

Chapter 415. Flood, Stormwater and Erosion Control Regulations

Article I. In General

Section 415.010. Purpose.

[Ord. No. 3510 §1, 5-10-2010]

It is the purpose of this Chapter to promote the public health, safety and general welfare and to minimize public and private losses due to flood, stormwater and erosion conditions in the City.

Section 415.020. Definitions.

[Ord. No. 3510 §1, 5-10-2010]

Unless specifically defined below, all definitions contained in the zoning regulations and other provisions of the Municipal Code shall govern. Words or phrases used in this Chapter which are not defined shall be interpreted so as to give them the meaning they have in common usage and to give this Chapter its most reasonable application.

ACTUARIAL OR RISK PREMIUM RATES

Those rates established by the Administrator of the National Flood Insurance Program pursuant to individual community studies and investigations which are undertaken to provide flood insurance in accordance with 42 U.S.C. Section 4014 and the accepted actuarial principles. *"Risk premium rates"* include provisions for operating costs and allowances.

APPEAL

A request for a review of an interpretation by the Director of Public Works or his/her designee of any provision of this Chapter or a request for a variance.

AREA OF SPECIAL FLOOD HAZARDS

The land in the floodplain within a community subject to a one percent (1%) or greater chance of flooding in any given year.

BASE FLOOD

The flood having a one percent (1%) chance of being equalled or exceeded in any given year.

COMMISSION

The Public Works and Storm Water Commission of the City of Town and Country.

DEVELOPMENT

The division of a site into two (2) or more lots; the construction, reconstruction, conversion, structural alteration, relocation or enlargement of any buildings; or any use or change in use of any buildings or land; any extension of any use of land; or any manmade change to improved or unimproved real estate

including, but not limited to, buildings or other structures, mining, dredging, filling, grading, paving, excavation or drilling operations.

DIRECTOR

The Director of Public Works of the City or his/her designated representative.

DRAINAGE

The removal of surface water or ground water from land by drains, grading or other means. Drainage includes the control of runoff to minimize erosion and sedimentation during and after development and includes the means necessary for water supply preservation or prevention or alleviation of flooding.

DRAINAGEWAY

A terrain feature, natural or manmade, between the tops of banks that define the normal high-water level serving to collect and drain rainwater by open flow and serving a drainage basin of at least four (4) acres.

EROSION

The detachment and movement of soil or rock fragments by water, wind, ice and/or gravity.

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 also be referred to as "existing structures".

FLOOD or FLOODING

A general and temporary condition of partial or complete inundation of normally dry land areas from (1) the overflow of inland or tidal waters; or (2) The unusual and rapid accumulation or runoff of surface waters from any source.

FLOOD HAZARD BOUNDARY MAP (FHBM) and FLOOD INSURANCE RATE MAP (FIRM)

An official map of the City on which the flood insurance study has delineated the flood hazard boundaries and the zones establishing insurance rates applicable to the City.

FLOOD INSURANCE STUDY

The official report provided by the Federal Insurance Administration. The report contains flood profiles, as well as the Flood Boundary-Floodway Map and the water surface elevation of the base flood.

FLOODPLAIN

Any area subject to a one percent (1%) chance of flooding in any given year (100-year flood) as established by the provisions of Section **405.335(C)**.

FLOODPROOFING

Any combination of structural and non-structural additions, changes or adjustments to structures, including utility and sanitary facilities, which would render the structure watertight with walls substantially impermeable to the passage of water. Structural components shall have the capability of resisting hydrostatic and hydrodynamic loads and the effects of buoyancy.

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.

FLOODWAY FRINGE

That area of the floodplain 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 (1%) chance of flood occurrence in any one (1) year).

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 wave action, clogged bridge openings and the hydrological effect of urbanization of the watershed.

HIGH PRIORITY

Eminent potential for expansion of loss or damage.

HIGHEST ADJACENT GRADE

The highest natural elevation of the ground surface prior to construction next to the proposed walls of a structure.

HEALTH (DEGREE OF RISK)

Failure or current condition can cause a condition which impacts the short- or long-term wellness of a person(s) occupying the property.

LIFE/LIMB (DEGREE OF RISK)

Failure can cause a loss of human life or serious injury.

LOCATION BENEFIT IDENTIFICATION (LBI)

Scale utilized to establish the total benefit of project implementation.

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 non-elevation design requirements of this Chapter.

LOW PRIORITY

Currently stable issue with no evidence of expansion of loss or damage.

MANUFACTURED HOME

A structure, transportable in one (1) or more sections, which is built on a permanent chassis and is designed for use with or without a permanent foundation when connected to the required utilities. For floodplain management purposes the term "*manufactured home*" also includes park trailers, travel trailers and other similar vehicles placed on a site for greater than one hundred eighty (180) consecutive days. For insurance purposes, the term "*manufactured home*" does not include park trailers, travel trailers and other similar vehicles.

MEAN SEA LEVEL

The average height of the sea for all stages of the tide.

MEDIUM PRIORITY

Probable potential for expansion of loss or damage.

NEW CONSTRUCTION

Structures for which the "start of construction" commenced on or after January 2, 1975.

PROGRAM

Long-term storm water program which ranks projects based upon estimated cost benefit ratios established utilizing the "location benefit identification" scale and anticipated project cost with the

lowest ratio being rated for the highest priority.

