



# City of Killeen

## Agenda

### City Council Workshop

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Monday, October 24, 2022

10:00 AM

City Hall  
Main Conference Room  
101 N. College Street  
Killeen, Texas 76541

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#### SPECIAL CITY COUNCIL WORKSHOP

#### Citizen Comments

*This section allows members of the public to address the Council regarding any item(s), other than a public hearing item, on the agenda for Council's consideration. Each person shall sign up in advance, may speak only one time, and such address shall be limited to four (4) minutes. A majority of the City Council is required for any time extensions. The Mayor and Councilmembers shall have one (1) minute to respond to citizen comments with a statement or explanation without engaging in dialogue.*

#### Items for Discussion at Workshop

1. [DS-22-124](#) Discussion Regarding the Proposed Pavement Design Manual and Proposed Amendments to Chapter 26 of the City of Killeen Code of Ordinances

**Attachments:** [Draft Pavement Design Manual](#)  
[Draft Chapter 26 Updates](#)

#### Adjournment

*I certify that the above notice of meeting was posted on the Internet and on the bulletin boards at Killeen City Hall and at the Killeen Police Department on or before 10:00 a.m. on October 21, 2022.*

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*Judy Paradise, Interim City Secretary*

*The public is hereby informed that notices for City of Killeen meetings will no longer distinguish between matters to be discussed in open or closed session of a meeting. This practice is in accordance with rulings by the Texas Attorney General that, under the Texas Open Meetings Act, the City Council may convene a closed session to discuss any matter listed on the agenda, without prior or further notice, if the matter is one that the Open Meetings Act allows to be discussed in a closed session.*

*This meeting is being conducted in accordance with the Texas Open Meetings Law [V.T.C.A., Government Code, § 551.001 et seq.]. This meeting is being conducted in accordance with the Americans with Disabilities Act [42 USC 12101 (1991)]. The facility is wheelchair accessible and handicap parking is available. Requests for sign interpretive services are available upon requests received at least 48 hours prior to the*

*meeting. To make arrangements for those services, please call 254-501-7700, City Manager's Office, or TDD 1-800-734-2989.*

**Dedicated Service -- Every Day, for Everyone!**



# City of Killeen

## Staff Report

File Number: DS-22-124

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City of Killeen, Texas



## Pavement Design Manual

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*June 2022*

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## 1 PAVEMENT AND SUBGRADE DESIGN REQUIREMENTS

### 1.1 General

- A. All new City streets, alleys, and rehabilitation of existing streets shall be designed and constructed in accordance with the latest editions of the City of Killeen ("City") Construction Standards and Specifications, and all applicable codes and standards.
- B. The following specifies standard requirements for the pavement, subgrade, and subsurface design for roadways and alleys within the City. These standards are not intended to replace the professional judgment of the Geotechnical Engineer for any specific project. The standards may need to be expanded or modified on a case by case basis as determined necessary and appropriate by the Geotechnical Engineer, and as approved by the City.
- C. Service life has been defined as the anticipated number of years that a pavement will be functionally and structurally acceptable with only routine maintenance. Flexible pavements shall be designed for a 20-year service life.
- D. Table 1-1 lists the City's standard flexible pavement and subgrade thickness and dimensions for local streets based on representative soil types around the City. These standards meet or exceed the 20-year service life in accordance with the Pavement Design Input Values per Table 1-3 & Table 1-4.

**Table 1-1: Flexible Pavement and Subgrade Design Standards for Local Street**

Street Classification	Swell Potential (PI)	Standard Section <sup>(1)</sup>		
		HMAC (in.)	Flex Base (in.)	Treated Subgrade (in.)
Local Street	High ( $\geq 41$ )	3	9	8
	Moderate (21-40)	3	8	8
	Low ( $\leq 20$ )	3	8	N/A

1. All pavement sections shall include 8 in. of scarified, moisture conditioned, and recompacted subgrade. Moisture conditioned subgrade is not required if competent rock is encountered within an 8 in. depth and when observed to be absent of pumping/heaving during proof-rolling.

### 1.2 Geotechnical Investigation and Report

- A. All roadways and alleys (CIP and Development) shall have a geotechnical investigation and subgrade design performed meeting the following requirements. A custom pavement design to achieve a 20-year design life will be required for all flexible pavements.
- B. For Local Street classifications only - If the subgrade modulus meets the minimum presented in Table 1-3, then the City's standard subgrade and pavement section for local streets can be utilized per Table 1-1.

- C. The Geotechnical Engineer shall use the traffic parameters as shown in Table 1-4. If a Traffic Impact Analysis (TIA) has been performed and the traffic parameters are greater than the parameters shown in Table 1-4, then the greater traffic parameters shall be used. Adequate consideration must be given to heavy loads such as transit or school busses, fire trucks, solid waste trucks, and construction traffic. A review should be made of existing and/or planned bus routes, fire stations in the vicinity, schedule of solid waste and/or recycling trucks, etc. It is critical to increase traffic projections to account for the addition of construction traffic during the development of the design traffic for the roadway, either as added daily trucks, increased percentage of trucks or added ESALs.
- D. Results of the geotechnical investigations, engineering analyses, and recommendations shall be presented in a Geotechnical Report for Roadways ("Report"). The Report and any subsequent re-evaluations and/or supplemental reports shall be signed and sealed by a Licensed Professional Engineer in the State of Texas, trained and qualified to provide geotechnical engineering analysis and pavement, subgrade, and subsurface design recommendations.
- E. The Report shall address all items listed in the Geotechnical and Design Report for Roadways Checklist ("Checklist"). The Checklist shall be filled out completely and submitted with the Report. The Report shall include the description of project, location of project, roadway type and classification, grading plan and summary, discussion of utilities within the Project limits, and discussion of traffic input data used, including construction traffic. Any "N/A" response on the Checklist shall include a written explanation and adequate justification as deemed necessary. Additionally, the Summary of Pavement Design Form shall be filled out completely and submitted with the Report.
- F. The City's review of the Report will be conducted as a means to verify if the pavement, subgrade, and subsurface design has been performed in general conformance to the City's requirements and shall not be considered a detailed technical review of the design for adequacy, accuracy, or completeness. The Geotechnical Engineer performing the subsurface investigation and pavement/subgrade design shall remain responsible for the technical adequacy, accuracy, and completeness of the design and shall not be relieved of any responsibility for such as a result of the City's review.
- G. The information and recommendations contained in the Report and any subsequent re-evaluation and/or supplement reports must be accepted in writing prior to Release of Construction.
- H. The geotechnical investigation and pavement design shall follow the procedures as shown in Table 1-2, as warranted, developed by the Texas Department of Transportation. Refer to the TxDOT web site for a full list of

applicable test procedures related to geotechnical investigation and testing of materials related to pavement design.

