Chapter 8 Stormwater & drainage standards

10.801 Applicability

This chapter applies in the following areas.

City of Hutto conventional zoned areas	City of Hutto FBC Form Based Code zoning district	City of Hutto OT Old Town zoning district	Hutto extraterritorial jurisdiction (ETJ)
Yes	Yes	Yes	Yes

10.802 General drainage provisions

10.802.1 Design criteria

All drainage systems shall be designed in accordance with the City of Round Rock Drainage Criteria Manual (Jan. 2005), City of Hutto Standard Details, and TCEQ Design Criteria in the Texas Administrative Code, as amended. Drainage systems shall be constructed in accordance with the City of Georgetown Specifications and City of Hutto Standard Details. Where a City of Hutto detail does not exist, use the applicable Georgetown detail. If there is a conflict between Hutto city ordinance and manual content, Hutto ordinances will prevail.

10.802.2 Application

The City's drainage policy shall govern the planning and design of drainage infrastructure within the City limits and within all areas subject to its extraterritorial jurisdiction, as required. Definitions, formulae, criteria, procedures, and data in this manual have been developed to support this policy. If any condition requiring some additional measure of protection is identified during design or construction, the engineer shall make provisions within the design.

10.802.3 General

10.802.3.1 Stormwater runoff peak flow rates for the 2, 10, 25, and 100 year frequency storms shall not cause increased adverse inundation of any building or roadway surface.

10.802.3.2 Street curbs, gutters, inlets, and storm sewers shall be designed to intercept, contain, and transport all runoff from the 25 year frequency storm.

10.802.3.3 The public drainage system shall be designed to convey those flows from greater than the 25 year frequency storm up to and including the 100 year frequency storm within defined public rights-of-way or drainage easements.

10.802.3.4 When stormwater detention is provided, stormwater runoff peak flow rates shall not be increased at any point of discharge for the 2, 10, 25, and 100 year storm frequency events.

10.802.3.5 Regulation of peak flows to allowable levels, as determined by the provisions of this policy, shall be achieved by storage on-site or off-site or by participation in the City of Hutto's Regional Stormwater Management Program. The Detention section of the Round Rock Drainage Criteria Manual provides a guide to acceptable methods, but does not limit the designer to the methods presented therein. Guidelines for participation in the City's Regional Stormwater Management Program are contained in the Stormwater Management section of this manual.

10.802.3.6 The City of Hutto has adopted the use of an SCS (Soil Conservation Survey) 24-hour storm duration within a type III distribution for use with the SCS method.

10.802.4 Street drainage

10.802.4.1 No lowering of the standard height of street crown shall be allowed for the purposes of obtaining additional hydraulic capacity.

10.802.4.2 For non-curbed streets, all flows shall be contained within paralleling roadside ditches.

10.802.5 Drainage system

10.802.5.1 Construction plans for proposed reinforced concrete box culverts, bridges, and related structures may be adaptations of the current TXDOT standards. All bridge or culvert structures must be designed to carry and/or store the upstream runoff from a 25-year storm.

10.802.5.2 For bridges and culverts in residential areas, runoff from the 100-year frequency flow shall not produce a headwater elevation at the roadway greater than either 12 inches above the roadway crown elevation or any top of upstream curb elevation, whichever is lower.

10.802.5.3 For bridges and culverts in streets other than a residential street, runoff from the 100-year frequency storm shall not produce a headwater elevation at the roadway greater than 6 inches above the roadway crown elevation or 6 inches above any upstream curb elevation, whichever is lower.

10.802.5.4 All drainage facilities (including, but not limited to, headwalls, open channels, storm sewers, area inlets, and detention, retention, and water quality controls and their appurtenances) shall comply with the following requirements, unless otherwise noted in this section:

10.802.5.4.1 Storm sewer inlets and gutter transitions shall be designed to avoid future driveways and to avoid conflicts with standard water and wastewater service locations. No utilities shall be allowed to cross under a storm sewer inlet.

10.802.5.4.2 Drainage channels and detention ponds that are to be maintained by the public shall be contained within drainage lots. Adequate room for access shall be provided for drainage channels and detention ponds. Ramps no steeper than 5 feet horizontal to 1 foot vertical shall be provided at appropriate locations to allow access to drainage channels and detention ponds. The minimum bottom width for any channel with vegetative side slopes shall be 8 feet. An 8-foot wide, 5-inch thick reinforced concrete trickle channel shall be provided in all newly constructed channels and from detention pond inlets to outlets. The area adjacent to trickle channels shall slope at a minimum of 2 percent.

