University of Wisconsin Green Bay

Stormwater Management Plan

Draft
1.0 Introduction ........................................................................................................... 1
  1.1 Regulatory Background .......................................................................................... 1
  1.2 Purpose .................................................................................................................. 2
  1.3 Scope ..................................................................................................................... 2

2.0 Pertinent Code ....................................................................................................... 2
  2.1 Description of Pertinent Codes ............................................................................. 2
  2.2 NR 151 – Runoff Management ............................................................................. 2
    2.2.1 Total Suspended Solids ...................................................................................... 4
    2.2.2 Peak Discharge .................................................................................................. 4
    2.2.3 Infiltration .......................................................................................................... 4
      2.2.3.1 Exclusions ..................................................................................................... 6
      2.2.3.2 Exemptions .................................................................................................... 7
    2.2.4 Protective Areas .................................................................................................. 7
  2.3 NR 216 – Stormwater Discharge Permits .............................................................. 9
    2.3.1 Municipal Stormwater Discharge Permits ....................................................... 9
      2.3.1.1 Public Education and Outreach ................................................................ 10
      2.3.1.2 Public Involvement and Participation ...................................................... 12
      2.3.1.3 Illicit Discharge Detection and Elimination ............................................ 14
      2.3.1.4 Storm Sewer System Map ......................................................................... 17
      2.3.1.5 Construction Site Pollutant Control ......................................................... 17
      2.3.1.6 Post-Construction Site Stormwater Management .................................. 17
      2.3.1.7 Pollution Prevention ................................................................................... 18
      2.3.1.8 Annual Report ............................................................................................ 18
      2.3.1.9 Schedule of Compliance .......................................................................... 19
    2.3.2 Construction Site Stormwater Discharge Permit .......................................... 19
  2.4 NR 120 Priority Watershed and Priority Lake Program ....................................... 20
  2.5 NR 116 Wisconsin’s Floodplain Management Program ...................................... 21
  2.6 City of Green Bay Ordinance .............................................................................. 22
    2.6.1 Stormwater Management Standards ............................................................. 23
    2.6.2 Permitting Requirements and Procedures and Fees ..................................... 25
    2.6.3 Stormwater Management Plans ..................................................................... 25
    2.6.4 Maintenance Agreement ................................................................................ 25
    2.6.5 Enforcement and Penalties ............................................................................. 26

3.0 Existing Campus Features .................................................................................... 27
  3.1 Physical Layout .................................................................................................... 27
  3.2 Satellite Facilities .................................................................................................. 27
  3.3 Geography ........................................................................................................... 28
  3.4 Existing Soils ....................................................................................................... 28
    6.4.1 Allendale .......................................................................................................... 28
    6.4.2 Keown Series .................................................................................................. 28
    6.4.3 Kewaunee Series ............................................................................................ 29
    6.4.4 Manawa Series ............................................................................................... 29
    6.4.5 Poygan Series ................................................................................................ 29
    6.4.6 Solona Series .................................................................................................. 30

Stormwater Management Plan  
Page i
3.5 Land Use .................................................................................................................. 30
3.6 Surface Water Features .......................................................................................... 30
3.7 Storm Sewer System ............................................................................................... 30
3.8 Offsite Stormwater Sources/Sewers ....................................................................... 31

4.0 Existing Stormwater Management Practices ......................................................... 31
4.1 Permits ..................................................................................................................... 31
4.2 Best Management Practices .................................................................................. 31
4.3 Detention/Retention Features ................................................................................ 31

5.0 Proposed/Anticipated Campus Development ......................................................... 31
5.1 6-Year Plan Improvements .................................................................................... 31
5.2 Utility Improvements ............................................................................................. 33
5.3 Storm Sewer System Improvements ..................................................................... 33
5.4 Offsite Stormwater .................................................................................................. 33

6.0 Anticipated Stormwater Management Efforts ........................................................ 33
6.1 Description of Code Required Action .................................................................... 33
6.2 NR-151 Runoff Management .................................................................................. 33
6.3 NR 216 – Stormwater Discharge Permits ................................................................. 34
6.3.1 Municipal Stormwater Discharge Permits ......................................................... 34
6.3.2 Construction Site Stormwater Discharge Permits ............................................. 35
6.4 NR 120 – Priority Watershed and Priority Lake Program ....................................... 35
6.5 NR 116 – Wisconsin’s Floodplain Management Program ...................................... 35
6.6 Permits Required .................................................................................................... 35
6.7 Recommended Modeling ....................................................................................... 36
6.8 Best Management Practices .................................................................................. 37
6.8.1 Infiltration Basins .............................................................................................. 38
6.8.2 Wet Detention .................................................................................................... 38
6.8.3 Biofiltration Devices .......................................................................................... 38
6.8.4 Rain Gardens ...................................................................................................... 38
6.8.5 Underground Detention Systems ..................................................................... 39
6.8.6 Porous Pavements ............................................................................................. 39
6.8.7 Green Roofs ...................................................................................................... 40
6.8.8 Dry Detention .................................................................................................... 41
6.8.9 Proprietary Devices ......................................................................................... 42
6.9 Stormwater System Improvements and Associated Budgetary Costs ..................... 43
6.10 Summary of Budgetary Costs ................................................................................ 44

7.0 Conclusions and Recommendations ........................................................................ 46
7.1 Meeting NR 216 Six Minimum Measure for WPDES Permit .................................. 46
7.2 Meeting NR 151 Sediment Removal Requirements ............................................... 48
Executive Summary

1.0 Introduction

1.1 Regulatory Background

This Stormwater Management Plan (SWMP) is required under the U.S. Environmental Protection Agency (EPA) Phase II stormwater regulations, promulgated under the federal Clean Water Act (CWA). These regulations require the University of Wisconsin, Green Bay to obtain coverage under the Wisconsin Pollutant Discharge Elimination System (WPDES). The University with the DNR should have filed a Notice of Intent in March of 2003 requesting coverage under the WPDES. The Wisconsin Department of Natural Resources (DNR) will require resubmittal of the Notice of Intent likely in 2005. The final permit will require the University of Wisconsin, Green Bay to develop a SWMP and report annual progress. This SWMP outlines activities required for implementation.

In response to the 1987 Amendments to the CWA, the EPA developed Phase I of the federal stormwater management rules promulgated in 1990 that created a stormwater discharge permit system. Phase I relies on the National Pollution Discharge Elimination System (NPDES) permit as a means of controlling the amount of pollution generated by certain dischargers from stormwater runoff. The Stormwater Phase II rule was promulgated on December 8, 1999 as the next step in the EPA’s effort to further reduce adverse impacts to the Nation’s water resources and aquatic habitat by instituting the use of controls on the unregulated sources of stormwater discharges. The Phase II rule addresses stormwater discharges from certain regulated small municipal separate storm sewer systems (MS4s) and from construction sites that disturb one to five acres.

In 1974 the EPA delegated the authority for issuing permits in Wisconsin to the Wisconsin Department of Natural Resources (WDNR), which exercises its permitting authority through the Wisconsin Pollutant Discharge Elimination System (WPDES). Phase II regulations require certain municipalities including cities, villages, towns, and counties to obtain WPDES permit coverage. There are also other storm sewer systems that are classified as MS4s (e.g. certain universities, correction facilities, national defense facilities) that will require permit coverage. The WPDES permit will include conditions required by s. NR 216.07, Wis. Adm. Code, which consists of the following six categories:

- Public Education and Outreach
- Public Involvement and Participation
- Illicit Discharge Detection and Elimination
- Construction Site Pollution Control
- Post-Construction Stormwater Management
- Pollution Prevention
All of the six categories must be addressed by a program that is developed and implemented with measures of compliance in accordance with the permit’s compliance schedule. For university permittees, it may be that a certain permit requirement may not be applicable or are already addressed. The university will need to justify to the WDNR why a permit requirement is not applicable or already addressed.

1.2 Purpose
The purpose of this study is to provide a plan, which can be used to guide future development. The resulting report will outline the necessary steps to follow to meet current and future stormwater regulations, which can be identified at this time.

1.3 Scope
The scope of this project is to document the existing stormwater facilities on campus and possible stormwater management facilities, which may be required to meet the EPA Phase II stormwater requirements. Maps from available data will be provided as visual references in support of the text. A written guide will then be provided to assist with meeting known local and DNR (NR151/216/120/116) stormwater requirements; along with identifying actions required to meet current/local/state/federal codes. If necessary future modeling will be included to solve existing drainage problems, accompanied with recommended system improvements and providing opinions of probable cost. Finally a project website will be established to post the final report online along with maps and report documents.

2.0 Pertinent Code

2.1 Description of Pertinent Codes
In this report we will provide an analysis for four different codes, NR 151, NR 216, NR 120 and NR 116. The two primary codes dealing with post-construction runoff management, erosion control during construction, infiltration of runoff and sediment removal for MS4s are NR 151 and NR 216. In general 80% of all sediment must be removed during construction, 80% of sediment must be removed for new development and 40% of sediment must be removed for redevelopment or infill sites. NR 151 also requires stormwater infiltration where appropriate. NR 120 deals with priority watersheds and associated grants. This campus is not in a priority watershed. NR 116 deals with development in floodplains, floodfringes and floodways. All in all, NR 151 and NR 216 are the two most important stormwater ordinances regulating runoff from existing and future development at the UWGB.

2.2 NR 151 – Runoff Management
According to the DNR performance standard NR 151.11, any construction site that has at least one acre of land disturbing construction activity, a written plan shall be developed for new development and redevelopment and implemented for each site and shall incorporate the following requirements:
• Best management practices (BMP’s) that, by design, achieve, to the maximum extent practicable, 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 construction site has undergone final stabilization. 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 why the 80% reduction goal is not attainable and the sediment load shall be reduced to the maximum extent practicable.

• Where appropriate, the plan shall include sediment controls to do all the following to the maximum extent practicable:
  
o Prevent tracking of sediment from the construction site onto roads and other paved surfaces. A tracking pad on to and off the site can be constructed to prevent tracking of sediment.
  
o Prevent discharge of sediment as part of site de-watering
  
o Protect separate storm drain inlet structures from receiving sediment
  
o 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 transport by runoff into waters of the state.

A “post-construction site” means a construction site subject to regulation after construction is completed and final stabilization has occurred. Performance standard for post construction applies to a post construction site that is or was subject to the performance standards of NR 151.11 stated above EXCEPT:

• A redevelopment post-construction site with no increase in exposed parking lots or roads

• 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.

• Underground utility construction such as water, sewer and fiber optic lines, but not including the construction of any above ground structures associated with utility construction.

A storm water management plan shall be developed and implemented for each post-construction site and shall incorporate the following requirements for total suspended solids, peak discharge, and infiltration:
2.2.1 Total Suspended Solids
BMP’s shall be designed, installed and maintained to control total suspended solids carried in runoff from the post-construction site as follows:

- For new development, by design, reduce to the maximum extent practicable, the total suspended solids load by 80%, based on an average annual rainfall, as compared to no runoff management controls.

- For redevelopment, by design, reduce to the maximum extent practicable, the total suspended solids load by 40%, based on an average annual rainfall, as compared to no runoff management controls.

- For in-fill development under 5 acres that occurs within 10 years after October 1, 2002, by design, reduce to the maximum extent practicable, the total suspended solids load by 80%, based on an average annual rainfall, as compared to no runoff controls.

If the design cannot achieve the applicable total suspended solids reduction specified, the storm water management plan should include a written and site-specific explanation why that reduction level could not be attained and the total suspended solids shall be reduced to the maximum extent practicable.

2.2.2 Peak Discharge
By design, BMP’s shall be employed to maintain or reduce the peak runoff discharge rates, to the maximum extent practicable, as compared to pre-development conditions for the 2-year, 24-hour design storm applicable to the post-construction site. Predevelopment conditions and runoff curve numbers are determined in accordance with TR-55.

This does not apply to the following:

- A post-construction site where the change in hydrology due to redevelopment 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.

- A redevelopment post-construction site

- An in-fill development area less than 5 acres

2.2.3 Infiltration
Based upon NR 151, Infiltration standards are required to be met for new development or redevelopment. Infiltration may be impractical on sites where there is a high silt or clay content. Sites must be evaluated to determine if infiltration is required in accordance with DNR Technical Standard 1002 – Site Evaluation for Infiltration. To verify whether a site is capable of infiltration, an initial screening of the site must be
performed. The initial screening should identify potential locations for infiltration devices; determine if installation is limited by NR 151, and to determine where fieldwork is needed. In this evaluation, there are things that need to be determined such as:

- Site topography and slopes greater than 20%
- Infiltration capacity
- Regional or Local Depth to Groundwater
- Presence of hydric Soils
- Presence of Endangered Species
- Sites where infiltration is excluded or exempted.

Field Verification will be needed to determine data found in the initial screening. For example this may include verification of topography, depth to groundwater, infiltration characteristics, and hydric soils. This is also needed to test for Percent Fines to determine if there are any exemptions of exclusions. Borings and test pits may be performed to verify infiltration capacity and depth to groundwater. Table 1 of the DNR Technical Standard 1002 can be used to determine the number and depth required for test pits and borings. If the site has favorable properties to be able to develop an infiltration device then the measured or a design infiltration rate must be computed in accordance with the Technical Standard 1002. Some sites may be exempt to infiltration such as sites that consist of silts and clay.

Before infiltrating runoff, pretreatment shall be required for parking lot runoff and for runoff from new road construction in commercial, industrial and institutional areas that will enter an infiltration system. This pretreatment prevents the infiltration system from clogging prior to scheduled maintenance and protects the groundwater quality. The purpose of this is to have the highest water quality possible before the infiltration device and entering into the groundwater.

BMP’s shall be designed, installed and maintained to infiltrate runoff to the maximum extent practicable in accordance to the following:

- In residential area, one of the following must be met
  - Infiltrate runoff volume so that the post-development infiltration volume is at least 90% of the pre-development infiltration volume. When designing the infiltration system, no more than 1% of the project site is required as an effective infiltration area.
  - Infiltrate 25% of the post-development runoff volume from the 2-year, 24-hour design storm with a Type II distribution. Separate curve numbers for
pervious and impervious surfaces must be used to calculate runoff volume instead of composite curve numbers as stated in TR-55.

- For non-residential development, including commercial, industrial and institutional development, the “project site” is defined as rooftop and parking lot areas. One of the following standard shall be met:
  - Infiltrate 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. When designing appropriate infiltration systems to meet this requirement, no more than 2% of the project site is required as an effective infiltration area.
  - Infiltrate 10% of the post-development runoff volume from the 2-year, 24-hour storm with a type II distribution. Separate curve numbers for pervious and impervious surfaces must be used to calculate runoff volume instead of composite curve numbers as stated in TR-55.

- Pre-developed areas:
  - Infiltrate 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. When designing appropriate infiltration systems to meet this requirement, no more than 2% of the project site is required as an effective infiltration area.

2.2.3.1 Exclusions
The runoff from the following areas are prohibited from meeting the requirements of this paragraph:

- Areas associated with tier 1 industrial facilities identified in s. NR 216.21(2)(a), including storage, loading, rooftop and parking.

- Storage and loading areas of tier 2 industrial facilities identified in s. NR 216.21(2)(b).

- Fueling and vehicle maintenance areas.

- Areas within 1000 feet upgradient or within 100 feet downgradient of karst features.

- Areas with less than 3 feet separation distance from the bottom of the infiltration system to the elevation of seasonal high groundwater or the top of bedrock.
• Area with runoff from industrial, commercial and institutional parking lots and roads and residential arterial roads with less than 5 feet separation distance from the bottom of the infiltration system to the elevation of seasonal high groundwater or top of bedrock.

• Areas within 400 feet of a community water system well or within 100 feet of a private well for runoff infiltrated from commercial, industrial and institutional land uses or regional devices for residential development.

• Areas where contaminants of concern are present in the soil through which infiltration will occur

• Any area where the soil does not exhibit on of the following characteristics between the bottom of the infiltration system and the seasonal high groundwater and top of bedrock: at least a 3-foot soil layer with 20% fines or greater; or at least a 5-foot soil with 10% fines or greater. This does not apply where the soil medium within the infiltration system provides an equivalent level of protection. This does not prohibit infiltration of roof runoff.

2.2.3.2 Exemptions
The following are not required to meet the requirements for infiltration:

• Areas where the infiltration rate of the soil is less than 0.6 inches/hour measured at the bottom of the infiltration system.

• Parking areas and access roads less than 5,000 square feet for commercial and industrial development.

• Redevelopment post-construction

• In-fill development areas less than 5 acres

• Infiltration areas during periods when the soil on the site is frozen.

• Roads in commercial, industrial and institutional land uses, and arterial residential roads

2.2.4 Protective Areas
Protective Areas is 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 the channel or delineated wetland boundary to the closest impervious surface. Protective land in this paragraph does not include any area of land adjacent to any stream enclosed within a pipe or culver, such that runoff cannot enter the enclosure at this location. The following are considered “protective areas”:
• For outstanding resource waters and exceptional resource waters, and for wetlands in areas of special natural resource interest as specified in s. NR 103.04, 75 feet.

• For perennial and intermittent streams identified on a United States geological survey 7.5-minute series topographic map, or a county soil survey map, whichever is more current, 50 feet.

• For lake, 50 feet.

• For highly susceptible wetlands, 50 feet.

• For less susceptible wetlands, 10% of the average wetland width, but no less than 10 feet no more than 30 feet.

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

For post-construction sites located within a protective area, except those areas exempted, the following requirements must be met:

• Impervious surfaces shall be kept out of the protective area to the maximum extent practicable.

• Where land disturbing construction activity occurs within a protective area, and where no impervious surface is present, adequate sod or self-sustaining vegetative cover of 70% or greater shall be established and maintained.

• BMP’s such as filter strips, swales, or wet detention basin, that are designed to control pollutants from non-point sources may be located in the protective area.

Exclusions – the above paragraphs in regards to “protective areas” does not apply to:

• Redevelopment post-construction sites.

• In-fill development areas less than 5 acres.

• Post-construction sites from which runoff does not enter the surface water, except to the extent that vegetative ground cover is necessary to maintain bank stability.

Fueling and vehicle maintenance areas shall, to the maximum extent practicable, 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. BMP’s need to be installed before final stabilization of the site.
2.3 NR 216 – Stormwater Discharge Permits

According to NR 216.001, the purpose for requiring storm water discharge permits is to establish criteria defining those storm water discharges needing WPDES storm water permits, and to implement the appropriate performance standards of set forth in NR 151. The goal is to minimize the discharge of pollutants carried by storm water runoff from certain industrial facilities, construction sites and municipal separate storm sewer systems.

The University of Wisconsin – Green Bay will be involved in fulfilling the requirements of two of three storm water discharge permits under NR 216, Municipal Storm Water Discharge Permits and Construction Site Storm Water Discharge Permits. Requirements for both permits are stated below.

2.3.1 Municipal Stormwater Discharge Permits

According to NR 216.01, the purpose of the Municipal Stormwater Discharge Permit is to identify municipalities that are required to obtain WPDES municipal stormwater permits, and to establish the application and permit requirements for municipal stormwater discharge permits. The goal is to address stormwater quality concerns associated with urban runoff and prevent to the maximum extent practicable the discharge of pollutants from municipal separate storm sewer systems.

As stated earlier this Stormwater Management Plan (SWMP) is required under the U.S. Environmental Protection Agency (EPA) Phase II storm water regulations, promulgated under the federal Clean Water Act (CWA). These regulations require the University of Wisconsin, Green Bay to obtain coverage under the Wisconsin Pollutant Discharge Elimination System permit. The permit requires the University of Wisconsin, Green Bay to develop a SWMP and report annual progress. The WPDES permit will include conditions required by s. NR 216.07, Wis. Adm. Code, which consists of the following requirements:

- Public Education and Outreach
- Public Involvement and Participation
- Illicit Discharge Detection and Elimination
- Construction Site Pollutant Control
- Post-Construction Site Storm Water Management
- Pollution Prevention
- Storm Sewer System Map
- Annual Report
- Schedule of Compliance
2.3.1.1 Public Education and Outreach

According to NR 216.07.1, the purpose of Public Education and Outreach is to fulfill two goals:

a. A public education and outreach program to distribute materials to the public or conduct equivalent public outreach to increase awareness of storm water impacts on waters of the state. The program shall at a minimum be designed to achieve all of the following:
   i. Promote detection and elimination of illicit discharges or water quality impacts associated with discharges from municipal separate storm sewer systems.
   ii. Inform and educate the public to facilitate the proper management of materials and encourage the public to change their behavior that may cause storm water pollution from sources including automobiles, pets, household hazardous waste and household practices.
   iii. Promote beneficial onsite reuse of leaves and grass clippings and proper use of lawn and garden fertilizers and pesticides.
   iv. Promote the management of stream banks and shorelines by riparian landowners to minimize erosion, and restore and enhance the ecological values of the waterway.
   v. Promote infiltration of residential storm water runoff from rooftop downspouts, driveways and sidewalks.

b. A program that includes elements to achieve all of the following:
   i. 1. Inform and educate those responsible for the design, installation or maintenance of construction site erosion control and storm water management practices on how to design, install and maintain the practices.
   ii. Target businesses and activities that may pose a storm water contamination concern, and where appropriate, educate specific audiences such as lawn care companies and restaurants on methods of storm water pollution prevention.
   iii. Promote environmentally sensitive land development designs by developers and designers.

There are two reasons why public education and outreach is necessary. Once you have educated and informed the community for the reasons behind the stormwater management practices they normal offer greater support for the program as the public gains understanding of the reasons why it is necessary and important. Public support is particularly beneficial when operators of small MS4’s attempt to institute new funding initiatives for the program or seek volunteers to help implement the program. Secondly once they are educated you normally have a greater compliance with the program as the public becomes aware of the personal responsibilities expected of them and others in the community, including the individual actions they can take to protect or improve the quality of area waters.
To satisfy the minimum control measures, the operator of a regulated small MS4 needs to:

- Implement a public education program to distribute educational materials to the community, or conduct equivalent outreach activities about the impacts of storm water discharges on local water bodies and the steps that can be taken to reduce storm water pollution.

- Determine the appropriate best management practices (BMP’s) and measurable goals for this minimum control measure. Some program implementation approaches, BMP’s (i.e., the program actions/activities), and measurable goals are suggested below.

There are three main action areas of importance stated by the EPA for a successful implementation of a public education and outreach program:

- **Forming Partnerships:** Operators of regulated small MS4s are encouraged to enter into partnerships with other governmental entities to fulfill this minimum control measure’s requirements. It is normally more cost effective to partner with an already existing program or work jointly with man groups to form a regional or statewide plan. You can also work with no government groups, since many private organizations (e.g. environmental, civic, an industrial organizations) already have educational materials and perform outreach activities.

- **Using Educational Materials and Strategies:** Operators of regulated small MS4s may use storm water educational information provided by their State, Tribe, EPA Region, or environmental, public interest, or trade organizations instead of developing their own materials. Operators should strive to make their materials and activities relevant to local situations and issues, and incorporate a variety of strategies to ensure maximum coverage. Some examples include:
  - Brochures or fact sheets
  - Recreational guides
  - Alternative information sources (bumper stickers, refrigerator magnets, etc.)
  - Library or educational materials
  - Volunteer citizen educators to staff a public education task force
  - Event participation with educational displays at home shows or community festivals
  - Educational programs for school-age children
2.3.1.2 Public Involvement and Participation

According to NR 216.07.2, the purpose of the Public Involvement and Participation is to notify the public of activities required by the municipal storm water discharge permit required under this subchapter and to encourage input and participation from the public regarding these activities. The implementation of this program shall comply with all applicable state and local public notice requirements.

The EPA believes that the public can provide valuable input and assistance to a regulated small MS4’s municipal storm water management program and, therefore, suggests that the public be given opportunities to play an active role in both the development and implementation of the program. An active and involved community is crucial to the success of a storm water management program because it allows for:

- Storm drain stenciling on storm drains
- Tributary signage to increase public awareness of local water resources.

- Reaching Diverse Audiences: The public education program should use a mix of appropriate local strategies to address the viewpoints and concerns of a variety of audiences and communities. Directing materials or outreach programs toward specific student bodies likely to have significant storm water impacts is also recommended.

Goals are required for each minimum control measure, and are intended to gauge permit compliance and program effectiveness. The measurable goals, as well as the BMP’s, should reflect the needs and characteristics of the operator and the area served by the it small MS4. Furthermore, they should be chosen using an integrated approach that fully addresses the requirements and intent of the minimum control measures.

Currently the University has no public education and outreach program in place. Because of the unique nature of a university and their educational system they are presented with multiple options. They could create classes around stormwater management, post signs saying where the water for every inlet goes, hand out flyers to the students in packets during specific times of the year (earth day for example), or they could hold public forums concerning the issue. Since the university is a place of learning and forward thinking they have the opportunity to confront the issues of stormwater on the ground floor, before the students gain habits and opinions associated with stormwater prevention practices. They could help instill in them a sense of duty and vigilance concerning these issues, ultimately creating a means of prevention on the micro scale (home dwelling) instead of on the macro scale (city/village wide).

Attached in the appendix you will multiple options for instituting an education program along with pamphlets and signage ideas. All of these materials are easily understood and hopefully will help you jumpstart your education and outreach programs.
• Broader public support since citizens who participate in the development and decision making process are partially responsible for the program and, therefore, may be less likely to raise legal challenges to the program and more likely to take an active role in its implementation;
• Shorter implementation schedules due to fewer obstacles in the form of public and legal challenges and increased sources in the form of citizen volunteers;
• A broader base of expertise and economic benefits since the community can be a valuable, and free, intellectual resource; and
• A conduit to other programs as citizens involved in the stormwater program development process provide important cross-connections and relationships with other community and government programs. This benefit is particularly valuable when trying to implement a storm water program on a watershed basis, as encouraged by EPA.

To satisfy the minimum control measures, the operator of a regulated small MS4 needs to:

• Comply with applicable State, Tribal, and local public notice requirements; and
• Determine the appropriate best management practices (BMP’s) and measurable goals for this minimum control measure. Possible implementation approaches, BMP’s (i.e., the program actions and activities), and measurable goals are described below.

Operators of regulated small MS4s should include the public in developing, implementing, and reviewing their storm water management programs. The public participation process should make every effort to reach out and engage all economic and ethnic groups. EPA recognizes that there are challenges associated with public involvement. Nevertheless, EPA strongly believes that these challenges can be addressed through an aggressive and inclusive program. Challenges and example practices that can help ensure successful participation are discussed below.

The best way to handle common notification and recruitment challenges is to know the audience and think creatively about how to gain its attention and interest. Traditional methods of soliciting public input are not always successful in generating interest, and subsequent involvement, in all sectors of the community. For example, municipalities often rely solely on advertising in local newspapers to announce public meetings and other opportunities for public involvement. Since there may be large sectors of the population who do not read the local press, the audience reached may be limited. Therefore, alternative advertising methods should be used whenever possible, including radio or television spots, postings at bus or subway stops, announcements in campus newsletters, announcements at civic organization meetings, distribution of flyers, mass campus mailings, door-to-door visits, telephone notifications, and multilingual announcements. These efforts, of course, are tied closely to the efforts for the public education and outreach minimum control measure.
The goal is to involve a diverse cross-section of people who can offer a multitude of concerns, ideas, and connections during the program development process.

There are a variety of BMP practices that could be incorporated into a public participation and involvement program, such as:

- Public meetings/student panels allow students to discuss various viewpoints and provide input concerning appropriate storm water management policies and BMP’s;
- Volunteer water quality monitoring gives students firsthand knowledge of the quality of local water bodies and provides a cost-effective means of collecting water quality data;
- Volunteer educators/speakers who can conduct workshops, encourage public participation, and staff special events;
- Storm drain stenciling is an important and simple activity that concerned students can do;
- Community clean-ups along local waterways, beaches, and around storm drains;
- Student watch groups can aid local enforcement authorities in the identification of polluters; and
- “Adopt A Storm Drain” programs encourage individuals or groups to keep storm drains free of debris and to monitor what is entering local waterways through storm drains.

Goals are required for each minimum control measure, and are intended to gauge permit compliance and program effectiveness. The measurable goals, as well as the BMP’s, should reflect the needs and characteristics of the operator and the area served by the it small MS4. Furthermore, they should be chosen using an integrated approach that fully addresses the requirements and intent of the minimum control measures.

By involving all of the student activity groups on campus you will meet the EPA’s requirements to have a diverse and active council. Because of the numerous student activity groups on campus you already have the groundwork laid for a diverse student council concerning stormwater management. If you would approach the student groups during the beginning of the school year you could work out a schedule for meetings and possibly a timeline for meeting the EPA’s goal system.

Since most on campus organizations already have activity groups you should try to incorporate these groups into you public involvement and participation activity plan. By incorporating these groups you already will have an established and involved student body that will help spread the stormwater plan to other students helping you reach your goals faster and more successfully.

2.3.1.3 Illicit Discharge Detection and Elimination

The university, in consultation with the WDNR, will be required to develop and implement a program to detect and remove illicit discharges and improper disposal of
wastes into its MS4, or require an identified discharger to obtain a separate WPDES permit.

The EPA recommends that the program to detect and address illicit discharges include the following components: Procedures for locating priority areas likely to have illicit discharges; procedures for tracing the source of an illicit discharge; procedures for removing the source of the discharge; and procedures for program evaluation and assessment.

The university will be required to implement policies and procedures to the extent of its legal authority to control discharges to and from those portions of the MS4 that it owns or operates. The university will also be required to the extent of its legal authority put in place appropriate enforcement procedures and actions. If the university lacks legal authority to control discharges, they may be required to develop and implement additional policies and procedures. At a minimum, the policies or other regulatory mechanisms should:

- Prohibit the discharge, spilling or dumping of non-storm water substances or material into waters of the state or the storm sewer system,
- Identify non-storm water discharges or flows that are not considered illicit discharges, and
- Establish inspection and enforcement authority.

The university will need to develop and/or update a set of drawings for the university storm sewer system. The drawings will need to identify waters of the state, watershed boundaries, and storm water drainage basin boundaries. The drawings will also need to identify the locations of:

- All known municipal storm sewer system outfalls discharging to waters of the state or other MS4s,
- All known discharge to the MS4s that has been issued a WPDES permit,
- Structural storm water management facilities including detention basins, infiltration basins, and manufactured treatment devices,
- Publicly owned parks, recreational areas and other open lands,
- Municipal garages and other public works facilities, and
- Streets.

The university will need to conduct initial field screening at all major outfalls\(^1\) during dry weather periods. Field screening will need to be documented. Documentation should include both visual observations and field analysis.

\(^1\) Major Outfall means a MS4 outfall that meets one of the following criteria:
• Visual observations include color, odor, turbidity, oil screen or surface scum, flow rate and any other relevant observations regarding the potential presence of non-storm water discharges or illegal dumping.

• Field analysis should include sampling for pH, total chlorine, total copper, total phenol and detergents. The university can modify the sampling analysis based on potential contaminants with prior approval of the WDNR.

An on-going dry weather field-screening program for all outfalls will need to be established. Outfalls that will be evaluated on an on-going basis and the field screen frequency will need to be identified in a field screening program, which is to be submitted to the WDNR.

The university will need to develop procedures for responding to known or suspected illicit discharges. These procedures need to include:

• Investigating portions of the MS4 that, based on field screening or other information, indicate a reasonable potential for containing illicit discharges.

• Preventing, containing, and responding to reports of spills that may discharge into the MS4.

• Notifying the WDNR in accordance with NR 706, Wis. Adm. Code, in the event the university identifies a spill or release of a hazardous substance, which results in the discharge of pollutants into waters of the state. The WDNR will be notified via the 24-hour toll free spill hotline at 1-800-943-0003.

• Eliminating detected leakage from sanitary conveyance systems to the MS4.

• Eliminating illicit connections or discharges to the MS4 following detection.

As part of the public education and outreach program the university should inform university employees, facility, students, businesses, and the general public of hazards associated with illegal discharges and improper disposal of waste.

An annual report documenting the status of implementing the permit requirements and compliance with the permit schedules, including the illicit discharge program, is required. Documentation for the illicit discharge portion of the report should include: the number and nature of inspections and enforcement actions; results of field screening; and follow-up corrective actions or enforcement actions taken as a result of field screening findings or complaints. The university, interest groups, and the general public should be encouraged to review and comment on the annual report.

• A single pipe with an inside diameter of 36 inches or more or equivalent conveyance which is associated with drainage area of more than 50 acres.

• A single pipe with an inside diameter of 12 inches or more or equivalent conveyance which receives storm water runoff from land zoned for industrial activity with 2 or more acres of industrial activity, but not land zoned for industrial activity that does not have any industrial activity present.
2.3.1.4 Storm Sewer System Map
The storm sewer system map is meant to demonstrate a basic awareness of the intake and discharge areas of the system. It is needed to help determine the extent of discharged dry weather flows, the possible sources of the dry weather flows, and the particular water bodies these flows may be affecting. An existing map, such as a topographical map, on which the location of major pipes and outfalls can be clearly presented, demonstrates such awareness.

EPA recommends collecting all existing information on outfall locations (e.g., review city records, drainage maps, storm drain maps), and then conducting field surveys to verify locations. It probably will be necessary to walk (i.e., wade through small receiving waters or use a boat for larger waters) the streambanks and shorelines for visual observation. More than one trip may be needed to locate all outfalls.

2.3.1.5 Construction Site Pollutant Control
A program to implement and maintain erosion and sediment control BMP’s to reduce pollutants in storm water runoff from construction sites with one acre or more of land disturbance, and sites of less than one acre if they are part of a larger common plan of development or sale is required. The program shall include the following:

- The implementation and enforcement of a legal authority to comply with NR 151.11 and NR 151.23
- Procedures for site planning which incorporate consideration of potential water quality impacts
- Requirements for erosion and sediment control BMP’s
- Procedures for identifying priorities for inspecting sites and enforcing control measures which consider the nature of the construction activity, topography, the characteristics of soil and receiving water quality.
- Procedures for receipt and consideration of information submitted by the public.

2.3.1.6 Post-Construction Site Stormwater Management
A program to develop, implement and enforce controls on discharges from new development and redevelopment projects that disturb one acre or more of land, including projects less than on acre that are part of a larger common plan of development or sale, that discharge into the MS4. This program shall encompass any adjacent developing area that are planned to have a minimum density of 500 people per square mile, the urbanized area and developing areas whose runoff will connect to the MS4. The program shall include the following:

- The implementation and enforcement of a legal authority to comply with NR 151.12 and NR 151.24
• Procedures for site planning which incorporate consideration of potential water quality impacts

• Requirements for source area control and regional BMP practices

• Procedures for inspecting and enforcing maintenance of BMP’s

2.3.1.7 Pollution Prevention
This is a storm water management program and an operation and maintenance program that includes a training component and has the ultimate goal of preventing or reducing pollutant runoff. This program shall achieve compliance with the developed urban area performance standards of NR 151.13 for those areas that were not subject to the post-construction performance standards of NR 151.12 or NR 151.24. The total suspended solids control requirements of NR 151.13 may be achievable on a regional basis. The program shall include all of the following activities:

• Installation and maintenance of source area controls and regional BMP’s

• Roadway maintenance including street sweeping and de-icer management

• If appropriate, collection and management of leaf and grass clippings

• Management of municipal garages, storage areas and other municipal sources of pollution

• Management of application of lawn and garden fertilizers on municipally controlled properties in accordance with NR 151.13

• Inspection, surveillance and monitoring procedures necessary to determine compliance and noncompliance with permit conditions

• Adequate legal authority to require compliance with conditions in ordinances, permits, contracts or orders

2.3.1.8 Annual Report
For the permittee’s first term of 5 years, submission of an annual report to the department. After the term of the first permit, the department may reduce annual reporting frequency but annual reports shall be filed in the 2nd and 4th years of the subsequent permit terms. The municipal governing body, interest groups and the general public shall be encouraged to review and comment on the annual report. The annual report shall include the following:

• The status of implementing the permit requirements and compliance with permit schedules

• A summary of activities to comply with “Pollution Prevention”
• A fiscal analysis, which includes the annual expenditures and budget for the reporting year, and the budget for the next year

• A summary of the number and nature of enforcement actions, and actions, and inspections conducted to comply with the required legal authorities

• Identification of water quality improvements or degradations

2.3.1.9 Schedule of Compliance
A compliance schedule for the permittee to fully develop, implement and enforce the listed requirements stated above under NR 216.

2.3.2 Construction Site Stormwater Discharge Permit
According to NR 216.41, the purpose of the Construction Site Storm Water Discharge Permit is to establish criteria defining those constructions site activities that constitute discharges needing a WPDES storm water permit for landowners of construction sites that require coverage under a WPDES permit for storm water discharge; and the requirements for filing a WPDES permit application for a site construction site. This section includes the following requirements:

• Notice of Intent Requirements (NOI) - According to NR 216.43, the landowner shall submit a notice of intent to the department on forms available from the department. Data submitted in the NOI forms shall be used as a basis form conferring coverage under a WPDES storm water permit. NOI’s requires an application fee dependant on the acres of land disturbance area. NOI must be also be signed by the landowner. A NOI must be submitted so that is received by the department at least 14 working days prior to the commencement of any land disturbing construction activities. The landowner, prior to submitting the NOI, shall complete a site-specific erosion control and storm water management plan. A copy of the NOI must be kept on the construction site and with the landowner.

• Erosion Control Plan Requirements – As stated above, the permittee or landowner required to submit a NOI shall develop a site-specific erosion control plan for each construction site. The erosion control plan shall meet the applicable performance requirements set forth in NR 151.11. (Refer to Section 5.1.1) This plan shall be completed prior to submittal of the NOI and updated as appropriate.

• Stormwater Management Plan Requirements – According to NR 216.47, pollution caused by storm water discharges from the construction site after construction is completed, including rooftops, parking lots, roadways and maintenance of grassed areas, shall be addressed by a storm water management plan. The plan shall meet the applicable performance standards set forth in NR 151.12 (Refer to Section 5.1.1)
• **Reporting and Monitoring Requirements** – According to NR 216.48, the permittee or landowner required to submit a NOI shall retain records of all construction site inspections, copies of all reports and plans required by the permit, and record of all data used to obtain coverage under the permit. The erosion control and storm management plans and amendments to them shall be retained at the construction site until permit coverage is terminated. All reports or information submitted to obtain permit coverage, including the erosion control and storm water management plan, amendments and background information used in their preparation, shall be kept for a period of at least 3 years from the date of notice of termination.

The landowner operating a construction site under approved municipal sediment and erosion plans, grading plans or storm water management plans shall also submit signed copies of the NOI to the local agency approving the plans. Also, if storm water from the construction site discharged to municipal separate storm sewer system that is regulated under a municipal storm water discharge permit, a signed copy must also be sent to the operator of the system.

Upon request from the department, a copy of the erosion control plan an storm water management plans, construction site inspections and any additional data be provided within 5 working days to the department.

The permittee or landowner required to submit a NOI shall conduct weekly inspections of implemented erosion control and sediment control BMP’s. Inspections of erosion and sediment controls shall be conducted within 24-hours after a precipitation event of 0.5 inches or greater. It is also required that erosion and sediment control BMP’s that are needed to be repaired shall be done so within 24 hours after being notified by the department. The permittee or landowner shall also maintain, at the construction site or available via an Internet website, weekly written reports of all inspections conducted.

### 2.4 NR 120 Priority Watershed and Priority Lake Program

The Wisconsin legislature established this nonpoint source pollution abatement program in 1978, recognizing both urban and rural nonpoint sources as contributors to the degradation of lakes, streams, groundwater and other water resources where the uses of the waters were impaired or threatened by nonpoint sources; proposed projects to the land and water conservation board to protect or rehabilitate beneficial uses of the waters, and prepared plans in cooperation with governmental units identifying the best means to achieve the protection or rehabilitation. The DNR entered into nonpoint source grant agreements and local assistance grant agreements with governmental units and state agencies in order to implement the priority watershed projects.

As a part of the program the DNR maintains a list of priority watersheds and the UWGB is not in a priority watershed and is therefore not eligible. No watersheds have been added to the priority watershed program since 1995.
2.5 NR 116 Wisconsin’s Floodplain Management Program

NR 116 was enacted recognizing that floodplain zoning is a necessary tool to protect human life, health and to minimize property damages and economic losses. Municipalities are required to adopt reasonable and effective floodplain zoning ordinances within their respective jurisdictions to regulate all floodplains where serious flood damage may occur within one year after hydraulic and engineering data adequate to formulate the ordinance becomes available. Local ordinances must follow NR 116.

The purposes of these rules as defined in the code as follows:

- Protection of life, health and property
- Minimize expenditures of public monies for costly flood control projects
- Minimize rescue and relief efforts, generally undertaken at the expense of the general public
- Minimize business interruptions
- Minimize damage to public facilities such as water mains, sewer lines, streets and bridges
- Minimize the occurrence of future flood blight areas
- Discourage the victimization of unwary land and home buyers
- Prevent increases in the regional flood from occurring, which may result in conflict and litigation between landowners.

Aside from the development standards in protective areas in NR 151, NR 116 restricts development in two types of floodplain areas, floodway and floodfringe. Floodways are the channel of a river or stream and those portions of the floodplain adjoining the channel required to carry the regional flood discharge. The following types of developments are prohibited in floodways:

- Development, which will cause an obstruction to flood flows or an increase in regional flood discharge or will adversely, affect the existing drainage courses or facilities.
- Structures designed for human habitation, associated with high flood damage potential, or not associated with permanent open spaces uses.
- Storage of materials that are buoyant, flammable, explosive or harmful to human, animal, plant, fish or other aquatic life.
- Any use, which is not in “harmony” with adjacent, uses.
• Sewage systems, except portable latrines or systems associated with recreational areas

• Wells for potable water, except systems associated with recreation areas.

• Solid or hazardous waste facilities.

• Sewer and water lines, except as needed to service existing development outside the floodway.

Permits may be issued for structures in the floodway provided that they are accessory to permitted open space uses or historical areas, if the structures meet the following criteria:

• Not for human habitation

• Having low flood damage potential

• Associated with an open space use or are functionally dependent on the waterfront location.

• Constructed so as not to obstruct flood flow.

• Are firmly anchored to prevent them from floating away and clogging bridges or culverts.

• Service facilities are at or above the flood protection elevation

Other allowable structures in the floodway include uses permitted by Ch. 30 and Ch. 31, campgrounds with some restrictions and public roads, streets, utilities and bridges. These other permitted uses may not cause any obstruction to flood flows as reflected in the water surface profile based on existing conditions.

Areas outside the floodway, which are still inundated during flood events, are called the floodfringe. The term floodfringe is generally associated with standing water rather than flowing water. Development in floodfringe areas must provide the lowest opening at least 2 feet above the regional flood elevation and fill not less than one foot above the regional flood elevation must extend 15 feet beyond new structures.

2.6 City of Green Bay Ordinance

The City of Green Bay’s Ordinance states this ordinance is to set forth stormwater requirements and criteria that will prevent and control water pollution and diminish the threats to public health, safety, welfare, and aquatic life due to runoff of stormwater from development or redevelopment.
2.6.1 Stormwater Management Standards

- **Stormwater Discharge Quantity** – states in this ordinance that all land development activities shall establish on-site management practices to control the peak flow rates of stormwater discharged from the site. Infiltration of stormwater runoff from driveways, sidewalks, rooftops, parking lots, and landscaped areas shall be incorporated to the maximum extent practicable to provide volume control in addition to control peak flows.

All development less than 5 acres in the Urban Service District shall not increase the peak flow rates of stormwater compared to that of which would have occurred over the site with the land in it’s existing condition for the 2, 10, and 100 year storm event.

All proposed land developments in the Urban Reserve and Urban Expansion Districts shall not increase peak flow rates of stormwater runoff from that which would have resulted from the same storm occurring over the site with the land in its pre-development land use conditions for design rainfall events with recurrence intervals of 2, 10, and 100 years.

For publicly owned or maintained open channel conveyance systems, the peak flow from the 25-year storm shall be completely contained within the channel bottom and banks. For publicly owned or maintained storm sewer pipes, the peak flow from the 10-year storm shall be completely contained within the pipes with no surcharging or pressurized flow. Private storm sewer pipes shall be constructed to contain the peak flow from the 5-year storm with no surcharging or pressurized flow.

- **Stormwater Discharge Quality** – Stormwater management measure in the Urban Expansion and Urban Reserve Districts shall be designed to remove on an average annual basis a minimum of 80% of the total suspended solids from the proposed on-site development.

Stormwater management measures in the Urban Service Districts less than 5 acres shall be designed to remove on an average annual basis a minimum of 40% of the total suspended solids load. Stormwater management measures in the Urban Service Districts less than 5 acres shall be designed to remove on an average annual basis a minimum of 40% of the total suspended solids loads from the proposed site.

The Director of Public Works may require stormwater management measures in the Urban Service Districts for developments 5 acres or greater to be designed to remove on an average annual basis a minimum of 80% of the total suspended solids load from the proposed site.

Discharge of urban stormwater pollutants to natural wetlands shall have re-
treatment and vegetative buffers as specified in the City’s Stormwater Management Users Guide, unless otherwise exempted by the Director of Public Works.

Stormwater discharged are required to have pre-treatment prior to infiltration. Stormwater infiltration is prohibited under the following circumstances:

- Stormwater generated from highly contaminated source areas at manufacturing industrial sites;
- Stormwater carried in a conveyance system that also carries contaminated, non-stormwater discharge; or
- Stormwater generated from active construction sites.

Petroleum products in runoff from gas pump areas and vehicle maintenance areas shall be controlled with a property designed and maintained oil and grease separator, or other equivalent practice.

Storm water ponds and infiltration devices shall not be located closer to water supply wells than indicated below without first notifying the Public Works:

- 100 feet from a private or a transient non-public water supply well;
- 1200 feet from a municipal water supply well; or
- The boundary of a recharge area to a well identified in a wellhead area protection plan.

- Exemptions – The Director of Public Works may waive the requirements for on-site stormwater management practices upon written request of the applicant, provided that at least one of the following conditions applies:
  - Alternative minimum requirements for on-site management of stormwater discharges have been established in a stormwater management plan that has been approved by the Director of Public Works and that is required to be implemented by local ordinance.
  - Provisions are made to manage stormwater by an off-site facility.
  - The Director of Public Works finds that meeting the minimum of on-site management requirements is not technically feasible due to site restrictions.
  - The ordinance does not apply to redevelopment projects that result in no net increase in impervious area and does not have exposed parking lots or roads.
2.6.2 Permitting Requirements and Procedures and Fees

No landowner or land operator may undertake a land development activity subject to this ordinance without receiving a permit from the Director of Public Works prior to commencing the proposed activity. Unless specifically excluded by this ordinance, any landowner or operator desiring a permit shall submit to the Director of Public Works a permit application. A permit application must be accompanied by the following in order for the permit application to be considered by the Director of Public Works:

- A stormwater management plan;
- A maintenance plan and a maintenance agreement;
- Any easements which may be required;
- A copy of plans and specifications for all stormwater facilities;
- Certification by a professional engineer;
- Any payment of a “fee-in-lieu”;
- A non-refundable permit administration fee; and
- Performance securities, if applicable

2.6.3 Stormwater Management Plans

The stormwater management plan shall contain any such information the Director of Public Works may need to evaluate the environmental characteristics of the area affected by land development activity, the potential impacts of the proposed development upon the quality and quantity of stormwater discharges, the potential impacts storm water management measures in meeting the performance standards set forth in the ordinance. Unless specified otherwise by this ordinance, stormwater management plans shall contain, at a minimum the information described with the Strom water Management Users Guide provided by the Director of Public Works.

2.6.4 Maintenance Agreement

The maintenance agreement required in this ordinance shall be an agreement between the City of Green Bay and the permittee. The agreement shall be recorded as a property deed restriction by the permit applicant with the County Register Deeds so that it is binding upon all subsequent owner of gland served by the stormwater management practices. The maintenance agreement shall contain the following provisions:

- The landowner shall maintain stormwater management practices in accordance with the stormwater practice maintenance provisions contained in the approved stormwater management plan submitted.
• The Director of Public Works is authorized to access the property to conduct inspections of stormwater practices as necessary to ascertain that the practices are being maintained and operated in accordance with the approved stormwater management plan.

• The Director of Public Works shall maintain public records of the results of the site inspections, shall inform the landowner responsible for maintenance of the inspection results, and shall specifically indicate any corrective actions required to bring the stormwater management practice into proper working conditions and a reasonable time frame during which the corrective action must be taken.

• The Director of Public Works is authorized to perform the correct actions identified in the inspection report if the landowner does not make the required corrections in the specified time period. The City of Green Bay shall assess the landowner for the cost of such work and shall place a lien on the property, which may be collected as ordinary taxes by the City of Green Bay.

### 2.6.5 Enforcement and Penalties

The following sections in the City of Green Bay’s Ordinance states:

• Any land development activity initiated after the effective date of this ordinance by any person, firm, association, or corporation subject to the ordinance provisions shall be deemed a violation unless conducted in accordance with said provisions.

• The Director of Public Works may issue a citation or a Notice of Violation in order to correct any violation of this ordinance. A Notice of Violation shall describe the nature of the violation, remedial actions needed, a schedule for remedial action, and additional enforcement action that may be taken.

• Upon receipt of written notifications from the Director of Public Works, a permittee shall correct work that does not comply with the stormwater management plan or other provisions of the permit within 30 days. A permittee shall make corrections as necessary to meet the specifications and schedule set forth by the Director of Public Works in notice.

• The Director of Public Works may issue a stop work order on any land development activity in violation of this ordinance.

• The Director of Public Works may suspend or revoke a permit issued under this ordinance for noncompliance with these ordinance provisions.

• Any permit revocation, stop work order, or cease and desist order shall remain in effect unless retracted by the Director of Public Works or by a court of competent jurisdiction.
• Any person, firm, association, or corporation who does not comply with any provision of this ordinance or order issued hereunder shall be subject to a forfeiture of not less than $50 no more than $500 per offense, together with the costs of prosecution. Each day that a violation exists shall constitute a separate offense.

• When the Director of Public Works determines that a permittee has failed to follow practices set forth in the stormwater management plan submitted and approved pursuant to 30.07 of this ordinance, or has failed to comply with schedules set forth in said stormwater management plan, the Director of Public Works or a party designated by the Director of Public Works or a party designated by the Director of Public Works may enter upon the land and perform the work or other operations necessary to bring the condition of said lands into conformance with requirements of the approved plan. The Director of Public Works shall keep a detailed accounting of the costs and expenses of performing this work. These costs and expenses shall be deducted from any performance or maintenance bond posted pursuant to Sec. 30.07(4) of this ordinance. Where such a bond has not been established, or where such a bond is insufficient to cover these costs, the costs and expenses shall be entered on the tax roll as a special charge against the property and collected with any other taxes levied thereon for the year in which the work is completed.

• Nothing in this ordinance shall limit or exclude the City from taking any other action under any City municipal code, stat statute, or other remedy allowed by law.

3.0 Existing Campus Features

3.1 Physical Layout
The main campus of UWGB has a total of 700 acres with 240 of those acres being designated as the John P. and Austin Cofrin Memorial Arboretum. Other properties off campus bring the total UWGB property to over 1500 acres. The campus is laid out with most buildings, parking and other impervious features located in the middle of the campus and are encompassed by a road network. The university golf course comprises most of the north part of campus.

UWGB has a total of 62 buildings on all its properties and consists of 12 core academic buildings, which have all been constructed since 1968. Except for the Phoenix Sports Center, the academic buildings on campus are all interconnected via a concourse system.

3.2 Satellite Facilities
The main satellite facilities for the university are the Toft Point and Kingfisher properties but are not included in this SWMP.
3.3 Geography

UWGB has three natural features bounding the campus, the shore of Green Bay to the northwest, Mahon Creek to the south, and the Niagara Escarpment to the east. Along with the natural boundaries the campus has public highways adjacent the campus, which also define the campus extents. The Cofrin Memorial arboretum makes up 240 acres and preserves the natural features of the campus. The topography of the area is slight to moderate sloping hills throughout and heavily wooded Bay Shore to the northeast.

3.4 Existing Soils

Based on the USDS Soil Survey of Brown County, soils within the campus site consist of Allendale, Keowns, Kewaunee, Manawa, Poygan, and Solona Series.

6.4.1 Allendale

The Allendale series consists of deep, somewhat poorly drained soils on lacustrine plains. These soils formed in sand and in the underlying clayey lacustrine sediment or glacial fill. Slopes range from 0 to 3 percent.

In a representative profile the surface layer is dark grayish-brown loamy fine sand about 8 inches thick. The subsurface layer, about 7 inches thick, is reddish-yellow and strong-brown fine sand mottled with yellowish red and light brownish gray. The subsoil is about 25 inches thick. It is dark-brown to brown fine sand mottled with reddish yellow in the upper part, brown loamy fine sand mottled with reddish yellow and gray in the middle part, and reddish-brown silty clay mottled with strong brown and reddish yellow in the lower part. The substratum is reddish-brown silty clay that extends to a depth of 60 inches.

Allendale soils have medium available water capacity. The sandy part of the profile is rapidly permeable, and the clayey lower part and the substratum are slowly permeable. In wet seasons water remains above the slowly permeable substratum. Reaction is neutral to moderately alkaline.

6.4.2 Keown Series

The Keown series consists of deep, poorly drained soils. They are in nearly level to digressional areas on glacial lake plains. These soils are formed in stratified silt and fine sand sediment.

In a representative profile the surface layer is black silt loam about 6 inches thick. The subsoil, which extends to a depth of 21 inches, is grayish-brown lilt loam. It has mottles of strong brown in the lower part. The substratum, to a depth of 60 inches, is brown silt and fine sand that has strong-brown and grayish-brown mottles.

Keown soils have medium available water capacity and moderate permeability. Reaction is moderately alkaline.
6.4.3 Kewaunee Series

The Kewaunee series consists of deep, well-drained and moderately well drained soils on glacial till plains and ridges. These soils formed in a thin mantle of silty or loamy material and in the underlying clayey glacial till. Slopes range from 2 to 30 percent.

In a representative profile the surface layer is very dark grayish-brown silty loam about 5 inches thick. The subsurface layer is grayish-brown silty loam about 3 inches thick. The subsoil, which extends to a depth of about 27 inches, is reddish-brown silty clay loam in the upper part and reddish-brown silty clay in the lower part. The substratum, to a depth of 60 inches is reddish-brown heavy clay loam. Pebbles as large as 3 inches in diameter are common throughout the subsoil and substratum.

Kewaunee soils have a high available water capacity and slow permeability. Reaction is slightly acid to mildly alkaline.

6.4.4 Manawa Series

The Manawa series consists of deep, somewhat poorly drained soils in drainage ways and shallow depressions on lacustrine and glacial till plains. These soils formed in calcareous, clayey lacustrine deposits or clayey glacial till. Slopes are 1 to 3 percent.

In a representative profile the surface layer is very dark brown silty clay loam about 8 inches thick. The subsoil, which extends to a depth of about 30 inches, is dark reddish-gray silty clay in the upper part, reddish-brown silty clay over reddish-brown heavy silty clay loam in the middle part, and reddish-brown clay loam in the lower part. Yellowish-red and gray mottles are present throughout the subsoil. The substratum, to a depth of 60 inches, is reddish-brown heavy clay loam.

Manawa soils have high available water capacity and slow permeability. In wet seasons, water is held above the slowly permeable substratum. Reaction is neutral to mildly alkaline.

6.4.5 Poygan Series

The Poygan series consists of deep, poorly drained soils in depressions on glacial till plains or lacustrine plains. These soils formed in a thin silt mantle and underlying lacustrine or glacial till deposits. Slopes are 0 to 2 percent.

In a representative profile the surface layer is black silty clay loam about 7 inches thick. The subsoil extends to a depth of 24 inches. The upper part is very dark gray clay with yellowish-brown mottles. The lower part is reddish-brown clay with dark-gray, gray, and yellowish-reddish-brown, calcareous clay with yellowish-red mottles.

Poygan soils have medium available water capacity. Permeability is very slow. Reaction is slightly acid to mildly alkaline.
6.4.6 Solona Series

The Solona series consists of deep, somewhat poorly drained soils in depressions and drainage ways on glacial till plains. They formed in loamy glacial till. Slopes are 1 to 3 percent.

In a representative profile the surface layer is very dark brown loam about 9 inches thick. The subsurface layer, about 6 inches thick, is grayish-brown to brown sandy loam. It has strong-brown mottles. The subsoil extends to a depth of about 26 inches. The upper 2 inches is brown light loam that has light brownish-gray and strong-brown mottles. The lower part, about 9 inches thick, is reddish-brown clay loam that has strong –brown and light brownish-gray mottles. The substratum, it a depth of 60 inches, is reddish-brown loam. Mottles are yellowish red and light brownish gray.

Solona soils have high available water capacity and moderate permeability. Reaction is mildly alkaline to moderately alkaline.

3.5 Land Use

The existing land use for the university is broken down into the following categories: Open Space, Water Features, Buildings, Parking Lots, Road Network and Sidewalks.

Campus buildings compose of approximately 18 acres of the campus’ 700 acres. The other impervious surfaces throughout the campus include 41 ac. of parking lots, 30 ac. of road network and 11 ac. of sidewalks. The total impervious acreage for the university equals 107 ac. or 15.2%. Open space on the campus totals 600 ac. or 84.8%.

3.6 Surface Water Features

Surface water features on campus consist of the golf course pond which acts as detention for the studio arts parking lot and much of the areas that drain towards the parking lot. Other water features include Ledge Pond and the chain of Upper Ledge Ponds to the west of campus. Mahon Creek runs along the south boundary of campus and is the outfall for much of the south part of the campus drainage.

3.7 Storm Sewer System

The University maintains approximately 30,500 lineal feet of storm sewer. There are three mainline drainage pipes that drain most of the developed campus. A 54” storm sewer runs down Main Entrance Drive and outfalls into the waters of Green Bay. A 36” pipe outfalls into Mahon Creek, which picks up drainage from the south part of campus. The majority of the north and west part of campus drain via a storm sewer network and outfall at the golf course pond from an elliptical 29”x54” inch storm sewer pipe.

The main concern with the existing storm sewer infrastructure is meeting future storm water pollution prevention requirements. Currently only drainage from one of the mainline storm sewer outfalls is treated for sediment removal prior to emptying into
waters of the state. BMP’s will need to be determined, to address the issue of sediment removal, to meet EPA Phase II requirements.

3.8 Offsite Stormwater Sources/Sewers
The University of Green Bay campus storm sewer system is isolated from city storm sewer networks. Drainage from the west of campus is the only offsite drainage to the campus property and is intercepted by Mahon Creek before entering any university maintained storm sewer.

4.0 Existing Stormwater Management Practices

4.1 Permits
The University of Wisconsin Green Bay currently holds no active permits or plans, for storm water pollution prevention.

4.2 Best Management Practices
The existing BMP’s for storm water management consist of a detention pond system that serves drainage from the Studio Arts parking lot and areas to the north and west of campus. Others include well-defined drainage ditches and a healthy amount of land cover over most of the undeveloped areas on campus.

4.3 Detention/Retention Features
The golf course pond acts as a detention pond for the Studio Arts parking lot and areas to the north and west of campus.

5.0 Proposed/Anticipated Campus Development

5.1 6-Year Plan Improvements
The Facilities Planning Committee is a group that provides general oversight for University campus planning and development. One of the responsibilities for this committee is developing and maintaining a six-year plan for the physical development of the campus. A complete Campus Physical Development Plan is conceptually a statement of the campus long-range goals and the six-year building program to work toward achieving long-range goal.

UW-Green Bay’s physical development plans comprise three set strategic thrusts. The 2005-2011 overview starts with first, the campus plans to conclude its current efforts to resolve existing space deficiencies that have negatively impacted instruction within existing enrollment demands. Second, consistent with UW Systems and Board of Regents planning timelines, the University is planning a set of facilities initiatives that address 21st century needs for a comprehensive student campus experience and campus/community collaborations. And third, the campus is engaged in long-term
planning that would increase enrollment to 7500 student heads over a 10-year period. These strategic thrusts would be contingent on increasing resources for student support.

A summary of building space issues and deficiencies is presented below.

- **Instructional Services** – HVAC; emergency power; expansion of space for Public Safety.
- **David A. Cofrin Library** – Increase collections, reader, and group study areas.
- **Heating/Cooling Center** – May need additional chiller capacity or authorization to exceed demand.
- **Theater Hall** – Infrastructure and storage space need to be addressed
- **Phoenix Sports Center** – Improve student/athlete health, recreation, and wellness facilities; provide for large attendance events.
- **Student Services** – Improve efficiency and capacity to deliver one-stop shopping for student services
- **Studio Arts** – Infrastructure and storage areas need to be addressed.
- **University Union** – Increase informal gathering and dining areas and provide for relocation of Bookstore and Credit Union.
- **John M. Rose Hall** – Provide space for relocation of university administrative offices.
- **L. G. Wood Hall** – Increase efficiency and technology readiness of classrooms; provide space for relocation of Environmental Design lab and Social Work program; address need for space to support growth in professional programs
- **Language House** – ADA access; building envelope and structure repair.
- **University Village Apartments 101-108** – Exterior stairs and interior finishes.

Meeting the demand for the long-term Enrollment Planning created an impact on facilities and physical planning. Some issues include: the impact of current plans, parking, vehicular access, classroom and office needs, additional housing, and Admissions and Welcome Center.

All the issues stated in UW-Green Bay’s Campus Physical Development Plan would be considered and incorporated into the future storm water management plans. See Section 6.0 for anticipated storm water management plans.

Refer to Appendix XXXXX for the University of Green-Bay’s Campus Physical Development Plan.
5.2 Utility Improvements
The system of utilities at UWGB includes heating/cooling/ventilation, electrical, water and sewer and telecommunications infrastructure. The boiler plan has adequate capacity for the projects proposed in the next six years. The electrical distribution system was completely rebuilt within the last seven years and has sufficient capacity. The City provides sewer and water service. The University also has an extensive communication system, which is regularly updated. Aside from the extension of existing utilities to service new buildings or building expansions, no new utilities are planned.

5.3 Storm Sewer System Improvements
No storm sewer system improvements were proposed in the Master Plan.

5.4 Offsite Stormwater
A small amount of offsite drainage from the east is tributary to the UWGB campus, however a majority of this drainage

6.0 Anticipated Stormwater Management Efforts

6.1 Description of Code Required Action

6.2 NR-151 Runoff Management
For existing stormwater systems, in accordance with NR 151.13, Developed Urban Area Performance Standard, a municipality shall develop and implement a stormwater management program, including the adoption and administration of any necessary ordinances, to meet the following requirements:

- STAGE 1 REQUIREMENTS – shall be implemented by March 10, 2008

  - Information and Education
    A public information and education program, utilizing materials, identified by the department, promoting beneficial on-site reuse of leaves and grass clippings and proper use of lawn and garden fertilizers and pesticides, proper management of pet wastes and prevention of dumping oil and other chemicals in storm sewers. Information and education materials shall include instruction on how to apply fertilizers in accordance with a nutrient application schedule, based on appropriate soil tests, and the application of pesticides in accordance with an integrated pest management plan.

    A municipality program, as appropriate, for the collection and management of leaf and grass clippings, including public education and about this program.
The application of lawn and garden fertilizers on municipally controlled properties, with pervious surface over 5 acres each, shall be done in accordance with a site specific nutrient application schedule based on appropriate soil tests. The nutrient application schedule shall be designed to maintain the optimal health of the lawn or garden vegetation.

Detection and elimination of illicit discharges to storm sewers.

- To the maximum extent practicable, a 20% reduction in total suspended solids in runoff that enters waters of the state as compared to no controls.

- STAGE II REQUIREMENTS – Shall be implemented by March 10, 2013

  - To the maximum extent practicable, a 40% reduction in total suspended solids in runoff that enters waters of the state as compared to no controls.

6.3 NR 216 – Stormwater Discharge Permits

NR 216 has two components, municipal and construction site stormwater discharge permits.

6.3.1 Municipal Stormwater Discharge Permits

UWGB will need to develop the following programs to meet the requirements of their future WPDES permit:

- Public education and outreach.
- Public involvement and participation
- Illicit discharge detection and elimination
- Storm sewer system mapping maintenance and updating
- Adopt a construction site erosion control policy
- Adopt a post-construction site stormwater management policy.
- Develop a pollution prevention plan.
- Provide annual reporting and documentation of the above items.
- Complete a schedule for compliance for the above items.

These requirements of these programs are discussed in more detail in sections 2.3.1.1-2.3.1.9 along with strategies for successful implementation.
6.3.2 Construction Site Stormwater Discharge Permits

For projects larger than one acre a NOI should be filed with the State at least 14 working days prior to construction. Prior to filing the NOI, a plan must be prepared meeting the requirements of an adopted construction site erosion control policy and post-construction site stormwater management policy in accordance with NR 151 and NR 216. The adopted policy could be the sample ordinances created by the DNR and included in NR 152. NR 152 has two parts, a sample construction site erosion control ordinance and post-construction site erosion control ordinance. These sample ordinances may require minor modifications to meet the needs of UWGB.

The detailed requirements for construction sites and post-construction sites are listed in detail in sections 2.1-2.2 of this report.

6.4 NR 120 – Priority Watershed and Priority Lake Program

No action is required under NR 120. Grants under this program are not available. Also according to the local grant administration staff, Urban Nonpoint Source and Targeted Runoff Management grants are not available to UWGS since the property is not a part of a priority watershed.

6.5 NR 116 – Wisconsin’s Floodplain Management Program

Green Bay is in a flood hazard Zone A3 on the Flood Insurance Rate Map (FIRM) with an elevation of 585 NGVD. Mahon Creek along the south side of UWGB is in flood hazard zone A, where the areas of the 100-year flood; base flood elevations and flood hazard factors have not been determined.

It is unlikely future development will encroach upon the Mahon Creek floodplain. However, if development is to occur within 300’ of the stream, a detailed flood study near the development should be completed to prevent construction in a flood hazard area.

It is possible future development will occur along Green Bay, however, it will likely coincide with recreation or passive uses. These types of uses are permitted in the floodplain. Other buildings constructed near Green Bay should be constructed at least 2’ above the based flood elevation of 585. Also, fill should extend 15’ away from the building at a minimum of 1’ above the base flood elevation.

6.6 Permits Required

A Notice of Intent (NOI) will need to be filed with the DNR in 2005. The NOI is currently being developed by the DNR. Previously filed NOI’s submitted in March of 2003 were determined to be inadequate by the EPA.

The new NOI will require the UWGB to list current policies with regard to public education and outreach, public involvement and participation, illicit discharge detection and elimination, storm sewer system mapping, construction site pollution control, post-construction site stormwater management and pollution prevention. In
addition, the NOI will require the UWGB to show how the requirements of NR 151 and NR 216 are being satisfied.

In other words, how will future stormwater education and outreach be conducted, how will be the public involvement and participation strategy, how will UWGB comply with the illicit discharge detection and elimination requirements, how will the UWGB maintain and update a storm sewer system map, what construction site erosion control policies have been adopted, what post-construction site stormwater policies have been adopted and what pollution prevention actions will be taken.

