



UDC Update Request Application for External Parties ***(neighborhoods, external agencies, stakeholders, etc.)***

Part 1. Applicant Information

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(Include title if representing a governmental agency or public/private organization) Date: April 22, 2020
Date: 2020.04.22 16:50:53 -05'00'

Part 2. Basis for Update (check only one)

- ☐ Clarification amendments to provide for ease of interpretation and understanding of the existing provisions of the UDC
(Note: Clarification amendments should not change or alter the intent or meaning of existing UDC provisions)
- ☐ Editing change that does not alter the impact of the provisions being addressed including changes such as spelling, grammar correction, formatting, text selection, or addition of text in compliance with existing ordinance, statutes or case law
- ☐ Completed Rule Interpretation Determination (RID)
- ☒ Requested by the Zoning Commission, Planning Commission, Board of Adjustment, HDRC, City Council or other appropriate city board or council (CCR, resolution or signature of the chairperson is required)

Part 3. Reason(s) for Update (check all that apply)

- ☐ Modify procedures and standards for workability and administrative efficiency
- ☐ Eliminate unnecessary development costs
- ☐ Update the procedures and standards to reflect changes in the law or the state of the art in land use planning and urban design
- ☒ See Part 4 (if none of the provided choices in this section apply, please discuss the reasons for the proposed update in Part 4)

Part 4. Summary of Proposed Update with Suggested Text (see application instructions)

This would update the UDC definitions of key terms related to floodplains and riparian areas, consistent with current science and federal floodplain recommendations.

Summary of Amendment

This would add 'ecological functioning,' 'green infrastructure,' 'riparian areas,' and 'tributary,' to the list of defined terms.

Supporting Goals

Implement the following Natural Resources and Environmental Sustainability (NRES) Goals included in SA Tomorrow.

NRES Goal 1: San Antonio protects the natural environment and ensures sustainable land use and development.

NRES Goal 6: San Antonio is a national leader in storm water management best practices and low impact development (LID) design.

NRES P19: Continue to manage the capacity and transmission capabilities of the storm drainage network to prevent degradation of natural resources.

NRES P20: Encourage preservation of 100-year floodplains as natural drainage ways without permanent construction, unnecessary straightening, bank clearing or channeling.

APPENDIX H

CHAPTER 19 - DEFINITIONS

19.1 - Introduction

The following definitions are used within this manual. A number of definitions were copied from the UDC Appendix A Definitions that relate to drainage and this manual. The UDC definitions are indicated by an asterisk symbol.

1% annual chance floodplain, (formerly 100-year floodplain)*: The land within a community subject to a one (1) percent or greater chance of flooding in any given year. These areas are typically designated as a Federal Emergency Management Agency (FEMA) Zone A, AE, AH, or AO on FEMA Flood Insurance Rate Maps (FIRM Panels).

All weather surface (parking and vehicular access)*: Vehicular "all weather surfaces" shall constitute: poured concrete on prepared subgrade; hot laid asphalt on a prepared base course; single, double, or triple asphalt surface treatment (consisting of applications of asphaltic material, each covered with aggregate) on a prepared base course. Brick/concrete block/tile/flagstone set in mortar or on a prepared base course. The director of planning and development services shall determine if other materials may fit within this category of surface; however, in no case shall a material be considered a "all weather surface" if such surfaces generates or produces any dust or particulate matter that could be airborne to adjacent properties such as occurs with compacted base materials.

All weather surface (pedestrian walkways and access)*: All weather surfaces shall constitute poured concrete, hot laid asphalt, or tile/ flagstone/brick/concrete block. The director of planning and development services shall determine if other materials may fit within this category of surface. For pedestrian application crushed granite, marble and rock slag may be considered an "all weather surface".

All weather surface (temporary access)*: All weather surfaces for temporary construction access or event access such as "homes shows", carnivals, etc., shall be permitted by the director of planning and development services and may be poured concrete, hot or cold laid asphalt or tile/brick/flagstone/concrete block, compacted base material, crushed granite, or gravel for a period not to exceed one hundred twenty (120) days.

