

ARTICLE

8

Subdivision Design/Improvements

8.1 Applicability of article

This article shall apply to all development (residential, commercial, industrial, etc.) for which approval is required pursuant to Article 3, Development review procedures.

8.2 Streets

A. Street classification

1. The Planning Commission will review the street system for the proposed subdivision and classify all proposed streets as provided in Section 8.2.A.2 below.
 - a. Street classification shall be based on the projected volume of traffic to be carried by the street.
 - b. The number of dwelling units to be served by the street may be used as an indicator of the traffic volume but is not conclusive
 - c. Whenever a subdivision street continues on an existing street or is expected to extend beyond the subdivision at some future time, the classification of the street will be based upon the street in its entirety, both within and outside of the subdivision.

2. Street types:

a. Collector street

A street that carries traffic between local streets and major and minor thoroughfare streets and may also provide direct access to abutting properties. It is typically the principal entrance street to a subdivision. The city may require a collector street to meet continuation or connectivity requirements. Streets that carry traffic from local streets to arterial streets or highways, including the principal entrance streets to the subdivision.

b. Local street

Streets that are used primarily for access to abutting properties.

c. Cul-de-sac street

A short street having one end open to traffic and the other permanently terminated by a vehicular turn-around.

d. Alley

A public vehicular way used for providing service access along the rear or side property lines of lots which are also served by one of the previously listed street types.

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Alleys are not intended to accommodate through traffic.

- e. Access easement
Access easements are intended to provide connections to landlocked properties created prior to the adoption of the 2000 City of Wiggins Land Development Code.
- f. Frontage road
A street that is parallel to and adjacent to a major or minor thoroughfare street and that is designed to provide access to abutting properties.

B. Access to public streets

1. All subdivisions must be surveyed and laid out in such a manner that each and every lot intended for sale abuts a dedicated public street or road.
2. In order to accommodate emergency and service vehicles the following standards shall apply:
 - a. for subdivisions with greater than 75 lots a second primary access will be required
 - b. no more than 75 certificates of occupancy may be issued within a subdivision until the required second access has been constructed
 - c. subdivisions of 250 or more lots shall provide a third primary access
3. For access in industrial subdivisions any primary access entrance onto existing streets shall be designed so turning movements of anticipated vehicle traffic will not encroach onto opposing travel lanes.
4. The access easement classification is intended for landlocked lots only; nothing in this section is intended to allow approval of new lots with easement frontage and access only.

C. Sight triangle

All streets connections and intersections within subdivisions, including the primary access entrance, must have a 10' X 70' sight triangle as depicted in Article 7.7. Nothing shall be erected, placed, planted

or allowed to grow that will impede vision within the sight triangle.

D. Driveway entrances on to public streets

1. For public safety, all lots within the subdivision shall be accessed internally and shall not create driveway connections for individual lots to existing streets adjacent to or fronting on the proposed subdivision.
2. All commercial or industrial development shall require a paved driveway.

E. Coordination with surrounding streets

The proposed street system within subdivisions must be coordinated with the existing, proposed and anticipated street system of the City of Wiggins and conform to the City's Transportation Plan.

F. Construction standards and specifications

Any construction standard and/or specification not specifically stated in this ordinance shall be determined by the City Engineer. The geometric layout of all streets shall meet or exceed current MDOT requirements.

1. Typical Sections

- a. Curb and Gutter Streets
See Exhibit 8-1 or for a larger version, see Appendix K.
- b. Open Ditch Streets
See Exhibit 8-2 or for a larger version, see Appendix K.
- c. Connection to Existing Roadway
See Exhibit 8-3 or for a larger view, see Appendix K.
- d. Intersections
See Exhibit 8-4 or for a larger view, see Appendix K.
- e. Cul-de-sac Bulbs
See Exhibit 8-5 or for a larger view, see Appendix K.

