

**CITY  
OF  
ROLLA, MISSOURI**

**STORMWATER & FLOOD  
CONTROL**

**CHAPTER 15  
CITY ORDINANCE**

**PUBLIC WORKS DEPARTMENT  
901 NORTH ELM  
P.O. BOX 979  
ROLLA, MO 65402**

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## **Article I - General**

### **Sec. 15-1. Statutory Authorization.**

The Legislature of the State of Missouri has in Chapter 89 delegated the responsibility to local governmental units to adopt regulations designed to promote the public health, safety, and general welfare of its citizenry. Therefore, the City Council of the City of Rolla, Missouri, does ordain the following Ordinance. (Ord. 2517; Ord. 3500, §2)

### **Sec. 15-2. Interpretation and Purpose.**

It is hereby determined that land development projects and associated increases in impervious cover alter the hydrologic response of local watersheds and increase stormwater runoff rates and volumes, flooding, stream channel erosion, and sediment transport and deposition.

The purpose of this Chapter is to establish minimum stormwater improvement requirements and controls to safeguard persons, protect property, and prevent damage to the environment in watersheds within the City of Rolla. This Chapter seeks to meet that purpose through the following objectives:

- (a) By requiring the implementation of both an on-site stormwater conveyance system and stormwater detention;
- (b) Minimize increases in stormwater runoff from any development in order to reduce flooding, siltation and stream bank erosion and maintain the integrity of stream channels;

(c) Minimize the total annual volume of surface water runoff which flows from any specific site during and following development to not exceed the pre-development hydrologic regime to the maximum extent practicable;

(d) Prohibit illicit connections and illegal discharges to the municipal storm sewer system;

(e) Provide for the protection of stream systems through the establishment of stream buffers;

(f) Minimize public and private losses due to flood conditions in specific areas. (Ord. 2517; Ord. 3500, §2)

### **Sec. 15-3. Definitions.**

For the purpose of this Chapter, the following terms, phrases, words, and their derivatives shall have the meaning herein given. When not inconsistent with the context, words used in the present tense include the future, words in the plural number include the singular number, and words in the singular number include the plural number.

(1) Accelerated Erosion: Erosion caused by development activities that exceeds the natural processes by which the surface of the land is worn away by the action of water, wind, or chemical action.

(2) Active Stream Channel: The area of the stream channel that is subject to frequent flows (at least the peak flow from a 2-year design storm) and that includes the portion of the channel below the floodplain.

(3) Actual Start of Construction: Different from “start of construction”; 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 or the placement of a manufactured home on a foundation. For a substantial improvement, the actual start of construction means the first alteration of any wall, ceiling, floor, or other structural part of a building, whether or not that alteration affects the external dimensions of the building.

(4) Actuarial or Risk Premium Rates: Those rates established by the Public Works Director pursuant to individual City studies and investigations which are undertaken to provide flood insurance in accordance with Section 1307 of the National Flood Disaster Protection Act of 1973 and the accepted actuarial principles. “Risk premium rates” include provisions for operating costs and allowances.

(5) Administrator means the Federal Insurance Administrator.

(6) Agency means the Federal Emergency Management Agency (FEMA).

(7) Appeal: A request for a review of the Public Works Director's interpretation of any provision of this Chapter or a request for a variance.

(8) Appurtenant Structure or Accessory Structure: A structure that is on the same parcel of property as the principle structure to be insured and the use of which is incidental to the use of the principal structure.

(9) Area of Special Flood Hazard or Special Flood Hazard Area: The land in the flood plain within the City of Rolla subject to a one (1) percent or greater chance of flooding in any given year.

(10) Authorized Enforcement Agency: Employees or designees of the City of Rolla Public Works Department.

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

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

(13) Best Management Practices (BMPs): Schedules of activities, prohibitions of practices, general good house keeping practices, pollution prevention and educational practices, maintenance procedures and other management practices to prevent or reduce the discharge of pollutants directly or indirectly to stormwater, receiving waters or stormwater conveyance systems. BMPs also include treatment practices, operating procedures, and practices to control site runoff, spillage or leaks, sludge or water disposal, or drainage from raw materials storage.

(14) Buffer: A vegetated area, including trees, shrubs, and herbaceous vegetation, that exists or is established to protect a stream system, lake, or reservoir. Alteration of this natural area is strictly limited.

(15) Building: Any structure, either temporary or permanent, having walls and a roof, designed for the shelter of any person, animal, or property, and occupying more than one hundred (100) square feet of area.

(16) Chief Executive Officer or Chief Elected Official means the official of the community who is charged with the authority to implement and administer laws, ordinances, and regulations for that community.

(17) Community means any State or area or political subdivision thereof, which has authority to adopt and enforce floodplain management regulations for the areas within its jurisdiction.

(18) Channel: A natural or artificial watercourse with a definite bed and banks that conducts continuously or periodically flowing water.

(19) City of Rolla: The incorporated municipality given the name of “Rolla” located in the State of Missouri in Phelps County and the governing body within the said district boundaries. Also referred to as “City”.

(20) Clean Water Act: The federal Water Pollution Control Act (33 U.S.C. § 1251 et seq.), and any subsequent amendments thereto.

(21) Clearing: Any activity that removes the vegetative surface cover.

(22) Construction Activity: Activities subject to NPDES Construction Permits. These include construction projects resulting in land disturbance of one (1) acre or more. Such activities include but are not limited to clearing and grubbing, grading, excavating, and demolition.

(23) Dedication: The deliberate appropriation of property by its owner for general public use.

(24) Design Storm: The duration and return frequency of the storm event used to determine the design capacity, or analyze the existing capacity, of a storm sewer system and/or detention facility. A design storm shall be approximately the same in duration as the time of concentration, but shall not be less than fifteen (15) minutes or greater than twenty four (24) hours.

(25) Detention Facility: A detention basin or alternative structure designed for the purpose of temporary storage of stream flow or surface runoff and gradual release of stored water at controlled rates.

(26) Detention: The temporary storage of storm runoff in a stormwater facility with the goals of controlling peak discharge rates and providing gravity settling of pollutants.

(27) Developer: A person who undertakes land disturbance activities.

(28) Development: Any man-made change to improved or unimproved real estate, including, but not limited to buildings or other structures, mining, dredging, filling, grading, paving, excavation, drilling operations or storage of equipment or materials

- (a) The improvement of property for any purpose involving building;
- (b) Subdivision or the division of a tract or parcel of land into two or more parcels;
- (c) The combination of any two or more lots, tracts, or parcels of property for any purpose;
- (d) The preparation of land for any of the above purposes.

(29) Drainage Easement: A legal right granted by a landowner to a grantee allowing the use of private land for stormwater conveyance and/or detention systems.

(30) Drainage Way: Any channel that conveys surface runoff throughout the site.

(31) Elevated Building means for insurance purposes, a non-basement building which has its lowest elevated floor raised above ground level by foundations, walls, shear walls, posts, piers, pilings, or columns.

(32) Eligible Community or Participating Community means a community for which the Administrator has authorized the sale of flood insurance under the National Flood Insurance Program (NFIP).

(33) Erosion and Sediment Control Plan: A set of plans prepared by or under the direction of a registered professional engineer to be used to control sediment and indicating the specific measures and sequencing for erosion control on a development site during and after construction.

(34) Erosion Control: A measure that prevents erosion.

(35) 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 that date. “Existing construction” may be referred to as “existing structures.”

(36) 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 the City of Rolla.

(37) Expansion to an Existing Manufactured Home Park or Subdivision: The preparation of additional sites by the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads).

(38) Fee in Lieu: A payment of money in place of meeting all or part of the stormwater performance standards required by this Chapter.

(39) Flood Boundary and Floodway Map (FBFM): An official map of the City on which the Public Works Director has delineated both special flood hazard areas and the designated regulatory floodway.

(40) Flood Elevation Determination: A determination by the Public Works Director of the water surface elevations of the base flood, that is, the flood level that has a one (1) percent or greater chance of occurrence in any given year.

(41) Flood Elevation Study: An examination, evaluation and determination of flood hazards.



(42) Flood Fringe: The area outside the floodway encroachment lines, but still subject to inundation by the regulatory flood.

(43) Flood Hazard Boundary Map (FHBM): An official map of the City, issued by the Public Works Director, where the boundaries of the flood areas having special flood hazards have been designated as (unnumbered or numbered) A zones.

(44) Flood Insurance Rate Map (FIRM): An official map of the City, on which the Public Works Director has delineated both the special flood hazard areas and the risk premium zones applicable to the City of Rolla.

(45) Flood Insurance Study (FIS): An examination, evaluation and determination of flood hazards and, if appropriate, corresponding water surface elevations.

(46) Flood or Flooding: A general and temporary condition of partial or complete inundation of normally dry land areas from:

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

(47) Floodplain Management Regulations: Zoning ordinances, subdivision regulations, building codes, health regulations, special purpose ordinances (such as floodplain and grading ordinances) and other applications of police power. The term describes such state or local regulations, in any combination thereof that provide standards for the purpose of flood damage prevention and reduction.

(48) 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.

(49) Floodplain or Flood-prone Area: Any land area susceptible to being inundated by water from any source (see "flood").

(50) Flood proofing: Any combination of structural and nonstructural additions, changes, or adjustments to structures that reduce or eliminate flood damage to real estate or improved real property, water and sanitary facilities, or structures and their contents.

(51) Floodway Encroachment Lines: The lines marking the limits of floodways on Federal, State and local floodplain maps.

(52) Floodway Fringe: That area of the flood plain, outside of the floodway that on the average is likely to be flooded once every one hundred (100) years (i.e., that has a one percent chance of flood occurrence in any one year).

(53) Floodway or Regulatory Floodway: The channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than one (1) foot.

(54) Freeboard: A factor of safety usually expressed in feet above a flood level for purposes of floodplain 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 bridge openings and the hydrological effect of urbanization of the watershed.

(55) Functionally Dependent Use: A use that cannot perform its intended purpose unless it is located or carried out in close proximity to water. This term includes only docking facilities and facilities that are necessary for the loading and unloading of cargo or passengers, but does not include long-term storage or related manufacturing facilities.

(56) Grading: Excavation or fill of material, including the resulting conditions thereof.

(57) Hazardous Materials: Any material, including any substance, waste, or combination thereof, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may cause, or significantly contribute to, a substantial present or potential hazard to human health, safety, property, or the environment when improperly treated, stored, transported, disposed of, or otherwise managed.

(58) Highest Adjacent Grade: The highest natural elevation of the ground surface prior to construction next to the proposed walls of a structure.

(59) Historic Structure: Any structure that is (a) listed individually in the National Register of Historic Places (a listing maintained by the Department of Interior) or preliminarily determined by the Secretary of the Interior as meeting the requirements for individual listing on the National Register; (b) certified or preliminarily determined by the Secretary of the Interior as contributing to the historical significance of a registered historic district or a district preliminarily determined by the Secretary to qualify as a registered historic district; (c) individually listed on a state inventory of historic places in states with historic preservation programs which have been approved by the Secretary of the Interior; or (d) individually listed on a local inventory of historic places in communities with historic preservation programs that have been certified either (1) by an approved state program as determined by the Secretary of the Interior or (2) directly by the Secretary of the Interior in states without approved programs.

