

ARTICLE VI
IMPROVEMENTS

Sections:

- 60.1 General Provisions
- 60.2 Plans Required
- 60.3 Building Permits
- 60.4 Continuity of Improvements
- 60.5 Fee Schedule
- 60.6 Permanent Markers
- 60.7 Street Improvements
- 60.8 Private Roads
 - 60.8.1 General Requirements
 - 60.8.2 Signage
 - 60.8.3 Improvement to City Standards
 - 60.8.4 Resubdivision on Private Roads
- 60.9 Water Facilities
 - 60.9.1 Water Main Extensions
 - 60.9.2 Sizing of Water Main Extensions
 - 60.9.3 Water Supply for Fire Protection
 - 60.9.4 Engineering Plans for Water Mains
 - 60.9.5 Responsibility of Developer for Cost of Water Main Extension
 - 60.9.6 Water Connection Required
 - 60.9.7 Water Connection Fee
 - 60.9.8 Individual Wells
 - 60.10 Engineering Plans for Sanitary Sewer Systems
- 60.11 Individual Sewage Disposal Systems
- 60.12 Storm Sewers and Drainage
 - 60.12.1 Responsibility for improvements
 - 60.12.2 Methods for Calculating Stream Flow and Runoff
 - 60.12.3 Secondary Drainage Channels and Surface Drainage
 - 60.12.4 Major River Channel Requirements
 - 60.12.5 Requirements Relating to Improvements
 - 60.12.6 Improvements Required by Planning Commission
 - 60.12.7 Bridge and Culvert Requirements
 - 60.12.8 Closed Storm Sewers
 - 60.12.9 Open Paved Storm Drainage
 - 60.12.10 Areas Outside Subdivision
 - 60.12.11 Administration
 - 60.12.12 Application of Provisions
 - 60.12.13 Flood Prone Areas
 - 60.12.14 Storm Sewer and Drainage Channel Projects
- 60.13 Street Lighting
- 60.14 Street Signs

60.15 Driveways

Section 60.1 General Provisions

All improvements shall be designed and installed in accordance with all of the elements of the latest adopted Comprehensive Plan and shall meet the minimum standards established by the ordinances and regulations relating thereto.

Section 60.2 Plans Required

Final construction plans for the improvements required by this section shall be prepared by a professional engineer registered in the State of Oklahoma. Proposed plans and specifications for all improvements shall be filed with the Community Development Department in accordance with the construction requirements of the City of Chickasha. Three (3) sets of prints of the proposed final plans and specifications shall be submitted to the City Engineer at the time of submission of the Final Plat approval. One (1) set of contact reproducible "record" plans and specifications, certified by the registered engineer shall be filed with the City Clerk prior to the acceptance by the City of Chickasha of any improvement installed by the subdivider.

Section 60.3 Building Permits

No building permit will be issued for the construction of any building on any lot until such lot is served by street systems, water systems, sewer systems, and storm drainage systems, and are accepted by the City for operation and maintenance, or such improvements are included in City approved provisions which dictate perpetual maintenance of such street, and utility systems as in the case of private or communal ownership.

Section 60.4 Continuity of Improvements

All improvements shall be designed and installed so as to provide for a logical system of utilities, drainage and streets and to create continuity of improvements for the development of adjacent properties.

Section 60.5 Fee Schedule

The City will develop a fee schedule that will account for normal platting, design and construction reviews and inspections. If additional reviews and/or inspections are required because of developer or contractor mistakes or errors than an additional fee will be charged.

Section 60.6 Permanent Markers

The subdivider shall provide for permanent reference monuments or markers, established by a registered land surveyor in the subdivision as required below:

- A. Each lot and block corner shall be marked with iron pipes or pins not less than three-eighths (3/8) inch in diameter and not less than eighteen (18) inches long at least one (1) inch below finished grade.
- B. Each subdivision corner shall be marked with a permanent concrete marker capped with a non-erosive metal plate set one (1) inch below the finished grade.

- C. Permanent bench marks shall be set to effectively serve the subdivision by a Registered Land Surveyor, licensed as such in the State of Oklahoma. Said benchmarks shall be based on U.S.G.S. datum.
- D. Centerline street control points shall be installed at all intersections, point of curvature and point of tangent in the following manner.
 - 1. Chiseled x's on concrete streets; or
 - 2. P .K. nails on asphalt streets.

Section 60.7 Street Improvements

The subdivider of any subdivision design to be used for residential, Commercial, industrial or other purposes shall layout, grade and otherwise improve all streets that are designated on the approved plat or that directly serve the subdivision in accordance with the specifications of the City and in accordance with the following provisions:

- A. The design of an improvement of an intersection of any new street with an existing State or Federal Highway shall be in accordance with the specifications of the Oklahoma Department of Transportation, but in no case shall the standard be less than the applicable specifications and requirements of these regulations or other applicable regulations of the City of Chickasha. It shall be the requirement of the developer to obtain any and all permits.
- B. The City of Chickasha will provide adequate engineering inspections and will bill the developer according to the fee schedule in Section 60.5.
- C. All driveways which connect with public streets or private streets shall be constructed in accordance with Section 60.15 and Table 3. Minimum Separation of Driveways of these regulations and where applicable, with the specifications of the Oklahoma Department of Transportation.
- D. Street surfacing shall be in accordance with the Transportation Plan and Street Standards as approved by the City Council, and where applicable, the Oklahoma Department of Transportation.
- E. Whenever a subdivision contains a major street that requires a street facility that is more costly than is required to serve the future occupants of the subdivision, the subdivider may be required to pay only the portion of the cost of the arterial street that would equal the cost of an improvement required to serve only the subdivision, as determined by the Planning Commission.
- F. Whenever a subdivision is adjacent to an already existing unpaved street, the subdivider will not be required to pave the entire breadth of said street but only half of the same street adjacent and parallel to said subdivision.

