

WASHINGTON COUNTY CODE

CHAPTER 17

EROSION CONTROL AND STORMWATER MANAGEMENT

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CHAPTER 17

EROSION CONTROL AND STORMWATER MANAGEMENT

17.01 AUTHORITY. (1) This chapter is adopted by the County Board under the authority granted by §59.693, Wis. Stats. This chapter supersedes all conflicting and contradictory regulations previously enacted by Washington County relating to stormwater management and construction site erosion control.

(2)(AM 03-42)(AM 08-10) Under the authority of §92.07(15), Wis. Stats., the County Board hereby designates the Land Conservation Committee, through the Land and Water Conservation Division of the Planning and Parks Department, to administer and enforce the provisions of this chapter. Enforcement provisions are described further under sec. 17.14 of this chapter.

17.02 FINDINGS OF FACT. (1)(AM 08-10) The County Board finds that construction site erosion and uncontrolled stormwater runoff from land disturbing construction activities have significant adverse impacts upon local water resources and the health, safety and general welfare of the community, and diminish the public enjoyment and use of natural resources. Specifically, soil erosion and stormwater runoff can:

- (a) Carry a significant amount of sediment, nutrients, bacteria/other pathogens, organic matter, toxins and other pollutants to local lakes, streams and wetlands;
- (b) Diminish the capacity of water resources to support recreational and water supply uses, and a natural diversity of plant and animal life;
- (c) Clog drainage systems with sediment, which in turn increases maintenance costs;
- (d) Overwhelm existing drainage ways with increased flows, causing bank and channel erosion, and increasing downstream flooding and property damage;
- (e) Reduce groundwater recharge, which may diminish stream base flows and/or lower water levels in local lakes, ponds and wetlands; and
- (f) Contaminate drinking water supplies.
- (g) Generate airborne particulate concentrations that are health threatening or may cause other off-site damage to property or the environment.

17.03 PURPOSE AND INTENT. (1)(AM 08-10) **Purpose.** The purpose of this chapter is to set forth requirements for land disturbing construction activities aimed to minimize sedimentation, water pollution, flooding and related property and environmental damage caused by soil erosion and uncontrolled stormwater runoff during and after construction, in order to diminish the threats to public health, safety, welfare, and the natural resources of Washington County.

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(2)(AM 08-10) **Intent.** This chapter is intended to regulate construction site erosion and stormwater management under the authority granted in §59.693, Wis. Stats., and is intended to meet the current construction site erosion control and post-construction stormwater management regulatory requirements of Subchapter III of both NR 151 and NR 216 Wis. Adm. Code. This chapter is not intended to limit activity or land divisions permitted under the applicable zoning and land division ordinances.

(3)(AM 08-10) **Regional Stormwater Management.** The County recognizes that the preferred method of permanently managing stormwater runoff from land disturbing construction activities is through the preparation and implementation of regional stormwater management plans by watershed areas which are designed to meet the requirements of this chapter. Accordingly, provisions have been incorporated into this chapter to allow for the implementation of this type of plan in lieu of complying with certain on-site stormwater management requirements.

17.04 JURISDICTION. (1)(AM 01-8) The provisions of this chapter shall apply to all unincorporated lands within the jurisdictional boundaries of Washington County where a town board has not adopted a similar ordinance or entered into an intergovernmental agreement with Washington County under §66.0301, Wis. Stats., for ordinance administration services.

(2) Under the authority of §59.693(10), Wis. Stats., this chapter shall continue in effect in any area annexed by a city or village, unless the city or village enacts, maintains and enforces a city or village ordinance which complies with minimum standards established by the Wisconsin Department of Natural Resources and which is at least as restrictive as this chapter.

17.05(AM 08-10) APPLICABILITY, EXEMPTIONS AND TECHNICAL WAIVERS.
(1)(AM 08-10) **Construction Site Erosion Control.** Unless otherwise exempted under sub.(3) below, or technically waived under sub.(4) below, an erosion and runoff control permit under sec. 17.06 of this chapter shall be obtained before any person commences a land disturbing construction activity. The construction site erosion control provisions of this chapter shall apply to all land disturbing construction activity that meet any of the following:

- (a) Disturbs 4,000 square feet or more of total land surface area; or
- (b) Involves excavation or filling, or a combination of excavation and filling, in excess of 400 cubic yards of material; or
- (c) Disturbs 100 lineal feet of roadway ditch, grass waterway or other land area where surface drainage flows in a defined open channel; including the placement, repair or removal of any underground pipe, utility or other facility within the cross-section of the channel at flow capacity; or

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(d) Other land disturbing construction activities, including the installation of access drives, that the administering authority determines to have a high risk of soil erosion or water pollution, or that may significantly impact an environmentally sensitive area. All determinations made by the administering authority under this subsection shall be made in written or electronic form, unless otherwise waived by the requesting entity.

(2)(AM 08-10) **Stormwater Management.** Unless otherwise exempted under sub.(3) below, or technically waived under sub.(4) below, an erosion and runoff control permit under sec. 17.06 below, shall be obtained before any person commences a land disturbing construction activity. The stormwater management provisions of this chapter shall apply to all land disturbing construction activity that meet any of the following:

(a) Is a subdivision plat that meets the subdivision definition criteria under §236.02(12), Wis. Stats; or

(b) Involves the construction of any new public or private roadway; or

(c) Ultimately results in the addition of impervious surfaces of 20,000 square feet or greater in total area, including smaller individual sites that are part of a common plan of development; or

(d) Ultimately results in one acre or more in total land disturbing construction activity; or

(e) Other land disturbing construction activities, including access drives, that the administering authority determines may significantly increase downstream runoff volumes, flooding, soil erosion, water pollution or property damage, or significantly impact an environmentally sensitive area. All determinations made by the administering authority under this subsection shall be made in written or electronic form, unless otherwise waived by the requesting entity.

(3)(AM 01-8)(AM 03-42)(AM 08-10) **Exemptions.** (a) The following sites shall be exempt from all of the requirements of this chapter:

1. All activities directly relating to the planting, growing and harvesting of agricultural crops, including silviculture.

2. Any land disturbing construction activity conducted by or contracted for any State agency, as defined under §227.01(1), Wis. Stats., including but not limited to roadway construction projects administered by the Wisconsin Department of Transportation. These activities must meet the erosion control and stormwater management requirements of the state.

(b) The following sites shall be exempt from sub.(1) above, which includes the construction site erosion control provisions of this chapter only:

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1. The construction of 1 and 2 family residential buildings under s. COMM 21.125, Wis. Adm. Code, unless requested by the town building inspector or town board. These activities must meet the erosion control requirements of the Wisconsin Uniform Dwelling Code.

2. Any land disturbing construction activity within the shoreland/wetland/floodplain zone as defined by the Washington County Code that disturbs less than one acre of total land surface, unless otherwise requested by the Washington County Planning, Conservation and Parks Committee or Planning and Parks Department. These activities must meet the erosion control requirements of the County shoreland/floodplain/wetland zoning ordinance(s).

3. Nonmetallic mining activities that are covered under a nonmetallic mining reclamation permit under NR 135 Wis. Adm. Code.

4. Placement of underground pipe or other utility that is plowed or bored into the ground outside areas of channelized runoff.

(c) The following sites shall be exempt from sub. (2) above, which includes the stormwater management provisions of this chapter only:

1. A redevelopment post-construction site with no increase in exposed parking lots or roadways.

2. 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.

3. Nonpoint discharges from silviculture activities.

4. Routine maintenance for project sites under 5 acres of land disturbance if performed to maintain the original line and grade, hydraulic capacity or original purpose of the facility.

5. 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.

(d) The following sites shall comply with all of the erosion control and stormwater management requirements of this chapter, but shall be exempted from obtaining a permit, providing a financial guarantee or paying a fee under sec. 17.06 of this chapter:

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1. Any proposal that is designed and/or certified by the Washington County Land and Water Conservation Division of the Planning and Parks Department as part of a soil conservation or water pollution control project; and

2. Any roadway construction or other land disturbing or land development activity by the County, or any town, city or village within the County.

(4)(AM 08-10) **Technical Waiver.** (a) **Waiver Criteria.** Following the provisions of this subsection, the Administering Authority may waive a site or a portion of a site from meeting certain technical requirements of this section if the Administering Authority determines that one or more of the following applies:

1. **Off-Site BMP(s).** The requirement has been satisfied through the use of off-site BMP(s). Off-site BMP(s) could be installed beyond the boundaries of the property covered by the application as part of a regional stormwater management plan or through other legal arrangements. However, to be eligible for this waiver, the off-site BMP(s) must treat runoff from the site covered by the application; or

2. **No Off-Site Impacts.** The site will have no appreciable off-site impacts or is internally drained and will not discharge runoff from the site after development occurs; or

3. **Site Conditions.** It is impracticable to meet the requirement due to site conditions such as: slopes; soils; proximity to existing or proposed structures or desirable trees; limited site dimensions; existing or proposed land uses on site or on surrounding sites; the potential for groundwater contamination; potential subsurface flow paths to existing or proposed buildings, structures, or public infrastructure; public health or safety problems; or other factors beyond the control of the applicant. No site shall be entitled to a waiver under this paragraph due solely to the size of the proposed land disturbing construction activity in relation to the parcel size; or

4. Compliance would be in direct conflict with other regulations or related objectives of this chapter which would take precedent.

(b) **Application for Technical Waiver.** A technical waiver under sub. (a) above may only be granted by the Administering Authority upon the applicant submitting all of the following items to the Administering Authority, which shall constitute a completed application:

1. A written request describing the provisions of this subsection for which a waiver is being requested and an explanation of why;

2. A site plan in accordance with sec. 17.09(5)(b) of this chapter, including the delineation of the area and size (in acres) to which the waiver would apply and any other stormwater BMP(s) required to meet this chapter or as recommended in a regional stormwater management plan;

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3. The necessary technical documentation to demonstrate that the site meets one or more of the criteria for which a waiver is being applied, including documentation of the applicable provisions of any regional stormwater management plan that may be involved;

4. For off-site BMP(s) under sub. (a)1. above:

a. Documentation that the necessary BMP(s) have been properly installed, including as-built plans, construction certification and design summaries in accordance with sec. 17.11(4) of this chapter;

b. A copy of the recorded maintenance agreement in accordance with sec. 17.12 of this chapter and any other easements or legal arrangement that may be involved to ensure the long-term maintenance of the off-site BMP(s).

c. Documentation of payment of any applicable fees that may be required by a unit of government charged with implementing a regional stormwater management plan. Fees may be through a stormwater utility district or other unit of government and would usually be based on an equitable distribution of costs for land acquisition, engineering design, construction, certification and maintenance of stormwater BMP(s) implemented through the regional stormwater management plan.

5. Other materials that the Administering Authority determines to be necessary to make a determination under this subsection or to comply with this chapter.

(c) **Review Procedure.** The Administering Authority shall review all technical waiver application materials submitted under sub. (b) above, determine compliance with this section and notify the applicant of a decision within 20 working days of the submittal date, in accordance with the procedures under 17.07(2) below. In consideration of all waiver requests, the Administering Authority shall ensure that the applicant meets the requirements of this section to the maximum extent practicable.

