

CHAPTER 35

STORM WATER MANAGEMENT AND EROSION CONTROL

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35.01 DEFINITIONS

In this Chapter 35, the following terms shall have the following meaning

- (1) Storm water management: shall mean:
 - (A) Reducing the 2-, 5-, 10-, 25-, 50- and 100-year 24-hour storm post-developed peak discharges to pre-developed levels;
 - (B) Reducing flooding or erosive discharges of runoff; and
 - (C) Infiltrating storm water where applicable.
- (2) Erosion Control: shall mean:
 - (A) Reducing sediment and pollutants in runoff during construction; and
 - (B) Reducing sediment and pollutants in post-development runoff.
- (3) Permit application: shall mean :
 - (A) Storm water management and erosion control permit application;
 - (B) Written storm water management plan with accompanying drawings and supporting engineering data;
 - (C) Written erosion control plan with accompanying drawings and supporting engineering data;
 - (D) Maintenance agreement; and
 - (E) Fees.
- (4) The definition of terms as described in Wisconsin Administrative Code NR §151.002 shall have the same meaning in this Chapter.

35.02 STATE CODE

The provisions and regulations of Wisconsin State Statutes, Chapter 62 and sections NR 281, NR 283 and NR 151 of the Wisconsin Administrative Code adopted by the Wisconsin Department of Natural Resources are hereby made a part of this Chapter by reference, and shall extend over and govern all of the storm water management systems installed, maintained, altered or repaired in the City of Reedsburg.

35.03 INSPECTION AND SUPERVISION

The City Engineer and Building Inspector or their designee shall administer, direct and enforce the provisions of this Chapter 35.

35.04 APPLICATION OF CODE

This Chapter 35 shall apply to all land disturbing activities greater than one (1) acre and land disturbing activities of less than one (1) acre which are adjacent to: the FEMA designated flood plain or the City's primary north to south storm drainage ways or adjacent to Babb Creek and said land disturbing activities will impact storm water flow to or in said flood plain, drainage way or Babb Creek provided, however, for the following exemptions and exclusions:

- (1) Erosion Control Exemptions:
 - (A) Nonpoint discharges from agricultural facilities and practices.
 - (B) Nonpoint discharges from silviculture activities.
 - (C) Routine maintenance for project sites of under one acre of land disturbance if performed to maintain the original line and grade, hydraulic capacity or original purpose of the facility.

35.04 Application of Code

- (2) Storm Water Discharge/Detention Exemptions:
 - (A) A redevelopment post-construction site with no increase in exposed parking lots or roads.
 - (B) A post-construction site with less than 10% connected imperviousness based on complete development of the post-construction site, provided the cumulative area of all parking lots and rooftops is less than one acre.
 - (C) Agricultural facilities and practices.
 - (D) Silviculture activities.
 - (E) Underground utility construction such as water, sewer and fiber optic lines. This exemption does not apply to the construction of any above ground structures associated with utility construction.
- (3) Storm Water Infiltration Exclusions:
 - (A) Areas associated with tier 1 industrial facilities identified in § NR 216.21(2)(a), Wis. Adm. Code, including storage, loading, rooftop and parking.
 - (B) Storage and loading areas of tier 2 industrial facilities identified in § NR 216.21(2)(b), Wis. Adm. Code. Runoff from tier 2 parking and rooftop areas may be infiltrated, but may require pretreatment.
 - (C) Fueling and vehicle maintenance areas.
 - (D) Areas within 1000 feet upgradient or within 100 feet downgradient of karst features.
 - (E) Areas with less than 3 feet separation distance from the bottom of the infiltration system to the elevation of seasonal high groundwater or the top of bedrock. This does not prohibit infiltration of roof runoff.
 - (F) Areas with runoff from industrial, commercial and institutional parking lots and roads and residential arterial roads with less than 5 feet separation distance from the bottom of the infiltration system to the elevation of seasonal high groundwater or the top of bedrock.
 - (G) Areas within 400 feet of a community water system well as specified in § NR 811.16(4), Wis. Adm. Code, or within 100 feet of a private well as specified in § NR 812.08(4), Wis. Adm. Code, for runoff infiltrated from commercial, industrial and institutional land uses or regional devices for residential development.
 - (H) Areas where contaminants of concern, as defined in § NR 720.03(2), Wis. Adm. Code, are present in the soil through which infiltration will occur.
 - (I) Any area where the soil does not exhibit one of the following soil characteristics between the bottom of the infiltration system and the seasonal high groundwater and top of bedrock: at least a 3-foot soil layer with 20% fines or greater; or at least a 5-foot soil layer with 10% fines or greater. This does not apply where the soil medium within the infiltration system provides an equivalent level of protection. This does not prohibit infiltration of roof runoff.
- (4) Storm Water Infiltration Exemptions:
 - (A) Areas where the infiltration rate of the soil is less than 0.6 inches/hour measured at the site.
 - (B) Parking areas and access roads less than 5,000 square feet for commercial and industrial development.
 - (C) Redevelopment post-construction sites.
 - (D) In-fill development areas less than 5 acres.
 - (E) Infiltration areas during periods when the soil on the site is frozen.
 - (F) Roads in commercial, industrial and institutional land uses, and arterial residential roads.