Area of flood inundation*: Sites that are subject to flooding as a result of water ponding in the controlled storage areas of dams, detention and retention ponds.

Area of shallow flooding*: A designated AO, AH, or VO zone on a community's flood insurance rate map (FIRM) with a one (1) percent chance or greater annual chance of flooding to an average depth of one (1) to three (3) feet where a clearly defined channel does not exist, where the path of flooding is unpredictable and where velocity flow may be evident. Such flooding is characterized by ponding or sheet flow.

Area of special flood hazard*: The land in the floodplain within a community subject to a one (1) percent or greater chance of flooding in any given year. This area is also known as the 100-year floodplain. The area is designated as a Federal Emergency Management Agency Zone A, AE, AH, AO on the flood insurance rate maps.

Base flood*: The flood having a one (1) percent chance of being equaled or exceeded in any given year. (100-year frequency flood).

Basement*: Any area of the building having its floor subgrade (below ground level) on all sides.

Best management practices (BMP)*: An effective integration of storm water management systems, with appropriate combinations of landscape conservation, enhancement, structural controls, impervious cover, schedules of activities, prohibitions of practices, maintenance procedures and other management practices which provide an optimum way to convey, store and release runoff, so as to reduce peak discharge, remove pollutants, and enhance the environment.

Capital improvements*: Public facilities which have a life expectancy of three (3) or more years that are owned and operated by the city, and are treated as capitalized expenses according to generally accepted accounting principles. This definition does not include costs associated with the operation, administration, maintenance, or replacement of capital improvements.

Capital improvements program*: The list of recommended capital improvements to be constructed during the forthcoming five-year period submitted pursuant to section 118 of the City Charter.

Canopy tree*: A canopy tree is either a medium or large deciduous tree, with a mature height of more than twenty-five (25) feet at maturity.

CLOMR*: A conditional letter of map revision. A CLOMR will be submitted for FEMA approval for all proposed physical changes to the floodplain that will result in a change to the floodplain boundary.

Conservation easement*: A non-possessory interest of a holder in real property that imposes limitations or affirmative obligations designed to:

- Retain or protect natural, scenic, or open-space values of real property or assure its availability for agricultural, forest, recreational, or open-space use;
- Protect natural resources;
- Maintain or enhance air or water quality; or
- Preserve the historical, architectural, archeological, or cultural aspects of real property.

(Source: V.T.A. Natural Resources Code § 183.001).

Dam: Any barrier or barriers, with any appurtenant structure, constructed for the purpose of either permanently or temporarily impounding water.

(Source: TCEQ Chapter §§299.2.(14))

Detention*: The temporary storage of storm runoff, which is used to control the peak discharge rates, and which provides gravity settling of pollutants.

Detention time*: The amount of time a parcel of water actually is present in a storm water basin. Theoretical detention time for a runoff event is the average time a parcel of water resides in the basin over the period of release from the BMP.

Development*: Any manmade change in improved and unimproved real estate, including but not limited to buildings or other structures, mining, dredging, filling, grading, paving, excavation or, drilling operations or storage of equipment or materials.

Development plan*: The proposal for development including such drawings, documents and other information necessary to illustrate completely the proposed development. The development plan shall specifically include such information as required by this chapter.

Drainage system*: All streets, gutters, inlets, swales, storm drains, channels, streams, or other pathways, either naturally occurring or manmade, which carry and convey storm water during rainfall events.

Easement*: A grant of one (1) or more of the property rights by the property owner to and/or for the use by the public, a corporation, or another person or entity.

Easement, utility*: An easement granted for installing and maintaining utilities, across, over or under land together with the right to enter thereon with machinery and other vehicles necessary for the maintenance of utilities.

