

IMPERIAL ROAD DESIGN MANUAL REVISIONS MARCH 2011

CHAPTER 2B

- Page 2B-6 – Revised language in the second paragraph to replace the following; “unless an authorized exception is made by the State Location and Design Engineer...” with; “unless an authorized exception is “*approved*” by the State Location and Design Engineer...”

Added the following language at the end of the second paragraph; “*Also see IIM-LD-227 for Design Exceptions.*”

CHAPTER 2D

- Page 2D-14 – Added the following language under “SAG VERTICAL CURVES”; “(See AASHTO’s A Policy on Geometric Design of Highways and Streets, Chapter 3...”

Deleted the following language at the end of “SAG VERTICAL CURVES”; (*Also see IIM LD- 117*).

CHAPTER 2E

- Page 2E-47 – Revised title sheet signature blocks to replace the “*Chief Financial Officer*” with “*Chief of Planning and Programming*”.
- Page 2E-48 – Revised title sheet signature blocks to replace the “*Chief Financial Officer*” with “*Chief of Planning and Programming*”.
- Page 2E-49 – Revised title sheet signature blocks to replace the “*Chief Financial Officer*” with “*Chief of Planning and Programming*”.
- Page 2E-67 – Revised “SAMPLE TYPICAL SECTION” to include urban design typical.

CHAPTER 2F

- Page 2F-4 – Revised the signature blocks to replace “*Chief Financial Officer*” with “*Chief of Planning and Programming*”.

APPENDIX “A”

- Page A-4 – Moved “PAVEMENT TRANSITIONS” section to page A-6.
- Page A-6 – Added “PAVEMENT TRANSITIONS” section from page A-4.

Added the following language to the end of “PAVEMENT TRANSITIONS”; *“Transition length area shall include all roadside safety apparatus, if required.”*

- Page A-7 – Deleted marker to indicate that a 75 mph design speed could be used on “Urban Arterial Freeways”. A 75 mph design speed can only be used on “Rural Arterial Freeways”.
- Page A-8 (GS-1) – Revised language in “Freeways” under “GENERAL NOTES” to increase design speed from *70 mph* to *75 mph*.
- Page A-11 (GS-4) – Added the following language under “GENERAL NOTES”; *“For minimum design speeds for 250 ADT and under, see AASHTO Green Book, Chapter 5, Exhibit 5-1.”*
- Page A-33 – Revised “TABLE A-3-2 TYPICAL BARRIER/GUARDRAIL SELECTION AND PLACEMENT” to correct “Barrier Height” from 30 ¼” to 32 ¼”.
- Page A-104 – Added the following language to “FIGURE A-5-9” label; “FOR DESIGN SPEEDS >45 MPH”.
- Page A-120 – Added the following language to “FIGURE A-5-12” label; “FOR DESIGN SPEEDS >45 MPH”.
- Page A-129 – Revised the following language in the second sentence of the third paragraph under “GENERAL CONCEPTS” from; “Right of way may be acquired on "No Plan" projects *provided it is acquired through donations and no condemnation is required.*” To; “Right of way may be acquired on "No Plan" projects *without the preparation of official plans as long as the value of the acquisition of each parcel does not exceed \$5,000. If the anticipated acquisition value is greater than \$5,000 per parcel or eminent domain will be required to acquire property, the information outlined in the Code of Virginia §33.1-89 (see below) shall be developed and provided for each parcel on which a certificate is to be filed.*”

- Page A-130 – Revised the following language to the second paragraph under “PUBLIC HEARING AND RIGHT OF WAY” from; For “No Plan” projects any required right of way and/or easements will be secured by donation provided no condemnation is required. Right of way may be purchased by individual deeds under the “Minimum Plan” concept (See - second paragraph under “Minimum Plan” Projects). To; For “No Plan” projects any required right of way and/or easements will be secured by donation provided no condemnation is requested and no condemnation is required. However, right of way may be purchased without the preparation of official plans as long as the value of the acquisition of each parcel does not exceed \$5,000, which does not include incidental cost, such as fencing, shrubbery, etc. If the anticipated acquisition value is greater than \$5,000 per parcel or eminent domain is required the information as outlined in the Code of Virginia §33.1-89 (see below) shall be developed and provided for each parcel on which a certificate is filed.