(d) **Appeal.** If the applicant does not agree with any written determination of the Administering Authority under this subsection, the applicant may appeal the decision pursuant to the procedures in sec. 17.15 of the Washington County Code.

17.06 APPLICATION FOR EROSION AND RUNOFF CONTROL PERMIT OR PRELIMINARY APPROVAL LETTER. (1) **Application.** The applicant shall submit a completed application on a form provided by the administering authority for that purpose, and indicate whether applying for a preliminary approval letter or an erosion and runoff control permit. By submitting an application, the applicant is authorizing the administering authority to enter upon the site to obtain information needed to administer this chapter.

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(2)(AM 08-10) **Preliminary Approval Letter.** (a) Purpose and Intent. A preliminary approval letter is an optional step in the permit process that is strongly encouraged for subdivisions and other large or complex land disturbing construction activities. It is designed to assist the applicant in preparing general site plans and obtaining other applicable permits or zoning approvals prior to finalizing detailed construction plans for a proposed project. It will also act to notify other review authorities that the applicant has agreed to meet the requirements of an erosion and runoff control permit and provides a preliminary plan of what will likely be required. An erosion and runoff control permit is still required prior to the start of any proposed land disturbing construction activity. The administering authority shall issue an erosion and runoff control permit after determining that the final erosion control and stormwater management plans are in substantial compliance with the preliminary plans and after the applicant has met all other requirements of sub.(3) below.

(b) Application. To request a preliminary approval letter, the following information shall be submitted to the administering authority:

1. A completed application, on a form provided by the administering authority for that purpose;
2. The applicable fee(s);
3. A preliminary erosion control plan in accordance with sec. 17.08(5) of this chapter; for those sites that meet any of the applicability criteria under sec. 17.05(1) of this chapter; and
4. A preliminary stormwater management plan in accordance with sec. 17.09(6) of this chapter, for those land disturbing construction activities that meet any of the applicability criteria of sec. 17.05(2) of this chapter.

(3)(AM 08-10) **Erosion and Runoff Control Permit.** An erosion and runoff control permit is required for all sites that meet the applicability provisions of secs. 17.05(1) or 17.05(2) of this chapter and are not exempt under sec. 17.05(3) of this chapter or technically waived under sec. 17.05(4) of this chapter. To request an erosion and runoff control permit under this chapter, the following information shall be submitted to the administering authority:

- (a) A completed application on a form provided by the administering authority for that purpose;
- (b) The applicable fee(s);
- (c) A site map in accordance with sec. 17.08(4) and/or 17.09(5) of this chapter.
- (d) A final erosion control plan in accordance with sec. 17.08 of this chapter for those land disturbing construction activities that meet any of the applicability criteria in sec. 17.05(1) of this chapter;

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(e) A final stormwater management plan in accordance with sec. 17.09(5) of this chapter and a draft maintenance agreement in accordance with sec. 17.12 of this chapter for those land disturbing construction activities that meet any of the applicability criteria of sec. 17.05(2) of this chapter; or the documentation required under sec. 17.09(2) of this chapter related to a regional stormwater management plan; and

(f) A financial guarantee, in accordance with sec. 17.11(3) of this chapter.

(4)(AM 03-42) **Fees.** Except as provided in sec. 17.09(2)(c) of this chapter for regional stormwater management plans, all application and review fees for this chapter shall be established by the Land Conservation Committee. Fee amounts shall be designed to offset the costs to the County for the administration of this chapter and may be modified from time to time based on the records and recommendation of the administering authority. A schedule of the fees established by the Land Conservation Committee shall be available for review and distribution through the office of the Land and Water Conservation Division of the Planning and Parks Department. No fee shall exceed the actual and direct costs of administering this chapter. Those persons as defined in §32.01(1), Wis. Stats., shall be exempt from the fees in this chapter.

17.07 PLAN REVIEW PROCEDURES. (1)(AM 08-10) **For Applications That Only Involve Erosion Control Plans for Less Than One Acre of Disturbed Area.** (a) The procedures under this subsection shall only apply to applications which meet all of the following criteria:

1. Meet one of the applicability criteria under sec. 17.05(1) of this chapter relating to construction site erosion control;
2. Disturb less than one acre in total land surface area; and
3. Do not meet any of the applicability criteria under sec. 17.05(2) of this chapter relating to stormwater management.

(b) Within 10 working days of receipt of a completed application form, fee and final erosion control plan, the administering authority shall:

1. Determine if the requirements of this chapter have been met, including sec. 17.08(4)(a) of this chapter relating to the requirements of a final erosion control plan; and
2. Determine if more information or additional review is needed; and
3. Notify the applicant of the results of pars. (b)1. and (b)2 above. Notification shall be in written or electronic form, unless otherwise waived by the applicant.

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(c) The administering authority may request comments from other agencies or units of government within the 10-day review period. Unless determined by some other procedures, the other agency or unit of government shall have 10 working days to respond to such a request. The administering authority shall notify the applicant if additional comments are being requested and shall have 10 working days from the receipt of those comments to notify the applicant of the results of the review.

(d) If all of the applicable requirements of this chapter have been met, the administering authority shall issue an erosion and runoff control permit. If the requirements of this chapter have not been met, the administering authority shall notify the applicant what changes would be necessary to meet the requirements.

(e) For any resubmittal of plans and supporting information by the applicant, the administering authority shall have an additional 10 working days from the date of receipt to review the resubmitted information in accordance with pars.(b) through (d) above.

(f) If the administering authority fails to act within the timelines stated in this subsection, the submitted documents shall be deemed approved, and the administering authority shall issue an erosion and runoff control permit.

(2)(AM 08-10) For All Other Applications for an Erosion and Runoff Control Permit or Preliminary Approval Letter. (a) The procedures under this subsection shall apply to all other applications that meet at least one of the applicability criteria under sec. 17.05 of this chapter, but do not meet all of the criteria under sub.(1) above, for erosion control plans for less than one acre.

(b) Within 20 working days of receipt of a completed application form, fee and applicable erosion control and/or stormwater management plan(s) in accordance with sec. 17.06 of this chapter, the administering authority shall:

1. Determine if the requirements of this chapter have been met, including sec. 17.08(4)(b) of this chapter and/or sec. 17.09(5) of this chapter relating to the required contents of final erosion control and stormwater management plans; and

2. Determine if more information or additional review is needed; and

3. Notify the applicant of the results of pars. (b)1. and (b)2 above. Notification shall be in written or electronic form, unless otherwise waived by the applicant.

(c) The administering authority may request comments from other agencies or units of government within this 20-day review period. Unless determined by some other procedures, the other agency or unit of government shall have 20 working days to respond to such a request. The administering authority shall notify the applicant if additional comments are being requested and shall have 10 working days from the receipt of those comments to notify the applicant of the results of the review.

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(d) If all of the applicable requirements of this chapter have been met, the administering authority shall provide a preliminary plan approval letter or an erosion and runoff control permit. If the requirements of this chapter have not been met, the administering authority shall notify the applicant what changes would be necessary to meet the requirements.

(e) For any resubmittal of plans and supporting information by the applicant, the administering authority shall have an additional 20 working days from the date of receipt to review the resubmitted information in accordance with pars. (b) through (d) above.

(f) If the administering authority fails to act within the timelines stated in this subsection, the submitted documents shall be deemed approved, and the administering authority shall issue a preliminary approval letter or erosion and runoff control permit.

17.08 EROSION CONTROL PLAN REQUIREMENTS. (1)(AM 08-10) **General Requirements.** (a) An erosion control plan shall ensure, to the extent practical, that soil erosion, siltation, sedimentation and other off-site impacts from land disturbing construction activities are minimized. Measures shall be taken, using approved best management practices, to minimize sediment from being carried off-site by water or wind during the construction phase, such as: diversions, silt fence, straw bales, downspout extenders, soil treatment, temporary mulch, sediment traps, sediment basins, etc. All temporary best management practices shall be maintained until the site is stabilized. Some best management practices, such as sediment basins, may be designed to also serve as a permanent stormwater best management practice after the site is stabilized.

(b) All erosion control plans and associated best management practices shall comply with the planning, design, implementation and maintenance requirements of this chapter.

(2)(AM 08-10) **Guiding Principles.** To satisfy the requirements of this section, all proposed land disturbing construction activities shall, to the extent practical:

(a) Be planned and implemented in a manner that best fits the terrain of the site, avoiding steep slopes and other environmentally sensitive areas;

(b) Minimize soil compaction, the loss of trees and other natural vegetation and the size of the disturbed area;

(c) Minimize, through project phasing and proper construction sequencing, the time the disturbed soil surface is exposed to erosive forces; and

(d) Emphasize the use of erosion control measures that prevent soil detachment and erosion rather than trying to intercept its transport or repair damage done.

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(3)(AM 08-10) **Specific Erosion Control Requirements and Performance Standards.**

Unless otherwise technically waived under sec. 17.05(4) of this chapter, the following minimum requirements shall be met on all sites subject to the applicability criteria under sec. 17.05(1) of this chapter and shall be addressed in the erosion control plan submitted by the applicant, if applicable. The administering authority is authorized to exceed the minimum requirements stated below for any site that the administering authority determines is a high risk of soil erosion or may significantly impact an environmentally sensitive area, and that further controls are practical.

(a) Sediment Reduction. An erosion control plan shall by its design to the maximum extent practicable, achieve a reduction of 80% of the sediment load carried in runoff, on an average annual basis, as compared with no sediment or erosion controls, until the site is stabilized. Erosion and sediment control best management practices may be used alone or in any combination to meet the 80% sediment reduction goal. Plans that comply with the guiding principles described in sub. (2) above and the specific erosion control plan requirements described below shall be determined by the Administering Authority as meeting the 80% sediment reduction goal.

1. Notwithstanding par. (a), if BMP(s) cannot be designed and implemented to reduce the sediment load by 80%, on an average annual basis, the plan shall include a written and site-specific explanation as to why the 80% reduction goal is not attainable and the sediment load shall be reduced to the maximum extent practicable.

(b) Construction Material Handling. The use, storage and disposal of chemicals, cement and other compounds and materials used on the construction site shall be managed during the construction period, to prevent their entrance into waters of the state. However, projects that require the placement of these materials in waters of the state, such as constructing bridge footings of BMP installations, are not prohibited by this paragraph.

(c) Access Drives and Tracking. Each site shall provide an access drive(s) and parking area, of sufficient dimensions and design, surfaced with a material that will prevent erosion and minimize tracking or washing of soil onto public or private roadways. All non-paved access drives shall be designed so that stormwater runoff from adjacent areas does not flow down the drive surface. Culverts shall be sized for calculated peak flows produced by the 10-year 24-hour design storm and shall meet all other State and local requirements relating to roadway access.

