

CHAPTER 10

STREET DESIGN AND CONSTRUCTION STANDARDS

SECTION **GENERAL** **1001**

These Regulations shall control the manner in which the road system is arranged on the land to permit the safe, efficient, and orderly movement of traffic; to meet, but not exceed, the needs of the present and future population; to have a simple and logical pattern; to respect natural features and topography; and to present an attractive streetscape.

SECTION **CONFORMITY TO DEVELOPMENT PLANS AND ZONING** **1002**

No subdivision shall be approved unless the area to be subdivided has frontage on and access from an existing street on the official thoroughfare map, or unless such street is an existing state, county, or city highway, road or a street shown upon a plat approved by the Planning Commission and recorded in the Chancery Clerk's office. Such street or highway must be suitably improved as required by these Regulations or guaranteed, with a performance bond, to be improved as required by these Regulations. In addition, no final plat of land within an existing zoning district shall be approved unless it conforms with requirements of the zoning district.

SECTION **ARTERIAL ROAD DESIGN STANDARDS** **1003**

Design standards and required improvements to arterial streets and roads are contained in Table 1. Construction design criteria of these streets are to be determined by the City Engineer when such streets abut or cross the proposed subdivision. Certain improvements may be waived upon recommendation of the City Engineer and after review and approval by the Planning Commission. In all cases right-of-way dedications shall be required for streets leading to new subdivisions. When developing along one side of an existing street or roadway included in the official thoroughfare plan, the subdivider may be responsible for construction or replacement of the entire existing pavement, in accordance with the requirements of the City Engineer.

Table 1003: Street Design Standards for Arterial Roads

R/W Width (feet)	Sidewalks (feet)	Parkway (feet)	Median (feet)	Pavement Width (feet)
80	4	5.5	14	48
110	5	5	16	72

**SECTION
1004**

STREET NAMES

Street name signs or numbers of a type in use throughout the city shall be erected by the subdivider at all intersections. Names of new streets shall not duplicate or nearly duplicate those of existing or platted streets, irrespective of the use of the suffix "street," "avenue," "circle," "boulevard," "drive," etc., and shall be displayed at each street intersection with street signs of the type established by the City. When a new street is a direct extension of an existing street, the name shall remain the same.

Street names shall be subject to the approval of the Planning Commission. The subdivider is responsible for the cost of purchasing and installing all signage.

**SECTION
1005**

STREET AND CIRCULATION SYSTEM DESIGN

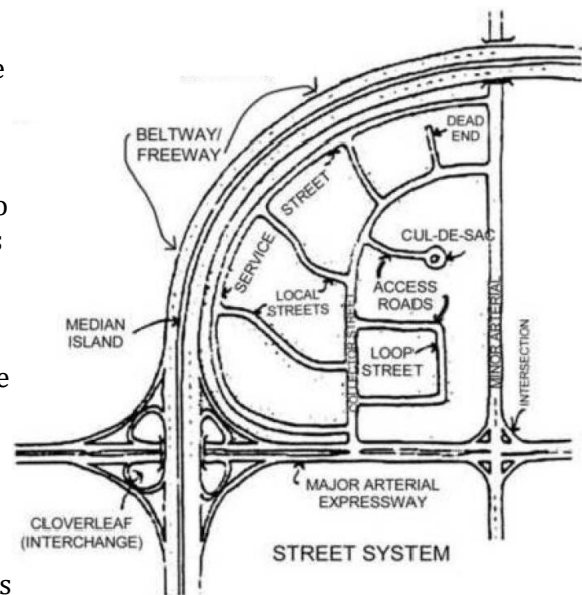
A. The arrangement, character, extent, and location of all streets shall conform to the thoroughfare plan of the City; such streets shall be considered in their relation to existing and planned streets, topographic conditions, public convenience and safety, and in their relation to the proposed uses of land to be served by such streets. The Planning Commission reserves the right to disapprove any street plan which does not represent good design or does not insure continuity of the existing street system.

B. The road system shall be designed to serve the need of the neighborhood and to discourage through traffic in the interior of such subdivision.

Residential driveway access shall not be permitted onto principal arterials. Major subdivisions shall be designed to discourage residential driveway access onto major arterial and collector roadways by using access roads.