(60) Hydrologic Soil Group (HSG): A Natural Resource Conservation Service classification system in which soils are categorized into four runoff potential groups. The groups range from A soils, with high permeability and little runoff production, to D soils, which have low permeability rates and produce much more runoff.

(61) **Illegal Discharge:** Any direct or indirect non-stormwater discharge to the storm drain system.

(62) **Illicit Connections:** An illicit connection is defined as either of the following:

- (a) Any drain or conveyance, whether on the surface or subsurface, which allows an illegal discharge to enter the storm drain system including but not limited to any conveyances which allow any non-stormwater discharge including sewage, process wastewater, and wash water to enter the storm drain system and any connections to the storm drain system from indoor drains and sinks, regardless of whether said drain or connection had been previously allowed, permitted, or approved by the City of Rolla;
- (b) Any drain or conveyance connected from a commercial or industrial land use to the storm drain system which has not been documented in plans, maps, or equivalent records and approved by the City of Rolla.

(63) **Impervious Cover:** Those surfaces that cannot effectively infiltrate rainfall (e.g., building rooftops, pavement, sidewalks, driveways, etc).

(64) **Industrial Activity:** Activities subject to NPDES Industrial Permits as defined in 40 CFR, Section 122.26 (b) (14).

(65) **Industrial Stormwater Permit:** A National Pollutant Discharge Elimination System permit issued to a commercial industry or group of industries which regulates the pollutant levels associated with industrial stormwater discharges or specifies on-site pollution control strategies.

(66) **Infiltration:** The process of percolating stormwater into the subsoil.

(67) **Land Development Permit:** A permit issued by the City of Rolla for the construction or alteration of ground improvements and structures for the control of erosion, runoff and grading.

(68) **Land Disturbance Activity:** Any activity which changes the volume or peak flow discharge rate of rainfall runoff from the land surface. This may include the grading, digging, culling, scraping, or excavating of soil, placement of fill materials, paving, construction, substantial removal of vegetation, or any activity which bares soil or rock or involves the diversion or piping of any natural or man-made watercourse.

(69) **Landowner:** The legal or beneficial owner of land, including those holding the right to purchase or lease the land, or any other person holding proprietary rights in the land.

(70) **Lowest Floor:** 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 flood proofing design requirements of this Chapter.

(71) **Manufactured Home:** A structure, transportable in one 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.”

(72) **Manufactured Home Park or Subdivision** means a parcel (or contiguous parcels) of land divided into two or more manufactured home lots for rent or sale.

(73) **Map** means the Flood Hazard Boundary Map (FHBM) or the Flood Insurance Rate Map (FIRM) for a community issued by the Federal Emergency Management Agency (FEMA).

(74) **Market Value or Fair Market Value** means an estimate of what is fair, economic, just and equitable value under normal local market conditions.

(75) **Mean Sea Level** means, for purposes of the National Flood Insurance Program (NFIP), 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 (FIRM) are referenced.

(76) **NFIP:** The National Flood Insurance Program (NFIP).

(77) **National Pollutant Discharge Elimination System (NPDES) Stormwater Discharge Permit:** A permit issued by EPA (or by a State under authority delegated pursuant to 33 USC § 1342(b)) that authorizes the discharge of pollutants to waters of the United States, whether the permit is applicable on an individual, group, or general area-wide basis.

(78) **New Construction:** For the purposes 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 the floodplain management regulations adopted by the City and includes any subsequent improvements to such structures.

(79) **New Manufactured Home Park or Subdivision:** A manufactured home park or subdivision for which the construction of facilities for servicing the lot 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 the City.

(80) Nonpoint Source Pollution: Pollution from any source other than from any discernible, confined, and discrete conveyances, and shall include, but not be limited to, pollutants from agricultural, silvicultural, mining, construction, subsurface disposal and urban runoff sources.

(81) Non-Stormwater Discharge: Any discharge to the storm drain system that is not composed entirely of stormwater.

(82) Off-Site Facility: A stormwater improvement facility located outside the subject property boundary described in the land development permit application.

(83) One Hundred Year Floodplain: The area of land adjacent to a stream that is subject to inundation during a storm event that has a recurrence interval of 100 years.

(84) On-Site Facility: A stormwater improvement facility located within the subject property boundary described in the land development permit application.

(85) Perimeter Control: A barrier that prevents sediment from leaving a site by filtering sediment-laden runoff or diverting it to a sediment trap or basin.

(86) Permanent Construction: Does not include land preparation, such as clearing, grading and filling; nor does it include the installation of streets and/or walkways; nor does it include excavation for a basement, footings, 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.

(87) Person: Any individual, association, organization, partnership, firm, corporation or other entity recognized by law and acting as either the owner or as the owner's agent.

(88) Phasing: Clearing a parcel of land in distinct phases, with the stabilization of each phase completed before the clearing of the next.

(89) Pollutant: Anything which causes or contributes to pollution. Pollutants may include, but are not limited to: paints, varnishes, and solvents; oil and other automotive fluids; non-hazardous liquid and solid wastes and yard wastes; refuse, rubbish, garbage, litter, or other discarded or abandoned objects, ordnance, and accumulations, so that same may cause or contribute to pollution; floatables; pesticides, herbicides, and fertilizers; hazardous substances and wastes; sewage, fecal coliform and pathogens; dissolved and particulate metals; animal wastes; wastes and residues that result from constructing a building or structure; and noxious or offensive matter of any kind.

(90) Pollution: Any contamination or alteration of the physical, chemical, or biological properties of any waters that will render the waters harmful or detrimental to:

- (a) Public health, safety, or welfare;

- (b) Domestic, commercial, industrial, agricultural, recreational, or other legitimate beneficial uses;
- (c) Livestock, wild animals, or birds;
- (d) Fish or other aquatic life.

(91) Premises: Any building, lot, parcel of land, or portion of land whether improved or unimproved including adjacent sidewalks and parking strips.

(92) Principally Above Ground: At least fifty-one (51) percent of the actual cash value of the structure, less land value, is above ground.

(93) Recreational Vehicle: A vehicle which is (a) built on a single chassis; (b) four hundred (400) square feet or less when measured at the largest horizontal projections; (c) designed to be self-propelled or permanently towable by a light-duty truck; and (d) designed primarily not for use as a permanent dwelling but as temporary living quarters for recreational, camping, travel, or seasonal use.

(94) Redevelopment: Any construction, alteration or improvement exceeding one (1) acre in areas where existing land use is high density commercial, industrial, institutional or multifamily residential.

(95) Remedy A Violation means to bring a structure or other development into compliance with Federal, State, or local floodplain management regulations; or, if this is not possible, to reduce the impacts of its noncompliance.

(96) Risk Premium Rates means those rates established by the Administrator pursuant to individual community studies and investigations which are undertaken to provide flood insurance in accordance with Section 1307 of the National Flood Disaster Protection Act of 1973 and the accepted actuarial principles. Risk premium rates include provisions for operating costs and allowances.

(97) Sediment Control: Measures that prevent eroded sediment from leaving the site.

(98) Site: A parcel of land or a contiguous combination thereof, where grading work is performed as a single unified operation.

(99) Special Hazard Area: An area having special flood hazards and shown on an FHBM, FIRM or FBFM as zones (unnumbered or numbered) A and AE.

(100) Stabilization: The use of practices that prevent exposed soil from eroding.

(101) Start of Construction: The first land-disturbing activity associated with a development, including land preparation such as clearing, grading, and filling; installation of streets and walkways; excavation for basements, footings, piers, or foundations; erection of temporary forms and installation of accessory buildings such as garages. Includes substantial improvement, and means the date the land development

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.

(102) State Coordinating Agency: That agency of the state government, or other office designated by the governor of the state or by state statute at the request of the Public Works Director to assist in the implementation of the National Flood Insurance Program (NFIP) in that state.

(103) Stop Work Order: An order issued which requires that all construction activity on a site be stopped.

(104) Storm Drainage System: Publicly-owned facilities by which stormwater is collected and/or conveyed, including but not limited to any roads with drainage systems, municipal streets, gutters, curbs, inlets, piped storm drains, pumping facilities, retention and detention basins, natural and human-made or altered drainage channels, reservoirs, and other drainage structures.

(105) Stormwater Improvements: The use of structural or non-structural practices that are designed to reduce stormwater runoff pollutant loads, discharge volumes, and/or peak flow discharge rates.

(106) Stormwater Pollution Prevention Plan: A document which describes the Best Management Practices and activities to be implemented by a person or business to identify sources of pollution or contamination at a site and the actions to eliminate or reduce pollutant discharges to Stormwater, Stormwater Conveyance Systems, and/or Receiving Waters to the Maximum Extent Practicable.

(107) Stormwater Retrofit: A stormwater improvement system designed for an existing development site that previously had either no stormwater improvement system in place or a system inadequate to meet the requirements of the site.

(108) Stormwater Runoff: Flow on the surface of the ground, resulting from precipitation.

(109) Stormwater Treatment Practices (STPs): Measures, either structural or nonstructural, that are determined to be the most effective, practical means of preventing or reducing point source or nonpoint source pollution inputs to stormwater runoff and water bodies.

(110) Stormwater: Any surface flow, runoff, and drainage consisting entirely of water from any form of natural precipitation, and resulting from such precipitation.

(111) Stream Channel: Perennial and intermittent watercourses identified through site inspection and U.S. Geological Survey (USGS) maps. Perennial streams are those which are depicted on a USGS map with a solid blue line. Intermittent streams are those which are depicted on a USGS map with a dotted blue line.

(112) Stream System: A stream channel together with the 100-year floodplain.

(113) Structure or Building: For floodplain management purposes, a walled and roofed building, including a gas or liquid storage tank, that is principally above ground, as well as a manufactured home. "Structure" for insurance purposes, means a walled and roofed building, other than a gas or liquid storage tank that is principally above ground and affixed to a permanent site, as well as a manufactured home on a permanent foundation. For the latter purpose, the term includes a building while in the course of construction, alteration or repair, but does not include building materials or supplies intended for use in such construction, alteration or repair, unless such materials or supplies are within an enclosed building on the premises.

(114) 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.

(115) 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 the "start of construction" of the improvement. This term includes structures which have incurred "substantial damage", regardless of the actual repair work performed. The term does not, however, include either:

- (a) 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 to assure safe living conditions; or
- (b) Any alteration of a "historic structure", provided that the alteration will not preclude the structure's continued designation as a "historic structure".

(116) Time of Concentration: The time it takes for water to travel from the hydraulically most distant point in the contributing drainage area to the point of interest.

(117) Variance: A grant of relief by the City from the terms of a floodplain management regulation. Flood insurance requirements remain in place for any varied use or structure and cannot be varied by the City.

(118) Violation: The failure of a structure or other development to be fully compliant with the City's floodplain management regulations. A structure or other development without the elevation certificate, other certifications, or other evidence of compliance required by this Chapter is presumed to be in violation until such time as that documentation is provided.

(119) Wastewater: Any water or other liquid, other than uncontaminated stormwater, discharged from a facility.



(120) Water Pollution Hazard: A land use or activity that causes a relatively high risk of potential water pollution.

(121) 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 floodplain.

