

CHAPTER 10
SUBDIVISION REGULATION

ARTICLE 10.01 GENERAL PROVISIONS

(Reserved)

ARTICLE 10.02 SUBDIVISION ORDINANCE

SEC. 10.02.001 ADOPTED.

The Subdivision Ordinance, Ordinance _____, adopted by the city on _____, as amended, is included as chapter 10 and as Appendix 2. Due to the nature of the Subdivision Ordinance and the technicalities involved in adopting or amending it, such ordinance is printed herein as enacted, with only nonsubstantive formatting and style changes. Capitalization, punctuation and numbering of articles, sections and subsections have been retained as enacted. Subsequent amendments will be inserted in their proper place and denoted by a history note following the amended provisions. The absence of a history note indicates the material is unchanged from the original. Obviously misspelled words have been corrected without notation. Any other material added for purposes of clarification is enclosed in brackets. (Ordinance adopting Code)

**EXHIBIT A
SUBDIVISION ORDINANCE
NUMBER 243**

PREAMBLE

The City of Bandera is known for its small block grid, rural feel, and natural setting that has contributed to the vitality of the community since it was settled. As a matter of public policy, the City Council aims to preserve, enhance, and perpetuate those aspects of the City's development patterns into the future.

In order to promote the City's heritage and to ensure harmonious and efficient future development within the City, it is deemed essential by the City Council that qualities relating to the history of Bandera be protected. This ensures a general visual appearance for enhancing property values, the City's economic base and encouraging tourism.

It is the purpose of the following Subdivision Ordinance to prevent the harmful effects of uncontrolled development in the Character Districts of the City, and thus to protect the health, safety and general welfare of the citizenry by encouragement of wise and appropriate patterns within the City of Bandera and its extraterritorial jurisdiction.

As authorized by Chapter 211 of the Texas Local Government Code, the Place Type Zoning Standards and Districts, as herein established, have been made in accordance with an adopted Comprehensive Plan for the purpose of promoting the public health, safety, and general welfare, and protecting and preserving places and areas of historical, cultural, or architectural importance and significance in the City.

ORDINANCE NO. _____

AN ORDINANCE REPEALING ORDINANCE NO. 2002-2003 AND ALL AMENDMENTS THEREAFTER ADOPTED, PRESCRIBING RULES AND REGULATIONS GOVERNING PLATS, PLANS AND SUBDIVISIONS OF LAND WITHIN THE INCORPORATED AREA AND EXTRATERRITORIAL JURISDICTION OF THE CITY OF BANDERA, TEXAS; CONTAINING CERTAIN DEFINITIONS; PROVIDING FOR A PRELIMINARY PLAT AND A FINAL PLAT; PRESCRIBING REQUIREMENTS AND STANDARDS FOR STREETS, SIDEWALKS, DRAINAGE, FLOOD CONTROL AND UTILITIES; PROVIDING FOR A PENALTY; PROVIDING A SEVERABILITY CLAUSE; AND PROVIDING AN EFFECTIVE DATE.

WHEREAS, under the provisions of the Constitution and laws of the State of Texas, including particularly Chapter 212 of the Local Government Code, as heretofore or hereafter amended, the owner of a tract of land within the limits or in the extraterritorial jurisdiction of a municipality who divides the tract in two or more parts to layout a subdivision of the tract, including an addition to a municipality, to layout neighborhood, building, or other lots, or to layout streets, alleys, squares, parks, or other parts of the tract intended to be dedicated to public use or for the use of purchasers or owners of lots fronting on or adjacent to the streets, alleys, squares, parks, or other parts, must have a plat of the subdivision prepared and have the plat approved by the City; and

WHEREAS, Ordinance No. 2002-2003 and all amendments thereafter adopted, prescribing the rules and regulations governing plats and subdivisions of land, is no longer adequate to promote and protect the general health, safety, and welfare of persons residing in and adjacent to the City of Bandera:

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF BANDERA, TEXAS, THAT ORDINANCE NO. _____ AND ALL AMENDMENTS THEREAFTER ADOPTED, THE SUBDIVISION ORDINANCE OF THE CITY OF BANDERA, TEXAS, IS HEREBY AMENDED TO READ AS FOLLOWS:

TABLE OF CONTENTS

<p>ARTICLE 10.01 GENERAL PROVISIONS 1</p> <p>EXHIBIT A: SUBDIVISION ORDINANCE 1</p> <p>ARTICLE I. GENERAL PROVISIONS 4</p> <p style="padding-left: 20px;">SECTION 1. PURPOSE 4</p> <p style="padding-left: 20px;">SECTION 2. DEFINITIONS 5</p> <p style="padding-left: 20px;">SECTION 3. GENERAL PROHIBITIONS 8</p> <p style="padding-left: 20px;">SECTION 4. PENALTY 8</p> <p style="padding-left: 20px;">SECTION 5. SEVERABILITY CLAUSE 8</p> <p style="padding-left: 20px;">SECTION 6. REPEAL OF CONFLICTING ORDINANCES 8</p> <p>ARTICLE II. PROCEDURES 9</p> <p style="padding-left: 20px;">SECTION 1. PRE-APPLICATION CONFERENCE 9</p> <p style="padding-left: 20px;">SECTION 2. SUBMISSION OF PRELIMINARY PLAT 9</p> <p style="padding-left: 20px;">SECTION 3. WATER AVAILABILITY PROCEDURES 11</p> <p style="padding-left: 20px;">SECTION 4. PROCESSING OF PRELIMINARY PLAT 21</p> <p style="padding-left: 20px;">SECTION 5. SUBMISSION OF FINAL PLAT 22</p> <p style="padding-left: 20px;">SECTION 6. FINANCIAL GUARANTEES 24</p> <p style="padding-left: 20px;">SECTION 7. APPROVAL OF FINAL PLAT 25</p> <p style="padding-left: 20px;">SECTION 8. VARIANCES 26</p> <p style="padding-left: 20px;">SECTION 9. FINAL SUBDIVISION ACCEPTANCE REQUIREMENTS 27</p> <p>ARTICLE III. GENERAL SUBDIVISION DESIGN AND LAYOUT 28</p> <p style="padding-left: 20px;">SECTION 1. MINIMUM REQUIREMENTS 28</p> <p style="padding-left: 20px;">SECTION 2. GENERAL SUBDIVISION DESIGN 28</p> <p style="padding-left: 20px;">SECTION 3. PARKLAND AND CIVIC SPACE DEDICATION 29</p> <p style="padding-left: 20px;">SECTION 4. LOTS 29</p> <p style="padding-left: 20px;">SECTION 5. BLOCKS 30</p> <p style="padding-left: 20px;">SECTION 6. EASEMENTS 31</p> <p>ARTICLE IV. STREETS 32</p> <p style="padding-left: 20px;">SECTION 1. GENERAL LAYOUT AND ALIGNMENT OF STREETS 32</p> <p style="padding-left: 20px;">SECTION 2. REQUIRED STREET IMPROVEMENTS 34</p> <p style="padding-left: 20px;">SECTION 3. STREET GEOMETRY STANDARDS 35</p> <p style="padding-left: 20px;">SECTION 4. MINIMUM PAVEMENT DESIGN STANDARDS AND TESTING 37</p> <p style="padding-left: 20px;">SECTION 5. STANDARDS FOR ALTERNATE PAVEMENT DESIGNS 38</p> <p style="padding-left: 20px;">SECTION 6. PROTECTION OF LIMITED ACCESS STREETS 40</p> <p style="padding-left: 20px;">SECTION 7. CUL-DE-SACS 40</p>	<p style="padding-left: 20px;">SECTION 8. ALLEYS 40</p> <p style="padding-left: 20px;">SECTION 9. CURBS 41</p> <p style="padding-left: 20px;">SECTION 10 . SIDEWALKS 41</p> <p style="padding-left: 20px;">SECTION 11. DRIVEWAYS 42</p> <p style="padding-left: 20px;">SECTION 12. TRAFFIC-CONTROL SIGNS AND STREET SIGNS 42</p> <p>ARTICLE V. DRAINAGE AND FLOOD HAZARDS 43</p> <p style="padding-left: 20px;">SECTION 1. GENERAL REQUIREMENTS 43</p> <p style="padding-left: 20px;">SECTION 2. REQUIRED DRAINAGE STUDY 44</p> <p style="padding-left: 20px;">SECTION 3. DRAINAGE EASEMENTS 45</p> <p style="padding-left: 20px;">SECTION 4. DRAINAGE SYSTEM DESIGN STANDARDS ... 45</p> <p style="padding-left: 20px;">SECTION 5. FLOOD HAZARDS 51</p> <p>ARTICLE VI. WATER AND SEWERS 53</p> <p style="padding-left: 20px;">SECTION 1. GENERAL REQUIREMENTS AND WATER SYSTEMS 53</p> <p style="padding-left: 20px;">SECTION 2. WATER SYSTEM DESIGN STANDARDS 54</p> <p style="padding-left: 20px;">SECTION 3. WATER MAINS 54</p> <p style="padding-left: 20px;">SECTION 4. FIRE HYDRANTS 55</p> <p style="padding-left: 20px;">SECTION 5. SANITARY SEWERS 56</p> <p style="padding-left: 20px;">SECTION 6. SEPTIC SYSTEMS 56</p> <p style="padding-left: 20px;">SECTION 7. WASTEWATER SYSTEM DESIGN STANDARDS 57</p> <p>ARTICLE VII. UTILITY EXTENSIONS AND GENERAL SUBDIVISION IMPROVEMENTS 58</p> <p style="padding-left: 20px;">SECTION 1. GENERAL REQUIREMENTS 58</p> <p style="padding-left: 20px;">SECTION 2. SURVEY REQUIREMENTS 59</p> <p style="padding-left: 20px;">SECTION 3. COST OF UTILITY EXTENSIONS 59</p> <p style="padding-left: 20px;">SECTION 4. COST DISTRIBUTION FOR OVERSIZE FACILITIES 60</p> <p style="padding-left: 20px;">SECTION 5. MINIMUM SIZES FOR OVERSIZING CALCULATIONS 61</p> <p style="padding-left: 20px;">SECTION 6. WATER AND SEWER MAIN EXTENSION REIMBURSEMENTS 61</p> <p>ARTICLE IX. WIRELESS COMMUNICATIONS SYSTEM REGULATIONS 63</p> <p style="padding-left: 20px;">SECTION 1. DEFINITIONS 63</p> <p style="padding-left: 20px;">SECTION 2. GENERAL REQUIREMENTS 64</p> <p style="padding-left: 20px;">SECTION 3. ADDITIONAL REQUIREMENTS 66</p> <p>EXHIBIT "A" PLAT CERTIFICATES AND NOTES 68</p>
--	---

SUBDIVISION ORDINANCE OF THE CITY OF BANDERA, TEXAS

ARTICLE 1. GENERAL PROVISIONS

SECTION 1. PURPOSE

A. STANDARDS TO MANAGE SUBDIVISION OF LAND

The provisions of the Subdivision Ordinance are intended to provide for the orderly development of the City through the creation of neighborhoods that provide for light, air, recreation, transportation, water, drainage, wastewater and other facilities by assuring compliance of land divisions and development, the subdivision requirements and standards contained in this ordinance prior to site preparatory activities on individual lots, tracts, or parcels.

B. TERRITORIAL LIMITS OF REGULATIONS

The territorial application of this ordinance shall include all land located within the corporate limits of the City and all land lying within the extraterritorial jurisdiction of the City, as from time to time extended, except that Articles III through VIII inclusive shall not apply to lands which were included in the City of Bandera's extraterritorial jurisdiction through petition as provided by Chapter 42, Section .022(b) of the Local Government Code, provided said lands are not within the boundaries of the City's extraterritorial jurisdiction as such boundaries exist at the time of final plat approval.

C. APPLICATION OF REGULATIONS

On or after the passage of this ordinance, any person, firm or corporation (subdivider) seeking approval of any plat, plat amendment, plan or replat of any subdivision of land within the City and its legally established extraterritorial jurisdiction shall be required to comply with the requirements of this ordinance before such approval may be granted. Any subdivision construction plans that have not been approved by the City before the passage of this ordinance shall be required to comply with the requirements of this ordinance. No transfer of land in the nature of a subdivision as defined herein shall be exempt from the provisions of this ordinance even though the instrument or document of transfer may describe land so subdivided by metes and bounds.

SECTION 2. DEFINITIONS

For the purpose of this ordinance, certain terms and words are hereby defined as follows. For the convenience of the reader, these terms are usually indicated by bold print and underlining, but the absence of such indications does not imply a different meaning. Terms not defined herein shall be construed in accordance with the Place Type Zoning Ordinance, other City codes and ordinances, or their customary usage and meaning. The word “shall” is mandatory and not permissive. The word “may” is permissive and not mandatory. The words “may not” and “shall not” are both prohibitive. Headings and captions are for reference purposes only, and shall not be used in the interpretation of this ordinance.

Editor’s note—The bold print and underlining for defined terms as described above is not used herein.

ALLEY: A minor public right-of-way not intended to provide the primary means of access to abutting lots, which is used primarily for vehicular service access to the back or sides of properties otherwise abutting on a street.

ALLEY, MAJOR: An alley designed to access the rear or side of nonresidential lots or the rear of residential lots with rear entry access.

ALLEY, NEIGHBORHOOD: An alley designed to access the rear or side of residential lots without rear entry access.

MAJOR STREET: A limited access street designed to carry a large volume of traffic from one part of the city to another, along a route generally indicated in the city’s comprehensive plan.

BUILD TO LINE: The line within a property defining the placement of the front façade of the principal structure.

BUILDING FRONTAGE LINE: The line within a property defining the minimum horizontal distance between a building and the adjacent street line or lot line.

CITY ADMINISTRATOR: The City Administrator and/or his/her duly authorized representative.

CIVIC SPACE: An outdoor area dedicated for public use. Civic Space types are defined by the combination of certain physical constants including the relationships among their intended use, their size, their landscaping, and the buildings that front them.

EASEMENT, NON-ACCESS: An easement dedicated to the public prohibiting vehicular traffic on, over or across said easement.

EASEMENT, OVERHANG: An interest in land granted to the City, to the public generally, and/or to a utility corporation, for installing or maintaining overhead utilities over private land. This easement does not grant the right of entry thereon with machinery and vehicles for maintenance.

EASEMENT, SIDEWALK: An interest in land granted to the public for the installation of and public use of, a sidewalk across or over private land, together with the right to enter thereon with machinery and vehicles necessary for the installation and maintenance of said sidewalk.

EASEMENT, UTILITY: An interest in land granted to the City, to the public generally, and/or to a private utility corporation, for installing or maintaining utilities across, over or under private land, together with the right to enter thereon with machinery and vehicles necessary for the maintenance of said utility.

FLOODPLAIN: Any land area susceptible to being inundated by water from the unusual and rapid accumulation or runoff of surface waters from any source.

FLOODWAY: The channel of a river or watercourse and portions of the adjacent floodplain as depicted in the current floodway map provided to the City of Bandera by Federal Emergency Management Agency (FEMA), or as determined by an engineering study in areas not depicted in the current floodway map.

IMPACT FEE ORDINANCE: City of Bandera Ordinance No. ??? [sic], adopted (to be determined), and all amendments thereafter adopted.

IMPERVIOUS SURFACE: The paved surface of any street, alley, sidewalk, driveway or parking area, the roof of any building or structure, and the top surface of any deck or other construction of any character which is so designed or built that rain falling on the surface is carried off that surface without directly penetrating the ground beneath it.

INTERIOR STREET: A minor street which enters or traverses a subdivision, or whose entire course is located within the boundaries of a subdivision, as distinguished from a perimeter street.

LOT: An undivided tract or parcel of land having frontage on a public street or an approved open space having direct street access, and which is, or in the future may be, offered for sale, conveyance, transfer, or improvement, which is designated as a distinct and separate tract, and which is identified by a tract number, lot number, or other symbol in a duly approved subdivision plat which has been properly filed of record.

LOT, CORNER: A lot at the point of intersection of and abutting on two or more intersecting streets, the angle of intersection being not more than 135 degrees.

LOT, DOUBLE FRONT: Any lot, not a corner lot, with frontage on two streets which are parallel to each other or within 45 degrees of being parallel to each other.

NEIGHBORHOOD STREET: A street which is located within and connects to a residential area.

NEIGHBORHOOD MIX STREET: A street which connect and distributes traffic from and to neighborhood streets and which feeds into the major street.

PARKLAND, ALSO SEE CIVIC SPACE: An area of land, ranging from a natural state to a hardscaped plaza for the enjoyment of the public, having facilities for rest and recreation, usually owned, set apart, and managed by a city, state or nation.

PERIMETER STREET: A street or dedicated street right-of-way adjacent to and abutting the boundary of any subdivision or tract of land.

