plans Preparation and Assembly



## PPM Volume 2

### Chapter 3 – Key Sheet

- Section 3.2.3 Length of Project Box
  - ◆ Key Sheet note identifying baseline used for length of project
- Section 3.3 Project Location Map
  - ◆ Clarification that both the begin project station and milepost are required on the Key Sheet
  - ◆ Station information must be consistent with that entered into the Work Program Administration system
- Section 3.6 Index of Sheets
  - ◆ Clarification that the use of sheet number prefixes discussed in this section are optional
  - ◆ Corresponding changes have been made to Sections 23.1, 24.1, and 25.1

BEGIN PROJECT  
STA. 125+87.16  
MP 3.592





## PPM Volume 2

### Chapter 3 – Key Sheet

- Exhibit 3-1 Standard Key Sheet Notes
  - ◆ Added to identify the standard Key Sheet notes
  - ◆ These notes are being removed from the Basis of Estimates Manual
  - ◆ Also in Exhibit KS-1

The following are standard Key Sheet notes that shall be shown as applicable:

1. The following note should be used on all strung jobs:  
NOTE: THIS PROJECT TO BE LET TO CONTRACT WITH FINANCIAL PROJECT ID(S)\_\_\_\_\_.
2. The following note to be used on all jobs:  
NOTE: THE SCALE OF THESE PLANS MAY HAVE CHANGED DUE TO REPRODUCTION.
3. The following note should be used on all jobs:  
GOVERNING STANDARDS AND SPECIFICATIONS:  
FLORIDA DEPARTMENT OF TRANSPORTATION, DESIGN STANDARDS DATED 20\_\_ AND STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION DATED 20\_\_, AS AMENDED BY CONTRACT DOCUMENTS.
4. The following notes should be used on all jobs and shown below the Governing Standards and Specifications:  
APPLICABLE DESIGN STANDARDS MODIFICATIONS: MM-DD-YY  
For Design Standards Modifications click on "Design Standards" at the following web site: <http://www.dot.state.fl.us/rddesign/>



## PPM Volume 2

### Chapter 7 – Summary of Quantities

- Exhibit SQ-1 Summary of Quantities
  - ◆ Summary of Sidedrain & Mitered End Sections box has been updated to reflect pipe size groupings
  - ◆ Corresponding changes made to Exhibit SDS-1A (Summary of Drainage Structures Sheet)
  - ◆ April 26, 2006 Basis of Estimates Summary of Major Changes ("Cover Letter")

SUMMARY OF SIDE DRAIN & MITERED END SECTIONS																					
LOCATION	STA. TO STA.	SIDE	PIPE LENGTH (LF)					MES (EA)													
			15"	18"	24"	30"	36"	15"	18"	24"	30"	36"									
P	150+10 - 150+50	RI.	40					2													
UNIT QUANTITY			76	36	52	42	64	4	2	2	2	2									
PLAN QUANTITY			164				106				4	2	2	2	2						
FINAL QUANTITY																					



## PPM Volume 2

### Chapter 8 – Summary of Drainage Structures and Optional Materials Tabulation

- Exhibit SDS-1 Summary of Drainage Structures
  - ◆ Updated to reflect the consolidation of storm drains and cross drains
  - ◆ Corresponding changes have been made to Section 8.1.1
  - ◆ Roadway Design Bulletin 07-09 and Estimates Bulletin 07-03

STORM AND CROSS DRAIN OPTIONAL TYPE									
ROUND SHAPE							OTHER		
UP TO 24"			25" TO 36"		37" TO 48"		49" TO 60"	UP TO 24"	25 TO 36"
15"	18"	24"	30"	36"	42"	48"	60"	24"	30"



## PPM Volume 2

### Chapter 9 – Project Layout

- Section 9.4 General Notes
  - ◆ Updated to allow the use of a stand-alone General Notes Sheet when the general notes cannot fit on either the Project Layout Sheet or the first Plan Sheet
  - ◆ Corresponding changes have been made to Sections 3.6, 10.4, and the new Exhibit GN-1

