Burleson County Engineering Design Guidelines & Construction Standards

EFFECTIVE DATE: July 2024
MODIFIED DATE: November 2025

RESOLUTION & ORDER

These Design Guidelines shall be known as the Burleson County Engineering Design Guidelines and Construction Standards ("Design Guidelines").

These Design Guidelines shall apply to all new Applications received on or after the date these Design Guidelines were adopted by the Burleson County Commissioner's Court. Any Applications that were originally submitted prior to that date shall be subject to the Design Guidelines that were in effect at the time of the original submission.

Compliance with these Design Guidelines shall be a prerequisite to the approval of any subdivision and/or construction project by Burleson County, except insofar as they may conflict with any applicable state statute.

ACKNOWLEDGEMENTS

The following individuals contributed to the preparation and adoption of these Engineering Design Guidelines and Construction Standards:

BURLESON COUNTY COMMISSIONERS COURT

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ARTICLE 1. GENERAL PROVISIONS

101. General Information.

Purpose

It is the intent of these general Design Guidelines of Burleson County, Texas, to state the requirements for subdividers, developers, engineers, surveyors, realtors, and other persons interested and involved in the development of land. Furthermore, it is the intent, purpose, and scope of these Design Guidelines to promote and protect the health, safety, and general welfare of the public.

Presented herewith are the general requirements of the County Engineer for designing drainage facilities, paving, water lines, and sanitary sewer lines within Burleson County. These requirements are the general guidelines to inform the design engineers and contractors performing work in Burleson County of the Department's policies and procedures. In no way does the following information provide all answers to design and construction questions or situations; however, it does provide a means to initiate the design and construction of facilities in the manner utilized by the Burleson County Engineer.

The design of any public utility must be approved by the respective Utility Provider and/or the County Engineer prior to construction authorization. The construction of all public utilities shall be approved by the respective Utility Provider and/or the County Engineer before final acceptance and maintenance.

Authority

These Design Guidelines are adopted under the authority of the Constitution and laws of the State of Texas, including particularly:

1. Texas Local Government Code:
    a. Chapter 212, Regulation of Land Use, Structures, Businesses, and Related Activities
    b. Chapter 232, County Regulation of Subdivisions.
    c. Chapter 242, Authority of Municipality and County to Regulate Subdivisions In and Outside Municipality's Extraterritorial Jurisdiction; and
    d. Chapter 245, Issuance of Local Permits.
2. Texas Transportation Code:
    a. Chapter 251, General County Authority Relating to Roads and Bridges.
    b. Chapter 252, Systems of County Road Administration. Chapter 253, County Improvement of Subdivision Roads.
    c. Chapter 254, Drainage on Public Roads; and
    d. Chapter 255, County Regulation of Sight Distances.

102. Definitions of Terms and Abbreviations.

1. **ACI**
   American Concrete Institute.
2. **AI**
   The Asphalt Institute.
3. **ANSI**
   American National Standards Institute.
4. **ASTM**
   American Society for Testing Materials.
5. **Contract**
   The agreement between the developer and the contractor covering the furnishing of materials and performance of the work. The directions, provisions, and requirements contained herein or in special specifications, supplemented by such special provisions as may be issued or made pertaining to the method and manner of performing the work, or to quantities and quality of materials.
6. **Contractor**
   The individual, firm, or corporation or any combination thereof, with which the contract is made by a developer or the County. The work shall include the furnishing of all labor, materials, equipment, and other incidentals necessary or convenient to the duties and obligations imposed by the contract. County Engineer
   The County Engineer referenced in these guidelines is the engineer designated by the County Commissioner's Court to perform the duties described herein. The engineer may or may not be an employee of Burleson County.
7. **HOA**
   Home-Owners Association is the legal entity set up by the developer that has responsibility for maintaining Common Areas and enforcing Deed Restrictions
8. **Specifications**
   The directions, provisions, and requirements contained herein or as may be issued or made pertaining to the methods and manner of performing the work or quantities and qualities of materials to be furnished. Where reference is made to specifications of ASTM, AASHTO, AWWA, ANSI, or bulletins and manuals, it shall be construed to mean the latest standard or tentative standard in effect.
9. **Survey**
   A boundary or topographic map.
10. **TxDOT**
    Texas Department of Transportation
11. **Utilities**
    Facilities for public use, i.e., water, wastewater, and drainage, gas, telephone lines, electricity, cable television, etc.

103. Scope of Work.

It is the intent of plans and specifications submitted to the County for review to describe a complete work to be performed. Any changes or alterations to the plans and specifications must be prepared by the Engineer and approved by the County Engineer.

104. Control of Work.

Many new road, drainage and utility construction projects within Burleson County are performed by commercial and residential property developers. These constructed roadways, drainage and utility networks are intended to be conveyed to the County at the time of acceptance and turned over to the County for operation and maintenance. These facilities frequently represent significant additions to Burleson County's maintenance and operational responsibilities. The establishment of adequate quality control procedures for these types of projects is extremely important because the County is not able to exercise day-to-day control of the work.

Authority and Duties of Engineer.
The Engineer shall provide inspection, sampling and testing necessary for day-to-day job control. The Engineer or his representative shall inspect all work performed and all materials furnished to the project and bring any deficiencies in work or materials to the attention of both the Contractor and the County.

The Engineer shall see that all sampling and testing required by specifications or job site conditions, are performed by an independent Material Testing Laboratory. He shall also issue a letter of certification, at the completion of the work, acknowledging that the project was constructed in accordance with County approved plans, specifications, and special provisions.

Authority of County Engineer.
The County Engineer will decide all questions which may arise as to the quality or acceptability of materials furnished and work performed, the manner of performance, the interpretation of the County's construction requirements, and the acceptable fulfillment of the Developer/Contractor's obligations.

Authority and Duties of County Inspector.
County inspectors will be authorized to inspect the work done and all materials furnished. A County Inspector will be assigned to the work and will report to the County Engineer as to the progress of the work and the manner in which it is being performed, also to report whenever it appears that the material furnished and the work performed by the Developer/Contractor fail to fulfill the requirements of the specifications and to call attention of the Contractor to any such failure or other infringement. Such an inspection will not relieve the Developer/Contractor from any obligations to perform the work in accordance with the requirements of the specifications. In case of any dispute arising between the Developer/Contractor and the Inspector as to materials furnished or the manner of performing the work, the Inspector will have the authority to reject materials or suspend work until the question at issue can be referred to and decided by the County Engineer. The Inspector will not be authorized to approve or accept any portion of work. He will in no case act as foreman or perform other duties for the Developer/Contractor. The place, frequency and thoroughness of inspection will vary depending of the construction activity and the quality of work exhibited by the construction organization. The presence of a County Inspector does not relieve the Engineer of his inspection responsibilities.

Cooperation of Contractor.
The Contractor shall give the work his constant attention to facilitate the progress thereof and shall cooperate with the County and the Engineer in every way possible. He shall always have a satisfactory and competent superintendent on the work site.

Bond or Cash Deposit for Unsatisfactory Repairs or Damages
It will be the responsibility of the Contractor to post a bond or cash deposit in the amount affixed by the County Engineer to cover any damages incurred to County-maintained facilities or authorized franchise utilities during construction.

