

TFMA 2018 Higher Standards Survey (Freeboard = Finished Floor Elevation above BFE)

3/13/2018

Higher Standard Surveys received via Survey Monkey in 2018 = Yellow Highlight								
City or County Name	Feet above Fully Developed BFE	Feet above Existing BFE	Zone X(B) (Shaded) above street or curb	Zone X(C) (Unshaded) above street or curb	Special Notes	Is LFA a CFM?	CFM's on staff	CRS Rating
Abernathy		1			City of Lubbock provides technical assistance			
Abilene		1	1.5	1.5	(1) Developer must conduct a study and determine BFE and floodway boundary in Zone A (2) In Zone X, new construction must be elevated a minimum of 18" above natural grade or crown of nearest street. (3) New development must provide detention. (4) Elevation Certificates are required when structure is completed and before CO.	LFA is a CFM	2	
Addison		2			Residential requirement only - per Ordinance. City Council adopted Zone AE as floodway, and is not allowing development in floodway.	LFA is a CFM	1	
Alamo Heights	1	1			(1) The City requires a hydraulic analysis on all new development. (2) The City requires on-site detention. (3) In Zone X new construction must be elevated a minimum of 1.5' above natural grade or above the crown of the nearest street, whichever is higher.			
Alice		1	1.5	1.5	(1) Developer must conduct a study to define the BFE and floodway for both existing and fully developed conditions (2) If any portion of a development of a drainage course lies within 100 feet from the top of a high bank or is identified as located within the 100-yr floodplain on any FIRM, a detailed study of the area is required. (3) For drainage areas 160 acres and above, the developer is required to determine the 100-year floodplain based on a fully developed watershed and this floodplain cannot be disturbed and must be shown on the plat and the City has the option of accepting the area. (4) On-site detention is required (5) In Zone X new residential construction must be elevated a minimum of 2' or above the crown of the nearest street whichever is higher (6) In Zone X new non-residential construction must be elevated a minimum of 1.5' or above the crown of the nearest street whichever is higher (7)EC required prior to framing, when construction is completed and prior to CO.	LFA is a CFM	3	
Allen	2	2	2 see notes	0	(1) Developer must conduct a study and determine BFE and floodway boundary in Zone A (2) Elevation Certificates are required when structure is completed and before CO.	LFA is a CFM	1	
Alvarado		0			(1) Developer must conduct a study, based on fully developed watershed conditions, and determine BFE and floodway boundary in Zone A (2) Onsite and regional detention is required (3) Elevation Certificates are required prior to forming/pouring lowest floor; when structure is completed and before CO. (4) Biggest problem is development in SFHA and floodway property buyouts	LFA is a CFM	4	
Alvin	1	1	1	1	(1) New construction must be elevated +1' above BFE. (2) Developer must submit a study, based on both existing and fully developed conditions, showing BFE and floodway in Zone A. (3) Developer must balance fill with excavation producing no change in BFE in floodway (4) Detention is only required when there is no other alternative (5) New construction in Zone X (shaded and unshaded) must be elevated +1.5' above the flowline of the nearest street. (6) EC required prior to forming and pouring lowest floor; after construction; and prior to CO for all structures.	LFA is a CFM	4	
Amarillo	1	1	1.5	1.5		LFA is a CFM	4	

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Aransas County		1.5			Aransas County requires new construction to be elevated in the SFHA - 18" for new structures and 6" for accessory buildings.	LFA is a CFM	1	
Aransas Pass		1	0	0	City building FPM program	LFA is a CFM	1	
Arlington	more than 3'	2			(1) Developer must conduct a study and determine fully developed floodplain, floodway and BFE in Zone A (2) 1:1 Compensatory storage required for ant SFHA development (3) no increase in flood heights and no more than 5% increase in velocity on adjacent properties. If there is an increase, discharges must be detained on-site until requirement is achieved (4) Developer must mitigate downstream impacts of development (5) Elevation Certificate required when structure is completed and prior to CO (6) Arlington enforces 25% damage as substantially damaged (7) Arlington is CRS 7 (8) Six (6) CFM's on staff	LFA is a CFM	6	7
Athens		3			EC is required when construction is completed			
Austin	1	+2' (See Notes)	2	0	(1) City Code precludes development within the fully developed land-use condition 100-year floodplain. Conditional exceptions include: 1) Within Central Business District, 2 feet above fully developed BFE, and 2) Minimum freeboard of 1 foot above fully developed BFE in all other areas. (2) All development must demonstrate no adverse flooding impact; mitigation typically achieved by on-site or regional detention ponds. (3) City uses fully developed watershed condition floodplain for regulating all subdivision platting and building construction. (4) City adopted the IBC and the IRC (except Plumbing) with reference to ASCE 24. (5) City requires cumulative building addition and improvements (substantial improvements) for 10 years. (6) Electric meter must be BFE +3' (7) EC's required prior to pouring lowest floor, when construction is completed and prior to CO. (8) on site and regional detention required.(9) Biggest problem: Old Pre-FIRM structures	LFA is a CFM	30	6
Austin County	1	1	0	0				
Bailey's Prairie	1	1			(1) Developer must submit a study defining both the BFE and floodway based on fully developed conditions.(2) EC required prior to forming/pouring lowest floor and when structure is completed.	LFA is a CFM	1	
Balch Springs		No Adverse Impact			In a nutshell, "No Adverse Impact" means you cannot build in the floodplain (contact Balch Springs city engineer for more info)			
Ballenger		0			Elevation Certificate required before CO			
Bandera County		3	2	1	(1) Developer must submit a study defining the floodway boundary in Zone A prior to permit (2) EC required prior to forming or pouring the lowest floorand when construction is completed (3) County requires detention, mitigation of downstream impacts and setback from floodway	LFA is a CFM	1	
Bartonville		1			(1) Developer must submit a study defining both the BFE and floodway.(2) Developer must prove no adverse impact to adjacent properties (3) EC required when structure is completed and prior to CO.	LFA is a CFM	1	
Bastrop		2			Developer must conduct a drainage study and provide detention when required. Development must demonstrate no adverse impact on adjacent properties.			

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Bastrop County	2	2	0	0	(1) New development must be elevated a minimum of +2' above BFE based on both current and fully developed watershed conditions. (2) Developer must conduct a study, based on fully developed watershed conditions, and determine BFE in Zone A; (3) On-site compensatory storage required along with floodway setback and mitigation of downstream impacts (4) County enforces "cumulative damage over the life of the structure" treshold for substantial damage. (5) Elevation Certificates are required prior to framing and when construction is completed. (6) One acre minimum lot size with buildable area outside SFHA (7) Floodplain must be preserved as open space, drainage easement or other defined area that limits impact (8) Drainage study required to define detention needed to prevent adverse impact and mitigate downstream impacts (9) Bastrop County is CRS Class 8. (9) LFA is a CFM and County has 4 CFM's on staff.	Certificates of non-compliance to be filed with County Clerk. Inspections reports from PE/AIA are required during construction. Any home w/in 150' of a watercourse must be +2' above NG. New Subdivisions must have BM's and include dedicated 10' setback (easement) from SFHA	4	8
Bay City	2	2	0.5	0.5	(1) Developer must submit a study to define BFE and floodway in Zone A prior to permit (2) Both residential and non residential structures must be elevated a minimum of 24 inches above BFE. (3) Onsite detention required (4) Manufactured homes can only be placed in existing manufactured home parks or subdivisions (5) EC required when construction is complete and prior to CO (6) Construction in AO/AH zones must be at depth specified or +3' is no depth specified. (7) Matagorda County DD#1 must review and approve major drainageways, detention and outfalls (8) The lowest adjacent grade to foundations must fall 6" in first 1' from foundations (9) City has FEMA approved all hazards and Flood Mitigation Plans (10) Biggest problem : Preliminary DFIRMs are now 7 years old. (11) Permanent metal storage containers (conex boxes) prohibited in SFHA. Temporary use up to 180 days if designed to withstand 10 psi uplift.	LFA is a CFM	1	
Baytown	1.5	*see notes	1.5	1.5	(1) New construction must be elevated a minimum of 1.5' above BFE. (2) Detention is required. (3) In Zone X, new construction must be elevated a minimum of 1.5 feet above natural grade or above crown of nearest street. (4) EC required prior to pouring lowest floor and before CO. (5) City is CRS Class 6.	LFA is a CFM	1	6
Beaumont		1.5	1	1	(1) No more buyouts because City cannot manage any more vacant lots. (2) Elevation Certificates required prior to pouring slab, after construction and before CO.(3) Mobile homes not permitted outside MH Parks or MH Subdivisions (4) Mobile Homes must be elevated +1.5' above BFE (5) Biggest problem is fsubstantial damage	LFA is a CFM	4	7
Bedford		2			Bedford has a FEMA approved all hazards Mitigation Plan			

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Bee Cave	2 see notes	2 see notes	1	0.5	(1) City does not allow development in the floodplain (2) Developer must conduct a study and determine BFE and floodway boundary in Zone A based on fully developed watershed; (3) New development must provide detention, mitigate downstream impacts and engineer must submit NAI certificate (4) New development must setback from floodway boundary (5) Elevation Certificates are required prior to forming/pouring lowest floor, when structure is completed and before CO. (6) Biggest problem is tremendous population growth and potential encroachments in SFHA	LFA is a CFM	2	
Bellaire	1	*see notes	1	1	In Zone X, new construction must be elevated 1.0' above natural grade or crown of nearest street. EC required 1)before construction begins, 2)when construction is complete and 3) before CO. County-wide detention requirements by HCFCD. Bellaire is CRS Class 8	LFA is a CFM	1	8
Belton	0	0	1.5	1				
Benbrook	2'	2	0	0	(1) Developer must conduct a study to define BFE and Floodway in Zone A areas. (2) In Zone AO, new structures must be +2 feet above depth number (i.e.in Zone AO 1' - new structure must be elevated to +3') (3) No development in floodway without No-Rise Certificate, (4) Detention is required using iSWM criteria with no increase of peak flow under the 2-year, 25-year and 100-year condition, (5) If applicable, EC required at time of foundation forms and EC is always required when construction is completed, (6) New Critical Facilities (hospitals and fire stations) are prohibited within the 500-year floodplain and must be elevated +3' above BFE (7) Engineered fill and erosion/scour protection required for compacted fill beyond foundation and buffer required for structures adjacent streams (8) Non residential in Zone AE must be elevated +2 above the BFE for floodproofed, (9) No new lots in SFHA without buildable area outside SFHA, (10) Park dedication requirement of floodplain where each acre of flowway fringe counts as 1/2 acre toward park requirement, (11) Floodway area accepted for park dedication but does not receive park dedication credit.(12) City has Stormwater Utility Fee (13) Problem is remapping impacted structures	LFA is a CFM	4	6
Bevil Oaks	2	2	0	0	(1) Developer must conduct a study, based on fully developed conditions, to determine the BFE and Floodway boundary in Zone A prior to permit (2) Onsite detention required (3)Developer must mitigate downstream impacts (4) EC's required prior to forming/pouring lowest floor, when structure is completed: and prior to CO (5) Biggest problem is training and compliance	LFA is a CFM	3	7
Bexar County		1	8"	8"	(1) Developer must conduct a study to determine the BFE and Floodway in Zone A prior to permit (2) NAI is required (no impact) outside of owners property (3) Platted property requirements include residences to be 8" above finish grade in all zones (4) Plat must show floodplain areas as drainage easements (5) County does not use floodway rules (6) EC is required prior to framing/pouring lowest floor and when structure is completed (7) Biggest problem is building and modifying structures without permits		10	

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Bosque County	0	0	0	0	(1) Developer is required to conduct a study to define BFE in Zone A to establish BFE and floodway. (2) Downstream impacts must be mitigated (3) EC is required prior to forming/pouring lowest floor (4) Biggest problem is lack of BFE for Zone A in County	LFA is a CFM	1	
Brady	2	2	2	2	(1) Developer must conduct a study and determine BFE and floodway boundary in Zone A based on fully developed watershed; (2) New development must provide detention (3) New development must setback from floodway boundary (4) Elevation Certificates are required prior to forming/pouring lowest floor, when structure is completed and before CO. (5) Biggest problems are: EAP for Lake Brad; non studied areas	LFA is a CFM	1	
Brazoria County		2			(1) In Zone A new development must be 2' above highest natural ground (2) Detention may be required (3) Developer must mitigate downstream impacts and set back from Floodway boundary (3) Drainage plan required for all commercial projects, structures over 5,000 SF and in Zone X when fill exceeds 20 loads per acre (4) No rise certification required for floodway development. (5) EC required prior to forming or pouring lowest floor, a dn when construction is complete (6) Biggest problem i Pre FIRM structures (7) Drainage District approval required for development	LFA is a CFM	2	
Brazos County		2	0	0	(1) Developer must conduct a study and determine BFE and floodway boundary in Zone A . (2) No fill is allowed in SFHA (NAI) (3) Detention is required (4) EC required before forming/pouring lowest floor, when the structure is completed and prior to CO. (5) Septic Permit cannot be issued without Floodplain Permit. (6) County has interlocal agreement for ETJ Permits and shares GIS and floodplain data with the cities of Bryan and College Station. (7) Biggest problem is Oilfield development in the floodplain	LFA is a CFM	4	
Brenham	2	2	2	1	(1) Developer must conduct a study and determine BFE and floodway boundary in Zone A based on existing and fully developed conditions . (2) Detention is required (3) EC required before forming/pouring and prior to CO.	LFA is a CFM	1	
Brookside Village	2	2	1	1	(1) City enforces a true "no rise" floodway and no fill allowed in floodway regardless of engineering analysis. No-Rise certification must be signed, sealed and dated by a PE (2) Developer must conduct a study, based on fully developed conditions, to define BFE and floodway in Zone A (3) Detention and Floodway setback is required in Zone AE (4) Permits are required for both Floodplain and Septic Tanks. (5) EC required prior to forming/pouring lowest floor and when construction is completed. (6) Biggest problem: Undersized major drain	LFA is a CFM	1	
Brownsboro		3			EC required when construction is completed			