PLACE TYPES OR PLACE TYPE ZONES: Shall mean geographic zoning boundaries that use standards to establish the Building Types, density, height, and other elements of the intended habitat or use.

PLAT, FINAL: The map or plan of a subdivision that is submitted to the City staff and the Planning and Zoning Commission and the City Council for final approval. After approval, the plat is recorded under PROVISIONS OF CHAPTER 192 OF THE LOCAL GOVERNMENT CODE.

PLAT, PRELIMINARY: The first or introductory map or plan of a proposed subdivision that is submitted to the City staff and the Planning and Zoning Commission and the City Council for initial approval as the basis for development of a final plat.

PRIVATE STREET: A street which is not a public thoroughfare.

RESERVE STRIP: An area of land adjacent to a public right-of-way, title to which is retained by the landowner (subdivider), the purpose of such strip being to control access across said land.

RESUBDIVISION: The division of an existing subdivision, together with any change of lot size therein, or with the relocation of any street lines.

STREET: A public right-of-way, however designated, other than an alley, which carries vehicular traffic or provides vehicular access to adjacent land. All streets are classified by other definitions in this section.

SUBDIVIDER: Any person or any agent thereof, dividing or proposing to divide land so as to constitute a subdivision as that term is defined herein. In any event, the term "subdivider" shall be restricted to include only the owner, equitable owner or authorized agent of such owner or equitable owner, of land sought to be subdivided.

SUBDIVISION: A division of any tract of land situated within the corporate limits, or within the extraterritorial jurisdiction of the City of Bandera, in two or more parts to lay out a subdivision of the tract, including an addition to the municipality, to lay out suburban, building, or other lots, or to lay out streets, alleys, squares, parks, or other parts of the tract intended to be dedicated to public use or for the use of purchasers or owners of lots fronting on or adjacent to the streets, alleys, squares, parks, or other parts. "Subdivision" includes a division of a tract regardless of whether it is made by using a metes and bounds description in a deed of conveyance or in a contract for a deed, by using a contract of sale or other executory contract to convey, or by using any other method. "Subdivision" includes resubdivision, but it does not include a division of land for agricultural purposes into parts greater than five acres where each part has street access and no public improvement is being dedicated.

TRUNK MAIN: A water main whose primary purpose is to transport water to the distribution system within a subdivision or a sewer main whose primary purpose is to transport wastewater from the collection system within a subdivision. Trunk mains are not directly connected to individual lots.

ZONING ORDINANCE OR PLACE TYPE ZONING ORDINANCE: City of Bandera Zoning Ordinance No. 79, adopted 13 January 1986 and including amendments 105C, adopted 14 August 1989, 188 adopted 12 April 1999, 190 adopted 10 May 1999, XXX 16 November 2021 and all amendments thereafter adopted.

SECTION 3. GENERAL PROHIBITIONS

A. UNAUTHORIZED SUBDIVISIONS

It shall be unlawful for any land owner, or the agent of any land owner, to layout, subdivide, plat or replat any land into lots, blocks and streets within the jurisdictional limits of the City and ETJ without the approval of the Planning and Zoning Commission and the City Council in accordance with this ordinance.

B. PERMITS IN UNAUTHORIZED SUBDIVISIONS

No building, repair, plumbing or electrical permit shall be issued by the City for any structure on a lot in a subdivision until the final plat of the subdivision has been approved and filed for record and the subdivision has been accepted by the City.

C. PUBLIC SERVICES IN UNAUTHORIZED SUBDIVISIONS

The City shall not repair, maintain, install or provide any streets or public utility services in any subdivision for which a final plat has not been approved and filed for record, or in which the standards contained herein or referred to herein have not been complied with in full.

D. UTILITY SERVICES IN UNAUTHORIZED SUBDIVISIONS

Neither the City, County, public utility, water supply or sewer service corporation, special district, authority, cooperative or other entity shall supply water, gas, electricity, or sewer service to any lot or subdivision for which a final plat has not been approved and for which certificate has not been issued pursuant to Sections 212.0115 and 212.012, Texas Local Code.

SECTION 4. PENALTY

Any person violating this ordinance or any portion thereof shall, upon conviction, be guilty of a misdemeanor and shall be fined \$1,000.00, and each day that such violation continues or each occurrence shall be considered a separate offense and punished accordingly.

SECTION 5. SEVERABILITY CLAUSE

If any section, subsection, sentence, clause or phrase of this ordinance is for any reason held to be unconstitutional, void or invalid, the validity of the remaining portions of this ordinance shall not be affected thereby, it being the intent of the City Council in adopting this ordinance that no portion hereof, or provision or regulation contained herein shall become inoperative or fail by reason of the unconstitutionality or invalidity of any section, subsection, sentence, clause, phrase or provision of this ordinance.

SECTION 6. REPEAL OF CONFLICTING ORDINANCES

All ordinances and parts of ordinances and amendments of ordinances in conflict herewith are expressly repealed to the extent of their inconsistency; provided, however, that whenever the provisions of any other ordinance establish higher or more restrictive standards or regulation than those established by this ordinance, the provisions of such other ordinance or regulation shall govern.

ARTICLE II. PROCEDURES

SECTION 1. PRE-APPLICATION CONFERENCE

Before submitting a preliminary plat, the subdivider should request a conference with the City Administrator and designated City staff. At this conference, the subdivider should present a preliminary plan for advice on the procedures, specifications and standards required by the City for the subdivision of land.

SECTION 2. SUBMISSION OF PRELIMINARY PLAT

A. PROCEDURES FOR SUBMISSION

In submitting a preliminary plat for initial consideration by the Planning and Zoning Commission and the City Council, the subdivider shall deliver the following to the City Administrator no later than 21 calendar days prior to the date the plat is to be considered by the Commission:

1. Eight (8) blue or black line copies of the preliminary plat, plus one 8-1/2 x 11 black and white suitable for making overhead.
2. A preliminary plat submission to the city for a proposed subdivision whose water supply will be from private wells or a public water supply system relying wholly or partially on groundwater or surface water shall include water available data. This water availability data shall be derived from procedures for surface water sources, or from a minimum of two wells (one test well and one monitor well). There shall be 1 set of Test Monitor wells for each 100 acres or less. The use of existing well is permitted if the existing well complies with these testing standards.

B. FORMAL APPLICATION AND FILING FEE

The preliminary plat shall be accompanied by the appropriate filing fee established by City Council. The Commission shall take no action on the plat until the filing fee has been paid. This fee shall not be refunded should the subdivider fail to make formal application for preliminary plat approval or should the plat be disapproved. The subdivider shall make formal application for preliminary plat approval in writing to the City Administrator no later than 7 calendar days prior to the Planning and Zoning Commission meeting at which the plat is to be considered.

C. FORM AND CONTENT OF PLAT

The preliminary plat of a proposed subdivision shall be prepared by a registered public surveyor and bear his/her seal. The plat shall show or be accompanied by the following information:

1. The plat shall be drawn on sheets no larger than 36 inches wide and 48 inches long, and to a scale no smaller than 1 inch to 400 feet. The preliminary plat shall include all of the tract intended to be developed at one time. When more than one sheet is necessary, an index sheet showing the entire subdivision at an appropriate scale shall be drawn on the face of the plat.
2. The name of the subdivision, which shall not duplicate the name of an existing or pending subdivision.

3. A complete legal description by metes and bounds of the land being subdivided. The existing boundary lines shall be drawn wide enough to provide easy identification.
4. The names and addresses of owners of record.
5. A location map showing the relation of the subdivision to well-known streets in all directions.
6. North arrow, with north to the top of the sheet if possible, and the bearing of record.
7. Name and location of adjacent subdivisions, watercourses on or adjacent to the proposed subdivision, and the property lines and names of the property owners in all adjoining unsubdivided tracts.
8. The total acreage and total number of lots in the proposed subdivision.
9. Water availability test results
10. The location, right-of-way width, name and description of all existing or recorded streets, alleys, or other transportation features or similar reservations which are within or adjacent to the subdivision, as determined from existing records.
11. Five-foot contour interval surveys tied to City Control Monuments or USGS Benchmarks. Where conditions exist that make the use of five-foot contours impractical, alternate intervals may be used upon approval of the City.
12. The location of the City limit lines and the outer border of the City's extraterritorial jurisdiction if either traverses the subdivision or is contiguous to a subdivision boundary.
13. The location of building setback lines, including front, rear and side setback lines, shown by dashed lines on the plat.
14. A number to identify each lot and each block, the approximate width and depth of each lot, and a note of the approximate area of the smallest lot.
15. The centerline of watercourses, creeks and existing drainage structures within and adjacent to the subdivision. Pertinent drainage data and the limits of areas subject to flooding shall be shown, delineating the 100-year flood limits if applicable.
16. The location and results of soil analysis tests shall be shown on each lot which is to utilize an on-site wastewater disposal system. The name and address of the person performing such soil analysis tests shall be noted on the plat.
17. The location of any private water wells located on the property.
18. The location of any existing septic system located within the property.
19. The locations, dimensions and purposes of all recorded and proposed easements.

SECTION 3. WATER AVAILABILITY PROCEDURES

A. SURFACE WATER SOURCES

1. A Texas licensed professional engineer must prepare the certification required by this chapter.
2. Studies of the proposed surface water resources for flow volumes and quality to prove sustainable yields in all known hydrologic conditions for the number of lots to be developed for residential and/or commercial uses.
3. Documentation of contractual arrangements with purveyors, engineering design for water treatment and distribution infrastructure, along with State pumping permits.
4. Declaration of who will manage the water system during the marketing phase, and once the subdivision is sold.
5. Contingency planning for drought and flood events.

After reviewing the developer's report, the City and Bandera County River Authority & Groundwater District (or an authorized agent of the City) would work together with the developer to either approve, disapprove and/or make recommendations for a successful project.

B. GROUNDWATER SOURCES

1. At a minimum, the following information pertaining to the proposed Subdivision shall be provided, as specified by the state in Chapter 230 of Title 30, Texas Administrative Code (30 TAC 230):
 - » The purpose of the proposed subdivision - for example, single-family residential, multifamily residential, nonresidential, commercial, or industrial.
 - » The size of the proposed subdivision in acres.
 - » The number of proposed lots within the proposed subdivision.
 - » The average size (in acres) of the proposed lots in the proposed subdivision.
 - » The anticipated method of water distribution to the proposed lots.
 - » If the anticipated method of water distribution for the proposed subdivision is from an expansion of an existing public water supply system or from a proposed public water supply system, evidence required under § 290.39(c)(1) of 30 TAC (relating to Rules and Regulations for Public Water Systems) which shall be provided demonstrating that written application for service was made to the existing water providers within a 1/2-mile radius of the subdivision.
 - » Any additional information required by the municipal or county authority as part of the plat application.

C. PROJECTED WATER DEMAND ESTIMATE

- » **Residential water demand estimate.** Residential water demand estimates at full build-out shall be provided as specified in § 290.39(c) of 30 TAC (relating to Certification of Groundwater Availability for Platting). Residential demand estimates shall, at a minimum be based on the current demand of any existing residential well including those identified under § 290.8(b) of 30 TAC (relating to Obtaining Site-Specific Groundwater Data), or § 290.41(c) of 30 TAC (relating to Rules and Regulations for Public Water Systems), and
 - a. The number of proposed housing units at full build-out;
 - b. The average number of persons per housing unit;
 - c. The gallons of water required per day;
 - d. The water demand per housing unit per year (acre-feet per year); and,
 - e. The total expected residential water demand per year for the proposed subdivision (acre per feet per year).
- » **Nonresidential water demand estimate.** Water demand estimates at full building out shall be provided for all nonresidential uses as specified in § 290.3(c) of 30 TAC. Nonresidential uses shall be specified by type of use and groundwater demand per year (acre-feet per year) for each type of use. The estimate shall also include the existing nonresidential demand of any well including those identified under § 290.8(b) of 30 TAC or § 290.41(c) of TAC.
- » **Total annual water demand estimate.** An estimate of the total expected annual groundwater demand, including residential and nonresidential estimates at full build-out (acre-feet per year), shall be provided as specified in § 290.3(c) of 30 TAC.
- » **Submission of information.** The sources of information used and calculations performed to determine the groundwater demand estimates as required by this section shall be made available to the municipal or county authority if requested. The plat applicant shall provide any additional groundwater demand information required by the municipal or county authority as part of the plat application.

D. GENERAL GROUNDWATER RESOURCE INFORMATION

- » **Aquifer identification.** Using Texas Water Development Board aquifer names, the aquifer(s) underlying the proposed subdivision which is planned to be used as the source of water for the subdivision shall be identified and generally described as specified in § 290.3(c) of TAC (relating to Certification of Groundwater Availability for Platting).
- » **Geologic and groundwater information.** To meet the requirements of this chapter, the following geologic and groundwater information shall be considered in planning and designing the aquifer test under § 290.8(c) of 30 TAC (relating to Obtaining Site-Specific Groundwater Data):
 - a. The stratigraphy of the geologic formations underlying the subdivision;
 - b. The lithology of the geologic strata;
 - c. The geologic structure;
 - d. The characteristics of the aquifer(s) and their hydraulic relationships;
 - e. The recharge to the aquifer(s), and movement and discharge of groundwater from the aquifer(s); and,
 - f. The ambient quality of water in the aquifer(s).

E. OBTAINING SITE-SPECIFIC GROUNDWATER DATA

- » **Applicability of section.** This section is applicable only if the proposed method of water distribution for the proposed Subdivision is individual water wells on individual Lots. If expansion of an existing public water supply system or installation of a new public water supply system is the proposed method of water distribution for the proposed Subdivision, site-specific groundwater data shall be developed under the requirements of Chapter 230, of 30 TAC (relating to Rules and Regulations for Public Water Systems) and the information developed in meeting these requirements shall be attached to the form required under § 230.3 of 30 TAC (relating to Certification of Groundwater Availability for Platting).
- » **Location of existing wells.** All known existing, abandoned, and inoperative wells within the proposed subdivision shall be identified, located, and mapped by on-site surveys. Existing well locations shall be illustrated on the plat required by the municipal or county authority.
- » **Aquifer testing.** Utilizing the information considered under § 230.7(b) of 30 TAC (relating to General Groundwater Resource Information), an aquifer test shall be conducted to characterize the aquifer(s) underlying the proposed subdivision. The aquifer conducted to characterize the aquifer(s) underlying the proposed subdivision [sic]. The aquifer test must provide sufficient information to allow evaluation of each aquifer that is being considered as a source of residential and nonresidential water supply for the proposed subdivision. Appropriate aquifer testing shall be based on typical well completions. An aquifer test conducted under this section utilizing established methods shall be reported as specified in § 230.3(c) of 30 TAC and shall include, but not be limited to the following items:
 - a. **Test well and observation well(s).** At a minimum, one test well (i.e., pumping well) and one observation well, shall be required to conduct an adequate aquifer test under this section. Additional observation well(s) shall be completed in the same aquifer or aquifer production zone as the test well. The locations of the test and observation well(s) shall be shown on the plat required by the municipal or county authority.
 - b. **Location of wells.** The test and observation well(s) must be placed within the proposed subdivision and shall be located at a radial distance such that the time-drawdown data collected during the planned pumping period fall on a type curve of unique curvature. In general, observation wells in unconfined aquifers should be placed no farther than 300 feet from the test well, and no farther than 700 feet in thick, confined aquifers. The observation well should also be placed no closer to the test well than two times the thickness of the aquifer's production zone. The optimal location for the observation well(s) can be determined by best professional judgment after completion and evaluation of the test well as provided in paragraph (4) [d.] of this subsection.
 - c. **Lithologic and geophysical lots.** The test and observation wells shall be lithologically and geophysically logged to map and characterize the geologic formation(s) and the aquifer(s) in which the aquifer test(s) is to be performed.
 - i. A lithologic log shall be prepared showing the depth of the strata, their thickness and lithology (including size, range, and shape of constituent particles as well as smoothness), occurrence of water-bearing strata, and any other special notes that are relevant to the drilling process [or] to the understanding of subsurface conditions.