(d) Diversion of Upslope Runoff. Any significant amount of runoff from upslope land area, rooftops or other surfaces that drains across the proposed land disturbance shall be diverted around the disturbed area, if practical. Any diversion of upslope runoff shall be done in a manner that prevents erosion of the flow path and the outlet.

(e) Cut and Fill Slopes. Any cuts and fills shall be planned and constructed to minimize the length and steepness of slope, and stabilized in accordance with the approved erosion control plan timelines and technical standards of this chapter.

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(f) Open Channels. Any open channels shall be designed and constructed to carry the calculated peak flows for a 10-year 24-hour design storm, and stabilized in accordance with the approved technical standards identified in sec. 17.10 of this chapter.

(g) Inlet Protection. All inlets to storm drains, culverts and other stormwater conveyance systems shall be protected from siltation until final site stabilization.

(h) Outlet Protection. All outlets for site dewatering and stormwater conveyance systems, including pipe or open channels entering a stormwater management facility, shall be protected from erosion through channel lining or other stabilization measures.

(i) Dust Control. Prevent excessive dust from leaving the construction site through construction phasing and timely stabilization or the use of best management practices such as site watering and mulch – especially with very dry or fine sandy soils.

(j) Site Dewatering. Water pumped from the site shall be treated by sediment basins or other approved measures to prevent soil erosion and water pollution.

(k) Waste and Material Disposal. All waste and unused building materials (including garbage, debris, cleaning wastes, wastewater, toxic materials, or hazardous materials) shall be properly disposed of and not allowed to be carried off-site by runoff or wind.

(l) Topsoil. Enough topsoil from the disturbed area must be saved to ensure that a minimum of 4 to 6 inches is reapplied for all areas to be seeded or sodded. If adequate topsoil does not exist on the site to meet this requirement, it shall be imported. If the disturbed area is to be used for the growing of agricultural crops in the future, the original depth of topsoil shall be restored.

(m) Overland Flow. Trap sediment in overland flow before discharge from the site using best management practices such as silt fence and vegetation filter strips.

(n) Soil Stockpiles. Soil stockpiles shall be located no closer than 25 feet from lakes, streams, wetlands, ditches, drainage ways, curbs/gutters or other stormwater conveyance system, unless otherwise approved by the administering authority. Measures shall be taken to minimize erosion and runoff from any soil stockpiles that will likely remain for more than 5 working days. Any soil stockpile that remains for more than 30 days shall be covered or treated with stabilization practices such as temporary or permanent seeding and mulching.

(o) Sediment Cleanup. All off-site sediment deposits occurring as a result of construction work or a storm event shall be cleaned up by the end of each day. Flushing shall not be allowed.

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(p) Final Site Stabilization. All previous cropland areas where land disturbing construction activities will not be occurring under the proposed grading plan, shall be stabilized within 30 days of permit issuance. All disturbed areas shall be treated with stabilization measures such as seeding, mulching, soil treatment, erosion netting, matting, sodding, etc. within 7 working days of final grading. Large sites shall be treated in stages as final grading is completed in each stage. Any soil erosion that occurs after final grading and/or the application of stabilization measures must be repaired and the stabilization work redone.

(q) Temporary Site Stabilization. For any disturbed area that remains inactive for greater than 10 working days, or where grading work extends beyond the permanent seeding deadlines established by the Land Conservation Committee, the administering authority may require the site to be treated with temporary stabilization measures such as soil treatment, temporary seeding and/or mulching in addition to other erosion control measures as part of an approved erosion control plan. Frozen soils do not exclude the site from this requirement.

(r) Removal of Practices. When the disturbed area has been stabilized by permanent vegetation or other means, temporary best management practices such as silt fences, straw bales and sediment traps shall be removed and these areas stabilized.

(4)(AM 01-8)(AM 08-10) **Final Erosion Control Plan Contents.** (a) Sites of Less than One Acre of Total Land Disturbance. The following shall be the minimum requirements for items to be included in a final erosion control plan:

1. A scaled drawing of the site with a north arrow, delineation of the proposed land disturbance, existing and proposed buildings, roadways, access drives, property boundaries, drainage ways, water bodies, trees, culverts, and other structures within 50 feet of the proposed land disturbance;
2. The direction and steepness of slopes before and after the proposed land disturbance;
3. A description and location of all temporary best management practices proposed to be used to minimize off-site impacts during the construction phase;
4. A description and location of all permanent best management practices proposed to be used to stabilize the site within 3 working days following construction;
5. The name(s), address and day time phone number(s) of the person(s) charged with installing and maintaining all best management practices and thus subject to the enforcement provisions of sec. 17.14 of this chapter; and
6. Other information determined to be necessary by the administering authority to ensure compliance with the requirements of this chapter.

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(b) Sites of One Acre or Greater in Total Land Disturbance. The following shall be the minimum requirements for items to be included in an erosion control plan:

1. Existing Site Map and Data. A map and supporting data of existing site conditions at a scale of one inch equals no more than 100 feet showing the following items on the site and within 50 feet in each direction of the site boundaries:

a. Ownership boundaries and other references that will accurately identify site location;

b. Name, address and daytime telephone number of the applicant;

c. Site topography at a contour interval not to exceed 2 feet;

d. Location and name, if applicable, of all lakes streams and other water bodies as defined on a 7.5 minute topographic map published by the U.S. Geological Survey;

e. Location and name, if applicable, of all other channels, ditches, and other water courses or areas of channelized flow;

f. Location and name, if applicable, of all wetlands, as defined on the official wetland zoning maps at the Washington County Planning and Parks Department and as defined by the USDA-Natural Resources Conservation Service (NRCS) under federal jurisdiction and definition;

g. Boundaries of shoreland zones, 100 year floodplains, flood fringes and floodways, as defined on the official shoreland and floodplain zoning maps at the Washington County Planning and Parks Department;

h. Boundaries and soil symbol for each soil mapping unit, as published in the Soil Survey of Washington County;

i. Location and description of trees and other vegetation cover types;

j. Location, dimensions and contributing watershed area delineations and flow calculations for all existing stormwater drainage systems and natural flow paths or channels entering and/or leaving the site;

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k. Locations and dimensions of any buildings, roadways, parking areas, fence lines, access lanes, rock outcrops, tile drains, utilities and other physical features or structures;

l. Location and support documentation for any well currently located on the site and/or delineation of any regulatory setback distances of other wells, as stated in Wis. Admin. Code NR Chs. 811 and 812;

m. Locations and dimensions of any easements, right-of-ways, building setbacks or other restrictions;

n. Location of primary environmental corridor boundaries, as defined by the Southeastern Wisconsin Regional Planning Commission;

o. Any other existing site information that the administering authority determines to be necessary to ensure compliance with the requirements of this chapter.

2. Site Development Plan. A site development plan, using the same map scale as the existing site map, shall include the following map items and supporting documentation:

a. Locations and dimensions of all proposed land disturbing construction activities, including proposed cuts, fills and 2 foot contours of final grade;

b. Locations and dimensions of all temporary soil stockpiles, the estimated length of time they will exist and any applicable erosion control method;

c. Locations, dimensions and applicable design documentation for all temporary and permanent best management practices necessary to meet the requirements of this chapter;

d. Location, dimensions, supporting flow calculations and stabilization plans for the proposed construction or modification of any open channels;

e. A construction schedule, including the sequence and anticipated starting and completion date for each construction step and the installation of best management practices needed to meet the requirements of this chapter;

f. Description of maintenance responsibilities for all temporary best management practices;

g. The name(s), address and daytime phone number(s) of the person(s) charged with the responsibility of installing and maintaining all best management practices until the completion of a satisfactory final inspection by the administering authority under sec. 17.11(5) of this chapter.

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h. Location and description of individual trees greater than 8 inches in diameter at 4 feet above existing mean ground level, that are proposed to be lost and plans for replacement, if practical;

i. Description of site re-vegetation and stabilization plans, including topsoil and subsoil reapplication, seeding mixtures, fertilizer, rates of application, time schedule and maintenance responsibilities until the grass and/or other plants are well established; and

j. Detailed drawings, including profiles, cross-sections, and other information determined to be necessary by the administering authority to ensure compliance with the requirements of this chapter.

k. Certification, from a professional engineer registered in the State of Wisconsin, that all computations and designs included in the final erosion control plan have been reviewed and approved as being in accordance with the requirements of this chapter. The name, address and daytime phone and FAX number of the engineer must also be included for contact during the plan review process.

(5) **Preliminary Erosion Control Plan.** Preliminary erosion control plans shall contain the same information listed under sub.(4)(b) above, with the exception of sub. (4)(b)2.b., f., g. above, the supporting documentation in sub.(4)(b)2.d. above, and the starting and completion dates in sub.(4)(b)2.e. above.

17.09 STORMWATER MANAGEMENT PLAN REQUIREMENTS. (1)(AM 08-10) **General Requirements.** (a) A stormwater management plan, prepared in accordance with this chapter shall maintain, as nearly as practical, the site's natural drainage patterns and assumed pre-development peak flows and infiltration rates. In addition, measures shall be taken to prevent or minimize the pollution of surface waters and groundwater resources, damage to downstream property and local flooding as a result of permanent stormwater discharges from the proposed land development.

(b) Stormwater ponds and infiltration devices shall not be located closer to water supply wells than allowed by the Department of Natural Resources in Wis. Adm. Code NR 811 and NR 812.

(c) All stormwater management plans and associated best management practices shall comply with the planning, design, implementation and maintenance requirements of this chapter.

(2)(AM 08-10) **Exception - Regional Stormwater Management Plans.** (a) In lieu of submitting a preliminary or final stormwater management plan for an individual site, an applicant may submit documentation of the following:

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1. A regional stormwater management plan, that:
 - a. Includes the entire area of the proposed land disturbing construction activity;
 - b. Is prepared in accordance with the general requirements of sub.(1) above and the regional stormwater management planning technical guidelines adopted by the Land Conservation Committee under sec. 17.10(3) of this chapter; and
 - c. Is approved by the Land Conservation Committee and all other applicable units of government included in the planning area.

2. A site development plan, in accordance with sub. (5)(b) below, for the planned development showing any on-site stormwater best management practices recommended in the regional stormwater management plan;

3. Certification, by a professional engineer registered in the State of Wisconsin, that any stormwater best management practice(s) planned to treat the runoff from the area of the proposed land development as part of a regional stormwater management plan, has been constructed in accordance with the technical standards and specifications under sec. 17.10 of this chapter, if applicable; and

4. Documentation that there is an entity with the legal obligation for operation and maintenance of any applicable stormwater management facility in accordance with sec. 17.12 of this chapter, if applicable.

(b) Upon certification by the administering authority that all of the conditions of par.(a) above have been met, and the submitted materials are in compliance with the regional stormwater management plan, an application shall be deemed as meeting the stormwater management planning requirements of this chapter.

(c) As a condition of an erosion and runoff control permit, the applicant may be required to pay a fee or meet other requirements, as determined by the applicable entity charged with the implementation of the regional stormwater management plan. Any fee would be based on an equitable distribution of the cost for land, engineering design, construction, and maintenance of stormwater management practices needed to serve the land development through the regional stormwater management plan.