Ecological functioning*: The fundamental ecological services that floodplain, riparian areas or SMZ areas perform fall into three major categories: (1) hydrology and sediment dynamics, (2) biogeochemistry and nutrient cycling, and (3) habitat and food web maintenance while performing these ecological services: assist in mitigating nonpoint source pollution; stabilize stream banks and reduce floodwater velocity resulting in reduced erosion and downstream flood peaks; maintain water levels in streams, lakes, water tables and aquifers; sequester greenhouse gases to improve air quality; and supply food, cover and water for a diversity of terrestrial and aquatic wildlife especially migratory birds. Adverse impact includes the physical impacts due to erosion, scour and deposition associated with increased frequency and volume of runoff that negatively alters the ecological functioning of the receiving water body. The NRCS allowable method will be used to calculate impact and capacity of the receiving water body/floodplain within the watershed.
(https://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/technical/?cid=nrcs143_014199).

Edwards Aquifer Recharge Zone (EARZ)*: That area where the stratigraphic units constituting the Edwards Aquifer out crop, and including the outcrops of other formations in proximity to the Edwards Aquifer, where caves, sinkholes, faults, fractures, or other permeable features would create a potential for recharge of surface waters into the Edwards Aquifer. The recharge zone is identified as that area designated as such on official maps located in the offices of the Texas Commission on Environmental Quality (TCEQ) and the Edwards Aquifer Authority.

Edwards Aquifer Transition Zone*: That area where geologic formations out crop in proximity to and south and southeast of the recharge zone and where faults, fractures, and other geologic features present a possible avenue for recharge of surface water to the Edwards Aquifer, and including portions of the Del Rio Clay, Buda Limestone, Eagle Ford Group, Austin Chalk, Pecan Gap Chalk, and Anacacho Limestone. The transition zone is identified as that area designated as such on official maps in the offices of the Texas Commission on Environmental Quality (TCEQ) and the Edwards Aquifer Authority.

Elevated building*: Elevated building means a non-basement building (i) built, in the case of a building in Zones AE, A, A99, AO, AH, X, and D, to have the top of the elevated floor, elevated above the ground level by means of pilings, columns (posts and piers), or shear walls parallel to the floor of the water and (ii) adequately anchored so as not to impair the structural integrity of the building during a flood of up to the magnitude of the base flood. In the case of Zones AE, A, A99, AO, AH, X, D, "elevated building" also includes a building elevated by means of fill or solid foundation perimeter walls with openings sufficient to facilitate the unimpeded movement of flood waters.

Erodible soils*: Soils rated as Austin Silty Clay, bracket clay loam, Brackett-Austin complex (Austin only), Gullied land, Houston clay, Houston-Sumter clays, Houston Black clay, Houston Black gravelly clay, San Antonio clay loam, Venus loam, Venus clay loam, Webb fine sandy loam, Webb soils in the Soil Survey.

Existing construction*: For the purposes of determining rates, structures for which the "start of construction" commenced before the effective date of the FIRM or before January 1, 1975, for FIRMs effective before the date. "Existing construction" may also be referred to as "existing structures."

Existing manufactured home park or subdivision*: A manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including, at a minimum, the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads) is completed before the effective date of the floodplain management regulations adopted by a community.

Filtration basin*: Filtration basins are secondary treatment structures that follow sedimentation basins and release storm water runoff through a filter media to remove additional pollutants.

First flush*: At least the first one-half ($\frac{1}{2}$) inch of runoff from a storm event which flushes off and contains a disproportionately large loading of the accumulated pollutants from impervious and non-impervious surfaces.

Flood fringe*: That portion of the floodplain outside of the floodway.

Flood insurance rate map (FIRM)*: Flood rate insurance map (FIRM) means an official map of a community, on which the Federal Emergency Management Agency has delineated both the areas of special flood hazards and the risk premium zones applicable to the community.

Flood insurance study*: The official report provided by the Federal Emergency Management Agency. The report contains flood profiles, water surface elevation or the base flood, as well as the flood boundary map.

Flood or flooding*: Flood or flooding means a general and temporary condition of partial or complete inundation of normally dry land areas from:

- 1) The overflow of inland or tidal waters.
- 2) The unusual and rapid accumulation of runoff of surface waters from any source.

Floodplain*: Any land area susceptible to being inundated by water from any source (see definition of flooding). The 100-year floodplain is also known as the area of special flood hazard.

Floodplain, 100-year*: See 1% annual chance floodplain.