- ii. Geophysical logs shall be prepared which provide qualitative information on aquifer characteristics and groundwater quality. At a minimum, the geophysical logs shall include an electrical log with shallow and deep-investigative curves (e.g., 16-inch short normal/64-inch long normal resistivity curves or induction log) with a spontaneous potential curve.
 - iii. The municipal or county authority may, on a case-by-case basis waive the requirement of geophysical logs as required under this section if it can be adequately demonstrated that the logs are not necessary to characterize the aquifer(s) for testing purposes.
- a. **Well development and performance.** The test and observation well(s) shall be developed prior to conducting the aquifer test to repair damage done to the aquifer(s) during the drilling operation. Development shall insure that the hydraulic properties of the aquifer(s) are restored as much as practical to their natural state [state].
- i. Well development procedures applied to the well(s) may vary depending on the drilling method used and the extent of the damage done to the aquifer(s)
 - ii. During well development, the test well shall be pumped for several hours to determine the specific capacity of the well, the maximum anticipated drawdown, the volume of water produced at certain pump speeds and drawdown, and to determine if the observation well(s) are suitably located to provide useful data.
 - iii. Water pumped out of the well during well development shall not be allowed to influence initial well performance results.
 - iv. Aquifer testing required by this section shall be performed before any acidization or other flow-capacity enhancement procedures are applied to the test well.
- a. **Protection of groundwater.** All reasonably necessary precautions shall be taken during construction of test and observation wells to ensure that surface contaminants do not reach the subsurface environment and that undesirable groundwater (water that is injurious to human health and the environment or water that can cause pollution to land or other waters) if encountered, is sealed off and confined to the zone(s) or [of] origin.
- b. **Duration of aquifer test and recovery.** The duration of the aquifer test depends entirely on local and geologic conditions. However, the test shall be of sufficient duration to observe a straight-line trend on a plot of water level versus the logarithm of time pumped. Water pumped during the test shall not be allowed to influence the test results. Aquifer testing shall not commence until water levels (after well development) have completely recovered to their predevelopment level or at least to 90% of that level.
- i. At a minimum, a 24-hour uniform rate aquifer test shall be conducted. Testing shall continue long enough to observe a straight-line trend on a plot of water level versus the logarithm of time pumped. If necessary, the duration of the test should be extended beyond the 24-hour minimum limit until the straight-line trend is observed.
 - ii. If it is impractical to continue the test until a straight-line trend of water level versus the logarithm of time pumped is observed within the 24-hour limit, the test shall continue at least until a consistent pumping-level trend is observed. In such instances, failure to observe the straight-line trend shall be recorded.

- iii. If the pumping rates remain constant for a period of at least four hours and a straight-line trend is observed on a plot of water level versus the logarithm of time pumped before the 24-hour limit has been reached, the pumping portion of the test may be terminated.
 - iv. Water level recovery data shall be obtained to verify the accuracy of the data obtained during the pumping portion of the test. Recovery measurements shall be initiated immediately at the conclusion of the pumping portion of the aquifer test and shall be recorded with the same frequency as those taken during the pumping portion of the aquifer test. Time-recovery measurements shall continue until the water levels have recovered to pre-pumping levels or at least to 90% of that level. If such recovery is not possible, time-recovery measurements should continue until a consistent trend of recovery is observed.
- c. Use of existing wells and aquifer test data.
- i. An existing well may be utilized as an observation well under this section if sufficient information is available for that well to demonstrate that it meets the requirements of this section.
 - ii. The municipal or county authority may accept the results of a previous aquifer test in lieu of a new test if:
 - iii. The previous test was performed on a well located within a 1/4-mile radius of the subdivision;
 - iv. The previous test fully meets all the requirements of this section;
 - v. The previous test was conducted on an aquifer which is being considered as a source of water supply for the proposed subdivision; and
 - vi. Aquifer conditions (e.g., water levels, gradients, etc.) during the previous test were approximately the same as they are presently.
- d. **Need for additional aquifer testing and observation wells.** Best professional judgment shall be used to determine if additional observation wells or aquifer tests are needed to adequately demonstrate groundwater availability. The Theis and Cooper-Jacob non-equilibrium equations, and acceptable modifications thereof, are based on well-documented assumptions. To determine if additional information is needed, best professional judgment shall be used to consider these assumptions, the site-specific information derived from the aquifer test required by this section, the size of the proposed subdivision, and the proposed method of water delivery.
- e. **Submission of information.** The information, data, and calculations required by this section shall be made available to the municipal or county authority, if requested, to document the requirements of this section as part of the plat application.

F. DETERMINATION OF GROUNDWATER QUALITY

- » Water quality analysis. Water samples shall be collected near the end of the aquifer for chemical analysis. Samples shall be collected from each aquifer being considered for water supply for the proposed Subdivision and reported as specified. For proposed subdivisions where the anticipated method of water delivery is from an expansion of an existing public water supply system or a new public water supply system, the samples shall be submitted for bacterial and chemical analysis as required by Chapter 290, Subchapter F of this title [Title 30 TAC] (relating to Drinking Water Standards Governing Drinking Water Quality and Reporting Requirements for Public Water Supply Systems).
 - a. For proposed subdivisions where the anticipated method of water delivery is from individual water supply wells on individual lots, samples shall be analyzed for the following:
 - (1) Chloride
 - (2) Conductivity
 - (3) Fluoride
 - (4) Iron
 - (5) Nitrate (as nitrogen)
 - (6) Manganese
 - (7) pH
 - (8) Sulfate
 - (9) Total hardness
 - (10) Total dissolved solids
 - (11) Presence/absence of total coliform bacteria
 - b. Conductivity and pH values may be measured in the field, and the other constituents shall be analyzed in a Texas Department of Health approved laboratory using methods approved by the commission.

G. DETERMINATION OF GROUNDWATER AVAILABILITY

- » **Time frame for determination of groundwater availability.** At a minimum, both a short- and long-term determination of groundwater availability shall be made, each considering the estimated total water demand at full build-out of the proposed Subdivision. Groundwater availability shall be determined for ten years and 30 years and for any other time frame(s) required by the municipal or county authority.
- » **Other considerations in groundwater availability determination.** Groundwater availability determination shall take into account the anticipated method of water delivery as identified under § 230.5 of 30 TAC (relating to Proposed Subdivision Information) and will be compared to annual demand estimates at full build-out as determined under § 230.6 of 30 TAC (relating to Project Water Demand Estimate).
- » **Determination of aquifer parameters.** The parameters of the aquifer(s) being considered to supply water to the proposed subdivision shall be determined utilizing the information considered under § 230.7 of 30 TAC (relating to General Groundwater Resource Information) and data obtained during the aquifer test under § 230.8 of 30 TAC (relating to Obtaining Site-Specific Groundwater Data) for individual water wells or under Chapter 290, Subchapter D of 30 TAC (relating to Rules and Regulations for Public Water Systems) and reported as specified in § 230.3(c) of 30 TAC (relating to Certification of Groundwater Availability for Platting). The time-drawdown and time-recovery data obtained during the aquifer test shall be used to determine aquifer parameters utilizing the non-equilibrium equations developed by Theis or Cooper-Jacob, or acceptable modifications thereof. The following aquifer parameters shall be determined:
 - a. Rate of yield and drawdown
 - b. Specific capacity
 - c. Efficiency of the pumped (test) well
 - d. Transmissivity
 - e. Coefficient of storage
 - f. Hydraulic conductivity
 - g. Recharge or barrier boundaries, if any are present
 - h. Thickness of the aquifer(s)

- » **Determination of groundwater availability.** Using the information and data identified and determined in subsections (b) and (c) of this section, the following calculations shall be made.
 - a. Time-drawdown. The amount of drawdown at the pumped well(s) and at the boundaries of the proposed subdivision shall be determined for the time frames identified under subsection (a) of this section.
 - b. Distance-drawdown. The distance(s) from the pumped well(s) to the outer edges of the cone(s) of depression shall be determined for the time frames identified under subsection (a) of this section.
 - c. Well interference. For multiple wells in a proposed subdivision, calculations shall be made to:
 - i. Determine how pumpage from multiple wells will affect drawdown individual wells for the time frames identified under subsection (a) of this section; and
 - ii. Determine a recommended minimum spacing limit between individual wells and well yields from the wells that will allow for the continued use of the wells for the time frames identified under subsection (a) of this section.
- » **Determination of groundwater quality.** The water quality analysis required under § 230.9 of this title [Title 30 TAC] (relating to Determination of groundwater Quality) shall be compared to primary and secondary public drinking water standards and the findings documented as specified in Chapter 290 of 30 TAC
- » **Submission of information.** The information, data, and calculations required by this section shall be made available to the municipal or county authority, if required, to document the requirements of this section as part of the plat application.

H. GROUNDWATER AVAILABILITY AND USABILITY STATEMENTS AND CERTIFICATION

- » **Groundwater availability and usability statements.** Based on the information developed under § 230.10 of 30 TAC (relating to Determination of Groundwater Availability), the following information shall be provided as specified in § 230.3(c) of 30 TAC (relating to Certification of Groundwater Availability for Platting):
 - a. The estimated drawdown of the aquifer at the subdivision boundary over a ten-year period and over a 30-year period.
 - b. The estimated drawdown of the aquifer at the subdivision boundary over a ten-year period and over a 30-year period.
 - c. The estimated distance from the pumped well(s) to the outer edges of the cone(s) of depression over a ten-year period and over a 30-year period.
 - d. The recommended minimum spacing limit between wells and the recommended well yield.
 - e. The sufficiency of available groundwater quality to meet the intended use of the platted subdivision.
- » **Groundwater Availability Determination Conditions.** The assumptions and uncertainties that are inherent in the determination of groundwater availability should be clearly identified as specified in § 230.3(c) of 30 TAC. These conditions must be identified to adequately define the bases for the availability and usability statements. These bases may include, but are not limited to, uncontrollable and unknown factors such as:
 - a. Future pumpage from the aquifer or from interconnected aquifer from area wells outside of the subdivision or any other factor that cannot be predicted that would affect the storage of water in the aquifer.
 - b. Long-term impacts to the aquifer based on climatic variations.
 - c. Future impacts to usable groundwater due to unforeseen or unpredictable contamination.
- » **Certification.** Based on best professional judgment, current groundwater conditions, and the information developed and presented in the form specified by § 230.3(c) of this title, the licensed professional engineer certifies by signature, seal and date that adequate groundwater is available from the underlying aquifer(s) to supply the estimated demand of the proposed subdivision.

SECTION 4. PROCESSING OF PRELIMINARY PLAT

A. STAFF REVIEW

City staff will inspect the preliminary plat to see that it conforms with all the requirements of this ordinance. The subdivider or his/her representative will be informed in writing by the City Administrator of any deficiencies in the preliminary plat.

B. APPROVAL BY THE CITY ADMINISTRATOR OR ENGINEER (NEED TO MODIFY FOR SHOT CLOCK BILL)

The City Administrator or Engineer shall conditionally approve or disapprove the preliminary plat no later than 30 calendar days after the date on which the City receives a complete plat submission. If the preliminary plat is conditionally approved, the City Administrator shall recommend to City Council that Council conditionally approve the preliminary plat. If any major changes are required, the City may require submission of another preliminary plat restarting the 30 day requirements. Should the preliminary plat as submitted fail to meet the conditions of this ordinance, the City shall disapprove the plat and note its disapproval in the minutes of the City records.

C. APPROVAL BY CITY COUNCIL

The City Council shall conditionally approve or disapprove the preliminary plat no later than 30 calendar days after the date on which the City Administrator adopted the recommended conditional approval by City Council on the preliminary plat. Approval of the preliminary plat shall not constitute final acceptance of the final plat, but is authority to proceed with the preparation of the final plat. If Council requires any major changes, the Council may require submission of another preliminary plat. Should the preliminary plat as submitted fail to meet the conditions of this ordinance, the Council shall disapprove the plat and note its disapproval in the minutes of the Council meeting.

D. EXPIRATION OF PLAT APPROVAL

Approval of the preliminary plat shall lapse 1 year from the date of City Council approval.

E. BEGIN COUNTING

The time begins when application is administratively complete with approval of Planning & Zoning and City Council.

F. DELAYS

Applicant has authority to request a postponement of plat approval process, not to exceed 60 days, on review of a preliminary plat.

SECTION 5. SUBMISSION OF FINAL PLAT

A. PROCEDURES FOR SUBMISSION

No final plat shall be considered unless a preliminary plat has first been submitted to and approved by the City Council. The final plat and accompanying data shall conform to the preliminary plat as conditionally approved by the City, incorporating all changes, modifications, alterations and corrections required by the City and Council. The subdivider shall provide the following no later than 31 calendar days prior to the City's consideration of the final plat:

1. Eight copies of the final plat, plus one 8-1/2 x 11 black and white copy suitable for making overhead.
2. Three detailed sets of plans and specifications bearing the seal and signature of a registered professional engineer, together with detailed cost estimates of all subdivision improvements.
3. A digital file of the final plat in a format specified by the City.

The subdivider shall submit to the City Administrator a formal application for final plat approval, accompanied by payment of the appropriate filing fee established by City Council, also accompanied by payment of the appropriate impact fees established by the City's Impact Fee Ordinance. The application and all required payments shall be submitted no later than 7 calendar days prior to the Commission meeting at which the final plat is to be considered.

B. FORM AND CONTENT OF PLAT

The final plat shall be produced in ink or Computer Aided Design (CAD) on mylar or other reproducible media, 18 inches wide and 24 inches long, and to a scale of either 1 inch to 100 feet or 1 inch to 50 feet. Where more than one sheet is required, an index sheet no larger than 18 inches wide and 24 inches long shall be filed showing the entire subdivision, and all scales shall be uniform. The following information must be shown on or must accompany the plat:

1. Name of the subdivision, north arrow, the name of the land owner or owners, the name of the registered surveyor and/or engineer responsible for the preparation of the plat, scale, location map, total acres in the subdivision, and the location of the subdivision in reference to an original corner of the original survey of which said land is a part.
2. Certificate, signature and seal of the licensed surveyor who surveyed the land (see Exhibit A).
3. Certificate, signature and seal of the engineer, except when the plat does not require engineering considerations (see Exhibit A).
4. A certificate of ownership and dedication to the City of all streets, easements, alleys, parks, playgrounds or other dedicated public uses, signed and acknowledged before a notary public by the owners and by any holders of liens against the land (see Exhibit A).
5. Certificate of approval to be signed by the Chair and the Secretary of the Commission (see Exhibit A).
6. Certificate of approval to be signed by the Mayor of the City Council and the City Secretary (see Exhibit A).

7. Certificate for recording the plat in the Bandera County Clerk's office,
8. The names and property lines of adjoining subdivisions and the property lines and names of property owners in contiguous unsubdivided tracts.
9. The name and location of adjacent streets, alleys, easements, watercourses, and other required information, all lines outside of the subdivision boundaries to be dashed.
10. The names of all proposed streets and the locations and right-of-way widths of all proposed streets and alleys.
11. Complete curve data (delta, arc length, radius, tangent, point of curvature, point of reverse curvature, point of tangency, long chord with bearing) between all lot corner pins.
12. Locations, dimensions and purposes of any easements or other rights-of-way to be dedicated to public use.
13. Lot and block lines, numbers of all proposed lots and blocks, dimensions for front, rear and side lot lines, and the street address of each lot.
14. The use classification of each street based on the street definitions in this ordinance.
15. Plat notes indicating the location of sidewalks on both sides of all streets (except where sidewalks are not required by this ordinance), and the installation of double swing gates across all utility easements.
16. If applicable, the boundaries of the 100-year floodplain and floodway.
17. Subdivisions in an area having special flood hazards shall show on the plat:
 - a. A flood zone for that area which is subject to inundation by the 100-year flood.
 - b. The surface elevation(s) of the 100-year flood as depicted in the current floodplain map(s) provided to the City of Bandera by the Federal Emergency Management Agency (FEMA).
18. Minimum slab elevations of all lots that fall within the 100-year floodplain.
19. Other appropriate plat notes (see Exhibit A).
20. Appropriate easement notes (see Exhibit A).
21. A final erosion control plan and a construction sequencing plan. These plans shall be included in the subdivision construction documents.

SECTION 6. FINANCIAL GUARANTEES

A. REQUIRED PERFORMANCE BOND

No later than 3 working days prior to consideration of the final plat by the Planning and Zoning Commission, the subdivider shall file with the City Administrator either an irrevocable letter of credit, a cash deposit, a savings assignment, or a performance bond, in an amount equal to the estimated cost of the utility and street improvements to be made in the subdivision by the subdivider, including the cost of erosion control during construction. Such bond or other financial guarantee shall be for the faithful performance, installation and completion of such improvements.

B. ADJUSTMENT OF BOND/DEPOSIT

Within 10 days after approval of the final plat, but prior to the start of construction, the subdivider shall provide the City Administrator an executed copy of the utility and street construction contracts or a notarized statement certifying the final contracts so that the City may substantiate the estimated cost of improvements. The performance bond/deposit shall be adjusted to reflect the actual construction costs.

C. EXPIRATION OF BOND

The performance bond/deposit shall bear an expiration date of at least 1 year and shall be retained by the City Administrator until all improvements have been completed and accepted by the City.

D. PAYMENT OF BOND

If all improvements have not been completed and accepted by the City 30 calendar days prior to the expiration of the performance bond/deposit, the City Administrator shall present the performance bond/deposit for immediate payment.

