

RESOLUTION NO. 20-02

A RESOLUTION PROVIDING MINIMUM DESIGN AND CONSTRUCTION STANDARDS FOR LOCAL AND COLLECTOR ROADS AND STREETS, AND OTHER PUBLIC IMPROVEMENTS, OTHER THAN IN INDUSTRIAL AND COMMERCIAL DEVELOPMENTS, IN DOUGLAS COUNTY, KANSAS.

WHEREAS, the Board of County Commissioners has duly adopted Resolution Nos. 72-30, 72-31, 78-26, and 05-15, as codified at Section 9-203 of the Code of Douglas County, Kansas (the "Code"), setting forth minimum construction standards for local and collector roads and streets, and other public improvements in residential subdivisions; and

WHEREAS, the Board of County Commissioners desires to revoke said Resolutions, as codified in the Code, and adopt new road construction standards as set forth herein.

NOW THEREFORE, the Board of County Commissioners of Douglas County, Kansas, sitting in regular session, does hereby resolve as follows:

1. Road Construction Standards. Section 9-203 of the Douglas County Code is hereby amended and restated to read as follows:

9-203 MINIMUM DESIGN AND CONSTRUCTION STANDARDS FOR LOCAL AND COLLECTOR ROADS

Minimum design and construction standards for local and collector roads, other than in industrial and commercial subdivisions, in Douglas County, Kansas, are as follows:

- a) General. These standards are to be minimum standards set forth for the various improvements herein outlined. If conditions dictate, these standards may be varied with the consent of the County Engineer. It shall be the responsibility of the County Engineer to outline the reasons for any significant variations and, if requested, submit those reasons to the Board of County Commissioners for its approval.

The "Standard Specifications for State Road and Bridge Construction" adopted by the Kansas Department of Transportation (KDOT), 2015 or current edition, shall be the standard construction specifications unless otherwise noted in this Section.

The "LPA Project Development Manual", Chapter 5, 2018 or current edition, as distributed by KDOT, shall be the minimum road design standards unless otherwise noted in this Section. Although these standards allow design flexibility in certain circumstances, the County Engineer must approve any deviations from the tabled design standards.

Bridge design shall conform to the standards in the KDOT "Design Manual, Volume III – Bridge Section", current edition, unless otherwise noted in this Section. The County Engineer must approve any deviations from the standards in that manual.

Drainage structure design shall conform to the standards in the KDOT "Design Manual, Volume 1, (Part C), Elements of Drainage & Culvert Design", current edition, unless otherwise noted in this Section. The County Engineer must approve any deviations from the standards in that manual.

Road classifications shall be as shown on the latest MPO-KDOT-FHWA Roadway Functional Classification Map, unless otherwise noted. For new roads, the proposed roadway classification and appropriate design standards will be determined by the County Engineer.

b) Design Details.

1. Right-of-Way: Minimum widths shall be as stipulated in latest version of the Subdivision Regulations, Subdivision Design Standards, or wider as required to accommodate the grading section. Note: Road classifications shown in Subdivision Design Standards are based on Access Management road classifications, which may differ from the MPO-KDOT-FHWA Roadway Functional Classification Map.
2. Earthwork: The minimum depth of roadside ditch shall be 2.0 feet, measured from the top of the roadway subgrade, unless otherwise approved by the County Engineer. The minimum compaction efforts required for fill sections shall be Type B (MR-90).
3. Road Surface Materials:
  - a. Local Aggregate Road:  
2-inch SS-3 road rock on 4-inch compacted Combined Material (AB-3) with 4% crown.
  - b. Local Road (Hard Surfaced):
    - (i) Alternate (1): 4-inch compacted AB-3 with 4-inch Asphaltic Concrete Surface, 2 to 4% crown.
    - (ii) Alternate (2): 8-inch compacted AB-3 with a prime and double chip seal, 2% to 4% crown.
  - c. Minor Collector Aggregate Road:  
2-inch SS-3 road rock on 6-inch compacted Combined Material (AB-3) with 4% crown
  - d. Minor Collector Road (Hard Surfaced):
    - (i) Alternate (1): 6-inch compacted Combined Material (AB-3) with 4-inch Asphaltic Concrete surface, 2% to 3% crown
    - (ii) Alternate (2): 10-inch compacted combined material (AB-3) with Prime and Double Chip Seal, 2% to 3% crown.
    - (iii) Alternate (3): 6-inch full depth Asphaltic Concrete with 2% to 3% crown.
  - e. Major Collector Aggregate Road:  
2-inch SS-3 road rock on 8-inch compacted Combined Material

(AB-3) with 4% crown

f. Major Collector Roads (Hard Surfaced):

Pavement section to be approved by County Engineer. Pavement design should utilize design guidelines and methods from widely accepted industry sources, e.g. AASHTO, FHWA, and National Asphalt Pavement Association. Cross slope shall be 2%.

