



SUBDIVISION ORDINANCE

ARTICLE FIVE CIRCULATION SYSTEM DESIGN

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ARTICLE FIVE – CIRCULATION SYSTEM DESIGN

501 Purpose

The purpose of this Article is to assure the development of functional and safe circulation patterns within new subdivisions, in order to encourage economical and effective movement of motor vehicles, bicycles, and pedestrians; provide access for public safety vehicles; and encourage the development of circulation systems that enhance the quality of life within new and existing neighborhoods in the City of Beatrice and within two (2) miles thereof.

502 General Standards

The design of circulation systems should conform to the following general standards and requirements:

A. Roadway System Design

1. The road system shall be designed to permit safe and orderly movement of traffic, to meet but not exceed needs of the present and future served population; to be simple and logical; to respect natural features, topography, and landscape; and to present an attractive streetscape.
2. The system shall conform with the City's Comprehensive Development Plan. For streets not shown on the Comprehensive Development Plan, the arrangement of streets shall provide for the logical extension of existing streets.
3. The street network of a subdivision should provide for logical, continuous extensions of streets to subsequent, later developments.
4. The system shall provide adequate traffic flow through a subdivision and provide at least two routes from each lot within the subdivision to the rest of the City, except as explicitly permitted by the City Council. Additionally, the system should be designed to discourage through traffic from using local streets.

B. Pedestrian and Bicycle Systems

1. A continuous pedestrian system shall be provided within each non-industrial subdivision, designed to conduct pedestrians between every point in the subdivision in a safe manner.
2. The pedestrian system will ordinarily be provided by sidewalks placed parallel to and on both sides of each street, with exceptions permitted to preserve natural features or create visual interest.
3. All aspects of the pedestrian system, including sidewalks and intersection crossings, must be designed to comply with the Americans With Disabilities Act.

4. Bikeways or recreational trails shall be required only if specifically indicated by the comprehensive development plan. Any land dedicated for trail development shall be credited toward the satisfaction of pedestrian system and open space standards set forth by this Subdivision Ordinance.

503 Street Hierarchy and Design

A. Characteristics of the Hierarchy

1. Streets shall be classified according to a street hierarchy with design tailored to function.
2. The street hierarchy shall be defined by road function and projected average daily traffic (ADT), as calculated by trip generation rates prepared by the Institute of Transportation Engineers or other generally accepted standards.
3. Each residential street shall be classified and designed to meet appropriate standards for its entire length.
4. The applicant shall demonstrate to the satisfaction of the City Council that the distribution of traffic created by the subdivision will not exceed the design capacity of the proposed street system and its individual segments.
5. The categories, functions, and projected traffic loads of the street hierarchy are set forth in Table 5-1.

B. Street Channel Width and Street Names

1. The channel minimum width from back-to-back of curb for each street classification shall be in accordance with Table 5-2.
2. When a subdivision abuts a major street, is bounded by a line that will in the future lie in a major street, or is divided by a major street, then the owner of the subdivision shall dedicate any land that is necessary to provide conformity to the Comprehensive Development Plan of the City.
3. Streets shall be named and numbered by a City-wide coordinate system, such names and numbers to be assigned by the Building Official and approved by the City Council.

C. Curbs, Gutters, and Shoulders

1. Curbing shall be required for the purposes of safety, drainage, and protection of the pavement edge, as set forth in Table 5-3.
2. All curbs shall provide ramps for accessibility by handicapped people consistent with the requirements of the Americans with Disabilities Act.
3. Curb construction shall follow standards established by the City of Beatrice.

D. Sidewalks

1. Sidewalks shall be constructed in accordance with Chapter 23 of the Beatrice City Code on both sides of the street in all subdivisions. No building permit shall be issued without the showing of plans and specifications for such sidewalk. No certificate of occupancy shall be issued until such sidewalk is completed.
2. No subdivision plat shall be approved by the City Council without the showing of plans for the construction of sidewalks as provided herein.
3. Pedestrian easements at least 12 feet in width may be required through the center of blocks over 600 feet in length if deemed necessary by the approving authorities to provide access to schools or community facilities; or to maintain a continuous pedestrian network within and between subdivisions and districts of the City of Beatrice and within two (2) miles thereof.
4. Sidewalks shall provide a clear path of at least four foot in width, free of any obstructions.
5. All sidewalks shall be constructed according to current standards in use by the City of Beatrice. Sidewalks shall be of concrete construction four inches thick except at points of vehicular crossing where they shall be six inches thick.
6. All sidewalks, crossings, and other segments of a continuous pedestrian system must comply with standards of the Americans with Disabilities Act.

