

Chapter 15.04 Storm Water Management

INTRODUCTION

15.04.010 TITLE. An ordinance establishing standards for the quantity and quality of water that runs off land under construction in the City of Epworth.

15.04.020 PURPOSE. The purpose of this Ordinance is to help protect Epworth's quality of life by reducing the negative impacts of sediment, rainfall, melting snow and other water runoff.

DEFINITIONS

15.04.100 DEFINITIONS. For the purpose of this Ordinance all words shall carry their customary meanings, except where specifically defined herein. The use of the present tense shall include the past and future tenses, and the future the present; the word "shall" is mandatory, while the word "may" is permissive; the singular number shall include the plural and the plural the singular.

"Best management practice" (or "BMP") means structural and non-structural measures, practices, techniques or devices employed to avoid or minimize sediment or other pollutants carried in runoff.

"Bioretention" means a storm water infiltration device consisting of an excavated area that is backfilled with an engineered soil, covered with a mulch layer and planted with a diversity of woody or herbaceous vegetation.

"Channel Protection Volume" (CPv) is the volume of runoff produced from a 1-year, 24 hour design storm on a post-development site, which is detained for an extended period of time (24 hours or more).

"Design storm" means hypothetical depth of rainfall that would occur for the stated return frequency (i.e. once every 2 years or 10 years), duration (i.e. 216.10.hours) and timing of distribution (i.e. type II). All values are based on the historical rainfall records for the area.

"Detention basin" means a stormwater management facility designed to protect against flooding and, in some cases, downstream erosion by storing water for a limited period of a time. Detention basins do not retain a significant permanent pool of water between runoff events.

"Directly connected impervious area" means an impervious surface that is directly connected to a storm sewer or water of the state via an impervious flow path.

“Development” means construction of buildings, other structures, impervious surfaces, and/or soil disturbance to the extent that peak runoff rates and volumes are increased, in a location where no such features currently exist.

“Erosion” means the process of detachment, transport and deposition of soil, sediment or rock fragments by action of water, wind, ice or gravity.

“Erosion control plan” means a written description and detailed site plan of best management practices designed to meet the requirements of this ordinance submitted by the applicant for review and approval by Dubuque County.

“Extreme Flood Protection (Qf)” means the controlling of post-development runoff 100-year peak flows to prevent flood damage from large storm events, maintain the boundaries of the pre- development 100-year Federal Emergency Management Agency (FEMA) and/or locally designated floodplain, and protect the physical integrity of BMP control structures.

“Floodplain” means a flat or nearly flat land adjacent to a stream or river that experiences occasional or periodic flooding.

“Groundwater recharge” means a hydrologic process where water moves downward from surface water to groundwater.

“Hotspot land use” means a site that produces higher concentrations of trace metals, hydrocarbons or other priority pollutants than are normally found in urban stormwater runoff. Examples of hotspots include gas stations, vehicle service and maintenance areas, salvage yards, material storage sites, garbage transfer facilities, and commercial parking lots with high intensity use.

“Hydrologic soil group (HSG)” has the meaning used in the runoff calculation methodology promulgated by the United States Natural Resources Conservation Service Engineering Field Manual for Conservation Practices

“Hydrology” means the study of the movement, distribution, and quality of water throughout the Earth.

“Impervious surface” means an area that releases all or a large portion of the precipitation that falls on it, except for frozen soil. Conventional rooftops and asphalt or concrete sidewalks, driveways, parking lots and streets are typical examples of impervious surfaces. For purposes of this manual, typical gravel driveways and other examples listed shall be considered impervious unless specifically designed to encourage infiltration or storage of runoff.

“Infiltration” means the entry of precipitation or runoff into or through the soil.

“Intermittent Stream” means a stream that only flows for part of the year.

“Karst features” means an area or surficial geologic feature subject to bedrock dissolution so that it is likely to provide a conduit to groundwater, and may include caves, enlarged fractures, mine features, exposed bedrock surfaces, sinkholes, springs, seeps or swallets.

“Land disturbing activity” (or “disturbance”) means any man-made alteration of the land surface that may result in a change in the topography or existing vegetative or nonvegetative soil cover, or may expose soil and lead to an increase in soil erosion and movement of sediment. Land disturbing activity includes clearing and grubbing for future land development, excavating, filling, grading, building construction or demolition, and pit trench dewatering.

“Ordinary high water mark (OHWM)” means the highest level reached by a body of water that has been maintained for a sufficient period of time to leave evidence on the landscape.

“Overbank Flood Protection (Qp)” means the controlling of post-development runoff peak flows to prevent an increase in the frequency and magnitude of out-of-bank flooding generated by development (e.g., flow events that exceed the bankfull capacity of the channel and therefore must spill over into the floodplain).

“Peak flow” means the maximum rate at which a unit volume of storm water is discharged.

