

METRIC ROAD DESIGN MANUAL
REVISIONS JULY 2007

Note:

Volume 2 Metric no longer exists. All information related to metric projects can now be found in Volume 1.

APPENDIX “A” METRIC

- Added “Appendix “A” Metric to Volume 1.
- Page A-3 - Added the following language: “DESIGN WAIVERS” This Design Waiver Policy is for L&D only. Design Waivers are required when deviations from VDOT’s design criteria occur. When design criteria meet or exceed AASHTO minimal design but fall short of VDOT’s minimal design, a Design Waiver will be required. However, when AASHTO design criteria for any of the 14 FHWA Controlling Criteria are not met, than a Design Exception will be required. Design Waivers will be applicable to all projects regardless of functional classification and funding and shall be documented and approved in accordance with the Design Waiver Request Form LD-448. Please refer to IIM-LD-227 for specific guideline on obtaining design waiver.
- Page A-4 - Revised table to include reference to AASHTO “Green Book” to include chapters.

Added the following note; (1) Use Design Year ADT for new construction and reconstruction projects (not applicable to R.R.R. projects or roads with ADT < 400). In accordance with Road Design Manual, Chapter 2A, “REQUEST FOR TRAFFIC DATA” and Form LD-104.

- Page A-5 thru A-8 – Added the following note to describe built -up. “Built-up” is where there is sufficient development along the roadway that justifies a need to channelize traffic into and out of properties utilizing curb and gutter.

Added the following in the first sentence in FOOTNOTE (1) on pages A-5 “with no additional width necessary for guardrail situation.”

Added the following language to FOOTNOTE (1) “Use Design Year ADT for new construction and reconstruction projects (not applicable to R.R.R. projects or roads with ADT < 400). In accordance with Road Design Manual, Chapter 2A, “REQUEST FOR TRAFFIC DATA” and Form LD-104”.

- Page A-9 – Added the following note regarding paved shoulders; “The width of all outside (right) paved shoulders shall be at least 2.4m. However, where economic or practical constraints exist it is permissible to reduce the outside (right) paved shoulder width to 1.2m. When the mainline is 6 or more lanes (both

directions) both the outside (right) and median paved shoulders should be at least 1.8m. Facilities with traffic volumes > 2000 ADT or volume of trucks > 250 DDHV should have outside (right) shoulders at least 2.4m. When the mainline is 6 or more lanes (both directions) both shoulders should be at least 2.4m. The designer shall provide applicable documentation to support the use of reduced design criteria”.

- Page A-11 – Added the following note regarding paved shoulders; “The width of all outside (right) paved shoulders shall be at least 2.4m. However, where economic or practical constraints exist it is permissible to reduce the outside (right) paved shoulder width to 1.2m. When the mainline is 6 or more lanes (both directions) both the outside (right) and median paved shoulders should be at least 1.8m. Facilities with traffic volumes > 2000 ADT or volume of trucks > 250 DDHV should have outside (right) shoulders at least 2.4m. When the mainline is 6 or more lanes (both directions) both shoulders should be at least 2.4m. The designer shall provide applicable documentation to support the use of reduced design criteria”

Additional note was added to A-11 to FOOTNOTE (1); “based upon design speed and traffic volumes. (See AASHTO Green Bk., Exhibit 6-5)”.

- Page A-15 – Added the following information about Clear Zones; “upper limit the clear zone widths for 70-80 km/h should be utilized for 80 km/h design speeds. Therefore, the greatest practical clear zone values based on design speed, traffic volumes and slope geometry should always be utilized. See Table A-2-1 Clear Zone Distances (In Feet from Edge of Driving Lane) on the following page.”
- Page A-34 – Replaced “Engineering Services” with “Standards/Special Design Section” in the third paragraph.
- Page A-35 – Replaced “Engineering Services Section” with “Standards/Special Design Section” in the first paragraph.
- Page A-38 – Replaced “Engineering Services” with “Standards/Special Design Section” in item No. 4, first paragraph.
- Page A-39 – Replaced “Special Design section” with “Standards/Special Design Section” in the first paragraph, and replaced “PPMS” with “UPC”.
- Page A-42 – Replaced “Engineering Services Section” with “Standards/Special Design Section” in the first and second paragraph.
- Page A-70 – Added the following note “SECTION A-5m-BICYCLE FACILITY GUIDELINES For the Metric Bicycle Facility Guidelines contact the Policy and Procedure Section at (804) 786-8287.”

- Page A-76 – Added the following note “SECTION A-7-“NO PLAN” AND “MINIMUM PLAN” PROJECTS All “No Plan” and “Minimum Plan” Projects are to be done in Imperial units.”
- Page A-79 – Added “Regional” to “Traffic Engineer” in the second paragraph.

Replaced “prints of updated plans are provided to the Traffic Engineer” with “the electronic files are updated and will be provided to the Regional Traffic Engineer”.

Replaced “The Traffic Engineer prepares necessary plans for traffic control devices and provides plans to the road designer for inclusion in the construction plan assembly” with “The Regional Traffic Engineer will provide recommendations to the roadway designer to prepare the necessary traffic control devices for inclusion in the construction plan assembly”.

- Page A-86 – Replaced “Engineering Services” with “Standards/Special Design Section” in the last paragraph.
- Page A-89 – Replaced “Engineering Services” with “Standards/Special Design Section” in the first paragraph.

APPENDIX “C” METRIC

- Added “Appendix “C” Metric to Volume 1.
- Page C-1 – Added note to describe how crossover spacing is measured.
- Page C-22 – Added reference to Chapter 9 in AASHTO’s “Green Book” for additional information on “Signalized and Unsignalized Intersections”.
- Page C-25 – Revised detail to depict crossover spacing.
- Page C-26 & 27 – Revised Figure C-1-4 & C-1-5 eliminating the 150’ Taper length and replacing it with a reference to Figure C-1-1 for instructions.

APPENDIX “D” METRIC

- Added Metric “Quantity Tables” to Volume 1.