

CHAPTER 50

STORM WATER MANAGEMENT

50.01 PURPOSE AND INTENT.

The purpose of this ordinance is to set forth storm water requirements and criteria which will prevent and control water pollution, and diminish the threats to public health, safety, welfare, and aquatic life due to runoff of storm water from development or redevelopment.

The Village of Allouez recognizes that the preferred method of addressing storm water management problems and needs is through the preparation of comprehensive storm water management plans for logical subwatershed areas which are designed to meet the purpose and intent of this ordinance. Accordingly, the standards for onsite storm water management set forth in Section 50.07 do not apply in areas where such plans have been prepared and approved by the Village of Allouez. In those areas for which approved storm water management plans have been prepared, all land development activities will include best management practices set forth in those approved storm water management plans. It is the general intent of the Village of Allouez to achieve its purpose through managing long-term, construction site erosion and post-construction storm water discharges from land development activities; and providing options for developing storm water management requirements including application of generic requirements in this ordinance on a site-by-site basis in areas for which no approved storm water management plan exists and implementation of best management practices set forth in detailed storm water management plans approved by the Village.

50.02 AUTHORITY.

The Village of Allouez under the authority granted by s. 61.354 Wis. Stats. adopts this ordinance. Combined, Chapter 53 and this ordinance supersede all conflicting and contradictory storm water management regulations previously enacted under s. 61.35, Wis. Stats. Except as specifically provided for in s.61.354 Wis. Stats., s.61.35, Wis. Stats. applies to this ordinance and to any amendments to this ordinance.

The provisions of this ordinance are deemed not to limit any other lawful regulatory powers of the same governing body.

The Village of Allouez hereby designates the Director of Public Works to administer and enforce the provisions of this ordinance.

The requirements of this ordinance do not preempt more stringent storm water management requirements that may be imposed by WPDES Storm Water Permits issued by the Department of Natural Resources under s. 283.33 Stats.

50.03 FINDINGS OF FACT.

- (1) The Village of Allouez finds that uncontrolled storm water runoff from land development activity has a significant impact upon water resources and the health, safety, and general

welfare of the community, and diminishes the public enjoyment and use of natural resources. Specifically, un-controlled storm water runoff can:

- (a) degrade physical stream habitat by increasing streambank erosion, increasing streambed scour, diminishing groundwater recharge, and diminishing stream base flows;
- (b) diminish the capacity of lakes and streams to support fish, aquatic life, recreational, and water supply uses by increasing the export of nutrients and other urban pollutants;
- (c) alter wetland communities by changing wetland hydrology and by increasing pollutant loads;
- (d) reduce the quality of groundwater by increasing pollutant loading;
- (e) threaten public health, safety, property, and general welfare by overtaxing storm sewers, drainageways, and other minor drainage facilities;
- (f) threaten public health, safety, property, and general welfare by increasing major flood peaks and volumes; and
- (g) undermine flood plain management efforts by increasing the incidence and levels of flooding.

50.04 DEFINITIONS.

Best management practice (BMP): means structural or non-structural measures, practices, techniques or devices employed to avoid or minimize soil, sediment or pollutants carried in runoff to the MS4 or waters of the state.

Business day: means a day the Village Hall is routinely and customarily open for business.

Cease and desist order: means a court-issued order to halt land disturbing construction activity that is being conducted without the required permit.

Common plan of development or sale: means a development or sale where multiple separate and distinct land disturbing construction activities may be taking place at different times on different schedules but under one plan. A common plan of development or sale includes, but is not limited to, subdivision plats, certified survey maps, and other developments.

Construction site: means an area upon which one or more land disturbing construction activities occur, including areas that are part of a larger common plan of development or sale.

Critical duration storm: that storm that produces the highest peak rate of runoff. To determine the critical duration storm a series of rainfall depths and durations are run in an iterative process until the highest peak is found.

Design storm: means a hypothetical discrete rainstorm characterized

by a specific duration, temporal distribution, rainfall intensity, return frequency, and total depth of rainfall. The TR-55, Type II, 24-hour design storms for the Village of Allouez are: 1-year, 2.2 inches; 2-year, 2.5 inches; 5-year, 3.2 inches; 10-year, 3.7 inches; 25-year, 4.3 inches; 50-year, 4.8 inches; and 100-year, 5.1 inches.