SECTION 7. APPROVAL OF FINAL PLAT

A. PLANNING AND ZONING COMMISSION REVIEW AND APPROVAL

The Planning and Zoning Commission shall review the final plat. Prior to final plat approval, the City Administrator shall furnish the Commission a report concerning utility and street construction plans, bonding requirements and filing fees. When the Commission is satisfied that all conditions and requirements have been met, the Commission shall approve the plat and recommend to City Council that Council approve the final plat.

B. CITY COUNCIL REVIEW AND APPROVAL

The City Council shall review the final plat. Prior to final plat approval, the City Administrator shall furnish the Council a report concerning utility and street construction plans, bonding requirements, filing fees and Planning and Zoning Commission recommendations. When the Council is satisfied that all conditions and requirements have been met, the Council shall approve the final plat.

C. FILING REQUIREMENTS

Once the final plat has been approved by the City Council, the City Administrator shall hold the final plat until the subdivider has complied with all final subdivision acceptance requirements of Article II, Section 8 [9] of this ordinance. No later than 10 working days after compliance with Article II, Section 8 [9] of this ordinance, the subdivider shall file the approved final plat for record and provide the City with two reproducible recorded tracings of the final plat.

D. DISAPPROVED PLATS

Should the final plat as submitted fail to meet the conditions of this ordinance, the Commission or Council shall disapprove the plat and note its disapproval in the minutes of the respective meeting.

SECTION 8. VARIANCES

A. COMMISSION POWER TO GRANT VARIANCES

A variance can be granted only by the Board of Adjustment when in harmony with the general purpose and intent of this ordinance so that the public health, safety and welfare may be secured and substantial justice done. Pecuniary hardship to the subdivider, standing alone, shall not be deemed to constitute undue hardship. In granting a variance, the Board of Adjustment shall prescribe only conditions that it deems necessary to or desirable in the public interest.

B. FINDINGS REQUIRED FOR VARIANCES

In making the findings herein required, the Board of Adjustment shall take into account the nature of the proposed use of the land involved, existing uses of land in the vicinity, the number of persons who will reside or work in the proposed subdivision, and the probable effect of such variance upon traffic conditions and upon the public health, safety, convenience and welfare in the vicinity. No variance shall be granted unless the Board of Adjustment makes affirmative findings as to all of the following:

1. That there are special circumstances or conditions affecting the land involved such that the strict application of the provisions of this ordinance would deprive the applicant of the reasonable use of his/her land;
2. That the variance is necessary for the preservation and enjoyment of a substantial property right of the applicant;
3. That the granting of the variance will not be detrimental to the public health, safety or welfare, or injurious to other property in the area; and
4. That the granting of the variance will not have the effect of preventing the orderly subdivision of other land in the area in accordance with the provisions of this ordinance.

C. PROCEDURES FOR VARIANCES

The subdivider shall submit to the City Administrator a written application for each variance which is requested, along with the appropriate filing fee established by City Council. The Board of Adjustment shall not consider any action on the variance request until this fee has been paid. The findings of the Board, together with the specific facts upon which such findings are based, shall be incorporated into the minutes of the Board meeting at which the variance is granted or rejected. If the Board rejects a variance, the subdivider may appeal to the appropriate courts.

SECTION 9. FINAL SUBDIVISION ACCEPTANCE REQUIREMENTS

Prior to final acceptance by the City of completed improvements for maintenance, the subdivider shall file with the City Administrator or the Bandera County Commissioners Court, whichever is appropriate, the following:

1. Either a 2-year warranty bond conditioned that the improvements are free from defects in materials and workmanship, or an irrevocable letter of credit, cash deposit or savings assignment, committing funds for the correction and repair of any defects in materials or workmanship. The bond, letter of credit, cash deposit or savings assignment shall be in the amount of 10 percent of the contract price for the improvements.
2. Two sets of certified "As Built" record drawing plans for each subdivision improvement.
3. A digital file of the "As Built" record drawing plans for each subdivision improvement in a format specified by the City.
4. Two certified copies of all improvement costs, itemized as follows:
 - a. Streets, alleys, curbs, sidewalks and drainage features.
 - b. Water mains, valves, hydrants and services.
 - c. Sewer mains, lift stations, force mains, manholes and services.

Prior to acceptance of the subdivision improvements, the subdivider shall provide the City a certified release of lien stating that all contractors, subcontractors and suppliers have been paid and that no liens exist and that no liens will be filed on the subdivision. The City shall give no acceptance until an acceptable certified release of lien is provided. No applications shall be accepted for building permits or utility connections, and no building permits shall be issued or utility connections made until such time as the City accepts the entire subdivision.

ARTICLE III.

GENERAL SUBDIVISION DESIGN AND LAYOUT

SECTION 1. MINIMUM REQUIREMENTS

The intent of this ordinance is to create neighborhoods using lot and block patterns of Bandera. The design standards contained in this ordinance represent minimum values considered necessary to ensure good public health and safe development within the community. The design engineer and subdivider are required to meet or exceed these standards. Approval of plans and specifications by the City shall not be construed as relieving the design engineer and the subdivider of responsibility for compliance with this ordinance or with the requirements of other local, county or state authorities having jurisdiction. No preliminary plat or final plat shall be approved and no completed improvements shall be accepted unless they conform to the standards and specifications of this ordinance. (Ordinance 243 adopted 2/17/05)

SECTION 2. GENERAL SUBDIVISION DESIGN

Every subdivision shall conform to the comprehensive plan of the City and the parts thereof. If a tract is subdivided into parcels larger than 3.4 acres or ordinary building lots, such parcels shall be arranged to allow the opening of future streets using the standards of this ordinance and when in the City limits, the Place Type Zoning Ordinance. Except for non-access easements required by this ordinance, there shall be no reserve strips controlling access to land dedicated or intended to be dedicated to public use. The locations, right-of-way widths and names of all proposed streets shall conform to those of the existing streets with which they may be or become extensions. The names of proposed streets shall not duplicate or be deceptively similar to the names of other streets within the City limits or within the extraterritorial jurisdiction of the City. To the extent possible, in order to preserve the cultural heritage of the City, street names, common areas, buildings, signs, and all possible aspects of the subdivision design shall conform to the Master Plan. (Ordinance 301, sec. 2.04, adopted 2/13/14)

SECTION 3. PARKLAND AND CIVIC SPACE DEDICATION

All plats of general subdivisions containing tracts less than 5 acres in size that are to be approved by the City, including property being platted within the City's extraterritorial jurisdiction, shall show the area proposed for parkland to be dedicated to the public. This area shall be no less than five (5%) of the gross area of the property being platted, and shall have a suitable means of access from a public street.

In all instances, the City shall have the right to accept the dedication of parkland or to refuse it. Any parkland dedicated to the City shall be suitable for either active or passive recreational use. For example, a drainage area that serves no useful recreational purpose shall not be accepted as parkland.

If the City accepts the parkland dedication, the dedication shall be made on the final plat. Parkland dedication by separate instrument shall not be accepted. No final plat dedicating parkland shall be approved until the parkland dedication requirements are met.

A subdivider involved in the following platting situations may apply for a parkland dedication exemption, provided the subdivider can show evidence of no or limited impact on the existing parks and recreational facilities of the City:

1. Vacating plats
2. Vacating and resubdivision plats
3. Amending and correction plats
4. Plats for projects designed specifically as elderly housing

SECTION 4. LOTS

A. MINIMUM LOT SIZE

The Place Type Zoning Ordinance establishes certain minimum standards for lots within the corporate limits of the City. This Subdivision Ordinance along with the Place Type Zoning Ordinance establishes minimum standards for lot sizes, street frontages and height requirements for areas within the corporate limits of the City and its extraterritorial jurisdiction.

1. A General Subdivision lot served by an individual water supply well and individual on-site sewage system (OSSF) shall have a minimum lot size of five acres. The minimum lot size must be maintained exclusive of any floodway that may encroach on the lot.
2. A General Subdivision lot served by a public water supply and having an individual on-site sewage facility (OSSF) shall have a minimum lot size of two acres. The minimum lot size must be maintained exclusive of any floodway that may encroach on the lot.
3. A General Subdivision lot served by a public water supply and by a public sewage disposal system shall have a minimum lot size of one-half acre. The minimum lot size must be maintained exclusive of any floodway that may encroach on the lot.

B. BUILD TO LINES

For a subdivision within the corporate limits of the City, build to lines from the property lines shall meet the minimum requirements of the Place Type Zoning Ordinance for the place type and Character District applicable to the land being subdivided. For a subdivision outside the corporate limits of the City but within the City's extraterritorial jurisdiction, build to lines shall meet the minimum requirements which would be applicable in the least intensive place type which would permit the proposed land use if the subdivision were located inside the City's corporate limits. Building Setback lines are established by the IBC as adopted by the City.

C. LOT FRONTAGE REQUIREMENTS

Lots in the City Limits shall conform to the standards of the Place Type Zoning Ordinance. Each lot shall be provided with adequate access to an existing or proposed public street.

1. The minimum lot frontage requirement for subdivisions with 5-acre minimum lot sizes will be 335 feet.
2. The minimum lot frontage requirement for subdivisions of 2-acre minimum lot sizes will be 150 feet.
3. The minimum lot frontage requirement for subdivision of 1/2-acre minimum lot sizes will be 100 feet.
4. If the lot is on a cul-de-sac or cul-de-sac corner, the chord length will be 50-60 feet.

SECTION 5. BLOCKS

A. BLOCK LENGTH

Block length for subdivisions in the City Limits are established by the Place Type Zoning Ordinance. Internal block makeup may vary in configuration to accommodate the natural netting or other physical features. Blocks outside the city but in the extraterritorial jurisdictions along neighborhood streets may not be longer than 335 feet. Blocks along neighborhood streets may not be shorter than 300 feet except for interior neighborhood streets. Blocks along major streets, neighborhood mix streets, railroad, body of water, or similar barrier may not be longer than 500 feet except under special conditions and with the approval of the Planning and Zoning Commission.

B. BLOCK WIDTH

Block widths for subdivisions in the City Limits are established by the Place Type Zoning Ordinance. Blocks widths in the extraterritorial jurisdiction along neighborhood streets may not be longer than 335 feet. Blocks shall be wide enough to allow two tiers of lots of at least minimum depth, except when prevented by the size of the property or the need to back up to a rural street and except when an alternative design is approved by the Planning & Zoning Commission.

C. BLOCK NUMBERING

Blocks shall be numbered consecutively within the subdivision and/or sections of an overall plat as recorded.

SECTION 6. EASEMENTS

A. DEDICATION REQUIRED

Where necessary to adequately serve a subdivision with public utilities, the subdivider shall dedicate or grant easements for poles, wires, conduits, drainage channels, storm sewers, sanitary sewers, water lines, gas lines, and other utilities. These easements shall be at least 20 feet wide, except that where an easement contains multiple utilities and the City determines that a greater width is necessary, the Commission may require a minimum width of up to 30 feet.

B. LOCATION OF EASEMENTS

The easements required under this Section shall be continuous for the entire length of the block. These easements shall parallel as closely as possible the street line frontage of the block. Easements may not straddle but may cross property lines, and they may cross lots other than along lot boundary lines, if in the opinion of the Planning and Zoning Commission such locations are needed.

C. REQUIRED ACCESS AT FENCES

All fences crossing an easement shall have double swing gates or a removable fence panel to allow ready access to the easement.

D. EASEMENTS PART OF LOT AREA

The easements required under this Section shall be considered a part of the lot area for purposes of the minimum lot size requirements of this ordinance and the Place Type Zoning Ordinance.

E. OVERHANG EASEMENTS

Where utilities are not located in alleys, an overhang easement at least 6 feet wide must be provided on the opposing side of the 20-foot easement strip, at a height at and above 10 feet. In all alleys, overhang easements at least 6 feet wide must be provided on each side of the alley for electric and telephone lines, at a height at and above 10 feet.

F. ADDITIONAL EASEMENTS FOR GUY WIRES

Where aboveground utility easements or alleys are not themselves straight within each block, or if they do not connect on a straight course with the utility easements or alleys of adjoining blocks, then additional easements shall be provided for the placing of guy wires on lot division lines in order to support poles set on the curving or deviating easement lines or alley rights-of-way.

ARTICLE IV. STREETS

SECTION 1. GENERAL LAYOUT AND ALIGNMENT OF STREETS

A. PREVENTING CONFLICT OR CONFUSION.

New streets in a subdivision shall be named in a way that will provide continuity of street names and prevent conflict or confusion with existing street names in the City, in the City's extraterritorial jurisdiction or in the County. A proposed new street name is in conflict with this subsection where:

1. It duplicates or sounds phonetically similar to the name of a street already in use within the City or the City's extraterritorial jurisdiction or designated as a future extension in the current Thoroughfare Plan;
2. It differs from an existing street name in the City or the City's extraterritorial jurisdiction by the addition of an auxiliary designation including "avenue," "way," "boulevard," etc.; or
3. The street to be named is an extension of or is in substantial alignment with an existing street in the City, the City's extraterritorial jurisdiction or the County and the proposed street name is different from the existing street name.

B. CONTINUOUS EXTENSIONS.

For any new street segment that is or is planned to be a continuous extension of an existing street, the name of the existing street shall be continued.

C. ALIGNED MAJOR STREETS.

Streets serve as the key public spaces that connect people to places. Bandera's street grid is core to its success and is a pattern that represents the past and will guide its future. For new segments of major streets extended in approximately the same alignment as an existing major, neighborhood mix or neighborhood street, the name of the existing street shall be continued, even if some natural or man-made feature such as a creek, freeway, or golf course precludes physical continuation of the street.

D. ALIGNED NEIGHBORHOOD MIX AND NEIGHBORHOOD STREETS.

New segments of neighborhood mix and neighborhood streets shall not bear the name of any street existing in approximately the same alignment and separated by some natural or man-made feature such as a creek, freeway, or golf course.

E. DUPLICATION.

The primary name of a new street shall not duplicate the primary name of an existing street, except as specified above or if the new street is a cul-de-sac serving six (6) or fewer lots, in which case the new street may have the same primary name as the street from which it extends, provided that all the following conditions exist:

1. The suffix "court" is used to distinguish the name of that cul-de-sac from the name of the street from which it extends, and
2. The house numbers on that cul-de-sac are assigned as if they were actually on the side of the street from which the cul-de-sac extends, and
3. No existing cul-de-sac or court already carries the primary name.

F. RENAMING OR CHANGING EXISTING STREET NAMES.

1. Application shall be submitted to the Planning Department no less than 21 days prior to the date of the Planning and Zoning Commission meeting at which the request is to be heard. An application form for such requests is available in the Office of the City Secretary.
2. All requests or proposals are submitted to the appropriate Plat Review Authority 3 days following application submittal.
3. Owners of property within 200 feet of the request are notified of the Planning and Zoning Commission meeting at which the request is to be heard.
4. Notice of the request is published in the newspaper 15 days prior to the date of the City Council final action on the ordinance changing the street name.
5. The Plat Review Committee reviews the request and makes a recommendation to the Planning and Zoning Commission.
6. The Planning and Zoning Commission shall hold a public hearing on the request. If denied and not appealed, the proposed change cannot be resubmitted for at least one year. If approved or denied and appealed, the request goes to City Council in the form of an ordinance.
7. The City Council shall consider the ordinance at two readings - the second reading being a public hearing.
8. Conditions may be placed on the approval, including a requirement that the applicant is responsible for some or all of the public costs associated with the change (for example, new street signs, etc.).

G. PRIVATE STREETS.

1. To prevent future conflicts regarding Street maintenance, private Streets are prohibited, except where justified by special considerations.
2. Private Streets may be permitted by approval of the City Council after evaluation of such considerations. Private streets shall be permitted only as rural or neighborhood streets.
3. Construction and development of private streets shall meet the standards for right-of-way width and improvement as applied to public streets.
4. At the time a private street is proposed, it shall be classified as a rural or neighborhood street, as described herein and made to conform in all respects with right-of-way paving, curb and gutter, construction, and design requirements as applicable to a public street.
5. New subdivision boundary streets shall not be private. (Ordinance 341 adopted 1/18/18)

SECTION 2. REQUIRED STREET IMPROVEMENTS

A. GENERAL SPECIFICATIONS

1. Street Types are defined in Appendix A, Master Throughfare Plan and shall be used for the creation of new subdivisions. The Pedestrian comfort shall be the primary consideration for the design of streets. Design conflicts between vehicular and pedestrian movement shall be decided in favor of the pedestrian. The subdivider shall, at his/her sole cost and expense, provide all necessary street grading, pavement, curbing, gutters, sidewalks and storm sewer drains required to service the subdivision, including the perimeter streets contiguous to the subdivision. All street improvements shall meet the minimum specifications in the following table. Typical street cross-sections shall be as illustrated in Figure 1. Alternative typical cross-sections that meet provide a better pedestrian environment, protect the natural setting or furthers the intent of building complete neighborhoods can be presented to the City Engineer for possible approval.