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Brownwood		1	1 (see notes)	1 (see notes)	(1) "No rise" study required for Zone AE development (2) Study required to define BFE in Zone A before a permit will be issued. (3) Detention required to mitigate development. (4) Developer must mitigate downstream impacts of proposed development (5) New construction in Zone X (shaded and unshaded) must be elevated 1' +2% above natural grade or crown of nearest street. (6) EC required after construction is completed and prior to CO. (7) Floodplain issues in the County located in the City's ETJ are regulated by the City (8) Biggest problem is construction in Floodway	LFA is a CFM	1	
Bryan	N/A	1	0.5	0.5	(1) Development in Zone X must be elevated 0.5' above top of curb or above crown of nearest street. (2) EC's required during construction with form board survey and prior to CO. (3) Manufactured homes must be elevated 2' above BFE (4) City adopted IBC (5) Stormwater detention is required to mitigate development impacts	LFA is a CFM	5	6
Buda	2	2	0	0	(1) Developer must submit a study, based on fully developed watershed conditions, establishing floodplain and floodway boundaries and BFE in Zone A (2) On-site detention is required to mitigate development (3) No development is allowed in the designated floodplain	LFA is a CFM	1	
Bulverde		2				LFA is a CFM	1	
Burleson		1			Burleson is CRS 7	LFA is a CFM	1	7
Burnet County	1	1			(1) Developer is required to conduct a study to define BFE and floodway in Zone A. (2) Detention is required (3) Development in Zone X must be elevated a minimum of 12" above NG. (4) EC is required prior to forming/pouring lowest floor; when structure is completed; and prior to CO.		1	9
Calhoun County		0	0	0	(1) County requires "no rise" for floodway development (2) No mobile homes allowed in Zone V (3) EC required when construction is completed (4) Biggest problem is insurance companies writing policies for non compliant structures	LFA is a CFM	2	
Canton	1	1			(1) Developer must submit a study establishing floodplain and floodway boundaries and BFE in Zone A (2) EC required before forming/pouring lowest floor, after construction and prior to CO.	LFA is a CFM	1	
Cameron County		2						
Canyon		1	1.5	1.5	(1) Developer must conduct a study in Zone A to establish BFE and Floodway (2) Floodway setback required for new development (3) New development in Zone X must be elevated a minimum of 18 inches above top of curb.(4) EC is required when structure is completed and prior to CO. (5) Biggest problem is keeping development out of Floodway	LFA is a CFM	2	
Carmine	0	0			Member of TCRFC			
Carrollton	2	2	0	0	(1) Zero (0') rise in Floodway. (2) Developer must conduct a study, based on fully developed watershed conditions, to determine BFE and floodway in Zone A; (3) New development must provide detention. (4) Elevation Certificate is required before pouring/placing lowest floor, and before CO (5) Biggest problem is addressing erosion in channels and maintaining floodplain	LFA is a CFM	3	6

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Cedar Hill	1	2	2	2	(1) Developer is required to conduct a study, based on fully developed conditions, to define BFE and floodway in Zone A. (2) Detention is required (3) Developer must mitigate downstream impacts (4) Grading permit requires in SFHA (5) Biggest problem is out of date FIRMS and no BFE data in Zone A	LFA is a CFM	1	
Chico		2			EC is required when construction is completed			
Cedar Park		1			(1) In Zone A the Developer must conduct a study to define the BFE and to ensure conveyance of fully developed flows (2) Detention or mitigation required for fill placed in floodplain/floodway. (3) EC required when structure is completed and prior to CO (4) Engineering study required showing no adverse impacts to adjacent tracts. (5) City adopted City of Austin Drainage Criteria Manual requiring conveyance of fully-developed 1% storm in drainage easements when drainage areas is greater than 64 acres.	LFA is a CFM	3	
Celina	2	2	0	//	(1) Developer is required to conduct a study, based on fully developed conditions, to define BFE and floodway in Zone A. (2) Detention is required (3) Developer must setback from Floodway and mitigate downstream impacts (4) Biggest problem is non compliant development in the ETJ	LFA is a CFM	6	
Chambers County		1	0	0	(1) In Zone A, the Developer is required to conduct a study, based on fully developed watershed conditions, to define BFE and floodway. (2) Onsite detention is required (3) Developer must mitigate downstream impacts and setback from Floodway (4) Manufactured homes must be elevated so lowest support is 1' above BFE (5) EC is required prior to forming/pouring lowest floor, when construction is completed and prior to CO. (6) Biggest problem is compliance	LFA is a CFM	2	
Charlotte	0	0			(1) Developer is required to conduct a study to define BFE and floodway in Zone A. (2) Detention is required (3) EC is required prior to forming/pouring lowest floor; when structure is completed; and prior to CO.			
Clear Lake Shores	1	1	2	1	(1) Clear Lake Shores is a coastal community so fill is allowed but not for structural support in Zone VE (2) EC required prior to framing/pouring lowest floor, when construction is completed and prior to CO. (3) Biggest problem is flooding from tidal waters and stormwater drainage.			
Cleburne		1			Cleburne is CRS Class 8.	LFA is a CFM	2	8
Cleveland	1	1	1.5	1	(1) In Zone A Developer cost conduct a study, based on fully developed watershed conditions, to define BFE and Floodway before permit (2) Fill placed in floodplain/floodway must be mitigated. (3) On site detention required, floodway setback and mitigation of downstream impacts (4) New structures in Zone X must be elevated 1.5' X shaded and 1' X unshaded above natural grade or crown of nearest street.(5) EC required prior to forming/pouring lowest floor and when structure is completed and prior to CO.		0	
Cold Spring		0			(1) In Zone A the Developer must conduct a study to define the BFE and Floodway. EC required when structure is completed.	LFA is a CFM	1	

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College Station	N/A	1	2	2	(1) Designated channel reaches have additional requirements of +2', +3' and +4' above BFE. (2) New construction in shallow flooding areas (Zone AH and AO) must be elevated +1' above depth number or BFE. (3) EC are required prior to forming/pouring lowest floor and Prior to issuing a CO. (4) Detention is required to mitigate the impact of development. College Station is CRS 7. City has five (5) CFM's on staff.	Brazos County, Bryan and College Station have standardized floodplain management requirements and drainage policy. LFA is a CFM	5	7
Colleyville	2	2	0	0	(1) In Zone A developer must conduct a study, based on fully developed watershed conditions, and define the BFE and floodway (2) On-site detention is required (3) Fine is \$2,000/day for non compliance	LFA is a CFM	2	
Collin County	2	2			(1) City requires mitigation of all fill placed in floodplain and floodway (2) Detention is required (4) EC required prior to forming/pouring lowest floor	LFA is a CFM	2	
Collingsville		2			(1) EC required upon completion of construction, (2) Fine is \$2,000/day for non compliance			
Colorado County	1	1			In Zone A the Developer must conduct a study to define the BFE and Floodway. Detention or mitigation required for fill placed in floodplain/floodway. EC required when structure is completed.	LFA is a CFM	1	
Comal County	0.01	0.01			(1) No development is allowed in platted Zone A areas. (2) Developer must conduct a study showing NAI resulting from the proposed development (3) Detention is required (4) Developers must designate Zone A areas on Plats and designate Zone A areas as building set back areas (5) EC required prior to forming/pouring lowest floor and when construction is completed	LFA is a CFM	1	
Conroe	1	1			(1) Developer must conduct a study to establish BFE and floodway boundary (2) City requires mitigation of all fill placed in floodplain and floodway (3) Manufactured homes may not be placed in the 100-year floodplain (4) No rise certification required for floodway development (5) Detention is required (6) New construction in Zone X must be elevated a minimum of 1' above BFE or crown of nearest street or closest BFE (7) EC required when construction is completed and prior to CO. (8) All sanitary sewer manholes must be bolted and sealed 1' above BFE (9) Structures crossing the floodplain must be sized to carry the 100-year flood discharge. (10) Permit violations carry \$500/day fine (11) Two (2) CFM's on staff (12) Conroe is CRS 7	LFA is a CFM	2	7
Coppell	1	2	1 see notes	1 see notes	(1) Developer is required to conduct a study to define BFE in Zone A. (2) Developer must mitigate downstream impacts (3) In Zone X new structures must be elevated a minimum of 1' above curb of nearest street (4) EC is required prior to forming/pouring lowest floor; when structure is completed; and prior to CO. (5) Biggest problem is maintaining channel conveyance and preventing encroachment into channel and floodway	LFA is a CFM	4	8
Copper Canyon		1			Flood plain administrator requires 2 feet on all new subdivisions			
Copperas Cove		1.5						
Corinth		2			(1) EC is required when construction is completed and prior to CO (2) New Ordinance 4/18/2011			

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Corpus Christi	0	0	1.5	1.5	(1) Developer is required to conduct a study to define BFE in Zone A. (2) Developer must mitigate downstream impacts (3) In Zone X new structures must be elevated a minimum of +1.5' above curb of nearest street (4) EC is required prior to forming/pouring lowest floor; when structure is completed; and prior to CO. (5) Biggest problem is community education	LFA is a CFM	9	7
Corsicana		1			(1) Developer is required to conduct a study to define BFE and floodway in Zone A. (2) EC is required prior to forming/pouring lowest floor; when structure is completed; and prior to CO.	LFA is a CFM	1	
Crowley		2			(1) Developer is required to conduct a study to define BFE in Zone A. (2) Proposed development in the floodway must include a H&H study proving no (0.0') increase in the BFE's. (3) Detention is required (4) EC is required prior to forming/pouring lowest floor and when structure is completed.(5) New bridges and culverts must pass fully developed flows with 1' freeboard.			
Cuero	1	1			(1) On site detention is required (2) Developer must mitigate downstream impacts and setback from Floodway (3) EC required when construction is completed and prior to CO (4) Biggest problem is education of public and development community	LFA is a CFM	1	
Dallas	3	3 (see notes)	+3 see notes	+3 See notes	(1) All floodplains have been mapped to fully-developed conditions. (2)No construction allowed in the floodplain (3) New construction must be BFE +3' (4) In Corps defined floodway, on Trinity River and tribs, no development is allowed without CLOMR, Dallas Fill Permit and Corridor Development Certificate (CDC) (5) Fill permit allows reclamation but has +3' freeboard and NAI requirement (6) Dallas does not have floodways therefore there is a 0' rise allowed in floodplain (7) Hydraulics analysis required to ensure that there is no loss in valley storage.(8) EC's required for modification to existing structures. (9) City also has environmental requirements in SFHA. (10) Detention may be required (11) Dallas is CRS Class 5. (12) Dallas is a CTP Community (13) Biggest issues are: (13.1) Funding for capital construction projects for flood protection and storm drainage. (13.2) Complexity of federal grant requirements requires a lot of local resources. (13.3) Challenges of floodplain development in large, built up urban areas.	LFA is a CFM	25	5
Dallas County		1	0	0	(1) No encroachment into Floodway without a study proving NAI (2) Detention is required (3) Downstream impacts must be mitigated (4) Problem: Filling without a permit and educating the public	LFA is a CFM	3	
Dalworthington Gardens		2						
Dayton	1	1	1	1				
Decatur	2	2	0.5	0.5	(1) Developer is required to conduct a study, based on fully developed conditions, to define BFE in Zone A to establish BFE and floodway. (2) Detention is required (3) Developer must mitigate downstream impacts (4) Biggest problem: No BFE's in Zone A and flooding in Zone X	LFA is a CFM	1	

TFMA 2018 Higher Standards Survey (Freeboard = Finished Floor Elevation above BFE)

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Higher Standard Surveys received via Survey Monkey in 2018 = Yellow Highlight					Special Notes	Is LFA a CFM?	CFM's on staff	CRS Rating
City or County Name	Feet above Fully Developed BFE	Feet above Existing BFE	Zone X(B) (Shaded) above street or curb	Zone X(C) (Unshaded) above street or curb				
Deer Park	1	1	2	2	(1) Plats must show floodplain boundaries and BFE's (2) EC required prior to framing and pouring lowest floor, when construction is completed (3) Floodplain Ordinance posted on City website (4) Detention required. (5) EC required for all zones (6) Problem: Mechanical equipment below BFE	LFA is a CFM	2	8
Denison		2			(1) Critical Facilities that cannot be located outside the 500-year floodplain must be elevated a minimum of +3' above the BFE (2) EC can only be prepared by a RPLS	LFA is a CFM	1	
Denton	2	2	2.5	2.5	(1) No rise allowed in floodway/floodplain. (2) In Zone A, Developer must define Floodplain and Floodway if 3 acres or 20 lots. (3) New structures in Zone X and any structure within 200' of SFHA must be elevated 2.5' above BFE or 18" above crown of nearest street whichever is higher. (4) EC required when structure is completed and before CO. Denton is CRS Class 6.	LFA is a CFM	1	6
Denton County		2			(1) Developer must conduct a study to establish the BFE in Zone A areas (2) Developer must mitigate downstream impacts (3) Form board survey required before lowest floor is poured (4) EC is required when construction is completed and prior to CO (5) Geotechnical report and engineering foundation design is required for new structures in SFHA. (6) County is CRS 10	LFA is a CFM	4	10
Desoto		2			(1) EC required upon completion of construction (2) city has adopted the 2003 International Building Code			
Dickinson		1			(1) Onsite and regional detention is required (2) Developer must setback from Floodway boundary and mitigate downstream impacts (3) Development in Zone X must be elevated a minimum of 2' above NG or crown of nearest street (4) EC required prior to forming/pouring lowest floor; when construction is completed and prior to CO	LFA is a CFM	2	8
Double Oak		1			Floodplain administrator requires +2 feet on all new subdivisions			
Duncanville	2	2	0	0	(1) Developer is required to conduct a study to define BFE and floodway in Zone A based on fully developed watershed conditions. (2) Detention is required (3) EC is required when structure is completed and prior to CO	LFA is a CFM	1	7
Eagle Lake		1			requires final EC from surveyor for all new construction in FP			
Eagle Pass		1	1	1	(1) Developer is required to conduct a study to define BFE and floodway in Zone A. (2) Detention is required (3) In Zone X, new development must be elevated 1' above natural ground or curb of nearest street. (4) EC is required prior to forming/pouring lowest floor, when structure is completed and prior to CO	LFA is a CFM	1	
East Bernard		1			City has contracted with Wharton County to manage floodplain management program.	Wharton Co. LPA is CFM	1	
Edgecliff Village	0	0	0	0	(1) Drainage plan required with preliminary Plat (2) Detention is required (3) EC is required prior to forming/pouring lowest floor and when structure is completed (4) City has new Stormwater Utility Fee (5) City's FPM consultant has 2 CFMs on staff (6) Problem: Cost to maintain infrastructure		* See not e#5	

TFMA 2018 Higher Standards Survey (Freeboard = Finished Floor Elevation above BFE)

