

DIVISION 2

STREET DESIGN CRITERIA

Section 2.01 GENERAL

The following street design criteria shall apply to all street designs in the City. It will be necessary to refer to the current master transportation plan for correct street designation. Design shall comply with the current AASHTO guidelines on geometric design. Additional design criteria are specified in the Standard Drawings.

Section 2.02 MINIMUM AND MAXIMUM GRADES

The minimum acceptable grade slope measured at the centerline of the street is one-half percent (0.5%). The flow line of curb returns, knuckles and cul-de-sacs' shall also be no less than one-half percent (0.5%). The grade slope of any street shall not exceed eight percent (8.0%) unless authorized in writing by the City Engineer. In no case shall the grade slope exceed ten percent (10.0%).

Section 2.03 STREET DESIGN

The following street design criteria shall apply to all street designs in the City. Additional design criteria are specified in the Standard Drawings.

Sub-Section A. Design Speeds:

The following minimum design criteria shall be met:

- 1) Local street shall be designed to at least 25 mph.
- 2) Collector streets shall be designed to at least 35 mph.

Sub-Section B. Horizontal Curves:

Changes in horizontal alignment of over one degree shall be made using horizontal curves. In some cases horizontal alignment changes on local streets may be allowed without a horizontal curve if the resulting alignment functions as a two-legged intersection.

- 1) Local streets shall have a centerline radius of at least 150 feet. (Smaller radii may be permitted as a traffic calming measure when authorized by the City Engineer.)
- 2) Collector streets shall have a centerline radius of at least 370 feet.

Sub-Section C. Vertical Curves:

Streets shall be designed with vertical curves where grade changes greater than 1% occur. Vertical curves shall be designed using the appropriate design speed according to the latest AASHTO design guidelines. It is encouraged to include the "K" value in the profile illustrating the vertical curve.

Sub-Section D. Cul-de-sacs:

Downhill cul-de-sacs are strongly discouraged and may only be allowed if it can be demonstrated that surface drainage will be controlled in a manner acceptable by the City Engineer. A surface overflow drainage outlet will be designed to protect adjacent properties in the event the curb face inlet(s) become obstructed or clogged.

Sub-Section E. Widening Asphalt along an Existing Road:

When a development project requires asphalt widening due to the placing of new curb and gutter along an existing road, the cross slope of the new asphalt must be between one percent (1%) and four percent (4%).

The construction drawings must adequately show the cross slope and the asphalt “saw cut line” required to create the slope.

Sub-Section F. Finished Width of Exterior Roads:

When roads are designed along the exterior of developed property, a minimum of ten (10) feet of unobstructed asphalt on the opposite side of the designed centerline must be constructed. Depending on the classification of the road, additional width may be requested by the City. In no case shall the minimum width of asphalt constructed be less than 36 feet.

Section 2.04 INTERSECTION DESIGN

The following intersection design criteria shall apply to all intersection designs in the City. Additional design criteria are specified in the Standard Drawings.

Sub-Section A. Street Alignment and Offsets:

Angular street alignment at an intersection shall be as close to perpendicular as possible. In no case shall an intersecting street be more than 10° from perpendicular. Centerlines of opposing streets should match at the intersection whenever possible. Offsets of up to ten (10) feet may be allowed in a single intersection but separate intersections must have at least one-hundred fifty (150) feet of separation.

Sub-Section B. Curb Design:

Curb returns shall be designed such that there is a smooth transition from one leg of the intersection to another, using vertical curves where grade changes greater than 2% occur. The designer shall include enough information on the plans to demonstrate compliance. In some cases, this requires profiling the top back of curb through the curb returns. Elevations at the PC, PT, and appropriate sub-divided delta (central angle) locations will be required.

Sub-Section C. ADA Curb Ramp Design:

Curb ramps shall be designed in accordance with current ADA standards and guidelines, and shall meet the Accessibility Standards found in the Springville Standard Specifications (see Division 12, Concrete Curb and Gutter and Sidewalk). The standard drawings also include specific dimensional information.

Sub-Section D. Stop Controlled Grades at Intersections:

Streets that will have stop control at an intersection shall not have a grade slope of greater than four percent (4%) for a distance of fifty (50) feet from the intersecting streets right-of-way.

Sub-Section E. Roundabout Design:

Roundabouts shall be designed in accordance with the U.S. Department of Transportation publication FHWA-RD-00-067 (*Roundabouts: An Informational Guide*). Roundabouts in local streets shall also follow the criteria shown in the standard drawings. The engineer shall submit the circulatory design speeds with the design drawings.