Minimizing driveway access points or curb cuts by using access roads shall be encouraged. There shall be no private streets, lanes, roads or ways nor any private easement used for the purpose of primary access to any subdivision, including subdivisions exempt from platting under these Regulations unless constructed and maintained to City

road specifications and standards. The cost of maintenance of such private streets, roadways and easements shall be borne by a mandatory Homeowners Association. The Association shall own and be responsible for the maintenance of the private streets. Lot deeds shall convey membership in the Association and provide for the payment of dues and assessments required by the Association.



- C. Subdivisions shall provide for at least two entrances to furnish proper ingress and egress from established public roads or streets, except in the case of a single street subdivision.

**SECTION
1006**

STREET VACATION

The Planning Commission shall not recommend the vacation of any street dedicated to and accepted by the public if such vacation will adversely affect the proper functioning of the existing street system or any future street plan prepared by, or approved by, the Planning Commission. The procedure to vacate a street or alley shall require replatting of the property and the applicant must follow the platting procedures that are required in Section 307 of these Regulations.

**SECTION
1007**

RIGHTS-OF-WAY

- A. The right-of-way shall be measured from lot line to lot line and shall be sufficiently wide to contain the roadway, curbs, sidewalks, utilities, graded areas and shade trees, if required.
- B. The right-of-way of a new street that is a continuation of an existing street shall in no case be continued at a width less than that of the existing street.
- C. The right-of-way for roads shall be in accordance with the major thoroughfare plan, and shall provide for future development.

Table 1007: Right-of-Way Standards by Types of Road

Street Type	R-O-W Width (feet)	Street Type	R-O-W Width (feet)
Major Arterial	100-300	Local Street/Road	50-60
Minor Arterial	50-100	Access Street	28-36
Major Collector	50-70	Alley	30
Minor Collector	50-60	Cul-de-Sac	50
Local Industrial	60-80		

**SECTION
1008**

SPECIAL STREET TYPES

The following requirements shall apply to special street types:

- A. **One way streets:** One-way streets are permitted in new subdivisions if the Planning Commission determines that such streets are properly integrated with the existing and proposed street system in the area.
- B. **Permanent dead-end streets** shall not be permitted. Temporary dead-end streets shall be permitted only as a segment of a continuing street plan subject to extension into undeveloped acreage. Temporary dead-end streets shall extend to the boundary of such undeveloped acreage and shall be provided with an interim turnaround satisfactory to

the Planning Commission in design. The Planning Commission shall reserve the right to limit the length of such a dead-end street based on principles of proper planning, and the Planning Commission may require a street along the boundary between a proposed subdivision and the undeveloped acreage to provide for future development.

- C. Cul-de-sac streets** shall not exceed a length of seven hundred (700) feet in length for medium to high density traffic and 1,000 feet for low density traffic. The terminus may be circular with a minimum driving surface radius of forty (40) feet measured from a point on the street center line. Other termini types, such as “T”s or vegetated islands, are acceptable and subject to review and approval by the City Engineer and Planning Commission. Cul-de-sacs may exceed 1,000 feet with an intermediate turnaround depending upon the total number of lots served by the road.
- D.** The dedication of new **half-streets** shall not be permitted. If a parcel to be subdivided exists adjacent to a dedicated or platted and recorded half-width street or alley, the other half-width of such street or alley falling within the proposed subdivision shall be platted, provided that in the opinion of the Planning Commission such right-of-way is necessary for the proper development of the area.
- E.** Where a subdivision adjoins an arterial street, a **marginal access street** shall be designed to control access from lots fronting on it. Points of access to the arterial street shall be spaced at a minimum of thirteen hundred twenty (1320) feet. A planting strip having a minimum width of twenty (20) feet shall be provided between the pavement of the marginal access street. The minimum width of the marginal access right-of-way shall be fifty (50) feet. In addition, the Planning Commission may also require the provision of buffer planting strips, the platting of loop streets or cul-de-sacs connected to such parallel streets, or any combination thereof.
- F. Easements or reserve strips controlling access to streets** shall be prohibited except where deemed necessary by the Planning Commission and where their control is definitely placed with the city.
- G.** In subdividing land along existing streets or roads and within a proposed subdivision, provisions for the dedication of land for one or more access streets to undeveloped land not fronting on an existing street or road shall be incorporated. Said access streets shall be spaced not less than eight hundred (800) feet, nor more than one thousand four hundred (1,400) feet apart.
- H. Alleys** may be approved in residential subdivisions when justified by subdivision street design, to provide vehicular access to parking areas. Alleys may be approved in commercial and industrial subdivisions if no other provisions can be made for adequate service access. The minimum right-of-way widths for alleys shall be thirty (30) feet and they shall be dedicated to the public.
- I. Alley intersections** and sharp changes in alignment shall be avoided, but, where necessary, corners shall be cut off sufficiently to permit safe vehicular movement.
- J. Dead-end alleys** shall be avoided where possible but, if unavoidable, shall be provided with adequate turnaround facilities at the dead-ends as determined by the Planning Commission.

