

Sec. 26-181. Road standards.

(a) *Purpose/general requirements.*

- (1) *Purpose.* The purpose of this section is to prescribe minimum design standards for new public and/or private roads.
- (2) *General requirements.* All required road improvements set forth in this section shall be installed or constructed by the developer at no cost to the county, except as may otherwise be specifically provided. The developer shall be responsible for obtaining all permits. Required improvements under this section shall not be installed or constructed until required site plans have been approved by the planning department and an order to proceed has been issued.
- (3) *Phasing.* Development may be designated to be constructed and/or platted in phases. Provided, however, the planning department may not approve a phasing plan when in its opinion such phasing will not provide for adequate roadway facilities to support any such phase or phases independent of the overall development plan. In approving phases, the planning department may require that additional roads be constructed as part of the phase or phases in order to ensure that sufficient public facilities will be in place to support such phase or phases independent of any future development.

(b) *Design standards for public or private roads.*

- (1) *Paving and curb requirement.* All new roads must be paved and include curbs and enclosed drainage systems unless otherwise provided in this Section (or unless exempted pursuant to Section 26-224). (Ord. 055-12HR; 10-16-12)
- (2) *Right-of-way and pavement widths.*
 - a. *Minimum standards.* Minimum rights-of-way and pavement widths shall be as follows, unless reduced by the development review team during land development or subdivision review and approval: (Ord. 026-10; 5-18-10)

<i>Road Classification</i>	<i>Minimum ROW (ft)</i>	<i>Minimum Pavement Width (ft)</i>
Park Road (One-way)	41	17 (Ord. 055-12HR; 10-16-12)
Minor Rural	66	20 (Ord. 055-12HR; 10-16-12)

Rural	66	22
Minor Residential	50	22 (Ord. 055-12HR; 10-16-12)
Local Residential	50	24 (Ord. 055-12HR; 10-16-12)
Local Commercial	66	36
Collector	66	36
Industrial	80	36
Arterial	100	53
Loop Lane	40	16 (Ord. 055-12HR; 10-16-12)

Pavement width for rural roads shall be measured from pavement edge to pavement edge. Residential, commercial, collector, and industrial roads shall measure pavement width from back-of-curb to back-of-curb or from low-point-of-valley to low-point-of-valley. The mixing of rural and any other road classification is prohibited. Curb and gutters shall be installed on all paved roads unless the county engineer determines that another system is acceptable. Roads without curb and gutter shall have a minimum right-of-way of sixty-six (66) feet; provided, however, when stormwater swales or other stormwater features are located along the roadside and specifically outside of the right-of-way, then the right-of-way may be reduced to fifty (50) feet. The stormwater swales or other stormwater feature must be within a minimum eight (8) foot drainage easement or conservation easement, with clearly defined maintenance by a private owner or homeowners' association. (Ord. 055-12HR; 10-16-12)

- b. *Additional right-of-way.* In the event the development of property includes or abuts an existing platted county road that does not conform to the minimum requirements set forth in this chapter, or in the event that the development will result in an increase in the average daily traffic using the road to the extent that the classification of the road will change under these regulations, or the road is shown on the county's thoroughfare plan, the preliminary land development (land development or subdivision) plan must provide for sufficient right-of-way to increase the size of the right-of-way to the width needed under the new classification. In the event that the development abuts only one (1) side of such a road, the additional right-of-way reserved shall not exceed one-half (½) of the additional right-of-way required under the new classification, measured from the centerline of the existing right-of-way. The plat shall clearly denote that any subject right-of-way described above is reserved for future road widening. Lot area requirements and setback requirements shall not use the reserved right-of-way area in their measurements.