Editor's note—Figure 1, referred to above, is not printed herein.

TABLE A. REQUIRED STREET IMPROVEMENTS

STREET CLASSIFICATION	RIGHT-OF-WAY WIDTH	PAVEMENT WIDTH	CURBING	SIDEWALKS
MAJOR	60' - 80'	32' - 38'	Curb	12' - 17' both sides
NEIGHBORHOOD MIX	60'	28' - 32'	Curb or Laydown Curb	10' one or both sides
NEIGHBORHOOD	60'	28'	Curb or Laydown Curb	5' both sides
RURAL	60'	24'	None Required	8' trial or 4' sidewalk
NEIGHBORHOOD ALLEY	20'	16'	None Required	None Required
MAJOR ALLEY	24'	20'	None Required	None Required

B. RIGHT-OF-WAY EXCEPTIONS FOR PLACE TYPE 3 RESIDENTIAL STREETS

The City supports the use of context sensitive design solutions and complete streets and will review projects on a case-by-case basis for conformance with these concepts. A neighborhood street right-of-way width may be reduced to 40 feet where a Place Type 3, residential street meets all of the following conditions:

1. The street is not more than one block long and it intersects with other neighborhood streets at a "T" in midblock.
2. The neighborhood street does not intersect at a major street.
3. A five-foot sidewalk easement is provided on both sides of the neighborhood street.

SECTION 3. STREET GEOMETRY STANDARDS

A. GENERAL REQUIREMENTS

The design of all streets in a subdivision shall conform to the standards of street geometry in the following table.

TABLE B. STREET GEOMETRY STANDARDS

STREET CLASSIFICATION	PAVEMENT CROWN OR CROSS SLOPE	MINIMUM GRADE	MAXIMUM GRADE	CENTERLINE HORIZONTAL RADIUS	MINIMUM CURVE
MAJOR	6"	0.3%	6%	300'	
NEIGHBORHOOD MIX	4"	0.3%	10%	100'	
NEIGHBORHOOD	4"	0.3%	10%	100'	
RURAL	4"	0.3%	10%	100'	
NEIGHBORHOOD ALLEY	0 - 7"	0.3%	10%	50'	
MAJOR ALLEY	0 - 7"	0.3%	10%	50'	

B. OTHER EXCEPTIONS TO MINIMUM RADIUS REQUIREMENT

Exceptions to the minimum centerline horizontal radius requirement in this Section (other than those authorized by Subsection B above) may be granted only by the City Council upon appeal from the Planning and Zoning Commission at preliminary plat approval.

C. REVERSE CURVES

Reverse curves shall be separated by a minimum tangent of 60 feet, except that the Planning and Zoning Commission may waive this requirement for interior neighborhood streets where the Commission finds that an exception is justified by the topography of the site and by the sight distance, right-of-way width, setbacks and other features.

D. VERTICAL CURVATURE

A gradual transition from one roadway grade to another shall be accomplished by means of a vertical parallel curve connecting two intersecting tangents. The minimum length of vertical curve shall be computed from the following formula and table:

$L = KA$

Where:

L= the length of vertical curve in feet

K = a constant related to sight distance and geometry of a parabolic curve (see Table C)

A = the algebraic difference in grades in percent.

TABLE C. DESIGN VALUES FOR CONSTANT “K,” VERTICAL CURVATURE

STREET CLASSIFICATION	“K” CREST CURVES	“K” SAG CURVES
MAJOR	70	60
NEIGHBORHOOD	55	55
RURAL	55	55

E. SIGHT DISTANCE REQUIREMENTS

The minimum sight distances in the following table shall be provided for safe stopping and intersection operations. Where streets are not level, or where other potentially hazardous conditions exist, these distances shall be increased as necessary in the judgment of the City.

TABLE D. MINIMUM SIGHT DISTANCE

STREET CLASSIFICATION	MINIMUM INTERSECTION SIGHT DISTANCE	MINIMUM STOPPING SIGHT DISTANCE
MAJOR	400 feet	300 feet
NEIGHBORHOOD	300 feet	300 feet
RURAL	300 feet	250 feet

F. INTERSECTION DESIGN

All streets shall intersect at a 90-degree angle, or as close as possible to a 90-degree angle considering the topography of the site. Variations must be approved by the City. Each new street intersecting with or extending to meet an existing street shall be tied to the existing street on centerline unless the new street ends at a “T” in midblock.

SECTION 4. MINIMUM PAVEMENT DESIGN STANDARDS AND TESTING

Except as provided in Section 5 of this Article, the pavement of all streets and alleys shall meet the minimum specifications in the following table.

TABLE E. MINIMUM PAVEMENT DESIGN STANDARDS

STREET CLASSIFICATION	TYPE D ASPHALT SURFACE COURSE (LBS./SQ/YARD)	FLEX BASE 95% COMPACTED DENSITY (INCHES)	SUBGRADE % COMPACTED DENSITY
MAJOR	190	10	95
NEIGHBORHOOD MIX	165	8	95
NEIGHBORHOOD	165	8	95
RURAL	165	8	95
NEIGHBORHOOD ALLEY	165	8	95
MAJOR ALLEY	165	8	95

Laboratory testing shall meet the following requirements and shall be performed by a recognized testing laboratory during construction.

A. SUBGRADE PREPARATION, EMBANKMENT AND BACKFILL

Moisture-Density Relationship (Proctor Curve)	1 unless material changes
In-Place Moisture Content Test under flexible base	1 per 200 feet of street
In-Place Moisture Content Test under curb	1 per 200 feet of curb
In-Place Density Test under flexible base	1 per 200 feet of street
In-Place Density Test under curb	1 per 200 feet of curb

B. FLEXIBLE BASE COURSE

Moisture-Density Relationship (Proctor Curve)	1 per 5,000 CY of material
Eades and Grim pH Test	1 per Soil Classification
Atterberg Limits and Gradation	1 per 5,000 CY of material
In-Place Moisture Content Test under pavement	1 per 200 feet of street
In-Place Moisture Content Test under curb	1 per 200 feet of curb
In-Place Density Test under pavement	1 per 200 feet of street
In-Place Density Test under curb	1 per 200 feet of curb

C. HOT-MIX - HOT-LAID ASPHALTIC CONCRETE PAVEMENT

Surface Course Design	1
Extractions	2 per day run, or a minimum of 1 per 500 tons
In-Place Density Test	1 per 600 feet of street

SECTION 5. STANDARDS FOR ALTERNATE PAVEMENT DESIGNS

The City may approve alternative pavement designs provided such alternative is so designed, in the judgment of the City, as to assure reasonable durability and economy of maintenance and provided the alternative is in accordance with Tables A and B and the following provisions of this Section.

A. SOILS INVESTIGATION

The subdivider shall, at his/her own expense, cause to be made a soils investigation by a qualified and independent geotechnical engineer licensed to practice in the State of Texas. The field investigation shall include test borings within the rights-of-way of all proposed streets. The number and locations of such borings shall be subject to the approval of the City. Atterberg limits and moisture contents shall be determined for all significant boring samples. The method used for these determinations shall be the same as that used by the Texas Department of Transportation using their latest Manual of Testing Procedures, 100-E Series test methods. The results of the soils investigation shall be presented to the subdivider and to the City Administrator in written report form. Included as a part of the report shall be a graphical or tabular presentation of the boring data giving Atterberg limits and moisture contents, a soil description of the layers of different soils encountered in the profile of the hole, their limits in relation to a fixed surface datum, and such other information as needed to complete the soils investigation for pavement design purposes. Minimum depth of soil profile boring holes shall be 10 feet unless solid rock formations are encountered sooner.

B. PAVEMENT DESIGN LOADS

Pavement design shall be based on the Texas Department of Transportation tri-axial design standards in the following table.

TABLE F. MINIMUM PAVEMENT LOAD STANDARDS

STREET CLASSIFICATION	TOTAL EQUITY 18 KIP SINGLE AXLE LOAD APPLICATIONS	AVERAGE TEN HEAVY WHEEL LOADS DAILY	LOAD FREQUENCY DESIGN FACTOR
MAJOR	300,000	10,000	1.00
NEIGHBORHOOD MIX	60,000	6,000	0.80
NEIGHBORHOOD	60,000	6,000	0.80
RURAL	60,000	6,000	0.80
NEIGHBORHOOD ALLEY	60,000	6,000	0.80
MAJOR ALLEY	60,000	6,000	0.80

A written report containing pavement design data and recommendations based on the soils investigation shall be prepared at the subdivider's expense by a qualified geotechnical engineer licensed to practice in the State of Texas, and shall be presented to the subdivider and to the City Administrator. The report shall state the load criteria and the soil classifications used. When approved by the City, the geotechnical engineer preparing the report may use the tri-axial classification soils data given in Texas Department of Transportation report number 3-05-71-035, entitled "Tri-axial Classification of the Surface Soils of Texas, as Grouped by Soil Conservation Service Series."

When using the tri-axial data, the report shall so state. The pavement design shall be subject to the approval of the City and shall be shown on the street construction plans as approved. Where the plasticity index of the subgrade soil on which the street is to be built is in excess of 20, the pavement design shall include subgrade stabilization unless approved otherwise by the City.

When subgrade soils are stabilized the minimum depth of stabilization shall be 6 inches unless otherwise approved by the City. In the stabilization of swelling clay soils, the stabilizer used shall be hydrated lime. The lime shall be applied to the subgrade soil in slurry form unless otherwise approved by the City.

For alternate pavement designs within the City limits, the flexible base material and the stabilized layer, if used, shall extend at least 18 inches behind the back of the curb. The paving requirements shall be minimum thicknesses of hot-mix, hot-lay asphaltic concrete of 1-1/2 inches for neighborhood streets and rural streets, and 2 inches for major and neighborhood mix streets. Street and alley pavements in Place Type 4 or 5 areas in the city Limits or commercial or industrial uses outside the City Limits shall utilize the design standards set forth herein for neighborhood mix or major streets. Alley pavements in Place Type 3 areas shall utilize the design standards set forth herein for neighborhood streets.

For alternate pavement designs outside the City limits, the flexible base material and the stabilized layer, if used, shall extend at least 24 inches beyond the pavement edge, and a tack coat shall be applied for the full width. The paving requirement shall be a double asphalt surface treatment. The rate of application for MC-A, HVRS, CRS2 or HFRS2 emulsion for 2 coats shall be a minimum of 0.60 gallons per square yard. The first course shall be uncoated crushed rock applied at the rate of 1 cubic yard per 90 square yards. The second course shall be coated crushed rock applied at the rate of 1 cubic yard per 100 square yards.

SECTION 6. PROTECTION OF LIMITED ACCESS STREETS

Where a major or neighborhood mix street borders upon or passes through a subdivision, the Planning and Zoning Commission may require any of the following alternatives to ensure the separation of local traffic from through traffic:

1. Rural streets to be provided on both sides or on the subdivision side of the major street;
2. Five-foot non-access easements to be provided along the frontage of the major street; or
3. All lots in the block to back up to, side up to, or front the major street with a minimum of 20 feet of extra building setback, and the primary vehicular access to the lots to be off an alley with garages in the rear.

SECTION 7. CUL-DE-SACS

A. PERMANENT

Cul-de sacs are reserved to areas where the topography, land or another physical features reject the ability to connect streets. In the interior of a subdivision, neighborhood streets ending in cul-de-sacs may be platted where the Planning and Zoning Commission deems it unavoidable or to highlight key features of the land. Where the land being subdivided adjoins property not being subdivided, neighborhood streets ending in cul-de-sacs may be platted provided the streets are carried to the boundaries of the subdivision. Place Type 3, P4 or P5 areas streets permanently ending in cul-de-sacs may not be longer than 335 feet, and shall be provided at the closed end with a paved turnaround at least 80 feet in diameter on a street right-of-way of at least 100 feet in diameter. Industrial area streets permanently ending in cul-de-sacs may not be longer than 400 feet, and shall be provided at the closed end with a paved turnaround at least 100 feet in diameter on a street right-of-way of at least 120 feet in diameter.

B. TEMPORARY

A temporary turnaround must be built at the end of a street more than 335 feet long that will be extended in the future. The following note shall be placed on the plat: "Cross-hatched area is a temporary easement for turnaround purposes until the street is extended to the (direction) on a recorded plat."

SECTION 8. ALLEYS

Alleys are optional but recommended in all subdivisions, provided that they conform to the standards and requirements of this ordinance. All alleys must intersect streets at a 90-degree angle, or as close to a 90-degree angle as practicable in the judgment of the City Administrator, and they must be approximately parallel to the streets on both sides. When two alleys or utility easements intersect or turn at a right angle, a cutoff of not less than 10 feet from the normal intersection of the property or easement line shall be provided along each property or easement line. Dead-end alleys are prohibited.

SECTION 9. CURBS

Except where curbs are not required, all streets within the City limits shall have reinforced concrete curbs. Curbs are optional outside the City limits. Minimum curb radii shall be as follows:

TABLE G. MINIMUM CURB RADIUS REQUIREMENTS

STREET INTERSECTION	9 - 15 feet
NONRESIDENTIAL DRIVEWAYS	10 feet
RESIDENTIAL DRIVEWAYS	5 feet

Compacted backfill shall be placed on all of the rights-of-way behind curbs to a minimum elevation equal to the top of the curb. Normal curb exposure shall be required where utility easements intersect streets.

SECTION 10. SIDEWALKS

A. GENERAL REQUIREMENTS

Concrete sidewalks shall be provided on both sides of all streets in a subdivision within the City limits, unless either (a) the subdivider does not control one side of the street or (b) the street is a rural street parallel to a major street. Concrete sidewalks are optional outside the City limits. Major streets shall have minimum 10 to 17-foot-wide sidewalks, and each street other than a major street shall have minimum 5-foot-wide sidewalks. Pedestrian ramps meeting the requirements of the Americans with Disabilities Act Accessibility Guidelines shall be required where all sidewalks meet curbs.

B. LOCATION OF SIDEWALKS

Required sidewalks along major and neighborhood mix streets shall be located in the street right-of-way, adjacent to and parallel to either the property line or the curb, as determined by the Planning and Zoning Commission to be most advantageous in connecting to adjacent developments. Required sidewalk details are provided in Table A Required Street Improvements. Sidewalks along other streets may be located either in the street right-of-way or in a 5-foot-wide sidewalk easement. Along neighborhood streets, the required sidewalks shall be adjacent to and abutting the property line, unless the Commission approves an alternate location adjacent to the curb. Required sidewalks shall extend along all street frontage including the side of corner lots and block ends; provided, however, that where it is impractical for the subdivider to provide such sidewalks on the side lot lines abutting majors or drainage ditches, the Planning and Zoning Commission may waive this requirement at preliminary plat approval. If physical circumstances prevent locating the sidewalks as provided by this Section, then the exact location shall be at the discretion of the City.

C. SIDEWALK OBSTRUCTIONS

Mailbox clusters, kiosks of any character, and other similar sidewalk obstructions shall be located only in an extension of the sidewalk behind the minimum required sidewalk width.

D. TIMING OF SIDEWALK CONSTRUCTION

Construction of the sidewalks on each street is not necessary until construction begins on the first building on that street. However, to avoid undue costs and damage to sidewalks, the subdivider, developer or builder may construct the sidewalk on each lot as it is developed. In no case will a Certificate of Occupancy be issued for a building until the required sidewalks have been constructed.

SECTION 11. DRIVEWAYS

A. GENERAL REQUIREMENTS

Driveway ramps must be constructed of reinforced concrete.

B. LOCATIONAL REQUIREMENTS

Where conditions of topography, traffic flow, traffic and pedestrian safety, community appearance or other factors warrant in the judgment of the Planning and Zoning Commission, the Commission may establish particular requirements for the number, spacing or location of driveways on the affected lots. Such requirements shall be determined at preliminary plat approval and they shall be recorded as vehicular non-access easements and/or in appropriate plat notes on the final plat.

SECTION 12. TRAFFIC-CONTROL SIGNS AND STREET SIGNS

All traffic-control signs shall be provided and installed by the subdivider and shall conform with the Texas Manual on Uniform Traffic Control Devices for Streets and Highways, Volumes 1 and 2. All street signs shall be provided and installed by the subdivider and meet the City's standard specifications and sign patterns.

SECTION 13. STREET LIGHTING

Street lighting shall be provided by the subdivider according to city design standards at the following locations:

1. All intersections,
2. Street alignment changes greater than 45 degrees,
3. At midblock on blocks 1,200 feet long, and at 600' intervals on blocks longer than 1,200 feet.

