



Watershed Management Ordinance: Summary

The Metropolitan Water Reclamation District of Greater Chicago (MWRD) began developing the Watershed Management Ordinance (WMO) in 2007 pursuant to its stormwater management authority granted by the Illinois General Assembly. The regulatory scope of the ordinance includes all of Cook County, excluding the City of Chicago. The purpose of the WMO is to abate the negative impacts of stormwater runoff (e.g. flooding, erosion, sedimentation, etc.) from new developments or redevelopments.

Erosion and Sediment Control

Watershed Management Ordinance Article 4

Erosion is the process of soil particle detachment from a land surface by the force of wind, water, or gravity. When the soil particles have been detached, i.e., eroded, the suspended soil particles are in transport and are then referred to as sediment. Sedimentation occurs when the velocity of wind or water is slowed sufficiently enough to allow suspended sediment to settle. Larger particles, such as gravel and sand, settle more rapidly than finer silt and clay particles.

The accumulation of sediment reduces the stormwater conveyance and storage functions of streams, wetlands, storm sewers, detention basins, highway drainage ditches, floodplains, and navigable water channels. These impacts can result in more frequent and/or severe flooding. Also, sedimentation can impact the storage capacity of municipal and industrial water supply reservoirs and increase costs due to the need to filter muddy water in

preparation for domestic or industrial use. Excessive sediment in water bodies can be detrimental to aquatic life since it interferes with respiration, growth, reproduction, oxygen exchange and photosynthesis in plants.

All developments must meet the WMO erosion and sediment control requirements. Erosion control includes measures to prevent soil from being removed from the earth's surface – planting vegetation, mulching, hydro-mulching, and installing geotextile fabrics. Sediment control measures – silt fences, fiber rolls, sediment traps, and wattles – prevent the transport of soil once it has been removed. The WMO requires that erosion and sediment control practices be included in the initial site plan of a development. Design guidelines are provided in the WMO Technical Guidance Manual.

Stormwater Management Requirements

Watershed Management Ordinance Article 5

Stormwater runoff is rainwater or melting snow that flows off a property. Stormwater runoff can be controlled by managing that water on site. Controlling stormwater runoff from development sites minimizes the potential for negative impacts on adjacent and downstream properties.

The WMO restricts developments from:

1. Increasing flood elevations or decreasing flood conveyance capacity upstream or downstream

2. Causing any increase in flood velocity or impairment of the hydrologic and hydraulic functions of streams

The WMO includes several site development and stormwater management standards to meet the above requirements. These include runoff control, volume control, and detention storage requirements. The runoff requirements contain design standards and other restrictions on where runoff is allowed to flow. For example, structures that drain water (e.g. channels, ditches, wetlands) cannot increase flood and erosion damages downstream.

Volume control requirements compel developments to capture the first inch of runoff from an impervious surface area. The first inch of runoff contains the most pollutants (e.g. oils, dust, particulates, fertilizer, organic matter). Capturing the “first flush” of contaminants helps protect the health of local waterways. Where onsite volume control is technically infeasible and documented, the WMO allows offsite volume control to be traded within the same watershed planning area.

Storage requirements determine how fast the water can be discharged from a development site, called the allowable release rate. Site runoff storage facilities – such as a detention pond – control the rate at which water is released from the site under developed conditions.

The release rates were phased in over a five-year period. For the first five years after the WMO effective date, developments were allowed a release rate of 0.30 cubic feet per second per acre (cfs/acre) for the 100-year storm event (a storm that has a one percent chance of occurring every year). The impacts of allowable release rates on future flooding conditions were studied and optimal Watershed Specific Release Rates were determined for each watershed planning area. These Watershed Specific Release Rates will become effective on January 1, 2020.

Rate Release Table

Watershed Planning Area	Gross Allowable Release Rate
Poplar Creek Watershed	0.25 cfs/acre
Upper Salt Creek Watershed	0.20 cfs/acre
Lower Des Plaines Watershed	0.20 cfs/acre
North Branch Watershed	0.30 cfs/acre
Calumet Sag Channel Watershed	0.30 cfs/acre
Little Calumet River Watershed	0.25 cfs/acre

The release rates determine the amount of the detention needed on each site. The more impervious surface on the site, the more detention is required to meet the prescribed release rates. Where onsite detention is technically infeasible and documented, the WMO does permit offsite detention within the same watershed planning area. The storage requirement provision of the WMO helps prevent flooding and erosion in downstream communities.