PROPERTY VALUE (DEGREE OF RISK)

Current condition has a direct impact on the appraised or assessed value of the property.

SEDIMENTATION

The deposition of soil that has been transported from its site of origin by water, ice, wind, gravity or other natural means as a result of erosion.

START OF CONSTRUCTION

Includes substantial improvement and means the date the building permit was issued, provided the actual start of construction, repair, reconstruction, placement or other improvement was within one hundred eighty (180) days of the permit date. The "actual start" means either the first (1st) 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. 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.

STRUCTURE

Anything constructed or erected, the use of which requires location on the ground or attachment to something having location on the ground, excepting, however, utility poles and appurtenances thereto, underground distribution or collection of pipes or cables and underground or ground level appurtenances thereto.

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 percent (50%) of the market value of the structure before the damage occurred.

SUBSTANTIAL IMPROVEMENT

Any reconstruction, rehabilitation, addition or other improvement of a structure, the cost of which equals or exceeds fifty percent (50%) 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:

1. Any project for improvement of a structure to correct existing violations of State or local health, sanitary or safety code specifications which have been identified by the local Code Enforcement Official and which are the minimum necessary to assure safe living conditions, or
2. Any alteration of a historic structure, provided that the alteration will not preclude the structure's continued designation as a historic structure.

VARIANCE

A grant of relief to a person from the requirements of this Chapter which permits construction in a manner otherwise prohibited by this Chapter.

Section 415.030. Compliance With Chapter Required.

[Ord. No. 3510 §1, 5-10-2010]

No structure or land shall hereafter be located, extended, converted or structurally altered without full compliance with the terms of this Chapter and other applicable regulations.

Section 415.040. Effect of Conflict With Other Ordinances.

[Ord. No. 3510 §1, 5-10-2010]

This Chapter is not intended to repeal, abrogate or impair any existing easements, covenants or deed restrictions. However, where this Chapter and another conflict or overlap, whichever imposes the more stringent restrictions shall prevail.

Section 415.050. Interpretation.

[Ord. No. 3510 §1, 5-10-2010]

- A. In the interpretation and application of this Chapter, all provisions shall be:
1. Considered as minimum requirements;
 2. Liberally construed in favor of the Governing Body; and
 3. Deemed neither to limit nor repeal any other powers granted under State Statutes.

Section 415.060. Director — Designation.

[Ord. No. 3510 §1, 5-10-2010]

The Director or his/her designee is hereby appointed to administer and implement the provisions of this Chapter.

Section 415.070. Variances From Flood Control and Stormwater and Erosion Control Regulations.

[Ord. No. 3510 §1, 5-10-2010]

- A. The Board of Adjustment shall hear and decide appeals and requests for variances from the requirements of this Chapter after review and recommendations from the Planning Commission.
- B. The Board of Adjustment shall hear and decide appeals, after review and recommendations from the Planning Commission, when it is alleged there is an error in any requirement, decision or determination made by the Director or his/her designee in the enforcement or administration of this Chapter.
- C. The Board of Adjustment shall also hear and decide appeals in which the applicant seeks a variance from the applications of the provisions of this Chapter.
- D. *Procedure For Appeals.*
1. Any person aggrieved by any order, requirement, decision or determination of the Director or any officer, department, board or bureau of the City relating to this Chapter may appeal to the Board of Adjustment within sixty (60) days of the application of such order, requirement, decision or determination. An application to appeal must be filed with the City Clerk specifying the grounds for appeal within sixty (60) days of the order, requirement, decision or determination appealed from.
 2. The City Clerk shall submit such application to the Planning Commission at its next regularly scheduled meeting. The Planning Commission shall review the application and make its

- recommendations to the Board of Adjustment within a reasonable time, not to exceed sixty (60) days from the date of referral to the Planning Commission.
3. The Board of Adjustment shall hear and decide appeals within a reasonable time period, not to exceed sixty (60) days from the date it receives the recommendations of the Planning Commission.
 4. The Board of Adjustment shall give at least fifteen (15) days' public notice of its hearing on each appeal in a newspaper of general circulation in the City. The Board of Adjustment shall also give due notice to interested parties, including the appellant and persons owning property located within three hundred (300) feet of the property which is the subject of the appeal. Any interested party may appear at the hearing of the Board of Adjustment on an appeal in person or by attorney.
 5. After public hearing on any appeal from any order, requirement, decision or determination of the Director or other administrative official or on a request for a variance, the Board of Adjustment may reverse, affirm or modify, in whole or in part, the order, requirement, decision or determination of the Director or other administrative official. The concurring vote of four (4) members of the Board of Adjustment shall be necessary to reverse or modify any order, requirement, decision or determination of the Director or other administrative official or to grant a variance in accordance with this Chapter.
- E. In passing upon such applications, the Board of Adjustment shall consider all technical evaluations, relevant factors, standards specified in other Sections of this Chapter and the following:
1. The danger that materials may be swept onto other lands to the injury of others;
 2. The danger of life and property due to flooding, stormwater or erosion damage;
 3. The susceptibility of the proposed facility and its contents to flood, stormwater or erosion damage and the effect of such damage on the individual owner;
 4. The importance of the services provided by the proposed facility to the community;
 5. The availability of alternative locations for the proposed use, not subject to flooding, stormwater or erosion damage; or alternative designs of the building;
 6. The compatibility of the proposed use with existing and anticipated development;
 7. The relationship of the proposed use to the Zoning Code of the City and the floodplain management program for that area;
 8. The safety of access to the property in times of flood for ordinary and emergency vehicles;
 9. The expected heights, velocity, duration, rate of rise and sediment transport of the floodwaters and the effects of wave action, if applicable, expected at the site; and
 10. The general expected or relative 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 and streets and bridges.
- F. Generally, variances from the flood control regulations set forth in Article II herein may be issued for new construction and substantial improvements to be erected on a lot of one-half ($\frac{1}{2}$) acre or less in size contiguous to and surrounded by lots with existing structures constructed below the base flood level, providing Subsections **(E)(1)** through **(10)** of this Section have been fully considered. As the parcel size increases beyond one-half ($\frac{1}{2}$) acre, the technical justification required for issuing any variance increases and the Board of Adjustment may require submission of additional data and preparation of alternative plans.