**SECTION
1009**

STREET DESIGN STANDARDS

The design and improvement standards contained in Table 1009.1 are minimums for all local streets and collector streets in residential subdivisions.

Table 1009.1: Street Design Standards for Local and Collector Streets

Terrain Classification	Local Street		Collector Street	
	Level	Rolling	Level	Rolling
Right-of-way (ft)	50*	50*	60	60
Pavement Width	24	24	36-40	36-40
Minimum Stopping Sight Distance (ft)	200	150	250	200
Maximum Grade	4%	8%	4%	8%
Maximum Spacing when intersected with an arterial (ft)	-	-	1,320	1,320
Maximum Center Line Radius of Streets with an angle of turn of:				
(1) Between 80 and 100	50	50		
(2) Less than 80 or more than 100	200	200		
Minimum Center Line Radius	250	175	350	350

* A utility easement ten (10) feet in width may be required along each side of the street right-of-way for these streets.

Note: Exceptions to the standards contained in this table are permitted under certain conditions for large lots.

The design and improvement standards contained in Table 1009.2 are minimums for all cul-de-sac and loop type local streets in residential subdivisions. Cul-de-sacs are required whenever a street is intended to be permanently dead-ended.

Table 1009.2: Street Design Standards for Cul-de-Sacs and Loop-Type Streets

Terrain Classification	Level	Rolling
Right-of-way (ft)	50*	50*
Pavement Width	24	24
Minimum Stopping Sight Distance (ft)	200	150
Maximum Grade	4%	8%
Maximum cul-de-sac length	1,000 (50%)	1,000 (50%)
Maximum cul-de-sac radius (row)	50	50
Maximum cul-de-sac radius (pavement)	40	40
Maximum Center Line Radius of Streets with an angle of turn of:		
(1) Between 80 and 100	50	50
(2) Less than 80 or more than 100	200	200

*A utility easement ten (10) feet in width may be required along each side of the street right-of-way for these streets.

**SECTION
1010**

INTERSECTION DESIGN STANDARDS

- A.** The design and improvement standards for intersections are suggested minimums for all street intersections in subdivisions. All such intersections shall be designed and constructed in accordance with standards as specified in Table 1010.

Table 1010: Intersection Design Standards

Terrain Classification	Level	Rolling
Maximum Approach Speed (mph)	25	25
Clear Sight Distance (ft, length along each approach leg)	90	90
Vertical Alignment with Intersection	Flat	2%
Minimum Angle of Intersection Streets	90 degrees	90 degrees
Minimum Curb Radius (ft)		
a. local-local	25 – all classes	25 – all classes
b. local-collector	25 – all classes	25 – all classes
c. collector-collector	30 – all classes	30 – all classes
d. collector, marginal access-arterial	35 – all classes	35 – all classes
Minimum Centerline Offset of Adjacent Intersection (ft)		
a. local-local	125 – all classes	125 – all classes
b. local-collector	150 – all classes	150 – all classes
c. collector-collector	200 – all classes	200 – all classes
d. collector, marginal access-arterial	1,320 – all classes	1,320 – all classes