6.7 Recommended Modeling

Given that UWGB will be required to remove 20% of the sediment (Total Suspended Solids or TSS) from existing development by 2008 and 40% by 2013, estimating the existing average annual sediment loading is the single most important modeling required. This modeling should be completed as soon as possible so that Best Management Practices can be designed and installed to meet the DNR timelines. According to NR 151 and NR 216 sediment loading can be estimated using two different programs, WinSLAMM and P8. SLAMM is an acronym for sediment loading and management model and P8 stands for Program for Predicting Polluting Particle Passage thru Pits, Puddles, & Ponds.

WinSLAMM runs in Windows and is commercially from PV & Associates [http://www.winslamm.com/]. WinSLAMM is regularly updated including the latest version 8.9.1 updated February 12, 2005. P8 is a DOS based program and is available free online at [http://wwwalker.net/p8/]. Based on our research it has not been updated since 2000. We recommend using WinSLAMM since it is the DNR preferred model, runs in Windows and is maintained and updated regularly.

WinSLAMM requires a number of inputs including the land use, which is institutional for UWGB. For this land use the areas for the following campus features must be input:

- Roofs
- Sidewalks
- Other impervious areas
- Paved parking or storage areas
- Streets or alleys
- Freeway lanes and shoulders
- Unpaved parking or storage areas
- Undeveloped areas
- Large turf areas
• Playgrounds
• Small landscape areas
• Driveways
• Other pervious areas.

Other inputs include:

• One year of rainfall data from the City of Green Bay from 1969 with an evaluation period of 03/29/69 to 11/25/69.
• A pollutant probability distribution file for Wisconsin
• A particulate solids concentration file
• A particulate residue delivery file
• A street delivery file
• Type of drainage system; i.e. curb and gutter with storm sewer, grassed swales, etc.
• Critical particle size distribution file

This data can be input for the campus as a whole or can be broken down into several small watersheds. It may be desirable to break the campus into several small areas to be analyzed. This may be useful to determine critical sources of sediment for the existing condition.

Once a baseline has been established with the existing sediment loading for an average annual year. The results of this analysis will be in pounds of sediment per year. Now the areas producing sediment have been identified, a new model with BMP’s can be established. BMP’s must be designed and locations selected to meet the sediment removal requirements for 2008 and 2013. A number of BMP’s are available for stormwater management purposes and they are discussed in the next section.

6.8 Best Management Practices

Best Management Practices (BMP’s) are used to achieve the required performance standard for storm water runoff. BMP’s are used to reduce the Total Suspended Solids (TSS) in runoff, reduce the peak discharge, and help in maintaining groundwater quality. There are many different types of BMP’s that can be used to achieve the performance standards. Below is a list of different BMP’s and their uses.
6.8.1 Infiltration Basins

An infiltration system is a stormwater runoff impoundment designed to capture a stormwater runoff volume, hold this volume and infiltrate it into the ground over a period of days. These areas are designed to not permanently retain water. Infiltration systems are designed following the DNR’s technical standard 1003. Infiltration basins require pretreatment of stormwater in order to remove as many of the suspended solids from the runoff as possible before entering the basin. As stated earlier, the use of an infiltration basin depends on the existing soil conditions. Infiltration basins can only be designed where the soils have an infiltration rate greater than 0.6 inches/hour.

6.8.2 Wet Detention

Wet detention ponds are storm water control structures providing both retention and treatment of contaminated storm water runoff. Runoff from each rain event is detained and treated in the pond until it is displaced by runoff from the next storm. By capturing and retaining runoff during storm events, wet detention ponds control both stormwater quantity and quality. The ponds natural physical, biological, and chemical processes then work to remove pollutants.

6.8.3 Biofiltration Devices

Biofiltration systems are BMP practices that use filtration to treat stormwater runoff. These systems use vegetation, such as trees, shrubs, and grasses, to remove pollutants from stormwater runoff. Sources of runoff are diverted into bioretention systems directly as overland flow or through a stormwater drainage system. The first flush, which carries majority of the pollutants, filters through the vegetation and soil within the bioretention area. The filtered runoff is then collected in an under drain system of is allowed to infiltrate into the ground. The advantage with biofiltration devices is that they can be readily incorporated into green spaces, streetscapes, median strips, and parking islands. They also provide stormwater peak flow and volume control as well as water quality control where stormwater infiltration is used. They are also efficient and cost-effective.

6.8.4 Rain Gardens

A rain garden is an attractive landscaping feature that is planted with native plants and designed to absorb storm water runoff from impervious areas such as roof and parking lots. Rain gardens can vary in size. Some can be simple small gardens created along residential houses or can be a large complex bioretention garden. A rain garden resembles a regular perennial garden in many ways; however, one can be created to mimic a wetland also. They are planted with deep-rooted plants that come back year after year. Rain gardens usually are planted with flowers, grasses, trees, and shrubs. Rain gardens absorb and filter rain that would otherwise runoff into the storm sewers. A rain garden can be part of a stormwater reduction plan to help solve problems of combined sewer overflows. Some of the benefits of rain gardens include:

- Rain gardens create a great landscaping feature
• Rain gardens can save money – they don’t need to be sprayed, fertilized, only weeded. They also reduce the amount of lawn that needs to be maintained.

• Rain gardens can absorb hundreds of gallons of storm runoff that would otherwise runoff into and potentially pollute the nearest lakes, streams, and rivers.

• Rain gardens can potentially remove much of the pollutants that are common in stormwater.

• Low maintenance

• Rain gardens contribute to groundwater recharge, a natural process that is interrupted by soil compaction and hard surfaces created during development and building.

• A rain garden can be used an educational resource to the public

6.8.5 Underground Detention Systems

Underground storm water detention systems are a structural Best Management Practice used to control the flow of stormwater on newly developed and renovated sites where parking lots, roads and buildings have replaced open land. Underground detention systems catch and store surface runoff during storm events. The stored water is then discharged at pre-development flow rates with the use of a specified sized outlet pipe. Underground detention systems are typically constructed below parking lots, roads, and parks and can be sized and shaped

Underground detention systems provide advantages of being out of sight and hence do not pose the aesthetic issue of above ground facilities. The land is then available for development opportunities. Underground detention works well in areas where there is no land space for a wet detention pond and prevents the cost to purchase additional land for a wet detention pond. However, the initial cost of an underground detention pond is higher then a wet pond, the overall cost throughout the service life is said to be lower due to decreased maintenance costs and liability.

6.8.6 Porous Pavements

Porous pavement is a type of pavement that allows rain and snowmelt to pass through it, thereby reducing the runoff from a site and surrounding areas. Porous pavements can also act like a pre-treatment for runoff before entering the storage system. The two types of porous pavements are porous asphalt and pervious concrete.

Porous Asphalt consists of an open-graded coarse aggregate, bonded together by asphalt cement, with sufficient interconnected voids to make it highly permeable to water. Pervious concrete consists of specially formulated mixtures of portland cement, uniform, open-graded course aggregate, and water. Pervious concrete has enough void space to allow rapid percolation of liquids through the pavement.
Porous pavements are generally placed over a highly permeable layer of open-graded gravel and crushed stone. The void spaces in the aggregate layers act as a storage reservoir for runoff. A filter fabric is placed beneath the gravel and stone layers to screen out the fine soil particles. The design of the storage reservoir is calculated by using a material with a certain void space. That void space is the volume to where the water is going fill up and be stored. It is important to design so for a certain a storm event the storage layer will fill up, preventing drain down, therefore resulting in runoff. In a case where the pavement may get clogged, design options include constructing an unpaved stone edge where the surface water will flow to and allow storm water to reach the stone bed below the pavement. An overflow pipe may also be used below the pavement so when the water gets to that level it will flow out the overflow pipe preventing the storm water to pond on the pavement.

The advantages of using porous pavement include:

- Water treatment by pollutant removal
- Reduced storm water runoff
- Less need for curbing and storm sewers
- Improved road safety because of better skid resistance
- Recharge of storm water to ground water
- Eliminated the need for detention ponds

The disadvantages include:

- Porous pavement has a tendency to become clogged if improperly installed or maintained
- The use of porous pavements is highly constrained, requiring deep permeable soils.
- Freeze/Thaw may be a factor if storage system is not designed properly

It is very important to have a maintenance plan to prevent the pavement from getting clogged with pollutants or particles. It is recommended that the pavement be vacuumed no less then twice a year.

Porous pavement can be used for these different applications such as parking lots, road, and sidewalks.

6.8.7 Green Roofs

Green roofs are multi-beneficial structural components that help to mitigate the effects of urbanization of water quality by filtering, absorbing or detaining rainfall. They are
constructed of a lightweight soil media, underlain by a drainage layer, and a high quality impermeable membrane that protects the building structure. The soil is planted with a specialized mix of plants that can thrive in the harsh, dry, high temperature condition of the roof and tolerate short periods of inundation from storm events. Green roofs provide stormwater management benefits by utilizing the biological, physical, and chemical processes found in the plant and soil complex to prevent airborne pollutants from entering the storm drain system. They also reduce the runoff volume and peak discharge rate by holding back and slowing down the water that would otherwise flow quickly into the storm drain system. Some of the benefits of green roofs are listed below:

- Reduce city “heat island” effect
- Reduce CO₂ impact
- Reduce summer air conditioning cost
- Reduce winter heating cost
- Potentially lengthen roof life 2 to 3 times
- Treat nitrogen pollution in rain
- Negate acid rain effect
- Help reduce volume and peak rates of stormwater

There are advantages and disadvantages when it comes to the cost of green roofs. The cost comparison between a convention and a green roof results in a higher initial cost when installing a green roof. However, because green roofs improve the roofs longevity and the thermal insulation it provides, these benefits along with stormwater retention and a healthier microclimate can easily outweigh the increased initial costs for most installations.

6.8.8 Dry Detention

Retention facilities can also be used as a BMP to reduce peak flow for proposed development. Retention facilities are generally called dry ponds. The function of the dry pond is to retain stormwater runoff and discharge at a rate designed for depending on the proposed outlet structure. A dry pond is generally designed in the same manner as a wet pond however the outlet pipe is at the bottom of the pond so there is no permanent pool as would be in a wet pond. Therefore, because dry ponds do not have a permanent pool, they cannot be used to meet the requirements for removing total suspended solids. The main function of dry ponds is to reduce the peak flows.
6.8.9 Proprietary Devices

Many different proprietary devices are manufactured to remove pollutants and reduce peak flow rates. A proprietary device can be used as a separator, a filtration system, or an infiltration system.

Devices used as a separator system basically remove sediment, debris, and surface oils and greases through various hydrodynamic designs. These systems trap and separate sediment and pollutants to prevent them from being reintroduced into runoff.

Filtration devices are catch-basin inserts or in-pipe designs that remove various pollutants. Effective designs incorporate prefiltration sediment removal chambers to reduce plugging, and provide access for regular maintenance. They also needed to be designed with an overflow bypass to prevent flooding caused by high flow rates or plugging of the filters. These types of devices are useful in urbanized areas where there is a particular pollutant being targeted. It is also cost-effective where land use does not allow other types of BMP’s. They can also be used as a pretreatment device fro infiltration BMP’s.

Some vendor-supplied devices are currently being evaluated under EPA’s Environmental Technology Verification (ETV) program. Planners should closely examine vendor claims to ensure the device will function as advertised.

Examples of separator-type systems include:


Note: there are other manufactures of this product.

- StormTreat System – [http://www.stormtreat.com](http://www.stormtreat.com)

Examples of filtration systems include:

• Hydro-Kleen Filtration System –  
  (http://www.hydrocompliance.com/hydro_kleen.html)

• StormFilter

• Ultra Urban Filters

Examples of infiltration systems include:

• Cultec – (http://www.cultec.com/)

• Rainstore3 –  (http://www.invisiblestructures.com/RS3/rainstore.htm)

• Storm Chamber –(http://www.contech-cpi.com/)

6.9 Stormwater System Improvements and Associated Budgetary Costs.

A list of potential BMP’s was included in the previous section. Those along with future developments in stormwater should be used to meet the average annual sediment removals of 20% and 40% by 2008 and 2013 respectively.

Several of the BMP’s listed above cannot be used. Infiltration devices are unlikely to work in the clay soils indicated in section 3.4 of this report. Rain gardens are basically small biofiltration devices and are intended for smaller applications like residential lots. Underground detention and dry detention areas can be used to reduce peak flows but are generally ineffective for removing sediment. Porous pavement requires street sweeping to remove the sediment on a regular basis. Green roofs have been proven effective for a number of situations including reducing the amount of runoff, however, sediment would still need to be removed from the residual runoff even if the volume is less requiring an addition devices. Furthermore green roofs cannot be used to remove sediment from surface parking lots.

Proprietary devices are currently being tested by the USGS and DNR to determine their ability to remove sediment in the field. The results of this testing is pending but the DNR has released some preliminary sediment removal data. The results to date have not been encouraging. For example the have been monitoring a 10’ diameter Stormceptor device on a 4.3 acre. Based on 15 summer storms, the device removed 8% of the incoming sediment. The DNR completed additional modeling using SLAM and found that 20, 10’ diameter devices would be required to remove 40% of the sediment. Extrapolating that number to treat the 107 acres of imperviousness on campus indicates approximately 500 would be required to remove 40% of the sediment onsite. At an installation cost of approximately $10,000 each the total cost would exceed $5,000,000. Regular maintenance is also an issue and we estimate the annual maintenance cost of $500 per year for each device or $200,000 per year.

Biofiltration devices generally require a surface effective settling surface equaling 1% of the impervious area to achieve 40% sediment removal. 2% of the impervious area is required for the complete construction of biofiltration areas including associated berms.
Biofiltration areas can be located immediately adjacent to buildings and parking lots with widths less than 20’. They can also be located in interior landscape islands and other small landscape areas. Using the 2% total area required to treat 107 acres of imperviousness onsite or 2.14 acres, biofiltration devices can be constructed at a rate of about $200,000 per acre with a total initial cost of $428,000. Regular maintenance on these facilities could exceed $25,000 per year.

Wet ponds require a surface area of about 1% to remove 40% of the sediment with approximately 2.5% total area for construction. Using the DNR technical standard, NR 1001 to design a wet pond requires a minimum width of 75’ based on typical sideslopes, freeboard and berm widths. NR 1001 also recommends a 3:1 length to width ratio. So a typical installation might be 225’ long by 75’ wide. This type of pond cannot be easily located in landscape areas like biofiltration areas. With that in mind we selected five potential areas for possible wet ponds draining the 350 acres total including pervious and impervious areas. The five sites were selected based on topography, available land and ability to capture impervious areas. 8.75 acres of pond are shown in total. From our experience a typical pond installation is approximately $45,000 per acre with onsite disposal of the excess material. The total initial cost for the five ponds would be approximately $400,000. The average annual maintenance cost on a per acre basis is approximately $2,500 per year or $25,000 per year for all five ponds.

Based on the three available options the wet pond solution makes the most economic sense.

6.10 Summary of Budgetary Costs

In this report we have identified a number of cost incurring items, which are required to meet NR 151 and NR 216 requirements. The cost items range from public information and education programs to modeling of sediment loading to construction of wet ponds. All of the items have an initial cost along with annual costs to keep the stormwater program going. Table 1, on the next page, provides our opinion of the probable associated with the recommendations of this report.
<table>
<thead>
<tr>
<th>Cost Item</th>
<th>Initial Cost</th>
<th>Annual Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public Education and Outreach</td>
<td>$10,000</td>
<td>$7,500</td>
</tr>
<tr>
<td>Public Involvement and Participation</td>
<td>$10,000</td>
<td>$7,500</td>
</tr>
<tr>
<td>Storm Sewer System Mapping</td>
<td>$2,500</td>
<td>$2,500</td>
</tr>
<tr>
<td>Illicit Discharge Program</td>
<td>$10,000</td>
<td>$2,500</td>
</tr>
<tr>
<td>Stormwater Policy Development</td>
<td>$5,000</td>
<td>$0.00</td>
</tr>
<tr>
<td>Pollution Prevention Plan</td>
<td>$5,000</td>
<td>$2,500</td>
</tr>
<tr>
<td>Annual Reporting</td>
<td>$5,000</td>
<td>$2,500</td>
</tr>
<tr>
<td>Initial Compliance Schedule</td>
<td>$2,500</td>
<td>$0.00</td>
</tr>
<tr>
<td>WinSLAMM Modeling</td>
<td>$40,000</td>
<td>$0.00</td>
</tr>
<tr>
<td>Wet Ponds Required to Remove 40% of the Sediment</td>
<td>$400,000</td>
<td>$25,000</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>$495,000</strong></td>
<td><strong>$50,000</strong></td>
</tr>
</tbody>
</table>

Table 1 Opinion of Probable Cost
7.0 Conclusions and Recommendations

After reviewing all the data including pertinent codes, existing campus features, proposed/anticipated campus development and anticipated stormwater efforts we believe meeting the future stormwater needs of the campus will be challenging. Specifically, UWGB is considered an MS4 and will be subject to municipal stormwater discharge permits in accordance with NR 216 and NR 151. We have come to two major conclusions, which will require the greatest effort and expense for the campus. First, the six minimum measures must be met for the WPDES permit that will ultimately be issued and this will require the greatest effort. Second, meeting the 40% sediment removal requirements will require the greatest expense.

7.1 Meeting NR 216 Six Minimum Measure for WPDES Permit

The six minimum measure required by NR 216.07 for WPDES include:

- Public Education and Outreach
- Public Involvement and Participation
- Illicit Discharge Detection and Elimination
- Construction Site Pollution Control
- Post-Construction Storm Water Management
- Pollution Prevention

We recommend implementing these six minimum measures and we went into great detail in Section 2 of this report regarding all the important components as well as the strategies for successful implementation. We also estimated initial costs in Section 6 to meet these requirements. However, these costs could be reduced and the process streamlined. This can be accomplished by forming a formal partnership with a group formed out of the Fox Wolf Watershed Alliance called the Northeast Wisconsin Stormwater Consortium, www.newsc.org (NEWSC). NEWSC was formed as a network of communities that will equitably share resources to cost-effectively address stormwater issues and ultimately achieve behavior change, thereby improving watershed health. Regulatory compliance is one mission but their mission is really to enhance area residents’ quality of life through stormwater management and recognizing the importance of doing more than just “getting by.” The members of this group, including the City of Green Bay, see the connection between effective stormwater management and clean water for drinking and recreation, reduced flooding and enhanced beauty and health of streams and lakes. The cost for membership will be less than $3,000 annually.

The mission of NEWSC is to facilitate efficient implementation of stormwater programs locally and regionally that will both meet DNR and EPA regulatory requirements and maximize the benefit of stormwater activities to the watershed by fostering partnerships, and by providing technical, administrative, and financial assistance to members. The mission will be achieved by:
• Fostering partnerships
• Sharing information
• Administrative efficiency

NEWSC several current long term and short term projects to meet the NEWSC mission. Current work is focusing on public education and outreach, illicit discharge and construction site stormwater runoff control.

**Public Education and Outreach**

Long-Term Project - Develop consistent media messages, both print and broadcast (radio and TV) that target general public audiences with specific messages. This activity may include development of a “mascot” or identifiable logo that could be used by all consortium communities. (Ongoing)

**Short Term Activities:**

Develop series of public information press releases on the consortium and its activities.

Develop public service announcements to be run in conjunction with conferences/workshops.

Sponsor a logo/mascot contest for area schools.

**Medium Term Project:**

Coordinate regional workshops on a variety of shared topics to specific targeted audiences (e.g. target lawn care companies, home builders, system designers, municipal staff, etc.)

**Short Term Project**

Coordinate and develop written communication materials and newsletter articles. This could be done as part of the public information releases and/or public service announcements mentioned above.

**Illicit Discharge Detection**

Medium Term Project:

Develop consistent reporting procedures for the investigation and management of illicit discharges.
Short Term Project

Facilitate the sharing and development of administrative and technical guidance documents that can be used by enforcement staff, municipal staff, developers and permittees.

**Construction Site Stormwater Runoff Control**

Short Term Project:

Develop and share examples of permitting process “flow diagrams” for development and permit administration.

Long Term Project:

Foster and facilitate opportunities for multi-jurisdictional staff, equipment or service sharing among consortium municipalities.

**Consortium Administration**

Medium Term Project:

Develop users guide for consistent compliance with regulatory requirements; intended to result in standardized submittal process within a specific format.

Short Term Project:

Act as a clearinghouse of information and expertise for communities addressing stormwater compliance and management issues. Information clearinghouse should focus not only on the six minimum measures, but other relevant stormwater concerns facing northeast Wisconsin.

Medium Term Project – Maintain a collection of educational materials and information resources used throughout the country that can be modified for use in northeast Wisconsin.

Short Term Project:

Develop relationship between the consortium and the Wisconsin Department of Natural Resources to make administration and compliance more efficient.

**7.2 Meeting NR 151 Sediment Removal Requirements**

By March 10, 2008, UWGB must remove 20% of the sediment from the existing campus runoff and by March 10, 2013 UWGB must remove 40% of the sediment from existing campus runoff. This will be the most costly and challenging requirement to meet. The campus is fortunate to have space to provide stormwater management facilities and based on the analysis in Section 6 we recommend the installation of five ponds onsite. These ponds will not only meet the ultimate 2013 sediment removal requirements but can also be used to meet City stormwater requirements. The cost
associated with the pond installation could exceed $400,000 depending on the final locations and specific designs with annual maintenance costs exceeding $25,000.

We have shown five ponds and their locations in this report; however, WinSLAMM modeling should be completed prior to any further design. This analysis will show specific areas of sediment production. Sediment hot spots can then be identified, which will allow the future designers a better locate the ponds and to efficiently and cost effectively size all of them.
Appendices

Appendix A Plates
- Plate A – County Map
- Plate B – Plat Map
- Plate C – USGS Map
- Plate D – Flood Insurance Rate Map
- Plate E – Soils Map

Appendix B Campus Layout and Tiles

Appendix C Campus Storm Sewer and Tiles

Appendix D Other Campus Maps
- Drainage Areas
- Land Use
- Soils
- Environmentally Sensitive Areas
- Water Features

Appendix E Potential Pond Areas

Appendix F Campus Physical Development Plan

Appendix G Ordinances
- NR 151
- NR 216
- NR 120
- NR 116
- City Ordinance

Appendix H Technical Standards
- NR 1001 – Wet Detention Basin
- NR 1004 - Biofiltration for Infiltration
Appendix I Educational Programming
PHOENIX SPORTS CENTER
PARKING

LEGEND
- Campus Boundary
- Roads
- Campus Buildings
- Water
- Utilities
- Stormwater
Chapter NR 151

RUNOFF MANAGEMENT

Subchapter I – General Provisions

NR 151.001 Purpose. This chapter establishes runoff pollution performance standards for non-agricultural facilities and transportation facilities and performance standards and prohibitions for agricultural facilities and practices designed to achieve water quality standards as required by s. 281.16 (2) and (3), Stats. This chapter also specifies a process for the development and dissemination of department technical standards to implement the non-agricultural performance standards as required by s. 281.16 (2) (b), Stats. If these performance standards and prohibitions do not achieve water quality standards, this chapter specifies how the department may develop targeted performance standards in conformance with s. NR 151.004.

NR 151.002 Definitions. In this chapter:

1. "Adequate sod, or self-sustaining vegetative cover" means maintenance of sufficient vegetation types and densities such that the physical integrity of the streambank or lakeshore is preserved. Self-sustaining vegetative cover includes grasses, forbs, sedges and duff layers of fallen leaves and woody debris.

2. "Agricultural facilities and practices" has the meaning given in s. 281.16 (1), Stats.

3. "Average annual rainfall" means a calendar year of precipitation, excluding snow, which is considered typical.

4. "Best management practices" or "BMPs" 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.

5. "Combined sewer system" means a system for conveying both sanitary sewage and stormwater runoff.

6. "Connected imperviousness" means an impervious surface that is directly connected to a separate storm sewer or water of the state via an impervious flow path.

7. "Construction site" means an area upon which one or more land disturbing construction activities occur, including areas that are part of a larger common plan of development or sale where multiple separate and distinct land disturbing construction activities may be taking place at different times on different schedules but under one plan. A long-range planning document that describes separate construction projects, such as a 20-year transportation improvement plan, is not a common plan of development.

8. "DATCP" means the department of agriculture, trade and consumer protection.

9. "Department" means the department of natural resources.

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

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

14. "Exceptional resource waters" means waters listed in s. NR 102.11.

15. "Final stabilization" means that all land disturbing construction activities at the construction site have been completed and that a uniform perennial vegetative cover has been established with a density of at least 70% of the cover for the unplanted areas and areas not covered by permanent structures or that employ equivalent permanent stabilization measures.

16. "Illicit discharge" means any discharge to a municipal separate storm sewer that is not composed entirely of runoff, except discharges authorized by a WPDES permit or any other discharge not requiring a WPDES permit such as water line flushing, landscape irrigation, individual residential car washing, fire fighting and similar discharges.

17. "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.

18. "In-fill area" means an undeveloped area of land located within existing urban sewer service areas, surrounded by already existing development or existing development and natural or man-made features where development cannot occur.

19. "Infiltration" means the entry and movement of precipitation or runoff into or through soil.

NR 151.003 Regional treatment exclusion.

NR 151.004 State targeted performance standards.

Subchapter II – Agricultural Performance Standards and Prohibitions

NR 151.01 Purpose.

NR 151.015 Definitions.

NR 151.02 Sheet, rill and wind erosion.

NR 151.05 Manure storage facilities.

NR 151.06 Clean water diversions.

NR 151.07 Nutrient management.

NR 151.08 Manure management prohibitions.

NR 151.09 Implementation and enforcement procedures for cropland performance standards.

NR 151.095 Implementation and enforcement procedures for livestock performance standards and prohibitions.

NR 151.096 Local livestock operation ordinances and regulations.

NR 151.097 Variances.

Subchapter III – Non–Agricultural Performance Standards

NR 151.10 Purpose.

NR 151.11 Construction site performance standard for new development and redevelopment.

NR 151.12 Post-construction performance standard for new development and redevelopment.

NR 151.13 Developed urban area performance standard.


NR 151.15 Implementation and enforcement.

Subchapter IV – Transportation Facility Performance Standards

NR 151.20 Purpose and applicability.

NR 151.21 Definitions.

NR 151.22 Responsible party.

NR 151.23 Construction site performance standard.

NR 151.24 Post-construction performance standard.

NR 151.25 Developed urban area performance standard.

NR 151.26 Enforcement.

Subchapter V – Technical Standards Development Process for Non–Agricultural Performance Standards

NR 151.30 Purpose.

NR 151.31 Technical standards development process.

NR 151.32 Dissemination of technical standards.

History: CR 00-027: cr. Register September 2002 No. 561, eff. 10-1-02.
NR 102.10. "Infiltration system" 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 road side channels designed for conveyance and pollutant removal only.

NR 115.03 (6). "Karst feature" 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.

NR 151.002. "Land disturbing construction activity" means any man-made alteration of the land surface resulting in a change in the topography or existing vegetative or non-vegetative soil cover, that may result in runoff and lead to an increase in soil erosion and movement of sediment into waters of the state. Land disturbing construction activity includes clearing and grubbing, demolition, excavating, pit trench dewatering, filling and grading activities.

NR 151.002. "Local governmental unit" has the meaning given in s. 92.15 (1) (b), Stats.

NR 151.002. "MEP" or "maximum extent practicable" 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.

"Municipality" has the meaning given in s. 281.01 (6), Stats.

"Navigable waters" and "navigable waterway" has the meaning given in s. 30.01 (4m), Stats.

"New development" means development resulting from the conversion of previously undeveloped land or agricultural land uses.

"NRCS" means the natural resources conservation service of the U.S. department of agriculture.

"Ordinary high water mark" has the meaning given in s. NR 115.03 (6).

"Outstanding resource waters" means waters listed in s. NR 102.10.

"Percent fines" means the percentage of a given sample of soil, which passes through a # 200 sieve.


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

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

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

"Population" has the meaning given in s. 281.66 (1) (c), Stats.

"Preventive action limit" has the meaning given in s. NR 140.05 (17).

"Redevelopment" means areas where development is replacing older development.

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

"Sediment" means settleable solid material that is transported by runoff, suspended within runoff or deposited by runoff away from its original location.

"Separate storm sewer" means a conveyance or system of conveyances including roads with drainage systems, streets, catch basins, curbs, gutters, ditches, constructed channels or storm drains, which meets all of the following criteria:

(a) Is designed or used for collecting water or conveying runoff.

(b) Is not part of a combined sewer system.

(c) Is not draining to a storm water treatment device or system.

(d) Discharges directly or indirectly to waters of the state.

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

"Targeted performance standard" means a performance standard that will apply in a specific area, where additional practices beyond those contained in this chapter, are necessary to meet water quality standards.

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

"Top of the 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.


"Transportation facility" means a highway, a railroad, a public mass transit facility, a public–use airport, a public trail or any other public work for transportation purposes such as harbor improvements under s. 85.095 (1) (b), Stats. "Transportation facility" does not include building sites for the construction of public buildings and buildings that are places of employment that are regulated by the department of commerce pursuant to s. 101.1205, Stats.

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

"Waters of the state" has the meaning given in s. 283.01 (20), Stats.
NR 151.003 Regional treatment exclusion. (1) Post-construction runoff within a non-navigable surface water that flows into a BMP, such as a wet detention pond, is not required to meet the performance standards of subchs. III and IV. Post-construction BMPs may be located in non-navigable surface waters.

(2) Except as allowed under sub. (3), post-construction runoff from new development shall meet the post-construction performance standards prior to entering a navigable surface water.

(3) Post-construction runoff from any development within a navigable surface water that flows into a BMP is not required to meet the performance standards of subchs. III and IV if:

(a) The BMP was constructed prior to October 1, 2002, and the BMP either received a permit issued under ch. 30, Stats., or the BMP did not require a ch. 30, Stats., permit; and

(b) The BMP is designed to provide runoff treatment from future upland development.

(4) Runoff from existing development, redevelopment and in-fill areas shall meet the post-construction performance standards in accordance with pars. (a) and (b):

(a) To the maximum extent practicable, BMPs shall be located to treat runoff prior to discharge to navigable surface waters.

(b) Post-construction BMPs for such runoff may be located in a navigable surface water if allowable under all other applicable federal, state and local regulations such as ch. NR 103 and ch. 30, Stats.

Note: This allows the location of BMPs in navigable surface waters where necessary to augment management practices upstream of the navigable surface water to meet the performance standards.

(5) The discharge of runoff from a BMP, such as a wet detention pond, or after a series of such BMPs is subject to this chapter.

Note: This section does not supersede any other applicable federal, state or local regulation such as ch. NR 103 and ch. 30, Stats.

History: CR 00-027: cr. Register September 2002 No. 561, eff. 10-1-02.

NR 151.004 State targeted performance standards. For some areas, implementation of the statewide performance standards and prohibitions in this chapter may not be sufficient to achieve water quality standards. In those cases, the department shall determine if a specific waterbody will not attain water quality standards after substantial implementation of the performance standards and prohibitions in this chapter, using actual or predicted modeling or monitoring. If the department finds that water quality standards will not be attained using statewide performance standards and prohibitions but the implementation of targeted performance standards would attain water quality standards, the department shall promulgate the targeted performance standards by rule.

Note: Pursuant to s. 281.16 (2) (a) and (3) (a), Stats., the performance standards shall be designed to meet state water quality standards.

History: CR 00-027: cr. Register September 2002 No. 561, eff. 10-1-02.

Subchapter II – Agricultural Performance Standards and Prohibitions

NR 151.01 Purpose. The purpose of this subchapter is to prescribe performance standards and prohibitions in accordance with the implementation and enforcement procedures contained in ss. NR 151.09 and 151.095 for agricultural facilities, operations and practices.

History: CR 00-027: cr. Register September 2002 No. 561, eff. 10-1-02.

NR 151.015 Definitions. In this subchapter:

(1) “Agricultural land use” means the use of land for agricultural practices.

(3) “Conservation practice” means a best management practice designed to reduce or prevent soil or sediment loss to the waters of the state.

(4) “Crop producer” means an owner or operator of an operation engaged in crop related agricultural practices specified in s. 281.16 (1) (b), Stats.

(5) “Cropland practice” means the method, activity or management measure used to produce or harvest crops.

(6) “County land conservation committee” means the committee created by a county board under s. 92.06, Stats. “County land conservation committee” includes employees or agents of the committee whom, with committee authorization, act on behalf of the committee.

(7) “Direct runoff” means a discharge of a significant amount of pollutants to waters of the state resulting from any of the following practices:

(a) Runoff from a manure storage facility.

(b) Runoff from an animal lot that can be predicted to reach surface waters of the state through a defined or channelized flow path or man-made conveyance.

(c) Discharge of leachate from a manure pile.

(d) Seepage from a manure storage facility.

(e) Construction of a manure storage facility in permeable soils or over fractured bedrock without a liner designed in accordance with s. NR 154.04 (3).

(8) “Freeboard” means a protection elevation requirement designed as a safety factor which is usually expressed in terms of a specific number of feet above a storage level or flood level and compensates for the effects of runoff from unexpected storms and other events that may cause a loss of storage volume.

(9) “Livestock facility” means a structure or system constructed or established on a livestock operation.

(10) “Livestock producer” means an owner or operator of a livestock operation.

(11) “Livestock operation” has the meaning given in s. 281.16 (1) (c), Stats.

(12) “Manure” means a material that consists primarily of excreta from livestock, poultry or other animals.

(13) “Manure storage facility” means an impoundment made by constructing an embankment or excavating a pit or dugout or by fabricating a structure to contain manure and other animal or agricultural wastes.

(15m) “Municipality” has the meaning given in s. 281.01 (6), Stats.

(14) “NOD” means a notice of discharge issued under s. NR 243.24 (4).

(15) “Operator” means a person responsible for the oversight or management of equipment, facilities or livestock at a livestock operation, or is responsible for land management in the production of crops.

(16) “Preventive action limit” has the meaning given in s. NR 140.05 (17).

(17) “Residual cover” means vegetation, or organic debris that provides soil surface protection from raindrop impact.

(18) “Site that is susceptible to groundwater contamination” under s. 281.16 (1) (g), Stats., means any one of the following:

(a) An area within 250 feet of a private well.

(b) An area within 1000 feet of a municipal well.

(c) An area within 300 feet upslope or 100 feet downslope of karst features.

(d) A channel with a cross-sectional area equal to or greater than 3 square feet that flows to a karst feature.

(e) An area where the soil depth to groundwater or bedrock is less than 2 feet.

Register, September, 2002, No. 561
Unofficial Text (See Printed Volume). Current through date and Register shown on Title Page.

(f) An area where the soil does not exhibit one of the following soil characteristics:
1. At least a 2-foot soil layer with 40% fines or greater above groundwater and bedrock.
2. At least a 3-foot soil layer with 20% fines or greater above groundwater and bedrock.
3. At least a 5-foot soil layer with 10% fines, or greater above groundwater and bedrock.

Note: See s. NR 151.002 (12) for definition of percent fines.

(19) “Stored manure” means manure that is kept in a manure storage facility or an unconfined manure pile.

(20) “Substantially altered” means a change initiated by an owner or operator that results in a relocation of a structure or facility or significant changes to the size, depth or configuration of a structure or facility including:
(a) Replacement of a liner in a manure storage structure.
(b) An increase in the volumetric capacity or area of a structure or facility by greater than 20%.
(c) A change in a structure or facility related to a change in livestock management from one species of livestock to another such as cattle to poultry.

(21) “Tolerable soil loss” or “T” means the maximum rate of erosion, in tons per acre per year, allowable for particular soils and site conditions that will maintain soil productivity.

(22) “Unconfined manure pile” means a quantity of manure that is at least 175 ft³ in volume and which covers the ground surface to a depth of at least 2 inches and is not confined within a manure storage facility, livestock housing facility or barnyard runoff control facility or covered or contained in a manner that prevents storm water access and direct runoff to surface water or leaching of pollutants to groundwater.

(24) “Water quality management area” or “WQMA” means the area within 1,000 feet from the ordinary high water mark of navigable waters that consist of a lake, pond or flowage, except that, for a navigable water that is a glacial pothole lake, the term means the area within 1,000 feet from the high water mark of the lake; the area within 300 feet from the ordinary high water mark of navigable waters that consist of a river or stream; and a site that is susceptible to groundwater contamination, or that has the potential to be a direct conduit for contamination to reach groundwater.

New Construction and Alterations. (a) New or substantially altered manure storage facilities shall be designed, constructed and maintained to minimize the risk of structural failure of the facility, minimize leakage of the facility in order to comply with groundwater standards, and maintain one foot of freeboard storage or adequate freeboard storage to the equivalent volume of a 25-year, 24-hour storm, whichever is greater.
(b) A new manure storage facility means a facility constructed after October 1, 2002.
(c) A substantially altered manure storage facility is a manure storage facility that is substantially altered after October 1, 2002.

(3) Closure. (a) Closure of a manure storage facility shall occur when an operation where the facility is located ceases operations, or manure has not been added or removed from the facility for a period of 24 months. Manure facilities shall be closed in a manner that will prevent future contamination of groundwater and surface waters.

(b) The owner or operator may retain the facility for a longer period of time by demonstrating to the department that all of the following conditions are met:
1. The facility is designed, constructed and maintained in accordance with sub. (2).
2. The facility is designed to store manure for a period of time longer than 24 months.
3. Retention of the facility is warranted based on anticipated future use.

(4) Failing and Leaking Existing Facilities. Manure storage facilities in existence as of October 1, 2002, that pose an imminent threat to public health or fish and aquatic life or are causing a violation of groundwater standards shall be upgraded, replaced or abandoned in accordance with this section.

History: CR 00−027: cr. Register September 2002 No. 561, eff. 10−1−02.

NR 151.06 Clean water diversions. (1) All livestock producers within a water quality management area shall comply with this section.
(2) Runoff shall be diverted away from contacting feedlot, manure storage areas and barnyard areas within water quality management areas except that a diversion to protect a private well under s. NR 151.015 (18) (a) is required only when the feedlot, manure storage area or barnyard area is located upslope from the private well.

History: CR 00−027: cr. Register September 2002 No. 561, eff. 10−1−02.

NR 151.07 Nutrient management. (1) All crop producers and livestock producers that apply manure or other nutrients directly or through contract to agricultural fields shall comply with this section.

Note: Manure management requirements for concentrated animal feeding operations covered under a WPDES permit are contained in ch. NR 243.
(2) This performance standard does not apply to industrial waste and byproducts regulated under ch. NR 214, municipal sludge regulated under ch. NR 204, septage regulated under ch. NR 113 or manure directly deposited by pasturing or grazing animals on fields dedicated to pasturing or grazing.

Note: In accordance with ss. ATCP 50.04, 50.48 and 50.50, nutrient management planners, Wisconsin certified soil testing laboratories and dealers of commercial fertilizer are advised to make nutrient management recommendations based on the performance standard for nutrient management, s. NR 151.07, to ensure that their customers comply with this performance standard.

(3) Manure, commercial fertilizer and other nutrients shall be applied in conformance with a nutrient management plan.

(a) The nutrient management plan shall be designed to limit or reduce the discharge of nutrients to waters of the state for the purpose of complying with state water quality standards and groundwater standards.

(b) Nutrient management plans for croplands in watersheds that contain impaired surface waters or in watersheds that contain outstanding or exceptional resource waters shall meet the following criteria:

1. Unless otherwise provided in this paragraph, the plan shall be designed to manage soil nutrient concentrations so as to maintain or reduce delivery of nutrients contributing to the impairment of impaired surface waters and to outstanding or exceptional resource waters.

2. The plan may allow for an increase in soil nutrient concentrations at a site if necessary to meet crop demands. 

3. For lands in watersheds containing exceptional or outstanding resource waters, the plan may allow an increase in soil nutrient concentrations if the plan documents that any potential nutrient delivery to the exceptional or outstanding resource waters will not alter the background water quality of the exceptional or outstanding resource waters. For lands in watersheds containing
impaired waters, the plan may allow an increase in soil nutrient concentrations if a low risk of delivery of nutrients from the land to the impaired water can be demonstrated.

(c) In this standard, impaired surface waters are waters identified as impaired pursuant to 33 USC 1313 (d) (1) (A) and 40 CFR 130.7. Outstanding or exceptional resource waters are identified in ch. NR 102.

(4) This section is in effect on January 1, 2005 for existing croplands under s. NR 151.09 (4) that are located within any of the following:

(a) Watersheds containing outstanding or exceptional resource waters.

(b) Watersheds containing impaired waters.

(c) Source water protection areas defined in s. NR 243.03 (29).

(5) This section is in effect on January 1, 2008 for all other existing croplands under s. NR 151.09 (4).

(6) This section is in effect for all new croplands under s. NR 151.09 (4) on October 1, 2003.

Note: The purpose of the phased implementation of this standard is to allow the department sufficient time to work with the department of agriculture, trade and consumer protection and local governmental units to develop and implement an information, education and training program on nutrient management for affected stakeholders.

History: CR 00−027: cr. Register September 2002 No. 561, eff. 10−1−02.

NR 151.08 Manure management prohibitions.

(1) All livestock producers shall comply with this section.

(2) A livestock operation shall have no overflow of manure storage facilities.

(3) A livestock operation shall have no unconfined manure pile in a water quality management area.

(4) A livestock operation shall have no direct runoff from a feedlot or stored manure into the waters of the state.

(5) (a) A livestock operation may not allow unlimited access by livestock to waters of the state in a location where high concentrations of animals prevent the maintenance of adequate sod or self−sustaining vegetative cover.

(b) This prohibition does not apply to properly designed, installed and maintained livestock or farm equipment crossings.

History: CR 00−027: cr. Register September 2002 No. 561, eff. 10−1−02.

NR 151.09 Implementation and enforcement procedures for cropland performance standards.

(1) Purpose.

The purpose of this section is to identify the procedures the department will follow in implementing and enforcing the cropland performance standards pursuant to ss. 281.16 (3) and 281.98, Stats. This section will also identify circumstances under which an owner or operator of cropland is required to comply with the cropland performance standards. In this section, “cropland performance standards” means performance standards in ss. NR 151.02 and 151.07.

(2) Role of municipalities.

The department may rely on municipalities to implement the procedures and make determinations established in this section.

Note: In most cases, the department will rely on municipalities to fully implement the cropland performance standards. The department intends to utilize the procedures in this section in cases where a municipality has requested assistance in implementing and enforcing the cropland performance standards or in cases where a municipality has failed to address an incident of noncompliance with the performance standards in a timely manner. The department recognizes that coordination between local municipalities, the department of agriculture, trade and consumer protection and other state agencies is needed to achieve statewide compliance with the performance standards. Accordingly, the department plans on working with counties, the department of agriculture, trade and consumer protection and other interested partners to develop a detailed intergovernmental strategy for achieving compliance with the performance standards that recognizes the procedures in these rules, state basin plans and the priorities established in land and water conservation plans.

Note: The department implementation and enforcement procedures for livestock performance standards relating to manure management are included in s. NR 151.095 and ch. NR 243.

(3) Landowner and operator requirements.

(a) Introduction.

This section identifies compliance requirements for landowners and operators based on whether the cropland is existing or new and whether cost sharing is required and made available to the landowner or operator.

(b) General requirements.

If any cropland is meeting a cropland performance standard on or after the effective date of the standard, the cropland performance standard shall continue to be met by the existing landowner or operator, heirs or subsequent owners or operators of the cropland. If a landowner or operator alters or changes the management of the cropland in a manner that results in noncompliance with the performance standard, the landowner or operator shall bring the cropland back into compliance, regardless of whether cost−sharing is made available. This paragraph does not apply to croplands completing enrollment determined to be existing under sub. (4) (b) 2.

Note: The department or a municipality may use conservation plans, cost share agreements, deed restrictions, personal observations or other information to determine whether a change has occurred.

(c) Existing cropland requirements.

1. A landowner or operator of an existing cropland, defined under sub. (4) (b), shall comply with a cropland performance standard if all of the following have been done by the department:

a. Except as provided in subd. 2. and 3., a determination is made that cost sharing has been made available in accordance with sub. (4) (d) on or after the effective date of the cropland performance standard.

b. The landowner or operator has been notified in accordance with sub. (5) or (6).

2. A landowner or operator of existing cropland, defined under sub. (4) (b), shall comply with a cropland performance standard, regardless of whether cost sharing is available, in situations where the best management practices and other corrective measures needed to meet the performance standards do not involve eligible costs.

3. A landowner or operator of an existing cropland that voluntarily proposes to construct or reconstruct a manure storage system shall comply with s. NR 151.07, regardless of whether cost sharing is made available, if the nutrient management plan is required pursuant to a local permit for the manure storage system.

Note: Although the requirement for the nutrient management plan in this subd. 3 is tied to construction of a new manure storage system, the department intends to implement the nutrient management standard through s. NR 151.09 rather than through s. NR 151.095.

(d) New cropland requirements.

A landowner or operator of a new cropland, defined under sub. (4) (b), shall comply with the cropland performance standards, regardless of whether cost sharing is available.

Note: Under s. 281.16 (3) (e), Stats., a landowner or operator may not be required by the state or a municipality through an ordinance to bring existing croplands into compliance with the cropland performance standards, technical standards or conservation practices unless cost−sharing is available in accordance with this section.

(4) Department determinations.

(a) Scope of determinations.

If croplands are not in compliance with a cropland performance standard, the department shall make determinations in accordance with the procedures and criteria in this subsection.

(b) Cropland status.

The department shall classify non−complying croplands to be either new or existing for purposes of administering this section and s. 281.16 (3) (e), Stats. In making the determination, the department shall base the decision on the following:

1. An existing cropland is one that meets all of the following criteria:

a. The cropland was being cropped as of the effective date of the standard.

b. The cropland is not in compliance with a cropland performance standard in this subchapter as of the effective date of the standard. The reason for non−compliance of the cropland may not be failure of the landowner or operator to maintain an installed best management practice in accordance with a cost−share agreement or contract.
2. An existing cropland also includes land enrolled on October 1, 2002, in the conservation reserve or conservation reserve enhancement program administered by the United States Department of Agriculture.

3. A new cropland is one that does not meet the definition under subd. 1. or 2., including:
   a. Land without a previous history of cropping that is converted to cropland after the effective date of the standard. “Without a previous history of cropping” means land where crops have not been grown and harvested for agricultural purposes in the last 10 years prior to the conversion to cropland.
   b. Cropland that is in existence and in compliance with a performance standard on or after the effective date of the standard and that undergoes a change in a cropland practice that results in non-compliance with the performance standards.

4. Change in ownership may not be used as the sole basis for determining whether a cropland is existing or new for purposes of administering this subsection.

(c) Eligible costs. 1. If cost sharing is required to be made available under sub. (3) (c), the department shall determine the total cost of best management practices and corrective measures needed to bring a cropland into compliance with performance standards and shall determine which of those costs are eligible for cost sharing for the purposes of administering this section and s. 281.16 (3) (e), Stats.

2. The cost–share eligibility provisions identified in chs. NR 153 and 154 shall be used in identifying eligible costs for installation of best management practices and corrective measures.

3. The technical assistance eligibility provisions identified in ss. NR 153.15 (1) and 153.16 (1) or ch. ATCP 50 shall be used in identifying eligible costs for planning, design and construction services.

4. If cost sharing is provided by DATCP or the department, the corrective measures shall be implemented in accordance with the BMPs and technical standards specified in ch. NR 154 or subch. VIII of ch. ATCP 50.

Note: Under chs. NR 153 and 154, eligible costs typically include capital costs and significant other expenses, including design costs, incurred by the landowner or operator. Eligible costs do not include the value or amount of time spent by a landowner or operator in making management changes.

(d) Determination of cost–share availability. 1. For purposes of administering this section and s. 281.16 (3) (e), Stats., if cost sharing is required to be made available under sub. (3), the department shall make a determination as to whether cost sharing has been made available on or after the effective date of the cropland standard to cover the eligible costs for a landowner or operator to comply with the cropland performance standard.

2. Cost sharing under s. 281.65, Stats., shall be considered available when all of the following have been met:
   a. Cost share dollars are offered in accordance with either of the following: the department has entered into a runoff management grant agreement under ch. NR 153 or a nonpoint source management agreement under ch. NR 120, and a notice under sub. (5) has been issued by the department or a municipality; or the department directly offers cost share assistance and issues a notice under sub. (5).
   b. The grants in subd. 2. a., alone or in combination with other funding determined to be available under subd. 3., provide at least 70% of the eligible costs to implement the best management practices or other corrective measures needed to meet a cropland performance standard.
   c. In cases of economic hardship determined in accordance with s. NR 154.03 (3), the grants in subd. 2. a., alone or in combination with other funding determined to be available under subd. 3., cover not less than 70% and not greater than 90% of the eligible costs to implement the best management practices or other corrective measures needed to meet a cropland performance standard.
   3. For funding sources other than those administered by s. 281.65, Stats., the department may make a determination of cost share availability after consulting with DATCP and ch. ATCP 50.

Note: Under s. 281.16 (3) (e), DATCP is responsible for promulgating rules that specify criteria for determining whether cost–sharing is available from sources other than s. 281.65, Stats., including s. 92.14, Stats. Pursuant to s. 281.16 (3) (e), Stats., a municipality is required to follow the department’s definition of cost–share availability if cost sharing is provided by the municipality or if funds are utilized from any other source, a municipality must refer to DATCP’s definition of cost–share availability.

(5) Notification requirements and compliance periods for existing croplands when cost–sharing is required. (a) Landowner notification. 1. The department shall notify a landowner or operator in writing of the determinations made under sub. (4) and implementation requirements for existing croplands where cost sharing is required for compliance.

2. The notice shall be sent certified mail, return receipt requested or personal delivery.

3. The following information shall be included in the notice:
   a. A description of the cropland performance standard being violated.
   b. The cropland status determination made in accordance with sub. (4) (b).
   c. The determination made in accordance with sub. (4) (c) as to which best management practices or other corrective measures that are needed to comply with cropland performance standards are eligible for cost sharing.

Note: Some best management practices required to comply with cropland performance standards involve no eligible cost to the landowner or operator and are not eligible for cost sharing.

4. If cost sharing is required for compliance with cropland performance standards, including a written offer of cost sharing.

5. An offer to provide or coordinate the provision of technical assistance.

6. A compliance period for meeting the cropland performance standard.

7. An explanation of the possible consequences if the landowner or operator fails to comply with provisions of the notice, including enforcement or loss of cost sharing, or both.

8. An explanation of state or local appeals procedures.

(b) Compliance schedule. 1. A landowner or operator that receives the notice under par. (a) shall install or implement best management practices and corrective measures to meet the performance standards in the time period specified in the notice, if cost sharing is available in accordance with sub. (4) (d) 2.

2. The compliance period identified in the notice in par. (a) shall be determined by the department as follows:
   a. The compliance period shall begin on the postmark date of the notice or the date of personal delivery.
   b. The length of the compliance period shall be from 60 days to 3 years unless otherwise provided for in this subdivision.
   c. The length of the compliance period may be less than 60 days if the site is an imminent threat to public health, fish and aquatic life.
   d. The department may authorize an extension up to 4 years on a case–by–case basis provided that the reasons for the extension are beyond the control of the landowner or operator. A compliance period may not be extended to exceed 4 years in total.
   e. Once a landowner or operator achieves compliance with a cropland performance standard, compliance with the standard shall be maintained by the existing landowner or operator and heirs or subsequent owners, regardless of cost sharing.

(6) Notice requirements and compliance periods for existing croplands in situations when no eligible costs are involved. (a) Landowner notification. 1. The department
shall notify a non-complying landowner or operator of existing croplands of the determinations made under sub. (4).

2. The notice shall be sent certified mail, return receipt requested, or via personal delivery.

3. The following information shall be included in the notice:
   a. A description of the cropland performance standard that is being violated and the determination that corrective measures do not involve eligible costs under sub. (4) (c).
   b. The cropland status determination made in accordance with sub. (4) (b).
   c. A compliance period for achieving the cropland performance standard. The compliance period may not exceed the time limits in par. (b).
   d. An explanation of the consequences if the landowner or operator fails to comply with provisions of the notice.
   e. An explanation of state or local appeals procedures.

(b) Compliance period. 1. The compliance period for existing croplands where best management practices and other corrective measures do not involve eligible costs shall be in accordance with the following:
   a. The compliance period shall begin on the postmark date of the notice or the date of personal delivery.
   b. The length of the compliance period shall be from 60 days to 2 years unless otherwise provided for in this subsection.
   c. The length of the compliance period may be less than 60 days if the site is an imminent threat to public health, fish and aquatic life.

2. Once compliance with a cropland performance standard is attained, compliance with the standard shall be maintained by the existing landowner or operator and heirs or subsequent owners.

(c) Combined notices. The department may meet multiple notification requirements under par. (a), sub. (5) and s. NR 151.095 within any single notice issued to a landowner or operator.

(7) Enforcement. (a) Authority to initiate enforcement. The department may take enforcement action pursuant to s. 281.98, Stats., or other appropriate actions, against the landowner or operator of a cropland for failing to comply with the cropland performance standards in this subchapter or approved variances to the cropland performance standards provided by the department under s. NR 151.097.

(b) Enforcement following notice and direct enforcement. The department shall provide notice to the landowner or operator of an existing cropland in accordance with subs. (5) and (6) prior to the department initiating enforcement action under s. 281.98, Stats.

Note: The implementation and enforcement procedures in this section are limited to actions taken by the department under s. 281.98, Stats., for noncompliance with a cropland performance standard. Pursuant to other statutory authority, the department may take direct enforcement action without cost sharing against a crop producer for willful or intentional acts or other actions by a landowner or operator that pose an immediate or imminent threat to human health or the environment.

Note: An owner or operator of a new cropland is required to meet the cropland performance standards by incorporating necessary management measures at the time the new cropland is created. This requirement shall be met regardless of cost sharing. The department may pursue direct enforcement action under s. 281.98, Stats., against landowners or operators of new croplands not in compliance.

(8) Notification to municipalities. The department shall notify the appropriate municipality, including a county land conservation committee, prior to taking any of the following actions under this section:

(a) Contacting a landowner or operator to investigate compliance with cropland performance standards.

(b) Issuing a notice under sub. (5) or (6) to a landowner or operator.

(c) Taking enforcement action under s. 281.98, Stats., against a landowner or operator for failing to comply with cropland performance standards in this subchapter.

(d) Notification is not required if the site is an imminent threat to public health or fish and aquatic life.

History: CR 00-027: cr. Register September 2002 No. 561, eff. 10-1-02.

NR 151.095 Implementation and enforcement procedures for livestock performance standards and prohibitions. (1) Purpose. The purpose of this section is to identify the procedures the department will follow in implementing and enforcing the livestock performance standards and prohibitions pursuant to ss. 281.16 (3) and 281.98, Stats. If a livestock performance standard is also listed as a cropland performance standard under s. NR 151.09, the department may choose the procedures of either s. NR 151.09 or this section to obtain compliance with the standard. This section will also identify circumstances under which an owner or operator of a livestock facility is required to comply with livestock performance standards and prohibitions. In this section, “livestock performance standards and prohibitions” means the performance standards and prohibitions in ss. NR 151.05, 151.06 and 151.08. Note: The nutrient management standard in s. NR 151.07 should be implemented through the procedures in s. NR 151.09.

(2) Role of municipalities. The department may rely on municipalities to implement the procedures and make determinations outlined in this section.

Note: In most cases, the department will rely on municipalities to fully implement the livestock performance standards and prohibitions. The department intends to utilize the procedures in this section in cases where a municipality has requested assistance in implementing and enforcing the performance standards or prohibitions or in cases where a municipality has failed to address an incident of noncompliance with the performance standards or prohibitions in a timely manner. The department recognizes that coordination between local municipalities, the department of agriculture, trade and consumer protection and other state agencies is needed to achieve statewide compliance with the performance standards and prohibitions. Accordingly, the department plans on working with counties, the department of agriculture, trade and consumer protection and other interested partners to develop a detailed intergovernmental strategy for achieving compliance with the performance standards and prohibitions that recognizes the procedures in these rules, state basin plans and the priorities established in land and water conservation plans.

Note: Additional implementation and enforcement procedures for livestock performance standards and prohibitions are in ch. NR 243, including the procedures for the issuance of a NOD.

(3) Exemptions. The department may follow the procedures in ch. NR 243 and is not obligated to follow the procedures and requirements of this section in the following situations:

(a) If the livestock operation holds a WPDES permit.

(b) If the department has determined that the issuance of a NOD to the owner or operator of the livestock operation is warranted.

Circumstances in which a NOD may be warranted include:

1. The department has determined that a livestock facility has a point source discharge under s. NR 243.24.

2. The department has determined that a discharge to waters of the state is occurring and the discharge is not related to noncompliance with the performance standards or prohibitions.

3. The department has determined that a municipality is not addressing a facility’s noncompliance with the performance standards and prohibitions in a manner consistent with the procedures and timelines established in this section.

(4) Livestock owner and operator requirements. (a) Introduction. This section identifies compliance requirements for a livestock owner or operator based on whether a livestock facility is existing or new and whether cost sharing is required to be made available to a livestock owner or operator.

(b) General requirements. If any livestock facility is meeting a livestock performance standard or prohibition on or after the effective date of the standard or prohibition, the livestock performance standard or prohibition shall continue to be met by the existing owner or operator, heirs or subsequent owners or operators of the facility. If an owner or operator alters or changes the ownership of the livestock facility in a manner that results in noncompliance with a livestock performance standard or prohibi-
tion, the owner or operator shall bring the livestock facility back into compliance regardless of cost-share availability.

(c) Existing livestock facility requirements. 1. An owner or operator of an existing livestock facility, defined under sub. (5) (b), shall comply with a livestock performance standard or prohibition if all of the following have been done by the department:
   a. Except as provided in subd. 2., a determination is made that cost sharing has been made available in accordance with sub. (5) (d) or after the effective date of the livestock performance standard or prohibition.
   b. The owner or operator of the livestock facility has been notified in accordance with sub. (6) or (7).

   2. An owner or operator of an existing livestock facility, defined under sub. (5) (b), shall comply with the livestock performance standards and prohibitions, regardless of whether cost sharing is available, in situations where best management practices and other corrective measures needed to meet the performance standards do not involve eligible costs.

(d) New livestock facility requirements. An owner or operator of a new livestock facility, defined under sub. (5) (b), shall comply with the livestock performance standards or prohibitions, regardless of whether cost sharing is available.

Note: Under s. 281.16 (3) (c), Stats., an owner or operator may not be required by the state or a municipality through an ordinance or regulation to bring existing livestock facilities into compliance with the livestock performance standards or prohibitions, technical standards or conservation practices unless cost-share funding is available in accordance with this section.

(5) Department determinations. (a) Scope of determinations. If a livestock facility is not in compliance with a livestock performance standard or prohibition, the department shall make determinations in accordance with the procedures and criteria in this subsection.

(b) Livestock facility status. The department shall classify a non-complying livestock facility on an operation to be either new or existing for purposes of administering this section and s. 281.16 (3) (e), Stats. In making the determination, the department shall base the decision on the following:

1. An existing livestock facility is one that meets all of the following criteria:
   a. The facility is in existence as of the effective date of the livestock performance standard or prohibition.
   b. The facility is not in compliance with a livestock performance standard or prohibition in this subchapter as of the effective date of the livestock performance standard or prohibition.

   The reason for noncompliance of the livestock facility may not be failure of the owner or operator to maintain an installed best management practice in accordance with a cost-share agreement or contract.

2. A new livestock operation or facility is one that does not meet the definition under subd. 1., including:
   a. A livestock operation or facility that is established or installed after the effective date of the livestock performance standard or prohibition, including the placement of livestock structures on a site that did not previously have structures, or placement of animals on lands that did not have animals as of the effective date of the livestock performance standard or prohibition, unless the land is part of an existing rotational grazing or pasturing operation.
   b. For a livestock operation that is in existence as of the effective date of the livestock performance standard or prohibition that establishes or constructs or substantially alters a facility after the effective date of the livestock performance standard or prohibition, the facilities constructed, established or substantially altered after the effective date of the livestock performance standard or prohibition are considered new, except as specified in subd. 3.
   c. A livestock facility that is in existence and in compliance with a livestock performance standard or prohibition on or after the effective date of the livestock performance standard or prohibition and that undergoes a change in the livestock facility that results in noncompliance with the livestock performance standard or prohibition.

3. Pursuant to the implementation procedures in this section, if the department or a municipality directs an owner or operator of an existing livestock facility to construct a facility as a corrective measure to comply with a performance standard or prohibition on or after the effective date of the livestock performance standard or prohibition, or directs the owner or operator to reconstruct the existing facility as a corrective measure on or after the effective date of the livestock performance standard or prohibition, the constructed facilities are not considered new for purposes of installing or implementing the corrective measure.

4. A livestock facility that meets the criteria in subd. 1. and has subsequently been abandoned shall retain its status as an existing livestock facility if livestock of similar species and number of animal units are reintroduced within 5 years of abandonment.

5. Change in ownership may not be used as the sole basis for determining whether a livestock facility is existing or new for purposes of administering this subsection.

(c) Eligible costs. 1. If cost sharing is required to be made available under sub. (4) (c), the department shall determine the total cost of best management practices and corrective measures needed to bring a livestock facility into compliance with a livestock performance standard or prohibition and shall determine which of those costs are eligible for cost sharing for the purposes of administering this section and s. 281.16 (3) (e), Stats.

   2. The cost-share eligibility provisions identified in chs. NR 153 and 154 shall be used in identifying eligible costs for installation of best management practices and corrective measures.

   3. The technical assistance eligibility provisions identified in ss. NR 153.15 (1) and 153.16 (1) or ch. ATCP 50 shall be used in identifying eligible costs for planning, design and construction services.

4. If cost sharing is provided by DATCP or the department, the corrective measures shall be implemented in accordance with the best management practices and technical standards specified in ch. NR 154 or subch. VIII of ch. ATCP 50.

Note: Under chs. NR 153 and 154, eligible costs typically include capital costs and significant other expenses, including design costs, incurred by the owner or operator of the livestock operation. Eligible costs do not include the value or amount of time spent by an owner or operator in making management changes.

(d) Determination of cost-share availability. 1. For purposes of administering this section and s. 281.16 (3) (e), Stats., if cost sharing is required to be made available under sub. (4) (c), the department shall make a determination as to whether cost sharing has been made available on or after the effective date of the livestock performance standard or prohibition to cover eligible costs for an owner or operator to comply with a livestock performance standard or prohibition.

   2. Cost sharing under s. 281.65, Stats., shall be considered available when all of the following have been met:
      a. Cost share dollars are offered in accordance with either of the following: the department has entered into a runoff management grant agreement under ch. NR 153 or a nonpoint source grant agreement under ch. NR 120, and a notice under sub. (6) or under s. NR 243.24 (4) has been issued by the department or a municipality; or the department directly offers cost sharing and issues a notice under sub. (6) or s. NR 243.24 (4).
      b. The grants in subd. 2. a., alone or in combination with other funding determined to be available under subd. 3., provide at least 70% of the eligible costs to implement the best management practices or other corrective measures needed for a livestock facility to meet a livestock performance standard or prohibition.
      c. In cases of economic hardship determined in accordance with s. NR 154.03 (3), the grants in subd. 2. a., alone or in combination with other funding determined to be available under subd. 3., cover not less than 70% and not greater than 90% of the
eligible costs to implement the best management practices or other corrective measures needed for a livestock facility to meet a livestock performance standard or prohibition.

d. If an existing livestock operation with less than 250 animal units wants to expand at the time it is upgrading a facility to meet a performance standard or prohibition pursuant to a notice in sub. (6) or under s. NR 243.24 (4), the grants in subd. 2. a., alone or in combination with other funding determined to be available under sub. (5) shall also provide at least 70% of eligible costs needed to bring any expansion of facilities of up to 300 animal units into compliance with the performance standard or prohibition. In cases of economic hardship, the grants in subd. 2. a., alone or in combination with other funding determined to be available under subd. 3., shall also provide between 70% and 90% of the eligible costs needed to bring any expansion of facilities of up to 300 animal units into compliance with the performance standards and prohibitions.

Note: For livestock operations with less than 250 animal units, that portion of any expansion of facilities to accommodate more than 300 animal units is not eligible for cost sharing under s. NR 153.15 (2) d. 1. For an existing livestock operation with greater than 250 animal units, but less than the number of animal units requiring a WPDES permit under s. NR 243.12 (1) (a), (b) or (c), cost sharing may be provided under s. NR 153.15 (2) d. 2., for at least 70% of eligible costs to bring up to a 20% increase in livestock population into compliance with the performance standards and prohibitions; however, cost sharing for eligible costs up to a 20% expansion in livestock population is not required to be made available for compliance.

3. For funding sources other than those administered by s. 281.65, Stats., the department may make a determination of cost share availability after consulting with DATCP and ch. ATCP 50.

Note: Under s. 281.16 (3) (e), Stats., DATCP is responsible for promulgating rules that specify criteria for determining whether cost sharing is available from sources other than s. 281.65, Stats., including s. 92.14, Stats. Pursuant to s. 281.16 (3) (e), Stats., a municipality is required to follow the department’s definition of cost share availability if funds are utilized under s. 281.65. Stats. If funds are utilized from any other source, a municipality shall defer to DATCP’s definition of cost share availability.

(6) NOTIFICATION REQUIREMENTS AND COMPLIANCE PERIODS FOR EXISTING LIVESTOCK FACILITIES WHEN COST SHARING IS REQUIRED. (a) Owner or operator notification. 1. The department shall notify an owner or operator in writing of the determinations made under sub. (5) and implementation requirements for existing livestock facilities where cost sharing is required for compliance.

2. The notice shall be sent certified mail, return receipt requested or personal delivery.

3. The following information shall be included in the notice:

a. A description of the livestock performance standard or prohibition being violated.

b. The livestock facility status determination made in accordance with sub. (5) (b).

c. The determination made in accordance with sub. (5) (c) as to which best management practices or other corrective measures needed to comply with a livestock performance standard or prohibition are eligible for cost sharing.

Note: Some best management practices required to comply with a livestock performance standard or prohibition involves no eligible costs to the owner or operator.

d. The determination made in accordance with sub. (5) (d) that cost sharing is available for eligible costs to achieve compliance with a livestock performance standard or prohibition, including a written offer of cost sharing.

e. An offer to provide or coordinate the provision of technical assistance.

f. A compliance period for meeting the livestock performance standard or prohibition.

g. An explanation of the possible consequences if the owner or operator fails to comply with provisions of the notice, including enforcement or loss of cost sharing, or both.

h. An explanation of state or local appeals procedures.

(b) Compliance period. 1. An owner or operator that receives the notice under par. (a) shall install or implement best management practices and corrective measures to meet a performance standard or prohibition in the time period specified in the notice, if cost sharing is available in accordance with sub. (5) (d) 2.

2. The compliance period identified in the notice in par. (a) shall be determined by the department as follows:

a. The compliance period shall begin on the post−mark date of the notice or the date of personal delivery.

b. The length of the compliance period shall be from 60 days to 3 years unless otherwise provided for in this subdivision.

c. The length of the compliance period may be less than 60 days if the site is an imminent threat to public health or fish and aquatic life.

d. The department may authorize an extension up to 4 years on a case−by−case basis provided that the reasons for the extension are beyond the control of the owner or operator of the livestock facility. A compliance period may not be extended to exceed 4 years in total.

3. Once an owner or operator achieves compliance with a livestock performance standard or prohibition, compliance with the standard or prohibition shall be maintained by the existing owner or operator and heirs or subsequent owners or operators, regardless of cost sharing.