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City or County Name	Feet above Fully Developed BFE	Feet above Existing BFE	Zone X(B) (Shaded) above street or curb	Zone X(C) (Unshaded) above street or curb	Special Notes	Is LFA a CFM?	CFM's on staff	CRS Rating
El Campo		0	1.5	1.5	(1) In Zone X (shaded) - new development must be 18 in. above natural grade or 12 in. above crown of nearest street (2) In Zone X (unshaded) new development must be 18" above crown of nearest street. (3) EC required before framing/pouring lowest floor and after construction is complete. (4) No development permitted in the Floodway (5) City has FEMA approved all-hazard and Flood Mitigation Plans.	LFA is a CFM	1	
El Lago		4.1			(1) New construction must be elevated at or above 15.7' (BFE = 11.6') (2) EC required prior to forming/pouring lowest floor and before CO			
Elgin		1						
Ellis County	0	2	0	0				
El Paso, City of	2	2	2	1	(1) Developer must perform a study, based on fully developed conditions, to define BFE and Floodway in Zone A. (2) Developer must mitigate downstream impacts (3) Regional detention is required for large subdivisions (4) El Paso adopted Drainage Impact Fees to fund drainage projects (5) City is CRS 9 (6) EC required before framing; after construction and before CO. (7) Problem: Cost to improve infrastructure	LFA is a CFM	1	9
Ennis	2	2	10"	10"	(1) In Zone A, the Developer is required to conduct a study to define BFE and floodway. (2) Detention is required (3) Problem: No BFE's in Zone A	LFA is a CFM	2	
Eules		2	0	0	(1) Zone A - Developer must submit a H&H Study, based on fully developed watershed, identifying 100-year BFE, dedicate the area that is inundated by 25-year fully developed storm, and new development must be BFE+2. (2) Detention is required if downstream system is undersized. (3) City has FEMA approved all hazards and Flood Mitigation Plans.(4) Biggest problem is preservation of natural streams by reducing erosion, maintaining water quality, and vegetation maintenance.	LFA is a CFM	1	
Fairview		3			EC is required when construction is completed			
Farmers Branch	2	2			(1) Developer must mitigate (on site) impacts of development. (3) Development in Zone X must be elevated a minimum of 2' above NG or crown of nearest street (4) EC required prior to forming/pouring lowest floor and when construction is completed (5) Biggest problem is redevelopment of Pre-FIRM properties	LFA is a CFM	1	
Fayette County		1			a new ordinance is being proposed requiring +2'. (2) EC required at final stage of dev/ (3) FPA position is recently vacant/ it was managed by a CFM			
Flower Mound	1.5	1.5	0	0	(1) No development is allowed in the floodplain without a no rise study showing no increase in water surface or velocity (2) In Zone A, developer must conduct a study, based on fully developed conditions to define floodplain. (3) No fill is allowed in floodplain or floodway without mitigation (4) In Zone X development must be elevated a minimum of 1' above the curb. (5) Detention is required (5) EC required prior to framing/pouring lowest floor and when construction is completed and prior to CO	LFA is a CFM	3	
Forney		0				1	1	

TFMA 2018 Higher Standards Survey (Freeboard = Finished Floor Elevation above BFE)

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City or County Name	Feet above Fully Developed BFE	Feet above Existing BFE	Zone X(B) (Shaded) above street or curb	Zone X(C) (Unshaded) above street or curb	Special Notes	Is LFA a CFM?	CFM's on staff	CRS Rating
Fort Bend County	1.5	1.5	2	2	(1) In Zone A, the Developer is required to conduct a study, based on fully developed watershed conditions, to define BFE and floodway. (2) Detention is required (3) Developer must mitigate downstream impacts (4) In Zone X structures must be elevated a minimum of 24" above NG and above the crown of the nearest street (5) Permits required for structures greater than 100sf; for modification of natural drainage route; for fill in excess of 500CY; or fill resulting in surface change in excess of 6" (6) EC is required prior to forming/pouring lowest floor and when construction is completed. (7) Biggest problems: Zone A areas without BFE; unpermitted development and fill; and major development pressure	LFA is a CFM	8	
Fort Worth	2	3			(1) City enforces "no rise" requirement (2) In Zone A (no BFE) developer must conduct a study to establish BFE. (3) Developer must provide detention and mitigate downstream impacts (4) EC required prior to forming/pouring lowest floor and when construction is complete (5) City requires Corridor Development Certificate compliance prior to developing in Trinity River 100 & 500-yr floodplains (6) Developer must dedicate 100-year fully developed floodplain +10' as a drainage easement (7) Fort Worth has installed a flood warning system (8) EC required when construction is completed and prior to CO	LFA is a CFM	10	8
Fredericksburg	1	1			(1) In Zone A, the Developer is required to conduct a study to define BFE and floodway based on fully developed watershed conditions. (2) City requires NAI - Detention and mitigation of downstream impacts (3) No development is allowed within the 100 year floodplain. All construction over 1 acre requires detention/no increased runoff. (4) Any land in SFHA that cannot be properly drained cannot be subdivided or developed without a study and CLOMR (5) Biggest problem is need for updated FIRMs	LFA is a CFM	1	
Freeport	1	2	1	1	(1) Developer is required to conduct a study to define the existing conditions and fully developed conditions BFE and floodway in Zone A (2) New construction in Zone X must be elevated 12 inches above NG in Zone X Shaded and 12 inches above NG in Zone X Unshaded (3) EC required prior to forming/pouring lowest floor; when structure is completed; and prior to CO.(4) Levee certification effort is underway	LFA is a CFM	1	
Friendswood	2	2	1.5	1.5	(1) Developer must conduct a study to establish the BFE in Zone A before permit (2) Detention required (3) EC required prior to forming/pouring lowest floor, when construction is completed and prior to CO	LFA is a CFM	5	5

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Frisco	2	2	1	1	(1) Developer is required to conduct a study to define the existing conditions and fully developed conditions BFE and floodway in Zone A (2) New construction in all zones must be elevated a minimum of 12" above curb (3) Both on-site and regional detention is required (4) Developer must offset from floodway boundary and mitigate downstream impacts (5) City has fully developed conditions models and all future development must be outside fully developed floodplain (6) In Zone X (unshaded) new development must be elevated a minimum of 12" above natural grade, crown of nearest street or 24" above fully developed BFE, whichever is higher (7) Biggest problems are: low water crossings, undersized culverts/bridges and older homes in SFHA	LFA is a CFM	2	
Gainesville	2	2	1	0.75	(1) Developer is required to conduct a study to define existing conditions and fully developed conditions BFE and floodway in Zone A. (2) Detention is required for new construction. (3) New construction in Zone X (shaded) must be elevated a minimum of 1' above NG or crown of nearest street and 0.75' above in Zone X (unshaded) (4) EC is required prior to forming/pouring lowest floor and when structure is completed. (5) Two (2) CFM's on Staff	LFA is a CFM	1	
Galveston	0	0	1.5	1.5	(1) Only require detention in specific areas where a drainage channel has been determined to be undersized. Galveston is a barrier island and we seek to direct drainage to the Gulf of Mexico or Galveston Bay as quickly as possible. All the City drainage outfalls are tidally influenced and any delay in getting runoff off the island is not acceptable. The City seeks to get rainwater off the island as quickly as possible. (2) maximum enclosures below BFE in VE-Zones is 299 Square feet based on outside dimensions. (3) New construction in Zone X must be elevated a minimum of 18" above NG or crown of nearest street (4) EC is required prior to forming/framing lowest floor, when structure is completed and prior to CO (5) Biggest problem is citizens wanting to enclose more area and install restrooms below BFE	LFA is a CFM	2	7
Galveston County		0	2	1.5	(1) New construction in Zone X must be elevated 24 inches above NG in Zone X Shaded and 18 inches above NG in Zone X Unshaded (2) EC required when structure is completed. (3) Major HMGP buyout project underway on Boliver Peninsula	LFA is a CFM	1	
Garland	1	1	1	1	(1) Fully-developed BFE and compensatory valley storage required for all development in Rowlett and Spring Creeks. (2) Developer must conduct a study for to define floodplain and floodway in Zone "A" areas. (3) Detention required for high impact projects. (4) In Zone X all development must be elevated a minimum of 2' above point of positive drainage (5) EC is required when construction is completed and prior to CO (6) Compensatory excavation or detention required to meet NAI (7) Developer must mitigate downstream impacts (8) No Manufactured Homes allowed in SFHA (9) Flood study required for all LOMR-Fs	LFA is a CFM	4	7

TFMA 2018 Higher Standards Survey (Freeboard = Finished Floor Elevation above BFE)

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City or County Name	Feet above Fully Developed BFE	Feet above Existing BFE	Zone X(B) (Shaded) above street or curb	Zone X(C) (Unshaded) above street or curb	Special Notes	Is LFA a CFM?	CFM's on staff	CRS Rating
Georgetown		1	0	0	(1) In Zone A, the Developer may be required to conduct a study to define BFE and floodway. (2) Detention is required (3) Development in Zone X must be elevated a minimum of 1' above NG and above the crown of the nearest street (4) EC is required prior to framing/pouring lowest floor, when construction is completed and prior to CO. (5) Biggest problem is the need for updated maps due to massive development pressure	LFA is a CFM	3	
Gillespie County		0	0	0	(1) EC required prior to forming/pouring lowest floor and when construction is completed (2) Biggest problem is large unstudied areas with no BFE's or floodways.			
Goldthwaite Gonzales County	1	2 0			City required drainage review by CFM for all subdivision proposals. City is CRS Class 7 but lower class is pending.. City is a FEMA Cooperative Technical Partner (CTP). Two (2) CFM's on staff.	LFA is a CFM	2	
Grand Prairie	1	2	0.5	0.5	(1) Developer must conduct a study, based on fully developed watershed conditions, to define BFE in Zone A (2) On-site and regional detention is required (3) Developer must mitigate downstream impacts (4) Floodway setback required for new construction (5) EC required when construction is completed and prior to CO (6) City enforces CDC development requirements along Trinity River (7) City is a FEMA Cooperative Technical Partner (CTP). (8) Valley storage must be preserved (9) New mobile homes must be BFE +3' (10) City requires CLOMR to revise floodway and LOMC for all completed projects that remove properties from the floodplain (11) City enforces free board of +2' on the lowest floor elevation of buildings and +1' free board on parking and paving areas (12) City requires land in SFHA to be dedicated as drainage easements during the platting process (13) Biggest problems are convincing TxDOT to design and construct to city's higher standards and developers filing LOMR's after construction is complete	LFA is a CFM	6	5
Grapevine	2	2	See notes	See notes	(1) In Zone A, the Developer is required to conduct a study to define BFE based on fully developed watershed conditions. (2) City requires NAI - Detention and mitigation of downstream impacts (3) Drainage plan required before permit in Zone X to determine elevation requirements (4) Biggest problem is erosion	LFA is a CFM	1	
Grayson County		1			(1) In Zone A, the Developer is required to conduct a study to define BFE and floodway. (2) EC is required prior to forming/pouring lowest floor and when construction is completed (3) Biggest problem is educating the public	LFA is a CFM	1	
Greenville		1	0	0	(1) Developer must conduct a study to establish BFE's in Zone A (2) Pad elevation must be +1' above BFE (3) In reclaimed areas lowest floor must be +2' above BFE (4) Structures in the SFHA that have footprint increased greater than 15% are considered substantially improved (5) On site detention is required (6) Biggest problem is Pre-FIRM structures in SFHA below BFE	LFA is a CFM	1	
Grimes County		0			(1) In Zone A, the Developer is required to conduct a study to define BFE and floodway. (2) Detention is required (3) EC is required prior to forming/pouring lowest floor, when construction is completed and prior to CO.	LFA is a CFM	1	

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Guadalupe County	1	1			(1) new construction must be elevated 1' above BFE. (2) Developer must submit a study showing BFE and floodway in Zone A areas based on fully developed conditions. Study must also show "no rise". (3) Detention is required to mitigate development. (4) EC is required prior to forming/pouring lowest floor; after construction is completed and prior to CO. (5) New Plats must show BFE for all lots in floodplain. (6) County is CRS 8. (7) Three CFM's on staff.	LFA is a CFM	3	8
Gun Barrell City		3			EC is required when construction is completed			
Haltom City		2			City has initiated a major HMGP acquisition project to remove a mobile home park from the floodway.	LFA is a CFM	1	7
Harlingen	2	2	2	1.5	(1) In Zone A, the Developer is required to conduct a study to define BFE and floodway. (2) Detention is required (3) Development in Zone X must be elevated 2' (Shaded X) and 1.5' (Unshaded X) (4) EC is required prior to forming/pouring lowest floor, when construction is completed and prior to CO	LFA is a CFM	1	
Harden County	1	1	0	0	(1) Developer must conduct a study to define BFE's in Zone A before permit (2) New development must setback from floodway boundary (3) EC is required prior to forming/pouring lowest floor and when construction is completed. (4) Biggest problem: massive Zone A areas without BFE's	LFA is a CFM	1	
Harker Heights		1						
Harris County	See notes	+2 above 500-yr	+1 above 500-yr	1	(1) Developer must conduct a study to define both the BFE and floodway prior to permitting development in Zone A (2) new construction and substantial improvement in SFHA must be elevated +2' above BFE (3) +3.0 feet to lowest horizontal member in floodway (2) no fill is allowed in floodplain or floodway without mitigation (NAI) (3) both on site and regional detention is required (4) In Zone A the lowest floor must be +6' above NG (5) In Zone AO the lowest floor must be +3' above the depth number (6) EC is required prior to framing/pouring lowest floor, when construction is completed and prior to CO (7) Critical facilities must be elevated a minum of 3' above 500-year flood elevation (8) No fill allowed in Zone AE and new structures must be on piers or open wall foundations (9) HCFCD is a FEMA Cooperative Technical Partner	LFA is a CFM	12	6
Harrison County		0			Commissioners Court is evaluating an 2012 ordinance that incorporated higher standards (freeboard)	LFA is a CFM	1	
Haslet	2	2	0	0	(1) New Construction must be +2' above Fully Developed BFE in all studied areas and +1' in unstudied areas.(2) Developer must conduct a study and define fully developed BFE and FW in Zone A. (3) Detention is required and developer must mitigate downstream impacts	LFA is a CFM	2	
Hays County	1	1	0	0	(1) In Zone A, the Developer is required to conduct a study, based on fully developed watershed conditions, to define BFE. (2) Detention is required in new subdivisions (3) EC is required when construction is completed and before CO is issued. (4) Permits are required for all development to determine compliance (5) Biggest problem is mapping and permitting homes destroyed adject to Blanco River (record flood)	LFA is a CFM	4	
Henderson County		3			EC required when construction is completed			