*Table 1-2: Geotechnical Test Procedures*

Geotechnical Test Procedures	
Test Method	Description
Tex-100-E	Surveying and Sampling Soils for Highways
Tex-103-E	Determining Moisture Content in Soil Materials
Tex-104-E	Determining Liquid Limits of Soils
Tex-105-E	Determining Plastic Limit of Soils
Tex-106-E	Calculating the Plasticity Index of Soils
Tex-107-E	Determining the Bar Linear Shrinkage of Soils
Tex-110-E	Determining Particle Size Analysis of Soils
Tex-112-E	Admixing Lime to Reduce Plasticity Index of Soils
Tex-117-E	Triaxial Compression for Disturbed Soils and Base Materials
Tex-121-E	Soil-Lime Testing
Tex-124-E	Determining Potential Vertical Rise
Tex-125-E	TxDOT K-value
Tex-128-E	Determining Soil pH
Tex-145-E	Determining Sulfate Content in Soils – Colorimetric Method
Tex-146-E	Conductivity Test for Field Detection of Sulfates in Soil
ASTM D1883	California Bearing Ratio (CBR)
ASTM D2166/D2166M-16 or AASHTO T208	Unconfined Compressive Strength
ASTM D4546	Standard Test Methods for 1-D Swell or Collapse of Soils
ASTM D4602-93	Falling Weight Deflectometer (FWD)
ASTM D4602-93	Heavy Weight Deflectometer (HWD)
ASTM D6951/D6951M – 09	Dynamic Cone Penetrometer
AASHTO T 222-78	Plate Load Test for K-Value
ASTM D4429-09	Plate Load Test for CBR
AASHTO T 307-99	Resilient Modulus

### 1.3 Existing Surface/Subsurface Investigation

#### A. Field investigation shall include the following:

1. Borings shall be drilled on center of proposed roadway, or within proposed roadway widening, at 500-foot spacing (or less) or as needed to determine the subgrade variation between known geologies. Borings shall alternate between each roadway direction to a depth of at least 15 feet below finished subgrade or until competent rock is encountered, whichever is shallower. Where existing

roadways exist, borings shall be taken within the limits of the existing roadway. A minimum of 2 borings should be performed on each project regardless of alignment length. All borings should be performed within the limits of proposed pavement, unless otherwise approved by the City.

2. Continuous sampling shall be conducted in upper 10 feet and every 5 feet, thereafter, including split-spoon sampling of granular soils and thin wall tube sampling of cohesive soils. Coring intact rock shall not be required for pavement design unless the City specifies, or the Geotechnical Engineer believes coring is warranted.
3. Bulk samples of each soil type encountered shall be collected for Laboratory Investigation.
4. Geotechnical investigation must address heavily treed areas, where such trees are to be planted or removed as tree roots can significantly alter moisture conditions of the soil underlying the pavements when roots encroach the right of way and results in expansive, soil-related movements. The removal of nearby trees can also affect the moisture state of the underlying soils. The Engineer should consider additional borings in these areas.

B. Laboratory investigation shall include the following:

1. Selected samples representative of each soil type are required to be tested to determine grain size characteristics, Atterberg limits, in-situ moisture, and potential vertical rise (PVR). Other engineering properties shall be determined, as deemed appropriate, by the Geotechnical Engineer or as requested by the City.
2. Each subgrade soil type obtained from the field shall be tested to determine the soil resilient modulus by California Bearing Ratio (CBR) or other subgrade strength testing methods listed below.
3. Soils with a Liquid Limit (LL) greater than 40 and plasticity index (PI) greater than 20 shall be considered expansive for purposes of this manual and shall require subgrade treatment. Each soil type requiring subgrade treatment shall be tested for total soluble sulfate content and organic content. A pH-lime series test shall be conducted on those soils with soluble sulfate content less than 7,000 ppm and an organic content less than 1% to determine the percent of lime by weight to stabilize the subgrade soils. Soils containing soluble sulfates of greater than 7,000 ppm should not be lime stabilized, cement stabilized, or stabilized with any other pozzolan due to the risk of sulfate-induced heave and should consider alternate subgrade treatment methods in accordance with TxDOT's Guidelines for Treatment of Sulfate-Rich Soils and Bases in Pavement Structures.
4. The estimated Potential Vertical Rise (PVR) for roadways shall be determined using TxDOT test procedure Tex-124-E, Potential Vertical Rise of Natural Subgrade Soils, and the results shall be included in the Report. An appropriate surcharge load (if any), active zone, and moisture conditions should be considered in estimating the

PVR values. Boring depths shall be sufficient to determine the active zone for the expansive soil. Other methods of determining swell may be utilized if detailed in the pavement design report and if approved.

- C. A soil resilient modulus ( $M_r$ ) shall be determined by geotechnical engineering analysis, or back-calculated from deflection data, or estimated based upon other soil strength or characteristic properties and correlated to the resilient modulus. Variations such as, in-situ moisture content, changing geological formations and strata, and sample depth relative to the final design grade, will impact the results of field or laboratory testing and should be taken into consideration during the determination of subgrade support for design. If correlations are used to determine the soil resilient modulus from other soil strength parameters (e.g. California Bearing Ratio, shear strength, etc.), the correlation shall be disclosed with appropriate backup information provided in the geotechnical report.

The following is a list of common procedures used for developing design moduli. However, it is the responsibility of the Geotechnical Engineer to select the appropriate method(s) for determining the design modulus:

1. Field Testing

- Non-Destructive Testing (NDT):
  - Falling Weight Deflectometer (FWD): ASTM D4602-93 (2015);
  - Heavy Weight Deflectometer (HWD): ASTM D4602-93 (2015);
- Dynamic Cone Penetrometer: ASTM D6951/D6951M – 09 (2015);
- Plate Load Test for K-Value: AASHTO T 222-78; and
- Plate Load Test for CBR: ASTM D4429-09;

2. Direct Laboratory Testing

- Resilient Modulus: AASHTO T 307-99;

3. Indirect Laboratory Testing

- California Bearing Ratio (CBR): ASTM D1883-16 or AASHTO T193;
- TxDOT K-value: Tex-125-E;
- Texas Triaxial Classification: Tex-117-E; and
- Unconfined Compressive Strength: ASTM D2166/D2166M-16 or AASHTO T208.

- D. A Subgrade Verification Letter is required to be provided by the Geotechnical Engineer following rough cuts. This letter shall state if the subgrades encountered during construction are consistent with the subgrades anticipated in the geotechnical report.

- E. A geotechnical re-evaluation will be required if the following situations occur or as deemed necessary:

1. If more than two months occur between the end of initial grading and beginning of liming operations or otherwise approved.

2. When conditions have changed significantly between initial grading and liming operations.
  3. Subgrade Verification Letter states material encountered during construction varies from the surrounding bore results (i.e. soft pockets of sand or clay).
  4. If public infrastructure is being placed on undocumented fill; and/or
  5. When Contractor and/or Owner have not properly maintained moisture content during each phase of construction.
- F. If required, the re-evaluation shall include additional field and laboratory testing to either confirm recommendations are still acceptable or to determine how to rectify the non-conforming condition prior to construction of the pavement section.
- G. If tree species that are not approved by the City as a street tree are within 10-feet of the limits of the treated subgrade, a moisture/root-barrier extending to an appropriate depth based on the site specific geological conditions is required and the Geotechnical Engineer shall recommend the depth of the barrier.
- H. If existing trees are removed within the limits of the treated subgrade, the Geotechnical Engineer shall address mitigation of this condition in the Report.

#### 1.4 Subsurface Design

- A. Provide modifications to subsurface layers to limit the effective Plasticity Index (Pleff) to the following criteria:

- Arterials and Commercial Collector  $P_{leff} \leq 30$
- Mixed Use Collector/Residential Collector/Local Street  $P_{leff} \leq 40$

This method calculates the Effective PI as a weighted average of the PI of the different soil strata within the upper 15 feet of the subgrade, based on PI tests according to TxDOT Tex-106E. Weight Factors of 3, 2, and 1 are typically used for the top 5 feet, the middle 5 feet, and the bottom 5 feet, respectively. Pleff is determined by the following equation:

$$P_{leff} = \Sigma (F_i \times D_i \times P_{li}) / \Sigma (F_i \times D_i)$$

$F_i$  = Weight Factor;

$D_i$  = Depth of Soil Stratum within Particular Weight Factor Region; and

$P_{li}$  = Plasticity Index of Soil Stratum within Particular Weight Factor Region.