(3) *Connectivity.*

- a. *Extension of existing roads.* The arrangement of roads in a subdivision shall provide for the alignment and continuation or extension of existing roads in adjoining areas in compliance with the standards set forth in this section. Greater widths may be required if the existing road is identified for widening in the county's thoroughfare plan.
- b. *Access to undeveloped property.* Where it is deemed necessary to the development of a logical road pattern and transportation network, roads and rights-of-way shall be extended to the boundary of adjoining property. Incompatible characteristics of adjoining property shall be given due consideration in making a determination of what shall constitute a logical road pattern. Reserve strips adjoining road rights-of-way for the purpose of preventing access to adjacent property shall not be permitted.
 1. *Construction of road connections.* Where required for a logical road pattern, road extensions or connections may be built. In the event that the adjoining property is later developed in such a manner that it is determined that the connection will not be necessary for a logical road pattern, the connection may be abandoned and divided proportionally among adjoining landowners. Temporary dead end roads shall be provided with a temporary turnaround having a roadway surface diameter of eighty (80) feet, or other approved type of turnaround.
 2. *Reservation of road connections.* In certain situations, the development review team may permit a platted lot to be "reserved for future connection" in lieu of construction of the road connection, in which case an escrow account will be established in favor of the county for a ten (10) year period in an amount determined by the county engineer to cover the cost of construction. In the event the connection is constructed, any remaining property shall be conveyed to adjoining property owners and the balance of the escrow account refunded to the developer. In the event that the adjoining property is later developed in such a manner that it is determined that the connection is not required or desirable, the reservation will be terminated, ownership of the lot will remain with the developer and the escrow account refunded to the developer. If the extension has not been constructed within the ten (10) year period, the

development review team will determine the continued necessity of the extension and either extend the time of the escrow account or recommend that the reservation be terminated, with ownership of the lot remaining with the developer and the escrow account being refunded to the developer. (Ord. 055-12HR; 10-16-12)

- c. *Conservation areas.* One (1) private access easement shall be allowed across a conservation area, provided that such access is at least twenty (20) feet in width and provides access to no more than one (1) parcel. (Ord. 055-12HR; 10-16-12)

(4) *Cul-de-sacs.*

- a. *General.* Cul-de-sacs shall not be used to avoid connection with an existing road or to avoid connection to adjoining property. Cul-de-sacs shall not be used to provide access to development on the boundary of the development except where a cul-de-sac is necessitated by topography or property accessibility, or is appropriate for land use separation. (Ord. 055-12HR; 10-16-12)
- b. *Cul-de-sac length.* Cul-de-sacs shall not exceed one thousand two hundred (1,200) feet in length unless necessitated by topography or property accessibility, and are approved by the development review team. Measurement shall be from the point where the centerline of the dead end road intersects with the centerline of a general circulation road to the center of the turnaround of the cul-de-sac. Where one cul-de-sac extends from another cul-de-sac, the end of each cul-de-sac shall be no more than one thousand two hundred (1,200) feet from a general circulation road as measured by the centerline of the roads. (Ord. 055-12HR; 10-16-12)
- c. *Cul-de-sac design.* Cul-de-sacs shall terminate in a circular turnaround having a minimum right-of-way of at least one hundred (100) feet in diameter and a paved turnaround with a minimum outside diameter of eighty (80) feet, or other approved type of turn around, including T's, Y's or landscaped islands with a minimum right-of-way sufficient for county maintenance. In addition, all cul-de-sacs must have a landscaped interior island, at least forty (40) feet in diameter. The minimum pavement width around a cul-de-sac island shall be sixteen (16) feet, and this portion of the pavement shall be designated as a one-way for traffic purposes. A provision for adequate drainage must be designed for the island; and a provision for maintenance of landscaping on the island must be included in the recorded restrictive covenants for the subdivision. (Ord. 055-12HR; 10-16-12)