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Herlotes	1	1			Developer must establish BFE and Floodway in Zone A. Detention is required. EC is required before pour and after construction is completed.	LFA is a CFM	1	
Highland Haven	2	2	1	1	(1) Study is required to define BFE in Zone A (2) No fill in floodplain or floodway with out mitigation (3) all development in SFHA must be elevated a minimum of +2' above NG (3) Detention is required (5) EC is required prior to forming/pouring lowest floor and prior to CO.(6) City is basically built out and only SF lots remaining (7) Biggest problem: Noncompliant waterfront structures and resistance from property owners	LFA is a CFM	1	
Highland Park		1						
Highland Village		2	0	0	(1) Developer must conduct a study to define BFE and floodway in Zone A (2) No fill in floodplain or floodway with out mitigation (3) Detention is required for subdivisions greater than 5 acres (4) EC is required prior to forming/pouring lowest floor, when construction is completed and prior to CO.(5) Biggest problem is drainage problems and flooding from storm runoff	LFA is a CFM	2	
Village of the Hills	1	1	0	0				
Hillsboro	2	2	0	0	(1) Developer must conduct a study, based on fully developed watershed conditions, to define BFE and floodway in Zone A (2) Detention is required (3) EC is required prior to forming/pouring lowest floor; when construction is completed and prior to CO (4)All new construction and substantial improvements of residential and commerical structures have the lowest floor including basement elevated to two 2 feet above the base flood elevation (5) Development fee of \$200 is required	LFA is a CFM	1	
Hillshire Village		1			(1) Hillshire Village enforces HCFCD detention requirements. (2) Hillshire Village is part of the HGAC Mitigation Plan			
Hitchcock	1	1			(1) Developer must conduct a study to define the floodway and BFE in Zone A (2) EC required prior to forming/pouring lowest floor, when construction is completed and prior to CO	LFA is a CFM	1	
Holiday Lakes	2	2	2	2	(1) New construction must be elevated on piling or piers (2) No fill allowed in SFHA (3) EC required prior to framing/pouring lowest floor, when construction is complete and prior to CO (4) Biggest problem is Fre-FIRM structures below BFE	LFA is a CFM	1	
Hood County	0	2	0	0	(1) Developer must conduct a study to define BFE in Zone A (2) Newly created parcels developed after August 14, 2012 must elevate to two feet above BFE. Septic systems are not allowed in floodplain for new subdivisions after this date. Septic system permits may not be issued until floodplain requirements are met per on-site sewage facility Order. (3) EC is required when construction is completed.(4) Biggest problem is large number of uninsured structures in improvised areas.	LFA is a CFM	2	

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Houston	0	1	See notes	0	(1) 1 foot freeboard in floodplain, 1.5 feet freeboard in floodway (2) Onsite and regional detention is required. (3) Developer must mitigate downstream impacts (4) Critical facilities must be elevated a minimum of +1' above the 500-year in Zone X (5) EC required prior to forming/pouring lowest floor, when construction is completed and prior to CO. (6) Biggest problem is large number of Repetitive Loss structures	LFA is a CFM	22	5
Hunt County		2			(1) Developer must conduct a study to define the floodway and BFE in Zone A (2) EC required prior to forming/pouring lowest floor and when construction is completed			
Hunter's Creek Village	1	1	1	1	(1) Developer must conduct a study based on fully developed conditions to define the floodway and BFE in Zone A (2) EC required prior to forming/pouring lowest floor and when construction is completed (3) Developer must mitigate downstream impacts (4) EC required prior to forming/pouring lowest floor, when construction is completed and prior to CO (5) Biggest problem is educating the public.	LFA is a CFM	1	
Hutchins	2	2	0	0	(1) Onsite and regional detention required (2) Hutchins - encroachment comes from Dallas County Regulations (3) EC required when construction is completed and prior to CO. (4)	LFA is a CFM	2	
Hutto	1	2			(1) Developer must conduct a study to define the floodway and BFE in Zone A (2) Detention is required to mitigate the impacts of a proposed project	LFA is a CFM	1	
Hurst	0	1	1	0.5	(1) Developer must conduct a study to define the floodway in Zone A (2) Detention is required to mitigate the impacts of a proposed project (3) Developer must mitigate downstream impacts (4) Development in Zone X must be elevated above fully developed BFE (5) EC required prior to CO (6) City is creating a Storm Water Utility (7) City has adopted both iSWM and SWMP (7) Biggest problem is a lack of plan to mitigate floodprone structures.	LFA is a CFM	2	7
Ingleside	1	1	1	1	(1) City utilized the 1987 San Patricio Drainage District Study that established the 100-year flood elevation in the City (2) New development must be +1' above BFE or +1' above crown of nearest street whichever is higher. (3) Developer must conduct a study, based on fully developed watershed conditions, to define the BFE in Zone A (4) Onsite Detention required, setback from Floodway and mitigation of downstream impacts (5) Development in Zone X must be elevated a minimum of +1' above the crown of closest road (6) EC required prior to forming/pouring lowest floor; when construction is completed and prior to CO. (7) Biggest problem is coastal flooding and incomplete record keeping in the past	LFA is a CFM	1	
Irving		2				LFA is a CFM	1	

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Jackson County	1	1	0	0	(1) In Zone A, developer must conduct a study, based on fully developed watershed conditions, to define the BFE. (2) Developer is required to mitigate downstream impacts of a proposed project. (3) EC required prior to forming/pouring lowest floor; when construction is completed and prior to CO (4) Biggest problem is educating local elected officials of the need to adopt higher (more stringent) standards to mitigate flood risks	LFA is a CFM	1	
Jamacia Beach		0	0	0	(1) City has Zone V areas where no fill is allowed (2) EC is required prior to forming/pouring lowest floor and when construction is completed.(2) Biggest problem is completing a CAV			
Jasper	1	1	1	1	(1) Developer must conduct a study to define the floodway and BFE in Zone A based on fully developed watershed conditions. (2) Developer must mitigate downstream impacts (3) Development in Zone X must be elevated a minimum of 1' above NG and above the crown of the nearest street (4) EC required prior to forming/pouring lowest floor, when construction is completed and prior to CO (5) Biggest problem is ignorance of floodplain issues such as drainage maintenance and floodplain permits	LFA is a CFM	1	
Jefferson County		1	10"	10"	(1) No rise allowed in Floodway (2) Detention is required (3) EC required prior to forming/pouring lowest floor (2) Biggest problem is enforcement	LFA is a CFM	1	
Jersey Village	1.5	1.5	1.5	1.5	(1) In Zone A, developer must conduct a study, based on fully developed watershed conditions, to define the floodway and BFE. (2) Detention, on-site and regional, is required to mitigate the impacts of a proposed project. (3) No fill can be imported into the floodplain (4) Developer must mitigate downstream impacts (5) In Zone X (shaded) new construction must be elevated a minimum of 18" above BFE and 1' above natural grade or crown of nearest street (6) EC required prior to forming/pouring lowest floor; when construction is completed and prior to CO (7) Biggest problem is pushback from owners that wish to improve more than 50% without elevating.	LFA is a CFM	1	
Johnson County	3	3	1.5	1.5	(1) Developer must conduct a study to define the floodway and BFE in Zone A based on fully developed watershed conditions. (2) Developer must mitigate downstream impacts and setback from Floodway boundary (3) EC required prior to framing/pouring lowest floor and when construction is complete (4) H&H study required to replace large culverts (5) Biggest problem is building without a permit	LFA is a CFM	1	
Jonestown	1	1			(1) In Zone A, developer must conduct a study to define the floodway and BFE. (2) Detention is required to mitigate the impacts of a proposed project. (3) EC required prior to forming/pouring lowest floor; when construction is completed and prior to CO	LFA is a CFM	1	

TFMA 2018 Higher Standards Survey (Freeboard = Finished Floor Elevation above BFE)

3/13/2018

Higher Standard Surveys received via Survey Monkey in 2018 = Yellow Highlight								
City or County Name	Feet above Fully Developed BFE	Feet above Existing BFE	Zone X(B) (Shaded) above street or curb	Zone X(C) (Unshaded) above street or curb	Special Notes	Is LFA a CFM?	CFM's on staff	CRS Rating
Kaufman	1	2	1.5	1.5	(1) Developer must conduct a study to define the floodway and BFE in Zone A based on fully developed watershed conditions. (2) Detention is required to mitigate the impacts of a proposed project (3) Development in Zone X must be elevated a minimum of 1.5' above NG and above the crown of the nearest street (4) EC required prior to forming/pouring lowest floor and when construction is completed	LFA is a CFM	1	
Kaufman County	2	2	2	2	(1) Two feet of freeboard is required (2) In Zone A, developer must conduct a study to define the BFE and floodway based on existing and fully developed conditions (3) Developer must provide detention and mitigate downstream impacts (4) In Zone X new development must be elevated a minimum of 2' above natural grade or above the crown of the nearest street whichever is higher			
Keene	2	2	0	0	(1) Onsite and regional detention required (2) EC required when construction is completed and prior to CO. (3) Biggest problem is two separate watersheds (Trinity & Brazos) with no enforcement options in either should someone violate the ordinance.	LFA is a CFM	2	
Keller	2	2			(1) Developer must conduct a study to define the floodway and BFE in Zone A based on fully developed watershed conditions. (2) Detention is required to mitigate the impacts of a proposed project (3) EC required prior to CO (4) Two CFM's on staff.	LFA is a CFM	2	
Kemah Kemp		1.5 2	1.5	1.5	(1) City has successfully acquired flood prone properties using HMGP (2) Kemah evaluating if detention is feasible being a coastal community.	LFA is a CFM	1	8
Kendall County	0	0	0	0	(1) In Zone A, developer must conduct a study to define the BFE and map drainage areas greater than 100 acres (2) Detention required to mitigate the impacts of a proposed project. (3) Detention is required for all commercial development in SFHA (4) LOMR required for subdivisions in SFHA (5) EC required before framing/pouring lowest floor and after structure is complete (6) Biggest problem is Pre FIRM structures in Floodplain and Floodway	LFA is a CFM	1	
Kennedale	2	2	2	2	(1) Developer must conduct a study to define the floodway and BFE in Zone A based on fully developed watershed conditions. (2) Detention is required to mitigate the impacts of a proposed project (3) Detention required and developer must mitigate downstream impacts and setback from Floodway boundary (4) EC required prior to framing/pouring lowest floor, after construction is complete and prior to CO (5) Biggest problem is lack of funding	LFA is a CFM	1	
Kerr County		1			(1) Developer must conduct a study to define the BFE in Zone A areas. (2) EC required when construction is completed	LFA is a CFM	1	
Kerrville	1	1			(1) In Zone A, developer must conduct a study to define the floodway and BFE. (2) Detention may be required to mitigate the impacts of a proposed project. (3) EC required prior to forming/pouring lowest floor; after structure is complete and prior to CO. (4) Three CFMs on staff	LFA is a CFM	3	

TFMA 2018 Higher Standards Survey (Freeboard = Finished Floor Elevation above BFE)

3/13/2018

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City or County Name	Feet above Fully Developed BFE	Feet above Existing BFE	Zone X(B) (Shaded) above street or curb	Zone X(C) (Unshaded) above street or curb	Special Notes	Is LFA a CFM?	CFM's on staff	CRS Rating
Killeen		2	0	0	(1) In Zone A developer must conduct a study and define the BFE and floodway (2) New construction in Zone AE must be elevated a minimum of +2' BFE (2) EC is required at permit application; prior to forming/pouring lowest floor and prior to final inspection.	LFA is a CFM	7	
Kingsville		1			City is proposing +2 ft above BFE along the floodplain with no new development allowed in the floodplain unless an engineered study is provided showing no rise in FP			
La Marque		2	2	2	(1) Onsite detention is required for new construction. (2) No fill is allowed in floodplain or floodway without mitigation. (3) EC is required prior forming/pouring lowest floor, when construction is complete and prior to CO. (4) Biggest problem is hurricanes			
La Porte	1	1	1	1	(1) Developer must conduct a study, based on fully developed watershed conditions, to define BFE and Floodway in Zone A. (2) Onsite and regional detention is required for new construction. (3) No fill is allowed in floodplain or floodway without mitigation. (4) Setback from floodway boundary is required. (5) EC is required prior to framing/pouring lowest floor; when construction is completed; and prior to CO. (5) Biggest problem is People wanting to place fill in the flood plain/ floodway. The City of La Porte is a bayside community accommodating major HCFCD channels with AE/VE zones.	LFA is a CFM	3	7
Lago Vista	1	1	0	0	(1) Developer must conduct a study, based on fully developed watershed conditions, to define BFE and Floodway in Zone A. (2) Detention is required for new construction. (3) No fill is allowed in floodplain or floodway without mitigation. (4) Setback from floodway boundary is required. (5) EC is required prior to framing/pouring lowest floor; when construction is completed; and prior to CO. (5) Biggest problem is illegal enclosure of area below elevated structures around Lake Travis	LFA is a CFM	1	
LaGrange	0	0	1	1	(1) In Zone A developer must conduct a study to define BFE and floodway (2) On-site detention is required (3)Development in Zone X must be elevated 1' above natural grade or crown of nearest street (3) EC is required when construction is completed and prior to CO (4) Biggest problem is unpermitted development	LFA is a CFM	1	
Lake Ransom Canyon		1			City of Lubbock provides technical assistance			
Lake Shores	1	1	1.5	1.5	(1) Developer must conduct a study to define the BFE and floodway in Zone A areas. (2) Detention is required for new development (3) EC required when construction is completed (4) Biggest problem is Poor drainage	LFA is a CFM	1	
Lakeway		1			(1) Within Zone A, if no base flood elevation data is available, new and substantially improved structures shall have the lowest floor (including basement) elevated at least 2 ft. above the highest adjacent grade.(2) EC required after construction is completed.			