- B. Provide modifications to subgrade layers per this manual to limit the Potential Vertical Rise (PVR), considering a 15-foot depth below the proposed pavement surface elevation, to the following performance criteria:

- Arterials and Commercial Collector  $PVR \leq 2.0$

- Mixed Use Collector/Residential Collector/Local Street PVR  $\leq 3.0$

A PVR calculation spreadsheet can be downloaded from the TxDOT website. When using the spreadsheet, the pavement design thicknesses resulting from FPS21 shall be included as the top layer with an assumption of no swell (i.e., inputs for liquid limit, moisture content, percent passing the No. 40, and PI are all set to zero).

## 1.5 Subgrade Design

Subgrade improvement is required whenever the geotechnical investigation indicates the presence of in-situ soils with effective plasticity index (P<sub>leff</sub>) and/or potential vertical rise (PVR) values exceeding those specified in Section 1.4 and shall be designed to reduce these parameters to acceptable values. Limits of subgrade improvement shall extend 2' behind the back of curb. The Geotechnical Engineer is responsible for identifying when subgrade improvement is required, and which improvement alternatives should be considered. The Geotechnical Report shall include these recommendations to improve the subgrade, if necessary.

### A. Lime Treatment

Lime stabilization of at least 8 inches of subgrade is required when the soil investigation indicates that more than 2 feet of expansive subgrade soil (inclusive of the moisture conditioned subgrade) with P.I. greater than 20 exists underneath the expected pavement section. The Geotechnical Engineer shall determine the target lime content in accordance with TxDOT's test procedure Tex-121-E. The application rate of lime shall be determined based on laboratory testing and shall be the lowest percentage of lime that provides a pH of 12.4 or greater using TxDOT's test procedure Tex-121-E; and provides a targeted PI of 20 or less, or percentage of lime that provides the lowest PI per test procedure Tex-106-E. Lime series testing prior to application is required. Any change in field material will require additional lime series tests. The Geotechnical Engineer shall determine the treatment depth and application rate. "Structural credit" for lime treated layers may be granted for layer thicknesses of at least 8 inches or more. Unconfined compression testing using TxDOT's test procedure Tex-121-E, Part 1 is required and must provide at least 50 psi for structural credit. In no case shall the lime be less than 20 pounds per square yard for 8 inches of lime treated subgrade.

### B. Cement Treatment

Cement treated subgrade is discouraged when admixing highly expansive clay soil and must be approved if it is used for stabilization. If used, consideration could be made to using it in combination with lime. This section should not discourage or limit the use of cement to treat granular, low plasticity soils, subbases, and/or recycled pulverized mixtures of asphalt and flexible base.

### C. Remove and Replace

Remove and replace subgrade improvement method consists of removal of weak or highly expansive subgrade materials and replacement with engineered fill. Remove and replace

can be effective to remove weak subgrade materials and/or to reduce PVR and effective PI to acceptable values. In highly-expansive geologic formations that extend to great depth, the required removal/replacement depth to meet PI and PVR criteria can exceed several feet, in which case removal/replacement to the desired depth may not be economically feasible, but any amount of removal and select fill replacement yields better long-term performance than none at all. Replacement fill should consist of engineered fill meeting recommendations of the Geotechnical Engineer. In general, engineered fill should meet  $4 \leq PI \leq 20$  and  $LL < 40$  to reduce potential for volume change.

D. Moisture Treatment

*Moisture treatment is discouraged and shall not be used unless approved by the City Engineer.*

E. Geogrid

Geogrid design can be considered to assist with mitigating environmental cracking. Stabilization with geogrid base reinforcement designed for “structural credit” will be considered based on the geotechnical engineering report. The geotechnical engineer shall provide sufficient documentation that justifies the magnitude of structural credit that can be taken depending on the type of geogrid utilized. Otherwise, no structural credit will be allowed. The City has final approval of accepting a reasonable amount of structural credit.

## 1.6 Flexible Pavement Design

- A. The FPS21 software program, (or the latest TxDOT FPS version) shall be used for the design of flexible pavement. FPS21 is a mechanistic-empirical design procedure that provides for multiple pavement design strategies. Refer to the Flexible Pavement Design System FPS21: User’s Manual and the TxDOT Pavement Design Guide for documentation concerning this software and methodology for developing pavement strategies.
- B. All pavement design shall be in accordance with City’s Technical Specification, Standard Details, and General Notes unless otherwise approved. All pavement sections must be designed using the Pavement Design Input Values contained in Table 1-3 and Table 1-4, at a minimum. It is the Geotechnical Engineer’s responsibility to ensure those input values are applicable based on actual conditions
  - 1. The section shall be based on a Geotechnical Engineer’s recommendation and must be based on a 20-year design life.
  - 2. All flexible pavement layer thicknesses shall be rounded up to the nearest inch, with the exception of surface asphalt course which shall be rounded to the nearest half-inch.
  - 3. A minimum of 3” hot mix asphalt is required for all flexible pavement sections.

- C. A printout of the FPS21 design inputs and outputs must be included in the Report. A mechanistic and a triaxial check must be performed and the results must be printed and attached to the Report.
- D. The Geotechnical Engineer may design full depth hot mix asphalt sections for projects including widenings, turn lanes, and fast track operations. Full depth HMAC sections must be designed in accordance with all requirements of this Manual and using the Pavement Design Input Values contained in Table 1-4

*Table 1-3: Typical Pavement Design Input Values for Flexible Pavements – All Classifications*

Design Input	
Pavement Design Life	20 years
Time To First Overlay	20 years
Time Between Overlays	10 years
Subgrade Modulus High PI ( $\geq 41$ )	4 ksi*
Subgrade Modulus Moderate PI (21-40)	9 ksi*
Subgrade Modulus Low PI ( $\leq 20$ )	18 ksi*

\*Maximum

*Table 1-4: Pavement Design Input Values for Flexible Pavements – By Classification*

Design Input	Street Classification					
	Principal Arterial	Minor Arterial	Commercial Collector & Marginal Access	Mixed Use Collector	Residential Collector	Local Streets
Initial ADT (vehicles)	22,000	14,500	12,000	7,500	2,800	550
Final ADT (vehicles)	48,000	32,000	24,000	15,000	5,000	1,000
Growth Rate	4.00%	4.00%	3.50%	3.50%	4.00%	4.00%
% Trucks	9%	9%	9%	8%	5%	3%
Truck Factor	0.92	0.84	0.62	0.62	0.53	0.4
# of Lanes	6	5	4	3	2	2
Directional Distribution	0.5	0.5	0.5	0.5	0.5	0.5
Lane Distribution	0.7	0.8	0.8	0.8	1	1
Initial Serviceability Index	4.2	4.2	4.2	4.2	4.2	4.2
Terminal Serviceability Index	2.5	2.5	2.5	2.5	2	2
Confidence (%)	95%	95%	95%	95%	90%	80%
Design Lane ESAL	7,500,000	5,000,000	3,000,000	1,500,000	500,000	100,000

## 1.7 Rigid Pavement Design

Should Rigid Pavements be selected as a recommendation for the City's consideration and acceptance, a Geotechnical Engineering Report for Roadways shall be prepared. All rigid pavement sections shall be prepared using a design life of at least 30 years. Above Section 1.3 *Existing Surface/Subsurface Investigation* shall be included as part of the Report and pertinent traffic input information from Table 1-4, extrapolated to 30 years, shall be utilized in the rigid pavement design. The report shall clearly present all assumptions utilized in the Consultant's design as well as the program utilized to develop the recommended sections. The American Concrete Paving Association (ACPA) program StreetPave 12 or the latest available version is recommended for use.