35.05 PERMITTING PROCEDURES, FEES AND REQUIREMENTS

- (1) Procedures for permit applicants and the City Engineer or Building Inspector:
 - (A) All land disturbing activities that are governed by this Code shall submit a permit application 10 business days before planned land disturbing activities.
 - (B) The permit applicant shall be the landowner of the property. The application will require the landowners signature.
 - (C) Within 10 business days of the receipt of a complete permit application, the City Engineer shall inform the applicant whether the application is approved or disapproved.
 - (D) If the permit application is approved, the City Engineer shall issue the permit.
 - (E) If the permit application is disapproved, the City Engineer shall detail in writing the reasons for disapproval.
 - (F) The City Engineer may request additional information from the applicant. If additional information is submitted, the City Engineer shall have 10 business days from the date the additional information is received to inform the applicant that the permit application is either approved or disapproved.
 - (G) Failure by the City Engineer to inform the permit applicant of a decision within 15 business days of a required submittal shall be deemed to mean approval of the submittal and the applicant may proceed as if a permit had been issued.
 - (H) The applicant shall notify the City Engineer when the project has been completed and final stabilization of the site has occurred. The City Engineer, or other designee will perform a final inspection within 3 business days of the notification, and submit a written approval or disapproval within 5 business days of the final inspection.
 - (I) A denial of a permit may be appealed to the Zoning Board of Appeals.
- (2) Fees for permit application:
 - (A) Fee amount shall be as set forth in Chapter 32, City of Reedsburg Code of Ordinances.
 - (B) The fee is non-refundable after approval or disapproval of permit application has been issued.
 - (C) The fee will be doubled if land disturbing activities occur prior to permit application approval.
 - (D) The fee for the permit covers the initial submittal and two resubmittals for a project. Additional fees will be required for each resubmittal after the third disapproval.
- (3) All permits issued under this chapter shall be subject to the following conditions, and the permit applicant shall be deemed to have accepted these conditions:
 - (A) The City Engineer may suspend or revoke a permit for violation of a permit condition immediately following written notification to the permittee. An action by the City Engineer to suspend or revoke this permit may be appealed to the Zoning Board of Appeals.
 - (B) Compliance with this permit does not relieve the responsibility of the permittee to comply with other applicable federal, state, and local laws and regulations.
 - (C) Installation, inspection, recording, repairs and maintenance of all storm water management and erosion control measures shall be in accordance with the approved storm water management and erosion control plan.
 - (D) The permittee shall notify the City Engineer at least 3 business days before commencing any work in conjunction with the storm water management and erosion control plan, and within 3 business days upon completion of the storm water management practices. If required as a special condition to the permit, the permittee shall make additional notifications in accordance to a schedule established by the City Engineer.
 - (E) The City Engineer shall be notified of any modifications to an approved storm water management and erosion control plan. The City Engineer may require that the proposed modifications supporting documentation be submitted for approval prior to installation.

35.05 Permitting Procedures, Fees and Requirements

- (F) The City Engineer shall perform any work or operations necessary to bring the site into conformance with the approved storm water management and erosion control plan, and the permittee consents to a special assessment or charge against the property as authorized under subch. VII of ch. 66, Wis. Stats., or to charging such costs against the financial guarantee posted under section 35.11.
 - (G) If so directed by the City Engineer, the permittee shall repair at the permittee's own expense all damage to adjoining municipal facilities and drainage ways caused by runoff, where such damage is caused by activities that are not in compliance with the approved storm water management and erosion control plan.
 - (H) The permittee shall provide property access to the City Engineer for inspecting the property for compliance with the approved storm water management and erosion control plan.
 - (I) Where site development or redevelopment involves changes in direction, increases in peak rate and/or total volume of runoff from a site, the City Engineer may require the permittee to make appropriate legal arrangements with affected property owners concerning the prevention of endangerment to property or public safety.
 - (J) The permittee is subject to the enforcement actions and penalties detailed in section 35.13, if the permittee fails to comply with the terms of this permit.
- (4) Permits issued under this subsection may include conditions established by City Engineer in addition to the requirements needed to meet the performance standards.
- (5) Permits issued under this section shall be valid from the date of issuance through the date the City Engineer notifies the responsible party that all storm water management and erosion control practices have passed the final inspection.