(3)(AM 08-10) **Guiding Principles.** To satisfy the requirements of this section, unless otherwise technically waived under sec. 17.05(4) of this chapter, all proposed land disturbing construction activities shall, to the extent practical:

(a) Be planned and implemented in a manner that best fits the terrain of the site, avoiding steep slopes and other environmentally sensitive areas;

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- (b) Preserve natural watershed boundaries and drainage patterns;
- (c) Maintain groundwater recharge areas and the infiltration capacity of native soils by avoiding the unnecessary filling of large natural depressions or compaction of upper soil horizons by construction equipment;
- (d) Utilize natural or constructed vegetated swales or reinforced permeable open channels for stormwater conveyance and attenuation;
- (e) Minimize impervious surfaces and have them drain to vegetated areas for flow attenuation, pollutant filtering and groundwater recharge; and
- (f) Reserve adequately sized areas to allow for detention of flows and treatment of pollutants from stormwater before being discharged from the site.

(4)(AM 08-10) **Specific Stormwater Management Requirements and Performance Standards.** Except where provided for under sub.(2) above, or technically waived under sec. 17.05(4) of this chapter, the following minimum requirements shall be met on all sites subject to the applicability criteria under 17.05(2) of this chapter and shall be addressed in the stormwater management plan submitted by the applicant, if applicable. The Administering Authority is authorized to exceed the minimum requirements stated below for any site that the Administering Authority determines is a high risk of soil erosion or may significantly impact an environmentally sensitive area, and that further controls are practical.

(a) Total Suspended Solids. A stormwater management plan, by design, shall meet the following post-development total suspended solids reduction targets, based on average annual rainfalls, as compared to no runoff management controls.

1. For new land development, 80% reduction in total suspended solids load;
2. For redevelopment, 40% reduction of total suspended solids load;
3. For in-fill development that occurs prior to October 1, 2012, 40% reduction total suspended solids load;
4. For in-fill development that occurs after October 1, 2012, 80% reduction of total suspended solids load.
5. Notwithstanding sub. 1 - 4, if the design cannot achieve the applicable total suspended solids reductions specified, the stormwater management 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. In such case a technical waiver in accordance with sec. 17.05(4) must be obtained for sites not meeting sub. 1 - 4 above.

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(b) Peak Discharge. 1. To minimize streambank erosion and the failure of downstream conveyance systems, the post-development peak flow discharge rates of stormwater runoff shall not exceed the calculated pre-development discharge rates for both the 2-year 24-hour and the 10-year 24-hour design storms in accordance with the standards in sec. 17.10(1) of this chapter.

2. This subsection of the chapter does not apply to any of the following:

a. A post-construction site where the change in hydrology due to development does not increase the existing surface water elevation at any point within the downstream receiving water by more than 0.01 of a foot for the 2-year, 24-hour storm event.

b. A redevelopment post-construction site.

c. An in-fill development area less than 5 acres.

(c) Infiltration. BMP(s) shall be designed, installed, and maintained to infiltrate runoff in accordance with the requirements listed in the following sections. Infiltration areas shall be designed to minimize impacts on: roadways; public infrastructure or private laterals; existing or proposed building sites, foundations or basements.

1. For residential developments, infiltrate the runoff volume from the pre development 2-year 24 hour design storm with a type II distribution to the maximum extent practicable. However, when designing appropriate infiltration systems to meet this requirement, no more than 2% of the project site is required as an effective infiltration area. Should either of the volumes in sub 2.a. or 2.b. be more restrictive than this section, the greater volume shall be used.

2. When site constraints do not allow for appropriate infiltration systems, technical waivers may be sought in accordance with sec. 17.05(4); however, one of the following infiltration minimums shall be met when practicable:

a. Infiltrate sufficient runoff volume so that the post-development infiltration volume shall be at least 90% of the pre-development infiltration volume, based on an average annual rainfall. However, when designing appropriate infiltration systems to meet this requirement, no more than 1% of the project site is required as an effective infiltration area, or

b. Infiltrate 25% of the post-development runoff volume from the 2-year, 24-hour design storm with a type II distribution. Separate runoff curve numbers for pervious and impervious surfaces shall be used to calculate runoff volumes, not composite curve numbers, as defined in TR-55. However, when designing appropriate infiltration systems to meet this requirement, no more than 1% of the project site is required as an effective infiltration area.

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3. For non-residential development, including commercial, industrial and institutional development, infiltrate the runoff volume from the post development 1-year 24 hour design storm with a type II distribution to the maximum extent practicable. However, when designing appropriate infiltration systems to meet this requirement, no more than 4% of the project site is required as an effective infiltration area. Should either of the volumes in sub 4.a. or 4.b. be more restrictive than this section, the greater volume shall be used.

4. When site constraints do not allow for appropriate infiltration systems, technical waivers may be sought in accordance with sec. 17.05(4); however, one of the following infiltration minimums shall be met when practicable:

a. Infiltrate sufficient runoff volume so that the post-development infiltration volume shall be at least 60% of the pre-development infiltration volume, based on an average annual rainfall. However, when designing appropriate infiltration systems to meet this requirement, no more than 2% of the project site is required as an effective infiltration area, or

b. Infiltrate 10% of the post-development runoff volume from the 2-year, 24-hour design storm. Separate curve numbers for pervious and impervious surfaces shall be used to calculate runoff volumes, not composite curve numbers, as defined in TR-55. However, when designing appropriate infiltration systems to meet this requirement, no more than 2% of the project site is required as an effective infiltration area.

5. Modeling. Refer to sec. 17.10(1)(a) for details on calculating runoff volumes from pre and post-development conditions.

6. Pretreatment. Pretreatment shall be required before infiltrating parking lot and roadway runoff from commercial, industrial and institutional areas. The pretreatment shall be designed to protect the infiltration system from clogging prior to scheduled maintenance and to protect groundwater quality in accordance with sub. 10 below. Pretreatment options may include, but are not limited to, oil/grease separators, sedimentation or bioretention basins, filtration swales or filter strips. All designs shall comply with the technical standards in sec. 17.10(2) of this chapter.

7. Infiltration Exclusions. The runoff from the following areas are prohibited from meeting the requirements of this paragraph.

a. Areas associated with Tier 1 industrial facilities identified in s. NR 216.21(2)(a), Wis. Adm. Code, including storage, loading, rooftops and parking.

b. Storage and loading areas of Tier 2 industrial facilities identified in s. NR 216.21(2)(b), Wis. Adm. Code. Runoff from Tier 2 parking and rooftops may be infiltrated but may require pretreatment.

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c. Runoff from fueling and vehicle maintenance areas, not including rooftops and canopies.

d. Infiltration of runoff within 1,000 feet upgradient or within 100 feet downgradient of Karst features.

e. Infiltration of runoff from any area except rooftops with less than 3 feet separation distance from the top of the filtering layer to the elevation of seasonal high groundwater or the top of bedrock.

f. Infiltration of runoff from industrial, commercial and institutional parking lots and roadways and residential arterial roadways with less than 5 feet separation distance from top of the filtering layer 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 s. NR 811.16(4), Wis. Adm. Code, or within 100 feet of a private well as specified in s. NR 812.08(4), Wis. Adm. Code, for runoff infiltrated from commercial, industrial and institutional land uses or regional devices for residential development, not including rooftop runoff.

h. Areas where contaminants of concern, as defined in s. NR 720.03(2), Wis. Adm. Code are present in the soil through which infiltration will occur.

8. Infiltration Exemptions. The following are not required to meet the requirements of this paragraph:

a. Areas where the infiltration rate of all available soils is less than 0.6 inches/hour measured at the site.

b. Parking areas and access roadways 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. Roadways in commercial, industrial and institutional land uses, and arterial residential roadways.

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9. Alternate runoff uses. Where storage and reuse of runoff are employed, such as to support green roofs, landscape watering, toilet flushing, laundry or irrigation, such alternate uses shall be given equal credit toward the infiltration volume required by this section.

10. Groundwater protection.

a. Infiltration systems designed in accordance with this subsection shall, to the extent technically and economically feasible, minimize the level of pollutants infiltrating to groundwater and shall maintain compliance with the preventive action limit at a point of standards application in accordance with ch. NR 140 Wis. Adm. Code. However, if site-specific information indicates that compliance with a preventive action limit is not achievable, the infiltration BMP may not be installed or shall be modified to prevent infiltration to the maximum extent practicable.

b. The discharge from BMP(s) shall remain below the enforcement standard at the point of standards application.

c. No stormwater BMP shall be installed that meets the definition of an injection well under ch. NR 812.05 Wis. Adm. Code.

d. All stormwater BMP(s) shall comply with the provisions of any applicable wellhead protection plan for a community water supply under ch. NR 811 Wis. Adm. Code.

(d) Protective Areas. Protective area means an area of land that commences at the top of the channel of lakes, streams and rivers, or at the delineated boundary of wetlands, and that is the greatest of the following widths, as measured horizontally from the top of channel or delineated wetland boundary to the closest impervious surface. However, in this section, “protective area” does not include any area of land adjacent to any stream enclosed within a pipe or culvert, such that runoff cannot enter the enclosure at this location.

1. For outstanding resource waters as listed in s. NR 102.10, Wis. Adm. Code and exceptional resource waters listed in s. NR 102.11, Wis. Adm. Code, and for wetlands in areas of special natural resource interest as specified in s. NR 103.04 Wis. Adm. Code, 75 feet.

2. For perennial and intermittent streams identified on a United States Geological Survey 7.5-minute series topographic map, or a county soil survey map, 50 feet.

3. For lakes, 50 feet.

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4. For highly susceptible wetlands, as determined by the Administering Authority, 50 feet. Highly susceptible wetlands include the following types: fens, sedge meadows, bogs, low prairies, conifer swamps, shrub swamps, other forested wetlands, fresh wet meadows, shallow marshes, deep marshes and seasonally flooded basins. Wetland boundary delineations shall be made in accordance with ch. NR 103 Wis. Adm. Code. This paragraph does not apply to wetlands that have been completely filled in accordance with all applicable state and federal regulations. The protective area for wetlands that have been partially filled in accordance with all applicable state and federal regulations shall be measured from the wetland boundary delineation after fill has been placed.

5. For less susceptible wetlands, 10 percent of the average wetland width, but no less than 10 feet nor more than 30 feet. Less susceptible wetlands include degraded wetlands dominated by invasive species such as reed canary grass.

6. In subd. (4)(d)4 & (4)(d)5, determinations of the extent of the protective area adjacent to wetlands shall be made on the basis of the sensitivity and runoff susceptibility of the wetland in accordance with the standards and criteria in Chapter NR 103 Wis. Adm. Code.

7. For concentrated flow channels with drainage areas greater than 130 acres, 10 feet.

(e) Requirements within Protective Areas. The following requirements shall be met for all land disturbing construction activity located within a protective area:

1. Conflicting ordinances. The Washington County Ordinance Chapter 23, Shoreland, Wetland and Floodplain Zoning also requires setback from a waterbody. The type of development shall determine which chapter will apply. If a site is regulated by both chapters than the most restrictive setback or protective area shall apply.