TFMA 2018 Higher Standards Survey (Freeboard = Finished Floor Elevation above BFE)

3/13/2018

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Lamarque	2	2	2	2	(1) Detention and setback from Floodway Boundary is required for new construction. (2) Development in Zone X must be elevate a minimum of 24" above NG and above the crown of the nearest street (3) EC is required prior to framing/pouring lowest floor, when construction is completed and prior to CO. (4) Biggest problem is submitting a CRS application	LFA is a CFM	1	
Lampasses County		0	1	1	(1) New construction in SFHA must be setback from floodway boundary (2) Development in Zone X must be elevated a minimum of 1' above NG and above the crown of the nearest street (3)	LFA is a CFM	1	
Lancaster	1	*see notes			(1) Lowest floor must be elevated +1' BFE based on fully developed conditions (2) Detention is required to mitigate development in SFHA. (3) EC required before CO is issued. (4) Pre Development peak flows must be maintained. Downstream assessment is required using a 10% zone of influence.	LFA is a CFM	1	
Laredo	1	1			(1) Developer must conduct a study, based on fully developed wathershed conditions, to establish BFE and Floodway in Zone A areas (2) Both onsite and regional detention required to mitigate development impacts (3) Developer must setback from Floodway boundary and mitigate downstream impacts. (4) Ec required prior to placement/pouring lowest floor	LFA is a CFM	4	
League City	1.5	1.5	1.5	1.5	(1) All new construction must have a freeboard of 1.5 feet - above BFE in SFHA, above nearest adjacent BFE in shaded X zone, and 1.5' above highest natural grade or crown of street in X zone. (2) ECs are required at all 3 stages. (3) City is a no-rise community. (4) Cut and fill mitigation (grading) plan required. (4) Cumulative substantial improvements/damage over a 10-year period. (5) League City is a class 6 in CRS. (6) City has 9 CFM's on staff	LFA is a CFM	8	6
Leander	1	2	1	1	(1) Developer must conduct a study, based on fully developed wathershed conditions, to establish BFE in Zone A areas (2) Developer must construct detention, mitigate downstream impacts and setback from Floodway boundary (3) Biggest problem is educating the public	LFA is a CFM	1	
Leon County	1	1	1	0	(1) Developer must conduct a study, based on fully developed wathershed conditions, to establish BFE and Floodway in Zone A areas (2) Developer must mitigate downstream impacts (3) EC required prior to placement/pouring lowest floor, when construction is completed and prior to CO (4) Biggest problem is advertising the floodplain determination permit			
Leon Valley	1	1	0	0				
Levelland		0				1	1	

TFMA 2018 Higher Standards Survey (Freeboard = Finished Floor Elevation above BFE)

3/13/2018

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City or County Name	Feet above Fully Developed BFE	Feet above Existing BFE	Zone X(B) (Shaded) above street or curb	Zone X(C) (Unshaded) above street or curb				
Lewisville		2	0	0	(1) Developer must conduct a study to define BFE and Floodway in Zone A. (2) Detention is required for new construction. (3) Developer must dedicate floodplain as drainage ROW (4) Zone AE must be dedicated as a Drainage R.O.W for new development and if the property is being platted. (5) City requires 100 year design for storm piping and street capacity. (6) EC is required when construction is completed and prior to CO. (7) Biggest problem is maintenance issues on privately owned floodplains and single family subdivisions	LFA is a CFM	2	7
Liberty	0	0	1	1	(1) Developer must conduct a study to define the Floodway in Zone A. (2) Detention is required for new construction. (3) Developer must provide detention and mitigate downstream impacts (4) EC is required prior to framing/pouring lowest floor, when construction is completed and prior to CO. (5) Biggest problem is educating the public	LFA is a CFM	1	
Liberty County		1			(1) New construction in Zone AE must be elevated a minimum of +1' BFE (2) New construction in Zone X (shaded and unshaded) must be elevated a minimum of 1.5' above natural grade or crown of the nearest street. (3) Developer must conduct a study to define BFE and Floodway in Zone A. (4) Detention is required for new construction. (5) EC is required prior to forming/pouring lowest floor and after structure is completed.	Co Eng is a CFM	1	
Little Elm	0	0	1.5	1.5	(1) Developer must conduct a study to define BFE and Floodway in Zone A. (2) Detention is required for new construction. (3) No fill is allowed in floodplain or floodway without mitigation. (4) Setback from Floodway is required (5) EC is required prior to framing/pouring lowest floor.	LFA is a CFM	2	
Live Oak County	1	1	1	1	(1) Developer must conduct a study to define BFE in Zone A. (2) Onsite and regional Detention is required for new construction. (3) Developer must offset from Floodway boundary and mitigate downstream impacts (4) No fill is allowed in floodplain or floodway without mitigation. (5) In Zone X new construction must be elevated to street level (6) EC is required prior to forming/ placement of lowest floor and prior to CO. LFA is a CFM.	LFA is a CFM	1	
Live Oak		1			Live Oak is CRS 7		1	7
Llano		1	1	1	(1) Developer must conduct a study to define impact in Floodway and detention may be required. (2) Development in Zone X must be elevated a minimum of +1 above NG. (3) EC required prior to forming, when structure is completed an before CO.	LFA is a CFM	1	
Llano County	2	2			(1) No windows, doors or lighting in structures with level below BFE; (2) Elevation Certificates required prior to forming/pouring lowest floor, when construction is completed and prior to CO. (3) Developer is required to perform a study and define BFE in Zone A. (4) Pre-FIRM structures below BFE cannot be enlarged (footprint) even if not substantial improvement. (5) Fill must be compacted to 95% Proctor. (6) Two CFMs on staff		2	
Log Cabin		3			EC required when construction is completed			

TFMA 2018 Higher Standards Survey (Freeboard = Finished Floor Elevation above BFE)

3/13/2018

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Longview		2	0.5	0.5	(1) new construction must be elevated +2 feet in zone AE and +0.5 feet above surrounding grade in Zone X (3) Study required to define BFE and floodway in Zone A areas (4) EC required prior to forming/pouring lowest floor and when new construction is completed. (5) Developer's engineer required to certify adequate drainage capacity is available or provide detention.	LFA is a CFM	1	
Lubbock	1	1	1	1	(1) Lubbock has many Playa Lakes floodplains that must be treated as lakes not riverine floodways The lowest floor of new construction must be a minimum of 1' above crown of nearest street. In playa lake areas: new development must be elevated (a) a minimum of 1' above the BFE; (b) a minimum of 2' above the lake overflow or (c) a minimum of 1' above the 500-year level if the playa does not overflow during the 500-year event (2) Developer must conduct a study to establish new BFE's in Zone A's (3) In established subdivisions new construction must be elevated a minimum of 1' above BFE (3) In new subdivisions construction must be elevated a minimum of 0.5' based on fully developed watershed conditions (4) (5) City requires NAI regarding floodways = 0.0000'rise (5) In Zone X new development must be elevated a minimum of 1' above natural grade or above the crown of the nearest street 6) Drainage analysis, based on fully developed watershed conditions, is required for all new development (7) EC required before forming/pouring lowest floor and prior to CO. (8) Biggest problems are: SI/SD determinations; educating citizens and defending poor FIRM's.	LFA is a CFM	4	7
Lubbock County	1	1	1	1	(1) Developer must conduct a study to define BFE and Floodway in Zone A. (2) Development in Zone X must be elevated a minimum of 1' above natural grade or crown of nearest street.	LFA is a CFM	1	
Lufkin	1	1			Developer must conduct a study to define BFE and Floodway in Zone A.	1	1	
Madison County		2						
Malakoff		3			EC required when construction is completed			

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Mansfield	2	3	0	0	(1) Developer must conduct a study, based on fully developed watershed conditions, to define the BFE in Zone A areas (2) City has FEMA approved Flood and all-hazards Mitigation Plans (3) City has developed a Repetitive Loss Plan.(4) EC is required prior to forming/pouring lowest floor (5) City requires erosion setback adjacent to channels (6) City has adopted the NCTCOG iSWM Drainage Criteria Manual (7) Earthen channels must be constructed with 1' freeboard for 100-year flood flow and have 4:1 erosion setback from bottom of channel (minimum of 10' set back from top of bank) (8) Detention is required to mitigate any fill in floodplain and floodway (9)CLOMR required for fill in Floodway (10) City has successfully acquired nine properties using acquisition funding (11) Ultimate development studies completed on all FEMA channels in the City. (12) EC required for subdivisions that have fginish floors designated on Plat(13) Biggest problems are upgrading infrastructure and dealing with TxDOT regarding drainage design standards	LFA is a CFM	2	
Manvel		2	2		(1) New construction must be elevated +2' above BFE. (2) Developer most submit a study establishing the BFE and floodway in Zone A. (3) Any development in the floodway must include a "no rise" certificate. (4) No critical facilities allowed in the 500-year floodplain (5) No enclosures below the BFE. (6) New construction in Zone X (shaded) must be elevated +2' above natural grade or crown of the nearest street. In Zone X (unshaded) the requirement is +1.5' above natural grade or +1' above the crown of the nearest street, whichever is higher. (7) Detention is required to offset the impacts of proposed development. (8) EC required prior to forming and pouring lowest floor; after construction; and prior to CO. (9) Biggest problem is the Gulf Coast Water Authority has an elevated irrigation canal that causes much of our City to be in a floodplain, as it blocks the natural flow of water.	LFA is a CFM	2	
Marble Falls		1			studies required in un-numbered A for BFE and floodway/ no fill allowed in floodway without mitigation/ EC required at permit, prior to foundation, at completion and prior to CO/ interested in CRS/ FPA is CFM	LFA is a CFM	1	
Martindale		0	2	2	(1) Developer must conduct a study to define the BFE and detention may be required. (2) New construction in Zone X (shaded) must be elevated a minimum of 2 feet above natural grade or above the crown of the nearest street. (3) EC required prior to forming or pour lowest floor, when structure is completed and before CO.	LFA is a CFM	1	

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Matagorda County	0	2			(1) New development must be elevated a minimum of +2' above BFE. (2) No development allowed in the Floodway without an engineering study showing 0.00' rise (3) in Zone A the developer must conduct a study to define the BFE and Floodway before permit issued. As a minimum the new development must be 2' above natural grade. (4) +1' Freeboard required within unaccredited Town of Matagorda Levee (5) Developer must setback from Floodway boundary (6) EC required before forming/pouring lowest floor, when structure is completed and prior to final electric connection (7) Piling and breakaway wall certification required for construction in Zone VE (8) County has adopted cumulative substantial improvement ordinance requiring cumulative for a minimum of 5 years. (9) County has FEMA approved all-hazards and Flood Mitigation plans. (10) Problem is educating the public		1	
Maybank		3			EC is required when construction is completed			
McKinney	2	*see notes	2	2	(1) Developer must conduct a study, based on fully developed watershed conditions, to define the BFE and floodway. (2) Detention is required if erosive or capacity conditions exist downstream (3) Developer must mitigate downstream impacts (4) No net loss of valley storage allowed (5) Minimum finish floor must be shown on all Plats adjacent to the floodplain (6) EC required for CO (7) Problem protecting and rehabilitating NRCS structures/lakes	LFA is a CFM	5	
McLennan County	1	1	0	0	(1) Developer must conduct a study, based on fully developed watershed conditions, to define the BFE prior to permit in Zone A. (2) Detention is required (3) Developer must mitigate downstream impacts (4) EC required when construction is complete (7) Problem is studies by universities and others that do not agree with FEMA/FIS	LFA is a CFM	1	
Meadowlakes	1	1	1.5	1.5	(1) Developer must conduct a study to identify BFE and Floodway boundary in Zone A (2) In Zone X, new construction must be elevated 1.5' above natural grade or crown of nearest street. (3) EC required: before construction begins; when forms are in place (but before pour); after foundations complete; and prior to CO (4) No Rise certificate required for Floodway development	LFA is a CFM	1	
Medina County	1	1	1.5	0	(1) Developer must conduct a study to define BFE and floodway in Zone A prior to permit (2) On-site detention is required for new construction. (3) Developer must mitigate downstream impacts (4) 18" Freeboard required in all zones (4) EC is required prior to forming/pouring lowest floor and when construction is completed. (5) Biggest problem is County has numerous unstudied streams	LFA is a CFM	1	
Melissa	2	2	1	1	(1) Developer must conduct a study, based on fully developed watershed conditions, to define the BFE and floodway. (2) Detention is required (3) Developer must mitigate downstream impacts and setback fro Floodway boundary (4) EC is required prior to forming/pouring lowest floor, when construction is completed and prior to CO (7) Problem is new development in Zone X		1	

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Mesquite	2	2' (see notes)	2	1	(1) Mesquite uses BFEs based on fully developed watershed conditions. (2) Mesquite requires developer to do an ultimate development (built out) model and keep finish floors 2' above this elevation. (3) Development in Zone X must be elevated a minimum of 2' in X shaded and 1' in X unshaded (4) On-site detention is required when site exceeds 10 acres (5) No fill is allowed in FP or FW without mitigation-no adverse impact (5) EC required prior to placing/pouring lowest floor and prior to CO (6) Two CFMs on staff.	LFA is a CFM	2	
Midland		1			Playas Lowest floor must be +1' above overflow elevation or BFE whichever is higher. No import of fill is allowed in Playas. This is difficult to enforce. Midland is CRS 8		1	8
Midlothian		2			City recently revised the ordinance to require new construction to be elevated a minimum of 2' above BFE			
Mills County		0						
Missouri City	1	1	1.5	1.5	(1) Developer must conduct a study to define the BFE and detention may be required. (2) New construction in Zone X must be elevated a minimum of 1.5 feet above natural grade or above the crown of the nearest street. (3) EC required for all new construction regardless of Zone and prior to forming, when structure is completed and before CO. (4) Missouri City is CRS 7 (4) City utilizes NAVD 1988 for EC's and new construction.	LFA is a CFM	1	7
Mont Belvieu	2	2	1.5	1.5	(1) Developer must conduct a study, based on fully developed watershed conditions, to define the BFE and floodway in Zone A areas. (2) Detention is required. (3) New construction in Zone X must be elevated a minimum of 1.5 feet above natural grade or above the crown of the nearest street. (4) EC required prior to forming/pouring lowest floor; when construction is completed and prior to CO.	LFA is a CFM	1	
Montgomery County	1	1	0	0	(1) Developer must conduct a study to define BFE and Floodway in Zone A. (2) Detention is required (3) EC is required prior to framing/pouring lowest floor, when construction is completed and prior to CO (3) Biggest problem is unpermitted development throughout the county		3	
Nacogdoches		1						
Nassau Bay		2			Nassau Bay is CRS 7		1	7
Nederland	1.5	1.5	1	1	(1) Developer must conduct a study, based on fully developed watershed conditions, to define the BFE and Floodway (2) Detention is required. (3) New construction in Zone X must be elevated a minimum of 1' above natural grade or above the crown of the nearest street (4) EC required prior to forming/pouring lowest floor; when construction is completed and prior to CO. (3) One CFM on staff	LFA is a CFM	1	
New Braunfels		2			(1) Developer must mitigate downstream impacts (2) Detention is required. (3) EC required when construction is completed and prior to CO. (4) City developed Drainage Criteria Manual.(5) Biggest problem is flash flooding	LFA is a CFM	5	6
Newton County		1	0	0	(1) Developer must mitigate fill placement. (2) Onsite detention required (3) EC required prior to forming/placing lowest floor and prior to CO (3) Biggest problem is power company connecting unpermitted development	LFA is a CFM	1	