- B.** Multiple intersections involving junctions of more than two (2) streets shall not be permitted.
- C.** Proposed streets shall intersect one another as nearly at right angles as topography or other limiting factors will permit. No intersection of streets on angles less than seventy-five (75) degrees shall be approved unless justified by extreme topographical conditions. In such a case, special provisions as deemed necessary by the Planning Commission shall be made.
- D.** Low points which would result in water ponding or poor visibility shall not be permitted.
- E.** All Streets intersecting other streets shall either intersect directly opposite to each other, or shall be separated by at least a one hundred-fifty (150) foot offset between centerlines, measured along the centerline of the street being intersected.
- F.** All Street intersections shall be located at least one hundred-fifty (150) feet from the right-of-way of any railroad, measured from the center point of the intersection to the railroad right-of-way line nearest the intersection.

**SECTION
1011**

STREETS FOR COMMERCIAL SUBDIVISIONS

Streets serving business developments and accessory parking areas shall be planned to connect with arterial streets so as not to generate traffic on local streets. The intersection of driveways from parking areas with arterial or collector streets shall be located so as to cause the least possible interference with traffic movement on the streets, and shall be located not less than one hundred (100) feet from the intersection of an arterial or collector street with any other street, and shall be located not less than one hundred (100) feet from the intersection of an arterial or collector street with any other street, and shall be spaced not less than two hundred (200) feet from each other. The Planning Commission may require marginal access streets to provide maximum safety and convenience.

**SECTION
1012**

STREETS FOR INDUSTRIAL SUBDIVISIONS

Collector streets for industrial subdivisions shall be planned to serve industrial areas exclusively and shall connect with arterial streets so that no industrial traffic will be directed into any residential streets. The intersections of service streets from parking areas, with arterial or collector streets shall not be less than one hundred (100) feet from the intersections of the arterial or collector street with any other street. Streets shall be planned to be extended to the boundaries of any adjoining land planned for industry, except if severe physical conditions prevent this or if the Planning Commission finds such extension is not in accord with the approved plan of the area.

**SECTION
1013**

DRIVEWAYS

- A.** A private driveway may be used to provide vehicular access to no more than four single family detached dwelling units. The Planning Commission may require passing lanes, turnarounds, and overhead and width clearances as necessary to accommodate fire and emergency vehicles. A homeowner's association shall be formed to provide for the long-term maintenance of any private access way. Common driveways shall have a maintenance agreement acceptable to the Planning Commission. Any driveway serving more than four (4) single-family dwelling units shall be considered a street and shall be designed and constructed according to these Regulations.
- B.** Access roads or vehicular ways within subdivisions containing single-family attached dwelling units or multifamily dwellings shall be considered streets and designed and constructed according to these Regulations.
- C.** When adequate frontage is available on a non-limited access highway, two driveways to a property used for a single purpose may be permitted.
- D.** Driveways should have a maximum grade of (15) percent. Driveways and curb cuts shall be located not less than three (3) feet from the side lot line. Curb cuts for straight curbs and the flare for rolled curbs shall be three (3) feet wider than the driveway on each side. The subdivider or developer shall place the approved drainage structures under

intersecting roads, drives, lanes or property entrances and at other locations where required.

E. In all areas where open ditch drainage is allowed, all driveway culverts shall be furnished and installed by the Sub-divider. Required sizes of driveway culverts shall be shown on the construction plans for the Subdivision.

F. Driveways shall be designed so as to drain into the roads ditch and not into the roadway surface. Smooth transitions of driveways must be done not to impede drainage.

**SECTION
1014**

ACCELERATION, DECELERATION, AND TURNING LANES

A. Deceleration or turning lanes will be required where the proposed subdivision will intersect a major street or an arterial unless determined unnecessary by the City Engineer.

B. Deceleration lanes shall be designed to the following standards:

1. The lane width shall be the same as the required width of the roadway moving lanes.
2. The lane shall provide the full required land width for its full length. It shall not be tapered.
3. The minimum lane length shall be as follows:

Table 1014: Deceleration Lane Length

Design Speed of Road	Minimum Deceleration Lane Length
30 mph	165 feet
40 mph	230 feet
50 mph	310 feet

C. Acceleration lanes are only required when indicated as needed by a traffic impact study. The design shall be as per the recommendation of the City Engineer. Where needed, a paved taper shall be provided for right hand turns.

