

CHAPTER 148

STORM WATER MANAGEMENT

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148.01 PURPOSE. It is the purpose of this chapter to establish policies to manage and control Storm Water Runoff occurring from new development of commercial, industrial, governmental, institutional, and in some cases residential areas, all of which are located within City's corporate limits. The goal is to reduce storm water runoff caused by development of the land. This will result in cost savings to the overall existing municipal storm sewer collection system by either eliminating the need to make improvements to the existing municipal storm sewer collection system or by reducing the size of improvements required. In addition, increased public safety and sediment and erosion control are expected benefits.

148.02 DEFINITIONS. Wherever used in the Ordinance and printed with an initial capital letter, the terms listed below shall have the meanings indicated. Words using the present tense shall include the future; the singular shall include the plural; the plural shall always include the singular. The term 'shall' is always mandatory and the term 'may' is permissive.

1. "Capacity (of a storm water facility)" means the volume or rate of conveyance available in a storm water management facility, including freeboard, to store or convey storm water without damage to public or private property.
2. "Civil engineer" means a professional engineer licensed in the State of Iowa to practice in the field of civil works.
3. "Control structure" means part of a storm water management facility designed to regulate the storm water runoff release rate.
4. "Design storm" means a storm with characteristics of the average storm for the desired return frequency.
5. "Detention basin" means any facility designed for the purpose of temporarily holding water which is then released at a predetermined rate and controls the flow of storm water downstream.
6. "Development" means the changing of land from its existing state or an area of land use change, usually involving the building of housing, commercial, industrial, *governmental*, *institutional*, and infrastructure structures.
7. "Developed condition" also referred to as "Post-developed condition" means the hydraulic and hydrologic site characteristics that occur upon completion of a development.
8. "Drainage area" means an area of land contributing to storm water runoff.
9. "Green infrastructure" means natural drainage ways, wet lands, infiltration systems, open green space, etc.
10. "Green space" means that area in and around a development which is covered with grass, trees, shrubs, and other natural plantings that naturally absorbs storm water.

11. “New development” means the platting of land for the establishment of residential, commercial, industrial and/or agricultural lots or improvements to existing platted parcels of land which contribute to use and benefit of the land.
12. “Overflow path” means the path taken by storm water runoff as a result of flows exceeding the capacity of the underground drainage system or detention basin. The path may include streets, channels, drainage ways or areas of sheet flows, and be located on public property or private property within an easement.
13. “Pre-developed condition” means the hydraulic and hydrologic site characteristics that occur prior to a proposed development, including natural storage areas, drainage ways, drainage tiles and highway drainage structures.
14. “Regional storm water management facilities” means those facilities designed to handle storm water runoff from several lots which may include the entire subdivision, or multiple subdivisions, and may include existing developed areas.
15. “Retention basin” means storm water management practice that captures storm water runoff, and does not directly discharge to a surface water body. Water that is “retained” is “discharged” from the basin either by infiltration or evaporation.
16. “Return frequency” means the statistic parameter that defines the average occurrence time for a storm of a given magnitude.
17. “Site” means a lot, parcel or tract of land (or portion thereof) where development is occurring or has occurred and which may or may not require additional permits.
18. “Site plan” means an overall plan of the area to be developed including, but not limited to: proposed building location, proposed parking and drive locations, proposed utilities including storm sewer components and subsurface drain tile, proposed ground elevations with drainage patterns highlighted, roof drainage outlet locations, other underground utilities, and property boundaries.
19. “Storm sewer system” means facilities for the conveyance of storm water runoff, a series of conduits and appurtenances, to accommodate frequent storms not generating large peak discharges. These facilities usually include conduits, street gutters and swales.
20. “Storm water management facilities” means a detention/retention basin and the associated appurtenances to make the system functional.
21. “Storm water management plan” means a site plan certified by a Civil Engineer, including materials, construction phasing, grading activities, and methods used for mitigation of increased storm water runoff from the site.
22. “Storm water runoff” means the flow of water resulting from precipitation upon a surface area, not absorbed by the soil or plant material.
23. “Subdivision” – refer to Section 166.01.22 of this Code of Ordinances.

148.03 AREAS REQUIRING STORM WATER MANAGEMENT PLAN. A storm water management plan shall be required for the following:

1. New residential subdivisions and re-subdivisions larger than one acre in size and all new commercial, industrial, governmental, and institutional subdivisions of any size.
2. Multi-residential, commercial, industrial, governmental, and institutional developments 10,000 square feet in size and larger.

3. Phased developments under one acre in size for residential, and under 10,000 square feet in size for commercial, industrial, governmental, institutional developments which are a part of a larger planned development.
4. Other developments may be required to submit a Storm Water Management Plan at the discretion of the City Council. No subdivision or development plan will be approved unless adequate drainage will be provided to an appropriate storm sewer, drainage watercourse, or storm sewer management facility.
5. At the discretion of the City Council, a fee may be charged the developer in lieu of providing storm water management facilities. This may be utilized when the City is constructing a larger regional storm water management facility to handle multiple existing or proposed developments.

