

# CITY OF MADISON, WISCONSIN

AN ORDINANCE \_\_\_\_\_

PRESENTED  
REFERRED

February 24, 2015  
BPW, COE  
\_\_\_\_\_

Amending numerous sections of Chapter 37, the Public Stormwater System Including Erosion Control.

Drafted by: Doran Viste

Date: February 17, 2015

SPONSOR: Ald. Skidmore

DRAFTER'S ANALYSIS: This ordinance makes numerous changes to Chapter 37 to update the code requirements. First of all, resurfacing of over 30,000 square feet will now be subject to stormwater management plan requirements (Sec. 37.06(3)(g)). In addition, definitions set forth in Section 37.04 are being updated, with redevelopment being redefined in a more clear way, and a definition of resurfacing being added to make it clearer when such activity is subject to this code. Section 37.06(3)(h) is being created to codify the City's long standing policy regarding piecemeal development. This Section makes it clear that when sites develop in a partial or piecemeal fashion and either cross a specified threshold of potential cumulative impervious area added or add impervious area to an area already subject to an existing stormwater management requirement, that a new stormwater management permit is required. Additionally, the standards for off-site permissible annual aggregate soil loss for exposed areas resulting from sheet and rill erosion are being reduced from 7.5 tons per acre per year to 5 tons per acre per year (Sec. 37.08(4)(b)). This change is made to keep the ordinances up to date with current state law requirements. Section 37.08(4)(e) is being created to allow the City to require additional erosion control measures, in addition to those needed to meet the minimum standards, within the Rock River TMDL area. This will help the City meet its Rock River TMDL reduction mandates as enforced through its WPDES MS4 permit requirements. Section 37.09(3)(a) is also being amended to update and change the sediment control design performance standards, including setting specific standards for redevelopment or resurfacing within the Rock River TMDL area. Moreover, the design standards for runoff control devices in Sec. 37.09(3)(d) are being revised to current standards, while also requiring the City Engineer to approve a specific method for 24-hour storm event modeling. Furthermore, Sec. 37.10 is being amended to require permit applicants to submit concrete management and dewatering plans to the City as well as performing preliminary site investigations where groundwater contamination is suspected. Finally, the permit duration is being changed from 6 months with the City's option to extend, to a permit where the City sets the expiration date based upon the type of work being done (Sec. 37.11(5)). This will help streamline the permit process.

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The Common Council of the City of Madison do hereby ordain as follows:

1. Section 37.04 entitled "Definitions" of the Madison General Ordinances is amended by as follows:

"Redevelopment means any construction, alteration or improvement exceeding four thousand (4,000) square feet of land disturbance performed on sites where the proposed development is replacing older development ~~entire existing site is predominantly developed to commercial, industrial, institutional or multi-family residential uses.~~"

Approved as to form:

2. Section 37.04 entitled "Definitions" of the Madison General Ordinances is amended by creating therein the following:

"Resurfacing means an improvement project on a parking lot where the improvement includes prepping and cleaning the affected area, milling the existing asphalt, adjusting drainage structures and installing a new layer of asphalt over the prepared base."

3. Paragraph 2. of Subdivision (a) entitled "Development" of Subsection (3) entitled "Land-Disturbing Activities Subject to Stormwater Management" of Section 37.06 entitled "Land-Disturbing Activities Subject to Erosion Control and Stormwater Management" of the Madison General Ordinances is amended to read as follows:

"2. Arises from the development of a previously developed or partially developed site(s) and results in a new site(s) condition with a total cumulative addition of twenty thousand (20,000) square feet of new impervious surface, since August 1, 2001, shall meet all the provisions of Sec. 37.09."

4. Subdivision (g) entitled "Resurfacing" of Subsection (3) entitled "Land-Disturbing Activities Subject to Stormwater Management" of Section 37.06 entitled "Land-Disturbing Activities Subject to Erosion Control and Stormwater Management" of the Madison General Ordinances is created to read as follows:

"(g) Resurfacing. A site improvement project that requires zoning approval and has thirty thousand (30,000) square feet or more of parking lot resurfacing as defined in Sec. 37.04 shall meet the stormwater management performance standards of Sec. 37.09(1), (2), (3)(a) and (3)(b)."

