

PUBLIC NOTICE
City of Sheffield Ordinance No. 145

ORDINANCE NO. 145
AN ORDINANCE AMENDING
THE CODE OF ORDINANCES OF
THE CITY OF SHEFFIELD IOWA,
BY ADDING A NEW CHAPTER
PERTAINING TO STORMWATER
DETENTION REQUIREMENTS
AND DESIGN.

BE IT ENACTED by the City Council of the City of Sheffield, Iowa:

SECTION 1. NEW CHAPTER.
The Code of Ordinances of the City of Sheffield, Iowa, is amended by adding a new Chapter 161, entitled **STORMWATER DETENTION REQUIREMENTS AND DESIGN**, which is hereby adopted to read as follows:

CHAPTER 161
STORMWATER DETENTION
REQUIREMENTS AND DESIGN

161.01 Definitions.....
..... 161.06 Special Requirements

161.02 Purpose.....
..... 161.07 Required Set Backs

161.03 General Provisions.....
..... 161.08 Access

161.04 Control Structure.....
..... 161.09 Detention Rates

161.05 Detention Basic Aesthetics
161.01 DEFINITIONS

1. "Acre-ft" means the volume of one acre of surface area to a depth of one foot. 43,560 cubic feet

2. "Impervious" means incapable of being penetrated.

3. "Backwater" means water backed up in its course by an obstruction, opposing current, or the tide.

4. "Detention basin" means a stormwater management facility designed, constructed or modified to provide short-term storage of stormwater runoff, which reduces the peak outflow to a rate less than the peak inflow.

5. "Wetland" means a distinct ecosystem that is flooded by water, either permanently or seasonally, where oxygen-free processes prevail. The primary factor that distinguishes wetlands from other landforms or water bodies is the characteristic vegetation of aquatic plants, adapted to the unique hydric soil.

161.02 PURPOSE The purpose of this chapter is to minimize the adverse effects that impervious surfaces have on watersheds by preventing rainwater from infiltrating into the soil, to reduce potential flooding and flash flooding, to prevent downstream erosion, and to filter pollutants and garbage before reaching waterways.

161.03 GENERAL PROVISIONS.

A debris barrier shall be installed on the detention basin outlet. Debris barriers shall be installed on the inlet if the pipe diameter is 18-inches or greater.

Detention basins shall be designed as flow-through systems maximizing the flow path between inlet and outlet to promote sedimentation.

Detention basin bottom shall be level with at least 0.5 feet of sediment storage.

Fence required where slopes greater than 3H:1V above the emergency overflow water surface elevation or higher where the is a wall greater than 30-inches in height.

Detention basin interior side slopes and bottom should be planted with grass or landscaped and mulched

Detention basins with Fence are required to have informative sign, warning against swimming. Applicant shall submit design for acceptance.

Construct on suitable base soils either consolidated native soil or adequately compacted and stable fill soil as determined by a geotechnical engineer.

Detention basin berm embankments greater than 6ft in height require design by a geotechnical engineer.

Detention basin construction shall be completed before any other structure.

161.04 CONTROL STRUCTURE

The control structure for a detention basin is typically a Type 2 Catch Basin with an inverted tee riser pipe restrictor for outlet. Alternatively, a weir type, or multiple orifice design may be used.

A shear gate shall be provided with a control rod for operation.

Consider backwater effects of water surface elevations downstream of the control structure

At least two feet of separation shall be provided between the bottom of the control structure and the bottom of the outlet orifice

161.05 DETENTION BASIN AESTHETICS.

Detention basins should be made an attractive feature of the urban environment. Aesthetic considerations should be incorporated into the design including but are not required:

Curvilinear design (non-rectangular)

Landscape plantings above the water level of the detention basin.

Consider incorporating the detention basin into other on-site features such as walking trails, picnic area, etc.

Consider combined detention and wet detention basin to provide permanent pool volume to enhance year-round aesthetics.

161.06 SPECIAL REQUIREMENTS

If a detention basin is located within the Well Head Protection area of a public water system a minimum of three-feet of separation to the seasonal high groundwater level is required or the detention basin shall be lined. Liners may not be used to locate the detention basin bottom below the seasonal high groundwater level.

Detention basins shall be located within separate tracts with applicable offset requirements.

161.07 REQUIRED SETBACKS

Setback from the maximum water surface detention basin elevation
1 ft vertical clearance to structure within 25 ft

10 ft horizontal to property lines, onsite structures, sewer lines

30 ft horizontal to Septic tank or distribution box, septic drain field, and reserve areas

50 ft horizontal to slopes steeper than 15 percent and greater than 10 feet in height

100 ft horizontal to drinking water wells

161.08 ACCESS

Access shall be provided to the control structure and other drainage structures associated with the detention basin. A 15ft wide access easement shall be provided from a public street or right-of-way to the detention basin. Access shall be surfaced with 12 ft wide of crushed rock or paved surface. The easement shall be marked at each corner, angle point, and every 100 ft along the length.

161.09 DETENTION RATE

Residential:

Single Family Lots = 0.0 acre-ft per acre Detention Rate

Commercial / Industrial / Mixed Usage:

Tract of 1 Acre or Less = .35 acre-ft per acre Detention Rate

Tract of 1 Acre or More = Detention requirement will be based on the percentage of impervious determined by the following chart:

SECTION 2. REPEALER. All ordinances or parts of ordinances in conflict with the provisions of this ordinance are hereby repealed.

SECTION 3. SEVERABILITY

CLAUSE. If any section, provision, or part of this ordinance shall be adjudged invalid or unconstitutional, such adjudication shall not affect the validity of the ordinance as a whole or any section, provision, or part thereof not adjudged invalid or unconstitutional.

SECTION 4. WHEN EFFECTIVE.

This ordinance shall be in effect from and after its final passage, approval, and publication as provided by law.

Passed by the Council the 9th day of August, 2021, and approved this 9th day of August, 2021.

Scott Sanders

Mayor

ATTEST:

Ashley Francis

City Clerk

First Reading: passed

Second Reading: waived

Third Reading: waived

I certify that the foregoing was published as Ordinance No. 145 on the 26 day of August, 2021.

City Clerk