- G. Whenever a subdivision contains a half street approved by the Planning Commission under Article IV, Section 40.2.1 of these regulations, the subdivider will be required to pave the half of the street dedicated.
- H. Street pavement projects proposed to be accepted by the City of Chickasha shall be submitted as follows:
 - 1. A letter from the developer shall be submitted to the City Council of the City of Chickasha, and it shall describe the location of said street improvement projects, the construction costs, a certified copy of "record" plans executed by the developer's engineer shall be attached, and said letter shall contain a request for acceptance for operation and maintenance of the utility by the City of Chickasha.
 - 2. A letter from the Developer's engineer shall be submitted to the City Council of the City of Chickasha certifying that the construction or said utility was performed in full compliance with the approved plans and specifications.
 - 3. A materials testing laboratory report for each test performed on material incorporated in the construction shall be submitted to the Engineering Department of the City of Chickasha.
 - 4. A maintenance bond from the developers contractor running to the City or Chickasha in the amount of fifty (50%) percent of the construction cost shall be submitted to the City of Chickasha for the first year, and ten (10%) percent for the next five (5) years subsequent to the acceptance of the utility' by the City Councilor the City.

Section 60.8 Private Roads

Rural land not served by city water and sanitary sewer facilities shall be permitted the use of private roadways in either platted or unplatted areas and building permits may be issued to property owners abutting upon private roadways under the following conditions.

60.8.1 General Requirements

- A. The location of the private roadway easement shall be in compliance with City Street Standards, regardless of the size of the abutting property.
- B. The private roadway easement shall be at least fifty (50) feet in width in the case of local streets, sixty (60) feet in width in the case of collector streets.
- C. All drives and curb cuts contained within the private roadway s)'stem shall comply with the curb cut and driveway regulations of the City of Chickasha and these regulations.
- D. The tracts, lots, sites, or parcels of land contained within the private roadway subdivision shall contain not less than two (2) acres each, including respective portions of the adjacent roadways. However, public right-of-way on section line roads is not to be included in the two (2) acre requirement.

- E. The nearest boundary of the property contained within the proposed subdivision must be more than one quarter (1/4) mile (1320) feet from sewer and water facilities furnished by the City. The measurement shall be the actual number of feet of sewer and/or water lines required to serve the property, to be determined by good engineering practices.
- F. All storm drainage shall be in compliance with Section 60.12 of this ordinance; open type bar ditches shall be prohibited; all storm water runoff must be contained within the street curb line and removed in a safe manner from the subdivision.
- G. The private roadway shall not be dedicated to the public but reserved for future dedication and, until such future dedication, it shall be the private roadway of abutting owners.
- H. Private roadways shall be surfaced and improved in accordance with the Transportation Plan Map and City Street Standards.
- I. The private roadway shall be maintained by the owners of the property within the subdivision.
- J. The City of Chickasha shall have no responsibility for the maintenance and repair of the private roadway or easement.
- K. If the property is platted, there shall be emblemized on the face of the plat, clearly conspicuous, a notice that the streets shall always be open to police, fire and other official vehicles of all State, Federal, County, and City Agencies, and subject to all traffic regulations of these agencies.
- L. Every deed shall clearly acknowledge that the roadway is private and not maintained by the City.
- M. All names for private roadways shall be approved by the Planning Commission in both platted and unplatted areas.

60.8.2 Signage

- A. The developer shall install street signs at the intersection of all private roadways. The markers shall conform in style and quality with the standard street markers adopted by the City. After initial installation, the street signs shall be maintained by the property owners within the subdivision.
- B. Prior to the sale of any parcel of land in the subdivision, a conspicuous sign shall be posted at the entrance into the subdivision, reading "Private Roadway Not Maintained by the City of Chickasha, Oklahoma". The sign shall meet the following specifications:
 - 1. Twenty (20) gauge steel;
 - 2. Dimensions: thirty-six inches by forty-eight inches (36" x 48");

3. Letters shall be three (3) inches high and block style;
 4. Color shall be red background and white reflective lettering;
 5. Sign shall be affixed on two (2) metal poles, with its lowest point not less than seven (7) feet above grade.
- C. After initial installation, the required street signs and the "Private Roadway" sign shall be maintained by the property owners within the subdivision. The property owners within the subdivision shall be given ten (10) days written notice by certified mail in the event a damaged dilapidated, or faded street sign or "Private Roadway" sign is not replaced or repaired. Abatement of a public nuisance procedure, as outlined in the City Code, shall be followed in the event the sign is not replaced or repaired after the property owners have been given proper notice. Any cost for materials or labor suffered by the City shall be recovered directly from the property owners, or collected from the property owners by the Grady County Treasurer in the manner prescribed by the laws of the State.