**AN ORDINANCE AMENDING CHAPTER 26 OF THE CODE OF ORDINANCES OF THE CITY OF KILLEEN; PROVIDING FOR AMENDMENTS TO THE CITY'S SUBDIVISION AND PROPERTY DEVELOPMENT REGULATIONS; PROVIDING FOR THE REPEAL OF CONFLICTING PROVISIONS; PROVIDING FOR A SEVERABILITY CLAUSE; PROVIDING FOR A SAVINGS CLAUSE; PROVIDING FOR PUBLICATION AND AN EFFECTIVE DATE.**

**WHEREAS**, the City of Killeen, Texas is a home-rule city acting under its charter adopted by the electorate pursuant to Article XI, Section 5 of the Texas Constitution and Chapter 9 of the Local Government Code;

**WHEREAS**, the City of Killeen has declared the application and enforcement of the City's subdivision and development regulations to be necessary for the promotion of the public safety, health, convenience, comfort, prosperity and general welfare of the City; and,

**WHEREAS**, the City Council desires to create subdivision and development regulations that will help ensure that future development is safe, orderly, and visually appealing; and,

**WHEREAS**, the City Council desires to amend subdivision and development regulations to promote the health, safety, morals, or general welfare of the municipality and the safe, orderly, and healthful development of the municipality;

**NOW, THEREFORE BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF KILLEEN, TEXAS:**

**SECTION I.** That Chapter 26 of the City of Killeen Code of Ordinances is hereby amended to read as follows:

\*\*\*\*\*

**Sec. 26-24. Requirements for approval of application by planning and zoning commission.**

- (a) Within thirty (30) days of the date that the application is deemed filed, the planning and zoning commission shall approve, approve with conditions, or disapprove a plat. A plat shall be approved if it complies with the requirements of this chapter, the applicant is not in arrears in the payment of any debts owed the city required by this chapter on a previous plat, it conforms to the general plan of the city and its current and future streets, alleys, parks, playgrounds, and public utility facilities plans, and it conforms to the city's general plan for the extension of roads, streets, and public highways, taking into account access to and extension of sewer and water mains and instrumentalities of public utilities to include public drainage infrastructure.
- (b) Upon approval with conditions or disapproval of a plat, the applicant shall be provided with a written statement of the conditions for the conditional approval, or reasons for disapproval, that clearly articulates each specific condition for the conditional approval or reason for disapproval. Each condition or reason specified in the written statement must be directly related to the requirements of

V.T.C.A., Local Government Code, ch. 212, subch. A, and include a citation to statute or city ordinance that is the basis for the conditional approval or disapproval.

- (c) A plat is considered approved by the planning and zoning commission unless it is disapproved within such thirty-day period.
- (d) The City Engineer may make a recommendation to the Planning and Zoning Commission regarding approval or disapproval of a plat based upon sound engineering principles. The Planning and Zoning Commission shall have the authority to disapprove a plat that does not comply with the requirements of this chapter or does not conform to the general plan of the city upon the recommendation of the City Engineer.

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**Sec. 26-51. Form, contents, and required documentation.**

- (a) Final plats are mandatory in accordance with section 26-5.
- (b) In cases where a preliminary plat was previously approved, the final plat shall substantially conform to the approved preliminary plat.
- (c) If the plat requires the extension of public infrastructure, construction ~~plans shall be released for construction of the infrastructure shall be completed~~ before the final plat can be deemed filed in accordance with subsection 26-23(d).
- (d) Final plats shall be filed with the planning and development services department and shall be accompanied by the following minimum documentation:
  - (1) Completed final plat application signed by the property owner or in the case of a corporation/partnership, a party empowered to sign such actions (supported with authorizing documentation);
  - (2) Two (2) twenty-four-inch by thirty-six-inch paper copies of the plat;
  - (3) A digital copy of the plat in .pdf format;
  - (4) A digital copy of the plat in .dwg format;
  - (5) Deed showing current ownership of the platted property;
  - (6) Dedication instrument, which shall be a signed and notarized original;
  - (7) Field notes of the property to be platted, which shall be signed and sealed by a registered professional land surveyor;
  - (8) A statement on the plat application showing that all fees owed the city on any prior projects have been paid in full at the time the application was filed;
  - (9) Nonrefundable application fee, as established by the city council; and
  - (10) Preliminary access/drainage letter granted by the Texas Department of Transportation for any plat with frontage on state managed rights-of-way identifying TxDOT's preliminary determination of access points and any drainage concerns that TxDOT desires to call to the city's attention.
  - (11) Additional items, as may be required on the subdivision plat application checklist.
- (e) Final plats must meet the following criteria and contain the following information:
  - (1) Scaled drawing no smaller than one (1) inch = two hundred (200) feet on a sheet size of twenty-four (24) inches by thirty-six (36) inches (multiple sheets may be submitted; however, each sheet must be registered and match lines to allow assembly of the multiple sheets and an index sheet

shall be drawn on a sheet twenty-four (24) inches by thirty-six (36) inches showing the entire property being platted);

- (2) Date, graphic and written scale, north arrow, and inset location map;
- (3) Boundary of the subject tract, indicated by a heavy bold line, and the computed acreage of land within the plat boundary;
- (4) Name and address of all property owners of the property being platted;
- (5) Name and address of engineer and surveyor;
- (6) Number of proposed lots and blocks, with consecutive numbers to identify each.
- (7) Number of proposed tracts, identified by letter, with the size and purpose of each tract identified on the plat.
- (8) The lot width and square footage of each proposed lot shall be noted on the graphic, or in a table on the plat.
- (9) The length of all-straight lines, deflection angles, radii, arcs, and central angles of all curves shall be given along the property lines of each street or tabulated on the same sheet showing all curve data with its symbol. All dimensions along the lines of each lot with the angles of intersections that they make with each other shall be indicated;
- (10) The names of all adjoining subdivisions, the side lines of abutting lots, lot and block numbers, all in dotted lines, and accurate reference ties to at least two (2) adjacent, existing controlling property monuments shall be clearly indicated;
- (11) The description and location of all survey monuments placed on the property being platted shall be indicated;
- (12) A title shall be indicated, including the name of the property being platted, the name of the applicant and scale and location of the property being platted with reference to original surveys and a north arrow.
- (13) All FEMA-designated flood hazards shall be indicated. These shall include, the floodway boundary, 100-year floodplain limits, base flood elevation (BFE) contours, flood zone designations (Zone "X" inclusive), and all other essential flood insurance study data. The panel number, effective date, and map number of each referenced National Flood Insurance Program (NFIP) map shall be cited. Where required, the lowest finish floor elevation (FFE) shall be determined for each affected lot. The BFE and FFE for each lot shall be summarized in a table. All NFIP map changes or map revision data submitted to FEMA shall be indicated in like manner;
- (14) Avigation notation, if required, as prescribed in subsection 26-29;
- (15) A surveyor's certificate shall be placed on the final plat:

KNOW ALL MEN BY THESE PRESENTS:

That I, \_\_\_\_\_, do hereby certify that I prepared this plat from an actual and accurate survey of the land and that the corner monuments shown thereon were properly placed under my personal supervision, in accordance with the Subdivision and Property Development Regulations of the City of Killeen, Texas, and in accordance with State surveying standards. Signature  
Texas Reg. No.

- (16) A certificate of ownership and of dedication of all streets, alleys, easements and lands to public use forever, signed and acknowledged before a notary public by the owner of the land, shall

appear on the face of the map, containing complete and accurate description of the property being platted and the streets dedicated;

- (17) A tax appraisal district affidavit shall be placed on the final plat:

The Tax Appraisal District of Bell County does hereby certify there are currently no delinquent taxes due to the Tax Appraisal District of Bell County on the property described in this Plat.

Dated this \_\_\_\_ day of \_\_\_\_\_, \_\_\_\_ Bell County Tax Appraisal District

- (18) In the case of a final plat, a certificate of approval by the planning and zoning commission shall be placed on the plat.