**GENERAL NOTES**

1. WORKMAN SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL UTILITIES LOCATED UNDER OR ADJACENT TO THE PROJECT AREA.
2. ALL UTILITIES SHALL BE PROTECTED AND MAINTAINED AT ALL TIMES. ANY DAMAGE TO UTILITIES SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES.
4. ALL MATERIALS AND METHODS SHALL BE APPROVED BY THE ENGINEER BEFORE CONSTRUCTION BEGINS.
5. THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL ADJACENT PROPERTIES AND PUBLIC ROADS AT ALL TIMES.
6. ALL WORK SHALL BE COMPLETED WITHIN THE SPECIFIED TIME FRAME.
7. THE CONTRACTOR SHALL MAINTAIN A SAFE WORKING ENVIRONMENT AT ALL TIMES.
8. ALL MATERIALS SHALL BE STORED AND HANDLED IN ACCORDANCE WITH ALL APPLICABLE REGULATIONS.
9. THE CONTRACTOR SHALL MAINTAIN A CLEAN WORK AREA AT ALL TIMES.
10. ALL MATERIALS SHALL BE PROTECTED FROM DAMAGE AND LOSS.

FOR OTHER GENERAL NOTES SEE SHEET GN-1.

THIS SHEET IS INTENDED TO BE USED AS A GENERAL NOTE SHEET AND IS NOT TO BE USED AS A SUBSTITUTE FOR ANY OTHER SHEET OR SPECIFICATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES.

DATE: 07/10/09

PROJECT: [REDACTED]

LOCATION: [REDACTED]

SCALE: [REDACTED]

DESIGNED BY: [REDACTED]

CHECKED BY: [REDACTED]

APPROVED BY: [REDACTED]

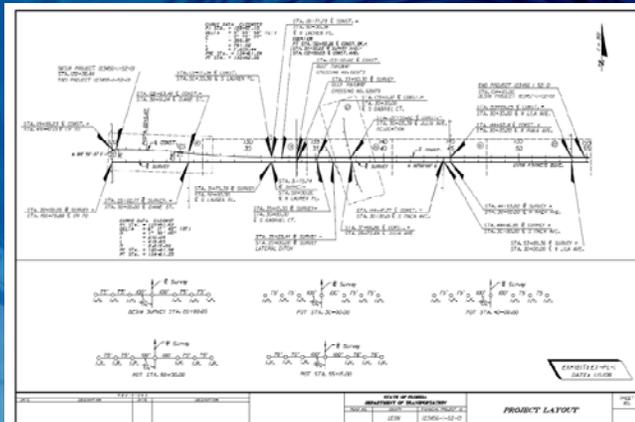
GENERAL NOTES



## PPM Volume 2

### Chapter 9 – Project Layout

- Exhibit PL-1 Project Layout Sheet
  - ◆ New Exhibit
  - ◆ Provides an example Project Layout Sheet



## PPM Volume 2

### Chapter 10 – Roadway Plan and Roadway Plan-Profile

- Section 10.2.7 Plan Layout
  - ◆ Projects w/ minor utility impacts may include those features on plan sheets
  - ◆ Corresponding changes have been made to Section 20.1
- Exhibit 10-1 General Notes for Roadway Plan Sheets
  - ◆ Requires the definitions of any abbreviations used in the plans to be listed if not found in Index 001 of the Design Standards
  - ◆ Corresponding changes have been made to the 2007 CADD Production Criteria Handbook





## Plans Preparation Manual

### General

- Generic Exhibits
  - ◆ Volume 2 Exhibits have been updated to remove the “by” column in the revision block area of the Roadway sheet border
  - ◆ Corresponding changes made with the Maintenance Release MR5 of the FDOT2004 CADD Software
- Other General
  - ◆ Other changes made throughout manual not covered in this training
    - Minor edits
    - Updated References
    - Clarification
    - Corrections



## Plans Preparation Manual

### Questions or Comments?

**Robert Quigley, P.E.**  
Roadway Design Office  
Criteria and Standards Section  
850-414-4356  
[robert.quigley@dot.state.fl.us](mailto:robert.quigley@dot.state.fl.us)

**THANK YOU  
FOR  
LISTENING!**

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