2. Impervious surfaces shall be kept out of the protective area, except for boathouses and walkways authorized under shoreland and floodplain zoning. The erosion control plan shall contain a written site-specific explanation for any parts of the protective area that are disturbed during construction.

3. Where land disturbing construction activity occurs within a protective area, and where no impervious surface is present, adequate sod or self-sustaining non-invasive, flood and drought tolerant vegetation cover of 70% or greater shall be established and maintained. The adequate sod or self-sustaining vegetation cover shall be sufficient to provide for bank stability, maintenance of fish habitat and filtering of pollutants from upslope overland flow areas under sheet flow conditions. Non-vegetation materials, such as rock riprap, may be employed on the bank as necessary to prevent erosion, such as on steep slopes or where high velocity flows occur.

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4. Best management practices such as filter strips, swales, or wet detention basins, that are designed to control pollutants from non-point sources may be located in the protective area, but shall not encroach into wetlands, floodplains, primary or secondary environmental corridors.

5. Protective Area Exemptions. The following sites are exempted from meeting this subsection.

- a. Redevelopment post-construction sites.
- b. In-fill development areas less than 5 acres.
- c. Structures that cross or access surface waters such as boat landings, bridges and culverts;
- d. Structures constructed in accordance with sec. 23.09(13) Washington County Ordinance; or §59.692(1v), Wisconsin Statutes; and
- e. Sites where runoff does not enter the surface water, except to the extent that vegetation ground cover is necessary to maintain bank stability.

(f) Fueling and Vehicle Maintenance Areas. Fueling and vehicle maintenance areas shall have BMP(s) designed, installed and maintained to reduce petroleum within runoff, such that the runoff that enters waters of the state contains no visible petroleum sheen.

(g) Protection of Wetlands. Stormwater discharges shall minimize the hydrologic changes and pollutant loadings to wetlands, to the extent practical, in order to preserve the wetland functional values. All discharges to wetlands shall require the same protection as pars. (a) and (b) above, unless otherwise approved by any other applicable regulatory agency and the administering authority in accordance with technical standards adopted under sec. 17.10 of this chapter. If any land disturbing construction activity is proposed in a wetland as part of a final stormwater management plan, the administering authority may require all other applicable permits to be obtained prior to the issuance of an erosion and runoff control permit.

(h) Site Drainage. Measures shall be implemented to ensure proper site drainage, prevent property damage and protect public health and safety, including the following minimum requirements:

1. Drainage easement. Perpetual drainage easements or other deed restrictions shall be recorded on the property to preserve major stormwater flow paths and permanent stormwater BMP locations. Covenants in these areas shall not allow buildings, other structures, prevent any grading, filling or other activities that interrupt or obstruct flows in any way. Covenants shall also specify maintenance responsibilities and authorities in accordance with sec. 17.12.

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2. Site grading. Site grading shall ensure, to the maximum extent practicable, positive flows away from all buildings, roadways, driveways and septic systems, be coordinated with the general stormwater drainage patterns for the area, and minimize adverse impacts on adjacent properties.

3. Subsurface drainage. No discharge of groundwater from tile lines, sump pumps or other means shall be allowed onto another persons land or any public space without the written approval of the owner or unit of government. The Administering Authority shall be notified of any drain tiles that are uncovered during construction, which the Administering Authority may require to be restored or connected to other drainage systems.

4. Structure protection and safety. For buildings designed for human occupation on a regular basis, the following additional requirements shall apply:

a. The lowest elevation of the structure that is exposed to the ground surface that is hydrological connected to any stormwater BMP shall be a minimum of two (2) feet above the maximum water elevation produced by the 100-year, 24 hour design storm, including flows through any stormwater BMP that may temporarily or permanently store water at a depth of greater than one (1) foot not including conveyance systems; and

b. For internally drained areas the maximum water elevation shall be determined using the volume produced by the 100-year 24 hour design storm with a NRCS runoff curve number of 98 for the entire watershed, to reflect frozen ground conditions.

c. The structure shall be setback at least 20 feet from any stormwater BMP that may temporarily or permanently store water at a depth of greater than one (1) foot not including conveyance systems. Setback distance shall be measured from the closest edge of water at the elevation produced by the 100-year, 24-hour design storm.

5. Additional Requirements. The Administering Authority may establish more stringent requirements than the minimums set forth in this section, such as addressing thermal impacts of stormwater or chronic wetness conditions, if the Administering Authority determines that an added level of protection is needed.

(i) Flooding. All stormwater management facilities shall have the capacity to safely handle the calculated peak flow rates for a 100-year 24-hour design storm without structural failure, bank erosion, loss of freeboard or other problems. At a minimum, an emergency spillway must be provided to carry these flows.

(5)(AM 08-10) **Final Stormwater Management Plan Contents**. The following shall be the minimum requirements for items to be included in a final stormwater management plan:

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(a) Existing Site Map and Data. The requirements for the existing site map and data are the same as those listed under sub. 17.08(4)(b)1 of this chapter.

(b) Site Development Plan. A site development plan, using the same map scale as the existing site map, shall include all of the following map items and supporting documentation:

1. Locations and dimensions of all proposed land disturbing construction activities, including proposed cuts, fills and 2-foot contours;

2. Delineation and labeling of all proposed impervious areas and accompanying area computations;

3. Location of all proposed stormwater conveyance systems and grade stabilization structures, including grade lines, cross-sections, flow/velocity computations based on a 10-year 24-hour design storm, and the delineation of proposed subwatersheds for each reach;

4. Location of all proposed stormwater best management practices and facilities, including plan views, cross-sections, profiles, inlet/outlet and other detail drawings and supporting flow computations;

5. Summary of hydrologic and hydraulic computations prepared to meet the requirements of sub.(4) above, and for the design of all stormwater management facilities. All major assumptions used in developing input parameters shall be clearly stated, and all geographic areas used in making the calculations shall be clearly cross-referenced to the required map(s);

6. Results of investigations of soils and groundwater required under sec. 17.10(5) of this chapter, including location and elevation of each investigation site, for the placement and design of stormwater management facilities;

7. Location(s) and dimensions of all proposed easements or other methods used to ensure the preservation of flow paths and adequate access for maintenance purposes, in accordance with sec. 17.12 of this chapter;

8. A detailed construction inspection plan, outlining the critical elements in the plan that need to be surveyed or inspected by a representative of the project engineer, the Administering Authority or the municipality, and the timing and notification requirements involved. Examples of critical elements for a construction inspection plan include, but are not limited to: checking subgrade elevations or the placement of footings, pipes or other structures prior to covering, soil testing, material inspections and final grade checks before seeding. Inspections conducted by the Administering Authority or the municipality do not waive the permit holder's responsibility for construction oversight and verification.

9. Certification, from a professional engineer registered in the State of Wisconsin, that all calculations and designs included in the final stormwater management plan have been reviewed and approved as being in accordance with the requirements of this chapter.

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10. The name(s), address, daytime phone and FAX number of the contact person during the plan review process, the construction supervisor, and the engineer that will certify construction of all stormwater management facilities under sec. 17.11(4) of this chapter;

11. For sites where changes are proposed in stormwater flow paths, or where proposed stormwater discharges may otherwise have a significant negative impact on downstream property owner(s), the administering authority may require the applicant to obtain written authorization or complete other legal arrangements with the affected property owner(s); and

12. Other items deemed necessary by the administering authority to ensure compliance with the requirements of this chapter.

(6) **Preliminary Stormwater Management Plan Contents.** Preliminary stormwater management plans shall contain the same information listed under sub.(5) above, with the following exceptions:

(a) No computations will be required for stormwater conveyance systems, water control structures or other individual system components; and

(b) No detail drawings, cross-sections or profiles will be required unless the administering authority determines they are necessary to assess the general feasibility of the preliminary stormwater management plan.

17.10 TECHNICAL STANDARDS AND SPECIFICATIONS. (1)(AM 08-10) **Hydrologic and Hydraulic Computations.** (a) Models. All computations of runoff volumes and peak flow rates used in the development of erosion control and stormwater management plans in accordance with this chapter shall be based on the principles of Technical Release 55 (TR-55), "Urban Hydrology for Small Watersheds", published by the Natural Resources Conservation Service (NRCS), United States Department of Agriculture, June 1986 revision, using Type II design storms. Models such as SLAMM, P8 or other modules approved by the Administering Authority may be used to evaluate the efficiency of the design in reducing total suspended solids to meet this chapter. Models such as RECARGA or other models approved by the Administering Authority may be used to evaluate the efficiency of the design in meeting the infiltration requirements of this chapter.

(b) Rainfall Depths. To determine compliance with this chapter (for Washington County), the following design storms values shall be used:

Design Storm	1-year 24-hour	2-year 24-hour	10-year 24-hour	100-year 24-hour
Rainfall Depth	2.3 inches	2.7 inches	3.9 inches	5.5 inches

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(c) Runoff Curve Numbers. All computations of pre-development conditions as required under sec. 17.09(4)(b) of this chapter shall use those TR-55 runoff curve numbers assigned for a "good" hydrologic condition for each land cover type. For lands where the pre-development land use was cropland, the following TR-55 curve number values shall be used as maximums:

Soil Hydrologic Group	A	B	C	D
NRCS Runoff Curve Number	56	70	79	83

(d) Average Annual Rainfalls. All modeling involving average annual rainfall or runoff volumes shall use rainfall data from the Milwaukee area between March 28 and December 6, 1969 as the typical annual rainfall pattern for Washington County.

(e) Rainfall Distribution. All peak flow calculations shall be Type II rainfall distribution patterns, as defined in NRCS methodologies.

(f) Other Methods. All velocity and peak flow computations for open channels and storm sewer pipe flows shall be based on Manning's Formula. Flow routing, culvert design, weir and orifice flow and other related hydraulic computations used to design stormwater management facilities shall be based on standard applicable engineering formulas. Any design data or methodology proposed to be used for hydrologic or hydraulic computations other than those prescribed in this chapter shall be approved by the Administering Authority.

(2)(AM 08-10) **Best Management Practice Design Standards.** (a) The design, installation and maintenance of all BMP(s) used to meet the requirements of this chapter shall comply with the technical standards identified, developed or disseminated by the Wisconsin Department of Natural Resources under subchapter V of ch. NR 151, Wis. Adm. Code.

(b) Where BMP standards have not been identified or developed under sub. (2) above, the Administering Authority may approve the use of other available standards, such as those from other states or the USDA-Natural Resources Conservation Service.

(3) **Technical Guidelines.** The Land Conservation Committee may adopt technical guidelines to assist with the consistent administration of certain portions of this chapter where more specific standards currently do not exist, are insufficient or are subject to rapid change. The Land

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Conservation Committee shall seek the expertise of other agencies and organizations in the development and maintenance of technical guidelines under this subsection.