10.802.5.4.3 Detention ponds shall be designed with adequate area around the perimeter for access and maintenance. Said area shall be a minimum of 7 feet wide for ponds with depths of 5 feet or less (back slopes included), and a minimum of 15 feet wide for ponds over 5 feet deep or with back slopes in excess of 5 feet high. Said area shall not slope more than 5 percent.

10.802.5.4.4 Rip-rap for slope protection or velocity dissipation shall be formed concrete dissipaters or mortared rock.

10.802.5.4.5 Storm drains between lots (crossing blocks) shall be avoided as much as possible. When unavoidable, such mains shall be laid along a straight alignment (absent of curves, jogs, and manhole/junction boxes when traversing between lots) with manholes/junction boxes provided at each intersecting street. Storm drains along rear of residential lots (through back yards) shall be avoided. Easements shall be a minimum of 15 feet in width, with an additional 2 feet of easement for every 1 foot of depth over 8 feet. Drainage lots may be appropriate in some cases.

10.802.5.4.6 All bends, wyes, and pipe size changes in storm sewers shall be prefabricated or shall occur at manholes/junction boxes.

10.802.5.4.7 Bedding of storm sewer shall be to the top of pipe.

10.802.5.4.8 Storm drains shall be reinforced concrete pipe (RCP), ASTM C76, minimum Class III, minimum 18 inches diameter. The engineer shall provided load analysis to the Development Services Department as appropriate to demonstrate that class of pipe used is sufficient for the loading conditions. Higher strength pipes shall be used where loading warrant such. Storm drains shall have a minimum of 2 feet of cover in unpaved areas and a minimum of 1.5 feet of over from subgrade in paved areas.

10.802.5.4.9 Junction boxes and manholes shall be reinforced concrete. Junction boxes in lieu of manholes shall be provided where any pipe opening exceeds 37 inches and where the distance from the outside surfaces of any two pipes entering a manhole is less than 1 foot, measured along the inside of the manhole.

10.802.5.4.10 Open sections:

10.802.5.4.10.1 *Definitions*:
"Major stream" – drains 5 square miles or more
"Major collector" – drains 20 acres or more
"Minor collector" – drains less than 20 acres

10.802.5.4.10.2 Minor collectors shall be constructed with underground storm sewers. If it can be established by certified engineering data to the satisfaction of the City Engineer that storm sewers are not physically feasible, open ditches may be used, provided that such ditches are lined with concrete or other permanent materials accepted by the City Engineer. These structures shall be of sufficient cross section and slope as to fully contain design flows and facilitate self-cleaning. Outfalls shall enter major collector drainageways and major streams at grade or be designed and constructed with adequate concrete aprons, energy dissipaters or similar features to prevent erosion.

10.802.5.4.10.3 Major collector drainageways, detention ponds, and related structures may utilize either existing natural open sections, which may be modified, or newly constructed facilities. If modified or newly constructed facilities are utilized, they shall be lined with permanent materials including, but not limited to, concrete or vegetation.

10.802.5.4.10.4 Vegetated channels shall have sufficient grade but with velocities that will not be so great as to create erosion. Side slopes shall not be steeper than 3 (horizontal) to 1 (vertical) for channels of 4 feet or less in depth, and steeper than 4 to 1 in all other channels to allow for future growth and to promote slope stability. All slopes shall be hydromulched, sodded, or seeded with approved grass, grass mixtures, or ground cover suitable to the area and season in which they are applied. Seeded side slopes and buttons shall be lined with erosion protection matting.

10.802.5.4.10.5 Major streams shall not be modified without consent of applicable state and federal agencies, and with authorization from the City Engineer.

10.802.5.4.11 Discharge from storm sewer outfalls shall not cause channel, bluff, or stream bank erosion. If the stormdrain discharges to an open drainage facility (as determined by the City), the applicant must show acceptable nonerosive conveyance to that drainage facility, appropriate energy dissipation at the outfall, and a stable headwall.

10.802.5.4.12 Section 8.3.4 of the Round Rock Drainage Criteria Manual shall apply for all stormwater management facilities, including water quality facilities and stormwater management infrastructure.

