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Abstract

Tulsa has the highest CRS rating in the country and is currently at 2. Although this high rating is only partially attributed to its ordinances, its ordinances reflect very high standards. The ordinances are based on watershed development and include stormwater consideration. “The area of special flood hazard, policies and standards” provision endorses the concept of No Adverse Impact, specifically denying any development that would increase flows, flood heights, velocities that might affect other property and, in addition providing for compensatory storage.

Resource

Tulsa Ordinances, February 14, 1989

WATERSHED DEVELOPMENT REGULATIONS

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SECTION 300. PURPOSE

To protect the general health, safety, and welfare of the residents of the City of Tulsa from the hazards and danger of stormwater run-off, the City shall: A. Regulate the methods for handling and disposing of stormwater run-off in the watersheds of the jurisdictional area of

the City and further regulate the design, construction and maintenance of the stormwater drainage system;

B. Regulate the development, excavation, grading, regrading, paving, landfilling, berming and diking of land within the watersheds of the City;

C. Regulate development within flood plains in order to assure that development is not dangerous to health, safety or property due to stormwater run-off, and does not increase flood heights or velocities, and to comply with the regulations of the National Flood Insurance Program;

D. Inform individuals of lands which are identified as subject to hazard from the regulatory flood; and

E. Regulate the connection to and use of the stormwater drainage system.

Ord. Nos. 16959, 17285

SECTION 301. SCOPE AND DEFINITIONS

A. Scope. The provisions of this chapter shall apply to and be binding upon every person, firm, agency, institution or corporation, and every entity which seeks to develop, redevelop, grade, regrade, excavate, landfill, berm or dike land subject to the jurisdiction of the City.

B. Definitions.

For purposes of this chapter, the following words and phrases shall have the meanings given herein.

1. Alter or Alteration of a Watercourse means any change to the stormwater drainage system or to the land surface which changes the conveyance capacity of the stormwater drainage system.

2. Appeal means a request for a review of the Director's interpretation of any provision of this chapter or a request for a variance.

3. Area of Shallow Flooding means a designated AO, AH, or VO zone on the City's Flood Insurance Rate Map (FIRM) with a one percent (1%) 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.

4. Area of Special Flood Hazard is the land in the flood plain within the City subject to a one percent (1%) or greater chance of flooding in any given year. The area may be designated as Zone A on the Flood Hazard Boundary Map (FHBM). After detailed rate

making has been completed in preparation for publication of the FIRM, Zone A usually is refined into Zones A, AE, AH, AO, A1-99, VO, V1-30, VE or V. (See Flood Hazard Area)

5. Base Flood means the flood having a one percent (1%) chance of being equaled or exceeded in any given year and is the regulatory flood.

6. City Drainage Standards are the criteria, standards and specifications for stormwater drainage, earth change and flood plain development adopted by the City by resolution.

7. Critical Feature means an integral and readily identifiable part of a flood protection system, without which the flood protection provided by the entire system would be compromised.

8. Detention means the temporary storage and controlled release of stormwater run-off.

9. Detention Facility means a facility that provides temporary storage of stormwater run-off and controlled release of this run-off.

10. Development means any man-made change to improved or unimproved real estate, including but not limited to buildings or other structures, mining, dredging, filling, grading, paving, berming, diking, excavating, or drilling operations.

11. Earth Change means excavating, grading, regrading, landfilling, berming, or diking of land within the City.

12. Elevated Building means a non-basement building: a. built, in the case of a building in Zones A 1-30, AE, A, A99, AO, AH, B, C, X, and D, to have the top of the elevated floor, or in the case of a building in Zones V 1-30, VE, or V, to have the bottom of the lowest horizontal structure member of the elevated floor elevated above the ground level by means of pilings, columns (posts and piers) or shear walls parallel to the flow of the water, and b. 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 A 1-30, AE, A, A99, AO, AH, B, C, 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. In the case of Zones V 1-30, VE, or V, "elevated building" also includes a building otherwise meeting the definition of "elevated building," even though the lower area is enclosed by means of breakaway walls if the breakaway walls meet the standards of Section 60.3(e)(5) of the National Flood Insurance Program regulations.

13. Existing Construction or Existing Structures means, for the purpose of determining flood insurance 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 that date.

14. Federal Emergency Management Agency (FEMA) means the federal agency responsible for administering the National Flood Insurance Program.

15. Flood or Flooding means a general and temporary condition for partial or complete inundation of normally dry land areas from:

a. the overflow of inland waters, or

b. the unusual and rapid accumulation or run-off of surface waters from any source.

16. Flood Hazard Area means an area of special flood hazard.

17. Flood Insurance Rate 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.

18. Flood Insurance Study is the official report provided by the Federal Emergency Management Agency. The report contains flood profiles, water surface elevation of the base flood, and the Flood Boundary-Floodway Map.

19. Flood Plain means any land area susceptible to being inundated by water from any source. (See definition of flooding.)

20. Flood Protection System means 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 of the areas within a community subject to a "special flood hazard" and the extent of the depths of 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.

21. Floodway is that portion of the flood hazard area identified by the Federal Emergency Management Agency as the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the regulatory flood without cumulatively increasing the water surface elevation more than one (1) foot.

22. Full Development/Full Urbanization is full potential urbanization of the contributing watershed considering the Comprehensive Plan and land use regulations.