Approved this \_\_\_\_ day of \_\_\_\_\_, \_\_\_\_, by the Planning and Zoning Commission of the City of Killeen, Texas. Chairman, Planning and Zoning Commission Secretary, Planning and Zoning Commission

- (19) In the case of a minor or amended plat provided under section 26-61 or 26-74 of this chapter, as applicable, only a certificate of approval from the planning director shall be required as follows:

Approved this \_\_\_\_ day of \_\_\_\_\_, \_\_\_\_, by the planning director of the City of Killeen, Texas. Planning Director Planning Assistant

- (f) All items submitted under subsection 26-51(e) shall be in compliance with the city's currently adopted zoning, construction standards, infrastructure design and development standards manual, drainage design manual, thoroughfare plan, and master plans, except as otherwise allowed by state law.

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#### **Sec. 26-81. Construction of infrastructure.**

- (a) Construction plans for all proposed infrastructure to be constructed for the property may be submitted only after the preliminary plat has been approved by the planning and zoning commission. Construction plan applications shall be deemed filed when they are determined by staff to be administratively complete. Administratively complete shall mean that all required application materials have been submitted. Construction plans submitted shall be in conformance with the approved preliminary plat.
- (b) The ~~public works department~~ engineering division shall review the submitted plans for compliance with the infrastructure design and development standards manual, the drainage design manual, the current Pavement Design Manual, and other applicable construction standards adopted by the city and approve, approve with conditions, or disapprove the construction plans within thirty (30) days after the plans are filed. Upon approval with conditions or disapproval of construction plans, the applicant shall be provided with a written statement of the conditions for the conditional approval, or reasons for disapproval, that clearly articulates each specific condition for the conditional approval or reason for disapproval. Each condition or reason specified in the written statement must be directly related to the requirements of V.T.C.A., Local Government Code, ch. 212, subch. A, and include a citation to statute or city ordinance that is the basis for the conditional approval or disapproval. After the conditional approval or disapproval of construction plans, the applicant may submit to the city engineer a written response that satisfies each condition for the conditional approval or remedies each reason for disapproval provided. Upon receipt of a response, the city engineer shall determine whether to approve or disapprove the applicant's previously conditionally approved or disapproved construction plans not later than the 15th day after the date the response was submitted.
- (c) Upon review and consideration of release for construction of construction plans by ~~the public works department~~ engineering division, the plat applicant and/or the plat applicant's contractor will provide written notification to the ~~public works department~~ engineering division of the intent to commence construction of the required infrastructure. No work may be performed unless written notification has

been provided to the ~~public works department~~engineering division. The written notification shall contain the following information:

- (1) Name of the plat or subdivision;
  - (2) Plat applicant's name;
  - (3) Contractor's name, address and phone number;
  - (4) Type of construction to be performed; and
  - (5) Estimated value of construction.
- (d) The ~~public works department~~engineering division shall issue an acknowledgment of receipt of notification to the developer and/or his contractor.
- (e) Construction plans submitted to the City for review are valid for two (2) years prior to release of a permit. Once a construction permit is issued, the permit is valid for one (1) year. The City Engineer, or his or her designee, is authorized to grant one (1) extension for a period of not more than one hundred eighty (180) days. Requests for an extension shall be submitted in writing by the applicant and just cause for the extension must be demonstrated.

#### **Sec. 26-82. Phasing of infrastructure construction.**

- (a) At the time the applicant submits his or her construction plans to the ~~public works department~~engineering division, the applicant may request to phase construction of the subdivision improvements. The construction plans submitted for review and consideration of release for construction shall clearly delineate those facilities to be constructed in the current phase. Any infrastructure required to mutually support multiple phases of the subdivision shall be constructed as a part of the first phase of the subdivision development. All requests for phasing made after construction plans have been released for construction shall be resubmitted to the ~~Director of Public Works~~City Engineer or his or her appointee for review.
- (b) Upon completion of each phase of infrastructure construction and satisfaction of the requirements of section 26-83 and/or section 26-84 of article III, the ~~Director of Public Works~~City Engineer or his or her appointee shall issue a written letter of acceptance of the infrastructure, stating the specific street sections which have been accepted, and shall identify by lot and block numbers the lots which the building and development services department may issue building permits.

#### **Sec. 26-83. Acceptance of infrastructure.**

- (a) Upon completion of all required infrastructure, prior to the acceptance of the subdivision by the city for maintenance, the applicant, or applicant's agent, shall provide record (as-built) drawings of all constructed water, wastewater, street, and drainage infrastructure. Also, the applicant, or applicant's agent, shall post, or cause to be posted, a maintenance bond executed by a corporate surety or corporate sureties duly authorized to do business in this state, payable to the city and approved by the city as to form, to guarantee the maintenance of the construction for a period of one (1) year after its completion and acceptance by the city. However, a two-year maintenance bond shall be required for all drainage infrastructure. In cases where the entirety or a portion of a water or sewer main will be placed under a street, if the applicant, or applicant's agent, does not provide full base backfill from the bedding of a water or sewer main to the sub base of the street, a three (3) year maintenance bond shall be required for all water and sewer infrastructure placed under a street. In lieu of a maintenance bond, the applicant may submit either an irrevocable letter of credit payable to the city and approved by the city as to form or a cash bond payable to the city and approved by the city as to form. The actual value of the maintenance bond or letter of credit or cash bond shall be ten (10) percent of the full cost of the water and sewer system and fifteen (15) percent of the full cost of the cost of street and drainage construction, as determined by the actual construction costs. The values enumerated in the bond or letter of credit

shall be supported by a construction take-off summarizing the lineal, areal and volumetric quantities, as applicable, for all constructed water, sewer, street, and drainage infrastructure.

- (b) Upon receipt of the approved maintenance bond, irrevocable letter of credit or cash bond, the ~~public works department engineering division~~ shall issue a written letter of acceptance of the infrastructure and notify the building and development services department that the subdivision has been accepted by the city.
- (c) All infrastructure including, but not limited to water, sewer, streets, transportation, drainage, environmental, and appurtenances shall be inspected by the ~~public works department engineering division~~ prior to acceptance and warranty period. The initial inspection shall be provided by the city at no cost to the developer. Should the inspected infrastructure not meet the IDDSM, the current Pavement Design Manual, or other applicable local, state and/or federal regulations or if the inspection cannot be completed due to risk of injury to city personnel or equipment due to a condition created by the developer or his agents, a fee, as provided in chapter 2 of this Code or Ordinances, will be paid to the city by the developer for any additional inspections as required. In-lieu of paying a fee, the developer may contract a third party to make the required inspections and all documentation, including but not limited to, logs, videos, photos, and test reports shall be presented to the ~~director of public works~~ City Engineer or his or her appointee for review and approval.

**Sec. 26-84. ~~Building permits issued~~ Recordation of plat prior to completion of infrastructure.**

- (a) In the event an applicant wishes to ~~obtain building permits~~ have a final plat recorded with Bell County prior to acceptance of the subdivision by the city, the applicant shall post with the city a completion bond for one hundred and ten percent (110%) of the cost of the infrastructure not yet installed. Such completion bond shall be executed by a corporate surety or corporate sureties duly authorized to do business in this state, payable to the city and approved by the city as to form ~~for all construction included in the approved construction plans that has not been completed~~. In lieu of a completion bond, the applicant may submit either an irrevocable letter of credit payable to the city and approved by the city as to form or a cash bond payable to the city and approved by the city as to form.
- (b) Under no circumstances shall a building permit be issued above the foundation be permitted until all required infrastructure has been accepted by the city. adequate fire protection is available. Adequate fire protection means:-
  - ~~(1) City utilities are installed;-~~
  - ~~(2) Fire hydrants providing protection are operational; and-~~
  - ~~(3) Streets are fully constructed to city standards and are open and driveable drivable, having all curbs and gutters installed, where required, street subgrades worked to proper compaction and base course installed, graded and leveled, to facilitate vehicle movement.~~
  - ~~(4) Sidewalks, in areas other than undeveloped residential lots, are fully constructed to city standards.~~
- ~~(c) After the plat has been recorded and the completion bond, irrevocable letter of credit or cash bond has been received and approved by the city, the public works department engineering division shall notify the building and development services department, by lot and block numbers, that building permits may be issued.~~

**Sec. 26-85. Agreements with the city.**

- (a) The city of Killeen may enter into a contract with a developer of a subdivision or land within the city to construct public improvements, not including a building, related to development. Under such contract, the developer shall construct the improvements and the city shall participate in the cost. All

agreements under this section shall be in writing and set forth in a form agreement approved by the city attorney.