4. Prime and Double Chip Seal Rates of Application:

a. Alternate 1

- MC-30 Prime - 0.3 gallons per square yard.
- RC-800 Seal - 0.35 gallons per square yard (for each of 2 seals)
- Cover Material (CM-K) – 0.01 cubic yards/ square yard (for each of 2 seals)

b. Alternate 2

- MC-30 Prime – 0.3 gallons per square yard
- CRS-1HP Seal – 0.35 gallons per square yard (for each of 2 seals)
- Cover Material (CM-K) – 0.01 cubic yards/square yard (for each of 2 seals)

c. Alternate 3

- MC-30 Prime – 0.3 gallons per square yard
- CRS-1HP Seal – 0.36 gallons per square yard (for each of 2 seals)
- Cover Material (CM-L-2)—0.009 cubic yards/square yard (for each of 2 seals)

5. Bridge design live loading: HL-93 for new bridges

6. County-maintained drainage structures on local roads shall be designed to pass the 10-year return interval storm runoff (Q10). County maintained structures on major and minor collector roads shall be designed to pass the 25-year return interval storm runoff (Q25). Design headwater elevation shall be below road subgrade elevation. For drainage structures on dead end roads with residential development or other critical access needs, the County Engineer may require a higher level of service.

7. For new roads, roadway shall be surfaced full roadway width, which includes shoulders. For relatively short-length projects, e.g. culvert replacement projects, on existing roads, roadway surfacing width shall be at least 18' wide or match existing traveled way width, whichever is wider, and additional culvert length will be provided to accommodate future surface widening to meet tabled design standards.

8. Minimum crossroad drainage structure shall be reinforced concrete or aluminized corrugated metal pipe, 18-inch diameter meeting the Kansas Department of Transportation Standards for strength and thickness. Minimum cover over crossroad pipe culverts shall be 18 inches, unless otherwise approved by County Engineer.

9. Entrances shall comply with the current Douglas County construction standards for entrances on county routes. Entrance pipes shall be reinforced concrete or aluminized corrugated metal pipe, minimum 12-inch diameter, meeting Kansas Department of Transportation Standards for strength and thickness.
10. Construction Traffic Control Details shall be shown on the plans and submitted to the County Engineer for approval prior to construction.

c) Construction Specifications.

1. All base and surfacing material shall be placed under the supervision of the County Engineer or his/her representative.
2. Combined Material (AB-3) shall be mixed to specified moisture content utilizing the Central Plant Method or Travel Plant Method. The road mix method may be used for aggregate surfaced roads and hard surfaced roads requiring less than 500 tons of base material. The specified moisture content shall be the optimum moisture content as determined by laboratory analysis.
3. The Combined Material (AB-3) base for hard surfaced roads shall be placed full lane width. Placement methods must be pre-approved by the County Engineer or his/her representative. The material shall be distributed at the desired uniform rate, and placed in a manner to minimize segregation. Areas of segregation shall be remedied by the contractor as directed by the County Engineer or his/her representative.
4. If the required compacted depth of the aggregate base course or shoulder exceeds six inches, construction shall be in two or more lifts of approximate equal thickness.
5. Immediately after placing the base material, the aggregate base course shall be compacted to a density of not less than 95% of maximum standard Proctor density. Final surface of base course shall be to uniform line and grade per plans.
6. The compacted base course shall be maintained and cured until the moisture content of the entire thickness of the base does not exceed 70 percent of optimum moisture content.
7. The County Engineer or his/her representative shall determine when the surface of the base has cured sufficiently to permit the bituminous application or other surfacing to be applied. If the Contractor chooses not to apply the bituminous prime or other surfacing at that time, he must maintain the surface at his expense (including application of the necessary water) until such time as it is applied.

8. The design application rates for prime and seal coats may be adjusted in the field by the County Engineer or his/her representative depending on traffic, weather, and surface conditions
9. The bituminous prime coat shall have sufficient time to thoroughly penetrate the base before application of the first seal.
10. The second seal coat shall not be applied until 30 days after the application of the first seal coat unless otherwise approved by the County Engineer.


2. Repeal. This Resolution replaces Resolution Nos. 72-30, 72-31, 78-26, and 05-15, as previously codified at Section 9-203 of the Douglas County Code, all of which are hereby repealed.

3. Effective Date. This Resolution shall take effect and be in force from and after its adoption and publication once in the official County newspaper.

IN WITNESS WHEREOF, the foregoing Resolution was adopted this 22 day of January, 2020.


**BOARD OF COUNTY COMMISSIONERS OF  
DOUGLAS COUNTY, KANSAS:**

  
\_\_\_\_\_  
Patrick Kelly, Chair

  
\_\_\_\_\_  
Michelle Derusseau, Member

  
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Nancy Thellman, Member

ATTEST:

  
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Jamie Shew, County Clerk