- G. Variances from the flood control regulations set forth in Article II herein shall not be issued within any designated floodway which would increase flood levels during the base flood more than one (1) foot at any point.
- H. The following prerequisites for the issuance of a variance shall be in effect:
1. Variances shall only be issued upon a determination that the variance is the minimum necessary to afford relief.
 2. Variances shall only be issued upon:
 - a. A showing of good and sufficient cause that specific enforcement would result in unnecessary hardship.
 - b. 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.
 3. Any applicant to whom a variance is granted shall be given a written notice that the cost of flood insurance will be commensurate with the increased risk resulting from the reduced lowest floor elevation.
 4. The Director or his/her designee shall maintain the records of all appeal actions and report any variances to the Federal Insurance Administration upon request.

Article II. Stormwater and Erosion Control Regulations

Section 415.080. Application.

[Ord. No. 3510 §1, 5-10-2010]

- A. This Article seeks to provide those standards, criteria, procedures and controls necessary to minimize the harmful physical and economic effects of erosion and flooding from stormwater within the City. This is to be accomplished through the requirement of special measures to mitigate erosion both during and after construction or grading and the detention and controlled discharge of the differential runoff from any site whereon any grading, excavation, filling or other disturbance of the natural vegetation or any construction, erection or alteration of a building or structure is to be undertaken.
1. *Generally.* Except as provided below, these stormwater and erosion control regulations shall be complied with whenever any person constructs, erects, alters or enlarges any building or structure or otherwise develops any property within the City in such manner as to change the land area covered by the building or structure and whenever any person clears, grades, excavates, fills or otherwise changes the contour of any land in the City.
 2. *Exceptions.* The provisions of this Article shall not apply to:
 - a. Any reconstruction, repair or alteration of any existing building or structure when no land, trees, shrubs, grass or other vegetation is to be disturbed, destroyed or removed;
 - b. The clearing, grading, excavation, filling, removing topsoil from or changing the contour of less than twenty-five hundred (2,500) square feet of land.
 - c. In considering the applicability of these exceptions, the effective acreage for a project, development or subdivision is not limited to a fractional part of the total concept. Rather, if a project is developed in phases or small plats, the total acreage of the project, development or subdivision shall be considered. Furthermore, projects of less acreage than provided for

in this Article shall also provide detention if, in the judgment of the Director, conditions in the receiving system are inadequate or harmful effects can be anticipated if detention is not implemented.

Section 415.090. Procedure.

[Ord. No. 3510 §1, 5-10-2010]

- A. Plans and documents clearly demonstrating that all permits for stormwater discharges required by the State including, but not limited to, those set forth in 10 CSR 20-6.200, have been secured and that the proposed construction and/or development meets all standards and criteria for stormwater and erosion control as described in this Article shall be submitted as a part of any application for a site improvement permit or an application for a building permit.
- B. All plans and specifications submitted for review and/or approval shall be prepared by or under the direct supervision of a registered professional engineer licensed in the State of Missouri and shall meet the minimum standards and requirements of the City, the Metropolitan St. Louis Sewer District and other applicable authorities. Each of the plan, profile and special drawing sheets for a project shall bear a legible seal of the professional engineer in charge.
All plans shall include a letter of transmittal stating the name of project, name and address of owner or developer, name, address and telephone number of engineer and the purpose of submittal.
- C. No permit for any construction, improvement or development within the City shall be issued until the Director has verified that the proposed construction, improvement or development fully complies with these stormwater and erosion control regulations.

Section 415.100. Minimum Standards.

[Ord. No. 3510 §1, 5-10-2010]

- A. Facilities for storm drainage shall be designed and constructed so as to prevent any increase in the rate of storm runoff onto adjoining property over that which existed prior to development. Erosion or flooding which existed prior to development shall not be increased by the construction improvement or development.
- B. All stormwater improvements shall be designed, constructed and installed in conformance with Metropolitan St. Louis Sewer District (MSD) regulations.
- C. Every land development or subdivision shall make adequate provisions to accommodate or dispose of stormwater and prevent damage to off-site streets and downslope of adjacent properties due to soil erosion or siltation by means of sodding, erecting silt barriers, detention storage areas, sewers, catch basins, culverts, terracing, walls and other facilities or combination of similar methods per the requirements of this Article. Such facilities are to be maintained by the owners of the subject property or owners of the subdivision through agreement by the appropriate trust indenture or deed restriction or by the appropriate public agency or utility.
- D. All detention basins shall be located in stormwater control easements with access easements provided where required. In multi-lot subdivisions, detention basins shall be located in common ground.
- E. Stormwater pipes, outlets and channels shall be protected by silt barriers and kept free of waste and silt at all times prior to final surface stabilization and street paving.
- F. Slopes steeper than five (5) feet horizontal to one (1) foot vertical (5:1) shall be protected by sodding or paving upon completion of grading or construction.