5. Subdivision (h) entitled "New Impervious Areas" of Subsection (3) entitled "Land-Disturbing Activities Subject to Stormwater Management" of Section 37.06 entitled "Land-Disturbing Activities Subject to Erosion Control and Stormwater Management" of the Madison General Ordinances is created to read as follows:

"(h) New Impervious Areas. Where a development results in the placement of new impervious surface as a result of conversion of previously undeveloped area to developed area and the site has the potential to exceed 20,000 SF of cumulative added impervious area or the site has an existing stormwater management requirement, a new stormwater management permit is required."

6. Subdivision (b) of Subsection (4) entitled "Erosion Control Performance Standards" of Section 37.08 entitled "Erosion Control Plan Requirements" of the Madison General Ordinances is amended to read as follows:

"(b) Limit total off-site permissible annual aggregate soil loss for exposed areas resulting from sheet and rill erosion to an annual, cumulative rate not to exceed ~~seven and one-half~~ five (7-5) tons per acre per year."

7. Subdivision (e) of Subsection (4) entitled "Erosion Control Performance Standards" of Section 37.08 entitled "Erosion Control Plan Requirements" of the Madison General Ordinances is created to read as follows:

"(e) If the site is noted as being within the Rock River TMDL area, the City of Madison may require additional erosion control measures in addition to those needed to meet the minimum standard of limiting erosion to a rate of five (5) tons per acre per year. The applicant will be made aware of these additional measures either as a condition of permit issuance or as the result of a site inspection performed by the City of Madison."

8. Subdivision (a) entitled "Sediment Control" of Subsection (3) entitled "Stormwater Management Performance Standards" of Section 37.09 entitled "Stormwater Management Report Requirements" of the Madison General Ordinances is amended to read as follows:

"(a) Sediment Control.

1. For development, by design, ~~one of the following methods shall be used:~~

- a. Reduce, to the maximum extent practicable, total suspended solids load leaving the site by eighty percent (80%), based on the average annual rainfall, as compared to no runoff management controls. This ~~method shall~~ requires the use of a continuous model such as SLAMM, P8 or equivalent, and the use of approved grain size distribution curves and rainfall data. These files are managed and maintained by the Wisconsin Department of Natural Resources and are available on its website.

~~No person shall be required to exceed an eighty percent (80%) total suspended solids reduction, for the site as a whole, to meet the requirements of this subdivision. This analysis shall use approved procedures and shall assume no re-suspension of particles. This analysis shall require tracking of the particulate sizes trapped by each device used in series (or treatment train). Serial redundant removal efficiencies shall not be allowed. For example, two (2) sediment traps used in series each being forty percent (40%) effective does not provide an eighty percent (80%) removal efficiency. Rather, as these devices both trap essentially the same particle size the combined efficiency of these two (2) devices used in series remains at forty percent (40%).~~ The analysis needed for this shall use approved procedures and assume no re-suspension of particles. If the applicant proposes to use treatment devices in series, then the analysis shall require the use of a modeling program which provides for tracking of the particulates trapped by each device used in series. If a program tracking particulate distributions is not used, then the Administrative Authority shall not allow the use of serial redundant devices.

- ~~b. Retain soil particles greater than five (5) microns on the site, as measured during a one (1) year 24-hour storm event. This analysis shall use approved procedures and shall assume no re-suspension of particles. This analysis requires tracking of the particulate sizes trapped by each device used in series (or treatment train). Serial redundant removal efficiencies shall not be allowed. For example, two (2) sediment traps used in series each being forty percent (40%) effective does not provide an 80% removal efficiency. Rather, as these devices both trap essentially the same particle size the combined efficiency of these two (2) devices used in series remains at forty percent (40%).~~

2. For redevelopment, by design:

- a. Reduce, to the maximum extent practicable, total suspended solids (TSS) loads leaving the redeveloped site by forty percent (40%), based on average annual rainfall, as compared to no runoff management controls. This shall require the use of a continuous model such as SLAMM, P8 or equivalent, and the use of approved grain size distribution curves and rainfall data. These files are managed and maintained by the Wisconsin Department of Natural Resources and are available on its website.

