

ARTICLE THREE

SECTION 3.00 DESIGN STANDARDS, REGULATIONS AND REQUIRED IMPROVEMENTS FOR LAND DEVELOPMENT

3.01 Conformity

The proposed land development shall meet the following regulations and required improvements for land development. Also, they shall meet the State Health Department requirements. Unless specified, the following standards, regulations and required improvements apply to all land development and new extensions.

3.02 Fitness for Development

3.02.01 Flood Hazard Areas: A flood hazard area is one subject to a base flood as defined by the Federal Insurance Administration and as identified on its "Flood Hazard Boundary Map" as provided by FEMA. A copy of the map shall be displayed in the City Planning Office. The following regulations apply to flood hazard areas:

3.02.01.a No Plat of a land development shall be approved that contains lots or building sites in a flood hazard area unless the finished floor elevation of the lowest livable floor is at least two (2) feet above the level of the base flood.

3.02.01.b When a portion of a land development contains portions of flood hazard areas, they shall be clearly delineated on the Preliminary and Final Plats. No structures shall be construction in the areas designated as floodway. Construction in floodplain areas shall be described in 3.02.01.a

3.02.01 Based on topographic maps, soil surveys prepared by the U. S. Department of Agriculture, and drainage information, the Planning Commission may require that steep grades, unstable soil and flood plains be set aside and not subdivided until corrections are made to protect life, health, and property.

3.03 Residential Lot and Block Standards for Subdivisions

3.03.01 Individual lots that require both a septic system and water will shall be of sufficient size to satisfy State Health Department requirements for safe water wells and septic systems. Minimum frontage shall be one hundred twenty (120) feet with a minimum lot size of one and one-half (1 ½) acres.

3.03.02 Residential lot size and shape: The size and shape of the lots shall not be required to conform to any stipulated pattern, but insofar as practical, side lot lines should be at right angles to straight street lines or radial to curved street lines.

3.03.03 Easements: Where required for drainage and utilities, easements shall be at least fifteen (15) feet width. If there is an adjoining easement, the total combined width of both easements shall be at least fifteen (15) feet. Easements of adequate width in accordance with engineering or open space standards shall be provided for open drainage channels or scenic stream beds, where required.

3.04 Lot and Block Standards for Mobile Home Parks

3.04.01 Lot Size and Density: All standards contained in “Rules and Regulations Pertaining to Mobile Homes and Travel Trailer Parks” adopted by the Arkansas State Board of Health shall apply.

3.04.02 Boundary and Buffer Areas: Depending upon location, density of proposed mobile home park and other factors, the Planning Commission may require buffers where deemed necessary.

3.04.03 Road and Street Maintenance: All roads and streets within the mobile home park or providing access to the mobile home park that will be dedicated to the City shall be designed and constructed in accordance with the design requirements and specifications contained in this Ordinance.

3.04.04 Parking: At least two (2) off-street designated parking spaces shall be provided for each mobile home.

3.04.05 Tie Downs: Tie downs, in accordance with State and Federal Regulations, shall be constructed and made available to the mobile home park tenants.

3.04.06 Easements: Easements at least fifteen (15) feet wide shall be provided, where needed, for utilities. Easements of adequate width in accordance with engineering or open space standards shall be provided for open drainage channels or scenic stream beds, where required.

3.05 Street Design Criteria for Land Development

All design criteria for streets and roads in land developments are contained in the latest revision of “Design Criteria and Construction Specifications for the Division, Development and Improvement of Land in the City of Rogers” as follows: The traffic classification and soil types described in Article 3, and as follows, shall be used to determine the minimum pavement structure for each proposed street or road.

3.05.01 Extensions: All street and road extensions shall meet all current design standards.

3.05.02 Substandard Widths: Land developments that adjoin substandard existing streets shall meet the requirements contained in Section 3.07 of this Article 3.

3.05.03 Street Names and Numbers: Names and numbers of streets and roads shall be consistent with natural alignment and extensions of existing streets or roads. New street or road names must be used which will not duplicate or be easily confused with existing names and must be approved by the Rogers Fire Department.

3.05.04 Tangents: A straight tangent at least one hundred (100) feet long shall separate reverse curves.

3.05.05 Temporary cul-de-sac: Temporary cul-de-sacs designed to provide future connections with adjoining undeveloped areas shall provide a temporary turn-around easement and shall be designed in a manner which will prevent excessive accumulations of run-off water at the dead end.

