Index D519 Rumble Striping

Design Criteria

FDOT Plans Preparation Manual (PPM) Volume 1, Chapter 7

Design Assumptions and Limitations

Rumble Striping is a specific type of audible & vibratory marking. The pavement marking selection criteria is specified in the ***PPM***, Volume 1, Chapter 7. For Rumble Striping, the usage criteria is currently under further development and included in this ***IDDS*** during the developmental phase.

Rumble strip grinding equipment is not designed for installing rumble strips on tapers and returns; therefore, they should not be installed in median opening returns, left turn lanes or right turn lanes as shown in the Figures below.

Usage Criteria

Rumble Striping is the most effective countermeasure for lane departure crashes nationwide. Noise pollution should be a strong consideration in determining the limits of the Rumble Striping installations.

Use Rumble Striping for edge lines and centerlines on flush shoulder roadways with a posted speed of 50 mph or greater. Do not exclude sections of the project where the posted speed has been reduced due to restricted horizontal or vertical geometry (i.e. Advisory Speed).

The Districts must evaluate the project based on its context and make recommendations for approval by the State Roadway Design Engineer (SRDE).

Coordinate with the District Bicycle Pedestrian Coordinator to ensure rumble striping will not adversely affect bicycle operations in the corridor.

Do not use Rumble Striping on limited access facilities.

Rumble Striping should not be used for small projects with limited lengths such as intersection improvement projects.

Profiled thermoplastic markings may be used in lieu of Rumble Striping for centerlines and edge lines on two-lane roadways that do not have paved shoulders. See the ***PPM***, Volume 1, Section 7.6.1.3.

Coordinate with the District Maintenance Engineer to determine if the use of Rumble Striping is cost effective based on the remaining service life of the asphalt pavement.

Plan Content Requirements

Insert the ***Developmental Design Standards*** Index, received from the Central Office monitor, into the appropriate component plan set in accordance with ***PPM***, Volume 2, Section 3.8.

In the Signing & Pavement Marking Plans:

Label the Rumble Striping on the Plan sheets and show the limits of the striping following the examples shown in the Figures below.

Commentary: Since the drawings need to depict the center line pavement marking configuration, a visible line style for the continuous array rumble strip could not be used. Center Line markings for two lane roadways where the continuous array is used have a custom line style on a non-plotting level/layer for the purpose of calculating the rumble strip quantity. The ECSO has included the line style requirements and pay item information associated with the rumble striping for plans production in all software platforms.

Summarize quantities for each rumble striping component (i.e., ground-in rumble strip and thermoplastic pavement marking) separately on the Tabulation of Quantities Sheet. The additional application of paint required after grinding and the additional Temporary Type D retroreflective pavement markers are included in the final surface paint (pay item 710-90) and do not need to be calculated or paid for separately.

Payment

There is no pay item for "Rumble Striping"; therefore, the payment will be made separately for each rumble striping component (i.e., ground-in rumble strip and thermoplastic pavement marking). The rumble strips included for the rumble striping are to be included in the 0300 category with the pavement markings in Web Trns*port

Item number	Item description	Unit Measure
546- 72- 52	Rumble Strips, Ground-In, 16" Center Line	GM
546- 72- 53	Rumble Strips, Ground-In, 8" Edge Line	GM
710-90	Painted Pavement Markings - Final Surface	LS
711- 1A-BCD	Thermoplastic Pavement Markings	GM