“Perennial Stream” means a stream that has continuous flow in parts of its bed all year round during years of normal rainfall.

“Post-development condition” means the extent and distribution of land cover types anticipated to occur under conditions of full development that will influence rainfall, runoff and infiltration.

“Pre-development condition” means the extent and distribution of land cover types present before the initiation of land development activity.

“Pre-settlement condition” means the extent and distribution of land cover types likely present before European settlement.

“Rain garden” means a depression area, designed and constructed as a landscape feature, that is used to improve water quality and enhance infiltration.

“Recharge Volume (Rev)” means the volume of rainfall that is captured on a post-development site and directed through the soil to the groundwater table.

“Redevelopment” means any construction, alteration, or improvement performed on sites where the existing site is already predominantly developed.

“Regional storm water management facility” means a storm water management facility for an entire drainage area or watershed, including future land development activities within the watershed, serving multiple developments and/or land owners.

“Retention basin” means a stormwater management facility designed to prevent flooding, erosion and improve water quality in adjacent waters by temporarily storing water for an extended period of a time and in addition generally retains a significant permanent pool of water between runoff events.

“Runoff” means water from rain, snow or ice melt, or dewatering that moves over the land surface via sheet or channelized flow.

“Sediment” means solid earth material, both mineral and organic, that is in suspension, is being transported, or has been moved from its site of origin by air, water, gravity or ice, and has come to rest on the earth’s surface at a different site.

“Runoff curve number (RCN)” has the meaning used in the runoff calculation methodology promulgated by the United States Natural Resources Conservation Service Technical Release 55, “Urban Hydrology for Small Watersheds” (commonly known as TR-55).

“Site” means the entire area included in the legal description of which the land disturbing or land development activity will occur.

“Stabilized” means that all land disturbing activities are completed and that a uniform, perennial vegetative cover has been established over the entire surface with a density of at least 70%, or other surfacing material is in place and the risk of further soil erosion is minimal, as determined Dubuque County.

“Storm drainage system” means a publicly-owned facility by which storm water 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.

“Stormwater” has the same meaning as the term “runoff”.

“Surface waters” means all lakes, bays, rivers, streams, springs, ponds, wells, impounding reservoirs, marshes, watercourses, drainage systems and other surface water or groundwater, natural or artificial, public or private, within Dubuque County.

“Time of concentration (Tc)” means the time needed for water to flow from the most remote point in a watershed to the watershed outlet. It is a function of topography, geology and land use within the watershed.

“Volumetric Runoff Coefficient (Rv)” means the fraction of rainfall during small storm events that becomes runoff, and can be determined by the methodologies described by Scheuler (1987) or Pitt (1994).

“Water Quality Volume (WQv)” is the storage needed to capture and treat the runoff from 90% of the average annual rainfall. In numerical terms, it is equivalent to the rainfall depth in inches multiplied by the volumetric runoff coefficient (Rv) for the site, and the site drainage area.

“Wetlands” means an area where water is at, near or above the land surface long enough to be capable of supporting aquatic or hydrophytic vegetation and which has soils indicative of wet conditions.

GENERAL PROVISIONS

15.04.200 ADMINISTRATION. The Erosion and Sediment Control and Stormwater Ordinance shall be administered by the City by the Mayor and Director of Public Works. Said administration shall be under the terms and provisions of the Dubuque County Erosion and Sediment Control and Stormwater Management Manual. Said document shall hereafter be referred to as the Dubuque County Manual for purposes of this Ordinance.

15.04.201 MANUAL. The City of Epworth adopts the Dubuque County Erosion and Sediment Control and Stormwater Management Manual in force as of the date this Ordinance is adopted. The City may adopt revised versions of the Dubuque County Manual by resolution of the City Council.

15.04.201.1 MANUAL DEFINED. Where reference is made in this Ordinance to the Dubuque County Manual, such reference shall refer to the Dubuque County Manual as modified by the City of Epworth.

15.04.202 LOCAL MODIFICATIONS TO COUNTY MANUAL. Cognizant of differences between Dubuque County and the City of Epworth, the City may adopt changes to the Dubuque County Erosion and Sediment Control and Stormwater Management Manual. Such changes shall be made by a duly adopted resolution of the City Council.

15.04.210 HYDROLOGIC METHODS. This Ordinance adopts the accepted hydraulic methods referred to in Section 1.1(B) of the Dubuque County Manual.

15.04.220 FEES. Fees are set by the City of Epworth are as follows:

(1) For any one site with one acre or more of disturbed area, a deposit of \$285.00 plus \$100.00 per acre for every acre or portion of an acre over one acres shall be remitted to the City Clerk with the permit application.