105. Control of Materials

Quality of Materials
All materials shall be new and of a quality conforming to the requirements of these specifications. Whenever the quality or kind of materials is not particularly specified, the materials shall be of the best grade in quality and workmanship obtainable in the market from firms of established good reputation.

Samples and Test
All properly installed materials, before being incorporated in the work, shall be inspected, tested, and approved. Subject to the approval of the County Engineer, pre-tested sampling and testing will be provided at the developer's expense, by a materials-testing firm approved by the County Engineer. All tests of materials shall be made in accordance with the County specifications and recognized practices.

Storage of Materials
Materials shall be stored and protected in accordance with the manufacturer's recommendations to insure the preservation of their quality and fitness for the work.

Defective Materials
All materials which do not conform to the requirements of the County specifications shall be considered as defective, and all such materials, whether in place or not, shall be rejected and immediately be removed from the site of work, unless otherwise permitted by the County Engineer. Rejected materials, the defects of which have been subsequently corrected, shall have the status of new materials, as approved by the County Engineer.

Hauling of Materials
Any vehicle, truck, truck-tractor, trailer or semi-trailer or combination of such vehicles, when used to deliver materials to a project shall comply with the State and City laws concerning gross weight and load limits. Special haul routes for construction traffic may be designated by the County Engineer within the unincorporated portions of Burleson County. The Developer/Contractor is responsible for the protection of all existing roads and small structures traveled by his material haulers. Any damage from construction equipment shall be restored to its original condition or replaced at the Contractors/Developers sole expense.

106. Legal Relations and Responsibilities to the Public

Laws to be Observed

The Developer/Contractor shall make himself familiar with and shall observe and comply with all Federal, State, and Local laws, ordinances, and regulations which in any manner affect the conduct of the work and shall indemnify and save harmless the County and its representatives against any claim arising from the violation of any such law, ordinance, or regulations, whether by himself or by his employees.

Permits, Licenses, and Taxes

The Developer/Contractor shall procure all permits and licenses, pay all charges, fees, and taxes, and give all notices necessary and incidental to the due and lawful prosecution of the work.

Sanitary Provisions

The Developer/Contractor shall, at his entire expense, provide and maintain in neat, sanitary conditions such accommodations for the use of his employees as necessary to comply with the requirements and regulations of the State Department of Health or of other authorities having jurisdiction.

Public Safety and Convenience

The safety of the public and the convenience of traffic shall be of primary importance. Unless approval has been given by the County Engineer, all portions of a roadway shall be kept open to traffic. It shall be the Contractor's entire responsibility to maintain and/or provide ingress and egress to adjacent private property. The Contractor shall plan and execute his operations in a manner that will cause the minimum interference with traffic. The Contractor shall secure the County Engineer's approval of his proposed plan of operation, sequence of work, and methods of providing for the safe passage of traffic before it is placed into operation. If at any time during construction, the approved plan does not accomplish the intended purpose due to weather or other conditions affecting the safe handling of traffic, the Contractor shall immediately make necessary changes therein to correct the unsatisfactory conditions. All equipment and materials shall be stored in such a manner and at such locations so as not to interfere with the safe passage of traffic. If in the opinion of the County Engineer the above requirements are not complied with, the County Engineer may direct such work as he may consider necessary, however, this shall not change the legal responsibilities. The expense for such work performed by the County will be borne by the Developer/Contractor.

Barricades and Danger, Warning, Detour Signs, and Traffic Handling

The Contractor shall have the sole responsibility for providing, installing, moving, replacing, maintaining, cleaning, and removing upon completion of the work all barricades, warning signs, barriers, cones, lights, signals, and other such type devices, and the handling of traffic. All barricades, warning signs, barriers, cones, lights, signals, and other such type devices shall conform to the Texas Manual of Uniform Traffic Control Devices for Streets and Highways, as amended.

Protection of Property.

The Developer/Contractor shall take proper measures to protect private and public property which might be injured or damaged by any process of construction; and in case of any injury or

damage resulting from any act or omission on the part of or on behalf of the Developer/Contractor, he shall restore, at his own expense, the damaged property to a condition equal to or better to that existing before such injury or damage was done, or he shall make good such injury or damage in an acceptable manner.

Responsibility for Damage Claims

The Developer/Contractor agrees to indemnify and be responsible for all damages or injury to property of any character occurring during the prosecution of the work resulting from any act, omission, neglect, or misconduct on his or his agent's part in the manner or method of executing the work; or from failure to properly execute the work; or from defective work or materials. The Developer/Contractor's attention is directed to the fact that the location of pipelines and other underground installations are not always exact. The Developer/Contractor shall save and hold harmless the County from all claims resulting from these responsibilities.

ARTICLE 2. GENERAL DESIGN PROCEDURES

201. Preliminary Research Requirements

Step one in the Preliminary Research Process is to contact all applicable County offices and discuss concepts outlining what is to be proposed and its usage. Depending on the location and size of development, the initial contact may be handled by phone or a meeting at the County Engineer. The Developer/Engineer should verify that no restrictions exist that will deny the approval of the concept. The Developer/Engineer should research all existing utilities and right-of- way and easement information with the ETJ Authority (Respective City), State, County and other authorities whose approval will be necessary for the proper use of the development. The Developer/Engineer shall research all laws, ordinances, rules and regulations that may pertain to the development.

202. Preliminary Design Requirements

The Developer/Engineer shall provide the County Engineer with all maps, plans, and calculations to support the proposed design. The information should generally follow the requirements for Final Design as outlined in Section 203 below. These exhibits will not be considered unless they have been prepared under the direction of a Licensed Professional Engineer in the State of Texas. All developments shall follow proper filing procedures through the City, County and comply with current regulations. Concurrence, at this point, between the Developer/Engineer and the County Engineer regarding the essential design data is desired to eliminate delay or inconvenience and to avoid the likelihood of having to re-design the detailed final plans.

203. Final Design Requirements

The following is a guideline of requirements for plan submittals to Burleson County; plans shall be submitted in digital format (.pdf) and will consist of but not be limited to:

1. One set of construction plans as described in Section 303.
2. Accompanying documents:
    a. TxDOT approvals for driveway and drainage into their jurisdiction (if applicable).
    b. Pipeline company approvals on pipeline letterhead (if applicable).
    c. Storm Water Quality Management Plan and Permit.
    d. Engineer's Cost Estimate of Public Infrastructure.
    e. An Engineer's Summary Letter shall be submitted outlining the nature of the project and any requests for the use of other standards from the design standards with justification for such applications.
    f. Traffic Impact Assessment (if applicable); and
    g. If County provided pavement designs shown in Section 405 are not utilized, provide one copy of the geotechnical report establishing pavement design standards based on AASHTO pavement thickness design for a full 20-year life and all pavement design calculations.
    h. Certification from Utility providers that adequate capacity for water and/or sewer is available.
    i. Letter from 911 Coordinator approving the subdivision name and road names.
    j. Letter from United States Postal Service approving mailbox locations.

204. Final Plan Approval

Approval from all governmental agencies, all utility providers, and respective City with ETJ Authority must be obtained prior to final plan approval. All developments shall conform to Burleson County's current regulations. All easements and rights-of-way required for the construction of a proposed project must be accepted and approved by all applicable governing entities and filed for record with Burleson County.