(122) Watercourse: A permanent or intermittent stream or other body of water, either natural or man-made, which gathers or carries surface water; including, but not limited to lakes, ponds, rivers, streams, and bodies of water delineated by the City of Rolla.

(123) Waterway: A channel that directs surface runoff to a watercourse or to the public storm drain.

(124) Wetlands: Those areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.

(Ord. 2517; Ord. 2820; Ord. 3500, §2; Ord. 3846 §1)

#### **Sec. 15-4. Authority and Scope.**

Therefore, the City of Rolla establishes this set of stormwater quality and quantity policies which are:

(a) Applicable to all surface waters to provide reasonable guidance for the regulation of stormwater runoff for the purpose of protecting local water resources from degradation;

(b) Applicable to any person, firm, corporation, business or unit of government proposing to develop land or disturb the ground through construction activities within the City of Rolla.

This Chapter shall be applicable to:

(a) All subdivision or site plan applications submitted after the date of passage of this Chapter by the City of Rolla;

(b) All water entering the storm sewer system generated on any developed and undeveloped lands unless explicitly exempted by an authorized enforcement agency.

In addition, all plans must be reviewed by the Public Works Director to ensure that post construction runoff levels are consistent with any local and regional watershed plans. (Ord. 2517; Ord. 3500, §2)

#### **Sec. 15-5. Compatibility with Other Permit and Ordinance Requirements.**

This Chapter is not intended to interfere with, abrogate, or annul any other ordinance, rule or regulation, statute, or other provision of law. Nor is this Chapter intended to repeal, abrogate or impair any existing easements, covenants, or deed restrictions. The requirements of this Chapter should be considered minimum requirements, and where any provision of this Chapter imposes restrictions different from those imposed by any other ordinance, rule or regulation, or other provision of law, whichever provisions are more restrictive or impose higher protective standards for human health or the environment shall be considered to take precedence. (Ord. 2517; Ord. 3500, §2)

#### **Sec. 15-6. Severability.**

If the provisions of any article, section, subsection, paragraph, subdivision or clause of this Chapter shall be judged invalid by a court of competent jurisdiction, such order of judgment shall not affect or invalidate the remainder of any article, section, subsection, paragraph, subdivision or clause of this Chapter. (Ord. 2517; Ord. 3500, §2)

#### **Sec. 15-7. Permit Procedures and Requirements.**

No land owner or land operator shall receive any of the building or land development permits required for land disturbance activities without first meeting the requirements of this Chapter prior to commencing the proposed activity. Application for a land development permit shall be made on forms furnished by the Public Works Director. No person, firm, corporation, business or unit of government shall initiate any development or substantial improvement or cause the same to be done without first obtaining a separate permit for each development as defined in this Chapter.

A land development permit shall be obtained before construction or development begins within any area of special flood hazard as established in Article VI, Section 15-95. Unless otherwise excepted by this Chapter, a permit application must be accompanied by the following in order that the permit application be considered:

- (a) A stormwater improvement plan prepared to meet the requirements of Article II, Article IV, and Article V of this Chapter;
- (b) An erosion and sediment control plan for any land disturbing activity that would require the uncovering of one (1) or more acres and is prepared to meet the requirements of Article III of this Chapter;
- (c) Documents prepared to meet the requirements of Article VI of this Chapter showing provisions for flood hazard reduction;
- (d) A non-refundable permit review fee shall be made payable to the City of Rolla according to the following fee schedule:

Zoning classification Permit fee

R-R \$200 plus \$20 per acre

R-1, R-2 \$200 plus \$50 per acre

R-3, C-0, C-1, C-2, C-3, M-1, M2 \$600 plus \$150 per acre

(e) The permit review fee schedule outlined in Section 15-7(d) is based on a customary review process between the consultants employed by the developer/owner and the City. The City may impose additional charges for the review of excessive submittals due to inadequate project design.

No permit is required for the following activities:

(a) Any emergency activity that is immediately necessary for the protection of life, property, or natural resources;

(b) Existing nursery and agricultural operations conducted as a permitted main or accessory use. (Ord. 2517; Ord. 3500, §2)

#### **Sec. 15-8. Review and Approval.**

(a) Applications for land development permits shall be filed with the City of Rolla during regular business hours. Permit applications shall include the following: two copies of the stormwater improvement plan, two copies of the erosion and sediment control plan, two copies of the flood hazard reduction documents and the required review fee as established in Section 15-7.

(b) Within thirty (30) business days of the receipt of a completed permit application, including all documents as required by this Chapter, the City of Rolla shall, in writing, approve or disapprove the application and accompanying construction plans.

(c) If the permit application, stormwater improvement plan, or erosion and sediment control plan are disapproved, the developer may revise the plans or agreement. If additional information is submitted, the City of Rolla shall have thirty (30) business days from the date the additional information is received to inform the developer that the plan is either approved or disapproved.

(d) If the permit application and the final stormwater improvement plan and erosion and sediment control plan are approved by the City of Rolla, all appropriate City of Rolla land development permits shall be issued. (Ord. 2517; Ord. 3500, §2)

#### **Sec. 15-9. Required Improvement and Security.**

(a) Prior to the approval of the final stormwater improvement plan and erosion and sediment control plan, the owner shall have installed or shall have furnished adequate performance security for the ultimate construction and installation of said improvement plans and shall have executed such an agreement contract to the City of Rolla for satisfactory completion of such improvements.

(b) In lieu of immediate construction improvements, the developer may file a surety or cash bond with the Public Works Director on a form approved by the Public Works Director and with a surety company having a rating of A + 4A or higher. On a development of substantial size, the Public Works Director may accept a bond for less than the entire development if the owner provides written assurances that all building construction will be confined to lots for which all adjacent improvements are covered in the performance bond. (Ord. 2517; Ord. 3500, §2)

#### **Sec. 15-10. Release or Reduction of Security.**

(a) The release or reduction of required surety bonds, escrow agreement or other security agreement shall be in accordance with the following:

(b) The Public Works Director may release or reduce said bond or agreements when he has determined that all or a portion of the required improvements have been satisfactorily completed and are free of any liens or other encumbrances. (Ord. 2517; Ord. 3500, §2)

#### **Sec. 15-11. Inspection.**

(a) Regular inspections of the stormwater improvement system construction and the erosion and sediment control measures shall be conducted by the staff of the City of Rolla Public Works Department.

(b) If any violations are found, the property owner shall be notified in writing of the nature of the violation and the required corrective actions necessary. No work shall proceed until all violations are corrected and all work previously completed has received approval by the City of Rolla.

(c) A final field inspection by the City of Rolla Public Works Department is required upon completion of the stormwater improvement system and erosion and sediment control plan, before the release of any performance securities can occur. The final field inspection shall be performed in the presence of the owner. The owner shall be notified in writing of any deficiencies discovered during the final inspection and shall be given a reasonable period of time to correct deficiencies. Upon correction of the noted deficiencies, the owner shall notify the City of Rolla and schedule a follow-up inspection. (Ord. 2517; Ord. 3500, §2)

## **Sec. 15-12. Required Submittals and Review Procedure.**

(a) Required Submittals: To facilitate the review of plans before approval for construction, a registered professional engineer shall submit with the plans all the necessary data, maps, computations, and check lists set forth in this Chapter in support of the designs and plans. All stormwater improvement plans and erosion and sediment control plans shall be in accordance with the Stormwater Design Standards set forth by the City of Rolla.

(b) Review Procedure: On completion of the review, one set of plans or a letter with comments with requested revisions and notations will be returned to the registered professional engineer for revision of the original drawings. Additional sets of plans for further review or final approval will then be requested. (Ord. 2517; Ord. 3500, §2)

## **Sec. 15-13. Enforcement and Penalties.**

(a) Violations: Any activity that is commenced or is conducted contrary to this Chapter, may be restrained by injunction or otherwise abated in a manner provided by law.

(b) Notice of Violation: When the City of Rolla determines that an activity is not being carried out in accordance with the requirements of this Chapter, it shall issue a written notice of violation to the owner of the property.

(c) Stop Work Orders: Persons receiving a notice of violation will be required to halt all construction activities. This “stop work order” will be in effect until the City of Rolla confirms that the development activity is in compliance and the violation has been satisfactorily addressed. Failure to address a notice of violation in a timely manner can result in civil, criminal, or monetary penalties in accordance with the enforcement measures authorized in this Chapter.

(d) Restoration of Lands: Any violator may be required to restore land to its undisturbed condition. In the event that restoration is not undertaken within a reasonable time after notice, the City of Rolla may take necessary corrective action, the cost of which shall become a lien upon the property until paid. (Ord. 2517; Ord. 3500, §2)

## **Secs. 15-14 to 15-19. Reserved.**

# **Article II - Stormwater Conveyance and Detention**

## **Sec. 15-20. Introduction.**

Stormwater runoff and soil erosion can be controlled and minimized through the regulation of stormwater runoff from development sites. Proper management of stormwater runoff will minimize damage to public and private property, reduce the

effects of development on land, control stream channel erosion, reduce local flooding, and maintain after development, as nearly as possible, the pre-development runoff characteristics. (Ord. 3500, §2)

#### **Sec. 15-21. Purpose.**

The purpose of this Article is to establish general requirements and principles for the design and construction of stormwater conveyance systems and detention facilities within the City of Rolla. (Ord. 3500, §2)

#### **Sec. 15-22. Required Submittals.**

The Stormwater Improvement plan shall include the following information:

- (a) A schedule estimating the dates of completion of construction for all storm drainage facilities shown on the plan;
- (b) All necessary construction specifications;
- (c) Basic design criteria including the rainfall intensity, percentage of imperviousness, runoff coefficients for each tributary basin area in the drainage area, time of concentration, peak flow rates, and any other pertinent design criteria;
- (d) A vicinity map;
- (e) Key map of the entire project to scale, showing easements, sewer lines and facilities, both existing and to be constructed;
- (f) A drainage area map showing the ridge line of the area tributary to each inlet, sewer, and channel section in the system. The map shall be labeled with or accompanied by a table summarizing the basic design criteria. The established elevations, gradients and contours of the finished graded surfaces and streets shall be shown in support of the inlet drainage area lines and indicated directions of flow;
- (g) A subdivision plat, dimensioned and substantially complete and ready for filing;
- (h) Recorder of Deeds book and page from Phelps County Recorder of Deeds for existing recorded easements when not part of a recorded subdivision plat;
- (i) All existing and proposed easements and rights-of-way;
- (j) Plans and profiles of each storm drain, showing location, size, design flow, flow line elevations, gradients and materials; boring information and rock elevations along the proposed storm drain anywhere applicable; location, depths and sizes of adjacent or crossing sewer lines and utilities; and special construction requirements such as

concrete cradle or encasement, backfill, size and class of pipe. Typical cross sections of swales, ditches or open channels;

(k) Summary design information for each component of the stormwater conveyance system;

(l) All elevations shall be based upon U.S.G.S. datum with location of the benchmark indicated on the plans. Acceptable benchmarks include those established by the City of Rolla, Missouri Department of Transportation and the United States Geological Survey;

(m) Details of special structures, channel improvements, culverts, transitions, headwalls, aprons and junction chambers, all adequately detailed and dimensioned, including placement of steel in reinforced concrete structures;

(n) The location of all utilities anticipated to be encountered during construction shall be shown. Plans must be submitted to all utility companies for verification of conflicts. Storm and sanitary sewers shall be located to comply with State laws and regulations governing such placement;

(o) Location of all existing and proposed building facilities with minimum floor elevations where buildings could be impacted by flood waters and location of all existing and proposed utilities on the site;

(p) For design of detention facilities, calculations of peak runoff flows shall be provided for all areas which are tributary to the location of the proposed detention facility for both existing conditions and conditions after the planned development of the site. The information shall include the acreage of all areas contributing flow to the site and the present land use by acreage of those areas. (Ord. 3500, §2)

### **Sec. 15-23. Design Requirements for Stormwater Improvements.**

(a) The improvements shall be in accordance with the City of Rolla Stormwater Design Standards and must be prepared by a registered professional engineer.