E. Bikeways and Recreational Trails

1. Bikeways and recreational trails shall be required in subdivisions only when specified as part of the Comprehensive Development Plan.
2. All off-street recreational trails shall be a minimum of eight feet in width for two-way traffic and shall comply with the Americans with Disabilities Act. Surfacing of trails shall be acceptable to the City of Beatrice. Gradients for bikeways and recreational trails should not exceed five percent.
3. All residential streets shall utilize bicycle safe drainage grates at storm sewer inlets.

F. Street and Alley Right of Way

1. Street Measurement: The right-of-way of a street shall be measured from lot line to lot line, and shall be wide enough to contain the street channel, curbs or shoulder, sidewalks and sidewalk setbacks, other necessary graded areas, and utilities.
2. Any right-of-way that continues an existing street shall be no less than that of the existing street.
3. The requirements for the right-of-way for functional categories of streets are set forth in Table 5-3.

4. Dedications: Dedications of right-of-way for collector or arterial streets shall be made consistent with the Comprehensive Development Plan. Half streets shall be avoided except where they are essential to the reasonable development of the subdivision in conformity with the other requirements of this Subdivision Ordinance, or, when the Planning and Zoning Commission finds that it will be practical to require the dedication of the other half of the street within a reasonable time. Whenever there exists a dedicated or platted half street or alley adjacent to the tract to be subdivided, the other half of the street or alley shall be platted and dedicated as a public street or alley.
5. Alleys: Alleys shall be provided to give access to the rear of all lots used for commercial and industrial purposes. The minimum width of an alley shall be twenty (20) feet. Alley intersections and sharp changes in alignment shall be avoided, but where necessary, corners shall be cut off sufficiently to permit safe vehicular movement. Dead-end alleys shall be avoided where possible, but if unavoidable, shall be provided with adequate facilities at the dead-end, as determined by the Planning and Zoning Commission. Alleys shall not be provided in residential areas except in cases where the subdivider produces evidence of a need for alleys which is satisfactory to the Planning and Zoning Commission.

G. Street and Alley Design Standards

1. Pavement

- (a) All streets shall be paved in accordance with standards adopted by the City Council of the City of Beatrice. Curbs and gutters shall be constructed of portland cement concrete. The minimum street channel width from back-to-back of curb is set forth in Table 5-3. The minimum alley surface shall be paved in accordance with standards adopted by the City Council of the City of Beatrice.
- (b) Local streets in rural intensity residential subdivisions located outside of the corporate limits of the City of Beatrice may utilize asphalt or asphaltic concrete or a gravel or crushed rock surface of sufficient thickness and with an adequate base to provide a durable surface.

2. Continuity of Arterial or Collector Streets

No subdivision shall prevent the extension of arterial or collector streets through and beyond the subdivision. The subdivider may plan and design collector streets not designated in the Comprehensive Development Plan subject to the approval of the City Council.

3. Cul-de-sacs

Cul-de-sac streets designed to have one end permanently closed shall not exceed 500 feet in length and shall be designed so that vision from entrance to end is not restricted. The terminating end of a cul-de-sac shall have a minimum radius of 60 feet. Notwithstanding this section, subdividers are encouraged to minimize the use of cul-de-sac streets longer than 300 feet in length.

4. Street Grades

Required street grades are set forth in Table 5-2.

