



## Florida Department of Transportation

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### ROADWAY DESIGN BULLETIN 16-12

DATE: November 1, 2016

TO: District Directors of Transportation Operations, District Directors of Transportation Development, District Design Engineers, District Construction Engineers, District Geotechnical Engineers, District Structures Design Engineers, District Maintenance Engineers, District Consultant Project Manager Engineers, District Roadway Design Engineers, District Traffic Operations Engineers, District Program Management Engineers, District Materials Engineers

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SUBJECT: **2017 Plans Preparation Manual (PPM)**

This bulletin announces the release of the **2017 PPM**, which is available on the Office of Design website at the following link:

<http://www.fdot.gov/roadway/PPMManual/PPM.shtm>

### SUMMARY OF REVISIONS: VOLUME 1

- **Chapter 1 Design Controls**
  - **Table 1.9.2 – Minimum Design Speed Strategic Intermodal System:** Updated the Minimum Design Speed SIS Table to reflect updates made to the SIS Policy in March 2016. This table now includes design speeds of 45 mph for SIS Highway Intermodal Connectors and SIS Military Access Connectors. Access Classes have also been added to this table.

- **Chapter 2 Design Geometrics and Criteria**

- **Section 2.2.2 – Median Policy for Multilane Facilities:** Updated the median policy for multilane facilities to be in agreement with the original intent of the multilane median policy statement. Originally, the policy intended for all roadways (not only SIS) with design speeds greater than 40 mph to have restrictive medians. Past PPM language has distinguished between SIS and non-SIS facilities, but the original intent of this policy was to apply to all multilane facilities with design speeds greater than 40 mph.
- **Section 2.2.3 – Median Treatments on Bridges:** There is no criteria change to this section, but was rewritten for clarification and to simplify the language.
- **Sections 2.13.1.1 through 2.13.1.4 – Roundabouts:** These are new sections that provide roundabout criteria for truck apron, lighting, landscaping, and pavement marking.

- **Chapter 3 Earthwork**

- **Section 3.5.4 – Subsoil Excavation:** Updated to incorporate language that has been removed from Design Standards, Index 500. This language was removed from the Index because it is criteria for the designer, rather than instructions to the contractor.

- **Chapter 4 Roadside Safety**

- **Section 4.2.6.2 – RRR Slope Criteria:** Updated to allow new front slopes to be 1:4 and new back slopes to be 1:3 in constrained conditions. Also, the statement that existing 1:3 front slopes in the clear zone should be evaluated for shielding was added. This information was originally in Volume 1, Chapter 25. When all roadside safety criteria was moved to Chapter 4, this information was inadvertently omitted.
- **Section 4.4.1.2 – Semi-Rigid Barrier:** Updated to incorporate [Roadway Design Bulletin 16-01](#).
- **Section 4.4.1.3 – Rigid Barrier:** Added a note regarding vertical face retrofit usage.
- **Section 4.4.1.4 – Temporary Barriers:** Introduced the term “Positive Protection”. Added “and MASH” to the list of standards for proprietary temporary barriers.
- **Section 4.4.2.2 – Rigid Barrier End Treatments:** Added a restriction on using sloped concrete end treatments within the clear zone of approaching traffic lanes.
- **Figure 4.4.12 – Lateral Offset to Guardrail:** Made a correction to the offset dimension from the face of curb to the guardrail from “Y=0 to 5 inches” to “Y=0 or 5 inches.”
- **Table 4.4.2 – Minimum Barrier Setback:** Updated to incorporate [Roadway Design Bulletin 16-01](#).
- **Section 4.4.6.2 – Grading Requirement:** Updated to incorporate [Roadway Design Bulletin 16-01](#). Added language to restrict the usage of deep post guardrail in lieu of the 2-foot setback to the slope break point.