Exhibit 8-1 Typical Street Section with Curb and Gutter

CURB & GUTTER STREET MINIMUM REQUIREMENTS

STREET TYPE	A	B	C	D	E	F	G
RESIDENTIAL LOCAL	50'	27'	23'	5'	11.5'	1.5'	One Side
RESIDENTIAL COLLECTOR	60'	33'	29'	5'	13.5'	3.5'	Both Sides
COMMERCIAL/INDUSTRIAL LOCAL	60'	35'	31'	5'	12.5'	2.5'	One Side
COMMERCIAL/INDUSTRIAL COLLECTOR	70'	40'	36'	5'	15'	5'	Both Sides

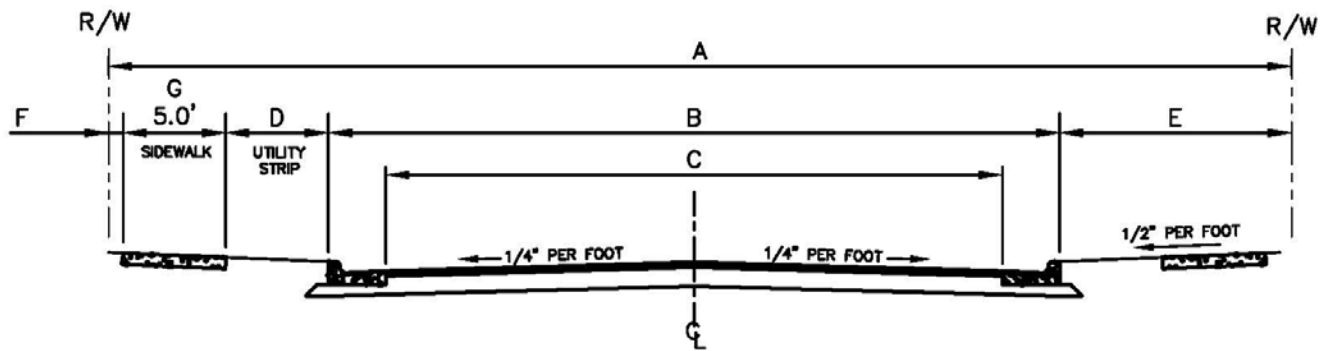


Exhibit 8-2 Typical Street Section with Open Ditch

OPEN DITCH STREET MINIMUM REQUIREMENTS

STREET TYPE	A	B	C	D	E	F
RESIDENTIAL LOCAL	50'	30'	22'	4'	6'	4'
RESIDENTIAL COLLECTOR	60'	32'	24'	4'	9'	5'
COMMERCIAL/INDUSTRIAL LOCAL	60'	38'	30'	4'	7'	4'
COMMERCIAL/INDUSTRIAL COLLECTOR	70'	46'	36'	4'	8'	5'