(4)(AM 08-10) **Construction Specifications.** The construction or installation of all BMP(s) and BMP components shall comply with all applicable manufacturers and industry standards and specifications, including but not limited to those published by American Society for Testing and Materials (ASTM) and the USDA – Natural Resources Conservation Service (NRCS).

(5)(AM 08-10) **Soil Evaluations.** All soil profile evaluations and forms submitted for review to the Administering Authority under the provisions of this chapter shall be conducted by a qualified professional in accordance with s. COMM 85.20 and s. COMM 85.30 Wis. Adm. Code. Evaluation report forms submitted for review to the Administering Authority shall be completed in accordance with s. COMM 85.40 Wis. Adm. Code or on forms supplied by the Administering Authority. Determination of soil saturation with groundwater monitoring wells shall be done in accordance with s. Comm 85.60 or ch. NR 141 Wis. Adm. Code. The number, location or depth of a soil profile evaluation shall be based on the applicable standards under sub. (2) above. In the event that the standard does not indicate the soil profile evaluation requirements the Administering Authority shall make the determination based on the design of the BMP and the likely variability of the on-site soils.

(6)(AM 03-42)(AM 08-10) **Availability.** Copies of all technical standards, guidelines and specifications adopted by the Land Conservation Committee shall be available for review and distribution through the Land and Water Conservation Division of the Planning and Parks Department. Fees may be charged for copies of these items in accordance with a fee schedule established by the Land Conservation Committee.

(7)(AM 08-10) **Future Revisions or Updates.** The technical standards, guidelines and specifications referenced in this section are made a part of the chapter and shall be updated periodically in order to keep current with field experiences, research, technological advances and the development of related technical standards by other agencies and units of government. Any future revision or update of the technical standards or specifications incorporated herein are also made part of this chapter unless otherwise acted upon by the Land Conservation Committee.

17.11 PERMIT REQUIREMENTS. (1)(AM 08-10) **General Conditions.** For all permits issued under this chapter, the permit holder shall:

(a) Obtain all other applicable Federal, State, County or local permits and comply with all other applicable regulations. The administering authority may require the applicant to obtain other permits or plan approvals prior to issuing an erosion and runoff control permit.

(b) Complete all activities in accordance with the plan(s) and construction schedule approved by the administering authority. Any significant changes made during implementation without prior approval by the administering authority shall be subject to enforcement action under sec. 17.14 of this chapter.

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(c) Notify the administering authority at least 24 hours in advance of commencing any work associated with the permit. The administering authority may require further notification of work on various stages of construction or upon completion of individual components for inspection purposes.

(d) Authorize the administering authority access to the property to perform inspections and to carry out any necessary enforcement activities under sec. 17.14 of this chapter.

(e) Inspect all best management practices after each rain event of 0.5 inch or more, or at least once each week, and make any needed repairs. The permit holder shall maintain best management practices until the financial guarantee under sub.(3) below is released by the administering authority. The permit holder shall provide a qualified representative to conduct inspections and maintain an inspection log for the site. The inspection log shall include the name of the inspector, the date and time of inspection, a description of the present phase of construction, the findings of the inspection, including an assessment of the condition of erosion and sediment control measures and the installation of stormwater management BMP(s), and an action needed or taken to comply with this chapter. The inspection log shall also include a record of BMP maintenance and repairs conducted. The permit holder shall maintain a copy of the inspection log at the construction site and shall be made available to the Administering Authority upon request.

(f) Clean up all off-site sediment deposits and repair any erosion or other damage occurring as a result of construction work or a storm event at the end of each work day, or within any other time period approved by the administering authority. Flushing of sediment is not allowed.

(2)(AM 08-10) **Permit Issuance and Duration.** (a) The administering authority shall establish an expiration date for all permits issued under this chapter. The expiration date shall not exceed 18 months and shall be based on the construction schedules submitted by the applicant under subs. 17.08(4)(b)2.e. and 17.08(4)(b)2.i. of this chapter, and the technical standards and specifications adopted by the Land Conservation Committee under sec. 17.10 of this chapter.

(b) The administering authority may grant longer permit periods or grant extensions to existing permits if deemed necessary to ensure compliance with this chapter or Land Conservation Committee policy. The administering authority may require additional erosion and runoff control measures as a condition of granting longer permit periods or permit extensions.

(c) In accordance with the technical standards and specifications in sec. 17.10 of this chapter, the administering authority may withhold issuance, suspend or revoke an erosion and runoff control permit, or require a change in the proposed construction schedule as a condition of a permit under sub. (1) above, if the administering authority determines that all of the following apply:

1. The proposed or actual land disturbing construction activity will exceed standard deadlines for seeding and sodding;

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2. Runoff or erosion from the site may significantly impact an environmentally sensitive area or cause other off-site environmental or property damage; and

3. The applicant or permit holder is unable or unwilling to provide other approved measures to minimize off-site impacts.

(3)(AM 08-10) **Financial Guarantee.** (a) Purpose and Type. A bond, escrow or letter of credit in a form approved by the administering authority shall be required for all erosion and runoff control permits issued to ensure compliance with this chapter.

(b) Amount. The amount of the financial guarantee shall be determined by the administering authority and shall be based on the estimated costs of construction of the best management practices in the approved erosion control and/or stormwater management plan(s) plus any costs for best management practice maintenance that may be needed during the construction phase or immediately after the site is stabilized, such as sediment removal.

(c) Security. Each financial guarantee shall be accompanied by a written agreement outlining its purpose, applicable amounts and all of the conditions for release.

(d) Conditions for Release. 1. The administering authority shall release the financial guarantee only after determining full compliance with the requirements of the permit and this chapter, including the following:

a. Certification of construction by a professional engineer, in accordance with sub.(4) below;

b. Completion of a satisfactory final inspection by the administering authority in accordance with sub (5) below;

c. Submittal of a copy of the recorded maintenance agreement, in accordance with sec. 17.12 of this chapter.

2. The permit holder may apply for a prorated release of the financial guarantee based on the completion or partial completion of various construction components or satisfaction of individual requirements of par.(d) above.

3. The administering authority shall withhold from the financial guarantee amount released to the permit holder, any costs incurred by the County to complete installation or maintenance of best management practices through enforcement action, as described in sec. 17.14 of this chapter, or prior to the transfer of maintenance responsibilities through an approved maintenance agreement, or other unpaid fees or costs incurred by the County associated with the administration of this section.

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(e) Other Financial Guarantees. The financial guarantee provisions of this chapter shall be in addition to any other financial guarantee requirements of the town board for other site improvements. Any arrangements made to combine the financial guarantee provisions of this chapter with other related requirements shall be made at the discretion of the administering authority.

(4)(AM 08-10) **Construction Certification.** (a) A professional engineer, licensed in the State of Wisconsin, shall verify that the engineer or qualified representative has successfully completed all site inspections outlined in the construction inspection report that the stormwater management BMP(s) were constructed and comply with the approved plans and applicable technical standards and specification of sec. 17.10 of this chapter, or otherwise satisfy all the requirements of this chapter. If warm season or wetland plantings are involved, a landscape architect or other qualified professional shall verify the planting process and its successful establishment.

(b) "As-built Plans and Survey". An as-built survey shall be certified as accurate by a registered land surveyor or an engineer licensed in the State of Wisconsin. "As-built" plans shall be submitted for all stormwater management facilities and other permanent best management practices or practice components as deemed necessary by the administering authority to ensure compliance with this chapter. As-built plans shall document, on maps and drawings of the same scale and quality as the site development plan, actual location, elevations, materials, construction specifications and other items and be certified by the project engineer.

(5) **Final Inspection.** After completion of construction, the administering authority shall conduct a final inspection of all sites regulated by this chapter to assist in determining compliance with the approved plan(s) and other applicable requirements, the permit and this chapter. If upon inspection, the administering authority determines that any of the applicable requirements have not been met, the administering authority shall notify the permit holder what changes would be necessary to meet the requirements. At the request of the permit holder, the administering authority shall provide notification of noncompliance or a report of final inspection in written or electronic form.

17.12 MAINTENANCE OF STORMWATER MANAGEMENT FACILITIES. (1) **Maintenance Agreement Required.** A maintenance agreement between the local municipality or other approved unit of government and the proposed property owner(s) shall be required for all stormwater management facilities installed to comply with the requirements of this chapter. The agreement shall be independent of all other restrictions or covenants and shall be prepared in accordance with this section.

(2)(AM 01-8)(AM 03-42)(AM 08-10) **Agreement Provisions.** The maintenance agreement shall, at a minimum, contain all of the following information and provisions:

(a) Identification of the owner(s) of the land parcel where the stormwater management facility is located;

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(b) Identification of each type of stormwater management facility and a general description of its purpose and design, including but not limited to facility dimensions, inlet and outlet design and dimensions and the drainage area served by the facility;

(c) A description of all long term maintenance activities that may or will be required for each stormwater management facility, and an estimated time interval between each activity;

(d) Granting of an access easement for access to all stormwater management facilities that is a minimum of 15 feet wide, not including drainage easements, right-of-ways or other restricted areas, and a minimum 12 foot wide travel lane within this area that is capable of withstanding construction equipment loads for future maintenance work;

(e) Identification of the landowner(s), organization, municipality or other entity responsible for long term maintenance of the stormwater management facility;

(f) Authorization to access to the property by employees of the Washington County Land and Water Conservation Division of the Planning and Parks Department, the local unit of government, their Administering Authority, assigns or designees to conduct regular inspections of the facility, monitor its performance and maintenance, and notify the designated entity when maintenance or repair activities are necessary;

(g) Recognition that, upon written notification, the designated entity shall, within a reasonable time period, complete any needed maintenance or repair work recommended as a result of an inspection of the facility;

(h) Authorization for the town, Washington County and/or other designated authority to carry out any maintenance activities if the designated entity does not perform the required maintenance or repair work within the time period specified in par. (g) above;

(i) Recognition that the applicable local government may exercise their statutory authority to levy and collect special assessments and charges under §66.0627, Wis. Stats., for any services carried out relating to par. (h) above;

(j) Language confirming that the entire agreement shall remain binding among all parties to and within the agreement, until changes are mutually agreed to in writing by all parties. Any changes made to the agreement must maintain the minimum items listed in this subsection and the long term maintenance of the stormwater management facility; and

(k) Other information as determined to be necessary by the administering authority or the Land Conservation Committee to ensure compliance with this chapter.

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(3) **Agreement Approval and Recording.** (a) The administering authority shall ensure that all submitted maintenance agreements comply with sub.(2) above. If the agreement does not comply, the administering authority shall notify the applicant or permit holder what changes are needed in order to comply.

(b) Upon certification of compliance with sub.(2) above by the administering authority, the maintenance agreement shall be recorded at the Washington County Register of Deeds referencing any plat, certified survey or other ownership transfer device pertaining to land which contains a stormwater management facility or is subject to maintenance responsibility in the approved agreement. The agreement as recorded shall ensure that the maintenance requirements are binding on all subsequent owners of the property upon which the stormwater management facility is located and that the restrictions run with the land and on any other property which is subject to maintenance responsibility in the agreement.