**ARTICLE V.
DRAINAGE AND FLOOD HAZARDS**

SECTION 1. GENERAL REQUIREMENTS

A. FACILITIES REQUIRED.

The subdivider shall provide an adequate storm drainage system to protect each lot throughout the subdivision from flooding. These drainage facilities may consist of a combination of natural features, swales, watercourse improvements, bridges and culverts, enclosed storm sewers and other man-made improvements to carry off stormwater within the subdivision. The system shall be integrated with the overall drainage system of the City, and the City in accordance with the requirements of this ordinance must approve the design.

B. LAND CLEARING RESTRICTIONS.

No clear-cutting or rough-cutting of land shall be permitted until a preliminary plat has been approved by the City Council, except for the limited clearing and rough-cutting which is necessary for soil testing and surveying as required by this ordinance. No other clearing or rough-cutting shall be permitted except as necessary for construction of temporary erosion and sedimentation controls until these controls are in place and approved by the City.

SECTION 2. REQUIRED DRAINAGE STUDY

The subdivider shall submit a drainage study with the preliminary plat. The drainage study shall provide the following information, for both existing and fully developed conditions, for the entire watershed drainage area upstream of the lowest point(s) in the subdivision.

1. The entire watershed drainage area(s), depicted on a 7.5 minute series U.S.G.S. map.
2. The drainage area(s) within the subdivision, depicted on a topographic map with two-foot contour intervals.
3. Composite runoff factors.
4. Times of concentration.
5. Related rainfall intensity factors.
6. 100-year flood flow quantities with the 100-year floodplain limits for the existing watershed shown on the preliminary plat.
7. Preliminary street grades sufficient to determine high and low points, and direction of flows.
8. Proposed locations of inlets, storm sewers and culverts.
9. Proposed routing of drainageways.
10. All proposed drainage easements, including width of easement and configuration of channel.

The above information shall be supplemented with narrative text describing the watershed and the subdivision, including their general soil conditions, downstream channel conditions, all weather access, and the presence of special flood hazard areas within the subdivision. A professional engineer registered in the State of Texas shall prepare the study. The drainage study shall be submitted along with the preliminary plat. The City Administrator shall review the submission, verify that all ordinance requirements have been met, and forward his/her recommendations to the Planning and Zoning Commission.

SECTION 3. DRAINAGE EASEMENTS

A. GENERAL REQUIREMENTS

Natural waterways and channels should be used wherever practical to carry runoff. The City must approve any modifications to existing waterways and channels. Where a subdivision is traversed by a watercourse, drainageway, natural channel or stream, an easement or right-of-way shall be provided conforming substantially to the 100-year floodplain or channel limits of such watercourse, plus additional width to accommodate future needs.

B. ENCLOSED SYSTEMS

Storm drainage easements of 15 feet minimum width shall be provided for existing and proposed enclosed drainage systems. Easements shall be centered on the systems. Larger easements, where necessary, shall be provided as directed by the City.

C. OPEN CHANNELS

Storm drainage easements along proposed or existing open channels shall provide sufficient width for the required channel and such additional width as may be required to provide ingress and egress of maintenance equipment; to provide clearance from fences and space for utility poles; to allow maintenance of the channel bank; and to provide adequate slopes necessary along the bank.

D. OVERFLOW DRAINAGE

Storm drainage easements shall be provided for emergency overflow drainageways of sufficient width to contain within the easement stormwater resulting from a 100-year frequency storm less the amount of stormwater carried in an enclosed system.

SECTION 4. DRAINAGE SYSTEM DESIGN STANDARDS

A. GENERAL REQUIREMENTS

Drainage facilities shall be provided and constructed as specified by the City in accordance with the City Drainage Design Standards and Construction Specifications.

B. METHOD OF COMPUTING RUNOFF

The method of computing runoff shall be the "Rational Formula" or some other method acceptable to the City. Runoff rates calculated by the Rational Formula shall be computed using one of the following methods of runoff coefficient determination:

1. Runoff coefficients based on the specific land use established by Zoning Districts according to Table "H" below, or
2. A composite runoff coefficient based on the percentages of different types of surfaces in the drainage area according to Table "I" below.

TABLE H. RATIONAL METHOD RUNOFF COEFFICIENTS BY ZONING DISTRICT

PLACE TYPE ZONING DISTRICT	SLOPE			
	UP TO 1%	OVER 1% & UP TO 3%	OVER 3% & UP TO 5%	OVER 5%
P5 CORE	0.95	0.96	0.97	0.97
P4 NEIGHBORHOOD MIX	0.95	0.96	0.97	0.97
P3 NEIGHBORHOOD	0.75	0.77	0.80	0.84
P2 RURAL	0.75	0.77	0.80	0.84
CIVIC SPACES - CS	0.75	0.77	0.80	0.84
P1 NATURE	0.68	0.70	0.72	0.75

TABLE I. RATIONAL METHOD RUNOFF COEFFICIENTS FOR COMPOSITE ANALYSIS

CHARACTER OF SURFACE	RETURN PERIOD (YEARS)			
	5	10	25	100
DEVELOPED AREAS				
ASPHALT	0.77	0.81	0.86	0.95
CONCRETE OR ROOF	0.80	0.83	0.88	0.97
PLANTED - POOR CONDITION (GRASS COVER < 50% OF THE AREA)				
LESS THAN 2% SLOPE	0.34	0.37	0.40	0.47
2% - 7% SLOPE	0.40	0.43	0.46	0.53
GREATER THAN 7% SLOPE	0.43	0.45	0.49	0.55
PLANTED - FAIR CONDITION (GRASS COVER 50% - 75% OF THE AREA)				
LESS THAN 2% SLOPE	0.28	0.30	0.34	0.41
2% - 7% SLOPE	0.36	0.38	0.42	0.49
GREATER THAN 7% SLOPE	0.40	0.42	0.46	0.53
PLANTED - GOOD CONDITION (GRASS COVER 75% OF THE AREA)				
LESS THAN 2% SLOPE	0.23	0.25	0.29	0.36
2% - 7% SLOPE	0.32	0.35	0.39	0.46
GREATER THAN 7% SLOPE	0.37	0.40	0.44	0.51
UNDEVELOPED AREAS				
CULTIVATED LAND				
LESS THAN 2% SLOPE	0.34	0.36	0.40	0.47
2% - 7% SLOPE	0.38	0.41	0.44	0.51
GREATER THAN 7% SLOPE	0.42	0.44	0.48	0.54
PASTURE OR RANGE LAND				
LESS THAN 2% SLOPE	0.28	0.30	0.34	0.41
2% - 7% SLOPE	0.36	0.38	0.42	0.49
GREATER THAN 7% SLOPE	0.40	0.42	0.46	0.53
FOREST OR WOODED LAND				
LESS THAN 2% SLOPE	0.25	0.28	0.31	0.39
2% - 7% SLOPE	0.34	0.36	0.40	0.47
GREATER THAN 7% SLOPE	0.39	0.41	0.45	0.52

C. ASSUMPTIONS FOR RUNOFF CALCULATIONS

In all cases, wet antecedent conditions shall be assumed. Runoff rates shall be computed on the basis of ultimate development of the entire watershed upstream from and including the proposed subdivision. For determination of time for concentration, times shall be figured on the basis that there shall be an improved drainage system upstream from the point under consideration. Rainfall intensities shall be obtained from the following table.

TABLE J. ASSUMED RAINFALL INTENSITIES (INCHED PER HOUR)

DURATION (MINUTES)	STORM FREQUENCY			
	5 - YEAR	10 - YEAR	25 - YEAR	100 - YEAR
5	8.72	10.15	11.43	14.23
10	6.84	7.95	8.99	11.25
15	5.69	6.60	7.49	9.41
20	4.90	5.68	6.46	8.13
30	3.88	4.50	5.13	6.48
45	3.01	3.48	3.99	5.05
60	2.48	2.87	3.30	4.18
120	1.52	1.75	2.03	2.59
180	1.13	1.30	1.51	1.93
240	0.91	1.05	1.22	1.56
360	0.67	0.77	0.90	1.15
720	0.39	0.45	0.53	0.68
1440	0.23	0.26	0.31	0.40

D. USE OF STREETS AND ALLEYS AS DRAINAGE FACILITIES

Alleys shall be designed to carry stormwater on at least a 5-year frequency. Streets may be used for stormwater drainage only if the calculated stormwater flow does not exceed the height of the curb and the velocity does not exceed 10 feet per second. Neighborhood streets shall be designed on a basis of at least a 5-year storm frequency and all other streets on at least a 10-year frequency. Where streets are not capable of carrying stormwaters as required above, drainage channels or storm sewers shall be provided. Street width shall not be increased beyond the width determined by the street classification solely to accommodate drainage.

E. STORM SEWERS

Where storm sewers are provided or required, their design shall be based on a 25-year storm frequency and the City must approve the design. For all ordinary conditions, storm sewers shall be designed on the assumption that they will flow full under the design discharge; however, whenever the system is placed under a pressure head or there are construction, turns, submerged or inadequate outfalls, or other obstacles, the hydraulic grade line shall be computed and plotted in profile. In all cases adequate outlets shall be provided, and no storm sewers shall be less than 18 inches in diameter.

F. STREET INLETS TO STORM SEWERS

The entire 25-year discharge shall be picked up at the point where the street can no longer handle the runoff flowing curb full. No allowance shall be made for overruns or partial street flows combined with storm sewer flows at initial pickup points. Street discharges, after initial pickup, may be based upon the street classification for frequency required.

G. CAPACITY OF OPEN DRAINAGE CHANNELS

The design of all open drainage channels shall be based on a 25-year storm frequency and must be approved by the City. All open drainage channels shall be designed with at least the minimum freeboard specified in the following table.

TABLE K. MINIMUM DRAINAGE CHANNEL FREEBOARD

DESIGN DEPTH OF FLOW	REQUIRED FREEBOARD
LESS THAN 5 FEET	0.5 feet
5 TO 10 FEET	10% of design depth of flow
GREATER THAN 10 FEET	1.0 foot

Allowance for extra freeboard shall be made wherever design conditions such as channel bends or turns require it.

H. LINING OF OPEN DRAINAGE CHANNELS

The following table shall be used to determine the type of channel lining that shall be used for scour protection. Velocities are limited flows produced by a storm event no greater than a 10-year event.

TABLE L. VELOCITY CONTROL REQUIREMENTS

VELOCITY	TYPE OF CHANNEL LINING REQUIRED
LESS THAN 3 FEET PER SECOND	EARTH OR SOD-LINED
3 TO 5 FEET PER SECOND	SOD-LINED
GREATER THAN 5 FEET PER SECOND	CONCRETE-LINED

Concrete-lined channels may also be used at velocities of 5 feet per second or less if so desired by the subdivider. Where velocities are in the super critical range, allowance shall be made in the design for the proper handling of the water.

I. DESIGN OF CONCRETE-LINED CHANNELS

All concrete-lined channels shall be designed according to the following standards, and the City must approve their design.

1. From the top of the concrete lining to the top of the ditch, the side slope shall not be steeper than 3 horizontal to 1 vertical, nor shall the slope be less than 12 horizontal to 1 vertical.
2. For normal conditions, the concrete lining shall be a minimum of 4 inches thick and reinforced with No. 3 rebar placed not more than 18 inches on centers in both directions. Where the surface, the nature of the ground, height and steepness of slope, or other factors become critical, the concrete design shall be in accordance with the latest structural standards. All concrete lining shall develop a 28-day compressive strength of not less than 2,500 pounds per square inch.
3. Maximum side slopes of concrete riprap shall be 1 to 1, unless actual soils test data submitted by a soils engineer shows that a steeper special design is allowable. A minimum of 200 pounds per square foot surcharge shall be used.
4. Vertical walls shall not exceed a depth of 2 feet unless the channel is properly fenced or enclosed.
5. Easements or rights-of-way for concrete-lined channels shall extend a minimum of 5 feet on both sides of the extreme limits of the channel. "Extreme limits" of the channel shall mean the side slope intercept with the natural ground or proposed finished ground elevation.
6. The minimum N value of 0.015 shall be used for the roughness coefficient in Manning's formula for a wood float type surface finish.
7. Where conditions warrant, the design of alternative composite sections is encouraged.

J. DESIGN OF SOD-LINED AND EARTH CHANNELS

All sod-lined and earth channels shall be designed according to the following standards, and their design shall be approved by the City.

1. The side slope shall not be steeper than 3 horizontal to 1 vertical.
2. Easements or rights-of-way for sod-lined and earth channels shall extend a minimum of 2 feet on one side and 15 feet for an access road on the opposite side of the extreme limits of the channels, when such channels do not parallel and adjoin a street or alley. When such channels parallel and adjoin a street or alley, the easement or right-of-way shall extend a minimum of 2 feet on both sides of the extreme limits of the channel. Where utilities are installed in the access road of the drainage right-of-way, said right-of-way shall extend 2 feet on one side and 17 feet on the opposite side of the design limits of the channel. These 17 feet are to provide an accessway along the channel with a maximum cross slope of a 1/2 inch per foot toward the channel.
3. The minimum N value of 0.035 shall be used for the roughness coefficient in Manning's formula for sod-lined and earth channels.

SECTION 5. FLOOD HAZARDS

A. GENERAL POLICY

All subdivisions shall conform to the "Flood Disaster Protection Act of 1973," Public Law 93-234, and the latest revisions thereof. The Flood Damage Prevention Ordinance as amended, and policies as dictated by the Federal Emergency Management Agency shall be adhered to.

B. FLOODPLAIN DESIGNATIONS AND GENERAL RESTRICTIONS

Federal floodplains are based on a 100-year frequency discharge and apply only in those areas where official Federal Emergency Management Agency maps have been prepared, or where 100-year water and surface profile studies are available for the City and its extraterritorial jurisdiction. Until a regulatory floodway is designated, no new construction, substantial improvements, or other development (including fill) shall be permitted in an area having special flood hazards as established in Article 3, Section B, Flood Damage Prevention Ordinance of the City of Bandera, Texas, unless it is demonstrated that the cumulative effect of the proposed development, when combined with all other existing and anticipated development, will not substantially increase the water surface elevation of the 100-year floodplain at any point within the City's subdivision jurisdiction.

C. GENERAL REQUIREMENTS IN FLOODPLAINS

The minimum building slab elevation in the 100-year floodplain shall be 1 foot above the 100-year floodplain. The limits of the 100-year floodplain and the limits of the floodway shall be shown on the preliminary and final plats as applicable. No habitable structure shall be constructed within the limits of the 100-year floodplain.

D. FLOOD HAZARDS TO WATER AND WASTEWATER SYSTEMS

New or replacement water supply systems and/or wastewater systems shall be designed to minimize or eliminate infiltration of floodwaters into the systems and discharges from the systems into floodwaters. On-site waste disposal systems shall be located so as to avoid impairment of them or contamination from them during flooding.

E. REVIEW OF PROPOSED SUBDIVISION FLOOD HAZARDS

Proposed subdivisions shall be reviewed to assure that:

1. All such proposals are consistent with the need to minimize flood damage;
2. All public utilities and facilities, such as sewer, gas, electrical, and water systems are located, elevated, and constructed to minimize or eliminate flood damage; and
3. Adequate drainage is provided so as to reduce exposure to flood hazards.

F. ACCESS TO SUBDIVISIONS

The Planning and Zoning Commission shall not permit new “island” subdivisions, lots or streets that would be surrounded by the floodwaters of the 100-year floodplain, unless:

1. The area is accessible to high ground by a street elevated above the 100-year flood level; or
2. The evidence presented shows that the surface area and elevation of the “island” is sufficient to sustain the residents safely during a 100-year flood.

ARTICLE VI. WATER AND SEWERS

SECTION 1. GENERAL REQUIREMENTS FOR WATER SYSTEMS

A. SERVICE REQUIRED.

Each lot within a new subdivision within the corporate limits of the City shall be provided with domestic water service from the City of Bandera Water System. Each lot within a subdivision outside the corporate limits of the City, but within the limits of the City's extraterritorial jurisdiction and extended extraterritorial jurisdiction, shall be provided with domestic water service from a community water system meeting the design requirements of the Texas Commission on Environmental Quality or its successor agency and approved by the City, except that lots in subdivisions in which all lots have the required street frontage and total lot area of 5 acres or larger to satisfy applicable portions of the Bandera County Well Construction Rules and Regulations (Bandera County River Authority and Groundwater District) may be served by individual private wells with the approval of the Planning and Zoning Commission at preliminary plat approval. The water distribution system required under this section shall include all pumping station production facilities, elevated storage tanks, fire hydrants and other appurtenances required to adequately serve the area being subdivided. The water distribution system required under this section shall also extend to the boundaries of the subdivision as necessary to provide for the future extension of the system into adjoining unsubdivided areas or for connection to the system in adjoining developed areas.