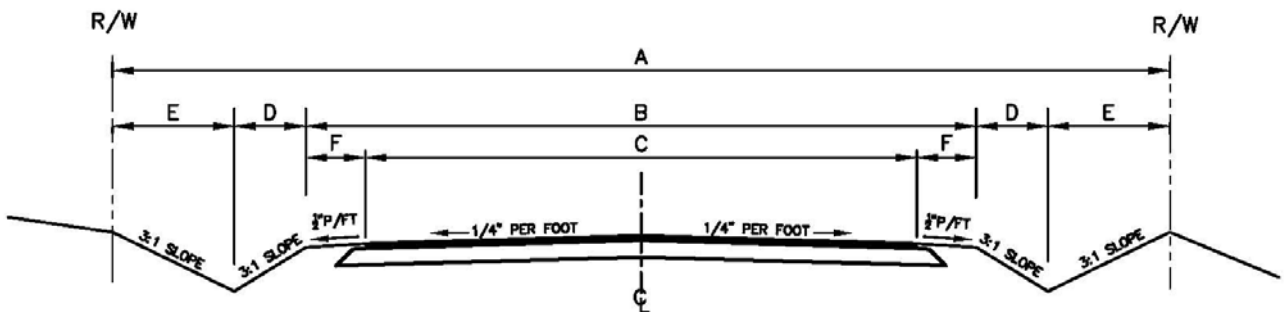


Exhibit 8-3 Connection to Existing Roadway-Typical Road Connection

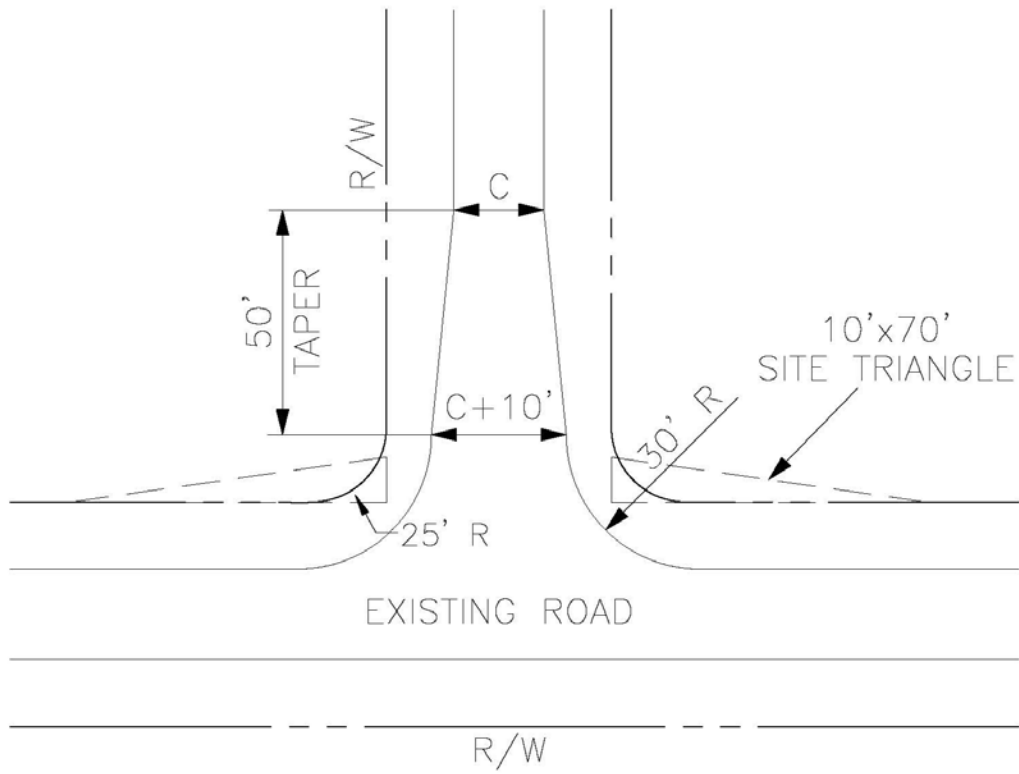


Exhibit 8-4 Intersections-Typical Street Intersection

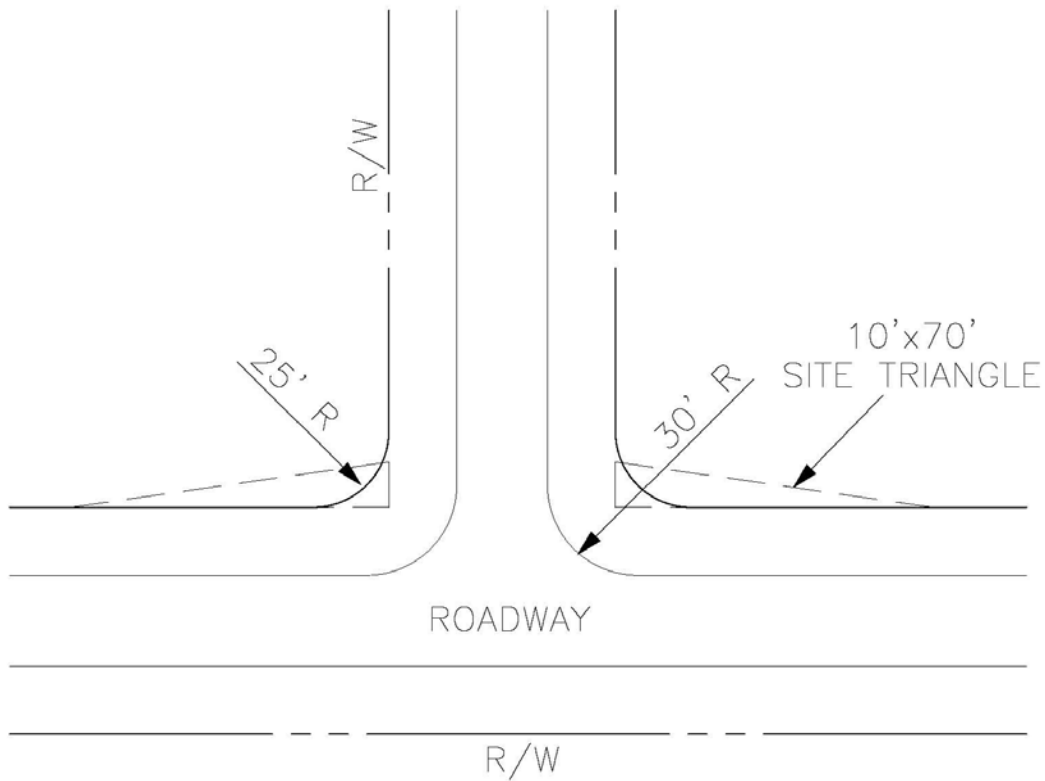
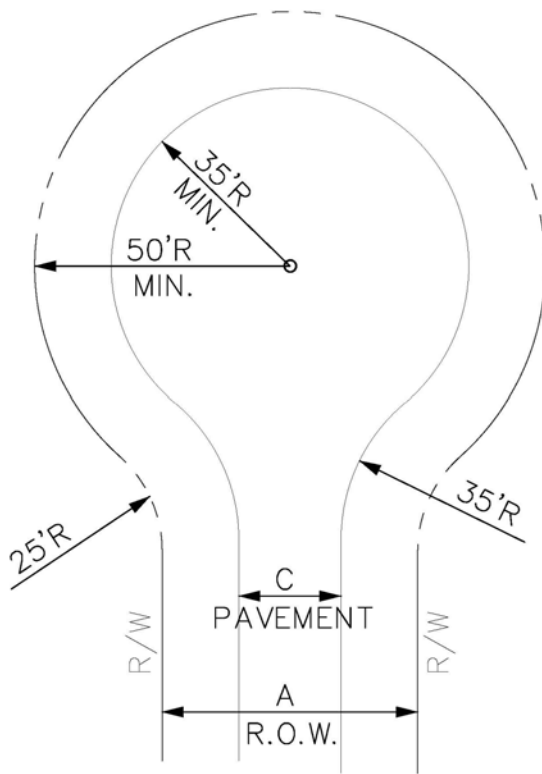


Exhibit 8-5 Cul-de-Sacs-Typical Cul-de-Sac Bulb



2. Pavement Design

a. A minimum compaction of 95% of a standard proctor density is required on the subgrade and 100% on the base. Density test by a MDOT or equivalent licensed testing firm will be required and results are to be submitted to the City Engineer for approval.

b. The minimum pavement design thickness for collector, local, and cul-de-sac streets and alleys must be in accordance with a geotechnical report from a licensed testing firm. One of the following typical designs may be used if it meets the minimum requirements of the geotechnical report:

- (1.) A six (6) inch sand-clay topping and a six (6) inch clay-gravel base. The wearing surface must be a two (2) inch hot mix.
- (2.) An eight (8) inch clay-gravel base. The wearing surface must be a two (2) inch

hot mix.

- (3.) A four (4) inch bituminous pavement (black base). The wearing surface must be an additional one and one-half (1-1/2) inch hot mix.

G. General layout of streets

1. All design, construction, and materials must conform to the appropriate sections or subsections of the current Mississippi Standard Specifications for State Aid Road and Bridge Construction.
2. If curb and gutter are installed, they must meet the specifications recommended by the City Engineer.
3. The arrangement of streets in a subdivision must either provide for the continuation of existing principal streets in surrounding areas, or conform to a plan for the neighborhood as a whole that has been devised to meet an unusual situation such as topography or other conditions that make continuation of existing streets impractical. Such a neighborhood plan must be prepared by the developer and is subject to approval by the Board of Aldermen.
4. The proposed street system should provide street stubs to adjacent tracts of land that are not currently developed and make connections to existing street stubs of adjacent properties.
5. No trees or shrubs will be permitted to be planted at street intersections, however, controlled planting of shrubs and trees on public property, provided that plantings do not interfere with proper drainage and maintenance or obstruct vision required for public safety, may be permitted.
6. Proposed intersections of streets shall coincide with existing or proposed intersections on the opposite side of the street. Where this can not be achieved, the distance between centerlines of the intersecting streets shall not be less than 125 feet unless the City Engineer concludes that a shorter distance will not jeopardize public safety.