3.05.06 Permanent Cul-de-sac: Streets with permanent cul-de-sacs shall not exceed six hundred sixty (660) feet in length, measured to the outer edge of the turnaround. All turnarounds shall have radii as follows:

- 3.05.06.a Hard surface pavements: Paving radius with curb and gutter shall be fifty (50) feet; without curb and gutter shall be sixty (60) feet. Right-of-way with curb and gutter shall be sixty (60) feet; without curb and gutter shall be seventy (70) feet.
- 3.05.07 Intersections: Streets shall be designed to intersect as nearly as possible at right angles, provided that no street shall intersect with any other street at less than seventy-five (75) degrees.
 - 3.05.07.a Intersections of local streets shall have a minimum driving surface radius of thirty (30) feet.
 - 3.05.07.b Intersections of collector or high density residential streets shall have a minimum driving surface of forty (40) feet.
 - 3.05.07.c All corner radii must be shown on the street improvement plan.
- 3.05.08 Street Grades: Street grades shall conform to the following:
 - 3.05.08.a Street grades for arterial highways and collector streets shall not exceed eight (8) percent; grades for all other classifications of streets shall not exceed ten (10) percent.
 - 3.05.08.b All changes in grade shall be connected by a vertical curve of a reasonable length to assure adequate sight distance for the design speed.
 - 3.05.08.c In approaching intersections, there shall be a suitable leveling of the street grade, generally not exceeding five (5) percent, for a distance of not less than fifty (50) feet from the nearest line of the intersecting street, or a percentage and distance approved by the City Engineer or Street Superintendent.
 - 3.05.08.d To the extent possible and practical, all minor streets and driveways should be sloped away from the major street or county road to prevent water and debris from being deposited on the major street or road.
 - 3.05.08.e The grade within the intersection should be as level as possible, and consistent with proper provisions for drainage.

3.05.09 In platting lands abutting federal and state highway or other arterial traffic-ways, every effort shall be made:

- (a) to cushion the adverse impact of heavy or high speed traffic on such lands, especially where used for residential purposes;
- (b) to minimize interference with through traffic operations; and to reduce vehicular and pedestrian accident hazards.

3.06 Pavement Section Design for Land Developments

3.06.01 Street Classifications for Pavement Design: The street classification contained below shall be used to select the Street Geometries contained in Table 1 of the “Design Criteria & Construction Specifications” and the Pavement Structure contained in Table 2 of “Design Criteria & Construction Specifications”.

NOTE: In this Ordinance, the following street classifications by traffic and eighteen (18) kip equivalent axle loads are used primarily to determine the pavement structural sections. These street classifications should not be confused with the functional street classifications.

Pavement structural design based on Equivalent Axle Loads (EALS) for each street shall be classified by function and/or traffic in one of the following classes:

- 3.06.01.a Class A – Light Residential: This would be rural residential streets and drives which have light traffic and little or no truck traffic, short dead end streets, and possible short cross streets with less than fifty (50) vehicles per day and not more than five (5) average eighteen (18) kip EALS per day, or not more than thirty six thousand five hundred (36,500) total eighteen (18) kip EALS during the twenty (20) year design period.
- 3.06.01.b Class B – Residential, Minor Residential Collector and Light Commercial: This would include (a) residential subdivision streets with no through traffic; (b) cross streets in the established street system; (c) light commercial streets in a small commercial area. These streets would have an average of fifty (50) to one hundred fifty (150) vehicles per day and not more than ten (10) average eighteen (18) kip EALS per day, or not more than seventy three thousand (73,000) total eighteen (18) kip EALS during the twenty (20) year design period.

- 3.06.01.c Class C – Residential Collector and Commercial Streets: This would include (a) the major streets in a residential subdivision used to get to the Class D and Class E streets and Class C streets will have the right-of-way over the above Class A and B streets; and (b) commercial streets. These streets would have an average of one hundred fifty (150) to four hundred (400) vehicles per day and not more than forty (40) average eighteen (18) kip EALS during the twenty (20) year design period.
- 3.06.01.d Class D – Minor Residential Arterial, Heavy Commercial, and Light Industrial Streets: These streets would include (a) Class C streets in a residential subdivision; (b) heavy commercial streets; and light industrial streets. They would have an average of four hundred (400) to eight hundred fifty (850) vehicles per day and not more than eighty (80) average 18 kip EALS per day, or not more than five hundred eighty four thousand (584,000) total 18 kip EALS during the twenty (20) year design period.
- 3.06.01.e Class E – All higher class streets and highways, or when Class D design requirements are expected to be exceeded, formal design procedures shall be used for each individual Class E street. The PCA, The Asphalt Institute, AASHTO, or other recognized design procedures may be used. The design for each street or highway shall be approved by the Street Superintendent or City Engineer.

**Average Daily Traffic (ADT) may be estimated at the rate of five (5) to six (6) round trips per resident or dwelling unit per day.

For Class A and B streets, the EALS are based on one hundred (100) percent of the one-way ADT times a load factor of 0.09 for single unit trucks, plus five (5) percent of the one-way ADT times a load factor of 1.00 for multiple unit trucks.

For class C and D streets, the EALS are based on one hundred (100) percent of the one-way ADT times a load factor of 0.09 for single unit trucks, plus ten (10) percent of the one-way ADT times a load factor of 1.00 for multiple unit trucks.