Development: means residential, commercial, industrial, institutional, or other land uses and associated roads.

Division of land: means the creation from one or more parcels or building sites of additional parcels or building sites where such creation occurs at one time or through the successive partition within a 5 year period.

Drainage Easement: a legal agreement to allow water to flow across a piece of property. The easement establishes specific requirements for activities that can and can not take place in the easement zone.

Erosion: means the process by which the land's surface is worn away by the action of wind, water, ice or gravity.

Fee in lieu: a payment of money to the Village of Allouez in place of meeting all or part of the storm water performance standards required by Chapter 53 or this ordinance.

Financial guarantee: means a performance bond, maintenance bond, surety bond, irrevocable letter of credit, or similar guarantees submitted to the Public Works Director by the responsible party to assure that requirements of the ordinance are carried out in compliance with the storm water management plan.

Irrevocable letter of credit: an agreement with a bank or other institution to pay money or extend credit to honor the terms of the permit with the Village of Allouez.

Impervious surface: means an area that releases as runoff all or a large portion of the precipitation that falls on it, except for frozen soil. Rooftops, sidewalks, driveways, parking lots and streets are examples of areas that typically are impervious. Gravel surfaces are considered impervious, unless specifically designed to encourage infiltration.

Infiltration: means the entry of precipitation or runoff into or through the soil.

Land development activity: any activity which changes the volume or peak flow discharge rate of rainfall runoff from the land surface, or means the construction of buildings; roads; parking lots; paved storage areas; and similar facilities, excluding agricultural land use.

Land disturbing construction activity (or disturbance): means any man-made alteration of the land surface resulting in a change in the topography or existing vegetative or non-vegetative soil cover, that may result in runoff and lead to an increase in soil erosion and movement of sediment into the MS4 or waters of the state. Land disturbing construction activity includes clearing and grubbing, demolition, excavating, pit trench dewatering, filling and grading activities, and soil stockpiling.

Local municipality: a town, county, village, or city.

Low flow channel: a small channel located within a waterway used to concentrate flow during small storms. The purpose of a low flow channel is to maintain adequate water depth for aquatic organisms and needed scour velocities to prevent sediment buildup.

Maintenance agreement: a legal document that is filed with the Brown County Register of Deeds as a property deed restriction and which provides for long-term maintenance of storm water management and best management practices.

Maintenance Bond: a bond which guarantees that the permit holder will perform needed maintenance outlined in the permit. The bond protects the Village against loss due to the inability or refusal of the permit holder to perform to the conditions of the permit.

Maximum extent practicable (MEP): means a level of implementing best management practices in order to achieve a performance standard specified in this ordinance which takes into account the best available technology, cost effectiveness and other competing issues such as human safety and welfare, endangered and threatened resources, historic properties and geographic features. MEP allows flexibility in the way to meet the performance standards and may vary based on the performance standard and site conditions.

Major drainage system: a drainage system of open channels and overland flow paths that carry storm water during large rainfall events, typically with greater than a 10-year recurrence interval.

Minor drainage system: those components of the drainage system designed to carry small rainstorms. The minor drainage system is typically made up of roadside ditches and storm sewers.

Non-structural measure: a practice, technique, or measure to reduce the volume, peak flow rate, or pollutants in storm water that does not require the design or installation of fixed storm water management facilities.

Off-site: means located outside the property boundary described in the permit application.

On-Site: means located within the property boundary described in the permit application.

Performance Bond: a bond, which guarantees that the permit holder will perform to the terms of the agreement. The bond protects the Village against loss due to the inability or refusal of the permit holder to perform to the conditions of the permit.

Performance security: a performance bond, maintenance bond, surety bond, irrevocable letter of credit, or similar guarantees submitted to the Director of Public Works by the permit holder to assure that requirements of the ordinance are carried out in compliance with the storm water management plan.

Performance standard: means a narrative or measurable number specifying the minimum acceptable outcome for a facility or practice.

Permit: means a written authorization made by the Public Works Director to the applicant to conduct land disturbing construction activity or to discharge post-construction runoff to the MS4 or waters of the state.

Pervious surface: means an area that releases as runoff a small portion of the precipitation that falls on it. Lawns, gardens, parks, forests or other similar vegetated areas are examples of surfaces that typically are pervious.

Pollutant: has the meaning given in s. 283.01(13), Wis. Stats.