23. Full Development Flood Fringe is that portion of the flood plain area between the outer boundary of the flood plain and the outer boundary of the flood hazard area. This area reflects the effects of full development of the watershed and extends to where the contributory drainage area is forty (40) acres or more.

24. Functionally Dependent Use means a use which cannot perform its intended purpose unless it is located or carried out in close proximity to water. The term includes only docking facilities, port facilities that are necessary for the loading and unloading of cargo or passengers, and ship building and ship repair facilities, but does not include long-term storage or related manufacturing facilities.

25. Highest Adjacent Grade means the highest natural elevation of the ground surface prior to construction next to the proposed walls of a structure.

26. Levee means a man-made 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.

27. Levee System means a flood protection system which consists of a levee, or levees, and associated structures, such as closure and drainage devices, which are constructed and operated in accordance with sound engineering practices.

28. Lowest Floor means the lowest floor of the lowest enclosed area (including basement). An unfinished or flood-resistant enclosure, usable solely for parking of 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.

29. 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. For flood plain management purposes, the term "manufactured home" also includes park trailers, travel trailers and other similar vehicles placed on a site for greater than one hundred eighty (180) consecutive days. For insurance purposes, the term "manufactured home" does not include park trailers, travel trailers, or other similar vehicles.

30. Mean Sea Level means the National Geodetic Vertical Datum (NGVD) of 1929, or other datum, to which base flood elevations are shown.

31. Natural State means the cover and topography of land before any development or, in areas where there has already been development, the state of the area and topography of land on the date of December 22, 1977.

32. New Construction means, for flood plain management purposes, structures for which the "start of construction" commenced on or after the effective date of a flood plain management regulation adopted by the City.

33. One Hundred Year Frequency Rainstorm is the rainstorm having an average statistical frequency of occurrence in the order of once in one hundred (100) years, although the rainstorm may actually occur in any year.

34. Regulatory Flood is the flood having a one-percent (1%) chance of being equaled or exceeded in any given year.

35. Regulatory Flood Plain is the area subject to flooding by the regulatory flood based on the full development of the watershed and where the contributing drainage area is forty (40) acres or more as designated by the City.

36. Sedimentation Facilities include debris basins, sedimentation traps, berms, interceptor ditches, land terraces, hay bales and vegetation ground cover.

37. Start of Construction includes substantial improvement and means the date the building permit was issued, provided that 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 or 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; or the placement of a manufactured home on a foundation. Permanent construction does not include land preparation, such as clearing, grading and filling; nor does it include the installation of streets or walkways; nor does it include excavation for basement, footing, piers or foundations or the erection of temporary forms; nor does it include 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.

38. Stormwater Drainage Advisory Board is the Advisory Board established in Chapter 1 of this title.

39. Stormwater Technical Advisory Group is the Technical Advisory Group established by the Stormwater Drainage Advisory Board for the purpose of reviewing and recommending to the Stormwater Drainage Advisory Board on issues pertaining to drainage standards, Watershed Development Permit appeals and requests for variances.

40. Stormwater Run-Off is that portion of the rainfall that is drained into the stormwater drainage system.

41. Structure means a walled and roofed building that is principally above ground, including a gas or liquid storage tank, as well as a manufactured home.

42. Substantial Improvement means any repair, reconstruction, or improvement of a structure, the cost of which equals or exceeds fifty percent (50%) of the market value of the structure, either before the improvement or repair is started or, if the structure has been damaged and is being restored, before the damage occurred. For purposes of this definition, "substantial improvement" is considered to occur when the first alteration of any wall, ceiling, floor or other structural part of the building commences, whether or not that alteration affects the external dimensions of the

structure. The term does not, however, include any projects for improvement of a structure to comply with existing state or local health, sanitary or safety code specifications which are solely necessary to assure safe living conditions, or any alterations of a structure listed on the National Register of Historic Places or State Inventory of Historic Places.

43. Variance means a grant of relief to a person from the requirements herein when specific enforcement would result in unnecessary hardship. A variance, therefore, permits construction or development in a manner otherwise prohibited by this chapter. (For full requirements, see Section 60.6 of the National Flood Insurance Program regulation.)

44. Violation means the failure of a structure or other development to be in full compliance with the City's flood plain management regulations. A structure or other development without the elevation certificate, other certifications, or other evidence of the compliance required in Section 60.3(b)(5), (c)(4), (c)(10), (d)(3), (e)(2), (e)(4), or (e)(5) of the National Flood Program regulations is presumed to be in violation until such time as that documentation is provided.

45. Watercourse means any depression serving to give direction to a current of stormwater where the drainage area above the same is five (5) acres or more.

46. Watershed means the physical area from which water drains into a creek.

47. Water Surface Elevation means 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 flood plains of coastal or riverine areas.

Ord. Nos. 16959, 17285

SECTION 302. WATERSHED DEVELOPMENT PERMITS

A. Watershed Development Permits. Unless specifically exempted, a Watershed Development Permit, as required by this chapter, shall be obtained prior to the commencement of any development, redevelopment, building, excavating, grading, regrading, paving, landfilling, berming or diking of any property within the City.

B. Permit Classification and Requirements. Watershed Development Permit requirements shall be determined by the magnitude of the effects the proposed development could have on the stormwater drainage system in accordance with the following classifications.