- 3.06.02 Soil Classifications: The sub-grade soils shall be classified according to the AASHTO Group Index classification into the following three (3) major soil types:
- 3.06.02.a Sands and Gravels: A-1, A-2, and A-3 Group Index. These are non-plastic materials with gravel and sand-size material.
 - 3.06.02.b Silts: A-4 and A-6 Group Index. The A-4 soil is a minus fourth (-40) sieve size which has a LL less than fourth (40) and a PI less than ten (10). The A-6 soil is a minus forty (-40) sieve material with a LL less than fourth and a PI of more than ten (10).
 - 3.06.02.c Clays: A-5, A-7, and A-7-6 Group Index. These are the clays and have a LL greater than forty (40) and a PI greater than ten (10). The A-5 Group Index classification soils have a LL greater than forty (40) and a PI less than ten (10). A-7 Group Index soils are very poor soils which should be avoided if possible.
- 3.06.03 Pavement Section: The pavement sections for Class A, B, C, and D streets shall meet or exceed the following requirements:
- 3.06.03.a All streets shall be designed according to traffic and sub-grade soil type. The results of the sieve analysis and LL and PI test run during the construction of the sub-grade shall be used to verify the soil type used in the pavement design. If the soil type changes, the pavement structure shall be re-designed accordingly. It is strongly recommended that the Engineer have preliminary sieve analysis and LL and PI tests performed before detailed plans and specifications for the streets are prepared. Copies of all test results shall be provided to the Street Superintendent of City Engineer.
 - 3.06.03.b Regardless of the design procedures used, the proposed pavement sections for Class A, B, C, and D streets shall be equal to or exceed the minimum pavement sections shown in Table 2, Minimum Pavement Sections, of the "Design Criteria and Construction Specifications for the Division, Development and Improvement of Land in the City of Rogers" for the particular street classification and soil type, with the following exceptions:

3.06.03.c Formal design procedures, such as the PCA, The Asphalt Institute, AASHTO, shall be used for all Class E and higher streets, or when the projected daily eighteen (18) kip EALS exceeds eighty (80), or when the total eighteen (18) kip EALS for the twenty (20) year design period exceeds five hundred eighty four thousand (584,000).

3.07 Requirements for Improving Substandard Streets

When a proposed land development has direct access to or fronts on an existing substandard street, the Developer shall be responsible for the following:

3.07.01 In all cases, for the entire length of the proposed land development, the Developer shall dedicate a minimum of twenty-five (25) feet of right-of-way measured from the centerline of the existing street. The right-of-way shall be determined by the Master Street Plan. For unusual alignment or terrain conditions, the Planning Commission and /or City Council may require a greater width of right-of-way dedication. The required width of right-of-way dedication shall be determined during the Preliminary Plat review and approval stage. When the proposed development is of a size and magnitude to show cause for additional street development, such access street shall have standard right-of-way easements and road construction that comply with appropriate City standards.

3.07.02 If an off-site substandard street serves a proposed development the Developer shall be responsible for the entire cost of improving the off-site section of street to the current City standards. The upgrading of said off-site section of street shall be included as a part of the development plan.

3.07.03 The street improvement cost shall include, but not be limited to, the costs of right-of-way clearing, roadway excavation and embankment, bridges, pipe and box culverts, roadway shaping, drainage blankets, base paving, utility adjustments, and miscellaneous items. The Developer's proportionate share of the street improvement costs shall be fifty percent (50%) when the development abuts one side of the street, and one hundred percent (100%) when the development abuts both sides of the street.

3.07.04 The type of street improvement shall be based on the City of Rogers Master Street Plan and design standards. The Developer's proportionate share of the cost of improving the street shall be determined by the Director of Public Works.

3.07.05 Depending on the road classification, surface type, surface width and condition, traffic, terrain, alignment, drainage and budget, one of the following types of improvements shall be made:

3.07.05.a Patching and hot mix overlay within existing right-of-way with some possible drainage and alignment work.

3.07.05.b Reconstruction involving right-of-way clearing, drainage structures, shaping roadway, drainage blankets, base paving and miscellaneous items. The paving shall consist of asphalt hot mix surface course.

3.07.06 The required off-site improvements and the Developer's proportionate share of the cost shall be determined at the Preliminary Plat review and approval stage.

3.07.07 Any monies paid into the City of Rogers street fund may be used by the City for any purpose determined to be in the public interest of the City. The City may use the funds to improve said street, improve other streets, or for maintenance of city streets.

3.08 Dedication of Land for Public Park Sites

In all land development, the Developer must consider designating areas for parks, playgrounds, recreational areas and/or green spaces. If the Developer proposes to dedicate any of these areas to the City, they must be consistent with the Parks Plan and they must have the approval of the Parks Department at the Preliminary Plat review and approval stage. Otherwise, the Developer shall make provisions for the maintenance of these areas by an escrow fund, property owner's association, or other such means.