- **Section 4.4.6.5 – Temporary Barriers:** Revised language to provide leniency on the 10-foot lateral offset requirement for work zones that have barrier on both sides of the work zone. The 10-foot lateral offset is:
  - Required on interstate and freeway projects
  - Is to be considered on arterial and collector projects, and
  - Is not required for bridge construction on any type facility.
- **Section 4.7.2 – Existing Longitudinal Roadway Barriers on RRR Projects:** Added guidance for extending or replacing existing 27” guardrail systems.
- **Chapter 7 Traffic and ITS Design**
  - **Section 7.6.1.1 – Standard and Refurbishment Thermoplastic:** Added language clarifying that Standard Thermoplastic is not to be used on bridges with concrete riding surfaces. Also added information to differentiate between Standard Thermoplastic and Refurbishment Thermoplastic.
  - **Section 7.6.1.2 – Rumble Striping:** Updated Rumble Striping criteria to incorporate [Roadway Design Bulletin 16-07](#). The State Roadway Design Office has entered into a developmental phase for Rumble Striping which will allow context sensitive modifications of our usage policy and standard configurations.
  - **Section 7.6.1.5 – Permanent Tape:** Added 6’-10’ dotted lines to the list of markings that must use permanent tape on concrete riding surfaces. Added language to allow permanent tape for centerlines on bridges with concrete riding surfaces. Also added language stating that contrast is not to be provided with permanent tape markings on bridges with concrete riding surfaces.
  - **Section 7.6.2 – Work Zone Pavement Markings:** Added language that requires the use of removable tape in work zones for transitions on the final asphalt surface.
- **Chapter 8 Pedestrian, Bicycle and Public Transit Facilities**
  - **Section 8.3.2 – Curb Ramps and Blended Transitions:** Added new language for curb ramps and blended transitions. Some of this information was previously located in Design Standards, Index 304. This information was removed from the Index because it is criteria for the designer, rather than instructions to the contractor.
  - **Section 8.3.3 – Detectable Warnings:** This new section addresses Detectable Warnings. Some of this information was previously located in Design Standards, Index 304. This information was removed from the Index because it is criteria for the designer, rather than instructions to the contractor.
  - **Section 8.3.5 – Railroad Crossing:** This is a new section for Railroad Crossings.
  - **Section 8.6.6 – Vertical Clearance:** Added a Modification for Non-Conventional Projects (blue) box.
  - **Section 8.6.13 – Signing, Pavement Marking, and Signalization:** Added details regarding the placement of signs on shared use path.

- **Section 8.7.1 – Design Criteria:** Added a Modification for Non-Conventional Projects (blue) box.
- **Section 8.10.1 – Boarding and Alighting Areas:** Added details regarding boarding and alighting areas.
- **Chapter 13 Initial Engineering Design Process**
  - **Section 13.5.4 – Wildlife Connectivity:** This new section addresses wildlife connectivity.
- **Chapter 19 Signing and Sealing Documents**
  - This chapter was rewritten to incorporate [Production Support Bulletin 16-01](#).
  - **Section 19.2.1 – Manual Signing and Sealing:** Updated to identify digital delivery as the standard practice for signing and sealing, and to require coordination with the District PS&E Office to manually sign and seal contract documents. Moved the language regarding plans prepared by an employee of a Utility or other employees exempted under *Section 471.003, F.S.* to Section 19.2.
  - **Section 19.2.2 – Digital Signing and Sealing:** Added language to allow for some specific plan sheets to be signed and sealed early in, or prior to the design phase (early works).
  - **Section 19.2.2.1 – Single Digital Signature:** Added language which allows a component plan key sheet to be signed and sealed if there is a single signatory.
  - **Section 19.4.2 – Specifications:** This new section addresses the requirements of supplemental specifications packages.
- **Chapter 20 Plans Processing and Revisions**
  - **Section 20.1.4 – Revisions to the PS&E Submittal:** There is no criteria change, but was updated for clarification purposes. Removed Item #5 since this is covered in Chapter 3, Volume 2. Separated Item #10 into two items to create a new note (#9) to clarify when the District Secretary, Director of Design, or Chief Engineer needs to sign the revision memo.
  - **Exhibit 20-A – Transmittal of Plans, Specifications, and Estimates Package:** Updated the form to include fields for Roadway, Bridge, and Project lengths. This information was previously placed on the Key Sheet.
- **Chapter 23 Design Exceptions and Design Variations**
  - This chapter was rewritten and reorganized to incorporate [Roadway Design Bulletin 16-08](#). The changes implemented in the bulletin included adopting the 2011 edition of the AASHTO “A Policy on Geometric Design of Highways and Streets” and FHWA’s final notice of policy on controlling criteria dated May 5, 2016. The FHWA policy change reduces controlling criteria to include 10 design elements for high-speed facilities and two (2) elements for low-speed facilities.