(b) These stormwater improvements should seek to utilize pervious areas for stormwater treatment and to infiltrate stormwater runoff from driveways, sidewalks, rooftops, parking lots, and landscaped areas to the maximum extent practicable.

(c) These stormwater improvements shall maintain the peak rate of surface water runoff which flows from any specific site during and following development so that the peak rate of runoff will not exceed the pre-project conditions to the maximum extent practicable. The effects of the proposed development on stormwater discharge to downstream locations shall be determined and:

(1) Sufficient information showing locations of downstream watercourses, channels, sewers, culverts, structures and adjoining land shall be provided;

(2) The need for special storm drainage easement requirements to locations downstream of the proposed development and/or downstream drainage modifications or protection shall be evaluated.

(d) The design capacity for all stormwater conveyance systems and detention facilities shall meet the following specifications:

(1) All stormwater conveyance systems shall be designed to accommodate peak flows from a 10-year design storm;

(2) All detention facilities shall be designed to detain the runoff from design storms up to and including a 25-year design storm. Such facilities shall be designed to release the retained surface water runoff such that the peak rate of runoff from the tract after development shall not exceed the peak rate of runoff from the tract prior to development for the 2, 10 and 25-year design storms.

(3) Detention facilities should be designed to accommodate peak retention with at least one foot of freeboard.

(e) Stormwater improvements shall be designed and implemented such that all buildings and other structures shall be protected from the flood waters of a 100-year design storm. The stormwater improvement system shall also pass the flood waters of a 100-year design storm without damage to either the conveyance system or the detention facilities.

(f) Open channels shall be located in drainage easements sufficiently wide to accommodate a 100-year design storm and shall be designed and constructed in such a manner as to provide easy maintenance of the channel and side slopes and to prevent erosion from the design flows. If the channel extends between buildings, consideration must be given to adequate protective measures, such as paving the channel invert and side slopes, bank protection or fencing. Open channels in residential areas shall generally be located along the rear or side lot lines.

(g) Where storm drainage along the side lot lines of residential property is to be in conduit, the conduit shall extend to a point at least forty (40) feet to the rear of the front building line or ten (10) feet beyond the rear line of the structure, whichever is greater. A surface swale shall be provided over this area to contain at least a 100-year storm. At the point of intersection with the open channel, some type of facility shall be provided to disperse flow and minimize erosion.

(h) Where culverts are placed under roadways, they shall extend to at least the limits of the right-of-way or the toe of the roadway embankment, whichever is greater, and proper measures shall be taken to prevent erosion. Embankments shall be protected to prevent erosion against a 100-year storm.



(i) Curb inlets shall be installed at or near intersections where they are deemed necessary for the safety of pedestrian and vehicular traffic. No curb inlet shall be located within a crosswalk.

(j) All detention facilities shall include an emergency or overflow spillway which will pass excess flows greater than those of the 25-year design storm. The emergency spillway shall be designed to safely pass the flow resulting from the 100-year design storm without damage to the basin.

Modifications to the stormwater improvement plan shall be processed and approved or disapproved in the same manner as Section 15-8 of this Chapter. (Ord. 3500, §2)

#### **Sec. 15-24. Stormwater Design Standards.**

All storm water conveyance, detention and erosion control design shall meet the provisions of this Chapter and shall comply with the latest revision of The Stormwater Design Standards for the City of Rolla filed in the office of the Director of Public Works. (Ord. 3500, §2)

#### **Sec. 15-25. Waivers to Stormwater Improvement Requirements.**

(a) Waivers for Providing Stormwater Conveyance Systems: Every developer shall provide for an on-site stormwater conveyance system. No waivers shall be approved.

(b) Substitutions for Providing Stormwater Detention: Every developer shall provide for stormwater detention unless the City determines that detention may not be appropriate for the development. In cases where the City determines that detention is not appropriate, the developer shall be required to substitute cash payments in lieu of stormwater detention requirements. The minimum requirements for stormwater detention may be waived in whole upon request of the developer, provided that all of the following conditions apply:

(1) It can be demonstrated that the proposed development is not likely to impair attainment of the objectives of this Chapter.

(2) The proposed development is equal to or less than twenty (20) acres for residential development and/or 1 acre for commercial or industrial development; OR the proposed development is projected to have an increase in peak stormwater runoff for a 10-year design storm of no more than five (5) cfs; OR if the City of Rolla determines that an off-site regional detention facility would be favorable to the proposed on-site detention facility. At the request of the City, submittal of hydraulic analyses comparing on-site and off-site options for detention may be required.

(3) Provisions are made to manage stormwater detention by an existing or future proposed off-site regional facility. The off-site regional facility is required to be adequately sized to provide a level of stormwater control that is equal to or greater than

that which would be afforded by on-site local detention and has a legally obligated entity responsible for long-term operation and maintenance of the detention facility. (Ord. 3500, §2)

#### **Sec. 15-26. Fee in Lieu of Stormwater Detention Facilities.**

(a) Where the City of Rolla determines not to require stormwater detention, the developer shall be required to pay a fee in lieu of on-site stormwater detention. This fee shall be based on an increase in the peak stormwater flow from the development in question.

(b) For subdivisions zoned R-R, R-1 and R-2, this fee shall be in the amount of five hundred dollars (\$500) for each acre of property in the development, with a minimum payment of five hundred dollars (\$500). For subdivisions zoned R-3, C-0, C-1, C-2, C-3, M-1 and M-2, this fee shall be in the amount of one thousand five hundred dollars (\$1500) for each acre of property in the development, with a minimum payment of one thousand five hundred dollars (\$1500).

(c) All of the monetary contributions shall be credited to the City of Rolla's Stormwater Improvement Fund, and shall be made by the developer prior to the issuance of any land development permit for the development. (Ord. 3500, §2)

#### **Secs. 15-27 to 15-37. Reserved.**

### **Article III - Erosion and Sediment Control**

#### **Sec. 15-38. Introduction.**

During the construction process, soil is highly vulnerable to erosion by wind and water. Eroded soil endangers water resources by reducing water quality and causing the siltation of aquatic habitat for fish and other desirable species. Eroded soil also necessitates repair of sewers and ditches and the dredging of lakes. In addition, clearing and grading during construction cause the loss of native vegetation necessary for terrestrial and aquatic habitat. (Ord. 3500, §2)

#### **Sec. 15-39. Purpose.**

The purpose of this Article is to establish general requirements and principles for the design and construction of erosion and sediment control measures within the City of Rolla. (Ord. 3500, §2)

#### **Sec. 15-40. General Performance Criteria for Erosion and Sediment Control.**

The Erosion and Sediment Control Plan shall include the following:

(a) A natural resources map identifying soils, forest cover, and resources protected under other chapters of this Code. This map should be at a scale no smaller than 1"=100'.

(b) A sequence of construction of the development site, including stripping and clearing; rough grading; construction of utilities, infrastructure, and buildings; and final grading and landscaping. Sequencing shall identify the expected date on which clearing will begin, the estimated duration of exposure of cleared areas, areas of clearing, installation of temporary erosion and sediment control measures, and establishment of permanent vegetation.

(c) All erosion and sediment control measures necessary to meet the objectives of this Chapter throughout all phases of construction and after completion of development of the site. Depending upon the complexity of the project, the drafting of intermediate plans may be required at the close of each season.

(d) Seeding mixtures and rates, types of sod, method of seedbed preparation, expected seeding dates, type and rate of lime and fertilizer application, and kind and quantity of mulching for both temporary and permanent vegetative control measures.

(e) During construction, provisions shall be made for the storage of all construction-site waste material so that contaminants from such waste material will not be leached into the storm drainage system. All construction-site waste shall be properly disposed of within fifteen (15) days after the close of construction.

(f) Provisions for maintenance of control facilities, including easements.

Modifications to the erosion and sediment control plan shall be processed and approved or disapproved in the same manner as Section 15-8 of this Chapter. (Ord. 3500, §2)

#### **Sec. 15-41. Design Requirements for Erosion and Sediment Control Plans.**

(a) Grading, erosion control practices, sediment control practices and waterway crossings shall meet the design criteria set forth in the most recent version of "Protecting Water Quality"† and shall be adequate to prevent transportation of sediment from the site to the satisfaction of the City. Cut and fill slopes shall be no greater than 3:1, except as approved by the City to meet other community or environmental objectives.

(b) Clearing and grading of natural resources shall not be permitted, except when in compliance with all other chapters of this Code and current requirements of the U.S. Army Corps of Engineers. Clearing techniques that retain natural vegetation and drainage patterns, as described in "Protecting Water Quality" shall be used until all sediment control devices have been installed and have been stabilized.

(1) Phasing shall be recommended on all sites disturbing greater than thirty (30) acres, with the size of each phase to be established at plan review and as approved by the City of Rolla.

(2) Clearing, except that necessary to establish sediment control devices, shall not begin until all sediment control devices have been installed and have been established.

(c) Erosion control requirements shall include the following:

(1) Soil stabilization shall be completed within thirty (30) days of clearing or inactivity in construction;

(2) If seeding or another vegetative erosion control method is used, it shall become established within thirty days or the City of Rolla may require the site to be reseeded or a non vegetative option employed;

(3) Special techniques that meet the design criteria outlined in "Protecting Water Quality" on steep slopes or in drainage ways shall be used to ensure stabilization;

(4) Soil stockpiles must be stabilized or covered at the end of each workday to prevent erosion;

(5) The entire site must be stabilized, using a heavy mulch layer or another method that does not require germination to control erosion, at the close of the construction season;

(6) Techniques shall be employed to prevent the blowing of dust or sediment from the site;

(7) Techniques that divert upland runoff past disturbed slopes shall be employed.

(d) Sediment control suggestions shall include:

(1) Settling basins, sediment traps, and perimeter controls;

(2) Settling basins that are designed in a manner that allows adaptation to provide long-term stormwater management;

(3) Protection for adjacent properties by the use of a vegetated buffer strip in combination with perimeter controls.

(e) Waterway and watercourse protection requirements shall include:

(1) A temporary stream crossing installed and approved by the City of Rolla if a wet watercourse will be crossed regularly during construction;

(2) Stabilization of the watercourse channel before, during, and after any in-channel work;

(3) All on-site stormwater conveyance channels designed according to the criteria outlined in the City of Rolla Stormwater Design Standards;

(4) Stabilization adequate to prevent erosion located at the outlets of all pipes and paved channels.