Runoff, volume control, and storage requirements are only applicable to properties of certain sizes and types. These are summarized in the table at the end of this document.

Requirements for Resource Protection Areas

Watershed Management Ordinance Article 6

Flood protection areas include floodplains, wetlands, wetland buffers, and riparian environments. The WMO

requires that development in the floodplain cannot increase flood elevations or decrease conveyance capacity on other property. Developments also cannot increase flood velocity or impair hydrologic function.

All new buildings in the floodplain must be elevated two feet above the 100-year flood (i.e. a flood that has a one percent chance of occurring a year). Compensatory storage is required for any fill, structure, or other material above the regulatory floodplain at a ratio of 1.1 to 1.0. Compensatory storage offsets any flood storage capacity lost when fill or structures are placed in the floodplain.

The WMO has a variety of requirements that protect wetland and riparian areas, both of which attenuate the impacts of flooding and erosion. The WMO requires that developers must provide the MWRD with the boundaries, extent, function, value, and quality of all wetlands affected by the development. Impacts to wetlands are discouraged by the WMO, but mitigation is allowed in some cases. The MWRD's preferred method for wetland mitigation, as written in the WMO, is payment to a wetland mitigation bank. The WMO encourages existing riparian functions to be protected. Mitigation practices such as streambank stabilization and native vegetation planting are required.

Other Provisions of the Ordinance

Watershed Management Permits are required for developments in flood protection areas or for any development above 0.5 acres (a complete list of developments that require a permit can be found in WMO Article 2). To receive a permit, developers must engage a professional engineer to prepare a plan and submit design and engineering documents demonstrating compliance with the provisions of the WMO (see WMO Article 3).

Regular maintenance ensures runoff storage facilities and other stormwater facilities function as designed in perpetuity. The WMO requires all developments have a maintenance plan (part of the Watershed Management

Permit). The local government authority has the ultimate responsibility for maintenance (see WMO Article 9).

The WMO regulates, permits, and enforces sewer construction (see WMO Article 7) and Infiltration/Inflow within the separate sewer area (see Article 8).

The WMO gives the MWRD the authority to inspect developments to ensure compliance with the WMO (see Article 10). Authorized municipalities may issue Watershed Management Permits if the municipality agrees to conform with requirements of the WMO (see Article 14). The MWRD can enact enforcement measures if an inspection reveals a violation or if a development otherwise does not comply with other provisions of the ordinance. The MWRD can assess fines, place a stop-work order, or revoke a Watershed Management Permit of any development in violation of the ordinance (see Article 12).

The MWRD Board of Commissioners can grant variances to the requirements of the WMO; however, the variance must honor the general purpose and intent of the ordinance. The WMO will require that notice is given to all neighbors of a certain distance from the development (see Article 11).

Developments subject to the WMO can appeal a Watershed Management Permit, a denial of a variance, or a stop-work order. The appellant must first appear before the Director of Engineering. If the Director of Engineering denies the first appeal, the appellant can then appeal to the Board of Commissioners (see Article 13).

Conclusion

A strong Watershed Management Ordinance will help prevent future developments and redevelopments from adding to flooding problems for downstream communities. In its current form, the WMO brings Cook County in step with all surrounding counties – Lake, DuPage, Will, McHenry, and Kane.

Summary of Site Stormwater Management Requirements ^{1,2}

Development Type	§502	§503	§504
(See Appendix A for definitions)	Runoff Requirements	Volume Control Requirements	Detention Requirements
Single-Family Home	Exempt	Exempt	Exempt
Residential Subdivision on property holdings	≥ 1 acre	≥ 1 acre	≥ 5 acres
Multi-Family Residential on property holdings	≥ 0.5 acre	≥ 0.5 acre	≥ 3 acres ‡
Non-Residential on property holdings	≥ 0.5 acre	≥ 0.5 acre	≥ 3 acres ‡
Open Space on property holdings	≥ 0.5 acre	Not applicable	Not applicable
Right-of-Way when new impervious area	≥ 1 acre	≥ 1 acre †	≥ 1 acre †

¹ Stormwater management requirements do not apply to **demolition** or **maintenance activities**.

² Requirements are applicable when a **Watershed Management Permit** is required under §201 of this **Ordinance**.

† Where practicable.

‡ Starting the effective date of this **Ordinance**, any **new development** within the **property holdings** that totals either individually or in the aggregate to greater than or equal to **one half** (0.5) of an acre.



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