(c) The permit holder shall provide a copy of the recorded agreement, including evidence of the actual recording(s), to the administering authority.

(4) **Agreement Form.** The maintenance agreement requirements of this section may, at the discretion of the administering authority, be a separate document or may be incorporated into a developers agreement. The form of the document proposed for recording shall be reviewed and approved by the administering authority. Any method used shall comply with all of the requirements of this section.

(5) **Maintenance Responsibilities Prior to a Maintenance Agreement.** The permit holder shall be responsible for the maintenance of all stormwater management facilities prior to a satisfactory final inspection under sec. 17.11(5) of this chapter and the release of a financial guarantee under sec. 17.11(3) of this chapter.

17.13(AM 08-10) ILLICIT DISCHARGES. (1)(AM 08-10) **Prohibitions.** (a) Discharges. Except for stormwater and other discharges specifically exempted under sub. (b) below, no discharge, spilling or dumping of substances or materials shall be allowed into receiving water bodies or onto driveways, sidewalks, parking lots or other areas that drain into the storm drainage system.

(b) Connections. The construction, use, maintenance or continued existence of illicit connections to the storm drainage system is prohibited. This prohibition expressly includes, without limitation, illicit connections made prior to the adoption of this chapter, regardless of whether the connection was permissible under law or practice applicable or prevailing at the time of connection.

(2)(AM 08-10) **Exemptions.** The following activities are exempt from the provisions of this section unless found to have an adverse impact on the stormwater:

(a) Discharges authorized by a permit issued by the Wisconsin Department of Natural Resources.

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(b) Discharges resulting from fire fighting activities.

(c) Discharges from uncontaminated ground water, potable water source, roof drains, foundation drain and sump pump, air conditioning condensation, springs, lawn watering, individual residential car washing, water main and hydrant flushing and swimming pools if the water has been dechlorinated.

(3)(AM 08-10) **Notice of Violation.** Whenever the Administering Authority finds a violation of this section, the Administering Authority may order compliance by written notice of violation to the responsible party. Such notice may require without limitation:

(a) The elimination of illicit connections or discharges;

(b) That violating discharges, practices, or operations shall cease and desist;

(c) The abatement or remediation of stormwater pollution or contaminated hazards and the restoration of any affected property;

(d) Any responsible party that fails to comply with a notice of violation under this section shall be subject to further enforcement action under the provisions of sec. 17.14 below.

17.14(AM 08-10) ENFORCEMENT. (1) **Administering Authority.** The administering authority is authorized to administer and enforce compliance with this chapter. The administering authority shall have the following powers and duties:

(a) Advise applicants as to the requirements of this chapter and assist them in filling out forms and other related administrative procedures.

(b) Review applications, issue permits, and make all determinations stated in this chapter.

(c) Conduct on-site inspections and investigate complaints in a timely manner to ensure compliance with this chapter.

(d) Maintain records of all permits issued, inspections and determinations made, work approved, enforcement action and other official action.

(e) Make recommendations to the Land Conservation Committee on any revisions or updates to this chapter, including keeping all technical standards, construction specifications and administrative tools current and advising on policy issues.

(f) Carry out duties relating to ensuring the long term maintenance of stormwater management facilities, such as site inspections and making recommendations for needed repairs or maintenance, in accordance with approved working agreements.

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(2)(AM 08-10) **Prohibited Practices.** It shall be deemed a violation, and be subject to enforcement action, for any person, firm, association, corporation or other entity subject to the requirements of this chapter to do in any of the following:

- (a) Commence any land disturbing construction activity prior to:
 1. Obtaining an erosion and runoff control permit; or
 2. Notifying the administering authority in writing a minimum of 24 hours in advance of commencement of the activity; or
 3. Installing those best management practices identified in the approved plan(s) to be installed prior to any land disturbing construction activity.
- (b) Fail to follow the approved plan(s), or other permit conditions, including but not limited to the required construction sequence, practice installation and technical standards or specifications.
- (c) Fail to maintain, repair or replace any best management practice deemed ineffective prior to the release of a financial guarantee.
- (d) Fail to comply with the notice of violation under sec. 17.13(3) of this chapter.

(3) **Violations.** (a) The administering authority is authorized to use the following methods of enforcement in any combination thereof against any person, firm, association, corporation or other entity that is found to be in violation of any provision of this chapter:

1. **Forfeiture.** Any violator shall be subject to a forfeiture of not less than \$50 or more than \$500 plus the cost of prosecution for each violation. Each day that a violation exists shall constitute a separate offense.
2. **Stop Work Order.** Any violator is subject to an order to stop all work except that which is needed as a corrective action to bring the site into compliance, or the County Attorney may be requested to obtain a temporary restraining order and such other remedial court orders as shall be necessary to ensure compliance.
3. **Permit Revocation.** The administering authority may revoke a permit issued under this chapter if the administering authority determines that the permit holder is not making a good faith effort to comply with the conditions of the permit. Upon loss of the permit, all construction shall cease and the site shall be stabilized, with any costs incurred by the County or local government to be charged against the financial guarantee.

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4. **Emergency Action.** The County may enter upon the property and take any necessary emergency action if the administering authority determines that the site in violation is an immediate threat to public health, safety, welfare, the environment or downstream property, or if the permit holder or other violator refuses to take the corrective action as ordered by the administering authority. Any cost incurred by the County as a result of this action shall be billed to the permit holder or subtracted from the financial guarantee provided by the permit holder. Failure to pay said costs on a timely basis shall constitute a violation of this chapter.

(b) Any enforcement measures shall continue until compliance is achieved or as ordered by the court.

(c) The administering authority shall notify the permit holder, in writing, of any violation. The written notice shall be hand delivered to the permit holder or sent by certified mail and shall describe the violation, remedial action(s) needed, a schedule for all remedial action to be completed, and additional enforcement action which may be taken.

(d) The schedule established by the administering authority for required remedial action shall be based on a reasonable amount of time required to carry out the remedial action.

(e) **Private Enforcement.** Any person affected by activities regulated under this chapter may enforce the provisions of this chapter by private action seeking an injunction.

(4) **Responsible Party.** For purposes of determining the responsible party or parties for any enforcement action under this chapter, the phrase "person, firm, association, corporation or other entity" as used in this chapter shall include, as the context requires, any owner, lessee, tenant, mortgagee, trustee, land contract vendor or vendee, or other holder of any legal or equitable interest in the particular land subject to this chapter and shall also include any contractor, subcontractor, engineer, consultant, agent or employee retained or acting on behalf of any of the preceding and having any material responsibility or having undertaken any activity with respect to the particular land subject to this chapter.

17.15(AM 08-10) APPEALS. (1) **Authority.** The Board of Adjustment shall act as the review and appeal authority for any order, requirement, decision or determination by the administering authority under this chapter.

(2) **Procedure.** The rules, procedures, duties and powers of the Board of Adjustment shall be as provided in the County Code and the provisions of §59.694, Wis. Stats., shall apply to any review or appeal under this chapter.

(3) **Variances.** Upon appeal, the Board of Adjustment may authorize variances from the provisions of this chapter which are not contrary to the public interest or the purpose of this chapter, and where owing to special conditions beyond the control of the applicant, a literal enforcement of this chapter will result in unnecessary hardship.

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(4) **Who May Appeal.** Appeals to the Board of Adjustment may be taken by any aggrieved person or by an officer, department, board, or bureau of the County affected by any decision of the administering authority.

17.16(AM 08-10) SEVERABILITY. If any section, clause, provision or portion of this chapter is judged unconstitutional or invalid by a court of competent jurisdiction, the remainder of the chapter shall remain in force and not be affected by such judgment.

17.17(AM 08-10) DEFINITIONS. The terms used in this chapter shall have the following meaning:

(1)(AM 08-10) "**Administering authority**" for the purposes of Washington County, means the County Conservationist or his or her designee; and for purposes of other governing entities (towns, villages, cities) within Washington County, means a governmental employee or contracted firm that is designated by the governing body to administer this chapter.

(2) (AM 08-10) "**Affected**" as used in sec. 17.14(3)(e) of this chapter, means that a regulated activity has significantly:

(a) Caused negative impacts on water quality or the use or maintenance of one's property or business; or

(b) Endangered one's health, safety or general welfare.

(3) "**Agricultural crops**" means any plant grown for the purpose of harvest to support a business.

(4) (AM 08-10) "**Average annual rainfall**" means a calendar year of precipitation, excluding snow, which is considered typical.

(5) (AM 08-10) "**Best management practice**" (or "**BMP**") means structural or non-structural measures, practices, techniques or devices employed to avoid or minimize soil, sediment or pollutants carried in runoff to waters of the state.

(6) (AM 08-10) "**Common plan of development**" means all lands included within the boundary of a certified survey map or subdivision plat created for the purpose of development or sale of property where integrated, multiple, separate and distinct land developing activity may take place at different times by future owners.

(7) (AM 08-10) "**Connected Impervious**" means an impervious surface that is directly connected to a separate storm sewer or water of the state via an impervious flowpath.

(8) (AM 08-10) "**Construction site erosion control**" means preventing or reducing soil erosion and sedimentation from land disturbing construction activity.

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(9) (AM 08-10) "**Conveyance System**" means a device or practice such as a swale, pipe, or ditch that is designed specifically to pass the stormwater from one place to another. A conveyance system does not include a practice designed for post-construction stormwater management, i.e. infiltration basin, infiltration trench, infiltration swale, bioretention basin, rain garden, or wet detention basin.

(10) (AM 08-10) "**Design storm**" means a hypothetical discrete rainstorm characterized by a specific duration, temporal distribution, rainfall intensity, return frequency and total depth of rainfall.

(11) (AM 08-10) "**Dewatering**" means the removal of trapped water from a construction site to allow land development or utility installation activities to occur.

(12) (AM 08-10) "**Effective infiltration area**" means the area of the infiltration system that is used to infiltrate runoff and does not include the area used for site access, berms or pretreatment.

(13) (AM 08-10) "**Environmentally sensitive area**" means any area that, due to the natural resources present or the lack of filtering capacity, is significantly more susceptible to the negative impacts of sedimentation and other pollutants associated with erosion and urban runoff. Examples include direct hydrologic connections to lakes, stream, wetlands or other water resources, very coarse or shallow soils to groundwater or bedrock, or areas inhabited by endangered resources and environmental corridors.

(14) (AM 08-10) "**Erosion**" means the process by which the land's surface is worn away by the action of water, wind, ice or gravity.

(15) (AM 08-10) "**Filtering layer**" means soil that has at least a 3-foot deep layer with at least 20% that passes through a #200 sieve (fines); or at least a 5-foot deep layer with at least 10% that passes through a #200 sieve (fines); or another medium exists with an equivalent level of protection, as determined by the Administering Authority.

(16) (AM 08-10) "**Final grading**" means the placement of topsoil over disturbed areas in accordance with the requirements of sec. 17.08(3) of this chapter.