The Code of Virginia §33.1-89 states the Following:

“If Right of Way is purchased the following information shall be provided: (i) the giving of plans and profile drawings of the project, showing cuts and fills, together with elevations and grades; (ii) explanation, in lay terms, of all proposed changes in profile, elevation and grade of the highway and entrances, including the elevations of proposed pavement and shoulders, both center and edges, with relation to the present pavement, and approximate grade of entrances to the property.”

To accompany the plat we need a plan view, profiles of road and entrances and cross sections. The plan area shown should extend about 100 feet on each side of the property to be condemned. If just beyond that is a major feature such as a large drainage pipe, box culvert, SWB, etc. the limits should probably be expanded as it may have some impact on the property value.

- Page A-131 – Added the following language to the beginning of the page; “The plan should show the property boundary and all topographic features on the property (within the normal distance into the property) and all existing roadway features. The proposed roadway features (pavement, entrances, drainage, retaining walls, construction limits, guardrail, etc.) should be shown as well as the proposed right of way and easement limits. While not needed for the plans any drainage calculations should be retained in the file.”

Revised the following language under “Right of Way – Acquisitions” from; ‘On “Minimum Plan” projects when right of way must be acquired, a “Willingness to Hold a Public Hearing” will be advertised and public hearings will be conducted upon request.’ To; On “No Plan” and “Minimum Plan” projects when right of way must be acquired, a “Willingness to Hold a Public Hearing” shall be advertised and public hearings shall be conducted upon request.

- Page A-133 – Revised the following language under “General Description of Work” from; “*A general description of the work must be provided on Form C-99 (No Plan and Minimum Plan Quantity Support Report) and the Project Narrative to denote the nature of the work to be performed...*” To; “*A general description of the work must be provided on the Project Narrative to denote the nature of the work to be performed...*”

Added the following language under “General Description of Work”; “*For VDOT advertised projects Form C-99 (No Plan and Minimum Plan Quantity Support Report) should be used.*”

- Page A-135 – Added the following language to the beginning of the second paragraph; “*The VDOT Project Manager...*”
- Page A-139 - Added the following language to the end of the second paragraph; “*... by the VDOT Project Manager and/or District Administrator.*”

APPENDIX “B(1)”

- Page B(1)-7 Added the following note to “GEOMETRIC DESIGN STANDARDS FOR RESIDENTIAL AND MIXED USE SUBDIVISION STREET (GS-SSAR) TABLE 1-CURB AND GUTTER SECTION”; “*If 20 mph minimum design speed is utilized, a 20 mph advisory speed limit sign shall be posted along with any other horizontal or vertical curve warning signs as warranted .*”
- Page B(1)-8 Added the following note to “GEOMETRIC DESIGN STANDARDS FOR RESIDENTIAL AND MIXED USE SUBDIVISION STREET (GS-SSAR) TABLE 2-SHOULDER AND DITCH SECTION”; “*If 20 mph minimum design speed is utilized, a 20 mph advisory speed limit sign shall be posted along with any other horizontal or vertical curve warning signs as warranted .*”
- Page B(1)-9 Added the following note to “GEOMETRIC DESIGN STANDARDS FOR RESIDENTIAL AND MIXED USE SUBDIVISION STREET (GS-SSAR) TABLE 3- ONE-LANE (ONE-WAY) SUBDIVISION STREETS”; “*If 20 mph minimum design speed is utilized, a 20 mph advisory speed limit sign shall be posted along with any other horizontal or vertical curve warning signs as warranted.*”

APPENDIXES “F”

- Page F-31 – Deleted the following language in the third paragraph under “Exceptions to the Spacing Standards”; “For highway construction or reconstruction projects on roadways owned and maintained by VDOT, *or on roadways maintained by localities which will be designed using VDOT standards*, a request for a waiver...”