- G. Any construction, improvement or development shall make adequate provisions to minimize and control both long- and short-term erosion utilizing temporary control measures and long-term erosion control measures as described in Section **415.090**. Such measures shall be planned or in place prior to clearing or grading operations.
- H. The storm system for a proposed subdivision or land development shall be designed to accommodate potential runoff from its entire upstream drainage area, whether inside or outside the subdivision or land development. The Director shall review the proposed system to assure it is sufficient to accommodate existing upstream stormwater and any anticipated increase in upstream volume resulting from development permitted by the Zoning Code and adjacent jurisdictions and the estimated development potential of the watershed.
- I. The Director shall study the effect of each subdivision or land development on the existing downstream drainage facilities both inside and outside the area of development. Where it is anticipated that the additional runoff incident to the development of the subdivision will overload an existing downstream facility, the Planning and Zoning Commission may withhold approval of the improvement plans and final subdivision plat or site development plans until sufficient provisions have been made to eliminate such overload. No subdivision or land development shall be approved unless adequate drainage will be provided to an adequate drainage watercourse or catchment and storage facility. Complete hydrologic computations including, but not limited to, outlet velocities shall be submitted with subdivision improvement plans or site development plans, where requested, to support the storm sewer design.
- J. Water shall not be directed through a pipe, culvert, hose, spout or drain which discharges within ten (10) feet of an abutting property line. The following are exceptions to this prohibition:
 - 1. Roof or foundation drains that discharge within two (2) feet of the building foundation; or
 - 2. Discharge into an open natural creek or swale on the same property; or
 - 3. Discharge that is parallel to the abutting property line and at least five (5) feet from said line.

Section 415.110. Temporary and Long-Term Stormwater and Erosion Control Requirements.

[Ord. No. 3510 §1, 5-10-2010]

- A. *Generally.* Every land development or subdivision shall make adequate provisions to minimize and control both long- and short-term erosion in accordance with the requirements of this Article.
- B. *Temporary Control Measures.*
 - 1. Temporary erosion and sediment control measures are intended to maintain siltation on the land development or subdivision especially if construction is not going to be complete within a single construction season.
 - 2. Grading shall be phased so that the amount of exposed area at any one (1) time is minimized. Each application for a site improvement permit or building permit shall include a grading plan of the site in sufficient detail to indicate proposed grading phases.
 - 3. Graded areas shall be stabilized immediately upon grading and maintained to prevent or minimize erosion until permanent stabilization measures are in place. Permissible temporary erosion control techniques include contour furrowing or other surface roughening techniques, fertilizing, seeding, mulching and/or sodding. On steep slopes (twenty-five percent (25%) or greater) the application of asphalt emulsion is a desirable technique.

4. Slope changes should be designed to keep the slope length and gradient to a minimum, thus minimizing stormwater velocities over graded areas.
 5. Measures shall be taken to direct stormwater from graded portions of the site. This may be accomplished utilizing diversion berms, ditches and/or sediment basins.
 6. Sediment shall be retained on site by filtering runoff and/or by providing properly designed siltation basins.
 7. Truck and equipment accessways to the site of the operation shall be located so as to minimize danger to traffic and nuisance to surrounding properties. Such access shall be kept either wet or oiled or treated with a chemical dust deterrent or placed to the extent necessary to prevent any dust nuisance to surrounding properties. All such accessways shall be posted approximately two hundred (200) feet distant from such accessways or other traveled areas. Such signs shall read "Caution: Trucks Entering" and be of an appropriate size, type, coloring, lettering and format per the Manual on Uniform Traffic Control Devices for Streets and Highways (MUTCD). Debris, soil and other materials shall be removed from trucks before they leave the site. Streets and sidewalks shall be maintained free of soil and debris.
- C. *Long-Term Erosion Control.* All subdivision and land development plans shall incorporate into the improvement or site improvement permit plans measures designed to minimize grading and control erosion. Approval of any subdivision plat shall be conditional upon verification by the Director that the plans conform to the following standards:
1. All excavations, grading or filling shall have a finished grade not to exceed thirty-three percent (33%) except that embankments less than three (3) feet in height shall be exempt therefrom if properly sodded. Steeper grades are allowed if the excavation is through rock or the excavation or fill is protected by a properly designed revetment or retaining wall approved by the Director. Such walls shall not normally exceed a height of six (6) feet.
 2. Grading plans shall provide for sediment basins, silt barriers, diversions, grass waterways, mulching, seeding and other acceptable erosion control techniques whenever necessary to avoid damage to adjoining properties, road ditches and storm sewers.
 3. The finished grade shall provide that surface water from drainage areas in excess of two (2) acres shall be intercepted by diversion swales or inlets and lowered to a stable outlet constructed of concrete, riprap or pipe.
 4. Land adjoining the proposed land development or subdivision shall be provided with protection from accelerated and increased surface water, silt disposition and any other consequences of erosion. Where it is necessary for the protection of such property to enter upon property outside the control of the applicant for such purpose, appropriate consent must be obtained by the applicant. The applicant shall, at his/her own expense, shore up and protect all buildings, walls, fences or other property likely to be damaged during the progress of the grading and shall be responsible for all damage to public or private property resulting from his/her failure to properly protect and carry out such grading.
 5. Lots shall be laid out so as to provide positive drainage away from all buildings. Individual lot drainage shall be coordinated with the general storm drainage pattern for the area. Drainage shall be designed so as to substantially prevent stormwater drainage from each lot onto adjacent lots.
 6. Landscaping shall be provided in the form of seeded or sodded grass, ground cover, low walls, earth berms, trees and shrubbery to enhance the appearance and the functions of all erosion control facilities.