- (5) *Temporary dead-end road and half roads.*
- a. *Temporary dead-end roads.* Temporary dead-end roads shall be provided with a temporary turnaround having a roadway surface diameter of eighty (80) feet, or other type of approved turnaround.
 - b. *Half roads.* Half roads of less than two (2) lanes are prohibited. Whenever a road is planned adjacent to the proposed development tract boundary, the entire road right-of-way shall be platted within the proposed development, or a portion of the road may be platted and reserved with adequate provision for the concurrent dedication of the remaining portion of the right-of-way by the adjacent landowner, evidence of which shall be furnished by the developer through an acquired and recorded easement.
- (6) *Intersections.* All road intersections shall be designed in substantial compliance with the applicable requirements of SCDOT's "Access & Roadside Management Standards", published in August 2008. (Ord. 038-09HR; 7-21-09)
- (7) *Loop lanes.* Loop lanes shall be a minimum of sixteen (16) feet in width for one-way traffic, and the exterior radius shall be no less than forty (40) feet. (Ord. 055-12HR; 10-16-12)
- (8) *T-roads.* See the "Road Design Standards" manual kept in the Department of Public Works. (Ord. 055-12HR; 10-16-12)
- (9) *Main Roads* – twenty-four (24) feet pavement width. (Ord. 055-12HR; 10-16-12)
- (10) *Park Roads* – seventeen (17) feet pavement width. On cul-de-sac bulbs, the inside radius shall be a mountable curb. The "Park Road" paving detail (see the "Road Design Standards" manual kept in the Department of Public Works) may only be used when there is sufficient off street parking to provide three (3) parking spaces per dwelling unit, and the total future parcels served by the road do not exceed twenty-five (25). For common areas, a shared parking space shall be considered as the equivalent of one and one-half (1½) dwelling parking spaces. (Ord. 055-12HR; 10-16-12)
- (11) *Other design standards.*
- a. *Reverse curves.* On state maintained roads, tangent distances shall be determined by the use of South Carolina Department of Transportation standards. On other roads, the Richland County design standards shall apply.

- b. *Road grades.* Grades on roads not classified shall be established by the South Carolina Department of Transportation or by the county engineer. Grades on collector roads shall not exceed eight percent (8%) unless topographic conditions make this impractical. Grades on residential roads shall not exceed fifteen percent (15%), unless topographic conditions make this impractical. All roads shall have a minimum grade of not less than one-half ($\frac{1}{2}$) of one percent (1%).
- c. *Horizontal curves.* Where a deflection angle of more than ten (10) degrees occurs in the alignment of a road, a curve of reasonable radius shall be introduced. On roads not classified, the center line radius of curvature shall be determined by the South Carolina Department of Transportation or by the county engineer. On collector, industrial, or commercial roads, the center line radius of curvature shall not be less than three hundred fifty (350) feet. On local residential roads, the center line radius of curvature shall not be less than one hundred fifty (150) feet unless the topography of the land to be subdivided makes this impractical.
- d. *Vertical curves.* Minimum stopping sight distance on roads not classified shall be determined by the South Carolina Department of Transportation or by the county engineer. On collector, industrial, or commercial service roads, the minimum stopping sight distance shall be two hundred seventy-five (275) feet (forty miles per hour) and on minor residential roads, one hundred sixty (160) feet (twenty-five miles per hour). Stopping sight distances shall be measured from a height of three (3) feet, nine (9) inches to an object with a height of six (6) inches, both distances measured above the centerline of the road or road. Stopping sight distance shall be determined in accordance with the standards of the American Association of State Highway Officials.
- e. *Split-level roads.* Roads that are constructed so as to have two (2) traffic ways, each at a different level within the same right-of-way, shall provide a paved traffic surface of at least twenty (20) feet on each level and a slope between the two (2) traffic ways of 6:1 or flatter.
- f. *Alleys.* Alleys shall only be permitted as approved by the county engineer.
- g. *Access to parks, schools, etc.* Convenient access to places of public assembly must be ensured in all development. See also

Section 26-179 of this chapter for pedestrian amenity requirements.