(b) *General policies:*

- (1) The city/owner agreement must establish the limit of participation by the municipality at a level not to exceed thirty (30) percent of the total contract price.
- (2) In addition, the contract may also allow participation by the municipality at a level not to exceed one-hundred (100) percent of the total cost for any oversizing of improvements required by the municipality, including but not limited to increased capacity of improvements to anticipate other future development in the area. The city shall be liable only for the agreed payment of its share of the contract which shall be determined and executed in advance.
- (3) The owner must deliver a performance bond executed by a corporate surety or corporate sureties duly authorized to do business in this state, payable to the city and approved by the city as to form, for construction included in the approved construction plans, in the penal sum of one-hundred (100) percent of the cost to complete the public improvements insuring completion of the public improvements. A power of attorney shall be attached to the bond evidencing that the agent signing the bond has authority to sign the bonds on behalf of the surety. The city shall release the bond upon completion, final acceptance, and receipt of warranty bond for the public improvements subject to the city/owner agreement. The performance and warranty bond requirements set forth under this subsection may not be waived.
- (4) The owner will deliver to the city a certificate of insurance listing the city of Killeen as an additional insured on its commercial general liability insurance policy.
- (5) ~~There may be instances outside the platting process when a person feels a city/owner agreement may be warranted. In these cases, the person seeking the city/owner agreement will notify the city manager in writing outlining the request and the approximate cost to the city. The city manager will respond and either set the agreement for city council consideration, or reject the proposal. A written request for city participation shall be submitted by the developer prior to the initiation of construction. The request letter shall be accompanied by an exhibit depicting reimbursable items, estimated costs for construction, and the cost calculations for all reimbursable items, clearly indicating the cost for any additional capacity requested by the city.~~
- (6) All of the developer's books and other records related to the project shall be available for inspection by the municipality.
- (7) After construction and final acceptance of the improvements, the developer shall present a written request for reimbursement. A request for reimbursement shall be made within five (5) years of the effective date of the agreement.

c) *Utilities:*

(1) *Water lines:*

- (a) ~~City may pay oversize costs for all water lines required over eight (8) inches in diameter. The City may enter into an agreement to pay for the difference in the cost of City required water main size and the cost of the water main size required for the owner's development only. For example, if a large development requires a 10-inch water line to serve it but the water master plan requires a 16-inch water line to run through that area, then the city may enter into an agreement to pay for the difference between the cost of a 10-inch water line and a 16-inch water line.~~
- (b) Owner shall submit documentation to the ~~public works department~~engineering division detailing the total costs of the improvements meeting the minimum standards required by

the city including costs for the oversizing of any improvements. Upon review of the proposed project and all submitted documentation, the city may enter into a city/owner agreement whereby the city may agree to pay up to one-hundred (100) percent of the costs incident to the oversizing of improvements.

(2) *Sewer lines:*

- (a) ~~City may pay oversize costs for all sewer lines required over ten (10) inches in diameter. The City may enter into an agreement to pay for the difference in the cost of City required wastewater main size and the cost of wastewater main size required for the owner's development only. For example, if a large development requires a 12-inch wastewater line to serve it but the wastewater master plan requires an 18-inch wastewater line to run through that area, then the city may enter into an agreement to pay for the difference between the cost of a 12-inch wastewater line and an 18-inch line.~~
- (b) Owner shall submit documentation to the ~~public works department engineering division~~ detailing the total costs of the improvements meeting the minimum standards required by the city including costs for the oversizing of any improvements.
- (c) Upon review of the proposed project and all submitted documentation, the city may enter into a city/owner agreement whereby the city may agree to pay up to one-hundred (100) percent of the costs incident to the oversizing of improvements.

(d) *Roads and drainage:*

- (1) ~~When an agreement to construct a road project is proposed, the owner shall provide a cost breakdown for the installation of a road required to provide the movement capacity for their development including all base material, asphalt, curb, gutter, engineering, and all other items associated with the construction of the road and drainage infrastructure. In no case shall less than a local or marginal access street be considered adequate to provide the required movement capacity for a development. Proposed streets must be in conformance with the city's adopted Comprehensive Plan and Thoroughfare Plan. The developer must design and construct the full cross section for all streets within or serving the development.~~
- (2) ~~The owner shall provide an estimate of the cost for the width of the road required by the city including all drainage, engineering, and added materials required to meet city standards for the width requested (e.g., additional flexible base, increased thickness of asphalt, larger drainage structures). Where an arterial street is required, the property owner shall prepare a rough proportionality assessment to determine the portion of the improvement of infrastructure that is roughly proportionate to the impact of the proposed development. The developer shall be responsible for the design and installation of the development's proportionate share.~~
- (3) The city may, its sole discretion, enter into a city/owner agreement wherein the city may pay the cost difference between the required ~~road calculated~~ cross section per subsection 286-85 (d)(12) above, ~~including appurtenances and engineering~~ and the street width requested by the city with any additional appurtenances, including engineering, not otherwise required. ~~In the event that a road is determined to require a thicker cross section due to proposed future additions to the road, the city will pay for all required asphalt and base to be installed initially to assure that the future cross sections are compatible. In the event the City does not enter into a city/owner agreement, the developer will be required to install the portion of the roadway determined to be roughly proportionate to the impacts of the development, which shall in no case be less than a local street.~~
- (4) The owner shall provide all rights of way for the width of the road, as required by the city Thoroughfare Plan, unless such width is not roughly proportional to the impact of the

~~development. To substantiate the cost of the right of way that exceeds the right of way to accommodate the movement capacity of the development, the developer shall provide a survey of the additional right of way and a copy of the property conveyance document that applies to the parcel upon which the additional right of way is requested.~~

- (5) A city/owner agreement shall not be considered or approved for local/marginal access roads or collector streets within subdivisions or ingress/egress streets that must are required to be wider widened ~~than a local/marginal access road for safety capacity~~ reasons.
- (6) The developer may submit a request for a city/owner agreement for city participation in a regional detention facility or for the oversizing of drainage infrastructure in an area where known flooding exists, if improvements are designed to alleviate existing conditions. The regional detention facility or oversized drainage infrastructure must be identified in the city's adopted current drainage master plan, ~~provide benefit to more than two (2) subdivisions,~~ and meet the requirements of the current drainage design manual and infrastructure design and development standards manual.