148.04 STORM WATER MANAGEMENT REQUIREMENTS. The storm water management plan shall include, but not be limited to, the following information:

1. Peak discharges for pre-developed and post-developed conditions based upon the design storms.
2. Individual parameters used for determining discharges shall be listed.
3. Hydraulic capacity of storm sewer inlets, pipes, open channels or other means of conveying water.
4. Detention/retention basin design with capacity listed.
5. Control structure/outlet design.
6. Review of existing or proposed downstream conveyance capacities.
7. Storm water runoff calculations. Said calculations shall be made utilizing one of the following approved methodologies:
 - a. Rational Formula,
 - b. TR-55 Urban Hydrology for Small Watersheds as developed by the USDA Natural Resources Conservation Service,
 - c. Hydrographs.

The calculations shall be certified by an engineer, architect, or landscape architect licensed in the state of Iowa and familiar with such calculations.

148.05 MANAGEMENT PLAN DESIGN REQUIREMENTS. The design requirements of the storm water management plan are as follow:

1. For new developments where storm water management facilities are required as set forth in this ordinance, the maximum allowable storm water runoff from the site in the post-developed condition as calculated for a 25-year design storm shall be limited to the Storm water runoff rate for the site in the pre-developed condition based on a 5-year design storm. The discharge rate shall be controlled at the detention/retention facilities outlet and NOT by the size of the storm sewer pipe serving the site. Retention facilities may be used in lieu of detention facilities with approval from the building official.
2. A safe overflow path shall be designed for storms exceeding the capacity of the detention/retention basin.
3. Regional storm water management facilities are encouraged.

4. For new residential developments, storm water detention is not allowed within any front or side yard setbacks required by the Zoning Ordinance, or within 25 feet from the estimated rear building line. A single lot detention or retention will not be allowed within 3 feet of rear building lot line.
5. Dry-bottomed detention basins shall be oversized by 10% to help offset anticipated sedimentation. An alternative to over-sizing is the construction of a series of sediment trapping fore bays in the basin with firm bottoms which allow routine removal of sediment.
6. Maximum side slopes of detention/retention basins shall not exceed 3:1.
7. Provisions shall be made to keep the bottom of the detention basin dry unless a permanent pond or lake is being utilized for detention.
8. The proposed development shall be designed with proper regard to topography, surface drainage, natural drains and streams, wooded areas, and other natural features. The design of the proposed improvements shall make adequate provisions for surface and subsurface drainage so as to NOT increase the danger of erosion, flooding, landslide or other endangerment of adjoining or surrounding property.

148.06 SUBMISSION AND APPROVAL OF PLAN. A site plan shall be a required attachment to a proposed storm water management plan, all of which is to be submitted to the City Administrator for review. The storm water management plan, including proposed storm water detention or retention facilities, shall be reviewed and approved by the City Administrator (or those chosen by the Administrator) prior to the issuance of any building permit for the proposed development. The City may inspect the site at any time to determine compliance with this chapter. Upon determination that a Site is not in compliance with this chapter, the City may issue a stop work order until compliance is achieved. The order shall describe the problem, specify a completion date, and indicate the penalties to be assessed for further noncompliance.

148.07 OWNERSHIP BY CITY. Regional storm water management facilities which are of sufficient size may be deeded to the City to be maintained by the City. The conditions for City ownership will be reviewed on a case-by-case basis. The City is under no obligation to accept ownership of the facility. If the City elects to obtain ownership of the facility, the property owner shall dedicate to the City any property on which public storm sewer detention/retention basins will be located with a 25-foot perimeter (subject to change) to establish and maintain a vegetative buffer. Ingress-egress easements for maintenance of public facilities shall be provided prior to final approval.

148.08 PRIVATE OWNERSHIP. For sites on which privately owned storm water detention or retention facilities are located, the property owner will be responsible for the following:

1. All future grading, repairs, and maintenance.
2. Maintenance of the minimum storm water detention capacity, as originally designed.
3. Maintenance of the detention/retention basin control structures and discharge pipes to insure the maximum theoretical design release rate is not increased.
4. The property owner shall not place fill material, or erect any buildings, obstructions, or other improvements on the area reserved for storm water detention or retention purposes, unless approved in writing by the City.
5. Maintenance of the facility so as to be in compliance with Section 50.02 "Nuisances Enumerated" of this Code of Ordinances.

148.09 FURTHER REQUIREMENTS. Compliance with this chapter does not relieve the developer or property owner of other responsibilities relating to storm water discharge. This includes, but is not

limited to, obtaining NPDES storm water discharge permits regulated by the Iowa Department of Natural Resources, and other State of Iowa and Federal requirements such as storm water pollution prevention plans and generally accepted erosion control measures.

148.10 EXEMPTIONS. The following are exempt from the requirements of the chapter:

1. Agricultural use of land.
2. Emergencies posing an immediate danger to life or property, or substantial flood or fire hazards.
3. Areas deemed appropriate by the City Council.

148.11 PENALTIES. Any person who shall engage in development of a site within the area of jurisdiction of this chapter before meeting the requirements of this chapter shall be subject to the following: No foundation permits or building permits shall be issued for the property in question until the violations are corrected. Nothing contained herein shall limit the right of the City to any other remedies available to the City for the enforcement of this chapter, including the use of municipal infractions. Enforcement of this section shall be the responsibility of the City.

148.12 OBJECTIONS. Any objections to decisions made pursuant to this chapter shall be reviewed by the City Council Business Activities Committee and final approval from the City Council.