60.8.3 Improvement to City Standards

- A. At any time after the City recognizes and permits the use of such private roadway, a petition of at least sixty (60%) percent of the owners in an area to improve and dedicate the street, shall bind all of the owners thereby to permanently improve the street or roadway in order for it to be considered for acceptance into the City's street system.
- B. If either City water or sewer facilities are provided to a private roadway subdivision they shall be installed in accordance with the City of Chickasha ordinance relating thereto.

60.8.4 Resubdivision on Private Roads

Resubdividing property fronting on private roadways into tracts, lots, or parcels any part of which, when subdivided contains less than two (2) acres shall be prohibited.

Section 60.9 Water Facilities

- A. The subdivider shall provide a water supply and distribution system to a proposed subdivision capable of meeting water use and fire protection requirements in accordance with these regulations and other applicable ordinances, standards and specifications.
- B. The subdivider shall, at his expense, provide a water system capable of supplying water to each lot within the subdivision. All such construction must comply with State and City standards and specifications and must be approved by the City Engineer and Department of Environmental Quality.
- C. Where an approved public water supply is reasonably accessible or procurable, the subdivider shall connect with said water supply. For purposes of this Section, a public water supply is considered "reasonably accessible" if an existing or funded water main serves any quarter section in which the subdivision is wholly or partially located

or is within one-quarter (1/4) mile (1320') of any exterior boundary of the subdivision, whichever is the greater distance. Water supply is considered "procurable" unless the municipality or other public agency owning and maintaining the public water system cannot or will not by reason of statute, ordinance, regulation or policy furnish water to the subdivision. All water main construction must conform to the State and City standards and specifications and must be approved by the City Engineer and DEQ. The Planning Commission may vary these provisions under special circumstances.

60.9.1 Water Main Extensions

- A. Water Main Extensions are required to serve all new subdivisions or buildings whenever a subdivider develops property in one of the following manners:
 - 1. Property is subdivided into two (2) or more lots, tracts, parcels or building sites:
 - 2. Applies for a building permit to construct a commercial, industrial, institutional structure, or multiple family dwelling containing three (3) or more dwelling units
- B. Any lot, tract, or parcel of land for which a water extension is required in this section shall have water mains installed across frontages of all abutting streets. All such water mains shall be installed seven (7) feet back of the curb line.

60.9.2 Sizing of Water Main Extensions

- A. Water mains constructed along section line roads shall be a minimum of twelve (12) inches in diameter. Water mains constructed along quarter section lines or along the closest street to be built to a quarter section line shall be a minimum of eight (8) inches in diameter. All other water mains shall be a minimum of six (6) inches in diameter. Location and size of all water mains shall be approved by the City Engineer and City Staff in accordance with the City Water Master Plan, 1980, or latest revision.
- B. Water mains constructed along section line roads shall connect to twelve (12) inch or greater diameter water mains.

60.9.3 Water Supply for Fire Protection

- A. The developer of any subdivision containing four (4) or more lots or building sites for single-family or two-family residents shall extend water mains for fire protection at his expense except as hereinafter provided. All sites other than single-family or two-family residents shall provide water main extensions for fire protection except as hereinafter provided.
- B. Water mains shall be interconnected to form a grid system. The length between interconnections shall not exceed the following:

6 inch line	1,200 feet
8 inch line	2,640 feet
12 inch line	5,280 feet

- C. The City Engineer shall not approve a water main supplying fire hydrants which is less than six (6) inches in diameter. Fire hydrants of a specific type and manufacture approved by the Fire Chief and Public Works Director shall be available to serve the building site of all commercial, industrial, mercantile, educational, institutional, assembly, hotel, motel, single-family, two-family, multi-family, and mobile home park occupancies prior to the start of construction. In lieu of the required water line extension and fire hydrant installation, a developer may submit to the Fire Chief and City Council for their approval an alternate fire protection plan for single-family and two-family residences in a subdivision containing less than four (4) building sites and for business occupancies other than mercantile, containing less than five thousand (5,000) square feet of gross floor space. The alternate fire protection plan may include, but is not limited to, a special building requirement or an on-site water supply. The City Council and Fire Chief may approve conditionally, or disapprove such plan after hearing such proposal and reviewing any other alternatives.
- D. Building plans for all new construction involving the occupancies listed in subsection "C" of this section shall show the location of fire hydrants on both public and private property as approved by the Fire Chief and the City Engineer of the City before any actual construction is undertaken.
- E. Hydrant location and standards shall be as follows:
1. All hydrants are to be installed according Standards.
 2. No portion of a building with any occupancy listed in subsection "C" of this section shall be located more than three-hundred (300) feet from a hydrant; and
 3. Fire hydrants shall be located apart from buildings and be fully accessible from paved driveways, streets and fire lanes.
- F. The marking of fire lanes on private property, devoted to public use, shall be approved by the Fire Chief and Chief of Police of the City.
- G. Fire lanes and driveways shall be located so that all buildings served by them are accessible to fire equipment.
- H. The contractor or designated person in charge of any construction site for commercial, industrial, mercantile, educational, institutional, assembly, hotel, motel, single-family, duplexes, and multi-family dwelling or mobile home park uses shall provide and maintain an approved hard surface all weather access fire lane, not less than twenty (20) feet in width, to be shown on approved site plans. Such access fire lane at beginning and during construction shall be at least a graded roadbed with a gravel surface. At such time that 45 construction has progressed to completion, the access lane shall be an approved hard surfaced, all-weather lane, before any occupant be allowed to occupy said structure.