Floodplain management*: The operation of an overall program of corrective and preventive measures for reducing flood damage, including but not limited to emergency preparedness plans, flood control works and floodplain management regulations.

Floodplain management regulations*: Zoning ordinances, subdivision regulations, bonding codes, health regulations, special purpose ordinances (such as a floodplain ordinance, grading ordinance and erosion control ordinance) and other applications or police power. The term describes such state or local regulations, in any combination thereof, which provide standards for the purpose of flood damage prevention and reduction.

Floodplain standards or floodplain ordinance*: See Appendix F, Floodplains.

Flood proofing*: Any combination of structural and non-structural additions, changes, or adjustments to structures which reduce or eliminate flood damage to real estate or improved real property, water and sanitary facilities, structures and their contents.

Flood protection system*: Those physical structural works for which funds have been authorized, appropriated, and expended and which have been constructed specifically to modify flooding in order to reduce the extent or the areas within a community subject to a "special flood hazard" and the extent or the depths or associated flooding. Such a system typically includes hurricane tidal barriers, dams, reservoirs, levees or dikes. These specialized flood modifying works are those constructed in conformance with sound engineering standards.

Floodway*: The channel or a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood. The floodway is the 100-year floodplain in the City of San Antonio.

Freeboard*: Freeboard is a factor of safety usually expressed in feet above a flood level for purposes of storm water management. "Freeboard" tends to compensate for the many unknown factors that could contribute to flood heights greater than the height calculated for a selected size flood and floodway conditions, such as wave action, bridge openings, and the hydrological effect of urbanization of the watershed.

Green infrastructure or nature-based storm water management: Incorporates both the natural environment and engineered systems as an effective approach to storm water management that protects, restores, or mimics the natural water cycle and enhances community safety and quality of life. (<https://www.americanrivers.org/threats-solutions/clean-water/green-infrastructure/what-is-green-infrastructure/>)

Highest adjacent grade*: The highest natural elevation of the ground surface, prior to construction, next to the proposed walls of a structure.

Impervious*: See impervious cover.

Impervious cover*: Roads, parking areas, buildings, pools, patios, sheds, driveways, private sidewalks, and other impermeable construction covering the natural land surface; this shall include, but not [be] limited to, all streets and pavement within the subdivision. "Percent impervious cover" is calculated as the area of impervious cover within a lot, tract, or parcel or within the total site being developed, divided by the total area within the perimeter of such lot, tract, parcel or development. Vegetated water quality basins, vegetated swales, other vegetated conveyances for overland drainage, and public sidewalks shall not be calculated as impervious cover.

Infrastructure*: Any physical system or facility that provides essential services such as transportation, utilities, energy, telecommunications, waste disposal, park lands, sports, buildings, housing facilities and the management and use of resources regarding the same. Infrastructure includes drainage systems, irrigation systems, sidewalks, roadways, drain systems, water systems, driveways, trails, parking lots, and other physical systems or facilities as generally described above that may not be specifically enumerated in this definition.

Intermediate floodplain*: Any channel, creek, stream, branch, or watercourse for surface water drainage that drains an area greater than three hundred twenty (320) acres but less than six hundred forty (640) acres.

Intermittent stream*: A stream that flows only during wet periods of the year (or thirty (30) to ninety (90) percent of the time) and flows in a continuous, well-defined channel.

Levee*: A manmade structure, usually an earthen embankment, designed and constructed in accordance with sound engineering practices to contain, control, or divert the flow of water so as to provide protection from temporary flooding.

LOMR*: A letter of map revision. A LOMR will be submitted for FEMA approval for all changes to the floodplain boundary that are delineated on the current flood insurance rate maps.

Lot, 900 series*: These lots specifically exclude the construction of all residential and nonresidential structures. The series is designed to allow for designation of permeable or impermeable open space and may include but not be limited to parkland required by section 35-503, storm water management facilities, water quality ponds, driveways, gazebos, playgrounds, private streets, utility easements and private ingress/egress easements.