205. "As Built" Requirements

When the work provided for in the approved plans and specifications has been satisfactorily completed, "As Built" plans will be required to replace the approved plans that are on file at the Burleson County Road & Bridge office. These plans shall be labeled "As Built" and certified and dated by the Contractor.

Contractor As-Built Set Certification:

I, _____, General Contractor for _____, certify that the improvements shown on this sheet were actually built, and that said improvements are shown substantially hereon. I hereby certify that to the best of my knowledge, that the materials of construction and sizes of manufactured items, if any, are stated correctly hereon.

_____(General Contractor)

Engineer As-Built Drainage Certification:

"I hereby attest that I am familiar with the approved drainage plan and associated construction drawings and, furthermore, attest that the drainage facilities have been constructed in accordance with the Burleson County Engineering Design Guidelines and in accordance with the approved construction plans or amendments thereto approved by Burleson County Road & Bridge. Furthermore, we attest that any public or private detention pond constructed with the project is built within dimensional tolerances specified in the Burleson County Engineering Design Guidelines and in accordance with the approved construction plan or amendments thereto."

_____

Licensed Professional Engineer

State of Texas No._____

An electronic set of the final as-built plans will be required to be submitted to the Burleson County Road & Bridge's office for future reference.

All public facilities shall be shown to be located within public rights-of-ways or appropriate easement.

ARTICLE 3. GENERAL DESIGN AND PLAN REQUIREMENTS

301. Survey Requirements

The following guidelines are suggested for use by Engineers in the development of plans. The intention of these requirements is to provide all the evidence available for the proper location of improvements within functional and legal boundaries. All survey activity shall be performed under the direction of a qualified professional and in accordance with the Texas Society of Professional Surveyors Manual of Practice and TxDOT Survey Manual.

Field Work Required for Plans

Field Work Required for Plans. The transit or base line must be monumented at its beginning, end, and at all angle points with markers of a permanent nature. Monuments shall be set on long lines at intervals not to exceed 1000 feet.

The existing right-of-way monuments or property corners that are found must be plainly shown on the plans and located by station and distance, "Right" or "Left" from the transit line or construction center line. Those monuments that were used to determine the construction center line, must be identified as "control points", and their relationship to the construction center line and to proposed or existing right-of-way lines must also be shown.

NAVD 88 vertical datum must be used for elevations, and the complete numerical designation of the monuments must be identified on the plans, as well as the year of the datum of the monuments must also be identified on the plans. NAD 83 horizontal datum must be used on all projects. All monumentation shall be referenced and tied to a survey control monument as provided in the Burleson County Survey Monument Report (2014).

Plans must show centerline angles of intersections of side streets with the main roadway and the centerline station on the main roadway. Where bearings are used, care should be taken so that bearings are shown on both base line and constructions center line. The source of the bearings shall be clearly stated.

All topographic features within the right-of-way must be shown. The topography on intersecting streets shall be shown twenty feet beyond the intersection of the right-of-way lines.

Where plans identify proposed utility lines, the location of manholes, service connections, angle points, valves, fire hydrants, bends, etc. must be identified by station and distance from transit or baseline with relationship to the right-of-way lines.

All existing pipelines, utilities, and other features that may conflict with design shall be field verified for actual location

All cross sections taken will be made at intervals not to exceed 50 feet. Elevation shots shall be taken on the centerline of all driveways at approximately the existing or proposed right-of-way line.

302. Drainage Plans and Report

Drainage Plans shall be submitted as part of the Engineering Plans showing details for all drainage structures such as ditches, culverts, inlets, bridges, detention ponds or other similar structures. A Drainage Report shall also be submitted describing the methods, assumptions and calculations used in the design of the drainage structures. The designs shall be prepared using industry standard software & methods for hydrology and hydraulics such as HEC-HMS, HEC-RAS, Rational Equation, NRCS Methods, Manning's Equations or others as selected by the Engineer of Record.

303. Construction Plan Set Requirements

1. Construction plan sets shall consist of the following sheets where applicable:
   a. Cover sheet with vicinity map, sheet index, signature block and preconstruction meeting note.
   b. Construction and/or general notes.
   c. Overall project or site plan layout sheet.
   d. Topographic survey sheet(s).
   e. Final Plat.
   f. Typical Road Sections.
   g. Road Plan & Profiles (w/horizontal and vertical curve data).
   h. Paving Plan.
   i. Striping and Signage Plans.
   j. Traffic Control Plan.
   k. Overall Drainage and Grading Plan Layout.
   l. Culvert Plan and Profiles.
   m. Stormwater Pollution Prevention Plan.
   n. Utility Layouts.
   o. Utility Plan and Profiles (water, sanitary, storm), if applicable.
   p. Detail Sheets.
   q. Specialty Sheets as needed; and
   r. All plans shall show a Project Benchmark located with State Plane Coordinates noted on the plans.

304. Graphic Requirements

1. Plans shall be prepared on a sheet size of 24" X 36" in its AutoCAD Layout. Submittals will be in .pdf format.
2. The seal, date, and original signature of a Licensed Professional Engineer in the State of Texas are required on each sheet.
3. Name, address, telephone number and email address of the professional individual or firm responsible for the preparation of the plans.
4. County boundaries, city limits, and subdivision section and/or phase boundaries.
5. For all projects involving public infrastructure, add the following note:

   A PRE- CONSTRUCTION MEETING WITH THE COUNTY ENGINEER IS REQUIRED AT LEAST 10 WORKING DAYS PRIOR TO ON SITE CONSTRUCTION ACTIVITIES. CONTACT THE COUNTY JUDGE'S OFFICE (979-567-2333) TO SCHEDULE A MEETING. A PRE-CONSTRUCTION MEETING FOR THIS PROJECT MAY NOT BE SCHEDULED AND CONSTRUCTION OF THE PROJECT MAY NOT COMMENCE PRIOR

TO WRITTEN APPROVAL OF THESE PLANS BY THE BURLESON COUNTY.

