

Planning and Zoning Commission Category:

Subdivision Design

Section 5.5 Blocks

(1) Block Length and Character

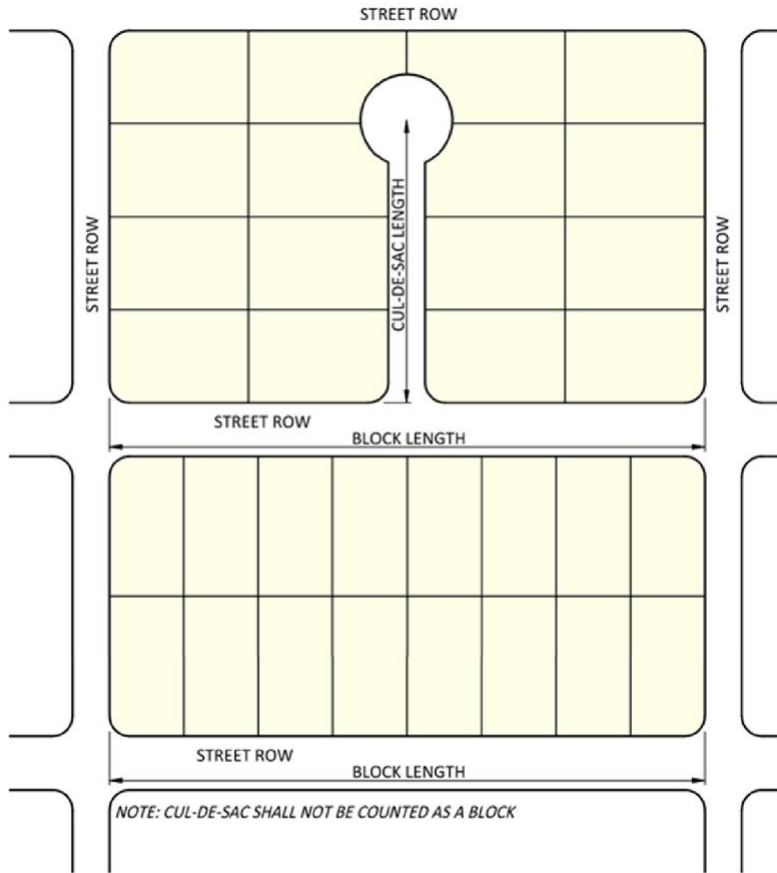
Table 5.2 Block Length and Character

Zoning District	Mixed Use Village	Neighborhood Commercial	Community Facilities	Logistics	Existing Residential	Neighborhood Residential	Rural Residential
Block Length	600' Maximum and no more than 400' without a midblock pedestrian connection	500' Maximum	1000' Maximum	1000' Maximum	*See Note	800' Maximum	No Maximum
Block Character	Rectilinear and/or connected blocks	Rectilinear and/or connected blocks	Rectilinear and/or connected blocks	Rectilinear and/or connected blocks	*See Note	Rectilinear or curvilinear connected blocks	Rectilinear or curvilinear blocks

* Note: Block Length and Block Character for the R1, R2, R3, and R4 districts are privately enforced through deed restrictions. The City does not enforce private deed restrictions or HOA regulations. The City does not enforce private deed restrictions or HOA regulations.

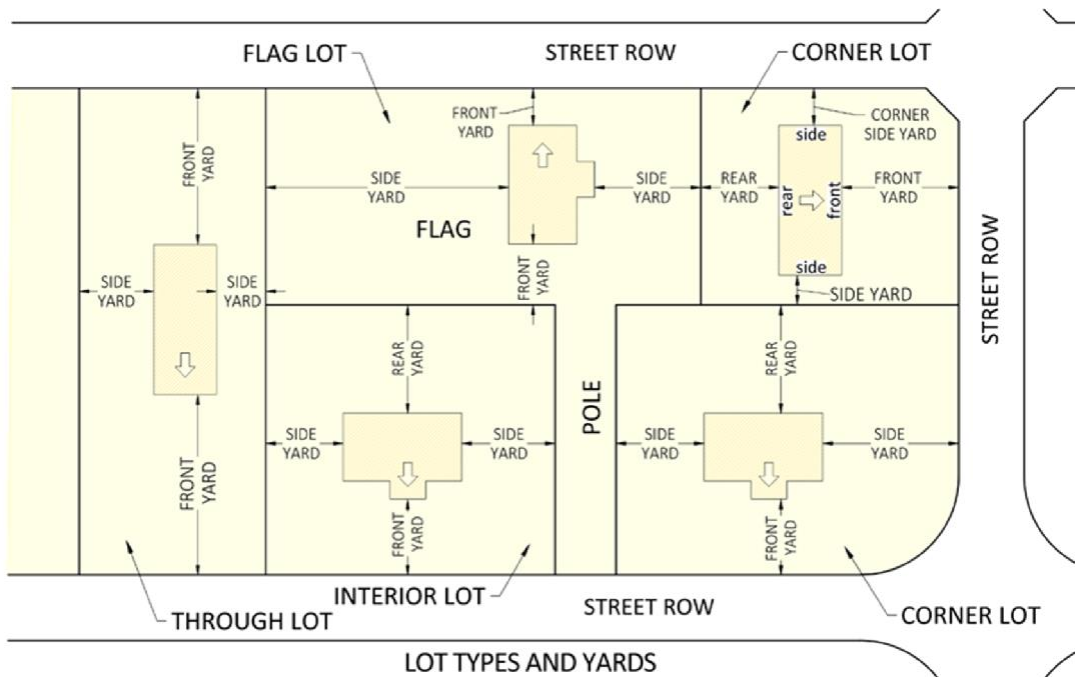
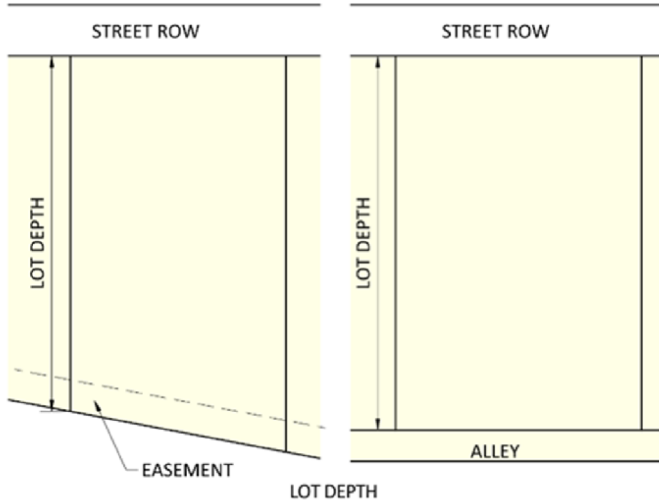
(2) Width. Blocks will be wide enough to accommodate two rows of lots, except where the lots back up to a major street with no access by the lots.

(3) In general, cul-de-sac streets may not exceed 750 feet in length and shall be designed with a minimum cul-de-sac turnaround of not less than a 100-foot diameter right-of-way and a minimum 96-foot diameter pavement surface in residential areas and not less than a 150-foot diameter right-of-way and a minimum 146-foot diameter pavement surface in commercial and industrial areas. Cul-de-sac streets over 750 feet in length may be acceptable upon approval of a policy variance by the City Council upon recommendation by the Planning and Zoning Commission. The Planning and Zoning Commission will make a recommendation to accept or reject a plan with longer cul-de-sac streets based on its merits after considering density, land use, safety and convenience.



BLOCK LENGTH AND CUL-DE-SAC LENGTH

NOTE: LOT AREA MAY INCLUDE EASEMENT ON LOT.



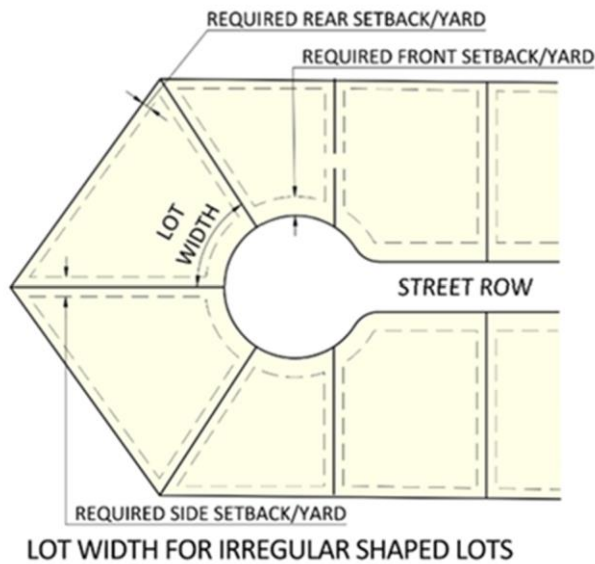


Figure 5.1 Block and lot illustrations

Section 5.6 Easements:

- (1) **Dedication Required.** Where necessary to adequately serve a subdivision with public utilities, the Subdivider will dedicate or grant easements for poles, wires, conduits, drainage channels, stormwater, water, wastewater, and other utilities. These easements shall be at least 15 feet wide for a single utility or 20 feet wide for multiple utilities, unless the city determines that a greater width is necessary additional width may be required by the city or the utility provider. All necessary on-site easements should be established during the platting process and establishment of easements by a separate instrument is discouraged.
- (2) **Location of Easements.** The easements required under this Section will be continuous for the entire length of the block. These easements will 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 City Manager (or designee), such locations are needed.
- (3) **Access to Easements.** Drainage easements are not permitted to be enclosed by a fence or gate, except to contain a basin or pond in accordance with TCEQ. All fences crossing an easement will have double swing gates to allow ready access to the easement. The minimum width of the opening will be no less than 12 feet.
- (4) **Additional Easements for Guy Wires.** Where aboveground utility easements or alleys are not 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 will 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 ROW.
- (5) Any dedication of land for a future street or alley will be consistent with state law provisions.
- (6) No structure, vegetation (other than ground cover), or equipment shall be placed within any easement dedicated pursuant to this UDC unless the person or entity wishing to place such structure or equipment has first obtained written consent to encroach from all holders of the right to use said easement. A fence or screen shall be permitted over any utility easement only if

approved by the City Manager or designee and provided that the easement remains fully accessible to the city for maintenance and repair purposes. A fence or screen shall be permitted over any drainage easement if the water flow within the easement is not adversely affected by the fence or screen. In addition to all other remedies provided by this Unified Development Code, the city may summarily remove any fence or screen erected in violation of this section, and the city shall not incur any liability or assume any duty to compensate the owner or replace the fence or screen.

- (7)** Where utilities are not located in alleys, an overhang easement at least six (6) feet wide must be provided on the opposing side of the 15-foot easement strip, at a height at and above 10 feet. In all alleys, overhang easements at least six feet wide must be provided on each side of the alley for electric and telephone lines, at a height at and above 10 feet.

Section 9.4 Streets

(1) Purpose

The purpose of this section is to ensure adequate and safe pedestrian and vehicle circulation within the City, and into adjoining areas. All developments will provide for streets and sidewalks to serve

said development in accordance with the requirements and design standards of this Section and other sections or manuals, guidelines, reports, as may be referenced in this Section.

(2) Requirements and Design Standards

- a. Design and Construction. All design and construction of streets, alleys, drainage facilities, and utilities must conform to the current amended *City of San Antonio Unified Development Code Article V*, unless otherwise specified in this Chapter, and to sound engineering principles to include the following:
 - i. Traffic-Control and Street Name Signs. Traffic-control and street name signs will be installed by the Subdivider at all street intersections within or abutting the subdivision or as directed by the City. All such signs will be installed in accordance with standards of the Texas Manual on Uniform Traffic-Control Devices (TMUTCD). Street signs will match and utilize the City's existing standard template.
 - ii. Surface Drainage. Surface drainage from private property will be taken to streets, alleys, or drainage courses as quickly as possible, and that drainage water from streets and alleys be taken to defined drainage courses as quickly as possible. Using streets and alleys as major drainage courses is not permitted.
 - iii. Grades. Minimum grades of streets and alleys will be three-tenths of one percent (0.30%) and a maximum grade of ten percent (10%). Concrete or rock retards will be installed in ditch lines in conformity with the current, amended *City of San Antonio Unified Development Code Article V*, in areas where required by the City. Profiles of streets will be furnished, showing existing centerline elevations, both right-of-way line elevations and proposed centerline grade. At creek or other drainage crossings where consideration must be given to the proper handling of stormwater, a profile of the flow line of such creek, or other drain extending sufficient distance, both upstream and downstream to determine proper street grade and size of drainage structure at such crossing is required.
 - iv. Drainage Structures. Drainage structures of permanent type will be provided at crossing of drainage courses with streets or alleys, in order that a minimum of inconvenience and hazard to the traveling public will occur, and in order to minimize damage to and excessive maintenance of public property. Such drainage structures will have minimum of thirty-six feet

- (36') clear roadway.
- v. Open Channels and Ditches. Open channels and ditches will be constructed to proper cross-section, grade, and alignment so as to function properly, and without permitting destructive velocities.
 - vi. Base. All street sections will be installed with a minimum of an ~~eight (8")~~ ten (10") inch thick base, compacted flexible base material (Type A or D, and Grade 1-2 or 5). Base material used for streets will conform to the requirements of *Texas Department of Transportation Standard Specification for Construction of Highways, Streets and Bridges*, unless otherwise specified in this Chapter. The compacted base will extend a minimum of 12 inches behind the back of curb (where curb exists). All returns will have minimum radius of fifteen feet (15'). All curbs (where required) will be constructed in accordance with current specifications of the current, amended *City of San Antonio Unified Development Code Article V* unless otherwise specified in this Chapter.
 - vii. Pavement. The pavement will be compacted, in accordance with the *Texas Department of Transportation Standard Specification for Construction of Highways, Streets and Bridges*, unless otherwise specified in this Chapter. Pavement will be 2-inches (2") compacted hot-mix asphaltic concrete (HMAC), Type "D".
 - viii. Trees. Large or other desirable trees within the limits of the right-of-way and outside of the construction area will be left and protected.
 - ix. Alleys. Alleys will be paved at least ten feet (10') wide. The finished centerline grade of alleys will be low enough below the abutting property to provide proper drainage.
- b. Assumptions. The above specifications for construction of streets are based on the assumption that a flexible base with an asphalt pavement will be constructed in keeping with prevalent practice in the City of Fair Oaks Ranch. The materials, design, specification and procedure will conform to those of the *City of San Antonio Unified Development Code Article V, Sections 35-504, 35-505, and 35-506* for similar construction. This also applies if a concrete pavement is used instead of the flexible base with asphalt pavement. Base material used for streets will conform to the requirements of *Texas Department of Transportation Standard Specification for Construction of Highways, Streets and Bridges, Texas Department of Transportation Standard Specification for Construction of Highways, Streets and Bridges, Item 345, Grade #2 Asphalt Stabilized Base*, may be used in lieu of the #2 flexible base. Before placing any material, the contractor will furnish the City with reports of analysis of the proposed material made by an approved laboratory.