1. Floodway Watershed Development Permit (FW). A Floodway Watershed Development Permit shall be obtained prior to any development or earth change where the same is located in the floodway.

2. Flood Plain Watershed Development Permit (FP). A Flood Plain Watershed Development Permit shall be obtained prior to any development or earth change where the same is located in the regulatory flood plain.

3. Stormwater Drainage Watershed Development Permit (SD). A Stormwater Drainage Watershed Development Permit shall be obtained prior to any development whose discharge at the point it leaves the site is greater than that which can be conveyed in a fifteen (15) inch diameter conduit.

4. Stormwater Connection Watershed Development Permit (SC). All other development being more than an earth change and not exempted herein shall be required to obtain a Stormwater Connection Watershed Development Permit.

5. Earth Change Watershed Development Permit (EC). An Earth Change Watershed Development Permit shall be obtained prior to any earth change.

C. Exemptions. A Watershed Development Permit shall not be required for the following activities:

1. Bona fide agricultural and farming operations which constitute the principal use of any lot or tract of ground in the City and which meet the requirement of the Zoning Code of the City of Tulsa;

2. Customary and incidental routine grounds maintenance, landscaping, and home gardening which does not require a zoning use exception, a zoning minor variance or a building permit, and which does not affect stormwater drainage entering or leaving any public right-of-way;

3. Earth change that does not exceed forty three thousand five hundred sixty (43,560) square feet (one acre) in size; provided, however, that this exemption is not applicable to:

a. such activities, regardless of size, located within a regulatory flood plain, or

b. such activities, regardless of size, when any natural or man-made watercourse is involved;

4. Development or improvements on one-family and two-family residential properties at residential single-family or duplex density under the Zoning Code, provided that the activity is not located in a floodway or a regulatory flood plain, and further provided that the activity does not alter a watercourse;

5. Emergency repairs of a temporary nature made on public or private property which are necessary for the preservation of life, health or property, and which are made under such circumstances where it would be impossible or impracticable to obtain a Watershed Development Permit;

6. Temporary excavation for the purpose of repairing or maintaining any public street, public utility facility or any service lines related thereto; and

7. Routine maintenance of the stormwater drainage system that does not alter the initial design capacity of an improved drainage system or does not alter the conveyance capacity of a natural channel that is in a well-maintained condition.

D. Application for Watershed Development Permit.

1. General Requirements. Applications for a development permit required under this section shall be submitted to the Public Works Department and shall be accompanied by a development site plan. The Director shall review the information furnished by the applicant and determine whether a Floodway Watershed Development Permit (FW), Flood Plain Watershed Development Permit (FP), Stormwater Drainage Watershed Development Permit (SD), Stormwater Connection Watershed Development Permit (SC) or an Earth Change Watershed Development Permit (EC) is required or whether the activity is exempt.

2. Permit Application. The application and development site plan shall contain such information as required in City Drainage Standards.

3. Inactive Permit Application Denial. Failure of an applicant to provide all the information required by the Public Works Department within sixty (60) days of receipt by the applicant of the request for the information shall result in the application's being denied unless an extension is granted in writing by the Public Works Department.

Ord. Nos. 16959, 17285

SECTION 303. SUBDIVISION PLATS, RE-PLATS, LOT-SPLITS AND BUILDING PERMIT APPROVAL

All subdivision plats, re-plats, lot-splits and building permits shall be approved by the Public Works Department. The review and approval of any plat, re-plat, lot-split or building permit by the Public Works Department shall require the submittal and acceptance of drainage plans as required in City Drainage Standards or in the Plumbing Code.

Ord. Nos. 16959, 17285

SECTION 304. POLICIES AND STANDARDS FOR APPROVAL OF WATERSHED DEVELOPMENT PERMITS, SUBDIVISION PLATS, LOT-SPLITS AND BUILDING PERMITS

A. General Policies. The issuance of Watershed Development Permits and approval of subdivision plats, lot-splits and building permits shall be governed by the following general policies of the City:

1. The development shall not create a public hazard upon any property within the City or in immediately adjacent areas through the obstruction, impairment, sedimentation, blockage or alteration of the stormwater drainage system;
2. The development shall provide a sufficient stormwater drainage system for the conveyance of stormwater run-off received from upstream and from the subject property in a one hundred (100) year frequency rainstorm with due allowance having been made for full urbanization of the watershed when the quantity of stormwater may be increased; and
3. The development shall not result in additional identifiable adverse flooding of other property.

B. Specific Policies and Standards. The decision to deny a Watershed Development Permit or to reject drainage plans for a subdivision plat, lot-split or building permit shall be accompanied by a statement of the reasons for such action. A development permit shall be issued if, upon review of the application therefor, it is found that the development meets and complies with the policies and standards hereinafter set out and duly adopted by the City by resolution.

C. Drainage Policies and Standards.

1. Policies.

- a. The stormwater drainage system shall be designed to pass the stormwater run-off received from upstream and from the subject property in a one hundred (100) year frequency rainstorm under full urbanization.
- b. Development shall be constructed so that it will not increase the frequency of flooding or the depth of inundation of structures.
- c. Peak flows shall not be increased at any location for any storm, up to and including the one hundred (100) year storm, which will result in the inundation of unprotected structures not previously subject to inundation as a result of that same frequency storm.
- d. Regulation of peak flows to allowable levels, as determined by subparagraphs (b) and (c) herein, shall be achieved by on-site or off-site storage as provided in the City Drainage Standards.
- e. Subject to requirements for Watershed Development Permits and of the City Drainage Standards, downstream conveyance may be improved to compensate for increased flows if such improvements comply with the policies of this chapter.
- f. Dumping of any material into the stormwater drainage system is prohibited.