60.9.4 Engineering Plans for Water Mains

The Developer shall provide the City with copies of construction plans in accordance with the platting requirements section of these regulations. The developer shall provide necessary application, engineering reports and fees to receive approval from DEQ. Upon approval by the Planning Commission, City Council, and the Oklahoma State Department of Health, the Director or the City Engineer shall issue a "Notice to Proceed" for the approved water improvements. The developer shall not commence construction of water improvements until receiving said "Notice to Proceed".

60.9.5 Responsibility of Developer for Cost of Water Main Extension

- A. The developer shall be responsible for the full cost of constructing and/or extending all water mains to serve the development.
- B. Nothing herein shall be construed to prohibit a developer from entering into private agreement to share the costs of water main extensions.

60.9.6 Water Connection Required

Whenever a water main abuts any portion of a lot, parcel, or tract of land, connection to the public water supply system shall be mandatory. No building permit shall be issued for the construction of a new building without the owner / or contractor first paying to the City Clerk's office the water connection fee described in Section 60.9.7. The building or addition shall not be occupied until said connection to the public water supply system is completed. Building permits for the construction of detached accessory buildings and/or remodeling are exempt from the requirements of this section.

60.9.7 Water Connection Fee

No persons, firm, or corporation shall connect to the public water supply without first paying to the City Clerk's office the applicable water connection fee. The actual cost of installation shall be calculated as provided for in Chapter 18 of the Chickasha Municipal Code.

60.9.8 Individual Wells

Where an approved water supply is not available within one-quarter (1/4) mile (1,320') as described in Section 60.9, the subdivision may be served by individual water wells. Individual water wells must meet Federal and State Drinking Water Standards. The City will not be responsible for maintenance of individual water wells.

- A. Individual water wells shall meet State Health Department/DEQ Design Standards and construction specifications and should provide adequate capacity to meet domestic demand.
- B. Individual water wells shall have a minimum capacity of five (5) gallons per minute (GPM). If soils and geological data indicate a possible ground water deficiency, the applicant must demonstrate, at his expense, the water is available in adequate quantity and quality.

- C. As a fire protection measure, a minimum distance of fifty (50) feet separation between residential structures shall be maintained in any residential district utilizing private water wells as the main source of water.

Section 60.10 Engineering Plans for Sanitary Sewer Systems

The Developer shall provide the City with copies of construction plans in accordance with the platting requirements section of these regulations. The developer shall provide necessary application, engineering reports and fees to receive approval from DEQ. Upon approval by the Planning Commission, City Council, and the Oklahoma State Department of Health, the Director or the City Engineer shall issue a "Notice to Proceed" for the approved sanitary sewer improvements. The developer shall not commence construction of sewer improvements until receiving said "Notice to Proceed".

- A. The subdivider shall provide a sewage collection and disposal system in accordance with these regulations and all other applicable ordinances, standards or regulations.
- B. The subdivider shall at his/her expense, install all sanitary sewers whenever a public sanitary sewer is reasonably accessible or procurable. For purposes of this section a public sewer system is considered "Reasonably Accessible" if an existing or funded sewer main serves the watershed into which the subdivision naturally drains, and is within one-quarter (1/4) mile (1,320') of the exterior boundary of the subdivision. Sewer Service is considered "procurable" unless the municipality or other public agency owning and maintaining the public sewer system cannot or will not by reason of statute, ordinance, regulation or policy accept sewage from the subdivision. The internal sanitary sewer system shall be available to each lot within the subdivision.
- C. Sanitary sewer projects proposed to be accepted by the City of Chickasha shall be submitted as follows:
 - 1. A letter from the Developer shall be submitted to the City Council of the City of Chickasha, and it shall describe the location of said sanitary sewers, the construction cost, a certified copy of "as built" plans executed by the Developer's Engineer shall be attached, and said letter shall contain a request for acceptance for operation and maintenance of the utility by the City of Chickasha.
 - 2. A letter from the Developer's Engineer shall be submitted to the City Council of the City of Chickasha certifying that the construction of said utility was performed in full compliance with approved plans and specifications.
 - 3. A maintenance bond from the Developer's contractor running to the City in the amount of fifty (50%) percent of the construction cost shall be submitted to the City and said bond shall be for a period of two (2) years subsequent to the acceptance of the utility by the City Council of the City of Chickasha.
- C. The City of Chickasha shall provide adequate engineering inspections and will bill the Developer according to the fee schedule in Section 60.5.