(3) Assessment and Improvement of Transportation Network

- a. Purpose and General Policy:
 - i. Purpose. The City will approach existing and future transportation systems in a holistic manner to ensure that not only a street type is appropriate for a given area but ensures that a desired development pattern is reinforced by the public investment. Even in a semi-rural context, there are a variety of users and needs in a given right-of-way.
 - ii. Context Sensitive Design Policy. This transportation policy is reflected in zoning policy and recognizes the value of context sensitive streets that accommodate a variety of users appropriate to the desired development context, and that can serve multiple infrastructure purposes. In conjunction with calibrated zoning and desired market outcomes, the policy is intended to support existing development and enable appropriate future growth in Fair Oaks Ranch in a manner than sustains quality and value over time.
- b. Applicability. The regulations in this section apply to existing and future transportation networks associated with land development activities, within the City limits. Any application for subdivision

- approval, subdivision improvements, or site development permit in accordance with this Code must comply with these standards.
- c. Transportation Goals. The resulting benefits from the Context Sensitive Design approach can include the following:
- i. Balanced Modal System.
 - ii. High-quality, Diverse Place Types.
 - iii. Fire, Safety, Traffic Management and Development Pattern Alignment.
 - iv. Mutually Beneficial Guidance. As development occurs, this Code should provide the appropriate tools that can be easily understood by Developers and City Staff so that a common framework for transportation can result. The tools are grounded in best management practices (BMPs) from the following:
 1. Institute of Transportation Engineers (ITE) *Designing Walkable Urban Thoroughfares* Manual,
 2. National Association of City Transportation Officials (NACTO) *Urban Street Design Guide*,
 3. AASHTO *Guide for the Development of Bicycle Facilities*, and
 4. *US DOT Federal Highway Administration Small Town and Rural Multimodal Networks*.
- d. Existing Plans, Context and Projects: Area agencies that plan transportation needs for the region and affect the City include the following:
- i. The Alamo Area Metropolitan Planning Organization (AAMPO). The AAMPO's mission is to provide a comprehensive, coordinated and continuous transportation planning process for the safe and efficient movement of people and goods, consistent with the region's overall economic, social and environmental goals.
(<http://www.alamoareampo.org/Plans/MTP/>)
 - ii. Texas Department of Transportation (TxDOT) San Antonio District. The San Antonio District plans, designs, builds, operates and maintains the state transportation system in the City of Fair Oaks Ranch and in Bexar, Comal and Kendall Counties, among others.
(<http://www.txdot.gov/inside-txdot/projects/project-tracker.html>)
 - iii. Other Regional Organizations Affecting Fair Oaks Ranch Transportation Systems:
 1. Alamo Area Council of Governments (AACOG)
(<http://www.aacog.com/101/Commute-Solutions>); and the
 2. Alamo Regional Mobility Authority (Alamo RMA) (<http://www.bexar.org/339/Alamo-Regional-Mobility-Authority>)
- e. Transportation Network Priorities and Outcomes. The following priorities and outcomes will guide the development of the street network and the implementation and its technical guidance herein:
- i. External Access Points. Neighborhoods will aim to be connected to one another through a street system that offers two or more external access points.
 - ii. Dead-end Streets. Dead-end streets will be used on a limited basis and only in very low-density areas.
 - iii. Walking and Cycling. Walking and cycling will be a convenient option of movement within the network in terms of safety and efficient movement from one location to another.
 - iv. Access to Local Commercial Destinations. Access to local commercial destinations from adjacent neighborhoods will be achieved through the collector and local street network as opposed to arterial roadways.
 - v. Street Types. Street types and networks will balance efficient travel with appropriate speeds.
 - vi. Connecting Streets. Connecting streets will be assigned within a network in conjunction

with an overall connectivity strategy, rather than just to link *ad hoc* elements of subdivisions.

- vii. Natural Features. Roadways will follow natural features such as creek beds and topography as appropriate.
- viii. Linkages. Linkages between streets and trails will be purposeful and integrated into the transportation network.

Planning and Zoning Commission Category:

Infrastructure

Section 8.4. Water Quality Protection

(1) Water Quality Protection Requirements

The water quality protection requirements of this Code are applicable to all residential and non-residential development in those portions of the City of Fair Oak Ranch and pursuant to Local Government Code section 212.003, limited extension of City Regulation to the ETJ that are located within the Edwards or Trinity Aquifer recharge or contributing zones. Requirements will include the following:

- a. Review and Approval of Impervious Cover Percentages. The City will review and approve estimates of impervious cover percentage prior to determining the applicability of this Section to a proposed development.
- b. Requirements:
 - i. Water Conservation. Water conservation requirements are applicable in all portions of the City of Fair Oak Ranch.
 - ii. Drainage. Drainage criteria and requirements have many implications for environmental protection. Refer to the provisions in Chapter 9, Infrastructure and Public Improvements, of this Code for drainage related requirements.

(2) Specifications and Standards

- a. Governing Document. The specifications and standards recommended in the most current Edition of the *City of San Antonio Storm Water Design Criteria Manual*, as amended from time to time, including later editions, except such portions that may be hereinafter amended, deleted, or modified by the City of Fair Oak Ranch will be the governing document in the design, development, and construction of all storm water quality related improvements within the city limits and extraterritorial jurisdiction of the City of Fair Oak Ranch.
- b. Applicability. A Stormwater Permit is required prior to any land disturbance within the city limits or the City's extraterritorial jurisdiction (ETJ) to ensure conformance to the stormwater management provisions and other applicable requirements of this Code. Issuance of a Site Development Permit or a Final Plat for a single-family residential subdivision within the city limits constitutes approval of a Stormwater Permit for that specific development.

(3) Edwards and Trinity Aquifer Recharge Zones Standards

Residential and non-residential development projects in the Edwards and Trinity Aquifer

Recharge Zones will comply with the *City of San Antonio Storm Water Design Criteria Manual*, and any legal requirements of the TCEQ and / or Edwards Aquifer Authority.

(4) Standards for Development Outside the Edwards and Trinity Aquifer Recharge Zones

Residential and non-residential development projects in the City and extraterritorial jurisdiction and outside of the Edwards and Trinity Aquifer Recharge Zones will comply with the *City of San Antonio Storm Water Design Criteria*, or any other innovative management practice approved by the City Engineer. Standards will include the following:

- a. Pollutant Reduction. A water quality control must isolate and treat the water draining to the control from the contributing area and result in a 75 percent reduction in total suspended solids and total phosphorous resulting from the development activity. The required pollutant reduction level is applied only to the incremental increase in pollutant load caused by development. If a sand filtration system is required, the minimum required capture volume is the first one-half inch of runoff, or the 2-yr storm runoff volume, whichever is greater.

- b. Water Quality Controls. Water quality controls must be situated to receive and treat all runoff from impervious surfaces in the development. Where this is not practicable, supporting documentation must be provided to demonstrate attainment of the necessary water quality treatment level. The location of a water quality control must be shown on the slope map, preliminary plan, site plan, or subdivision construction plan, as applicable; and may not be in located in a twenty-five (25) year floodplain.
- c. Management Practices. If the developer is proposing an innovative management practice, the applicant must substantiate the pollutant removal efficiency of the proposed control with refereed professional journals or a verifiable engineering study.
- d. Maintenance. The water quality control will be designed to minimize maintenance requirements. The Subdivider / Developer and City will provide for an extended inspection and maintenance program of all water quality controls as follows:
 - i. Non-Single Family Zoning Categories. For non-single-family zoning categories the Subdivider / Developer will maintain a required water quality control in accordance with the maintenance standards in the City of San Antonio Storm Water Design *Criteria Manual*. Documentation will be provided by the Subdivider / Developer of the facility to ensure that sufficient annual funding exists to properly maintain any water quality controls. The City or its designated representative will inspect each water quality control at least once in the first year following approval of completion of construction and at least once every three (3) years thereafter. If noncompliance is found during an inspection, the City will request in writing that the property owner comply. This notice will describe the measures to be taken. If, within thirty (30) days of notice, the maintenance required is not accomplished, the City may impose fines or assessments as established in Section 12.3, Penalties, of this Code, or bring action in a court of competent jurisdiction as provided in Section 12.4, Civil Remedies, of this Code to require the property owner to accomplish necessary maintenance. Necessary maintenance is that maintenance needed to bring the facility and/or improvement into compliance with this Chapter or technical manuals referenced herein or other ordinances, laws or regulations. The City hereby declares that any failure to maintain a water quality control facility in accordance with City standards is a public nuisance subject to all remedies, legal and equitable, to abate that nuisance.
 - ii. Single-Family Residential Development. For a single-family residential development, the City will maintain a required water quality control, provided the water quality control has been accepted by the City. The Developer will make an estimation of the cost to conduct periodic inspections and maintenance of water quality controls, including one (1) year after the City's acceptance of completion of construction and every three (3) years thereafter for a total period of at least sixteen (16) years. The City will have authority to review and approve the estimated costs. The Developer will post surety for payment of the estimated costs consistent with the requirements specified in Section 12(5), Maintenance and Supervision, of this Code, or make a contribution for the full estimated cost of inspection and maintenance to the City prior to the City's approval of a final plat or issuance of a site development permit.
- e. Documentation. Prior to the City's approval of a permit, a Final Plat, a Site Development Plan, the Developer will provide the City with complete copies of all plans and documents pertaining to the Edwards and Trinity Aquifers which are relevant to the proposed project. These plans and documents will include, but are not limited to, the following:
 - i. Edwards and Trinity Aquifer Protection Plans

- ii. Contributing Zone Plans
- iii. Storm Water Pollution Prevention Plans
- iv. Water Pollution Abatement Plans
- v. Organized Sewage Collection System Plans
- vi. Underground Storage Tank Facility Plans
- vii. Above ground Storage Tank Facility Plans

(5) Exceptions

The requirements of this Section, as revised, are not applicable for the following:

- ~~a. Developments Not Located in a Recharge or Contributing Zone. Developments not located in the Edwards or Trinity Aquifer recharge or contributing zones with a total estimated impervious cover of twenty five (25) percent or less;~~
- a. Nonresidential Developments. Nonresidential developments with a total impervious cover area of five thousand (5,000) square feet or less;
- b. Small Developments. Developments involving construction of less than three (3) single-family residential structures.

(6) Onsite Wastewater Facility Permit

Prior to the approval of a final plat, the Developer will provide the City with complete copies of all applicable permit applications, plans and documents pertaining to the Onsite Sewage Facility (OSSF) Permit as required by the County(ies) in which the development is located. See Section 3.9(11).

Section 9.1 Purpose and Intent

(1) Purpose

The purpose of this Chapter is to assure that residential and nonresidential development projects constructed within the City of Fair Oaks Ranch (City) and its extraterritorial jurisdiction (ETJ) are adequately furnished with necessary public infrastructure. These include streets, water, wastewater, stormwater drainage and roads, among others.

(2) Comprehensive Plan

Design and construction of infrastructure in the City and ETJ will be consistent with the policies and guidelines established in the most recent versions of the Fair Oaks Ranch Comprehensive Plan, the Fair Oaks Ranch Thoroughfare Master Plan (Thoroughfare Plan), Fair Oaks Ranch Master Drainage Plan (Drainage Plan), and the Fair Oaks Ranch Utility (Water/Wastewater) Master Plan (Utility Plan). Any interpretation of the requirements of this Section will be made in a manner consistent with these Plans (See Section 9.2 below).

~~**(3) Annual Review**~~

~~The Planning and Zoning Commission (Commission) and the City Engineer will have an annual review of amendments to the minimum design standards of the following and will make recommendations to the City Council regarding the adoption of such amendments:~~

- ~~a. Texas Commission on Environmental Quality (TCEQ),~~
- ~~b. Texas Department of Transportation (TxDOT) Standard Specification for Construction of Highways, Streets and Bridges~~
- ~~c. Texas Manual on Uniform Traffic Control Devices (TMUTCD)~~
- ~~d. Fair Oaks Ranch Utilities Water and Wastewater Capital Improvements Plan (WWCIP), San~~

- ~~Antonio Water System Standard Specifications for Water and Sanitary Sewer Construction, City of San Antonio Unified Development Code Article V, Sections 35-504, 35-505, 35-506 pertaining to streets,~~
- ~~e. City of San Antonio LID Guidance Manual,~~
- ~~f. San Antonio River Authority (SARA): San Antonio River Basin Low Impact Development Technical Guidance Manual,~~
- ~~g. Greater Edwards Aquifer Alliance: Watershed Stewardship for the Edwards Aquifer Region, A Low Impact Development Manual,~~
- ~~h. City of New Braunfels Low Impact Development Design Manual,~~
- ~~i. City of San Antonio Storm Water Design Criteria Manual~~
- ~~j. San Antonio Water Systems Standard for Utility Construction Testing~~
- ~~k. City of San Antonio Appendix C: Bicycle Facility Design Guidance~~
- ~~l. City of San Antonio Sidewalk and Driveway Design and Construction Guidelines San Antonio Design Guidance Manual,~~
- ~~m. City of San Antonio Standard Specifications for Construction,~~
- ~~n. San Antonio Water System (SAWS) Specifications for Water and Sanitary Sewer Construction (Standard Details Manuals),~~
- ~~o. Building Codes with local amendments applicable to the City.~~

Section 9.2 General Standards

(1) Compliance with Standards

Full compliance with the standards contained within this Code must be obtained before the issuance of a building repair, plumbing, or electrical permit for any structure on a lot within a subdivision within the jurisdiction of the City.

(2) Review, Permit and Enforcement

In fulfilling any responsibilities in this Section that require technical or other expertise, the City Manager (or designee) will rely on the assistance of the City Engineer or another designee for such expertise.

(3) Unapproved Final Plat or Site Development

City approvals, including building, repair, plumbing, or electrical permits, will not be issued and the City will not provide maintenance or services on a lot, parcel or development for which a Final Plat or Site Development Permit has not been approved and recorded.