10.802.5.4.13 No area within the limits of construction of the development shall allow stormwater to become stagnant. Maximum retention or "drawdown" time for detention ponds shall not exceed 24 hours from the time of peak storage to the time of complete emptying of the pond, as determined by hydrograph routing or other calculations acceptable to the City. This requirement does not apply to facilities in which retention or "drawdown" time is required to be greater than 24 hours.

10.802.5.4.14 In order to minimize vandalism and deterioration, use of exposed piping and appurtenances and any loose materials (other than access drive rock) shall be avoided or minimized. Use of all such items shall be approved by the City.

10.802.6 Computations

Computations to support all drainage designs shall be submitted to the appropriate city departments for review. The computations shall be in such form as to allow for timely and consistent review, and also to be made a part of the permanent city record for future reference. Computation shall demonstrate that, as a result of the proposed development, there will not be any adverse impact to downstream properties adjacent to the drainage resulting from a 100-year event. The engineer shall stat that in a sealed report. All computations submitted shall be certified by an engineer.

10.802.7 Flood plain delineations

10.802.7.1 City of Hutto

10.802.7.1.1 In all cases where a flood plain delineation is required, its determination shall be based on the projected full development of all properties contributing to the point of consideration. It is the responsibility of the design engineer to determine, based on the most accurate information available, what the fully developed drainage area is.

10.802.7.1.2 The design engineer may elect to utilize a flood plain delineation previously approved by the City Engineer, assuming the same is still applicable under present requirements and criteria. In so doing, the engineer does not remove him/herself from the responsibility for the report's accuracy.

10.802.7.1.3 For purposes of this manual, a drainage area of 50 acres or greater is required within a contributing watershed to create a "flood plain". For areas of flow with less than 50 acres of contributing area, no flood plain shall be defined; however, with regards to the drainage criteria contained in this manual, any concentrated flow necessitates the dedication of a drainage easement.

10.802.7.2 Federal Emergency Management Agency

10.802.7.2.1 The Federal Emergency Management Agency (FEMA) maintains Flood Insurance Rate Maps (FIRMs) that depict floodplain and floodway boundaries. The floodplain and floodway boundaries depicted on FIRMs are based on existing conditions of development in the contributing area.

10.802.7.2.2 FEMA reviews and approves or denies all revisions or amendments to FIRMs. FEMA revises or amends FIRMs by approval of a Letter of Map Amendment (LOMA) or Letter of Map Revision (LOMR). FEMA establishes the process and fees necessary for review of an application for a LOMA or LOMR.

10.802.7.2.3 FEMA reviews the impact of a proposed site development and offers or denies conditional assurance that a FIRM may be changed by the proposed development. FEMA offers this assurance by a Conditional Letter of Map Amendment (CLOMA) or Conditional Letter of Map Revision (CLOMR). The CLOMA or CLOMR is a conditional statement that the FIRM may be

changed if (1) the development is constructed as proposed in the CLOMA/CLOMR application, and if (2) a complete LOMA/LOMR is submitted after construction of the proposed development.

10.802.7.3 Coordination of City of Hutto and FEMA floodplain delineations

10.802.7.3.1 If the floodplain depicted on the FIRM is required to be changed due to updated analysis of the floodplain under existing conditions, then the following requirements are applicable:

10.802.7.3.1.1 Prior to recordation of a final plat, the applicant must provide to the City evidence of receipt by FEMA of an application for a LOMR.

10.802.7.3.1.2 Prior to acceptance of the construction of a subdivision or issuance of building permits, the applicant must provide to the City evidence of final acceptance by FEMA of the LOMR submitted above.

10.802.7.3.2 If the floodplain depicted on the FIRM is required to be changed due to land development activities that alter existing conditions, then the following requirements are applicable:

10.802.7.3.2.1 Prior to approval of a final plat, the applicant must provide to the City evidence of receipt by FEMA of an application for a CLOMR.

10.802.7.3.2.2 Prior to recordation of a final plat, the applicant must provide to the City evidence of the CLOMR submitted above.

10.802.7.3.2.3 If the final plat is approved before it is determined that a CLOMR is necessary or desired, then prior to release of subdivision construction plans, the applicant must provide to the City a letter of acknowledgment by FEMA of receipt of a complete application for a CLOMR.