2. Standards.

- a. The Director shall prepare standards for stormwater drainage facilities which shall become City Drainage Standards after approval by resolution by the governing body of the City.
- b. All roofs, paved areas, yards, courts and courtyards, other than for one-family or two-family residential structures, shall drain into a separate storm sewer system or to an approved place of disposal.
- c. In the case of one-family and two-family residential structures, stormwater may be discharged onto flat areas such as streets or lawns if drainage is provided so that the stormwater will flow away from the building.

D. Erosion and Sediment Control Policies and Standards.

1. Policies.

- a. All developments shall be designed, constructed and completed in a manner which minimizes the exposure of bare earth to precipitation.
- b. Development shall be constructed only if appropriate sedimentation facilities are installed and maintained throughout the construction period.

2. Standards. The policies governing watershed development, as it affects erosion and sediment control, shall be implemented by City Drainage Standards which shall specifically regulate the design, installation, maintenance and removal of sedimentation and erosion control facilities and structures and shall establish acceptable methods and practices for controlling soil sedimentation and erosion.

E. Regulatory Flood Plain Area Policies and Standards. The Director shall, from time to time, prepare maps defining the one hundred (100) year, fully urbanized flood plains within the City. When adopted as official Regulatory Flood Plain Maps by the governing body of the City, the maps shall be made available to the public. The provisions of this subsection shall apply to development within the identified regulatory flood plain areas graphically shown by the maps adopted by the City of Tulsa Resolution No. 13729, dated December 22, 1977, and amendments thereto.

1. Regulatory Flood Plain Area Policies.

- a. Development which is dangerous to health, safety or property in times of flood or which would cause excessive increases in flood heights or velocities shall be restricted or prohibited.
- b. Uses vulnerable to floods, including facilities which serve such uses, shall be protected against flood damage at the time of initial construction.

c. The alteration of natural flood plains, stream channels and watercourses shall be controlled.

d. Filling, grading, dredging and other development which may increase flood damage shall be controlled.

e. The construction of flood barriers which will unnaturally divert flood waters or which may increase flood hazards to other lands in and outside the City shall be prevented or regulated.

f. The approval or denial of a Floodway Watershed Development Permit or a Flood Plain Watershed Development Permit by the Director shall be based on the provisions of this chapter and the following relevant factors:

(1) the danger to life and property due to flooding or erosion damage;

(2) the susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owner;

(3) the danger that materials may be swept onto other lands to the injury of others;

(4) the compatibility of the proposed use with existing and anticipated development;

(5) the safety of access to the property in times of flood for ordinary and emergency vehicles;

(6) the costs of providing governmental services during and after flood conditions, including maintenance and repair of streets and bridges, and public utilities and facilities such as sewer, gas, electrical and water systems;

(7) the expected heights, velocity, duration, rate of rise and sediment transport of the floodwaters expected at the site;

(8) the availability of alternative locations not subject to flooding or erosion damage for the proposed use; and

(9) the relationship of the proposed use to the comprehensive plan for that area.

2. Regulatory Flood Plain Area Standards.

a. General Requirements within Regulatory Flood Plain Areas.

(1) All new construction and substantial improvements including placement of prefabricated buildings and manufactured homes shall be designed (or modified) and adequately elevated and anchored to prevent flotation, collapse or lateral movement of the structure.

(2) All new construction or substantial improvements shall be by methods and practices that minimize or eliminate flood damage.

(3) All new construction or substantial improvements shall utilize materials and utility equipment resistant to flood damage.

(4) All new and replacement water supply systems shall be floodproofed.

(5) New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of flood waters into the systems and discharges from the systems into flood waters.

(6) On-site waste disposal systems shall be located to avoid impairment to them or contamination from them during flooding.

(7) New structures shall be placed with their longitudinal axis parallel to the predicted direction of flow of flood waters or be placed so that their longitudinal axis are on lines parallel to those of adjoining structures.

(8) Filling or development which diminishes the flood storage capacity of any regulatory flood plain area shall be compensated for as specified in the City Drainage Standards.

b. Development Requirements in the Regulatory Flood Plain Areas.

(1) All new construction and substantial improvements of any residential structure within the regulatory flood plain area shall have the lowest floor, including basement, elevated at least one (1) foot above the regulatory flood elevation with full urbanization. A registered professional engineer, architect or land surveyor shall submit a certification to the Director that the elevation requirement has been met.

(2) All new construction and substantial improvements of any commercial, industrial or other non-residential structure shall either have the lowest floor, including basement, elevated at least one (1) foot above the regulatory flood elevation with full urbanization, or together with attendant utility and sanitary facilities, be floodproofed so that at least below one (1) foot above the regulatory flood level with full

urbanization, the structure is watertight with walls substantially impermeable to the passage of water and with structural components having the capability of resisting hydrostatic and hydrodynamic loads and effects of buoyancy. A registered professional engineer or architect shall submit certification to the Director that this standard regarding floodproofing has been satisfied. A registered professional engineer, architect, or land surveyor shall submit a certification to the Director that the elevation requirement has been met.