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7. A tangent of at least 100 feet must be introduced between reverse curves on collector streets. Horizontal curves on collector streets must have a minimum of a 350 foot radius computed from the centerline. Horizontal curves on local streets must have a minimum of a 250 foot radius computed from the centerline.
 8. Streets must be laid out so as to intersect as nearly as possible at right angles, and no street may intersect any other street at less than sixty (60) degrees.
 9. Property lines at street intersections must be rounded with a radius of 10 feet or with a greater radius when the Land Code Administrator deems it necessary. The Land Code Administrator may require comparable cutoffs or chords in place of rounded corners. A comparable chord shall be considered a chord or line connecting the points of tangency of the radius it is replacing.
 10. Half streets will be prohibited in such cases where there exists a half-street contiguous thereto. Wherever a half-street is adjacent to a tract to be subdivided, the other half of the street will be platted within such tract.
 11. Permanent dead-end streets must not be longer than 1,000 feet and must be provided at the closed end with a turnaround having a paved surface diameter of at least 70 feet and a street line diameter of at least 100 feet.
 12. No street names may be used which will duplicate or be confused with the names of existing streets. Street names should be cleared with the E-911 Address Systems office before being used. Street names will be subject to the approval of the Board of Aldermen.
 13. Street grades of local streets must not exceed ten percent (10%) or be less than five-tenths (0.5) of one percent (1%). Street grades of collector streets and major thoroughfares must not exceed seven percent (7%). Grades approaching intersections must not exceed percent (5%) for a distance of not less than 85 feet from the centerline of said intersecting streets.
- H. Blocks and alleys
1. Blocks
 - a. The lengths, widths, and shapes of blocks should be determined with due regard to:
 - (1.) building sites that are suitable for the special needs of the uses contemplated
 - (2.) convenient access, circulation, control and safety of street traffic
 - (3.) limitation and opportunities of topography
 - b. As a usual practice, block lengths should not exceed 1,600 feet or be less than 400 feet.
 2. Alleys
 - a. Alleys must be provided in commercial or industrial subdivisions, except that the Land Code Administrator, following consultation with the Planning Commission, may recommend waiver of this requirement where other definite and assured provisions are made for service access, such as off-street loading and parking consistent with and adequate for the uses proposed.
 - b. The right-of-way width of an alley in commercial and industrial areas must be a minimum of 25 feet.
 - c. Alley intersections and sharp changes in alignment should be avoided, but where necessary, corners may be cut off sufficiently to permit safe vehicular movement.
 - d. Dead-end alleys should be avoided where possible, but if unavoidable, must be provided with a turnaround having an outside roadway diameter of at least 70 feet and a right-of-way diameter at least 100 feet. The Land Code Administrator and the Planning Commission may recommend to the Board of Aldermen a larger turnaround when it is determined necessary to provide adequate turnaround space.
 - e. Alleys are not required in residential areas.