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North Richland Hills		2'	1'	1'	(1) Developer must conduct a study to define BFE in Zone A before permit is issued (2) FF must be 2.0' above BFE. (3) CLOMR/LOMR required for all Zone "A" floodplain, subdivisions 5 acres and larger located in Zone "AE", and subdivisions with any proposed improvements in the floodway. (4) A separate ordinance governs Little Bear Creek which specifies no rise in ultimate BFE. (5) Developer must provide onsite detention and mitigate downstream impacts (6) In Zone X lowest floor must be 1' above curb at CL of lot or 1.5' above BFE whichever is higher (7) Two Elevation Certificates are required during construction - (1) with form board survey and (2) prior to issuance of CO. (8) Biggest problems is waiting for the RAMPP Team to release the new FIS/FIRMs. They have been pending for 4+ years	LFA is a CFM	2	6
Nueces County	1	1	1	1	(1) Fill placed in floodplain/floodway must be mitigated.(2) On-site detention required (3) EC required prior to forming/pouring lowest floor and when structure is completed.(4) Biggest problem is staffing			
Oak Ridge North		1	1	1	(1) Developer must conduct a study to define the BFE and Floodway (2) Detention is required (2) EC is required prior to forming/pouring lowest floor and when construction is completed (3) Biggest problem is substantial improvements to Pre-FIRM structures	LFA is a CFM	4	
Odessa		1	1	1	(1) Developer must conduct a study to establish both BFE and floodway in Zone A areas (2) Detention is required to mitigate development.(3) Developer must mitigate downstream impacts. (4) Development in Zone X must be elevated a minimum of 1' above NG and above the crown of the nearest street (5) EC required after construction is completed and prior to CO. (6) Biggest problems are determining the BFE for unnumbered A zones in already developed areas and localized flooding	LFA is a CFM	4	7
Orange County		0	18" see notes	18" see notes	(1) Developer must conduct a study to define BFE and floodway in Zone A prior to permit (2) Floodway setback is required (2) On site detention and setback from Floodway is required (3) In Zone X the County recommends elevating 18" to 24" above the crown of the nearest road (3) EC is required prior to forming/pouring lowest floor; when construction is completed; and prior to CO.	LFA is a CFM	3	
Palacios		1			(1) EC required prior to pouring lowest floor; when structure is complete; and prior to CO (2) City has FEMA approved all-hazard and Flood Mitigation Plans	LFA is a CFM	1	
Palestine		1	0.5	0.5	(1) Developer must conduct a study to define BFE and Floodway in Zone A. (2) No fill is allowed in floodplain or floodway without mitigation (NAI) (3) Onsite and regional detention required (4) Developer must mitigate downstream impacts and setback from floodway boundary (5) EC is required prior to forming/pouring lowest floor, when construction is completed and prior to CO. (6) Biggest problem is maintenance of culverts and channels in residential areas.	LFA is a CFM	1	
Pantego		2						
Paradise		2			New NFIP Community			

TFMA 2018 Higher Standards Survey (Freeboard = Finished Floor Elevation above BFE)

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City or County Name	Feet above Fully Developed BFE	Feet above Existing BFE	Zone X(B) (Shaded) above street or curb	Zone X(C) (Unshaded) above street or curb	Special Notes	Is LFA a CFM?	CFM's on staff	CRS Rating
Parker County		2	2	2	(1) Developer must conduct a study to define BFE and Floodway in Zone A. (2) No fill is allowed in floodplain or floodway without mitigation (NAI) (3) Onsite and regional detention required (4) Developer must setback from Floodway boundary and mitigate downstream impacts (5) Engineering study required to show no rise in BFE due to development (6) Development in Zone X must be elevated a minimum of 2' above NG or above the crown of the nearest street (7) EC is required prior to forming/pouring lowest floor, when construction is completed and prior to CO.	LFA is a CFM	1	
Pasadena	1	1	1	1	(1) In Zone A developer must conduct a study to define BFE and floodway (2) One foot above the base flood elevation (BFE) for properties within the floodplain -Zone AE and (3) one foot above the centerline or crown of the neighboring street for properties outside the floodplain - Zone X. (4) Detention is required for any development of property with more than 1 acre in size to mitigate the impact of fill/development.(5) City follows Harris County Flood Control District's Design Criteria manual requiring on-site and regional detention and mitigation of downstream impacts. (6) EC required prior to framing/pouring lowest floor; when construction is completed; and prior to CO.(7) EC is also required in all Zone X areas. (8) Pasadena has 4 CFM's on staff. (9) Biggest problem is lack of funding to mitigate floodprone properties		4	5
Payne Springs		3			EC required when construction is completed			
Pearland		1			Pearland is CRS 7	LFA is a CFM	1	7
Pflugerville		0			City is CRS 7		1	7
Pinehurst	0	0	0	0	(1) Developer must conduct a study and define the BFE and floodway in Zone A (2) Onsite detention required (3) EC required prior to forming/pouring lowest floor, when structure is completed and prior to CO (5) biggest problem is education of developers and public	LFA is a CFM	1	
Planeview		1						
Plano	2	2	2	2	(1)Developer must conduct a study, based on fully developed watershed conditions, to identify BFE and Floodway (2) Detention is required for new construction. (3) Developer must setback from Floodway andmitigate downstream impacts (4) No residential construction allowed in floodplain (5) EC is required prior to forming/pouring lowest floor and when construction is completed. (6) City buying out properties that were in flood plain where possible. (7) Biggest problem is flood awareness	LFA is a CFM	4	5
Point Blank		0			(1) Developer must conduct a study to define BFE and Floodway in Zone A. (2) EC is required prior to forming/pouring lowest floor and prior to CO.	LFA is a CFM	1	
Point Venture	1	1	1	1	(1) Regional detention is required (2) EC is required prior to forming/pouring lowest floor, when construction is completed and prior to CO.			

TFMA 2018 Higher Standards Survey (Freeboard = Finished Floor Elevation above BFE)

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City or County Name	Feet above Fully Developed BFE	Feet above Existing BFE	Zone X(B) (Shaded) above street or curb	Zone X(C) (Unshaded) above street or curb	Special Notes	Is LFA a CFM?	CFM's on staff	CRS Rating
Polk County		1			(1) Developer must conduct a study to define BFE in Zone A (2) On site detention and setback from floodway boundary required. (3) Areas around Lake Livingston in Zone A requires EC. (4) County permits are withheld until EC has been submitted. (5) Electric service cannot be purchased until County has determined if property is in SFHA (6) Polk County has 1 CFM on staff.	LFA is a CFM	1	
Port Aransas	1	1	0	0	(1) City is a Zone V community (2) EC required before framing/pouring lowest floor and prior to CO (3) Biggest problem is hurricanes	LFA is a CFM	2	
Port Arthur		1	0	0	(1) Developer must conduct a study to define BFE and Floodway in Zone A. (2) Detention is required for new construction. (3) EC is required prior to forming/pouring lowest floor, when construction is completed and prior to CO. (4) Biggest problem is staffing	LFA is a CFM	3	9
Randall County	3	3			(1) Developer must conduct a study to define BFE and Floodway in Zone A. (2) Detention is required for new construction. (3) EC is required when construction is completed and prior to CO.			
Raymondville	1	1	2	2	(1) Developer must conduct a study to define BFE in Zone A. (2) Detention is required for new construction. (3) Developer must setback from Floodway and mitigate downstream impacts (4) New construction in Zone X must be elevated a minimum of 2' above natural grade or crown of nearest street. (4) EC is required prior to forming/pouring lowest floor, when construction is completed and prior to CO.	LFA is a CFM	1	
Regugio County	0	0	2	2				
Richardson	2	2	1	1	(1) Developer must conduct a study to define BFE in Zone A.(2)Developer must mitigate downstream impacts (3) Detention may be required (4)Manufactured homes must be elevated +2' above fully developed BFE (5) City has adopetd IBC 2015 (6) Fence permits required. Fences not allowed in Floodway and restricted in SFHA (7) Developetr must setback from floodway boundary (8) City regulates overflow at low point in lots. (9) No rise in BFE is allowed (10) EC is required when construction is completed and prior to CO (11) Biggest problems are redeveloping with existing drainage problems; undersized downstream capacity and channel erosion	LFA is a CFM	3	7
Richmond	1.5	1.5	1.5	1.5	(1) Developer must conduct a study to define BFE and Floodway in Zone A. (2) Detention, mitigation of downstream impacts, and Floodway setback is required for new construction. (3) New construction in Zone X must be elevated a minimum of 1.5' above natural grade or crown of nearest street. (4) Mobil homes must be elevated so that the bottom of horizontal structural members are above BFE (5) EC is required prior to forming/pouring lowest floor, when construction is completed and prior to CO.	LFA is a CFM	1	(*)

TFMA 2018 Higher Standards Survey (Freeboard = Finished Floor Elevation above BFE)

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Higher Standard Surveys received via Survey Monkey in 2018 = Yellow Highlight								
City or County Name	Feet above Fully Developed BFE	Feet above Existing BFE	Zone X(B) (Shaded) above street or curb	Zone X(C) (Unshaded) above street or curb	Special Notes	Is LFA a CFM?	CFM's on staff	CRS Rating
Richland Hills		1	0	0	(1) Developer must conduct a study to define BFE and Floodway in Zone A. (2) New development is encouraged to be elevated +2' above BFE (3) EC is required when construction is completed and prior to CO. (4) Richland Hills has a FEMA approved all Hazards Mitigation Plan (5) Biggest problem is large number of Pre-FIRM structures in community experiencing higher flood insurance premiums due to BW12 and HFIAA			8
Rockport	0	1.5	1	1	(1) Detention is required (2) EC required prior to CO (3) Biggest problems are: transitioning to higher floodplain management standards; resistance to freeboard requirements ; and historic waterfront structures downtown	LFA is a CFM	1	
Rockwall	2	2	0	0	(1) Developer must conduct a study to define BFE and Floodway in Zone A. (2) Detention and mitigating downstream impacts is required for new construction. (3) EC is not required (4) Biggest problem is building or rebuilding on vacant lots and fences in SFHA	LFA is a CFM	1	
Round Rock	2	2	0	0	(1) Developer must conduct a study, based on fully developed conditions, to define BFE in Zone A. (2) Developer must mitigate downstream impacts and set back fro floodway (3) Biggest problem is floodplain encroachment	LFA is a CFM	1	
Rowlett		2	2	2	(1) Developer must conduct a study to identify BFE and floodway in Zone A. (2) New construction in Zone X Shaded must be elevated a minimum of 2 feet above NG or nearest street. (3) Detention is required except for lots in excess of 1 acre or proof submitted that no negative impact on the existing storm drainage system (4) Floodway setback is required for new development (5) Builders required to submit a Lot Grading Plan as part of permit request. (6) Survey or EC is required prior to pouring lowest floor of new construction. (7) EC required when structure is completed and prior to CO. (8) As Built sealed by a RPLS is required when structure is completed	LFA is a CFM	1	
Royce City	2	2			(1) Developer must conduct a study to define BFE and Floodway in Zone A for both existing and fully developed conditions. (2) Detention is required for new construction. (3) EC is required prior to forming/pouring lowest floor; when construction is completed and prior to CO.			
Sachse		2			(1) Detention is required (2) EC required prior to forming/pouring lowest floor	LFA is a CFM	1	
Saginaw		2			EC required when construction is completed			
Saledo		0	2	2	(1) Developer must conduct a study to define BFE in Zone A (2) Detention is required for new construction. (3) Fill cannot be used to reclaim any area in SFHA or Floodway (4) Developer must mitigate downstream impacts (5) EC is required prior to forming/pouring lowest floor; when construction is completed and prior to CO. (6) Biggest problem is property owners wanting to fill within the floodplain to construct new residential improvements.	LFA is a CFM	1	
San Angelo		1			Lowest Floor elevated +1' above BFE on FIRM			

TFMA 2018 Higher Standards Survey (Freeboard = Finished Floor Elevation above BFE)

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San Antonio		2			(1) Developer must conduct a study to define BFE and Floodway in Zone A (2) No habitable structures allowed in floodplain (3) Non-residential structures in floodplain and adjacent to floodplain must be elevated +1' above ultimate development BFE (4) Reclamation of floodplain is not allowed when drainage area is greater than 320 acres (5) Ponding depth in parking lots in SFHA cannot exceed 6 inches (6) City acquires Repetitive Loss structures and structures that have been substantial damaged (7) New DFIRMs will show floodplain boundaries based on ultimate development (8) City enforces cumulative building addition and substantial improvements over a 10-year period (9) All development must demonstrate no adverse flooding impact to 2000 feet downstream of development (10) Detention required to mitigate adverse impacts (10) EC required when construction is complete and prior to CO (11) Biggest problem is regional and localized flooding	LFA is a CFM	6	
Sanger	2	2	2	1	(1) Developer must conduct a study, based on fully developed watershed conditions, to define BFE and floodway in Zone A. (2) City requires onsite detention (3) EC required prior forming/pouring lowest floor (4) Biggest problem: development encroaching on SFHA	LFA is a CFM	1	
San Jacinto Co.	2	2	0	0	(1) Developer must conduct a study to define BFE and Floodway in Zone A. (2) Developer must setback from floodway boundary (3) County requires Elevation Certificate prior forming/pouring lowest floor (4) Biggest problem: CFM needed to administer the program		0	
San Marcos		1			(1) Developer must establish BFE and floodway boundary in Zone A (however the only Zone A areas are unpopulated) (2) Detention is required (3) City requires Elevation Certificate prior forming/pouring lowest floor; when construction is completed and prior to CO. (4) San Marcos is CRS 7; Four (4) CFM's on staff	LFA is a CFM	4	7
San Patricio Co.	1.5	1.5	1.5	1.5	San Patricio County requires all development, regardless of zone, to be elevated a minimum of 18" above NG. (1) Developer must conduct a study, based on fully developed watershed conditions, to define BFE and Floodway in Zone A. (2) Detention is required for new construction. (3) Developer must setback from Floodway and mitigate downstream impacts (NAI) upstream and downstream. (4) Development in Zone X must be elevated a minimum of 18" above NG or the crown of the nearest street (5) EC is required when construction is completed and prior to CO. (6) Biggest problem is citizen compliance with Court Orders	LFA is a CFM	3	
San Saba County		0			(1) Developer must conduct a study to define BFE and floodway in Zone A. (2) EC required prior to framing/pouring lowest floor (3) Biggest problem is enforcing the Court Order with minimal penalties	LFA is a CFM	1	
Santa Fe	1	1			(1) Developer must conduct a study to define BFE and floodway in Zone A. (2) Detention is required (3) EC required when construction is completed and prior to CO	LFA is a CFM	1	