No person shall be required to exceed a forty percent (40%) total suspended solids reduction, for the site as a whole as compared to no runoff management controls, to meet the requirements of this subdivision except as noted below in Sec. 37.09(3)(a)3. for sites located in the Rock River TMDL watershed. The analysis needed for this shall use approved procedures and assume no re-suspension of particles. If the applicant proposes to use treatment devices in series, then the analysis shall require the use of a modeling program which provides for tracking of the particulates trapped by each device used in series. If a program tracking particulate distributions is not used, then the Administrative Authority shall not allow the use of serial redundant devices.

23. For redevelopment and/or resurfacing by design, one of the following methods shall be used for sites located within the Rock River TMDL:

- a. Reduce, to the maximum extent practicable, total suspended solids (TSS) loads leaving the redeveloped or resurfaced site by eighty percent (80%), based on average annual rainfall, as compared to the existing conditions of the site prior to the proposed redevelopment and/or resurfacing. This shall require the use of a continuous model such as SLAMM, P8 or equivalent, and the use of approved grain size distribution curves and rainfall data. These files are managed and maintained by the Wisconsin Department of Natural Resources and are available on its website. Changes in TSS loading as compared to the existing site are expected to be met from land use changes and stormwater management practices.

~~No person shall be required to exceed~~ This requirement shall be considered met if the eighty percent (80%) reduction requirement is met for the site or all new exposed parking areas reach a sixty percent (60%) total suspended solids reduction, as compared to no controls, for new parking areas to meet the requirements of this subdivision. This The analysis needed for this shall use approved procedures and assume no re-suspension of particles. If the applicant proposes to use treatment devices in series, then the analysis shall require the use of a modeling program which provides for tracking of the particulates trapped by each device used in series. If a program tracking particulate distributions is not used, then the Administrative Authority shall not allow the use of serial redundant devices.

~~b. Retain soil particles greater than twenty (20) microns on the site, as measured during a one (1) year, 24-hour storm event. This analysis shall use approved procedures and shall assume no re-suspension of particles. If the applicant proposes to use treatment devices in series, then the analysis shall require the use of a modeling program which provides for tracking of the particulates trapped by each device used in series. If a program tracking particulate distributions is not used, then the Administrative Authority shall not allow the use of serial redundant devices."~~

9. Subdivision (d) entitled "Runoff Rate Control – Design Standards" of Subsection (3) entitled "Stormwater Management Performance Standards" of Section 37.09 entitled "Stormwater Management Report Requirements" of the Madison General Ordinances is amended to read as follows:

"(d) Runoff Rate Control - Design Standards. All stormwater facilities shall be designed, installed and maintained to effectively accomplish the following:

1. Maintain predevelopment peak runoff rates for the 1-year, 24-hour storm event (~~2.495~~ inches over 24 hours duration using the method approved by the City Engineer).
2. Maintain predevelopment peak runoff rates for the 2-year, 24-hour storm event (~~2.849~~ inches over 24 hours duration using the method approved by the City Engineer).
3. Maintain predevelopment peak runoff rates for the 10-year, 24-hour storm event (~~4.092~~ inches over 24 hours duration using the method approved by the City Engineer.)
4. Safely pass the 100-year, 24-hour storm event (~~6.669~~ inches over 24 hours ~~24-hour~~ duration using the method approved by the City Engineer).
5. Lands that are to be developed in the Upper or Lower Badger Mill Creek Watersheds are required to maintain predevelopment peak runoff rates for the 100-year, 24-hour storm event (~~6.669~~ inches over 24 hours duration using the method approved by the City Engineer). This is required in addition to the requirements of Paragraphs 1-4. Further, the applicant shall be aware that development in both of these watersheds is subject to City of Madison impact fees notwithstanding any provision set forth herein.
6. Flood Prone Watersheds.
  - a. Lands that are known to the City Engineer to be within watersheds experiencing significant flooding shall provide detention volume equal to the known surcharge volume in the watershed (during a 25-year storm event) multiplied by the proposed development's impervious area and divided by the total impervious area of the watershed as determined by the City of Madison Stormwater Utility Records. This is intended to create a proportional allocation of the excess flood volume by impervious area within the watershed. Any redevelopment shall provide detention commensurate with the proportion of the flooding problem. For purposes of this calculation, timing and routing issues of stormwater shall be ignored.
  - b. For the University/Midvale watershed (also known as watershed ME01), the applicant shall provide 0.06 acre-ft of detention per acre of proposed impervious area.
7. Discharge Off-Site to Other Private Lands. When a site being reviewed by the Administrative Authority proposes to continue existing drainage patterns and discharge stormwater runoff onto property neither under the applicant's control (via ownership, easement or agreement) nor onto publicly owned property, the Administrative Authority shall require the applicant to provide documentation that they have made significant efforts to obtain the right to discharge this stormwater onto this property. If no right can be obtained, the applicant shall be required to mitigate the increased volume of discharge on their property prior to making this discharge. Mitigation shall consist of implementation of a stormwater practice that shall match the

existing volumetric discharges from the applicant's property to other lands not under their control in storm events including the 1, 2, 5 & 10-year storm events."

10. Subsection (2) entitled "Concrete Management" of Section 37.10 entitled "Standards and Specifications" of the Madison General Ordinances is created to read as follows:

"(2) Concrete Management. For plan approval and issuance of a permit the applicant shall provide a plan for Engineering review and approval that documents methods to control and limit concrete waste material from leaving the site."

11. Subsection (3) entitled "Dewatering Plan" of Section 37.10 entitled "Standards and Specifications" of the Madison General Ordinances is created to read as follows:

"(3) Dewatering Plan. For plan approval and issuance of a permit the applicant shall provide a plan for Engineering review and approval that documents the methods to control sediment from being discharged to the environment as part of any pumping (utility or site dewatering) to be done as part of this application.

If this pumping plan exceeds seventy (70) gallons per minute (GPM) the applicant shall provide documentation of the WDNR dewatering and/or point well permits. Additionally, if Engineering staff suspects site contamination, based on documented reports on file with the WDNR, the applicant shall provide testing results documenting the condition of groundwater on the site. If contamination is found no plan approval or issuance of a permit can be granted until and unless the applicant documents WDNR permits for discharge of contaminated groundwater to either the sanitary or storm sewer systems. Once WDNR approval is granted additional permits may be required from the Madison Metropolitan Sewerage District, City/County Health and City Engineering."

12. Subsection (4) entitled "Groundwater Contamination" of Section 37.10 entitled "Standards and Specifications" of the Madison General Ordinances is created to read as follows:

"(4) Groundwater Contamination. For projects in areas where a review of WDNR records indicate that possible groundwater contamination exists, the applicant shall be required to complete a site investigation including borings and groundwater testing prior to plan approval."

13. Current Subsections (2) and (3) of Section 37.10 entitled "Standards and Specifications" of the Madison General Ordinances are renumbered to Subsections (5) and (6).

14. Subsection (5) entitled "Permit Duration" of Section 37.11 entitled "Application Fees and Issuance of Permits" of the Madison General Ordinances is amended to read as follows:

"(5) Permit Duration. ~~Permits issued under this ordinance shall be valid for a period of six (6) months from the date of issuance. The Administrative Authority shall determine the expiration date of the permit based on the proposed land disturbance work, project schedule, site conditions, or other relevant erosion control considerations. The Administrative Authority is authorized to extend the expiration date of the permit and/or. The Administrative Authority is authorized to require modification of the plans to prevent any increase in sedimentation, erosion or runoff resulting from any extension. If the Administrative Authority is not contacted with a request from the applicant to extend/modify a permit prior to the expiration of that permit, the applicant shall be required to pay a new fifty dollars (\$50.00) renewal base fee to reinstate the permit.~~