Section 60.11 Individual Sewer Disposal Systems

In the event that construction of sanitary sewers is not feasible, as determined by the City Engineer, the subdivider may install individual sewage disposal systems; such systems shall be installed in accordance with the recommendations and requirements of the Oklahoma State Health Department or the Department of Environmental Quality, as per Engineering Bulletin #600, "Septic Tank and Subsurface Tile Systems", as approved or subsequently amended and State Statutes 63-171, Section 1-190 such systems shall be constructed under the supervision of the Building Inspector or Public Works Director and shall conform to the following provisions:

- A. Each lot shall have approved percolation results by the State Health Department/DEQ prior to approval of the Final Plat;
- B. The lot shall contain adequate area for the installation of a minimum of four hundred (400) feet of septic tank lateral lines;
- C. No part of any septic tank or laterals shall be located closer than twenty (20) feet to the rear of the building line, and no closer than five (5) feet to any property line.
- D. Minimum lot standards shall be required in Section 40.2.6, B.5 of these regulations.

Section 60.12 Storm Sewers and Drainage (See Design Requirements Sections also)

- A. The Planning Commission shall not approve any plat or subdivision which does not meet the requirement of these regulations, the Chickasha Municipal Code, or any ordinances or regulations relating thereto.
- B. Storm drainage facilities, when required shall be designed by methods outlined in the General Drainage Policy of the City of Chickasha, and any ordinances or regulations relating thereto. If a conflict exists between these regulations and the drainage policy then the drainage policy will be followed. A copy of design computations shall be submitted with all drainage plans.
- C. In all cases, the storm drainage system shall be separate and independent of any sanitary sewer system.
- D. Each lot, site and block within a plat or subdivision shall be adequately drained as prescribed by these regulations and all other ordinances and regulations.
- E. No lot or site within a plat or subdivision shall derive sole access to a public street through a Regulatory Floodway unless such access shall be designed to remain open under Base Flood or 100 year Floodplain conditions.
- F. Areas subject to inundation under Base Flood conditions shall be indicated with a minimum floor elevation of each lot so affected on a certified copy of the Recorded Final Plat. The Planning Commission and the City Council may, when it deems necessary for health, safety, or welfare of the present and future population, place restrictions on the subdivision, design, and use of areas within or affecting the

Regulatory Floodway. The Planning Commission shall not approve any subdivision of land within the Regulatory Floodway of any stream or watercourse unless the applicant demonstrates that the subdivision and all development anticipated therein will comply with all ordinances and regulations relating thereto.

60.12.1 Responsibility for Improvements

It is intended by this section that the improvements of primary drainage and major river channels shall be the long range responsibility of the Developer and the Community as a whole, since the developer and the whole community are benefited materially. The developer of land or improvements within an area containing a primary drainage channel shall design, plan and carry out his/her developments in a manner that will not interfere with or restrict the natural flow of water or materially change the condition of runoff within the calculated area below the one-hundred year maximum flood elevation. Increased runoff and changes in Primary Drainage areas shall be the responsibility of the developer and shall be made in accordance with the provisions of this section. The improvement of secondary drainage channels shall be the responsibility of the Developer, since the primary benefit is to the area served by the secondary channel and not to the community as a whole.

60.12.2 Methods for Calculating Stream Flow and Runoff

The maximum condition of rainfall for a fifty (50) year frequency shall be used for the purpose of determining all runoff for the sizing of drainage channels and structures, unless otherwise specified herein. The following formula and values shall be used for calculating all stream flow and runoff for the policies and regulations established herein:

- A. Runoff from drainage areas of 40 acres or less shall be determined by the Rational Formula:

$$Q=CIA \text{ (see drainage policy for design values)}$$

- B. Site improvement shall provide for the grading of all building pads to an elevation where all building pads will not be subject to inundation from the one hundred (100) year frequency flood and in a manner that will provide for a rapid runoff of storm water. Mobile home placement pads shall be elevated to one (1) foot above the level of the one hundred (100) year flood plain and substantial improvements to existing structures will be subject to all regulations and requirements of these regulations.
1. New construction or substantial improvements of residential structures (including prefabricated homes) and accessory buildings shall have the lowest floor elevated to six (6) inches above the level of the one hundred (100) year frequency flood. If an improvement has a basement than the ground adjacent to the basement must be elevated to six (6) inches above the level of the one hundred (100) year frequency flood.
 2. New construction or substantial improvements of non-residential structures and accessory buildings within the one hundred (100) year flood plain must have the lowest floor (including basement) elevated to six (6) inches above the one-hundred (100) year flood level or flood proofed including utility and sanitary

facilities up to six (6) inches above the level of the one-hundred (100) year flood.