~~(e) Development process:~~

- ~~(1) Owner shall make known their intention in writing to seek a city/owner agreement at the time of plat submission.~~
- ~~(2) The owner shall identify the infrastructure for which they will seek a city/owner agreement and an estimate of the amount of oversized infrastructure that will be requested of the city.~~
- ~~(3) The city council will be briefed on the potential city/owner agreement and available funding.~~
- ~~(4) Prior to plat validation, the city council may agree in principle to the level of city participation and costs for the proposed infrastructure, and may instruct the city staff to proceed with detailed negotiations and empower the city manager to enter into the city/owner agreement at a cost not to exceed the estimated fund level. This agreement in principle shall be held in suspense within the planning division pending receipt of the final city/owner agreement.~~
- ~~(5) Following approval of the "agreement in principle," and prior to any construction activity on infrastructure included in the proposed agreement, the owner shall prepare construction drawings and provide the detailed cost for the areas for city participation. If the final detailed cost does not exceed the figure identified in the "agreement in principle," the city/owner agreement will be prepared in final form, signed by appropriate parties and filed in the appropriate plat file.~~
- ~~(6) If the final detailed cost exceeds the estimate identified in the "agreement in principle," the final agreement will be forwarded to the city council for approval and authorization of the city manager to execute the agreement. If the city council elects not to enter into agreement at the increased cost but desires to retain the engineered plans, the city may enter into agreement to retain the plans and reimburse the owner for their preparation.~~

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**Sec. 26-101. Streets.**

- (a) All street improvements and infrastructure shall conform to the current thoroughfare plan, the current Pavement Design Manual, and the IDDSM as adopted and amended by the city council.
- (b) Existing streets shall be continued where practical, as determined by the planning and zoning commission. Continuations of existing streets shall have the same or greater right-of-way and pavement widths as the existing streets being connected. Street names shall be continuous.

- (c) ~~All necessary street rights-of-way as determined by the thoroughfare plan and the IDDSM shall be dedicated as part of the platting or permitting process. Standards for public street rights-of-way and street pavement widths, as measured from back of curb to back of curb, are as follows:~~

<u>Street Type</u>	<u>Pavement Width (ft.)</u>	<u>Right-of-Way Width (ft.)</u>
<u>Alley</u>	<u>20</u>	<u>20</u>
<u>Rural Local</u>	<u>25</u>	<u>50</u>
<u>Local Street</u>	<u>31</u>	<u>60</u>
<u>Rural/Residential Collector</u>	<u>36</u>	<u>65</u>
<u>Commercial/Mixed-Use Collector</u>	<u>48</u>	<u>80</u>
<u>Marginal Access</u>	<u>58</u>	<u>90</u>
<u>Minor Arterial</u>	<u>48-73</u>	<u>100</u>
<u>Principal Arterial</u>	<u>79</u>	<u>110</u>

- (d) In the event the city requires a right of way width greater than the right of way necessary to accommodate the paved surface for the street required to provide the movement capacity for the development, the city will provide the additional right of way required. To substantiate the cost of the additional right of way, the developer shall provide a survey of the additional right of way and a copy of the property conveyance document that applies to the parcel upon which the additional right of way is requested. Street right of way and design requirements may be increased, to provide the additional capacity consistent with the impact of a proposed development. Additionally, the city engineer may increase, decrease or modify street right of way and design requirements based on sound engineering practice when safety concerns, topography, or development circumstances warrant.
- (~~d~~e) Dead-end streets may be platted where the land adjoining the plat has not been platted. In the event that such dead-end street exceeds one hundred fifty (150) feet in length or one (1) lot width, from the nearest street intersection, the street will be provided with a cul-de-sac, either permanent or temporary, having a minimum right-of-way radius of fifty (50) feet.
- (~~e~~f) Where dead-end streets are dictated by lot designs, such dead-end streets shall be provided with a permanent cul-de-sac having a minimum right-of-way radius of fifty-five (505) feet, as measured from face of curb to face of curb.
- (~~f~~g) No street intersection shall be designed having an inside angle of less than thirty (30) degrees between the two (2) intersecting street lines, nor more than one hundred fifty (150) degrees.
- (~~g~~h) A street section is herein defined as the length of a street between two intersections of any type or the length between an intersection and a street terminus with an engineered turnaround. Such sections should not exceed ~~one thousand two hundred (1,200) eight hundred (800)~~ feet. Variation from this rule is permitted if, in the opinion of the planning and zoning commission, such variation provides for quality development and all lots have adequate access in accordance with the provisions in Sec. 26-25.
- (~~h~~i) Streets, where practical, as determined by the planning and zoning commission, shall be designed and platted with appropriate regard to connectivity to adjacent subdivisions, the existing and planned transportation network and topographical features, i.e., creeks and drainageways, wooded areas, etc., with the aim of creating desirable and attractive treatments of significant existing features. The commission may require modification be made to the street design to accommodate public health, safety and welfare considerations.

(i) Where a major entrance to a subdivision is not a planned collector on the thoroughfare plan, the local/marginal access street shall be a minimum of forty-eight (48) feet wide (back-of curb to back-of-curb) with a seventy (70) foot right of way for a minimum distance of one hundred and twenty (120) feet from the intersection. Where a subdivision has multiple points of ingress/egress, the major entrance shall be on the street with the most intense functional classification. In circumstances where the functional classifications are equal or both streets are local, the developer may select his major entrance subject to the approval of the city engineer. As a rule, new subdivisions must have at least two (2) access streets. A developer may request the planning and zoning commission waive this rule and approve one access street if the access street has no connecting streets, terminates in a permanent cul-de-sac, is not more than one thousand and two-hundred (1200) feet in length and provides access to not more than a total of thirty (30) single-family dwelling lots or an equivalent housing unit density comprised of duplex or multi-family structures. However, in no case shall lots platted in the city of Killeen have their sole access through an adjacent city. In addition to the single point of access situation presented by streets that end in permanent cul-de-sac, a single point of access may be dictated by property configuration, considerations the volume of property owned by the plat applicant, safety engineering, or access management restrictions. In determining if a new subdivision may have one point of ingress/egress, consideration shall be given to:

- (1) traffic circulation and emergency vehicle access;
- (2) traffic and pedestrian safety with due consideration given to school bus routes;
- (3) topography and visibility distances;
- (4) surrounding developed property and whether adjacent development is anticipated to provide additional access;
- (5) whether the property owner owns sufficient property to provide a second access point.

If a single access point is approved, the access must be constructed as a raised median divided street with a distance of one-hundred and twenty (120) feet. The city engineer will determine the number of lanes required and if turning or acceleration/deceleration lanes are required to provide safe ingress/egress after due consideration to the density of the subdivision and the functional clarification of the street intersecting with the access street.

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#### Sec. 26-105. Sidewalks.

- (a) All sidewalk and ramp construction shall conform to all applicable Public Right-of-Way Accessibility Guidelines published by the United States Access Board, Texas Accessibility Standards, Americans with Disabilities Act design requirements, chapter 25 of the city of Killeen code of ordinances, and the infrastructure design and development standards manual, as applicable.
- (b) ~~Sidewalk ambulatory ramps shall be constructed within each curb return at all street intersections within the subdivision prior to the granting of a certificate of occupancy for the applicable lot. Subdivision construction plans shall show sidewalks with their proposed widths in accordance with the IDDSM along all proposed streets. The city engineer may require off site sidewalks where appropriate to provide connectivity to existing or future pedestrian facilities. The developer shall construct sidewalks adjacent to all proposed streets where building lots are not proposed, including, but not limited to, parks, drainage tracts or easements, development entrances, the rear of through lots, and public open spaces prior to the release of the subdivision. Subdivision construction plans shall show sidewalk ambulatory ramps at the end of each curb return at all street intersections within the subdivision. At tee intersections, only one set of ambulatory ramps opposite each other are required for crossing of the through street. The type of ramp shall be indicated on the plans. The ramp type, dimensions, and surface finish shall be uniform throughout the subdivision.~~

- (c) The developer shall establish a uniform ground surface not to exceed the top of curb elevation for all right-of-way inside each curb return requiring sidewalk ambulatory ramps prior to the release of the subdivision.
- (d) ~~The city engineer may require construction of sidewalk ambulatory ramps prior to the release of the subdivision where utility appurtenances (e.g., manhole riser; fire hydrant assembly) or immobile landforms encroach into the right-of-way inside a curb return requiring sidewalk ambulatory ramps.~~ Subdivision construction plans shall include a pedestrian bridge of width equal to the required adjoining sidewalk. The pedestrian bridge shall be removable for maintenance of the flume or other facilities beyond the flume. It shall be constructed in accordance with the infrastructure design and development standards manual by the developer prior to final acceptance of the subdivision.
- (e) ~~All sidewalk and ramp construction shall conform to all applicable Texas Accessibility Standards and Americans with Disabilities Act design requirements, chapter 25 of the city of Killeen code of ordinances, and the infrastructure design and development standards manual.~~