5. Street Intersections

- (a) Streets shall intersect as nearly at right angles as possible, unless limited by topography, existing street alignments, or other clearly defined constraints.
- (b) In most cases, no more than two streets should intersect at a single intersection.
- (c) Local streets shall not provide intersections with major arterials.
- (d) New intersections along one side of an existing or proposed street shall, if possible, align with intersections on the other side of the street. Offsets between adjacent intersections shall measure at least 150 feet between centerlines. The use of T-intersections is encouraged on local streets within the interior of a subdivision.
- (e) Intersection design standards are set forth in Table 5-2.

504 Lighting and Wiring

A. Street Lighting

- 1. Street lighting shall be provided along all streets in urban residential subdivisions or in any commercial or industrial subdivision, according to an approved lighting plan designed by the utility company, or using guideline standards published in the Lighting Handbook of the Illuminating Engineering Society of North America.
- 2. The height and shielding of lighting standards shall provide proper lighting without hazard to drivers or a nuisance to residents. The design of lighting shall be appropriate to the development and to the City of Beatrice.

B. Underground Wiring

- 1. All electric, telephone, television, cable TV, and other communication lines shall be provided by underground wiring within easements or public right-of-way, except where in the opinion of the approving authorities, such location is not feasible. Poles for permitted overhead lines shall be placed in rear lot line easements; or in other locations designed to lessen their visual impact.
- 2. New lots adjacent to existing overhead service may utilize that service; however, new local service connections shall be underground.ch an Ordinance.

TABLE 5-1: STREET HIERARCHY

Street Type	Function	Guideline Maximum ADT
Local	Provides frontage to lots and carries traffic with origin or destination on street itself. Carries least traffic at lowest speed. East-west orientation provides best solar access. Local residential streets usually do not interconnect with adjoining neighborhoods or subdivisions.	250-1,000
Collector	Conducts and distributes traffic between local streets and major streets in the community. Carries larger volume of traffic. Residential collectors interconnect and provide through access between residential neighborhoods. Collector streets should preserve one through traffic lane in each direction, without encroachment by parking. Collectors may be included in the city's Surface Transportation Program system for federal aid.	1,000-2,500
Other Arterials	Provides community wide access between residential neighborhoods and to other activity centers in Beatrice, including Downtown and major commercial facilities. Direct access may be provided to other arterial streets. Parking should generally be prohibited on other arterials. Other arterials should be excluded from residential areas. These streets are part of the Surface Transportation Program system for federal aid.	2,500-7,500
Major Arterial	Inter-regional road in the street hierarchy. Conveys traffic between activity centers, often at high speeds and with limited access. Should be excluded from residential areas. These streets are part of the Surface Transportation Program system for federal aid.	7,500+

TABLE 5-2: STREET CHANNEL WIDTH, GRADE AND INTERSECTION STANDARDS

Street Type	Moving Lanes (Min.)	Parking Restrictions	Maximum Gradient Width	Total Channel	Minimum Curb Radii
Local	Two 11-foot	No restriction	10% (5%)*	31 feet	20 feet (Note 1)
Collector					
No parking	Two 11-foot	No parking	All Types:	31 feet	All Types:
One-side parking	Two 11-foot	One side only	10% (5%)*	31 feet	30 feet
Two-side parking	Two 11-foot	No restriction		40 feet	(Note 1)
Arterials	Four 11-foot	No parking	8%	50 feet	35 feet

* Denotes Maximum Street Grades Within 50 Feet of an Intersection.

Note 1: Intersections shall be rounded at the curb line, with the street having the highest radius requirement as shown in Table 5-2 determining the minimum standard for all curb lines.

TABLE 5-3: CURB, RIGHT-OF-WAY AND PAVEMENT THICKNESS REQUIREMENTS

Street Type	Street Channel Width	Curb/ Shoulder	Total Street ROW	Concrete Pavement Thickness (Min.)
Local				
Rural	31 feet	N/A	60 feet	N/A
Urban	31 feet	Curb	60 feet	6"
Collector				
Rural	31 feet	N/A	60 feet	N/A
Urban				
No parking	31 feet	Curb	70 feet	6"
One-side parking	36 feet	Curb	70 feet	6"
Two-side parking	40 feet	Curb	70feet	6"

Arterials

Arterial right-of-way design and width is determined by state standards and designation of individual street or roadway segment