- C. Whenever channel improvements are carried out, sodding, backsloping, cribbing, and other bank protection shall be designed and constructed to control erosion for the anticipated conditions and flow resulting from a fifty (50) year frequency rainfall.
- D. A drainage channel shall not be located in a street easement unless it is placed in an enclosed storm sewer except under the following conditions:
 - 1. Where a paved street surface at least two lanes wide is provided on both sides of a paved channel so as to provide access to abutting properties;
 - 2. Where lots are platted to back up to the street right-of-way where the drainage channel is located between the rear lot line and me paved street, provided, that there is no access to the rear of the lot from the street, and further provided that at no time in the future shall access be allowed or constructed over the open drainage channel to the rear of a lot so platted. For the purpose of these regulations, a lot which sides to a public street is not considered to back up to the street right-of-way;
 - 3. When a condition outlined in either (1) or (2) above is present, adequate space adjacent to the channel shall be dedicated as right-of-way to provide for maintenance of the paved drainage channel and its unpaved bank.
- E. Culverts, bridges, and other drainage structures shall be constructed in accordance with the specifications and design criteria of the City when the City shall have present or future maintenance responsibility.

60.12.3 Secondary Drainage Channels and Surface Drainage

All secondary drainage channels which are within, or immediately adjacent to, an improvement, development or subdivision shall be protected and improved by the Developer as follows:

- A. All land having an elevation below the fifty (50) year maximum flood elevation for the final improved channel shall be dedicated for the purpose of providing drainage, for public park, or utility easement use.
- B. Secondary drainage channels which have a primary function of collecting surface water from adjacent properties or intercepting and diverting side hill drainage shall be improved open channels.
- C. Secondary drainage channels which have a primary function of transporting water through the block or collecting water from cross channels and which have a drainage area of less than forty (40) acres shall be improved with closed storm sewers; and where the secondary drainage channel has a drainage area of greater than forty (40) acres, an improved open or closed storm sewer shall be provided. When the unit area to be drained is less than four (4) acres, the City Engineer may modify the requirements of the first part of this provision to permit a paved open channel, designed for use as a sidewalk, having a minimum width of four (4) feet and provided

with six (6) inch curbs, when designed to serve any common recreation or open space, public or private.

- D. Site improvement shall provide for the grading of all building pads to an elevation where all building pads will not be subject to inundation from a one hundred (100) year frequency flood, and in a manner that will provide for the rapid run-off of storm water. Mobile home placement pads shall be elevated to six (6) inches above the one hundred (100) year frequency flood. Substantial improvements to existing structures within the one hundred (100) year flood plain will be subject to all regulations and requirements of these regulations.

New construction or substantial improvements of residential or nonresidential structures (including prefabricated home) and accessory buildings shall have the lowest floor (including basements) elevated to six (6) inches above the level of the one-hundred (100) year frequency flood. Nonresidential structures and accessory buildings may meet this requirement by flood proofing the structures, including utility and sanitary facilities, up to six (6) inches above the level of the one-hundred (100) year frequency flood.

- E. A drainage channel shall not be located in a street easement unless it is placed in an enclosed storm sewer except under the following conditions:
1. Where a paved street surface of at least two lanes is provided on both sides of a paved channel so as to provide access to abutting properties; or,
 2. Where lots are platted to back up to the street right-of-way where the drainage channel is located between the rear of the lot line and the paved street, and further provided that at no time in the future shall access be allowed or constructed over the open drainage channel to the rear of a lot so platted. For the purpose of these regulations, a lot which sides are not considered to back up to a public street is not considered to back up to the street right-of-way.
 3. When a condition outlined in either (1) or (2) above is present, adequate space adjacent to the channel shall be dedicated as right-of-way to provide for maintenance of the paved drainage channel and its unpaved bank.
- F. In single family residential, duplex, or mobile home developments, site grading shall be carried out in such a manner that surface water from each dwelling lot will flow directly to a storm sewer, improved channel, sodded swale, or paved street without crossing more than four (4) adjacent lots.
- G. Surface water collected in streets shall be diverted to storm drains at satisfactory intervals to prevent overflow of six (6) inch high curbs during a twenty-five (25) year frequency rain for the area and grades involved. Drainage area allowed for surface flow on streets at point of diversion shall not exceed ten (10) acres, regardless of flow.
- H. Drainage easement of satisfactory width to provide working room for construction and maintenance shall be provided for all storm sewers.

- I. Open channels shall be improved by providing a paved section that will carry the runoff from a rain of twenty-five (25) year frequency within the lined section and a sodded section to carry the additional runoff from a rain of fifty (50) year frequency. Whenever an open improved channel is required or authorized for a secondary drainage channel under the provisions of these regulations and the channel crosses residential lots which have been developed under the Planned Unit Development concept, or where the channel improvement is to be designed as an area that will be maintained by a property owners association, the Director of Planning may modify the requirements of the first part of this provision to permit a channel improvement design in keeping with landscaping architectural plans, providing all hydraulic requirements to support the overflow resulting from a one hundred (100) year frequency rainfall are met in such a manner as to prevent flooding of all building pads.