35.06 STORM WATER MANAGEMENT DESIGN CRITERIA

All land disturbing activities governed by this Chapter, shall model the peak flows using TR-55 methods and infiltration rates using SLAMM, p8 or an equivalent programs:

- (1) PEAK DISCHARGE MANAGEMENT DESIGN
 - (A) By design, BMPs shall reduce the 2-, 5-, 10-, 25-, 50- and 100-year 24-hour storm post-developed peak discharges to pre-developed levels.
 - (B) Pre-development conditions shall assume “good hydrologic conditions” for appropriate land covers as identified in TR-55. However, when pre-development land cover is cropland the runoff curve numbers in Table 1 shall be used.

TABLE 1				
Maximum Pre-Development Runoff Curve Numbers for Cropland Areas				
Hydrologic Soil Group	A	B	C	D
Runoff Curve Number	56	70	79	83

- (C) Post-development conditions shall assume “good hydrologic conditions” for appropriate land covers as identified in TR-55.
- (D) The BMP shall be designed to release peak flows at a safe rate for the 2-, 5-, 10-, 25-, 50- and 100-year 24-hour storm events.

35.06 Storm Water Management Design Criteria

- (2) INFILTRATION DESIGN
 - (A) BMPs shall be designed, installed, and maintained to infiltrate runoff to the maximum extent practicable.
 - (B) For residential developments one of the following shall be met:
 1. Post-development infiltration volume shall be at least 90% of the pre-development infiltration volume, based on an average annual rainfall. No more than 1% of the project site is required as an effective infiltration area.
 2. Infiltrate 25% of the post-development runoff from the 2 year -24 hour design storm event. Separate curve numbers for pervious and impervious surfaces shall be used to calculate runoff volumes and not composite curve numbers as defined in TR-55. No more than 1% of the project site is required as an effective infiltration area.
- (3) For non-residential development, including commercial, industrial and institutional development, one of the following shall be met:
 - (A) Post-development infiltration volume shall be at least 60% of the pre-development infiltration volume, based on an average annual rainfall. No more than 2% of the project site is required as an effective infiltration area.
 - (B) Infiltrate 10% of the runoff from the 2 year - 24 hour design storm. Separate curve numbers for pervious and impervious surfaces shall be used to calculate runoff volumes, and not composite curve numbers as defined in TR-55. No more than 2% of the project site is required as an effective infiltration area.
- (4) Before infiltrating runoff, pretreatment shall be required for parking lot runoff and for runoff from new road construction in commercial, industrial and institutional areas that will enter an infiltration system. The pretreatment shall be designed to protect the infiltration system from clogging prior to scheduled maintenance and to protect groundwater quality. Pretreatment options may include, but are not limited to, oil/grease separation, sedimentation, biofiltration, filtration, swales or filter strips.

35.07 STORM WATER MANAGEMENT PLAN

All land disturbing activities that are governed by this Chapter, shall have a storm water management plan. The storm water management plan shall contain, at a minimum, the following information:

- (1) Name, address, and telephone number for the following:
 - (A) Landowner
 - (B) Developer
 - (C) Storm water management designer
 - (D) Contractor responsible for installation of storm water management practices.
 - (E) Responsible party for reporting, monitoring, maintaining and repairing storm water management facilities during construction.
 - (F) Responsible party for reporting, monitoring, maintaining and repairing storm water management facilities post-construction.
- (2) A legal description of the property to be developed and street address if applicable.
- (3) Pre-development site conditions map(s) including:
 - (A) A scaled map with north arrow.
 - (B) A vertical benchmark.
 - (C) The property boundary, right-of-ways and easements.
 - (D) Predominant soil types and hydrologic soil groups.
 - (E) Pre-developed cover type and condition.
 - (F) Watershed boundaries used in hydrology determinations.
 - (G) Existing two foot contour interval or less.