Pollution: has the meaning given in s. 281.01(10), Wis. Stats.

Post-construction site: means a construction site following the completion of land disturbing construction activity and final site stabilization.

Post-development: means the extent and distribution of land cover types present after the completion of land disturbing construction activity and final stabilization.

Pre-development: means the extent and distribution of land cover types present before the initiation of land disturbing construction activity, assuming that all land uses prior to development activity are managed in an environmentally sound manner.

Preventive action limit: has the meaning given in s. NR 140.05(17), Wis. Adm. Code.

Responsible party: means any entity holding fee title to the property or other person contracted or obligated by other agreement to implement and maintain post-construction storm water BMPs.

Runoff: means storm water or precipitation including rain, snow or ice melt or similar water that moves on the land surface via sheet or channelized flow.

Site: means the entire area included in the legal description of the land on which the land disturbing construction activity occurred.

Site restriction: any physical characteristic which limits the use of a best management practice as prescribed in the latest edition of Technical Standards identified, developed or disseminated by the Wisconsin Department of Natural Resources under subchapter V of chapter NR 151, Wis. Adm. Code.

Stop work order: means an order issued by the Public Works Director which requires that all construction activity on the site be stopped.

Storm water management plan: means a comprehensive plan designed to reduce the discharge of pollutants from storm water after the site has undergone final stabilization following completion of the construction activity.

Structural measure: source area practices, conveyance measures, and end-of-pipe treatment that are designed to control storm water runoff pollutant loads, discharge volumes, and peak flow discharge

rates.

Surety Bond: a guaranty provided by a bonding company to pay the Village for loss due to the inability or refusal of the permit holder to perform to the conditions of the permit.

Technical standard: means a document that specifies design, predicted performance and operation and maintenance specifications for a material, device or method.

TR-55: means the United States Department of Agriculture, Natural Resources Conservation Service (previously Soil Conservation Service), Urban Hydrology for Small Watersheds, Second Edition, Technical Release 55, June 1986.

Type II distribution: means a rainfall type curve as established in the "United States Department of Agriculture, Soil Conservation Service, Technical Paper 149, published 1973". The Type II curve is applicable to all of Wisconsin and represents the most intense storm pattern.

Waters of the state: has the meaning given in s. 281.01 (18), Wis. Stats.

Wisconsin Pollution Discharge Elimination System (WPDES) Storm Water Permit: a permit issued by the Wisconsin Department of Natural Resources under s. 283.33 Stats. that authorizes the point source discharge of storm water to waters of the State.

50.05 APPLICABILITY AND JURISDICTION.

A. Applicability.

- (1) Where not otherwise limited by law, this ordinance applies to all post-construction sites, unless the site is otherwise exempt under paragraph (2).
- (2) A post-construction site that meets any of the criteria in this paragraph is exempt from the requirements of this ordinance.
 - (a) 1- and 2-family residential dwellings that are not part of a larger common plan of development or sale and that result in less than 1 acre of disturbance.
- (3) Notwithstanding the applicability requirements in paragraph (1), this ordinance applies to post-construction sites of any size that, in the opinion of the Public Works Director, are likely to result in runoff that exceeds the safe capacity of the existing drainage facilities or receiving body of water, that may cause excessive site erosion, that increases water pollution by scouring or the transportation of particulate matter, or that endangers property or public safety.

B. Jurisdiction.

This ordinance applies to post construction sites within the boundaries and jurisdiction of the Village of Allouez.

C. Exclusions.

This ordinance is not applicable to activities conducted by a state agency, as defined under s. 227.01 (1), Wis. Stats., but also including the office of district attorney, which is subject to the state plan promulgated or a memorandum of understanding entered into under s. 281.33 (2), Wis. Stats.

50.06 DESIGN CRITERIA, STANDARDS AND SPECIFICATIONS.

Unless the Director of Public Works gives prior authorization, the following methods shall be used for designing best management practices and drainage systems to meet the requirements of Chapter 53 and this ordinance:

All hydrologic and hydraulic design calculations for storm water storage or detention facilities shall be based on the principles of the SCS curve method document entitled "Urban Hydrology for Small Watersheds" (TR-55) or other methods acceptable to the Director of Public Works. Computer models that may be used include:

- (a) U. S. Army Corps of Engineers HEC-1 or HEC-HMS.
- (b) Natural Resources Conservation Service TR-20.
- (c) Natural Resources Conservation Service TR-55.
- (d) Illinois State Water Survey ILLUDAS.
- (e) U. S. EPA's SWMM

For the design of stormwater drainage systems, including storm sewers or open ditches, either the SCS curve method or the rational method may be used. The rational method can only be used for watersheds less than 200-acres in size.