60.12.4 Major River Channel Requirements

All major river channels which are located within or immediately adjacent to an improvement or subdivision shall be protected and improved by the developer as follows:

- A. All land for an elevation below the fifty (50) year maximum flood elevation for the final improved channel shall be dedicated for the purpose of providing drainage and/or utility easement use.
- B. The existing channel shall be cleaned to provide free flow of water, straightened, widened, leveed or diked, or otherwise improved to the extent required to prevent overflow from a fifty (50) year frequency flood.
- C. Site improvements for residential buildings must have the lower floor (including basement) elevated to six (6) inches above the one hundred (100) year flood level. Mobile home placement pads shall be elevated to six (6) inches above the one hundred (100) year frequency flood.
- D. New construction or substantial improvements of non-residential structures and accessory buildings must have the lowest floor (including basement) elevated to six (6) inches above the one hundred (100) year flood plain or flood proofed including utility and sanitary facilities up to six (6) inches above the level of the one hundred (100) year flood.
- E. Fill, grading measures, and building flood-proofing measures shall be approved by the City Engineer. The minimum standards shall apply as set forth in the "Flood-proofing Regulations" prepared by the Office of the Chief of Engineers, U.S. Army, Washington, D.C., June 1972 or as amended.

60.12.5 Requirements Relating to Improvements

Partial cost of construction of bridges and culverts at arterial streets and major thoroughfares may be borne by the City of Chickasha. The City of Chickasha may participate in the cost of construction of bridges and culverts at collector streets where the

required hydraulic cross-section of the bridge or culvert is greater than forty (40) square feet, provided in any event that participation of the City of Chickasha is subject to the availability of funds and approval of the city council. Cost to be borne by the City of Chickasha will be determined by the following formula, to wit:

Total cost of bridge or culvert divided by the square feet of required hydraulic cross-section all multiplied by the square feet or required hydraulic cross-section less forty (40) square feet. Nothing in this section shall be construed to prevent owner or owners from bearing all costs if he/she or they so desire.

60.12.6 Improvements Required by Planning Commission

When the Planning Commission subsequent to the submission by a developer of a Preliminary Plat, requires a bridge or culvert at a residential street and the required hydraulic cross-section is greater than forty (40) square feet, the City of Chickasha may participate in the cost of construction of the bridge or culvert in the same manner as provided for in Section 60.12.5.

60.12.7 Bridge and Culvert Requirements

All flow of water across continuous streets or alleys shall be through culverts or bridges. Bridges and culverts shall be sized to accommodate a fifty (50) year frequency rain, without increasing the depth of flow in the channel by more than one (1) foot. Design of bridges and culverts shall conform to City of Chickasha Construction Specifications.

60.12.8 Closed Storm Sewers

Closed storm sewers shall be constructed of precast or prefabricated pipe or built in place of closed box design to conform with the City of Chickasha Construction Specifications. Sizing shall be calculated by the Manning Formula. Provided that storm sewers carrying runoff from streets may be designed to serve a ten (10) year frequency rain for the drainage area involved, provided that overflow from a one hundred (100) year frequency rain can reach a suitable outlet without inundating any building pad.

60.12.9 Open Paved Storm Drainage

Open paved storm drainage channels shall be constructed in accordance with City of Chickasha Construction Specifications. Side slopes above the paved section shall be shaped and sodded on a slope of three horizontal to one vertical or flatter. Fences shall not be erected closer than one (1) foot (measured horizontally) to the edge of the paved or sodded section.

60.12.10 Areas Outside Subdivision

City of Chickasha reserves the right to require off-site improvements to preclude any backup of tail water inundating from any areas outside of the dedicated drainage easements in the subdivision as a result of a fifty (50) year flood.

60.12.11 Administration

Prior to authorization of any building permit by the Building Inspector, the City Engineer shall review and approve all such stream flow and runoff calculations as he may

require of a developer under the terms of this ordinance, and the City Engineer shall have final authority of engineering interpretations of all required fifty (50) and one-hundred (100) year flood elevations necessary to determine compliance to this section. He shall also be responsible for coordinating municipal programs of corrective or preventive measures for reducing flood damage.

60.12.12 Application of Provisions

The flood-prone area provisions of this ordinance shall apply to all lands, tracts, parcels or lots in part or in whole which are transversed by, encompassed by or lying within two-hundred (200) feet of the external boundaries of the delineated flood plain for the water course as shown on the Official Flood Plain Maps.

The location and boundaries of the flood plain are shown upon the "Official Flood Plain Maps" of the City of Chickasha, which are hereby incorporated into this regulation and placed on file in the Office of the City Clerk. The said maps, together with everything shown thereon and all amendments thereto, shall be as much a part of this section as if fully set forth and described herein. Application of this ordinance may be modified on portions of major river channels, primary channels, and secondary channels only by specific application of "Type 15" or "Type 19" Federal Insurance Administration Studies (Flood Hazard Boundary Maps) as completed and received from the Administrator.

The boundaries of the flood plain shall be as they appear on the Official Flood Plain Maps kept on file with the City Clerk. The boundary lines on the map shall be determined by the use of the scale appearing on the map. Where there is a conflict between the boundary lines on a map and actual field conditions, the dispute shall be settled by the City Engineer. In all cases, the person contesting the location of the boundary shall be given a reasonable opportunity to present his/her case to the City Engineer and to submit his/her own technical evidence if he/she so desires. The City Engineer shall not allow deviations from the boundary line as mapped unless the evidence clearly and conclusively establishes the mapped location of the line is incorrect.