(4) Grandfather Provisions

The provisions of this Section will not be construed to prohibit the issuance of permits for any lot or undivided tract or parcel of land upon which a residence exists that was in existence prior to the passage of this Code or any other amendments thereafter.

(5) Required Improvements

In the absence of any provision to the contrary, the Subdivider / Developer will provide the following improvements, as approved in the construction plans, in conformance with the standards, specifications, [city-issued permits](#), and requirements of this Code:

- a. Streets, if intended to be dedicated to the public by owner, including rights-of-way, alleys, sidewalks, bridges, and signalization;
- b. Water Systems including utility easements, water distribution lines, fire hydrants, valves, pumps,

- and water towers;
- c. Wastewater Systems including utility easements, wastewater lines, manholes, and lift stations;
- d. Drainage Systems including drainage easements, channels, storm sewer lines and inlets, basins, control structures, and landscaping;
- e. Protection of environmentally sensitive features
- f. Park Land and Improvements;
- g. Permanent Monument Markers;
- h. Utilities for electric and telephone service and associated utility easements installed in conformance with the terms and regulations of the provider of said utility;
- i. Gas, Fiber Optics and Other Telecommunications Services and Associated Utility Easements, when provided, installed in conformance with the terms and regulations of the provider of said utility.

(6) Improvement Continuity and Integration

All improvements must be designed and installed to provide for a logical system of utilities, drainage and streets and to create continuity of improvements for the development of adjacent properties. Pedestrian, vehicle, water, wastewater, and drainage improvements must be extended to the perimeter of a subdivision.

(7) Improvement Plans

- a. Registered Professional Engineer. Plans for the improvements required by this Chapter will be prepared and approved in accordance with the provisions contained herein and certified for accuracy and completeness by a Registered Professional Engineer licensed in the State of Texas.
- b. Record Drawings / As-Built Drawings. After completion of construction, the developer will deliver to the City as-built construction documents indicating all improvements, new construction, and upgrades. These documents will clearly indicate the location of all improvements including the location of public utilities and infrastructure. The documents will include a certification from a Registered Professional Engineer or that all construction required by this Code was performed in compliance with the standards and specifications required of this Code. The developer will also deliver a digital file of the approved and As-Built record drawing plans for each improvement in the following formats:
 - 1. File format: AutoCAD DWG,SHP- Layers to be determined by the City Engineer
 - 2. Coordinate System: NAD 1983 State Plane Texas South Central FIPS 4204 Feet REF FRAME: NAD_83(2011)(EPOCH:2010.0000)
 - 3. Vertical NAVD88 (Computed using GEOID12A)
 - 4. Accuracy: Appurtenances will be located with a positional tolerance of 1:10,000+0.10'
 - 5. A letter of certification by a registered Professional Engineer attesting to the As-Built digital files accuracy

(8) Acceptance of Improvements

- a. Inspections. During the course of installation and construction of the required improvements, the City Engineer or another designee of the City Manager will make periodic inspections of the work to ensure that all improvements comply with this Code and other municipal, county and state requirements.
- b. Record Drawings and Maintenance Bonds. Upon completion of installation and construction of all required improvements, the Developer may seek acceptance of all public improvements by the City, by submitting the required number of copies of record drawings and a maintenance bond ~~in an amount equal to 20% of the cost installation and construction of all required improvements, as required by section 12.5 or as required by a Development Agreement approved for the project. The length of the maintenance bond will be determined by the size and complexity of the development and will be stated in the Developer Agreement.~~

- c. Testing. All testing will be in accordance with *San Antonio Water Systems Standard for Utility Construction Testing*, unless otherwise specified in this Chapter. For the wastewater lines and all appurtenances associated therewith, at the Developer's expense, the Developer will provide for and submit reports from the TV inspection of the lines and all appurtenances associated therewith prior to any acceptance. In addition, the developer will provide a statement signed by a Registered Professional Engineer that all improvements have been installed and constructed in accordance with the submitted record drawings.

(9) Maintenance and Supervision

- a. Temporary Work Easement. Where required, for purposes of installation or maintenance of city, other public or private utilities, water or wastewater service, a temporary work easement shall be granted for the duration of the necessary work, including the right to move, store and remove equipment and supplies, and erect and remove temporary structures on the land and to perform any other work necessary and incident to the construction of the project.

(10) Development Manual(s) and Public Works Specification Manual(s)

- a. All Development Manuals shall contain development application forms, required application materials, fees, and application submittal deadlines. The Development Manual may be adopted and updated from time to time by Resolution approved by City Council. A copy of the current Development Manual shall be posted to the City's website. Any amendment to the Development Manual shall be published on the City's website within 30 calendar days from when the amendment is made in accordance with LGC Section 212.0081 or its successor statute.
- b. The Public Works Specification Manual(s) shall contain specifications necessary to complete public projects including but not limited to roadway design specifications, traffic impact requirements, utility easement specifications, and driveway requirements. The Public Works Specification Manual(s) may be adopted and updated from time to time by ordinance approved by the City Council. In accordance with LGC Sections 212.002 & 212.0021, prior to adopting or amending the Public Works Specification Manual(s) a public hearing is required and notice of the public hearing shall be published in a newspaper of general circulation in the city. A copy of the current Public Works Specification Manual(s) shall be available upon request.

(11) Design Standards

~~The Planning and Zoning Commission (Commission) and the City Engineer will have an annual review of amendments to the minimum design standards of the following and will make recommendations to the City Council regarding the adoption of such amendments:~~

~~All design standards listed below refer to the latest approved version of said design standard~~

- a. City of Fair Oaks Ranch Design Standards
 - i. Fair Oaks Ranch Utilities Water and Wastewater Capital Improvements Plan (WWCIP), San Antonio Water System Standard Specifications for Water and Sanitary Sewer Construction, City of San Antonio Unified Development Code Article V, Sections 35-504, 35-505, 35-506 pertaining to streets,
 - ii. City of Fair Oaks Ranch Driveway Construction Guidelines
 - iii. City of Fair Oaks Ranch Construction Standard Specification for Water and Sanitary Sewer Construction.
- b. Other Design Standards
 - i. Texas Commission on Environmental Quality (TCEQ),

- ii. [Texas Department of Transportation \(TxDOT\) Standard Specification for Construction of Highways, Streets and Bridges](#)
- iii. [Texas Manual on Uniform Traffic-Control Devices \(TMUTCD\)](#)
- iv. [City of San Antonio LID Guidance Manual,](#)
- v. [San Antonio River Authority \(SARA\): San Antonio River Basin Low Impact Development Technical Guidance Manual,](#)
- vi. [Greater Edwards Aquifer Alliance: Watershed Stewardship for the Edwards Aquifer Region, A Low Impact Development Manual,](#)
- vii. [City of New Braunfels Low-Impact Development Design Manual,](#)
- viii. [City of San Antonio Storm Water Design Criteria Manual](#)
- ix. [San Antonio Water Systems Standard for Utility Construction Testing](#)
- x. [City of San Antonio Appendix C: Bicycle Facility Design Guidance](#)
- xi. [City of San Antonio Sidewalk and Driveway Design and Construction Guidelines San Antonio Design Guidance Manual,](#)
- xii. [City of San Antonio Standard Specifications for Construction,](#)
- xiii. [San Antonio Water System \(SAWS\) Specifications for Water and Sanitary Sewer Construction \(Standard Details Manuals\),](#)
- xiv. [Building Codes with local amendments applicable to the City.](#)

Section 9.3 Adequate Public Facilities (APF) Processing Procedures

(1) Facilities and Services

A final plat or replat or site development permit will not be approved unless the land proposed for subdivision or site development is adequately served by essential public facilities and services (see Section 9.2(5)). Adequately served is defined as having an approved construction plan that demonstrates that public facilities and services will be constructed. The final plat can be approved but not filed until such time as the public facilities and services have been accepted by the City Engineer and with a letter of acceptance being issued by the City Manager (or designee). Those services include the following:

a. Street Access and Parking:

- i. **Safe and Reliable Access.** A final plat, replat or site development permit will not be approved unless the proposed lot(s) have safe and reliable access for daily use and emergency purposes.
 - ii. **Direct Access to Improved Street.** A plat or replat will not be approved unless the proposed lot(s) have direct access to an improved public or private street, an approved public way, or an approved access easement in accordance with Section 7.4(1), Design

Principles, of this Code, and connected to an improved public thoroughfare.

- iii. **Two Means of Vehicular Access.** Except for lots that are provided access from an approved cul-de-sac, all subdivisions must have at least two means of vehicular access or approach on a paved public right-of-way. Where development phasing or constraints of the land prevent the provision of a second, separate means of access, the City may, in its sole discretion, accept a temporary street connection, or median divided street or entry to satisfy this requirement. Vehicular access must also be provided, where necessary, for maintenance of utilities.
- i. **Parking.** All **public** parking facilities, including driveways, parking lots, parking garages, and all other facilities intended for **use by the public for** the temporary storage of motorized vehicles, trailers, bicycles, and other transportation devices, will be designed in compliance with the

requirements contained herein. It is the intent of this Code that public parking facilities are constructed to provide adequate capacity and functionality to the uses they serve while preserving the health, safety, and welfare of the residents of the adjacent areas and the City overall.

- b. Water. The proposed lot(s) or development must be connected to the City's water system or a community water supply system acceptable to the City that is capable of providing adequate water for health and emergency purposes. All lots must be provided service connections from a looped water main providing water flow from two directions or sources, exceptions only where it is impracticable and demonstrated by developer's engineer. New developments or improvements of existing developments should consult the Utility Master Plan for compliance with that Plan. For residential or non-residential developments not being serviced by the City, a letter of service must be submitted from the water corporation indicating their intent to service.
- c. Fire Protection. Water service must be sufficient to meet the fire flow requirements of the proposed development, except where a suitable alternative means of fire protection is approved by the City Engineer. The City may require the phasing of development, and/or the construction of improvements to maintain adequate fire protection.
- d. Wastewater. The proposed lot(s) or site developments must be served by an approved means of wastewater collection and treatment. The projected wastewater discharge of a proposed development will not exceed the proposed capacity of the proposed development's wastewater system. The City may require the phasing of development or improvements to the systems so as to maintain adequate wastewater capacity. New developments or improvements of existing developments should consult the Utility Master Plan.
- e. Drainage. Increased stormwater runoff attributable to new development must not exceed the capacity of the downstream drainage systems, or adversely affect adjoining property. Where the projected runoff would exceed capacity based on the standards specified in this Code, the City may require the phasing of development, the use of control methods such as retention or detention, and the construction of off-site drainage improvements as means of mitigation. New developments or improvements of existing developments should consult the City of Fair Oaks Ranch Drainage Master Plan for compliance with that Plan.
- f. Parks and Recreation. Adequate parks and recreational facilities that meet the requirements and standards specified in this Code must be provided. All residential developments, including commercial / mixed use developments, will be required to comply with these standards and requirements.
- g. Monumentation and Survey Control. Monument and ground control requirements of this Code must be met.

(2) Fiscal Surety and Assurance of Construction and Maintenance

A ~~final plat or replat~~ plat shall not be recorded nor a site development permit will not be approved unless the Developer has complied with all the requirements for Fiscal Surety relating to Construction and Maintenance as detailed in Chapter 12, Compliance and Enforcement.

Section 9.7 Drainage and Erosion Control Standards

(1) Facilities Required

The Developer will provide a storm drainage system to meet a level of service as defined in this

section. A storm drainage system will be provided that is capable of conveying the peak discharge

generated by the 100-yr storm. Note peak flows may be reduced by detention or other on-site storage. This conveyance may be enclosed or open, or a combination of both. The system will be integrated with the storm drainage system of the City, and the design of the system must be approved by the City Manager (or designee) in accordance with the requirements of this Code. The storm drainage system is any existing collection, conveyance, or storage stormwater infrastructure within the defined street right-of-way and/or existing platted easement, and drainage paths as defined by the City.

- a. Property not reserved or designed for conveying stormwater will be protected from frequent inundation of the 10-yr storm as follows:
 - i. When the total drainage area is less than 2 acres, protection may be provided by following good lot grading practices, such as
 1. Clearly defining areas of disturbance and grading to protect and preserve natural and hydrologic features (natural soils, vegetation, hillsides, conservation areas, karst features, existing natural watercourses, and wetlands), and
 2. Minimize site grading and areas of disturbance and isolating areas where construction activities will occur or by one of the conveyances described below in item 1b.
 - ii. When the total drainage area is 2 acres or more, one of the following conveyances must be used to convey the 10-yr storm:
 1. Pipe system conveying the design storm;
 2. Engineered open channel;
 3. A street gutter when the velocity of stormwater during a 10-yr storm is less than 10 cfs;
 4. A natural stream.
- b. Buildings will be protected from the 100-yr storm by:
 - i. Providing a minimum of one (1) foot freeboard above the 100-yr storm stage, at any point along the drainage system, for openings in a building. For lakes and detention basins, the 100-yr storm stage will be the water surface of flow through the defined emergency spillway.
 - ii. Flood-proofing a building below the 100-yr stormwater surface elevation plus one (1) foot of freeboard in accordance with the current edition of the International Building Code or as required by the City.
 - iii. A completed Elevation Certificate with the necessary base flood elevations hydrological and hydraulic data as needed and a letter of No-Adverse-Impact, prepared by a professional engineer or surveyor, must be submitted when the structure is completed and ready for habitation for residential structures
- c. Street Crossings. Concentrated flow will be conveyed under streets (by roadway classification as detailed below in items i, ii, and iii). New and/or redevelopment of land that drains to a street crossing must evaluate the stormwater runoff impact to said crossing, and either improve the crossing to meet the standards set in this section or retain stormwater within the development site to pre-development conditions. These crossings may be bridges, culverts, or underground systems. Crossings will be designed to completely convey flood flows using streets as part of the stormwater conveyance system in accordance with the following criteria:
 - i. Street Classification = Arterial; Minimum Design Storm Capacity = 50-yr
 - ii. Street Classification = Collector and **Connector**; Minimum Design Storm Capacity = 25-yr
 - iii. Street Classification = **Local and** Residential; Minimum Design Storm Capacity = 10-yr
 - iv. Overflow depths for the 100-yr storm at the low point in the roadway crossing will be limited to 7 inches measured at the high point in the roadway cross section.
- d. Downstream impacts of increased impervious area resulting from development will be mitigated through detention and/or green infrastructure. Peak runoff control will be provided for the 100-

yr, 10-yr, and 2-yr storms and volumetric and/or extended detention control of the annual mean storm event will be provided. The maximum release rate from any development or redevelopment will be as follows:

- i. 2-yr storm peak rate less than or equal to 0.5 cfs per site acre
 - ii. 10-yr storm peak rate less than or equal to 2.0 cfs per site acre
 - iii. 100-yr storm peak rate less than or equal to 3.0 cfs per site acre
 - iv. Annual storm. 40-hour extended detention or other City approved green infrastructure.
- e. Private property will maintain positive grades of at least 2% away from habitable structures towards lot lines. Surface drainage from private property will be graded toward existing collection, conveyance, or storage stormwater infrastructure within the defined street right-of-way and/or existing platted easement, and drainage paths as defined by the City's most current hydrologic and hydraulic model. For the City to preserve natural drainage paths and ultimately protect the interests of private property owners, the following data is required on plot plans submitted as part of the building permit application process: existing and proposed contours; existing point elevations at all lot corners; proposed point elevations at all lot corners; existing stormwater collection, conveyance, or storage infrastructure; street right-of-way; existing and/or proposed platted easement; drainage paths as defined by the City's most current hydrologic and hydraulic model; low opening elevations for structure.