TFMA 2018 Higher Standards Survey (Freeboard = Finished Floor Elevation above BFE)

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Schertz		1	0	0	(1) Developer must establish BFE in Zone A (2) Developer must mitigate downstream impacts and setback from floodway boundary (3) City has adopted cumulative loss requirement (4) City requires Elevation Certificate prior forming/pouring lowest floor; when construction is completed and prior to CO. (4) Biggest problem: City needs funding for a LFA dedicated to the FPM program	LFA is a CFM	7	
Seabrook		1.5	BFE + 1.5'	BFE + 1.5'	(1) Developer must conduct a study to define BFE and Floodway prior to permit (2) New construction in Zone X must be elevated a minimum of 1.5' above the adjacent A Zone BFE (2) No fill allowed in floodway. (3) City requires Elevation Certificates prior forming/pouring lowest floor; when construction is completed and prior to CO. (4) Biggest problem: Pre FIRM structures below BFE	LFA is a CFM	4	7
Seagoville		2			EC required when construction is completed			
Sealy	1	1	1.5	1.5	(1) New construction must be elevated: +1' above BFE; 12" above curb; or 18" above natural grade whichever is higher. (2) Developer must conduct H&H study to define BFE in Zone A. (3) Detention is required to mitigate the impact of development in SFHA. (4) New construction in Zone X must be elevated a minimum of 18" above NG or 12" above curb whichever is higher. (5) EC required prior to forming/pouring lowest floor; after construction and prior to CO. (6) "Zero Rise" downstream of development in Allen's Creek watershed. (7) City has GIS mapping available on line.	LFA is a CFM		
Seguin	1	1	1	1	(1) Developer must conduct a study to define BFE and Floodway in Zone A for both existing and fully developed conditions. (2) Detention is required for new construction. (3) Developer must mitigate downstream impacts and offset from floodway boundary (4) Fences constructed in Floodway must be breakaway and cabled to prevent floating away (5) EC is required prior to forming/pouring lowest floor; when construction is completed and prior to CO. (6) City offers FPM training for contractors (7) Biggest problem: substantial improvement to structures in the floodway	LFA is a CFM	3	
Selma		0	1	1	(1) Detention is required (2) EC required prior to forming/pouring lowest floor, when construction is completed and prior to CO (3) Biggest problem is recordkeeping	LFA is a CFM	1	
Seven Points		3						
Shepherd		0			(1) Developer must conduct a study to define BFE in Zone A prior to permit (2) EC is required prior to forming/pouring lowest floor and prior to CO.	LFA is a CFM	1	
Sherman	2	2	0	0	(1) Developer must conduct a study to define BFE in Zone A prior to permit (2) On-site detention is required for new construction. (3) No fill is allowed in SFHA without mitigation (4) EC is required prior forming/pouring lowest floor. (5) Biggest problem is funding	LFA is a CFM	2	

TFMA 2018 Higher Standards Survey (Freeboard = Finished Floor Elevation above BFE)

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Shoreacres		2	NA	NA	(1) Shoreacres is a coastal community (2) Non-city structures must be elevated +2' above BFE. (3) City structures and projects must be elevated +3' above BFE. (4) The entire city is either Zone AE or VE and no Zone X areas. (5) City identified a Storm Surge Zone" where no fill without a special permit and structures must be built to Zone V standards (6) No construction on fill allowed (7) EC required prior to framing/pouring lowest floor; when construction is completed; and prior to CO.	LFA is a CFM	1	9
Simonton		1	1	1	1 foot above BFE or 1 foot above street elevation whichever is higher. Elevation Certificate is required after construction.	Pending change - Elevation Certificates will be required - before pour or lowest floor framed in and after construction.		
Slaton		1			City of Lubbock provides technical assistance			
Smith County		2	2	2	(1) Onsite detention required - No fill in floodplain or floodway without mitigation. (3) Developer must mitigate downstream impacts and setback from the floodway boundary (4) EC is required prior to forming/pouring the lowest floor, when construction is completed and prior to CO. (5) Biggest problem is politics and backing county staff.	LFA is a CFM	2	
Southlake	2	2	0	0	(1) Developer must conduct a study (existing and fully developed conditions) to define the BFE and floodway in Zone A prior to permit (2) On-site detention is required for new construction. (3) No fill is allowed in SFHA without mitigation (4) No fill allowed in floodway (5) Developer must mitigate downstream impacts of development	LFA is a CFM	3	
Southside Place		0			1 or 1.5			
Spring Valley		1	1	1	(1) Developer must conduct a study to define BFE in Zone A. (2) City must comply with HCFCD higher standard requirements (3) No fill in floodplain or floodway without mitigation. (3) New construction in Zone X must be elevated a minimum of 1.0' above natural grade or crown of nearest street. (4) EC is required before framing/pouring lowest floor; when construction is completed; and prior to CO.	LFA is a CFM	1	
Stafford		1.5			(1) Critical Facilities must be elevated 3' above the BFE or to the 500-year flood elevation whichever is higher.			
Star Harbor		3			EC required when construction is completed			
Stephenville		0	1	1	(1) Developer must conduct a study to define BFE in Zone A. (2) No fill in floodplain or floodway without mitigation (detention). (3) New construction in Zone X must be elevated a minimum of 1.0' above natural grade or crown of nearest street. (4) EC is required before framing/pouring lowest floor and prior to CO.	LFA is a CFM	2	
Sugarland		1' above top of curb or 1' above elevation in front of house whichever is greater, regardless of BFE	1.5	1.5	(1) Developer must conduct a study, based on fully developed watershed conditions to define floodway in Zone A (2) Developer must provide onsite detention and mitigate downstream impacts (3) EC required prior to framing/pouring lowest floor (4) Sugarland is a FEMA Cooperative Technical Partner (CTP) (5) Biggest problem: overlapping authority with LID's	LFA is a CFM	4	7

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Sunset Valley	1	1	0	0	(1) Developer must conduct a study, based on fully developed watershed conditions, to define BFE and floodway in Zone A (2) EC required prior to pouring lowest floor (3) Biggest problem is water in homes	LFA is a CFM	2	8
Sweetwater		0			Sweetwater is CRS 9		1	9
Tarrant County		2	0	0	(1) Work in floodplain may require a engineering study to ensure adjacent property owners won't be affected by construction and/or development in the floodplain. This is determined on a case by case basis and is applicable to all zones. (2) Strict compliance to "no rise" in FW (3) On-site detention and mitigation of downstream impacts is required (4) EC required when structure is completed. (5) Approval of CRS application is pending (6) Biggest problem is educating developers and citizens on floodplain management and obtaining a permit prior to construction.	LFA is a CFM	1	
Taylor Lake Village		0			Taylor Lake Village is CRS 10			10
Temple		1			(1) Developer must conduct a study to define BFE in Zone A. (2) No fill in floodplain or floodway without mitigation (detention). (3)Setback from floodway boundary required	LFA is a CFM	7	
Terrell		2			(1) City has posted FIRM's and Preliminary DFIRM's on website in GIS format (2) EC required when construction is completed.			
Texarkana	1	1			(1) In Zone A the developer must submit a study, based on fully developed watershed conditions, showing BFE and Floodway. (2) No development allowed in the floodway(3) Developer must mitigate downstream impacts (4) EC required when construction is completed and prior to issuing CO.(5) Three (3) CFM's in PW department	LFA is a CFM	3	
The Colony	2	2	0	0	(1) Developer must conduct a study, based on fully developed watershed conditions, to establish the BFE and floodway in Zone A, (2) No development allowed in the floodway. (3) Drainage study required for Zone X development (4) Developer must provide detention, mitigate downstream impacts and setback from Floodway (5) Elevation certificate required prior to CO, (4) Cannot increase velocities above 6 fps.(5) Biggest problem is streambank erosion and flooding in low lying areas		1	
Tiki Island	1	1			(1) Developer must establish BFE in Zone A. (2) EC is required prior to framing/pouring lowest floor, when construction is completed and prior to CO.	LFA is a CFM	1	8
Tomball		1.5	1	1	(1) Developer must conduct a study to define BFE and floodway in Zone A (2) Lowest floor of new construction must be a minimum of 12" above nearest roadway centerline or top of rim of nearest sanitary or storm sewer manhole, whichever is highest. (3) Both on-site and regional detention is required. (4) Developer must setback from Floodway (5) City has adopted flood hazard maps with ponding areas identified in Zone X and new construction in ponding areas must be elevated above the ponding elevation (6) EC required prior to pouring lowest floor, when construction is completed and before CO. (4) City has Impact Fee System (5)	LFA is a CFM	2	
Tom Green County		0			(1) Developer must establish BFE in Zone A. (2) Developer must mitigate all fill placed in floodway. (3) EC is required prior to framing/pouring lowest floor, when construction is completed and prior to CO. One (1) CFM on staff	LFA is a CFM	1	

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Travis County		1	1	1	(1) Developer must establish BFE in Zone A. (2) Developer must mitigate all fill placed in floodway. (3) Development in Zone X must be elevated a minimum of 1' above NG and crown of nearest street (4) EC is required when construction is completed and prior to CO.	LFA is a CFM	1	
Tyler	1	1	0.5	0.5	(1) New construction must be elevated the higher of +1' existing conditions or +1' fully developed conditions. (2) Developer must conduct a study to establish floodway and BFE based on both existing and fully developed conditions. (3) EC required prior to forming/pouring lowest floor; when construction is complete and prior to CO. (4) A 6% City Storm Water Management surcharge added to water/sewer bills.	LFA is a CFM	5	
Tyler County	1	2			(1) Developer must establish BFE and floodway in Zone A. (2) Developer must mitigate downstream impacts (3) EC is required prior to forming/pouring lowest floor and prior to CO.			
University Park	0	0	0	0	(1) University Park is a fully developed community (must tear down something to build anything new). (2) There is a maximum impermeable surface limit per lot regulation.(3) In all zones new development must match grade of adjacent properties.(4) On site detention required and developer must mitigate downstream (offsite) impacts and setback from Floodway (5) EC required prior to forming/pouring lowest floor; when construction is complete and prior to CO (6) City has installed a Collapsible dam structure (7) Biggest problem is undersized storm sewers and localized flooding	LFA is a CFM	1	
Uvalde		2	2	2	(1) New construction must be elevated a minimum of 2' above BFE. (2) Developer must conduct a study to establish the BFE and floodway in Zone A based on existing watershed conditions (3) No fill in floodway without mitigation. (4) In Zone X new construction must be elevated 2' above natural grade or crown of nearest street (5) EC required prior to framing/pouring lowest floor.			
Ushler County		2			Revised ordinance in 2010			
Van Zant County		2			Revised ordinance in 2010			
Victoria	0	1 (see notes)	2	2	(1) City Drainage ordinance requires 1' freeboard (2) Developer must establish BFE and Zero rise Floodway in Zone A. (3) Detention and mitigation of downstream impacts is required. (4) Residential development in all <u>Zone X (shaded and non-shaded)</u> must be elevated a minimum of 30' above gutter and 24' above the crown of the nearest street. (5) Non-residential development in <u>Zone X</u> (shaded and non-shaded) must be elevated a minimum of 20" above gutter and 12" above the nearest street. (5) EC is required after construction is completed and before CO. (6) City Storm drainage Criteria Manual requires elevation of both slab and pier and beam structures and lot grading above BFE. (7) Biggest problems are funding for map revisions and Zone A development	LFA is a CFM	8	
Victoria County		0			(1) Developer must establish BFE and floodway in Zone A. (2) Detention required - Developer must mitigate all fill placed in SFHA and floodway. (3) EC is required prior to forming/pouring lowest floor, when construction is completed and prior to CO. One (1) CFM on staff	LFA is a CFM	1	

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Waco		1						
Waller		1						
Waller County	1.5	1.5			(1) Developer must establish BFE in Zone A. (2) Developer must mitigate all fill placed in floodway. (3) EC is required before forming/pouring lowest floor and when construction is completed.			
Washington County		0	0	0	(1) Developer must mitigate downstream impacts (3) EC is required before forming/pouring lowest floor and when construction is completed. (4) Biggest problem is community buyin to floodplain management program and the NFIP	LFA is a CFM	2	
Waxahachie		1	0	0	(1) Developer must establish BFE and floodway in Zone A. (2) Developer must provide onsite detention and mitigate downstream impacts (3) EC is required prior to CO. (4) Biggest problem is lack of H&H based on fully developed conditions	LFA is a CFM	1	
Weatherford	2	2	0	0	(1) Developer must conduct a study, based on fully developed watershed conditions, and establish BFE and floodway in Zone A (2) Developer must mitigate downstream impacts (detention required) (3) EC is required when construction is completed. (4) Drainage study required with development that exceeds 5,000sf impervious cover. (5) Biggest problem is erosion.	LFA is a CFM	2	
Webb County	1	1			(1) Developer must conduct a study, based on fully developed watershed conditions, to identify BFE and Floodway boundary in Zone A. (2) Developer must mitigate all fill placed in floodplain and floodway. (3) Both onsite and regional detention required (4) Developer must setback from Floodway boundary and mitigate downstream impacts (5) EC is required before forming/pouring lowest floor; when construction is completed; and prior to CO. (6) County withholds public utility connections until structure is compliant with FP development requirements (7) Four (4) CFM's on staff	LFA is a CFM	4	
Webster		1						
Weslaco	1	1	1.5	1.5	(1) Developer must conduct a study to identify the BFE in Zone A. (2) Developer must mitigate all fill placed in floodplain and floodway. (3) Detention and setback from Floodway is required for new construction (4) EC is required before forming/pouring lowest floor; when construction is completed; and prior to CO. (6) City requires dedication of floodplain 75' from channel centerline (7) Biggest problem is the out of date 1980 FIRM	LFA is a CFM	1	(*)
Westlake	2	*see notes			EC or report must be submitted by a PE demonstrating permit compliance.			
West Lake Hills		+1 recommended			City adopted Standard Ordinance but recommends that new construction be elevated +1 above BFE			
West Orange		1			Developer must establish BFE and Floodway in Zone A. EC is required before CO.			
West University Place		0			(1) mitigation required for fill placed in floodplain and floodway (2) EC required prior to forming/pouring lowest floor and prior to CO	LFA is a CFM	1	