10.802.7.3.2.4 Prior to final acceptance of the construction of the subdivision or issuance of building permits, the applicant must provide to the City evidence of final acceptance by FEMA of the CLOMR submitted above, and a letter of acknowledgment by FEMA of a complete application for a LOMR.

10.802.7.3.3 The applicant shall bear the cost of engineering services required to develop the application, respond to review comments, and obtain final approval of LOMRs and CLOMRs. The applicant shall bear the cost of any fees associated with review and disposition of LOMRs and CLOMRs that are established by FEMA.

10.802.8 Grading

10.802.8.1 A comprehensive grading plan shall be included with subdivision construction plans.

10.802.8.2 The grading plan shall be designed to ensure all lots will adequately drain upon completion of the subdivision improvements. The engineer will set the elevation of lot corners in conjunction with preparation of the drainage plan. Lot corner elevations shall be shown on the grading plan.

10.802.8.3 Where practical, all lots shall be graded from rear to front at which point the drainage shall be intercepted by the street. Alternate grading schemes may be utilized if it can be demonstrated to the satisfaction of the City Engineer that grading from rear to front would be detrimental to trees or other natural features; or it would not be reasonably adaptable to the existing topography because of excessive cuts and fills, or future lot development (i.e. commercial, industrial, or multi-family lots).

10.802.8.4 All lots shall be graded at a minimum of 1 percent. Grading of lots with existing slopes of 1 percent or greater will not be required, provided the conditions under 10.701.8.3 above have been

satisfied and it is demonstrated to the satisfaction of the City Engineer that there are no existing or proposed features that will prevent the lots from adequately draining.

10.802.8.5 Unless otherwise accepted by the City Engineer, surface swales shall be designed and provided along lot lines when more than two lots will be contributing to stormwater runoff at any given point. Side slopes for swales shall not exceed 10:1 (horizontal: vertical) unless otherwise accepted by the City Engineer.

10.802.8.6 Minimum finished floor slab elevations shall be shown for all lots. Such elevations shall be a minimum of 2 feet above the ultimate 100 year flood plain.

10.802.8.7 Fills shall be placed in maximum 12-inch lifts and adequately compacted. The subdivider shall be responsible for determining any special fill requirements (i.e. FHA requirements).

10.802.8.8 Blue tops shall be set at lot corners and other points to ensure grading is accomplished in accordance with the plan.

10.802.8.9 Following final grading, all exposed areas shall be permanently stabilized. Earthen areas shall be seeded or sodded, and erosion controls shall remain in place until grass growth reaches 1.5 inches, is of a density where it can be reasonably expected to be self-sustaining, and there are no bare areas in excess of 10 square feet.

10.802.9 Erosion control

Brush berms, silt fences, sedimentation basins, stabilized construction entrances/exits, and similar recognized techniques shall be employed during and after construction to prevent point source sedimentation loading of downstream facilities. Such installations shall be to the satisfaction of the City Engineer. Additional measures may be required during and after construction if, in the opinion of the City Engineer, they are warranted.

All disturbed and exposed areas due to construction shall be permanently stabilized. All such areas shall be dressed with topsoil and vegetated by seeding or sodding as appropriate. Where the City Engineer determines that future maintenance is materially impaired or erosion is a distinct possibility, the developer shall be required to use concrete or similar permanent cover in lieu of vegetation. Erosion control matting (either pre-seeded or seeded after placement) may also be required if the City Engineer determines that such protection of slopes is required to ensure that seeding or soil will not wash off of slopes.

10.803 Flood plain provisions

10.803.1 Applicability

This chapter of this code applies to areas of special flood hazard with the jurisdiction of the city.

10.803.2 Basis for establishing areas of special flood hazard

The areas of special flood hazard identified by the Federal Emergency Management Agency in a scientific and engineering report entitled, “The Flood Insurance Study for Williamson County,” dated September 26, 2008, with included flood insurance rate maps and flood boundary-floodway maps (FIRM and DFIRM) and revisions are adopted by reference and considered part of this code.

10.803.3 Establishment of development permit

A development permit is required to ensure conformance to the provisions of this code.

10.803.4 Conformance

No structure or land may be located, altered, or have its use changed without full conformance to the terms of this code and other applicable regulations.