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#### **Sec. 26-108. Postal service delivery.**

- (a) Adequate postal service shall be provided and installed in all new subdivisions in the corporate limits and within the extra-territorial jurisdiction of the city of Killeen.
- (b) United States Postal Service policy assigns the responsibility for the acquisition, ~~and~~ installation, ~~and~~ maintenance of mail receptacles or Cluster Box Units (CBUs) to the customer. In the case of any new final, minor or development subdivision plats, the developer shall be responsible for acquiring and installing the appropriate mail receptacles to accommodate the delivery method prescribed by the U.S. Postal Service.
- (c) The developer shall coordinate with the Killeen Postmaster and identify the type of mail receptacles to be used in the developer's subdivision and the location where the receptacles will be installed. In the event central delivery is prescribed, a postal service central mail receptacle layout sheet shall be submitted with the plat, replat or an amendment that creates lots.
- (d) For safety, cluster boxes should be located on local streets whenever possible. Developer shall provide a parking pocket for two vehicles adjacent to each CBU when they are located on collectors or thoroughfares. The parking pocket shall have a length of forty-five (45) feet and be offset from the street curb line by 10 feet with a one to one (1:1) taper. Additional right-of-way width shall be provided to match the parking pocket.
- (~~d~~e) The developer shall be responsible to purchase and install mail receptacles in accordance with U.S. Postal Service material specifications and construction standards available from the Killeen Postmaster. When central mail receptacles are prescribed, pads shall be constructed concurrent with street curbing and central mail receptacles shall be installed prior to ~~the subdivision or~~ the respective phase of the subdivision being released for permitting, which shall include individual building permits. CBUs shall be located and constructed so as to meet all accessibility requirements from the adjacent sidewalk and parking pocket.
- (~~e~~f) All mail receptacles shall be located in rights of way or within a dedicated postal service easement. When a mail receptacle is not planned to be located within dedicated right of way, the receptacle shall be in an easement identified on the plat as a postal easement.
- (~~f~~g) When the Postal Service determines that central delivery shall be used, once the Killeen Postmaster shall provide written notice that the central receptacle is satisfactorily installed, approved and accepted by the Killeen Postmaster, ~~the Killeen Postmaster shall enter into a written agreement that all maintenance, replacement, or other actions with regards to damaged centralized receptacles shall be borne by the Postal Service.~~

- (~~g~~h) Extraterritorial jurisdiction (ETJ) - When the Postal Service determines that central mail receptacles are to be installed in a subdivision in the extraterritorial jurisdiction that is being expanded using county roads with bar ditch drainage, the receptacle shall be installed prior to completion of any serviced structure.

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**Sec. 26-127. Naming of streets.**

- (a) Each street name in the City of Killeen shall consist of two (2) parts: a primary street name, and a street type.
- (b) The character limit for a street name, including the primary name, street type, word spaces, and a directional (if applicable), may not exceed thirty (30) characters.
- (c) A primary street name shall be less than twenty (20) characters.
- (d) Each primary street name should be used only once within a subdivision, with the exception that one (1) cul-de-sac may use the same primary street name as a street it intersects.
- (e) Street names must be comprised only of characters using the standard English alphabet. No special characters (dashes, apostrophes, periods, slashes, etc.) maybe used. A space may replace the special character.

(f) Street names shall not be copyrighted names or phrases.

- (~~f~~g) Except for numbered streets and highways, numbers, numerals, or spelled out numbers shall not be used in street names.
- (~~g~~h) Cardinal direction words (north, south, east, west) may not be used as part of a street name. This restriction extends to cardinal direction words in other languages.
- (~~h~~i) Cardinal directional words shall not be combined with other words to create street names.
- (~~i~~j) Cardinal directional words are required when a street crosses over a designated zero range boundary.
- (~~j~~k) Representation of required directionals is limited to the use of the four letters (N. S. E. W). The cardinal directions are not to be spelled out, and no punctuation used.
- (~~k~~l) Streets in new subdivisions must continue the names of existing streets on adjoining plats to maintain street name continuity.
- (~~l~~m) Duplicative and overused street names shall be prohibited.
  - (1) A street name is considered duplicative if an existing street shares the same primary street name. Number of words, spaces, spelling differences, and street type do not make a street name unique.
  - (2) Use of the same primary street name in close proximity to similarly named streets shall be prohibited.
  - (3) A modifier, or extra word added to a street name, may be added to a street name to make it unique.
  - (4) Words used as the first word in more than fifty (50) street names in the City of Killeen or Bell County shall be considered overused. Street names submitted for review will be rejected if overused words are included in the name (regardless of subdivision name or marketing theme). Changing the spelling of an overused word does not create a new word (Ann is equivalent to Anne). Compound or combined words using an overused word will also be rejected.

- (~~mn~~) Street types shall be consistent with the configuration of the street. Misleading and confusing street types are prohibited.
- (~~no~~) Street type words shall not be used in place of or within a street name.
- (~~op~~) Two (2) street names shall be used when a street incorporates a ninety-degree turn.
- (~~pq~~) The following limitations on street types shall apply:
- (1) *Boulevard* shall only be used for streets with a right-of-way greater than ninety (90) feet in width; however, these streets are not limited to this street type.
  - (2) *Avenue* shall only be used for streets greater than one thousand five hundred (1,500) feet in length; however, these streets are not limited to these street types.
  - (3) *Parkway* can only be used for streets greater than two thousand five hundred (2,500) feet in length, with right-of-way greater than ninety (90) feet in width, and which serves as a connector between two (2) major thoroughfares.
  - (4) *Bend* designates a street with at least one (1) bend in it. The bend must exceed one hundred (100) degrees. Streets that include a ninety-degree turn may not use the *Bend* street type.
  - (5) *Circle* can only be used for a street that has two (2) intersections along an intersecting street.
  - (6) *Court*, *Cove*, or *Place* may only be used for cul-de-sacs, and cul-de-sacs may only use *Court*, *Cove*, or *Place*.
  - (7) *Loop* may only be used for streets that loop back onto or across themselves.
  - (8) Cul-de-sacs are intersected by only one (1) street and do not provide through access.
  - (9) Streets opposite each other that end in a cul-de-sac shall have the same name with a non cul-de-sac street type.
  - (10) A street that intersects another and continues into a cul-de-sac should not change name or street type and is not considered a cul-de-sac.

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**SECTION II.** That all ordinances or resolutions or parts of ordinances or resolutions in conflict with the provisions of this ordinance are hereby repealed to the extent of such conflict.

**SECTION III.** That should any section or part of any section, paragraph or clause of this ordinance be declared invalid or unconstitutional for any reason, it shall not invalidate or impair the validity, force or effect of any other section or sections or part of a section or paragraph of this ordinance.

**SECTION IV.** That the Code of Ordinances of the City of Killeen, Texas, as amended, shall remain in full force and effect, save and except as amended by this ordinance.

**SECTION V.** That this ordinance shall be effective after its passage and publication according to law.

**PASSED AND APPROVED** at a regular meeting of the City Council of the City of Killeen, Texas, this 25<sup>th</sup> day of October, 2022, at which meeting a quorum was present, held in accordance with the provisions of V.T.C.A., Government Code, §551.001 *et seq.*

**APPROVED:**

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**Debbie Nash-King, MAYOR**

**ATTEST:**

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**Laura Calcote, INTERIM CITY SECRETARY**

**APPROVED AS TO FORM:**

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**Holli Clements, CITY ATTORNEY**