- h. *Railroad rights-of-way.* Developments adjacent to railroad rights-of-way shall be required to provide for future railroad crossings.
- i. *Marginal access roads.* In order to reduce traffic congestion, marginal access roads shall be required between arterial roads and the adjacent development. Additionally, the development review team may require marginal access roads between collector roads and adjacent development, if the conditions warrant. (Ord. 055-12HR; 10-16-12)
- j. *Grading and paving.* All grading and paving work done on new roads or road improvements must be approved by the county engineer.
- k. *Road signs/traffic control devices.*

[1] Road signs, in conformance with the requirements of the Federal Highway Administration's *Manual on Uniform Traffic Control Devices 2003 Edition with Revisions 1 and 2 incorporated*; provided, however, if a later edition is published, this latest edition shall be used; and with the addressing coordinating specialist, shall be located at all intersections in a manner approved by the county engineer. Any sign within a new development shall be installed by the developer at his/her own expense. Signs will be aluminum blanks on metal posts fabricated and mounted in a standard design established by the director of public works. Such signs shall have white reflective lettering a minimum of six (6) inches in height on a reflective background. Signs located on multi-lane roads with a speed limit of 40 mph or greater shall have lettering a minimum of eight (8) inches in height. A green background shall denote a public road and a blue background shall denote a private road. (Ord. 052-09HR; 11-3-09) (Ord. 055-12HR; 10-16-12)

[2] All traffic control devices required by the Federal Highway Administration's *Manual on Uniform Traffic Control Devices 2003 Edition with Revisions 1 and 2 incorporated* shall be installed by the developer at his/her own expense. All devices shall conform to the required size and reflectivity found in the *Manual on Uniform Traffic Control Devices 2003 Edition with Revisions 1 and 2*

incorporated. Provided, however, if a later edition of the “*Manual on Uniform Traffic Control Devices*” is published, this latest edition shall be used. (Ord. 052-09HR; 11-3-09)
(Ord. 055-12HR; 10-16-12)

1. *Alternative to curbed drainage.* Minor rural roads and rural roads may be exempt from the requirement to have curbs, subject to the following conditions: (Ord. 055-12HR; 10-16-12)

[1] A minor rural road shall provide access to less than twenty (20) lots that are each greater than five (5) acres in size, and a rural road shall provide access to less than fifty (50) lots that are each greater than five (5) acres in size. (Ord. 055-12HR; 10-16-12)

[2] For design criteria, see the “Road Design Standards” manual kept in the Department of Public Works. (Ord. 055-12HR; 10-16-12)

(c) *Visibility at intersections.*

(1) *Sight clearance to be maintained.* At each corner of each road or driveway/road intersection, a sight area shall be maintained. Within the sight area, no fence, wall, sign, slope, embankment, parked vehicle, hedge, foliage, planting, object, or structure shall be placed, erected, or maintained that will obstruct visibility within the sight area.

(2) *Dimensions of the sight area.* The horizontal dimensions of sight areas are defined as triangular areas formed by the intersecting right-of-way lines and a straight line joining the right-of-way lines at points that are measured along the right-of-way lines as follows:

- a. Fifteen (15) feet distant from the point of the intersection of the right-of-way lines in commercial and industrial districts.
- b. Twenty-five (25) feet distant from the point of the intersection of the right-of-way lines in residential districts.

Those sight areas shall be established regardless of the angle of intersection of the right-of-way lines.

For the intersection of a driveway and a road, the triangular area is that formed by the right-of-way and the edge of the driveway and a straight line joining the right-of-way and driveway edge at points that are fifteen (15) feet distant from the point of intersection.

The vertical dimensions (cross-visibility) of sight areas are defined as the vertical space between the heights of two and one-half (2½) feet and ten (10) feet in elevation above the nearest edge of the road pavement of a paved road or above the nearest edge of the riding surface of an unpaved road. Trees having limbs and foliage trimmed so that the cross-visibility within the triangle is not obscured shall be allowed to overhang the sight triangle, provided the location of any tree does not create a traffic hazard.