(7) NOTIFICATION REQUIREMENTS AND COMPLIANCE PERIODS FOR EXISTING LIVESTOCK FACILITIES IN SITUATIONS WHEN NO ELIGIBLE COSTS ARE INVOLVED. (a) Owner or operator notification. 1. The department shall notify a non−complying owner or operator of an existing livestock facility of the determinations made under sub. (5),

2. The notice shall be sent certified mail, return receipt requested or personal delivery.

3. The following information shall be included in the notice:

a. A description of the livestock performance standard or prohibition that is being violated and the determination that corrective measures do not involve eligible costs under sub. (5) (c).

b. The livestock operation status determination made in accordance with sub. (5) (b).

c. A compliance period for meeting the livestock performance standard or prohibition. The compliance period may not exceed the time limits in par. (b).

d. An explanation of the consequences if the owner or operator fails to comply with provisions of the notice.

e. An explanation of state or local appeals procedures.

(b) Compliance period. 1. The compliance period for existing livestock facilities where best management practices and other corrective measures do not involve eligible costs shall be in accordance with the following:

a. The compliance period shall begin on the postmark date of the notice or the date of personal delivery.

b. The length of the compliance period shall be from 60 days to 2 years unless otherwise provided for in this subdivision.

c. The length of the compliance period may be less than 60 days if the site is an imminent threat to public health, or fish and aquatic life.

2. Once compliance with a livestock performance standard or prohibition is attained, compliance with the performance standard or prohibition shall be maintained by the existing owner or operator and heirs or subsequent owners or operators.

(c) Combined notices. The department may meet multiple notification requirements under par. (a), sub. (6) and s. NR 151.09 within any single notice issued to the owner or operator.

(8) ENFORCEMENT. (a) Authority to initiate enforcement. The department may take action pursuant s. 281.98, Stats., or other appropriate actions, against the owner or operator of a livestock operation for failing to comply with the livestock performance standards and prohibitions in this subchapter or approved variations to the livestock performance standards provided by the department under s. NR 151.097.
NR 151.095

(b) Enforcement following notice and direct enforcement. The department shall provide notice to the owner or operator of an existing livestock facility in accordance with sub. (6) or (7) prior to the department initiating enforcement action under s. 281.98, Stats.

Note: The implementation and enforcement procedures in this section are limited to actions taken by the department under s. 281.98, Stats., for noncompliance with a livestock performance standard or prohibition. Pursuant to other statutory authority, the department may take direct enforcement action without cost sharing against a livestock producer for willful or intentional acts or other actions by a producer that pose an imminent or immediate threat to human health or the environment.

Note: An owner or operator of a new livestock facility is required to meet the livestock performance standards and prohibitions at the time the new facility is created. This requirement shall be met regardless of cost sharing.

(9) Notification to municipalities. The department shall notify the appropriate municipality, including a county land conservation committee, prior to taking any of the following actions under this subsection:

(a) Contacting an owner or operator to investigate compliance with livestock performance standards and prohibitions.

(b) Issuing a notice under sub. (6) or (7) to an owner or operator.

(c) Taking enforcement action under s. 281.98, Stats., against an owner or operator for failing to comply with a livestock performance standard or prohibition in this subchapter.

(d) Notification is not required if the site is an imminent threat to public health or fish and aquatic life.

History: CR 00–027: cr. Register September 2002 No. 561, eff. 10–1–02.

NR 151.096 Local livestock operation ordinances and regulations. (1) Local regulations that exceed state standards; approval required. (a) Except as provided in par. (b), a local governmental unit may not enact a livestock operation ordinance or regulation for water quality protection that exceeds the performance standards or prohibitions in ss. NR 151.05 to 151.08 or the related conservation practices or technical standards in ch. ATCP 50, unless the local governmental unit obtains approval from the department under sub. (2), or receives approval from DATCP pursuant to s. ATCP 50.60.

(b) Paragraph (a) does not apply to any of the following:

1. Local ordinances or regulations that address cropping practices that are not directly related to the livestock operation.

2. Local ordinances or regulations enacted prior to October 1, 2002.

Note: See s. 92.15, Stats. A person adversely affected by a local livestock regulation or decision may appeal, or petition for a variance from, the local regulation. A property owner or developer may also file a declaratory judgment action in court if the owner or developer believes that the local governmental unit has not complied with state law. A local governmental unit may request an Attorney General opinion on compliance with state laws. A local governmental unit may also apply for the first time a non-agricultural facility or practice that does not cause or may cause water quality protection standards for non-agricultural facilities and practices that cause or may cause nonpoint runoff pollution. These performance standards are

NR 151.097 Variances. (1) The department may grant a variance to the performance standards, technical standards or other non-statutory requirements in this subchapter.

(2) The department may not grant a variance solely on the basis of economic hardship.

(3) The department may grant a variance only if all of the following conditions are met:

(a) Compliance with the performance standard or technical standard is not feasible due to site conditions. This condition does not apply to research activities conducted as part of a planned agricultural research and farming curriculum.

(b) The landowner or operator will implement best management practices or other corrective measures that ensure a level of pollution control that will achieve a level of water quality protection comparable to that afforded by the performance standards in this subchapter.

(c) The conditions for which the variance is requested are not created by the landowner or operator or their agents or assigns.

(4) The department shall use the following process when administering a variance request:

(a) The landowner or operator shall submit the variance request to the department or governmental unit, including a county land conservation committee within 60 days of receiving the notice.

(b) The governmental unit shall forward any variances that it receives to the department. The department may consider a recommendation from the governmental unit concerning acceptance of the variance request.

(c) The department shall make its determination based on the factors in sub. (3).

(d) The department shall notify the landowner or operator and the governmental unit of its determination. If the variance is granted, the department or governmental unit shall send to the landowner or operator an amended notice.

(e) The period of time required to make a ruling on a variance request does not extend the compliance periods allowed under ss. NR 151.09 and 151.99.

Note: The department may consider decisions made by a governmental unit, in accordance with local ordinance provisions, when making its determination whether to accept or deny the variance.

History: CR 00–027: cr. Register September 2002 No. 561, eff. 10–1–02.

Subchapter III – Non–Agricultural Performance Standards

NR 151.10 Purpose. This subchapter establishes performance standards, as authorized by s. 281.16 (2) (a), Stats., for non-agricultural facilities and practices that cause or may cause nonpoint runoff pollution. These performance standards are
intended to limit nonpoint runoff pollution in order to achieve water quality standards. Design guidance and the process for developing technical standards to implement this section are set forth in subch. V.

History: CR 00−027: cr. Register September 2002 No. 561, eff. 10−1−02.

NR 151.11 Construction site performance standard for new development and redevelopment. (1) Determination of average annual basis. In this section, average annual basis is calculated using the appropriate annual rainfall or runoff factor, also referred to as the R factor, or an equivalent design storm using a type II distribution, with consideration given to the geographic location of the site and the period of disturbance.

Note: The USLE and its successors RUSLE and RUSLE2, utilize an R factor which has been developed to estimate annual soil erosion, averaged over extended time periods. The R factor can be modified to estimate monthly and single−storm erosion. A design storm can be statistically calculated to provide an equivalent R factor as an average annual calculation.

(2) Applicability. Except as provided under sub. (3), this section applies to all the following:

(a) A construction site that has 5 or more acres of land disturbing construction activity, unless any of the following are met:

1. The department has received a notice of intent for the construction project in accordance with subch. III of ch. NR 216 before October 1, 2002.

Note: Prior to submitting a notice of intent pursuant to subch. III of ch. NR 216, a construction site erosion control plan in conformance with s. NR 216.46 and a storm water management plan in conformance with s. NR 216.47 must be developed.

2. The department of commerce has received a notice of intent for the construction project in accordance with s. Comm 61.115 before October 1, 2002.

3. A bid is advertised or construction contract signed where no bid is advertised, before October 1, 2002.

(b) After March 10, 2003, any construction site that has at least one acre of land disturbing construction activity, except where bids are advertised, or construction contracts signed where no bids are advertised, before October 1, 2002.

Note: The 5− and 1−acre land disturbance thresholds are consistent with subch. III of ch. NR 216 and EPA phase II storm water discharge rules regarding applicability of land disturbing construction permits.

(3) Exemptions. This section does not apply to the following:

(a) Construction projects that are exempted by federal statutes or regulations from the requirement to have a national pollutant discharge elimination system permit issued under 40 CFR 122, for land disturbing construction activity.

(b) Transportation facilities, except transportation facility construction projects that are part of a larger common plan of development such as local roads within a residential or industrial development.

(c) Nonpoint discharges from agricultural facilities and practices.

(d) Nonpoint discharges from silviculture activities.

(e) Routine maintenance for project sites that have less than 5 acres of land disturbance if performed to maintain the original line and grade, hydraulic capacity or original purpose of the facility.

(4) Responsible party. The landowner or other person performing services to meet the performance standards of this subchapter, through a contract or other agreement, shall comply with this section.

Note: Other persons include anyone responsible for disturbing the land or implementing or maintaining BMPs, such as a general contractor or landscape architect.

(5) Plan. A written plan shall be developed and implemented for each construction site and shall incorporate the requirements of this section.

Note: The written plan may be that specified within s. NR 216.46, the erosion control portion of a construction plan or other plan.

(6) Requirements. The plan required under sub. (5) shall include the following:

(a) Best management practices that, by design, achieve, to the maximum extent practicable, 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 construction site has undergone final stabilization. No person shall be required to exceed an 80% sediment reduction to meet the requirements of this paragraph. Erosion and sediment control BMPs may be used alone or in combination to meet the requirements of this paragraph. Credit toward meeting the sediment reduction shall be given for limiting the duration or area, or both, of land disturbing construction activity, or other appropriate mechanism.

Note: Soil loss prediction tools that estimate the sediment load leaving the construction site under varying land and management conditions, or methodology identified in subch. V, may be used to calculate sediment reduction.

(b) Notwithstanding par. (a), if BMPs 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 why the 80% reduction goal is not attainable and the sediment load shall be reduced to the maximum extent practicable.

(c) Where appropriate, the plan shall include sediment controls to do all of the following to the maximum extent practicable:

1. Prevent tracking of sediment from the construction site onto roads and other paved surfaces.

2. Prevent the discharge of sediment as part of site de−watering.

3. Protect separate storm drain inlet structures from receiving sediment.

(d) 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 transport by runoff into waters of the state. However, projects that require the placement of these materials in waters of the state, such as constructing bridge footings or BMP installations, are not prohibited by this paragraph.

(7) Location. The BMPs used to comply with this section shall be located prior to runoff entering waters of the state.

Note: While regional treatment facilities are appropriate for control of post−construction pollutants they should not be used for construction site sediment removal.

History: CR 00−027: cr. Register September 2002 No. 561, eff. 10−1−02.

NR 151.12 Post−construction performance standard for new development and redevelopment. (1) General. In this section:

(a) “Post−construction site” means a construction site subject to regulation under this subchapter, after construction is completed and final stabilization has occurred.

(b) Average annual rainfall is determined by the following years and locations: Madison, 1981 (Mar. 12−Dec. 2); Green Bay, 1969 (Mar. 29−Nov. 25); Milwaukee, 1969 (Mar. 28−Dec. 6); Minneapolis, 1959 (Mar. 13−Nov. 4); Duluth, 1975 (Mar. 24−Nov. 19). Of the 5 locations listed, the location closest to a project site best represents the average annual rainfall for that site.

(2) Applicability. This section applies to a post−construction site that is or was subject to the construction performance standards of s. NR 151.11, except any of the following:

(a) A post−construction site where the department has received a notice of intent for the construction project, in accordance with subch. III of ch. NR 216, within 2 years after October 1, 2002.

(b) A post−construction site where the department of commerce has received a notice of intent, in accordance with s. Comm 61.115, within 2 years after October 1, 2002.

(c) A redeveloped post−construction site with no increase in exposed parking lots or roads.

(d) 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.  

Note: Projects that consist of only the construction of bicycle paths or pedestrian trails generally meet this exception as these facilities have minimal connected imperviousness.

(e) Agricultural facilities and practices.

(f) An action for which a final environmental impact statement was approved before October 1, 2002.

(g) An action for which a finding of no significant impact is made under ch. NR 150 before October 1, 2002.

(h) Underground utility construction such as water, sewer and fiberoptic lines, but not including the construction of any above ground structures associated with utility construction.

(3) RESPONSIBLE PARTY. The landowner of the post–construction site or other person contracted or obligated by other agreement to implement and maintain post–construction storm water BMPs shall comply with this section.

(4) STORM WATER MANAGEMENT PLAN. A written storm water management plan shall be developed and implemented for each post–construction site and shall incorporate the requirements of this subsection.

Note: Examples of storm water management plans that may be used to comply with this section may be that specified within s. NR 216.07(7).

(5) REQUIREMENTS. The plan required under sub. (4) shall include:

(a) Total suspended solids. Best management practices shall be designed, installed and maintained to control total suspended solids carried in runoff from the post–construction site as follows:

1. For new development, by design, reduce to the maximum extent practicable, the total suspended solids load by 80%, based on an average annual rainfall, as compared to no runoff management controls. No person shall be required to exceed an 80% total suspended solids reduction to meet the requirements of this subdivision.

2. For redevelopment, by design, reduce to the maximum extent practicable, the total suspended solids load by 40%, based on an average annual rainfall, as compared to no runoff management controls. No person shall be required to exceed a 40% total suspended solids reduction to meet the requirements of this subdivision.

3. For in–fill development under 5 acres that occurs within 10 years after October 1, 2002, by design, reduce to the maximum extent practicable, the total suspended solids load by 40%, based on an average annual rainfall, as compared to no runoff management controls. No person shall be required to exceed a 40% total suspended solids reduction to meet the requirements of this subdivision.

4. For in–fill development that occurs 10 or more years after October 1, 2002, by design, reduce to the maximum extent practicable, the total suspended solids load by 80%, based on an average annual rainfall, as compared to no runoff management controls. No person shall be required to exceed an 80% total suspended solids reduction to meet the requirements of this subdivision.

5. Notwithstanding subds. 1 to 4, if the design cannot achieve the applicable total suspended solids reduction specified, the storm water 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.

Note: Pollutant loading models such as SLAMM, P8 or equivalent methodology may be used to evaluate the efficiency of the design in reducing total suspended solids. Information on how to access SLAMM and P8 is available at: http://www.dnr.state.wi.us/org/water/wrn/wnps/slamm.htm or contact the storm water coordinator in the runoff management section of the bureau of watershed management at (608) 267–7694.

(b) Peak discharge. 1. By design, BMPs shall be employed to maintain or reduce the peak runoff discharge rates, to the maximum extent practicable, as compared to pre–development conditions for the 2–year, 24–hour design storm applicable to the post–construction site. Pre–development conditions shall assume “good hydrologic conditions” for appropriate land covers as identified in TR–55 or an equivalent methodology. The meaning of “hydrologic soil group” and “runoff curve number” are as determined in TR–55. However, when pre–development land cover is cropland, rather than using TR–55 values for cropland, the runoff curve numbers in Table 2 shall be used.

Table 2 – Maximum Pre–Development Runoff Curve Numbers for Cropland Areas

<table>
<thead>
<tr>
<th>Hydrologic Soil Group</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Runoff Curve Number</td>
<td>56</td>
<td>70</td>
<td>79</td>
<td>83</td>
</tr>
</tbody>
</table>

Note: The curve numbers in Table 2 represent mid–range values for soils under a good hydrologic condition where conservation practices are used and are selected to be protective of the resource waters.

2. This paragraph does not apply to:

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.

Note: Hydraulic models such as HEC–RAS or another methodology may be used to determine the change in surface water elevations.

b. A redevelopment post–construction site.

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

Note: The intent of par. (b) is to minimize streambank erosion under bank full conditions.

(c) Infiltration. BMPs shall be designed, installed and maintained to infiltrate runoff to the maximum extent practicable in accordance with the following, except as provided in subds. 5. to 8.:

1. For residential developments one of the following shall be met:

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.

b. Infiltrate 25% of the post–development runoff volume from the 2–year, 24–hour design storm with a type II distribution. Separate curve numbers for pervious and impervious surfaces shall be used to calculate runoff volumes and not composite curve numbers as defined in TR–55. 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.

2. For non–residential development, including commercial, industrial and institutional development, one of the following shall be met:

a. For this subdivision only, the “project site” means the rooftop and parking lot areas.

b. 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.

Note: A model that calculates runoff volume, such as SLAMM, P8 or an equivalent methodology may be used. Information on how to access SLAMM and P8 is
4. Before infiltrating runoff, pretreatment shall be required for parking lot runoff and for runoff from new road construction in commercial, industrial and institutional areas that will enter an infiltration system. The pretreatment shall be designed to protect the infiltration system from clogging prior to scheduled maintenance and to protect groundwater quality in accordance with subd. 5.

5. 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), including storage, loading, rooftop and parking areas.
   b. Storage and loading areas of tier 2 industrial facilities identified in s. NR 216.21 (2) (b).

   Note: Runoff from tier 2 parking and rooftop areas may be infiltrated but may require pretreatment.
   c. Fueling and vehicle maintenance areas.
   d. Areas within 1000 feet upgradient or within 100 feet downgradient of karst features.
   e. Areas with less than 3 feet separation distance from the bottom of the infiltration system to the elevation of seasonal high groundwater or the top of bedrock, except this subd. 5. e. does not prohibit infiltration of roof runoff.
   f. Areas with runoff from industrial, commercial and institutional parking lots and roads and residential arterial roads with less than 5 feet separation distance from the bottom of the infiltration system to the elevation of seasonal high groundwater or the top of bedrock.
   g. Areas within 400 feet of a community water system well as specified in s. NR 811.16 (4) or within 100 feet of a private well as specified in s. NR 812.08 (4) for runoff infiltrated from commercial, industrial and institutional land uses or regional devices for residential development.
   h. Areas where contaminants of concern, as defined in s. NR 720.03 (2), are present in the soil through which infiltration will occur.
      i. Any area where the soil does not exhibit one of the following characteristics between the bottom of the infiltration system and the seasonal high groundwater and top of bedrock: at least a 3-foot soil layer with 20% fines or greater; or at least a 5-foot soil layer with 10% fines or greater. This subd. 5. i. does not apply where the soil medium within the infiltration system provides an equivalent level of protection. Subdivision 5. i. does not prohibit infiltration of roof runoff.

   Note: The areas listed in subd. 5. i. are prohibited from infiltrating runoff due to the potential for groundwater contamination.
   6. Exemptions. The following are not required to meet the requirements of this paragraph:
      a. Areas where the infiltration rate of the soil is less than 0.6 inches/hour measured at the bottom of the infiltration system.
      b. Parking areas and access roads less than 5,000 square feet for commercial and industrial development.
      c. Redevelopment post-construction sites.
      d. In-fill development areas less than 5 acres.
      e. Infiltration areas during periods when the soil on the site is frozen.
      f. Roads in commercial, industrial and institutional land uses, and arterial residential roads.

7. Where alternate uses of runoff are employed, such as for toilet flushing, laundry or irrigation, such alternate use shall be given equal credit toward the infiltration volume required by this paragraph.

8. a. Infiltration systems designed in accordance with this paragraph 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. 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. Notwithstanding subd. 8. a., the discharge from BMPs shall remain below the enforcement standard at the point of standards application.

(d) Protective areas. 1. In this paragraph, “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 the channel or delineated wetland boundary to the closest impervious surface. However, in this paragraph, “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.

   a. For outstanding resource waters and exceptional resource waters, and for wetlands in areas of special natural resource interest as specified in s. NR 103.04, 75 feet.
   b. For perennial and intermittent streams identified on a United States geological survey 7.5-minute series topographic map, or a county soil survey map, whichever is more current, 50 feet.
   c. For lakes, 50 feet.
   d. For highly susceptible wetlands, 50 feet. Highly susceptible wetlands include the following types: fens, sedge meadows, bogs, low prairies, cypress swamps, shrub swamps, other forested wetlands, fresh wet meadows, shallow marshes, deep marshes and seasonally flooded basins. Wetland boundary delineation shall be made in accordance with s. NR 103.08 (1m). 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.
   e. For less susceptible wetlands, 10% 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.
   f. In subd. 1. a., d. and e., 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 s. NR 103.03.
   g. For concentrated flow channels with drainage areas greater than 130 acres, 10 feet.

2. This paragraph applies to post-construction sites located within a protective area, except those areas exempted pursuant to subd. 4.

3. The following requirements shall be met:
   a. Impervious surfaces shall be kept out of the protective area to the maximum extent practicable. The storm water management plan shall contain a written site-specific explanation for any parts of the protective area that are disturbed during construction.
   b. Where land disturbing construction activity occurs within a protective area, and where no impervious surface is present, adequate sod or self-sustaining vegetative cover of 70% or greater shall be established and maintained. The adequate sod or self-sustaining vegetative 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-vegetative 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.

Note: It is recommended that seeding of non-aggressive vegetative cover be used in the protective areas. Vegetation that is flood and drought tolerant and can provide long-term bank stability because of an extensive root system is preferable. Vegetative cover may be measured using the line transect method described in the university of Wisconsin extension publication number A3533, titled “Estimating Residue Using the Line Transect Method”.

c. Best management practices such as filter strips, swales or wet detention basins, that are designed to control pollutants from non-source points may be located in the protective area.

Note: Other regulations, such as ch. 30, Stats., and chs. NR 103, 115, 116 and 117 and their associated review and approval process may apply in the protective area.

4. Exemptions. This paragraph does not apply to:
   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 s. 59.692 (1v), Stats.
   e. Post-construction sites from which runoff does not enter the surface water, except to the extent that vegetative ground cover is necessary to maintain bank stability.

Note: A vegetated protective area to filter runoff pollutants from post-construction sites described in subd. 4. e. is not necessary since runoff is not entering the surface water at that location. Other practices necessary to meet the requirements of this section, such as a swale or basin, will need to be designed and implemented to reduce runoff pollutants prior to runoff entering a surface water of the state.

(e) Fueling and vehicle maintenance areas. Fueling and vehicle maintenance areas shall, to the maximum extent practicable, have BMPs designed, installed and maintained to reduce petroleum within runoff, such that the runoff that enters waters of the state contains no visible petroleum sheen.

Note: A combination of the following BMPs may be used: oil and grease separators, canopies, petroleum spill cleanup materials, or any other structural or non-structural method of preventing or treating petroleum in runoff.

(f) Location. To comply with the standards required under this subsection, BMPs may be located on-site or off-site as part of a regional storm water device, practice or system, but shall be installed in accordance with s. NR 151.003.

(g) Timing. The BMPs that are required under this subsection shall be installed before the construction site has undergone final stabilization.

History: CR 00-027: cr. Register September 2002 No. 561, eff. 10-1-02.

NR 151.13 Developed urban area performance standard. (1) INFORMATION AND EDUCATION. (a) Applicability. This section applies to any incorporated municipality with an average density of 1,000 people per square mile or greater, based on the latest decennial census made by the United States census, as well as any commercial and industrial areas contiguous to these areas.

Note: The municipality has primary responsibility for complying with this section. However, the general population is expected to follow municipal ordinance requirements and requests to carry out activities such as: proper curbside placement of leaves for collection, relocating vehicles for street sweeping and utilizing proper disposal methods for oils and other chemicals.

(b) Requirements. For areas identified under par. (a), all of the following shall be implemented by March 10, 2008:

1. A public information and education program, utilizing materials identified by the department, promoting beneficial on-site reuse of leaves and grass clippings and proper use of lawn and garden fertilizers and pesticides, proper management of pet wastes and prevention of dumping oil and other chemicals in storm sewers. Information and education materials shall include instruction on how to apply fertilizers in accordance with a nutrient application schedule, based on appropriate soil tests, and the application of pesticides in accordance with an integrated pest management plan.

2. A municipal program, as appropriate, for the collection and management of leaf and grass clippings, including public education about this program.

3. The application of lawn and garden fertilizers on municipally controlled properties, with pervious surface over 5 acres each, shall be done in accordance with a site specific nutrient application schedule based on appropriate soil tests. The nutrient application schedule shall be designed to maintain the optimal health of the lawn or garden vegetation.

4. Detection and elimination of illicit discharges to storm sewers.

(2) PERMITTED MUNICIPALITIES. (a) Applicability. This section applies to municipalities that are subject to the municipal storm water permit requirements of subch. I of ch. NR 216.

Note: A municipal separate storm sewer system could become subject to subch. I of ch. NR 216 if it is designated by the department to be a significant contributor of pollutants to waters of the state under s. NR 216.02 (4).

(b) Program. A municipality shall develop and implement a storm water management program, including the adoption and administration of any necessary ordinance, to meet the following requirements:

Note: The program to meet the requirements of this section may be the same as the municipal storm water management program required by s. NR 216.07(7) or some other plan.

1. Stage 1 requirements. The municipalities listed under par. (a), shall implement the following by March 10, 2008:

   a. All of the requirements contained in sub. (1) (b).

   b. To the maximum extent practicable, a 20% reduction in total suspended solids in runoff that enters waters of the state as compared to no controls.

Note: It is expected that the municipality will be able to achieve the 20% reduction by municipal street sweeping, using either conventional or high efficiency sweepers, regular catch basin cleaning, de-icer management, and education to change human behavior toward reducing pollution.

2. Stage 2 requirements. To the maximum extent practicable, the municipalities listed under par. (a) shall implement a 40% reduction in total suspended solids in runoff that enters waters of the state as compared to no controls, by March 10, 2013.

Note: It is expected that the municipality will be able to achieve the 40% reduction through the use of high efficiency street sweeping or structural BMP retrofit practices. The stage 2 requirements may include application of BMPs to privately owned lands, such as shopping centers.

   c. Location. To comply with the standards required under this subsection, BMPs may be located on-site or off-site as part of a regional storm water device, practice or system, but shall be installed in accordance with s. NR 151.003.

   (d) Exclusion. This section does not apply to areas subject to subch. II of ch. NR 216.

History: CR 00-027: cr. Register September 2002 No. 561, eff. 10-1-02.

NR 151.14 Non-municipal property fertilizer performance standard. (1) APPLICABILITY. This section applies when all of the following conditions are met:

(a) The property is not owned by a municipality.

(b) The property has over 5 acres of pervious surface where fertilizers are applied.

(c) The property discharges runoff to waters of the state.

(2) RESPONSIBLE PARTY. The landowner shall comply with this section.

(3) REQUIREMENTS. No later than March 10, 2008, the application of lawn and garden fertilizers on these properties shall be done in accordance with site-specific nutrient application schedules based on appropriate soil tests. The nutrient application schedule shall be designed to maintain the optimal health of the lawn or garden vegetation.

Note: The landowner should consider using slow release fertilizers or “spoon feeding” nutrients to reduce the concentration of nitrates reaching groundwater.

History: CR 00-027: cr. Register September 2002 No. 561, eff. 10-1-02.
NR 151.15 Implementation and enforcement.  
(1) Implementation. This subchapter shall be implemented as follows:

(a) Construction sites and post-construction sites. For sites defined in ss. NR 151.11 (2) and 151.12 (1) and (2):
   1. The provisions of ss. NR 151.11 and 151.12 shall be implemented through subch. III of ch. NR 216.
   2. The department shall make available model ordinances that reflect and implement the performance standards in ss. NR 151.11 and 151.12.

(b) Developed urban areas. 1. The provisions of ss. NR 151.13 (1) and 151.14 shall be enforced under sub. (2).
   2. The provisions of s. NR 151.13 (2) shall be implemented through subch. I of ch. NR 216.

(2) Enforcement. The department shall enforce this subchapter under s. 281.98, Stats.

Note: The department may also enforce performance standards implemented through ch. NR 216 under ss. 283.89 and 283.91, Stats.

History: CR 00–027: cr. Register September 2002 No. 561, eff. 10–1–02.

Subchapter IV – Transportation Facility Performance Standards

NR 151.20 Purpose and applicability. (1) (a) This subchapter establishes performance standards, as authorized by s. 281.16 (2) (a), Stats., for transportation facilities that cause or may cause runoff pollution, except as provided in sub. (2). These performance standards are intended to limit runoff pollution in order to achieve water quality standards. Design guidance and the process for developing technical standards to implement this subchapter are set forth in subch. V.

(b) Transportation facilities that are directed and supervised by the department of transportation and that are regulated by an administrative rule administered by the department of transportation are subject to this subchapter.

(2) (a) This subchapter does not apply to any of the following:
   1. Actions for which a final environmental impact statement is approved before October 1, 2002.
   2. Actions for which a finding of no significant impact is made under ch. Trans 400 before October 1, 2002.
   3. Actions that are documented in an environmental report, as defined in s. Trans 400.04 (10), completed before October 1, 2002, that fit the criteria or conditions for approval as a categorical exclusion in 23 CFR 771.117, April 1, 2000, or has met the review criteria of paragraph 23.a of chapter 3 of federal aviation administration order 5050.4A issued on October 8, 1985.

(b) Notwithstanding par. (a), the construction site performance standards under s. NR 151.23 and the protective area requirements under s. NR 151.24 (6) apply to transportation facilities subject to this subchapter.

(3) In s. NR 151.23, average annual basis is calculated using the appropriate annual rainfall or runoff factor, also referred to as the R factor, or an equivalent design storm using a type II distribution, with consideration given to the geographic location of the site and the period of disturbance.

Note: The USLE and its successors RUSLE and RUSLE2, utilize an R factor which has been developed to estimate annual soil erosion, averaged over extended time periods. The R factor can be modified to estimate monthly and single-storm erosion. A design storm can be statistically calculated to provide an equivalent R factor as an average annual calculation.

(4) In s. NR 151.24, average annual rainfall is determined by the following years and locations: Madison, 1981 (Mar. 12–Dec. 2); Green Bay, 1969 (Mar. 29–Nov. 25); Milwaukee, 1969 (Mar. 28–Dec. 6); Minneapolis, 1959 (Mar. 13–Nov. 4); Duluth, 1975 (Mar. 24–Nov. 19). Of the 5 locations listed, the location closest to a project site best represents the average annual rainfall for that site.

NR 151.21 Definitions. In this subchapter:

(1) "Airport" means any area of land or water which is used, or intended for use, for the landing and take-off of aircraft, and any appurtenant areas which are used, or intended for use, for airport buildings or other airport facilities or rights-of-way, together with all airport buildings and facilities located thereon.

(2) "Borrow site" means an area outside of a project site from which stone, soil, sand or gravel is excavated for use at the project site, except the term does not include commercial pits.

(3) "Highway" has the meaning given in s. 340.01 (22), Stats.

(4) "Material disposal site" means an area outside of a project site which is used, for the lawful disposal of surplus materials or materials unsuitable for use within the project site that is under the direct control of the contractor. A municipally owned landfill or private landfill that is not managed by the contractor is excluded from this definition.

(5) "Minor reconstruction" means reconstruction that is limited to 1.5 miles in continuous or aggregate total length of realignment and that does not exceed 100 feet in width of roadbed widening.

(6) "Prime contractor" means a person authorized or awarded a contract to perform, directly or using subcontractors, all the work of a project directed and supervised by the transportation facility authority.

(7) "Private road or driveway" has the meaning given in s. 340.01 (46), Stats.

(8) "Public-use airport" means either of the following as described in 49 USC 47102(17):
   (a) A public airport.
   (b) A privately-owned airport used or intended to be used for public purposes that is either:
      1. A reliever airport as designated by the secretary of the United States department of transportation to relieve congestion at a commercial service airport and to provide more general aviation access to the overall community.
      2. Determined by the secretary of the United States department of transportation to have at least 2,500 passenger boardings each year and to receive scheduled passenger aircraft service.

(9) "Public mass transit facility" means any area of land or water which is used, or intended for use, by bus or light rail, and any appurtenant areas which are used, or intended for use, by bus or light rail, including buildings or other facilities or rights-of-way, either publicly or privately owned, that provide the public with general or special service on a regular and continuing basis.

(10) "Public trail" means a "state ice age trail area" designated under s. 23.17 (2), Stats., a state trail under s. 23.175 (2) (a), Stats., an "all-terrain vehicle trail" under s. 23.33 (1) (d), Stats., an "off-the-road motorcycle trail" under s. 23.33 (9) (b) 4., Stats., a "recreational trail" under s. 30.40 (12m), Stats., a "walkway" under s. 30.40 (22), Stats., a state trail under s. 84.06 (11), Stats., a "bikeway" under s. 84.60 (1) (a), Stats., a "snowmobile trail" under s. 350.01 (17), Stats., a "public snowmobile corridor" under s. 350.12 (3j) (a) 1., Stats., or any other trail open to the public as a matter of right.

(11) "Railroad" means any area of land or water which is used, or intended for use, in operating a railroad as defined in s. 85.01 (5), Stats., and any appurtenant areas which are used, or intended for use, for railroad buildings or other railroad facilities or rights-of-way.
of−way, together with all railroad buildings and facilities located thereon.

(12) “Reconditioning” has the meaning given in s. 84.013 (1) (b), Stats.

(13) “Reconstruction” has the meaning given in s. 84.013 (1) (c), Stats.

(14) “Resurfacing” has the meaning given in s. 84.013 (1) (d), Stats.

(15) “Transportation facility authority” means any person or entity that is authorized to approve work on a transportation facility by contract, permit or with its own forces or by force account. A permit or approval granted by the department pursuant to ch. 283, Stats., does not qualify as authorization needed to meet this definition.

History: CR 00−027: cr. Register September 2002 No. 561, eff. 10−1−02.

NR 151.22 Responsible party. (1) TRANSPORTATION FACILITY AUTHORITY. (a) The transportation facility authority shall develop a design plan to meet the performance standards of ss. NR 151.23 and 151.24 for land disturbing construction activity at the transportation facility construction site.

Note: This design plan may be the erosion control plan specified in s. Trans 401.07.

(b) The transportation facility authority, in consultation with the department, shall approve the implementation plan submitted under sub. (2) (a). The transportation facility authority shall incorporate the implementation plan into the contract for project construction.

(c) The transportation facility authority shall administer and enforce the implementation plan submitted by the prime contractor under sub. (2) (a) under the contract for project construction. The transportation facility authority shall ensure that the prime contractor follows and maintains the implementation plan under par. (b). If the prime contractor does not follow the implementation plan incorporated into the contract for project construction, the transportation facility authority shall control erosion and sediment at the construction site consistent with the design plan prepared under par. (a) or implementation plan prepared under sub. (2) (a).

(d) Before accepting the completed project, the transportation facility authority shall verify in writing that the prime contractor has satisfactorily completed the implementation plan pursuant to sub. (2) (b). The transportation authority shall submit the written verification to the prime contractor and to the authority in charge of maintenance of the transportation facility. Upon written verification by the transportation facility authority under this paragraph, the prime contractor is released from the responsibility under this subchapter, except for any responsibility for defective work or materials, damages by its own operations, or as may be otherwise required in the project construction contract.

(2) PRIME CONTRACTOR. (a) The prime contractor shall develop and submit to the transportation facility authority an implementation plan that identifies applicable BMPs and contains a schedule for implementing the BMPs in accordance with design plan to meet the performance standards under sub. (1) (a). The implementation plan shall identify an array of BMPs that may be employed to meet the performance standards. The implementation plan shall also address the design and implementation of BMPs required in ss. NR 151.23 and 151.24 for land disturbing construction activity within borrow sites and material disposal sites that are related to the construction project.

Note: This implementation plan may be the erosion control implementation plan specified in s. Trans 401.08.

(b) The prime contractor shall implement the implementation plan as required by the contract for project construction prepared pursuant to sub. (1) (b).

(c) A transportation authority that carries out the construction activity with its own employees and resources shall comply with the prime contractor requirements contained in this subsection, including preparing and carrying out an implementation plan.

(3) SINGLE PLAN. For transportation projects that are not administered under ch. Trans 401, the requirements of this subchapter may be developed under one plan instead of 2 separate plans as described under subs. (1) (a) and (2) (a). A plan created under this subsection shall contain both the design components required under sub. (1) (a) and the implementation components required under sub. (2) (a).

Note: This single plan may be the erosion control plan specified in s. NR 216.46.

(4) MAINTENANCE AUTHORITY. Upon execution of the written verification prepared under sub. (1) (d) by the transportation facility authority, the authority in charge of maintenance of the transportation facility shall maintain the BMPs to meet the performance standards of this subchapter. However, BMPs no longer necessary for erosion and sediment control shall be removed by the maintenance authority.

History: CR 00−027: cr. Register September 2002 No. 561, eff. 10−1−02.

NR 151.23 Construction site performance standard. (1) APPLICABILITY. Except as provided under sub. (2), this section applies to all of the following:

(a) A transportation facility construction site that has 5 or more acres of land disturbing construction activity, unless any of the following are met:

1. The department has received a notice of intent for the transportation construction project in accordance with subch. III of ch. NR 216 before October 1, 2002.

Note: Prior to submitting a notice of intent pursuant to subch. III of ch. NR 216, a construction site erosion control plan in conformance with s. NR 216.46 and a storm water management plan in conformance with s. NR 216.47 shall be developed.

2. A bid is advertised or construction contract signed where no bid is advertised, before October 1, 2002.

(b) After March 10, 2003, any transportation facility construction site that has at least one acre of land disturbing construction activity, except where bids are advertised, or construction contracts signed where no bids are advertised, before October 1, 2002.

(2) EXEMPTION. This section does not apply to the following:

(a) Transportation facility construction projects that are exempted by federal statutes or regulations from the requirement to have a national pollutant discharge elimination system permit issued under 40 CFR 122, for land disturbing construction activity.

(b) Transportation facility construction projects that are part of a larger common plan of development, such as a residential or industrial development, and are in compliance with the performance standards of subch. III.

(c) Routine maintenance for transportation facilities that have less than 5 acres of land disturbance if performed to maintain the original line and grade, hydraulic capacity or original purpose of the facility.

Note: Construction projects such as installations of utilities within a transportation right−of−way that are not directed and supervised by the department of transportation are subject to the performance standards of subch. III and are not subject to this subchapter.

(3) PLAN. (a) A written design plan shall be developed for each construction site and shall incorporate the requirements of this section.

Note: The design plan may be the erosion control plan specified in s. NR 216.46 or the design plan in s. NR 151.22 (1) (a).

(b) The plan required under s. NR 151.22 (2) (a) or (3) shall be properly installed to implement the plan under s. NR 151.22 (1) (a) that is in effect.

(4) REQUIREMENTS. The design plan required under sub. (3) shall include the following:

(a) BMPs that, by design, achieve, to the maximum extent practicable, a reduction of 80% of the sediment load carried in runoff, on an average annual basis, as compared with no sediment or erosion controls, as specified in s. NR 151.22 (1) (a) or (3), until
the construction site has undergone final stabilization. No person shall be required to exceed an 80% sediment reduction to meet the requirements of this paragraph. Erosion and sediment control BMPs may be used alone or in combination and shall be installed according to any associated implementation plan to meet the requirements of this paragraph. Credit toward meeting the sediment reduction shall be given for limiting the duration or area, or both, of land disturbing construction activity, or other appropriate mechanisms.

Note: Soil loss prediction tools that estimate the sediment load leaving the construction site under varying land and management conditions, or methodology identified in subch. V., may be used to calculate sediment reduction.

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

(c) Where appropriate, the design plan shall include sediment controls to do all of the following to the maximum extent practicable:

1. Prevent tracking of sediment from the construction site onto roads and other paved surfaces.
2. Prevent the discharge of sediment as part of site de-watering.
3. Protect the separate storm drain inlet structure from receiving sediment.

(d) 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 transport by runoff into waters of the state. However, projects that require the placement of these materials in waters of the state, such as constructing bridge footings or BMP installations, are not prohibited by this paragraph.

(5) LOCATION. The BMPs used to comply with this section shall be located prior to runoff entering waters of the state.

Note: While regional treatment facilities are appropriate for control of post-construction pollutants, they should not be used for construction site sediment removal.

History: CR 00–027; cr. Register September 2002 No. 561, eff. 10–1–02.

NR 151.24 Post-construction performance standards. (1) APPLICABILITY. This section applies to a transportation facility that is or was subject to the construction performance standards of s. NR 151.23, except any of the following:

(a) A transportation construction site where the department has received a notice of intent for the construction project in accordance with subch. III of ch. NR 216 within 2 years after October 1, 2002.

(b) A transportation facility construction site that has undergone final stabilization within 2 years after October 1, 2002.

(c) Reconditioning or resurfacing of a highway.

(d) Minor reconstruction of a highway. Notwithstanding the exemption under this paragraph, the protective areas requirements in sub. (6) apply to minor reconstruction of a highway.

(e) A redevelopment transportation facility with no increase in exposed parking lots or roads.

(f) A transportation facility with less than 10% connected imperviousness based on complete development of the transportation facility, provided the cumulative area of all parking lots and rooftops is less than one acre.

Note: Projects that consist of only the construction of bicycle paths or pedestrian trails generally meet this exemption as these facilities have minimal connected imperviousness.

(g) Protective area requirements under sub. (6) do apply to actions described in s. NR 151.20 (2).

(h) A transportation facility, the construction of which involves activity described in s. NR 151.23 (1) (a) 2. but that has less than one acre of land disturbing construction activity.

(i) Transportation facility construction projects that are part of a larger common plan of development, such as a residential or industrial development, that are in compliance with the performance standards of subch. III.

(j) Routine maintenance for transportation facilities if performed to maintain the original line and grade, hydraulic capacity or original purpose of the facility.

(2) PLAN. A written plan shall be developed and implemented for each transportation facility and shall incorporate the requirements of subs. (3) to (10).

Examples of plans that may be used to comply with this section may be that specified within s. NR 216.47, the municipal storm water management program specified within s. NR 216.07 (7) or the erosion control plan specified in s. Trans 401.07.

(3) TOTAL SUSPENDED SOLIDS. Best management practices shall be designed, installed and maintained to control total suspended solids carried in runoff from the transportation facility as follows:

(a) For new transportation facilities, by design, to reduce to the maximum extent practicable, the suspended solids load by 80%, based on an average annual rainfall, as compared to no runoff management controls. No person shall be required to exceed an 80% total suspended solids reduction to meet the requirements of this paragraph.

(b) For highway reconstruction and non-highway redevelopment, by design, to reduce to the maximum extent practicable, the total suspended solids load by 40%, based on an average annual rainfall, as compared to no runoff management controls. No person shall be required to exceed a 40% total suspended solids reduction to meet the requirements of this paragraph.

(c) Notwithstanding pars. (a) and (b), if the design cannot achieve the applicable total suspended solids reduction specified, the design 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.

Note: Pollutant loading models such as SLAMM, P8 or equivalent methodology may be used to evaluate the efficiency of the design in reducing total suspended solids. Information on how to access SLAMM and P8 is available at: http://www.dnr.state.wi.us/org/water/wm/np/manuals.htm or contact the storm water coordinator in the runoff management section of the bureau of watershed management at (608) 267–7694.

(4) PEAK DISCHARGE. (a) By design, BMPs shall be employed to maintain or reduce the peak runoff discharge rates, to the maximum extent practicable, as compared to pre-development site conditions for the 2-year, 24-hour storm applicable to the transportation facility. Pre-development conditions shall assume “good hydrologic conditions” for appropriate land covers as identified in TR–55 or an equivalent methodology. The meaning of “hydrologic soil group” and “runoff curve number” are as determined in TR–55. However, when pre-development land cover is cropland, rather than using TR–55 values for cropland, the runoff curve numbers in Table 2 of subch. III shall be used.

Note: The curve numbers in Table 2 represent mid-range values for soils under a good hydrologic condition where conservation practices are used and are selected to be protective of the resource when used.

(b) This subsection does not apply to:

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

Note: Hydraulic models such as HEC–RAS or another methodology may be used to determine the change in surface water elevations.

2. A highway reconstruction site.

3. A transportation facility that is part of a redevelopment project.

Note: The intent of sub. (4) is to minimize streambank erosion under bank full conditions.

(5) INFILTRATION. (a) Except as provided in pars. (d) to (g), BMPs shall be designed, installed and maintained to infiltrate run-
off to the maximum extent practicable in accordance with one of the following:

1. 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.

2. Infiltrate 10% of the post-development runoff volume from the 2-year, 24-hour design storm with a type II distribution. Separate curve numbers for pervious and impervious surfaces shall be used to calculate runoff volumes and not composite curve numbers as defined in TR-55. 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.

(b) Pre-development condition shall be the same as specified in sub. (4) (a).

Note: A model that calculates runoff volume, such as SLAMM, P8 or an equivalent methodology may be used. Information on how to access SLAMM and P8 is available at: http://www.dnr.state.wi.us/org/water/wm/bps/slamm.htm or contact the storm water coordinator in the runoff management section of the bureau of watershed management at (608) 267-7694.

(c) Before infiltrating runoff, pretreatment shall be required for parking lot runoff and for runoff from new road construction in commercial, industrial and institutional areas that will enter an infiltration system. The pretreatment shall be designed to protect the infiltration system from clogging prior to scheduled maintenance and to protect groundwater quality in accordance with par. (g). Pretreatment may include, but is not limited to, oil/grease separation, sedimentation, biofiltration, filtration, swales or filter strips.

Note: To minimize potential groundwater impacts it is desirable to infiltrate the cleanest runoff. To achieve this, a design may propose greater infiltration of runoff from low pollutant sources such as roofs, and less from higher pollutant source areas such as parking lots.

(d) The following are prohibited from meeting the requirements of this subsection:

1. Areas associated with tier 1 industrial facilities identified in s. NR 216.21 (2) (a), including storage, loading, rooftop and parking.

2. Storage and loading areas of tier 2 industrial facilities identified in s. NR 216.21 (2) (b).

Note: Runoff from tier 2 parking and rooftop areas may be infiltrated but may require pretreatment.

3. Fueling and vehicle maintenance areas.

4. Areas within 1000 feet upgradient or within 100 feet downgradient of karst features.

5. Areas with less than 3 feet separation distance from the bottom of the infiltration system to the elevation of seasonal high groundwater or the top of bedrock.

6. Areas with runoff from industrial, commercial and institutional parking lots and roads and residential arterial roads with less than 5 feet separation distance from the bottom of the infiltration system to the elevation of seasonal high groundwater or the top of bedrock.

7. Areas within 400 feet of a community water system well as specified in s. NR 811.16 (4) or within 100 feet of a private well as specified in s. NR 812.08 (4) for runoff infiltrated from commercial, industrial and institutional land uses or regional devices for residential development.

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

9. Any area where the soil does not exhibit one of the following characteristics between the bottom of the infiltration system and seasonal high groundwater and top of bedrock:
   a. At least a 3-foot soil layer with 20% fines or greater.
   b. At least a 5-foot soil layer with 10% fines or greater.

   c. Where the soil medium within the infiltration system does not provide an equivalent level of protection.

Note: The areas listed in par. (d) are prohibited from infiltrating runoff due to the potential for groundwater contamination.

(e) Transportation facilities located in the following areas and otherwise subject to the requirements of this subchapter are not required to meet the requirements of this subsection:

1. Areas where the infiltration rate of the soil is less than 0.6 inches/hour measured at the bottom of the infiltration system.

2. Parking areas and access roads less than 5,000 square feet for commercial and industrial development.

3. Redevelopment post-construction sites.

4. In-fill development areas less than 5 acres.

5. Infiltration areas during periods when the soil on the site is frozen.

6. Roads in commercial, industrial and institutional land uses, and arterial residential roads.


(f) Where alternate uses of runoff are employed, such as for toilet flushing, laundry or irrigation, such alternate use shall be given equal credit toward the infiltration volume required by this subsection.

(g) 1. 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. However, if site specific information indicates that compliance with a preventive action limit is not achievable, then the infiltration BMP may not be installed or shall be modified to prevent infiltration to the maximum extent practicable.

2. Notwithstanding subd.1., the discharge from BMPs shall remain below the enforcement standard at the point of standards application.

(6) PROTECTIVE AREAS. (a) In this subsection, “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 the channel or delineated wetland boundary to the closest impervious surface. However, in this paragraph, “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 and exceptional resource waters, and for wetlands in areas of special natural resource interest as specified in s. NR 103.04, 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, whichever is more current, 50 feet.

3. For lakes, 50 feet.

4. For highly susceptible wetlands, 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 delineation shall be made in accordance with s. NR 103.08 (1m). 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% 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 subds. 1., 4. and 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 s. NR 103.03.

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

(b) 1. Beginning with land acquired within a protective area for a transportation facility on or after October 1, 2002, no imperious surface of a transportation facility may be constructed within a protective area, unless the transportation facility authority determines, in consultation with the department, that there is no practical alternative. If there is no practical alternative to locating a transportation facility within a protective area, the transportation facility may be constructed in the protective area only to the extent the transportation facility authority, in consultation with the department, determines is reasonably necessary, and the transportation facility authority shall state in the design plan prepared pursuant to s. NR 151.22 (1) (a), why it is necessary to construct the transportation facility within a protective area.

2. If a transportation facility is constructed within a protective area, adequate sod or self-sustaining vegetative cover of 70% or greater shall be established and maintained in the area that is the width of the protective area, or the greatest width practical, and throughout the length of the protective area in which the transportation facility is located. The adequate sod or self-sustaining vegetative cover required under this paragraph 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-vegetative 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.

Note: It is recommended that seeding of non-aggressive vegetative cover be used in the protective areas. Vegetation that is flood and drought tolerant and can provide long-term bank stability because of an extensive root system is preferable. Vegetative cover may be measured using the line transect method described in the university of Wisconsin—extension publication number A3533, titled “Estimating Residue Using the Line Transect Method”.

3. Best management practices such as filter strips, swales or wet retention basins, that are designed to control pollutants from nonpoint sources may be located in the protective width area.

Note: Other regulations, such as ch. 30, Stats., and chs. NR 103, 115, 116 and 117 and their associated review and approval process may apply in the protective area.

4. This subsection does not apply to:
   a. Non-highway transportation redevelopment sites.
   b. Transportation facilities that cross or access surface waters, such as boat landings, bridges and culverts.
   c. Structures constructed in accordance with s. 59.692 (1v), Stats.
   d. Transportation facilities from which runoff does not enter the surface water, except to the extent that vegetative ground cover is necessary to maintain bank stability.

Note: A vegetative protective area to filter runoff pollutants from transportation facilities described in subd. 4. d. is not necessary since runoff is not entering the surface water at that location. Other practices necessary to meet requirements of this section, such as a swale or basin, will need to be designed and implemented to reduce runoff pollutants prior to runoff entering a surface water of the state.

(7) FUELING AND VEHICLE MAINTENANCE AREAS. Fueling and vehicle maintenance areas shall, to the maximum extent practicable, have BMPs designed, installed and maintained to reduce petroleum within runoff, such that the runoff that enters waters of the state contains no visible petroleum sheen.

Note: A combination of the following BMPs may be used: oil and grease separators, canopies, petroleum spill cleanup materials, or any other structural or non-structural method of preventing or treating petroleum in runoff.

(8) LOCATION. To comply with the standards required under this section, BMPs may be located on-site or off-site as part of a regional storm water device, practice or system, but shall be installed in accordance with s. NR 151.003.

(9) TIMING. The BMPs required under this section shall be installed before the construction site has undergone final stabilization.

(10) SWALE TREATMENT. (a) Applicability. Except as provided in par. (b), transportation facilities that use swales for runoff conveyance and pollutant removal meet all of the requirements of this section, if the swales are designed to the maximum extent practicable to do all of the following:
   1. Be vegetated. However, where appropriate, non-vegetative measures may be employed to prevent erosion or provide for runoff treatment, such as rock riprap stabilization or check dams.
   2. Prevent erosion of pollutants from upslope overland flow areas under sheet flow conditions. Non-vegetative 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.

Note: It is preferred that tall and dense vegetation be maintained within the swale due to its greater effectiveness at enhancing runoff pollutant removal.

2. Carry runoff through a swale for 200 feet or more in length that is designed with a flow velocity no greater than 1.5 feet per second for the peak flow generated using either a 2-year, 24-hour design storm or a 2-year design storm with a duration equal to the time of concentration as appropriate. If a swale of 200 feet in length cannot be designed with a flow velocity of 1.5 feet per second or less, the flow velocity shall be reduced to the maximum extent practicable.

Note: Check dams may be included in the swale design to slow runoff flows and improve pollutant removal. Transportation facilities with continuous features such as curb and gutter, sidewalks or parking lanes do not comply with the design requirements of this subsection. However, a limited amount of structural measures such as curb and gutter may be allowed as necessary to account for other concerns such as human safety or resource protection.

(b) Exemptions. 1. Notwithstanding par. (a), the department may, consistent with water quality standards, require other provisions of this section, in addition to swale treatment, be met on a transportation facility with an average daily traffic rate greater than 2500 and where the initial surface water of the state that the runoff directly enters is any of the following:
   a. An outstanding resource water.
   b. An exceptional resource water.
   c. Waters listed in s. 303 (d) of the federal clean water act that are identified as impaired in whole or in part, due to nonpoint source impacts.
   d. Waters where targeted performance standards are developed pursuant to s. NR 151.004.

2. The transportation facility authority shall contact the department’s regional storm water staff or the department’s liaison to the department of transportation to determine if additional BMPs beyond a water quality swale are needed under this paragraph.

History: CR 00–027: cr. Register September 2002 No. 561, eff. 10–1–02.

NR 151.25 Developed urban area performance standard. (1) APPLICABILITY. This section applies to transportation facilities under the sole and exclusive jurisdiction of the department of transportation that are located within municipalities regulated under subch. I of ch. NR 216.

Note: Transportation facilities that are not under the sole and exclusive jurisdiction of the department of transportation are subject to the performance standards in s. NR 151.13.

(2) REQUIREMENTS. (a) The department of transportation shall develop and implement a storm water management plan to control pollutants from transportation facilities described in sub. (1). The plan shall do the following to the maximum extent practicable:
   1. Beginning not later than March 10, 2008, by design, implement a storm water management plan that attains a 20% reduction in total suspended solids in runoff that enters waters of the state as compared to no storm water management controls.
   2. Beginning not later than March 10, 2013, by design, implement a storm water management plan that attains a 40% reduction in total suspended solids in runoff that enters waters of the state as compared to no storm water management controls.

Register, September, 2002, No. 561
NR 151.25 WISCONSIN ADMINISTRATIVE CODE 410-8

Unofficial Text (See Printed Volume). Current through date and Register shown on Title Page.

(b) The department of transportation shall inform and educate appropriate department of transportation staff and any transportation facility maintenance authority contracted by the department of transportation to maintain transportation facilities owned by the department of transportation regarding nutrient, pesticide, salt and other deicing material and vehicle maintenance management activities in order to prevent runoff pollution of waters of the state.

History: CR 00-027: cr. Register September 2002 No. 561, eff. 10-1-02.

NR 151.26 Enforcement. This subchapter shall be enforced as follows:

(1) If a transportation facility that is exempted from prohibitions, permits or approval requirements by s. 30.2022, Stats., does not comply with the performance standards of this subchapter, the department shall initiate the conflict resolution process specified in the cooperative agreement between the department of transportation and the department established under the interdepartmental liaison procedures under s. 30.2022 (2), Stats.

(2) The department shall enforce this subchapter where applicable for transportation facilities not specified in sub. (1) under s. 281.98, Stats.

History: CR 00-027: cr. Register September 2002 No. 561, eff. 10-1-02; corrections in (1) made under s. 13.93 (2m) (b) 7., Stats.


NR 151.30 Purpose. This subchapter specifies the process for developing and disseminating technical standards to implement the performance standards in subchs. III and IV, as authorized by s. 281.16 (2) (b), Stats., and establishes the procedures that the department shall use to determine if technical standards adequately and effectively implement, as appropriate, the performance standards in subchs. III and IV. This subchapter applies to technical standards developed or implemented by any agency of the state of Wisconsin.

History: CR 00-027: cr. Register September 2002 No. 561, eff. 10-1-02.

NR 151.31 Technical standards development process. (1) The department shall develop and revise technical standards to implement the performance standards in ss. NR 151.11, 151.12, 151.13, 151.23, 151.24 and 151.25 through a process outlined as follows:

(a) The department may decide that a new or revised technical standard is necessary to implement a performance standard.

(b) Any person may request the department to develop or revise a technical standard designed to meet a performance standard. The request shall be made in writing to the director of the department’s bureau of watershed management and shall include the performance standard for which technical standard development or revision may be needed, and an explanation why a new or revised technical standard is requested.

(c) The department shall evaluate a request submitted pursuant to par. (b), to determine if it is necessary to develop or revise a technical standard to implement a performance standard. If the department determines that a new or revised technical standard is not necessary to implement a performance standard, it shall reply to the requester in writing as to the reasons that a technical standard does not need to be developed or revised.

(d) If the department determines that a new or revised technical standard is necessary to implement a performance standard, it shall:

1. Determine the state agency responsible for the technical standard.
2. If the responsible state agency is not the department, request the responsible state agency to develop or revise a technical standard.
3. If the responsible agency denies the request to develop or revise a technical standard, the department may initiate conflict resolution procedures outlined under any existing memorandum of understanding or agreement between the department and the responsible agency. If no conflict resolution procedures exist, the department may attempt to resolve the disagreement through stepped negotiations between increasing higher levels of management.

(e) The department shall use the following procedures when it acts to develop or revise technical standards to implement the performance standards in subchs. III and IV:

1. Convene a work group to develop or revise the technical standard that includes agencies and persons with technical expertise and direct policy interest. The work group shall include at least one representative from the agency or person that made an initial request to develop or revise the technical standard.
2. The work group shall publish a class 1 public notice and consider public comments received on the technical standard prior to providing recommendations to the department under subd. 3.
3. The work group shall provide a recommended technical standard to the department within 18 months of its formation unless the director of the bureau of watershed management grants an extension to this deadline.

(f) 1. Notwithstanding other provisions of this section, and acting jointly with the department of transportation and in consultation with other appropriate stakeholders, the department shall:
   a. Develop a technical standard that, by design, meets the performance standard established in s. NR 151.23 (3). This technical standard shall address slope erosion and channel erosion and identify BMPs that may be used given a variety of site conditions.
   b. Annually review this technical standard.

Note: This technical standard is sometimes referred to as the standardized erosion control reference matrix for transportation.

2. For transportation facility construction sites, the technical standard developed under this paragraph shall also indicate any conditions under which it may not be used to implement the performance standard established in s. NR 151.23 (3).
3. This technical standard and future revisions become effective upon signatures from both secretaries of the department and the department of transportation, or their designees.

(2) (a) Upon receipt of a proposed technical standard or technical standard revision, either developed by the department or a responsible state agency, the department shall determine if the technical standard will effectively achieve or contribute to achievement of the performance standards in subchs. III and IV. The department shall provide its determination in writing to the responsible state agency that prepared the proposed technical standard.

(b) If the department determines that a proposed technical standard will not adequately or effectively implement a performance standard in subchs. III and IV, the proposed technical standard may not be used to implement a performance standard in whole or in part.

(c) If the department determines that a proposed technical standard will adequately and effectively implement a performance standard in subchs. III and IV in whole or in part, the new or revised technical standard shall be used in lieu of any existing standards to implement the performance standard beginning with plans developed after the date of this determination.

(d) The department may determine a portion of a technical standard is adequate and effective to implement the performance standards under subch. III or IV.

(3) The department shall accept technical standards and best management practices developed by the department, the department of commerce, the department of transportation or other appropriate state agencies, existing on October 1, 2002, unless the department identifies a technical standard as not adequate or...
effective to implement a performance standard in subchs. III and IV in whole or in part, and informs the responsible state agency of this determination and the basis for it.

(4) Until the processes under subs. (1) and (2) are completed, an existing technical standard identified by the department under sub. (3), or previously accepted by the department as adequate and effective to implement a performance standard under subch. III or IV shall be recognized as appropriate for use under this chapter.

(5) The department may identify technical standards that exist or are developed by qualified groups or organizations as adequate and effective to implement the performance standards under subch. III or IV.

(6) Except as provided in s. NR 151.26, if a technical standard that the department determines is not adequate or effective to implement a performance standard in whole or in part is used to implement a performance standard under subch. III or IV, the department may initiate enforcement proceedings for failure to meet the performance standard under s. 281.98, Stats.

History: CR 00–027: cr. Register September 2002 No. 561, eff. 10–1–02.

NR 151.32 Dissemination of technical standards.

(1) Technical standards developed or revised under this section may be made available through the responsible state agency’s appropriate rules, manuals or guidance in keeping with normal publication schedules. If the responsible state agency does not publish appropriate manuals or guidance, the department shall request the agency provide the department with a copy of the technical standard. Where provided, the department shall publish or reproduce the technical standard for public use.

(2) The department shall maintain a list of technical standards that it has determined adequate and effective to implement the performance standards under subch. III or IV and make the list available upon request.

History: CR 00–027: cr. Register September 2002 No. 561, eff. 10–1–02.
Chapter NR 216
STORM WATER DISCHARGE PERMITS

NR 216.001 Purpose.
NR 216.002 Definitions.
NR 216.003 General permit conditions.
NR 216.004 Noncompliance.

Subchapter I — Municipal Storm Water Discharge Permits
NR 216.01 Purpose.
NR 216.02 Applicability.
NR 216.03 Method of application.
NR 216.04 Issuance of permits.
NR 216.05 Preapplication requirements.
NR 216.06 Application requirements.
NR 216.07 Permit requirements.
NR 216.08 Exemptions.
NR 216.09 Permit fees.
NR 216.10 Permit reissuance.
NR 216.11 Trading.

Subchapter II — Industrial Storm Water Discharge Permits
NR 216.20 Purpose.
NR 216.21 Applicability and exclusions.
NR 216.22 Certification program.
NR 216.23 Permit coverage.
NR 216.24 Industry–specific general permits.
NR 216.25 Movement out of a storm water general permit.
NR 216.26 Application requirements.
NR 216.27 Storm water pollution prevention plan.
NR 216.28 Monitoring requirements.
NR 216.29 Compliance and reporting requirements.
NR 216.30 Industrial storm water discharge permit fees.

Subchapter III — Construction Site Storm Water Discharge Permits
NR 216.41 Purpose.
NR 216.42 Applicability.
NR 216.43 Notice of intent requirements.
NR 216.44 Notice of intent deadlines.
NR 216.45 Incomplete notice of intent and time limit for department decision.
NR 216.46 Erosion control plan requirements.
NR 216.47 Storm water management plan requirements.
NR 216.48 Reporting and monitoring requirements.
NR 216.49 Conformance with other applicable plans.
NR 216.50 Amendments.
NR 216.51 Department actions.
NR 216.52 Use of information.
NR 216.53 Time periods for action on permit applications and modification requests.
NR 216.54 Transfers.
NR 216.55 Notice of termination.

Note: Corrections made under s. 13.93 (2m) (b) 7., Stats., Register, August, 1997, No. 500.

NR 216.001 Purpose. The purpose of this chapter is to establish criteria defining those storm water discharges needing WPDES storm water discharge permits, as required by s. 283.33, Stats. The goal of this chapter is to eliminate to the maximum extent practicable the discharge of pollutants carried by storm water runoff into waters of the state from certain industrial facilities as identified in this chapter, construction sites over 5 acres and municipal storm water runoff as identified in this chapter.

History: Cr. Register, October, 1994, No. 466, eff. 11–1–94.

NR 216.002 Definitions. For the purposes of this chapter the following definitions are applicable:

1. “Best management practices” or “BMPs” means schedules of activities, prohibitions of practices, maintenance procedures, structural controls, source area controls, treatment requirements, operating procedures, outdoor storage containment and other management practices to prevent or reduce pollutants in runoff entering waters of the state.

2. “Construction site” means an area upon which one or more land disturbing construction activities occur that in total will disturb 5 or more acres of land, including areas that are part of a larger common plan of development or sale where multiple separate and distinct land disturbing construction activities may be taking place at different times on different schedules but under one plan such that the total disturbed area is 5 or more acres.

3. “Contaminated storm water” means storm water that comes into contact with material handling equipment or activities, raw materials, intermediate products, final products, waste materials, byproducts, or industrial machinery in the source areas listed in s. NR 216.27 (3) (e).

4. “Department” means the department of natural resources.

5. “Discharge” means the discharge of any pollutant into the waters of the state from any point source.

6. “Erosion” means the detachment and movement of soil, sediment or rock fragments by water, wind, ice or gravity.

7. “Event mean concentration” means the flow–weighted concentration over the duration of a single runoff event.

8. “Final stabilization” means that all land disturbing construction activities at the construction site have been completed and that a uniform perennial vegetative cover has been established with a density of at least 70% of the cover for the unpaved areas and areas not covered by permanent structures that employ equivalent permanent stabilization measures.

9. “General WPDES permit” means a permit for the discharge of pollutants issued by the department under s. 283.35, Stats.

10. “Illicit discharge” means any discharge to a municipal separate storm sewer that is not composed entirely of storm water except discharges authorized by a WPDES permit or other discharge not requiring a WPDES permit.

11. “Infiltration system” means a device or practice that encourages surface water to percolate or penetrate into underlying soil, including but not limited to infiltration trenches, grassed waterways and infiltration basins.

12. “Land disturbing construction activity” means any man–made alteration of the land surface resulting in a change in the topography or existing vegetative or non–vegetative soil cover, which may result in storm water runoff and lead to increased soil erosion and movement of sediment into waters of the state. Land disturbing construction activity includes clearing and grubbing, demolition, excavating, pit trench dewatering, filling and grading activities, but does not include agricultural land uses or silviculture activities or routine maintenance for project sites that involve under 5 acres of land disturbance that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of the facility.

13. “Landowner” means any person holding fee title, an easement or other interest in property which allows the person to undertake land disturbing construction activity on the property.

14. “Municipal separate storm sewer” means a conveyance or system of conveyances including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, constructed channels or storm drains, which meets the following criteria:

(a) Owned or operated by a municipality.

(b) Designed or used for collecting or conveying storm water.
(c) Which is not a combined sewer conveying both sanitary and storm water.

(d) Which is not part of a publicly owned wastewater treatment works which provides secondary or more stringent treatment.

(15) “Municipality” means any city, town, village, county, county utility district, town sanitary district, town utility district, school district or metropolitan sewage district or any other public entity created pursuant to law and having authority to collect, treat or dispose of sewage, industrial wastes, storm water or other wastes.

(16) “Outfall” means the point at which storm water is discharged to waters of the state or to a storm sewer.

(17) “Person” means an individual, owner, operator, corporation, partnership, association, municipality, interstate agency, state agency or federal agency.

(18) “Phase one municipality” means the cities of Madison and Milwaukee.

(19) “Point source” means a discernible, confined and discrete conveyance of storm water for which a permit is required under s. 283.33, Stats.

(20) “Pollutant” 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, cellular dirt and industrial, municipal and agricultural waste discharged into water.

(21) “Pollution” means man–made or man–induced alteration of the chemical, physical, biological or radiological integrity of water.

(22) “Runoff coefficient” means the fraction of total precipitation that will leave a site as storm water runoff based on land use, soil and drainage characteristics.

(23) “Section 313 water priority chemical” means a chemical or chemical categories which:

(a) Is listed at 40 CFR 372.65 pursuant to 42 USC 11023;

Note: 42 USC 1023 is also known as the emergency planning and community right–to–know act (EPCRA), or as Section 313 of title III of the superfund amendments and reauthorization act (SARA) of 1986.

(b) Is present at or above threshold levels at a facility subject to EPCRA s. 313 reporting requirements; and

(c) Is listed in appendix D of 40 CFR 122 on either table II, table III or table V or is listed as a hazardous substance pursuant to 33 USC 1321 (b) (2) (A) of the clean water act at 40 CFR 116.4.