(2) Purpose and Applicability

- a. Altered Natural Flow and Increased Flow Rates. Growth in and around the City of Fair Oaks Ranch and the associated development and construction of buildings, paved surfaces, roads and other improvements has altered and continues to alter the natural flow of surface waters on the land. New building construction and the attendant construction of gutters, culverts, drains and channels for the conveyance of surface waters has increased the quantity of stormwater runoff and amplified peak flow rates, thus leading to the potential for flooding of property and homes, dangerous flows within and over public roadways and streets, and soil and channel erosion.
- b. On-Site and Regional Stormwater Detention and Retention Facilities. It is the intention of the City Council to protect the health and safety of the citizens and visitors of the city and to prevent damage to private property and public facilities through the proper design and construction of both on-site and regional stormwater detention and retention facilities that prevent or adequately reduce increases in peak flow rates of runoff that may otherwise increase the risk of flooding and the associated risk of public endangerment, property damage and erosion.
- c. Erosion Control Practices. It is the intention of the City Council to protect the health and safety of the citizens of and visitors to the City and to prevent damage to private property and public facilities through the installation and use of temporary and permanent erosion control practices that prevent or adequately reduce increases in erosion and siltation that may otherwise increase the risk of flooding and the associated risk of public endangerment and property damage by clogging or partial filling of constructed or natural drainage ways as well as drainage structures and detention ponds.
- d. Applicability. The provisions of this Chapter are applicable to all drainage improvements located within the city limits and ETJ of the City of Fair Oaks Ranch. They are intended to be implemented for entire subdivisions at the time of platting and construction of street and drainage improvements.

(3) Compliance with Drainage Requirements

Compliance with Drainage Requirements may be accomplished as follows:

- a. On-Site Stormwater Detention Facilities. Design and construction by the Landowner or Developer of one or more on-site stormwater detention facilities which limits peak flood flow rates from the proposed development to existing or predevelopment peak flood flow rates from the subject tract;
- b. Off-Site Drainage Improvements. Construction of, or participation in the construction of, off-site drainage improvements, such as storm inlets, storm sewers, culverts, channel modifications, detention ponds, land filling, and/or other drainage facilities such that the peak flood flows for fully-developed watershed conditions from the watershed area in which the proposed development is located will be sufficiently and safely passed without increasing the peak discharge rate or the likelihood of wing of adjacent and downstream property and roadways; and
- c. Construction of or financial participation in area-wide drainage improvements, administered by the City pursuant to a regional drainage study or the City of Fair Oaks Ranch Master Drainage Plan for city limits and ETJ, as may be specified in regulations or policies relating to impact fees for drainage improvements.

(4) Adoption of City of San Antonio Stormwater Design Criteria Manual

Adoption of City of San Antonio *Stormwater Design Criteria Manual*. Adoption of the latest version and subsequent updates of the City of San Antonio *Stormwater Design Criteria Manual*, which along with the City of San Antonio *Design Guidance Manual* and the City of San Antonio *Standard Specifications for Construction*, adopted in Section 9.7(3) above, is hereby adopted by the City of Fair Oaks Ranch for the purpose of establishing rules and regulations for the design, development, construction, alteration, enlargement, repair, conversion, improvement, use, and maintenance of stormwater and drainage facilities until such time that the City of Fair Oaks Ranch may create and adopt a Drainage Criteria Manual and/or Standard Details Manual or other such document regulating the design, construction, and modification of water and wastewater facilities.

(5) Drainage Study

- a. Drainage Study Information. The City of Fair Oaks Ranch may require the owner of real property to provide, at the Owner's expense, and as a condition for Preliminary Plan approval, a Drainage Study for the total area to be ultimately developed. The Drainage Study must be in accordance with the City of San Antonio *Stormwater Design Criteria Manual*. The drainage study will provide the following information, for both existing and fully developed conditions:
 - i. Drainage area maps as follows:
 1. Drainage Area Map (Onsite): 1 inch = 200 feet; Drainage Area Map (Entire Drainage Area): 1 inch = 1,000 feet
 2. Plan: 1 inch = 20 feet
 3. Profile (Vertical): 1 inch = 5 feet; Profiled (Horizontal): 1 inch = 20 feet;
 - ii. The drainage area(s) within the subdivision, depicted on a topographic map with both existing and proposed two-foot contour intervals. Identify and locate all existing and proposed drainage features. Show defined street right-of-way and/or existing platted easement, and drainage paths as defined by the City's most current hydrologic and hydraulic model;
 - iii. Composite runoff factors are based on the American Society of Civil Engineers (ASCE) compilation of average runoff coefficients utilizing the Rational Method for various surface conditions. Reference the City of San Antonio Stormwater Design Criteria Manual for relevant factors of pre- and post-development cases;
 - iv. Times of concentration, which is the time for the runoff from a catchment area to reach equilibrium under a steady rainfall. It is also defined as the longest travel time it takes the

runoff to reach the discharge point of a catchment area. The travel time is a parameter most often used to characterize the response of a catchment area to rainfalls. This parameter is a function of length scale, average catchment slope, and the catchment surface conditions. The time of concentration is the sum of the overland flow time and the travel time in drainage channels along the flow route to the outlet;

- v. Related rainfall intensity factors are dependent on the rainfall duration and varies with the frequency of the rainfall event; the less frequent the storm is, the larger its intensity will be. Reference the City of San Antonio Stormwater Design Criteria Manual for relevant factors;
 - vi. Preliminary street grades sufficient to determine high points, low points, and direction of runoff flows;
 - vii. Proposed locations of inlets, storm sewers and culverts;
 - viii. Proposed routing of drainage ways; and
 - ix. All proposed drainage easements, including width of easement and configuration of channel.
 - x. Include on the plan set hydrologic table, hydraulic table, and storage and/or green infrastructure table that summarizes parameters and calculations.
- b. Narrative. The information will be supplemented with narrative text describing the watershed and the subdivision, the general soil conditions, downstream channel conditions, all weather access, and the presence of special flood hazard areas within the development. The study will be prepared by a Professional Engineer registered in the State of Texas. The drainage study, if required, will be submitted along with the Preliminary Plat. The City Engineer will review the submission, verify that all requirements of this Code have been met, and forward his / her recommendations to the City Manager (or designee).

(6) Flood Hazards

- a. General Policy. All subdivisions will conform to the latest version of the "Flood Disaster Protection Act of 1973," Public Law 93-234, the City's Flood Damage Prevention Ordinance (2009) as amended, and policies as dictated by the Federal Emergency Management Agency (FEMA).
- b. Floodplain Designations and General Restrictions. Federal floodplains are based on a 100-year frequency discharge and apply only in those areas where official FEMA maps have been prepared, or where 100-year water and surface profile studies are available for the City and its extraterritorial jurisdiction., Refer to the City's Flood Damage Prevention Ordinance for information on the Flood Insurance Rate Maps (FIRM) and Flood Insurance Studies (FIS) used to establish the areas of special flood hazard within the City, and provisions for flood hazard reduction.
- c. General Requirements in Floodplains. The elevation of the lowest floor (including basements) in the 100-year floodplain ~~a minimum of 12 inches above the base flood elevation conforming to Chapter 3; Section 3.12 of the City Code of Ordinances~~. The limits of the 100-year floodplain and the limits of the floodway will be shown on the preliminary and final plats as applicable.
- d. Access to Subdivisions. The City will not permit new "island" subdivisions, lots or streets that would be surrounded by the floodwaters of the 100-year flood, 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.

(7) Standards and Requirements for Drainage

- a. Standards and Requirements. The specifications and standards recommended in the most current version of the City of San Antonio *Stormwater Design Criteria Manual*, the City of San Antonio *Design Guidance Manual*, and the City of San Antonio *Standard Specifications for*

Construction, as amended from time to time, including later editions, except such portions that may be hereinafter amended, deleted, or modified by the City of Fair Oaks Ranch will be the governing document in the design, development and construction of all improvements within the city limits and ETJ of the City of Fair Oaks Ranch. Where any provision of this Code conflicts with a provision or requirement of the City of San Antonio *Stormwater Design Criteria Manual*, the City of San Antonio *Design Guidance Manual*, and the City of San Antonio *Standard Specifications for Construction*, the more stringent requirements will control.

- b. Computed Stormwater Runoff. Stormwater runoff will be computed on the basis of a fully developed contributing drainage area or watershed as determined under the City of San Antonio *Stormwater Design Criteria Manual*.
- c. Obstruction in a Watercourse. Unless authorized by an approved site plan, a person may not place, or cause to be placed, an obstruction in a watercourse. The person in control of real property traversed by a watercourse will keep the watercourse free from an obstruction that is not authorized by a site plan. Further, placement of fill material, or construction of impervious cover, or construction or placement of any other structure on a person's property, or performance of any excavation or grading in a manner which alters the flow of surface water across any adjacent property is prohibited.
- d. Approvals: A Final Plat, development construction plans, or Site Plan may be approved only after it can be demonstrated by the Developer of such property that the proposed development will:
 - i. Prevent any additional identifiable adverse flooding on other property;
 - ii. Preserve the natural and traditional character of the land and the watercourse to the greatest extent feasible; and that
 - iii. Meet all drainage requirements in this Code have been met.

(8) Standards and Requirements for Stormwater Detention

Unless otherwise specified herein, the design of all stormwater detention facilities will be in accordance with the minimum requirements of the current version of the City of San Antonio *Stormwater Design Criteria Manual*. Computation of detention requirements will be based on a fully developed drainage area, or watershed, in accordance with the minimum provisions of the City of San Antonio *Stormwater Design Criteria Manual*.

(9) Standards and Requirements for Erosion and Sedimentation Controls

- a. Erosion and Sedimentation Controls. Temporary erosion and sedimentation controls are required for all development until permanent re-vegetation has been established and must be removed after permanent re-vegetation has been established. Design and construction of temporary erosion and sedimentation controls will be performed in accordance with the City of *San Antonio Stormwater Design Criteria Manual*.
- b. Construction Phase Erosion and Sedimentation Control Plan. For all projects, the Applicant / Developer must provide a Construction Phase Erosion and Sedimentation Control Plan, acceptable to the City Engineer or another designee of the City Manager, which includes specification of control measures to be installed, a sequencing schedule specifying the dates of installation and removal of control facilities, and a maintenance schedule and commitment for the life of the erosion and sedimentation control facilities to be installed. The Developer will provide assurance of perpetual maintenance and operation of any and all facilities for stormwater detention and/or runoff management constructed under the requirements set forth herein, in a form and specification acceptable to the City. Such assurance may be specified in advance by the City and make take the form of a plat note, posting of financial surety, legal provisions of an automatic property owners association which are enforceable by the City, or a combination of

these or other provisions.

- c. Permanent Re-vegetation. No development will be considered complete until permanent re-vegetation is established, the City of Fair Oaks Ranch has received the engineer's concurrence letter stipulating to this fact, and the City Engineer has inspected and accepted the vegetated area. Temporary or permanent re-vegetation of bare ground in order to stabilize disturbed soil will occur at the earliest practicable date.
- d. Field Modification of Plans by Inspection Personnel. City of Fair Oaks Ranch construction inspection personnel may modify an erosion control plan or construction sequencing plan in the field without notice to the permit holder if the modification is a minor change to upgrade erosion controls or reflect construction progress; and, after two business days written notice to the permit holder, if the inspector determines that an erosion control or the construction sequencing is inappropriate and the City Engineer has confirmed the inspector's findings in writing.
- e. On-Site Control of the Two-Year Peak Flow. No final subdivision plat, subdivision construction plan, site plan or building permit will be approved by the City unless the proposed development provides on-site control of the two year peak flow, as determined under the City of San Antonio *Stormwater Design Criteria Manual*. A proposed development may provide off-site control of the two-year peak if the off-site control will not cause an adverse water quality impact from increased in-stream peak flow, or stream bank erosion.
- f. Registered Professional Engineer. A Registered Professional Engineer, licensed in the State of Texas and qualified and experienced in the design and operation of stormwater detention ponds and related stormwater management facilities, will perform and certify the hydraulic and structural design of stormwater detention ponds and related stormwater management facilities, including the development of engineering and technical information required for evaluation by the City.

(10) Nuisance Provision.

- a. Discharge Exceptions. It will be unlawful and constitute a nuisance for any person to discharge or cause to be discharged or spilled into the storm drainage system or environment any substance other than naturally occurring stormwater runoff except for the following:
 - Return flows from irrigation,
 - Water from building foundation drainage,
 - Runoff from non-commercial car washing,
 - De-chlorinated water from swimming pools,
 - Reject water from water softening devices,
 - Water from fire hydrants including water used for firefighting,
 - Uncontaminated groundwater,
 - Springs,
 - Discharges from potable water sources,
 - Air conditioning condensation,
 - Uncontaminated condensation, and
 - Other waters determined to be non-contaminated and acceptable for return to the storm drainage system and receiving waters.
- b. Liability for Damages. Nothing contained herein will be construed to relieve any person discharging or causing to be discharged water into the storm drainage system from any liability for damage caused by the volume or quality of water discharged.

(11) Responsibility for Proper Drainage Design and Construction Resides with Owner

Acceptance of requests from the Landowner / Developer to meet the stormwater detention

requirements through measures listed in Section 9.7(4) above is solely at the discretion of the City and will not relieve the Landowner / Developer of responsibility under civil law to adjacent and downstream properties.