(17) (AM 08-10) "**Groundwater recharge areas**" means lands identified in a document published by the Southeastern Wisconsin Regional Planning Commission as groundwater recharge areas; or where, prior to any land disturbing construction activity, precipitation or runoff could only leave the area by infiltrating the ground, thereby recharging the groundwater.

(18) (AM 08-10) "**Illicit connection**" means any drain or conveyance, whether on the surface or subsurface, which allows an illegal non-stormwater discharge to enter the storm drain system, including but not limited to: sewage, process wastewater and wash water, any connections to the storm drain system from indoor drains and sinks, regardless of whether said drain or connection had been allowed, permitted, or approved by a government agency, prior to the adoption of this chapter.

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(19) (AM 08-10) "**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 surfaces that typically are impervious. For purposes of this chapter, typical gravel driveways and other examples listed shall be considered impervious unless specifically designed to encourage infiltration or storage of runoff.

(20) (AM 08-10) "**Impractical**" means that complying with a specific requirement would cause undue economic hardship and that special conditions exist which are beyond the control of the applicant and would prevent compliance.

(21) (AM 08-10) "**In-fill development**" means land development that occurs where there was no previous land development and is surrounded by other existing land development.

(22) "**Infiltration**" means the entry and movement of precipitation or runoff into or through soil.

(23) (AM 08-10) "**Infiltration system(s)**" means a device or practice such as a basin, trench, rain garden or swale designed specifically to encourage infiltration, but does not include natural infiltration in pervious surfaces such as lawns, redirecting of rooftop downspouts onto lawns or minimal infiltration from practices, such as swales or roadway side channels designed for conveyance and pollutant removal only.

(24) (AM 08-10) "**Intercept soil transport**" means the process of trying to prevent delivery of sediment by installing a silt fence or some other form of sediment trap in the flow path to slow flows and settle the suspended soil particles.

(25) (AM 08-10) "**Karst features**" means an area or surficial geologic feature subject to bedrock dissolution so that it is likely to provide a conduit to groundwater, and may include caves, enlarged fractures, mine features, exposed bedrock surfaces, sinkholes, springs, seeps or swallets.

(26) (AM 08-10) "**Land Conservation Committee**" means the committee of the Washington County Board of Supervisors that is created under the authority of §92.06, Wis. Stats., with the powers and duties specified in the Ch. 15 of the Washington County Code.

(27)(AM 03-42)(AM 08-10) "**Land and Water Conservation Division of the Planning & Parks Department**" means the County department that is charged with implementing the soil and water conservation policies and programs of the Washington County Land Conservation Committee, including this chapter.

(28) (AM 08-10) "**Land disturbing construction activity**" (or "**disturbance**") means any man-made alteration of the land surface resulting in a change in the topography or existing vegetation or non-vegetation soil cover, that may result in runoff and lead to an increase in soil erosion and movement of sediment into waters of the state. Land disturbing construction activity includes clearing and grubbing, demolition, excavation, pit trench dewatering, filling and grading activity.

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(29) (AM 08-10) "**Manning's Formula**" is an empirical formula for open channel flow, or flow driven by gravity developed by Robert Manning. The formula in English units is $V = (1.49/n) * (R^{2/3} * S^{1/2})$ where V = Velocity (ft/s), n = Manning's roughness coefficient, R = hydraulic radius in feet ($R = A/P$, A = cross sectional area of flow (ft²), P = wetted perimeter of flow (ft)) S = bed slope (ft/ft).

(30) (AM 08-10) "**Maximum Extent Practicable (MEP)**" means a level of implementing best management practices in order to achieve a performance standard specified in this chapter 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.

(31) "**No appreciable off-site impact**" means that the impact of any land disturbing construction activity on off-site property or natural resources would be negligible due to site conditions, such as internal drainage or a very large vegetation buffer area surrounding a small building project.

(32) (AM 08-10) "**Off-site BMP**" means best management practice(s) that are located outside of the boundaries of the site covered by a permit application. Off-site BMPs are usually installed as part of a regional stormwater management plan approved by a local government.

(33) (AM 08-10) "**P8**" is a pollutant loading model approved by the WIDNR for predicting the generation and transport of stormwater runoff pollutants and run-off volume in urban watersheds, and evaluation of the efficiency of the design in reducing total suspended solids. (Program for Predicting Polluting Particle Passage thru Pits, Puddles, & Ponds)

(34) (AM 08-10) "**Peak flow**" means the highest flow rate of runoff, measured in cubic feet per second, that would normally result from a given design storm.

(35) (AM 08-10) "**Permanent best management practice**" means any best management practice that is designed to remain in place after the development is complete. They are designed to stabilize the site or to permanently manage stormwater runoff.

(36) (AM 08-10) "**Pollutant**", as per s. 283.01(13) Wisconsin Statutes, means any dredged spoil, solid waste, incinerator residue, sewage, garbage, refuse, oil, sewage sludge, munitions, chemical wastes, biological materials, radioactive substance, heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal and agricultural waste discharged into water.

(37) (AM 08-10) "**Pollution**" as per s. 283.01(14) Wisconsin Statutes, means man-made or man-induced alteration of the chemical, physical, biological or radiological integrity of water.

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(38) (AM 08-10) "**Pre-development condition**" means the conditions of the land surface, including vegetation cover and natural drainage patterns, prior to the proposed land disturbing construction activity. For purposes of this chapter, all pre-development conditions shall assume good land management and good "hydrologic condition", as stated in TR-55.

(39) (AM 08-10) "**Preventive action limit**" has the meaning given in s. NR 140.05(17), Wis. Adm. Code.

(40) (AM 08-10) "**RECARGA**" is a computer model developed by the University of Wisconsin-Madison (Atchison and Severson 2004) that is used as a design tool for evaluating the performance of bioretention facilities, rain garden facilities, and infiltration basins.

(41) (AM 08-10) "**Redevelopment**" means areas where development is replacing older development of similar impervious conditions.

(42) (AM 08-10) "**Regional stormwater management plan**" means a published document that establishes a planned course of action for managing stormwater runoff from an entire drainage area or watershed, including future land disturbing construction activities within the watershed. A regional stormwater management plan will recommend the use of best management practices for individual development sites and for selected points within the watershed to meet the goals and objectives of the plan.

(43) (AM 08-10) "**Responsible party**" means any person or entity holding fee title to the property or acting as the owners representative, including any person, firm, corporation or other entity performing services, contracted, subcontracted or obligated by other agreement to design, implement, inspect, verify or maintain the BMPs and other approved elements of erosion control and stormwater plans and permits under this chapter.

(44) (AM 08-10) "**Roadway**" as used in sec. 17.05(2)(b) of this chapter, means any private or public access drive that serves more than 2 residences or businesses.

(45) (AM 08-10) "**Runoff**" means stormwater or precipitation including rain, snow, ice melt, or similar water that moves on the land surface via sheet or channelized flow. Also referred to as stormwater runoff.

(46) (AM 08-10) "**Shoreland, wetland and floodplain zones**" as defined in Washington County Code Chapter 23, Shoreland, wetland and floodplain zoning. The shoreland zone generally includes all lands within 300 feet of a navigable stream or 1,000 feet from a lake shore. The wetland and floodplain zoning districts may extend beyond the shoreland zone.

(47) (AM 08-10) "**Site**" means the entire area included in the legal description of which the land disturbing construction activity will occur.

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(48) (AM 08-10) "**SLAMM**" is a pollutant loading model approved by the WIDNR for predicting the generation and transport of stormwater runoff pollutants and run-off volume in urban watersheds, and evaluation of the efficiency of the design in reducing total suspended solids. (Source Loading and Management Model)

(49) (AM 08-10) "**Soil detachment**" means the first step in the soil erosion process, or the dislodging of the soil particle from raindrop impact, water flow or wind. After detachment, the soil particle can be suspended and carried in runoff or wind to another site. Soil detachment is reduced by providing a vegetation or synthetic cover over the soil surface or through the application of soil treatment measures designed for this purpose.

(50) (AM 08-10) "**Stabilized**" means that vegetation is well established or other surfacing material is in place and the risk of further soil erosion is minimal.

(51) (AM 08-10) "**Stop Work Order**" means an order issued by the Administering Authority which requires that all construction activity on the site be stopped – except best management repair/installation as required by the Administering Authority.

(52) (AM 08-10) "**Storm drainage system**" means a publicly-owned facility by which stormwater is collected and/or conveyed, including but not limited to any roadways with drainage systems, municipal streets, gutters, curbs, inlets, piped storm drains, pumping facilities, retention and detention basins, natural and human-made or altered drainage channels, reservoirs, and other drainage structures.

(53) (AM 08-10) "**Stormwater**" has the meaning as the term "runoff".

(54) (AM 08-10) "**Stormwater Management**" means any measures taken to permanently reduce or minimize the negative impacts of stormwater runoff quantity and quality from urban areas after land disturbing construction activities.

(55) (AM 08-10) "**Stormwater Management Facility**" means any structural best management practice, such as a retention pond, infiltration basin or other physical structure, that is designed to collect and permanently manage the quantity and/or quality of stormwater runoff.

(56) (AM 08-10) "**Subsoil**" means the "B" horizon in any natural soil profile. Natural soil profiles are described in detail in the Soil Survey of Washington County.

(57) (AM 08-10) "**Technical standard**" means a document that specifies design, predicted performance and operation and maintenance specifications for a material, device or method.

(58)(AM 08-10) "**Temporary best management practice**" means any best management practice that is intended to reduce soil erosion and/or sediment in runoff during the construction phase only, and is intended to be removed after the site is stabilized.

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(59) (AM 08-10) "**Top of channel**" means an edge, or point on the landscape landward from the ordinary high-water mark of a surface water of the state where the slope of the land begins to be less than 12% continually for at least 50 feet. If the slope of the land is 12% or less continually for the initial 50 feet landward from the ordinary high-water mark, the top of the channel is the ordinary high-water mark.

(60) (AM 08-10) "**Topsoil**" means the "A" horizon found in any natural soil profile not formed from organic material. Natural soil profiles are described in detail in the Soil Survey of Washington County.

(61) (AM 08-10) "**Total suspended solids load**" means the total weight of material, including sediment and other solids, that is assumed to be carried in the runoff water and discharged from the site based on runoff models for urban lands. For best management practice design purposes, a 5 micron particle size is usually selected as a target to achieve 80% total suspended solids removal rate, as required in sec. 17.09(4) of this chapter.

(62) (AM 08-10) "**Watershed**" means the total area of land where runoff drains to a specific point on the landscape. It is also referred to as the drainage area.

(63) (AM 08-10) "**Wetland functional values**" means the type, quality and significance of the ecological and cultural benefits provided by the wetland, such as: flood storage, water quality protection, groundwater recharge and discharge, shoreline protection, fish and wildlife habitat, floral diversity, aesthetics, recreation and education.

(64) (AM 08-10) "**Working day**" means any day except Saturday and Sunday and holidays designated in s. 230.35(4)(a), Wis. Stats. When used in sec. 17.08 of this chapter, relating to specific erosion control requirements, the term working days shall not include any days that site stabilization activities could not reasonably be carried out due to inclement weather conditions.