(3) All manufactured homes shall be elevated and anchored to prevent flotation, collapse or lateral movement from the regulatory flood with full urbanization. Acceptable methods of elevating and anchoring shall be set out in the City Drainage Standards. Methods of anchoring may include but are not limited to use of over-the-top or frame ties to ground anchors. This requirement is in addition to applicable state and local anchoring requirements for resisting wind forces.

(4) All manufactured homes to be placed in the regulatory flood plain shall have the lowest floor elevated at least one (1) foot above the regulatory flood with full urbanization. A registered professional engineer, architect or land surveyor shall submit a certification to the Director that the elevation requirement has been met.

(5) An evacuation plan indicating vehicular access and escape routes for manufactured home parks and subdivisions located in or surrounded by regulatory flood plain areas shall be filed with the Public Works Department and the Tulsa Area Emergency Management Agency. The owner of the manufactured home park or subdivision shall be responsible for filing vehicular access and escape routes with the Public Works Department and the Tulsa Area Emergency Management Agency and shall see that each tenant thereof has received an Evacuation Plan prior to the tenant's moving into the manufactured home park or subdivision. (6) Placement of manufactured homes within the adopted regulatory floodway is prohibited except in a legally pre-existing manufactured home park or subdivision.

(7) All new construction and substantial improvements, with fully enclosed areas below the lowest floor that are subject to flooding, shall be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of floodwaters. Designs for meeting this requirement must either be certified by a registered professional engineer or architect or meet the following minimum criteria:

(a) a minimum of two openings having a total net area of not less than one (1) square inch for every square foot of enclosed area subject to flooding shall be provided,

(b) the bottom of all openings shall be no higher than one

(1) foot above grade, and

(c) openings may be equipped with screens, louvers, valves or other coverings or devices, provided that they permit the automatic entry and exit of flood waters. c. Standards for Subdivision Proposals in Regulatory Flood Plain Areas.

(1) All subdivision proposals shall have adequate drainage provided to reduce exposure to flood effects and shall comply with the provisions of this chapter and the City Drainage Standards.

(2) All subdivision proposals shall have public utilities and facilities such as sewer, gas, electrical and water systems located and constructed to minimize flood damage.

(3) Regulatory Flood Plain area delineation shall be clearly shown on all preliminary plats and final plats submitted for approval.

(4) All subdivision proposals, including manufactured home parks greater than fifty (50) lots or five (5) acres, whichever is lesser, shall show the water surface elevation of the base flood with full urbanization. When the fully urbanized base flood elevation data has not been provided, the Director shall obtain, review and reasonably utilize any base flood elevation data and floodway data available from a federal, state or other source in order to administer this provision.

d. Standards for Areas of Shallow Flooding (AO/AH Zones).

(1) All new construction and substantial improvements of residential structures shall have the lowest floor (including basement) elevated above the highest adjacent grade at least as high as the depth number specified in feet on the City's Flood Insurance Rate Map (FIRM) (at least two [2] feet if no depth number is specified).

(2) All new construction and substantial improvements of nonresidential structures shall have the lowest floor (including basement) elevated above the highest adjacent grade at least as high as the depth number specified in feet on the City's Flood Insurance Rate Map (FIRM) (at least two [2] feet if no depth number is specified), or together with attendant utility and sanitary facilities be designed so that below the base flood level the structure is watertight with walls substantially impermeable to the passage of water and with structural components having the capability of resisting hydrostatic and hydrodynamic loads of effects of buoyancy. A registered professional engineer or architect shall submit a certification to the Director that the standards of this section are satisfied. There shall be adequate drainage paths around structures on slopes to guide flood waters around and away from the proposed structures.

(3) The foregoing requirements of this subparagraph are minimal requirements and shall not relieve any new construction or substantial improvements from meeting and complying with additional requirements and provisions of this chapter.

3. Area of Special Flood Hazard, Policies and Standards.

In all special flood hazard areas, the following policies and standards shall apply. a. New construction, substantial improvements or other development (including fill) shall not be approved in a special flood hazard area if it:

(1) adversely affects the capacity of channels or floodways of any watercourse in the flood plain area to convey the regulatory flood or any flood of more frequent occurrence,

(2) would measurably increase flood flows or flood heights or increase flood damage upon off-site properties during the occurrence of the regulatory flood or any flood of more frequent occurrence,

(3) would individually or cumulatively, when combined with all other existing and anticipated development assuming an equal degree of encroachment for a significant reach on both sides of the stream or watercourse, increase flood levels or expose additional upstream, downstream or adjacent properties to adverse flood effects that would otherwise not be exposed to such effects due to flooding during the regulatory flood or any flood of more frequent occurrence,

(4) increases velocities or volumes of flood waters to the extent that significant erosion of flood plain soils would occur either on the subject property or on some other property upstream or downstream, or

(5) does not provide compensatory storage for any measurable loss of flood storage capacity.

b. Encroachments in special flood hazard areas including fill, new construction, substantial improvements and other development that would result in any increase in flood levels during the occurrence of the regulatory flood or any flood of more frequent occurrence shall be prohibited.

c. Encroachments in the floodways including fill, new construction, substantial improvements and other development are prohibited unless the encroachments will not result in any increase of flood levels for the regulatory flood or any flood of more frequent occurrence, and certification demonstrating that the encroachments will not result in such increase in flood levels is provided by a professional registered engineer or architect.