(f) Construction site access requirements shall include:

(1) Temporary access road provided at all sites;

(2) Other measures required by the City of Rolla in order to ensure that construction vehicles do not track sediment onto public streets or be washed into storm drains. (Ord. 3500, §2)

**Secs. 15-42 to 15-52. Reserved.**

## **Article IV - Illicit Storm Sewer Connections and Illegal Discharges**

### **Sec. 15-53. Purpose.**

The purpose of this Article is to establish general requirements and principles for the maintenance and control of illicit storm sewer connections and illegal discharges into the municipal storm sewer system within the City of Rolla. (Ord. 3500, §2)

### **Sec. 15-54. Ultimate Responsibility.**

The standards set forth herein and promulgated pursuant to this Chapter are minimum standards; therefore this Chapter does not intend nor imply that compliance by any person will ensure that there will be no contamination, pollution, nor unauthorized discharge of pollutants. (Ord. 3500, §2)

### **Sec. 15-55. Discharge Prohibitions.**

(a) Prohibition of Illegal Discharges: No person shall discharge or cause to be discharged into the municipal storm drain system or watercourses any materials, including but not limited to pollutants or waters containing any pollutants that cause or contribute to a violation of applicable water quality standards, other than stormwater.

The commencement, conduct or continuance of any illegal discharge to the storm drain system is prohibited except as described as follows:

- (1) The following discharges are exempt from discharge prohibitions established by this Chapter: water line flushing or other potable water sources, landscape irrigation or lawn watering, diverted stream flows, rising ground water, ground water infiltration to storm drains, uncontaminated pumped ground water, foundation or footing drains (not including active groundwater dewatering systems), crawl space pumps, air conditioning condensation, springs, non-commercial washing of vehicles, natural riparian habitat or wet-land flows, swimming pools (if dechlorinated - typically less than one PPM chlorine), fire fighting activities, and any other water source not containing Pollutants.
- (2) Discharges specified in writing by the City of Rolla as being necessary to protect public health and safety.
- (3) Dye testing is an allowable discharge, but requires a written notification to the City of Rolla prior to the time of the test.
- (4) The prohibition shall not apply to any non-stormwater discharge permitted under an NPDES permit, waiver, or waste discharge order issued to the discharger and administered under the authority of the Federal Environmental Protection Agency, provided that the discharger is in full compliance with all requirements of the permit, waiver, or order and other applicable laws and regulations, and provided that written approval has been granted for any discharge to the storm drain system.

(b) Prohibition of Illicit Connections

- (1) The construction, use, maintenance or continued existence of illicit connections to the storm drain system is prohibited.
- (2) This prohibition expressly includes, without limitation, illicit connections made in the past, regardless of whether the connection was permissible under law or practices applicable or prevailing at the time of connection.
- (3) A person is considered to be in violation of this Chapter if the person connects a line conveying sewage to the municipal storm sewer system, or allows such a connection to continue. (Ord. 3500, §2)

(c) Roof Drain Connections

- (1) For all new construction, roof drains shall not be connected to streets, sanitary or storm sewers, or roadside ditches. Roof drains shall discharge to infiltration areas or vegetative Best Management Practices (BMP's) where practicable.

**Sec. 15-56. Industrial or Construction Activity Discharges.**

Any person subject to an industrial or construction activity NPDES stormwater discharge permit shall comply with all provisions of such permit. Proof of compliance with said permit may be required in a form acceptable to the City of Rolla prior to allowing of discharges to the municipal storm sewer system. (Ord. 3500, §2)

### **Sec. 15-57. Access to Facilities for the Purpose of Monitoring Discharges.**

This section applies to all facilities that have stormwater discharges associated with industrial activity, including construction activity.

(a) The City of Rolla shall be permitted to enter and inspect facilities subject to regulation under this Chapter as often as necessary to determine compliance with this Chapter.

(b) The City of Rolla shall have the right to set up on any permitted facility such devices as are necessary to conduct monitoring and/or sampling of the facility's stormwater discharge.

(c) Any temporary or permanent obstruction to safe and easy access to the facility to be inspected and/or sampled shall be promptly removed by the operator at the written or oral request of the City of Rolla and shall not be replaced. The costs of clearing such access shall be borne by the operator.

(d) Unreasonable delays in allowing the City of Rolla access to a permitted facility is a violation of a stormwater discharge permit and of this Chapter. A person who is the operator of a facility with a NPDES permit to discharge stormwater associated with industrial activity commits an offense if the person denies the City of Rolla reasonable access to the permitted facility for the purpose of conducting any activity authorized or required by this Chapter.

(e) If the City of Rolla has been refused access to any part of the premises from which stormwater is discharged, and he/she is able to demonstrate probable cause to believe that there may be a violation of this Chapter, or that there is a need to inspect and/or sample as part of a routine inspection and sampling program designed to verify compliance with this Chapter or any order issued hereunder, or to protect the overall public health, safety, and welfare of the community, then the City of Rolla may seek issuance of a search warrant from any court of competent jurisdiction. (Ord. 3500, §2)

### **Sec. 15-58. Requirement to Prevent, Control, and Reduce Stormwater Pollutants by the Use of Best Management Practices.**

The City of Rolla Public Works Department has adopted requirements identifying Best Management Practices for any activity, operation, or facility that may cause or contribute to pollution or contamination of stormwater, the storm drain system, or waters of the U.S. (See Section 15-40 and Section 15-41 of this Chapter on Erosion and Sediment Control requirements). The owner or operator of a commercial or industrial establishment shall provide, at their own expense, reasonable protection from accidental discharge of prohibited materials or other wastes into the municipal storm drain system or watercourses through the use of these structural and non-structural BMPs. Further, any person responsible for a property or premise, which is, or may be, the source of an illegal discharge, may be required to implement, at said person's

expense, additional structural and non-structural BMPs to prevent the further discharge of pollutants to the municipal storm sewer system. Compliance with all terms and conditions of a valid NPDES permit authorizing the discharge of stormwater associated with industrial activity, to the extent practicable, shall be deemed compliant with the provisions of this Section. These BMPs shall be part of a Stormwater Pollution Prevention Plan (SWPPP) as necessary for compliance with requirements of the NPDES permit for a regulated industry. (Ord. 3500, §2)

#### **Sec. 15-59. Watercourse Protection.**

Every person owning property through which a watercourse passes, or such person's lessee, shall keep and maintain that part of the watercourse within the property free of trash, debris, yard waste, excessive vegetation and other obstacles that would pollute, contaminate, or significantly retard the flow of water through the watercourse. In addition, the owner or lessee shall maintain existing privately owned structures within or adjacent to a watercourse, so that such structures will not become a hazard to the use, function, or physical integrity of the watercourse, as specified in Article V. Stream Buffers. (Ord. 3500, §2)

#### **Sec. 15-60. Notification of Spills.**

Notwithstanding other requirements of law, as soon as any person responsible for a facility or operation, or responsible for emergency response for a facility or operation has information of any known or suspected release of materials which are resulting or may result in illegal discharges or pollutants discharging into stormwater, the storm drain system, or water of the U.S., said person shall take all necessary steps to ensure the discovery, containment, and cleanup of such release. In the event of such a release of hazardous materials said person shall immediately notify the City of Rolla Police Department of the occurrence via emergency dispatch services. In the event of a release of non-hazardous materials, said person shall notify the City of Rolla in person or by phone or facsimile no later than the next business day. Notifications in person or by phone shall be confirmed by written notice addressed and mailed to the City of Rolla within three (3) business days of the phone notice. If the discharge of prohibited materials emanates from a commercial or industrial establishment, the owner or operator of such establishment shall also retain an on-site written record of the discharge and the actions taken to prevent its recurrence. Such records shall be retained for at least three years. (Ord. 3500, §2)

#### **Sec. 15-61. Enforcement.**

Whenever the City of Rolla finds that a person, firm, corporation or business has violated a prohibition or failed to meet a requirement of this Chapter, the City of Rolla may order compliance by written notice of violation to the responsible person. Such notice shall require without limitation:

(a) The performance of monitoring, analyses, and reporting;



- (b) The elimination of illicit connections or illegal discharges;
- (c) That violating discharges, practices, or operations shall cease and desist;
- (d) The abatement or remediation of stormwater pollution or contamination hazards and the restoration of any affected property;
- (e) Payment of a fine to cover administrative and remediation costs; and
- (f) The implementation of source control or treatment BMPs.

If abatement of a violation and/or restoration of affected property is required, the notice shall set forth a deadline within which such remediation or restoration must be completed. If the person notified as provided in this Section shall fail, neglect or refuse to comply with the same within the time specified in such notice, the designated officer shall report the same to the council of the city. Thereupon the council shall call and have a full and adequate hearing upon the matter, giving the affected parties at least fourteen days written notice of the hearing. At such hearing any party may be represented by counsel, and all parties shall have an opportunity to be heard.

After the hearing, if the evidence supports a finding based upon competent and substantial evidence that a violation exists, that the person having an interest was notified, and that the person failed to remediate or restore, the city council shall issue an order based upon its findings of fact to its designated officer to proceed to remediate or restore by a designated governmental agency or a contractor and the expense thereof and fine shall be charged to the violator. (Ord. 3500, §2)

**Secs. 15-62 to 15-72. Reserved.**

## **Article V - Stream Buffers**

### **Sec. 15-73. Introduction.**

Buffers adjacent to stream systems provide numerous environmental protection and resource management benefits that can include the following:

- (a) Restoring and maintaining the chemical, physical, and biological integrity of the water resources by removing pollutants delivered from urban stormwater, reducing erosion and sediment entering the stream, and stabilizing stream banks;
- (b) Providing infiltration of stormwater runoff;
- (c) Maintaining base flow of streams;

- (d) Contributing the organic matter that is a source of food and energy for the aquatic ecosystem;
- (e) Providing tree canopy to shade streams and promote desirable aquatic organisms;
- (f) Providing riparian wildlife habitat;
- (g) Furnishing scenic value and recreational opportunity.

It is the desire of the City of Rolla to protect and maintain the native vegetation in riparian and wetland areas by implementing specifications for the establishment, protection, and maintenance of vegetation along all stream systems within our jurisdictional authority. (Ord. 3500, §2)

#### **Sec. 15-74. Purpose.**

The purpose of this Chapter is to establish minimal acceptable requirements for the design and maintenance of buffers to protect streams and floodplains within the City of Rolla; to protect the water quality of watercourses, reservoirs, lakes, and other significant water resources within the City of Rolla; to protect riparian and aquatic ecosystems within the City of Rolla; and to provide for the environmentally sound use of land resources within the City of Rolla. (Ord. 3500, §2)

#### **Sec. 15-75. Authority and Scope.**

- (a) This Chapter shall apply to all proposed development except for that development which meets waiver or variance criteria as outlined in Section 15-80 of this Chapter.
- (b) This Chapter shall apply to all timber harvesting activities, except those timber harvesting operations which are implementing a forest management plan that has been deemed to be in compliance with the regulations of the buffer Ordinance and has received approval from the Missouri Department of Conservation.
- (c) This Chapter shall apply to surface mining operations except that the design standards shall not apply to active surface mining operations that are operating in compliance with an approved state or federal surface mining permit issued by the appropriate governing agency.
- (d) Article V of this Chapter shall not apply to agricultural operations that are covered by an approved Natural Resources Conservation Service (NRCS) conservation plan that includes the application of BMPs.
- (e) Article V of this Chapter may not apply to areas that are zoned R-R in accordance with the City of Rolla Zoning Ordinance.