6. Key overall layouts may be drawn at a scale of 1" = 100'. Major thoroughfares or special intersections/situations plan and profile should be drawn at a scale of 1" = 2' vertical; 1" = 20' horizontal and plan. Minor streets and easements plan and profile should be drawn at a scale of 1" = 5' vertical; 1" = 50' horizontal and plan, or 1" = 4' vertical; 1" = 40' horizontal and plan.
7. Details of special structures and standard details, such as stream and gully crossings, special manholes, etc., should be drawn with the equal vertical and horizontal scales.
8. Temporary benchmarks and project datum shall be described on each sheet.
9. The construction plans shall indicate the location of the 100-year floodplain (as determined by the results of an engineering study or as established by FEMA).
10. A benchmark shall be established and indicated on the construction plans. The location, description and elevation of the benchmark are required to be identified within the construction plans. The elevation of this benchmark shall utilize the same vertical datum as that used in the engineering study or FEMA as applicable.
11. Label each plan sheet with road names, road widths, right-of-way widths, pavement width and thickness, type of roadway materials, curbs, intersection radii, curve data, stationing, existing utilities type, location, etc.
12. Stationing must run from left to right, except for short streets or lines originating from a major intersection where the full length can be shown on one single plan and profile sheet.
13. A north arrow is required on all sheets and should be oriented either upward or to the right. It is the intent of this requirement that all stationing should start from cardinal points of the compass and proceed in the direction of construction.
14. Show all lot lines, property lines, right-or-way lines, and easement lines.
15. If a roadway exists where plans are being proposed to improve or construct new pavement or to construct a utility, this roadway should be labeled as to its existing width, type of surface, and base thickness.
16. All utility lines within the right-of-way or construction area should be shown in the profile view. All utility lines, regardless of size, should be shown in the plan view.
17. Show flow line elevations and direction of flow of all existing ditches.
18. Show natural ground profiles and proposed ditch flowline at each ditch centerline.
19. The diameter and length for each culvert shall be labeled on the construction plans. A plan and profile for each culvert shall be provided.
20. Resolve all construction conflicts of proposed utilities and facilities with existing or future utilities or facilities.
21. If the roads within the Subdivision are private, a sign shall be placed at the entrance of the Subdivision clearly stating that the roads in the Subdivision are privately maintained roads. The location of this sign shall be shown on the construction plans.
22. All street and/or road alignments shall be shown on the plans. Plans shall be drawn to accurate scale, showing proposed pavement typical cross section and details, lines and grades, and all existing topography within the street right-of-way; and at intersections, the cross street shall be shown at sufficient distance in each direction along the cross street for designing adequate street crossings.
23. Centerline grades are acceptable for paving without curbs and gutters. Curb return elevation for decel/accel lanes shall be shown in the profile. Grades should be labeled for the top of the curb except at railroad crossings. Gutter elevations are required for vertical curves where a railroad track is being crossed.
24. The centerline length of each road in the proposed subdivision and its design speed shall be indicated on the construction plans.
25. The surface elevation at the property line of all existing driveways should be shown in the profile.

26. The design of both roadways is required on all pavement sections with a median. Station all median noses, both existing and proposed.
27. Station all P.C.'s, P.T.'s, radius returns, and grade change P.I.'s in the profile with their respective elevations.

305. General Utility Locations

All utilities shall be placed in easements around the perimeter of lots except where they cross public right-of way. Easements shall be Public Utility Easements (PUE) unless approved by the County Engineer.

Utilities that cross public right-of-way shall meet the following criteria:

- Lines must be cased in Sch 40 steel or Sch 40 PVC pipe that is at least one standard pipe size larger than the bell diameter of the utility line.
- Casing pipe shall extend a minimum of 3 feet beyond the right-of-way line.
- The top of the casing shall be at least twenty-four (24) inches below ditch flow line.

306. Easement Requirements

Easements shall be provided for all drainage and utilities per the easement requirements outlined in the most current Burleson County Subdivision Regulations, Article 7.

In the case where a road is constructed with significant cut or fill wherein the required 4:1 slope extends beyond the dedicated Right-of-way then a slope easement shall be required. This slope easement shall be a minimum 16 feet in width adjacent to and outside of the right-of-way to protect the 4:1 slope from being encroached upon by a private retaining wall.

ARTICLE 4. ROAD DESIGN

401. General

Standards established by Burleson County for the design and construction of its roads shall provide for pavements with long service life and low maintenance. The Engineer shall take into consideration the road classification and traffic which will include the axle weights and volumes, thickness design, surface material quality, base material quality, sub-grade material quality, geometric design, and jointing.

Standards of this publication shall be considered minimum for any specific location and the Engineer should base his design upon the actual conditions which exist within the development under consideration for design.

402. General Information

The County Engineer will review all plans for construction or upgrading of streets or roads in the County Road System to include, but not limited to:

1. New construction
2. Staged development of roadways (overlays)
3. Roadway widening
4. Appurtenant roadway improvements such as storm drains and curb and gutter.
5. Encroachments

To be eligible for acceptance into the County Road System, a street or road must be designed and constructed in accordance with these standards and approved by the County Engineer. In general, roadways should be designed for the anticipated traffic volume twenty (20) years from the proposed date of construction. Special conditions such as long-range planning studies, industrial parks, proposed interstate facilities, etc. should be considered in the design.

403. Subdivision Entrances

1. The entrance road(s) into a subdivision shall not be constructed in the 100-year floodplain unless it is elevated at least one foot above the floodplain elevation.
2. Subdivisions with more than 30 lots or dwelling units must have at least two entrances from a public roadway for ingress and egress by emergency responders.
3. Subdivisions with 30 to 49 may use an emergency roadway on a public access easement with an all-weather surface consisting of a treated subgrade and compacted road base as described in Sections 405.
4. Subdivisions with 50 or more shall have at least two roadways with asphalt surfaces on public right-of-way for ingress and egress.

(Note: this requires a change to the Subd Ordinance which says 150 lots or dwelling units)

404. Roadway Design Standards

Design standards, unless specifically identified, shall be standards that are found in common usage by the Texas Department of Transportation. Design guidelines shall conform to the formulae, principles, and guidelines set forth in *A Policy on Geometric Design of Highways and Streets*, latest edition, as developed by the *American Association of State Highway and Transportation Officials (AASHTO)*. Rural roadways in roadways in Burleson County shall generally fall into one of the following three classifications.

a. Collectors Roads provide a balance between mobility and access, primarily serving to collect traffic from local roads and provide connections to larger highways.
b. Local roads serve traffic within a neighborhood or limited residential district and is not continuous through several residential districts.
c. Private Roads serve the same function as local roads except they are privately owned and maintained.

Table 4.1 below summarizes roadway design requirements based on the roadway classification.

Table 4.1 - SUMMARY OF BURLESON COUNTY ROAD STANDARDS

	Collector	Local Road	Private Road
Minimum ROW (ft)	80	70	60
Design Speed (mph)	30	30	30
Base Width (ft)	30	26	24
Paved Width (ft)	28	24	22
Lane Width (ft)	14	12	11
Unpaved Shoulder Width (ft)	3	3	3
Vertical Curve Crest K (minimum)	61	19	12
Vertical Curve Sag K (minimum)	79	37	26
Cross Slope Grade %	3	3	3
Horizontal Curve Radius (ft minimum)	1000	350	200
Stopping Sight Distance (ft minimum)	400	200	155
Minimum Radius at Intersections (ft)	25	25	25
Maximum Grade %	6	6	6
Ditch Front Slope (H:V)	4:1	4:1	4:1
Ditch Back Slope (H:V)	3:1	3:1	3:1
Minimum Cul-De-Sac ROW Radius (ft)	NA	60	60
Minimum Cul-De-Sac Pavement Radius (ft)	NA	45	45
Intersection Street Angle (degrees)	80-100	80-100	80-100