(25) “Significant contributor” means a person who discharges to waters of the state pollutants which contribute to or have the reasonable potential to contribute to an exceedence of a water quality standard.

(26) “Significant materials” means materials related to industrial activity that may contaminate storm water, including, but not limited to: raw materials; fuels; materials such as solvents, detergents and plastic pellets; finished materials such as metallic products; raw materials used in food processing or production; hazardous substances designated under 42 USC 9601 to 9675; any chemical the facility is required to report pursuant to 42 USC 11023; fertilizers; pesticides; and waste products such as ashes, slag and sludge that have the potential to be released with storm water discharges.

Note: 42 USC 9601 to 9675 is also known as the comprehensive environmental response, compensation and liability act (CERCLA); 42 USC 11023 is also known as the emergency planning and community right–to–know act (EPCRA), or as Section 313 of title III of the superfund amendments and reauthorization act (SARA) of 1986.

(27) “Source area control BMP” means best management practices intended to prevent storm water runoff from contacting materials that can potentially contaminate it.

(28) “Stabilize” means the process of making a site steadfast or firm, minimizing soil movement by the use of such practices as mulching and seeding, sodding, landscaping, paving, graveling or other appropriate measures.

(29) “Storm water” means storm water runoff, snow or ice melt runoff, and surface runoff and drainage.

(30) “Storm water outfall” means the point where a municipal separate storm sewer discharges to waters of the state, or leaves one municipality and enters another.

(31) “SWPPP” means storm water pollution prevention plan.

(32) “Treatment BMP” means a storm water treatment system, works, or practice that is designed to reduce or remove pollutants from contaminated storm water.

(33) “Urban storm water planning area” means the boundary defined by a phase one municipality, great lakes area of concern municipality, or a municipality over 50,000 in a priority watershed which serves as the appropriate planning area for the abatement of storm water runoff pollution into waters of the state.

(34) “Waters of the state” means those portions of Lake Michigan and Lake Superior within the boundaries of Wisconsin, all lakes, bays, rivers, streams, springs, ponds, wells, impounding reservoirs, marshes, water courses, drainage systems and other surface water or groundwater, natural or artificial, public or private within the state or under its jurisdiction, except those waters which are entirely confined and retained completely upon the property of a person.

(35) “WPDES” means Wisconsin pollutant discharge elimination system.

(36) “Working day” means any day except Saturday and Sunday and holidays designated in s. 230.35 (4) (a), Stats.

History: Cr. Register, October, 1994, No. 466, eff. 11–1–94; CR 00–035: am. (2), (8), (10), (12). Register September 2002 No. 561, eff. 10–1–02.

NR 216.003 General permit conditions. In addition to the terms and conditions listed under this chapter, if a general permit is issued, it may require compliance with the terms and conditions identified in s. NR 205.08. The term of the permit shall be the maximum period of time provided by federal law.

History: Cr. Register, October, 1994, No. 466, eff. 11–1–94.

NR 216.004 Noncompliance. (1) Any act of noncompliance with the provisions of any storm water permit issued under this chapter is a violation of the permit and is grounds for enforcement action or denial of continued coverage under a general permit.

(2) Permittees shall submit reports of noncompliance with requirements contained in a compliance schedule of the permit in writing within 14 days after the compliance schedule deadline. Reports of noncompliance shall include: a description of the noncompliance; its cause; the steps taken or planned to reduce, eliminate and prevent reoccurrence of the noncompliance; and the effect of the noncompliance on the permittee’s ability to meet remaining deadlines.

(3) The permittee shall immediately notify the department or the designated statewide 24–hour emergency number provided by the division of emergency government in accordance with ch. NR 706, in the event that a spill or accidental release of any hazardous material or substance results in the discharge of pollutants to waters of the state or creates a condition that may contaminate storm water discharged to waters of the state.

(4) The permittee shall take all reasonable steps to minimize or prevent any adverse impacts on the waters of the state resulting from noncompliance with a storm water permit.
Subchapter I — Municipal Storm Water Discharge Permits

NR 216.01 Purpose. The purpose of this subchapter is to establish the requirements for municipal storm water discharge permits, as required by s. 283.33, Stats. The goal of this subchapter is to eliminate to the maximum extent practicable the discharge of pollutants into waters of the state from municipal storm water runoff from municipalities identified in s. NR 216.02. The department shall consider the other environmental problems facing municipalities and emphasize cost effective pollution prevention solutions when determining what is practicable.

History: Cr. Register, October, 1994, No. 466, eff. 11–1–94.

NR 216.02 Applicability. The following municipal storm water dischargers shall obtain a WPDES storm water discharge permit under this subchapter because of water quality concerns associated with urban runoff:

1. Phase one municipalities. Municipal separate storm sewer systems serving incorporated areas with a population of 100,000 or more shall obtain a permit.

Note: The phase one municipalities are the cities of Madison and Milwaukee.

They have already completed the permit application process in accordance with the EPA regulations in 40 CFR part 122.26 (d), prior to the promulgation of ch. NR 216.

2. Great Lakes areas of concern. Municipalities in the great lakes areas of concern shall obtain a permit.

Note: There are 5 great lakes areas of concern in Wisconsin. Areas of concern have persistent water quality problems impairing beneficial uses. Remedial action plans for reacting to the pollutants are being developed for the areas of concern. The department is designating the great lakes areas of concern for storm water permitting because of the significance of storm water runoff as a pollutant source. Municipalities in remedial action plans, except for the city of Milwaukee which is required to apply under s. NR 216.02 (1), include the following:

<table>
<thead>
<tr>
<th>Area of Concern</th>
<th>Municipality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower Green Bay and Fox River</td>
<td>Green Bay, Allouez, Ashwaubenon, DePere</td>
</tr>
<tr>
<td>Menominee River</td>
<td>Marinette</td>
</tr>
<tr>
<td>Sheboygan River</td>
<td>Sheboygan</td>
</tr>
<tr>
<td>St. Louis River and Duluth–Superior Harbor</td>
<td>Superior</td>
</tr>
</tbody>
</table>

3. Priority watersheds. Municipalities in priority watersheds with a population of 50,000 or more, based on the most recent census data for the incorporated area, shall obtain a permit.

Note: Priority watersheds associated with municipalities with a population of 50,000 or more, except for municipalities required to apply under s. NR 216.02 (1) or (2), are listed below. Clean-up and protection of water resources through control of runoff sources of pollution are needed to improve water quality in priority watersheds. The department is designating these priority watersheds for storm water permitting because of the significance of storm water runoff as a pollutant source. Municipalities in these priority watersheds include the following:

<table>
<thead>
<tr>
<th>Priority Watershed</th>
<th>Municipality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Duncan Creek and Lowes Creek</td>
<td>Eau Claire</td>
</tr>
<tr>
<td>Root River</td>
<td>Racine</td>
</tr>
<tr>
<td>Menomonee and Kimnicken Rivers</td>
<td>West Allis</td>
</tr>
<tr>
<td>Upper Fox River (Illinois)</td>
<td>Waushesa</td>
</tr>
</tbody>
</table>

4. Designated municipalities. Discharges from a municipal separate storm sewer system which either contributes to a violation of a water quality standard or is a significant contributor of pollutants to waters of the state shall obtain a permit. All designations shall be guided by consistent statewide application of technical criteria. The department may designate discharges from municipal separate storm sewer systems on a system wide, jurisdiction wide or watershed basis. A designation for storm water permitting may be initiated by the following:

(a) The department may identify a municipality for permitting. To assist in making this determination, the department may request information from the municipality. The department shall consider the following factors when making a designation:

1. Physical interconnections between the municipal separate storm sewers of a permitted municipality and a designated municipality.

2. Location of the discharge from a designated municipality relative to a permitted municipal separate storm sewer system.

3. The quantity and nature of pollutants discharged to waters of the state.

4. The nature of the receiving water.

5. Protection of the watershed or basin drainage area receiving the municipal discharge.


7. Other relevant factors.

(b) Phase one municipalities, great lakes areas of concern municipalities, priority watershed municipalities with a population of 50,000 or more, and the public may petition the department to designate additional municipalities for permitting. The petition shall contain information to assist the department in making a determination in accordance with the factors outlined in s. NR 216.02 (4) (a).

History: Cr. Register, October, 1994, No. 466, eff. 11–1–94.

NR 216.03 Method of application. The owner or operator of a discharge from a municipal separate storm sewer system may either apply individually or as a co-applicant. Permit applications may be made by the following methods:

1. Group application. Municipalities may be co-applicants and submit a group application with one or more other owners or operators of discharges from municipal separate storm sewer systems.

2. Regional authority. A regional authority, which would administer the co-applicant’s permit for an entire urban storm water planning area, may submit a permit application.

3. Individual application. A municipality may submit an individual permit application which only covers discharges from the municipal separate storm sewer system it is responsible for.

Note: The department encourages the filing of group or regional authority applications because of the possible benefits, including: economy of size, an additional 12 months to prepare the permit application, reduced permit fees, and enhanced cooperation between municipalities to achieve the same water quality goals. During the preapplication period municipalities can pursue forming groups or regional authorities. Formation of a storm water utility district may be a mechanism for applying as a group or regional authority, and could be a source for funding.

History: Cr. Register, October, 1994, No. 466, eff. 11–1–94.

NR 216.04 Issuance of permits. (1) Types of permits. The department may issue a permit to a group of co-applicants, a permit to a regional authority, or individual permits. Permits will be issued by the department for the type of application made. The department may exclude co-applicants from coverage under a group or regional authority permit, and instead issue an individual permit to each excluded co-applicant if coverage is necessary to ensure compliance with this subchapter.

2. Co-permittees. A co-permittee is only responsible for permit conditions relating to discharges from the municipal separate storm sewers for which it is the owner or operator.

3. Conditions. Permits may specify different conditions for different discharges covered by a permit, including distinctive management programs for different storm water drainage areas.

4. Priorities. The following criteria shall be used by the department to determine the order of permitting municipalities:

(a) Phase one municipalities. These permits shall be issued beginning August 1, 1994.

(b) Municipalities designated by phase one municipalities and approved by the department. Beginning July 1, 1995, the depart-
ment shall notify these municipalities they are required to apply for a storm water permit. 

(c) Municipalities in great lakes areas of concern. Beginning July 1, 1996, the department shall notify these municipalities they are required to apply for a storm water permit.

(d) Municipalities in priority watersheds with a population of 50,000 or more. Beginning July 1, 1997, the department shall notify these municipalities they are required to apply for a storm water permit.

(e) Other municipalities designated under s. NR 216.02 (4).

(5) Preapplication deadlines. The following time frames apply:

(a) The department shall notify a municipality when application for a storm water permit is required. Preapplication information as described in s. NR 216.05 shall be submitted by the notified municipality within 6 months of this notification.

(b) The department shall review the urban storm water planning area required in s. NR 216.05 (3), and any petition to designate other municipalities for permitting in accordance with s. NR 216.05 (4). If the department intends to designate any municipalities in the watersheds of an applicant, according to s. NR 216.02 (4), it shall do so in the process of approving the preapplication. However, the department may later designate any municipality for permitting based on that municipality having a significant change in discharge to waters of the state. The following time frame applies to the petition and designation process.

1. The department shall notify municipalities named in a petition, or which the department designates under s. NR 216.02 (4), within 30 days of receipt.

2. The department shall notify municipalities within 90 days of the department’s ruling on the petition.

3. A municipality can appeal the department’s designation decision by demonstrating why they are not [a] contributor to a violation of a water quality standard or a significant contributor of pollutants to waters of the state for either all or a portion of their jurisdiction. Municipalities shall appeal the department’s decision within 90 days.

4. The department shall rule on an appeal within 90 days.

5. If there is no appeal of the department’s designation decision, approval of the preapplication shall occur when the department issues its ruling under subd. 2. If there is an appeal of the department’s designation decision, approval of the preapplication shall occur when the department issues its ruling on the appeal under subd. 4.

(6) Application deadlines. Permit applications shall be submitted according to the following time frames after the preapplication is approved by the department:

(a) Within 24 months for an individual applicant.

(b) Within 36 months for a group or regional authority applicant.

Note: The department’s goal is to issue a permit within 12 months after receipt of a substantially complete application.

History: Cr. Register, October, 1994, No. 466, eff. 11–1–94; CR 00–035: am. (5)

(b) (intro.) Register September 2002 No. 561, eff. 10–1–02.

NR 216.05 Preapplication requirements. The following information shall be submitted to the department prior to applying for a municipal storm water permit:

(1) General information. The applicant’s name, address, telephone number of contact person, ownership status and status as a government entity. For the purpose of establishing the responsibilities of each municipality in a group or regional authority application, co-applicants shall provide an intermunicipal agreement or a proposed agreement with a schedule for execution of the agreement.

(2) Legal authority. A description of existing local ordinances to control discharges to the municipal separate storm sewer system. When existing legal authority is not sufficient to meet the criteria in s. NR 216.06 (1), the description shall list additional authorities necessary to meet the criteria, and shall include a commitment and schedule to obtain additional authority.

(3) Urban storm water planning area. A map showing the urban storm water planning area boundary, which shall take into consideration the storm water drainage basin and affected watersheds, the sewer service area and urban development area.

(4) Designated municipalities. A petition in accordance with s. NR 216.02 (4), to designate for storm water permitting any surrounding municipalities within the urban storm water planning area.

(5) Fiscal resources. A description of the financial resources currently available to the municipality to complete a permit application, the budget for existing storm water management programs, and sources of funds for storm water management programs.

History: Cr. Register, October, 1994, No. 466, eff. 11–1–94.

NR 216.06 Application requirements. Municipalities subject to the requirements of this subchapter shall apply for a storm water permit by submitting the necessary application information to the department. The municipal storm water permit application shall consist of:

(1) Adequate legal authority. A demonstration that the applicant has legal authority established by statute, ordinance or series of contracts to, at a minimum:

(a) Control the contribution of pollutants to the municipal separate storm sewer system from storm water discharges associated with industrial activity.

(b) Prohibit illicit discharges to the municipal separate storm sewer system.

(c) Control the discharge of spills, dumping or disposal of materials other than storm water to the municipal separate storm sewer system.

(d) Control through intermunicipal agreements among co-applicants the contribution of pollutants from one municipal separate storm sewer system to another.

(e) Require compliance with conditions in ordinances, permits, contracts or orders.

(f) Carry out all inspections, surveillance and monitoring procedures necessary to determine compliance and noncompliance with permit conditions including the prohibition on illicit discharges to the municipal separate storm sewer system.

Note: Construction site erosion control and storm water management model ordinances that may be adopted voluntarily by a municipality are available within ch. NR 132.

(2) Storm sewer system map. A compilation of data on the municipal separate storm sewer system and identification of potential sources of pollutants. Provide on a sufficiently sized and detailed map, such as a U.S. geological survey 7.5 minute topographic map or equivalent map with a scale suited for the level of detail, the following information:

(a) Identification and outline of the storm water drainage basins, the watersheds and municipal separate storm sewer systems. Other major municipal, government or privately owned storm water conveyance systems lying within, but not owned or operated by the permittee shall also be identified.

(b) A boundary defining the final urban storm water planning area as determined during the preapplication and all municipal borders in the area.

(c) A list and location of all known municipal storm sewer system outfalls discharging to waters of the state. Indicate the pipe size and identify those outfalls which are considered major. A major outfall means a municipal separate storm sewer outfall which meets one of the following criteria:
1. A single pipe with an inside diameter of 36 inches or more, or from an equivalent conveyance (cross sectional area of 1,018 inch²) which is associated with a drainage area of more than 50 acres.

2. A municipal separate storm sewer that receives storm water runoff from land zoned for industrial activity and discharges from a single pipe with an inside diameter of 12 inches or more, or from an equivalent conveyance (cross sectional area of 113 inch²) which is associated with a drainage area of more than 2 acres.

   (d) The location and a description of each currently operating or closed municipal landfill or other treatment, disposal or storage facility for municipal waste.

   (e) The location and permit number of any known discharge to the municipal separate storm sewer system that has been issued a WPDES permit, or has filed a permit application with the department.

   (f) The location of major structural controls for storm water discharges including retention basins, detention basins and major infiltration devices.

   (g) Identification of publicly owned parks, recreational areas and other open lands.

(3) EXISTING MANAGEMENT PROGRAMS. Identification of existing management programs to control pollutants from municipal separate storm sewer systems. Provide the following information:

   (a) A description of any existing source area controls and structural best management practices, including operation and maintenance measures. Programs may include construction site erosion control practices, floodplain management controls, wetland protection measures, roadway management, emergency spill response, best management practices for new developments and recommendations in regional water quality management plans.

   (b) A description of any existing programs to identify illicit connections to the municipal separate storm sewer system. Include inspection procedures, methods for detecting and preventing illicit discharges, areas where this program has been implemented and a summary of results.

   Note: Existing management programs that affect storm water quality may be a starting point for improving and expanding a storm water management program.

(4) INDUSTRIAL SOURCE IDENTIFICATION. An inventory, organized by watershed, of industrial facilities which are likely to discharge storm water runoff to the municipal separate storm sewer system. Include the name and address of each industrial facility, and a description such as a standard industrial classification which best reflects the principal products or services provided by the industry.

   Note: The department can assist in obtaining information on industrial facilities.

(5) DISCHARGE CHARACTERIZATION. A characterization of the quality and quantity of storm water runoff and effects of this runoff on receiving water bodies. This information shall be used to estimate potential storm water flows and to evaluate water quality. Using existing data and conditions, provide the following information:

   (a) Monthly mean rain and snow fall estimates, or summary of weather bureau data, and the monthly average number of storm events.

   (b) The location and description of land use activities, with divisions indicating undeveloped, residential, commercial, agricultural and industrial uses. For each land use type, estimate the average runoff coefficient. Estimate population densities and other pertinent information when developing permit conditions.

   (c) If available, quantitative data describing the volume and quality of discharges from the municipal separate storm sewer system, including a description of the outfalls sampled, sampling procedures, and analytical methods used.

   (d) A list of water bodies that receive discharges from the municipal separate storm sewer system and the locations in these water bodies, where pollutants from storm water discharges may accumulate and cause water quality degradation. Briefly describe known water quality impacts, by providing the following information on whether the water bodies have been:

      1. Assessed and reported in a water quality inventory report, required under 33 USC 1315 (b). Applicants shall reference the report as to the designated use of the water body, attainment of the goals of 33 USC 1251 to 1376, and causes of pollution which prevent attainment of goals.

      2. Listed in an individual control strategies toxic pollutant report, required under 33 USC 1314 (l), as a water body that is not expected to meet water quality standards or water quality goals due to toxic pollutants.

      3. Listed in a nonpoint source assessment required under 33 USC 1329 (a), indicating that without additional action to control nonpoint sources of pollution, the water body cannot reasonably be expected to meet water quality standards due to significantly polluted storm water runoff.

      4. Listed as a publicly owned lake and classified according to the level of eutrophication, required under 33 USC 1324 (a).

      5. Recognized as a highly valued or sensitive water, classified as an exceptional or outstanding resource water by the department in ch. NR 102, or included in a priority watershed.

      6. Defined by the department or U.S. Fish and wildlife service’s national wetlands inventory as wetlands.

      7. Found to have pollutants in bottom sediments, fish tissue or benthic data.

      8. Identified as contaminated groundwater, because of impacts from storm water infiltration on groundwater quality, especially drinking water supplies.

   Note: The department can assist in obtaining some of the water resources information.

(6) POLLUTANT LOADINGS. A proposed schedule to provide pollutant loadings to receiving water bodies and the event mean concentrations, in accordance with s. NR 216.07 (7).

(7) PROPOSED MONITORING PROGRAM. A proposed monitoring program for data collection for the term of the permit, in accordance with s. NR 216.07 (5).

(8) PROPOSED MANAGEMENT PROGRAM. A schedule to provide a proposed storm water management program that shall be developed and initiated during the term of the permit, in accordance with s. NR 216.07 (7) and (7m).

(9) FISCAL ANALYSIS. For each fiscal year to be covered by the permit, a fiscal analysis of the estimated capital and operation and maintenance expenditures necessary to implement the proposed management programs. The analysis shall include a description of the source of funds, including any restrictions on the use of the funds.

History: Cr. Register, October, 1994, No. 466, eff. 11–1–94; CR 00–035: am. (2) (a) and (8) Register September 2002 No. 561, eff. 10–1–02.

NR 216.07 Permit requirements. The department shall issue permits using the information provided by the applicant and other pertinent information when developing permit conditions. Permits shall include, but are not limited to, the following requirements (subject to the exemptions in s. NR 216.08):

(1) APPLICATION DEFICIENCIES. Orders to assure compliance with the permit application requirements in s. NR 216.06, if an incomplete application was submitted.

(2) SCHEDULE OF COMPLIANCE. A compliance schedule for the development and implementation of the storm water management program and any other requirements specified in the permit.

(3) FIELD SCREENING. A field screening analysis for illicit connections and illegal dumping at all major outfalls identified in the permit application, plus any additional selected field screening point designated by the municipality or the department. At a minimum, a screening analysis shall include a narrative description of visual observations made during dry weather periods. If any flow is observed, 2 grab samples shall be collected during a 24 hour...
period with a minimum period of 4 hours between samples. For all samples, provide a narrative description of the color, odor, turbidity and the presence of an oil sheen or surface scum as well as any other relevant observations regarding the potential presence of non-storm water discharges or illegal dumping. In addition, summarize the field analysis results for pH, total chlorine, total copper, total phenol, and detergents or surfactants, along with a description of the flow rate. Additional field analysis may be conducted using other parameters, like ammonia, to enhance the detection of illicit discharges. Where the field analysis does not involve analytical methods approved under 40 CFR 136 or by the department, the applicant shall provide a description of the method used including the name of the manufacturer of the test method along with the detection levels and accuracy of the test. The field screening points shall be established using the following guidelines:

(a) Field screening points shall, where possible, be located downstream of any sources of suspected illegal or illicit activity.

(b) Field screening points shall be located where practicable at the farthest manhole or other accessible location downstream in the system. Safety of personnel and accessibility of the location shall be considered in making this determination.

(c) Consideration shall be given to hydrological conditions, total drainage area of the site, population density of the site, traffic density, age of the structures or buildings in the area, history of the area and land use types.

(4) Pollutant Loading. A calculation of the event mean concentration, and the annual and seasonal pollutant loadings from each major outfall and the cumulative discharges from all known municipal separate storm sewer system outfalls to waters of the state. This information will be used to monitor trends in pollutant loadings. Calculations shall be provided for the following pollutants: COD, BOD, total suspended solids, total dissolved solids, total Kjeldahl nitrogen, nitrate plus nitrite nitrogen, ammonia nitrogen, total phosphorus, dissolved phosphorus, cadmium, copper, lead, zinc, and any other pollutant of significance detected in the storm water characterization. Provide a description of the procedures for calculating pollutant concentrations and loadings, including any modelling analysis with this calculation.

(5) Monitoring Program. A storm water monitoring program that considers the program proposed in the application, and may include changes required by the department. The program shall include information on the purpose and goals of the monitoring, the location of outfalls or field screening points for sampling, why the location is representative, the frequency of sampling, parameters to be sampled, and type of sampling equipment. The monitoring program may consider 3 components:

(a) Characterization of storm water by monitoring the pollutants identified in sub. (6) (f), from locations representative of various land uses and water quality concerns. This information shall be used to calculate pollutant loadings and event mean concentrations.

(b) Program assessment using water quality analysis and in-stream monitoring of the biological community and habitat conditions in the receiving water, to determine the effectiveness and adequacy of best management practices.

(c) Wet weather screening of storm water quality to identify areas that may be significant contributors of pollutants to the municipal separate storm sewer system.

(6) Sampling Procedures. Procedures for storm water sampling. When characterization data as described in sub. (5) (a) is required by the permit, sampling is subject to the following procedures:

(a) Outfalls monitored shall be representative of the commercial, residential, and industrial land use activities in the drainage area contributing to the municipal separate storm sewer system. The number and location of outfalls monitored shall be designated by the applicant in the proposed monitoring program. No more than 5 outfalls per municipality need to be monitored.

(b) Samples shall be collected from storms which are preferable at least 50% of the average rainfall amount, but no less than 0.1 inch. The runoff event sampled shall be at least 72 hours after any previous measurable storm greater than 0.1 inch rainfall. Runoff events sampled shall be at least 4 weeks apart whenever possible. The entire runoff event shall be sampled whenever possible, or at least the first 3 hours of a lengthy runoff. There is no minimum time criteria for the duration of the runoff.

(c) Samples collected shall be flow weighted composite samples using a continuous auto sampler, or using a combination of a minimum of 3 sample portions taken manually each hour of the runoff with each sample portion separated by a minimum period of 15 minutes. A grab sample shall be collected within the first 30 minutes of the runoff for those parameters being analyzed that require a grab sample, which include: pH, cyanide, total phenols, oil and grease, fecal coliform, fecal streptococcus and volatile organic compounds.

(d) A narrative description shall be provided of each storm event which is sampled, including the date and duration of the storm, rainfall amount and the interval between the storm sampled and the end of the previous measurable storm of greater than 0.1 inch rainfall.

(e) Approved analytical methods shall be used, in accordance with ch. NR 219. When no analytical method is approved, a suitable method may be used provided a description of the method is submitted to the department for concurrence prior to sampling.

(f) Quantitative data shall be provided for the pollutants listed in the following table, plus the organic priority pollutants listed in Table II (organic, toxic pollutants) and the toxic metals, cyanide and total phenols listed in Table III (metals, cyanide and total phenols) of appendix D of 40 CFR 122. The number of pollutants to be analyzed may be reduced if there is reason to believe some pollutants are unlikely to be present, or if initial analysis shows some pollutants were not detected at a level of concern.

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Method</th>
<th>Sample Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Suspended Solids</td>
<td>Total Kjeldahl Nitrogen</td>
<td></td>
</tr>
<tr>
<td>Total Dissolved Solids</td>
<td>Nitrate plus Nitrite</td>
<td></td>
</tr>
<tr>
<td>COD</td>
<td>Ammonia Nitrogen</td>
<td></td>
</tr>
<tr>
<td>BOD&lt;sub&gt;5&lt;/sub&gt;</td>
<td>Dissolved Phosphorus</td>
<td></td>
</tr>
<tr>
<td>Oil and Grease</td>
<td>Total Phosphorus</td>
<td></td>
</tr>
<tr>
<td>Fecal Coliform</td>
<td>Alkalinity</td>
<td></td>
</tr>
<tr>
<td>Fecal Streptococcus</td>
<td>Chloride</td>
<td></td>
</tr>
<tr>
<td>pH</td>
<td>Color</td>
<td></td>
</tr>
<tr>
<td>Hardness</td>
<td>Odor</td>
<td></td>
</tr>
</tbody>
</table>

(g) The department may require that quantitative data be provided for additional parameters on a case-by-case basis, and may establish sampling conditions such as the location, season of sample collection, form of runoff such as snow melt, rainfall amount and other conditions necessary to insure a representative sample.

(7) Storm Water Management Program. A storm water management program that considers the program proposed in the application, and may include changes required by the department. The program shall include a comprehensive planning process which involves public participation and, where necessary, intergovernmental coordination and a description of staff and equipment available, and priorities for implementation. The discharge of pollutants shall be reduced to the maximum extent practicable using appropriate best management practices. The program shall be consistent with the recommendations in regional water quality management plans. Separate proposed programs may be submitted by each co-applicant. Proposed programs may impose controls on a system wide basis, a watershed basis, a jurisdiction basis, or on individual outfalls. Management programs may include the following requirements:
(a) Source area controls and structural best management practices to reduce pollutants in runoff from commercial and residential areas that discharge into the municipal separate storm sewer system. An estimate of the expected reduction of pollutant loading and schedule for implementation shall be provided. The controls shall include:

1. Maintenance activities and a maintenance schedule for source area controls and structural best management practices.

2. Planning procedures including a comprehensive master plan to develop, implement and enforce controls on discharges from areas of new development and significant redevelopment, after construction is completed.

3. Practices for operating and maintaining roadways including deicing activities.

4. Procedures to assure that flood management projects assess impacts on the water quality, and that existing structural flood control devices have been evaluated to determine the feasibility of a retrofit device to provide pollutant removal from storm water.

5. A program to reduce pollutants associated with the application of pesticides, herbicides and fertilizer. The program may include educational activities, permits, certification of commercial applicators and distributors, and controls for application in public right–of–ways and at municipal facilities.

6. A program to promote the management of stream banks and shorelines by riparian land owners to minimize erosion, and restore or enhance the ecological values of the waterway.

(b) A program to detect and remove illicit discharges and improper disposal of wastes into the municipal separate storm sewer system, or require the discharger to obtain a separate WPDES permit. The program shall include:

1. A schedule to implement and enforce an ordinance, orders or similar means to prevent illicit discharges.

2. A strategy to address all types of illicit discharges. The following non–storm water discharges or flows are not considered illicit discharges: water line flushing, landscape irrigation, diverted stream flows, uncontaminated groundwater infiltration, uncontaminated pumped groundwater, discharges from potable water sources, foundation drains, air conditioning condensation, irrigation water, lawn watering, individual residential car washing, flows from riparian habitats and wetlands, dechlorinated swimming pool water, street wash water and fire fighting. However, these discharges need to be included in the strategy when identified by the municipality as significant sources of pollutants to waters of the state.

3. Procedures to conduct on–going field screening activities during the term of the permit, including areas or locations of storm sewers that will be evaluated.

4. Procedures to be followed to investigate portions of the municipal separate storm sewer system that, based on the results of field screening or other information, indicate a reasonable potential for containing illicit discharges or other sources of non–storm water. Procedures may include sampling for the field screening parameters identified in sub. (3), testing with fluorescent dyes or conducting inspections inside storm sewers where safety and other considerations allow.

5. Procedures to prevent, contain and respond to spills that may discharge into the municipal separate storm sewer system.

6. A program to promote public reporting of the presence of illicit discharges or water quality impacts associated with discharges from municipal separate storm sewers.

7. Information and education programs to facilitate the proper management of materials and behaviors that may pollute storm water, including: used oil, toxic materials, yard waste, lawn care and car washing.

8. Controls to limit infiltration of leakage from municipal sanitary sewers into municipal separate storm sewer systems.

(c) A program to monitor and control pollutants in industrial and high risk runoff discharges to municipal separate storm sewer systems. These sources include landfills; hazardous waste treatment, disposal, storage and recovery facilities; industrial facilities subject to 42 USC 11023; and industrial facilities that the municipal permit applicant determines are contributing a substantial pollutant loading to the municipal separate storm sewer system. The program shall include:

1. Priorities and procedures for inspections and implementing control measures.

2. A monitoring program for storm water discharges associated with the industrial facilities and high risk runoff, to be implemented during the term of the permit. Monitoring may include the submission of quantitative data on the following constituents: any pollutants limited in effluent guideline subcategories where applicable, any pollutant listed in an existing WPDES permit for a facility, oil and grease, COD, pH, BOD, total suspended solids, total phosphorus, total Kjeldahl nitrogen, nitrate plus nitrite nitrogen, and any other pollutant known or believed to be present. This monitoring program can be done in conjunction with the wet weather screening described in sub. (5) (c).

Note: If the industrial facility has a WPDES permit, storm water monitoring data may be available from the department.

(d) A program to implement and maintain source area controls and structural best management practices to reduce pollutants in storm water runoff from construction sites to the municipal separate storm sewer system. The program shall include:

1. Procedures for site planning which incorporate consideration of potential water quality impacts.

2. Requirements for source area controls and structural best management practices.

3. Procedures for identifying priorities for inspecting sites and enforcing control measures which consider the nature of the construction activity, topography, the characteristics of soil and receiving water quality.

4. Information and education programs for construction site operators.

(7m) Performance Standards. The storm water management program required in sub. (7) shall meet the performance standards in ss. NR 151.11, 151.12 and 151.13.

(8) Assessment of Controls. An assessment of the storm water management program and the effectiveness and adequacy of the best management practices implemented shall be reviewed annually. The assessment shall include the following:

(a) Review the results of the monitoring program.

(b) Estimate expected reductions in pollutant loadings discharged from the Municipal separate storm sewer system.

(c) Identify known impacts of storm water controls on both surface water and groundwater.

(d) Propose modifications to the storm water management program to correct deficiencies and to improve the program.

(9) Annual Report. An annual report for the preceding calendar year shall be submitted by March 31 of the next year. The municipal governing body, interest groups, and the general public shall be encouraged to review and comment on the annual report. Permittees shall consider the comments in the storm water management program. The annual report shall include the following information:

(a) The status of implementing the storm water management program and compliance with permit schedules.

(b) A summary of the monitoring data accumulated through the reporting year.

(c) A summary of the assessment of controls.

(d) Proposed modifications to the storm water management program in response to the assessment of controls.

(e) A fiscal analysis which includes the annual expenditures and budget for the reporting year, and the budget for the next year.
NR 216.07  WISCONSIN ADMINISTRATIVE CODE

Unofficial Text (See Printed Volume). Current through date and Register shown on Title Page.

(f) A summary of the number and nature of enforcement actions, inspections, and public information and education programs.

(g) Identification of water quality improvements or degradation.

History: Cr. Register, October, 1994, No. 466, eff. 11–1–94; CR 00–035: cr. (7m)

NR 216.08  Exemptions. The department shall have flexibility in determining application and permit requirements. When an applicant demonstrates a requirement will take more time to complete, is not practicable or applicable, or the information is not necessary for the permit, the department may give an exemption to exclude or modify the following:

(1) DESIGNATED MUNICIPALITIES. A petition designating additional municipalities for permitting required under s. NR 216.05 (4).

(2) INDUSTRIAL INVENTORY. An inventory of each industrial discharger required under s. NR 216.06 (4).

(3) DISCHARGE CHARACTERIZATION. Characterization data required under s. NR 216.06 (5).

(4) POLLUTANT LOADINGS. Calculation of event mean concentrations and pollutant loadings required under s. NR 216.07 (4).

(5) MONITORING. Monitoring programs for storm water data collection under s. NR 216.07 (5).

(6) SAMPLING. Sampling procedures for storm water characterization under s. NR 216.07 (6).

(7) STORM WATER MANAGEMENT PROGRAM. Management programs required under s. NR 216.07 (7).

History: Cr. Register, October, 1994, No. 466, eff. 11–1–94.

NR 216.09  Permit fees. A storm water permit fee shall be paid annually by each permittee under this subchapter, or by permittees whose WPDES permit incorporates storm water management requirements under this subchapter. Permit fees are due by June 30th each year. The fees shall be assessed according to the following schedule:

(1) $10,000 for permits serving populations of 100,000 or more.

(2) $5,000 for permits serving populations less than 100,000.

(3) $1,000 for state and federal permits.

Note: The permit fee for a group permit or regional authority permit can be shared between the co-permittees by a method determined to be equitable by the co-permittees. For example, a group permit representing 10 co-permittees with a total population of 200,000, could divide the $10,000 fee 10 ways proportionally based on the ratio of each co-permittee’s population to the total population.

History: Cr. Register, October, 1994, No. 466, eff. 11–1–94.

NR 216.10  Permit reissuance. Permits shall be issued for a term of no more than 5 years. Application for reissuance of a permit shall be filed at least 180 days prior to the expiration date of the permit. If the permit is not reissued by the time the existing permit expires, the existing permit remains in effect. The following information shall be submitted as the reissuance application:

(1) APPLICABILITY. Proposed modifications to permit applicability including the permitted area, co-permittees and storm sewer system map.

(2) MONITORING PROGRAM. Proposed modifications to the storm water monitoring program for the term of the next permit.

(3) MANAGEMENT PROGRAM. Proposed modifications to the storm water management program for the term of the next permit.

(4) OTHER. Any other information pertinent to permit reissuance to update the permit.

History: Cr. Register, October, 1994, No. 466, eff. 11–1–94.

NR 216.11  Trading. If watershed planning occurs in Wisconsin which allows the trading of pollutant discharge loadings, this trading process can be used to meet the substantive requirements of the storm water discharge permit program. Municipalities shall be allowed to demonstrate compliance with the requirements of this subchapter by meeting the requirements of an enforceable watershed management plan approved by the department. Municipalities may be allowed to discharge a quantity or quality of storm water which, taken alone, does not assure attainment and maintenance of water quality standards, if the receiving water is part of a watershed management unit for which an enforceable management plan has been approved by the department. Implementation of storm water management practices recommended in department approved watershed plans may constitute compliance with this chapter and issuance of a storm water permit may be unnecessary.

History: Cr. Register, October, 1994, No. 466, eff. 11–1–94.

Subchapter II — Industrial Storm Water Discharge Permits

NR 216.20  Purpose. The purpose of this subchapter is to:

(1) PERMITTING CRITERIA. Establish the criteria for identifying non-construction related storm water discharges associated with industrial activity for which permits are required under s. 283.33 (1) (a) and (d), Stats.;

(2) APPLICATION REQUIREMENTS. Establish the requirements for filing applications for storm water discharge permits for non-construction related activities defined in s. 283.33 (1) (a) and (d), Stats.;

(3) PERMITS. Establish the requirements and conditions for storm water individual and general permits for discharges associated with industrial activity; and

(4) PRIORITY. Establish a system for prioritizing the issuance of permits based on the relative impact of the discharges on water quality.

History: Cr. Register, October, 1994, No. 466, eff. 11–1–94.

NR 216.21  Applicability and exclusions. (1) POINT SOURCES. This subchapter is applicable to point sources which discharge storm water associated with industrial activity to the waters of the state, either directly or via a separate storm sewer system.

(2) CATEGORIES. This subchapter is applicable to discharges originating from the industrial facilities belonging to categories identified in pars. (a) to (c).

(a) Tier 1 categories:

1. Heavy manufacturers defined by their primary Standard Industrial Classification (SIC) Code, which represents the primary income-producing activity at the facility, listed in Table 1:

Table 1

<table>
<thead>
<tr>
<th>SIC</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>–24</td>
<td>Lumber &amp; Wood Products</td>
</tr>
<tr>
<td>–26</td>
<td>Paper &amp; Allied Products</td>
</tr>
<tr>
<td>–28</td>
<td>Chemicals &amp; Allied Products</td>
</tr>
<tr>
<td>–29</td>
<td>Petroleum Refining &amp; Related Industries</td>
</tr>
<tr>
<td>–311</td>
<td>Leather Tanning &amp; Finishing</td>
</tr>
<tr>
<td>–32</td>
<td>Stone, Clay, Glass &amp; Concrete Products</td>
</tr>
<tr>
<td>–33</td>
<td>Primary Metal Industries</td>
</tr>
<tr>
<td>–3441</td>
<td>Fabricated Structural Metal</td>
</tr>
<tr>
<td>–373</td>
<td>Ship &amp; Boat Bldg. &amp; Repair</td>
</tr>
</tbody>
</table>

Note: Facilities in SIC Codes 2344, 265, 267, 283, 285, 2951, 323, 3271, 3272 and 3273 are included in s. NR 216.21 (2) (b).

2. Facilities involved in the recycling of materials such as metal scrap yards, battery reclaimers, salvage yards and automobile junk yards, including but not limited to those classified in SIC Codes 5015 and 5093.

3. Facilities with bulk storage piles for coal, metallic and non-metallic minerals and ores, and scrap not otherwise covered under
this subchapter, such as those associated with freight transportation, SIC Code 44, and wholesale trade, SIC Code 5052.

(b) Tier 2 categories:
1. Manufacturing facilities defined by Table 2, not to include their access roads and rail lines, but only if contaminated storm water results from the operation of these facilities:

<table>
<thead>
<tr>
<th>SIC</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>–20</td>
<td>Food &amp; Kindred Products</td>
</tr>
<tr>
<td>–21</td>
<td>Tobacco Products</td>
</tr>
<tr>
<td>–22</td>
<td>Textile Mill Products</td>
</tr>
<tr>
<td>–23</td>
<td>Apparel &amp; Other Textile Products</td>
</tr>
<tr>
<td>–2344</td>
<td>Wood Kitchen Cabinets</td>
</tr>
<tr>
<td>–25</td>
<td>Furniture &amp; Fixtures</td>
</tr>
<tr>
<td>–265</td>
<td>Paperboard Containers &amp; Boxes</td>
</tr>
<tr>
<td>–267</td>
<td>Misc. Converted Paper Products</td>
</tr>
<tr>
<td>–27</td>
<td>Printing, Publishing, &amp; Allied Industries</td>
</tr>
<tr>
<td>–283</td>
<td>Drugs</td>
</tr>
<tr>
<td>–285</td>
<td>Paints &amp; Allied Products</td>
</tr>
<tr>
<td>–30</td>
<td>Rubber &amp; Misc. Plastics Products</td>
</tr>
<tr>
<td>–31</td>
<td>Leather &amp; Leather Products</td>
</tr>
<tr>
<td>–323</td>
<td>Products of Purchased Glass</td>
</tr>
<tr>
<td>–34</td>
<td>Fabricated Metal Products</td>
</tr>
<tr>
<td>–35</td>
<td>Industrial &amp; Commercial Machinery &amp; Computer Equipment</td>
</tr>
<tr>
<td>–36</td>
<td>Electronic &amp; Other Electrical Equipment &amp; Components</td>
</tr>
<tr>
<td>–37</td>
<td>Transportation Equipment</td>
</tr>
<tr>
<td>–38</td>
<td>Instruments &amp; Related Products</td>
</tr>
<tr>
<td>–39</td>
<td>Misc. Manufacturing Industries</td>
</tr>
<tr>
<td>–4221</td>
<td>Farm Product Warehousing &amp; Storage</td>
</tr>
<tr>
<td>–4222</td>
<td>Refrigerated Warehousing &amp; Storage</td>
</tr>
<tr>
<td>–4225</td>
<td>General Warehousing &amp; Storage</td>
</tr>
</tbody>
</table>

Note: Facilities in SIC Codes 311, 3441 and 373 are included in s. NR 216.21 (2) (a).1.

2. Transportation facilities defined by Table 3 that have vehicle maintenance shops, equipment cleaning operations or airport de–icing operations. This subchapter only applies to those portions of these facilities that are either involved in vehicle maintenance including rehabilitation, mechanical repairs, painting, fueling, lubrication and associated parking areas, or involved in cleaning operations or de–icing operations, or that are listed as source areas under s. NR 216.27 (3) (e):

<table>
<thead>
<tr>
<th>SIC</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>–40</td>
<td>Railroad Transportation</td>
</tr>
<tr>
<td>–41</td>
<td>Local &amp; Interurban Passenger Transit</td>
</tr>
<tr>
<td>–42</td>
<td>Trucking &amp; Warehousing</td>
</tr>
<tr>
<td>–43</td>
<td>U.S. Postal Service</td>
</tr>
<tr>
<td>–44</td>
<td>Water Transportation</td>
</tr>
<tr>
<td>–45</td>
<td>Transportation By Air</td>
</tr>
<tr>
<td>–5171</td>
<td>Petroleum Bulk Stations &amp; Terminals</td>
</tr>
</tbody>
</table>

Note: Facilities in SIC Codes 4221–4225 are included in s. NR 216.21 (2) (b) 1.

3. Facilities defined by Table 4, including active and inactive mining operations and oil and gas exploration, production, processing or treatment operations or transmission facilities. This subchapter only applies where storm water runoff has come into contact with any overburden, raw material, intermediate product, finished product, by–product or waste material.

<table>
<thead>
<tr>
<th>Tier 2 Mining, Oil and Gas Operations</th>
</tr>
</thead>
<tbody>
<tr>
<td>SIC</td>
</tr>
<tr>
<td>–10</td>
</tr>
<tr>
<td>–12</td>
</tr>
<tr>
<td>–13</td>
</tr>
<tr>
<td>–14</td>
</tr>
</tbody>
</table>

This subchapter does not apply to non–coal mining operations which have been released from applicable state or federal reclamation requirements after December 17, 1990; nor to coal mining operations released from the performance bond issued to the facility by the appropriate surface mining control and reclamation act authority under 30 USC 1201 et seq. and 16 USC 470 et seq. Production, processing or treatment operations or transmission facilities associated with oil and gas extraction are included only if there has been a discharge of storm water after November 16, 1987 containing a quantity of a pollutant reportable pursuant to 40 CFR 110.64, CFR 117.21 or 40 CFR 302.6, or if a storm water discharge contributed to a violation of a water quality standard.

4. Facilities subject to storm water effluent limitation guidelines, new or existing source performance standards or toxic pollutant effluent standards under 33 USC 1251, 1311, 1314 (b) and (c), 1316 (b) and (c), 1317 (b) and (c), 1326 (c), except Table 2 facilities, in this subparagraph, that do not discharge contaminated storm water.

5. Treatment works treating domestic sewage or any other sewage sludge or wastewater treatment device or system, used in the storage, treatment, recycling and reclamation of municipal or domestic sewage, including lands dedicated to the disposal of sewage sludge that are located within the confines of the facility, with a design flow of one million gallons per day or more, or required to have an approved pretreatment program. Not included are farm lands, domestic gardens or lands used for sludge management where sludge is beneficially reused and which are not physically located in the confines of the facility, or areas that are in compliance with 33 USC 1345.

6. Hazardous waste treatment, storage and disposal facilities, including those operating under interim status or a permit under subtitle C of the resource conservation and recovery act (RCRA) under 42 USC 6921 et seq.

7. Landfills, land application sites, and open dumps that receive or have received any industrial waste from any of the facilities identified in this section, including those subject to regulation under subtitle D of RCRA, under 42 USC 6901 et seq.

8. All steam electric power generating facilities, including coal handling sites but not including off–site transformer or electric substations.

9. Facilities described in SIC code 2951 for asphalt paving mixes and block, and facilities described in SIC codes 3271, 3272 and 3273 for cement products.

10. Facilities previously classified as tier one dischargers which are subsequently classified as tier 2 under s. NR 216.23 (6) or (9).

11. Discharges determined by the department to be significant contributors of pollutants to waters of the state.

(c) 1. Tier 3 categories shall include facilities that have certified to the department that they have no discharges of contaminated storm water and for which the department has concurred with the certification.

2. Facilities that have certified to the department, and the department concurs with the certification, that their storm water discharges contain only earthen materials from non–metallic mining operations, and that this stormwater is discharged to onsite seepage basins that effectively remove the contaminants prior to discharge to the groundwater.

Register, September, 2002, No. 561
(3) OTHER ENVIRONMENTAL PROGRAMS. If one of the following conditions is met, the department may deem that a facility is in compliance with coverage required under s. 283.33, Stats., and will not be required to hold a separate permit under s. 283.33, Stats.:

(a) The storm water discharge is in compliance with a department permit or approval which includes storm water control requirements that are at least as stringent as regulations under this subchapter; or

(b) The storm water discharge is in compliance with a memorandum of understanding with another agency of the state that implements regulations including storm water control requirements that are at least as stringent as regulations under this subchapter.

(4) EXCLUSIONS. This subchapter does not apply to any of the following:

(a) Diffused surface drainage or agricultural storm water discharges.

(b) Non–storm water discharges to the outfall covered under an individual or general WPDES permit, including contact cooling water, non–contact cooling water, other process wastewaters, sewage, spills or leaks.

(c) Non–storm water discharges to the outfall for which coverage under an individual or general WPDES permit is not necessary, including water line flushing, landscape irrigation, diverted stream flows, uncontaminated groundwater infiltration, uncontaminated pumped groundwater, discharges from potable water sources, foundation drains, air conditioning condensation, irrigation water, lawn watering, individual residential car washing, flows from riparian habitats and wetlands, dechlorinated swimming pool water, street wash water, and fire fighting.

(d) Inactive, closed or capped landfills which have no potential for contamination of storm water. The department shall make a determination of contamination potential on a case–by–case basis.

(e) Remedial action discharges or discharges authorized by a general permit for discharging contaminated or uncontaminated groundwater.

(f) Discharges of hazardous materials that are required to be reported under ch. NR 706.

(g) Areas located on plant lands which are segregated from the industrial activities of the plant, such as office buildings and accompanying parking lots, if the drainage from the segregated areas is not mixed with contaminated storm water drainage.

(h) Storm water discharges from industrial activities owned or operated by municipalities which are not required to apply for a municipal storm water discharge permit, not including airports, power plants or uncontrolled sanitary landfills.

(i) Storm water discharges into a municipal combined sewer system.

(5) EXEMPTION. Storm water discharges at facilities that are regulated by permits containing storm water effluent limitations may be exempt from the need for coverage under a general storm water permit.

History: Cr. Register, October, 1994, No. 466, eff. 11–1–94; CR 00–035: am. (2) (b) 10. and (c) Register September 2002 No. 561, eff. 10–1–02.

NR 216.22 Certification program. (1) VOLUNTARY. The department may establish or approve a voluntary certification program.

(2) PURPOSE. The purpose of the program is to provide storm water pollution prevention training for persons designated by permitted facilities to act as the storm water pollution prevention managers. Certification is intended to provide storm water pollution prevention managers with a minimum level of competence. The department may not require facilities to have certified storm water pollution prevention managers.

History: Cr. Register, October, 1994, No. 466, eff. 11–1–94.

NR 216.23 Permit coverage. (1) STATEWIDE TIER ONE TYPE GENERAL PERMIT. The department may issue a statewide general permit to cover all tier one type storm water discharges where the discharges are not covered by an industry–specific general permit issued pursuant to s. NR 216.24, or by an individual permit issued pursuant to s. 283.31 or 283.33, Stats.

(2) STATEWIDE TIER TWO TYPE GENERAL PERMIT. The department may issue a statewide general permit to cover all tier two type storm water discharges where the discharges are not covered by an industry–specific general permit issued pursuant to s. NR 216.24, or by an individual permit issued pursuant to s. 283.31 or 283.33, Stats.

(3) STATEWIDE TIER THREE TYPE GENERAL PERMIT. The department may issue a statewide general permit to cover all tier three type storm water discharges where the discharges are not covered by an industry–specific general permit issued pursuant to s. NR 216.24, or by an individual permit issued pursuant to s. 283.31 or 283.33, Stats.

(4) APPLICABILITY OF PERMIT COVERAGE. Conditions of an individual permit issued under s. 283.31 or 283.33, Stats., may not be more stringent than similar conditions in general storm water permits and, specifically, individual permittees shall have the right to develop and implement their own SWPPP and BMPs in accordance with s. NR 216.27.

(5) MONITORING AND REPORTING REQUIREMENTS. The owner or operator of a facility subject to a:

(a) Tier one general permit issued under this subchapter or an individual permit issued under s. 283.31, Stats., containing tier one general permit requirements, or individual storm water permits issued under s. 283.33 (1) (a) and (d), Stats., shall be required to submit to the department annual chemical specific monitoring results for the first 2 years following SWPPP implementation and annual facility site compliance inspection (AFSCI) reports under s. NR 216.28 (2).

(b) Tier two general permit or an individual permit issued under s. 283.31 or 283.33, Stats., containing tier 2 general permit requirements shall be required by the general or individual permit to maintain the annual facility site compliance inspection reports on the site of the discharge. Facilities subject to this paragraph may be subject to fewer conditions and requirements than facilities covered by a tier one general permit and may not be required by the general permit to undertake chemical specific monitoring.

(c) Tier three general permit shall be required by the general permit to maintain the annual reports required under s. NR 216.28 (6) on the site of the discharge. Facilities subject to this paragraph are not required to develop or implement a SWPPP, conduct chemical specific monitoring or conduct annual site compliance and quarterly inspections.

(6) CHANGING COVERAGE TO TIER 2. A permittee covered by a tier one general permit issued under this section, or a permit issued under s. NR 216.24, may request that the department consider converting its coverage to a tier 2 category general storm water permit if all of the following occur:

(a) The process or operation has changed so that no storm water is contaminated with any of the pollutants identified in s. NR 216.27 (3) (i);

(b) The permittee certifies that there is no unpermitted non–storm water discharge in the outfall; and

(c) The permittee has completed a minimum of 3 years of industrial activity under a SWPPP, with no confirmed problems identified by public complaint or the AFSCI reports required under s. NR 216.28 (2).

(7) CHANGING COVERAGE TO TIER 3. A facility covered by a tier one or 2 general permit or a general permit issued under s. NR 216.24 may request at the time of permit reissuance that the department convert its coverage to a tier 3 general permit under s. NR 216.21 (2) (c).
(8) **Effluent Limitations.** A facility covered by an individual storm water permit under s. 283.33 (1) (d), Stats., may be subject to an effluent limitation for a point source discharge, as defined in s. 283.01 (6), Stats., for storm water discharge.

(9) **Movement to Tier 2.** The department may make the determination that a facility or an industrial activity covered under a tier 1 general permit has no significant exposure of pollutants listed under s. NR 216.27 (3) (i) and is more appropriately covered by a tier 2 general permit.

(10) **Movement to Tier One.** In the event that the department makes the determination that a facility or an industrial activity, defined by the 4 digit SIC code, covered under a tier 2 permit may be discharging storm water contaminated with pollutants listed in s. NR 216.27 (3) (i), the department may determine that the facility or activity is more appropriately covered by a tier one general permit.

(11) **Discontinuing Tier 3 Coverage.** The department may revoke coverage of a tier 3 permitted facility if the department determines that the facility is not in compliance with s. NR 216.21 (2) (c). In this case, the permittee shall reapply for tier one or tier 2 general permit coverage.

**NR 216.24 Industry-specific general permits.**

(1) **Industry-specific permits.** In addition to statewide general permits issued under s. NR 216.23 (1) to (3), the department may issue industry-specific general permits to one or more categories of industries identified in s. NR 216.21 (2).

(2) **Requirements.** Industry-specific storm water general permits shall differ from the statewide storm water general permits by factoring in characteristics common to the industry. The primary distinguishing characteristic shall be the requirements of the SWPPPs. Industry-specific storm water permits may contain all of the requirements of a statewide tier one general permit.

**NR 216.25 Movement out of a storm water general permit.**

(1) **Applicability.** The department may make the determination that a facility covered under a tier 2 or tier 3 general permit no longer needs to be covered under a storm water general permit if all of the following conditions are met:

- The industry is described in s. NR 216.21 (2) (b) 1.; and
- There are no discharges of storm water that has come into contact with material handling equipment or activities, raw materials, intermediate products, final products, waste materials, byproducts or industrial machinery in any of the source areas listed in s. NR 216.27 (3) (c); and
- The permit holder certifies that there are no unpermitted non-storm discharges in the outfall.

(2) **Renewed Coverage.** Any facility described in s. NR 216.21 (2) (b) 1. that has been dropped from general permit coverage by the department shall reapply for a storm water general permit whenever there are changes in activities or site drainage patterns which could result in contamination of storm water.

(3) **Individual Permit Coverage.** If one or more of the following conditions are met, the department may make the determination that a storm water general permit holder is more appropriately covered by an individual WPDES permit under s. 283.31 or 283.33, Stats.:

- The storm water discharge is a significant source of pollution and more appropriately regulated by an individual WPDES storm water discharge permit; or
- The storm water discharger is not in compliance with the terms and conditions of this chapter, or the general storm water permit issued under this subchapter; or
- Effluent limitations or standards are promulgated for a storm water discharge.

(4) **Petition.** Any person may submit a written request to the department that it take action under this section.

(5) **Revocation of General Permit.** If the department determines that a general permit holder is more appropriately covered by an individual WPDES permit, the department shall explain its decision in writing to the permittee prior to revoking the general permit and issuing an individual WPDES permit.

(6) **Non-storm Water Discharges.** If a permittee identifies an unpermitted non-storm water discharge into their outfall and is unable to remove the discharge, the permittee shall notify the department and apply for a permit, under s. 283.31 or 283.35, Stats.

(7) **Notice of Termination.** If a facility no longer claims coverage under any general or individual permit for the discharge of storm water from industrial activity under this subchapter, the permittee shall submit a signed notice of termination to the department.

- A notice of termination shall be submitted on forms supplied by the department. Data submitted in the notice of termination forms shall be used as a basis for terminating coverage under this subchapter.
- Notice of termination forms may be obtained from the district offices of the department or by writing to the Department of Natural Resources, WPDES Permit Section, Box 7921, Madison, WI 53707–7921.
- Notice of termination forms shall be filed with the Department of Natural Resources, WPDES Permit Section, Box 7921, Madison, WI 53707–7921.
- The notice of termination form shall be signed in accordance with the signature requirements in s. NR 216.26 (7).
- The notice of termination form shall be effective upon submittal of written confirmation by the department to the permittee.

**NR 216.26 Application requirements.**

(1) **Applicability.** Facility types listed in s. NR 216.21 (2), except for Table 2 facilities that discharge no contaminated storm water, shall apply for a storm water discharge permit. Application for a storm water discharge permit shall be made within the time frames specified in sub. (2), using department forms specified in sub. (3).

(2) **Date of Application.** Persons proposing to discharge storm water shall submit to the department a complete storm water permit application at least 6 months prior to the commencement of activities at the site.

(3) **Forms.** Applications forms can be obtained from the following address: Department of Natural Resources, WPDES Permit Section, Box 7921, Madison, WI 53707–7921. The following application forms are acceptable:

- Prior to November 1, 1994:
  1. Group storm water permit application which has been submitted to the United States environmental protection agency and a duplicate copy sent to the department.
  2. DNR Form 3400–151, DNR Form 3400–152 or DNR Form 3400–163 which the applicant has completed and submitted to the department for consideration. The applicant shall also submit a copy of this completed form to the owner of any separate municipal storm sewer receiving the facility’s storm water discharge if the municipal separate storm sewer serves an area for which a WPDES municipal storm water discharge permit is required.
- Following November 1, 1994, DNR Form 3400–151 and DNR Form 3400–152 may not be used as application for a permit to discharge storm water associated with industrial activity.

(4) **Permit Type Criteria.** The department shall evaluate the information submitted on the application form to determine whether a facility is covered under a storm water general permit...
or an individual permit under s. 283.31 or 283.33, Stats.; or whether coverage under a permit should be denied. The criteria for the department’s determination of coverage under a storm water general permit, coverage under an individual WPDES permit, or denial of coverage, are specified in pars. (a), (b) and (c), respectively. The criteria for determination of tier type are specified in par. (d). All permit issuances shall be accompanied by a cover letter justifying the permit type or reason for denial of coverage. The cover letter shall also indicate the date upon which coverage under the permit becomes effective at the facility.

(a) The basis for determining coverage under a storm water general permit shall be a comparison of application information on SIC code, industrial activity and the discharge of contaminated storm water, to the categories identified in s. NR 216.21 (2).

(b) If a facility has an existing WPDES permit, the department may choose to regulate storm water discharges under that permit.

(c) If the SIC code or description of industrial activity stated on the application is any of the categories defined in Table 2 of s. NR 216.21 (2), and the application states that the facility discharges a no contaminated storm water, the department shall determine that no permit coverage is required under this subchapter.

(d) The basis for determining the tier type of general permit shall be a comparison of application information on SIC code, industrial activity and the discharge of contaminated storm water, to the descriptions or categories identified in s. NR 216.21 (2) (a) to (c).

(5) ADDITIONAL INFORMATION. The department may require more information than what is provided in the completed application in order to make a determination if coverage under a general permit is appropriate. The applicant shall provide the additional information requested by the department within 30 days from receipt of notification by the department.

(6) FORMS. Permit application forms shall be filed with the Department of Natural Resources, WPDES Permit Section, Box 7921, Madison, WI 53707–7921.

(7) SIGNATURE. The permit application form shall be signed as follows:

(a) In the case of a corporation, by a principal executive officer of at least the level of vice-president, or by an authorized representative responsible for the overall operation of the site for which a permit is sought;

(b) In the case of a partnership, by a general partner;

(c) In the case of a sole proprietorship, by the proprietor.

(8) DEFICIENT APPLICATION. The department may require an applicant to submit data necessary to complete any deficient permit application or may require the applicant to submit a complete new permit application where the deficiencies are extensive or the appropriate form has not been used. The department may take enforcement action against anyone who fails to submit a timely application or to provide requested information in a timely manner.

(9) REAPPLICATION. At such time that a storm water general permit is reissued, the department may require a covered facility to submit a complete new permit application in order to determine continued applicability of the permit.

(10) LATE APPLICATION. An operator of a storm water discharge associated with industrial activity is not precluded from submitting an application for an existing facility after October 1, 1992. In such instance, the department may bring enforcement actions.

NR 216.27 Storm water pollution prevention plan.

(1) APPLICABILITY. Any person covered by a storm water general or individual permit, excluding coverage described in s. NR 216.21 (2) (c), shall prepare and implement a SWPPP.

(2) INCORPORATION BY REFERENCE. When plans, the permit application or activities developed and conducted in compliance with this chapter or other federal, state or local regulatory programs meet the requirements of this section, the plans or activities may be incorporated into the SWPPP by reference to avoid unnecessary duplication of regulatory requirements.

(3) PLAN REQUIREMENTS. The SWPPP shall contain, at a minimum, the following items and provisions:

(a) The SWPPP shall identify by job title the specific individual that has responsibility for all aspects of SWPPP development and implementation. The individual acting in that job title shall have the responsibility to develop, evaluate, maintain and revise the SWPPP; carry out the specific management actions identified in the SWPPP, including maintenance practices; conduct or provide for monitoring activities; prepare and submit reports; and serve as facility contact for the department.

(b) The SWPPP shall contain a short summary of the major activities conducted at various locations throughout the facility.

(c) The SWPPP shall include a drainage base map depicting how storm water drains on, through and from the facility to either groundwater, surface water or wetlands. The drainage base map shall show the facility property; a depiction of the storm drainage collection and disposal system including all known surface and subsurface conveyances, with the conveyances named; any secondary containment structures; the location of all outfalls, including outfalls recognized as permitted outfalls under another WPDES permit, numbered for reference, that discharge channelized flow to surface water, ground water or wetlands; the drainage area boundary for each outfall; the surface area in acres draining to each outfall, including the percentage that is impervious such as paved, roofed or highly compacted soil and the percentage that is pervious such as grassy areas and woods; existing structural storm water controls; the name and location of receiving waters. The location of activities and materials that have the potential to contaminate storm water shall also be depicted on the drainage base map.

(d) The SWPPP shall summarize any results of available storm water sampling data or other observations that could be useful in characterizing the quality of storm water discharges or identifying sources of storm water contamination. Available data that characterizes the quality of storm drainage discharges under dry weather flow conditions shall also be included, except when the data has or will be reported to the department under another WPDES permit.

(e) The SWPPP shall identify all potential source areas of storm water contamination including but not limited to:

1. Outdoor manufacturing areas;
2. Rooftops contaminated by industrial activity;
3. Industrial plant yards;
4. Storage and maintenance areas for material handling equipment;
5. Immediate access roads and rail lines;
6. Material handling sites (storage, loading, unloading, transportation, or conveyance of any raw material, finished product, intermediate product, by–product or waste);
7. Storage areas (including tank farms) for raw materials, finished and intermediate products;
8. Disposal or application of wastewater;
9. Areas containing residual pollutants from past industrial activity;
10. Areas of significant soil erosion;
11. Refuse sites;
12. Vehicle maintenance and cleaning areas;
13. Shipping and receiving areas;
14. Manufacturing buildings;
15. Residual treatment, storage and disposal sites; and
16. Any other areas capable of contaminating storm water runoff.

(f) The SWPPP shall identify any significant polluting materials or activities associated with the storm water contamination from source areas identified in par. (e). When possible, specific pollutants likely to be present in storm water as a result of contact with specific materials shall also be listed.

(g) The SWPPP shall identify all known contaminated and uncontaminated sources of non–storm water discharges to the storm sewer system and indicate which are covered by WPDES permits. The SWPPP shall contain the results of the non–storm water discharge monitoring required by s. NR 216.28. If monitoring is not feasible due to the lack of suitable access to an appropriate monitoring location, the SWPPP shall include a statement that the monitoring could not be conducted and an explanation of the reasons why.

(h) The SWPPP shall rely to the maximum extent practicable, and to the extent it is cost effective, on the use of source area control best management practices that are designed to prevent storm water from becoming contaminated at the site. Source area control best management practices that are either proposed or in place at the facility shall be indicated on the facility drainage base map. The SWPPP shall provide for the use of the following applicable source area control best management practices:

1. Practices to control significant soil erosion;
2. Good house–keeping measures, preventive maintenance measures, visual inspections, spill prevention and response measures and employee training and awareness;
3. Covering or enclosing salt storage piles so that neither precipitation nor storm water runoff can come into contact with the stored salt; or, for facilities that use brine and have salt storage piles on impervious curved surfaces, a means of diverting contaminated storm water to a brine treatment system for process use;
4. Use of a combination of precipitation control, containment, drainage controls or diversions to control section 313 water priority chemicals potentially discharged through the action of storm water runoff, leaching or wind.

(hm) The SWPPP shall meet the performance standards in s. NR 151.12 for those areas that are described in s. NR 151.12 (2).

(i) The SWPPP shall identify storm water pollutants that are likely to contaminate storm water discharges to waters of the state following implementation of source area control best management practices. Past sampling data collected at the facility or at sufficiently similar outfalls at other facilities may be used in making this determination at a minimum, the following pollutants shall be considered for their potential to contaminate storm water:

1. Any pollutant for which an effluent limitation is contained in any discharge permit issued to the facility by the department;
2. Any pollutant contained in a categorical effluent limitation or pre–treatment standard to which the facility is subject;
3. Any section 313 water priority chemical for which the facility has reporting requirements and which has the potential for contaminating storm water;
4. Any other toxic or hazardous pollutants from present or past activity at the site that remain in contact with precipitation or storm water and which could be discharged to the waters of the state and which are not regulated by another environmental program;
5. Any of the following parameters which might be present in significant concentrations: oil and grease; pH; total suspended solids; 5–day biological oxygen demand; chemical oxygen demand.

(j) When source area control best management practices are not feasible, not cost effective or are inadequate to control storm water pollution, or when the department determines source area control best management practices are inadequate to achieve a water quality standard, the SWPPP shall prescribe appropriate storm water treatment practices as needed to reduce the pollutants in contaminated storm water prior to discharge to waters of the state. Proposed or existing storm water treatment practices shall be shown on the facility drainage basin map. The SWPPP shall provide for the following types of storm water treatment practices:

1. Storm water significantly contaminated with petroleum products shall be treated for oil and grease removal by an adequately sized, designed and functioning wastewater treatment device. Coverage under a separate individual or general permit is required for discharges of storm water from oil/water treatment devices.
2. Point source discharges of storm water contaminated by significant amounts of sediment from eroding areas, including bare earth industrial lots and ongoing industrial processes, shall be treated by filtration or sedimentation type practices.

(k) The SWPPP shall include provisions for complying with the monitoring requirements specified in s. NR 216.28. The SWPPP shall include a checklist of inspections to be made during the annual facility site inspection described in s. NR 216.28 (2). The SWPPP shall also identify for each outfall the type of monitoring that will be conducted, such as non–storm discharge monitoring; storm water discharge quality inspections; or chemical pollutant monitoring for facilities covered under a tier one permit. The following are requirements for facilities covered under a tier one permit:

1. A list of chemical parameters proposed for testing at each outfall shall be included along with the analytic sample testing procedures from ch. NR 219 that will be used to determine pollutant concentrations.
2. The list of chemical parameters shall include each of the residual pollutants identified in par. (i), or an explanation of why the pollutant should not be included in the chemical testing.

(L) The SWPPP shall include an implementation schedule that is consistent with the compliance schedule in the storm water general permit.

(m) The SWPPP shall be signed in accordance with s. NR 216.26 (7) prior to submittal to the department.