(f) Article V of this Chapter shall not apply to streams with a tributary drainage area of less than one hundred (100) acres.

(g) This Chapter shall apply to all parcels of land, structures, and activities that are causing or contributing to:

(1) Pollution, including nonpoint source pollution, of the waters within the City of Rolla;

(2) Erosion or sedimentation of stream channels;

(3) Degradation of aquatic or riparian habitat. (Ord. 3500, §2)

**Sec. 15-76. General Plan Requirements for Stream Buffers.**

(a) In accordance with Section 15-77 of this Chapter, a stream buffer plan approved by the City of Rolla is required for all development, forest harvesting operations, surface mining operations, and agricultural operations.

(b) The stream buffer plan shall set forth an informative, conceptual, and schematic representation of the proposed activity by means of maps, graphs, charts, or other written or drawn documents so as to enable the City an opportunity to make a reasonably informed decision regarding the proposed activity.

(c) The stream buffer plan shall contain the following information:

(1) A location or vicinity map;

(2) Maps which include at a scale no smaller than 1" = 100':

(A) Field-delineated and surveyed streams, springs, seeps, bodies of water, and wetlands (include a minimum of 200 feet into adjacent properties);

(B) Field delineated stream buffers;

(C) Limits of the 100-year flood inundation area;

(3) Hydric soils mapped in accordance with the NRCS soil survey of the site area. Steep slopes greater than fifteen (15) percent for areas adjacent to and within two hundred (200) feet of streams or other water bodies;

(4) A description of existing vegetation within the stream buffer.

(d) The stream buffer plan shall be submitted in conjunction with the required stormwater improvement plan and erosion and sediment control plan for any development, and the stream buffer should be clearly delineated on the final grading plan. (Ord. 3500, §2)

## **Sec. 15-77. Design Standards for Stream Buffers.**

(a) A stream buffer for a stream system shall consist of a vegetated strip of land extending along both sides of a stream and its adjacent wetlands, floodplains, or slopes. The buffer width shall be adjusted to include contiguous sensitive areas, such as steep slopes or erodible soils, where development or disturbance may adversely affect water quality, streams, wetlands, or other water bodies.

(b) The stream buffer shall begin at the edge of the stream bank of the active channel.

(c) The required width for all stream buffers (i.e., the base width) shall be a minimum of fifty (50) feet, centered on the centerline of the channel (See Figure 15-1), with the requirement to expand the buffer depending on:

(1) Percent Slope: The stream buffer width shall be modified if steep slopes are within close proximity to the stream and drain into the stream system. In those cases, the stream buffer width may be adjusted;

### **Percent Slope Width of Buffer**

15% - 17% add 10 feet

18% - 20% add 20 feet

21% - 23% add 30 feet

24% - 25% add 40 feet

(2) 100-year Floodplain: Stream buffers shall be extended to encompass the entire 100-year floodplain and a zone with a minimum width of ten (10) feet beyond each edge of the floodplain;

(3) Wetlands or Critical Areas: When wetland or critical areas extend beyond the edge of the required buffer width, the buffer shall be adjusted so that the buffer consists of the extent of the wetland plus a twenty (20) foot zone extending beyond the wetland edge.

Figure 15 - 1. Stream Buffer Schematic. Minimum buffer measured from centerline of stream.

(d) The following land uses and/or activities are designated as potential water pollution hazards and must be set back from any active stream channel or water body by at least the distance indicated below:

Storage of hazardous substances 100 feet

Aboveground or underground petroleum storage facilities 100 feet

Drainfields from onsite sewage disposal and treatment systems (i.e., septic systems) 50 feet

Raised septic systems 100 feet

Solid waste landfills 300 feet

Junkyards 100 feet

Confined animal feedlot operations 250 feet

Subsurface discharges from a wastewater treatment plant 100 feet

Land application of biosolids 100 feet

(Ord. 3500, §2)

#### 15-78. Buffer Management and Maintenance.

(a) Management of Resources: The stream buffer, including wetlands and floodplains, shall be managed to enhance and maximize the unique value of these resources. Management includes specific limitations on alteration of the natural conditions of these resources. The following practices and activities are restricted within the active channel and buffer area, except with approval by the City of Rolla.

(1) Clearing of existing vegetation;

(2) Soil disturbance by grading, stripping, or other practices;

(3) Filling or dumping of any material including, but not limited to yard waste and demolition debris;

(4) Drainage by ditching, underdrains, or other systems;

(5) Use, storage, or application of pesticides;

(6) Storage or operation of motorized vehicles, except for maintenance and emergency use approved by the City of Rolla.

(b) Permitted Structures, Practices and Activities: The following structures, practices, and activities are permitted in the stream buffer, with specific design or maintenance features, subject to the review of the City of Rolla.

(1) Roads, bridges, paths, and utilities:

(A) An analysis needs to be conducted to ensure that no economically feasible alternative is available;

(B) The right-of-way should be the minimum width needed to allow for maintenance access and installation;

(C) The angle of the crossing shall be perpendicular to the stream or buffer to minimize clearing requirements;

(D) The minimum number of road crossings should be used within each subdivision, and no more than one fairway crossing is allowed for every three hundred (300) feet of buffer.

(2) Stormwater improvements:

(A) An analysis needs to be conducted to ensure that no economically feasible alternative is available and that the project either is necessary for flood control or significantly improves the water quality or habitat in the stream;

(B) When constructing stormwater improvement facilities, the area cleared will be limited to the area required for construction and adequate maintenance access;

(C) Material dredged or otherwise removed from a stream buffer during necessary construction shall be stored outside the buffer.

(3) Stream restoration projects, facilities, and activities approved by the City of Rolla are permitted within the stream buffer;

(4) Water quality monitoring and stream gauging are permitted within the stream buffer, as approved by the City of Rolla;

(5) Individual trees within the stream buffer that are in danger of falling, causing damage to dwellings or other structures, or causing blockage of the stream may be removed;

(6) Other timber cutting techniques approved by the City of Rolla may be undertaken within the stream buffer under the advice and guidance of the City if necessary to preserve the forest from extensive pest infestation, disease infestation, or threat from fire.

(c) Plan Preparation: All plans prepared for recording and all right-of-way plans shall clearly:

(1) Show the extent of any stream buffer on the subject property;

(2) Label the stream buffer;

(3) Provide a note to reference any stream buffer stating: "There shall be no clearing, grading, construction or disturbance of vegetation except as permitted by the City."

(d) Ownership: All stream buffer areas shall be dedicated to the City of Rolla. The City shall be responsible to reimburse the owner/developer of the property for the value of the undeveloped land that is dedicated to the City.

(e) Maintenance: All stream buffer areas shall be maintained by the City of Rolla. The City of Rolla shall inspect the buffer as required and immediately following severe storms for evidence of sediment deposition, erosion, or concentrated flow in channels and corrective actions taken to ensure the integrity and functions of the stream buffer.

Stream buffer areas may be allowed to grow into their vegetative target state naturally, but methods to enhance the successional process such as active reforestation may be used when deemed necessary by the City of Rolla to ensure the preservation and propagation of the buffer area. Stream buffer areas may also be enhanced through reforestation or other growth techniques as a form of mitigation for achieving buffer preservation requirements.

(f) Dedication of Lands: An offer of dedication of a stream buffer area to the City of Rolla shall not be interpreted to mean that this automatically conveys to the general public the right of access to this area. (Ord. 3500, §2)

## **Sec. 15-79. Enforcement and Penalties.**

The City of Rolla is authorized and empowered to enforce the requirements of this Chapter in accordance with the procedures of this Section and the procedures set for in Article I, Section 15-13.

(a) Any person who violates any provision of this Chapter may be liable for any cost or expenses incurred as a result thereof by the City of Rolla.

(b) Penalties that may be assessed for those deemed to be in violation may include the following:

(1) A civil penalty in the form of a fine not more than five hundred dollars (\$500.00) for each violation. Every day that such violation(s) continue will be considered a separate offense.

(2) A criminal penalty in the form of a fine of not more than five hundred dollars (\$500.00) for each violation, imprisonment for not more than ninety (90) days, or both. Every day that such violation(s) continue will be considered a separate offense.

(3) Anyone who knowingly makes any false statements in any application, record, or plan required by this Chapter shall upon conviction be punished by a fine of not more

than five hundred dollars (\$500.00) for each violation, imprisonment for not more than thirty (30) days, or both.

(c) In addition to any other sanctions listed in this Chapter, a person who fails to comply with the provisions of Article V of this Chapter shall be liable to the City in a civil action for damages in an amount equal to the cost of restoring the buffer. Damages that are recovered in accordance with this action shall be used for the restoration of the damaged buffer system. (Ord. 3500, §2)

#### **Sec. 15-80. Waivers and Variances for Article V.**

(a) This Chapter shall apply to all proposed development except for activities that were completed prior to the effective date of this Chapter and had received the following:

- (1) A valid, unexpired permit in accordance with development regulations;
- (2) A current, executed public works agreement;
- (3) A valid, unexpired land development permit;
- (4) A waiver in accordance with current development regulations.

(b) The City of Rolla may grant a variance for the following:

- (1) Those projects or activities for which it can be demonstrated that strict compliance with this Chapter would result in a practical difficulty or extreme financial hardship;
- (2) Those projects or activities serving a public need where no feasible alternative is available;
- (3) The repair and maintenance of public improvements where avoidance and minimization of adverse impacts to wetlands and associated aquatic ecosystems have been addressed.

(c) A waiver for development may also be granted, if deemed appropriate by the City. The buffer width may be reduced at some points as long as the average width of the buffer meets the minimum requirement. This averaging of the buffer may be used to allow for the presence of an existing structure or to recover a lost lot, as long as the active stream channel is not disturbed by the reduction and no new structures are built within the 100-year floodplain.

(d) The developer shall submit a written request for a variance to the City. The application shall include specific reasons justifying the variance and any other information necessary to evaluate the proposed variance request. The City may require an alternative analysis that clearly demonstrates that no other feasible alternatives exist and that minimal impact will occur as a result of the project or development.



(e) In granting a request for a variance, the City may require site design, landscape planting, fencing, signs, and water quality best management practices to reduce adverse impacts on water quality, streams, wetlands, and floodplains. (Ord. 3500, §2)

**Secs. 15-81 to 15-91. Reserved.**

## **Article VI - Flood Control**

### **Sec. 15-92. Introduction.**

The flood hazard areas of the City of Rolla are subject to periodic inundation which results in loss of life, property, health and safety hazards, disruption of commerce and governmental services, extraordinary public expenditures for flood protection and relief, and impairment of the tax base, all of which adversely affect the public health, safety and general welfare.

These flood losses are caused by the cumulative effect of obstructions in flood plains causing increases in flood heights and velocities, and by the occupancy in flood hazard areas by uses vulnerable to floods or hazards to other lands which are inadequately elevated, flood-proofed, or otherwise unprotected from flood damages.

