

## Appendix F: Specifications for Street Construction

### Section F.01: Radius at Street Intersections

The intersections of the paved surfaces of streets shall be rounded with a minimum radius as shown in the table below. Where streets intersect at less than right angles, a greater radius may be required. The North Carolina Department of Transportation (NCDOT) may vary the minimum radii set forth below at intersections involving state-maintained streets.

Type of Street Intersection	Minimum Radius
Minor to Minor	15 feet
Minor to Local	15 feet
Minor to Subcollector	20 feet
Minor to Collector	20 feet
Local to Local	15 feet
Local to Subcollector	20 feet
Local to Collector	20 feet
Subcollector to Subcollector	25 feet
Subcollector to Collector	30 feet

### Section F.02: Cut and Fill Slopes

Cut and fill slopes on any street right-of-way may not exceed 2:1.

### Section F.03: Clearing and Grubbing

Clearing and grubbing shall be performed within the limits shown on the plans. All timber, brush, roots, stumps, trees, or other vegetation cut during the clearing operations shall become the contractor's responsibility to dispose of, and shall be either removed from the project, or satisfactorily disposed of on-site. Satisfactory on-site disposal shall not include burial.

### Section F.04: Grading and Compaction

Streets shall be graded in accordance with the lines and grade set by the engineer. Before placing curb and gutter or base on the graded sub-grade, the sub-grade shall be compacted to 100 percent AASHTO T99 for a depth of six (6) inches and then shall be proof rolled in the presence of the engineer. Places that are found to be loose, or soft, or composed of unsuitable materials, whether in the sub-grade or below it, must be dug out and refilled with suitable material. All embankments or fills shall be made in one-foot horizontal lifts of suitable material. The fill shall be rolled with a sheepsfoot roller after each lift, followed by a wheel roller, each weighing not less than eight (8) tons.

### Section F.05: Street Base

Base course for streets shall generally be eight (8) inches thick, unless otherwise directed by the City of Rockingham Public Works Director and shall be crushed stone conforming to NCDOT Type ABC stone. The stone base course shall be placed in four-inch layers, watered as necessary, and compacted to 100 percent AASHTO T99. The contractor shall be responsible for keeping the stone base free of contamination from clay

or other foreign materials. Handling and placement of stone base shall all be in accordance with NCDOT specifications.

**Section F.06: Street Surfaces**

The asphalt surface course shall meet NCDOT specifications for Type I-2 asphalt. The asphalt shall be placed in one (1) two-inch layer and shall be handled and placed in accordance with D.O.T. specifications.

**Section F.07: Curb and Gutter**

The concrete curb and gutter shall be constructed according to the lines and grades established by the engineer. The concrete shall conform to NCDOT requirements. The forms shall be of metal, free of marks or kinks, and shall be rigidly held in position. The engineer shall approve the positioning of the forms before concrete is poured. The concrete shall be placed in the forms in a manner to prevent segregation and tamped or vibrated sufficiently to prevent honeycombs. The concrete shall be finished smooth and even by means of rollers or floats. Expansion joints shall be provided every thirty (30) feet, and false joints every ten (10) feet.

**Section F.08: Sidewalks**

Sidewalk construction shall be similar to street construction, with sub-grade compacted to 100 percent AAASHO T99. Concrete sidewalks shall be four (4) inches thick (increasing to six (6) inches thick at driveway entrances and shall be at least four (4) feet wide. Expansion joints shall be provided every thirty (30) feet, and false joints every ten (10) feet.

**Section F.09: Wheelchair Ramps**

Where required, wheelchair ramps shall be constructed in accordance with ADA and NCDOT requirements.

**Section F.10: Storm Water Runoff Control**

- (A) The minimum design frequency for storm runoff shall be ten (10) years for storm sewer collection and twenty-five (25) years for cross drainage (drainage facilities crossing a street).
- (B) All storm drainage pipes shall be reinforced concrete and no pipe shall be smaller than 15 inches in diameter.
- (C) Culvert outlet protection and swale erosion protection shall be designed based on a 10-year storm.
- (D) All storm drainage structures and pipes shall be designed and constructed in accordance with North Carolina Department of Transportation specifications.

**Section F.11: Sedimentation Control**

Road shoulders, swales, back-of-curbs, and cut and fill banks shall be completely dressed up by the contractor and seeded as soon as possible.