10.803.5 Abrogation and greater provisions

This code is not intended to repeal, or impair existing easements, covenants, or deed restrictions. Where this code and another ordinance, easement, covenant, or deed restriction conflict or overlap, the more stringent restrictions prevails

10.803.6 Warning and disclaimer of liability

The degree of flood protection required by this code is considered reasonable for regulatory purposes and is based on scientific and engineering considerations. On rare occasions larger floods can and will occur and flood heights may be increased by manmade or natural causes. This code does not imply that land outside the areas of special flood hazards or uses permitted in flood zones will be free from flooding or flood damages. This code does not create liability by the community or any official or employee for flood damages resulting from reliance on the code or lawfully made administrative decisions.

10.804 Flood hazard reduction

10.804.1 General standards

In areas of special flood hazards, all of the following are required for new construction and substantial improvements.

10.804.1.1 New construction or substantial improvements must be designed (or modified) and adequately anchored to prevent flotation, collapse or lateral movement of the structure resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy.

10.804.1.2 New construction or substantial improvements must be constructed by methods and practices that minimize flood damage, and with materials resistant to flood damage.

10.804.1.3 New construction or substantial improvements must be constructed with electrical, heating, ventilation, plumbing, and air conditioning equipment and other service facilities that are designed and/or located to prevent water from entering or accumulating in the components during conditions of flooding.

10.804.1.4 New and replacement water supply systems must be designed to minimize or prevent infiltration of floodwaters into the systems.

10.804.1.5 New and replacement sanitary sewer systems must be designed to minimize or prevent infiltration of floodwaters into the systems and discharge from the systems into floodwaters.

10.804.1.6 On-site waste disposal systems must be placed to avoid impairment to them or contamination from them during flooding.

10.804.2 Specific standards

In areas of special flood hazards where base flood elevation data is provided, the following provisions are required:

10.804.2.1 Residential construction

New construction and substantial improvement of residential structures must have the lowest floor (including basement) elevated to one foot or more above the base flood elevation. A registered professional engineer, architect, or land surveyor must certify to the floodplain administrator the standard of this subsection is satisfied.

10.804.2.2 Nonresidential construction

New construction and substantial improvement of commercial, industrial or other nonresidential structures must either:

a. Have the lowest floor (including basement) elevated to or above the base flood level or,
b. Together with attendant utility and sanitary facilities, be designed so the structure is watertight with walls substantially impermeable to the passage of water and with structural parts having the ability of resisting hydrostatic and hydrodynamic loads and effects of buoyancy below the base flood level.

A registered professional engineer or architect must develop and/or review structural design, specifications, and plans for construction and must certify the design and methods of construction are in conformance to accepted standards of practice as outlined in this subsection. The floodplain administrator will keep a certification record with the specific elevation (in relation to mean sea level) that such structures are floodproofed.

10.804.2.3 Enclosures

New construction and substantial improvements, with fully enclosed areas below the lowest floor that are usable solely for parking of vehicles, building access or storage in an area other than a basement and that is subject to flooding, must be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for entry and exit of floodwaters. Designs for meeting this requirement must be certified by a registered professional engineer or architect, or meet or exceed the following minimum criteria:

- A minimum of two openings having a minimum total net area of one square in. for every square foot of enclosed area subject to flooding must be provided.
- The bottom of openings must be no higher than one foot above grade.
- Openings may be equipped with screens, louvers, valves, or other coverings or devices if they permit the automatic entry and exit of floodwaters.

10.804.2.4 Manufactured homes

10.804.2.4.1 Manufactured homes placed in zone A on a community's FIRM or DFIRM must be installed using methods that minimize flood damage. For the purposes of this requirement, manufactured homes must be elevated and anchored to resist flotation, collapse, or lateral movement. Methods of anchoring may include, but are not limited to, over-the-top or frame ties to ground anchors. This requirement supplements applicable state and local anchoring requirements for resisting wind forces.

10.804.2.4.2 Manufactured homes that are placed or substantially improved in zones A1-30, AH, and AE on the community's FIRM on sites outside of a manufactured home park or subdivision, in a new manufactured home park or subdivision, in an expansion to an existing manufactured home park or subdivision, or in an existing manufactured home park or subdivision where a manufactured home has incurred "substantial damage" as a result of a flood must be elevated on a permanent foundation so the lowest floor of the manufactured home is elevated to or above the base flood elevation and be securely anchored to an adequately anchored foundation system to resist flotation, collapse, and lateral movement.