Section 415.120. Construction and Maintenance of

Stormwater and Erosion Control Facilities.

[Ord. No. 3510 §1, 5-10-2010]

- A. Detention facilities, when mandatory, are to be built in conjunction with the storm sewer installation and/or grading. Since these facilities are intended to control increased runoff, they must be partially or fully operational soon after the clearing of the vegetation.
- B. Silt and debris connected both with early construction and with general erosion from the site and elsewhere in the watershed after construction shall be removed periodically from the detention area and control structure in order to maintain close to full storage capacity.
- C. The responsibility of maintenance of the detention facilities in subdivision projects shall remain with the developer until such time as applicable escrows are released. Upon release of escrows the maintenance responsibility shall be vested in the trustees of the subdivision by virtue of the trust indenture. The indenture of the trust shall clearly indicate resident responsibility for maintenance in cases of projects without common areas.
- D. The responsibility of maintenance of the detention facilities in single owner development projects shall remain with the general contractor until final inspection of the development is performed and approved and a legal occupancy permit is issued. After legal occupancy of the project, the maintenance of detention facilities shall be vested with the owner of the project.

Section 415.130. Enforcement, Violations and Penalties.

[Ord. No. 3510 §1, 5-10-2010]

Compliance with stormwater and erosion control regulations shall be subject to all provisions of the Municipal Code relating to enforcement, violations and penalties. In addition, a corporate surety bond conditioned upon carrying out all and every part of approved plans for at least the sum estimated to be the full costs of carrying out such plans or a cash escrow upon the same conditions and in the same amount shall be furnished the City whenever such costs exceed five hundred dollars (\$500.00). The bond or escrow shall be released upon proper completion of all of the requirements of such approved plans.

Article III. Stormwater Control Program

Section 415.140. Stormwater Control Program.

[Ord. No. 3510 §1, 5-10-2010]

It is the intention of the City to address stormwater concerns for affected City infrastructure as well as private properties where surface drainage conditions have created a negative impact. This program is funded from portions of the one-half cent (\$.005) sales tax collected for parks and stormwater improvements. Notwithstanding any ordinance to the contrary, the City shall not be obligated to undertake any stormwater project.

Section 415.145. Project Identification.

[Ord. No. 3510 §1, 5-10-2010]

The Director is responsible for the identification of potential projects through analysis of public infrastructure or through input received by individual residents. Upon identification, the Director shall develop a draft analysis utilizing the attached LBI for each affected property. This shall be presented to the

Public Works and Storm Water Commission for review. The Commission shall seek input from any and all agencies, groups or individuals as necessary to evaluate the draft and revise as is necessary.

Section 415.150. Minimum Project Standards.

[Ord. No. 3510 §1, 5-10-2010]

- A. Projects identified to be a part of the program shall meet the following minimum guidelines:
1. Threatened public structure or improvement; or
 2. Surface flows altered or caused by a public improvement; or
 3. Cannot reasonably be completed by individual property owner due to the necessary involvement of other parties or agencies outside of that individual's control; or
 4. Altered upstream conditions; or
 5. Inadequate system design under previously less restrictive development regulations.
Issues determined to be the result of the actions of an individual property owner impacting his or her own property are not eligible for programming. Issues created as the result of the actions of an individual property owner which impact downstream properties are not eligible, but instead shall be considered a matter to be referred for civil action between the affected parties. The maintenance of functioning systems under the control or ownership of other agencies, political subdivisions, private individuals or subdivision trust associations are not eligible for programming.

Section 415.155. Benefit Calculation.

[Ord. No. 3510 §1, 5-10-2010]

- A. The preliminary project scope is to be prepared by the Director. The LBI for each affected residential property and section of public property shall also be calculated by the Director individually as a part of the preliminary project scope. The sum of these individual LBI calculations shall comprise the total benefit calculation for the project. The probable opinion of cost is to be prepared by the Director under contract with a qualified professional services provider or utilizing internal resources.
- B. The preliminary project scope, probable opinion of cost and LBI are to be reviewed in open session by the Commission. All affected property owners shall be informed of this review at least one (1) week prior to the session utilizing the United States Postal Service. Upon solicitation of public input, the Commission shall alter, adopt or reject the benefit calculation for placement in the program.

Section 415.160. Ranking System.

[Ord. No. 3510 §1, 5-10-2010]

Projects adopted by the Commission shall be ranked with the highest priority given to those with the lowest cost to benefit ratio. Projects shall be inserted into the rankings based solely on the calculated ratio regardless of order of identification. The program shall be presented to the Board of Aldermen in the form of a five (5) year implementation plan recommended by the Commission as a part of the City of Town and Country's annual budget process. The five (5) year implementation plan shall be based upon the comparison of implementation cost of the highest ranked projects with the funding available for stormwater projects in the Parks and Storm Water Fund of the City of Town and Country.