(4) PLAN AMENDMENT. A permittee shall amend a SWPPP if any of the following circumstances occur:

(a) When expansion, production increases, process modifications, changes in material handling or storage or other activities are planned which will result in significant increases in the exposure of pollutants to storm water discharged either to waters of the state or to storm water treatment devices. The amendment shall contain a description of the new activities that contribute to the increased pollutant loading, planned source control activities that will be used to control pollutant loads, an estimate of the new or increased discharge of pollutants following treatment and, when appropriate, a description of the effect of the new or increased discharge on existing storm water treatment facilities.

(b) The facility finds through its comprehensive annual facility site compliance inspection, quarterly visual inspection of storm water quality, annual chemical storm water sampling or other means that the provisions of the SWPPP are ineffective in controlling storm water pollutants discharged to waters of the state.

(c) Upon written notice that the department finds the SWPPP to be ineffective in achieving the conditions of the storm water permit issued to the facility.

History: Cr. Register, October, 1994, No. 466, eff. 11–1–94; CR 00–035; cr. (3) (hm) Register September 2002 No. 561, eff. 10–1–02.
(a) Any monitoring shall be representative of non–storm water discharges from the facility.

(b) Either of the following monitoring procedures are acceptable:

1. End of pipe screening shall consist of visual observations made at least twice per year at each outfall of the storm sewer collection system. Observations shall be made at times when non–storm water discharges from the facility are considered most likely to occur. Instances of dry weather flow, stains, sludges, color, odor or other indications of a non–storm water discharge shall be recorded; or

2. A detailed testing of the storm sewer collection system may be performed. Testing methods include dye testing, smoke testing or video camera observation. Should the permittee use detailed testing as an alternative, the department shall require a re–test after 5 years or a lesser period as deemed necessary by the department.

(c) Tier one and tier 2 facilities shall include the results of the non–storm water evaluations in their SWPPP. Tier 3 facilities shall maintain the results of their non–storm water evaluations on site. Information reported shall include: date of testing, test method, outfall location, testing results and potential significant sources of non–storm water discovered through testing. The department may provide a standard form for recording the information.

(d) Any permittee, excluding tier 3 permittees, unable to evaluate outfalls for non–storm water discharges shall sign a statement certifying that this requirement could not be complied with, and include a copy of the statement in the SWPPP. In this case, the entire SWPPP shall be submitted to the department.

(e) Any tier 3 permittee unable to evaluate outfalls for non–storm water discharges shall sign a statement certifying that this requirement could not be complied with, and shall submit the statement to the department.

(2) Annual Site Inspection. Facilities, except facilities covered under a tier 3 general permit, shall perform and document the results of an annual facility site compliance inspection (AFSCI). The inspection shall be adequate to verify that the site drainage conditions and potential pollution sources identified in the SWPPP remain accurate, and that the best management practices prescribed in the SWPPP are being implemented, are being properly operated and are being adequately maintained. Information reported shall include: the inspection date, inspection personnel, scope of the inspection, major observations and revisions noted in the SWPPP.

(3) Quarterly Visual Inspection. Facilities, except facilities covered under a tier 3 general permit, shall perform and document quarterly visual inspections of storm water discharge quality at each outfall. Inspections shall be conducted within the first 30 minutes or as soon thereafter as practical, but not to exceed 60 minutes, after runoff begins discharging to the outfall. The inspections shall include any observations of color, odor, turbidity, floating solids, foam, oil sheen or other obvious indicators of storm water pollution. Information reported shall include: the inspection date, inspection personnel, visual quality of the storm water discharge and probable sources of any observed storm water contamination.

(4) Storm Water Sampling and Analysis. Unless an alternative monitoring plan is required as part of the SWPPP, facilities covered under a tier one permit shall perform annual chemical storm water sampling at each outfall for those residual pollutants listed in the permittee’s SWPPP as required by s. NR 216.27 (3) (i). The following are specific requirements for chemical storm water monitoring:

(a) The list of pollutants to be tested in the outfall shall be identified in the facility monitoring plan portion of the SWPPP.

(b) When a facility has more than one outfall which have storm water discharges substantially similar based on consideration of industrial activity, significant materials, and management, one outfall may be selected to represent the group of similar outfalls provided that this strategy has been clearly stated in the facility monitoring plan and that the representative outfall is clearly identified as such on the drainage base map. No more than 5 outfalls with discharges representative of storm water discharged from the facility need to be sampled. A permittee may voluntarily collect and analyze additional samples, and may at the permittee’s discretion submit this information to the department.

(c) After review of the facility monitoring plan portion of the SWPPP, the department may add additional pollutants to the monitoring list if it has cause to do so based on a reasonable probability that the pollutants will be present in storm water discharges from the facility. The department may also remove pollutants from the monitoring list if it determines that continued monitoring for the pollutant serves no further purpose. Chemical monitoring may be discontinued after submitting the second annual facility site compliance inspection report.

(d) Storm water samples shall be collected during the period of March through November from rainfall events that produce greater than 0.1 inch of rainfall and occur at least 72 hours after a previous rainfall of 0.1 inch or greater.

(e) Storm water samples shall be representative of either:

1. The “first flush” of storm water runoff from the outfall. Composite samples are required for all pollutants except those for which analytic techniques require grab samples. The composite sample shall be collected during the first 30 minutes of runoff. At least 3 separate samples shall be collected for compositing, and the collection of samples shall be evenly spaced throughout the sampling period, or

2. The storm water discharged from a detention pond that has greater than a 24 hour holding time for a representative storm. A grab sample is required for all pollutants. The grab sample shall be representative of the storm water discharge from the pond outfall.

(f) Monitoring samples shall be representative of the volume and nature of the monitored discharge. Analytic testing shall be in conformance with ch. NR 219, unless an alternate procedure is approved by the department prior to the initiation of sampling.

(g) For each storm water measurement or sample taken, the permittee shall record and submit the following information to the department. This information shall be included in the annual facility site compliance inspection reports described in s. NR 216.29 (2):

1. The date, exact place, method and time of sampling or measurements;

2. The individual who performed the sampling or measurements;

3. The date the analysis was performed;

4. The name of the certified laboratory which performed the analysis;

5. The analytical techniques or methods used;

6. The results of the analysis;

7. The estimated duration of the rainfall event, in hours, and the estimated total amount of precipitation falling during the rainfall event, in inches.

(5) Sampling Exceptions. The department may waive specific monitoring requirements for the following reasons:

(a) The permittee indicates that either an employee could not reasonably be present at the facility at the time of the snow–melt or runoff event, or that attempts to meet the monitoring requirement would endanger employee safety or well–being.

(b) The permittee indicates that there were no snow melt or runoff events large enough to conduct a quarterly visual inspection at an outfall.

(c) The facility is inactive or remote, such as inactive mining operations where monitoring and inspection activities are impractical or unnecessary. At a minimum, the department shall establish
NR 216.29 Compliance and reporting requirements.
(1) REQUIREMENTS. Facilities covered under s. NR 216.23 (1) and (2) shall be subject to the following requirements:
(a) Existing facilities shall develop a SWPPP and submit a SWPPP summary to the department within 12 months from the effective date of coverage under the storm water general permit.
(b) Facilities constructed on or after November 1, 1994 shall develop a SWPPP and submit a SWPPP summary to the department prior to initiating construction.
(c) The SWPPP shall conform to the requirements specified in s. NR 216.27 (3).
(d) The SWPPP shall be kept at the facility and made available to the department upon request.
(e) The SWPPP summary shall be submitted on a standardized department form, which the department shall provide with the permit.
(f) If a SWPPP summary is incomplete, the department shall notify the permitting authority, and may request to review the complete SWPPP.
(g) The SWPPP summary shall include the results of the nonstorm water discharge testing, under s. NR 216.28 (1), and shall indicate whether the SWPPP includes a storm water treatment practice. If a SWPPP includes a storm water treatment practice, the department may require the submittal of plans and specifications for review and approval pursuant to s. 281.41 (1), Stats.
(2) FIRST ANNUAL SITE INSPECTION. The first annual facility site compliance inspection shall be conducted by the permitting authority within 24 months of the effective date of coverage under the general permit. Facilities covered under a tier one permit shall submit their first inspection report to the department within 30 months of the effective date of coverage under the permit. The report shall be written on department forms, and shall contain information from the inspection, the quarterly visual inspection and the annual chemical monitoring. Facilities covered under the tier 2 permit shall keep the results of their AFSCI and quarterly visual inspection on site for department inspection. Facilities covered under a tier one permit are not required to submit inspection reports after submittal of the second inspection report, unless so directed by the department. However, these inspections and quarterly visual inspections shall still be conducted; and results shall be kept on site for department inspection.
(3) INSPECTION DATES. The first quarterly visual inspection of storm water discharge quality shall be conducted within 24 months of the effective date of coverage under the permit.
(4) SAMPLING DATES. Facilities covered under the tier one permit shall submit their first annual chemical monitoring results with their first inspection report. The monitoring results shall include all of the information specified in s. NR 216.28 (4) (g).
(5) BMP IMPLEMENTATION. Unless an alternate implementation schedule is required as part of the SWPPP, the BMPs identified in the SWPPP shall be implemented within 24 months of the effective date of coverage under the permit. Facilities constructed on or after November 1, 1994 shall implement the BMPs identified in the SWPPP within 12 months of the effective date of coverage under the permit, unless an alternate implementation schedule is required as part of the SWPPP.
(6) SWPPP AMENDMENTS. The permitting authority shall keep the SWPPP current to correct deficiencies in the original SWPPP. The permitting authority shall amend the SWPPP and notify the department in the event of any facility operational changes that could result in additional significant storm water contamination.
(7) RECORD RETENTION. Records required under this subchapter shall be retained for 5 years beyond the date that the report was made and shall be made available to the department upon request.
(8) SIGNATURE. Reports required under this subchapter shall be signed in accordance with s. NR 216.26 (1).

NR 216.41 Purpose. The purpose of this subchapter is to establish criteria defining those construction site activities that constitute discharges needing a WPDES storm water discharge permit for landowners of construction sites that require coverage under a WPDES permit for storm water discharges; and the requirements for filing a WPDES permit application for a construction site as required by s. 283.33, Stats.; to prescribe the form of the WPDES permit application pursuant to s. 283.37, Stats.; to specify the number of working days within which the department will indicate its intended action on a WPDES permit application or request for modification, pursuant to s. 227.116 (1), Stats., and to specify the storm water erosion control and management that is required at construction sites regulated under this subchapter.

NR 216.42 Applicability. (1) CONSTRUCTION SITES. Except as provided in subs. (2) to (4), a notice of intent shall be filed by any landowner who intends to create a point source discharge of storm water associated with a construction site activity to the waters of the state.
(2) AGRICULTURE. Storm water discharges from agricultural land uses, including use of land for planting, growing, cultivating and harvesting of crops for human or livestock consumption and...
pasturing or yarding of livestock, including sod farms and tree nurseries are not covered by this subchapter.

(2m) SILVICULTURE. Storm water discharges from silviculture activities, including tree nursery operations, tree harvesting road construction and maintenance, tree harvesting site preparation, tree harvesting operations, reforestation, tree thinning, prescribed burning and pest control are not covered by this subchapter. Clearing and grubbing of an area of a construction site is not considered a silviculture activity.

Note: Certain lumber, wood and paper product manufacturers may require coverage under an industrial general WPDES permit for storm water discharges pursuant to subch. II. A silviculture activity may require approval pursuant to ch. 30 or 31, Stats. or U.S. army corps of engineers section 404 permit.

(3) COMMERCIAL BUILDINGS. Storm water discharges from commercial building sites regulated by chs. Comm 61 to 65 in a manner which is in compliance with this chapter shall be deemed to hold a WPDES permit and shall be in compliance with this chapter. The department of commerce shall notify the department of projects covered under this subsection which shall constitute the notice of intent for these projects. Storm water discharges which occur after November 1, 1994 from commercial building sites prior to the adoption of the erosion control requirements in s. Comm 61.115 shall require coverage under a permit issued pursuant to this chapter.

(4) DEPARTMENT OF TRANSPORTATION PROJECTS. Storm water discharges from projects administered by the department of transportation, regulated by ch. Trans 401, and subject to the department of transportation and department of natural resources liaison cooperative agreement, if in compliance with ch. Trans 401 and the liaison cooperative agreement shall be deemed to be in compliance with s. 283.33, Stats., and the requirements of this chapter. The department of transportation shall notify the department of projects covered under this subsection which shall constitute the notice of intent for these projects.

History: Cr. Register, October, 1994, No. 466, eff. 11–1–94; corrections in (3) made under s. 13.93 (2m) (b) 7., Stats., Register, November, 1999, No. 527, CR 00-035; cr. (2m) Register September 2002 No. 561, eff. 10–1–02; correction in (3) made under s. 13.93 (2m) (b) 7., Stats., Register September 2002 No. 561.

NR 216.43 Notice of intent requirements. (1) FORMS. A notice of intent shall be submitted on forms supplied by the department. Data submitted in the notice of intent forms shall be used as the basis for conferring coverage under the general WPDES permit for storm water discharges.

(2) OBTAINING FORMS. Notice of intent forms may be obtained from the regional offices of the department or by writing to the Department of Natural Resources, Storm Water Program – WT/2, Box 7921, Madison, WI 57307–7921.

(3) REQUIRED INFORMATION. The notice of intent shall include at a minimum the following information:

(a) The name and mailing address of the construction site landowner;

(b) The name and telephone number of the contact person;

(c) The mailing address and location of the construction site for which the notification is submitted;

(d) When known, the name, address and telephone number of the general contractor;

(e) Proposed start and end dates for construction; and

(f) The following certification: "I certify under penalty of law that this document and attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person, or persons, who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. In addition, I certify that the provisions of the permit, including development and implementation of the construction site erosion control and storm water management plans, will be complied with."

(4) APPLICATION FEE. A storm water construction site application fee of $200 shall be paid to the department with the notice of intent, excluding notices filed under s. NR 216.42 (3) or (4).

(6) FILING. Notice of intent forms shall be filed with the regional office of the department in which the construction site activity is located or with the Department of Natural Resources, Storm Water Program – WT/2, Box 7921, Madison, WI 57307–7921.

Note: It is intended that when these forms are changed, input from affected individuals and parties will be sought.

(7) SIGNATURE REQUIREMENTS. The notice of intent form shall be signed as follows:

(a) In the case of a corporation, by a principal executive officer of at least the level of vice–president, or by his or her authorized representative responsible for the overall operation of the site for which a permit is sought;

(b) In the case of a partnership, by a general partner;

(c) In the case of a sole proprietorship, by the proprietor.

History: Cr. Register, October, 1994, No. 466, eff. 11–1–94; CR 00-035: am. (1), (2), (4) and (6) Register September 2002 No. 561, eff. 10–1–02.

NR 216.44 Notice of intent deadlines. Persons required to obtain coverage for storm water discharge associated with land disturbing construction activity under a general WPDES permit shall submit a completed notice of intent, via certified or registered mail, in accordance with the requirements of this chapter prior to commencing any land disturbing construction activities. Unless notified by the department to the contrary, applicants who submit a notice of intent in accordance with the provisions of this subchapter are authorized to discharge storm water from construction sites under the terms and conditions of the general WPDES permit 14 working days after the date that the department receives the notice of intent. The department may require the landowner to submit plans and specifications for approval of storm water treatment practices, pursuant to s. 281.41, Stats.

History: Cr. Register, October, 1994, No. 466, eff. 11–1–94.

NR 216.45 Incomplete notice of intent and time limit for department decision. (1) Within 14 working days after the date the department receives the notice of intent, the department may require an applicant to submit data the department has identified as being necessary to complete any deficient notice of intent or may require the applicant to submit a complete new notice of intent when the deficiencies are extensive or the appropriate form has not been used.

(2) The department shall refund to the applicant the stormwater construction site permit application fee paid under s. NR 216.43 (4) if the department does not make a determination on the permit application within 45 business days of receipt of the information required under sub. (1). In this subsection, “business day” means any day except Saturday, Sunday and state holidays as designated in s. 230.35 (4) (a), Stats. This subsection does not apply to permits issued under this chapter related to mining, as defined in s. 293.01(9), Stats., prospecting, as defined in s. 293.01(18), Stats., or nonmetallic mining, as defined in s. 295.11(3), Stats. This subsection applies only to complete responses that are received by the department on or after September 1, 2000.

History: Cr. Register, October, 1994, No. 466, eff. 11–1–94; rem. to be (1) and am. cr. (2), Register, August, 2000, No. 536, eff. 9–1–00; correction in (2) made under s. 13.93 (2m) (b) 7., Stats., Register September 2002 No. 561.

NR 216.46 Erosion control plan requirements. (1) SITE SPECIFIC PLAN. The permittee shall develop a construction site erosion control plan for each site covered by this subchapter and shall perform all activities required by the plan and shall maintain compliance with the plan thereafter. The construction site erosion control plan shall address pollution caused by soil erosion and sedimentation during construction, and up to final sta-
The construction site erosion control plan shall be prepared in accordance with good engineering practices and the design criteria, standards and specifications outlined in the *Wisconsin Construction Site Best Management Practice Handbook* (WDNR Pub. WR–222 November 1993 Revision).

**Performance Standards.** The construction site erosion control plan shall meet the applicable performance standards in either s. NR 151.11 or 151.23.

**Handbook.** The *Wisconsin Construction Site Best Management Practice Handbook* (WDNR Pub. WR–222 November 1993 Revision) contains limitations on suitable conditions where best management practices can be applied. Tributary area limitations on the use of practices for trapping sediment in channelized flow conflict with the practices suggested in the January 7, 1987 version of the State Model Construction Site Erosion Control Ordinance. Also, best management practices within ch. NR 154 may conflict with the Wisconsin Construction Site Best Management Practice Handbook. Where this occurs, the specifications contained in the Wisconsin Construction Site Best Management Practice Handbook shall take precedence over erosion and other pollutant control requirements contained in the State Model Construction Site Erosion Control Ordinance and in ch. NR 154.

**Plan Completion.** The plan shall be completed prior to the submittal of a notice of intent to be covered by a permit and shall be updated as appropriate pursuant to s. NR 216.50.

**Required Information.** The construction site erosion control plan shall include, at a minimum, the following items:

- **(A)** Description of the site and the nature of the construction activity, including representation of the limits of land disturbance on a USGS 7.5-minute series topographic map.
- **(B)** Description of the intended sequence of major activities which disturb soils for major portions of the site, such as grubbing, excavation or grading.
- **(C)** Estimates of the total area of the site and the total area of the site that is expected to be disturbed by construction activities.
- **(D)** Estimates, including calculations, if any, of the runoff coefficient of the site before and after construction activities are completed.
- **(E)** Existing data describing the surface soil as well as subsoils.
- **(F)** Depth to groundwater, as indicated by natural resources conservation service soil information where available, except when permanent infiltration systems are used, the depth to groundwater shall be identified as outlined in sub. (5); and
- **(G)** Name of immediate named receiving water from the United States geological service 7.5 minute series topographic maps.

**Groundwater Limitations.** When permanent infiltration systems are used, appropriate on-site testing shall be conducted to determine if seasonal high water is within 5 feet of the bottom of the proposed practice. If permanent infiltration structures are to be used and there is a municipal well within 400 feet or a nonpublic well within 100 feet, the groundwater flow shall be identified in accordance with the provisions specified in either ch. NR 110 or 214.

**Site Map Requirements.** Each site map shall include a map showing the following items:

- **(A)** Existing topography and drainage patterns, roads and surface waters;
- **(B)** Boundaries of the construction site;
- **(C)** Drainage patterns and approximate slopes anticipated after major grading activities;
- **(D)** Areas of soil disturbance;
- **(E)** Location of major structural and non-structural controls identified in the plan;
- **(F)** Location of areas where stabilization practices will be employed.
- **(G)** Areas which will be vegetated following construction; and
- **(H)** Wetlands, area extent of wetland acreage on the site and locations where storm water is discharged to a surface water or wetland.
- **(I)** Locations of all surface waters and wetlands within one mile of the construction site.
- **(J)** An alphanumeric or equivalent grid overlaying the entire construction site.

**Control Measures.** Each plan shall include a description of appropriate controls and measures that will be performed at the site to prevent pollutants from reaching waters of the state. The plan shall clearly describe the appropriate control measures for each major activity identified in the notice of intent and the timing during the construction process that the measures will be implemented. The description of erosion controls shall include, when appropriate, the following minimum requirements:

- **(a)** Description of interim and permanent stabilization practices, including a schedule for implementing the practices. Site plans shall ensure that existing vegetation is preserved where attainable and that disturbed portions of the site are stabilized;
- **(b)** Description of structural practices to divert flow away from exposed soils, store flows or otherwise limit runoff and the discharge of pollutants from the site. Unless otherwise specifically approved in writing, structural measures shall be installed on upland soils;
- **(c)** Management of overland flow at all sites, unless otherwise controlled by outfall controls;
- **(d)** Trapping of sediment in channelized flow;
- **(e)** Staging construction to limit bare areas subject to erosion;
- **(f)** Protection of downslope drainage inlets where they occur;
- **(g)** Minimization of tracking at all sites;
- **(h)** Clean up of off-site sediment deposits;
- **(i)** Proper disposal of building and waste material at all sites;
- **(j)** Stabilization of drainage ways;
- **(k)** Installation of permanent stabilization practices as soon as possible after final grading; and
- **(L)** Minimization of dust to the maximum extent practicable.

**Prohibited Discharges.** Velocity dissipation devices shall be placed at discharge locations and along the length of any outfall channel as necessary to provide a non-erosive flow from the structure to a water course so that the natural physical and biological characteristics and functions are maintained and protected.

**Proof of Permit Coverage.** A copy of the notice of intent or other indication that storm water discharges from the site are covered under a general WPDES permit shall be kept with building plans on the construction site and with the landowner. Where appropriate, notification under s. Comm 61.115 or ch. Trans 401 or a county, city, village or town ordinance in effect prior to January 1, 1994 that establishes standards for erosion control at commercial building sites may be used in lieu of the department’s notice of intent.

**Permit Modification.** The department may, upon request of a permittee or upon finding of just cause, grant modifications to the compliance and reporting schedules or any requirements of a storm water discharge permit.

*History:* Cr. Register, October, 1994, No. 466, eff. 11–1–94; correction in (10) made under s. 13.93 (2m) (b) 7., Stats., Register, November, 1999, No. 527; CR 00–035: cr. (1m), (6) (i) and (j), am. (2), (4) (a), (f) and (g) Register September
NR 216.47 Storm water management plan requirements. Pollution caused by storm water discharges from the site after construction is completed, including, but not limited to, rooftops, parking lots, roadways and the maintenance of grassed areas shall be addressed by a storm water management plan. Inclusion in the plan of post construction management may not bind either future owners of the property nor any municipalities to implement the management practices. A storm water management plan is not required for projects that do not alter runoff volumes or runoff quality from existing conditions and that do not include new development or redevelopment.

(1) Practices during construction. The plan shall include a description of the management practices that will be installed during the construction process to control peak flow, pollutants and runoff volume that will occur after construction operations have been completed. Storm water management practices shall be in accordance with applicable state and local regulations. To the extent feasible, the plan shall consider efforts to increase on-site infiltration through conveyance, depression storage and reduction of impervious area, consistent with any site or local development standards.

(2) Long term practices. For any permanent structures, provisions shall be made for long-term maintenance. Long term maintenance provisions for storm water management structures should be made with the local municipality. If the local municipality agrees to take over long term maintenance responsibilities, a copy of the agreement shall be attached to the notice of termination. If the local municipality will not make such an agreement, alternative provisions that will be made for long-term maintenance of storm water management structures shall be identified, and a copy of the document mechanism by which it shall be enacted attached to the notice of termination.

(3) Management practices. Storm water management practices to control impacts from runoff volume and pollutants may include, but are not limited to: infiltration systems, flow attenuation, constructed wetlands, temporary or permanent ponds, combinations of these practices, or other methods which do not cause significant adverse impact on the receiving surface water or groundwater. The plan shall include an explanation of the technical basis used to select the practices to control pollution where flows exceed predevelopment levels.

(4) Performance standards. The storm water management plan shall meet the applicable performance standards in either s. NR 151.12 or 151.24.

Note: These are interim measures only. In the future, the department will be working to address this issue more fully.

(3) Additional information. Upon request by the department, the permittee shall provide a copy of the plan, and any additional data requested, within 5 working days to the department, to the operator of the storm sewer system which receives the discharge, and any local agency approving sediment and erosion plans, grading plans or storm water management plans. The additional information shall be submitted in accordance with s. NR 200.09. Additional information may be requested by the department for resource waters that require additional protection such as outstanding or exceptional resource waters, or other sensitive water resources.

(4) Permittee responsibilities. For the purposes of monitoring, the permittee shall:

(a) Conduct the following inspections:

1. Weekly inspections of implemented erosion and sediment controls; and
2. Inspections of erosion and sediment controls within 24 hours after a precipitation event 0.5 inches or greater which results in runoff during active construction periods.

(b) Maintain weekly written reports of all inspections conducted by or for the permittee that include:

1. The date, time and exact place of the inspection;
2. The name of the individual who performed the inspection;
3. An assessment of the condition of erosion and sediment controls;
4. A description of any erosion and sediment control implementation and maintenance performed; and
5. A description of the present phase of construction at the site.

(5) Submittal of information. The information maintained in accordance with sub. (4) shall be submitted, upon request of the department.

NR 216.48 Reporting and monitoring requirements.

(1) Records. The permittee shall retain records of all monitoring information, copies of all reports and plans required by the permit, and records of all data used to obtain coverage under the permit. Minimum periods of retention are as follows:

(a) The construction site erosion control and storm water management plan, and amendments to the construction site erosion control and storm water management plan shall be retained at the site until construction is completed, the site has undergone final stabilization and permit coverage is terminated.

(b) All reports required by this subchapter or information submitted to obtain coverage under this subchapter, including the construction site erosion control and storm water management plan, amendments and background information used in their preparation, shall be kept by the permittee for a period of at least 3 years from the date of notice of termination.

(2) Local approvals. Persons operating a construction site under approved local sediment and erosion plans, grading plans or storm water management plans shall also submit signed copies of the notice of intent to the local agency approving the plans. If storm water from the construction site discharges to a separate storm sewer system that is operating pursuant to a general WPDES permit, then a signed copy of the notice of intent shall also be sent to the operator of the system.

(3) Additional information. Upon request by the department, the permittee shall provide a copy of the plan, and any additional data requested, within 5 working days to the department, to the operator of the storm sewer system which receives the discharge, and any local agency approving sediment and erosion plans, grading plans or storm water management plans. The additional information shall be submitted in accordance with s. NR 200.09. Additional information may be requested by the department for resource waters that require additional protection such as outstanding or exceptional resource waters, or other sensitive water resources.

(4) Permittee responsibilities. For the purposes of monitoring, the permittee shall:

(a) Conduct the following inspections:

1. Weekly inspections of implemented erosion and sediment controls; and
2. Inspections of erosion and sediment controls within 24 hours after a precipitation event 0.5 inches or greater which results in runoff during active construction periods.

(b) Maintain weekly written reports of all inspections conducted by or for the permittee that include:

1. The date, time and exact place of the inspection;
2. The name of the individual who performed the inspection;
3. An assessment of the condition of erosion and sediment controls;
4. A description of any erosion and sediment control implementation and maintenance performed; and
5. A description of the present phase of construction at the site.

(5) Submittal of information. The information maintained in accordance with sub. (4) shall be submitted, upon request of the department.

NR 216.49 Conformance with other applicable plans.

(1) Local compliance. The plan shall document other applicable county and local regulatory provisions, compliance with which will also meet the requirements of the permit. If these additional provisions are more stringent than those provisions appearing in a permit issued pursuant to this subchapter, the plan shall include a description of how it will comply with these provisions.

(2) Sanitary regulations. The plan shall ensure and demonstrate compliance with applicable state and local waste disposal, sanitary sewer or septic system regulations.

History: Cr. Register, October, 1994, No. 466, eff. 11–1–94.

NR 216.50 Amendments.

(1) Applicability. The permittee shall amend the plan if either of the following occur:

(a) There is a change in design, construction, operation or maintenance at the site which has the reasonable potential for the discharge of pollutants to waters of the state and which has not otherwise been addressed in the plan; and
NR 216.51 Department actions. (1) INADEQUATE PLANS. The department may notify the permittee at any time that the plan does not meet one or more of the minimum requirements of this subchapter, or a permit issued pursuant to this subchapter, for reducing and preventing soil erosion. The notification shall identify those provisions which are not being met by the plan, and identify which provisions of the plan require modifications in order to meet the minimum requirements.

(2) REQUIRED PLAN REVISIONS. Within the time frame identified by the department in its notice, the permittee shall make the required changes to the plan, perform all actions required by the revised plan, and submit to the department a written certification that the requested changes have been made and implemented, and such other information as the department requires. Failure to comply shall terminate authorization to discharge pollutants under the general WPDES permit program.

(3) OTHER STORM WATER DISCHARGERS. The department may require the landowner of any storm water discharge to apply for and obtain a storm water permit if the storm water discharge is determined to be a significant contributor of pollution.

NR 216.52 Use of information. All information contained in the notice of intent other than that specified as confidential shall be available to the public for inspection and copying. All confidential information, so identified, shall be in separate documents. Effluent data is not confidential information. Confidential treatment will be considered only for that information identified as confidential in documents separate from nonconfidential information which meets the requirements of s. 283.55 (2) (c), Stats., and for which written application for confidentiality has been made pursuant to s. 2 NR 2.19.

NR 216.53 Time periods for action on permit applications and modification requests. (1) EFFECTIVE DATE OF PERMIT. Unless notified by the department to the contrary, applicants who submit a notice of intent in accordance with the provisions of this subchapter are authorized to discharge storm water from construction sites under the terms and conditions of the general WPDES permit 14 working days after the date that the department receives the notice of intent. The department may require the landowner to submit plans and specifications for approval of storm water treatment practices, pursuant to s. 281.41, Stats. (2) DENIAL OR REVOCA TION OF GENERAL PERMIT. The department may deny or revoke coverage under a general WPDES permit and require submittal of an application for an individual WPDES storm water discharge permit based on a review of the completed notice of intent or other information.

NR 216.54 Transfers. A person who has submitted a completed notice of intent and does not intend to control the permitted activities on the site may transfer authorization under a general WPDES permit to the person who will control the permitted activities. The transfer shall occur upon written notification, signed by both the transferor and transferee and sent via certified or registered mail to the department. Unless the permittee is notified to the contrary by the department, the department will recognize this permit coverage transfer upon receipt of written notification. The department may require additional information to be filed prior to granting coverage under the general WPDES permit. The department may, if appropriate, require an application for an individual WPDES storm water discharge permit to be submitted.

NR 216.55 Notice of termination. When a site has undergone final stabilization and all storm water discharges associated with construction site activities that were required to have a general WPDES permit under this subchapter have ceased, the permittee shall submit a signed notice of termination to the department.

(1) FORMS. A notice of termination shall be submitted on forms supplied by the department. Data submitted in the notice of termination forms shall be used as a basis for terminating coverage of a storm water discharge permit. Different notice of termination forms are used to provide information from different sources of storm water discharge.

(2) OBTAINING FORMS. Notice of termination forms shall be obtained from the regional office of the department or by writing to the Department of Natural Resources, Storm Water Program – WT/2, Box 7921, Madison, WI 53707–7921.

(3) FILING. Notice of termination forms shall be filed with the regional office of the department in which the construction site activity is located or to the Department of Natural Resources, Storm Water Program – WT/2, Box 7921, Madison, WI 53707–7921.

Note: It is intended that when these forms are changed, input from affected individuals and parties will be sought.

(4) SIGNATURE REQUIREMENTS. The notice of termination form shall be signed as follows:

(a) In the case of a corporation, by a principal executive officer of at least the level of vice-president, or by his or her authorized representative responsible for the overall operation of the site for which a permit is sought;

(b) In the case of a partnership, by a general partner;

(c) In the case of a sole proprietorship, by the proprietor.

(5) REQUIRED INFORMATION. The notice of termination shall include the following information:

(a) The mailing address and location of the construction site for which the notification is submitted.

(b) The name, address, telephone number of the current permittee, as well as any transferee;

(c) The name, address and telephone number of the general contractor; and

(d) The following signed certification:
“I certify under penalty of law that disturbed soils at the identified site have undergone final stabilization and temporary erosion and sediment control measures have been removed or that all storm water discharges associated with construction activity that are authorized by a general WPDES permit have otherwise been eliminated. I understand that by submitting this notice of termination, I am no longer authorized to discharge storm water associated with construction activity by the general WPDES permit, and that discharging pollutants in storm water associated with construction activity to waters of Wisconsin is unlawful where the discharge is not authorized by a general WPDES permit.”

(6) EFFECTIVE DATE. Termination of coverage under the permit shall be effective upon submittal of written confirmation of final stabilization by the department to the permittee.

History: Cr. Register, October, 1994, No. 466, eff. 11–1–94; CR 00–035: am. (2) and (3) Register September 2002 No. 561, eff. 10–1–02.
Chapter NR 120

PRIORITY WATERSHED AND PRIORITY LAKE PROGRAM

NR 120.01 Applicability; purpose. (1) APPLICABILITY. For designated priority watershed and priority lake projects, this chapter applies to governmental units and state agencies when acting as nonpoint source grantee; to governmental units when acting as cost−share agreement grantors; and to landowners, land operators and state agencies when acting as cost−share recipients.

(2) PURPOSE. The purpose of this chapter is to establish the administrative framework for the implementation of the state’s priority watershed and priority lake projects.

NR 120.02 Definitions. In this chapter:

(1) “Anticipated cost−share reimbursement amount” or “ACRA” means the annual amount of cost−sharing funds that a project sponsor may receive from the department for a specific priority watershed or priority lake project under s. NR 120.12.

(2) “Best management practice” as defined in s. 281.65 (2) (a), Stats., means a practice, technique or measure, except for dredging, which is determined to be an effective means of preventing or reducing pollutants generated from nonpoint sources, or from the sediments of inland lakes polluted by nonpoint sources, to a level compatible with water quality objectives established under this chapter and which does not have an adverse impact on fish and wildlife habitat. The practices, techniques or measures include land acquisition, storm sewer rerouting and the removal of structures necessary to install structural urban best management practices, facilities for the handling and treatment of milkhouse wastewater, repair of fences built using grants under this chapter and measures to prevent or reduce pollutants generated from mine tailings disposal sites for which the department has not approved a plan of operation under s. 289.30, Stats.

(3) “Contiguous” means touching or sharing a common boundary with a second parcel of land. A lake, river, stream, road, railroad or utility right of way which separates any part of the parcel from any other part does not render the parcel of land noncontiguous.

(4) “Core urban program activities” means those activities included in a discrete set of nonstructural management measures, identified jointly by the department and the governmental unit in the priority watershed or priority lake area plan, that are considered to be the minimum acceptable level of storm water management.

(5) “Cost−effective” means economical in terms of the tangible benefits produced by the money spent. Tangible benefits include pollution control, fish and wildlife habitat enhancement, enhancements to recreation, public safety, economical operation, economical maintenance and enhanced life expectancy of the best management practice.

(6) “Cost−share agreement” means the agreement established between the governmental unit and the cost−share recipient which identifies the best management practices to be used on the cost−share recipient’s lands and the cost estimate, installation schedule and operation and maintenance requirements for these best management practices.

(7) “Critical sites” as described in s. 281.65 (4) (g) 8. am., Stats., means those sites that are significant sources of nonpoint source pollution upon which best management practices must be implemented in order to obtain a reasonable likelihood that the water quality objectives established in the priority watershed or priority lake plan can be achieved.
(8) “Dam” means any artificial barrier in or across a waterway which has the primary purpose of impounding or diverting water. A dam includes all appurtenant works, such as a dike, canal or powerhouse.

(9) “DATCP” means the Wisconsin department of agriculture, trade and consumer protection.

(10) “Department” means the Wisconsin department of natural resources.

(11) “Designation of critical sites by criteria” means the description or means of identifying critical sites in the plan of a priority watershed or priority lake which may include estimations of pollutant contribution or other adverse impact on water quality.

(12) “Force account work” means the use of the governmental unit’s own employees or equipment for construction, construction related activities, or repair or improvement to a best management practice.

(13) “Governmental unit” means any unit of government including, but not limited to, a county, city, village, town, metropolitan sewerage district created under ss. 200.01 to 200.15 or 200.21 to 200.65, Stats., town sanitary district, public inland lake protection and rehabilitation district, regional planning commission or drainage district operating under ch. 89, 1961 Stats., or ch. 88, Stats. Governmental unit does not include the state or any state agency.

(14) “Grant period” means the time period during which governmental units are eligible to incur eligible costs and obtain departmental reimbursement for a watershed project.

(15) “Integrated resource management plan” means a plan for managing, protecting and enhancing ground and surface water quality which considers the interrelationship of water quality and land and water resources.

(16) “Interim best management practice” means a practice, technique or measure which is approved under s. NR 120.15 as an effective means of preventing or reducing pollutants generated from nonpoint sources to a level compatible with water quality objectives and which does not have an adverse impact on fish and wildlife habitat.

(17) “Land conservation committee” means the committee created by a county board under s. 92.06, Stats. “Land conservation committee” includes employees or agents of a county land conservation committee whom, with committee authorization, act on behalf of the committee.

(18) “Landowner” means any individual, partnership, corporation, municipality or person holding title to land.

(19) “Land operator” means any individual, partnership, corporation, municipality or person having possession of or holding a lease in land and is not a landowner.

(20) “Local share” means that portion of the best management practice installation cost that is not authorized for funding under s. 92.14, 281.65 or 281.66, Stats.

(21) “Maximum storage capacity” means the volume of water in acre−feet capable of being stored behind a dam at maximum water elevation before overtopping any part that is not part of the spillway system.

(22) “Milking center wastes” means all wastewater, cleaning ingredients, waste milk or other discharges from a milkhouse or milking parlor.

(23) “Municipal WPDES storm water discharge permit” means any permit issued to a municipality by the department under s. 283.33 (1), Stats., for the purpose of controlling storm water discharges owned or operated by a municipality.

(24) “Nonpoint source” means a land management activity which contributes to runoff, seepage or percolation which adversely affects or threatens the quality of waters of this state and which is not a point source under s. 283.01 (12), Stats.

(25) “Notification to landowner” means a certified letter sent by the department to inform landowners that one or more sites under their ownership have been verified as meeting the criteria for critical sites in accordance with the provisions of s. NR 120.09.

(26) “NRCS” means the natural resources conservation service of the U.S. department of agriculture.

(27) “Operation and maintenance period” means the length of time a best management practice shall be operated and maintained.

(28) “Period of cost−sharing availability for critical sites” means the 36 month period identified in the notification of critical site designation to the landowner during which cost−sharing at the maximum rate allowed under s. NR 120.18 is available.

(29) “Priority lake area” means a hydrologic unit which drains to a lake or group of lakes and serves as the project boundary for watershed projects identified through the process stated in s. 281.65 (3m) (b), Stats.

(30) “Priority watershed” means a watershed or lake area which the department has identified through the continuing planning process under s. 283.83, Stats., and which has been designated by the land and water conservation board under s. 281.65 (3m) (a), Stats. as a watershed where the need for nonpoint source water pollution abatement is most critical.

(31) “Priority watershed plan” means the detailed portion of the areawide water quality management plan prepared for priority watersheds as described in s. NR 120.08.

(32) “Project completion” means the date on which a priority watershed project’s nonpoint source grant has expired.

(33) “Project sponsor” means the governmental unit or state agency applying for and receiving grant assistance under s. 281.65, Stats., and this chapter.

(34) “Segmented urban program activities” means those individual structural and non−structural management measures identified jointly by the department and the governmental unit within the priority watershed or priority lake area plan that are considered to be advanced storm water management activities.

(35) “Structural height” means the difference in elevation in feet between the point of lowest elevation of a dam before overtopping and the lowest elevation of the natural stream or lake bed at the downstream toe of the dam.

(36) “Structural urban best management practices” means detention basins, wet basins, infiltration basins and trenches and wetland basins.

(37) “Technical guide” means Section IV of the Wisconsin natural resources conservation service field office technical guide, published by the natural resources conservation service of the U.S. department of agriculture, which is incorporated by reference for this chapter.

Note: Copies of the technical guide are on file with the department, the secretary of state, and the revisor of statutes. Copies of individual standards contained in the technical guide may be obtained from the county land conservation committee or from a field office of the U.S. department of agriculture, natural resources conservation service.

(38) “Urban best management practice” means a practice, technique or measure, except for dredging, which is determined to be an effective means of preventing or reducing urban runoff to a level compatible with water quality objectives established under this chapter and which does not have an adverse impact on fish and wildlife habitat. The practices, techniques or measures include source area, transport system and end−of−pipe measures designed to control storm water runoff rates, volumes and discharge quality, including structural urban best management practices and land acquisition, storm sewer rerouting and the removal of structures necessary to install structural urban best management practices.

(39) “Wetland” or “wetlands” has the meaning specified under s. 23.32 (1), Stats.

History: CR 00−028: cr. Register September 2002 No. 561, eff. 10−1−02.
tion of the watershed plan provided the department and the go-
vernmental unit agree that the governmental unit has the appropri-
ate technical, financial and staffing capability. The governmental
unit shall prepare the elements of the watershed plan in accor-
dance with s. NR 120.08 (1) (b) This requirement may be waived
if the department and the governmental unit agree that nonpartici-
pation by the governmental unit will not impair the objectives of
the watershed plan.

History: CR 00-028: cr. Register September 2002 No. 561, eff. 10-1-02.

NR 120.04 Role of citizen advisory committee. The
department, in cooperation with governmental units, shall appoint
a citizen advisory committee for each priority watershed and
priority lake project in accordance with s. 281.65 (4) (dr), Stats.
The citizen advisory committee shall advise the department,
DATCP and governmental units concerning all aspects of the
planning and implementation program for their specific priority
watershed or priority lake project.

History: CR 00-028: cr. Register September 2002 No. 561, eff. 10-1-02.

NR 120.05 Responsibilities of state agencies, gov-
ernmental units and agents as cost-share recipients. Each state agency, unit of government or agent receiving cost-
sharing funds in a nonpoint source grant shall do all of the follow-
ing:

(1) Provide the department with verification of proper instal-
lation, operation and maintenance of best management practices
for which it is the cost-share recipient.

(2) Prepare and maintain adequate fiscal management and
technical assistance files as described in ss. NR 120.25 and
120.26.

(3) Obtain prior written approval from the department for use
of nonpoint source grant funds for best management practices
installed on land owned or operated by the grantee.

History: CR 00-028: cr. Register September 2002 No. 561, eff. 10-1-02.

NR 120.06 Incorporation of the department of agri-
culture, trade and consumer protection’s planning ele-
ments. (1) The department shall assist DATCP in developing
the following elements of priority watershed plans as described in
s. 281.65 (5), Stats.:

(a) Proposed farm-specific implementation schedules for pro-
viding technical assistance, contacting landowners, inspection
and disbursement of grants on those farms that are identified in the
approved priority watershed plan.

(b) Proposed agriculturally related best management practices

(c) Identification of those farms which are subject to ss. 92.104
and 92.105, Stats.

Note: All lands enrolled in the farmland preservation program subject to s. 92.105, Stats., are required to meet the mandatory T-value standard and other discretionary soil and water conservation standards specified in ch. ATCP 50. A copy of ch. ATCP 50 may be obtained, at no charge, from the Department of Agriculture, Trade and Consumer Protection, P.O. Box 8911, Madison, WI 53708.

(2) The department shall assist DATCP and the county
involved in a watershed project in developing a proposed project
management schedule for the installation of agriculturally related
best management practices.

(3) The department shall approve and incorporate the ele-
ments described in subs. (1) and (2) into the priority watershed
plan.

History: CR 00-028: cr. Register September 2002 No. 561, eff. 10-1-02.

NR 120.08 Watershed plans. (1) WATERSHED PLAN
CONTENT. (a) Watershed plan. In cooperation with DATCP and
the appropriate governmental unit, the department shall prepare
watershed plans for all priority watersheds. A participating gov-
ernmental unit located within the priority watershed shall identify,
in writing, a person to represent the unit of government during
watershed plan preparation. The watershed plan shall consist of
a watershed assessment, a detailed program for implementation,
and a project evaluation strategy. Priority watersheds and priority
lakes selected after August 12, 1993, shall have critical sites des-
ignated in the plan.

(b) Watershed assessment. The department, in cooperation
with the appropriate governmental units, shall prepare a
watershed assessment analyzing the water quality problems or
threats to the water quality in the watershed’s lakes, streams, wet-
lands and groundwater and which determines the nonpoint
sources causing the problem or threat. The watershed assessment
shall contain:

1. An identification of the water quality problems or threats
to water quality including degradation of fish habitat and wetlands
caused by nonpoint sources of pollution in the watershed.

2. An identification of water quality objectives to maintain
and improve the quality of lakes, streams, wetlands and ground-
water of the watershed.

3. An identification of target levels of pollutant control and
resource protection necessary to meet the water quality objec-
tives.

4. An identification and ranking of significant nonpoint
source types and contributing areas.

5. A designation of critical sites listing their respective water
quality problems or threats to water quality.

6. A listing of and an analysis of need for best management
practices which will significantly aid in the achievement of the
target level of pollution abatement.

7. An assessment of the need for the protection and enhance-
ment of fish and wildlife habitat, endangered resources, aesthetics
or other natural resources.

8. An analysis of the need for adoption of local ordinances for
manure storage, construction site erosion control and storm water
management.

(c) Detailed program for implementation. 1. As required
under s. 281.65 (6) (a), Stats., governmental units except those
waived under s. NR 120.03 shall prepare the following portion of
the detailed program for implementation including:

a. An estimate of costs for practice installation.

b. An information and education strategy.

c. A description of fiscal management procedures, including
contaiment procedures.

d. An estimate of technical assistance needs.

e. A grant disbursement and project management schedule.

f. An identification of those urban storm water control prac-
tices, techniques or measures included in a municipal WPDES
storm water permit for which the local governmental unit may
seek either local assistance or nonpoint source grant funding
through the priority watershed or priority lake project under ch.
NR 153.

g. An identification of the state and local regulatory frame-
work under which erosion control activities shall be conducted.

h. An identification of those storm water management activi-
ties identified in the watershed plan that shall be included as part
of the core urban program for the local governmental unit and
funded under this chapter and ch. NR 153. Core urban program
activities may include: information and education activities;
development, implementation and enforcement of construction
erosion control ordinances; and development and implementation
of activities, including, but not limited to, those activities that
reduce storm water pollution from lawn and leaf litter, pet waste,
road salting and illicit dumping into the storm sewer system.
When adoption of a construction site erosion control ordinance
is required under the watershed plan, it shall be considered a core
program activity and the schedule for urban implementation
activities shall provide for adoption, implementation and enforce-
ment of the ordinance within 2 years of the date the department
approves the watershed plan.
NR 120.08  WISCONSIN ADMINISTRATIVE CODE  186

Unofficial Text (See Printed Volume).  Current through date and Register shown on Title Page.

i.  An identification of those storm water management activities identified in the watershed plan that may be included as part of the segmented urban program for the local governmental unit and funded under this chapter and ch. NR 153.  Segmented urban program activities may include: storm water planning for urban and urbanizing areas; development, implementation and enforcement of local storm water management ordinances; engineering site feasibility studies for urban best management practices; design, installation and maintenance of urban best management practices; and development of local institutional mechanisms to fund and administer storm water management programs.

j.  A schedule of rural implementation activities.  When adoption of a manure storage ordinance is required under the watershed plan, the schedule shall include a provision stating that a manure storage ordinance shall be adopted within 2 years of the date the department approves the watershed plan.

k.  A schedule for urban implementation activities.

L.  A schedule for the completion within 5 years of plan approval of the inventory of land resources in the priority watershed or priority lake to locate sites which meet the critical sites criteria.

m.  An implementation strategy to direct staff effort at sites in proportion to the amount of pollutants contributed until pollutant reduction goals are met.  The strategy shall contain a schedule for notification to landowners of critical sites.

n.  A description of the measures of performance for the priority watershed or priority lake project.

o.  A strategy for measuring progress toward meeting pollutant reduction goals and water quality objectives.

2.  The department shall prepare a strategy to address the protection, enhancement and mitigation of fish and wildlife habitat, endangered resources, aesthetics or other natural resources through the identification of best management practices, provision of information and education programs and involvement of other resource management programs.

Note: Wisconsin’s Forestry Best Management Practices for Water Quality: A Field Manual for Loggers, Landowners and Land Managers may be obtained, at no charge, as a reference for forestry activities from the Bureau of Forestry, Department of Natural Resources, Box 7921, Madison, WI 53707.

(d) Project evaluation plan.  The department shall prepare as a portion of each priority watershed plan a project evaluation strategy.  The evaluation strategy shall contain criteria and procedures to evaluate the water resource and land management components of the project.

(2) Watershed plan review and approval.  (a) Watershed plan development meeting.  During the preparation of the watershed plan, the department and the participating governmental units shall hold a public information meeting in the watershed to solicit comments and information pertinent to the preparation of the plan.  Following the information meeting, a proposed watershed plan shall be drafted.

(b) Watershed plan hearing.  After a proposed watershed plan has been drafted, the department and the participating governmental units shall hold a public informational hearing for comment on the proposed watershed plan.

(c) Submittal of watershed plan to DATCP, county and other governmental units.  Within 45 days after the public informational hearing, the department shall submit the draft watershed plan to DATCP for comment; to the appropriate county or counties for approval; and at the discretion of the department, to other governmental units for review and comment.

(d) County approval of watershed plan.  Within 60 days of receipt of the draft watershed plan, the appropriate county shall approve, conditionally approve or reject the watershed plan.  If the county conditionally approves or rejects the watershed plan, the department may revise the watershed plan to address the issues identified.

(e) Submittal of watershed plan to land and water conservation board.  A copy of the county approved plan shall be submitted to the land and water conservation board created under s. 15.135 (4), Stats., for its approval.

(f) Final approval of individual county plan.  Upon receiving the approval of the land and water conservation board, the department shall approve the final plan for the priority watershed or priority lake area in accordance with s. 281.65 (5m), Stats.  The date that the secretary of the department signs the approval letter to the project sponsors marks the beginning of eligibility for funding for implementation.  Notwithstanding par. (d), the department may approve the watershed plan for individual counties in multi-county watershed projects if the respective county approves the watershed plan.

(3) Areawide water quality management plan revision.  After approval of the detailed program for implementation, the watershed plan shall be approved as a revision to the areawide water quality management plan for the appropriate basin as described in ss. NR 121.07 and 121.08.

(4) Watershed plan revision.  (a) Plan revisions may be initiated by either the governmental unit or the department.  The approved watershed plan may be revised using the procedures in ss. NR 121.07 and 121.08 for amending areawide water quality management plans.

(b) Plan revisions which add or change criteria for critical sites shall be approved by the land and water conservation board and by every governmental unit which approved the original watershed plan.

(c) Plan revisions which add or change criteria for critical sites for projects which have fewer than 4 years remaining for implementation shall include a schedule for notification to landowners which will allow implementation of best management practices at the critical sites to be completed before the end of the nonpoint source grant period.

(d) The department shall approve or reject a governmental unit’s request for a revision to the watershed project’s detailed program for implementation within 90 days of receipt of the revision request.

History: CR 00-028: cr. Register September 2002 No. 561, eff. 10-1-02.

NR 120.09 Notification and status of critical sites.

(1) Start of notification process.  Within 6 months following issuance by the department of the first nonpoint source grant after department watershed plan approval to a project sponsor for a priority watershed or priority lake project, the process of notification to landowners shall begin.  The first to begin the process shall be those highest-ranked critical sites based on estimated pollutant contribution, which together would provide at least 25% of the pollutant reduction goal for inventoried sites available at the time the final plan is written, if best management practices were applied at those sites.  Notification shall proceed in accordance with the schedule identified in the plan.  The department may grant up to 3 90-day extensions of this 6 month period to allow verification under sub. (2).

(2) Verification.  The purpose of verification is to assure that individual sites within the watershed meet the criteria for critical sites and to conduct site visits and complete the inventory of non-point sources on additional lands in the watershed owned by those landowners with sites which meet the criteria for critical sites.  If the landowner has not signed a cost-share agreement for required best management practices, the verification findings shall be reported in writing to the department.  Verification shall include an on-site assessment before a notification letter can be issued.

(3) Content of notification letter.  Within 60 days after receiving the verification findings, the department shall send notification to the landowner to include the following information:

(a) The dates of the beginning and end of the 36-month period of cost-share availability.
NR 120.12 Nonpoint source grant agreement.

(1) GRANT AGREEMENT. The nonpoint source grant agreement is an agreement entered into between the department and a grantee, consisting either of a governmental unit or a state agency, to provide cost-share funding for a priority watershed or priority lake project. The nonpoint source grant agreement may be used in lieu of a cost-share agreement with a grantee for the installation of a structural practice on land owned or operated by the grantee. More than one nonpoint source grant agreement may be awarded for a project.

(2) CONDITIONS. (a) Consistent with the priority watershed plan, a grantee located within the priority watershed project or priority lake area project shall:

1. Execute a nonpoint source grant agreement with the department for nonpoint source pollution abatement funds necessary to administer cost-share agreements with eligible recipients. This requirement may be waived if the department and the grantee agree to delegate these responsibilities to another grantee.

2. Enter into cost-share agreements with eligible recipients located within its jurisdiction. This requirement may be waived if the department and the grantee agree to delegate this responsibility to another grantee.

3. Be fiscally responsible for the use of cost-share funds provided to cost-share recipients under the nonpoint source grant agreement. Specifically, this includes preparing and maintaining adequate fiscal management and technical assistance files as described in s.s. NR 120.25 and 120.26. This requirement may be waived if the department and the grantee agree to delegate these responsibilities to another grantee.

4. Provide the department with verification of proper installation, operation and maintenance of best management practices for agreements in which it is the cost-share grantor.

5. Provide best management practice technical design and installation assistance for all best management practices in cost-share agreements within its jurisdiction. The grantee may assign this requirement to another grantee if approved by the department.

6. Contact all owners or operators of lands identified as significant nonpoint sources in the watershed plan.

7. Participate with the department in the annual watershed project review meeting.

8. Enforce the terms and conditions of the cost-share agreement as described in s. NR 120.13.

(b) A grantee located within the priority watershed project or priority lake area project may identify a lead grantee responsible during the grant period for the following:

1. Local project coordination.

2. Identification of a project manager.

3. Maintenance of project ledgers.

(c) A grantee located within the priority watershed project or priority lake area project shall provide financial support towards the implementation of a project, including, but not limited to, the following:

1. Funding staff support costs necessary for the project that are not provided for in the local assistance grant from DATCP.

2. Funding the local share of any best management practice the grantee installs on property it owns or controls.

3. Funding the local share of items cost-shared in the local assistance grant from DATCP.

(d) Grantees located within the priority watershed project or priority lake area project shall perform inspections beyond the nonpoint source grant period and shall include this activity in the work plan portion of the county land and water resource management plan to ensure that cost-share recipients are complying with the maintenance requirements described in s. NR 120.13.

(3) SIGN-UP PERIOD. (a) The period in which cost-share agreements may be signed through the nonpoint source grant agreement shall be for a minimum of 3 years but may not extend beyond the grant period. No cost-share agreement, except those signed under a demonstration project, may be signed until after the priority watershed plan has been approved.

(b) A watershed project in planning may choose the specific duration of the sign-up period, provided that all the following conditions are met:

1. The sign-up period is for a minimum of 3 years.

2. The sign-up period is clearly stated in the watershed plan.

3. The watershed plan clearly delineates the procedures necessary for the extension of the sign-up period.

(c) A grantee whose watershed project is in implementation may amend the nonpoint source grant agreement to modify the length of the sign-up period provided that a written grant amendment request and an explanation justifying circumstances is submitted to the department for approval.

(d) The department may unilaterally extend the sign-up period for a project sponsor by amending the nonpoint source grant.

(4) LENGTH OF GRANT PERIOD. The grant period of the nonpoint source grant agreement is the period when cost-share funds may be expended.

(a) The department may adjust the grant period to meet budgetary limitations.

(b) Extensions to grant periods shall be consistent with s. 281.65 (5q) or (11), Stats.

(5) INSTALLING BEST MANAGEMENT PRACTICES. When installing best management practices, the grantee shall do all of the following:

(a) Comply with the responsibilities stated in s. NR 120.05.

(b) Submit estimates of all practice costs, eligible costs, ineligible costs, cost-share rates and estimated total cost-share amount.
(c) Submit a schedule of installation and maintenance for the practices.

(d) Submit copies of all professional services contracts, construction contracts, bid tabulations, force account proposals, proposals and other related information requested by the department. Professional services contracts exceeding $10,000, or amendments causing the total contract to exceed $10,000, amendments exceeding $10,000 and construction contracts exceeding $35,000 shall be submitted to the department for approval before execution. Force account proposals exceeding $35,000 shall be submitted to the department for approval prior to the initiation of construction.

(e) Repay the department the full amount of funds received if the grantee fails to fulfill any terms of the agreement, including failing to install, operate and properly maintain the practices included in the grant agreement.

(f) Submit a maintenance strategy for the practices.

(g) Agree not to adopt any land use or practice which defeats the purposes of the best management practices.

(h) Comply with the requirements for cost-share agreements specified in s. NR 120.13 (6) to (8).

(6) EXPENSES. The grantee may use nonpoint source grant funds to cover reasonable expenses necessary to secure refunds, rebates or credits described in s. NR 120.23 when approved by the department.

(7) FUNDS FOR EASEMENTS. The grantee may use nonpoint source easement funds to acquire easements as provided for in s. NR 120.185 (2).

(8) GRANT REDUCTIONS. The department may unilaterally reduce the nonpoint source grant to the amount necessary to meet budgetary limitations. The department shall make every effort to provide funding for projects the grantee has committed to in cost-share agreements and contracts.

(9) DEMONSTRATION PROJECTS. A governmental unit participating in the preparation of a watershed plan may request from the department a demonstration project nonpoint source grant prior to department approval of the watershed plan. Grant periods of grants awarded for demonstration projects may not exceed 2 years in length. Requests for demonstration projects shall include a summary of the proposed activities and their projected benefits to the watershed or lake project.

(10) JOINT ALLOCATION PLAN. The department shall prepare an ACRA for each grantee each calendar year. The department shall provide the department of agriculture, trade and consumer protection information about grant decisions it has made under this section for incorporation into the joint allocation plan required under ss. 281.65 (4) (pm) and 92.14 (14), Stats.

History: CR 00-028: cr. Register September 2002 No. 561, eff. 10-1-02.

NR 120.13 Cost-share agreement. (1) PURPOSE OF AGREEMENT. The cost-share agreement is an agreement listing the best management practices and establishing the conditions and considerations under which a cost-share recipient agrees to install the practices listed consistent with the watershed plan.

(2) EFFECTIVE DATE. For best management practices to be eligible for cost-sharing, the nonpoint source grant agreement and the cost-share agreement shall be signed before the installation of practices may be initiated. A cost-share agreement is not necessary if the nonpoint source grant agreement allows the grantee to use funds directly. Nonpoint source grant agreements used in lieu of cost-share agreements shall comply with the requirements in this section.

(3) PARTIES TO THE AGREEMENT. (a) The cost-share agreement shall be between the participating grantee and the individual landowner or landowners if joint owners, land operator or state agency. Agreements with land operators shall be co-signed by the landowner except in instances where the cost-share agreement contains no other practices than those enumerated in sub. (6) (c) 2. If other practices are included in a cost-share agreement amendment, the landowner shall co-sign the amendment.

(b) Governmental units, as cost-share agreement grantors, shall enter into cost-share agreements only during the period specified in the nonpoint source grant.

(c) The cost-share agreement shall apply to all contiguous sites under the same ownership. At the discretion of the governmental unit, the cost-share agreement may also apply to noncontiguous sites under the same ownership or operation in the watershed.

(4) CONTENT OF THE AGREEMENT. The cost-share agreement shall contain or describe:

(a) The name and address of the cost-share recipient.

(b) The best management practices cost-shared and not cost-shared to be applied and the cost-share rates for the practices to be cost-shared.

(c) The estimated total practice cost, cost-share rate and estimated cost-share amount.

(d) The installation schedule for applying the practices. For sites that meet the critical sites criteria, implementation shall begin within 18 months and be completed within 4 years following the effective date of the cost-share agreement.

(e) A statement of maintenance requirements.

(f) A prohibition against adopting any land use or practice which defeats the purposes of the best management practices, the cost-share agreement or the nonpoint source grant agreement.

(g) A provision stating that the governmental unit shall provide appropriate technical assistance during the required operation and maintenance period of the best management practices.

(h) A provision that the cost-share recipient may not discriminate against a contractor on the basis of age, sex, religion or other prohibited factor.

(i) A provision describing the procedure for amendment.

(j) The location of the land on which the cost-shared practice is to be installed, and a specific legal description of the land if cost share payments may exceed $10,000.

(k) A prohibition against any significant change in land use or management on the entire property described on the cost-share agreement which may cause sources which were adequately managed at the time of cost-share agreement signing to produce a significant increase in pollutant loading to surface water or ground water counter to the water resource objectives of the approved watershed plan. If a significant change in land use or management occurs, the landowner or land operator shall control the source at his or her own expense or return any cost-sharing funds awarded through the cost-share agreement to the grantor.

(L) A requirement to amend the cost-share agreement if practices are added or deleted and to add or delete practices only when they are consistent with watershed project objectives.

(m) A requirement for annual progress in pollutant reduction may be imposed by the governmental unit on the landowner of a critical site, subject to availability of cost-sharing funds.

(4m) DEPARTMENT APPROVAL. The governmental unit shall obtain prior department approval when the total cost-share agreement amount, including amendments, exceeds $50,000 in state share. The department shall consider the cost-effectiveness of the best management practices and eligibility for cost-sharing under this chapter in making its decision whether to grant approval.

(5) SUBMITTAL TO DEPARTMENT. The cost-share agreement provider shall submit a copy of the cost-share agreement and amendments to the department within 30 days of execution. The department may deny reimbursement to the governmental unit for costs associated with the installation of a best management practice not in conformance with the cost-share agreement, the nonpoint source grant agreement or the priority watershed plan.

(6) AGREEMENT PERIOD. (a) The cost-share agreement period shall be the period from the cost-share agreement signing through
10 years after the last practice is installed, unless all practices in
the agreement are those identified in par. (c) 2., in which case the
agreement shall end when cost-sharing ceases.

(b) The period during which practices on a signed cost-share
agreement may be installed may not extend beyond the grant
period of the nonpoint source grant agreement for the watershed
project.

(c) Unless otherwise provided for in this paragraph, the opera-
tion and maintenance period for both cost-shared and not cost-
shared best management practices shall begin when the practice
is installed and shall end at least 10 years past the installation date
for the last practice on the agreement.

1. The operation and maintenance period shall be a minimum
of 15 years if a payment is made under s. NR 120.18 (1) (f) 2.
2. Except if required as a component of another practice, the
following practices are exempt from the multi-year operation and
maintenance period requirement and only need to be maintained
during the years for which cost-sharing is received:
   a. High residue management systems.
   b. Nutrient management.
   c. Pesticide management.
   d. Cropland protection cover (green manure).
3. When a practice in subd. 2. is required as a component of
another practice in s. NR 154.04, the operation and maintenance
period for the component practice shall be the same as the opera-
tion and maintenance period for the practice for which it is
required.

(7) FAILURE TO FULFILL AGREEMENT. If the cost-share recipi-
ent fails to fulfill any terms of the cost-share agreement, including
failing to install, operate and properly maintain the practices of the
agreement, the full amount of cost-shared funds received by the
cost-share recipient shall be repaid to the governmental unit who
is the grantor of the agreement. The governmental unit grantor
shall forward the repayment to the department.

(8) INEFFECTIVE PRACTICES. (a) If the practice becomes ineffec-
tive during the grant period of the nonpoint source grant agree-
ment of a watershed project, the parties to the cost-share agree-
ment may amend it to cost-share the replacement of the practice
from funds allocated for the project, if the parties identify the
appropriate maintenance period for the replacement practice.

(b) If the practice becomes ineffective beyond the grant period
of the nonpoint source grant agreement of the watershed project,
the department may award a new grant agreement or modify and
extend the project’s nonpoint source grant agreement.

(9) CHANGE IN OWNERSHIP. If a change in ownership occurs
during the cost-share agreement period, the new landowner shall
be responsible for fulfilling all conditions of the cost-share agree-
ment. Upon receiving written approval from the respective local
governmental unit, the new landowner may implement alternative
approved best management practices in order to obtain the water
quality goals in the original agreement.

(10) RECORDING OF COST-SHARE AGREEMENTS WITH REGISTER
OF DEEDS. (a) The governmental unit shall record the cost-share
agreement and its amendments in the office of the register of deeds
for each county in which the property is located if the cost-share
agreement includes a riparian buffer, or payments under s. NR
154.03 (1) (i) 3., or if the total cost-share agreement amount
exceeds the following:
   1. $10,000 prior to January 1, 2005.
   2. $12,000 after December 31, 2004 and prior to January 1,
      2010.
   3. $14,000 after December 31, 2009.
   (b) The governmental unit shall record these documents prior
to making reimbursements to the landowner or land operator.

(c) A cost-share agreement may be exempt from the recording
requirement if the cost-share agreement contains no other prac-
tices than the following:
   1. Contour farming.
   2. Contour and field strip cropping.
   3. Cropland protection cover (green manure).
   4. High residue management.
   5. Nutrient management.
   6. Pesticide management.

(11) RELEASE OF PROPERTY FROM OBLIGATIONS OF COST-SHARE
AGREEMENTS. (a) A governmental unit may fully or partially
release a landowner’s property from the obligations of the cost-
share agreement provided that the governmental unit has deter-
mined that the best management practices installed on the prop-
erty will be maintained or replaced with practices which will not
increase the pollutant loading to surface water or groundwater
counter to the water resource objectives of the approved
watershed plan. If state dollars in excess of $10,000 have been
expended for best management practices that are located on the
property to be released, the governmental unit shall obtain written
approval from the department before the property may be
released. The release form shall be obtained from the department
and filed with the cost-share agreement.

(b) With the approval of the department, a governmental unit
may fully release a landowner’s property from the obligations of
the cost-share agreement provided that both of the following con-
ditions are met:
   1. The governmental unit has determined that there are not
      sufficient cost-share funds remaining in its nonpoint source grant
to provide reimbursement for practices for which it has committed
      funds.
   2. The cost-share recipient has failed to install all of the best
      management practices identified in the agreement.

Note: Copies of the release form are available from the Bureau of Community
Financial Assistance, Department of Natural Resources, Box 7921, Madison, WI
53707.

(12) APPLICABILITY. Subsections (3) (c), (4) (j), (k), (m), (6)
(a), (9) and (10) apply to all cost-share agreements signed after
December 1, 1989, and amendments to those agreements.

History: CR 00-028: cr. Register September 2002 No. 561, eff. 10-1-02.

NR 120.14 Cost-share agreement conditions for
best management practices. (1) GENERAL APPLICABILITY.
(a) The cost-share agreement conditions described in this section
apply to best management practices included in cost-share agree-
ments or otherwise provided for in s. NR 120.12 (5) or identified
by variance under s. NR 120.29. The cost-share conditions and
standards for all best management practices listed in this chapter
shall apply to all cost-share agreements signed after October 1,
2002.