35.07 Storm Water Management Plan

- (H) Topography and drainage patterns, including enough of the contiguous properties to show runoff patterns onto, through, and from the site.
 - (I) Watercourses that may affect or be affected by runoff from the site.
 - (J) Rivers, ponds, streams, wetlands, channels, ditches, and other watercourses on and immediately adjacent to the site.
 - (K) Limits of the 100 year floodplain.
 - (L) Location of wells and wellhead protection areas adjacent to the site.
 - (M) Limits of land disturbing activities.
 - (N) All major assumptions used in developing input parameters shall be clearly stated. The geographic areas used in making the calculations shall be clearly cross-referenced to the required map(s).
- (4) Post-development site conditions map(s) including:
- (A) A scaled map with north arrow.
 - (B) A vertical benchmark.
 - (C) The property boundary, right-of-ways and easements.
 - (D) Predominant soil types and hydrologic soil groups.
 - (E) Pre-developed cover type and condition.
 - (F) Watershed boundaries used in hydrology determinations.
 - (G) Proposed two foot contour interval or less.
 - (H) Topography and drainage patterns, including enough of the contiguous properties to show runoff patterns onto, through, and from the site.
 - (I) Watercourses that may affect or be affected by runoff from the site.
 - (J) Rivers, ponds, streams, wetlands, channels, ditches, and other watercourses on and immediately adjacent to the site.
 - (K) Limits of the 100 year floodplain.
 - (L) Location of wells and wellhead protection areas adjacent to the site.
 - (M) Limits of land disturbing activities.
 - (N) All major assumptions used in developing input parameters shall be clearly stated. The geographic areas used in making the calculations shall be clearly cross-referenced to the required map(s).
- (5) Storm water management map(s) including:
- (A) A scaled map with north arrow.
 - (B) A vertical benchmark.
 - (C) The proposed property boundary, right-of-ways and easements.
 - (D) Proposed two foot contour interval or less.
 - (E) Topography, including enough of the contiguous properties to show runoff patterns onto, through, and from the site.
 - (F) Watercourses that may affect or be affected by runoff from the site.
 - (G) Rivers, ponds, streams, wetlands, channels, ditches, and other watercourses on and immediately adjacent to the site.
 - (H) Limits of the 100 year floodplain.
 - (I) Location of wells and wellhead protection areas adjacent to the site.
 - (J) Limits of land disturbing activities.
 - (K) BMP detail information such as location, storage volume, size, bottom elevation, overflow elevation, outlet structure, top of berm elevation and all other information required to determine that the BMP was adequately sized.
- (6) Hydrology computations as needed to show compliance with performance standards. The computations shall be made for each discharge point in the development, and the geographic areas used in making the calculations shall be clearly cross-referenced to the required map(s).

35.07 Storm Water Management Plan

- (7) Results of investigations of soils and groundwater required for the placement and design of storm water management measures. Detailed drawings including cross-sections and profiles of all permanent storm water conveyance and treatment practices.
- (8) A description and installation schedule for the storm water management practices needed to meet the performance standards.
- (9) A maintenance plan developed for the life of each storm water management practice as stated in Section 35.
- (10) Cost estimates for the construction, operation, and maintenance of each storm water management practice.
- (11) Other information requested in writing by the City Engineer or City Engineer's designee to determine compliance of the proposed storm water management measures with the provisions of this ordinance.
- (12) All site investigations, plans, designs, computations, and drawings shall be certified by a licensed professional engineer to be prepared in accordance with accepted engineering practice and requirements of this ordinance.

35.08 EROSION CONTROL DESIGN CRITERIA

All land disturbing activities that are governed by this Chapter, shall be required to reduce erosion during construction and post-construction:

- (1) Erosion Control During Construction
 - (A) By design, BMPs shall reduce the sediment load in runoff by 80%.
- (2) Post Construction Erosion and Sediment Control
 - (A) For new development, by design, reduce the total suspended solids load by 80%, based on the average annual rainfall, as compared to no runoff management controls.
 - (B) For redevelopment, by design, reduce the total suspended solids load by 40%, based on the average annual rainfall, as compared to no runoff management controls.
 - (C) For in-fill development under 5 acres that occurs within 10 years after the effective date of this ordinance, by design, reduce the total suspended solids load by 40%, based on an average annual rainfall, as compared to no runoff management controls.
 - (D) For in-fill development that occurs 10 or more years after the effective date of this ordinance, by design, reduce the total suspended solids load by 80%, based on an average annual rainfall, as compared to no runoff management controls.
 - (E) Notwithstanding subs. 1. to 4., if the design cannot achieve the applicable total suspended solids reduction specified, the erosion control plan shall include a written and site-specific explanation why that level of reduction is not attained and the total suspended solids load shall be reduced to the maximum extent practicable.
 - (F) Wisconsin Department of Natural Resources has created Conservation Practice Standards which shall be used to design BMPs.