Related Design Requirements

1. Vertical Alignment
   a. Changes in grades of over 0.8% shall be connected by vertical curves.
   b. Vertical Curves: Minimum length (L) of vertical curves shall be one hundred (100) feet or shall conform to the formula:

      $$L = KA$$, whichever is greater

      where ***A*** is the algebraic difference in the tangent approach grades expressed as a whole number, and ***K*** is shown in Table 4.1 for sag and crest vertical curves
2. Cul-De-Sacs and Dead Ends:
   a. Cul-De-Sacs shall be a maximum of two thousand five hundred (2,500) feet or contain a maximum of thirty (30) lots.
   b. All permanent dead-end streets are to terminate in a paved turnaround with a minimum paved radius and right-of-way radius as shown in Table 4.1.
   c. Dead-End Streets may be carried to the boundaries of adjoining property when appropriate for future extension of the roadway. When this extension occurs, ownership of the chords of the circular right-of-way at the turnaround may revert to the adjoining lot owners with consent of the County Commission.
   d. No driveway access to the turnaround of a dead-end street will be allowed.
3. Intersections:
   a. The centerlines of no more than two (2) streets shall intersect at any one (1) point.
   b. All intersecting roads should intersect at 90-degree angles. Where this is not possible, an adjustment up to the angles shown in Table 4.1 may be allowed if the right-of-way area located on the acute angle side of the intersection is fully cleared of all trees, brush and other obstructions for a distance of at least twenty-five (25) feet from both intersecting roadways. A right-of-way corner clip shall be further provided on the acute angle side.
   c. Intersections within a horizontal curve are permitted provided that the intersecting road has a one hundred and fifty (150) feet minimum tangent at the intersection and the required corner sight distance is maintained. Curb Radius shall be in accordance with those shown in Table 4.1.
4. Roadway Shoulders:
   a. Following installation of the pavement surface, unpaved shoulders must be raised and compacted so that they match the elevation of the pavement.
5. Utility and Culvert Trenches:
   a. All underground utilities and culvert trenches crossing the right of way shall be backfilled with structural embedment and cement-stabilized sand backfill in accordance with manufacturer's requirements. All underground utility lines (including service lines) that cross a County roadway shall be installed in a Sch 40 steel or Sch 40 PVC casing pipe that has an inside diameter at least one standard diameter size larger than the bell connectors of the utility line. The casing pipe shall extend beyond the limits of the County right-of-way and be at least one foot below the flowline of the roadside ditches or other drainage structures.
6. Tee intersections or Street Jogs must have at least 300 feet between centerlines.
7. Medians and vegetated islands are not allowed on County roadways.

405. Pavement Design

Flexible Pavements – HMAC

STREET CLASSIFICATION	USCS GROUP SYMBOL	SUBGRADE TREATMENT	BASE MATERIAL	SURFACE TREATMENT
LOCAL ROAD (Including Private Roads)	All Soil Types	8-in.	6-in.	2-in. HMAC
COLLECTOR	CH	8-in.	12-in.	2-in. HMAC
	CL		9-in.	
	SC		6-in.	
	SM		6-in.	

Notes:

1. The Subgrade Treatment shall be determined by a geotechnical engineer who has tested and analyzed the soil characteristics to determine the appropriate soil amendments. The geotechnical engineer's report and recommendation shall be submitted to the County Engineer prior to plan approval.
2. The Subgrade installation shall conform to TxDOT Item 260 for lime stabilization or TxDOT Item 275 for cement stabilization.
3. The Base Material shall conform to TxDOT Item 247 (Type A, Class 1-2).
4. Hot Mix Asphaltic Concrete (HMAC) shall conform to TxDOT Item 341 DG-D.

Rigid Pavements

STREET CLASSIFICATION	USCS GROUP SYMBOL	SUBGRADE TREATMENT	CONCRETE PAVEMENT
LOCAL ROAD (including Private Roads)	All Soil Types	8-in. Sub-Base Layer	6-in.
COLLECTOR	CH	8-in. Sub-Base Layer	7-in.
	CL		7-in.
	SC		6-in.
	SM		6-in.

Notes:

1. The Subgrade Treatment shall be determined by a geotechnical engineer who has tested and analyzed the soil characteristics to determine the appropriate soil amendments. The geotechnical engineer's report and recommendation shall be submitted to the County Engineer prior to plan approval.
2. The Subgrade installation shall conform to TxDOT Item 260 for lime stabilization or TxDOT Item 275 for cement stabilization.
3. The Concrete Pavement shall conform to TxDOT Item 360 (3200 psi @28 days, #4 rebar @12" OCEW)

406. Road Names and Road Signs

1. Road names for new subdivision roads should be suggested by the Applicant and shall conform to the County's adopted standards. Road names are approved along with plat approval by the Commissioners Court.
2. The Applicant shall install all road name signs on new roads when they are constructed in accordance with the standards and specifications of the County.
3. The Applicant shall be required to install any traffic control signs or devices, in accordance with the Texas Manual on Uniform Traffic Control Devices following review by the County Engineer and/or County Commissioner.
4. Aluminum Sign Blanks: All sign blanks must meet or exceed TxDOT Departmental Materials Specification DMS-7110. Minimum Thickness for Signs less than seven and a half (<7.5) square feet shall be 0.08-inches. Minimum Thickness for Signs greater than seven and a half (>7.5) square feet shall be 0.10-inches.
5. Plywood Sign Blanks will not be accepted.
6. Unless otherwise specified when order is placed, all sign items (except for Street Name Signs) shall meet or exceed requirements of Type III Prismatic Retroreflective Sheeting as per the Texas Manual on Uniform Control Devices, latest edition, for the items designated. Type III (or greater) Sign Face Materials must meet Sheeting and Material Requirements in TxDOT Departmental Material Specifications DMS-83.

407. Construction Requirements

1. A preconstruction meeting shall be scheduled prior to the start of construction. The Design Engineer, Owner, Contractor, Subcontractors, and County Engineer shall attend this meeting.

2. All elements of roadway and storm drain system construction, in both Structural and Non-Structural Zones must be inspected and approved by the County Engineer's Office as a prerequisite for acceptance by Burleson County. This will include, but is not limited to:
   a. Subgrade Surface after clearing and grubbing.
   b. Storm Drain System and all related structures.
   c. Detention/Retention Ponds.
   d. Embankments.
   e. Utilities relocated within the structural zone.
   f. Subgrade for roads.
   g. Base Course.
   h. Asphalt Paving.
   i. Finished grade of road right-of-way; and
   j. Permanent Vegetation Establishment.

3. It is the contractor's responsibility to ensure the County Engineer's office is notified upon completion of each phase of construction and can make their inspections before proceeding to the next phase. The inspections conducted by the County Engineer's office are for the protection of Burleson County only. They are not intended to certify the contractor's satisfactory discharge of his obligation to the owner, nor do they relieve the project engineer from any of his responsibilities

regarding inspection and contract administration.

4. All construction and materials shall comply with the latest edition of the TxDOT Standard Specifications for Highway Construction unless specifically noted otherwise herein. These requirements and TxDOT specifications shall supersede the engineer's specifications in the event of a discrepancy.

5. The contractor is responsible for providing all geotechnical and materials testing and the accompanying documentation at no cost to the County. Any material which does not meet the minimum required test specifications shall be removed and recompacted or replaced unless alternative remedial action is approved in writing by the County Engineer.

6. Erosion Control: Before starting any grading work, install sediment and erosion control measures per the approved plans to protect any downstream water bodies. The contractor is responsible for implementation and weekly or bi-weekly monitoring of the sediment and erosion control plan in accordance with TCEQ Regulations, insuring inspection logs are always available on site, and for ensuring that silt and sediment do not leave the site.

7. Inspections: Requests for any inspection must be made to the County Engineer at least forty-eight (48) hours in advance.

8. The County Engineer's office may withhold approval at any stage of construction, including final approval, for failure to comply with these regulations.