50.07 STORM WATER MANAGEMENT STANDARDS.

A. Drainage System Requirements.

All land development activities subject to this ordinance shall satisfy the following drainage system requirements:

- (1) A drainage system shall be designed and constructed by the permittee to provide for proper drainage of the development site and the drainage area of which it is a part.
- (2) Lots shall be laid out so as to provide positive drainage away from all buildings, and individual lot drainage shall be coordinated with the general storm drainage pattern for the area.
- (3) Any storm water drainage system will be separate and independent of any sanitary sewer system. Storm sewers, where utilized, shall be designed in accordance with all governmental regulations, and a copy of design computations for engineering capacities shall accompany plans submitted by the petitioners engineer for the final plat.

- (4) Storm water drainage systems shall be designed to utilize the natural drainage and storage capabilities of the site to the fullest extent practicable. Storm water drainage systems shall be designed to provide an economical gravity flow drainage system.
- (5) Storm water drainage systems shall be designed to utilize the collector and land access streets as open runoff channels during major storm events without flooding adjoining building sites. The streets will be supplementary to the minor storm water drainage system.
- (6) Bridges and Culverts. All new and replacement culverts and bridges over waterways shall be designed so as to accommodate, according to the categories listed below, the designated flood event without over topping the related roadway or railway track:
 - (a) Minor and collector streets used or intended to be used primarily for access to abutting properties: a 10-year recurrence interval flood discharge.
 - (b) Arterial streets and highways, other than freeways and expressways, used or intended to be used primarily to carry heavy volumes of traffic: a 50-year recurrence interval flood discharge.
 - (c) Freeway and expressway: a 100-year recurrence interval flood discharge.
 - (d) Railways: a 100-year recurrence interval flood discharge.

The depth of flow over the top of minor, collector, and arterial streets and highways shall not exceed six inches during the 100-year recurrence interval flood discharge.

Bridges and culverts shall be designed to facilitate fish passage through elimination of hydraulic drops, maintenance of low flow channels, and minimization of excess stream enclosures.

- (7) Street Drainage. All streets shall be provided with an adequate storm drainage system. The street storm drainage system shall serve as the minor drainage system and shall be designed to carry street, adjacent land and building storm water drainage. Storm water shall not be permitted to be run into the sanitary sewer system within the proposed subdivision. In order to provide an acceptable level of access to property and traffic service, the drainage system shall be designed to provide two clear lanes of moving traffic on arterial streets and one 10-foot lane for moving traffic on collector and land access streets during the 10-year critical duration storm. Temporary accumulations of storm runoff from ponding or flowing water, in or near minor system components, shall be permitted during events beyond the ten year providing such accumulations do not encroach on any traffic lane of any collector or arterial street, nor be more than 6-inches deep as measured at the centerline of any local street.
- (8) Off-Street Drainage. The design of the off-street major

drainage system shall include the entire watershed affecting the land division and shall be extended to a watercourse or ditch adequate to receive the storm drainage. When the drainage system is outside of the street right-of-way, the developer shall make provisions for providing an easement pursuant to Subsection 50.07 B. of this ordinance, to provide for the future maintenance of said system.

- (9) Drainage Piping Systems. Unless otherwise approved by the Director of Public Works, all drainage piping of 12 inches diameter and greater in street rights-of-way shall be constructed according to the Village Engineering Specifications. Piping materials outside of rights-of-way shall be subject to approval of the Village.
- (10) Agricultural Drains. Agricultural drain tiles which are disturbed during construction shall be restored, reconnected or connected to public storm drainage facilities.
- (11) Open Channel Systems. Where open channels are utilized in either the minor or major drainage system, they shall be designed so as to minimize maintenance requirements. Drainage easements, in lieu of dedications, shall be utilized to accommodate open channels provided with adequate access by the Village for maintenance of drainage capacity. Side slopes shall not be steeper than a three-to-one slope unless approved by the Director of Public Works.