B. OBLIGATIONS OF SUBDIVIDER.

Within the perimeter of the subdivision, the subdivider shall install, at his/her own cost and expense, all necessary pump stations, booster pumps, mains and appurtenances, including, but not limited to, valves, valve boxes and fire hydrants. The subdivider shall provide all water lines necessary to properly serve each lot of the subdivision and to insure that existing and/or new water facilities can supply the required demand for domestic use and for fire protection at the desired pressure. The subdivider shall install all mains and shall extend the service to all lots terminating thereon with a curb stop and meter box. The subdivider shall submit a certificate to the City Administrator certifying that the system has been designed in accordance with the requirements of the Texas Commission on Environmental Quality or its successor agency, the Texas Department of Health, rules of the Texas Insurance Commission and this ordinance.

The subdivider must provide transferable water rights or funding to purchase water rights to the City of Bandera for ample water supply for the subdivision. Ample water supply shall be determined by the City of Bandera. Funding provided to the City for purchase of water rights shall be determined by the City of Bandera using the prevailing water rate at the time of annexation or upon obtaining service within the extraterritorial jurisdiction.

SECTION 2. WATER SYSTEM DESIGN STANDARDS

All water production and distribution facilities shall be designed and sized to meet the minimum design standards in the latest edition of "Rules and Regulations for Public Water Systems" as established by the Texas Commission on Environmental Quality or its successor agency.

SECTION 3. WATER MAINS

A. GENERAL SPECIFICATIONS

Piping for water mains and connections shall be poly-wrapped ductile iron AWWA C151/C105 or Polyvinyl Chloride (PVC) AWWA C900 or C905, with either mechanical or single rubber gasket joints. All pipe, fittings and appurtenances shall be new materials.

B. MINIMUM DIAMETER

Water mains smaller than 8 inches shall not be permitted, except water mains less than 600 feet long and located solely in residential areas may be 6 inches in diameter provided the minimum flow and pressure requirements set out in this ordinance are satisfied. No more than 1 fire hydrant shall be installed on any 6-inch water main.

C. MAXIMUM LENGTH

In all areas, water mains shall be the shorter of either 3,000 feet or that length which would by fluid friction render the main incapable of producing the minimum flow and pressure requirements set out in this ordinance for the type of area to be served.

D. LOOPING REQUIREMENTS

In all areas, water mains shall be looped between water mains whose inside diameter is 8 inches or larger.

E. LOCATION

All water mains shall be located in dedicated streets or fire lanes, or in the civic space. On streets with curbs and sidewalks, all water mains shall be located in the parkway between the curb and the sidewalk.

F. MINIMUM FLOW AND PRESSURE REQUIREMENTS

Water mains in principal commercial and industrial areas shall be sized so that the minimum fire flow from any single fire hydrant shall be not less than 3,000 gallons per minute with 20 psig residual pressure. Water mains in light commercial areas shall be sized so that the minimum fire flows from any single fire hydrant shall be not less than 1,500 gallons per minute with 20 psig residual pressure. Water mains in residential areas shall be sized so that the minimum fire flow at any single fire hydrant shall not be less than 750 gallons per minute with 20 psig residual pressure and a domestic use of 2 gpm for every lot in the subdivision.

G. VALVE LOCATIONS

The distribution system in commercial and industrial areas shall be equipped with a sufficient number of valves and the valves shall be so located that no case of accident, breakage or repair to the water distribution system mains will necessitate shutting from service a length of water main greater than either one side of a single block or a maximum of 500 feet. The distribution system in residential areas shall be equipped with a sufficient number of valves and the valves shall be so located that no case of accident, breakage or repair to the water distribution system mains will necessitate shutting from service a length of water main greater than either two sides of a single block or a maximum of 600 feet.

H. SERVICE LINES

Service lines of 2 inches or less shall be copper. Service lines larger than 2 inches shall be copper, ductile iron AWWA C151/C105, or PVC AWWA C900. The minimum sizes of service lines that shall be used are as required in the following table.

TABLE M. MINIMUM WATER SERVICE LINE SIZES

NUMBER OF DWELLING UNITS	SERVICE LINE SIZE (INCHES)
1	3/4
2	1
3 TO 4	1-1/2
5 TO 10	2
11 TO 50	4
51 TO 80	6
GREATER THAN 80	8

SECTION 4. FIRE HYDRANTS

A. GENERAL REQUIREMENTS

All extensions or additions to the City distribution system within the City limits must meet the requirements set forth in the current Key Rate Schedule as promulgated by the Texas State Board of Insurance for the installation of fire hydrants. All fire hydrants shall have a 6-foot clear horizontal radius of 360 degrees around the fire hydrant free from obstructions. All fire hydrants shall be located on street corners or side property lines so as to be readily accessible at all times. All fire hydrants shall be equipped with at least a 6-inch valve located on the hydrant lead and the valve and hydrant shall be mechanically anchored to the main.

B. MAXIMUM SPACING

Every building in the City limits shall be within 500 feet of a standard City fire hydrant. In commercial and industrial areas, hydrants shall be located so that there will be at least one hydrant every 300 feet average as measured along dedicated streets. In light mercantile areas containing apartment houses, hydrants shall be located in dedicated streets or fire lanes behind curbs and be spaced not more than 300 feet hose lay from any building within the district, each distance to be measured down any standard fire hose laid from the fire hydrant to the building. In residential areas, hydrants shall be located so that there will be a fire hydrant every 500 feet average distance as measured along dedicated streets, including dedicated easements and fire lanes in mobile home parks and travel trailer parks.

SECTION 5. SANITARY SEWERS

Every subdivision shall be provided with a sewage disposal system meeting the design requirements of the Texas Commission of Environmental Quality (T.C.E.Q.) and approved by the City. Sanitary sewers shall be connected to serve each lot in the subdivision unless the Planning and Zoning Commission determines that such connection would require an unreasonable expenditure of funds when compared with other methods of sewage disposal or unless the subdivision meets the requirements of Section 6 of this Article. Where connection to the sewer system is not to be made immediately, plans shall be prepared for installation of a sewage collection system to serve each lot, and those parts of such system that will lie in the portion of streets intended for vehicular traffic shall be installed before the street is paved. The sewage collection and disposal systems required under this section shall include all gravity mains, lift stations, force mains, treatment facilities, manholes, and appurtenances required to adequately serve the area being subdivided.

The sewage collection and disposal systems required under this section shall also extend to the boundaries of the subdivision as necessary to provide for the future extension of the systems into adjoining unsubdivided areas or for connection to the systems in adjoining developed areas.

SECTION 6. SEPTIC SYSTEMS

When specifically authorized by the City Council, septic systems may be utilized for wastewater disposal on residential lots being served by private wells; provided that all lots in the subdivision have the street frontage and total lot area required to satisfy the applicable portions of the Texas Commission on Environmental Quality or its successor agency rules on septic systems.

When specifically authorized by the City Council, septic systems may be utilized for wastewater disposal on residential lots being served with water provided by a public or other community water system; provided that all lots in the subdivision have the street frontage and total lot area required to satisfy the applicable portions of the Subdivision Rules for the Texas Commission on Environmental Quality or its successor agency rules and regulations.

Any method of on-site wastewater disposal other than conventional septic systems shall require the specific approval of the City Council on a lot-by-lot basis.

When authorized by the City Council, septic systems shall be installed on each lot concurrent with any development thereon and the design of such system and the method of installation shall conform to the requirements of the Texas Commission on Environmental Quality or its successor agency and Bandera County.

SECTION 7. WASTEWATER SYSTEM DESIGN STANDARDS

A. GENERAL DESIGN STANDARDS

All wastewater collection system improvements shall be designed and sized to meet the minimum design standards in the latest edition of "Design Criteria for Sewerage Systems" as established by the Texas Commission on Environmental Quality or its successor agency.

B. SEWER LOCATION

Where the location of the sewer is not clearly defined by dimensions on drawings, the sewer shall not be closer horizontally than 10 feet, or closer vertically than 6 feet, to a water supply main or service line. Gravity sewer lines passing over water lines shall be constructed of pressure rated pipe for a distance of at least 10 feet on each side of the crossing, with no joints within 5 feet of the crossing. In lieu of a pressure rated pipe crossing, the gravity sewer line shall be encased in concrete in accordance with regulations of the Texas Commission on Environmental Quality or its successor agency.

C. MATERIALS

Sewer lines shall be of PVC plastic, SDR 35/ASTM 3034, or another type pipe approved in writing by the City.

D. TRENCHING

Sewers shall be constructed according to City standard specifications as to trenching, bedding, backfill and compaction.

E. MINIMUM DIAMETER OF GRAVITY FLOW MAINS AND LINES

8-inch-diameter pipe shall be the minimum acceptable for gravity flow sewer mains and lines. All sewers shall be sized to accommodate the maximum peak flow plus infiltration flows that will render the pipe flowing no greater than three-fourths full.

F. MANHOLES

Manholes shall be spaced not more than 400 feet apart and shall be constructed in accordance with City standard specifications.

G. LIFT STATIONS AND FORCE MAINS

Lift station capacity shall be no less than 100 gallons per minute per pump. Lift station force mains shall be designed and sized to produce a complete exchange of wastewater every other cycle of the pumps. Force mains and fittings shall be of ductile iron or PVC pipe, pressure class. The pipe shall have either mechanical joints or rubber gasket joints as approved by the City. The minimum force main size shall be 4 inches.

H. MINIMUM DIAMETER OF SERVICE LINES

Service lines serving individual lots shall be no smaller than 4 inches in diameter.

ARTICLE VII.

UTILITY EXTENSIONS AND GENERAL SUBDIVISION IMPROVEMENTS

SECTION 1. GENERAL REQUIREMENTS

A. OBLIGATIONS OF SUBDIVIDER.

The subdivider shall install at his/her own cost and expense all of the improvements required by this ordinance. The subdivider shall comply with all other provisions of this ordinance prior to acceptance of the subdivision by the City.

B. ENGINEER RESPONSIBLE.

The subdivider shall retain the services of a registered professional engineer, licensed in the State of Texas, whose seal shall be placed on each sheet of the construction plans, and who shall be responsible for the design and supervision of all improvements required in the subdivision.

C. CONSTRUCTION PLANS

Three complete sets of construction plans, specifications and contract documents shall be filed with the City Administrator upon filing of a final plat. These plans and specifications shall include street plans, drainage system plans, sanitary sewer system plans, water system plans and the overall utility layout. The street plans shall show roadway cross-sections and longitudinal slope for drainage, a full description of the proposed pavement or other street improvement, and its grade and slope. The drainage, sanitary sewer, water and utility system plans shall show the dimensions and specifications of the improvements to be installed, including proposed position on the ground, specifications of materials and construction, profile maps showing both ground surface and flow line, and other pertinent information of similar nature. All such plans shall comply with the specifications and design standards set forth in this ordinance.

D. INSTALLATION OF UTILITIES BEFORE PAVING

Unless the subdivider shall have received prior written permission to the contrary from the City, all utilities must be installed prior to the paving of a street or alley or portion thereof.

E. INSPECTION OF IMPROVEMENTS

The City shall from time to time inspect the construction of all utility facilities and streets in the subdivision during the course of construction to see that they comply with the standards governing them. In this regard, free access to the subdivision shall be accorded City personnel by the subdivider and the subdivider's agents and employees.

F. FINAL PLANS

Upon the completion of construction of any utility or improvement, two sets of reproducible drawings and an electronic format of complete record drawings, dated, signed and certified by the engineer in charge, shall be filed with the City, showing all features as actually installed, including materials, size, location, depth of elevation, numbers, end of lines, connections, wyes, valves, storm sewer drains, inlets, and any other pertinent items. The City shall not accept such utilities until the foregoing has been submitted to and approved by the City.

SECTION 2. SURVEY REQUIREMENTS

A. PLACEMENT OF LOT MARKERS AND STREET MONUMENTS

Monuments consisting of at least one-half-inch iron pipe or at least one-half-inch reinforced steel, 24 inches in length, shall be placed at all corners of the block lines, and at the point of intersection of curves and tangents of the subdivision. Lot markers shall be metal, at least 24 inches in length, placed at each corner of each lot, flush with the average ground elevation, or they may be countersunk, if necessary, to avoid being disturbed.

B. LOT MARKERS FOR UTILITY EASEMENTS

There shall be markers placed where a lot line crosses a utility easement with the exception of those blanket utility easements placed around all lots.

SECTION 3. COSTS OF UTILITY EXTENSIONS

A. WATER AND SEWER MAIN EXTENSIONS

The subdivider shall install water and sewer mains from their present locations to the perimeter of the subdivision at his/her own cost and expense, subject to the provisions of this ordinance.

B. ELECTRIC DISTRIBUTION SYSTEM AND GAS MAIN EXTENSIONS

The subdivider shall either (a) reimburse the City for the cost of extension of the electrical primary distribution system and/or the natural gas mains from their present locations to the perimeter of the subdivision or (b), with the City's approval, extend the electric distribution system and/or gas mains at the subdivider's own expense. All underground gas main extensions shall be installed in accordance with Standard Gas Codes and in conformity with the Texas Railroad Commission.

C. ELECTRIC AND GAS SYSTEMS WITHIN THE SUBDIVISION

The subdivider shall reimburse the City for the cost of installation of the electrical primary distribution system and the natural gas distribution system within the perimeter of the subdivision, including the installation of required streetlights and services to any required lift stations, booster pumps, and similar facilities. The electric distribution system and natural gas main extensions required under this section shall also extend to the boundaries of the subdivision as necessary to provide for the future extension of the systems into adjoining unsubdivided areas or for connection to the systems in adjoining developed areas. All underground gas lines shall be installed in accordance with Standard Gas Codes and in conformity with the Texas Railroad Commission.

D. LIFT STATIONS, BOOSTER PUMPS AND RELATED EQUIPMENT

In the event that it is determined that installation of equipment or appurtenances such as lift stations, booster pumps, or similar facilities is necessary in the area between the existing utility mains and the perimeter of a subdivision, the City Council shall, taking all circumstances into consideration, determine who shall bear the cost of such necessary equipment and appurtenances, and in what proportion each party shall be liable.

E. WAIVER OF COSTS FOR INDUSTRIAL PARKS AND COMMERCIAL DEVELOPMENTS

The requirements of subsections A and B of this Section, for the subdivider to install water and sewer mains from their present locations to the perimeter of the subdivision at his/her own cost and expense, and either to reimburse the City for the cost of electrical primary distribution system extensions and natural gas main extensions from their present locations to the perimeter of the subdivision or to extend these systems at his/her own expense, may be waived by the City Council for proposed industrial parks and commercial developments. Such waiver shall be at the discretion of the City Council after taking into consideration all the circumstances including, but not limited to, the following:

1. The ratio of the potential tax revenues and utility system revenues from property within the industrial park or commercial development to the costs to the City of extending water, gas and sewer mains and electric primary distribution lines to the proposed industrial park or commercial development.
2. The availability of funds for the extension of such mains and distribution lines.
3. The contribution, if any, by the subdivider for the extension of the mains and distribution lines.

SECTION 4. COST DISTRIBUTION FOR OVERSIZE FACILITIES

In the event that the Planning and Zoning Commission deems it necessary and prudent to require lift stations, booster pumps, mains, equipment, streets and/or appurtenances which are larger or whose capacities are in excess of those which are usual, customary and necessary to meet the needs and requirements of a particular subdivision, then the Commission may recommend to the City Council and the Council may determine that the City shall pay to the subdivider the difference in cost (including construction and installation) between those lift stations, booster pumps, mains, equipment, streets and/or appurtenances which the City requires the subdivider to install, and the cost of like equipment of the size and/or capacity which would have adequately met and served the needs of the subdivision. Providing that funds are available, the City may also participate in the extra cost of bridges and/or large drainage structures on major and collector streets.

SECTION 5. MINIMUM SIZES FOR OVERSIZING CALCULATIONS

When calculations are made for oversizing requirements, the minimum sizes assumed to be necessary to serve the subdivision itself shall not be less than those in the following table.

TABLE N. MINIMUM SIZES FOR OVERSIZING CALCULATIONS

Water and Sewer Main	8 inches
Sewer Force Main	6 inches
Lift Station Capacity	100 gallons per minute per pump
Neighborhood Street Width	30 feet
Major Street Width	42 feet

SECTION 6. WATER AND SEWER MAIN EXTENSION REIMBURSEMENTS

A. ELIGIBILITY FOR REIMBURSEMENT

When a subdivider must extend water and/or sewer mains through previously unserved and unsubdivided areas of a drainage basin, the City may reimburse the subdivider for that proportional cost of the extension by those subdividers who subdivide property between the original subdivider's subdivision and the point of connection to existing City utilities.