35.09 EROSION CONTROL PLAN REQUIREMENTS

All land disturbing activities that are governed by this Chapter, shall submit a written erosion control plan with accompanying drawings and supporting engineering data which shall contain, at a minimum, the following information:.

- (1) Name, address, and telephone number for the following:
 - (A) Landowner
 - (B) Developer

35.09 Erosion Control Plan Requirements

- (C) Erosion control designer
 - (D) Contractor responsible for installation of erosion control practices
 - (E) Responsible party for reporting, monitoring, maintaining and repairing erosion control measures during construction.
 - (F) Responsible party for reporting, monitoring, maintaining and repairing erosion control measures post-construction.
- (2) A legal description of the property to be developed and street address if applicable.
 - (3) A description and installation schedule for the erosion control practices needed to meet the performance standards.
 - (4) A maintenance plan developed for erosion control practice including the required maintenance activities and maintenance activity schedule.
 - (5) Cost estimates for the construction, operation, and maintenance of each permanent erosion control structure.
 - (6) Other information requested in writing by the City Engineer to determine compliance of the proposed storm water management measures with the provisions of this ordinance.
 - (7) All site investigations, plans, designs, computations, and drawings shall be certified by a licensed professional engineer to be prepared in accordance with accepted engineering practice and requirements of this ordinance.

35.10 MAINTENANCE AGREEMENT

- (1) A maintenance agreement for storm water management practices shall be between the City and the responsible party to provide for maintenance of storm water practices beyond the duration period of the permit. The maintenance agreement shall be filed with the County Register of Deeds as a property deed restriction so that it is binding upon all subsequent owners of the land served by the storm water management practices.
- (2) The maintenance agreement shall contain the following information and provisions:
 - (A) Identification of the storm water facilities and designation of the drainage area served by the facilities.
 - (B) A schedule for regular maintenance of each aspect of the storm water management system consistent with the storm water management plan.
 - (C) Identification of the responsible party(s) for long term maintenance of the storm water management practices identified in the storm water management plan.
 - (D) Requirement that the responsible party(s) shall maintain storm water management practices in accordance with the schedule in par. (b).
 - (E) Authorization for the City Engineer to access the property to conduct inspections of storm water management practices as necessary to ascertain that the practices are being maintained and operated in accordance with the agreement.
 - (F) A requirement of the City Engineer to maintain public records of the results of the site inspections, to inform the party responsible for maintenance of the inspection results, and to specifically indicate any corrective actions required to bring the storm water management practice into proper working condition.
 - (G) A requirement that the party designated under par. c), as responsible for long term maintenance of the storm water management practices, to be notified by the City Engineer of maintenance problems which require correction. The specified corrective actions shall be undertaken within a reasonable time frame as set by the City Engineer.

35.10 Maintenance Agreement

- (H) Authorization of the City Engineer to perform the corrected actions identified in the inspection report if the responsible party designated under par. c) does not make the required corrections in the specified time period. The City Engineer shall enter the amount due on the tax rolls and collect the money as a special assessment against the property pursuant to subchapter VII of Chapter 66, Wis. Stats.

35.11 FINANCIAL GUARANTEE

- (1) The City may require the submittal of a financial guarantee by the landowner, the form and type of which shall be acceptable to the City Engineer. The financial guarantee shall be in an amount determined by the City Engineer to be the estimated cost of construction and the estimated cost of maintenance of the storm water management practices during the period which the designated party in the maintenance agreement has maintenance responsibility. The financial guarantee shall give the City Engineer the authorization to use the funds to complete the storm water management practices if the responsible party defaults or does not properly implement the approved storm water management plan, upon written notice to the responsible party by the City Engineer that the requirements of this ordinance have not been met.
- (2) Conditions for the release of the financial guarantee are as follows:
 - (A) The City Engineer shall release the portion of the financial guarantee established under this section, less any costs incurred by the City Engineer to complete installation of practices, upon submission of "as built plans" by a licensed professional engineer. The City Engineer may make provisions for a partial pro-rata release of the financial guarantee based on the completion of various development stages.
 - (B) The City Engineer shall release the portion of the financial guarantee established under this section to assure maintenance of storm water practices, less any costs incurred by the City Engineer, at such time that the responsibility for practice maintenance is passed on to another entity via an approved maintenance agreement.

35.12 PENALTIES

Any person who shall violate any provision of this Chapter or who shall fail to obtain a permit as required hereunder shall be subject to a penalty as provided in Sec. 25.04 of this municipal code.