Lowest floor*: The lowest floor of the lowest enclosed area (including basement). An unfinished or flood resistant enclosure, usable solely for parking or vehicles, building access or storage in an area other than a basement area is not considered a building's lowest floor; provided that such enclosure is not built so as to render the structure in violation of the applicable non-elevation design requirement of Section 60.3 of the National Flood Insurance Program regulations.

Low risk flood area*: Low risk flood area as used in section 35-F145 refers to the River Bend area of the San Antonio Riverwalk. For floodplain management purposes, low risk flood areas are defined as either the areas outside the one (1) percent annual chance floodplain and inside the 0.2 percent annual chance floodplain or areas of shallow flooding.

Major floodplain*: Any channel, creek, stream, branch, or watercourse for surface water drainage that drains six hundred forty (640) acres or more.

Manufactured home or manufactured housing*: A HUD-Code manufactured home. For purposes of the floodplain ordinance, a "manufactured home" means a structure transportable in one (1) or more sections, which is built on a permanent chassis and is designed for use with or without a permanent foundation when connected to the required utilities. The term "manufactured home" does not include a "recreational vehicle".

Manufactured home park or subdivision*: For purposes of the floodplain ordinance, a parcel (or contiguous parcels) of land divided into two (2) or more manufactured home lots for rent or sale.

Mean sea level*: For purposes of the National Flood Insurance Program, the National Geodetic Vertical Datum (NGVD) of 1929 or other datum, to which base flood elevations shown on a community's flood insurance rate map are referenced.

Minor floodplain*: Any channel, creek, stream, branch, or watercourse for surface water drainage that drains an area greater than one hundred (100) acres but less than three hundred twenty (320) acres.

Natural waterway: A waterway that results from implementation of management practices that allow for adequate conveyance of storm water (stream discharge), optimize plant and wildlife diversity, and maintain high water quality within the waterway while promoting a natural riparian environment.

Net area*: Mean total acreage within a master development plan less the area within the 100-year floodplain and the area dedicated to conservation easement, natural area (such as greenbelt) and parks.

New construction*: For the purpose of determining insurance rates, structures for which the "start of construction" commenced on or after the effective date of an initial FIRM or after December 31, 1974, whichever is later, and includes any subsequent improvements to such structures. For floodplain management purposes, "new construction" means structures for which the "start of construction" commenced on or after the effective date of a floodplain management regulation adopted by a community and includes any subsequent improvements to such structures.

New manufactured home park or subdivision*: A manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including at a minimum, the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads) is completed on or after the effective date of floodplain management regulations adopted by a community.

Overland flow*: Storm water runoff that is not confined by any natural or manmade channel such as a creek, drainage ditch, storm drain, or the like. Also known as "sheet flow", this involves the movement of runoff in a thin layer (usually less than one (1) inch in depth) over a wide surface, which begins when water ponded on the surface of the land becomes deep enough to overcome surface retention forces.

Pervious pavement*: A pavement system with traditional strength characteristics, but which allows rainfall to percolate through it rather than running off. A permeable pavement system utilizes either porous asphalt, pervious concrete, or plastic pavers interlaid in a running bond pattern and either pinned or interlocked in place. Porous

asphalt consists of an open graded course aggregate held together by asphalt with sufficient interconnected voids to provide a high rate of permeability. Pervious concrete is a discontinuous mixture of Portland cement, coarse aggregate, admixtures, and water which allow for passage of runoff and air. Examples of permeable pavement systems include Grasspave2®, Gravelpave2®, Turfstone®, and UNI Eco-stone®. (See Watershed Management Institute, Inc. and U.S. Environmental Protection Agency, Office of Water, Operation, Maintenance and Management of Storm Water Management (Aug. 1997), at 2-32; Booth and Leavitt, Field Evaluation of Permeable Pavement Systems for Improved Storm Water Management, 65 J. Am. Planning Ass'n 314 (Summer 1999), at 314-325.

Public right-of-way*: A strip of land acquired by reservation, dedication, forced dedication, prescription, or condemnation and used or intended to be used, wholly or in part, as a public street, alley, walkway, drain or public utility line.