4. Special Flood Hazard Area Notice.

a. Every owner of real property, any part of which is located in a special flood hazard area as depicted and shown on a Flood Insurance Rate Map adopted by the City, is hereby required to notify in writing every tenant of the real property of the location of the property in a designated special flood hazard area and to obtain and keep for inspection upon request by the Director or his authorized representative written acknowledgment of the receipt of the notice signed by each of the tenants. The notice shall be given and the acknowledgment thereof obtained prior to any of the tenants taking possession of or occupying the real property or, in the case of property already rented or leased prior to the effective date of this provision, within sixty (60) days after its adoption and publication. The notice and acknowledgment shall be in a separate document and not a part of any other document, such as a lease, and it shall be substantially in the following form:

NOTICE TO TENANT OF LOCATION IN FLOOD HAZARD AREA

Notice is hereby given that the following-described real property is located within a flood hazard area as graphically shown on Flood Insurance Rate Maps as reviewed and adopted by the City of Tulsa: (Put in legal description and address of property being leased or rented.) Further information may be obtained from the Public Works Department of the City of Tulsa.

Dated this day of , A.D. .

(Signature of Owner or Agent of Owner)

ACKNOWLEDGMENT OF TENANT

The undersigned tenants of the above-described real property hereby acknowledge receipt of notice that such property is located within a flood hazard area, as graphically shown on the Flood Insurance Rate Maps adopted by the City of Tulsa. Dated this day of , A.D. .

(Signature of all tenants required)

I, the tenant

(name)

(address)

acknowledge that I have received an Evacuation Plan for manufactured home park.

(Signature of Tenant)

b. All departments, agencies, boards, commissions and employees of the City, charged with the responsibilities of issuing permits for manufactured homes or modular homes in a special flood hazard area, including the issuance of permits for hook-up of utilities to the same, shall refrain and be prohibited from issuing any such permit unless the applicant for such permit provides a copy of the notice and acknowledgment properly signed by an owner and all tenants as required herein. c. Every owner of real property, any part of which is located in a special flood hazard area as shown on Flood Insurance Rate Maps as reviewed and adopted by the City, is required to notify in writing every purchaser of the real property of the location of the property in a designated special flood hazard area. The notice shall be given at least ten (10) days prior to closing of sale and prior to any purchaser taking possession of or occupying the real property.

5. Special Flood Hazard Maps.

a. Establishing the areas of special flood hazard.

The areas of special flood hazard identified by the Federal Emergency Management Agency in a scientific and engineering report entitled "The Flood Insurance Study for City of Tulsa, Oklahoma," dated April 15, 1982, with accompanying Flood Insurance Rate Maps and Flood Boundary-Floodway Maps (FIRM and FBFM) and any revisions thereto are adopted by reference and declared to be a part of this chapter. (NOTE: FEMA has designated flood hazard areas [A Zones] for the City of Tulsa by the publication of Flood Boundary and Floodway Maps and by publishing a notice of final flood elevations for flood hazard areas on Flood Insurance Rate Maps. The City must adopt regulations meeting the FEMA minimum requirements for adequate

flood plain management for these flood hazard areas in order to qualify for the sale of federally-subsidized flood insurance. Risk premium rates for flood insurance are charged based on the FEMA flood hazard area and flood elevation determinations. Banks, savings and loan associations, or similar institutions regulated, supervised or insured by a federal instrumentality are required by Federal law as a condition of making a loan in a flood hazard area to notify the purchaser of such flood hazards, in writing, a reasonable period of time in advance of the signing of the purchase agreement, lease or other documents involved in the transaction.)

b. FEMA Map Corrections and Amendments.

(NOTE: The Flood Boundary and Floodway Maps and Flood Insurance Rate Maps are revised by FEMA when there is a change of community regulatory flood elevations due to changed physical conditions or where the flood elevations are technically incorrect. FEMA also issues letters of map amendment to owners or lessees of property which have been inadvertently included in a flood hazard area [A Zone].) The Public Works Department shall review and comment on all proposed revisions to FEMA flood hazard areas and flood elevations within the City of Tulsa prior to action by FEMA on those proposals. The Public Works Department shall submit technical data to FEMA in order to maintain the Flood Boundary and Floodway Maps and Flood Insurance Rate Maps with current data. The revised FEMA Flood Insurance Rate Maps shall be adopted biannually after public notice by the City. Subsequent to such adoption, the Clerk shall cause copies of the FEMA maps to be delivered to and acknowledgment of receipt of such delivery to be obtained from the Mayor's Office, the Public Works Department, the Tulsa Metropolitan Area Planning Commission, the Indian Nations Council of Governments, the City-County Library, and its branches, and to County Clerks in Tulsa, Osage and Rogers counties. Additional copies of the maps shall be provided to these County Clerks for distribution as information to County Engineers and Hydrologists and County Tax Assessors.

Notice shall be sent by the Public Works Department to appraisers, surveyors, realtors and lending institutions informing them that revised maps have been adopted and explaining where copies of the revised FEMA maps are located or where they may be obtained.

6. Flood Plain Area Notice. The Public Works Department shall mail annually a notice to owners or occupants of structures within or touched by the regulatory flood plain areas, to provide information as to the status of the flood hazard for each property.