10.804.2.4.3 Manufactured homes placed or substantially improved on sites in an existing manufactured home park or subdivision in zones A1-30, AH and AE on the community's FIRM that are not subject to the provisions of this subsection be elevated so either:

o The lowest floor of the manufactured home is at or above the base flood elevation; or
o The manufactured home chassis is supported by reinforced piers or other foundation elements of at least equal strength that are at least 36 in. above grade and be securely anchored to an adequately anchored foundation system to resist flotation, collapse, and lateral movement.

10.804.2.4.4 Manufactured homes placed in zone A on a community's FIRM or DFIRM must be installed using methods and practices that minimize flood damage. For the purposes of this requirement, manufactured homes must be elevated and anchored to resist flotation, collapse, or lateral movement. Methods of anchoring may include, but are not limited to, over-the-top or frame ties to ground anchors. This requirement supplements applicable state and local anchoring

standards for resisting wind forces.

10.804.2.5 Recreational vehicles
Recreational vehicles placed on sites in zones A1-30, AH, and AE on the community's FIRM must either:

- Be on the site for fewer than 180 consecutive days;
- Be fully licensed and ready for highway use; or
- Meet the permit requirements of this chapter and the elevation and anchoring standards for "manufactured homes" above. A recreational vehicle is ready for highway use if it is on its wheels or jacking system, is attached to the site only by quick disconnect type utilities and security devices, and has no permanently attached additions.

10.804.3 Standards for subdivision proposals
Subdivision proposals, including the placement of manufactured home parks and subdivisions, must:

10.804.3.1 Be consistent with this chapter.

10.804.3.2 Meet development permit requirements of this chapter.

10.804.3.3 Have base flood elevation data generated if they are larger than 50 lots or five acres, whichever is lesser.

10.804.3.4 Have adequate drainage provided to reduce exposure to flood hazards.

10.804.3.5 Have public utilities and facilities such as sewer, gas, electrical and water systems located and constructed to minimize or prevent flood damage.

10.804.4 Standards for areas of shallow flooding (AO/AH zones)
Located in the areas of special flood hazard are areas designated as shallow flooding. These areas have special flood hazards associated with base flood depths of 1 ft. - 3 ft. where a clearly defined channel does not exist and where the path of flooding is unpredictable and where velocity flow may be evident. Shallow flooding is characterized by ponding or sheet flow; thus, the following provisions apply:

10.804.4.1 New construction and substantial improvements of residential structures have the lowest floor (including basement) elevated above the highest adjacent grade at least as high as the depth number given in feet on the community's FIRM (at least at least 2 ft. if no depth number is given).

10.804.4.2 New construction and substantial improvements of nonresidential structures:

- Have the lowest floor (including basement) elevated above the highest adjacent grade at least as high as the depth number given in feet on the community's FIRM (at least 2 ft. if no depth number); or
- Together with attendant utility and sanitary facilities be designed so the structure is watertight with walls substantially impermeable to the passage of water and with structural parts having the ability of resisting hydrostatic and hydrodynamic loads or effects of buoyancy below the base flood level.

10.804.4.3 A registered professional engineer or architect must certify to the floodplain administrator the standards of this Section are satisfied.

10.804.4.4 Require adequate drainage paths around structures on slopes in zone AH or AO, to guide floodwaters around and away from proposed structures.

10.804.5 Floodways

Located in areas of special flood hazard established in this chapter are areas designated as floodways. Since the floodway is an extremely hazardous area due to the velocity of floodwaters that carry debris, potential projectiles and erosion potential, the following provisions apply:

- Encroachments are prohibited, including fill, new construction, substantial improvements and other development in the adopted regulatory floodway unless hydrologic and hydraulic analyses performed in conformance to standard engineering practice proving the proposed encroachment would not result in increase in flood levels in the community during the occurrence of the base flood discharge.
- If the above is satisfied, new construction and substantial improvements must conform to applicable flood hazard reduction provisions of this Section.
- Under National Flood Insurance Regulations 44 CFR Section l, a community may permit encroachments in the adopted regulatory floodway that would result in an increase in base flood elevations, if the community first applies for a conditional FIRM and floodway revision through FEMA.

10.805 Administration

10.805.1 Designation of floodplain administrator

The Development Services Director may appoint the floodplain administrator to administer and implement the provisions of this code and other appropriate Sections of 44 CFR (National Flood Insurance Program regulations) pertaining to floodplain management.