(b) The following conditions shall be met while implementing
the best management practices in this chapter:
   1. Wildlife habitat shall be recreated to replace significant
      wildlife habitat lost through the removal of obstructions or other
      means required to install the best management practice.
   2. Wetlands may not be destroyed or degraded as a result of
      installing the best management practice.
   3. Sediment generated from the construction of the best
      management practice shall be controlled consistent with performance
      standards in ch. NR 151 and with standards of the Wisconsin
      Construction Site Best Management Practice Handbook, WDNR
      Pub. WR–222, November 2001 Revision, which is incorporated
      by reference for this chapter and other technical standards disseminated
      by the department under subch. V of ch. NR 151.

Note: Copies of the materials described in subd. 3. may be inspected at the offices
of the department, 101 S. Webster Street, Madison; the Secretary of State, 30 W. Mif-
flin, Madison; and the Revisor of Statutes, 131 W. Wilson, Suite 800, Madison.
4. Permanent and temporary vegetative cover including any or all of the following: seed, mulch, fertilizer, trees, shrubs and other necessary materials, except for conventional agricultural crop cover, shall be established.

5. Preparation, grading, shaping and removal of obstructions necessary to permit the installation of best management practices shall be conducted on the site.

6. Temporary or permanent fencing and the repair of fencing necessary to implement or protect a best management practice shall be built.

7. All required permits, including those mandated by the department, shall be obtained prior to installing a best management practice listed in this chapter.

(c) A landowner, land operator or governmental unit shall comply with the standards in subs. (2) to (28) when installing best management practices.

(d) Cost-sharing is authorized when the best management practices are installed on sites in a manner consistent with par. (b) and the watershed plan approved under this chapter.

(e) Best management practices listed in this chapter and which are conducted below the ordinary high water mark may be eligible for cost-sharing only when the practice is a cost-effective means of preventing or reducing pollutants generated from sources of runoff or from sediments of inland lakes polluted by runoff.

(2) CONTOUR FARMING. (a) Description. Contour farming is farming on sloped land so all cultural operations from seedbed preparation to harvest are done on the contour. This practice shall be implemented using one or more of the standards in par. (c).

(b) Conditions. Cost-sharing may be provided for the establishment of a contour farming system and, if necessary, subsurface drains and the removal of obstructions.

(c) Standards. Standards from the NRCS field office technical guide are as follows:

1. 380 – contour farming; May, 1986.

(3) CONTOUR AND FIELD STRIPCROPPING. (a) Description. Contour and field stripcropping is growing crops in a systematic arrangement of strips or bands, usually on the contour, in alternated strips of close growing crops, such as grasses or legumes, and tilled row crops. This practice shall be implemented using one or more of the standards in par. (c).

(b) Conditions. Cost-sharing may be provided for the establishment of the stripcropping system including field stripcropping.

(c) Standards. Standards from the NRCS field office technical guide are as follows:

2. 586 – field stripcropping; August, 1983.

(4) FIELD DIVERSIONS. (a) Description. Field diversions are structures installed to divert excess water to areas where it can be used, transported or discharged without causing excessive erosion or contacting materials with water pollution potential. Usually the system is a channel with a supporting ridge on the lower side constructed across the slope at a suitable grade with a self-discharging and non-erosive gradient. This practice shall be implemented using one or more of the standards in par. (c).

(b) Conditions. Cost-sharing may be provided for:

a. Diversions and subsurface drains necessary for proper functioning of the diversion. Cost-sharing for subsurface drains is limited to areas on sloping land where the internal water seeps to the surface and causes the land or cover to lose its stability.

b. Installations of structures such as pipe, underground outlets or other outlets, if needed, for proper functioning of the dike, for more even flow or to protect outlets from erosion.

2. Diversions shall discharge to a suitable outlet.

3. Cost-sharing may not be authorized for ditches or dikes designed to impound water for later use, or which will be a part of a regular irrigation system.

(c) Standards. Standards are the following from the NRCS field office technical guide:

5. 468 – lined waterway or outlet; June, 1993.

(5) TERRACES. (a) Description. Terraces are a system of ridges and channels constructed on the contour with a non-erodive grade at a suitable spacing. This practice shall be implemented using one or more of the standards in par. (c).

(b) Conditions. 1. Cost-sharing may be provided for:

a. Terraces and the necessary grading to permit installation of an effective system consistent with the type of terrace and criteria for use specified in the approved priority watershed plan, priority lake plan or project grant application.

b. Materials and installation of underground pipe outlets and other mechanical outlets necessary for the proper functioning of the terrace.

2. Terraces shall discharge to a suitable outlet.

(c) Standards. Standards from the NRCS field office technical guide are as follows:

1. 600 – terrace; September, 1990.
4. 468 – lined waterway or outlet; June, 1993.
8. 638 – water and sediment control basin; September, 1989.

(6) GRASSED WATERSWAYS. (a) Description. A grassed waterway is a natural or constructed drainageway or channel which is shaped, graded and established in suitable cover as needed to prevent erosion by runoff waters. This practice shall be implemented using one or more of the standards in par. (c).

(b) Conditions. Cost-sharing may be provided for the following:

1. Site preparation, grading, shaping, filling, establishing temporary and permanent vegetation cover and for subsurface drains necessary for proper functioning of the waterway.

2. Removal of obstructions necessary to permit installation of an effective system.

(c) Standards. Standards from the NRCS field office technical guide are as follows:

1. 412 – grassed waterway or outlet; June, 1993.
5. 606 – subsurface drain; September, 1989.

(7) HIGH RESIDUE MANAGEMENT SYSTEMS. (a) Description. High residue management systems refer to any tillage and planting system that is designed to reduce soil erosion caused by water or wind. This practice shall be implemented using one or more of the standards in par. (c). These systems include the following:
1. No−till. The soil is left undisturbed prior to planting. Planting is completed in a narrow seedbed or slot created by the planter or drill.
2. Mulch−till. The total soil surface is disturbed by tillage prior to planting. Tillage tools such as chisels, field cultivators, disks or sweeps are used.
3. Ridge−till. The soil is left undisturbed prior to planting. The seedbed is prepared on ridges with sweeps, disks or other row cleaners. The ridges are rebuilt for the next year’s crop during cultivation.
4. Strip−till. The soil is left undisturbed prior to planting. Tillage in the row is done at planting using tools such as a rototiller, in row chisel or other row cleaner.

(b) Conditions. 1. Cost−sharing may be provided on a per acre basis to convert to high residue management systems.
2. Cost−sharing may not be provided to a landowner or operator for both this practice and cropland protection cover (green manure) for the same acreage in the same crop year without prior departmental approval.
3. Cost−sharing may not be provided for continuous no−till unless surface applications of nutrients, including animal manure, are prohibited or the surface application of nutrients is in compliance with s. NR 151.07. Continuous no−till is defined as 3 or more consecutive years.
4. Cost−sharing may be provided for nutrient management and pesticide management under subs. (8) and (9) provided that the approved priority watershed plan, priority lake plan or project grant application identifies these practices as eligible.
5. A minimum 30% residue coverage shall remain on the soil surface after planting.
6. Tillage and planting shall occur as close to the contour as practical.
7. Residue cover may be from meadow, winter cover crop, and small grain or row crop.

(c) Standards. The practice shall meet the requirements in either NRCS field office technical guide; Technical Standard:
1. 329A– residue management, no till and strip till; May, 1998.

(8) NUTRIENT MANAGEMENT. (a) Description. Nutrient management is controlling the amount, source, form, location and timing of application of plant nutrients, including organic wastes, sludge, commercial fertilizers, soil reserves and legumes, for the purpose of providing plant nutrients and minimizing the entry of nutrient to surface water and groundwater. This practice shall be implemented using the standard in par. (c).

(b) Conditions. As part of a nutrient management plan, cost−sharing may be provided for:
1. Soil testing including residual nitrogen analysis. Cost−sharing for soil testing shall be limited to an initial testing for purposes of plan preparation and another test 4 years after plan preparation.
2. Manure nutrient analysis. Cost−sharing for manure nutrient analysis shall be limited to an initial analysis for purposes of plan preparation and another analysis 4 years after plan preparation.
3. Use of crop consulting services for the purpose of preparing and implementing a nutrient management plan. To be eligible for cost−sharing, consultants shall meet the certification requirements in ch. ATCP 50.

(c) Standards. NRCS field office technical standard: 590–nutrient management; March, 1999.

(9) PESTICIDE MANAGEMENT. (a) Description. Pesticide management is controlling the handling, disposal, type, amount, location and timing of application of pesticides in order to minimize contamination of water, air and nontarget organisms. This practice shall be implemented using one or more of the standards in par. (c).

(b) Conditions. 1. As part of a pesticide management plan, cost−sharing may be provided for:

a. Spill control facilities with liquid−tight floors for pesticide handling areas. Spill control facilities consist of structures designed to contain accidental spills or overflows from pesticide mixing, loading and unloading operations for the purposes of groundwater and surface water protection. The items eligible for cost−share funds associated with these facilities include a sealed, liquid−tight, reinforced concrete pad for the mixing area; water−tight walls or perimeter flow diversion structures to convey spills or contaminated water to the sump area; perimeter flow diversion structures needed to convey surface water away from the mixing area; a shallow sump collection area capable of storing spills, runoff, washwater and precipitation that may leak or fall on the pad; roof structures and walls protecting the pad mixing area; approach ramps; water supply systems needed for the facility; and sump pump alarm and recovery systems.

b. Use of crop consulting services for the purpose of preparing and implementing an integrated crop management plan for not more than 3 years per operation. To be eligible for cost−sharing, consultants shall meet the certification requirements in ch. ATCP 50.

2. Operators shall adhere to the requirements of chs. ATCP 29 (pesticide use and control) and 33 (pesticide bulk storage).

3. Licensed commercial pesticide applicators, as described in s. ATCP 29.11, are not eligible for cost−share funding for this practice.

4. Material storage buildings are not eligible for cost−sharing under this subsection.

(c) Standards. The following standards apply under this subsection:
2. Designing Facilities for Pesticide and Fertilizer Containment, MWPS−37, 1st ed. 1991, which is incorporated by reference for this chapter.

Note: Copies of this publication may be inspected at the offices of the department, 101 S. Webster Street, Madison; NRCS; the Secretary of State, 30 W. Mifflin, Madison; and the Revisor of Statutes, 131 W. Wilson, Suite 800, Madison.

(10) CROPLAND PROTECTION COVER (GREEN MANURE). (a) Description. Cropland protection cover are close−growing grasses, legumes or small grain grown for seasonal protection and soil improvement. This practice shall be implemented using the standard in par. (c).

(b) Conditions. 1. Cost−sharing may be provided for the planting of cover and green manure crops for all of the following purposes:

a. To control erosion during periods when the major crops do not furnish adequate cover.

b. To add organic material to the soil.

c. To improve infiltration, aeration and tilth to the soil.

2. Cost−sharing may only be provided for those fields that contribute to the degradation of water quality as a result of harvesting a crop during the growing season that either leaves the
field devoid of residue or lacks enough residue from the harvested crop to provide for adequate surface protection.

3. Cost-sharing may not be provided to a landowner or land operator for both this practice and high residue management systems for the same acreage in the same crop year without prior departmental approval.

(c) Standards. NRCS field office technical guide: 340 – cover and green manure crop (acre); May, 1986.

(11) INTENSIVE GRAZING MANAGEMENT (ROTATIONAL GRAZING).
(a) Description. Intensive grazing management is the division of pastures into multiple cells that receive a short but intensive grazing period with high animal density followed by a period suitable to allow for the recovery of the vegetative cover. Rotational grazing systems can correct existing pasturing practices that result in degradation and should replace the practice of summer dry-lots when this practice results in water quality degradation.

(b) Conditions. 1. Cost-sharing may be provided for the installment of rotational grazing systems on cropland, animal lots or pastures that are currently contributing sediments, nutrients or pesticides to a water source. This practice may also be eligible for an animal lot that adversely impacts groundwater or surface water, provided the adverse impacts are adequately addressed through the resulting reduction in animal manure and use of any additional cost-effective best management practices such as clean water diversions.

2. In instances of eligibility due to soil loss or eligibility due to animal lot abandonment, cost-sharing may be provided for:
   a. Practices that would remediate streambank erosion and streambank habitat degradation.
   b. Practices that would exclude livestock from woodlands, wildlife lands and recreational lands.
   c. The establishment of cattle access lanes that are stable and not prone to erosion. This includes cattle crossings either on streams or severely eroded areas.
   d. The development of permanent boundary and main paddock fences. This may include perimeter fencing, lane fencing, portable fencing including gates and electrical connections and supply limited to the immediate area being protected.
   e. The establishment of good seeding stands for pasture and hayland planting.
   f. The development of a watering system including pipeline watering systems, pasture watering systems, wells, spring developments and portable watering systems such as pumps, pipes and tanks. The total cost-share of the watering system may not exceed $2,000 for components listed in this subparagraph.
   g. The stabilization of a site eroding due to cattle access or cropland erosion through the critical area planting processes.

Note: NRCS has examples of practices that may be beneficial to this BMP, for example 532-pasture and hayland planting; March, 1992. For more information reference UWEX Publication A5329 Wisconsin Pastures for Profit: A guide to rotational grazing – 1997.

(12) CRITICAL AREA STABILIZATION.
(a) Description. Critical area stabilization is the planting of suitable trees, shrubs and other vegetation appropriate for controlling and stabilizing sloped lands which are producing nonpoint source pollutants and lands which drain into bedrock crevices, openings and sinkholes. This practice shall be implemented using one or more of the standards in par. (c).

(b) Conditions. Trees may not be sold during the operation and maintenance period.

(c) Standards. Standards from the NRCS field office technical guide are as follows:

(13) GRADE STABILIZATION STRUCTURES.
(a) Description. A grade stabilization structure is a structure used to reduce the grade in a drainageway or channel to protect the channel from erosion or to prevent the formation or advance of gullies. This practice shall be implemented using one or more of the standards in par. (c).

(b) Conditions. 1. Cost-sharing may be provided for:
   a. Channel linings, chutes, drop spillways and pipe drops of less than 15 feet in height to discharge excess water.
   b. Detention or retention structures, such as erosion control dams, desilting reservoirs, sediment basins, debris basins or similar structures of less than 15 feet in structural height and with maximum storage capacities of less than 15 acre-feet.
   c. Cost-sharing may be provided for structures with embankments of 15 to 25 feet in structural height or with maximum storage capacities of 15 to 50 acre-feet if the department makes a determination in writing that all of the following apply:
      a. Control of the site is needed to achieve the water quality objectives specified in an approved priority watershed or lake plan or in the approved priority watershed plan, priority lake plan or project grant application.
      b. Construction of the structure is cost-effective.
      c. Failure of the structure would have minimum potential to endanger life or real or personal property.
   3. Cost-sharing may not be authorized for any grade stabilization structure on a navigable stream or stream classified as supporting a fishery.

(c) Standards. Standards from the NRCS field office technical guide are as follows:
2. 350 – sediment basin; September, 1990.
3. 638 – water and sediment control basin; September, 1989.

(14) AGRICULTURAL SEDIMENT BASINS.
(a) Description. Agricultural sediment basins are permanent basins designed and constructed to reduce the transport of pollutants to surface waters and wetlands of sediment eroded from critical agricultural fields. This practice shall be implemented using one or more of the standards in par. (c).

(b) Conditions. 1. Cost-sharing may be provided for the sediment basin including embankments, principal and emergency spillway structures, including anti-seep collars, dewatering outlet and outlet protection.

2. Cost-sharing may not be provided for:
   a. Basins having embankments exceeding 25 feet in structural height or with maximum storage capacity of more than 50 acre-feet.
b. Basins located where failure may result in loss of life.

3. Sediment basins with embankments of 15 to 25 feet in structural height or with maximum storage capacities of 15 to 50 acre-feet in volume may be cost-shared only when approved by the department, in writing, prior to construction. For the department to authorize cost-sharing, it shall make the following findings:

a. Control of the site is needed to achieve the water quality objectives specified in the approved priority watershed plan, priority lake plan or project grant application.

b. Construction of the structure is cost-effective.

c. Failure of the structure would have minimum potential to endanger life or real or personal property.

(c) Standards. The sediment basin shall be designed consistent with standards for construction site sediment basins in the Wisconsin Construction Site Best Management Practice Handbook, WDNR Pub. WR−222, November 2001 Revision, the Wisconsin department of natural resources conservation practice standard 1001 for wet detention basins, June 1999 and the NRCS field office technical standards from the NRCS field office technical guide as follows:

1. 350 – sediment basin; September, 1990.
5. 468 – lined waterway or outlet; June, 1993.
8. 561— heavy use protection area; September, 1999.

Note: Copies of this publication may be inspected at the offices of the department, 101 S. Webster Street, Madison; the Secretary of State, 30 W. Mifflin, Madison; and the Revisor of Statutes, 131 W. Wilson, Suite 800, Madison. Copies of the NRCS technical standards may also be inspected at each county land conservation department office and at the state NRCS office, 6515 Watts Road, Madison.

(15) SHORELINE AND STREAMBANK PROTECTION. (a) Description. Shoreline or streambank stabilization is the stabilization and protection of the banks of streams and lakes against erosion and the protection of fish habitat and water quality from livestock access. This practice shall be implemented using one or more of the standards in par. (c).

(b) Conditions. 1. The cost-share recipient is responsible for obtaining all permits for the installation of the practice.

2. Cost-sharing may be provided:
   a. For planting trees if approved by a county’s land conservation department in consultation with the department fish manager.
   b. For water pumps and other measures required to eliminate livestock access to water.
   c. To install livestock and machinery crossings that will minimize disturbance of the stream channel and banks.
   d. For the design and placement of practices such as shaping and placement of vegetation, riprap or structures which improve fishery habitat, or other materials on banks and shores identified in an approved priority watershed plan, priority lake plan or the project grant application, or in areas where streambank repair is the least costly alternative. Written departmental approval is required for the stabilization of banks with structural heights higher than 15 feet.
   e. For required permits.

Note: A permit may be required under ch. 30, Stats., when installing this best management practice. For more information, please contact the Bureau of Fisheries Management and Habitat Protection, P.O. Box 7921, Madison, Wisconsin 53707.

3. Cost-sharing is not authorized for wood chunks, unsorted demolition material, brick, plaster, blacktop and any other material that could produce leachates or would violate provisions of statutes or administrative codes for use as riprap.

(c) Standards. 1. Standards from the NRCS field office technical guide are as follows:
   d. 472 – livestock exclusion; June, 1983.
   e. 612 – tree planting; October, 1991.
   g. 560 – access road; March, 1989.
   h. 614 – trough or tank; September, 1989.
   i. 510 – pasture and hayland management; December, 1984.

2. Other standards:
   b. American fisheries society’s stream obstruction removal guidelines, which are incorporated by reference for this chapter.
   c. U.S. department of agriculture’s Stream Habitat Improvement Handbook, publication R8−TP−16, June 1992, which is incorporated by reference for this chapter.

Note: Copies of the materials described in subd. 2. a. to d. may be inspected at the offices of the department, 101 S. Webster Street, Madison; the Secretary of State, 30 W. Mifflin, Madison; and the Revisor of Statutes, 131 W. Wilson, Suite 800, Madison.

(16) RIPARIAN BUFFERS. (a) Description. Riparian buffers are areas in which vegetation is enhanced or established to reduce or eliminate the movement of sediment, nutrients and other nonpoint source pollutants to adjacent surface water resources or ground-water recharge areas and to protect the banks of streams and lakes from erosion and to protect fish habitat. This practice shall be implemented using one or more of the standards in par. (c).

(b) Conditions. 1. Cost−sharing may be provided only when the riparian buffers are used consistent with the approved priority watershed plan, priority lake plan or project grant application or approved priority watershed or lake plan.

2. Cost−sharing may be provided for:
   a. Permanent fencing to protect a riparian buffer.
   b. Establishment or enhancement of permanent vegetative cover in a riparian buffer.
   c. Mulch, fertilizer, seed, seedling trees and other necessary materials.

(c) Standards. NRCS field office technical guide technical standards are as follows:

3. 386 – field border; December, 1991.
5. 472 – livestock exclusion; June, 1983.

(17) LAKE SEDIMENT TREATMENT. (a) Description. Lake sediment treatment is a chemical, physical or biological treatment of polluted lake sediments.

(b) Conditions. 1. Cost−sharing may be provided for:
   a. Design and treatment of lake sediments with chemical compounds, including, but not limited to, aluminum sulfate, sodium aluminate, ferric chloride, calcium hydroxide and calcium carbonate.
b. Treatment of lake sediments with physical or biological methods including, but not limited to, the aeration of water overlying lake sediments and the biological manipulation of organisms which exacerbate sediment contamination of overlying lake water.

2. Cost-sharing may not be provided for the dredging of sediments.

3. Water quality objectives shall be achieved through the control of polluted lake sediments.

4. Significant nonpoint sources of the pollution to the lake shall be controlled prior to treatment of lake sediments.

5. The department prior to implementation shall approve the engineering design and, if required will issue an appropriate permit.

(c) Standards. The design and proposed implementation of lake sediment treatments shall be approved by the department prior to implementation.

18 WETLAND RESTORATION. (a) Description. Wetland restoration is the construction of berms or destruction of the function of tile lines and drainage ditches to create conditions suitable for wetland vegetation. This practice shall be implemented using the standard in par. (c).

(b) Conditions. Cost-sharing may be provided for:

1. Earth moving to construct or remove berms, levees or dikes.

2. Earth moving to fill in portions of drainage ditches.

3. Destruction of portions of tile lines.

4. Vegetative cover needed to develop or restore wetlands consistent with the approved priority watershed plan, priority lake plan or project grant application.

(c) Standards. NRCS field office technical guide technical standards 657 – wetland restoration; September, 2000.

19 SHORELINE HABITAT RESTORATION FOR DEVELOPED AREAS. (a) Description. Shoreline habitat restoration is the establishment in developed areas of a shoreline buffer zone of diverse native vegetation that extends inland and waterward from the ordinary high water mark. The shoreline habitat restoration design seeks to restore the functions provided by the original, natural vegetation, and includes a mixture of native trees, shrubs, ground cover or wetland species. This practice includes the following:

1. Natural recovery. Used where native vegetation will recover naturally when a site is protected from disturbance, due to the presence of existing native plants, and adequate seed sources and site conditions. This method may be applied to wet margins of lakes or rivers where turf grasses are not well established and in shallow water areas adjacent to shoreline restoration areas.

2. Accelerated recovery. Used in areas not suited for natural recovery. Native vegetation is established by seeding and planting. This method shall be used in areas where dense turf grasses have been maintained for several years. This may also be used in limited situations where one or more layers of natural vegetative cover have been removed if approved by the department. This practice shall be implemented using one or more of the standards in par. (c).

(b) Conditions. 1. Cost-sharing for shoreline habitat restoration may be approved when existing shoreline vegetation lacks the structure or complexity to support habitat functions for littoral and riparian areas.

2. Cost-sharing may be provided for plants, seed, mulch and erosion control materials.

3. Cost-sharing may be provided for labor and services necessary for installation, not to exceed 70% of total practice costs, or not to exceed a cost containment policy developed by the governmental unit for this practice.

4. Cost-sharing may not be provided for the following:

a. Practice design unless approved by the department.

b. Plants, seed, mulch or other materials not approved by the department.

c. Shoreline erosion control materials such as riprap or biologs unless approved by the department.

d. Material for stairs, walkways, paths or other access structures.

5. The following conditions shall be met in order for cost-sharing to be available:

a. No violations of county and local shoreland zoning requirements are present on the entire property.

b. Runoff from roofs, driveways or other hard surfaces on the property shall be maintained in sheet flow with no channels or gullies to the greatest extent possible. This can be accomplished with downsput runoff spreaders, directing runoff to flat or gently sloping grassy areas and minor landscaping to temporarily pond or spread out runoff. There may be no channelized flow through the restoration area. Where fertilizers are desired outside the buffer area, zero−phosphorus types shall be used unless soil tests specifically indicate a need for phosphorus and the project sponsor approves its use.

c. No changes in land use or management may occur that cause increased pollution to surface water from sources that were controlled prior to the installation of a shoreline habitat restoration practice.

6. The following dimensions or restrictions apply to the restoration:

a. The buffer created by shoreline habitat restoration shall extend the entire length of the lot along the shoreline except that a viewing and access corridor is allowed, which corridor will not be eligible for cost−sharing. Corridors may not exceed 30 feet in width and may encompass no greater than 30% of the property for lots less than 100 feet wide. The restoration area design may include the provision of water access, the enhancement of desirable views, the screening of unwanted views and consideration of privacy. Where buildings are set back 50 feet or more, the buffer shall extend at least 35 feet inland from the ordinary high water mark. Where buildings are set back less than 50 feet, the zone where vegetation removal and land−disturbing activity are prohibited after buffer establishment, shall extend to within 15 feet of the structure.

b. Shallow water areas that are capable of supporting aquatic vegetation waterward of the ordinary high water mark shall be managed as a zone where vegetation removal and land−disturbing activity are prohibited after buffer establishment. Areas waterward of the viewing and access corridor are exempt from this condition.

c. An evaluation of existing vegetation on the site is necessary prior to the selection of plant materials and restoration method. The natural vegetation that occurs in the region or vicinity of the restoration site shall be considered in developing restoration plans.

d. In order to restore the functional values of the vegetative buffer, it shall consist of 3 layers: a ground cover, a shrub layer and a tree canopy. Vegetation in all 3 layers shall be vigorous, diverse and structurally complex. The only exception to this requirement shall be where natural conditions in the region lack these characteristics.

e. Vegetation shall be adapted to the local soils, climate and the surrounding vegetation. Only species approved by the project sponsor may be planted. Native species are required, and certain invasive species such as reed canary grass and purple loosestrife are prohibited.

f. The project sponsor shall identify the most appropriate recovery methods for each individual site.

7. The following conditions apply to practice installation:
a. Refer to compliance with local NRCS planting recommendations to determine recommended planting dates for ground covers, shrubs and trees.

b. Exposure of bare soil shall be kept to an absolute minimum by using methods such as black plastic covers to remove competing weeds. All exposed soils shall be mulched. A temporary seedling is required on sites where permanent ground cover will not be established until the following year. A temporary or companion seeding is required on any exposed slopes exceeding 12%. Mulching and netting or erosion control matting is required on slopes exceeding 20%.

c. Zero–phosphorus start–up fertilization is permitted. Phosphorus application is only permitted where soil tests indicate deficiencies.

d. Herbicides approved for use near water may be used only where essential, and with the approval of the project sponsor.

e. Heavy equipment is prohibited, except where specifically approved by the project sponsor, to prevent soil compaction. If heavy equipment is used, tree roots shall be protected by not driving over the root zone.

8. The following conditions apply to practice operation and maintenance:

a. All buffer areas are to be managed as zones where vegetation removal and land–disturbing activity are prohibited after buffer establishment.

b. Fertilizers are prohibited after the buffer is established.

c. Herbicides are prohibited except as approved by the project sponsor, where this is the best method to control undesirable invasive species.

d. Burning to clear or maintain buffer areas shall be approved by the project sponsor, and is limited to regions where prairies are the natural habitat.

e. Cutting of trees or shrubs may be done only to prevent safety hazards, or to remove undesirable competitive species, and shall be approved by the project sponsor.

f. The forest floor duff layer and leaf litter shall remain intact to provide a continuous ground cover and meet the habitat functions of this practice.

g. Lawn mowing is permitted in the viewing and access corridors. Elsewhere, mowing is prohibited except in established prairie buffer areas, and in accordance with a mowing plan approved by the project sponsor. In viewing and access corridors, mowing is allowed to a minimum height of 10 inches, and only as needed to reduce competition from undesirable species. Mowing may occur only between August 1 and September 1 to avoid disturbance of nesting birds and allow regrowth before winter.

h. Vehicles, boats, docks or other equipment storage shall be excluded from the restoration area to prevent soil compaction and damage to the buffer vegetation. Boats and docks may be temporarily stored during non–growing seasons as long as vegetative cover is unaffected.

i. The access corridor may not channel runoff to the waterbody and shall be located to avoid areas of high runoff or erodible soils. Grass or other cover that will hold the soil is required for the access corridor.

j. Except for areas waterward of the access corridor, areas waterward of the buffer shall be managed as zones where vegetation removal and land–disturbing activity are prohibited after buffer establishment.

(c) Standards. UW Extension Publication GWQ014, Shoreline Plants and Landscaping, DNR Publication PUBL–WM–228, Home on the Range – Restoring and Maintaining Grasslands for Wildlife, which is incorporated by reference for this chapter, or similar publications as approved by the project sponsor.

Note: Copies of these publications may be inspected at the offices of the department, 101 S. Webster Street, Madison; the Secretary of State, 30 W. Mifflin, Madison; and the Revisor of Statutes, 111 W. Wilson, Suite 800, Madison.

(20) BARNYARD RUNOFF MANAGEMENT. (a) Description. Barnyard runoff management is the use of structural measures to contain, divert, retain, treat, collect, convey, store or otherwise control the discharge of surface runoff from outdoor areas of concentrated livestock activity. Measures include, gutters, downspouts and diversions to intercept and redirect runoff around the barnyard, feeding area or farmstead. This practice shall be implemented using one or more of the standards in par. (c).

(b) Conditions. 1. Cost–sharing may not be provided if:

a. The operator intentionally aggravated a pollution discharge for the purpose of receiving cost–sharing.

b. The discharge could be prevented through improved management practices at significantly lower costs than for a barnyard runoff system.

c. The operator could have prevented the discharge by means of a previously agreed operations and maintenance plan with the department, the department of agriculture, trade and consumer protection, the county land conservation committee or the natural resources conservation service.

2. Cost–sharing may not be provided for:

a. Costs to design or construct a barnyard that is not installed.

b. Costs to construct or modify a building. This subdivision paragraph does not apply to a modification that is essential for the installation of a barnyard runoff control system or to the construction of a roof system pursuant to sub. (26).

c. Costs for equipment to apply manure to land.

d. Costs resulting from anticipated changes in livestock numbers, housing or management.

3. Cost–sharing may be provided for:

a. Diversions, gutters, downspouts, collection basins, infiltration areas, filter strips, waterway outlet structures, piping, land shaping and filter walls needed to manage runoff from areas where livestock manure accumulates.

b. Concrete paving of portions of yards necessary to support walls, necessary to enable proper yard scraping and used as a settling basin.

c. Concrete paving of all or portions of the yard required to protect groundwater when specified in the approved priority watershed plan, priority lake plan, ch. NR 243 project or other project grant application.

d. Cost–sharing may be provided for:

(a) The operator could have prevented the discharge by means of a previously agreed operations and maintenance plan with the department, the department of agriculture, trade and consumer protection, the county land conservation committee or the natural resources conservation service.

c. The operator could have prevented the discharge by means of a previously agreed operations and maintenance plan with the department, the department of agriculture, trade and consumer protection, the county land conservation committee or the natural resources conservation service.

2. Cost–sharing may not be provided for:

a. Costs to design or construct a barnyard that is not installed.

b. Costs to construct or modify a building. This subdivision paragraph does not apply to a modification that is essential for the installation of a barnyard runoff control system or to the construction of a roof system pursuant to sub. (26).

c. Costs for equipment to apply manure to land.

d. Costs resulting from anticipated changes in livestock numbers, housing or management.

3. Cost–sharing may be provided for:

a. Diversions, gutters, downspouts, collection basins, infiltration areas, filter strips, waterway outlet structures, piping, land shaping and filter walls needed to manage runoff from areas where livestock manure accumulates.

b. Concrete paving of portions of yards necessary to support walls, necessary to enable proper yard scraping and used as a settling basin.

c. Concrete paving of all or portions of the yard required to protect groundwater when specified in the approved priority watershed plan, priority lake plan, ch. NR 243 project or other project grant application.

(c) Standards. 1. Standards from the NRCS field office technical guide are as follows:


b. 558 – roof runoff management; March, 1996.

c. 342 – critical area planting; May, 2000.

d. 616 – heavy use area protection; August, 1999.

e. 382 – fence; November, 1999.


g. 468 – lined waterway or outlet; June, 1993.


i. 620 – underground outlet; June, 1993.

j. 350 – sediment basin; September, 1990.

k. 533 – pumping plant for water control; September, 1986.

l. 590 – nutrient management; March, 1999.

m. 312 – waste management system; January 1987.

2. Other standards as approved by the department.

(21) ANIMAL LOT ABANDONMENT OR RELOCATION. (a) Description. Animal lot relocation is relocation of an animal lot from a site such as a floodway to a suitable site to minimize the amount of pollutants from the animal lot to surface or ground waters. This practice does not include the purchase of land. This practice shall be implemented using one or more of the standards in par. (c).

(b) Conditions. 1. Cost–sharing may be provided for:
a. Stabilization and abandonment of a site, which does or does not include relocation to a different site owned, operated or controlled by the cost-share recipient. For abandonment of a site which does not include relocation, the site shall either have been in existence for a minimum of 3 years and found to be a significant nonpoint source of pollution, or has been identified during a watershed inventory as being a nonpoint source of pollution and listed as eligible in the approved priority watershed plan, priority lake plan or project grant application.

b. Reconstruction or replacement of buildings and other structures necessary for the relocation of the animal lot.

c. Proper abandonment of wells required as a result of the relocation of the animal lot.

d. Runoff management practices needed on the relocated lot consistent with sub. (20).

e. Stabilization and abandonment of a previously used earthen animal lot which has either been in existence for a minimum of 3 years and is found to be a significant nonpoint source of pollution or has been identified during a watershed inventory as being a nonpoint source of pollution and is listed as eligible in the approved priority watershed plan, priority lake plan or project grant application.

2. Wells shall be properly abandoned in accordance with the requirements of ch. NR 812.

3. The landowner agrees to abandon the existing site permanently for livestock use and agrees to record a restrictive covenant to this effect in the office of the register of deeds for each county in which the property is located. The restrictive covenant shall permanently exclude the use of the property by livestock. A maximum of 10 animals may be kept on the site, provided that no more than 4 individual animals exceed a live weight of 200 pounds and the desired level of pollutant control for the site is maintained.

4. A plan for relocation shall be approved by the governmental unit, in writing, prior to initiation of relocation. The project grant application shall list criteria for relocation plan approval. At a minimum, these criteria shall include the following:

a. The site is identified as eligible in the approved priority watershed plan, priority lake plan or project grant application.

b. The relocation to a site owned, operated or controlled by the cost-share recipient is cost-effective provided the cost-sharing for repairing, reconstructing or replacement of buildings and other structures at the relocation site does not exceed the appraised values of the buildings and other structures to be abandoned which have utility for livestock operations.

c. The relocated lot will not significantly contribute to a water quality problem.

5. If the cost-share recipient has received state cost-share funding at the site to be abandoned for practices listed in this paragraph, the amount of cost-share received shall be deducted from the relocation cost-share payment.

6. In cases of abandonment which does not include relocation to a different site owned, operated or controlled by the cost-share recipient, livestock may not be relocated to a site which will significantly contribute to surface water or groundwater quality degradation. A written plan shall be submitted to the governmental unit for approval detailing the disbursement of the animals.

7. The abandonment of a site without relocation to a site owned, operated or controlled by the cost-share recipient is cost-effective provided the cost-share grant does not exceed the estimated cost-share grant of the best management practices which would have been installed at the abandoned site. The best management practice cost-effective requirement may be waived by the department if the site to be abandoned has a significant water quality impact and the proposed best management practice cannot ensure an acceptable level of water quality protection when compared to relocation.

(c) Standards. Standards from the NRCS field office technical guide are as follows:

3. 558 – roof runoff management; March, 1996.
5. 561 – heavy use area protection; August, 1999.
8. 468 – lined waterway or outlet; June, 1993.

(22) Well abandonment. (a) Description. Well abandonment is the proper filling and sealing of a well to prevent it from acting as a channel for contaminants to reach the groundwater or as a channel for the vertical movement of surface water to groundwater. This practice shall be implemented using one or more of the standards in par. (c).

(b) Conditions. 1. Cost-sharing may be provided for:

a. The removal of the pump, pump piping, debris or other obstacles that interfere with the proper sealing of the well.

b. The sand-cement grout, sodium bentonite, clay slurry, chipped bentonite or concrete used for the well sealing.

c. Chlorine used as a disinfectant.

d. The backfilling operations to fill the surface around a well pit.

e. The necessary labor costs to complete the proper abandonment.

2. Cost-sharing may not be provided for:

a. The abandonment of wells at an oil or gas drilling site or wells that produced gas or oil.

b. The abandonment of wells used for test or exploratory purposes.

c. The abandonment of mine shafts, drill holes or air vents associated with the mining industry.

d. The abandonment of high capacity wells.

(c) Standards. 1. NRCS field office technical standard 351 – Well Decommissioning; April, 1999.

2. Section NR 812.26 on well and drillhole abandonment.

(23) Manure storage facilities. (a) Description. A manure storage facility is a structure which stores manure from operations where manure is generated or from operations where the location and site characteristics of manure spreading areas result in a high potential for runoff to carry pollutants to lakes, streams and groundwater during periods of frozen or saturated conditions. The facility shall be necessary to accommodate proper land application of manure in accordance with a nutrient management plan. This practice shall be implemented using one or more of the standards in par. (c).

(b) Conditions. 1. A nutrient management plan for the operation is required.

2. Cost-sharing may be provided if:

a. The locations and site characteristics of areas where manure is spread have high potentials to carry runoff to lakes and streams and the facilities are necessary to accommodate proper land application of the manure in accordance with the nutrient management plan.

b. The existing storage or spreading of manure has a high potential for contaminating groundwater as specified in the approved priority watershed plan, priority lake plan or project grant application.
3. Cost-sharing may be provided for:
   a. Aerobic or anaerobic basins, liquid manure tanks and solid
      manure stacking facilities, piping and other stationary equipment
      necessary for conveying manure to the storage facility required as
      part of a nutrient management plan.
   b. Storage capacities of no less than 30 days and no more than
      365 day manure generation.
   c. Leases of manure storage tanks subject to the restrictions
      of ss. NR 120.18 (2) (b) and 154.03 (1) (i) 8.
   d. The repair, modification or abandonment of existing
      manure storage facilities needed to meet water quality objectives
      including well abandonment required under ch. NR 812.
   e. Manure storage structures at operations where manure is
      generated.
4. Cost-sharing may not be provided if:
   a. Manure can be spread at acceptable rates on locations
      which are nearly flat and represent a minimal risk to surface water
      and groundwater or which do not drain to surface waters.
   b. The landowner intentionally aggravated conditions in
      order to qualify for cost-sharing.
5. Cost-sharing may not be provided for any of the following:
   a. Portable pumps and other nonstationary equipment.
   b. Buildings or modifications to buildings.
   c. Equipment for land applying or incorporating manure.
   d. Additional costs associated with the construction of a
      manure storage facility incurred for the purpose of providing
      structural support for a building or other structure located over or
      attached to the facility.
6. Runoff from solid manure stacking facilities shall be con-
   trolled.
7. Manure stored in the storage facility shall be land applied
   in accordance with the operation’s nutrient management plan.
   Manure stored in facilities designed to be emptied annually or
   semi-annually may not be applied on frozen or saturated ground
   and shall be incorporated within 3 days after application.
8. Basins shall be constructed to assure sealing of the bottom
   and sides to prevent contamination of wells and groundwater.
9. The project sponsor prior to the payment of cost-share
   funds shall certify compliance with the manure management
   prohibitions in s. NR 151.08.
(c) Standards. 1. NRCS field office technical guides are as
   follows:
   b. 313 – waste storage structure; September, 1998.
   d. 590 – nutrient management; March, 1999.
   e. 382 – fence; November, 1999.
   f. 561 – heavy use protection area; September, 1999.
2. Other standards as specified by the department.
(24) ANIMAL WASTE STORAGE SYSTEM ABANDONMENT. (a) Description. Manure storage system abandonment is the perma-
   nent disabling and proper abandonment of leaking and improperly
   sited manure storage systems including a system with bottom at
   or below groundwater level; a system whose pit fills with ground-
   water; a system whose pit leaks into the bedrock; a system which
   has documented reports of discharging manure into surface water
   or groundwater due to structural failure; or a system with evidence
   of existing structural failure or evidence of imminent structural
   failure that will likely result in resource degradation. This practice
   shall be implemented using one or more of the standards in par.
   (c).
(b) Conditions. 1. Cost-sharing may be provided for the fol-
   lowing practices to protect water resources from contamination
   by manure:
   a. Proper removal and disposal of accumulated wastes in the
      pond or structure.
   b. Removal of any constructed soil liner, concrete or mem-
      brane liner.
   c. Removal of all soil saturated with waste, which can be
      removed.
   d. Proper land spreading of excavated liner material and
      waste saturated soil.
   e. Filling, shaping to insure surface drainage away from site,
      and seeding of area.
2. Cost-sharing may not be provided for removal and spreading
   of manure that can be removed using conventional equipment
   and routine agricultural practices.
(c) Standards. 1. Standards from the NRCS field office technical
   guide are as follows:
   b. 313 – waste storage structure; September, 1998.
   d. 590 – nutrient management; March, 1999.
   e. 382 – fence; November, 1999.
   f. 561 – heavy use protection area; September, 1999.
2. Other standards as specified by the department.
(25) MILKING CENTER WASTE CONTROL SYSTEMS. (a) Description. A milking center waste control system is a piece of equip-
   ment, practice or combination of practices installed in a milking
   center for purposes of reducing the quantity or pollution potential
   of the wastes. This practice shall be implemented using one or
   more of the standards in par. (c).
(b) Conditions. 1. Cost-sharing may be provided for:
   a. Design and construction of filter strip systems with
      appropriate pretreatment measures, storage systems and land
      irrigation equipment.
   b. Repair or modification of existing milking center waste
      control measures.
   c. Stationary waste transfer equipment, such as piping and
      pumps, needed to convey milking center wastes to storage, treat-
      ment or land application systems provided that the equipment is
      an integral component of the system and is designed for that
      exclusive use.
   d. Other milking center waste control measures when they are
      needed to assure that the milking center waste treatment systems
      will meet identified water quality objectives. These measures may
      include conservation sinks, pre-cooler water utilization systems,
      manifold cleaning systems, air injection systems, waste milk
      diverter valves, booster pumps for parlor floor cleaning and other
      measures as approved by the department.
2. Cost-sharing may not be provided for:
   a. Design and construction of systems, practices or compo-
      nents that are installed or adopted for purposes other than for
      the correction of an identified water pollution hazard.
   b. Buildings or modifications to buildings, unless modific-
      ations to buildings are essential for installation of a milking center
      waste control system.
   c. Portable equipment for spreading milking center wastes
      onto land or incorporating the wastes into land.
(c) Standards. 1. Standards from the NRCS field office technical
   guide are as follows:
   c. 614 – trough or tank; September, 1989.
   d. 313 – waste storage facility; September, 1998.
   e. 590 – nutrient management; March, 1999.
2. Milking center waste control systems shall be planned in
   accordance with the Pollution Control Guide for Milking Center
Unofficial Text (See Printed Volume). Current through date and Register shown on Title Page.

Wastewater Management (UWEX Pub. No. A3592−July, 1994), which is incorporated by reference for this chapter and designed in accordance with standards approved by the department.

Note: Copies of this document may be inspected at the offices of the department’s bureau of watershed management, NRCS, the secretary of state and the revisor of statutes, all in Madison, WI.

(26) ROOFS FOR BARNYARD RUNOFF MANAGEMENT AND MANURE STORAGE FACILITIES. (a) Description. Roofs for barnyard runoff management and manure storage facilities are a roof and supporting structure constructed specifically to prevent precipitation from contacting manure. This practice shall be implemented using the standards in par. (c).

(b) Conditions. 1. Cost−sharing may not be provided for materials and labor for other structures or buildings.

2. The roofed structure may not be permanently enclosed unless the landowner receives written approval from the department.

a. For purposes of this subsection, a permanently enclosed structure is defined as a structure where the sum of the length of the walls exceeds 50% of the total length of the perimeter of the structure. When the structure has a shape other than a rectangle or square, each rectangular or square portion of the total structure, excluding the common sides, shall be calculated separately to determine whether it exceeds 50%. A segment of the perimeter shall be considered a wall if greater than 50% of the opening from eave to floor is of solid building material.

b. An application requesting cost−sharing for the enclosure of a roofed barnyard runoff management system shall be submitted in writing to the department for its approval. The written application and the applicable cost−share agreement shall include a recognition by the landowner or land operator that the barnyard may not be used for purposes other than an animal lot for the duration of the cost−share agreement.

3. The livestock facility may not establish additional outdoor animal lots on the site unless the department certifies that adequate runoff control practices are established for the duration of the cost−share agreement.

(c) Standards. 1. The roof shall be designed to support wind, snow and other live and dead loads consistent with the American Society of Agricultural Engineers (ASAE) Engineering Practice (EP) 288.5, 1992, which is incorporated by reference for this chapter.

Note: Copies of this publication are available for inspection at the central office of the Department of Natural Resources, and the offices of the Revisor of Statutes and the revisor of statutes, all in Madison, WI.

(27) LIVESTOCK FENCING. (a) Description. Livestock fencing is the enclosure, separation or division of one area of land from another in a manner that provides a permanent barrier to livestock. The purpose of the practice is to exclude livestock from land areas that should be protected from grazing or gleaning where degradation of the natural resource will likely result if livestock access is permitted. This practice shall be implemented using one or more of the standards in par. (c).

(b) Conditions. 1. Cost−sharing may be provided for permanent fencing when fencing is needed to:

a. Eliminate the degradation of a surface water body.

b. Reduce the impact to a resource from sedimentation that is being caused by livestock.

c. Exclude livestock from a forest or woodlot.

d. Eliminate the degradation of other natural resources as defined within the approved priority watershed plan, priority lake plan, notice of discharge or project grant application.

2. Cost−sharing may not be provided for:

a. Fencing of cropland fields for the primary purpose of providing areas for gleaning by livestock or for handling or segregating of livestock.

b. Temporary fencing.

c. Situations where benefits to water quality improvement cannot be readily defined.

d. Electric fence energizers.

(c) Standards and specifications. NRCS field office technical guide standards and specifications are as follows:

1. 382− fence; November, 1999.

2. 472− livestock exclusion; June, 1983.

(28) URBAN BEST MANAGEMENT PRACTICES. (a) Description. Urban best management practices include structural urban best management practices and other source area measures, transport system and end−of−pipe measures designed to control storm water runoff rates, volumes and discharge quality. In this definition, “source area” means a component of urban land use including rooftops, sidewalks, driveways, parking lots, storage areas, streets and lawns from which storm water pollutants are generated during periods of snowmelt and rainfall runoff.

(b) Conditions. 1. Cost−sharing may be provided for:

a. Excavation, grading, mulching, seeding, necessary landscaping, piping, drop spillways and other measures required to implement the practice.

b. Land acquisition, including storm sewer rerouting and the removal of structures necessary to install structural urban best management practices.

c. Materials and labor for the initial installation of groundwater monitoring wells required by the department.

d. On a prorated basis, for multi−purpose practices which manage both water quality and unrelated water quantity problems.

2. Cost−sharing under this chapter may not be provided for:

a. Urban best management practices, land acquisition, storm sewer rerouting or removal of structures where the practices serve solely to solve drainage and flooding problems unrelated to the primary water quality improvement strategy in a priority watershed or lake plan or application selected for funding under this chapter.

b. Removal or disposal of accumulated sediments or other materials needed to properly maintain the practice.

(c) Review and approval procedures. 1. The department shall identify acceptable standards for each best management practice in an approved priority watershed plan, approved priority lake plan or project grant.

2. The department shall consider documents containing non−agricultural technical standards developed under the process in subch. V of ch. NR 151 and other documents when identifying acceptable technical standards.

3. The governmental unit, landowner or land operator shall submit preliminary designs for each identified alternative to the department for review and comment.

4. Based on the review of the preliminary designs for each alternative, the governmental unit, landowner or land operator shall submit a detailed design including pertinent information addressing each criterion listed in subd. 5., for the selected alternative prepared by a registered professional engineer or other individual trained in the design of the practice and approved by the department, to the department for review and approval.

5. The department shall approve or disapprove within 90 days the detailed design based on the following criteria:

a. Adequacy of pollutant control to protect surface water, groundwater and wetland resources in accordance with the objectives of a watershed plan. Applicable performance standards identified in ch. NR 151 may be considered and addressed in the detailed design.
NR 120.15 Interim best management practices. (1) INTERIM BEST MANAGEMENT PRACTICES. The department may approve best management practices not listed in s. NR 120.14 where necessary to meet the water resources objectives identified in the watershed plan. The department shall consult with DATCP regarding agricultural best management practices approved under this subsection. The department may identify in the nonpoint source grant agreement design criteria and standards and specifications where an alternative will achieve the same or a greater level of pollutant control. The department shall consult with DATCP regarding alternative design criteria for agricultural best management practices. (2) ALTERNATIVE DESIGN CRITERIA. For best management practices described in s. NR 120.14, the department may approve alternative design criteria or standards and specifications where an alternative will achieve the same or a greater level of pollutant control. The department shall consult with DATCP regarding alternative design criteria for agricultural best management practices. (3) CONSTRUCTION SITE EROSION CONTROL ORDINANCES. (a) An ordinance to control construction site erosion that is adopted by the governmental unit prior to October 1, 2002 shall be consistent with the performance standards in s. NR 151.11. (b) An ordinance to control construction site erosion adopted by the governmental unit after October 1, 2002 shall be consistent with the performance standards in s. NR 151.11. (4) DEPARTMENTAL APPROVAL. An ordinance required under sub. (1) shall be reviewed and approved by the department prior to adoption. (5) INELIGIBLE BEST MANAGEMENT PRACTICES. The following practices, sources or activities are not eligible for cost–share assistance under this chapter when addressing nonpoint sources of pollution in a watershed plan: (a) Croplands and undeveloped rural lands. (b) Non–agricultural pollution sources. (c) Streambanks and shorelines. (d) Livestock yards and manure management areas except those identified in sub. (2) (b) 1. to 2. (e) Lake sediments. (f) Other sources determined by the department to meet the objectives of the program. (2) INELIGIBLE BEST MANAGEMENT PRACTICES. The following practices, sources or activities are not eligible for cost–share assistance under this chapter: (a) Best management practice installation, operation or maintenance started prior to the signing of the cost–share agreement. (b) Activities requiring coverage under a WPDES permit including any of the following: 1. Activities at livestock operations with less than 1,000 animal units that have been issued a WPDES permit by the department under ch. 283, Stats. In this paragraph, “livestock operation” has the meaning given in s. 281.16 (1) (c), Stats. In this paragraph, “animal unit” has the meaning given in ch. NR 243. 2. Activities at livestock operations that have, or will have within 12 months, at least 1,000 animal units and are required to apply for a WPDES permit under s. NR 243.12 (1) (a) or (b). 3. All other activities requiring coverage under a WPDES permit issued under chs. NR 200 to 240 and 245 to 299. (c) Activities required as part of or as a condition of a license for a solid waste management site. (d) Activities funded through state or federal grants for wastewater treatment plants. (e) Active mining activities.
(f) Pollutant control measures needed during building and utility construction, and storm water management practices for new developments.

(g) Pollutant control measures needed during construction of highways and bridges.

(h) The planting, growing and harvesting of trees associated with silviculture, except as necessary for site stabilization.

(i) Installing, operating or repairing a small scale on-site human domestic waste facility construction.

(j) Dredging of harbors, lakes, rivers and ditches.

(k) Installing dams, pipes, conveyance systems and detention basins intended solely for flood control.

(L) Operation and maintenance of cost-shared practices.

(m) Practices other than those in s. NR 154.04 that are normally and routinely used in growing crops and required for the growing of crops or the feeding of livestock.

(n) Practices whose purpose is to accelerate or increase the drainage of land or wetlands, except where drainage is required as a component of a best management practice.

(o) Practices to control spills from commercial bulk storage of pesticides, fertilizers, petroleum and similar materials required by chs. ATCP 32 and 33 or other administrative rules.

(p) Significant expansions of livestock operations that are not in compliance with agricultural performance standards under subch. II of ch. NR 151. Significant expansions shall be determined using the criteria under par. (q) 2. The base livestock population and the portion of the expansion that is considered less than significant shall be eligible.

(q) Practices needed to control sources that were adequately managed for the specific land use at the time of cost-share agreement signing, including management of a source in compliance with performance standards, but that are producing an increased amount of pollutant loading to the surface water or groundwater due to the landowner's or land operator's significant changes in land management.

1. Changes that the department may consider significant and ineligible for cost sharing include significant increases in size of the livestock population, changes to more intensive cropping and other changes in land use or management which increase the pollutant loading counter to the water resource objectives in an approved areawide water quality management plan, priority watershed plan, county land and water resources management plan or performance standard for the area.

2. For purposes of this paragraph, the department shall use the criteria in this subdivision in determining whether the increase in the size of the livestock population is significant and ineligible for cost sharing. In this subdivision, "livestock population size" means the size of the livestock population, in animal units. In this subdivision, "base livestock population size" means the livestock population size determined when the department or governmental unit, including a county land conservation committee, visits the site and documents the size of the livestock population. In this subdivision, "animal unit" has the meaning given in ch. NR 243.

a. If the base livestock population size is less than or equal to 250 animal units, that portion of the expansion that results in a livestock population size exceeding 300 animal units is considered to be significant and ineligible for cost sharing under this chapter.

b. If the base livestock population size is greater than 250 animal units but less than that required to apply for a WPDES permit under s. NR 243.12 (1) (a) or (b), and the expanded livestock population size will be less than that required to apply for a WPDES permit under s. NR 243.12 (1) (a) or (b), then that portion of the expansion that is greater than 20% of the base livestock population size is considered to be significant and ineligible for cost sharing under this chapter.

c. Any expansion to a base livestock population size that results in a livestock population size required to apply for a WPDES permit under s. NR 243.12 (1) (a) or (b) is considered to be significant and ineligible for cost sharing under this chapter, and shall also render the base livestock population component ineligible for cost sharing in accordance with s. NR 153.15 (2) (f) 2.

d. The base livestock population and the portion of the expansion that is considered less than significant shall be eligible.

Note: The department may not provide cost sharing under this chapter for activities requiring coverage under a WPDES permit. This includes activities requiring permit coverage at livestock operations that are greater than or equal to 1,000 animal units in size or that will become greater than or equal to 1,000 animal units through an expansion.

(e) Practices to be fully funded through other programs.

(f) Practices previously installed and necessary to support cost-shared practices.

(i) Changes in crop rotation unless required as a component of practices in s. NR 154.04 (9), (20), (22) or (24).

(j) Changes in location of unconfined manure stacks involving no capital cost.

(k) Purchase of nonstationary manure spreading equipment.

(l) Practices needed for land use changes during the cost-share agreement period.

(m) Urban nonpoint sources that must be controlled to meet the requirements of a municipal WPDES storm water discharge permit.

(n) Correcting overtopping of a manure storage facility.

(o) Moving a manure stack.

(p) Maintaining existing grass cover.

(q) Installing or modifying an agricultural facility or practice which is required pursuant to a court order or court-ordered stipulation.

(r) Other practices which the department determines are not necessary to achieve the objectives of the watershed project.

(3) Demonstration projects. The department may establish alternative eligibility criteria for demonstration projects. With prior department approval, demonstration projects meeting these alternative criteria may be implemented during the grant period.

History: CR 00−028: cr. Register September 2002 No. 561, eff. 10−1−02; corrections in (2) (b) 3. made under s. 13.93 (2m) (b) 7., Stats., Register September 2002 No. 561.

NR 120.18 Cost-share rates. (1) State cost-share rates. (a) The maximum state cost share rate for individual best management practices cost-shared under this chapter may not exceed 70%, except as otherwise provided in this subsection. Cost-share funds from the appropriations under s. 20.115 (7) (c) and (q), 20.370 (6) (aa) or 20.866 (2) (te) and (we), Stats., shall be considered part of the state rate.

(b) Cost-share rates in this section shall be increased in cases of economic hardship in accordance with sub. (4).

(c) The department may provide cost-share up to 100% to replace best management practices eligible in accordance with s. NR 120.186 (4).

(d) The cost-share rates for best management practices under existing cost-share agreements may be amended to use the rates identified in this section.

(e) The maximum state cost-share rates shall be reduced by 50% for landowners of critical sites when a cost-share agreement is signed after the period of cost-sharing availability for critical sites has ended.

(f) The following conditions further specify eligibility criteria for cost-share reimbursements under this section:

1. Wildlife habitat re-creation associated with implementation of contour farming, contour strip-cropping and field strip-cropping has a maximum state cost-share rate of 70%.
2. For the best management practices under s. NR 120.14 (16), riparian buffers, and s. NR 120.14 (6), grassed waterways, a single payment in addition to installation costs may be made in accordance with the following:
   a. For riparian buffers under s. NR 120.14 (16), $500 per acre used for the buffer.
   b. For waterway systems under s. NR 120.14 (6), $300 per acre used for the waterway system.
   c. Payments under this subdivision are eligible only for acreage upon which a commodity crop was harvested in at least 2 of the 5 years prior to the signing of the cost–share agreement. The 2 years need not be consecutive if separated by non–grass portions of a normal crop rotation.

3. Cost–share payments for high residue management systems may not be made for more than a total of 6 years.

4. Cost–share payments for crop protection cover (green manure) may not be made for more than a total of 3 years.

5. Flat rates identified under par. (g) may be used in lieu of calculating cost–share amounts.

6. Cost–share payments for nutrient management may not be made for more than a total of 3 years.

7. Cost–share payments for pesticide management may not be made for more than a total of 3 years.

8. The maximum amount cost–shared for leases of manure storage tanks shall be 70% of the down payment and lease cost of the tank during the grant period of the watershed project.

9. A governmental unit may establish a flat rate for cost–sharing critical area stabilization in order to simplify the administration of cost–share funding for this best management practice. The flat rate shall be calculated based on the cost–share rate, up to 70%, and the average cost of the practice.

(g) Counties may use the following state cost–share rates per acre in lieu of the state cost–share percentage listed in this section.
1. $9.00 per acre for contour cropping.
2. $13.50 per acre for strip–cropping.
3. $7.50 per acre for field strip–cropping.
4. $18.50 per acre per year for high residue management systems.
5. $25 per acre per year for crop protection cover (green manure).
6. Flat rates for fencing as follows:
   a. Three strand barbed wire, steel or wooden post at a flat rate of $5.00 per linear rod.
   b. Woven wire, steel or wooden post at a flat rate of $8.00 per linear rod.
   c. Two strand electric, fiberglass, steel or wooden post and insulators at a flat rate of $3.00 per linear rod.
   d. fiberglass posts, high tensile wire at a flat rate of $7.50 per linear rod.

(2) Maximum Amounts. (a) Least cost. A governmental unit may set cost–share rates up to the maximum amount specified for the practice in this section. Where 2 or more practices are of equal effectiveness in reducing pollutants, the cost–share rate shall be based on the least cost practice provided the practice is consistent with the use and management of the land in question. The department may approve, in writing, cost–sharing for a best management practice that is not the least cost if the practice is more cost effective. The department shall approve the cost–share agreement if the best management practices are the least–cost alternatives to control the nonpoint sources or if the practices provide greater water quality improvement or habitat enhancement than the least–cost alternative.

(b) Leases of manure storage tanks. The maximum amount cost–shared for leases of manure storage tanks shall be 70% of the down payment and lease cost of the tank during the grant period of the watershed project.

critical area stabilization. Governmental units may establish flat rates for the cost–sharing of critical area stabilization in order to simplify the administration of cost–share funds for this practice. Flat rates shall be based on the percentage, up to 70%, for state cost–sharing and the average cost of the practice.

(3) Local share. (a) The local share of project costs may include funds from local, federal or private sources, or state sources not identified under s. NR 120.18 (1) (a). A cost–share grant under this chapter may not reimburse a landowner or land operator for any cost that another unit of government is also reimbursing.

(b) In–kind contributions of labor and material used directly in the installations of best management practices may be considered part of the local share of best management practice costs, if properly described and substantiated to the cost–share agreement grantor.

(c) The value of a conservation easement donated to the department, or to any person approved by the department under s. 281.65 (8) (m), Stats., may be considered as a portion of or all of the landowner’s or land operator’s share of a cost–sharing grant.

(4) Economic hardship. (a) The governmental unit submitting the cost–share agreement under s. NR 120.13 (5) shall exceed the cost–share limits identified under sub. (2) if the landowner or land operator that will provide the local share of best management practice installation meets the application and economic hardship requirements as set forth in this subsection.

(b) The landowner or land operator shall submit an application to the governmental unit in accordance with this subsection in order to be considered for a determination of economic hardship. The governmental unit may not make a determination of economic hardship for cost–share purposes until it has received a completed application.

(c) The landowner or land operator shall include the following financial information in the application:
   1. The landowner or land operator’s debt–to–asset ratio or the capital debt repayment liability ratio.
   2. Demonstration that the landowner or land operator has the ability to pay the local share of the best management practice installation cost.
   3. The information required under subs. 1. and 2. shall be documented by a signed and notarized statement from an accredited financial institution or a certified public accountant. The grant recipient shall provide to the accredited financial institution or certified public accountant a full and true disclosure of applicable corporate, partnership, personal and marital assets and liabilities, including a copy of the prior year’s federal tax returns, as verified by a sworn and signed affidavit. The affidavit shall be made on a form provided by the department.

(d) The governmental unit shall make a determination of economic hardship if the statement under par. (c) 3. verifies that one or both of the following conditions exist for the landowner or land operator:
   1. The landowner or land operator of an eligible site has a debt–to–asset ratio of more than 60%, and net assets of less than $200,000.
   2. The landowner or land operator of an eligible site has a capital debt repayment liability ratio of more than 60%. The capital debt repayment liability ratio is determined by the following formula: (total debt payment) divided by (annual income + depreciation) – (family living expenses + annual debt principal payment).

(e) If evidence of economic hardship is verified in accordance with the criteria in par. (d), the governmental unit shall increase the cost–share rate in accordance with this paragraph for all best
NR 120.185 Easements. (1) The department may enter into easements with landowners or land operators for lands identified in watershed plans. Easements shall be acquired for perpetuity. Easements may be used in conjunction with the following best management practices:

(a) Critical area stabilization.
(b) Riparian buffer.
(c) Wetland restoration.
(d) Structural urban best management practice.
(e) Any other best management practice specified as eligible for easement support in an approved priority watershed plan.
(f) Animal lot relocation in conjunction with pars. (a) to (e), provided that written approval of the governmental unit is obtained prior to easement acquisition, in accordance with the requirements of s. NR 154.04 (23) (b).

(2) The department may authorize, in writing, any governmental unit, non-profit organization or person to enter into easements or accept a donated conservation easement consistent with the eligibility provision of the approved priority watershed plan in accordance with the following:

(a) Prior written department approval for the purchase of an easement shall be obtained if the cost exceeds $50,000.
(b) The value of an easement shall be based on a valuation procedure that has received prior department approval.
(c) An easement or a lease acquired by a governmental unit, non-profit organization or person shall be recorded in the register of deeds office in the county in which the property subject to the easement is located.

(3) Upon acceptance of a donated easement under s. NR 120.18 (3) (b), the department shall appraise the easement and issue a written opinion on the value or issue a statement of value of the easement.

(4) The department may distribute grants and aids to itself or to any governmental unit for the purchase of easements in priority watershed areas.

(5) State Cost–Share Rate. The maximum allowable state cost–share rate for the acquisition of easements under this chapter shall be 70% of the acquisition cost of the easement, except that the maximum allowable state cost–share shall be 50% when the purpose of the easement is to support a structural urban best management practice. The maximum allowable state cost–share rate for appraisals for the acquisition of property shall be 100% of the cost of the appraisal when a grant was first issued by the department for this activity prior to July 1, 1998. When a grant was first issued by the department for this activity after this date, the maximum allowable state cost–share rate for appraisals shall be 70%.

In this subsection, “acquisition cost” means the fair market value of the property as determined by department appraisal guidelines and reasonable costs related to the purchase of the property listed in the cost of appraisals, land surveys, relocation payments, title evidence, recording fees, historical and cultural assessments required by the department, and environmental inspections and assessments. It does not include attorneys fees, environmental clean up costs, brokerage fees paid by the buyer, real estate transfers or any other cost not identified in this subsection.

History: CR 00–028: cr. Register September 2002 No. 561, eff. 10–1–02.

NR 120.186 Property acquisition. (1) Eligible activities. The department may distribute grants to a governmental unit that is eligible for a nonpoint source grant under s. NR 120.12 to perform any of the following activities:

(a) Acquire land or an interest in land for the construction of a structural urban best management practice.
(b) Acquire land or an interest in land identified in the watershed plan which is contributing or will contribute nonpoint source pollution. Land acquisition for the purpose of complying with a Notice of Discharge issued pursuant to ch. NR 243 is not eligible for funding under this section.

(2) Acquisition proposals. A governmental unit requesting nonpoint source grant funds for the acquisition of property under this section shall submit an acquisition proposal to the department for its review and approval. The acquisition proposal shall be submitted with the nonpoint source grant application or grant amendment request. The acquisition proposal shall include all of the following:

(a) A description of the purpose for acquiring the land and how the acquisition will meet applicable goals of the priority watershed or priority lake plan for which the grant is applied.
(b) A description of the land management plan for the property including a list of any owner–occupants or tenants that occupy the buildings or land to be acquired, a general time frame for project completion, and a description of how long–term management will be provided. Identification of other governmental units that will be involved in management and their respective roles shall also be included.
(c) A copy of the appropriate county, township, topographic and local land use planning maps showing the proposed acquisition.
(d) An estimate of overall acquisition and annual maintenance costs, including the number of parcels and acres to be acquired which notes the number of improved parcels involved.
(e) A description of how the proposed acquisition complements other nonpoint source pollution abatement program efforts.
(f) Other information the department may request.

(3) General provisions. (a) Governmental units shall acquire and manage property acquired with a nonpoint source grant in accordance with all applicable local, state and federal laws and regulations.
(b) After approval of the acquisition proposal and receipt of the local assistance grant from DATCP under ch. ATCP 50, a governmental unit shall obtain an appraisal for each property.
(c) All appraisals shall be subject to department review and approval.
(d) All appraisals shall be conducted by a certified or licensed appraiser as described in ch. 458, Stats., and chs. RL 80 to 86.
(e) All acquisitions with a fair market value of more than $200,000 shall require 2 appraisals. The department may require a second appraisal for property valued under $200,000 if the department finds that the property presents a difficult appraisal problem or if the first appraisal is unacceptable.
(f) Property may be purchased only from willing sellers. The governmental unit shall provide the seller with a just compensation statement which identifies the fair market value of the property, as determined by an appraiser meeting the requirements listed in par. (d) and which describes the benefits due to the seller in exchange for the transfer of the seller’s property.
(g) When applicable, relocation plans shall be developed in accordance with ch. Comm 202.

Register, September, 2002, No. 561
(h) Property acquired with a nonpoint source grant shall be maintained and managed in accordance with the provisions, conditions and scope description in the grant contract.

(i) A governmental unit may be allowed to acquire property prior to entering into a nonpoint source grant agreement, provided that the governmental unit has received written approval of the department prior to purchasing the targeted property. The governmental unit shall submit a written statement to the department which explains the special circumstances justifying the need to acquire the property at that time. Prior to nonpoint source grant agreement reimbursement for the acquisition, the governmental unit shall establish the value of the property in accordance with pars. (b) to (e).