**SECTION
1015**

SIDEWALKS AND GRADED AREAS

A. Sidewalks may be required in all subdivisions. Where the average lot line frontage is 100 feet or less, sidewalks may be required on both sides of the street. Where the average lot line frontage is greater than 100 feet, sidewalks may only be required on one side of the street. Where the average lot line frontage is greater than 150 feet, sidewalks may not be required. Such determination shall be made by the approval authority for the proposed development (Planning Director for minor subdivisions, Planning

Commission for major subdivisions), and may be appealed to the Board of Aldermen as described in Section 204.

B. In conventional developments, sidewalks shall be placed in the right-of-way, parallel to the street, unless an exception has been permitted to preserve topographical or natural features or to provide visual interest, or unless the applicant shows that an alternative pedestrian system provides safe and convenient circulation. In commercial and in high-density residential areas, sidewalks may abut the curb.

C. Pedestrian-way easements ten (10) feet wide may be required by the Planning Commission through the center of blocks to provide circulation or access to schools, playgrounds, shopping or other community facilities.

D. Sidewalks shall measure four (4) feet in width; wider widths may be necessary near pedestrian generators and employment centers. Where sidewalks abut the curb and parked cars overhang the sidewalk, widths shall be five (5) feet. The width of graded areas shall be the same as for sidewalks.

E. All sidewalks shall meet the requirement of the *Americans with Disabilities Act*.

F. Sidewalks cross slope shall not exceed 2%, and the running slope shall not exceed 5%.

G. Curb ramps shall be installed at all roadway intersections and designated pedestrian crossings. Ramps shall be installed in accordance with the *Mississippi Department of Transportation's standard detail sheet – working number SDCCR-1, latest revision*.

H. Sidewalks and ramps shall be constructed in accordance with the *Federal Highway Administration publication, "Accessible Sidewalks and Street Crossings – An Internal Guide", FHWA-SA-03-019*.

I. Sidewalks and graded areas shall be constructed according to the specifications set forth in these Regulations.

J. Public sidewalks may be required for commercial and industrial lots. Such determination shall be made by the approval authority for the proposed development (Planning Director for minor subdivisions, Planning Commission for major subdivisions), and may be appealed to the Board of Aldermen as described in Section 105.

SECTION 1016

CULVERTS and BRIDGES

Where natural drainage channels intersect any street right-of-way, it shall be the responsibility of the subdivider to have satisfactory bridges and/or culverts constructed. Where culverts are required, minimum requirements shall be observed as follows:

A. All culverts shall extend for an adequate distance to accommodate the required roadway embankment slopes. The cover over the culvert and its capacity shall be determined by the developer's professional engineer and approved by the City Engineer. The minimum diameter of the culvert pipe shall be eighteen (18) inches. Depending on the existing

drainage conditions, head walls may be required. Where driveway culverts are wholly or partially in the street right-of-way, they shall have a minimum length of twenty (20) feet and minimum diameter of fifteen (15) inches. The driveway culverts shall be laid so as to maintain the flow lines of the ditch or gutter.

- B. Culverts shall be designed in accordance with the *Mississippi Department of Transportation Design Manual* along with *HDS #5, Publication No. FHWA-NHI-01-020*.

SECTION
1017

STREET IMPROVEMENTS

All streets and thoroughfares shall be graded to their full width, including side slopes, and improved in conformance with the standards given or referred to in these Regulations. These standards are considered minimum and are subject to change where deemed necessary. All materials and construction procedures shall be in accordance with the *MDOT Construction Manual*.

SECTION
1018

STREET WIDTH

Minimum street pavement widths shall conform to the standards of these Regulations. Where pavement widths greater than those specified are deemed necessary by the City Engineer and approved by the Planning Commission, the subdivider shall bear the extra cost of providing the width beyond the requirements of these Regulations.