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- I. Public streets
All streets in subdivisions serving more than three lots shall be constructed to the City of Wiggins standards and shall be offered as a public street dedication to the city. The recording of the subdivision plat shall clearly indicate a street to be public and will constitute an offer of dedication of the streets.
- J. Private streets
1. A new subdivision shall be served by a private road where it contains three lots or less. All private roads shall be constructed to the City of Wiggins public street standards. The recording of the subdivision plat shall clearly indicate a street to be private.
 2. The initial purchasers of a newly created lot served by a private road shall be furnished by the seller with a disclosure statement outlining the maintenance responsibilities for the road.
 3. All private roads shall be maintained in accordance with the City of Wiggins standards.
 4. Where private roads are later made public through dedication to the City of Wiggins, such roads shall be brought up to public street standards, including maintenance, prior to their acceptance by the city.
- K. Curb and gutter requirement
1. All public streets within the City of Wiggins or any annexed properties shall be constructed with curb and gutter in accordance with this land development code except in the A-R District.
 2. The Board of Alderman reserves the right to require road widening and the installation of curb and gutter along the side of the street upon which the property fronts based on the City of Wiggins Transportation Plan.
 3. The Board of Alderman may allow non curb and gutter street construction in residential projects developed at a density of one dwelling unit per one (1) acre where city water and sewer service can not be provided, or at a density of one (1) dwelling unit per three-quarter (0.75) acre where only one (1) city service (water or sewer) can be provided.
- L. Sidewalk requirement
Where curb and gutter streets are required, the developer of any subdivision shall be required to construct a sidewalk in the public right-of-way and along every street upon which the property fronts and along every new street within the development according to the following criteria:
1. public sidewalks shall be constructed on both sides of a street designated as a collector and on one (1) side of a street designated as a local or cul-de-sac street
 2. public sidewalks in all developments shall be at least five (5) feet in width
 3. public sidewalks shall be constructed according to the City of Wiggins standards
- M. Attention to handicapped in street and sidewalk construction.
All street and sidewalk construction shall conform to ADA standards for Accessible Design for handicap accessibility requirements.
- N. Monuments
1. Monuments must be placed at all major corners along the boundary of the subdivision. These monuments should consist of a four (4) inch by four (4) inch concrete post not less than 30 inches in length.
 2. Markers must be placed at all corners or changes in alignment in lot boundaries and at all block corners, angle points, or curves in street right-of-way boundary lines. The markers should

8.2 Streets

consist of a reinforcing rod or iron pipe of not less than one-half (1/2) inch in diameter and not less than 24 inches in length.

3. All monuments or markers should be set with the top flush with the finished grade. When necessary to prevent disturbance, the monument should be sunk underground and referenced to permanent landmarks.
- O. Street names, street markers and house numbers
Street name signs and traffic signs shall meet the City of Wiggins standards. The developer will be responsible to provide and install all required signage.

8.3 Utilities

A. General

1. All services for utilities must be made available for each lot in such a way that will eliminate disturbing the street pavement and drainage structures when connections are made.
2. Where possible, no utilities including water, sewer, power, gas, cable television, or telephone lines shall be laid under the planned paved roadway.
3. Utilities shall be located either in the road right-of-way away from the paved surface or in utility easements.
4. [All power shall be provided underground from the easement or right-of-way.](#)

B. Sewer disposal

1. Sanitary sewer facilities will be provided in all subdivisions wherever it is legally possible and practicable and must conform to all applicable state and local laws pertaining to sewage collection and treatment.
2. In the event the proposed subdivision is near or adjacent to an existing sewer system, every effort should be made by the developer to connect the sewer system of the proposed subdivision with that of the existing system. If the proposed subdivision abuts any municipal or utility district or if the subdivision is to be

connected to a municipal or other existing system, the sewer system within the subdivision must conform to the specifications required by that existing system or municipality as if the subdivision were within its legal bounds. In any event, the sewer system constructed within the subdivision must at least meet the minimum requirements of these regulations.

3. All sewer pipe must be concrete, vitrified clay, cast iron, plastic, or other type approved by the [City Engineer](#). Sewer pipe installed with trench depth up to and including 10 feet will be standard strength, and for trench depth greater than 10 feet, extra strength pipe must be used.
4. The minimum diameter pipe for sanitary sewers is eight (8) inches. Minimum diameter service pipe for house connection is four (4) inches for single-family dwellings and six (6) inches for multi-family dwellings. House connections must be stubbed out to each property or lot line before street construction and plugged with extended sewer stub marker tape from pipe to surface.
5. All joints must be either gasket joint or other type as approved by the Land Code Administrator.
6. Exhibit 8-6 shows the minimum slopes that will be allowed, however, slopes greater than these are desirable
7. Manholes must be no more than 400 feet apart, must be placed at each change in alignment or grade, and must be provided with traffic-grade cast iron lids and frames.
8. There is a minimum 10 foot separation between all parallel sanitary sewer and water mains, except as otherwise approved by the [City Engineer](#).
9. Any sewer mains exposed through ditches must be Class 150 cast iron for mains, or cast-iron soil pipe for services.
10. Infiltration in any section of sewer main must not exceed 300 gallons per inch of pipe diameter, per mile, per day.