TFMA 2018 Higher Standards Survey (Freeboard = Finished Floor Elevation above BFE)

3/13/2018

Higher Standard Surveys received via Survey Monkey in 2018 = Yellow Highlight								
City or County Name	Feet above Fully Developed BFE	Feet above Existing BFE	Zone X(B) (Shaded) above street or curb	Zone X(C) (Unshaded) above street or curb	Special Notes	Is LFA a CFM?	CFM's on staff	CRS Rating
Wharton	1	1	1	1	(1) Developer must conduct a study to identify the BFE in Zone A. (2) New construction in Zone X must be +1' above curb or adjacent grade whichever is higher. (2) Detention required to mitigate fill/development (3) Developer must mitigate downstream impacts and setback from Floodway boundary (4) City limits cumulative impact requirements by ordinance (5) Drainage plan required for new development that meets Wharton County Drainage Criteria (6) EC required prior to forming; when structure is completed and prior to CO. (7) Wharton has FEMA approved all hazards and Flood Mitigation plans. (8) Biggest problem is substantial improvement of structures below BFE	LFA is a CFM	2	8
Wharton County	0	0	See notes	See notes	(1) Detention required in new subdivisions. (2) EC required prior to pouring lowest floor and when structure is completed. (3) FP Permits are cross referenced to 911 Addressing. (4) Wharton County has a county wide drainage plan with BFE's established in most Zone A areas (5) County requires a drainage study for all commercial development in SFHA (6) County enforces NAI in Floodway (7) County recommends +18" in Zone X (8) Biggest problem is Hurricane Harvey recovery due to a large number of substantially damaged structures	LFA is a CFM	1	
Wichita County		1	0	0	(1) Developer must establish floodway and BFE in Zone A. (2) Developer must mitigate downstream impacts (3) EC required before forming/pouring lowest floor (4) 911 address must be assigned prior to permit. (5) Public Works must verify road culvert size and oversee installation. (6) County requires a PE letter of compliance that the structure was built as per permit (7) County has approved Mitigation Plan. (8) Biggest problem is enforcement	LFA is a CFM	1	
Wichita Falls	1	1	1	1	(1) Developer must conduct a study to identify the BFE in Zone A. (2) Detention is required for residential in excess of 2 acres and commercial in excess of 1 acre. (3) Developer must mitigate downstream impacts (4) Manufactured Home restrictions in SFHA (5) EC required when construction is complete and prior to CO. (6) Biggest problems are enforcement and development pressures for floodprone properties	LFA is a CFM	1	8
Williamson County		1	1	1	(1) No fill allowed in SFHA w/o mitigation. (2) Community enforces cumulative impact limitations over a 5 year period (3) Onsite detention required (4) Developer must mitigate upstream and downstream impacts of development. (5) New construction in Zone X must be elevated 1' above natural grade or crown of nearest street (6) Plats that include a SFHA with DA in excess of 64 acres must show 100-year boundary. (7) EC is required when structure is completed. (8) Biggest problem is regulating development in Zone A without BFE	LFA is a CFM	3	
Willis		0	1	1	(1) Developer must establish floodway and BFE in Zone A (2) Onsite Detention is required. (3) Developer must mitigate any downstream impacts (4) Development in Zone X must be elevated a minimum of +1' above NG or crown of nearest street (5) EC required before forming/pouring lowest floor, when construction is complete and prior to CO.	LFA is a CFM	1	

TFMA 2018 Higher Standards Survey (Freeboard = Finished Floor Elevation above BFE)

3/13/2018

Higher Standard Surveys received via Survey Monkey in 2018 = Yellow Highlight								
City or County Name	Feet above Fully Developed BFE	Feet above Existing BFE	Zone X(B) (Shaded) above street or curb	Zone X(C) (Unshaded) above street or curb	Special Notes	Is LFA a CFM?	CFM's on staff	CRS Rating
Wilson County		2	2	2	(1) Developer must conduct a study to identify the BFE in Zone A. (2) Detention and mitigation of downstream impacts is required. (3) Developer must mitigate downstream impacts (4) No critical facilities allowed in SFHA and 500-year floodplain (5) Subdivisions and mobile home parks located in the SFHA must have elevated access roads (6) EC required prior to forming/pouring lowest floor and when construction is complete. (6) Biggest problem is development without a permit	LFA is a CFM	1	
Wise County	2	2	0	0	(1) Developer must conduct a study based on fully developed conditions to establish BFE and floodplain boundary in Zone A (2) Detention is required in Development Rules and regulations (3) Developer must prevent post development runoff from exceeding predevelopment runoff (4) Maximum allowable increase in BFE is 0.1' in SFHA	LFA is a CFM	1	
Woodville		1						
Yoakum		1			(1) Developer must establish floodplain and BFE in Zone A (2) EC required when structure is completed and prior to CO (3) two CFMs on staff	LFA is a CFM	2	
Higher Standard Surveys submitted by others:								
TxDOT Amarillo District	NA	NA	NA	NA	Biggest issue: Letting communities know that developers must mitigate impact to TxDOT Facilities. TxDOT has the right to control developers' outfall onto or across TxDOT ROW. TxDOT's rules follow Title 43 of Texas Administrative Code.		Several	
MPO/Colleen Russell	2	1	2	3	(1) Developer must conduct a study to identify BFE and Floodway boundary in Zone A. (2) Developer must mitigate downstream impacts. (3) Onsite detention required (4) Developer must setback from Floodway boundary (5) EC is required before forming/pouring lowest floor; when construction is completed; and prior to CO. (6)Biggest problem is no inlets	LFA is a CFM		
Texas DEM					Biggest problems in Texas: Lack of mitigation efforts and lack of dam inundation studies.	Planner is CFM	4	
US Dept of Health		2	0	0	(1) Requirements apply to hospitals and health care facilities constructed by US Department of Health and Human Services (2) Study required to establish BFE and floodway in Zone A (3) Detention, mitigation of downstream impacts and setback from floodway boundary is required. (4) Evacuation route planning required for each facility (5) EC required prior to forming/pouring lowest floor, when construction is completed and prior to CO (6) Biggest problem is construction in remote area (Zone A without BFE)	PM is CFM	1	
Meyerland HOA	2	2'	3 see notes	3 see notes	(1) Harris County requirements apply (2) HOA requires development in Zone X to be elevated +2' (5 acres or less) and +3' (2 acres or less)	Consultant is CFM		

2018 TFMA Higher Standards Survey Summary:

331 responses were received (There are 1,243 Texas communities enrolled in the NFIP)	
282 (85%) of communities that responded have adopted a "Freeboard" ordinance requiring new construction to be elevated 1' or more above BFE.	
145 (44%) of communities that responded require that new construction be elevated above the BFE based on "fully developed" watershed conditions.	
127 (38%) of communities that responded require freeboard in Zone X (shaded) 500-year floodplain	
123 (37%) of communities that responded require freeboard in Zone X (unshaded) outside the 500-year floodplain	
159 (48%) of communities that responded require on-site or regional detention to mitigate development impacts	

TFMA 2018 Higher Standards Survey (Freeboard = Finished Floor Elevation above BFE)

3/13/2018

Higher Standard Surveys received via Survey Monkey in 2018 = Yellow Highlight					Special Notes	Is LFA a CFM?	CFM's on staff	CRS Rating
City or County Name	Feet above Fully Developed BFE	Feet above Existing BFE	Zone X(B) (Shaded) above street or curb	Zone X(C) (Unshaded) above street or curb				
242 (73%) of communities that responded have a CFM on staff.								
582 CFMs are on staff of the 325 communities that responded to the survey (1.8 CFM per community)								
63 Texas communities (58 cities and 5 counties) participate in CRS (5.1% of Texas 1,240 NFIP communities)								
74 (29%) Texas Counties responded to the survey (254 counties)								
Thank you for participating in the 2018 TFMA "Higher Standards" Survey.								

Date of Survey: - The information in this spreadsheet includes all survey responses received from 2004 through 2018
2018 Survey conducted by TFMA using Survey Monkey (Feb 2018-April 2018) XXX surveys received via Survey Monkey
2017 Survey conducted by TFMA using Survey Monkey (March 2017-April 2017) 49 surveys received via Survey Monkey
2016 Survey conducted by TFMA using Survey Monkey (July 2016-August 2016) 107 surveys received via Survey Monkey
2015 Survey conducted by TFMA using Survey Monkey (Jan 2015-Oct 2015) 140 surveys received via Survey Monkey
2014 Survey conducted by TFMA using Survey Monkey (Jan 2014-Aug 2014)
2013 Survey conducted by John Ivey, PE, CFM, Roy Sedwick, CFM and Mike Segner, CFM (Jan 2013-May 2013)
2012 Survey conducted by John Ivey, PE, CFM, Roy Sedwick, CFM and Mike Segner, CFM (Jan 2012-Apr 2012)
2011 Survey conducted by John Ivey, PE, CFM, Roy Sedwick, CFM and Mike Segner, CFM (Feb-Apr 2011)
2010 Survey conducted by John Ivey, PE, CFM, Roy Sedwick, CFM and Leon Curtis, PE, CFM (Apr-Jun 2010)
2009 Survey conducted by John Ivey, PE, CFM, Mike Howard, CFM, Roy Sedwick, CFM, Heidi Carlin, CFM and Rachel Powers (Feb-Jul 2009)
2008 Survey conducted by John Ivey, PE, CFM, Mike Howard, CFM, Roy Sedwick, CFM and Heidi Carlin, CFM (Jan-Apr 2008)
2007 Survey conducted by John Ivey, PE, CFM, Mike Howard, CFM, Roy Sedwick, CFM and Lochen Wood, CFM (Mar-Jun 2007)
2006 Survey conducted by John Ivey, PE, CFM, Roy Sedwick, CFM and Lochen Wood, CFM (Mar/Apr 2006)
2005 Survey conducted by John Ivey, PE, CFM and Roy Sedwick, CFM, including initial findings by Charlie Hastings, PE, CFM
2004 Survey conducted by Charlie Hastings, PE, CFM, City Engineer, City of Kerrville, Texas via e-mail over a two day period (6/23/04 - 6/24/04)

Higher Standard Surveys were received via Survey Monkey in 2017		----->	Communities submitting surveys in 2018 for the first time
Acronyms			Wilson County
AE Zone	FEMA designated zone inundated by 100-year flood (1% chance flood)		McLennan County
AIA	American Institute of Architects		Melissa
ASFPM	Association of State Floodplain Managers		Liberty
ASFPM	Association of State Floodplain Managers		Leander
B Zone	FEMA designated zone inundated by 500-year flood (now Zone X shaded)		Port Aransas
BFE	Base Flood Elevation		Cedar Hill
BRA	Brazos River Authority		US Dept Health & Human Services
BW12	Biggert Watters 2012 NFIP Reform Act		Meyerland HOA
C Zone	FEMA designated zone outside of the 500-year flood (now Zone X unshaded)		
CBRA	Coastal Barrier Resource Act - EO11990		Communities submitting surveys in 2017 for the first time
CDBG	Community Development Block Grant (HUD)		Edgecliff Village
CFM	Certified Floodplain Manager		Grayson County
CFS	Cubic Feet per Second (i.e.stream discharge)		Lake Shores
CLOMR	Conditional Letter of Map Revision		Weslaco
CO	Certificate of Occupancy		MPO?
COE	US Army Corps of Engineers - USACE		TxDOT Amarillo District
CRS	Community Rating System		Pitstop, Montana???
CTP	Cooperative Technical Partner (with FEMA)		
DA	Drainage Area (usually measured in square miles)		Communities submitting surveys in 2016 for the first time
DEM	See TDEM - Texas Division of Emergency Management (Texas)		Austin County
DFIRM	Digital Flood Insurance Rate Map		Belton
DHS	Department of Homeland Security		Dayton
EC	Elevation Certificate (FEMA form)		Ellis County
ESA	Endangered Species Act		Holiday Lakes
FEMA	Federal Emergency Management Agency		Village of the Hills
FMA	Flood Mitigation Assistance (grant program)		Hunter's Creek Village
FPS	Feet per Second (i.e.floodway velocity)		Leon Valley
FFRMS	Federal Flood Risk Management Standard - EO 13690		Rockwall
GLO	Texas General Land Office		Rockport
			Refugio County

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HAG	Highest Adjacent Grade				Schertz			
HEC	Hydrologic Engineering Center (U S Army Corps of Engineers)				Waxahachie			
HEC RAS	Hydrologic Engineering Center River Analysis System							
HFIAA	Homeowners Flood Insurance Affordability Act - NFIP Reform Act 2014				Communities submitting surveys in 2015 for the first time			
HMGP	Hazard Mitigation Grant Program				Alice			
IA	Individual Assistance (disaster recovery)				Aransas Pass			
LAG	Lowest Adjacent Grade				Bee Cave			
LCRA	Lower Colorado River Authority				Cuero			
LFA	Local Floodplain Administrator				Ennis			
LOMA	Letter of Map Amendment				Hutchins			
LOMC	Letter of Map Change				Keene			
LOMR	Letter of Map Revision				University Park			
NAI	No Adverse Impact				Bosque County			
NAVD	North American Vertical Datum				Chambers County			
NFIP	National Flood Insurance Program				Dallas County			
NG	Natural Grade (Natural Ground Elevation)				Harden County			
NGVD	National Geological Vertical Datum (1929)				Hood County			
NRCS	Natural Resources Conservation Service				Leon County			
PA	Public Assistance (disaster recovery funding)				Jackson County			
PE	Professional Engineer				Newton County			
Q100	Flood Discharge from the 100 year flood							
RPLS	Registered Public Land Surveyor							
SFR	Single Family Residential							
SFHA	Special Flood Hazard Area							
TCRFC	Texas Colorado River Floodplain Coalition							
TFMA	Texas Floodplain Management Association							
TWDB	Texas Water Development Board							
TDEM	Texas Division of Emergency Management (Texas)							
X Zone shaded	FEMA designated zone inundated by 500-year flood (former B Zone)							
X Zone unshaded	FEMA designated zone outside of the 500-year flood (former C Zone)							