10.805.2 Duties and responsibilities of floodplain administrator

Duties and responsibilities of the floodplain administrator include, but are not limited to, the following:

- Maintain and hold open for public inspection records pertaining to the provisions of this code.
- Review permit applications to find if proposed building sites, including the placement of manufactured homes, will be reasonably safe from flooding.
- Review, approve or deny applications for development permits required by adoption of this code.
- Review permits for proposed development to assure that necessary permits were obtained from federal, state or local governmental agencies (including Section 404 of the Federal Water Pollution Control Act Amendments of 1972, 33 U.S.C. 1334) from which previous approval is required.
- Where interpretation is needed on the exact location of the boundaries of the areas of special flood hazards (for example, where there appears to be a conflict between a mapped boundary and actual field conditions), the floodplain administrator must make the necessary interpretation.
- Notify adjacent communities and the state coordinating agency before alteration or relocation of a watercourse, and submit evidence of notification to the Federal Emergency Management Agency.
- Assure that flood-carrying capacity in the altered or relocated part of any watercourse is maintained.
- When base flood elevation data has not been provided in conformance to this chapter, the floodplain administrator must obtain, review and reasonably use any base flood elevation data and floodway data available from a federal, state or other source, to administer the provisions of this chapter.
- When a regulatory floodway has not been designated, the floodplain administrator will require that new construction, substantial improvements, or other development (including fill) will not be permitted in zones A1-30 and AE on the community's FIRM, unless it is shown the cumulative effect of proposed development, when combined with other existing and anticipated development, will not increase the water surface elevation of the base flood more than one foot anywhere in the community.
- Under National Flood Insurance Program 44 CFR Section 1, Section 65.12, a community may approve certain development in zones A1-30, AE, AH, on the community's FIRM that increases the water surface elevation of the base flood by more than one foot, if the community first applies for a conditional FIRM revision through FEMA.

Chapter 9 Water & wastewater standards

10.901 Intent

These regulations are intended to establish the minimum basic design standards for water and wastewater systems in the city and its extraterritorial jurisdiction area, but do not address major facilities such as water and wastewater treatment plants. Generally, these systems will be operated and maintained by the city. Some systems, such as certain municipal utility districts, will not be operated by the city immediately on completion, but it is likely the city will take over operation and maintenance in the future.

All projects must be built in conformance to these specifications. Variations are subject to approval of the water and wastewater utility. Added standards for specific projects may be established where the service conditions to the tract and related system operation and maintenance needs warrant.

The following information is provided to help engineers and the public in the design and construction of water and wastewater facilities in the city and its extraterritorial jurisdiction. Plans for water and wastewater facilities must be prepared by or under the supervision of a registered professional engineer. It is the responsibility of the engineer to ensure plans conform to with the latest versions of applicable federal, state, and local ordinances, rules, and regulations. These include, but are not limited to, the following:

- Texas Commission on Environmental Quality (TCEQ) *Design Criteria for Sewage Systems.*
- TCEQ *Rules and Regulations for Public Water Systems.*
- City of Hutto codes.
- City of Georgetown standard specifications.
- City of Hutto Utility Criteria Manual.

10.902 Applicability

This chapter applies in the following areas.

City of Hutto conventional zoned areas	City of Hutto FBC Form Based Code zoning district	City of Hutto OT Old Town zoning district	Hutto extraterritorial jurisdiction (ETJ)
Yes	Yes	Yes	Yes

10.903 Water system

10.903.1 Design and construction

All water systems shall be designed in accordance with the City of Hutto Utility Criteria Manual, City of Hutto Standard Details, and TCEQ Design Criteria in the Texas Administrative Code, as amended. Water systems shall be constructed in accordance with City of Georgetown Specifications and City of Hutto Standard Details. Where a City of Hutto detail does not exist, use the applicable Georgetown detail.

10.904 Wastewater system

10.904.1 Design and construction

All wastewater systems shall be designed in accordance with the City of Hutto Utility Criteria Manual, City of Hutto Standard Details, and TCEQ Design Criteria in the Texas Administrative Code, as amended. Wastewater systems shall be constructed in accordance with the City of Georgetown Specifications and City of Hutto Standard Details. Where a City of Hutto detail does not exist, use the applicable Georgetown detail.