Figure 1 Typical Rural Two-Lane Intersection without Turn Lanes

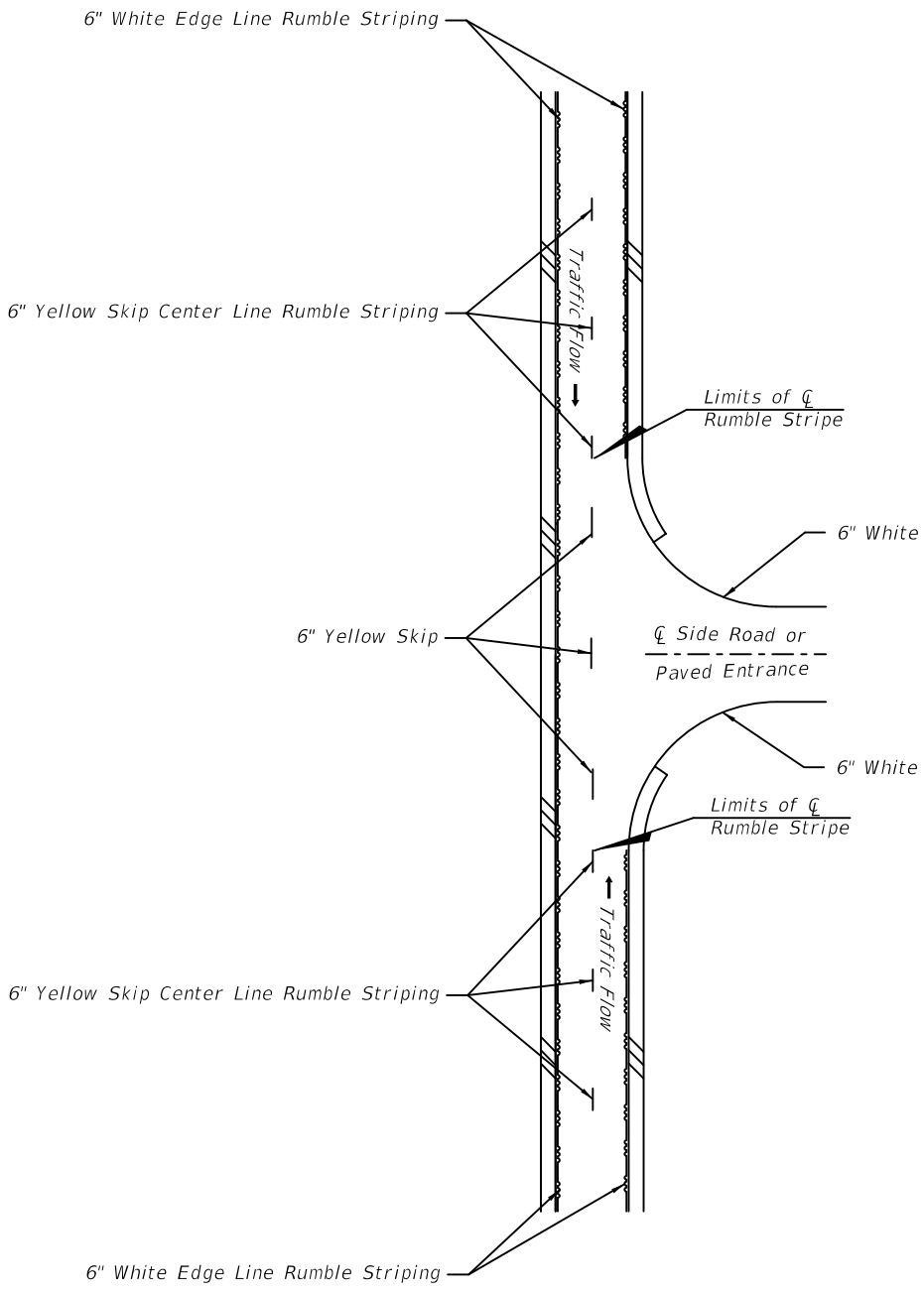

Figure 2 Typical Rural