Public right-of-way (2)*: An area or strip of land, either public or private, occupied or intended to be occupied by a street, walkway, railroad, utility line, drainage channel, or other similar uses.

Redevelopment: Any new development to already developed real estate.

Regional Detention Facility: A detention facility accepting flow from an area exceeding three hundred twenty (320) acres.

Regional storm water improvements (RSI)*: Means regional detention and retention ponds, watershed protection, land purchase, waterway enlargement, channelization, and improved conveyance structures.

Regulatory Flood Event: A flood event that has a one (1) percent or greater chance of flooding in any given year assuming ultimate development has occurred throughout the watershed.

Regulatory floodplain*: The land within the community subject to a one (1) percent or greater chance of flooding in any given year assuming ultimate development has occurred throughout the watershed. For the purposes of this section the regulatory floodplain is limited to the reach of the stream which is designated as an area of special flood hazard on the currently effective FEMA Flood Insurance Rate Maps (FIRM Panels). NOTE: As the city's floodplain ordinance (Appendix F of the Unified Development Code) is approved by FEMA as a condition of participation in the National Flood Insurance Program (NFIP), the city's regulatory floodplain is considered FEMA's regulatory floodplain. (note: to be consistent with Appendix F, section 106)

Repetitive loss. Flood-related damages sustained by a structure on two (2) separate occasions during a ten-year period for which the cost of repairs at the time of each such flood event, on the average, equals or exceeds twenty-five (25) percent of the market value of the structure before the damage occurred.

Reservation, reserve, or reserve strip*: Any division of property that:

(a) Prohibits or interferes with the orderly extension of streets, bicycle or pedestrian ways, sanitary drain water mains, storm water facilities or other utilities or improvements between two abutting properties; or

(b) Plats an area so as to leave an undevelopable or unmarketable strip of land less than two hundred seventy (270) feet deep off of an arterial right-of-way that could otherwise circumvent construction and dedication requirements.

Right-of-way*: Property that is publicly owned or upon which a governmental entity has an express or implied property interest (e.g. fee title, easement, etc.) held for a public purpose. Examples of such public purpose include, by way of example and not limitation, a highway, a street, sidewalks, drainage facilities, drainage and water facilities.

Riparian areas: Riparian areas are lands that occur along watercourses and water bodies. Typical examples include flood plains and streambanks. They are distinctly different from surrounding lands because of unique soil and vegetation characteristics that are strongly influenced by the presence of water.
https://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/technical/?cid=nrcs143_014199

Sedimentation basins*: Sedimentation basins remove pollutants by creating conditions under which suspended solids can settle out of the water column.

Sheet flow*: See Overland flow.

Shrub, large*. An upright plant growing to a mature height of more than ten (10) feet for use a natural ornamentation or screening.

Shrub, medium*. An upright plant growing to a mature height of five (5) to ten (10) feet.

Shrub, small*. An upright plant growing to a mature height of less than five (5) feet.

Start of construction*: Start of construction means for all new construction and substantial improvements, the date the building permit was issued, provided the actual start of construction, repair, reconstruction, placement, or other improvement was within one hundred eighty (180) days of the permit date. The actual start means either the first placement of permanent construction of a structure on a site, such as the pouring of slab or footings, the installation of piles, the construction of columns, or any work beyond the stage of excavation for a foundation; or the placement of manufactured home on a foundation. Permanent construction includes land preparation, such as clearing, grading and filling; includes the installation of streets and/or walkways; excavation for a basement, footings, piers, or foundations or the erection of temporary forms; the installation on the property of accessory buildings, such as garages or sheds not occupied as dwelling units or not part of the main structure. The start of construction period is valid for one hundred eighty (180) days. Any delay beyond this period would require resubmission of added data and the permit application.

Storm water drainage fees*: A method or mix of methods for providing adequate, stable and equitable funding for a comprehensive storm water or drainage program. The financing mechanisms included in the method may include, but not be limited to, user fees, new development impact fees, or surcharges on other utility fees.