Section 415.165. Property Owner Participation.

[Ord. No. 3510 §1, 5-10-2010]

Individual property owners, subdivision organizations and other interested parties may make a monetary contribution to a project. Any contributions pledged by outside sources shall be identified as a part of the probable opinion of cost and deducted from the total project cost prior to the calculation of the cost to benefit ratio. This adjusted ratio shall be utilized in the project ranking. No project with an adjusted ranking shall be implemented prior to the commitment of funds by the outside sources. These funds shall be placed in escrow with the City prior to the commitment of any resources by the City for the project.

Section 415.170. Re-Evaluation.

[Ord. No. 3510 §1, 5-10-2010]

Each project shall be re-evaluated by the Commission no less than every three (3) years. If changes in project scope are identified by the Director or requested by the affected property owners, the project may be re-evaluated annually prior to the presentation of the program to the Board of Aldermen.

Section 415.175. Minimum Design/Construction Standards.

[Ord. No. 3510 §1, 5-10-2010]

All projects shall be designed to meet all requirements of the City of Town and Country, the Metropolitan St. Louis Sewer District (MSD), Missouri Department of Natural Resources (MDNR), United States Army Corps of Engineers (USACE) and any other necessary regulatory agency or political subdivision with permissible rights established under local, State or Federal law.

Section 415.180. Five Year Implementation Program.

[Ord. No. 3510 §1, 5-10-2010]

The Commission shall develop an updated implementation program annually by August first (1st) and be presented to the Board of Aldermen as a part of the annual budgeting process. This shall include the portion of the program which is recommended for funding under the upcoming and four (4) following years. The first two (2) years shall contain specifically identified projects as well as the anticipated design, property/easement acquisition and construction costs associated with these projects and the necessary budget requests. The final three (3) years shall consist of a general identification of potential budget requests for continued implementation of the program. Upon adoption of the five (5) year implementation plan and the necessary budget requests, the Director shall be responsible for the implementation of the plan.

Section 415.185. Location Benefit Identification (LBI) Scale.

[Ord. No. 3510 §1, 5-10-2010]

CITY OF TOWN AND COUNTRY LOCATION BENEFIT IDENTIFICATION

Project ID:

Location Address/Description:

Total Calculated Benefit Points:

Evaluation Category	Problem Type	High	Medium	Low
	Public Structure	45	15	5

Erosion	Residential Structure	36	12	4
	Retaining Wall (Public)	36	12	4
	Street ROW	27	9	3
	Improved Channel	27	9	3
	Retaining Wall (Private)	18	6	2
	Drainage Structure	18	6	2
	Yard		3	1
	Unimproved Channel			1
	Other			
Flooding	Public Structure	45	15	5
	Residential Structure	36	12	4
	Impassable Traffic	27	9	3
	Passable Traffic	18	6	2
	Accessory Structure		3	1
	Yard			1
	Other			
	Drainage Structure	18	6	2
	Improved Channel		6	2
Maintenance	Unimproved Channel		3	1
	Street Gutter		3	1
	Swale/Berm			1
	Other			
	Street		3	1
Drainage	Yard			1
	Other			

	Frequency Rating		Degree of Risk
>1/year	1.0	Life/Limb	1.0
1/year	0.9	Health	0.5
1/5 years	0.6	Property Value	0.1
1/10 years	0.3		

Article IV. Flood Control

Section 415.190. Findings of Fact.

[Ord. No. 3510 §1, 5-10-2010]

- A. Certain areas of the City are subject to periodic inundation which can and may adversely affect the public health, safety and general welfare through the resulting loss of life and 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.
- B. These flood losses are caused by the cumulative effect of obstructions in floodplains causing increases in flood heights and velocities, by landfilling in floodplains that reduces the volume of storage available for attenuation of peak rates of streamflow and by the occupancy in flood hazard areas of uses vulnerable to floods or hazardous to other lands which are inadequately elevated, floodproofed or otherwise protected from flood damages.

Section 415.200. Application.

[Ord. No. 3510 §1, 5-10-2010]

- A. This Article seeks to provide those standards, criteria, procedures and controls necessary to minimize flood losses and to:
1. Restrict or prohibit uses which are dangerous to health, safety and property due to floodwater heights or velocities.
 2. Require that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction.
 3. Control the alteration of natural floodplains, stream channels and natural protective barriers which are involved in the accommodation of floodwaters.
 4. Control filling, grading, dredging and other development which may increase erosion or flood damage.
 5. Prevent or regulate the construction of flood barriers which will unnaturally divert floodwaters or which may increase flood hazards to other lands.

Section 415.210. Land To Which Flood Control Regulations Apply.

[Ord. No. 3510 §1, 5-10-2010]

The flood control regulations shall apply to all areas of special flood hazards within the City.

Section 415.220. Basis For Establishing Areas of Special Flood Hazards.

[Ord. No. 3510 §1, 5-10-2010]

The areas of special flood hazards identified by the Federal Insurance Administration through a scientific and engineering report entitled "The Flood Insurance Study for the City of Town and Country" dated March 26, 1980, with accompanying Flood Insurance Rate Maps and Flood Boundary and Floodway Maps and any revisions thereto and any comparable reports prepared with respect to property annexed by the City after that report are hereby adopted by reference and declared to be a part of this Article.

Section 415.230. Warning and Disclaimer of Liability.