Two-Lane Intersection with Turn Lanes

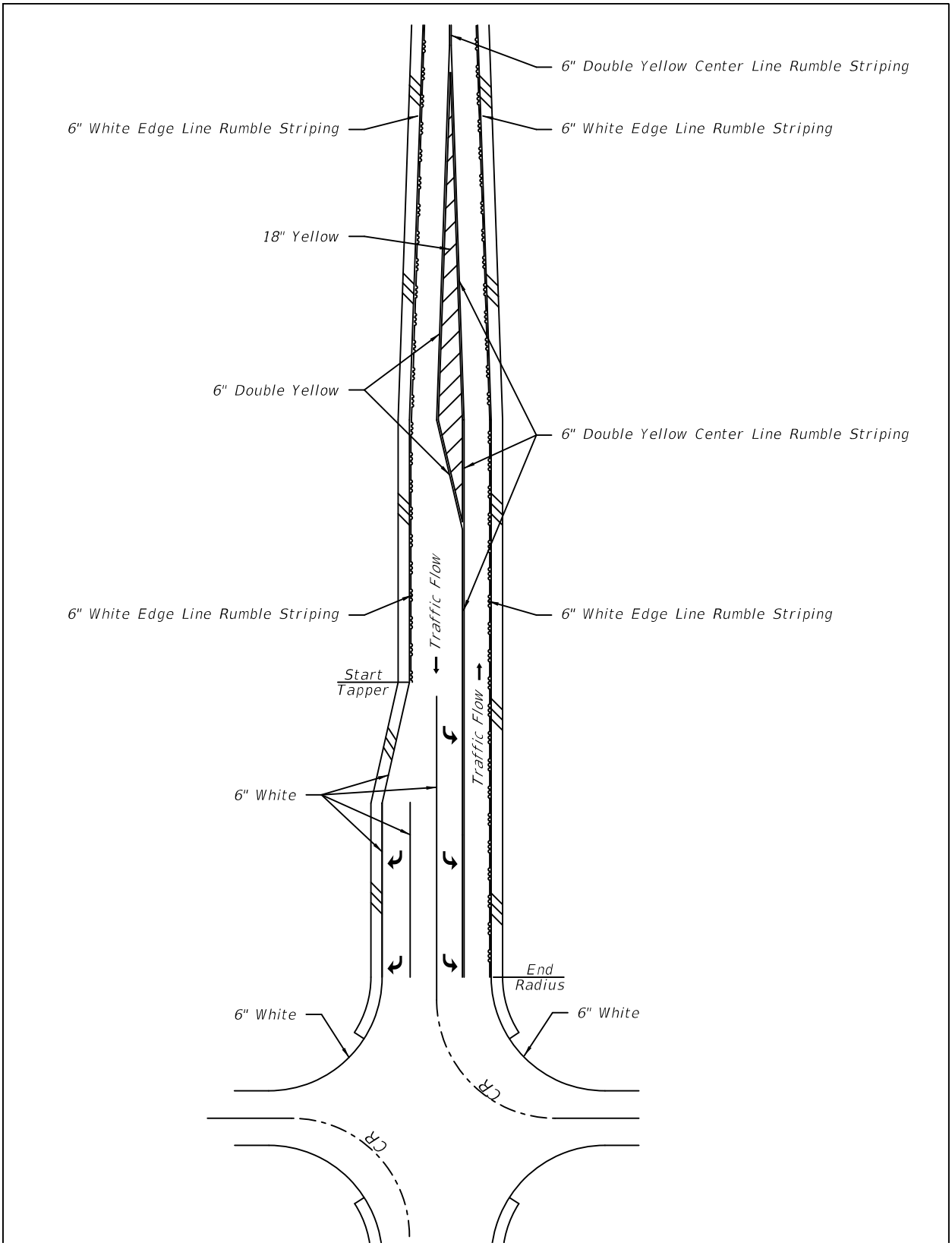

Figure 3 Typical Rural Multi-Lane Intersection (1 of 2)