Section 9.8 Monuments and Survey Control Point Markers

(1) Subdivisions and all lots submitted for plat approval must provide monuments and control points as follows:

- a. Licensed Registered Professional Land Surveyor (RPLS). All monuments and control points will be placed by a Licensed Registered Professional Land Surveyor (RPLS) and must be in place prior to the installation of any roadway improvements.
- b. Locations. To the extent it is practicable, monuments should be installed in locations that will prevent disturbance or destruction of the monument by construction activities. Any monuments disturbed or destroyed during roadway construction will be reestablished in conformance with the provisions of this Code by a Licensed Registered Professional Land Surveyor (RPLS).
- c. Intermediate Monuments. Where, due to topographic conditions, permanent structures, or other conditions, the view is obstructed between any two adjacent monuments, intermediate monuments will be set as to assure a clear view between adjacent monuments.
- d. Markers. All corners of subdivisions and points of curvature (P.C.) and points of tangency (P.T.) along boundary lines of subdivisions will be marked with a one-half inch iron rod, two feet in length, set in the center of a concrete monument six (6) inches in diameter and thirty (30) inches deep, with the top of the concrete monument set flush with the finished ground surface.
- e. Corner Markers. Corner markers will be a one-half inch iron rod, or three-fourths inch pipe, two feet in length, and will be installed flush with the ground. Depending on the terrain, a six (6) inch bar may be permitted by the City if it is at a sufficient depth to retain a stable, distinctive location, and it's of sufficient size to withstand the deteriorating forces of nature. Corners of all lots, block corners, street right-of-way P.C.s and P.T.s will be marked with corner markers.
- f. Permanent Benchmark. One permanent benchmark must be installed and referenced to the U.S. Geological Survey Datum (USGS NAD 83, mean sea level) and the State Plane Coordinate System (Texas State Plane, South Central, Feet). The City Manager (or designee) may waive the requirement for installations of a benchmark for developments smaller than 50 acres when at least two benchmarks are located within one-half mile of the proposed development's boundaries.

Planning and Zoning Commission Category:

Drive-In

Section 6.6 Access and Circulation

(1) Purpose. The purpose of this Section is to require that the parking and circulation aspects of all developments are well designed with regard to safety, efficiency and convenience for vehicles, golf carts, bicycles, and pedestrians, both within the development and to and from surrounding areas. The on-site pedestrian system must provide adequate directness, continuity, street crossings, and security as defined by the standards in this Section. Sidewalk or bikeway extensions off-site may be required based on needs created by the proposed development. This Section sets forth parking requirements and addresses the placement of drive-in facilities and loading zones.

(2) General Standards:

- a. New Roadways. All new streets will be built in accordance with Section 9.4, Infrastructure and Public Improvements (Streets), of this Code, the Transportation Plan Element of the City of Fair Oaks Ranch Comprehensive Plan and the City’s thoroughfare plan may be adopted by the City Council.
- b. Safety Considerations:
 - i. Pedestrian Separation. To the maximum extent feasible, pedestrians will be separated from vehicles and bicycles. Where complete separation of pedestrians and vehicles and bicycles is not possible, potential hazards will be minimized by the use of techniques such as special paving, grade separations, pavement marking, signs or striping, bollards, median refuge areas, traffic calming features, landscaping, or other means to clearly delineate pedestrian areas, for both day and night use.

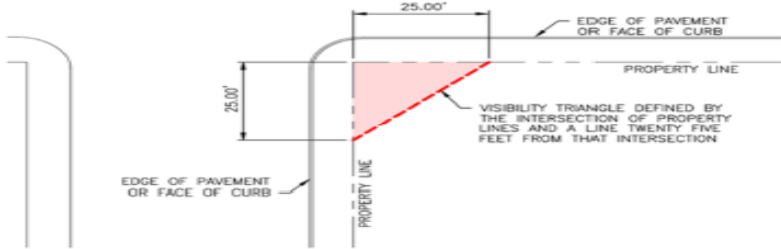


Figure. 6.1 Visibility Triangle

- ii. Curb Cuts and Ramps. Curb cuts and ramps will be located at convenient, safe locations for the physically disabled, for bicyclists and for pedestrians pushing strollers or carts. The location and design of curb cuts and ramps will meet the requirements of the International Building Code and the Americans with Disabilities Act ramp standards and will avoid crossing or funneling traffic through loading areas, drive-in lanes and outdoor trash storage/collection areas.
 - iii. Corner Lot View Lines. On a corner lot in any district, nothing will be erected, placed, planted, or allowed to grow in such a manner so as to materially impair vehicle drivers’ vision at intersections, within a triangle defined by the property lines and a line joining two points located twenty-five (25) feet back from the intersection of the property lines;
- (3) Drive-in Facilities.** Any drive-in facility for a bank, food service, or other such building, if permitted by the zoning district regulations set forth in Chapter 4, Zoning Districts and Use Regulations, will be secondary in emphasis to any other building entry or access facility and must comply with the design standards in Chapter 7, Design Standards. Such facilities will be located in side or rear locations that do not interrupt direct pedestrian access along connecting pedestrian frontage. The design and layout of drive-in facilities for restaurants, banks, or other uses will:
- a. Avoid potential pedestrian / vehicle conflicts;

- b. Provide adequate stacking spaces for automobiles before and after use of the facility;
 - i. A stacking space shall be an area on a site measuring eight (8') feet by 20 feet with direct forward access to a service window or station of a drive through facility which does not constitute space for any other circulation driveway, parking space, or maneuvering area.
 - ii. For financial institutions with drive through facilities, and restaurants with drive through service, each teller window or station, human or mechanical, shall be provided with a minimum of five (5) stacking spaces.
 - iii. For retail operations, other than restaurants and kiosks, that provide drive-up service, including pharmacy and dry cleaners, a minimum of three (3) stacking spaces for each service window shall be provided.
 - iv. Each car wash bay (of any type), vacuum, or gas pump shall be provided with a minimum of four (4) stacking spaces, in addition to the bay or pump itself. One stacking space shall be provided at the exit end of each wash bay for window-drying and other detailing unless a separate area and shade structure is provided. The finish and drying area must be located out of circulation aisles, access easements, fire lanes and streets. Vehicle drying area shall not be in a yard along a Primary or Secondary Frontage.
 - v. For automobile quick-lube type facilities, a minimum of three (3) stacking spaces shall be provided for each service bay in addition to the service bay(s) itself.
 - vi. For use not listed above number of stacking spaces will be determined by the City Manager or his/her designee.
- c. Provide adequate directional signage to enhance a free-flow through the facility; and/or
- d. Provide a walk-up service option as well as drive-in.
- e. Drive through windows and similar elements shall not be located in yards adjacent to residential zones or use. If a drive through is located adjacent to a residential use or zone, provide a twenty-five (25) foot landscaped buffer along the property line.
- f. Such facilities must meet all applicable screening and landscaping requirements of this Chapter.

Exhibit B

Planning and Zoning Commission Category:

Parking Lots

Exhibit B

Section 6.7 Parking Standards

- (1) **Purpose and Intent.** Adequate parking facility design and construction contributes to improved pedestrian and vehicular mobility and safety and will include the following:
- a. Safe, Efficient, Convenient and Attractive. All vehicular use areas in any site development will be designed to be safe, efficient, convenient, and attractive, considering use by all modes of transportation that will access the site including, without limitation, cars, trucks, golf carts, bicycles, pedestrian and emergency vehicles.
 - b. Pedestrian Friendly. All parking lots and other facilities will be designed with the pedestrian user in mind to ensure safe and comfortable pedestrian mobility.
- (2) **Parking Requirements:**
- a. Off-street Parking and Loading Space. Off-street parking and loading space will be provided any time a structure is erected or significantly altered in accordance with the requirements set forth in Table 6.2
 - b. Unlisted. Parking requirements for uses not specifically listed in this Chapter will be the same as required for a similar use. When a fractional number of spaces are calculated, the required number of parking spaces will be the next whole number.
 - c. Change of Use. Whenever the use of an existing building is changed, the spaces provided will comply with the requirements associated with the new use as listed in Table 6.2
 - d. Unobstructed Vehicular Access. Unobstructed vehicular access to and from a public street will be provided for all off-street parking spaces. Vehicular access will be provided in such manner as to protect the safety of persons using such access or traveling in the public street from which such access is obtained.
 - e. Minimum Off-Street Vehicular Parking Requirement. Refer to Table 4.2 Use Table for parking ratios.
 - f. Additional Criteria:
 - i. Landscaping within surface parking lots shall meet standards in Section 6.5
 - ii. The City Manager (or designee) may approve a shared parking plan or alternative parking plan.
 - iii. On-street parking located along any public street shall not count towards the required off street parking unless improved and built according to approved cross sections.
 - g. Minimum Bicycle Parking Requirement. For mixed-use/ multifamily/ commercial/ office/ retail uses the number of bicycle spaces provided shall be 5% of all provided automobile spaces with a minimum of two (2) spaces. Bicycle parking shall conform to standards in this section.

Exhibit B

Table 6.2 Parking Requirements

Minimum Off-Street Vehicular Parking Requirement		Additional Criteria
Commercial/Office/ Retail uses	1 space per 300 sq.ft. of usable building area	1. Landscaping within surface parking lots shall meet standards in Section 6.6. 2. A shared parking plan or alternative parking plan
Restaurant uses	1 space per 200 sq.ft. of usable building area	
Residential uses	1.5 spaces per each dwelling unit	
Lodging - Hotel/ Motel/ B&B type uses	.75 space per guest room; all other areas, such as conference space shall be parked at 1 space per 300 sq.ft. of usable building area.	may be approved by the City Manager (or designee) 3. On-street parking located along any public street shall not count towards the required off street parking unless improved and built according to approved cross sections.
Light manufacturing/ Warehouse/ Logistics types uses	1 space per 500 sq.ft. of usable building area	
Civic/ Places of Worship type uses	1 space per 200 sq.ft. of usable building area	
Minimum Bicycle Parking Requirement		
Mixed-use/ Multifamily/ Commercial/Office/ Retail uses	5% of all provided automobile spaces (minimum 2 spaces)	Bicycle Parking shall conform to standards in Section 6.7 (14).

(3) Parking Lot Location:

- a. Location. Required off-street parking spaces will be located on the same lot or premises as the building or use for which they are required unless:
 - i. Collective Parking. Such spaces are provided collectively by two (2) or more buildings or uses on adjacent lots in a single parking area located within the boundaries of those adjacent lots, and the total number of parking spaces supplied collectively is equal to the number of spaces required in Chapter ~~76, Design Standards~~, of this Code for each use considered separately, or
 - ii. Approved Alternative. An alternative location is approved by the City Manager (or designee).
- b. Setbacks.

Any vehicular use area, including parking spaces and circulation area, will be set back from the street right-of-way a minimum of thirty (30') feet if located along a non-arterial street and a minimum of fifty (50') if located along an arterial street, unless otherwise permitted by the zoning district requirements in Chapter 4. All effort must be made to minimize disturbance in these setbacks and preserve the natural landscaping. ~~containing six (6) or more parking spaces or two thousand (2,000) or more square feet will be set back from the street right-of-way a minimum of~~

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~~ten (10) feet if located along a non-arterial street and a minimum of fifteen (15) feet if located along an arterial street.~~

(4) Parking Lot Layout:

- a. Future Development. Parking lots will be laid out to continue the street / block pattern of the area so that the lots can easily be redeveloped with buildings consistent with the design of the surrounding development.
- b. Size and Scale:
 - i. Visually and Functionally Segmented. Large surface parking lots will be visually and functionally segmented into several smaller lots by landscaped areas.
 - ii. Number of Parking Spaces. Each lot will contain a maximum of fifty (50) parking spaces, unless the developer designs and constructs a parking lot system that exceeds the minimum landscaping area and stacking requirements for parking lots as specified in Section 6.72 and Table 4.2 of this Code by at least two (2) percent for each additional fifty (50) parking spaces per parking lot or proportion thereof, up to a maximum of two hundred (200) parking spaces per parking lot.
- c. Circulation Routes:
 - i. Vehicles, Bicycles and Pedestrians. Parking lots will provide well-defined circulation routes for vehicles, bicycles and pedestrians.
 - ii. Safe and Efficient Access and Egress. All parking spaces will open directly upon an aisle or driveway with such width and design to provide safe and efficient access and egress for the vehicle.
 - iii. Separation of Vehicles and Pedestrians. To the maximum extent feasible, pedestrians and vehicles will be separated through provision of a separate sidewalk or walkway for pedestrians. Where complete separation of pedestrian and vehicles is not feasible, potential hazards will be minimized by using landscaping, bollards, special paving, lighting and other similar means to clearly delineate pedestrian areas.
 - iv. Landscaped Islands. To the maximum extent feasible, landscaped islands with raised curbs or islands designed to induce infiltration of storm runoff will be used to define parking lot entrances, the ends of all parking aisles, the location and pattern of primary internal access drives, and to provide pedestrian refuge areas and walkways. Each landscaped island will measure at least one (1) parking space in size, with no single landscaped area less than fifty (50) square feet.
- d. Driveways:
 - i. Unless otherwise specified in the specific Zoning District standards, driveway access and off-street loading and unloading may be located along General Frontages only.
 - ii. Unless otherwise specified in the specific Zoning District standards, driveways and off-street loading and unloading may be located with access along a Secondary Frontage street only if the property has no access to either a General Frontage street or joint use easement to an adjoining property with direct driveway access to any other street.
 - iii. Unless otherwise specified in the specific Zoning District standards, driveways and off-street loading and unloading may be located with access along a Primary Frontage street only if the property has no access to either a Secondary or General Frontage Street or joint use easement to an adjoining property with direct access to any other Street.
 - iv. Along Primary and Secondary Frontages, driveway spacing shall be limited to one

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driveway per each block face or per 200 feet of block face for blocks greater than 400

feet in length except as otherwise approved by the City Engineer.