The Flood Insurance Study (FIS) that is the basis of this Chapter uses a standard engineering method of analyzing flood hazards which consist of a series of interrelated steps.

(a) Selection of a base flood that is based upon engineering calculations which permit a consideration of such flood factors as its expected frequency of occurrence, the area inundated, and the depth of inundation. The base flood selected for this Chapter is representative of large floods which are characteristic of what can be expected to occur on the particular streams subject to this Chapter. It is in the general order of a flood which could be expected to have a one percent chance of occurrence in any one year as delineated on the FIS, and illustrative materials for Phelps County, Missouri, dated February 20, 2008 as amended, and any future revisions thereto.

(b) Calculation of water surface profiles are based on a standard hydraulic engineering analysis of the capacity of the stream channel and overbank areas to convey the regulatory flood.

(c) Computation of a floodway required to convey this flood without increasing flood heights more than one (1) foot at any point. (Ord. 3500, §2; Ord. 3846, §1)

### **Sec. 15-93. Purpose.**

It is the purpose of this Chapter to promote the public health, safety and general welfare and to minimize those losses described in Section 15-92 to establish or maintain the City's eligibility for participation in the National Flood Insurance Program (NFIP) as defined in 44 Code of Federal Regulations (CFR) 59.22(a)(3); and to meet the requirements of 44 CFR 60.3(d) by applying the provisions of this Chapter to:

- (a) To protect human life and health;
- (b) To minimize expenditure of public money for costly flood control projects;
- (c) To minimize the need for rescue efforts associated with flooding and generally undertaken at the expense of the general public;
- (d) Restrict or prohibit uses that are dangerous to health, safety, or property in times of flooding or cause undue increases in flood heights or velocities;
- (e) Require uses vulnerable to floods, including public facilities that serve such uses, be provided with flood protection at the time of initial construction; and
- (f) Protect individuals from buying lands that are unsuited for the intended development purposes due to the flood hazard.
- (g) To minimize prolonged business interruptions;
- (h) To minimize damage to public facilities and utilities such as water and gas mains, electric, telephone and sewer lines, streets and bridges located in flood plains;
- (i) To help maintain a stable tax base by providing for the sound use and development of flood-prone areas in such a manner as to minimize future flood blight areas;
- (j) To insure that those who occupy the areas of special flood hazard assume responsibility for their actions. (Ord. 3500, §2)

#### **Sec. 15-94. Scope.**

This Chapter shall apply to all lands within the jurisdiction of the City of Rolla, identified as numbered and unnumbered A zones and AE zones, on the Flood Insurance Rate Map (FIRM) and Flood Boundary and Floodway Map (FBFM) Phelps County FIRM Panels 29161C0232D, 29161C0233D, 29161C0234D, 29161C0241D, 29161C0242D, 29161C0250D, 29161C0251D, 29161C0252D, 29161C0253D, C29161C0261D, 29161C0275D dated February 20, 2008 as amended, and any future revisions thereto. In all areas covered by this Chapter, no development shall be permitted except through the issuance of a floodplain development permit, granted by the City of Rolla under such safeguards and restrictions as the City of Rolla may reasonably impose for the promotion and maintenance of the general welfare, health of the inhabitants of the

community, and as specifically noted in Section 15-102 through Section 15-106. (Ord. 3500, §2; Ord. 3846, §1)

#### **Sec. 15-95. Basis for Establishing Areas of Special Flood Hazard.**

The areas of special flood hazard identified by FEMA through a scientific and engineering report entitled "The Flood Insurance Study for the City of Rolla, Missouri, Phelps County", dated February 20, 2008 with accompanying FIRMs (and Flood Boundary and Floodway Maps) with any revision thereto are hereby adopted by reference and declared to be a part of this Chapter. (Ord. 3500, §2; Ord. 3846, §1)

#### **Sec. 15-96. Interpretation.**

In the interpretation and application of this Chapter, all provisions shall be:

- (a) Considered as minimum requirements;
- (b) Liberally construed in favor of the governing body; and
- (c) Deemed neither to limit nor repeal any other powers granted under State statutes. (Ord. 3500, §2)

#### **Sec. 15-97. Warning and Disclaimer of Liability.**

The degree of flood protection required by this Chapter is considered reasonable for regulatory purposes and is based on scientific and engineering considerations. Larger floods can and will occur on rare occasions. Flood heights may be increased by man-made or natural causes. This Chapter does not imply that land outside the areas of special flood hazards or uses permitted within such areas will be free from flooding or flood damages. This Chapter shall not create liability on the part of the City of Rolla or by any officer or employee thereof for any flood damages that result from reliance on this Chapter or any administrative decision lawfully made there under. (Ord. 3500, §2)

#### **Sec. 15-98. Floodplain Development Permit.**

To obtain a floodplain development permit, the developer shall first file with the City an application in writing on a form furnished for that purpose. Every floodplain development permit application shall:

- (a) Describe the land on which the proposed work is to be done by lot, block and tract, house and street address, or similar description that will readily identify and specifically locate the proposed structure or work;
- (b) Identify and describe the work to be covered by the floodplain development permit;
- (c) Indicate the use or occupancy for which the proposed work is intended;

- (d) Indicate the assessed value of the structure and the fair market value of the improvement;
- (e) Specify whether development is located in designated flood fringe or floodway;
- (f) Identify the existing base flood elevation and the elevation of the proposed development;
- (g) Give such other information as reasonably may be required by the Public Works Director;
- (h) Be accompanied by plans and specifications for proposed construction; and
- (i) Be signed by the permittee or his authorized agent who may be required to submit evidence to indicate such authority. (Ord. 3500, §2)

#### **Sec. 15-99. Designation of the Local Administrator.**

The Public Works Director is hereby appointed to administer and implement the provisions of this Chapter, by granting or denying development permit applications in accordance with its provisions. (Ord. 3500, §2)

#### **Sec. 15-100. Duties and Responsibilities of the Public Works Director.**

Duties of the Public Works Director shall include, but not be limited to:

- (a) Review of all applications for floodplain development permits to assure that sites are reasonably safe from flooding and that the floodplain development permit requirements of this Chapter have been satisfied;
- (b) Review of all floodplain development permits for proposed development to assure that all necessary permits have been obtained from those Federal, State, or local governmental agencies from which prior approval is required by Federal, State or local law;
- (c) Review all subdivision proposals and other proposed new development, including manufactured home parks or subdivisions, to determine whether such proposals will be reasonably safe from flooding;
- (d) Issue floodplain development permits for all approved applications;
- (e) Verify and maintain a record and maintain record of the actual elevation (in relation to mean sea level) of the lowest floor, including basement of all new or substantially improved structures;

(f) Verify and maintain a record, and maintain record of the actual elevation (in relation to mean sea level) to which the new or substantially improved non-residential structures have been flood proofed;

(g) When flood proofing techniques are utilized for a particular non-residential structure the Public Works Director shall require certification from a registered professional engineer or architect;

(h) property owners/developers to notify the Missouri State Emergency Management Agency (MoSEMA) prior to any alteration or relocation of a floodway, and require the property owner/developer to furnish evidence of such notification to FEMA;

(i) Assure that maintenance is provided within the altered or relocated portion of said watercourse so that the flood carrying capacity is not diminished; (Ord. 3500, §2; Ord. 3846, §1)

#### **Sec. 15-101. Variance Procedures for Article VI.**

(a) The board of adjustment as established by the City of Rolla shall hear and decide appeals and requests for variances from the requirements of this Chapter.

(b) Where an application for a floodplain development permit or request for a variance from the floodplain management regulations is denied by the floodplain administrator, the developer may apply for such floodplain development permit or variance directly to the Appeal Board, as defined in Section 15-101.

(c) The board of adjustment shall hear and decide appeals when it is alleged that there is an error in any requirement, decision, or determination made by the floodplain administrator in the enforcement or administration of this Chapter.

(d) Any person aggrieved by the decision of the board of adjustment or any taxpayer may appeal such decision to the Circuit Court as provided in the Missouri statutes.

(e) In passing upon such applications, the board of adjustment shall consider all technical evaluations, all relevant factors, standards specified in other sections of this Chapter, and the following criteria:

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

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

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

(4) The importance of the services provided by the proposed facility to the City;

- (5) The necessity to the facility of a waterfront location, where applicable;
- (6) The availability of alternative locations, not subject to flooding or erosion damage, for the proposed use;
- (7) The compatibility of the proposed use with existing and anticipated development;
- (8) The relationship of the proposed use to the comprehensive plan and flood plain management program for that area;
- (9) The safety of access to the property in times of flood for ordinary and emergency vehicles;
- (10) The expected heights, velocity, duration, rate of rise and sediment transport of the flood waters, if applicable, expected at the site; and,
- (11) The costs of providing governmental services during and after flood conditions, including maintenance and repair of public utilities and facilities such as sewer, gas, electrical, and water systems, streets and bridges.

(f) Conditions for Approving Floodplain Management Variances:

- (1) Generally, variances may be issued for new construction and substantial improvements to be erected on a lot on one-half acre or less in size contiguous to and surrounded by lots with existing structures constructed below the base flood level, providing items (b - f) below, have been fully considered. As the lot size increases beyond the one-half acre, the technical justification required for issuing the variance increases.
- (2) Variances may be issued for the reconstruction, rehabilitation or restoration of structures listed on the National Register of Historic Places, the State Inventory of Historic Places or the local inventory of historic places upon determination provided the proposed activity will not preclude the structure's continued historic designation.
- (3) Variances shall not be issued within any designated floodway if any increase in flood levels during the base flood discharge would result.
- (4) Variances shall only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief.
- (5) Variances shall only be issued upon:
  - (A) A showing of good and sufficient cause;
  - (B) A determination that failure to grant the variance could result in exceptional hardship to the developer; and

(C) A determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, extraordinary public expense, create nuisances, cause fraud on or victimization of the public, or conflict with existing local laws or ordinances.

(6) The City shall notify the developer in writing, over the signature of the Public Works Director, that:

(A) The issuance of a variance to construct a structure below base flood level will result in increased premium rates for flood insurance up to amounts as high as twenty-five dollars (\$25.00) for one hundred dollars (\$100.00) of insurance coverage; and

(B) Such construction below the base flood level increases risks to life and property. Such notification shall be maintained with the record of all variance actions as required by this Chapter.

(g) Conditions of Approving Variances for Accessory Structures: Any variance granted for an accessory structure shall be decided individually based on a case by case analysis of the building's unique circumstances. Variances granted shall meet the following conditions as well as those criteria and conditions set forth in Section 15-102 (e) and (f) of this Chapter.

In order to minimize flood damages during the 100-year flood and the threat to public health and safety, the following conditions shall be included for any variance issued for accessory structures that are constructed at-grade and wet-floodproofed:

(1) Use of the accessory structures must be solely for parking and limited storage purposes in zone A only as identified on the City's FIRM.

(2) For any new or substantially damaged accessory structures, the exterior and interior building components and elements (i.e., foundation, wall framing, exterior and interior finishes, flooring, etc.) below the base flood elevation, must be built with flood-resistant materials in accordance with Section 15-102 (d) (2) of this Chapter.