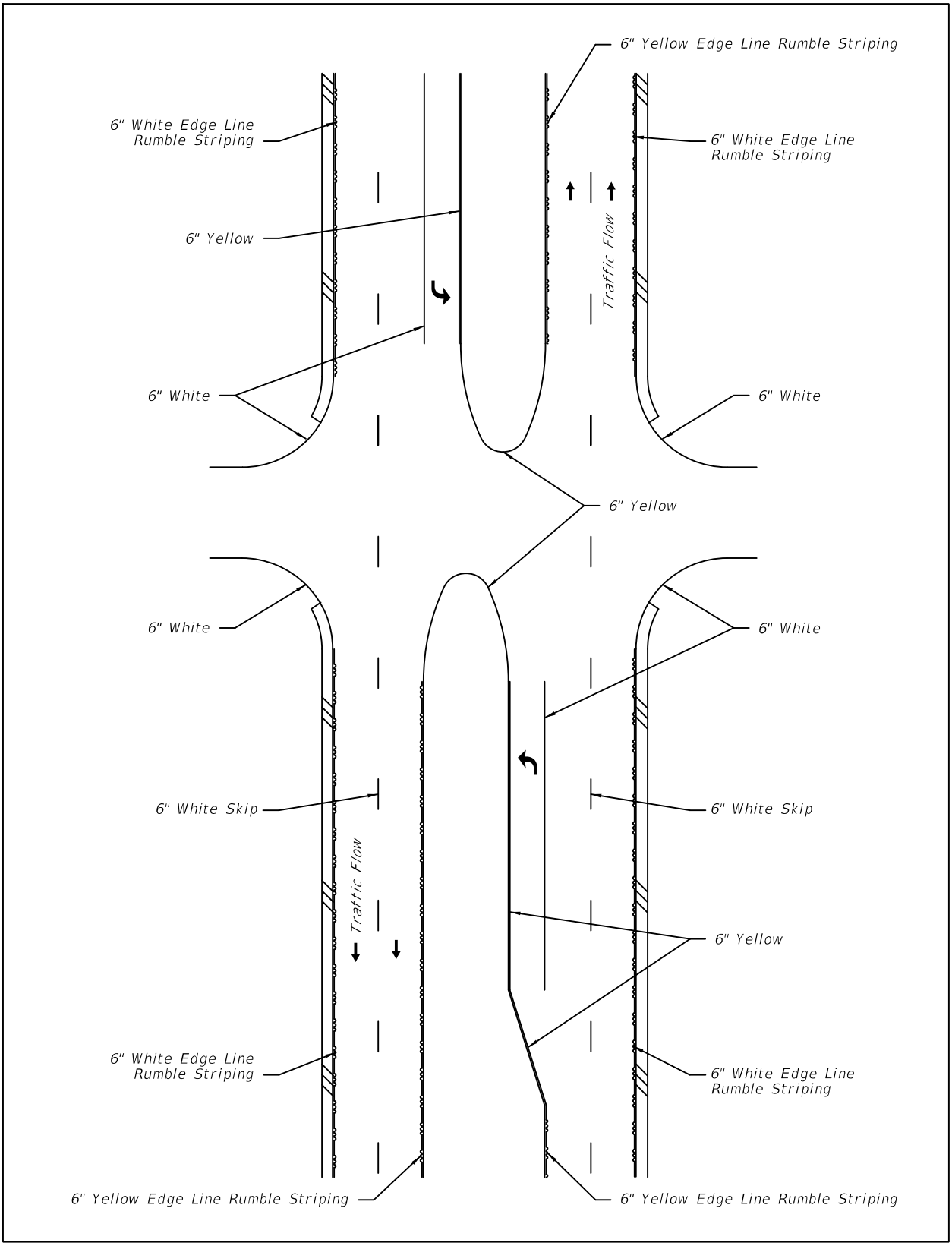

Figure 4 Typical Rural Multi-Lane Intersection (2 of 2)