(j) The governmental unit shall record in the office of the registrar of deeds for each county in which the property is located the deed which vests title or a property interest in the governmental unit and which references the interest of the state of Wisconsin in the property under the terms of the grant contract.

(4) STATE COST-SHARE RATE. The maximum allowable state cost-share rate for the acquisition of property under this chapter shall be 80% of the acquisition cost of the property. The maximum allowable state cost-share rate for appraisals for the acquisition of property shall be 100% of the cost of the appraisal when a grant was first issued by the department for this activity prior to July 1, 1998. When a grant was first issued by the department for this activity after this date, the maximum allowable state cost-share rate for appraisals shall be 70%. In this subsection, “acquisition cost” means the fair market value of the property as determined by department appraisal guidelines and reasonable costs related to the purchase of the property limited to the cost of appraisals, land surveys, relocation payments, title evidence, recording fees, historical and cultural assessments required by the department, and environmental inspections and audits. It does not include attorneys fees, environmental clean up costs, brokerage fees paid by the buyer, real estate transfer taxes or any other cost not identified in this subsection.

(5) CRITERIA. The department shall consider the following criteria when determining whether to provide funding for the proposed acquisition:

(a) The degree to which the acquisition of the property would provide for the protection or improvement of water quality.

(b) The degree to which the acquisition of the property would provide for protection or improvement of other aspects of the natural ecosystem such as fish, wildlife, wetlands or natural beauty.

(c) The degree to which the acquisition of the property would complement other watershed management efforts.

(d) The level of financial support by the governmental unit.

(e) In cases where the acquisition will prevent further degradation of water quality, that the acquisition is cost-effective relative to the degree of threat of further degradation to the site.

History: CR 00-028: cr. Register September 2002 No. 561, eff. 10-1-02.

NR 120.19 Cost containment procedures. (1) Governmental units as providers of cost-share agreements shall identify and agree to use one or more of the following cost containment procedures for each best management practice identified in the runoff management grant agreement:

(a) Average cost. Based on past cost information, a governmental unit determines an average cost per unit of materials and labor for the installation of a best management practice which may not be exceeded. A governmental unit may use its own experience, or information obtained from the department or other sources, to estimate typical costs.

(b) Range of costs. Based on past cost information, a governmental unit establishes a cost range for the installation of a best management practice. Eligible costs may not exceed the maximum cost of the range. A governmental unit may use its own experience, or information obtained from the department or other sources, to estimate typical costs.

(c) Competitive bidding. A governmental unit requires the landowner or land operator to request bids from contractors for the installation of a best management practice. The cost-share payment shall be calculated based on the lowest bid meeting acceptable qualifications. The governmental unit shall identify criteria for determining acceptable qualifications. The landowner may select a qualified contractor other than the low qualified bidder, but shall contribute 100% of the difference between the bids.

Note: The department suggests the following bidding procedures:

• The governmental unit shows the proposed construction site to all prospective bidders on the same day and at the same time.

• There are at least 3 qualified bidders.

• All bids are sealed and delivered by a bid deadline to a location specified by the governmental unit.

• Bids are opened within 2 weeks after the bid deadline.

• The amount of the cost-share grant is based on the lowest qualified bid.

• The landowner selects a higher bidding contractor only if the landowner agrees to pay the difference.

• The landowner may not select a contractor who did not bid.

(d) Maximum cost-share limit. A governmental unit or the department establishes a maximum cost-share rate limit not to exceed the rates specified in ch. NR 154 for installation of a best management practice.

(e) Municipal work group. A governmental unit hires or assigns its employees to install a best management practice for landowners and land operators if the employees are able to perform the work at a cost lower than the private sector.

(f) Wisconsin conservation corps. A governmental unit uses the Wisconsin conservation corps to install best management practices for landowners and land operators.

(g) Other cost containment procedures. If a governmental unit determines another cost containment procedure would be at least as or more effective than the cost containment procedures described in this subsection, it shall include the alternative in the project application and the department shall include the alternative in the runoff management grant agreement.

(2) The cost-containment procedures in this subsection shall be used to control the cost of in-kind contributions, including the substantiated value of donated materials, equipment, services and labor by landowners installing best management practices:

(a) The maximum value of donated labor may not exceed the prevailing local market wage for equivalent work.

(b) The value of donated equipment shall not exceed the equipment rates for highways established by the Wisconsin department of transportation.

Note: The county highway rates for equipment are formulated under s. 84.07, Stats., and can be found in chapter 5 of the State Highway Maintenance Manual published by the Wisconsin Department of Transportation, 4802 Sheboygan Avenue, Madison, WI 53705.

(c) The value of donated materials and services may not exceed market rates and shall be established by invoice.

History: CR 00-028: cr. Register September 2002 No. 561, eff. 10-1-02.

NR 120.22 Interest earned on grant advances. (1) Interest shall be earned and accrued on nonpoint source grant advances. To determine the amount of interest to be credited to the project, the governmental unit shall calculate the interest earned using an average account balance and interest accrued over a period of time or in another equitable manner.

(2) Interest money earned shall be used to support eligible activities in ongoing or completed priority watershed projects including, but not limited to, periodic inspections after grant expiration, administrative costs of the project and, under exceptional circumstances, the repair of best management practices; when interest money is used to cost-share best management practices, the combination of interest money and any other cost-share funds from this program may not exceed the cost-share limits described in s. NR 120.18 (1).
(3) All interest money earned and accrued from a priority watershed project shall be expended by 10 years from the end of the nonpoint source grant period as described in s. NR 120.12 (4).

(4) On or before April 15 of each year, a governmental unit shall complete and file a report with the department which states the amount of interest money accrued and interest money expended during the previous calendar year. During the planning and implementation phases of watershed projects, these reports may be included with other fiscal reports required under ss. NR 120.23 and 120.25.

History: CR 00−028: cr. Register September 2002 No. 561, eff. 10−1−02.

NR 120.23 Reimbursement procedures. (1) General requirements. (a) Refunds, rebates and credits. The state share of any refunds, rebates, credits or other amounts that accrue to or are received by the grantee for the project, and that are properly allocable to costs for which the grantee has been paid under a grant, shall be paid to the department.

(b) Final payment. The department shall pay the grantee the balance of the state share of the eligible project costs after project completion, department approval of the request for payment which the grantee has designated “final payment request” and department verification of the grantee’s compliance with all applicable requirements of this chapter and the grant agreement. The final payment request shall be submitted by the grantee promptly after project completion. Prior to final payment under this grant, the grantee shall execute an assignment to the department for the state share of refunds, rebates, credits or other amounts properly allocable to costs for which the grantee has been paid by the department under the grant. The grantee shall also execute a release discharging the department, its officers, agents and employees from all liabilities, obligations and claims arising out of the project work or under the grant, subject only to the exceptions specified in the release.

(c) Withholding and recovery of funds. The department may authorize the withholding or recovery of a grant payment if the department determines, in writing, that a grantee has failed to comply with project objectives, grant award conditions or reporting requirements or has not expended all funds advanced or disbursed on eligible activities. Withholding and recovery shall be limited to only that amount necessary to assure compliance.

(d) Availability of funds. 1. Grant payments to a governmental unit or other grantee under this section are contingent on the availability of funding.

2. The department shall withhold payment of the amount of any indebtedness to the department, unless the department determines that collection of the debt will impair accomplishment of the project objectives and that continuation of the project is in the best interest of the nonpoint source water pollution abatement program.

3. The department may recover payments made to grantees as advances or disbursements when it determines that the governmental unit will not complete the eligible activities on its grant within the current grant project budgeting period.

(2) Nonpoint source grant agreements. (a) Cost−share funds may be used to share in the actual cost required for the installation of eligible best management practices identified in nonpoint source grant agreements described in s. NR 120.12.

(b) State agencies and governmental units shall comply with the following procedures when requesting reimbursement:

1. Reimbursement requests shall be submitted on forms provided by the department.

Note: Reimbursement request forms may be obtained, at no charge, from the Bureau of Community Financial Assistance, Department of Natural Resources, Box 7921, Madison, Wisconsin 53707.

2. All reimbursement requests shall be submitted to the department after the best management practice has been verified as properly installed and its cost has been verified and supported by the cost−share agreement including any amendments.

3. Reimbursement requests may be submitted for partially installed best management practices.

4. All other reimbursement shall be for completed best management practices or completed components of best management practices approved by the department.

5. Reimbursement may be denied if a cost−share agreement or amendment is not in accordance with the watershed plan and grant agreement or amendment.

6. The department may set deadlines for receipt of reimbursement requests by specifying the deadlines within the scope section of the grant or grant amendment.

(3) Retention requirements. The governmental unit shall retain copies of all reimbursement requests submitted to the department including the following items:

(a) Request for an advance or reimbursement form.

(b) Reimbursement claim worksheet.

(c) Cost−share calculation and practice verification form.

(4) Anticipated cost−share reimbursement amount. If the department establishes an ACRA for a year for a county which receives funding under s. NR 120.12 and the county makes reimbursements to eligible cost−share recipients for the year which exceed the amount established by the department, the county shall provide reimbursement to the cost−share recipients, from sources other than the grant agreement, in the amount by which the reimbursable amounts exceed the ACRA established by the department.

History: CR 00−028: cr. Register September 2002 No. 561, eff. 10−1−02.

NR 120.24 Procurement. (1) Profits. Only fair and reasonable profits may be earned by contractors for contracts under grant agreements described in this chapter. Profits included in a formally advertised, competitively bid, fixed price construction contract are presumed to be reasonable.

(2) Responsibility. The governmental unit is responsible for the administration and successful completion of the activities for which grant assistance under this chapter is awarded in accordance with sound business judgment and good administrative practice under state and local laws.

(3) General requirements for contracts. Contracts shall be all of the following:

(a) Necessary for and directly related to the accomplishment of activities necessary to implement the watershed project.

(b) In the form of a bilaterally executed written agreement for any professional services or construction activities in excess of $10,000.

(c) For monetary or in−kind consideration.

(4) Force account work. (a) A governmental unit shall secure prior written approval from the department for use of the force account method in lieu of contracts for any professional services or construction activities in excess of $35,000.

(b) The department’s approval shall be based on the governmental unit’s verification and demonstration that it has the necessary competence required to accomplish the work and that the work can be accomplished more economically by the use of the force account method.

(5) Wisconsin conservation corps. Each governmental unit shall encourage and use the Wisconsin conservation corps for appropriate projects to the greatest extent practicable.

History: CR 00−028: cr. Register September 2002 No. 561, eff. 10−1−02.

NR 120.25 Record keeping and reporting requirements. (1) Each governmental unit as a grant agreement.
grantee or cost-share agreement grantor shall maintain a financial management system which adequately provides for all of the following:

(a) Accurate, current and complete disclosure of payments to landowners, land operators, contractors or municipalities and receipts, canceled checks, invoices and bills to support payments made in the program in accordance with department reporting requirements in this chapter and in the grant conditions and in accordance with generally accepted accounting principles and practices, consistently applied, regardless of the source of funds.

(b) Effective control over and accountability for all project funds and other assets.

(c) Comparison of actual costs with grant amounts on each grant.

(d) Procedures for determining the eligibility and cost-effectiveness of installation expenses in accordance with the cost containment requirements of s. NR 120.19 for all practices installed by the landowner or land operator.

(e) Accounting records supported by source documentation including all of the following:

1. One separate project account for the total grant identified in the nonpoint source grant agreement reflecting all receipts and expenditures of that grant.

2. Accounting records showing all receipts, encumbrances, expenditures and fund balances.

3. A complete file for each cost-share agreement including all of the following documentation:
   a. Approval of best management practices and cost-share amounts by the governmental unit.
   b. Cost-share agreement and cost-share agreement amendment forms.
   c. Verification of proper installation by the governmental unit official.
   d. Request for reimbursement by a landowner or land operator documenting costs incurred directly or for in-kind contributions by the landowner or land operator.
   e. Evidence of payment for best management practice by a landowner or land operator including copies of checks or receipts.
   f. Verification of practice completion in accordance with the cost-share agreement including amendments and approval of cost-share amounts by the governmental unit.
   (f) A systematic method to assure timely and appropriate resolution of audit findings and recommendations by the department under s. NR 120.26.

(g) A final accounting of project expenditures submitted to the department within 120 days of the completion of all watershed project work.

(h) An identification of the least cost practices.

(2) REPORTING REQUIREMENTS. (a) Annual reports. During the project implementation period, nonpoint source grantees shall report to the department an annual accounting for accomplishments regarding its activities funded under the nonpoint source grant and shall report the amount of interest accrued and expended as required under s. NR 120.22 (1).

(b) Periodic reports. The department may require more frequent progress reports than those required under par. (a) from a nonpoint source grantee which document accomplishments regarding its activities funded under nonpoint source grants.

(c) Final project report. The department, with assistance from DATCP and the appropriate local units of government, shall prepare and publish final priority watershed and priority lake project reports when required to do so by the joint program evaluation plan adopted by the land and water conservation board.

Note: A document detailing the reporting requirements required under pars. (a) to (c) may be obtained, at no charge, from the Bureau of Watershed Management, Department of Natural Resources, Box 7921, Madison, WI 53707.

History: CR 00−028: cr. Register September 2002 No. 561, eff. 10−1−02.

NR 120.27 Suspension or termination of grant.

(1) SUSPENSION OF GRANTS. (a) Liability. The department may suspend state liability for work done under a grant after notification is given to the grantee in accordance with the provisions of this subsection. Suspension of state liability under a grant shall be accomplished by the issuance of a stop−work order.

(b) Stop−work order issuance. 1. The department may issue a stop−work order if there is a breach of the grant agreement.

2. Prior to the issuance of a stop−work order, the department shall meet with the grantee to present the facts supporting a decision to issue a stop−work order.

3. After discussion of the department’s proposed action with the grantee, the department may issue a written order to the grantee, sent by certified mail, return receipt requested, requiring the grantee to stop all or any part of the project work for a period of not more than 45 days after the order is delivered to the grantee, and for any extended period to which the parties may agree.

(c) Stop−work order components. A stop−work order shall contain all of the following:

1. A description of the work to be suspended.

2. Instructions for how the grantee may acquire materials or services.

3. Guidance for action to be taken on contracts.

4. Other suggestions to the grantee for minimizing costs.

(d) Suspension period. 1. Upon receipt of a stop−work order, the grantee shall comply with its terms and take all reasonable steps to minimize the incurrence of costs allocable to work covered by the stop−work order during the period of work stoppage.

History: CR 00−028: cr. Register September 2002 No. 561, eff. 10−1−02.
NR 120.27 WISCONSIN ADMINISTRATIVE CODE 206

Unofficial Text (See Printed Volume). Current through date and Register shown on Title Page.

2. Within the suspension period, the department shall do one of the following:
   a. Cancel the stop−work order, in full or in part.
   b. Terminate grant assistance for the work covered by the stop−work order under sub. (2).
   c. Authorize resumption of work.

(e) Stop−work order cancellation or expiration. If a stop−work order is canceled or expires, the grantee shall promptly resume the previously suspended work. An equitable adjustment may be made to the grant period, the grant amount or any combination of these items. The grant award may be amended accordingly, if all of the following conditions are met:

1. The stop−work order results in an increase in the time required for completion or an increase in the grantee’s cost properly allocable to the performance of any part of the project.
2. The grantee asserts a written claim for an adjustment within 60 days of cancellation of a stop−work order or authorization to resume work.

(f) Ineligible costs during suspension period. Costs incurred by the grantee or its contractors, subcontractors or representatives, after a stop−work order is issued by the department, which relate to the project work suspended by the order and which are not authorized by this section or specifically authorized in writing by the department, are not eligible for reimbursement.

(2) Termination of Grants. (a) A grant may be terminated in whole or in part by the department. Grants may be terminated in accordance with the procedures of this subsection.

(b) The parties to a grant agreement may enter into an agreement to terminate the grant at any time. The agreement shall establish the effective date of termination of the grant, the basis for settlement of grant termination costs and the amount and date of payment of any money due to either party.

(c) A grantee may not unilaterally terminate project work for which a grant has been awarded except for good cause. The grantee shall notify the department in writing within 30 days of any complete or partial termination of the project work. If the department determines that there is good cause for the termination of all or any portion of a project for which a grant has been awarded, the department may enter into a termination agreement or unilaterally terminate the grant pursuant to par. (d). The grant termination becomes effective on the date the grantee ceases project work. If the department determines that a grantee has ceased work on the project without good cause, the department may unilaterally terminate the grant pursuant to par. (d) or annul the grant pursuant to par. (e).

(d) Grants may be terminated by the department in accordance with the following procedure:

1. The department shall give 10 days written notice to the grantee of its intent to terminate a grant in whole or in part. Notice shall be served on the grantee personally or by mail, certified mail, return receipt requested.

2. The department shall consult with the grantee prior to termination. Any notice of termination shall be in writing and state the reasons for terminating the grant. Notices of termination shall be served on the grantee personally or by mail, certified mail, return receipt requested.

(e) The department may annul a grant if any of the following conditions apply:

1. There has been substantial nonperformance of the project work by the grantee without good cause.
2. There is substantial evidence the grant was obtained by fraud.
3. There is substantial evidence of gross abuse or corrupt practices in the administration of the grant or project.
4. The grantee has not met the conditions in the grant.

(f) Upon termination, the grantee shall refund or credit to the department that portion of the grant funds paid or owed to the grantee and allocable to the terminated project work, except an amount as may be required to meet commitments which became enforceable prior to the termination. The grantee may not make any new commitments without department approval. The grantee shall reduce the amount of outstanding commitments insofar as possible and report to the department the uncommitted balance of funds awarded under the grant.

(3) Termination settlement costs. (a) The reasonable costs resulting from a termination order, including a previously issued stop−work order on that project work or grant, shall be eligible in negotiating a termination settlement.

(b) The department shall negotiate appropriate termination settlement costs with the grantee. The department shall pay reasonable settlement costs.

(4) Responsibilities of Governmental Units. Suspension or termination of a grant or portion of a grant under this section may not relieve the grantee of its responsibilities under ss. NR 120.03 and 120.05.

History: CR 00−028: cr. Register September 2002 No. 561, eff. 10−1−02.

NR 120.28 Enforcement. (1) On an annual basis, the department shall evaluate watershed projects in implementation. During the evaluation, the department shall examine the progress of the watershed project toward project goals and water quality objectives specified in the watershed plan. Upon consulting with the project sponsor, the department may take appropriate action to improve the progress of the watershed project. Department action may include, but is not limited to, more frequent project evaluation, the use of interim project goals, changes to project funding, and the adoption of sanctions listed in sub. (2), when the project is in noncompliance with the priority watershed or priority lake plan.

(2) The following sanctions may be imposed by the department for noncompliance with the provisions of s. 281.65, Stats., this chapter or any grant agreement entered into or amended in accordance with the provisions of this chapter:

(a) The grant may be terminated or annulled under s. NR 120.27.
(b) Watershed project costs directly related to noncompliance may be declared ineligible.
(c) Payment otherwise due the grantee of up to 10% may be withheld if the conditions of s. NR 120.23 (1) (c) are met.
(d) Watershed project work may be suspended under s. NR 120.27.
(e) Other administrative or judicial remedies may be instituted as legally available and appropriate.
(f) The department may seek recovery of grant payments in whole or in part.

(3) If a site has been designated as a critical site, the provisions of ss. NR 120.08 and 120.09 have been met, and the owner fails to install best management practices or reduce the pollutants contributed by the site through alternative actions, the department may issue a notice of intent, in accordance with s. 281.20 (1), (3) and (5), Stats., if the pollution is not caused by animal waste. If the site is caused by animal waste, enforcement shall be in accordance with the provisions of ch. NR 243. The department shall consult with DATCP when the source of pollution from the site is agricultural.

History: CR 00−028: cr. Register September 2002 No. 561, eff. 10−1−02.

NR 120.29 Variances. The department may approve in writing a variance from a requirement of this chapter upon written request when the department determines that a variance is essential to effect necessary grant actions or water quality objectives and where special circumstances make a variance in the best interest of the program. A governmental unit’s written variance request
shall clearly explain the circumstances justifying the variance. Before approving a variance, the department shall take into account factors such as good cause, circumstances beyond the control of the governmental unit and financial hardship. The department may not grant variances from statutory requirements.

History: CR 00–028: cr. Register September 2002 No. 561, eff. 10–1–02.

NR 120.30 Annual report. The department, jointly with DATCP shall annually prepare the report on the progress of the program required in ss. 281.65 (4) (o) and 92.14 (12), Stats. Specific requirements concerning the content of this report shall be in a joint program evaluation plan to be prepared by the department, jointly with DATCP and approved by the land and water conservation board.

History: CR 00–028: cr. Register September 2002 No. 561, eff. 10–1–02.
Chapter NR 116

WISCONSIN'S FLOODPLAIN MANAGEMENT PROGRAM

NR 116.01 Purpose. (1) The Wisconsin legislature in enacting chapter 614, laws of 1965, recognized that floodplain zoning is a necessary tool to protect human life, health and to minimize property damages and economic losses. Municipalities are required by s. 87.30 (1), Stats., to adopt reasonable and effective floodplain zoning ordinances within their respective jurisdictions to regulate all floodplains where serious flood damage may occur within one year after hydraulic and engineering data adequate to formulate the ordinance becomes available. If a municipality has a floodplain zoning ordinance already in effect, the provisions in this chapter shall apply. (2) The purpose of these rules is to provide a uniform basis for the preparation and implementation of sound floodplain regulations for all Wisconsin municipalities, to: (a) Protect life, health and property; (b) Minimize expenditures of public monies for costly flood control projects; (c) Minimize rescue and relief efforts, generally undertaken at the expense of the general public; (d) Minimize business interruptions; (e) Minimize damage to public facilities such as water mains, sewer lines, streets and bridges; (f) Minimize the occurrence of future flood blight areas; (g) Discourage the victimization of unwary land and home buyers; and (h) Prevent increases in the regional flood from occurring which will increase flood damage and may result in conflict and litigation between landowners. History: Cr. Register, February, 1986, No. 362, eff. 3–1–86.

NR 116.02 Applicability. The provisions of this chapter are applicable to all municipalities. Unless otherwise specifically exempted by law, all state agencies are required to obtain permits required by local zoning ordinances if s. 13.48 (13), Stats., applies. Note: Corps of engineers dredged material disposal activities which are authorized pursuant to s. 30.202 (2), Stats., are exempt from the requirements of this chapter. History: Cr. Register, February, 1986, No. 362, eff. 3–1–86.

NR 116.03 Definitions. In this chapter: (1) “Accessory structure or use” means any facility, structure, building or use which is accessory or incidental to the principal use of a property, structure or building. (1e) “Campground” means any parcel of land which is designed, maintained, intended or used for the purpose of providing sites for nonpermanent overnight use by 4 or more camping units, or which is advertised or represented as a camping area. (1s) “Camping unit” means any portable device, no more than 400 square feet in area, used as a temporary shelter, including but not limited to a camping trailer, motor home, bus, van, pick-up truck or tent. (2) “Certificate of compliance” means a document that is issued to a property owner by a municipality certifying that the use of land or a building is in conformance with provisions of the floodplain zoning ordinance. (3) “Channel” means a natural or artificial watercourse with definite bed and banks to confine and conduct the normal flow of water. (4) “Coastal floodplain” means an area along the coast of Lake Michigan or Lake Superior which is inundated by the regional flood and which is also subject to additional hazards due to wave runup. (5) “Conditional use” or “special exception” means a use which is not allowed unless certain conditions specified in the zoning ordinance are met and a permit is granted by the board of adjustment or appeals or, where appropriate, the zoning agency. (6) “Dam” as defined in s. NR 333.03 (2) means any artificial barrier, together with appurtenant works, built across a waterway and which has the primary purpose of impounding or diverting water. (7) “Department” means the Wisconsin department of natural resources. (8) “Developed area” means an area within a floodplain designated by a municipality and approved by the department which contains a minimum of 20 potential residential lots or a minimum of 5 acres of land zoned commercial, industrial or institutional wherein existing structures constitute a minimum of 50% of the structures that could be accommodated by the respective zoning capacity. The limits of the developed area are defined by a line connecting the existing streets on the outer perimeter of the majority of the structures. Vacant lots within that boundary are treated the same as lots with existing structures. (9) “Development” means any artificial change to improved or unimproved real estate, including, but not limited to, the construction of buildings, structures or accessory structures; the construction of additions or substantial improvements to buildings, structures or accessory structures; the placement of buildings or structures; mining, dredging, filling, grading, paving, excavation or drilling operations; and the storage, deposition or extraction of materials. (10) “Dryland access” means a vehicular access route which is above the regional flood elevation and which connects land located in the floodplain to land outside the floodplain. (11) “Erosion” means a wearing away of land by the action of natural forces such as wind or water; on a coastal floodplain, the carrying away of soil by wave action. (12) “Flood” or “flooding” means a general and temporary condition of partial or complete inundation of normally dry land areas caused by: (a) The overflow or rise of inland waters;
(b) The rapid accumulation or runoff of surface waters from any source;
(c) The inundation caused by waves or currents of water exceeding anticipated cyclical levels along the shore of Lake Michigan or Lake Superior; and
(d) The sudden increase caused by an unusually high water level in a natural body of water, accompanied by a severe storm, or by an unanticipated force of nature, such as a seiche, or by some similarly unusual event.

(13) “Flood frequency” means the probability of a flood occurrence. A flood frequency is generally determined from statistical analyses. The frequency of a particular flood event is usually expressed as occurring, on the average, once in a specified number of years or as a percent (%) chance of occurring in any given year.

Note: For example, a 100-year flood event is expected to occur, or be exceeded, on the average of once in every 100 years, or which has a 1% chance of occurring or being exceeded in any given year. Any particular flood event could, however, occur more frequently than once in any given year.

(14) “Floodfringe” means that portion of the floodplain outside of the floodway, which is covered by flood water during the regional flood. The term, “floodfringe” is generally associated with standing water rather than flowing water.

(15) “Flood of record” means the highest known flood, the elevation of which can be determined through the use of physical or photographic data.

(16) “Floodplain” means that land which has been or may be covered by flood water during the regional flood. The floodplain includes the floodway, floodfringe, shallow depth flooding, flood storage and coastal floodplain areas.

(17) “Floodplain island” means a natural geologic land formation within the floodplain that is surrounded, but not covered, by flood water during the regional flood.

(18) “Floodplain management” means the full range of public policy and action for insuring wise use of floodplains. It includes everything from the collection and dissemination of flood data to the acquisition of floodplain lands and the enactment and administration of codes, ordinances and statutes for land use in the floodplain.

(19) “Floodproofing” means any combination of structural provisions, changes or adjustments to properties and structures, water and sanitary facilities and contents of buildings subject to flooding, for the purpose of reducing or eliminating flood damage.

(20) “Flood protection elevation” means an elevation 2 feet above the regional flood elevation.

(21) “Flood storage” means those floodplain areas where storage of flood waters has been taken into account in reducing the regional flood discharge.

(22) “Floodway” means the channel of a river or stream, and those portions of the floodplain adjoining the channel required to carry the regional flood discharge.

(23) “Freeboard” means a flood protection elevation requirement designed as a safety factor which is usually expressed in terms of a specified number of feet above a calculated flood level. Freeboard compensates for the effects of many factors that contribute to flood heights greater than those calculated. These factors include, but are not limited to, ice jams, debris accumulation, wave action, obstruction of bridge openings and floodways, the effects of urbanization on the hydrology of the watershed, loss of flood storage areas due to development and aggradation of the river or stream bed.

(24) “Habitable building” means any building, or portion thereof used for human habitation.

(25) “High flood damage potential” means potential damage as a result of flooding that is associated with any danger to life or health or any significant economic loss to a structure or building and its contents.

(26) “Human habitation” means a human residence or dwelling.

(27) “Hydraulic floodway lines” means those lines that delineate those portions of floodplain including the channel which are required to convey the regional flood discharge without any increase in regional flood heights.

(28) “Increase in regional flood height” means a calculated upward rise in the regional flood elevation, equal to or greater than 0.01 foot, resulting from a comparison of existing conditions and proposed conditions which is directly attributable to development in the floodplain but not attributable to manipulation of mathematical variables such as roughness factors, expansion and contraction coefficients and discharge.

(29) “Levee” means a continuous dike or embankment of earth constructed to prevent flooding of certain areas of land.

(30) “Littoral drift” means the movement of sedimentary material along the Lake Michigan or Lake Superior shoreline due to wave action and water currents.

(30m) “Mobile recreational vehicle” means a recreational vehicle that is carried, towed or self-propelled; is licensed for highway use, if registration is required; and is always capable of being driven or towed by a licensed vehicle.

(31) “Municipality” or “municipal” means a county, city or village.

(32) “NGVD” or “National Geodetic Vertical Datum” means elevations referenced to mean sea level datum, 1929 adjustment.

(33) “Nonconforming building” means an existing lawful building which is not in conformity with the dimensional or structural requirements of the floodplain zoning ordinance for the area of the floodplain which it occupies.

(34) “Nonconforming use” means an existing lawful use or accessory use of a structure, building or development which is not in conformity with the provisions of the floodplain zoning ordinance for the area of the floodplain which it occupies.

(35) “Obstruction to flow” means any development which physically blocks the conveyance of flood waters such that this development by itself or in conjunction with any future similar development will cause an increase in regional flood height.

(36) “Official floodway lines” means those lines which have been approved by the department, adopted by the municipality, and which are shown on the official floodplain zoning maps and used for regulatory purposes. The official floodway lines are established assuming that the area landward of the floodway lines will not be available to convey flood flows.

(37) “Open space use” means a use which has a relatively low flood damage potential, such as uses associated with agriculture, recreation, parking, storage yards, or certain sand and gravel operations.

(38) “Private sewage system” means a sewage treatment and disposal system serving a single structure with a septic tank and soil absorption field located on the same parcel as the structure. This term also means an alternative sewage system approved by the department of industry, labor and human relations including a substitute for the septic tank or soil absorption field, a holding tank, a system serving more than one structure or a system located on a different parcel than the structure.

(39) “Public utilities” means those utilities which employ underground or overhead transmission lines such as electric, telephone and telegraph, and distribution and collection systems such as water, sanitary sewer and storm sewer.

(40) “Rapidly urbanizing watershed” means a watershed where more than 20% of the land area of the watershed has been developed for residential, commercial or industrial uses or where development of the watershed is projected to grow at a rate of 10% or more in the next 10–year period.

(41) “Regional flood” means a flood determined to be representative of large floods known to have occurred in Wisconsin or
which may be expected to occur on a particular lake, river or stream once in every 100 years.

Note: The regional flood is based on a statistical analysis of lake level or streamflow records available for the watershed or an analysis of rainfall and runoff characteristics in the watershed or both. The flood frequency of the regional flood is once in every 100 years. In any given year, there is a 1% chance that the regional flood may occur or be exceeded. During a typical 30-year mortgage period, the regional flood has a 20% chance of occurring.

(42) “Shallow depth flooding areas” means those areas where the maximum depth of flooding does not exceed one foot in depth nor 6 hours in duration during the regional flood.

(43) “Special exception” or “conditional use” has the meaning designated in sub. (5).

(44) “Stormwater management” means public policy and action to control stormwater runoff associated with development within a rapidly urbanizing watershed in order to prevent the occurrence of, or an increase in, flood damage potential. It includes, but is not limited to, development of stormwater runoff data, flood profiles and enactment and administration of ordinances regulating land use in a watershed.

(45) “Structure” means any man-made object with form, shape and utility, either permanently or temporarily attached to or placed upon the ground, river bed, stream bed or lakebed.

(46) “Study” means any analysis that results in the calculation of discharge or elevation of the regional flood or the determination of delineation of boundary lines for any area within a floodplain.

(47) “Undeveloped area” means an area which is not a developed area.

(48) “Unnecessary hardship” means that circumstance where special conditions affecting a particular property, which were not self-created, have made strict conformity with restrictions governing areas, setbacks, frontage, height or density unnecessarily burdensome or unreasonable in light of the purposes of the ordinance.

(49) “Variance” means an authorization by the board of adjustment or appeals under s. NR 116.21 (4), for the construction or maintenance of a building or structure in a manner which is inconsistent with dimensional standards contained in the floodplain zoning ordinance.

Note: A variance can only be granted by the board of adjustment or appeals. A variance may not permit a use of property otherwise prohibited by the floodplain zoning ordinance or allow construction not protected to the flood protection elevation; it may, however, permit deviations from dimensional standards.

(50) “Watershed” means the entire region or area contributing runoff or surface water to a particular watercourse or body of water.

(51) “Water surface profile” means a graphical representation showing the elevation of the water surface of a watercourse for each position along a reach of river or stream at a certain flood flow. A water surface profile of the regional flood is used in regulating floodplain areas.

(52) “Well” means an excavation or opening in the ground made by digging, boring, drilling, driving or other methods, for the purpose of obtaining groundwater regardless of its intended use.

(53) “Zoning agency” means a commission, board, committee or agency created or designated by the governing body of a municipality which acts on matters pertaining to planning or zoning. Under the provisions of s. 62.23 (7) (d) 2., Stats., the term “zoning agency” also includes the governing body of a city or village.

History: Cr. Register, February, 1986, No. 362, eff. 3–1–86; cr. (1e), (1s), (30m), Register, June, 1996, No. 486, eff. 7–1–96.

NR 116.05 Adoption and upgrading of floodplain zoning ordinances. 

(1) ADOPTION. Municipalities shall adopt, administer and enforce reasonable floodplain zoning ordinances for all floodplains where serious flood damage may occur within their respective jurisdictions. These ordinances shall meet or exceed the standards in this chapter.

(2) INCLUSION IN LOCAL REGULATIONS, CODES AND PROGRAMS. Where necessary, to insure the effectiveness of floodplain management and zoning objectives, the standards in this chapter shall be included in subdivision regulations, building and sanitary codes, flood insurance regulations, stormwater management regulations and other related programs.

(3) SUBSTITUTION. Where the department finds that one or more of the following regulations, codes or programs will accomplish the purpose of s. NR 116.01, these regulations, codes or programs may be substituted in lieu of all or portions of floodplain zoning ordinances:

(a) Zoning, acquisition of flooding easements or purchase of floodplain lands to permit only open space uses in floodplain areas.

(b) Flood warning systems.

(c) Building codes.

(d) Subdivision regulations.

(e) Private sewage system ordinances.

(f) Stormwater management regulations.

(4) UPGRADING ORDINANCES. Within 6 months from the time any of the information listed below is made available to a municipality by the department, the municipality shall upgrade its floodplain zoning ordinance, using the amendment procedure in s. NR 116.21, to reflect current floodplain information, including, but not limited to, the following:

(a) Changes in floodplain management statutes.

(b) Changes in floodplain management rules.

(c) Changes in floodplain management case law.

(d) New study data.

(e) Improved technical information and methods.

History: Cr. Register, February, 1986, No. 362, eff. 3–1–86.

NR 116.06 Areas to be regulated. Municipalities shall develop floodplain zoning maps, reflecting the best available data, which show the areas to be regulated. They shall also develop floodplain zoning ordinances to define proper uses in those regulated areas. These floodplain maps and zoning ordinances shall regulate all floodplains where serious flood damage may occur. The minimum limits for regulatory purposes shall be all those areas covered by water during the regional flood.

History: Cr. Register, February, 1986, No. 362, eff. 3–1–86.

NR 116.07 Standards for hydrologic and hydraulic studies. 

(1) GENERAL. The standards contained in this section shall be the basis for developing both hydrologic and hydraulic information to be used by municipalities for developing floodplain zoning maps and flood profiles, as defined in s. NR 116.09, and for administration of existing floodplain zoning ordinances as defined in s. NR 116.20 (2). The department shall review and approve all studies performed or completed under this section prior to use by any municipality.

(2) CERTIFICATION AND RESPONSIBILITY OF THE STUDY CONTRACTOR. Studies shall be completed under the direct supervision of the study contractor who is a registered professional engineer in the state of Wisconsin. The study contractor shall be responsible for the technical adequacy of the study.

(3) HYDROLOGIC ANALYSIS – DETERMINATION OF REGIONAL FLOOD DISCHARGE. 

(a) Techniques. Studies to determine the regional flood flow discharge may use the following techniques, if done in accordance with the requirements of par. (b):


2. The current USGS empirical equations, developed from regression analysis of stream gaging data. (See USGS publication

3. Synthetic hydrographs, which are combined and routed through the basin to the downstream end of the study area.

4. When using the synthetic hydrograph technique in subd. 3., the results shall be calibrated to past events where such information is available.


6. Comparison of similar drainage basins at gaged sites.

7. Historic flood data.

8. Other methods with department approval.

(b) Required use of techniques. The following shall be the minimum standards for determining the regional flood flow discharge:

1. The techniques to determine skew under par. (a) 1. may not be used if data from a gaging station in the watershed is not available or is available for a period of less than 10 years. In other cases, the technique to determine skew in par. (a) 1. shall be modified as follows:
   a. If data from a gaging station in the watershed is available for 10 or more years but less than 26 years, the station skew shall be weighted with zero skew in accordance with Bulletin #17B.
   b. If data from a gaging station in the watershed is available for 26 or more years, the station skew shall be used.
   c. Skew values differing from those obtained in subd. 1. a. or b. may be used if they are approved by the department.

2. If the difference in the drainage area at the study site and the drainage area at a gaging station on the same watershed is less than or equal to 50%, the regional flood discharge at the study site shall be determined by transferring the calculated regional flood discharge at the gage by using Bulletin #17B techniques to the study site using a drainage area ratio taken to the “n” power, from page 12 of “Techniques for Estimating Magnitude and Frequency of Floods for Wisconsin Streams”, U.S.G.S., Open File Report 80–1214, March 1981.

3. If the difference in the drainage area at the study site and the drainage area at a gaging station in the watershed is more than 50%, or if there is no gaging station in the watershed, at least 2 of the techniques described in par. (a) 2. to 7. shall be used to determine a weighted value of the regional flood discharge.

4. Comparison of similar drainage basins under par. (a) 5. shall be based on basin characteristics using Bulletin #17B 100–year discharges.

5. When using USGS empirical equations under par. (a) 2., the results shall be compared with Bulletin #17B 100–year discharges at gaged sites on similar drainage basins.

6. In all cases where dams or reservoirs, floodplain development or land use upstream have significantly altered the storage capacity or runoff characteristics of the watershed so as to affect the validity of any of the techniques listed in par. (a), the synthetic hydrograph technique in par. (a) 3. or the Technical Release No. 55 in par. (a) 4. shall be used for the determination of the regional flood flow discharge.

7. In rapidly urbanizing watersheds, the municipality shall require that computations for regional flood flow discharges reflect increased runoff from all projected future development. These computations shall be made using one of the following techniques:
   a. A synthetic hydrograph based upon projected watershed development shall be produced and routed to critical locations within the study limits.
   b. A mathematical model shall be developed to determine the effects of all projected future development in the watershed on the regional flood flow discharge. Local units of government shall project what percentage of watershed development may occur under existing land use or subdivision ordinances and regional flood discharges shall be based upon that data. Where there are no existing land use or subdivision ordinances which control or regulate future development, total projected development shall be assumed to occupy 70% of the watershed. Where watersheds contain more than one municipality, agreements between those municipalities may be necessary to restrict future watershed development. In order to insure that future regional flood flows do not exceed the regional flood flow discharges used in local regulations, changes in existing land use or subdivision ordinances which may allow an increase or decrease in the projected development in the watershed shall be reflected in regional flood flow discharge values.

4. Hydraulic analysis – Determination of the regional flood elevation. The following criteria shall be the basis for determining the regional flood profile:

(a) Reconnaissance. The study contractor is responsible for the collection of all existing data with regard to flooding in the study area. This shall include a literature search of all published reports in the study area and adjacent communities and an information search to obtain all unpublished information on flooding in the immediate and adjacent areas from federal, state and local units of government. This information shall include specific information on past flooding in the area, drainage structures such as bridges and culverts that affect flooding in the area, available topographic maps, available community maps, photos of past flood events and general flooding problems within the community. The study contractor will coordinate the collection of all available data and published reports with the department. A field reconnaissance shall be made by the responsible engineer to determine hydraulic conditions of the study area including type and number of structures, locations of cross sections and other parameters including roughness values which are necessary for the hydraulic analysis.

(b) Base data. Cross sections to be used for the hydraulic analysis may be obtained by one of several methods, including surveying or aerial photography. New or previously surveyed cross sections or topographic information obtained from aerial photographs may be used independently or in combination as the base data to be used in hydraulic analysis. The elevation datum of all of the information to be used in the hydraulic model shall be verified. All information used shall be referenced directly to NGVD unless the elevation datum is otherwise approved by the department.

(c) Methodology. Flood profiles shall be calculated by the standard step method, using the Corps of Engineers HEC–2 computer model. Other methods may be used with prior department approval provided that any computer models submitted to the department for review are in a form acceptable for entry into the department’s floodplain data repository.

(d) Floodway determination. The hydraulic floodway lines shall be determined from the limits of effective flow based on the calculated regional flood water surface profile. Transitions shall take into account obstructions to flow such as road approach grades, bridges or natural restrictions. General guidelines for transitions may be found in “HEC–2, Water Surface Profiles–Users Manual, appendix IV, Application of HEC–2 Bridge Routine” published by the Hydrologic Engineering Center, Davis, California. All areas of the floodplain including overbank areas that can be assumed to convey flood waters shall be included in the hydraulic floodway.

(e) Previous floodplain studies. If differences exist between a study previously approved by the department and the contractor’s calculated hydraulic floodways or flood profiles, the study contractor shall document justification and obtain departmental approval for these differences. Where the contractor’s study differs from existing flood profiles or hydraulic floodways for adja-
cent communities, verification of the differences will be necessary for department approval of the hydraulic analysis.

(f) **Calculation of the regional flood profile.** The regional flood profile and changes to that profile caused by development in the floodplain, as determined by the hydraulic model, shall be calculated to the nearest 0.01 foot.

(g) **Adequacy of the hydraulic model.** The following factors shall be considered by the department to determine the adequacy of the hydraulic model and the regional flood profile. Upon written request by the department the study contractor shall submit written justification for the following factors:

1. Cross section spacing.
2. Differences in energy grade.

Note: Significant differences in the energy grade from cross section to cross section are an indication that cross sections should be more closely spaced or that other inaccuracies exist in the hydraulic model.

3. Methods for analyzing the hydraulics of structures such as bridges and culverts.
4. Lack of flow continuity.
5. Use of gradually varied flow model.

Note: In certain circumstances, rapidly varied flow techniques shall be used in combination with a gradually varied flow model such as weir flow over a levee or dike, flow through the spillway of a dam or special applications of bridge flow.

6. Manning’s “n” values.
7. Calibration of the hydraulic model with past flood events.

(h) **Special applications.** The methods defined in par. (c) shall be used except in special cases, including circumstances where sediment transport, 2 dimensional flow or valley storage affects the accuracy of the hydraulic model. Where the standard step method is unwarranted, the department shall approve the method used for establishing the final water surface profile.

(i) **Base mapping.** In the preparation of a floodplain zoning map to be used by the municipality, the study contractor shall use the best available mapping to delineate floodplain limits.

(j) **Final report.** A narrative report shall accompany the maps and profiles and shall include the following:

1. Purpose of the study and description of the study area.
2. Coordination with other agencies.
3. Data collection.
4. Past flooding.
5. Engineering methods including a detailed description of the methodology used for hydrology, hydraulics and any special applications used in this study.
6. A floodway data table showing cross sections, drainage area, distance between cross sections, floodway top width, discharge, cross sectional area, mean velocity and regional flood elevation.
7. Previous studies on the same watercourse.
8. An appendix which includes:
   a. Drainage basin maps.
   b. Precipitation maps.
   c. Pertinent photographs.
   d. Soil and vegetation maps.
   e. Sample calculations of the hydrologic analyses including all unit hydrographs.
   f. Stream flow records.
   g. Channel roughness values.
   h. Any other data required by the department.

(k) **Wave action on the Great Lakes.** Standards used to determine the regional flood elevation for all municipalities adjacent to the Great Lakes shall be those specified in the publication, “Guidelines and Specifications for Study Contractors, Federal Emergency Management Agency, September 1982, appendix 1B, Wave Runup Analysis”.

(5) **DOCUMENT AVAILABILITY.** The materials listed in this subsection are incorporated by reference in the corresponding subsections noted. The document referred to in sub. (3) (a) 1. may be purchased from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402 (mention title and stock number 052–045–00031–2). The document referred to in sub. (3) (a) 2. is available for inspection at the Geological Survey – Water Resource Division, U.S. Department of the Interior, 1815 University Avenue, Madison, Wisconsin 53706. The document referred to in sub. (3) (a) 5. is available for inspection at the Soil Conservation Service, U.S. Department of Agriculture, 4601 Hammersley Road, Madison, Wisconsin 53711; it may be purchased from the National Technical Information Service, U.S. Department of Commerce, 5285 Port Royal Road, Springfield, Virginia 22151 (mention title and appropriate accession number: TR5 = PB 244531/AS). The document described in sub. (4) (c) and (d) is available for inspection at the United States Army Corps’ Hydrologic Engineering Center, 609 2nd Street, Davis, California 95616. The document referred to in sub. (4) (k) is available for inspection at the Federal Emergency Management Agency Region V Office, 300 South Wacker Drive, Chicago, Illinois 60606 (mention title, date and appropriate appendix number).

(6) **INSPECTION OF DOCUMENTS.** Copies of the documents referred to in sub. (5) are also available for inspection in the following offices:

(a) The department of natural resources, 101 South Webster Street, Madison, Wisconsin;

(b) The office of the secretary of state, 30 W. Mifflin Street, Madison, Wisconsin;

(c) The office of the revisor of statutes, 131 W. Wilson Street, Madison, Wisconsin;

**History:** Cr. Register, February, 1986, No. 362, eff. 3–1–86; corrections made under s. 13.95 (2m) (b) 6., Stats., Register, September, 1995, No. 477.

**NR 116.08** **Uses downstream of dams.** **(1)** **GENERAL.**

Adapted designs, constructed and maintained dams provide reduced damages and relief from flooding for developed areas. Areas downstream of dams shall be zoned and regulated by municipalities with floodplain zoning ordinances in compliance with the standards in this section, to reduce potential loss of life and property located downstream of the dam. Except as provided in sub. (2), areas downstream of all dams shall be delineated on floodplain maps in accordance with s. NR 116.09 (1) (b) 5. Flood studies and related mapping, completed and adopted prior to August 1, 2001, which calculated flood flow attenuation based on the existence of the dam structures within the contributing basin, may continue to use the dam in-place, no failure, profile.

**(2)** **EXEMPTIONS.** All dams having a structural height of 6 feet or less, or a storage capacity of 15 acre feet or less, and all dams having a structural height of more than 6 feet but less than 25 feet with a storage capacity of less than 50 acre feet are exempt from the requirements of this section unless the department determines pursuant to s. 31.19, Stats., that the dam is likely to endanger life, health or property.

**(3)** **COMPLIANT DAMS.** (a) A dam is considered compliant if all the following requirements are met:

1. The dam is structurally adequate to meet the conditions in ss. NR 333.05 (2) (k) and 333.07 (3) (b).
2. The dam is hydraulically adequate to meet the standards in s. NR 333.07 (1).
3. The dam has been certified by a professional engineer, registered in Wisconsin, to meet the requirements of subs. 1. and 2.
4. Written assurance of the dam owner’s ability to operate and maintain the dam in good condition is obtained from the dam owner.
5. An emergency action plan to minimize loss of human life has been developed for the area downstream of the dam based on the assumption that the dam fails during the regional flood.
6. The department reviews and approves the material submitted under subs. 1. to 5.

(b) Developed areas downstream of compliant dams shall be zoned and regulated as follows:
1. For high hazard dams, assuming that the dam is nonexistent during the regional flood.
2. For significant or low hazard dams, assuming the dam fails during the regional flood.
3. Undeveloped areas downstream of a compliant dam shall be zoned and regulated assuming that the dam fails during the regional flood.

(4) NONCOMPLIANT DAMS. (a) If an existing dam does not meet the standards in sub. (3) (a), the dam is considered noncompliant.

(b) Both developed and undeveloped areas downstream of a noncompliant dam shall be zoned and regulated assuming that dam failure occurs during the regional flood.

(c) The regional flood profile of the area downstream of the dam shall be calculated in accordance with s. NR 333.05 (2) (b).

(5) CONSTRUCTION OF NEW DAMS. (a) Dams constructed after August 1, 2001, shall be considered compliant if the requirements in sub. (3) (a) are met.

(b) Developed areas downstream of the construction of a new dam shall be zoned and regulated as if the dam does not exist until construction is 100% complete and all the conditions of sub. (3) (a) are met.

NR 116.09 Data required to be shown on floodplain zoning maps. Municipalities shall delineate the entire floodplain on their floodplain zoning maps.

(1) If the regional flood profile has been determined, the profile shall be used to develop the floodplain zoning maps which the municipality shall use as the basis for floodplain zoning. The maps shall show the following:
1. The floodway district;
2. The flood fringe district;
3. The regional flood elevation consistent with the official floodplain zoning maps. If for any reason that elevation is not shown on the maps, the profile shall be attached to and made a part of the maps; and
4. Source and date of study.

(b) In addition to the information in par. (a), the floodplain zoning maps shall include the following information, where applicable:
1. The shallow depth flooding district.
2. The flood storage district.
3. The coastal floodplain district.
4. Floodplain islands.
5. For developed and undeveloped areas downstream of dams, the floodway and flood fringe districts based on 3 conditions:
   a. Assuming the dam is in place,
   b. Assuming the dam is not in place, and
   c. Assuming failure of the dam during the regional flood.
6. For areas adjacent to levees, floodwalls and channel improvements, the floodway and flood fringe districts based on 2 conditions:
   a. Assuming the levee, floodwall or channel improvement is not in place, and
   b. Assuming the levee, floodwall or channel improvement is in place.

(c) If technical information is available to ascertain the magnitude of floods larger than the regional flood the floodplain limits of these large floods may be reflected on the official floodplain zoning maps and used for either public information purposes or for regulation.

(2) If the regional flood profile has not been determined, maps based on historical floods, flood prone area maps, flood hazard boundary maps, aerial photos or detailed soils maps may initially serve as a basis for floodplain delineation, provided that the associated text of the zoning ordinance provides for a procedure similar to ss. NR 116.20 (2) and 116.21 (3) to ascertain the effects of all development upon flood flows and the regional flood elevation.

NR 116.10 Conflicts between water surface profiles and floodplain zoning maps. Accepted engineering principles and techniques shall govern the transfer of profile elevation for use in delineation of the floodplain limits on the official floodplain zoning maps. If a conflict exists between the floodplain limits illustrated on the maps and the actual field conditions, the elevations from the water surface profile shall be the governing factor in locating the official floodplain limits.

NR 116.11 Criteria for establishing and rezoning floodplain districts. (1) DELINEATION OF FLOODWAY, FLOODFRINGE AND COASTAL FLOODPLAIN DISTRICTS. Except as provided in sub. (2), the following criteria shall apply to the delineation of floodway, flood fringe and coastal floodplain districts.

(a) Floodway district. The official floodway lines shown on floodplain zoning maps shall be the hydraulic floodway lines. These hydraulic floodway lines shall be determined by studies complying with the standards contained in s. NR 116.07.

(b) Flood fringe district. All areas within the floodplain landward of the official floodway lines shall be shown as a “flood fringe district.”

(c) Coastal floodplain district. All areas adjacent to Lake Superior or Lake Michigan within the regional floodplain shall be designated as a coastal floodplain district.

(2) REDELINEATION OR REZONING FLOODPLAIN DISTRICTS. In accordance with the criteria of sub. (3), the following redelineations or rezonings may occur:

(a) Redelineation or rezoning the floodway district to flood fringe district. Riverward delineations of the official floodway lines established in accordance with sub. (1) (a) are permissible provided the following criteria are satisfied:
1. Any increase in regional flood height due to the delineation of the official floodway lines riverward from the hydraulic floodway lines shall be approved by the department prior to becoming effective. Increases may only be approved by the department if the provisions of sub. (3) are satisfied.
2. The effects of delineating the official floodway lines riverward from the hydraulic floodway lines shall be calculated by comparing the regional flood profile determined from the hydraulic floodway lines to that profile determined by assuming that the area landward of the revised floodway lines is not available to convey flood flows. Calculations shall conform to the standards contained in s. NR 116.07.

(b) Redelineation or rezoning flood fringe district to floodway district. Landward modifications of hydraulic floodway lines to delineate official floodway lines may be permitted provided the following conditions are satisfied:
1. The redelineation of the floodway lines is consistent with other municipal codes, ordinances, and ch. 30, Stats.; and
2. The current hydraulic floodway lines, which reflect the water surface profile used for regulation, shall be kept on file by the municipality.
(c) **Redelineation or rezoning floodway district to shallow depth flooding district.** For areas subject to shallow depth flooding, the official floodway lines may be delineated riverward of the hydraulic floodway lines, provided all of the criteria in this paragraph are satisfied:

1. The maximum depth of flooding during the regional flood in the shallow depth flooding district may not exceed one foot in depth nor 6 hours in duration. The duration shall be determined by a synthetic hydrograph developed for the watershed and routed through the area;

2. The area is developed complete with existing streets and sewers and is subject to a land use plan, which includes provisions for drainage ways through the area with the capacity to convey that percentage of the regional flood which is flowing through the area under existing conditions;

3. The municipality shall adopt standards outlined in s. NR 116.14 (1) pertaining to shallow depth flooding district;

4. All areas within the hydraulic floodway landward of the official floodway lines shall be designated as “shallow depth flooding district”;

5. All areas within the floodplain landward of the hydraulic floodway lines shall be delineated as “floodfringe district”.

(d) **Redelineation or rezoning floodfringe district to flood storage district.** A “flood storage district” may be established for the area landward of the floodway in lieu of the flood fringe designation where floodplain storage will decrease the calculation of discharge and therefore the regional flood elevation, provided the following criteria are met:

1. The department shall approve the methodology used to analyze floodplain storage to determine revised regional flood elevations.

2. The municipality shall adopt standards outlined in s. NR 116.14 (2) pertaining to the flood storage district.

(e) **Rezoning flood storage district to floodfringe district.** Any proposal to rezone flood storage district to floodfringe district shall comply with the following conditions:

1. Any increase in regional flood height shall be approved by the department prior to becoming effective. Increases in the regional flood elevation may only be approved by the department if the provisions in sub. (3) are satisfied; and

2. The effect of rezoning the flood storage district to the floodfringe district shall be calculated by comparing the regional flood profile used as the basis for zoning to the regional flood profile determined by assuming that the area to be rezoned is not available to store floodwater.

(f) **Rezoning the shallow depth flooding district to floodfringe district.** Any proposal to rezone the shallow depth flooding district to floodfringe district shall comply with the following conditions:

1. Any increase in regional flood height shall be approved by the department prior to the rezoning becoming effective. Increases in the regional flood elevation may only be approved by the department if the provisions in sub. (3) are satisfied; and

2. The entire shallow depth flooding district shall be rezoned to floodfringe district; and

3. The effect of rezoning the shallow depth flooding district to the floodfringe district shall be calculated by comparing the regional flood profile determined by the hydraulic floodway lines to the regional flood profile determined by assuming that the entire shallow depth flooding district is not available to convey floodflows. Calculations shall conform to the standards contained in s. NR 116.07.

**Criteria for Redelineation or Rezoning Floodplain Districts.**

(a) **Initial determinations.** Prior to redelineation or rezoning any floodplain district a municipality shall:

1. Assure that the applicable provisions of sub. (2) are met; 2. Require adequate technical data from the applicant or the municipality and submit such data to the department for review and concurrence in the effect of the proposed amendment on the height of the regional flood;

3. Assure that the proposed amendments meet the purpose of s. NR 116.01;

4. Assure that the appropriate legal arrangements have been made with all property owners affected by the increased flood elevations; and

5. Notify all affected municipalities of increased regional flood elevations.

(b) **Amendment process.** Upon completion of the steps in par. (a), the municipality and any affected municipality shall meet all legal requirements for amending its water surface profiles, floodplain zoning maps and zoning ordinances as established in s. NR 116.21 (6).

(c) **Submission to the department for approval.** If the municipality amends its official floodplain map, it shall also amend its water surface profiles and floodplain zoning ordinance and submit these amendments to the department for approval pursuant to s. NR 116.21 (6). Prior to department approval, all municipalities affected by the increased regional flood elevation shall amend their water surface profiles, floodplain zoning maps and zoning ordinances to reflect the increased regional flood elevations.

4. **Exception to Criteria for Redelineating or Rezoning Floodplain Districts.** If, as a result of improved data generated by a revised study approved by the department, and not as a result of changes due to encroachments in the floodplain, the hydraulic floodway line is revised landward of the official floodway lines, the municipality may continue to regulate on the basis of the official floodway lines provided the municipality meets all of the requirements of sub. (3), except the requirement of sub. (3) (a) 4.

**History:** Cr. Register, February, 1986, No. 362, eff. 3-1-86.

**NR 116.12 Development standards in floodway areas.**

1. **Prohibited uses.** Municipalities shall prohibit the following uses in floodway areas:

(a) Except as provided in sub. (2), any development which will cause an obstruction to flood flows or an increase in regional flood discharge or will adversely affect the existing drainage courses or facilities.

(b) A structure is always prohibited in, on or over floodway areas if the structure is:

1. Designed for human habitation;

2. Associated with high flood damage potential; or

3. Not associated with permanent open space uses.

(c) Any storage of materials that are buoyant, flammable, explosive or injurious to human, animal, plant, fish or other aquatic life.

(d) Any use which is not in harmony with, or which may be detrimental to, the uses permitted in the adjoining districts.

(e) Any sewage system, whether public or private, except portable latrines that are removed during flooding, or systems associated with recreational areas that meet the applicable provisions of local ordinances and ch. Comm. 83.

(f) Any well, whether public or private, which is used to obtain water for ultimate human consumption, except systems associated with recreational areas that meet the applicable provisions of municipal zoning ordinances and chs. NR 811 and 812.

(g) Any solid or hazardous waste disposal facility.

(h) Any wastewater treatment pond or facility except as permitted in s. NR 110.15 (3) (b).

(i) Any sanitary sewer or water line except those used to service existing development or proposed development located outside of the floodway and which comply with the requirement for the floodplain area on which it is located.

Register, October, 2002, No. 562
NR 116.12

Unofficial Text (See Printed Volume). Current through date and Register shown on Title Page.

(2) PERMITTED USES AND STRUCTURES. Municipalities, using the appropriate procedure described in s. NR 116.21, may issue permits in floodway areas allowing open space uses having a relatively low flood damage potential, such as those used associated with agriculture, recreation, surface parking lots, storage yards or certain sand and gravel operations. Permits for the following uses or structures may be allowed only if such uses or structures are consistent with all of the standards contained in this subsection and sub. (3) and such uses or structures are not prohibited in sub. (1) (b) to (i).

(a) Certain structures which are accessory to permitted open space uses or historical areas, if the structures meet all of the following criteria:
1. Are not designed for human habitation;
2. Have a low flood damage potential;
3. Are associated with an open space use or are functionally dependant on a waterfront location;

Note: For example, an unloading structure is functionally dependant on a waterfront location to unload boats or barges, but a storage facility is not.

4. Except as provided in sub. (3), are to be constructed and placed on the building site so as to offer no obstruction to flood flows;
5. Are firmly anchored to prevent them from floating away and restricting bridge openings or other constricted sections of the stream or river; and
6. All service facilities, such as electrical and heating equipment, shall be at or above the flood protection elevation for the particular area.

(b) Campgrounds, provided all of the following criteria are met and approval is granted by the department:
1. The character of the river system and the elevation of all portions of the campground are such that 72 hours warning of an approaching flood can be given to all persons using that campground;
2. An adequate flood warning system is in existence which will provide for adequate advance notice to all persons in the campground and make evacuation mandatory. Such a system shall involve an annual renewable written agreement between the campground owner, the emergency government coordinator, the national weather service and the chief municipal law enforcement official which shall specify a flood elevation at which evacuation shall occur;
3. The campground complies with all applicable local and state laws and regulations, including those of the department of health and social services;
4. The campground shall have signs at all entrances warning of the flood hazard involved;
5. Only mobile recreational vehicles with self-contained holding tanks or easily removable tents or camper units are allowable. No other habitable structures or buildings are permitted; and
6. Litter collection facilities shall be placed at or floodproofed to the flood protection elevation or be removed during flooding.

(c) Uses permitted by the department pursuant to chs. 30 and 31, Stats., provided that the necessary permits are obtained from the department and necessary amendments are adopted by the municipality to the official floodway lines, regional flood profiles, floodplain zoning maps and floodplain zoning ordinances in accordance with the criteria established in s. NR 116.11. All such amendments shall meet the provisions of s. NR 116.21 (6).

History: Cr. Register, February, 1986, No. 362, eff. 3–1–86; correction made in (1) (f) made under s. 13.93 (2m) (b) 7., Stats., Register, September, 1995, No. 477; cr. (2m), Register, June, 1996, No. 486, eff. 7–1–96; correction in (1) (e) made under s. 13.93 (2m) (b) 7., Stats., Register July 2001, No. 547.

NR 116.13 Development standards in floodfringe areas. (1) GENERAL. (a) Municipalities, using the appropriate procedure described in s. NR 116.21, may issue permits allowing uses in floodfringe areas which are compatible with the criteria in this section.

(b) All floodfringe developments shall be compatible with local land use plans. In the absence of formal plans, development shall be compatible with the uses permitted in adjoining districts.

(c) Floodfringe developments may be permitted only if such developments do not cause an obstruction to flood flows of any tributaries to the main stream, drainage ditches, or any other drainage facilities or systems or if amendments are made to the affected official floodway lines, water surface profiles, floodplain zoning maps and floodplain zoning ordinances in accordance with the provisions of ss. NR 116.11 and 116.21 (6).

(d) Floodfringe developments may be permitted only if such developments do not affect the conveyance capacity by causing an obstruction to flow or storage capacity of the floodplains, such that it causes any increase in the regional flood height or discharge.

(2) RESIDENTIAL USES. (a) Any structure or building used for human habitation (seasonal or permanent), which is to be erected, constructed, reconstructed, structurally altered or moved into the floodfringe area shall be placed on fill with the finished surface of the lowest floor, excluding basement or crawlay, at or above the flood protection elevation. If any such structure or building has a basement or crawlay, the surface of the floor of the basement or crawlay shall be at or above the regional flood elevation and shall be floodproofed to the flood protection elevation in accordance with s. NR 116.16. No variance may be granted to allow any floor below the regional flood elevation. An exception to the base requirement may be granted by the department, but only in those communities granted such exception by the federal emergency management agency (FEMA) on or before March 1, 1986.

(b) For all uses under this subsection:
1. Fill shall be not less than one foot above the regional flood elevation;
2. Fill shall extend at such elevation at least 15 feet beyond the limits of any structure or building erected thereon; and
3. Dryland access shall be provided.

(c) If existing streets or sewer lines are at elevations which make compliance with par. (b) impractical, the department may approve the use of other floodproofing measures or methods in accordance with s. NR 116.16. The structure or building shall be floodproofed to the flood protection elevation.

(d) If existing streets or sewer lines are at elevations which make compliance with par. (b) 3. impractical, the municipality...
may permit new development and substantial improvements where access roads are at an elevation lower than the regional flood elevation, provided:

1. The municipality has an adequate natural disaster plan which has been concurred in by the division of emergency government and approved by the department; or

2. The municipality has written assurance from the appropriate units of police, fire and emergency services that rescue and relief can be provided by wheeled vehicles to the structures during regional flooding, taking into account the anticipated depth, duration and velocity of the regional flood event in the area, thereby protecting human life and health and minimizing property damage and economic loss.

(3) ACCESSORY USES. Accessory structures not connected to a principal structure, including nonresidential agricultural structures, shall meet the applicable provisions of s. NR 116.12 (2) (a) 1., 2., 5. and 6. and sub. (6). Any such accessory structure may be constructed at elevations lower than the flood protection elevation. However, no accessory structure may be inundated to a depth greater than 2 feet or subject to flood velocities greater than 2 feet per second upon the occurrence of the regional flood.

(3m) PERMITTED USES, NO PERMIT REQUIRED. Camping in a camping unit in a flood fringe area outside of an approved campground under s. NR 116.12 (2) (b) is allowed without a permit if the camping unit consists of nothing more than an easily removable tent or if the following criteria are met:

(a) The camping unit is a mobile recreational vehicle;

(b) The camping unit is on a parcel of land that has less than 4 camping sites and the parcel is not advertised, represented or used as a camping area; and

(c) The camping unit may not occupy the site for a period of more than 180 consecutive days.

(4) COMMERCIAL USES. Any commercial structure or building which is to be erected, constructed, reconstructed, altered or moved into the flood fringe area shall meet the requirements of sub. (2). Certain yards, parking lots and other accessory structures or uses may be at elevations lower than the flood protection elevation. However, no such area in general use by the public may be inundated to a depth greater than 2 feet or subjected to flood velocities greater than 2 feet per second upon the occurrence of the regional flood. Inundation to depths greater than 2 feet may be approved provided an adequate warning system exists to protect life and property.

(5) MANUFACTURING AND INDUSTRIAL USES. Any manufacturing or industrial structure or building which is to be erected, constructed, reconstructed, altered or moved into the flood fringe district shall be protected to the flood protection elevation utilizing fill, adequate floodproofing measures or any combination thereof. On streams or rivers having protracted flood durations, greater protection may be required to minimize interference with normal plant operations. A lesser degree of protection, compatible with these criteria and the criteria in sub. (4), may be permissible for storage yards, parking lots and other accessory structures or uses.

(6) STORAGE OF MATERIALS. Storage of any materials which are buoyant, flammable or explosive, or which in times of flooding could be injurious to property, water quality or human, animal, plant, fish or aquatic life, shall be either floodproofed to or placed at or above the flood protection elevation. Adequate measures shall be taken to assure that these materials will not enter the river or stream during flooding.

(7) PUBLIC UTILITIES, STREETS AND BRIDGES. (a) If failure or interruption of public facilities would result in danger to the public health or safety or if such facilities are essential to the orderly functioning of the area, adequate floodproofing measures shall be provided to the flood protection elevation; a lesser degree of protection may be provided for minor or auxiliary roads or utilities if these conditions do not exist.

(b) Public utilities, roads, streets and bridges within the flood fringe shall be designed to be compatible with the local floodplain development plans.

(8) PRIVATE SEWAGE SYSTEMS. All private sewage systems shall meet the applicable provisions of the local ordinances and ch. Comm 83.

(9) WELLS. All wells, whether public or private, shall be floodproofed to the flood protection elevation and shall meet the applicable provisions of chs. NR 811 and 812.

(10) SOLID OR HAZARDOUS WASTE DISPOSAL FACILITIES. All solid or hazardous waste disposal facilities, whether public or private, are prohibited in flood fringe areas.

(11) DEPOSITION OF MATERIALS. Any deposition of materials for any purpose may be allowed only if the provisions of this section are met.

History: Cr. Register, February, 1986, No. 362, eff. 3–1–86; cr. (9) made under s. 13.93 (2m) (b) 7., Stats., Register, September, 1995, No. 477; cr. (3m), Register, June, 1996, No. 486, eff. 7–1–96; correction in (9) made under s. 13.93 (2m) (b) 7., Stats., Register July 2001, No. 547.