Ord. Nos. 16959, 17173, 17285, 17466, 18838

SECTION 305. RESPONSIBILITIES OF THE DIRECTOR OF PUBLIC WORKS

The responsibilities of the Director in administering the requirements of Subsection 304E, Regulatory Flood Plain Area Policies and Standards, shall include:

A. Maintaining and holding open for public inspection all records pertaining to the provisions of this chapter, including the actual elevation of the lowest floor (including basement) of all new and substantially improved structures in the regulatory flood plain and, for structures that have been floodproofed, the elevation to which the structure was floodproofed;

B. Reviewing, approving or denying all applications for development permits required by Section 302 of this chapter;

C. Reviewing permits for proposed development to assure that all necessary permits have been obtained from those federal, state or local government agencies from which prior approval is required;

D. Making the necessary interpretation where interpretation is needed as to the exact location of the boundaries of the special flood hazard area (for example, where there appears to be a conflict between a mapped boundary and actual field conditions);

E. Notifying, in riverine situations, adjacent communities and the Oklahoma Water Resources Board prior to any alteration or relocation of a watercourse, and submitting evidence of such notification to the Federal Emergency Management Agency;

F. Assuring that the flood-carrying capacity within the altered or relocated portion of any watercourse is maintained;

G. When regulatory flood elevation data has not been provided by the Federal Emergency Management Agency, obtaining, reviewing and reasonably utilizing any base flood elevation data available from a federal, state, city or other source; and

H. Redefining within one hundred-eighty (180) days prior to the expected completion date of construction of any flood control protective works, the regulatory flood plain area as altered by the works; and submitting the new special flood hazard area definition and new regulatory flood elevation to FEMA for revision of the Flood Insurance Rate Maps.

Ord. Nos. 16959, 17285

SECTION 306. ADMINISTRATIVE PROCEDURES

A. Watershed Development Permit Administrative Criteria.

1. Permit Fees. Permits authorized by the provisions of this chapter shall be effective only upon payment of the appropriate fee as set out in the duly adopted drainage standards. Fees are payable: a. prior to the time the permit is issued by the Public Works Department if the Watershed Development Permit is applied for through direct application to the Public Works Department, or b. prior to the time the Building

Permit is issued if the Watershed Development Permit application was made in connection with a building permit application.

2. Effective Date and Expiration of Watershed Development Permit. The Watershed Development Permit effective date shall be the date as stamped in the approval box of the permit and permits shall be valid only when signed by an authorized representative of the City. Any Watershed Development Permit issued shall become invalid if the authorized work is not commenced within six (6) months after issuance of the permit or, if the authorized work is suspended or abandoned, for a period of six (6) months after the time of commencing the work, unless an extension has been granted in writing by the Public Works Department. One six (6) month extension will be routinely granted by the Public Works Department if requested by the applicant in writing.

B. Appeals. Any person who is aggrieved by a decision, requirement, ruling or interpretation of this chapter or of the City Drainage Standards may request review thereof by the Director. The determination of the Director may be appealed by such person to the Stormwater Drainage Advisory Board by written notice of appeal filed with the Director within ten (10) days of his determination. The decision of the Stormwater Drainage Advisory Board may be appealed to the governing body of the City of Tulsa by such person or by the Director by written notice of appeal filed with the Office of the City Clerk within ten (10) days of decision by the Stormwater Drainage Advisory Board.

C. Variances. The Stormwater Drainage Advisory Board upon application, after hearing, and subject to the procedural and substantive standards hereinafter set forth, may grant such variances from the terms of this chapter as will not cause detriment to the public good, safety or welfare nor be contrary to the spirit, purposes and intent of this chapter where by reason of unique and exceptional physical circumstance or condition of a particular property, the literal enforcement of the requirements of this chapter will result in an unreasonable hardship.

1. Applications for variance from the provisions of the Flood Plain Area Standards shall be made by the filing of a written request with the Public Works Department.

2. The following additional prerequisites are required for variances as to requirements of Subsection 304E, Regulatory Flood Plain Area Policies and Standards:

a. A variance shall be granted only upon a determination that the variance is the minimum necessary to afford relief, considering the flood hazard;

b. Variances shall be granted only upon (1) showing of good and sufficient cause, (2) a finding that failure to grant the variance would result in exceptional hardship to the applicant, and (3) a finding that the granting of a variance would not result in increased flood heights, additional threats to public safety, or extraordinary public expense, nor create nuisances, cause

fraud on or victimization of the public, nor conflict with existing local laws or ordinances;

c. Any applicant to whom a variance is granted shall be given written notice that the structure will be permitted to be built with a lowest floor elevation no more than a specified number of feet below the regulatory flood elevation and that the cost of flood insurance will be commensurate with the increased risk resulting from the reduced lowest floor elevation;

d. A variance may be granted for the reconstruction, rehabilitation or restoration of structures listed on the National Register of Historic Places or the State Inventory of Historic Places without regard to the procedures set forth in Section 304 of this chapter;

e. Upon consideration of the factors noted above and the intent of this chapter, the Stormwater Drainage Advisory Board may attach such conditions to the granting of variances as it deems necessary to further the purpose and objectives herein; and

f. A variance shall not be granted within any designated floodway if any increase in flood levels during the regulatory flood discharge would result.