9. Final Inspection may be requested once all the paving and all utility, storm drainage and associated work is completed as well as the following items:
   a. Permanent grass on road shoulders; cut and fill slopes and easements; ditches.
   b. Fence around detention ponds.
   c. Street name signs (County Standard or an approved alternate).
   d. Traffic control signs (per Texas MUTCD); and
   e. As-built Drawings.

10. As a prerequisite to conducting the final inspection, the following must be provided:
    - Digital submission of the Final Plat in .pdf and AutoCAD .dwg formats.
    - Digital submission of as-built plans.
    - Right of way deeds for roads and drainage system.
    - Two (2) year maintenance bond for road and drainage systems; and
    - Documentation of construction materials testing.

11. A written punch list of deficiencies found during the final inspection will be provided by the County Engineer. All items should be completed before requesting a re-inspection.

12. Final Approval: Upon satisfactory completion of all punch list items, a construction approval letter of the streets and drainage system will be issued by the County Engineer. Construction approval does not convey the intent of Burleson County to provide maintenance acceptance. Construction

approval initiates the two (2) year warranty period as described in Burleson County Subdivision Regulations Article 10.

NOTE: Failure to comply with any of the listed requirements could render the streets and storm drainage systems ineligible for acceptance by Burleson County.

ARTICLE 5. HYDROLOGY

Introduction Analysis Methods

The two types of hydrologic analyses most often required are the computation of the peak discharge at a specific location and the computation of a hydrograph at a specific location. Two methods are recommended for computation of peak discharges and two methods are recommended for computation of hydrographs.

501. The Rational Method

The Rational Method is appropriate for estimating peak discharges for small drainage areas.

- Rural Subdivisions up to about 200 acres with no significant flood storage.
- Urban Subdivisions and urban areas of the County up to 50 acres with no significant flood storage.

The rational method represents a steady inflow-outflow condition of the watershed during the peak intensity of the design storm. *Any storage features having sufficient volume that they do not completely fill and reach a steady inflow-outflow condition during the duration of the design storm cannot be properly represented with the Rational Method. Such features include detention ponds, channels with significant volume, and floodplain storage.* When these features are present, an alternate rainfall-runoff method is required that accounts for the time-varying nature of the design storm and/or filling/emptying of floodplain storage. In these cases, the hydrograph method is recommended.

1. Variables:
   The Rational Method formula shall be expressed as:

$$Q = ciA$$

Equation 5-1

   Where the variables are defined below.
   - **"Q"** is the discharge in exact units of acre-inches per hour and accepted to be equivalent to units of cubic feet per second (cfs). This value is taken as the peak or highest discharge expected at a designated design point.
   - **"c"** is a coefficient, having no units, that represents the average runoff characteristics of the land cover within the drainage area delineated for a designated design point.
   - **"i"** is the rainfall intensity in units of inches per hour (in/hr.).
   - **"A"** is the area of land in acres that contributes stormwater runoff that passes through or at a designated design point.

2. Intensity-Duration-Frequency (IDF) Relationship:
   Rainfall intensity (i) is defined as the average rate of rainfall in inches per hour.
   Duration is assumed to be the time of concentration (t_c). Rainfall intensities should be obtained from the latest NOAA Precipitation Frequency Data Server (PFDS) at the following link.

   https://hdsc.nws.noaa.gov/pfds/

3. Time of Concentration
   Time of Concentration (t_c) is the theoretical time required for a drop of rain to travel from the most hydraulically remote point in a Design Drainage Area to a point where storm flow is to be determined (the point of calculation).

4. Runoff Coefficients

Table 5.2 applies to rural watersheds only. For each of four aspects, the designer makes a systematic assignment of a runoff coefficient "component." Using Equation 5-2, the four assigned components are added to form an overall runoff coefficient for the specific watershed segment.

The runoff coefficient for rural watersheds is given by:

$$C = C_r + C_i + C_v + C_s$$

Equation 5-2

Where:

C = runoff coefficient for rural watershed
C_r = component of coefficient accounting for watershed relief C_i = component of coefficient accounting for soil infiltration C_v = component of coefficient accounting for vegetal cover
C_s = component of coefficient accounting for surface type

The designer selects the most appropriate values for C_r, C_i, C_v, and C_s from Table 5.2.

Table 5.2: Runoff Coefficients for Rural Watersheds

Watershed Characteristic	Extreme	High	Normal	Low
Relief - C_r	0.28-0.35 Steep, rugged terrain with average slopes above 30%	0.20-0.28 Hilly, with average slopes of 10-30%	0.14-0.20 Rolling, with aver-age slopes of 5-10%	0.08-0.14 Relatively flat land, with average slopes of 0-5%
Soil infiltration - C_i	0.12-0.16 No effective soil cover; either rock or thin soil mantle of negligible infil-tration capacity	0.08-0.12 Slow to take up water, clay or shallow loam soils of low infiltration capacity or poorly drained	0.06-0.08 Normal; well drained light or medium textured soils, sandy loams	0.04-0.06 Deep sand or other soil that takes up water readily, very light, well-drained soils
Vegetal cover - C_v	0.12-0.16 No effective plant cover, bare or very sparse cover	0.08-0.12 Poor to fair; clean cultivation, crops or poor natural cover, less than 20% of drainage area has good cover	0.06-0.08 Fair to good; about 50% of area in good grassland or wood-land, not more than 50% of area in cul-tivated crops	0.04-0.06 Good to excellent; about 90% of drain-age area in good grassland, wood-land, or equivalent cover
Surface Storage - C_s	0.10-0.12 Negligible; surface depressions few and shallow, drainageways steep and small, no marshes	0.08-0.10 Well-defined system of small drainageways, no ponds or marshes	0.06-0.08 Normal; consider-able surface depression, e.g., storage lakes and ponds and marshes	0.04-0.06 Much surface storage, drainage system not sharply defined; large floodplain stor-age, large number of ponds or marshes

502. Natural Resource Conservation Service (formerly SCS) Methods

For large watersheds and/or when storage features such as detention ponds are required, one of these hydrology methods shall be used.

1. Natural Resource Conservation Service (NRCS) Methods
   Technical Release No. 55 Methods are for use in determining stormwater discharges and hydrographs in the Secondary Drainage System only and for drainage areas not exceeding 2000 acres. These methods are applicable to drainage areas of 50 to 2000 acres.
2. Dimensionless Unit Hydrograph Method
   When analyzing a primary drainage system, this method must be used.

ARTICLE 6. DRAINAGE STRUCTURES

Open Channels

Open Channels and Ditches. Open channels and ditches shall be constructed to proper cross-section, grade and alignment to function properly without causing destructive velocities.

1. The minimum slope shall be 0.5% unless otherwise approved by the Engineer.
2. The maximum velocity along an earthen or vegetated channel shall be 2.5 fps. Velocities greater than 2.5 fps shall require the channel to be lined with erosion control materials such as fabric, riprap, concrete or other materials suitable for the estimated velocities.
3. All other ditches and channels without lining shall be seeded or sodded to establish permanent vegetation with a minimum of 90% coverage.

Street Drainage/Storm Drain Inlets/Storm Drainage Systems

All street drainage, storm drain inlets, storm drainage systems shall be designed in accordance with the City of Caldwell Design Guidelines.