[Ord. No. 3510 §1, 5-10-2010]

The degree of flood protection required by this Article is considered by the Federal Insurance Administration of the Federal Government to be reasonable for regulatory purposes and is based on scientific and engineering studies conducted by or under the direction of such agency. Such studies indicate that larger floods can and will occur on rare occasions, for example, in those areas delineated as subject to the 500-year frequency flood. Flood heights may be increased by manmade or natural causes. This Article does not imply in any way that land outside the areas of special flood hazards or uses permitted within such areas will be free from flooding or flood damages. This Article shall not create any liability whatsoever, directly or indirectly, on the part of the City or on any officer or employee thereof or consultant(s) thereto for any flood damages that result from adoption of or reliance upon this Article or by

any administrative decision lawfully made thereunder.

Section 415.240. Director's Duties and Responsibilities.

[Ord. No. 3510 §1, 5-10-2010]

A. Duties of the Director shall include, but not be limited to:

1. Review all applications for floodplain development permits to assure that sites are reasonably safe from flooding and that the permit requirements of this Article have been satisfied.
2. Review applications for 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.
3. Notify adjacent communities and the Missouri Department of Natural Resources prior to any alteration or relocation of a watercourse and submission of evidence of such notification to the Federal Insurance Administration.
4. Assure that either the Metropolitan St. Louis Sewer District, the subdivision trustees or the property owner(s) provide maintenance within the altered or relocated portion of such watercourse so that the flood-carrying capacity is not diminished.
5. Verify and maintain the actual elevation (in relation to mean sea level) to which the new or substantially improved structures have been floodproofed.
6. When floodproofing is utilized for a particular structure, obtain from the applicant an appropriate certification from a registered professional engineer or architect. (See Section **415.280**.)
7. Where interpretation is needed as to the exact location of the boundaries of the areas of special flood hazards (for example, where there appears to be a conflict between a mapped boundary and actual field conditions), the Director shall make the necessary interpretation.
8. Obtain, review and reasonably utilize any base flood elevation data available from a Federal, State, municipal or other source as criteria for requiring that new construction, substantial improvements or other development in Zone A meet the requirements as set forth in Sections **415.290** and **415.300**.

All records pertaining to the administration of this Section shall be maintained at the City offices and shall be open for public inspection.

Section 415.250. Non-Conforming Uses.

[Ord. No. 3510 §1, 5-10-2010]

A. *General Provisions.* A structure or the use of a structure or premises which was lawful before the passage or amendment of this Article but which is not in conformity with the provisions of this Article may be continued subject to the following conditions:

1. No such use or substantial improvement of that use shall be expanded, changed, enlarged or altered in a way which increases its non-conformity.
2. If such use is discontinued for one (1) year, any future use of the building premises shall conform to this Article.
3. Uses or adjuncts thereof which are or become nuisances shall not be entitled to continue as non-

conforming uses.

- B. *Destruction Of Non-Conforming Use.* If any non-conforming use or structure is destroyed by any means, including flood, it shall not be reconstructed if the cost is more than sixty percent (60%) of the market value of the structure before the damage occurred unless it is reconstructed in conformity with the provisions of this Article. This limitation does not include the cost of any alteration to comply with existing State or local health, sanitary, building or safety codes or regulations.

Section 415.260. Amendments.

[Ord. No. 3510 §1, 5-10-2010]

The regulations, restrictions and boundaries set forth in this Article may, from time to time, be amended, supplemented, changed or repealed 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 is held in relation thereto, at which parties in interest and citizens shall have an opportunity to be heard. At least fifteen (15) days' notice of the time and place of such hearing shall be published in a newspaper of general circulation according to the laws of the State. The regulations of this Article are in compliance with the National Flood Insurance Program regulations as published in the Federal Register, Volume 41, Number 207, dated October 26, 1976.

Section 415.270. Penalties For Violation.

[Ord. No. 3510 §1, 5-10-2010]

- A. Violation of the provisions of this Article or failure to comply with any of its requirements (including violations of conditions and safeguards established in connection with grants of variances or special exceptions) shall constitute a misdemeanor. Any person who violates this Article or fails to comply with any of its requirements shall upon conviction thereof be fined not more than one hundred dollars (\$100.00) or imprisoned for not more than ten (10) 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.
- B. Nothing herein contained shall prevent the City from taking such other lawful action as is necessary to prevent or remedy any violation.

Section 415.280. Floodplain Development Permit.

[Ord. No. 3510 §1, 5-10-2010]

- A. *Required.* In all areas of the City that are covered by this Article, no development shall be permitted except upon the issuance of a floodplain development permit as provided for by this Article. The permit may be issued in conjunction with a building permit required under the ordinances of the City relating to the construction of buildings and improvements.
- B. *Application.* Applications for a floodplain development permit shall be made to the Director or his/her designee on forms furnished for that purpose. If the application or the required plans do not conform to the requirements of this Article and any other pertinent ordinance, the Director or his/her designee shall reject such application in writing, stating the reason therefor. If he/she is satisfied that the proposed work conforms to the requirements of this Article and all other pertinent ordinances, he/she shall issue a development permit therefore as soon as practicable. A twenty-five dollar (\$25.00) fee is to be paid by the applicant at the time of the making of the application. The application forms shall require the following information:

1. An identification and description of the proposed work to be covered by the permit.
2. A description by lot, block, tract, house and street address of the property upon which the proposed work is to take place.
3. A statement of the use or occupancy for which the proposed work is intended.
4. A duplicate set of the plans and specifications drawn to scale by a registered professional engineer for the proposed construction which shall include the following information:
 - a. The nature, location, dimensions and elevations of the area in question;
 - b. The location and elevation of areas of proposed cut, proposed fill and storage materials;
 - c. The location and elevation of existing and proposed drainage facilities;
 - d. The elevation in relation to mean sea level of the lowest floor (including basement) of all structures;
 - e. The elevation in relation to mean sea level to which any non-residential structure has been floodproofed.
5. A certificate from a registered professional engineer or architect that the non-residential floodproofed structure meets the floodproofing criteria in Section 415.300(2).
6. A description of the extent to which any drainageway will be altered or relocated as a result of proposed development.
7. The application is to be signed by the person or persons seeking the permit.
8. Plans will show all existing drainageways, identifying those that will not be altered and those that will be altered.

[1]: *Cross Reference — Business licenses, see ch. 605.*

Section 415.290. Provisions For Flood Hazard Reduction — General Standards.

[Ord. No. 3510 §1, 5-10-2010]

- A. In all areas of special flood hazards the following provisions are required:
1. All new construction and substantial improvements shall be anchored to prevent flotation, collapse or lateral movement of the structure;
 2. All new construction and substantial improvements shall be constructed with materials and utility equipment resistant to flood damage;
 3. All new construction or substantial improvements shall be constructed by methods and practices that minimize flood damage;
 4. Electrical, heating, ventilation, plumbing and air-conditioning equipment and other service facilities shall be designed and/or located so as to prevent water from entering or accumulating within the components during conditions of flooding;
 5. All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of floodwaters into the system;
 6. New and replacement sanitary sewerage systems shall be designed to minimize or eliminate

infiltration of floodwaters into the systems and discharges from the systems into floodwaters;

7. On-site waste disposal systems shall be located to avoid impairment to them or contamination from them during flooding;
8. The storage or processing of materials that in time of flooding are buoyant, flammable, explosive or could be injurious to human, animal or plant life is prohibited; and
9. Storage of other material or equipment may be allowed if not subject to major damage by floods and firmly anchored to prevent flotation.
10. Until a floodway has been designated, no development, including landfill, may be permitted within Zones A1 — A30 on the City's Flood Insurance Rate Map unless the applicant for the land use has demonstrated that the proposed use, when combined with all other existing and reasonably anticipated uses, will not increase the water surface elevation of the 100-year flood more than one (1) foot on the average cross section of the reach in which the development or landfill is located as shown on the Flood Insurance Rate Study.
11. Substantial landfilling within the floodplain shall be balanced by an equal volume of excavation within the adjacent floodplain. Landfilling will be considered substantial if it reduces the volume of floodplain storage within the limits of the development by more than one percent (1%).

Section 415.300. Provisions For Flood Hazard Reduction — Specific Standards.

[Ord. No. 3510 §1, 5-10-2010]

- A. In all areas of special flood hazards where base flood elevation data has been provided as set forth in Sections **415.070**, **415.280** and **415.290**, the following provisions are required:
 1. *Residential construction.* New construction or substantial improvement of any residential structure shall have the lowest floor, including basement, elevated to at least two (2) feet above base flood elevation.
 2. *Non-residential construction.* New construction or substantial improvement of any commercial, industrial or other non-residential structure shall either have the lowest floor, including basement, elevated to one (1) foot above the base flood elevation or, together with attendant utility and sanitary facilities, be floodproofed so that one (1) foot above the base flood level 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 paragraph are satisfied. Such certification shall be provided to the official as set forth in Section **415.280(B)(5)**. For all new construction and substantial improvements, 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 must meet or exceed the following minimum criteria: 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. The bottom of all openings shall be no higher than one (1) foot above grade. Openings may be equipped with screens, louvers or other coverings or devices provided that they permit the automatic entry and exit of floodwaters.
 3. *Floodways.* Located within areas of special flood hazards are areas designated as floodways. Since the floodway is an extremely hazardous area due to the velocity of floodwaters which carry debris, potential projectiles and erosion potential, the following provisions shall apply:

- a. Encroachments, including fill, new construction, substantial improvements and other development, shall be prohibited unless certification by a professional registered engineer or architect is provided demonstrating that encroachments shall not result in any increase in flood levels during the occurrence of the base flood discharge.
 - b. If the provisions of Subsection **(2)** of this Section are complied with, all new construction and substantial improvements shall comply with all applicable flood hazard reduction provisions of this Article.
4. *Manufactured homes.* Manufactured homes are prohibited from being located within any area of special flood hazards.

Section 415.310. Standards For Subdivision Proposals.

[Ord. No. 3510 §1, 5-10-2010]

- A. All subdivisions approved after the effective date of this Article shall be developed in accordance with engineering and construction methods designed to minimize flood damage.
- B. All subdivisions approved after the effective date of this Article shall have public utilities and facilities such as sewer, gas, electrical and water systems located and constructed to minimize flood damage.
- C. All subdivisions approved after the effective date of this Article shall have adequate drainage provided to reduce exposure to flood hazards.
- D. Base flood elevation data shall be provided for subdivisions approved after the effective date of this Article and any other proposed development which is greater than the lesser of fifty (50) lots or five (5) acres.