(2) The City shall engage a consultant, to be selected solely by the City, to review the permit and make a report to the City Council. The permit applicant shall be responsible for reimbursement to the City of all consultant costs plus reasonable expenses incurred in reviewing the permit. Additionally, the City shall collect \$50.00 per permit application to cover administrative fees.

(3) Any costs due over the amount held on deposit by the City Clerk shall be remitted to the City Clerk prior to construction beginning. Excess funds on deposit with the City shall be refunded to the applicant on the City's next regular payment processing cycle.

15.04.230 ENFORCEMENT AND PENALTIES. The City of Epworth will work with other local governments for consistent enforcement of the County minimum standards. The Dubuque County Manual requires builders, developers and other site planners to submit erosion and sediment control and stormwater management plans. If a site is not in

compliance with its plan as determined by inspection, a stop work order may be issued and the City may issue a municipal infraction or levy a fine. A violation by any person of any provision of this Ordinance, including the commencing, constructing, causing or permitting the commencement of any land-disturbing activity without submittals as described within this Ordinance and the Dubuque County Manual, will be subject to abatement, a stop work order, municipal infraction, and/or a fine of \$750.00. The City may order compliance by written notice of violation setting forth the time within which remediation or restoration must be completed and that if the person fails to complete such remediation or restoration within such time, the City shall cause such remediation or restoration work to be done and the person shall be liable for such costs. The City may issue an order to stop all construction activities on any property where land-disturbing activity is being conducted until conditions of non-compliance are corrected. Construction activity, other than that which is required to correct a condition of non-compliance, prior to the correction and the conditions of non-compliance, shall constitute a further violation.

15.04.240 THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES). This Ordinance specifically adopts the National Pollutant Discharge Elimination System (NPDES) permit requirements as outlined in paragraph 1.1(f) of the Dubuque County Manual.

15.04.250 MANUAL. The Dubuque County Erosion and Sediment Control and Stormwater Management Manual shall be available for inspection and/or copying during regular business hours at City Hall.

SITE AND REGIONAL PLANNING

15.04.300 IMPLEMENTING STORMWATER MANAGEMENT. In order to effectively implement good stormwater management, certain techniques shall be utilized. These techniques are detailed in Section 1.2 of the Dubuque County Manual and, in order of priority are as follows:

- (a) Identify and avoid sensitive areas
- (b) Minimize impervious surfaces.
- (c) Utilize low-impact development (LID) and conservation subdivision design.
- (d) Watershed-wide planning for stormwater management.

**ORDINANCE APPLICABILITY, PERFORMANCE STANDARDS AND
MANAGEMENT PRACTICES**

15.04.400 **APPLICABILITY.** Construction site erosion plans and permits are required under any of the conditions listed under Section 1.3(A) (1) of the Dubuque County Manual.

15.04.410 **PERFORMANCE STANDARDS.** Acceptable soil loss limits are established at Section 1.3(A)(2) of the Dubuque County Manual.

15.04.420 **MANAGEMENT PRACTICES.** The City of Epworth hereby adopts by reference the guide to managing erosion on construction sites developed by the Iowa Department of Natural Resources and detailed under Section 1(3)(A)(3) of the Dubuque County Manual.

15.04.430 **POST-CONSTRUCTION STORMWATER MANAGEMENT AND WATER QUALITY PROTECTION.** The City of Epworth hereby adopts in total Section 1.3(B)(1)(2)(3) of the Dubuque County Manual relating to the applicability, performance standards and management practice for stormwater management and water quality protection.

15.04.440 **ADDITIONAL PERFORMANCE STANDARDS REGARDING WATER DISCHARGED ONTO OTHER PROPERTY AND CITY STORM SEWERS.** No landowner or tenant shall cause or allow surface water, subsurface water or other water from any source to be drained, discharged or cast upon or into public property or the private property of another by any device or other means which alters the natural direction or volume of water in such a manner as to cause erosion, subsidence, loss of lateral support or other interference with or impairment of the lawful use and enjoyment of such property. Devices shall be terminated at a minimum of five (5) feet from the side property line and ten (10) feet from the front and rear property lines if the slope of the yard is less than 3:1. When the slope of the yard is greater than 3:1, devices shall be terminated at a minimum of five (5) feet from the side property line and ten (10) feet from the front and rear property lines before the top of the slope.

SUBMITTAL REQUIREMENTS

15.04.500 CONSTRUCTION SITE EROSION CONTROL. The City of Epworth hereby adopts Section 1(4)(A) of the Dubuque County Manual relating to construction site erosion control.

15.04.510 POST-CONSTRUCTION STORMWATER MANAGEMENT AND WATER QUALITY PROTECTION. The City of Epworth hereby adopts Section 1(4)(B) of the Dubuque County Manual relating to post-construction stormwater management and water quality protection.

(Adopted Oct. 25, 2011, Ord. #52-11).