Culverts in Public Right-of-Way or Public Easements (excluding driveway culverts)

1. All culverts shall be designed in accordance with the TxDOT Hydraulic Design Manual.
2. Culverts shall be of sufficient size to ensure the capacity to carry anticipated drainage waters.
    a. 100-year storm for roadways that provide the only public access to lots in a subdivision.
    b. A 25-year storm for all other culverts.
    c. For sites in a 100-year flood plain, calculations to support or justify the size of pipes to be used must be provided.
3. Culverts shall extend a minimum of 10 feet beyond the edge of pavement.
4. Access to both ends of the culvert from the roadway must be provided within the right-of-way. The right-of-way shall be widened to a minimum of 100 feet at culvert crossings larger than 36” diameter.
5. Culverts may be constructed using corrugated metal pipe (CMP), reinforced concrete pipe (RCP), corrugated HDPE pipe (such as ADS Pipe) or concrete box culverts.
6. Minimum culvert diameter is 18”.
7. Culverts shall have a minimum slope of 1%.
8. Culverts shall have a minimum cover of 6” of crushed limestone road base.
9. All culverts shall be fitted with a Safety End Treatment (SET). SETs for culverts parallel to the roadway shall be 6:1 slope. SETs for culverts crossing the roadway shall be 4:1.
10. Appurtenances such as junction boxes, inlets, SETs and manholes shall be constructed using reinforced concrete with a minimum of 3500 psi compressive strength.
11. Roadway crossings with culverts larger than 36” diameter shall have guardrails designed in accordance with the TxDOT Roadside Design Manual Appendix A – Longitudinal Barriers Sections 1-4 and Sections 6-7. They should be MASH compliant and installed in accordance with the latest TxDOT standards.

Bridges

1. All span bridges shall be designed in accordance with the TxDOT Bridge Design Manual.

ARTICLE 7. DOWNSTREAM ASSESSMENTS & DETENTION

The increase in stormwater runoff caused by development must be analyzed to determine its impact on downstream property. This analysis shall be incorporated into the Drainage Report described in Section 302 and shall include:

a. Pre- and post-development flowrates,
b. The drainage path downstream of the development to a point where the discharge no longer has a significant impact,
c. Increases in downstream water surface elevation (WSEL),
d. Increases in downstream water velocity and erosion impacts on streambanks,
e. Conveyance capacity of downstream channels and structures,
f. Location within the drainage basin,
g. Proximity to known areas where flooding commonly occurs,

The Drainage Report shall identify solutions to any of the issues identified by this analysis and incorporate them into the Final Plans for the development. **In the absence of potential flooding issues identified by this analysis, stormwater detention will generally not be required when:**

- **the increases for post-development peak flowrates are 5% or less than the pre-development flowrates, and**
- **the downstream WSEL does not increase more than 0.10 feet at the point of outfall into adjoining property.**

Calculations for peak flowrates shall analyze the 5, 10, 25, 50 and 100-year rainfall events. The County Engineer shall have the discretion to allow higher or require lower increases in the post-development WSEL when deemed appropriate for specific locations in the watershed.

When detention is determined to be necessary, the basins may be site-specific, or may be designed for a specific land development project comprised of multiple lots, streets, utilities, and other infrastructure elements. In any case, their primary purpose is to protect immediate downstream properties and drainage system from excessive stormflow. These Guidelines are largely oriented toward development of “dry-type” facilities. However, where topographic, water, and other physical characteristics make it feasible to design viable “wetland-type” facilities, they are encouraged.

Physical Characteristics for Dry-Type Facilities

1. Side slopes shall not exceed 4:1 for vegetative cover and 2:1 for non-vegetative cover. Non-vegetative cover shall be concrete slope paving unless otherwise approved by the County.
2. Bottom slopes must be a minimum of 3 percent (3%) for a vegetative cover and 0.3 % for a flume section between the inflow point and the low flow outlet.
3. A low-flow flume of concrete shall be provided for all facilities proposed to have a bottom with vegetative cover.
4. A maintenance driveway at least 10 feet in width shall be provided around the perimeter of the basin for access and maintenance.
5. The design storage capacity of detention facilities shall be increased by ten percent (10%) to allow for sedimentation.
6. All detention facilities shall be fitted with an emergency overflow feature that discharges into a recognized drainage facility acceptable to the County Engineer.
    - The geometry of an emergency overflow structure shall be that of a rectangular or trapezoidal weir.
    - The surface treatment of the structure and its discharge path to a recognized drainage facility shall give due regard to maintenance.

- Velocities shall be limited to be consistent with the proposed surface treatments to prevent erosion, prevent undercutting of structural components, and avoid other maintenance difficulties.
- The elevation of the weir crest shall not be less than the water surface elevation resulting from the design 100-year storm, assuming a fully operating discharge structure.

7. The entire perimeter of the facility shall have at least one half (0.5) foot of freeboard above the water surface elevation generated by the 100-year storm assuming buildout conditions of the Design Drainage Area, a completely clogged discharge structure, and a fully functioning spillway.
8. When parking areas are used as detention basins, the maximum design storage depth, based on site buildout conditions, shall not exceed six (6) inches.
9. Retention (Permanent Storage) Facilities: All facilities located astride natural streams or water courses that are designed with a permanent storage component shall meet all design and construction criteria for dams and reservoirs as required by the Texas Commission on Environmental Quality (TCEQ).
10. Maintenance of detention facilities is the responsibility of the owner or HOA and shall be performed regularly to ensure that it continues to function as designed. Typical maintenance for these facilities includes:

    - Mowing and vegetation control
    - Removal of trash and debris
    - Clearing of outlet control structures
    - Removal of accumulated sediment
    - Grading or reshaping to maintain design elevations & volumes

ARTICLE 8. PUBLIC UTILITIES

All extensions of municipal water, sewer, gas or electrical utilities shall be designed and constructed in accordance with the standards of the owner of the utility and submitted to the owner for review/approval. ***These lines shall not be allowed in County right-of-way except for crossings and service lines.*** All designs must be prepared by a Licensed Professional Engineer in the State of Texas.

Water

1. Where an adequate supply of water is available, the installation of fire hydrants is required to meet the design standards of the City of Caldwell or the Utility District that will own the system. A Water Report showing that all fire hydrants can meet the required fire flow, velocity and pressure requirements shall be submitted to the County Engineer.
2. Where there is not an adequate supply of water, the Burleson County Commissioner's Court requires a limited fire suppression system that requires a Developer to construct:
   a. For a Subdivision of fewer than fifty (50) houses, two thousand five hundred (2,500) gallons of storage; or
   b. For a Subdivision of fifty (50) or more houses, two thousand five hundred (2,500) gallons of storage with a centralized water system or five thousand (5,000) gallons of storage.
3. All Rural Subdivisions must have access to either a Public Water System or provide Private Water Supply in accordance with Texas Local Government Code Section 232.0032 below:
   a. If a person submits a plat for the Subdivision of a tract of land for which the source of the water supply intended for the Subdivision is groundwater under that land, the Commissioners Court of a county by order may require the Plat Application to have attached to it a statement that:
      (1.) is prepared by an engineer licensed to practice in this state or a geoscientist licensed to practice in this state.
      (2.) certifies that adequate groundwater is available for the Subdivision for 50 years and approval by the Post Oak Savannah Groundwater Conservation District for the well.
   b. The Texas Commission on Environmental Quality by rule shall establish the appropriate form and content of a certification to be attached to a Plat Application under this section.
   c. The Texas Commission on Environmental Quality, in consultation with the Texas Water Development Board, by rule shall require a person who submits a plat under Subsection (a) to transmit to the Texas Water Development Board and any groundwater conservation district that includes in the district's boundaries any part of the Subdivision information that would be useful in:
      (1.) performing groundwater conservation district activities;
      (2.) conducting regional water planning.
      (3.) maintaining the state's groundwater database; or
      (4.) conducting studies for the state related to groundwater.