(3) The accessory structures must be adequately anchored to prevent flotation, collapse, or lateral movement of the structure in accordance with Section 15-102(d1) of this Chapter. All of the building's structural components must be capable of resisting specific flood-related forces including hydrostatic, buoyancy, and hydrodynamic and debris impact forces.

(4) Any mechanical, electrical, or other utility equipment must be located above the base flood elevation or flood proofed so that they are contained within a watertight, flood proofed enclosure that is capable of resisting damage during flood conditions in accordance with Section 15-102 (d) (4) of this Chapter.

(5) The accessory structures must meet all NFIP opening requirements. The NFIP requires that enclosure or foundation walls, subject to the 100-year flood, contain openings that will permit the automatic entry and exit of floodwaters in accordance with Section 15-104 (c) (2) of this Chapter.

(6) The accessory structures must comply with the floodplain management floodway encroachment provisions of Section 15-105 (b) of this Chapter. No variances may be issued for accessory structures within any designated floodway, if any increase in flood levels would result during the 100-year flood.

(7) Equipment, machinery, or other contents must be protected from any flood damage.

(8) No disaster relief assistance under any program administered by any Federal agency shall be paid for any repair or restoration costs of the accessory structures.

(9) The City of Rolla shall notify the developer in writing over the signature of the Public Works Director that:

(A) The issuance of a variance to construct a structure below base flood level will result in increased premium rates for flood insurance up to amounts as high as twenty-five dollars (\$25.00) for one hundred dollars (\$100.00) of insurance coverage; and

(B) Such construction below the base flood level increases risks to life and property. Such notification shall be maintained with the record of all variance actions as required by this Chapter.

(10) Wet-flood proofing construction techniques must be reviewed and approved by the City and registered professional engineer or architect prior to the issuance of any floodplain development permit for construction. (Ord. 3500, §2)

## **Sec. 15-102. General Design Standards.**

(a) No permit for floodplain development shall be granted for new construction, substantial-improvements, and other improvements, including the placement of manufactured homes, within any numbered or unnumbered A zones and AE zones, unless the conditions of this section are satisfied.

(b) All areas identified as unnumbered A zones on the FIRM are subject to inundation of the 100-year flood; however, the base flood elevation is not provided. Development within unnumbered A zones is subject to all provisions of this Chapter. If FIS data is not available, the City shall obtain, review, and reasonably utilize any base flood elevation or floodway data currently available from Federal, State, or other sources.

(c) Until a floodway is designated, no new construction, substantial improvements, or other development, including fill, shall be permitted within any numbered A zone or AE zone on the FIRM, unless it is demonstrated that the cumulative effect of the proposed



development, when combined with all other existing and anticipated development, will not increase the water surface elevation of the base flood more than one (1) foot at any point within the City.

(d) All new construction, subdivision proposals, substantial-improvements, prefabricated structures, placement of manufactured homes, and other developments shall require:

(1) Design or adequate anchorage to prevent flotation, collapse, or lateral movement of the structure resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy;

(2) Construction with materials resistant to flood damage;

(3) Utilization of methods and practices that minimize flood damages;

(4) All electrical, heating, ventilation, plumbing, air-conditioning equipment, and other service facilities be designed and/or located so as to prevent water from entering or accumulating within the components during conditions of flooding;

(5) New or replacement water supply systems and/or sanitary sewage systems be designed to minimize or eliminate infiltration of flood waters into the systems and discharges from the systems into flood waters, and on-site waste disposal systems be located so as to avoid impairment or contamination; and

(6) Subdivision proposals and other proposed new development, including manufactured home parks or subdivisions, located within special flood hazard areas are required to assure that:

(A) All such proposals are consistent with the need to minimize flood damage;

(B) All public utilities and facilities, such as sewer, gas, electrical, and water systems are located and constructed to minimize or eliminate flood damage;

(C) Adequate drainage is provided so as to reduce exposure to flood hazards; and

(D) All proposals for development, including proposals for manufactured home parks and subdivisions, of five (5) acres or fifty (50) lots, whichever is lesser, include within such proposals base flood elevation data.

(e) Storage, material, and equipment:

(1) The storage or processing of materials within the special flood hazard area that are in time of flooding buoyant, flammable, explosive, or could be injurious to human, animal, or plant life is prohibited.

(2) Storage of other material or equipment may be allowed if not subject to major damage by floods, if firmly anchored to prevent flotation, or if readily removable from the area within the time available after a flood warning.

(f) Accessory structures, used solely for parking and limited storage purposes, not attached to any other structure on the site, of limited investment value, and not larger than four hundred (400) square feet, may be constructed at-grade and wet-floodproofed provided there is no human habitation or occupancy of the structure; the structure is of single-wall design; a variance has been granted from the standard floodplain management requirements of this Chapter; and a floodplain development permit has been issued. (Ord. 3500, §2)

#### **Sec. 15-103. Standards for Proposed Development.**

All proposals for residential subdivision development (including manufactured home parks) and other proposed new developments (including nonresidential) shall:

- (a) Be consistent with the need to minimize flood damage;
- (b) Have public utilities and facilities such as sewer, gas, electrical and water systems located and constructed to minimize flood damage;
- (c) Have adequate drainage provided to reduce exposure to flood hazards;
- (d) Provide base flood elevation data for the proposed developments which are greater than either fifty (50) lots or five (5) acres. (Ord. 3500, §2)

#### **Sec. 15-104. Standards for Structures.**

In all areas identified as numbered and unnumbered A zones and AE zones, where base flood elevation data have been provided, as set forth in Section 15-102 (b), the following provisions are required:

- (a) Residential Construction: New construction or substantial improvement of any residential structures, including manufactured homes, shall have the lowest floor, including basement, elevated to one (1) foot above base flood elevation.
- (b) New construction or substantial improvement of any commercial, industrial or other non-residential structures, including manufactured homes shall either have the lowest floor, including basement, elevated to one (1) foot above the level of the base flood elevation or, together with attendant utility and sanitary facilities, be flood proofed so that below such a 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 and effects of buoyancy. A registered professional engineer or architect shall certify that the standards of this subsection are satisfied.

Such certification shall be provided to the Public Works Director, as set forth in Section 15-100 (g).

(c) New Construction and Substantial Improvements: That 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 or exceed the following minimum criteria:

- (1) A minimum of two (2) 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; and
- (2) The bottom of all openings shall be no higher than one foot above grade. Openings may be equipped with screens, louvers, valves, or other coverings or devices provided that they permit the automatic entry and exit of floodwaters.

(d) Manufactured Homes:

(1) All manufactured homes to be placed within all unnumbered and numbered A zones and AE zones, on the City's FIRM shall be required to be installed using methods and practices that minimize flood damage. For the purposes of this requirement, manufactured homes must be elevated and anchored to resist flotation, collapse, or lateral movement. Methods of anchoring may include, but are not limited to, use of over-the-top or frame ties to ground anchors.

(2) Require manufactured homes that are placed or substantially improved within unnumbered or numbered A zones and AE zones, on the City's FIRM on sites:

- (A) Outside of manufactured home park or subdivision;
- (B) In a new manufactured home park or subdivision;
- (C) In an expansion to an existing manufactured home park or subdivision; or
- (D) In an existing manufactured home park or subdivision on which a manufactured home has incurred substantial damage as the result of a flood,

Be elevated on a permanent foundation such that the lowest floor of the manufactured home is elevated to one (1) foot above the base flood elevation and be securely attached to an adequately anchored foundation system to resist flotation, collapse, and lateral movement.

(3) Require that manufactured homes to be placed or substantially improved on sites in an existing manufactured home park or subdivision within all unnumbered and numbered A zones and AE zones, on the City's FIRM, that are not subject to the provisions of Section 15-104 (d) of this Chapter, be elevated so that either:

- (A) The lowest floor of the manufactured home is at one (1) foot above the base flood level; or
- (B) The manufactured home chassis is supported by reinforced piers or other foundation elements of at least equivalent strength that are no less than thirty-six (36) inches in height above grade and be securely attached to an adequately anchored foundation system to resist flotation, collapse, and lateral movement. (Ord. 3500, §2; Ord. 3846, §1)

### **Sec. 15-105. Floodways.**

Located within areas of special flood hazard established in Section 15-94 are areas designated as floodways. Since the floodway is an extremely hazardous area due to the velocity of flood waters which carry debris, potential projectiles and erosion potential, the following provision shall apply:

(a) The City shall select and adopt a regulatory floodway based on the principle that the area chosen for the regulatory floodway must be designed to carry the waters of the base flood without increasing the water surface elevation of that flood more than one (1) foot at any point.

(b) The City shall prohibit encroachments, including fill, new construction, substantial improvements and other developments unless it has been demonstrated through hydrologic and hydraulic analyses performed in accordance with standard engineering practice that the proposed encroachment would not result in any increase in flood levels within the City during occurrence of the base flood discharge.

(c) If Section 15-105 (b) is satisfied, all new construction and substantial improvements shall comply with all applicable flood hazard reduction provisions of this Article.

(d) In unnumbered A zones, the City shall obtain, review and reasonably utilize any base elevation or flood data currently available through Federal, State or other sources or Section 15-102 (b) of this Chapter in meeting the standards of this Section. (Ord. 3500, §2)

### **Sec. 15-106. Recreational Vehicles.**

Require that recreational vehicles placed on sites within all unnumbered and numbered A zones and AE zones on the City's FIRM either:

(a) Be on the site for fewer than one hundred eighty (180) consecutive days, or

(b) Be fully licensed and ready for highway use; or

(c) Meet the permitting, elevation, and the anchoring requirements for manufactured homes of this Chapter. (Ord. 3500, §2)

### **Sec. 15-107. Penalties.**

(a) No development located within the special flood hazard areas of this City shall be extended, converted, or structurally altered without full compliance with the terms of this Chapter and other applicable regulations.

(b) Violation of the provisions of this Chapter or failure to comply with any of its requirements (including violations of conditions and safeguards established in connection with granting of variances) shall constitute a misdemeanor. Any person who violates this Chapter or fails to comply with any of its requirements shall upon conviction thereof be fined not more than five hundred dollars (\$500.00) or imprisoned for not more than thirty (30) days, or both, and in addition shall pay all costs and expenses involved in the case. Each day such violation continues shall be considered a separate offense.

(c) Nothing herein contained shall prevent the City of Rolla or other appropriate authority from taking such other lawful action as is necessary to prevent or remedy such violation. (Ord. 3500, §2)

### **Sec. 15-108. Amendments.**

(a) The regulations, restrictions, and boundaries set forth in this Chapter may from time to time be amended, supplemented, changed or appealed to reflect any and all changes in the National Flood Disaster Protection Act of 1973, provided, however, that no such action may be taken until after a public hearing in relation thereto, at which parties in interest and citizens shall have an opportunity to be heard. Notice of the time and place of such hearing shall be published in a newspaper of general circulation in the City of Rolla.

(b) At least fifteen (15) days shall elapse between the date of this publication and the public hearing. A copy of such amendments will be provided to the Region VII office of FEMA. The regulations of this Chapter are in compliance with the National Flood Insurance Program Regulations. (Ord. 3500, §2)

### **Secs. 15-109 to 15-119. Reserved.**

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