- v. Shared driveways, joint use easements or joint access easements shall be required to adjoining properties when driveway and service access is off a Primary Frontage or Secondary Frontage.
- vi. Service and loading/unloading areas shall be screened per standards in this Chapter ~~76~~, ~~Design Standards~~.
- vii. Unless required to meet minimum fire access or service access standards all commercial and mixed use driveways shall be a maximum of 24' in width. Service driveways shall be a maximum of 30' in width. Driveways wider than 24' in width shall only be located off of General Frontage Streets. Driveways along State controlled roadways shall meet TxDOT Standards or the city's adopted standards.
- viii. Driveway entrances and exits will be setback at least one hundred fifty (150) feet from a signalized intersection, or thirty-five (35) feet from the curb return of a street intersection or within thirty-five (35) feet of the radius of the edge of pavement or traveled street at an intersection on a curve.
- ix. Driveway Entrances and Exits. Driveway entrances and exits will be at roadway grade level where the driveway intersects the City's right-of-way except as otherwise approved by the City Engineer.
- x. Backing Into Streets. Parking plans may be refused where it is necessary to back a vehicle into a heavily traveled street.
- xi. Paving. In all Zoning Districts each entrance and exit to a parking facility will be completely surfaced per standards in Section ~~89~~.4, Streets.
- xii. Visibility. Each entrance and exit to a parking facility will be constructed and maintained so that any vehicle entering or exiting the facility will be clearly visible at a distance of not less than ten (10) feet to any person approaching said entrance on any pedestrian path or walk.
- xiii. Further Requirements. See Section ~~89~~.4, Streets, for driveway design requirements.

(5) Street Screen Required:

- a. Any lot frontage along Primary frontages and Secondary frontages with surface parking shall be defined by a Street Screen. This required Street Screen shall be located at the street edge of the minimum setback zone. Refer to this Chapter ~~7~~, ~~Design Standards, of this code~~ for more specifications.
- b. Any frontage along Ralph Fair Road (FM 3351) with surface parking shall also be screened by a three (3) foot high (minimum) vegetative Street Screen and Landscape Buffer ~~ten (10)~~ fifty (50') foot (minimum) width required from frontage right-of-way. The Street Screen may be planted within the required Landscape Buffer. Refer to section chapter 7 6.9 of this code for more specifications.

(6) Parking Area Surface Requirements:

- a. Paving Specifications. All open, off-street parking, and vehicular use areas will be paved with bituminous or Portland cement binder so as to provide a permanent, durable and dustless surface and will be so graded and drained as to dispose of all water within the area. Such paving and draining of waters will be done in accordance with the specifications of this Code. If required, adequate culverts will be provided under driveway entrances to prevent obstruction of drainage ways and to comply with the drainage criteria set forth in this Chapter.
- b. Approved Alternatives. Alternative dust-free parking surfaces including, but not limited to,

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gravel, stone, brick, and paving blocks may be used upon condition of prior approval of the City Engineer.

(7) Required Number of Spaces for Type of Use:

- a. Number of Parking Spaces. Residential and nonresidential uses will provide a minimum number of parking spaces as defined by the standards in Table 6.2
- b. Approved Alternatives. The minimum number of parking spaces or loading zones required may be altered by the City Engineer to assure adequate parking and loading; however, the applicant must remain compliant with all applicable ADA requirements and maintain safe and convenient access for vehicles and pedestrians.

(8) On-street Parking:

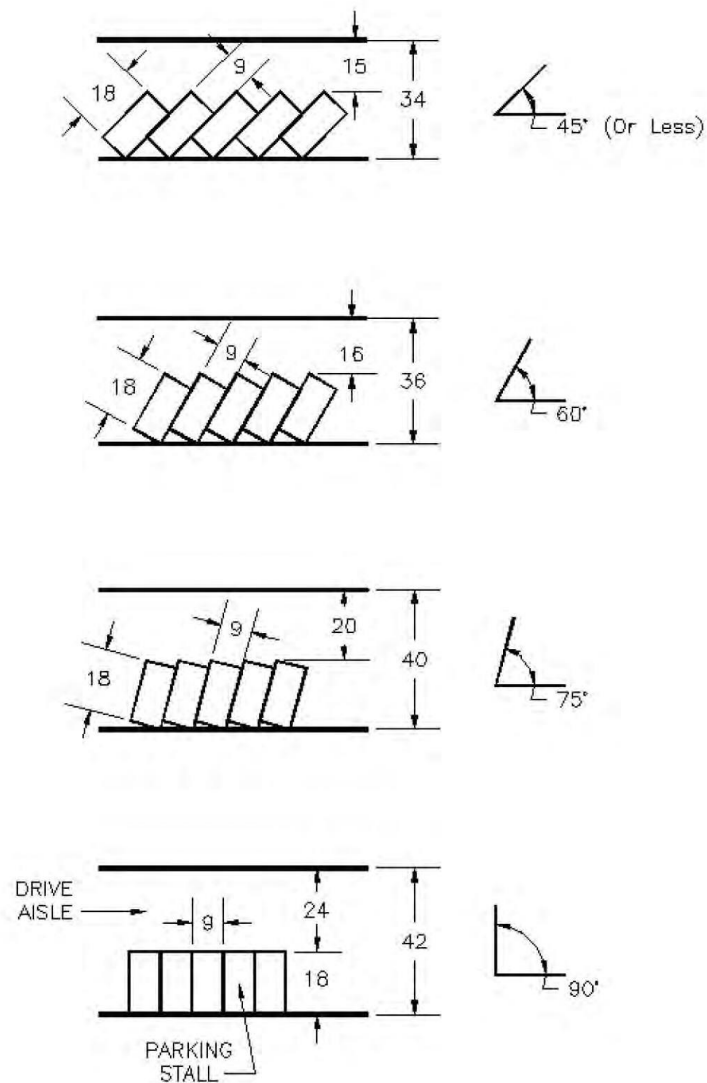
- a. Approvals. On-street parking will be allowed subject to approval from City Council for all streets except those classified as *Local Side Street*, *Alley* and *Arterial*. On-street parking may not occupy designated bicycle lanes.
- b. Parallel Parking. All on street parallel parking spaces will have a minimum length of twenty- two (22) feet.
- c. Further Requirements. See Section 9.4 Streets, generally, for further requirements regarding on-street parking.

(9) Off-Street Parking Stall Dimensions:

- a. Standards. Parking areas for automobiles will meet the following standards for long and short-term parking of standard and compact vehicles:
 - i. Length, Width and Vertical Clearance. Required off-street parking spaces will be at least nine (9) feet wide and eighteen (18) feet long. Each space will have a vertical clearance of at least seven and one-half (7.5) feet.
 - ii. Parallel Parking Stalls. Parallel parking stalls will have a minimum length of twenty-two (22) feet.
 - iii. Drive Aisles Standards. Drive aisles in off-street parking areas will comply with the standards in Figure 6.2.
 - iv. Two-Way Drives. Two-way drives must be twenty-four (24) feet in width.
- b. Vehicular Overhang. Parking facilities will be designed to prevent vehicle encroachment into public walkways and sidewalks.
- c. Typical Parking Layout. See Figure 6.2 Typical Parking Layout for graphic representing parking layout dimension requirements.

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Figure 6.2 Typical Parking Layout



(10) Requirements for compliance with. Accessibility Standards.

Requirements for compliance will be in accordance with applicable provisions of the Americans with Disabilities Act, Texas Accessibility Standards, and any other state and federal laws regulating architectural barriers. Information may also be obtained by visiting the website www.ada.gov.

(11) Loading Zones:

- Adequate Sizing. Each development will provide loading zones and service areas adequately sized to accommodate the types of vehicles that use them. Such loading zones and service areas will be indicated on the development plan.
- Requirements. Loading space requirements will be calculated according to either Table 6.4 or Table 6.5.
- Screening. All loading spaces will be screened from view in accordance with the requirements for parking areas in Chapter 7, Design Standards.

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- d. Loading Zone Sizes. Two different sized loading zones are described in this Code:
- i. Large. Large Loading Zones will be a minimum of ten (10) feet wide by fifty (50) feet long. These are sized to accommodate larger delivery and service vehicles. See Table 6.4, Large Loading Zones.
 - ii. Small. Small Loading Zones will be a minimum of ten (10) feet wide by twenty-five (25) feet long. These are sized to accommodate smaller delivery and service vehicles. See Table 6.5, Small Loading Zones.
 - iii. Both. Different uses may be required to provide either Small Loading Zones or Large Loading Zones.
 - iv. Loading Zones. In certain cases where a use has a Gross Floor Area over twenty-five thousand (25,000) feet, the installation of both Small and Large Loading Zones may be required.

Table 6.4 Large Loading Zones

Gross Floor Area (Square Feet)	Minimum Number of Loading Spaces Large Loading Zones (10x50)
25,001 - 60,000	1
60,001 - 96,000	2
96,001 - 144,000	3
Each additional 54,000	1 additional loading space

Table 6.5 Small Loading Zones

Gross Floor Area (Square Feet)	Minimum Number of Loading Spaces Small Loading Zone (10x25)
2,000 – 10,000	1
10,001 – 25,000	2
25,001 – 100,000	3
Each additional 100,000	1 additional

(12) Shared Parking:

- a. Joint / Shared Use. Where parking spaces are used jointly by two (2) or more buildings or establishments, the required space may be located not to exceed six hundred (600) feet from a building in a mixed use or commercial district. Shared parking may be applied when land uses have different parking demand patterns during the day and are able to use the same parking spaces at different times of the day.
- b. Approvals. Shared parking must be approved by the City Manager (or designee).

(13) Fire Lanes.

The requirement for Fire Lanes and the enforcement of restrictions related to Fire Lanes established in this Section are designed to ensure adequate access to buildings by fire-fighting and other emergency vehicles.

- a. Regulations:

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- i. Off-Street Parking. Any off-street parking facility required to have five or more parking spaces, constructed or significantly altered subsequent to the effective date of this Code, will be required to have a fire lane.
 - ii. Location and Dimensions in Plans. Whenever a person or entity applies for a site development, building, or construction permit, significantly improves a building, or applies for a change of use that would necessitate the provision of a fire lane according to the terms of this Chapter, said person or entity will include in all plans and specifications submitted to the City the location and dimensions of the proposed fire lanes required by this Chapter.
 - iii. Approved Alternatives. A fire lane may be provided in an off-loading roadway area on the subject property in lieu of providing the fire lane in a parking facility if the City, Engineer determines that the alternate fire lane provides adequate access for emergency vehicles to structures on the subject property.
 - iv. Signs and Markings. All required fire lanes will be delineated by a red stripe on the pavement marking the outside boundaries of the fire lane. In addition, signs will be conspicuously placed along the curb nearest the fire lane indicating the existence of the fire lane and indicating that parking therein is prohibited.
 - v. Approved Alternatives. Any proposed fire lane less than 20 feet will be subject to approval by the City Council with recommendation by the City Manager (or designee).
- b. Variances. Under certain circumstances, a fire lane may prove impracticable. The City Council may authorize a variance from the requirements of this Section when, in its opinion, undue hardship will result from requiring strict compliance. In such case, the individual or entity requesting a variance must submit the requisite application and provide a detailed plan indicating provisions for adequate alternate emergency vehicle access to the subject property. Any alternate emergency vehicle access plan must be reviewed by the City Manager (or designee) for adequacy.

(14) Bicycle Parking

- a. Facilities. Off-street parking and facilities for bicycles will be provided per the requirements in Table 6.2. Bicycle parking facilities will be racks or lockers anchored to prevent movement or theft. Each space designated for bicycle parking will be a minimum of two (2) feet wide and six (6) feet long. Bicycle parking facilities will, at minimum, be a bike rack with the ability for a user to lock one wheel and the frame to the rack, with the user providing the lock and chain.
- b. Location. Access to the use being served by the parking facility will be at least as convenient for users of bicycle parking as the most convenient automobile parking and as close as possible to the desired entrances without interfering with pedestrian or vehicular traffic.

(15) Traffic Control Devices

- a. Signs and Devices. Standard traffic control signs and devices will be used to direct traffic where necessary within a parking lot per the Texas Manual on Uniform Traffic Control Devices (TMUTCD).
- b. Location. No signs will be located on any parking lot except behind the setback lines established for the zoning districts in which the parking facility is located, or at facility entrances and exits.

~~(16) Lighting~~

~~Light fixtures provided for any off-street parking area adjacent to a residential use or residentially zoned lot will shield the source of light from sight and prevent the spillover of direct light onto the residential use, while still providing security to motorists, pedestrians, and bicyclists. See Section 7.8, Outdoor Lighting, of this Code for lighting standards.~~

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(16) Maintenance

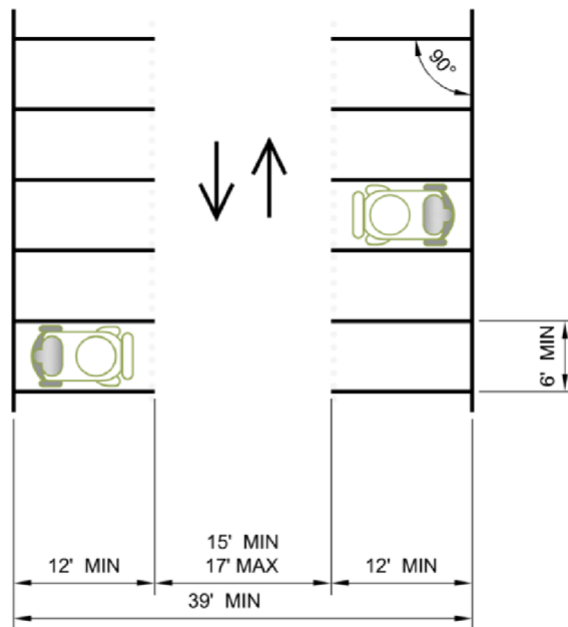
The property owner will be responsible for maintaining any vehicular use area in good condition and free of refuse, debris, and vehicles that have not been driven for two weeks or longer, and all landscaping in a healthy and growing condition, replacing it when necessary, as specified in the approved site development permit.

(17) Golf Cart Parking

a. All Developments may accommodate Golf carts or Low Speed Electric Vehicles (LSEVs) subject to following:

i. A maximum of 30% of the total required parking spaces may be designated for golf cart parking.

ii. Parking dimensions may be reduced consistent with golf cart or Low Speed Vehicles (LSEVs) minimum dimensions as indicated in Figure 6.3.



GOLF CART PARKING REQUIREMENTS

Figure 6.3 Golf Cart Parking Layout

Section 7.8 Outdoor Lighting

(1) Purpose and Intent

The purpose of this Section is to regulate outdoor lighting in order to reduce or prevent light pollution in the City. All regulations in this section are in addition to the City's Dark Sky requirements. New lighting technologies have produced lights that are extremely powerful, and these types of lights may be improperly installed so that they create problems of excessive glare, light trespass, and higher energy use. Excessive glare can be annoying and may cause safety problems. Light trespass reduces privacy, degrades the enjoyment of the night sky, and results in higher energy use and increased costs for everyone. Appropriately regulated, and properly installed, outdoor lighting will contribute to the safety and welfare of the residents and will help preserve the historic and rural character of the City in keeping with the desired objectives of the Comprehensive Plan.