- **Chapter 25 Florida’s Design Criteria for Resurfacing, Restoration and Rehabilitation (RRR) of Streets and Highways**
  - **Section 25.4.27 – Median Policy for Multilane Facilities:** This new section addresses the median policy for multilane facilities for RRR projects.
- **Chapter 26 Bridge Project Development**
  - **Section 26.3.2 – Category 2 Structures:** Updated to incorporate [Roadway Design Bulletin 16-06](#), which added another Category 2 bridge item to the list of elements that are typically not used by FDOT.
- **Chapter 31 Geosynthetic Design**
  - **Section 31.1 – General:** Added language requiring coordination with the District Geotechnical Engineer for alternate foundation designs. This is language was removed from Design Standards, Index 500 because it is a requirement for the designer, rather than instructions to the contractor.
- **Chapter 34 Monitor Existing Structures**
  - **Section 34.1 – General:** Added language that provides guidance on when to use pay item 108-1 versus 108-2.

## **SUMMARY OF REVISIONS: Volume 2**

- **Chapter 2 Sequence of Plans Preparation**
  - **Figure 2.1 & 2.2 – Summary of Phase Submittals:** Moved Project Network Control Sheet to follow the Project Layout sheet, and renamed the sheet to Project Control.
  - **Section 2.3.2.2 – Requirements for Phase II Submittal:** Added new item: Project Control.
  - **Section 2.3.3 – Roundabout Review Submittal:** Removed reference to a “45%” submittal; this was being interpreted as a separate plans submittal, but the intent was to submit roundabout review documents between 30% and 60% plans.
  - **Section 2.4.2.1 – Requirements for Technical Proposal Submittal:** Added new items: Project Control and Traffic Monitoring Site.
  - **Section 2.4.2.2 – Requirements for 90% Plans Component Submittal:** Added new item: Project Control.
- **Chapter 3 Key Sheet and Signature Sheet**
  - **Section 3.2 – Key Sheet:** Updated to incorporate [Roadway Design Bulletin 16-03](#).
  - **Section 3.3 – Signature Sheet:** Rewritten to incorporate [Production Support Bulletin 16-01](#).
  - **Section 3.3.6 – Revisions:** Revised to clarify the use of a revision signature sheet.
- **Chapter 6 Typical Sections**

- **Section 6.2 – Mandatory Information:** Updated to allow showing cross slopes to 3 decimal places
- **Multiple Exhibits:** Updated many of the TYP exhibits to incorporated [Roadway Design Bulletin 16-05](#). This bulletin removes specific references to ARB or PMA in the pavement design.
- **Exhibit TYP-17 – Ramp Typical Section:** Added a note regarding the option of placing FC across the entire paved shoulder.
- **Chapter 10 Roadway Plan-Profile and General Notes**
  - **Section 10.2.1 – Centerline:** Added paragraph that was previously in section 10.2.4 (Reference Points) since it relates to the centerline. **Section 10.2.4** has been deleted as a result of new Chapter 12 (Project Control).
  - **Section 10.3.1 – General Data:** Removed reference to benchmark data due to new Chapter 12 (Project Control).
  - **Section 10.4.1 – Writing General Notes:** This new section provides guidance for writing notes.
- **Chapter 11 Special Profiles & Back-of-Sidewalk Profiles**
  - Combined old Chapters 11 (Special Profiles) & 12 (Back-of-Sidewalk Profiles).
- **Chapter 12 Project Control**
  - This is a new chapter: Project Control.
- **Chapter 21 Selective Clearing and Grubbing**
  - Updated to incorporate [Roadway Design Bulletin 16-10](#). These changes to Volume 2, Chapter 21 are effective on projects let July 2017 and later. Implementation on lettings prior to July 2017 is not permitted due to the coordination with multiple specifications and pay item numbers.
- **Chapter 24 Signalization Plans**
  - **Section 24.2 – Key Sheet:** Updated to incorporate Roadway Design Bulletin 16-03. Removed the length of project box and shop drawing information from the Key Sheet.
- **Chapter 25 Lighting Plans**
  - **Section 25.2 – Key Sheet:** Removed the length of project box and shop drawing information from the Key Sheet.

## **IMPLEMENTATION**

These changes, with the exception to Vol.2, Chapter 21, are effective on projects beginning design on or after January 1, 2017 and on projects currently in the design phase where implementation will not adversely impact production schedules.

## **CONTACT**

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