Streamside management zone (SMZ)*: A streamside management zone (SMZ) includes forested buffers adjacent to streams or bodies of water, including intermittent and perennial streams, river, lake, slough, pond, creek, reservoir, watershed, or wetland (ephemeral streams are excluded). The minimum width of an SMZ on each side and above the head of streams or adjacent to bodies of water shall be fifty (50) feet from each bank. The total SMZ width includes average stream channel width plus buffer width.

Street, private*: Any street not dedicated to the public and to be maintained by a private entity. Informal maintenance or improvements performed by the city, such as the utilization of waste material to temporarily maintain or improve a private street, do not constitute an acceptance of ownership or obligation by the city.

Substantial damage*: Damage of any origin sustained by a structure whereby the cost of restoring the structure to its before damaged condition would equal or exceed fifty (50) percent of the market value of the structure before the damage occurred. Substantial damage also means flood-related damages sustained by a structure on two (2) separate occasions during a ten-year period for which the cost of repairs at the time of each such flood event, on the average, equals or exceeds twenty-five (25) percent of the market value of the structure before the damage occurred.

Substantial improvement*: Any reconstruction, rehabilitation, addition, or other improvement of a structure, the cost of which equals or exceeds fifty (50) percent of the market value of the structure before "start of construction" of the improvement. This includes structures which have incurred "repetitive loss" or "substantial damage", regardless of the actual repair work performed. The term does not, however, include either: (1) Any project for improvement of a structure to correct existing violations of state or local health, sanitary, or safety code specifications which have been identified by the local code enforcement official and which are the minimum necessary conditions or (2) Any alteration of a "historic structure", provided that the alteration will not preclude the structure's continued designation as a "historic structure."

Substantial rehabilitation*: Certified improvements to a historic building in which the cost of the project is equal to or greater than fifty (50) percent of the appraised pre-rehabilitation improvement value of the property and which constitutes major work on enhancing existing mechanical or structural systems that preserve the historical integrity, while extending the life of the building.

Swale*: A low lying or depressed stretch of land without a defined channel or tributaries.

Top of bank*: For purposes of determining river improvement overlay riverside setbacks in section 35-673, the point, stage or elevation at which water overflows the natural or man made banks of the river; alternately, the vertical point along the river where an abrupt change in slope is evident, and where the water level is generally able to overflow the natural bank or man made edge and enter adjacent floodplains (if any) during flows at or exceeding the average annual high water stage.

Tributary: [is a freshwater stream that feeds into a larger stream or river and are sites of intrinsic ecological value where particular biophysical processes and ecosystem services may be concentrated \(Kiffney et al., 2006\). In addition, they play a crucial role on downstream channel morphology \(Torgersen et al., 2008\).](#)

Understory*: Assemblages of natural low level woody, herbaceous and ground cover species.

Unflooded access*: Means that vehicular traffic has safe access to a property from a public street in times of flood (regulatory 100-year flood). A property will be considered to have unflooded access to an existing street if flow depths for access on the street adjacent to the property do not exceed one (1) foot and fall within the safe range on Figure 4.3.1C "Dangerous Conditions on Crossing During Floods."

Violation*: For purposes of the floodplain ordinance, the failure of a structure or other development to be fully compliant with the community's floodplain management regulations. A structure or other development without the elevation certificate, other certifications, or other evidence of compliance required in this chapter is presumed to be in violation until such time as that documentation is provided.

Water surface elevation*: The height, in relation to the National Geodetic Vertical Datum (NGVD) of 1929 (or other datum, where specified), of floods of various magnitudes and frequencies in the floodplains of coastal or riverine areas.

Watercourse*: A natural or manmade channel through which storm water flows.

Watershed*: The area drained by a given stream, river, watercourse, or other body of water.

Wetland*: See Texas Natural Resources Code § 221.001.

[Commentary: this statute presently defines "wetland" as follows: "land that: (A) has a predominance of hydric soil; (B) is inundated or saturated by surface or groundwater at a frequency and duration sufficient to support a prevalence of hydrophytic vegetation typically adapted for life in saturated soil conditions; and (C) under normal circumstances does support a prevalence of that vegetation.