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(2) Applicability

- a. Binding Regulations. The regulations contained in this Section are binding only within the City limits of Fair Oaks Ranch. All outdoor lighting fixtures installed on private and public property within a new development or redevelopment within the City limits will be required to comply with this Code. This Code does not apply to interior lighting; however, overly bright lighting emitted from a structure will be subject to this Code if it is determined by the City Manager that it creates a nuisance, or a safety hazard as defined in the References Section of this Code.

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Planning and Zoning Commission Category:

Building Standards

Exhibit B

Section 6.4 General Standards

(1) Building Frontages

- a. Building Frontage Designations: Building Frontage designations are established by the Zoning Map to specify certain building form and site development standards along each street illustrating the City's regulatory commitment to providing streets in certain areas that are oriented to pedestrian travel and safety, as well as auto travel and safety. The Zoning Map illustrates the Building Frontage designations within Fair Oaks Ranch. For the purposes of this UDC, all Building Frontages are classified into one of the following three (3) categories:
 - i. Primary Frontages – Primary Frontages are intended to provide the most pedestrian friendly context. Buildings and sites along Primary Frontages shall be held to the highest standard of pedestrian-oriented design and few gaps shall be permitted in the “Street Wall.” Breaks in the street wall may be permitted for courtyards, forecourts, sidewalk cafes, and pedestrian connections between the individual sites and the public sidewalk. Publicly accessible spaces designed for people to congregate, such as outdoor cafes, patios, and plazas, when differentiated from the sidewalk, may be included in the building façade delineation for purposes of meeting a build-to or setback range requirement. These Primary Frontages are envisioned by the City as the main retail, restaurant, and entertainment-oriented streets of the city, or are important neighborhood connection points. Primary Frontages are designated on the Zoning Map.
 - ii. Secondary Frontages – Secondary Frontages are also intended to be pedestrian- oriented. However, in some locations, where access to a General Frontage block or alley is not available, Secondary Frontages may need to accommodate driveways, parking, service/utility functions, and loading and unloading. In such cases, Secondary Frontages may balance pedestrian orientation with automobile accommodation. Areas with Secondary Frontages may include a hybrid development design that has a more pedestrian-supportive development context at street intersections and accommodates auto-based functions and surface parking in the middle of the block. Surface parking shall be screened from the roadway with a street wall or with a landscape fence. Secondary Frontages are designated on the Zoning Map.
 - iii. General Frontages – General Frontages are intended to accommodate more auto-oriented uses, surface parking, and service functions on a site with a more suburban/automobile orientation. The General Frontages shall include any building frontages not designated as either a Primary or Secondary Frontage on the Zoning Map.
- b. New Street Frontages - A new street created after the adoption of these zoning regulations shall have frontage designations assigned by the City Manager (or designee) based on the appropriate street designations identified in section and on planning principles represented in the Future Land Use Map and the Transportation Plan included in the comprehensive plan.
- c. Change of Frontage Designation- A frontage designation may be changed administratively with approval from the City Manager (or designee).

~~(2) Treatment of Street Intersections~~

- ~~a. Corner Building Facade: Corner building street facades along intersections of Primary Frontages and Secondary Frontages shall be built to the setback zone for a minimum of 20' from the intersection along each street or the width of the corner lot, whichever is less regardless of the building frontage percentage required along that street. This requirement shall not prohibit incorporation of curved, chamfered building corners or recessed entries, or civic/open spaces at such intersections. In addition, this standard shall apply regardless of the frontage requirement along the intersecting street even if it is a General Street.~~
- ~~b. Corner Building Height Allowance: Corner buildings may exceed the maximum building height by~~

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~~25% along no more than 20% of the building's frontage along each corresponding street facade.~~

- (2) Street Access.** All buildings will front on public streets unless they front on a plaza or a courtyard. In an effort to reduce the congestion created by a number of drives along streets while maintaining adequate access to developments, the city allows and encourages the use of Access Easements to be dedicated within and across developments of similar use. These easements will typically be twenty-four (24) feet in width but may vary upon approval by the City's Engineer.
- (3) Fire Separation Requirement.** Side and rear setbacks shall be based on minimum fire separation required between buildings, if applicable.
- (4) Recessed Entry Setbacks.** Building facade lines on recessed entries and arcade buildings shall be measured from the front of facade with the recessed entry or arcade.
- (5) Measuring heights.**
 - a. Chimneys, vents, elevator and stair enclosures, screened HVAC equipment, other mechanical enclosures, tanks, solar energy systems and similar elements are not to be included when calculating the height of the building. Those elements should not occupy more than 25% of the overall height of the structure.
 - b. Internal building height shall be measured from finished floor to the bottom of the structural members of the ceiling.
 - c. Floor to floor heights shall not apply to parking structures or civic buildings.
- (6) Encroachments.** Encroachments into ROW:
 - a. Shall not exceed the maximum depth of the sidewalk (except blade signs which shall encroach no more than five (5) feet from the building facade line).
 - b. Minimum vertical clearance from the finished sidewalk shall be 8'.
 - c. In no case shall an encroachment be located over an on-street parking or travel lane.
 - d. Encroachments over Required Setbacks: Canopies, awnings, galleries, and balconies may encroach over any required setback areas per standards established in each zoning district as long as the vertical clearance is a minimum of eight (8) feet from the finished sidewalk or finished grade elevation.
- (7) Phased Developments.** Due to the infill nature of development, certain building form and site development standards may be deferred for phased development projects meeting the following criteria:
 - a. Submission of a site plan that illustrates how development and any related private improvements will be phased out over time. Each phase of the site plan shall independently comply with all applicable standards of the Zoning District unless an Administrative Modification is granted.
 - b. Required private landscaping and open space amenities may also be phased in with the building.
- (8) Required Public Improvements.** All site plans that require public improvements such as sidewalk and streetscape improvements may be deferred through the payment of a proportional fee-in-lieu, per approval from the City Manager (or designee).
- (9) Auxiliary Building and Site Standards.**
 - a. Accessory Structures:
 - i. The combined floor area of all accessory structures on any residential lot will not exceed ten percent (10%) of the total lot area.

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- ii. There will be no more than one (1) accessory structure used for, or intended to be used for, living quarters on any residential lot.
- iii. No accessory structure will be erected in any required setback area.
- b. Portable Storage Buildings. No portable storage building will be erected in any required setback area. However, a portable storage building on a single-family residential lot that is less than 100 (one hundred) square feet and does not require a building permit is allowed provided that a minimum unobstructed setback distance of five (5) feet is maintained between the primary residential building and the portable building must be located a minimum distance of ~~three (3)~~ feet ten (10) feet from the property line.
- c. Fences and Walls.
 - i. Fences, fence post, and freestanding walls within or bordering residential lots will not exceed six (6) feet in height as measured from the ground level at the base of the fence or wall. The Maximum height may be increased to eight (8) feet for a semitransparent fence where the open and unobstructed area in proportion to the total fence area (measured perpendicular to the fence) is four-to-one (4/1) or greater.
 - ii. An eight (8) feet solid wall fence with a 50-foot-wide landscape buffer is permitted required when screening the rear of a property from an Arterial and an eight (8) foot solid masonry fence with a 30-foot-wide landscape buffer is required when screening the rear of a property from Collector as designated on the Master Thoroughfare Plan. All efforts must be made to minimize disturbance in these setbacks and preserve the natural landscape.
- d. Outdoor Lighting:
 - i. Covered porch lighting on residences is permitted provided that each external light fixture does not exceed 2220 lumens.
 - ii. Security lights of any output that are controlled by a motion sensor switch are permitted provided they do not remain illuminated longer than ten (10) minutes after activation.
 - iii. Outdoor lighting must comply with the City's Dark Sky Lighting requirements.

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Planning and Zoning Commission Category:

Building Design

(All policy amendments are clerical in nature therefore they are not included in category spreadsheet)

Exhibit B

(3) Building Orientation and Entrances

- a. Corner Building Facade: Corner building street facades along intersections of Primary Frontages and Secondary Frontages shall be built to the setback zone for a minimum of 20' from the intersection along each street or the width of the corner lot, whichever is less regardless of the building frontage percentage required along that street. This requirement shall not prohibit incorporation of curved, chamfered building corners or recessed entries, or civic/ open spaces at such intersections. In addition, this standard shall apply regardless of the frontage requirements along the intersecting street even if it is a General Street.
- b. Corner Building Height Allowance: Corner buildings may exceed the maximum building height by 25% along no more than 20% of the building's frontage along each corresponding street facade.
- c. Buildings shall be oriented towards Primary Frontages, where the lot has frontage along a Primary Frontage. If a building has no frontage along a Primary Frontage, then it shall front a Secondary Frontage. All other buildings may be oriented towards General Frontage Streets or Civic Spaces. The types of Frontages are indicated on the Official Zoning Map.
- d. Primary entrances to buildings shall be located on the street along which the building is oriented (See Figure ~~7-1~~ 6.4). At intersections, corner buildings may have their primary entrances oriented at an angle to the intersection. Building entrances shall be provided for all separate ground floor commercial use tenant spaces that are located along Primary or Secondary frontages.
- e. All primary entrances shall be oriented to the public sidewalk for ease of pedestrian access. Secondary and service entrances may be located from parking areas or alleys.
- f. Primary Entrance Design: Primary building entrances along Primary Frontages and Secondary Frontages shall consist of at least two of following design elements so that the main entrance is architecturally prominent and clearly visible from that street (see Figures ~~7-2~~ 6.5):
 - i. Architectural details such as arches, awnings, canopies, arcades, tile work, moldings, lintels, pediments, columns, porticos, porches, overhangs, railings, and others such elements as appropriate, or;
 - ii. Integral planters or wing walls that incorporate landscape, courtyard or seating elements, or;
 - iii. Prominent three-dimensional, vertical features such as belfries, chimneys, clock towers, domes, spires, steeples, towers, or turrets, or;
 - iv. A repeating pattern of pilasters projecting from the Facade wall by a minimum of eight inches or architectural columns.

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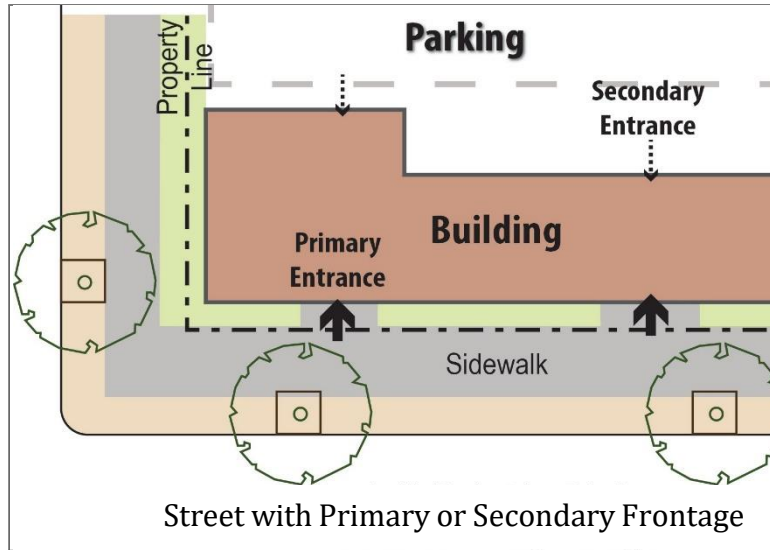


Figure 7-1 Figure showing required building orientation and location of primary entrances

Figure 6.4 Figure Showing Required Building Orientation and Location of Primary Entrances



Figures 7-2 Examples of Primary Entrance Designs

Figures 6.5 Examples of Primary Entrance Designs

- g. Courtyards. Buildings will be designed to face the street, rather than internal drives and parking yards; provided, however, that courtyards may exist within or between buildings, and buildings may open up to the courtyard. In such cases, the front facade of the building must nonetheless address the street as described above. All entrances and exits will have a continuous pedestrian walkway that is connected to a public sidewalk on the primary street and intersecting secondary streets.

(4) Facade Composition

- a. Buildings shall maintain the traditionally prevalent facade rhythm of 20 feet – 30 feet.
- b. This rhythm may be expressed by changing materials, or color, or by using design elements such as fenestration, columns and pilasters, or by varying the setback of portions of the building

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Facade. (See Figures [7-3 6.6](#)):

- i. Changes in material, color, and/or texture either horizontally or vertically at intervals not less than 20 feet and not more than 30 feet; or;
 - ii. The construction of building entrances, bay windows, display windows, storefronts, arcades, facade relief, panels, balconies, cornices, bases, pilasters, or columns.
- c. Building facades shall be designed with a distinct base, middle, and top.
- d. For retail storefront buildings, a transom, display window area, and bulkhead at the base shall be utilized (see Figure [7-4 6.7](#)).



Figure [7-3 6.6](#) Illustration showing building articulation requirement



Figures [7-4 6.7](#) Images showing examples of appropriate storefront design

- e. Infill buildings shall **generally** maintain the alignment of horizontal elements along the block (Figure [7-5 6.8](#)).



Figure [7-5 6.8](#) Figure showing how horizontal elements should

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match in the design of infill buildings.

- f. Corner emphasizing architectural features, pedimented gabled parapets, cornices, awnings, blade signs, arcades, colonnades and balconies should be used along commercial storefronts to add pedestrian interest (Figures 7-6).



Figures 7-6 6.9 Buildings with architectural features and storefront elements that add interest along the street.

(5) Facade Transparency Required:

- a. All ground floor front facades of buildings along designated Primary and Secondary Frontages shall have windows with a Visible Transmittance (VT) of 0.6.
- b. All facades shall meet the minimum requirement for Facade transparency (percentage of doors and windows) as established in Table 7-1 6.5 below. Ground floor windows and doors along Primary and Secondary facades shall have a Visible Transmittance (VT) of 0.6 or higher. Example shown in Figures 7-7 6.10.