Exhibit 8-6 Minimum Slopes for Sewer Disposal

Sewer Size (100) Feet	Minimum Slope in Feet Per One Hundred
8-inch	0.400
10-inch	0.280
12-inch	0.220
14-inch	0.170
15-inch	0.150
16-inch	0.140
18-inch	0.120
21-inch	1.100
24-inch	0.080
27-inch	0.067
30-inch	0.058
36-inch	0.046

11. In the event that oversize sewer mains must be installed within the proposed subdivision to serve other areas, appropriate arrangements for construction must be made between the subdivider and the city prior to installation.

C. Water supply

1. A water distribution system shall be provided in all subdivisions wherever it is legally possible and practicable and must conform to all applicable state and local laws pertaining to water supply.
2. All dead-end mains must be equipped with an approved outlet sufficient to periodically flush the main.
3. The water system should be designed so that the calculated pressure within the system, at maximum use flows, is not less than 20 pounds per square inch at any curb stop.
4. If the City Engineer and Public Works Director determine that public water can not be provided by the City of Wiggins, individual water wells may be used. Written approval for individual wells must be obtained from the Stone County Health Department.

5. In the event that the proposed subdivision is located within or abuts an existing water district or association, the water system within the subdivision should be connected to such water district or association, and must conform to the specifications of such water district or association. The water system constructed within the subdivision must meet the minimum requirements of these regulations or the water district specifications, whichever is more restrictive.
6. In the event the proposed subdivision is near or adjacent to an existing municipal water system, but not within an existing water district or association, every effort should be made by the developer to connect the water system of the proposed subdivision with that of the municipality. If the proposed subdivision abuts any municipality and is outside an existing water association, or if the subdivision is to be connected to a municipal system, the water system within the subdivision must conform to the specifications required by that municipality as if the subdivision were within the corporate limits of such a municipality. In any event, the water system constructed within the subdivision must meet the minimum requirements of these regulations.
7. Every development, subdivided or un-subdivided, shall include a system of fire hydrants sufficient to provide adequate fire protection for the building or buildings to be located within the development. In subdivisions with a water system designed for fire protection, the materials for the water mains must conform to the following requirements:
 - a. Ductile Iron Pipe
Ductile iron pipe must have minimum diameter of six (6) inches and conform to the latest revisions of the American Water Works Association (AWWA) specification C106 or C108, Class 150.
 - b. PVC Pipe
PVC pipe must have a minimum diameter of six (6) inches and must conform to the latest AWWA specification C900.

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8. The spacing and general location of hydrants shall be as follows:
 - a. In all zoning districts, there shall be at least one fire hydrant at each public street intersection;
 - b. In residential districts, the maximum distance between hydrants shall be 500 feet as measured along street centerlines.
 - c. In nonresidential zoning districts, the maximum distance between hydrants shall be 300 feet as measured along street centerlines.
 - d. All premises subject to the state building code with buildings located more than 500 feet from a fire hydrant system shall be provided with approved on-site fire flow hydrants and water mains capable of supplying the required fire flow required by the fire official or City Engineer.
 9. Services in subdivisions receiving water supply from existing municipalities or utility district must be in accordance with municipal or utility district specifications. In the event that the municipal or utility district specifications are less than those specified in these regulations, the requirements of these regulations will apply.
 10. Services in subdivisions not covered by Section 8.3.C.10 above must consist of the following:
 - a. A corporation stop must be provided at the main with three-fourth (3/4) inch flexible copper tubing or a high-molecular weight plastic tubing must run from the main to the lot line and terminate with a compatible curb stop.
 11. Hydrostatic tests must be performed on the new water system with a pressure of 150 pounds per square inch for 24 hours. Before any or all of the work is placed in service, the system must be disinfected and re-disinfected as necessary until chlorine levels are found to be consistent with the rest of the system and meet Mississippi State Board of Health standards as to bacteriological quality. Samples for the tests must be taken from remote parts of the system.
- D. Other utilities
 1. Electrical Power and Telephone Service