60.12.13 Flood Prone Areas

The following provisions apply only to lands designated as "Flood Prone Areas". Special review and control measures shall be required to assure protection from flooding as set forth:

A. A special review of building permits in flood-prone areas. No permit shall be issued for new development or for the start of new construction or for expansion or additional construction to existing structures for any residential or nonresidential structure or accessory building including prefabricated or mobile homes unless the application for permit is submitted accompanied by the following information for review:

1. Plans in triplicate drawn to scale showing the nature, location dimensions, and elevation of the lot, existing or proposed structures, fill, storage of materials, flood-proofing measures, and the relationship of the above to the location of the channel.

2. A typical valley cross-section showing the channel of the stream, elevation of land areas adjoining each side of the channel, cross-sectional areas to be occupied by the proposed development and high water information.
 3. Plans (surface view) showing elevations and contours of the ground; pertinent structures, fill or storage elevations, size, location, and spatial arrangement of all proposed and existing structures on the site; location and elevations of streets, water supply, sanitary facilities; photographs showing existing land uses and vegetation upstream and downstream, soil types, and other pertinent information.
 4. A profile showing the slope of the bottom of the channel or flow line of the stream. This profile shall cover a minimum of three hundred (300) feet upstream and downstream from the property limits unless additional information is requested by the City Engineer.
 5. Specifications for building construction and materials, flood-proofing, filling, dredging, grading, channel improvements, storage of materials, water supply, and sanitary facilities.
 6. Copies of all other permits required by State or Federal law, including Section 404 of the Federal Water Pollution Control Act Amendments of 1972, 33 U.S.C. 1334.
- B. Use restrictions in designated floodway. When floodway data has been provided by the Federal Insurance Administrator, the following control measure will apply to that portion of the floodway outside of the dedicated channel as required by the regulation.
1. Fill or encroachments are prohibited within the designated floodway that would impair its ability to carry and discharge waters resulting from the one hundred (100) year flood.
 2. The designation of the floodway shall be based on the principle that the area chosen for the floodway be designed to carry the waters of the one hundred (100) year flood without increasing the water surface elevation of that flood more than one (1) foot at any point.
 3. No structure, improvement or development, temporary or permanent, shall be constructed in the floodway, nor shall any obstruction, fill or storage of goods, materials or equipment be permitted within the floodway.
 4. Existing non-conforming uses in the floodway shall not be expanded but may be modified, altered or repaired to incorporate flood-proofing measures provided such measures do not raise the level of the one hundred (100) year flood.

60.12.14 Storm Sewer and Drainage Channel Projects

Storm sewer and drainage channel projects proposed to be accepted by the City of Chickasha shall be submitted as follows:

- A. A letter from the developer shall be submitted to the City Council of the City of Chickasha and it shall describe the location of said storm sewers and drainage channels, the construction cost, a certified copy of "as built" plans executed by the Developer's Engineer shall be attached and said letter shall contain a request for

acceptance for operation and maintenance of the utility by the City of Chickasha.

- B. A letter from the Developer's Engineer shall be submitted to the City Council of the City of Chickasha certifying that the construction of said utility was performed in full compliance with approved plans and specifications.
- C. A maintenance bond from the Developer's Contractor running to the City of Chickasha in the amount of fifty percent (50%) of the construction cost shall be submitted to the City subsequent to the acceptance of the utility by the City Council of the City.

Section 60.13 Street Lighting

- A. The subdivider shall be responsible for having street lighting installed in all subdivisions and shall be responsible for all installation costs.
- B. A street light standard of thirty (30) feet mounting height shall be installed at all street intersections, at the end of cul-de-sacs, and at intermittent spacing necessary to produce a minimum of 0.6 maintained foot candles for collector streets and 0.4 maintained foot candles for local streets with a uniformity ratio not exceeding 3 to 1. Luminaries shall have a minimum one-hundred seventy-five (175) watt high intensity discharge lamps.

Section 60.14 Street Signs

All street signs (traffic and identification) shall be furnished and installed at the expense of the subdivider, at each intersection within the subdivision and shall conform to the manual on Uniform Traffic Control Devices, U.S. Department of Transportation, Federal Highway Administration. Street signs installation shall be reviewed and approved by the Public Works Department.

Section 60.15 Driveways

All driveways and approaches shall meet the following requirements:

- A. All driveways and approaches within the R-1, R-2, and R-3 zoning districts shall:
 - 1. Maintain a minimum driveway width of eighteen (18) feet.**
 - 2. Maintain a minimum curb radius of five (5) feet.
- B. All commercial driveway approaches shall maintain a minimum curb radius of fifteen (15) feet.
- C. The Community Development Director shall be authorized to waive the requirements of Section 60.15 (A.1.) when, due to lot size or topographic restrictions, an undue hardship would exist. However, economic conditions will not be considered as an undue hardship, and all hardship waivers will be for an individual lot only. Any appeals to the hardship waiver will be to the Board of Adjustment on an individual lot basis.

**The intent of Section 60.15 (A.1.) is to provide for off street parking for at least two (2) vehicles, side by side. City staff will look at each building permit application to ensure that intent is followed, while not causing an undue hardship on the property owner.