

CUSTER COUNTY HIGHWAY DEPARTMENT
COUNTY ROAD SPECIFICATIONS
Approved by the Board of Commissioners on 12/28/06

The following minimum construction standards shall apply to all public roads within Custer County unless otherwise first approved in writing by the Custer County Highway Superintendent. The Custer County Highway Superintendent may require plans prepared by a Professional Engineer when waivers or variances to these Specifications are requested.

1. The minimum unobstructed vertical clearance above the driving surface shall be fourteen feet (14').
2. The minimum roadbed width below the driving surface shall be twenty-four feet (24').
3. The entire driving surface will consist of at least four inches (4") of gravel compacted to a uniform consistency.
4. Gravel shall consist of screened rock that is $\frac{3}{4}$ "- and contains fine material with a plasticity index of 15%.
5. Application of dust control measures, such as magnesium chloride, may be required.
6. Driving surface vertical grade:
 - A. The vertical grade of the first thirty feet (30') of driving surface from any intersection shall be at zero percent (0%) plus or minus two percent (+/- 2%).
 - B. All vertical grade transitions shall be smooth.
 - C. No vertical grade shall exceed twelve percent (12%).
 - D. Vertical grades shall not exceed the maximum unless first approved by the County Highway Superintendent. In no case shall the grade be so steep as to impede use by emergency vehicles. Should such a grade be determined to exist, a "miscellaneous document" shall be filed with the Register of Deeds that states: "This property is served by a road that contains grades that may make this property inaccessible to emergency vehicles under certain weather/road conditions. Please consult with your local emergency service provider."
7. Road alignment requirements:
 - A. Minimum radii of the road centerline on horizontal curves shall not be less than 100 feet (100').
 - B. Roads must be designed to eliminate bends, crooks, and other undesirable or hazardous road conditions.
8. Intersection requirements:

CUSTER COUNTY HIGHWAY DEPARTMENT
COUNTY ROAD SPECIFICATIONS
Approved by the Board of Commissioners on 12/28/06

- A. A detailed design is to be submitted for intersections that are either unusual in shape or are located on difficult terrain.
 - B. Acute angles at road intersections are to be avoided. Angles of less than eighty degrees (80°) are not permitted.
 - C. The shoulder radius at intersections shall not be less than twenty-five feet (25').
9. Culverts shall:
- A. Have a minimum diameter of eighteen inches (18").
 - B. Be of a size, type, and length to assure proper drainage and be approved by the County Highway Superintendent prior to installation. Design of culverts by a licensed professional engineer may be required.
 - C. Be marked by Type 2 object markers to AASHTO MUTCD standards.
10. Cattle guards shall be at least two feet (2') wider than the minimum driving surface width and centered on the centerline of the driving surface. Installation and maintenance of cattle guards is the responsibility of the adjacent landowner per SDCL 31-25-2 and -3.
11. Ditches shall be of sufficient depth and design to adequately move water from the roadbed. It is recognized that Custer County has very diverse terrain and, as a result, a monolithic standard is difficult to apply. The following standards are to be aspired to but may be waived with prior written approval of the County Highway Superintendent. Waivers shall be based on an inability to meet these standards due to on-site construction constraints:
- A. A minimum bottom depth of two and one-half feet (2.5') below the driving surface at all culvert inlets and outlets.
 - B. Inslopes of 3:1 or shallower for a minimum of six horizontal feet (6') from the edge of the road surface.
 - C. Backslopes shall not exceed 2:1 without prior written approval of the County Highway Superintendent. Certification as to soil stability by a Professional Engineer may be required.
 - D. Erosion control structures where deemed appropriate by the County Highway Superintendent.
 - E. Guardrail installation to AASHTO's Roadside Design Guide standards where terrain constraints and roadway design give rise to safety concerns for drivers that can only be addressed by such guardrail installation.
 - F. The County Highway Superintendent may require certification by a Professional Engineer as to soil stability and guardrail installation should design parameters exceed the above standards.
12. The developer shall be financially responsible for the installation of traffic signs. Traffic signs shall conform to AASHTO MUTCD standards. The County Highway Department shall install all traffic signs.

CUSTER COUNTY HIGHWAY DEPARTMENT
COUNTY ROAD SPECIFICATIONS
Approved by the Board of Commissioners on 12/28/06

13. All dead-end roads longer than one-fourth ($\frac{1}{4}$) mile may be required to have intermediate turn-arounds that are spaced no farther apart than one-fourth ($\frac{1}{4}$) mile. Approaches for private access roads or driveways may be designated as intermediate turn-arounds and constructed to conform to Paragraph 21 of these Specifications.
14. Turn-around design or exceptions sought as a result of this provision must receive written approval by the County Highway Superintendent prior to construction.
15. Roads designed to have one end permanently closed shall be provided at the closed end with a turn-around having a minimum right-of-way diameter of one hundred and thirty feet (130') and a minimum roadway diameter of one hundred feet (100').
16. Construction **recommendations** for Private Access Roads and driveways:
 - A. Minimum driving surface width of twelve feet (12').
 - B. Inslopes of 4:1 or shallower for a minimum of six horizontal feet (6') from the edge of the driving surface.
 - C. Private Access Roads that exceed one thousand, three hundred feet (1,300') in length should make provision for intermediate turn-arounds as outlined in item 11 above.
17. Additional minimum construction standards for Low-Volume Roads:
 - A. Minimum driving surface width of eighteen feet (18').
 - B. Low-Volume Roads shall provide access for no more than five (5) dwelling units.
18. Additional minimum construction standards for Medium-Volume Roads:
 - A. Minimum driving surface width of twenty feet (20').
 - B. Medium-Volume Roads shall provide access for six (6) to twenty-five (25) dwelling units.
19. Additional minimum construction standards for High-Volume Roads:
 - A. Minimum driving surface width of twenty-four feet (24').
 - B. High-Volume Roads shall provide access for more than twenty-five (25) dwelling units.
20. Road surface widths shall not be less than the minimum.

CUSTER COUNTY HIGHWAY DEPARTMENT
COUNTY ROAD SPECIFICATIONS
Approved by the Board of Commissioners on 12/28/06

21. Approaches shall be built with a minimum road base width of twenty-four (24'), a minimum shoulder radius of twenty-five feet (25'), and a driving surface at least eighteen feet (18') wide with at least four inches (4") of gravel compacted to a uniform consistency.
22. All rights-of-way shall be at least sixty-six feet (66') wide.
23. Recommendations for speed limits, signage, and guardrail location to be provided to the County Highway Superintendent by the developer for review and approval prior to construction. The County Highway Superintendent may require that a Professional Engineer make said recommendations.