Table 7-1 6.5 Required Minimum Facade Transparency by Facade Frontage Type

Facade Frontage Type	Primary or Secondary Frontage	General Frontage/— All Other facades
Non-Residential, Commercial or Mixed-Use Buildings		
Ground-Floor	40% (min.)	None
Upper-Floor(s)	25% (min)	None
Multifamily Buildings		
Ground-Floor	25% (min.)	None
Upper-Floor(s)	20% (min.)	None

<u>Facade Frontage Type</u>	<u>Primary or Secondary Frontage</u>	<u>General Frontage/All Other Facades</u>
<u>Non-Residential, Commercial or Mixed use Buildings</u>		
<u>Ground Floor</u>	<u>40% (min.)</u>	<u>None</u>
<u>Upper Floor(s)</u>	<u>25% (min.)</u>	<u>None</u>
<u>Multifamily Buildings</u>		
<u>Ground Floor</u>	<u>25% (min.)</u>	<u>None</u>
<u>Upper Floor(s)</u>	<u>20% (min.)</u>	<u>None</u>
<u>Upper Floor(s)</u>	<u>20% (min.)</u>	<u>None</u>



Figures 7-7-6.10 Images showing appropriate transparency required along Primary and Secondary Frontages

Planning and Zoning Commission Category:

Landscaping

Section 6.5 Landscaping Requirements

(1) Applicability.

- a. All residential subdivisions and all non-residential site developments with a total irrigated landscape area exceeding five thousand (5,000) square feet will comply with the standards specified in this Section.

(2) Subdivision Landscaping Requirements

- a. Landscaping and Water Resources Protection for Residential Single-Family Developments. Residential preliminary plans and final plats should conform to the site topography to minimize the amount of grading necessary to achieve a viable street network.
- b. Landscaping and Irrigation Standards for Common Areas within a Subdivision. Common areas are defined as those locations that are not maintained by the homeowner such as but not limited to parks, medians, greenbelts, drainage areas, etc.

(3) Landscaping and Irrigation Standards

- a. Landscape Design Plan. Landscaping and irrigation plans will be designed with the objective of minimizing potable water use. The applicant shall include a sealed statement from an engineer, architect, landscape architect or plumber/irrigationist stating that they have met the provisions in this code. A landscape design plan meeting the following requirements will be submitted as part of the landscape documentation package:
 - i. Plant Selection and Grouping. Plants and Trees to be included in any landscape plan for a site development will be selected from native species that require little irrigation. Recommended species can be found in the Lady Bird Johnson Wildflower Center Native Plant Database or the City of Fair Oaks Ranch Approved Plant List.
 - ii. Mulch. After completion of all planting, all irrigated non-turf areas will be covered with a minimum layer of three (3) inches of mulch to retain water, inhibit weed growth, and moderate soil temperature. Mulch types appropriate to Central Texas low water-use plants and trees will be used.
 - iii. Aesthetic Water Use, Pools and Spas. Recirculation water will be used for any decorative water features. Pool and spa covers are encouraged to reduce evaporation.
- b. Landscape Design Plan Specifications. The landscape design plan will be drawn on project base sheets at a scale that accurately and clearly identifies:
 - i. Watering schematic,
 - ii. Landscape materials, trees, shrubs, groundcover, turf, and other vegetation. Planting symbols will be clearly drawn, and plants labeled by botanical name, common name, container size, spacing, and quantities of each group of plants indicated,
 - iii. Property lines and street names,
 - iv. Streets, driveways, walkways, and all other paved areas,
 - v. Pools, ponds, channels, other water features, fences, and retaining walls,
 - vi. Existing and proposed buildings and structures including elevation, if applicable.
 - vii. Natural features including but not limited to topography, rock outcroppings, existing trees, and shrubs that will remain,
 - viii. Tree staking, plant installation, soil preparation details, and any other applicable planting and installation details,

- ix. A calculation of the total landscaped area, and
 - x. Designation of recreational areas.
- c. Irrigation Design Plan. An irrigation design plan, that meets the City of Fair Oaks Ranch Water Conservation requirements (City Ord. 13.06 Water Conservation Plan), and the following conditions will be submitted as part of the Landscape Documentation Package:
- i. Runoff and Overspray. Soil types and infiltration rate will be considered when designing irrigation systems. All irrigation systems will be designed to avoid runoff, low head drainage, overspray, or other similar conditions where water flows onto adjacent property, non-irrigated areas, walks, roadways, or structures. Proper irrigation equipment and schedules, including features such as repeat cycles, will be used to closely match application rates to infiltration rates to eliminate runoff. Special attention will be given to avoid runoff on slopes and to avoid overspray in planting areas with a width less than ten (10) feet, and in median strips.
 - ii. No overhead sprinkler irrigation systems will be installed in median strips less than ten (10) feet wide.
- d. Irrigation Equipment:
- i. Controllers. Automatic control systems will be required for all irrigation systems and must be able to accommodate all aspects of the design.
 - ii. Valves. Plants that require different amounts of water will be irrigated by separate valves. If one valve is used for a given area, only plants with similar water use will be used in that area. Anti-drain (check) valves will be installed in strategic points to minimize or prevent low-head drainage.
 - iii. Back-Flow Prevention Valves. Back-flow prevention valves will be required on the irrigation system to prevent contamination of the potable water supply. Additional regulations can be found in the City of Fair Oaks Ranch Back-Flow Prevention Ordinance.
 - iv. Rain Sensing Override Devices. Rain sensing override devices will be required on all irrigation systems.
- e. Irrigation Design Plan Specifications. The irrigation design plan will be drawn on project base sheets. It will be separate from, but use the same format as, the landscape design plan. The scale will be the same as that used for the landscape design plan described above. The irrigation design plan will accurately and clearly identify the following fixtures and conditions, as applicable:
- i. Location, type, and size of all components of the irrigation system, including automatic controllers, main and lateral lines, valves, sprinkler heads, moisture sensing devices, rain switches, quick couplers, and backflow prevention devices;
 - ii. Static water pressure at the point of connection to the public water supply.
 - iii. Flow rate (gallons per minute), application rate (inches per hour), and design operating pressure (psi) for each station.
 - iv. Ensure compliance with the City Cross-Connection Control and Backflow Prevention Ordinance.
- f. Irrigation Schedules. Irrigation schedules satisfying the following conditions will be submitted as part of the Landscape Documentation Package:
- i. Annual Irrigation Program. An annual irrigation program with monthly irrigation schedules

will be required for the plant establishment period, for the established landscape, and for any temporarily irrigated areas. The irrigation schedule will include the following:

1. Run time (in minutes per cycle), suggested number of cycles per day, and frequency of irrigation for each station; and
 2. Amount of applied water (in gallons) recommended on a monthly and annual basis.
- ii. Amount of Water. The total amount of water for the project will include water designated in the Estimated Total Water Use calculation plus water needed for any water features, which will be considered as a high water using hydro zone.
 - iii. Times. Landscape irrigation will be scheduled during the early morning or late evening hours (not between 9:00am and 7:00pm). Irrigation schedules will also follow the Water Conservation Plan adopted by the City of Fair Oaks Ranch and as amended.
- g. Maintenance Schedules:
- i. Maintenance Schedule. A regular maintenance schedule satisfying the conditions of this Section will be submitted as part of the Landscape Documentation Package to include:
 1. Landscapes will be maintained to ensure water efficiency.
 2. A regular maintenance schedule will include but not be limited to checking, adjusting, and repairing irrigation equipment; resetting the automatic controller; aerating and de-thatching turf areas; replenishing mulch; fertilizing; pruning, and weeding in all landscaped areas.
 - ii. Irrigation Equipment. Whenever possible, repair of irrigation equipment will be done with the originally specified materials or their equivalents.
- h. Certification. A licensed landscape architect or contractor, certified irrigation designer, or other licensed or certified professional in a related field will conduct a final field observation and will provide a certificate of substantial completion to the City. The certificate will specifically indicate that plants were installed as specified, that the irrigation system was installed as designed, and that an irrigation audit has been performed, along with a list of any observed deficiencies.
- i. Erosion/Sedimentation Control. All site development projects that will contain two thousand (2,000) square feet or more of impervious cover when completed will comply with the requirements and standards in Chapter 9, Infrastructure and Public Improvements.
- j. Stormwater Runoff Management. All site development projects that will contain twenty percent (20%) or more of impervious cover when completed will comply with the requirements and standards of Chapters 8, Environmental Protection, and 9, Infrastructure and Public Improvements, of this Code.

(4) Landscape Requirements for Lots:

- a. Minimum landscape standards include:
 - i. Landscaping Required. A minimum percentage of the total lot area of property on which development, construction or reconstruction occurs will be devoted to landscaping per Table 6.1.
 - ii. Existing Natural Features. Protection of existing natural features is encouraged, and

natural features are to be used to satisfy the minimum landscape requirements.

Table 6.1 Minimum Landscape Requirements.

Land Use	Landscaping Required (% of total lot)
Rural Residential	-
Neighborhood Residential	25
Existing Residential	20
Mixed Use Village	25
Neighborhood Commercial	15
Community Facilities	15
Logistics	15

Land Use	Landscaping Required (% of total lot)
Rural Residential	50
Neighborhood Residential	25
Existing Residential	20
Mixed Use Village	25
Neighborhood Commercial	20
Community Facilities	20
Logistics	20

- b. Postponement of Landscaping Installation. Required landscaping may be installed following the issuance of a certificate of occupancy; however, the developer will be required to submit a surety and maintain appropriate erosion control measures for water quality throughout the process.

(5) Residential Transition Standards.

- a. Purpose. Residential Transition provides visual screening and spatial separation of two adjoining buildings and areas of activity. Residential Transition is intended to protect the character and stability of residential areas, to conserve the value of land and buildings of the properties and neighborhoods adjacent to non-residential developments, and to enhance the visual and aesthetic image of the City of Fair Oaks Ranch.
- b. Application. Residential Transition is achieved through a combination of any or all of the following: Building height transition, and in the non-building portion of the transition zone landscape screening and fencing.
- c. Transition Landscaping Screening Requirements. A minimum of twenty (20) foot wide landscaped transition area, in addition to the required setback is required between single family residential and non-single family residential uses and zones. The landscaping methods will be in conformance with other applicable sections of this Code. Transition requirements

~~can be applied within the required setback. The landscaping methods will be in conformance with other applicable sections of this Code.~~

- d. Transition Tree Standards. Trees are required in transition areas according as shown in Section ~~6-8~~ 4.6 Zoning Districts and as per the specifications in Appendix B of the UDC:
- i. Large trees, with a minimum size of two (2) inch diameter measured at a point four (4.5) feet above the ground at planting, are required to fill 40% to 60% of the transition screening requirement.
 - ii. Small trees or large shrubs are required to fulfill from no less than twenty percent (20%) to no more than forty percent (40%) of the required number of trees.
 - iii. Evergreen trees are required to fulfill at least fifty percent (50%) of required trees planted.
 - iv. Trees will be distributed along the entire length of the buffer. Due to unique characteristics of a site, or design objectives, alternative plant mixes may be approved as a part of the site development plan.
 - v. Existing trees may be substituted for required trees (buffer) if they are shown on the site development plan to be in healthy condition and in compliance with the tree type and location requirements of this Code.
- e. Transition Shrub Standards: Evergreen shrubs, a minimum of eighteen (18) inches in height, of a variety that can be expected to reach four to five (4-5) feet in height within three to five (3 to 5) years of planting as shown in Section ~~6-8~~ 4.6 Zoning Districts:
- i. Shrubs will not normally be planted closer than ~~six (6)~~ three (3) feet on center. Additionally, shrubs will not normally be planted closer than six (6) feet to planted trees, nor within the drip line of existing, protected trees. Shrubs will be distributed along the entire length of the buffer.
 - ii. Variations in quantities may be approved as part of the site development plan when larger plants are provided.

(6) Landscape and Tree Requirements in Parking Lots:

- a. Safety / Visibility. Landscape and tree requirements will adhere to safety/visibility requirements found within this Code and Technical Criteria Manuals used by the City of Fair Oaks Ranch, as specified in other sections of this Code.
- b. Parking Lots. Parking lot landscape and tree requirements are based on the amount of parking located on various sides of the building, as follows:
 - i. Front: The landscaped area within the parking lot will be at least ~~ten percent (10%)~~ twenty percent (20%) of that portion of the parking lot and circulation area that is located between the front facade building line and the primary right-of-way property line. The landscaped areas within these parking lots will contain at least one shade tree per twelve (12) parking spaces.
 - ii. Street Side: At least ~~six percent (6%)~~ ten percent (10%) of that portion of the parking lot and circulation area located between the building and a secondary right- of-way property line will be landscaped. The landscaped areas within these parking lots will contain one shade tree per twenty (20) parking spaces.
 - iii. Interior Side (without right-of-way): At least three percent (3%) of the parking lot and circulation area located between the side facade building line and the side property line

where there is no right-of-way will be landscaped. The landscaped areas within parking lots will contain one shade tree per thirty (30) parking spaces.

- iv. Rear: At least three percent (3%) of the parking lot and circulation area located between the side facade building line and the side property line where there is no right-of-way will be landscaped. The landscaped areas within parking lots will contain one shade tree per thirty (30) parking spaces. There is no requirement to landscape the parking and circulation area located between the rear facade building line and the rear property line.
- c. Requirements. The landscaped areas within parking lots will comply with the following requirements:
 - i. Each area will measure at least one (1) parking space in size, with no single landscaped area less than fifty (50) square feet in area.
 - ii. Landscaped areas will be located to define parking areas and to assist in clarifying appropriate circulation patterns.
 - iii. Twenty-five percent (25%) of the total landscape requirement may be located within the landscaped edge of the parking lot.
 - iv. When calculating the tree requirement, any remaining fraction of a tree greater than or equal to zero point five (0.5) will constitute one (1) tree; any remaining fraction less than zero point five (0.5) will not require an additional tree.
 - v. All newly planted trees will be planted in a pervious area no less than four (4) feet wide in any direction.
 - vi. All newly planted trees will be at least two (2) inches diameter measured four (4) feet above ground level.

(7) Safety / Visibility.

Streetscape requirements will adhere to safety/visibility requirements found within this Code and Technical Criteria Manuals used by the City of Fair Oaks Ranch, as well as any applicable Texas Department of Transportation requirements.

(8) Street Trees.

Along all streets, street trees should be planted for that applicable street type per the standards in Section 9.4, Infrastructure and Public Improvements (Streets). The City Manager (or designee) may permit additional minor setbacks or other adjustments to the planting strip to accommodate future right-of-way expansions, sidewalks, and utility lines.

(9) Parking Areas.

Parking areas adjacent to a public right-of-way will be screened per the standards in in Section 7.7, Design Standards (Screening Standards).