D. Appeal and Variance Process. Upon accepting a notice of appeal or an application for a variance, the Public Works Department shall:

1. Require the appellant or applicant to furnish the names and mailing addresses of all owners of the subject property and of all owners of property within a three-hundred (300) foot radius of the exterior boundary of the property as shown by County tax records

2. Schedule a hearing date before the Stormwater Drainage Advisory Board;

3. Mail written notice to all owners of the subject property and to all owners of property within a three-hundred (300) foot radius of the exterior boundary of the subject property indicating that an appeal or variance has been requested and when a hearing will be held; and

4. Refer the notice of appeal or application for variance to the Stormwater Technical Advisory Group for review and recommendation to the Stormwater Drainage Advisory Board.

Ord. Nos. 16959, 17285, 17303

SECTION 307. ENFORCEMENT AND PENALTIES

A. Notification of Noncompliance. If, at any time, a development occurs which is not in accordance with the provisions of this chapter or a Watershed Development Permit, including conditions and approved modifications thereof, a written notice to comply shall be given by the City which shall state the nature and location of the alleged noncompliance, and shall specify remedial steps necessary to bring the project into compliance. The responsible parties shall have such time as may be allowed in the written notice to correct all noted deficiencies. The time allowed shall be reasonable and shall be determined by the nature of the deficiency and whether or not it creates a nuisance or hazard.

B. Revocation or Suspension of Watershed Development Permit. A Watershed Development Permit may be revoked or suspended according to the provisions given herein.

1. Grounds for Revocation or Suspension. A Watershed Development Permit may be revoked or suspended upon the occurrence of any one of the following events: a. A violation of any condition of the permit;

b. A violation of any provision of this chapter or any other applicable law, ordinance, rule or regulation pertaining to the Watershed Development Permit; or

c. The existence of any condition or the doing of any act constituting fraud, or creating a nuisance or hazard, or endangering human life or the property of others.

2. Notice and Order of Revocation or Suspension. Upon the occurrence of any of the events above listed, the Director may cause to be served upon the permit holder a notice and order suspending or revoking the permit, specifying the grounds for the suspension or revocation and advising the holder that he is entitled to a hearing before the Director at a time, place and date specified in the notice and order, and further advising the holder that if the holder fails to appear at the time, place and date therein specified, the Director's order for suspension or revocation of the holder's permit shall be final.

3. Hearing Before the Director. At the hearing before the Director, the permit holder shall be afforded the opportunity to respond to the charges of the Director and to present information to show why his permit should not be revoked or suspended. After such hearing, the Director may either affirm, modify or reverse his order for suspension or revocation of the holder's permit, and shall notify the holder in writing of his decision within five (5) days of the date of the hearing. The Director's decision shall be final, unless the permit holder appeals the decision to the Stormwater Drainage Advisory Board as provided herein.

4. Appeals. An appeal from the Director's decision to the Stormwater Drainage Advisory Board ("Board") shall be by written notice of appeal filed with the Director within ten (10) days of the receipt of the Director's decision. The Director shall place the appeal on the agenda of the next regular or special meeting of the Board and shall

notify the permit holder of the time, place and date of such meeting. The decision of the Board may be appealed to the governing body of the City by the permit holder or the Director by written notice of appeal filed with the City Clerk within ten (10) days of the decision of the Board. If no appeal is taken to the governing body as herein provided, the decision of the Board shall be final.

5. Service. Notices and orders required by this subsection shall be served upon each party concerned, either personally or by certified mail, addressed to the individual contracting party or permit holder at the address given on the contract document or permit application filed with the City.

6. Stop Work Order. Upon the suspension or revocation of a Watershed Development Permit by the Director, the Director may issue a stop work order on all construction activity on the subject property which may be directly or indirectly related to site drainage and which is being performed pursuant to any permits, licenses, franchises or contracts issued or approved by the City. Such stop work order may order a work stoppage on all construction activity on buildings or structures and appurtenances thereto, including building, electrical, plumbing, mechanical and street work, storm sewers, sanitary sewers, gas lines, and all utilities including gas, electric, telephone and cable television.

C. Penalty. Unless otherwise provided herein, every person, firm, corporation or other legal entity violating any of the provisions of this chapter or conditions made pursuant thereto shall be guilty of an offense and upon conviction thereof shall be punished by imprisonment in the City Jail for a period of not more than ninety (90) days and/or by a fine of not more than FIVE HUNDRED DOLLARS (\$500.00), excluding costs.

D. Fine or Imprisonment not Exclusive Remedies. In addition to fine or imprisonment, the City may institute appropriate actions or proceedings at law or equity to enforce the provisions of this chapter or City Drainage Standards or to correct violations thereof. The conviction and punishment of any person hereunder shall not relieve the person of the responsibility to correct prohibited conditions or to remove prohibited buildings, structures, obstructions or improvements nor prevent the enforcement, correction or removal thereof.

SECTION 308. WARNING AND DISCLAIMER OF LIABILITY

The City recognizes that, although the degree of flood protection required by this chapter is considered reasonable for regulatory purposes and is based on scientific and engineering considerations, on rare occasions greater floods can and will occur, and flood heights may be increased by man-made or natural causes. These provisions do not imply that land outside the flood plain areas or that uses permitted within such areas will be free from flooding or flood damages. These provisions shall not create liability on the part of the City of Tulsa or any officer or employee thereof for any flood damages that result from reliance on this chapter or any administrative decision lawfully made thereunder.

Ord. Nos. 16959, 17285