B. FORMULA FOR REIMBURSEMENT

The amount of the reimbursement under this section shall be calculated as follows.

1. Determine the total area to be served by the water and sewer main extensions, including the original subdivision. It shall be the responsibility of the subdivider to provide the City with this information, to be substantiated by City staff.
2. Determine the cost of extension of the trunk mains minus any oversizing costs contributed by the City.
3. Determine the trunk main unit cost per acre by dividing the total adjusted cost #2 by the total acreage #1.
4. The unit cost per acre shall be charged to each subsequent subdivider who may connect to the trunk main, and shall be paid to the subdivider who originally installed the trunk main, or the original subdivider's heirs or assigns.
5. Force mains or interbasin transfers which may connect to the trunk main shall not be included in the reimbursement for trunk main extension.

C. FORFEITURE OF TRUNK MAIN REIMBURSEMENT

It shall be the sole responsibility of the subdivider due reimbursement under this section to maintain his/her current address on file with the City Administrator. Should a reimbursement be payable and the subdivider cannot be contacted at the address on file in the City Administrator's office, the right to a reimbursement under this section shall lapse 24 months after the date of the initial attempt to contact the subdivider and the subdivider shall forfeit all claims to the reimbursement. The City may utilize all forfeited reimbursements for any purpose related to the water and sewer systems as determined by the City Council.

D. NEW SUBDIVIDER'S CONTRIBUTION FOR TRUNK MAIN EXTENSION

When a new subdivider's water and sewer mains are to be connected to trunk mains installed by prior subdividers that meet the requirements of this section, the new subdivider shall deliver to the City Administrator, prior to final plat approval, a check for his/her portion of the trunk main based on the formula in Subsection B above. The contribution shall be based on the trunk main unit cost per acre times the number of acres in the subject subdivision. It shall be the new subdivider's responsibility to provide the City staff with evidence of the acreage involved.

ARTICLE IX.

WIRELESS COMMUNICATIONS SYSTEM REGULATIONS

SECTION 1. DEFINITIONS

The following words and phrases when used in this Title shall for the purpose of this Title, have the meanings respectively ascribed to them in this Section:

Wireless Communication System: (Antenna support structures for mobile and land-based telecommunication facilities.) Whip antennas, panel antennas, microwave dishes and receive-only satellite dishes, cell enhancers and related equipment for wireless transmission from a sender to one or more receivers, such as for mobile cellular telephones, mobile radio system facilities, commercial mobile radio service and radio or television (commercial only) broadcasting towers and transmitting stations. This definition is inclusive of the placement of the above-referenced equipment on a monopole tower, a steel lattice tower, a guyed steel lattice tower and any communication tower which does or does not utilize guy wire support in addition to existing buildings or other independent support structures. This system shall also allow as one of its components an unmanned equipment shelter.

Antenna Support Structures:

1. **Monopole Antenna Structure:** a self-supporting pole type structure with no guy wire support, tapering from base to top and so designed to support fixtures which hold one or more antennas and related equipment for wireless telecommunication transmission.
2. **Lattice Antenna Structure:** a steel lattice, self-supporting structure with no guy wire support, so designed to support fixtures which hold one or more antennas and related equipment for wireless communication transmission.
3. **Guyed Lattice Antenna Structure:** a steel lattice, guy wire supported structure, so designed to support fixtures which hold one or more antennas and related equipment for wireless communication transmission.

Building or other Independent Support Structures: buildings or other structures such as water towers, church steeples, utility poles and other creative locations.

Unmanned Equipment Building: an accessory building housing electronic and communication equipment as an associated and permitted part of a wireless communication system.

SECTION 2. GENERAL REQUIREMENTS:

A. WIRELESS COMMUNICATIONS SYSTEMS

Wireless Communications Systems shall be an allowed use by special permit only. Prior to filing a request for a building permit and/or a specific use permit, whichever is applicable, the following requirements must be met:

1. Antenna support structures shall be five hundred (500) feet from all residential zoning districts, measured from the base of the antenna support structure to the nearest residential zoning district boundary.
2. The Unmanned Equipment buildings shall not exceed seven hundred fifty (750) square feet of gross floor area per building and shall not exceed twelve (12) feet in overall height.
3. The overall height of antenna support structures, including the antenna, shall not exceed one hundred fifty (150) feet.

B. SHARED USE OF ANTENNA SUPPORT STRUCTURES.

The shared use of existing antenna support structures and approved antenna support structure sites shall be preferred to the construction of new such facilities. The antenna support structures must be constructed to support a minimum of two (2) antenna arrays from two (2) separate wireless communication system providers or users. Annually, the Building Official shall secure a list of known wireless communication system providers by advertisement in a newspaper of general circulation. The Building Official may add known wireless communication system providers to this list. This wireless communication system providers' list shall remain valid for one (1) calendar year. Prior to certification of any application, all applicants for antenna support structures shall comply with the following procedures:

1. All wireless communication system applicants shall provide notice by mail to all providers on the wireless communication providers' list with the following information: specifications of the proposed antenna support structure; its general location; its proposed height; and a phone number to locate the owner of the antenna support structure. A copy of the notice shall be mailed to the Building Official's office. The notices shall invite potential wireless communication system providers to apply for space on the proposed antenna support structure.
2. The applicant shall submit a report inventorying existing antenna support structures and antenna sites within a one-mile distance from the proposed site outlining opportunities for shared use as an alternative to the proposed one. In the case of co-location, the pro-rata reimbursement to the initial applicant from the future provider shall not exceed fifty-five percent (55%) of the original cost for construction of the antenna support structure.

C. ZONING

Wireless communications systems shall be a use permitted by right in all zoning districts if the land or structure is owned by the City of Bandera if:

1. All antenna support structures or buildings or other independent support structures where antenna[s] are proposed to be attached shall require a building permit. Antenna support structures located in residential zoning districts shall be monopole design. The height of a monopole antenna support structure, including the antenna, shall not exceed one hundred fifty (150) feet. Wireless communications systems shall not be allowed in City parks.
2. Antenna support structures shall be spaced from all dwellings at a minimum of one hundred ten percent (110%) of the height of the antenna support structure, measured from the base of the antenna support structure to the nearest dwelling. This spacing requirement does not apply to antennas attached to buildings or independent support structures.
3. Antenna array may be attached to buildings or independent support structures, if:
 - a. The pole replaced or modified is a functioning utility pole or light standard within a utility easement or public right-of-way, recreation facility light pole, or antenna support structure; and
 - b. The replaced or modified antenna support structure, including antenna array, does not exceed the height of the original utility, light standard, or recreation facility pole by more than twelve (12) feet, or the height of the original telecommunications tower and antenna array; and
 - c. The pole replaced with an antenna support structure does not obstruct a public alley, or other right-of-way, and pole appearance and function, except for antenna, are not significantly altered; and
 - d. The existing support structure is engineered to support the proposed antenna.
4. Radio and television antennas, limited to those used by the federal licensed amateur radio operators, unlicensed citizens band radio operators, and private citizens receiving television signals, including satellite dish antennas, and panel antennas for wireless internet communications shall be considered as permissible accessory uses in all zoning districts and shall be permitted in accordance with the regulations for detached accessory structures. Antenna support structures within nonresidential districts shall comply with the height and setback requirements for the particular district. The height of an antenna support structure shall be the total maximum to which it is capable of being raised and shall be measured from the finished grade adjacent to the antenna or antenna support structure if ground mounted or from the peak of the roof if roof mounted.

5. In addition to the previously stated regulations, the following shall apply to radio or television antennas in residential districts:
 - a. Antenna may be roof or ground mounted, freestanding or supported by guy wires, buildings or other structures in compliance with the manufacturer's structural specifications. A ground-mounted antenna shall be any antenna with its base mounted directly in the ground even if such an antenna is supported or attached to the wall of a building.
 - b. Roof-mounted antenna, including support structure, shall not extend higher than fifteen (15) feet above the peak of the roof, except a single vertical pole antenna may extend up to twenty (20) feet above the peak of the roof.
 - c. Ground-mounted antenna, including support structure, should not exceed seventy (70) feet in height. The antenna or antenna support structure shall not be located in any required front yard between the principal building and the front setback.

SECTION 3. ADDITIONAL REQUIREMENTS:

A. PERMITS.

1. In addition to a special use permit, a building permit from the Building Official of the City of Bandera shall be required for the installation of any antenna support structures, antenna attached to buildings or other independent support structures and unmanned equipment buildings developed for a wireless communication system or radio or television. Applications for a permit shall be accompanied by the following in duplicate:
 - a. A complete set of construction documents showing the proposed method of installation;
 - b. A copy of the manufacturer's recommended installation instructions, if any;
 - c. A diagram to scale showing the location of the antenna, property and setback lines, easements, power lines, all structures, and the distances from all residential zoning districts.
 - d. Certification by a structural or civil engineer registered by the State of Texas that the proposed installation complies with the requirement of the City of Bandera Building Code;
 - e. Certification shall be submitted stating that all antennas and antenna support structures shall comply with the height and illumination restrictions established by the FAA (Federal Aviation Administration) or other applicable Federal or State agencies.
2. Tower illumination: Towers shall not be illuminated except as required by the FAA (Federal Aviation Administration) or other applicable Federal or State agencies.
3. Radiation standards: Wireless communications systems shall comply with current FCC (Federal Communications Commission) standards for non-ionizing electromagnetic radiation (NIER). The applicant shall submit verification that the proposed site plan ensures compliance with these standards.

4. Fencing for Wireless Communication Systems: A fence shall [be] required around the antenna support structure and other equipment, unless the antenna is mounted on a building or other independent support structure. The fence shall not be less than eight (8) feet in height measured from the finished grade. Access to the antenna support structure shall be through a locked gate.
5. Landscaping for Wireless Communication Systems: Landscaping shall be required to screen as much of the antenna support structure as possible, the fence surrounding the antenna support structure, and any other ground level features (e.g. a building). A combination of existing/native vegetation, natural topography, man-made features such as berms, walls, decorative fences and any other features can be used instead of landscaping if those features achieve the same degree of screening as the required landscaping.
6. Setbacks for Wireless Communications Systems: Antenna support structures and unmanned equipment buildings shall meet the minimum building setback requirements for the zoning district in which they are located. Setbacks shall be measured from the base of the antenna support structure to all applicable property lines.
7. Abandonment: In the event the use of any wireless communication system, which would include any antenna support structure, has been discontinued for a period of one hundred eighty (180) consecutive days, the antenna support structure shall be deemed to be abandoned. Determination of the date of abandonment shall be made by the Building Official who shall have the right to request documentation and/or affidavits from the antenna support structure owner/operator regarding the issue of usage. Upon determination of abandonment, the owner/operator of the antenna support structure shall remove the antenna support structure within ninety (90) days of receipt of notice from the Building Official notifying the owner/operator of such abandonment. If such antenna support structure is not removed within the ninety (90) days, the Building Official may cause such antenna support structure to be removed at the owner's expense. If there are two or more users of an antenna support structure, then this provision shall not become effective until all users cease using the antenna support structure.

**EXHIBIT "A".
PLAT CERTIFICATES AND NOTES**

SURVEYOR'S CERTIFICATE

STATE OF TEXAS

COUNTY OF BANDERA

I hereby certify that this plat is true and correct and was prepared from an actual survey of the property made on the ground under my supervision.

Registered Public Surveyor

Sworn to and subscribed before me this the _____ day of _____, _____.

Notary Public in and for the State of Texas.

ENGINEER'S CERTIFICATE

An engineer's certificate is required in all cases except when the plat does not require engineering considerations.

STATE OF TEXAS

COUNTY OF BANDERA

I hereby certify that proper engineering consideration has been given in this plat to the matters of streets, lots and drainage layout. To the best of my knowledge this plat conforms to all requirements of the Subdivision Ordinance, except for those variances granted by the Planning and Zoning Commission of the City of Bandera.

Registered Professional Engineer

Sworn to and subscribed before me this the _____ day of _____, _____.

Notary Public in and for the State of Texas.

OWNER'S ACKNOWLEDGMENT

If the owner authorizes an agent, the owner shall file a notarized letter to that effect.

STATE OF TEXAS

COUNTY OF BANDERA

The owner of land shown on this plat, in person or through a duly authorized agent, dedicates to the use of the public forever all streets, alleys, parks, watercourses, drains, easements and public places thereon shown for the purpose and consideration therein expressed.

Owner

Duly Authorized Agent

STATE OF TEXAS

COUNTY OF BANDERA

Before me, the undersigned authority on this day personally appeared _____ known to me to be the person, whose name is subscribed to the foregoing instrument, and acknowledged to me that he/she executed the same for the purposes and considerations therein expressed and in the capacity therein stated. Given under my hand and seal of office this the _____ day of _____, _____.

Notary Public in and for the State of Texas.

APPROVAL OF THE CITY ADMINISTRATOR:

This plat of (name of subdivision) has been submitted to and considered by the City Administrator of the City of Bandera, Texas, and is hereby approved.

Dated this _____ day of _____, _____.

By: _____
City Administrator.

By: _____
City Secretary

APPROVAL OF THE CITY COUNCIL:

This plat of (name of subdivision) has been submitted to and considered by the City Council of the City of Bandera, Texas, and is hereby approved by such Council.

Dated this _____ day of _____, _____.

By: _____
Mayor

By: _____
City Secretary

EASEMENT NOTES:

All properties designated as easements shall or may be utilized for the following purposes:

DRAINAGE EASEMENT:

Drainage, water diversion, and sanitary control, including without limitation, walls, beds, embankments, spillways, appurtenances, and other engineered devices (the "Drainage System")

Together with the right of ingress and egress over the adjacent land to or from the Easement for the purpose of constructing, reconstructing, inspecting, patrolling, operating, maintaining, repairing, and removing the Drainage System; the right to change the size thereof; the right to relocate along the same general direction of the Drainage System; the right to create and/or dredge a stream course, refill, or dig out such stream course, establish or change stream embankments within the Easement, install storm sewer systems, culverts, water gaps [gates], and protecting rails; the right to remove from the Easement all trees and parts thereof, or other obstructions, which reasonably endanger or may reasonably interfere with the efficiency of the Drainage System; and the right to place temporary structures for use in constructing or repairing the Drainage System.

With respect to the Drainage System, it is expressly agreed and understood by all parties hereto, that the intention is to improve conditions of sanitation and water drainage control on the Property for the benefit of the Property, adjacent property, and the community, but the City does not guarantee or warrant that such control work will be effective, nor does the City assume any additional liability whatsoever for the effects of flood, standing water, or drainage on or to the Property, or any other property or persons that might be affected by said stream, wash, or gully in its natural state or as changed by the City.

UTILITY EASEMENT:

Utilities, including, without limitation, sewer, water, gas, electricity, telephone, and cable television, with all necessary and/or desirable lines, laterals and/or appurtenances thereto (the "Utilities")

Together with the right of ingress and egress over the adjacent land to or from the Easement for the purpose of constructing, reconstructing, inspecting, patrolling, operating, maintaining, repairing, and removing the Utilities; the right to place new or additional Utilities in the Easement and to change the size thereof; the right to relocate along the same general direction of the Utilities; the right to remove from the Easement all trees and parts thereof, or other obstructions, which reasonably endanger or may reasonably interfere with the efficiency or operation of the Utilities; and the right to place temporary structures for use in constructing or repairing the Utilities.

1. The property owner retains the right to use all or any part of the Easement for any purpose that does not damage, destroy, injure, and/or unreasonably interfere with the use of the Easement. However, the easement shall be kept clear of all structures or other improvements.

2. The City shall make commercially reasonable efforts to ensure that damage to the Property is minimized and the City will at all times, after doing any work in connection with the System, restore the Property to the condition in which the Property was found before such work was undertaken to the extent that such restoration is reasonable in accordance with the City's usual and customary practices.

PLAT NOTES:

FENCE NOTES:

Easement Access at Fences: Double swing gates or a removable fence panel shall be installed wherever fences cross Utility Easements.

Obstructions of Drainage: Adequate structures shall be provided to allow the unhindered passage of all storm and drainage flows wherever fences cross Drainage Easements.

SIDEWALK NOTES:

Four-foot-wide (Substitute "Six-foot-wide" where required) reinforced concrete sidewalks shall be installed adjacent to all street frontage property lines of each lot fronting a street at such time as that lot is developed.

CAPITAL RECOVERY FEE ASSESSMENT:

Assessment and collection of the City of Bandera Water and Wastewater Utilities' capital recovery fees shall be the amount per lot as set forth in City Ordinance No. 239.

TAX CERTIFICATE:

Tax Certificate Affidavit filed this date in Volume _____, Page _____, Bandera County Official Records.