SECTION
1019

STREET SUBGRADE

Soil borings shall be obtained by the developer from a licensed Geotechnical firm of sufficient quantity to identify the soil characteristic of the road subgrade. Soil borings will be required every 300 feet along the proposed centerline of any proposed roadway and will also be required at the center of every proposed cul-de-sac. In addition, soil borings will be taken at minimum depths of eight (8) feet below ground and will be required at the entrance of the proposed subdivision and at all low areas. A report shall be included recommending the methods to be used for the street design.

SECTION
1020

STREET BASE COURSE

The developer has the option of using any of the following base courses, based on recommendations of the City Engineer as to soil and traffic conditions: aggregate, bituminous aggregate, asphalt, concrete, or equally suitable base course. Thickness shall be determined by the Developer's Geotechnical Engineer and approved by the City Engineer, and Road Manager, based upon the physical properties of the base course used and the physical properties of the roadbed.

**SECTION
1021**

STREET CONSTRUCTION DESIGN

- A. The subdivider shall construct streets including all grubbing, grading, laying of sub-base, base, pavements, curbs and gutters, culverts, bridges, storm sewer mains, and structures in accordance with the *MDOT standards*. The design of the work shall be submitted to the City Engineer and the Road Manager prior to the construction of the work.
- B. All pavement or surfacing designs shall be based on a twenty (20) year life and must be approved by the Planning Commission before any construction is undertaken to insure adequate design for the existing soil conditions and proposed use to which it is to be subjected. Design calculations for the road surfacing and base shall be submitted to the City Engineer, and Road Manager for approval.

**SECTION
1022**

HOT MIXED ASPHALT STREETS

- A. Design thickness for combined surface and base material shall be based on the subgrade condition, the ADT factor and the magnitude of equivalent 18,000 pounds axle load where estimated ADT of 100 vehicles per day.
- B. Design guides provided by the *AASHTO, National Asphalt Pavement Association* and the *Asphalt Institute* shall be used.
- C. Surface material shall be at least three inches (3") in thickness. Base material may consist of soil cement, limestone, clay gravel, crushed gravel, or hot mix asphalt base and shall extend a distance of one (1) foot beyond the curb limit. The design mix of the asphalt shall conform to local accepted material or according to Mississippi Department of Transportation specifications.

**SECTION
1023**

STREET CURBS AND GUTTERS

The requirements for curbs and gutters will vary according to the character of the area and the density of development. In areas with substantial flash flooding or heavy rain runoff, curbs shall be required on all streets designed for areas where the existing or anticipated residential density of the area surrounding the proposed subdivision equals or exceeds three (3) dwelling units per net acre. In commercial developments, or where other similar intensive urban uses exist or are anticipated, curbs shall be required. Where curbs exist on abutting properties, their extension shall be required throughout the proposed subdivision. Curbs and gutters shall be constructed in conformance with the current *Constructions and Material Specifications of the State of Mississippi Department of Transportation*.

**SECTION
1024**

OPEN DITCHES AND SLOPES

Open ditch construction for roadside drainage shall be permitted in areas zoned A and R-1, and constructed according to Mississippi Department of Transportation specifications. Minimum depth of ditches shall be two (2) feet below the edge of pavement, and one (1) foot minimum at top of hill and toe of bank. All ditches shall be protected against erosion. The designer shall utilize the *Federal Highway Administration Hydraulic Engineering Circular No. 15 (HEC 15)* to calculate and determine channel lining requirements for all proposed roadside ditches and open channels. Concrete linings will be required in areas determined by the City Engineer and the Road Manager. All open ditches will be concreted or curb and gutter with storm drain will be required.

**SECTION
1025**

ENTRANCE DESIGN STANDARDS

- A. Any private street with an access control gate shall have a minimum uninterrupted pavement width of twenty-four (24) feet at the location of the access control device. All restricted access gates shall be approved by the particular Fire Department servicing the area and meet access requirements for emergency vehicles.
- B. Overhead barriers shall not be allowed.
- C. Internal storage for three (3) vehicles shall be provided between the right-of-way line and the point of the access control device. An additional setback between the point of the access control device and the access gate shall be required to allow a vehicle which is denied access to safely turn around and exit onto a public street.
- D. On lots adjacent to access gates, screening walls may exceed thirty (30) inches in height, up to a maximum of eight (8) feet within the front yard setback of the adjacent lot.