Every lot or principal use within a subdivision must have available to it a source of electrical power and telephone service cable adequate to accommodate the reasonable needs of such use or lot.
 2. Underground Utilities

All electrical power lines (not to include transformers or enclosures containing electrical equipment, which may be pad mounted), telephone, gas distribution and cable television lines in subdivisions shall be placed underground in accordance with the specifications and policies of the respective utility companies.
 - E. Storm drainage
 1. All subdivisions requiring curb and gutter streets shall also require a closed storm drainage system.
 2. Materials and construction must conform to Mississippi Standard Specifications for State Aid Road and Bridge Construction.
 3. Drainage Structures must be sized using the rational formula and calculated by a licensed engineer for the State of Mississippi. However, the minimum allowable design shall be a 25-year storm frequency or other design as recommended by the [City Engineer](#).
 4. Reinforced concrete headwalls or precast flared end sections must be provided on 18 inch pipe and larger. The minimum diameter for storm drain pipe must be 15 inches, and when used as a culvert the length must be such that the ends project at least four (4) feet beyond the edge of the pavement. Concrete culverts must be a minimum of Class III reinforced concrete. HDPE pipe may be used for driveway culverts.
 5. Outlet points of the enclosed drainage system should be located in natural drainage ways at the rear or back of lots unless environmental impacts are present.
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6. Adequate protection of ditch inverts and side slopes must be provided to prevent erosion.
7. Drainage facilities shall be designed to prevent damage to adjacent properties.
 - a. Accommodate upstream drainage areas
A culvert or other drainage facility shall in each case be large enough to accommodate potential runoff from the entire upstream drainage area, whether inside or outside the subdivision. The City Engineer shall approve the necessary size of the facility, based on the provisions of the construction standards and specifications assuming conditions of maximum potential watershed development.
 - b. Effect on downstream drainage areas
The Developer's Engineer shall also study the effect of each subdivision on existing downstream drainage facilities outside the area of the subdivision. Local drainage studies together with such other studies, as deemed appropriate, shall serve as a guide to needed improvements. Where it is anticipated that the additional run-off incident to the development of the subdivision will overload an existing downstream drainage facility, the Planning Commission may withhold approval of the subdivision until provisions have been made for the improvement of said potential conditions in such sum as the Planning Commission shall determine. No subdivision shall be approved unless adequate drainage will be provided to an adequate drainage watercourse or facility.

F. Easements

1. Easements across lots or centered on rear or side lot lines must be provided for utilities where necessary and must be at least 15 feet wide at ground level. An additional six (6) foot wide overhang is required on each side from 12 feet above ground and up, or a width designated by the Land Code Administrator.
2. Where easements intersect or sharp changes in

alignment are necessary, corners must be cut off sufficiently to permit equipment access as determined by the Land Code Administrator.

3. No fences, buildings or paving will be permitted in easements.
4. Any overhanging limbs, shrubbery, or vegetation of any kind may be removed from within the limits of easements at the sole discretion of the maintenance personnel of the utilities installed or to be installed in or above the easements.

8.4 Subdivision dedication requirements

1. Once all facilities and improvements to be dedicated to the city have been completed, an architect or engineer retained by the developer shall provide certification to the city that it has been constructed in accordance with the requirements of this ordinance. Any deficiencies must be corrected before consideration for acceptance by the Board of Aldermen.
2. All facilities and improvements to be dedicated to the city for public use shall be maintained by the owner until such offer is accepted by the appropriate authority.

8.5 As-built and improvement guarantee

Upon completion of construction of all required improvements, one set of complete "as-built" construction plans, dated, signed, and certified by the engineer in charge must be filed with the City Engineer and Land Code Administrator. These plans must depict all improvements as constructed and show all features as actually installed, including materials, size, location, depth or elevation, numbers, ends of lines, connections, valves, storm sewer drains, inlets, and all other pertinent information. There will be no connections made to utilities serving the subdivision until the foregoing has been complied with.