Sanitary Sewer

Onsite Sanitary Sewer Facilities (OSSF) installation and approvals shall be in accordance with Burleson County Health Department and other regulatory authorities.

1. Rural Subdivisions may have an OSSF system. Urban Subdivisions shall connect to an approved Public Sanitary Sewer System.
2. All lots shall meet the minimum size for the type of sanitary sewer system being used. For minimum lot sizes refer to the Burleson County Subdivision Regulations.

ARTICLE 9. DRIVEWAYS

Driveways and their associated culverts are owned and maintained by the property owner being served by the driveway. The following standards of construction apply to all driveways that provide access to Burleson County roadways and privately roadways. Driveways onto TxDOT roadways shall be designed in accordance with TxDOT requirements and be permitted through TxDOT.

1. Residential driveways on Rural County Roads
   d. Minimum width at ROW line = 12 feet
   e. Maximum width at ROW line = 25 feet
   f. Minimum apron radius = 10 feet
   g. Maximum apron radius = 25 feet
   h. Driveway aprons may be constructed of these materials:
      - Reinforced concrete – 5" minimum thickness, 3000 psi, #3 rebar, 18" OCEW
      - 5" crushed, compacted limestone base
      - 5" crushed, compacted recycled concrete
      - Optional surface courses may include 1" (or more) of HMAC or one-course chip seal.
2. Commercial driveways on Rural County Roads
   a. Maximum width at ROW line = 30 feet
   b. Apron radius = 25 feet
   c. Driveway aprons shall be constructed of a minimum of 6" reinforced concrete, 3000 psi, #4 rebar, 12" OCEW
3. Driveways on Urban County Roads shall be designed in accordance with the design standards of the City of Caldwell
4. Driveway Spacing shall be designed in accordance with Table 9.1 with the following exceptions:
   a. The edge of an apron at the roadway pavement shall be a minimum of 25 feet from the adjoining lot line.
   b. Residential lots shall have a maximum of two driveway connections to a public roadway.
   c. Spacing between driveway centerlines on the same lot shall be a minimum of 100 feet.
5. The centerline of a driveway must intersect with the roadway at a 90-degree angle.
6. Driveways and culverts should be designed to avoid stormwater from the roadside ditch from flowing downhill toward structures on the lot.
7. Driveway entrances onto TxDOT facilities shall meet TxDOT driveway spacing criteria per TxDOT Access Management Manual.

Table 9.1 Driveway Spacing Criteria

Posted Speed (mph)	Distance (ft)
≤ 30	150
35	250
40	305
45	360
≥ 50	425

ARTICLE 10. DRIVEWAY CULVERTS

1. **General Requirements**
   a. ***All driveway culverts shall be designed by a licensed engineer and submitted to the County Engineer for approval***. The culvert sizes in subdivisions developed after January 2022 should be shown on the subdivision plat. Those can be redesigned by another engineer and approved by the County Engineer if conditions have changed since their initial design.
   b. Culverts shall be designed to pass runoff from a 10-year rainfall event.

2. **Culverts on County Roads**
   a. The minimum culvert diameter shall be 15".
   b. The minimum slope of the culvert pipe shall be 0.5%.
   c. Culverts shall extend at least 3 feet beyond the pavement edge.
   d. Acceptable culvert materials are:
      - Reinforced concrete pipe (RCP)
      - Concrete box culvert.
      - Corrugated metal pipe (CMP), coated or uncoated.
      - Corrugated High Density Polyethylene (HDPE).
   d. Bedding and backfill for CMP and HDPE pipe shall consist of cement-stabilized sand placed 6" below and above the pipe. RCP and box culvert can be backfilled with clean fill materials or road base materials.
   e. All culverts shall have a minimum of 6" cover between the top of the pipe and the driveway surface.
   f. Pipe flowlines at each end shall match the ditch flowline.
   g. All culverts shall receive 6:1 Safety End Treatments (SET) on both ends.

3. **Culverts on TxDOT Roadways**
   a. Driveways and culverts connecting to TxDOT Roadways must be permitted through TxDOT.

ARTICLE 11. EROSION AND SEDIMENT CONTROL

Erosion and sediment control is important during the construction of any project to protect the carrying capacity of the overall drainage system. All requirements as stipulated by the Texas Commission on Environmental Quality (TCEQ) stormwater regulations shall be followed by the design Engineer and the Contractor.

ARTICLE 12. MAILBOXES

1. Rural mailboxes shall be set no less than six (6) feet from the edge of the pavement and utilize a breakaway base.
2. All mailboxes within county right-of-way shall meet the current TxDOT standards. Any mailbox that does not meet this requirement may be removed by Burleson County.
3. Cluster mailboxes that are required by the US Postal Service shall be shown on the plans located in a Common Area near the subdivision entrance and maintained by the HOA. They shall have a paved parking area adjacent to their location for residents to use when getting mail.

ARTICLE 13. VARIANCES

1. The Commissioner's Court of Burleson County shall have the authority to grant Variances from these Regulations when the public interest or the requirement of justice demands relaxation of the strict requirements of the rules.
2. Any person who wishes to receive a Variance shall apply to the County Engineer. All Variance requests shall be submitted in writing to the County Engineer. The request must state the provisions to which a Variance is being sought while illustrating the necessity for the Variance. It must be further shown that the Variance will not create adverse impacts to the public interest.
3. The decision of the Commissioner's Court whether to grant or deny a Variance is at its complete discretion and shall be final.
4. No Variance shall be granted regarding bonding.
5. Financial hardship to the Applicant shall not be deemed sufficient reason to constitute the recommendation of a Variance.

ARTICLE 14. PENALTIES

1. Section 232.005 of the Texas Local Government Code provides for the enforcement of the State Subdivision laws and of these Regulations.
2. A person commits an offense if the person knowingly or intentionally violates a requirement of these Regulations, including the BCEDG and other Appendices incorporated herein. Such an offense is a Class B misdemeanor, as defined in the Texas Local Government Code as amended.
3. Under Texas Law, a person may be jointly responsible as a party to an offense if the person (acting with intent to promote or assist the commission of the offense) solicits, encourages, directs, aids, or attempts to aid another person to commit the offense. Thus, a real estate agent or broker, a lender, an attorney, a surveyor, an Engineer, a title insurer, or any other person who assists in violating these Regulations may also face criminal penalties.
4. Besides prosecuting a criminal complaint, the County Attorney or other prosecuting attorney for the County may file a civil action in a court of competent jurisdiction to enjoin any violation or threatened violation of these Regulations, and to recover damages.
5. A tract that has been subdivided without compliance with these Regulations will be ineligible to obtain a permit for the construction or modification of a private sewage facility located on the tract.