Added the following language under “Exceptions/Waiver to the Design Standards”;
“For both land development and highway construction projects, the appropriate intersection sight distance from Table 2-7 *and stopping sight distance from Table 2-6* must be met for all commercial entrances, intersections, and crossovers *on VDOT owned and maintained roadways*. If *stopping* sight distance can not be met, a request for a design exception (Form LD-440) *shall be submitted and if intersection sight distance can not be met, a request for a design waiver (Form LD-448) shall be submitted. See IIM-LD-227 for information on the exception and waiver review process. IIM-LD-227 is available at <http://www.virginia-dot.org/business/locdes/rd-ii-memoranda-index.asp> Sections 24VAC30-72-50B and 73-50 B in the Access Management Regulations also provide details on the stopping sight distance exception process.*

- Page F-32 – Revised the following language in the second paragraph under “Signalized and Unsignalized Intersection Design” from; “For shoulder applications, Figures 2-11 and 2-12 provides the designer with the basic types of intersection designs and recommendations pertinent to dimensions, radii, skews, angles, and the types of island separations, etc., to be considered.” To; “For shoulder applications, Figures 2-11 and 2-12 provides the designer with the basic types of intersection designs and *minimum* dimensions, radii, skews, angles, and the types of island separations, etc.”

Added the following language to the end of this page; “*Figures 2-11 and 2-12 are also applicable for intersection designs without sign islands.*”

- Page F-33 – Revised “Figure 2-11” detail to add the following language; “*Note: Radii shown are minimum values.*”

Revised language to “Figure 2-11” label to the following; “FIGURE 2-11 INTERSECTION DESIGN FOR RURAL APPICATIONS WITH *OR WITHOUT* STANDARD SI-1 SIGN ISLAND DESIGN”.

- Page F-34 – Revised “Figure 2-12” detail to add the following language; “*Note: Radii shown are minimum values.*”

Revised language to “Figure 2-12” label to the following; “FIGURE 2-12 INTERSECTION DESIGN FOR RURAL APPLICATIONS’ WITH *OR WITHOUT* STANDARD SI-2 OR SI-3 SIGN ISLAND DESIGN”.

- Page F-35 – Revised TABLE 2-5 STOPPING SIGHT DISTANCE and TABLE 2-6 STOPPING SIGHT DISTANCE ON GRADES to add column for 75 mph design speed and their respective distances.
- Page F-36 – Revised “TABLE 2-7 INTERSECTION SIGHT DISTANCE” to agree with AASHTO guidelines.
- Page F-37 – Revised the language in the seventh paragraph from;

“These obstructions should be considered when reviewing commercial entrances. A divided highway can have similar problems. It is very important to obtain adequate commercial entrance sight distance from the entrance as well as the left turn position into the entrance. A design exception must be granted by the State Location and Design Engineer (or designee), and if applicable, the Federal Highway Administration for deviations from required sight distance standards.” To;

These obstructions should be considered when reviewing commercial entrances. A divided highway can have similar problems. It is very important to obtain adequate *intersection sight distance* for all “New” and “Reconstructed” commercial entrances from the entrance as well as the left turn position into the entrance. *If the minimum intersection sight distance values in the table mentioned above can not be met, a Design Waiver shall be requested in accordance with IIM-227, see 2004 AASHTO Green Book, Chapter 9 for further guidance. Design Waiver and Design Exception requirements are based on the following;*

- 1) *Design Waiver – Meets Stopping Sight Distance but not Intersection Stopping Distance.*
- 2) *Design Exception – Does not meet the minimum Stopping Sight Distance.*