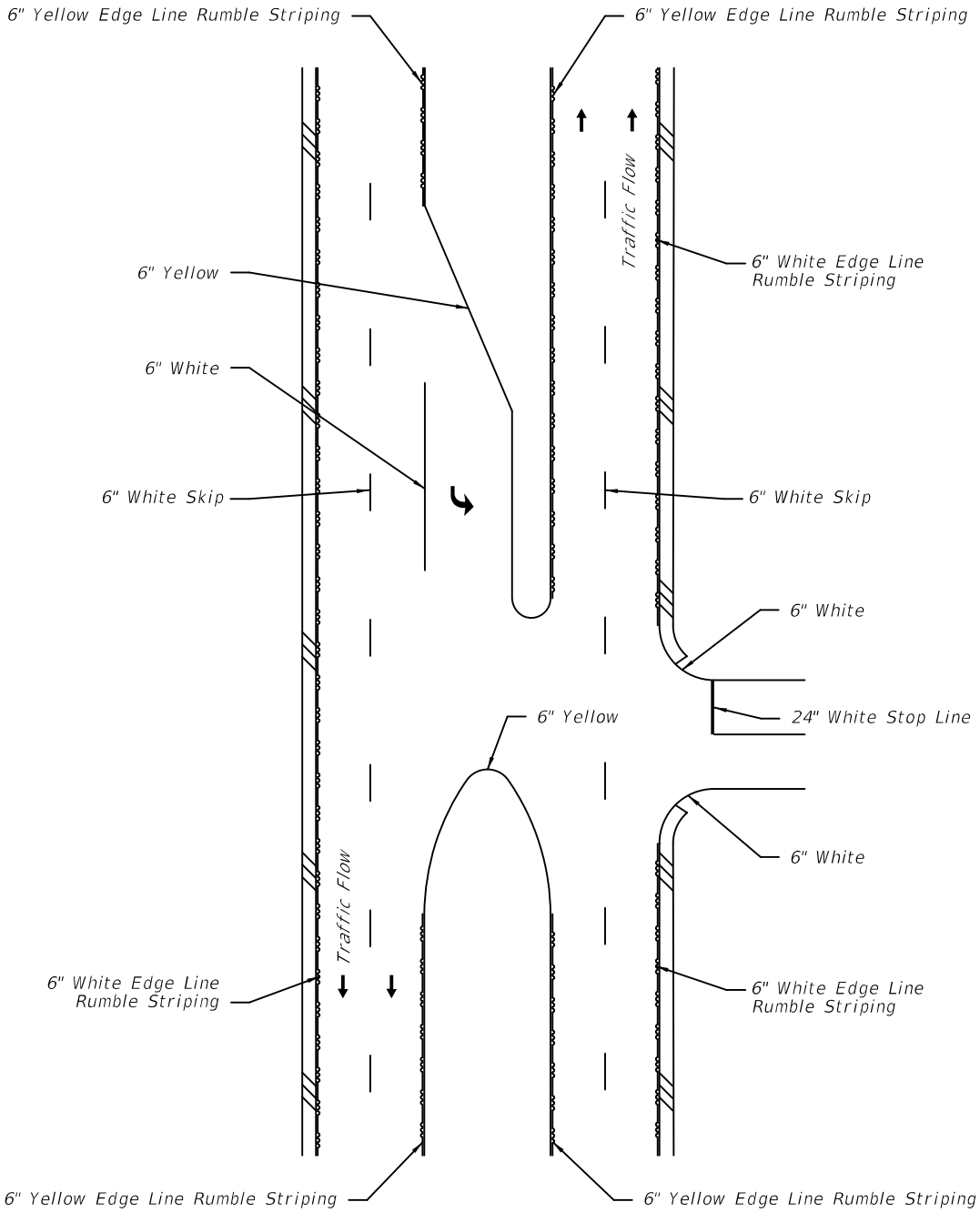
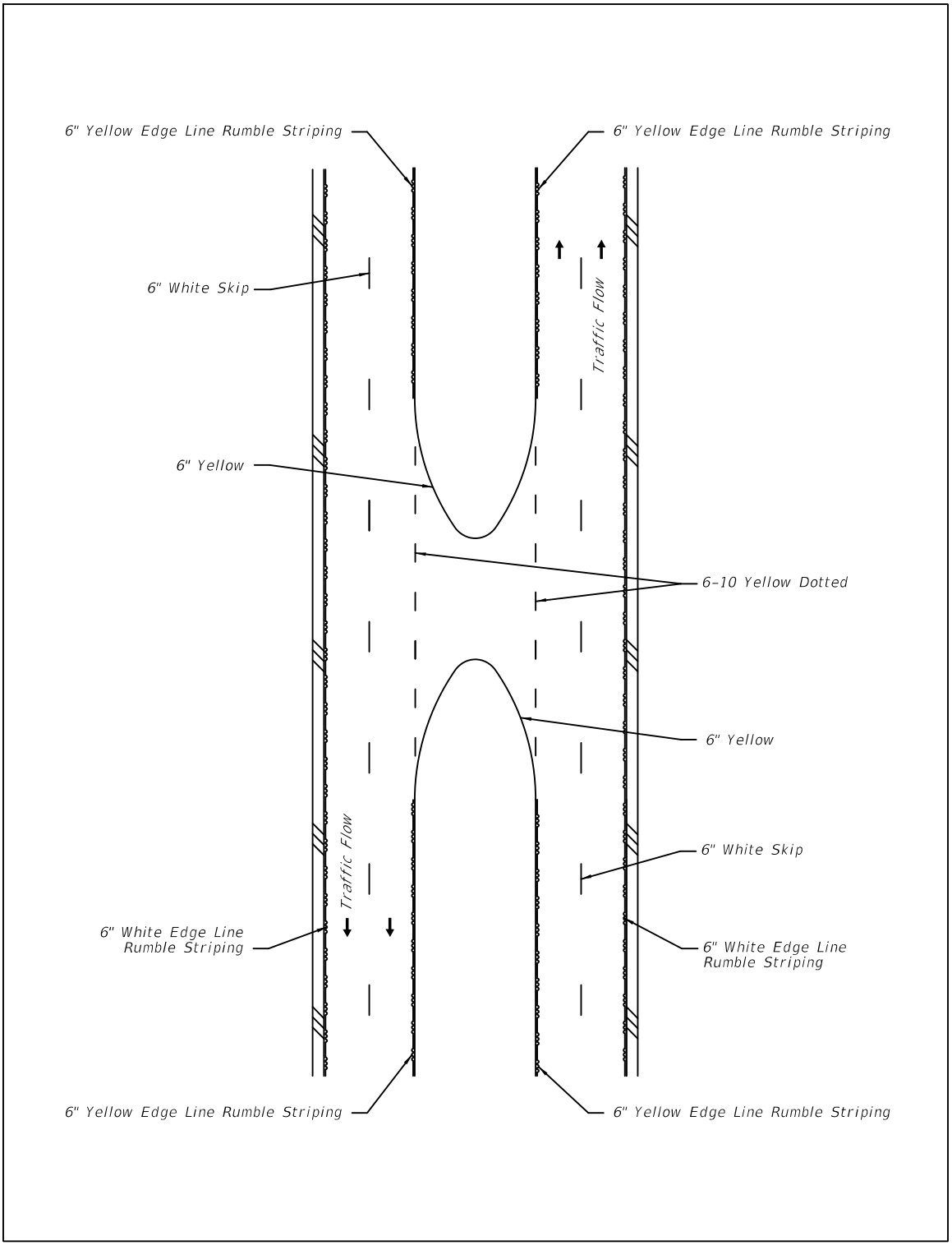
Figure 5 Typical Rural Multi-Lane Roadway