

**GEOMETRIC DESIGN STANDARDS FOR RESIDENTIAL AND MIXED USE SUBDIVISION STREETS (GS- SSAR)**  
**TABLE 2 – SHOULDER AND DITCH SECTION**

PROJECTED TRAFFIC VOLUME (ADT)	MINIMUM DESIGN SPEED (MPH)  (NOT POSTED SPEED)	HORIZONTAL AND VERTICAL CONTROLS				SHOULDER AND DITCH ROADWAYS				
		Maximum 2:1 Cut or Fill Slope				Minimum ditch width (front slope) should be 4 feet or greater, based on slopes of 3:1 or flatter (Gentler slopes promote homeowner maintenance of ditches)				
		CURVE DATA		MAXIMUM % GRADE	MINIMUM SIGHT DISTANCE		MINIMUM PAVEMENT WIDTH			MIN. TOTAL WIDTH OF SHOULDER (8) (9)
MINIMUM CENTERLINE RADIUS (4)	SUPER-ELEV.	STOPPING (2)	INTER-SECTION (3)		NO PARKING (5)	PARKING 1 SIDE (5)	PARKING BOTH SIDES (5)			
UP TO 2000	25	200'	NONE	NOTE (6)	155'	280'	24' (1) (11)	24' (1)	29' (1)	6'
2001 TO 4000	30	335'	NONE	NOTE (7)	200'	335'	26' (10)	31' (10)	36' (10)	8'
<p>Notes:</p> <p>For streets with volumes over 4000 or serving heavy commercial or Industrial traffic; use the appropriate geometric design standard. (see VDOT's Road Design Manual)</p> <p>The roadway with the highest volume will govern the sight distance.</p> <p>Right of Way requirements can be found in Section B-4.1 Right Of Way</p> <p>For volumes 2001 – 4000 vpd, design criteria for the Collector functional class was utilized to determine minimum design values.</p> <p>Lower design speeds (and street widths) may be utilized provided they are designed in accordance with the AASHTO Green Book or AASHTO's Guidelines for Geometric Design of Very Low-Volume Local Roads (ADT&lt;400). The designer should coordinate with VDOT in advance of design (e.g. sketch plan stage) if this alternative criteria is being utilized.</p> <p>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.*</p> <p>An engineering speed study sealed and signed by a licensed professional engineer, using VDOT's standard speed study report, must be provided by the developer and approved by VDOT for any roads posted at other than the statutory speed limit and planned for acceptance into the state system.</p>				<ol style="list-style-type: none"> <li>1. If the Local Street has 1 point of access and ADT&gt;400 vpd, then the roadway width must meet design values (2001 TO 4000 vpd).</li> <li>2. 2004 AASHTO Green Book Chapter 3 (Page 112, Exhibit 3-1)</li> <li>3. 2004 AASHTO Green Book Chapter 9 (Page 661, Exhibit 9-55). For grades greater than 3%, the time gap must be adjusted and required sight distance recalculated.</li> <li>4. 2004 AASHTO Green Book Chapter 3 (Page 151, Exhibit 3-16)</li> <li>5. Clear zone width for UP TO 2000 vpd is 7' and clear zone values for 2001 TO 4000 vpd is 10'.</li> <li>6. 2004 AASHTO Green Book Chapter 5 (Page 391)</li> <li>7. 2004 AASHTO Green Book Chapter 6 (Page 432)</li> <li>8. 2004 AASHTO Green Book Chapter 5 (Page 384, Exhibit 5-5)</li> <li>9. Add an additional 3' if guardrail is required.</li> <li>10. Lane widths may vary between 10'-12' feet for collectors with 2001-4000 ADT. Widths shown may be decreased by 2 feet (26 feet to 24 feet), (31 feet to 29 feet) and (36 feet to 34 feet) based upon engineering judgment subject to VDOT approval.</li> <li>11. For 0-400 ADT <u>ONLY</u> minimum pavement width may be reduced from 24 feet to 18 feet.</li> </ol>						

\* Rev. 3/11