Major drainageways should be designed with low flow channels to maintain increased stream velocity to reduce sedimentation in the stream channels and accompanying nuisance vegetation.

- (12) Protection of Drainage Systems. The permittee shall adequately protect all ditches to the satisfaction of the Village Public Works Director. Open channels shall be seeded, sodded or rip-rapped based upon criteria and considerations contained within Technical Standards identified, developed or disseminated by the Wisconsin Department of Natural Resources under subchapter V of chapter NR 151, Wis. Adm. Code.

B. Drainage Easements.

Where a land division is traversed by a watercourse, drainageway, channel or stream:

- (1) There shall be provided a storm water easement or drainage right-of-way conforming substantially to the lines of such watercourse and such further width or construction, or both, as will be adequate for the purpose and as may be necessary to comply with this Section; or
- (2) The watercourse, drainageway, channel or stream may be relocated in such a manner that the maintenance of adequate drainage will be assured. When channels are relocated, a storm water easement or drainage right-of-way conforming to the lines of the relocated watercourse, and such further width for construction, or both, will be provided. For state designated navigable streams, such relocations shall only be in accord with a permit issued by the Wisconsin Department of Natural

Resources; or

- (3) Wherever possible, drainage shall be maintained in an easement by an open channel with vegetated banks and adequate width for maximum potential volume flow. In all cases, such easements shall be wide enough to convey the 10-year critical duration storm for the minor drainage system, and the 100-year critical duration storm for the major drainage system. The drainage easement under all circumstances shall not be less than thirty (30) feet in width.

C. Storm Water Discharge Quantity and Quality.

Unless otherwise provided for in this ordinance, all land development activities subject to this ordinance shall establish on-site best management practices in accordance with the Village's Construction Site Erosion Control Ordinance, Chapter 52, and the Village's Post-Construction Storm Water Management Ordinance, Chapter 53.

D. Exceptions.

The requirements for on-site best management practices established in Sections 50.07 C. are not applicable in areas which are determined by the Director of Public Works to be covered by an approved erosion control plan and/or storm water management plan, which was developed and approved as an alternative planning approach to carrying out on-site measures consistent with the purpose and intent of this ordinance. In such cases, the recommendations of the approved erosion control plan and/or storm water management plan shall be applied either through the installation of best management practices recommended to be included on the development site being considered and/or through the payment of a fee as set forth in Section 50.07 E. These minimum requirements may also be waived in whole or in part by the Village Board upon written request of the applicant, provided that at least one of the following conditions applies:

- (1) Provisions are made to manage storm water by an off-site facility. This requires that the off-site facility is in place, is designed and adequately sized to provide a level of storm water control that is equal to or greater than that which would be afforded by application of the standards of this ordinance.
- (2) The Director of Public Works finds that meeting the minimum on-site management requirements is infeasible due to space or site restrictions.

E. Fee In Lieu Of On-Site Best Management Practices.

Where the Village waives all or part of the minimum on-site storm water management requirements under Section 50.07 C., or where the waiver is based on the provision of adequate storm water facilities provided by the Village of Allouez downstream of the proposed development, the applicant shall be required

to pay a fee in an amount determined in negotiation with the Village Board. In setting the fee for land development projects, the Village Board shall consider an equitable distribution of the cost of land, engineering design, construction, and maintenance as set forth in Section 66.55, Wisconsin Statutes.

F. General Considerations For On-Site and Off-Site Best Management Practices.

The following considerations shall be observed in managing storm water runoff.

- (1) Natural topography and land cover features such as natural swales, natural stream channels, flood plain, natural depressions, native soil infiltrating capacity, and natural groundwater recharge areas shall be preserved and used, to the extent possible, to meet the requirements of this section.
- (2) Emergency overland flow for all storm water facilities shall be considered to prevent exceeding the capacity of downstream drainage facilities and prevent endangerment of downstream property or public safety.

50.08 PERMIT REQUIREMENTS AND PROCEDURES.

A. Permit Required.

No land owner or land operator may undertake a land development activity without obtaining a permit from the Village of Allouez under Village Ordinances 52 and 53 prior to commencing the proposed activity.

Refer to those ordinances for the requirements of the permits.

50.15 SEVERABILITY.

If any section, clause, provision or portion of this ordinance is judged unconstitutional or invalid by a court of competent jurisdiction, the remainder of the ordinance shall remain in force and not be affected by such judgment.