NR 116.14 Development standards in other floodplain areas. In cooperation with municipalities, and to insure sound floodplain management, the department may designate or approve the following floodplain districts, in addition to those established in ss. NR 116.12 and 116.13, providing the criteria in s. NR 116.11 are met:

(1) SHALLOW DEPTH FLOODING DISTRICT. The standards for permitting development in a flood fringe area under s. NR 116.13 shall be applicable to a shallow depth flooding area except that such development may not result in an obstruction to flood flows. If development does cause an obstruction to flood flows, the development may not be permitted unless the entire shallow depth flooding district is rezoned to flood fringe district according to the criteria established in s. NR 116.11 (2) (f).

(2) FLOOD STORAGE DISTRICT. (a) General. Municipalities using the appropriate procedure described in s. NR 116.20, may issue permits for development in flood storage areas which are compatible with the criteria for flood fringe areas, as described in s. NR 116.13, providing the provisions of par. (b) are met.

(b) Flood storage modifications. When any proposed development would remove flood storage volume, an equal volume of storage, as defined by the ground surface and the regional flood elevation, shall be provided to compensate for the volume of storage which is lost. Excavation below the groundwater table is not considered as providing an equal volume of storage.

(c) Rezoning of flood storage district. If compensatory storage cannot be provided, the area may not be developed unless the entire flood storage district is rezoned to flood fringe district utilizing the criteria established in s. NR 116.11 (2) (e).

(3) COASTAL FLOODPLAIN DISTRICT. The standards for permitting development in a flood fringe area under s. NR 116.13 shall be applicable in a coastal floodplain area, except that no development may be allowed which:

(a) Will be adversely affected by wave runup along the shore of Lake Michigan or Lake Superior; or

(b) Is associated with a high flood damage potential.

History: Cr. Register, February, 1986, No. 362, eff. 3–1–86.

NR 116.15 Nonconforming uses and nonconforming buildings. (1) GENERAL. Insofar as the standards in this section are not inconsistent with the provisions of ss. 59.69 (10) and 62.23 (7) (h), Stats., they shall apply to all uses and buildings that do not conform to the provisions contained within a floodplain zoning ordinance. These standards apply to the modification of, or addition to, any building and to the use of any building or premises which was lawful before the passage of the ordinance.

The existing lawful use of a building or its accessory use which is not in conformity with the provisions of a floodplain zoning ordinance may be continued subject to the following conditions:
NR 116.15

Wisconsin Administrative Code

Unofficial Text (See Printed Volume). Current through date and Register shown on Title Page.

(a) No extension of a nonconforming use, or modification or addition to any building with a nonconforming use or to any nonconforming building, may be permitted unless they are made in conformity with the provisions of this section. For the purposes of this section, the words “modification” and “addition” shall include, but not be limited to, any alteration, addition, modification, rebuilding or replacement of any such existing building, accessory building or accessory use. Ordinary maintenance repairs are not considered structural repairs, modifications or additions; such ordinary maintenance repairs include internal and external painting, decorating, paneling, the replacement of doors, windows and other nonstructural components; and the maintenance, repair or replacement of existing private sewage systems, water supply systems or connections to public utilities;

(b) If a nonconforming use or the use of a nonconforming building is discontinued for 12 consecutive months, it is no longer permitted and any future use of the building shall conform with the appropriate provisions contained in ss. NR 116.12, 116.13 and 116.14;

(c) No modification or addition to any nonconforming building or any building with a nonconforming use, which over the life of the building would exceed 50% of its present equalized assessed value, may be allowed unless the entire building is permanently changed to a conforming building with a conforming use in compliance with the applicable requirements of this chapter; and

(d) If any nonconforming building or any building with a nonconforming use is destroyed or is so badly damaged that it cannot be practically restored, it cannot be replaced, reconstructed or rebuilt unless the provisions of ss. NR 116.12, 116.13 and 116.14 are met. For the purpose of this subsection, restoration is deemed impracticable where the total cost of such restoration would exceed 50% of the present equalized assessed value of the building.

(2) Floodway Areas. (a) No modifications or addition to any nonconforming building or any building with a nonconforming use in a floodway area may be allowed, unless such modification or addition has been granted by permit, special exception, conditional use or variance and meets all of the requirements of sub. (1) and the following criteria:

1. The modification or addition to a building may not increase the amount of obstruction to flood flows; and

2. Any addition to a building shall be floodproofed in accordance with the requirements of s. NR 116.16, by means other than the use of fill, to the flood protection elevation.

(b) No new private sewage system, or addition to an existing private sewage system, may be allowed in a floodway area. Any maintenance, repair or replacement of a private sewage system in a floodway area shall meet the applicable requirements of all municipal ordinances and ch. Comm 83.

(c) No new well, or modifications to an existing well, which is used to obtain water for ultimate human consumption may be allowed in a floodway area. Any maintenance, repair or replacement of an existing well in a floodway area shall meet the applicable requirements of all municipal ordinances and chs. NR 811 and 812.

(3) Flood fringe Areas. (a) Except as provided in par. (b) or (c), no modification or addition to any nonconforming building or any building with a nonconforming use in the flood fringe area may be allowed unless such modification or addition has been granted by permit, special exception, conditional use or variance and the modification or addition is placed on fill or is floodproofed in compliance with the applicable regulations contained s. NR 116.13 (2).

(b) If compliance with the fill or floodproofing provisions of par. (a) would result in unnecessary hardship, and only if the building will not be used for human habitation and will not be associated with a high flood damage potential, the county board of adjustment or the city or village board of appeals, using the procedures established in s. NR 116.21 (4), may grant a variance for modifications or additions which are protected to elevations lower than the flood protection elevation if:

1. Human lives will not be endangered;
2. Water or private sewage systems will not be installed;
3. Flood depths will not exceed 2 feet;
4. Flood velocities will not exceed 2 feet per second; and
5. The building will not be used for storage of materials described in s. NR 116.13 (6).

(c) An addition to an existing room in a nonconforming building or a building with a nonconforming use may be allowed in a flood fringe area on a one-time basis only if:

1. The addition has been granted by permit, special exception, conditional use or variance;
2. The addition does not exceed 60 square feet in area; and
3. The addition, in combination with other modifications or additions to the building, does not exceed 50% of the present equalized assessed value of the building.

(d) All new private sewage systems, or additions to, maintenance, repair or replacement of a private sewage system, in a flood fringe area shall meet the applicable requirements of all municipal ordinances and ch. Comm 83.

(e) All new wells, or additions to, replacement, repair or maintenance of a well, in a flood fringe area shall meet the applicable provisions of the floodplain zoning ordinance and chs. NR 811 and 812.

(4) Shallow depth flooding area. No structural repairs, modifications or additions to an existing building, the cost of which exceeds, over the life of the existing building, 50% of its present equalized assessed value, may be allowed in a shallow depth flooding area unless the entire building is permanently changed to conform with the standards prescribed in s. NR 116.14 (1).

(5) Flood storage area. No structural repairs, modifications or additions to an existing building, the cost of which exceeds, over the life of the existing building, 50% of its present equalized assessed value, may be allowed in a flood storage area unless the entire building is permanently changed to conform with the standards prescribed in s. NR 116.14 (2).

(6) Coastal floodplain area. No structural repairs, modifications or additions to an existing building, the cost of which exceeds, over the life of the existing building, 50% of its present equalized assessed value, may be allowed in a coastal floodplain area unless the entire building is permanently changed to conform with the standards prescribed in s. NR 116.14 (3).

(7) Municipal responsibilities. (a) Municipal floodplain zoning ordinances shall regulate nonconforming uses and nonconforming buildings in a manner consistent with this section and the applicable state statutes. These regulations shall apply to the modification or addition of any building or to the extension of the use of any building or premises which was lawful before the passage of the floodplain zoning ordinance or any amendment thereto.

(b) As permit applications are received for modifications or additions to nonconforming buildings in the floodplain, municipalities shall develop a list of those nonconforming buildings, their present equalized assessed value and a list of the costs of those activities associated with changes to those buildings enumerated in sub. (2) (a) or (3) (a), (b) and (c).

History: Cr. Register, February, 1986, No. 362, eff. 3–1–86; correction in (2) (c) and (3) (e) made under s. 13.93 (2m) (b) 7., Stats., Register, September, 1995, No. 477; correction in (1) (intro.) was made under s. 13.93 (2m) (b) 7., Stats., Register July 2001, No. 547.

NR 116.16 Floodproofing. (1) General Standards.

When floodproofing measures are required by either a municipal
floodplain zoning ordinance or some other regulation which incorporates by reference the floodproofing requirements of this chapter, such measures shall be designed to withstand the flood depths, pressures, velocities, impact and uplift forces and other factors associated with the regional flood, to assure that the structures are watertight and completely dry to the flood protection elevation without human intervention during flooding.

(2) Certification. (a) Whenever floodproofing measures are required, a registered professional engineer or architect shall certify that the following floodproofing measures will be utilized, where appropriate, and are adequate to withstand the flood depths, pressures, velocities, impact and uplift forces and other factors associated with the regional flood:

1. Anchorage of structures, or addition of mass or weight to structures, to prevent flotation.
2. Reinforcement of walls and floors to resist rupture or collapse caused by water pressures or floating debris.
3. Construction of wells, water supply systems and waste treatment systems so as to prevent the entrance of flood waters into such systems.
4. Subsurface drainage systems to relieve external pressures on foundation walls and basement floors.
5. Cutoff valves on sewer lines or the elimination of gravity flow basement drains.
6. Placement of essential utilities above the flood protection elevation.

(b) Whenever floodproofing measures are required, a permit, special exception, conditional use or variance may not be issued until the certification required in par. (a) is submitted to the municipal zoning administrator.

History: Cr. Register, February, 1986, No. 362, eff. 3–1–86.

NR 116.17 Levees, floodwalls and channel improvements. (1) General. The following standards shall apply to municipal floodplain zoning regulations for areas landward of levees, floodwalls and channel improvements.

(2) Levees or floodwalls. (a) A levee or floodwall shall be considered adequate if all of the following criteria and the requirements of par. (b) are met:

1. The minimum top elevation of the levee or floodwall shall be calculated using whichever of the following provides the greater protection from floods:
   a. The profile of the regional flood with that regional flood confined riverward of the proposed levee or floodwall, plus 3 feet of freeboard; or
   b. The standard project flood and/or the 500 year flood confined riverward of the proposed levee or floodwall.
2. Exceptions to the standards in subd. 1. a. and b. may be granted by the department on a case-by-case basis for levees and floodwalls not used to protect human life.
3. U.S. Army corps of engineers standards for design and construction of levees and floodwalls shall be the minimum standard for levees and floodwalls.
4. Interior drainage shall be provided using designated ponding areas, pumps or other similar means, in accordance with U.S. Army corps of engineers standards.
5. An emergency action plan, concurred in by the division of emergency government and approved by the department, shall be in effect for the area behind the levee or floodwall that would be in the floodplain without the proposed levee or floodwall in place.
6. The municipality shall provide notification to all persons receiving construction permits in the area behind the proposed levee or floodwall that would be in the floodplain without the proposed levee or floodwall in place that they are in an area protected by a levee or floodwall which is subject to flooding if the levee or floodwall is overtopped.

(b) No obstruction to flood flows caused by construction of levees or floodwalls may be allowed unless amendments are made to the floodway lines, regional flood profiles, floodplain zoning maps and floodplain zoning ordinances in accordance with the provisions of ss. NR 116.11, 116.12 (3) and 116.21 (6). Calculations of the effect of the levee or floodwall on regional flood heights shall compare existing conditions with the condition of the regional flood confined riverward of the proposed levee or floodwall.

(c) Floodplain areas protected by the adequate levee or floodwall shall be designated as flood fringe but may be regulated as areas outside of the floodplain unless the department determines that the levee or floodwall is no longer adequate.

(3) Inadequate levees or floodwalls. If the department determines that an existing levee or floodwall does not meet the criteria of sub. (2) (a), all floodplain areas landward of the inadequate levee or floodwall shall be regulated as if the levee or floodwall does not exist.

(4) Channel improvements. (a) Channel improvements shall be considered to reduce flooding potential provided the following criteria are met:

1. The channel improvements are designed and constructed in accordance with acceptable standards.
2. Velocities resulting from the channel improvements will not increase downstream erosion.
3. An engineer registered in Wisconsin certifies that the criteria in subs. 1. and 2. are met.
4. The municipality submits a plan detailing how the channel improvements will be maintained.

(b) Floodplain areas adjacent to channel improvements approved under par. (a) shall be zoned and regulated in accordance with the reduced regional flood profile provided the channel improvements are maintained in accordance with the plan submitted by the municipality under par. (a) 4.

(c) If the department determines that the channel improvements are not being maintained in accordance with the plan submitted by the municipality under par. (a) 4, the floodplain zoning map shall be amended to reflect existing channel conditions.

(5) New construction of levees, floodwalls or channel improvements. No anticipated changes in the flood protection elevations or floodplain and floodway limits, based upon proposed levees, floodwalls or channel improvements, may be effective until the improvements are constructed, operative and approved by the department.

(a) Municipalities may permit agricultural levees which meet all applicable provisions of this subsection. For purposes of this subsection, an agricultural levee is one constructed to protect agricultural lands from floods that occur on a 10–year frequency or more often.

(b) Agricultural levees shall be designed and constructed so that the levees will overtop upon the occurrence of the 10–year frequency flood.

(c) Increases in flood heights in the area upstream from agricultural levees may not exceed 0.5 foot (15 cm.) for the 10–year

6. The levee or floodwall shall be annually inspected and certified, by a professional engineer registered in Wisconsin, that the levee or floodwall meets the standards in subs. 1. to 5. Annual reports of the inspection and certification shall be sent to the department for review.

7. The department reviews and approves the material submitted under subs. 1. to 5.
frequency flood. No increase is allowed unless the written consent of the affected property owners is obtained prior to construction.  

(d) Agricultural levees shall be designed and constructed to be overtopped and to cause no increase in flood elevation during the occurrence of the regional flood.  

(e) The municipality’s zoning administrator shall notify the department of the construction of any agricultural levees.  

History: Cr. Register, February, 1986, No. 362, eff. 3–1–86.

NR 116.18 Procedures for changing floodplain, floodway, floodfringe, shallow depth flooding, flood storage and coastal floodplain district limits. Municipalities may not change the limits of the floodplain or the floodway, floodfringe, shallow depth flooding, flood storage or the coastal floodplain district without first amending the applicable portions of the water surface profiles, floodplain zoning maps and floodplain zoning ordinances in accordance with s. NR 116.11 and securing department approval for such amendments. No area in the floodplain may be removed from the floodplain unless it can be shown that the area has been filled to the flood protection elevation and is contiguous to other lands lying outside the floodplain.  

History: Cr. Register, February, 1986, No. 362, eff. 3–1–86.

NR 116.19 Appointment and duties of zoning administrator, zoning agency and board of adjustment or appeals. (1) APPOINTMENT POWERS. Municipalities shall provide in their floodplain zoning ordinances for the appointment of appropriate boards and staff, and the development of necessary policies and procedures, to administer the floodplain zoning ordinance in accordance with this section. If a zoning administrator, zoning agency or a board of adjustment or appeals has already been appointed to administer a zoning ordinance adopted under s. 59.69, 59.692 or 62.23 (7), Stats., these officials shall also administer the floodplain zoning ordinance.  

(2) ZONING ADMINISTRATOR. A zoning administrator and such additional staff as needed shall be appointed and given the duties and powers to:  

(a) Advise applicants of the provisions of the floodplain zoning ordinance and provide assistance in preparing permit applications and appeals;  

(b) Issue permits and inspect properties for compliance with the floodplain zoning ordinance;  

(c) Keep the official records of, and any changes to, all water surface profiles, floodplain zoning maps, floodplain zoning ordinances, nonconforming buildings and nonconforming uses and the official records of all permit applications, permits, appeals, variances and amendments related to the floodplain zoning ordinance;  

(d) Submit copies of any required data, special exception permits, variances, amendments, case-by-case analyses, annual reports and any other required information to the department. An annual summary showing only the number and types of zoning actions taken by the municipality shall be submitted to the department by the zoning administrator; and  

(e) Investigate, prepare reports and report violations of the floodplain zoning ordinance to the appropriate municipal committee and to the municipal attorney, corporation counsel or district attorney, with copies to the appropriate department district office.  

(3) ZONING AGENCY. (a) A zoning agency shall be appointed and given the duties and powers to:  

1. Oversee the functions of the office of the zoning administrator;  
2. Review and act upon all proposed amendments to the floodplain zoning ordinance; and  
3. Maintain a complete public record of all its proceedings.  

(b) In some cases, a zoning agency may act in place of the board of adjustment or appeals, if so designated by the municipal-
estimated to include all structural development and landscaping improvements such as access and road development, electrical and plumbing services development, and other similar items, which can be reasonably applied to the overall development costs, but may not include the cost of the land.

(b) For land divisions and proposed developments which do not exceed 5 acres in area and which have an estimated cost of $125,000 or less, if the regional flood profile has not been determined and the conditions in par. (a) 4. are not present, the municipality may transmit the information required in par. (a) 1. to 3. to the department for a determination of flood protection elevations and for an evaluation of the effects of the proposal upon flood heights, velocities and floodplain storage. Additional information, such as valley cross sections or survey data, may be required by the department when needed to determine the effects of the proposal; this information shall then be obtained from the applicant by the municipality. The department shall advise the municipality of its findings within 30 days after receiving the data, or within 30 days after receiving all requested additional information. Failure of the department to respond within 30 days shall be construed to mean it has no comment.

(c) Public hearings shall be held by municipalities on all special exceptions, conditional uses, variances, appeals and amendments. Proper notice shall be given of such public hearings in accordance with appropriate statutes; mailed notice of such public hearings and a copy of the application shall be given to the appropriate department district office. Such notice shall specify the time and place of the hearing and give sufficient details concerning the subject matter of the public hearing.

(d) A copy of all decisions granting or denying a special exception, conditional use, variance or amendment to the floodplain zoning ordinance shall be mailed within 10 days to the appropriate department district office.

(3) CERTIFICATE OF COMPLIANCE. No vacant land in the floodplain, and no building hereafter erected, altered or moved into the floodplain, may be occupied or used until the applicant obtains a certificate of compliance from the municipality. Municipalities shall require that the certificate be issued only after the applicant has submitted, prior to occupancy, to the municipal zoning administrator or building inspector a certification by a registered professional engineer or architect that the flooding requirements in the floodplain zoning ordinance have been met and a certification by a registered professional engineer, architect or registered land surveyor that the following are in compliance with the floodplain zoning ordinance:

(a) The elevation of fill; and
(b) The elevation of the lowest floor including basement floor.

(4) ENFORCEMENT AND PENALTIES. Each floodplain zoning ordinance shall include a separate section establishing appropriate penalties for violations of various provisions of the ordinance. An appropriate penalty, as reflected in s. 87.30 (2), Stats., may include an injunction for abatement or removal, and a fine or forfeiture. Any violation of the provisions of the floodplain zoning ordinance shall be investigated and reported to the appropriate municipal attorney, corporation counsel or district attorney for the prosecution of the violator.

(5) PUBLIC INFORMATION. (a) Where useful, marks on bridges or buildings or other markers may be set to show the depth of inundation during the regional flood at appropriate locations within the floodplain.

(b) All available information in the form of maps, engineering data and regulations shall be readily available and should be widely distributed.

(c) All legal descriptions of property in the floodplain should include information relative to the floodplain zoning classification when such property is transferred.

History: Cr. Register, February, 1986, No. 362, eff. 3–1–86.

NR 116.21 Permits, special exceptions, conditional uses, variances, appeals and amendments. (1) GENERAL. The floodplain zoning ordinance shall list the specific types of uses which may be authorized by permit, special exception or conditional use, indicating the particular authorization required for each type of use. These authorizations may not be contrary to the provisions of this chapter or other state law, or to applicable municipal ordinances.

(2) PERMITS. Municipalities shall issue permits for uses in floodplain areas which are in compliance with the applicable provisions for permitted uses in their floodplain zoning ordinances. These permits shall be issued by the zoning administrator.

(3) SPECIAL EXCEPTIONS OR CONDITIONAL USES. Any use requiring a special exception or conditional use permit may be allowed only upon application to the zoning administrator, public hearing and issuance of a special exception or conditional use permit by the board of adjustment or appeals or, where appropriate, the zoning agency. When determining whether to grant or deny a special exception or conditional use permit, the board of adjustment or appeals shall assure compliance of the proposal with:

(a) The provisions of the floodplain zoning ordinance;
(b) The purpose and objective of floodplain management, as enumerated in s. NR 116.01; and
(c) Local land use plans and other land use controls.

(4) VARIANCES. Any prohibited deviation from the dimensional standards of the floodplain zoning ordinance, for which a permit has been denied by the zoning administrator, may be allowed only upon written request for a variance submitted to the zoning administrator, public hearing and issuance of a variance by the board of adjustment or appeals. The board of adjustment or appeals may, after a written request for a variance has been submitted and a public hearing has been held, authorize in specific cases such a variance from the dimensional standards of the ordinance which will not be contrary to the public interest if, owing to special conditions and the adoption of the floodplain zoning ordinance, a literal enforcement of the provisions of the ordinance will result in unnecessary hardship. A variance:

(a) Shall be consistent with the spirit of the floodplain zoning ordinance.
(b) May not permit a lower degree of flood protection in the floodplain area than the flood protection elevation.
(c) May not be granted for a use that is common to a group of adjacent lots or premises. In such a case, the zoning ordinance would have to be amended through proper amendment procedures.

(d) May not be granted unless it is shown that the variance will not be contrary to the public interest and will not be damaging to the rights of other persons or property values in the area.

(e) May not be granted for actions which require an amendment to the floodplain zoning ordinance as described in sub. (6).

(f) May not have the effect of granting, increasing or extending a use of property which is prohibited in that zoning district by the floodplain zoning ordinance.

(g) May not be granted solely on the basis of economic gain or loss.

(h) May not be granted for a self–created hardship.

(5) APPEALS. Appeals to the board of adjustment or appeals or zoning agency may be taken by any party aggrieved by any decision of the zoning administrator. Requests for special exception or conditional use permits may be considered as appeals. Such appeals shall specify the grounds thereof and be filed within a reasonable period of time with the zoning administrator. The floodplain zoning ordinance shall set forth the time limitations for filing appeals. The zoning administrator shall forthwith transmit to the board of adjustment or appeals or zoning agency all records of the matter concerning the appeal. After public hearing, the board’s or agency’s decision shall either affirm, reverse, vary or modify in
whole or in part the order, requirement, decision or determination appealed from. All appeal decisions shall conform to the applicable provisions of the floodplain zoning ordinance. The board’s or agency’s decision may be appealed to the courts in accordance with applicable state law.

(6) AMENDMENTS. (a) Official amendments are required for any changes in the official floodway lines, water surface profiles, floodplain zoning maps or floodplain zoning ordinance. Actions which require an amendment by the municipality include, but are not limited to, the following:

1. Any change in the official floodway lines or in the boundary of the floodplain area;
2. Settlement of conflicts between the water surface profiles and floodplain zoning maps, in accordance with s. NR 116.10;
3. Any fill, encroachment or development into the floodway which will result in obstructing flood flows; and
4. Any upgrading of floodplain zoning ordinances in accordance with s. NR 116.05.

(b) Amendments may be made upon petition of any interested party in accordance with the appropriate provisions of ss. 59.69 (3) and (4) and 62.23 (7) (d), Stats.

(c) All proposed amendments shall be referred to the appropriate municipal zoning agency for a public hearing and recommendation to the governing body which shall approve or disapprove the proposed amendment.

(d) Amendments of official floodway lines shall meet the provisions of s. NR 116.11.

(e) No amendments to official floodway lines, water surface profiles, floodplain zoning maps or floodplain zoning ordinances may become effective until they have been approved by the department.

History: Cr. Register, February, 1986, No. 362, eff. 3–1–86; corrections in (6) (a) reprinted to restore dropped copy in (4), Register October 2002 No. 562.

NR 116.22 Department duties. (1) ASSISTANCE TO MUNICIPALITIES. The department shall provide assistance to municipalities in the development, adoption and administration of their official floodway lines, water surface profiles, floodplain zoning maps and floodplain zoning ordinances. Such assistance shall include, but not be limited to, the activities described in this subsection.

(a) The department shall establish and upgrade standards for local floodplain zoning ordinances.

(b) When requested by a municipality, the department shall evaluate flood hazards and the effects of proposals in floodplain areas upon water surface profiles, floodway limits and flood velocities as provided in s. NR 116.20 (2) (b). Requests for such evaluations shall come from a municipality, not from individual property owners or applicants. Information needed to conduct the evaluation shall be provided by the applicant or the municipality.

(c) The department shall work with federal agencies to provide technical guidance and computer facilities for certain hydrologic, hydraulic and engineering studies. Generally, the necessary topographic and other base maps and field surveys will be the responsibility of the municipality.

(d) The department shall establish priorities for engineering studies to be done in municipalities by federal agencies.

(e) The department shall respond to the requests from municipalities to provide them assistance in enforcement actions against violations of their floodplain zoning ordinances.

(f) The department shall respond to requests from municipalities for assistance in developing hydraulic and official floodway lines.

(g) The department shall review all studies. No studies may be used until department approval has been secured.

(2) REVIEW AND APPROVAL OF FLOODPLAIN ZONING ORDINANCES. The department shall issue a certificate of approval to a municipality upon a finding that the adopted floodplain zoning ordinance meets the provisions of this chapter. The department review of floodplain zoning ordinances may include, but is not limited to, determinations that:

(a) The most accurate maps were utilized in delineating the floodplains;

(b) All floodplain zoning maps and floodplain zoning ordinances are compatible with all other shoreland regulations, existing zoning and land use plans;

(c) All water surface profiles, floodplain zoning maps and floodplain zoning ordinances are compatible with those of the adjoining municipalities on the same streams or rivers; and

(d) The floodway and floodplain lines shown on the floodplain zoning maps are accurate.

(3) MONITORING. The department shall monitor the administration and enforcement of floodplain zoning ordinances in municipalities. In so doing, the department may:

(a) Establish and upgrade standards for the review and evaluation of the administration and enforcement of floodplain zoning ordinances.

(b) Review and approve or deny proposed amendments to water surface profiles, floodplain zoning maps and floodplain zoning ordinances.

(c) Review floodplain zoning permits and all special exceptions, conditional uses, variances and amendments to floodplain zoning ordinances, to ensure in each instance compliance with the applicable floodplain zoning ordinances and this chapter.

(d) Review state and federal projects to assure that public works proposals in floodplains are compatible with local floodplain zoning ordinances and the provisions of this chapter.

(4) ENFORCEMENT. The department shall assist municipalities in achieving a consistent statewide approach to floodplain enforcement. This assistance may include, but is not limited to, the measures listed in this subsection.

(a) The department may request that corrective action be taken by the municipality where construction is occurring in a floodplain area which is either contrary to an existing floodplain zoning ordinance or which would be contrary to an approved floodplain zoning ordinance. Such corrective action may include, where appropriate, the following:

1. Active prosecution of violations of the floodplain zoning ordinance;
2. An injunction to stop construction until an adequate floodplain zoning ordinance can be adopted and approved by the department; and
3. Adoption of an adequate floodplain zoning ordinance and submittal to the appropriate department district office for approval.

(b) The department may seek an injunction to stop construction in the floodplain area until an adequate floodplain zoning ordinance is adopted and approved.

(c) The department may seek an injunction to stop construction in the floodplain area when the construction would violate an approved floodplain zoning ordinance or the provisions of this chapter.

(d) The department may seek adoption of an adequate floodplain zoning ordinance in accordance with the provisions of s. 87.30 (1), Stats., or an upgrading of a floodplain zoning ordinance in accordance with s. NR 116.05.

(e) The department may seek an injunction for abatement or removal of an existing floodplain zoning ordinance in accordance with s. 87.30 (2), Stats.

History: Cr. Register, February, 1986, No. 362, eff. 3–1–86.
CHAPTER 30

STORMWATER MANAGEMENT
(Cr. GO 41-01)

30.01 Authority
30.02 Findings of Fact
30.03 Purpose and Intent
30.04 Definitions
30.05 Applicability and Jurisdiction
30.06 Stormwater Management Standards
30.07 Permitting Requirements and Procedures and Fees
30.08 Stormwater Management Plans
30.09 Maintenance Agreement
30.10 Enforcement and Penalties
30.01 Appeals
30.12 Severability
30.01 **AUTHORITY**

(1) This ordinance is adopted by the City of Green Bay pursuant to its police powers and under the authority granted by §281.33, Wis. Stats. This ordinance supersedes all conflicting and contradictory stormwater management regulations previously enacted under §62.23, Wis. Stats. Except as specifically provided for in §281.33, Wis. Stats., §62.23, Wis. Stats., applies to this ordinance and to any amendments to this ordinance.

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

(3) The City of Green Bay hereby designates the Director of Public Works to have the administering authority to administer and enforce the provisions of this ordinance.

(4) The requirements of this ordinance do not pre-empt more stringent stormwater management requirements that may be imposed by WPDES Stormwater Permits issued by the Department of Natural Resources under §147.021, Wis. Stats.

30.02 **FINDINGS OF FACT.** The City of Green Bay finds that uncontrolled stormwater runoff from land development activity has a significant impact upon water resources and the health, safety, and general welfare of the community. Specifically, uncontrolled runoff can:

(1) Degrade physical stream habitat by increasing stream bank erosion, increasing stream bed scour, diminishing groundwater recharge, and diminishing stream base flows.

(2) Diminish the capacity of lakes and streams to support fish, aquatic life, recreational, and water supply uses by increasing loadings of nutrients and other urban pollutants.

(3) Alter wetland communities by changing wetland hydrology and by increasing pollutant loads.

(4) Reduce the quality of groundwater by increasing pollutant loads.

(5) Threaten public health, safety, property, and general welfare by overtaxing storm sewers, drainage ways and other minor drainage facilities.

(6) Threaten public health, safety, property, and general welfare by increasing major flood peaks and volumes.

(7) Undermine floodplain management efforts by increasing the incidence and levels of flooding.

(8) Diminish the public enjoyment of natural resources.

30.03 **PURPOSE AND INTENT.**

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

(2) INTENT. It is the general intent of the City of Green Bay that this ordinance achieve its purpose through:
(a) regulating long-term, post-construction stormwater discharges from land development activities;

(b) controlling the quantity, peak flow rates, and quality of stormwater discharges from land development activities; and

(c) it is more fully the intent of the City of Green Bay to provide services to maintain and enhance the quality of life within the community. To this end, the City of Green Bay will manage stormwater to protect, maintain, and enhance the natural environment, diversity of fish and wildlife, human life, property, and recreational use of waterways within the City of Green Bay area.

30.04 DEFINITIONS.

(1) ADMINISTERING AUTHORITY means the governmental employee designated by the City of Green Bay to administer this ordinance. The Director of Public Works has been designated to have the authority to administer this ordinance, §30.01(3).

(2) APPLICANT means any landowner, land user(s), their agent, or contractor responsible for submitting and carrying out the requirements of this ordinance. Applicant shall also mean any subsequent landowner to whom this ordinance applies.

(3) BUSINESS DAY means a day that offices of the City of Green Bay are routinely and customarily open for business.

(4) CEASE AND DESIST ORDER means a court issued order to halt land developing activity that is being conducted without the required permit.

(5) COMMON PLAN OF DEVELOPMENT OR SALE means all lands included within the boundary of a certified survey or subdivision plat created for the purpose of development or sale of property where multiple separate and distinct land developing activity may take place at different times and on different schedules.

(6) DEVELOPMENT DISTRICT(S) means one of three districts that make up the City of Green Bay to promote development in a prioritized fashion according to projected population and land use needs as established by General Ordinance 17-90.

(7) DESIGN RAINFALL EVENT means a discrete rainstorm characterized by a specific duration, rainfall intensity, and return frequency.

(8) DISCHARGE VOLUME means the quantity of runoff discharged from the land surface as the result of a rainfall event.

(9) DIVISION OF LAND means the creation from one parcel of two or more parcels or building sites of 20 or fewer acres each in areas where such creation occurs at one time or through the successive partition within a 5-year period.

(10) EXISTING LAND-USE CONDITION means the condition of the proposed development site and the adjacent properties that are present at the time of the stormwater permit application. This term applies only for the purpose of properly sizing stormwater detention ponds per §30.06(2)(a) and
properly sizing stormwater conveyance systems in accordance to the requirements of this ordinance, §30.06(2)(b).

(11) **FEE IN LIEU** means a payment of money to the City of Green Bay in place of meeting all or part of the stormwater performance standards required by this ordinance.

(12) **FUTURE PROPOSED LAND USE OR POST-DEVELOPMENT CONDITIONS** means any proposed land alterations or disturbances, including, but not limited to, removal of vegetative cover, excavating, filling/grading, construction of buildings, roads, parking lots, paved storage areas, and similar facilities.

(13) **GROSS AGGREGATE AREA** means the total area, in acres, of all land located within the property boundary containing the land development activity.

(14) **GROUNDWATER ENFORCEMENT STANDARD** means a numerical value expressing the concentration of a substance in groundwater, which is adopted under §160.07, Wis. Stats., and NR 140.10, Wis. Admin. Code, or §160.09, Wis. Stats., and NR 140.12, Wis. Admin. Code.

(15) **GROUNDWATER PREVENTIVE ACTION LIMIT** means a numerical value expressing the concentration of a substance in groundwater that is adopted under §160.15, Wis. Stats., and NR 140.12 or 140.20, Wis. Admin. Code.

(16) **IMPERVIOUS SURFACE** means a surface that does not allow infiltration during precipitation events. Rooftops, sidewalks, parking lots, and street surfaces are examples of impervious surface.

(17) **INfiltration** means the process by which rain or surface runoff penetrates into the underlying soil.

(18) **LAND DEVELOPMENT ACTIVITY** means any activity that changes the volume or peak flow discharge rate of rainfall runoff from the land surface. This term does not include agricultural cropping activities.

(19) **MAINTENANCE AGREEMENT** means a legal document that is filed with the County Register of Deeds as a property deed restriction and which provides for long-term maintenance of stormwater management practices.

(20) **NATURAL WETLANDS** means an area where water is at, near, or above the land surface long enough to be capable of supporting aquatic or hydrophytic vegetation and which has soils indicative of wet conditions. These wetlands include existing, mitigation and restored wetlands.

(21) **NON-STORMWATER DISCHARGE** means a discharge to the storm sewer system created by some process other than the runoff from precipitation.

(22) **NON-STRUCTURAL MEASURE** means a practice, technique, or measure to reduce the volume, peak flow rate, or pollutants in stormwater that does not require the design or installation of fixed stormwater management facilities.

(23) **OFF-SITE** means lands located outside the property boundary described in the permit application for land development activity.
(24) **ON-SITE** means lands located within the property boundary described in the permit application for land development activity.

(25) **OTHER THAN RESIDENTIAL DEVELOPMENT** means development of the following land uses: commercial, industrial, government and institutional, recreation, transportation, communication, and utilities.

(26) **PEAK FLOW DISCHARGE RATE** means the maximum rate at which a unit volume of stormwater is discharged.

(27) **PERFORMANCE SECURITY** means a performance bond, maintenance bond, surety bond, irrevocable letter of credit, or similar guarantees submitted to the City of Green Bay by the permit holder to assure that requirements of the ordinance are carried out in compliance with the stormwater management plan.

(28) **PERMIT** means a written authorization made by the City of Green Bay to the applicant to conduct land development activities.

(29) **PERMIT ADMINISTRATION FEE** means a sum of money paid to the City of Green Bay by the permit applicant for the purpose of recouping the expenses incurred by the authority in administering the permit.

(30) **PERVIOUS SURFACE** means a surface that allows infiltration of precipitation or surface flow. Lawns, fields and woodlands are examples of pervious surfaces.

(31) **POST-CONSTRUCTION STORMWATER DISCHARGE** means any stormwater discharged from a site following the completion of land disturbing construction activity and final site stabilization.

(32) **POST-DEVELOPMENT LAND USE CONDITION** means the extent and distribution of land cover types, anticipated to occur under conditions of full development, that will influence precipitation runoff and infiltration (see also future proposed land use condition).

(33) **PRE-DEVELOPMENT LAND USE CONDITION** means land which has runoff characteristics equivalent to runoff Curve Numbers (CNs) of: 30, 58, 71, and 78 for Hydrologic Soil Groups A, B, C, and D, respectively, or Runoff Coefficients 0.10, 0.13, 0.17, 0.21 for Hydrologic Soil Groups A, B, C, and D, respectively, if the Rational Method is being used. This term is used for the purpose of matching of pre- and post-development stormwater peak flows and volumes as required by this ordinance, §30.06(2) (see also existing land-use condition).

(34) **PRE-TREATMENT** means the treatment of stormwater prior to its discharge to wetlands, infiltration practices or the primary stormwater treatment practice in order to reduce pollutant loads to a level compatible with the capability of the primary practice.

(35) **PUBLIC DRAINAGE SYSTEM** means all facilities owned and operated by the City of Green Bay, Brown County or the Wisconsin Department of Transportation for the purpose of collecting, conveying, storing, treating and properly disposing of stormwater runoff.

(36) **RESIDENTIAL LAND DEVELOPMENT** means that which is created to house people, including the residential dwellings as well as all affected portions of the development, including lawns,
driveways, sidewalks, garages, and access streets. This type of development includes single family, multi-family, apartments, and trailer parks.

(37) SITE RESTRICTION means any physical characteristic that limits the use of a stormwater best management practice.

(38) STOP WORK ORDER means an order issued by the City of Green Bay that requires that all construction activity on the site be stopped.

(39) STORMWATER CONVEYANCE SYSTEM means any method employed to carry stormwater runoff from a development to waters of the state. Examples of methods include swales, channels, and storm sewers.

(40) STORMWATER MANAGEMENT PLAN means a document that identifies what actions will be taken to reduce stormwater quantity and pollutant loads from the post-development land use condition to levels meeting the requirements of this ordinance.

(41) STORMWATER RUNOFF means that portion of precipitation that does not soak into the soil and flows off the surface of the land and into the natural or artificial conveyance network.

(42) STORMWATER MANAGEMENT MEASURE means structural or non-structural practices that are designed to reduce stormwater runoff pollutant loads, discharge volumes, and/or peak flow discharge rates.

(43) URBAN EXPANSION DISTRICT means those areas of the City which are located on the fringe of the Urban Service District and are already partially served and/or fully served with minimal additional facilities expansion and is delineated on the City Development District map approved by ordinance dated December, 1990.

(44) URBAN RESERVE DISTRICT means those areas of the City in which land divisions are not allowed due to their distance from the urbanized and serviced areas of the City and is delineated on the City Development District map approved by ordinance dated December, 1990.

(45) URBAN SERVICE DISTRICT means those areas of the City in which infilling is encouraged because they are already fully serviced by urban facilities, are within one mile of an existing neighborhood park, and are within the City’s developable areas as designated in the Comprehensive Plan, and is delineated on the City Development District map approved by ordinance dated December, 1990.

(46) WATERS OF THE STATE means any channel, ditch, stream, lake, or other body of water determined to be under State of Wisconsin authority under Ch. 142, Wis. Stat.

(47) WPDES means Wisconsin Pollutant Discharge Elimination System.

(48) WPDES STORMWATER PERMIT means a permit issued by the Wisconsin Department of Natural Resources under §147.021, Wis. Stats., that authorizes the point source discharge of stormwater to waters of the state and is regulated by Ch. NR 216 (Storm Water Discharge Permit), Wis. Admin. Code.

30.05 APPLICABILITY AND JURISDICTION.
(1) **APPLICABILITY.** This ordinance applies to land development activities that meet the applicability criteria specified in this section. The ordinance also applies to land development activities that are smaller than the minimum applicability criteria if such activities are part of a larger common plan of development or sale that meets the following applicability criteria, even though multiple separate and distinct land development activities may take place at different times on different schedules.

(a) residential land development with a gross aggregate area of 1 acre or more;

(b) residential land development with a gross aggregate area less than 1 acre, if there are at least 0.25 acres of impervious surfaces;

(c) land development, other than a residential land development, with a gross aggregate area of 0.5 acres or more; or

(d) in the opinion of the City of Green Bay is likely to result in stormwater runoff which causes undue channel erosion, increases water pollution or which endangers downstream property or public safety.

(2) **JURISDICTION.** This ordinance applies to land development activities within the boundaries of the City of Green Bay.

(3) **WAIVERS.** Requests to waive the stormwater management plan requirements shall be submitted to the Director of Public Works for approval. Waivers may be granted if it can be demonstrated that the proposed development is not likely to impair attainment of the objectives of this ordinance.

30.06 **STORMWATER MANAGEMENT STANDARDS.**

(1) **DEVELOPMENT DISTRICTS.** All land development activities shall conform to stormwater management standards established for the Development District within which the development occurs.

(2) **STORMWATER DISCHARGE QUANTITY.** Unless otherwise provided for in this ordinance, all land development activities subject to this ordinance shall establish on-site management practices to control the peak flow rates of stormwater discharged from the site as described in this ordinance. Infiltration of stormwater runoff from driveways, sidewalks, rooftops, parking lots, and landscaped areas shall be incorporated to the maximum extent practical to provide volume control in addition to control of peak flows.

(a) On-site management practices shall be used to meet the minimum performance standards for each Development District as described in §§30.06(2)(a)1, 30.06(2)(a)2, or 30.06(2)(a)3, whichever one applies.
1. All developments less than 5 acres in size in the Urban Service District shall not increase peak flow rates of stormwater runoff from that which would have resulted from the same storm occurring over the site with the land in its existing land use conditions for design rainfall events with recurrence intervals of 2, 10, and 100 years. The Director of Public Works may require more stringent or less stringent criteria if it has been determined that the downstream storm sewers can or cannot handle the runoff from the site.

2. All developments 5 acres or more in the Urban Service District shall be subject to the criteria described in §30.06(2)(a)3. The Director of Public Works may require more stringent or less stringent criteria if it has been determined that the downstream storm sewers can or cannot handle the runoff from the site.

3. All proposed land developments in the Urban Reserve and Urban Expansion Districts shall not increase peak flow rates of stormwater runoff from that which would have resulted from the same storm occurring over the site with the land in its pre-development land use conditions for design rainfall events with recurrence intervals of 2, 10, and 100 years. The Director of Public Works may require more stringent or less stringent criteria if it has been determined that the downstream storm sewers can or cannot handle the runoff from the site.

(b) All stormwater conveyance systems within the proposed development of all Development Districts and receiving surface runoff from the proposed development shall be designed to completely contain peak storm flows as described in §§30.06(2)(b)1 and 2. Calculations for determining peak flows for conveyance system sizing shall be based on the existing or future proposed land use conditions for off-site areas (whichever results in the highest peak flows), and the future proposed land use conditions for the on-site areas.

1. For publicly-owned or maintained open channel conveyance systems, the peak flow from the 25-year storm shall be completely contained within the channel bottom and banks.

2. For publicly-owned or maintained storm sewer pipes, the peak flow from the 10-year storm shall be completely contained within the pipes with no surcharging or pressurized flow.

3. Private storm sewer pipes shall be constructed to contain the peak flow from the 5-year storm with no surcharging or pressurized flow.

(c) Determination of peak flow rates and volume of runoff for purposes of meeting the requirements of §§30.06(2)(a) and (b) shall be computed by procedures based on the principals and procedures approved by the Director of Public Works and that are described in the City’s Stormwater Management Users Guide.

(d) More stringent discharge limits may be required at the discretion of the Director of Public Works for reasons such as, but not limited to, insufficient downstream system capacity, potential erosion of stream channels, or impacts on flood stages.

(e) All discharges will be restricted to public drainage systems (including storm sewers and ditches) or to waters of the state. It shall be the responsibility of the applicant to
obtain from adjacent property owners any easements or other necessary property interests concerning flowage of water from the proposed development onto private lands.

(f) Increases or decreases in the hydrology of natural wetlands shall be minimized to the extent practical. Where such changes are proposed, the impact of the proposal on wetland shall be assessed and meet the requirements of NR 103, Wis. Admin. Code.

(3) STORMWATER DISCHARGE QUALITY. Unless otherwise provided for in this ordinance, all land development activities subject to this ordinance shall establish on-site management practices to control the quality of stormwater discharged from the site. On-site management practices shall be used to meet the following minimum standard established for each Development District:

(a) Stormwater management measures in the Urban Expansion and Urban Reserve Districts shall be designed to remove on an average annual basis a minimum of 80% of the total suspended solids load from the proposed on-site development when compared to the proposed on-site development without stormwater management measures. The effectiveness of the stormwater management measures shall be evaluated using criteria provided by the Director of Public Works in the City’s Stormwater Management Users Guide.

(b) Stormwater management measures in the Urban Service Districts less than 5 acres shall be designed to remove on an average annual basis a minimum of 40% of the total suspended solids load from the proposed on-site development when compared to the proposed on-site development without stormwater management measures. The effectiveness of the stormwater management measures shall be evaluated using criteria provided by the Director of Public Works in the City’s Stormwater Management Users Guide.

(c) The Director of Public Works may require stormwater management measures in the Urban Service Districts for developments 5 acres or greater to be designed to remove on an average annual basis a minimum of 80% of the total suspended solids load from the proposed on-site development when compared to the proposed on-site development without stormwater management measures. The effectiveness of the stormwater management measures shall be evaluated using criteria provided by the Director of Public Works in the City’s Stormwater Management Users Guide.

(d) Discharge of urban stormwater pollutants to natural wetlands shall have pre-treatment and vegetative buffers as specified in the City’s Stormwater Management Users Guide, unless otherwise exempted by the Director of Public Works.

(e) Stormwater discharges shall have pre-treatment prior to infiltration to prolong maintenance of the infiltration practice and to prevent discharge of stormwater pollutants at concentrations that will result in exceedance of groundwater preventive action limits or enforcement standards established by the Department of Natural Resources in NR 140, Wis. Admin. Code. Stormwater infiltration is prohibited under the following circumstances:

1. Stormwater generated from highly contaminated source areas at manufacturing industrial sites;

2. Stormwater carried in a conveyance system that also carries contaminated, non-stormwater discharges; or

3. Stormwater generated from active construction sites.
(f) Petroleum products in runoff from gas pump areas and vehicle maintenance areas shall be controlled with a properly designed and maintained oil and grease separator, or other equivalent practice. The structure or practice shall remove all visible sheen from the runoff prior to discharge to waters of the state or the City’s storm sewer system.

(g) Stormwater ponds and infiltration devices shall not be located closer to water supply wells than indicated below without first notifying the Director of Public Works.

1. 100 feet from a private or a transient non-public water supply well;
2. 1,200 feet from a municipal water supply well; or
3. The boundary of a recharge area to a well identified in a wellhead area protection plan.

(h) More or less stringent treatment limits may be required at the discretion of the Director of Public Works.

(4) EXCEPTIONS. The Director of Public Works may waive the minimum requirements for on-site stormwater management practices established in §30.06(2) and (3) upon written request of the applicant, provided that at least one of the following conditions applies:

(a) Alternative minimum requirements for on-site management of stormwater discharges have been established in a stormwater management plan that has been approved by the Director of Public Works and that is required to be implemented by local ordinance.

(b) Provisions are made to manage stormwater by an off-site facility. This requires that the off-site facility is in place, is designed and adequately sized to provide a level of stormwater control that is equal to or greater than that which would be afforded by on-site practices meeting the requirements of this ordinance, and has a legally obligated entity responsible for long-term operation and maintenance of the stormwater practice.

(c) The Director of Public Works finds that meeting the minimum on-site management requirements is not technically feasible due to site restrictions.

(d) This ordinance does not apply to redevelopment projects that result in no net increase in impervious area and does not have exposed parking lots or roads.

(5) FEE IN LIEU OF ON-SITE STORMWATER MANAGEMENT PRACTICES. Where the Director of Public Works waives all or part of the minimum on-site stormwater management requirements under §30.06(4)(c), or where the waiver is based on the provision of adequate stormwater facilities provided by the City of Green Bay downstream of the proposed development, as provided for under §30.06(4)(b), the applicant shall be required to pay a fee in an amount determined in negotiation with the City of Green Bay. In setting the fee for land development projects, the City of Green Bay shall consider an equitable distribution of the cost of land, engineering design, and construction.

30.07 PERMITTING REQUIREMENT AND PROCEDURES AND FEES.
(1) PERMIT REQUIRED. No landowner or land operator may undertake a land development activity subject to this ordinance without receiving a permit from the Director of Public Works prior to commencing the proposed activity.

(2) PERMIT APPLICATION AND FEE. Unless specifically excluded by this ordinance, any landowner or operator desiring a permit shall submit to the Director of Public Works a permit application.

(a) Unless otherwise exempted by this ordinance, a permit application must be accompanied by the following in order for the permit application to be considered by the Director of Public Works:

1. a stormwater management plan;
2. a maintenance plan and a maintenance agreement;
3. any easements which may be required;
4. a copy of plans and specifications for all stormwater facilities;
5. certification by a professional engineer;
6. any payment of a “fee-in-lieu”, as provided for under §30.06(5);
7. a non-refundable permit administration fee; and
8. performance securities, if applicable by §30.07(4).

(b) The stormwater management plan shall be prepared to meet the requirements of §30.08 of this Chapter and the maintenance agreement shall be prepared to meet the requirements of §30.09 of this Chapter.

(c) Fees shall be those established by the Director of Public Works and billed to the applicant for actual expenses charged by the City or its consultant to review the stormwater management plan.

(3) REVIEW AND APPROVAL OF PERMIT APPLICATION. The Director of Public Works shall review any permit application that is submitted with a stormwater management plan, maintenance agreement, and the required fee. The following approval procedure shall be used:

(a) Within 30 business days of the receipt of a complete permit application, including all documents as required by §30.07(2)(a), the Director of Public Works shall inform the applicant whether the application, plan, maintenance agreement and easements are approved or disapproved. The Director of Public Works shall base the decision on requirements set forth in §§30.06, 30.08, and 30.09 of this Chapter.

(b) If the stormwater permit application, stormwater management plan, maintenance agreements and easements are approved, the Director of Public Works shall issue the permit.

(c) If the stormwater permit application, stormwater management plan, maintenance agreements or easements are disapproved, the applicant may revise the stormwater management
plan or agreement, or may appeal the decision to the Improvement and Service Committee as provided for in §30.11 of this Chapter.

(d) If additional information is submitted, the Director of Public Works shall have 30 business days from the date the additional information is received to inform the applicant that the application, plan, maintenance agreement and easements are either approved or disapproved.

(e) Failure by the Director of Public Works to inform the permit applicant of a decision within 30 business days of a required submittal shall be deemed disapproval of the submittal.

(4) PRACTICE INSTALLATION AND MAINTENANCE PERFORMANCE SECURITY. The Director of Public Works may, at his/her discretion, require the submittal of a performance security prior to issuance of the permit in order to ensure that the stormwater practices are installed and maintained by the permit holder as required by the stormwater management plan. The Director of Public Works shall determine the amount of the performance security.

The performance security shall not exceed the total estimated construction cost of the stormwater management practices approved under the permit, plus 15%.

The amount of the maintenance performance security shall be determined by the Director of Public Works not to exceed the maintenance costs estimated in the stormwater plan for the period during which the permit holder has maintenance responsibility.

The performance security shall contain forfeiture provisions for failure to complete work specified in the stormwater management plan. Conditions for the release of performance security are as follows:

(a) The installation performance security shall be released in full only upon submission of “as-built plans” and written certification by a registered professional engineer in the State of Wisconsin that the stormwater practice has been installed in accordance with the approved plan and other applicable provisions of this ordinance. The Director of Public Works may make provisions for a partial pro-rata release of the performance security based on the completion of various development stages.

(b) The maintenance performance security, minus any costs incurred by the City of Green Bay to conduct required maintenance, shall be released at such time that the responsibility for practice maintenance is passed on to another private entity via an approved maintenance agreement or to the City of Green Bay.

(5) PERMIT CONDITIONS. All permits issued under this ordinance shall be subject to the following conditions, and holders of permits issued under this ordinance shall be deemed to have accepted these conditions. The Director of Public Works may suspend or revoke a permit for violation of a permit condition upon written notification to the permittee. An action by the Director of Public Works to suspend or revoke this permit may be appealed in accordance with §30.11 of this Chapter.

(a) Compliance with this permit does not relieve a permittee of the responsibility to comply with other applicable federal, state, and local laws and regulations.
(b) A permittee shall design, install, and maintain all structural and non-structural stormwater management measures in accordance with the approved stormwater management plan, maintenance agreement, and this permit.

(c) A permit holder shall notify the Director of Public Works at least 2 business days before commencing any work in conjunction with the stormwater management plan and within 5 business days upon completion of the stormwater management practices. If required as a special condition, the permit holder shall make additional notification according to a schedule set forth by the Director of Public Works so that practice installations can be inspected during construction.

(d) Completed stormwater management practices must pass a final inspection to determine if they are in accordance with the approved stormwater management plan and ordinance. The Director of Public Works must make the inspection, or other competent professionals identified by the Director of Public Works. The Director of Public Works shall notify a permittee in writing of any changes required in such practices to bring them into compliance with the conditions of this permit. A permittee is further required to submit a certificate of completion, stating the completion of the permitted work in accordance with the plans, City of Green Bay, state and federal requirements. The certificate must be signed by the permittee, the contractor and the design engineer.

(e) A permittee shall submit any proposed modifications to an approved stormwater management plan in writing to the Director of Public Works at least 30 days prior to execution. The Director of Public Works may require that a proposed modification be submitted as an original permit application for approval prior to incorporation into the stormwater management plan and execution.

(f) A permittee shall maintain all stormwater management practices specified in the approved stormwater management plan until the practices either become the responsibility of the City of Green Bay or are transferred to subsequent private owners as specified in the approved maintenance agreement.

(g) The Director of Public Works shall perform any work or operations necessary to bring stormwater management measures into conformance with an approved stormwater management plan, and all associated costs shall be placed upon the tax roll as a special lien against the property or to charging such costs against the performance bond posted for the project.

(h) If so directed by the Director of Public Works, a permittee shall repair, at the permittee’s own expense, all damage to adjoining municipal facilities and drainage ways caused by stormwater runoff where such damage is caused by activities that are not in compliance with the approved stormwater management plan.

(i) A permittee shall permit property access to the Director of Public Works for the purpose of inspecting the property for compliance with the approved stormwater management plan and this permit.

(j) Where a stormwater management plan involves direction of some or all runoff off of a site, it shall be the responsibility of the permittee to obtain from adjacent property owners any easements or other necessary property interests concerning flowage of water per §30.06(2)(e). Issuance of this permit does not create or affect any such rights.
(k) A permittee holder is subject to the enforceable actions detailed in §30.10 of this ordinance if the permittee fails to comply with the terms of a permit.

(6) PERMIT DURATION. Permits issued under this section shall be valid from the date of issuance through the date the Director of Public Works notifies the permittee that all stormwater management practices have passed the final inspection or the permit is suspended or revoked pursuant to §30.10(5) of this Chapter.

30.08 STORMWATER MANAGEMENT PLANS.

(1) PLAN REQUIREMENTS. The stormwater management plan required under §30.07 of this ordinance shall contain any such information the Director of Public Works may need to evaluate the environmental characteristics of the area affected by land development activity, the potential impacts of the proposed development upon the quality and quantity of stormwater discharges, the potential impacts upon the area’s water resources, and drainage utilities, and the effectiveness and acceptability of proposed stormwater management measures in meeting the performance standards set forth in this ordinance. Unless specified otherwise by this ordinance, stormwater management plans shall contain, at a minimum, the information described within the Stormwater Management Users Guide provided by the Director of Public Works.

All site investigations, plans, designs, computations, and drawings shall be certified by a registered professional engineer in the State of Wisconsin to be prepared in accordance with accepted engineering practice and in accordance with criteria set forth by the Director of Public Works.

(2) EXCEPTIONS. The Director of Public Works may prescribe alternative submittal requirements for applicants seeking an exemption to on-site stormwater management performance standards under §30.06(3) of this Chapter.

30.09 MAINTENANCE AGREEMENT.

(1) MAINTENANCE AGREEMENT REQUIRED. The maintenance agreement required for stormwater management practices under §30.07(2) of this Chapter shall be an agreement between the City of Green Bay and the permittee. The agreement shall be recorded as a property deed restriction by the permit applicant with the County Register of Deeds so that it is binding upon all subsequent owners of land served by the stormwater management practices.

(2) AGREEMENT PROVISIONS. The maintenance agreement shall contain the following provisions:

(a) The landowner shall maintain stormwater management practices in accordance with the stormwater practice maintenance provisions contained in the approved stormwater management plan submitted under §30.07(2) of this Chapter.

(b) The Director of Public Works is authorized to access the property to conduct inspections of stormwater practices as necessary to ascertain that the practices are being maintained and operated in accordance with the approved stormwater management plan.

(c) The Director of Public Works shall maintain public records of the results of the site inspections, shall inform the landowner responsible for maintenance of the inspection results, and shall specifically indicate any corrective actions required to bring the stormwater
management practice into proper working condition and a reasonable time frame during which
the corrective action must be taken.

(d) The Director of Public Works is authorized to perform the corrected actions
identified in the inspection report if the landowner does not make the required corrections in the
specified time period. The City of Green Bay shall assess the landowner for the cost of such
work and shall place a lien on the property, which may be collected as ordinary taxes by the City
of Green Bay.

(3) TERMINATION OF AGREEMENT. The maintenance agreement shall be terminated at
such time that responsibility for maintenance of the stormwater management practice is legally
transferred to the City of Green Bay or agency acceptable to the City of Green Bay, through a written,
binding agreement. The termination date of the maintenance agreement required under §30.09(1) shall be
the date upon which the legal transfer of maintenance responsibility to the City of Green Bay or agency is
made effective.

30.10 ENFORCEMENT AND PENALTIES.

(1) Any land development activity initiated after the effective date of this ordinance by any
person, firm, association, or corporation subject to the ordinance provisions shall be deemed a violation
unless conducted in accordance with said provisions.

(2) The Director of Public Works may issue a citation or a Notice of Violation in order to
correct any violation of this ordinance. A Notice or Violation shall describe the nature of the violation,
remedial actions needed, a schedule for remedial action, and additional enforcement action that may be
taken.

(3) Upon receipt of written notification from the Director of Public Works, a permittee shall
correct work that does not comply with the stormwater management plan or other provisions of the permit
within 30 days. A permittee shall make corrections as necessary to meet the specifications and schedule
set forth by the Director of Public Works in the notice.

(4) The Director of Public Works may issue a stop work order on any land development
activity in violation of this ordinance.

(5) The Director of Public Works may suspend or revoke a permit issued under this
ordinance for noncompliance with these ordinance provisions.

(6) Any permit revocation, stop work order, or cease and desist order shall remain in effect
unless retracted by the Director of Public Works or by a court of competent jurisdiction.

(7) Any person, firm, association, or corporation who does not comply with any provision of
this ordinance or order issued hereunder shall be subject to a forfeiture of not less than $50 nor more than
$500 per offense, together with the costs of prosecution. Each day that a violation exists shall constitute
a separate offense.

(8) When the Director of Public Works determines that a permittee has failed to follow
practices set forth in the stormwater management plan submitted and approved pursuant to §30.07 of this
ordinance, or has failed to comply with schedules set forth in said stormwater management plan, the
Director of Public Works or a party designated by the Director of Public Works may enter upon the land
and perform the work or other operations necessary to bring the condition of said lands into conformance
with requirements of the approved plan. The Director of Public Works shall keep a detailed accounting of the costs and expenses of performing this work. These costs and expenses shall be deducted from any performance or maintenance bond posted pursuant to Sec. §30.07(4) of this ordinance. Where such a bond has not been established, or where such a bond is insufficient to cover these costs, the costs and expenses shall be entered on the tax roll as a special charge against the property and collected with any other taxes levied thereon for the year in which the work is completed.

(9) Nothing in this ordinance shall limit or exclude the City from taking any other action under any City municipal code, state statute, or other remedy allowed by law.

30.11 APPEALS.

(1) IMPROVEMENT AND SERVICE COMMITTEE. The Improvement and Service Committee shall hear and decide appeals where it is alleged that there is error in any order, decision or determination made by the Director of Public Works in administering this ordinance.

(2) WHO MAY APPEAL. Any officer, department, board or bureau of the City of Green Bay, or any aggrieved person affected by any decision of the Director of Public Works may appeal to the Improvement and Service Committee.

(3) TIME FOR APPEAL. An appeal to the Improvement and Service Committee pursuant to §30.11(1) must be commenced by filing a written Notice of Appeal within 30 days of the order, decision or determination made by the Director of Public Works and to be reviewed.

30.12 SEVERABILITY. If any section, clause, provision or portion of this ordinance is judged unconstitutional or invalid by a court of competent jurisdiction, the remainder of the ordinance shall remain in force and not be affected by such judgment.
Wet Detention Basin
(No.)
Code 1001
Wisconsin Department of Natural Resources
Conservation Practice Standard

I. Definition

A permanent pool of water with designed dimensions, inlets, outlets and storage capacity, constructed to collect, detain, treat and release stormwater runoff.

II. Purposes - Primary reasons for which the practice is applied. Each purpose identifies a resource problem the practice can be specifically designed to treat.

The primary purposes of this practice are to control water pollution and peak flow.

III. Conditions Where Practice Applies - Land uses and site conditions that affect the suitability or function of the practice.

This practice applies to urban, construction, and agricultural sites where runoff pollution due to suspended solids loading and attached pollutants is a concern. It also applies where increased runoff from urbanization or land use change is a concern. Site conditions must allow for runoff to be directed into the basin and a permanent pool of water to be maintained.

This practice does not apply to wetland restorations, animal lot runoff control, infiltration basins, or dry detention basins. It also does not apply to sites with high concentrations of toxic materials, or other regulated materials contained in the runoff.

This practice may not apply to all flood control, floodplain management and other flooding issues. Modifications to the peak flow criteria or additional analysis of the potential flooding issues may be needed.

IV. Federal, State and Local Laws

The design, construction, and maintenance of wet detention basins shall comply with all federal, state and local laws, rules or regulations. The owner/operator is responsible for securing required permits. This standard does not contain the text of any federal, state or local laws governing wet detention basins.

The location and use of wet detention basins may be limited by regulations relating to navigable waters (Ch. 30, Stats.), floodplains, wetlands, buildings, wells and other structures, or land uses, such as waste disposal sites and airports. The basin embankment may also be regulated as a dam under Ch. 31 Stats. and further restricted under NR 333, Wis. Adm. Code which includes regulations for embankment heights and storage capacities.

V. Criteria - Allowable limits for design parameters, acceptable installation processes, or performance requirements to accomplish one or more identified purposes.

A. General - The following minimum criteria shall apply to all wet detention basin designs used for the purposes stated in section II of this standard. Use more restrictive criteria as needed to fit the conditions found in the site assessment.

1. Site Assessment - A site assessment shall be conducted and documented to determine the physical site characteristics that will affect the placement, design, construction, and maintenance of the basin. The site assessment shall identify characteristics such as ground slopes, soil types, soil conditions, bedrock\(^1\), sinkholes, drainage patterns, runoff constituents, proximity to regulated structures, natural resources, and specific land uses. The site assessment shall include the following:

   a. A 2 foot contour map drawn to scale showing location and elevations for the basin area, soil borings and test pits, buildings and other structures, property lines, wells, wetlands, 100 yr.
floodplains, surface drains, navigable streams, known drain tile, roads and overhead or buried utilities.

b. Soil logging of the site shall be to a depth at least 3 ft. below the proposed design bottom of the basin and include information on the texture, color, odor, structure, water table indicators, and distance to and type of bedrock, if encountered.

2. Water Pollution Control - A minimum of 80% of the total suspended solids load shall be removed from the runoff volume generated by the drainage area on an average annual basis. The following criteria meet this requirement:

a. Permanent Pool - All basins shall be designed to include a permanent pool of water consisting of a sediment forebay and main pool. (See fig. 1 and fig. 2)

   (1) The minimum surface area of the permanent pool shall be based on the total drainage area to the basin or it shall be 10,000 sq. ft., whichever is greater. Table 1 or an approved model shall be used. Values shall be prorated for mixed land uses.

   (2) A sediment forebay shall be located at the inlet to trap large particles such as road sand. The storage volume of the sediment forebay shall be consistent with the maintenance plan, with a goal of 5-15% of the permanent pool surface area. The sediment forebay shall be a minimum depth of 3 ft. plus the depth for sediment storage.

   (3) The length to width ratio of the flow path shall be maximized with a goal of 3:1 or greater. The flow path is considered the general direction of water flow within the basin including the permanent pool and forebay.

   (4) A safety shelf shall extend a minimum of 8 ft. from the edge of the permanent pool, with a slope of 10h:1v or flatter. The maximum depth of water over the shelf shall be 1.5 ft.

   (5) Excluding the safety shelf and sediment storage, the average water depth of the permanent pool shall be a minimum of 3 ft.

   (6) A minimum of 2 ft. shall be added for sediment storage.

   (7) For basins greater than 20,000 sq. ft., 50% of the total surface area of the permanent pool shall be a minimum of 5 ft. deep. For basins less than 20,000 sq. ft., maximize the area of 5 ft. depth.

   (8) All side slopes below the safety shelf shall be 2h:1v or flatter as required to maintain soil stability.
Table 1 - Calculation of Minimum Permanent Pool Surface Area

<table>
<thead>
<tr>
<th>Land Use/Description/Management</th>
<th>Total Impervious (%)</th>
<th>Minimum Surface Area of the Permanent Pool (% of Watershed Area)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Residential</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• &lt; 2.0 units/acre (&gt;1/2 acre lots)</td>
<td>8 - 28</td>
<td>0.7</td>
</tr>
<tr>
<td>• 2.0 - 6.0 units/acre</td>
<td>&gt;28 - 41</td>
<td>0.8</td>
</tr>
<tr>
<td>• &gt; 6.0 units/acre (high density)</td>
<td>&gt;41 - 68</td>
<td>1.0</td>
</tr>
<tr>
<td><strong>Office Park/Institutional/Warehouse</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Non-retail related business, multi-storied buildings, usually more lawn/landscaping not heavily traveled, no outdoor storage/manufacturing)</td>
<td>&lt;60</td>
<td>1.6</td>
</tr>
<tr>
<td></td>
<td>60 - 80</td>
<td>1.8</td>
</tr>
<tr>
<td></td>
<td>&gt;80</td>
<td>2.0</td>
</tr>
<tr>
<td><strong>Commercial/Manufacturing/Storage</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Large heavily used outdoor parking areas, material storage or manufacturing operations)</td>
<td>&lt;60</td>
<td>1.8</td>
</tr>
<tr>
<td></td>
<td>60 - 80</td>
<td>2.1</td>
</tr>
<tr>
<td></td>
<td>&gt;80</td>
<td>2.4</td>
</tr>
<tr>
<td><strong>Parks/Open Space/Woodland/Cemeteries</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>0 - 12</td>
<td>0.6</td>
</tr>
<tr>
<td><strong>Highways/Freeways</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Includes right-of-way area)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Typically grass banks/conveyance</td>
<td>&lt;60</td>
<td>1.4</td>
</tr>
<tr>
<td>• Mixture of grass and curb/gutter</td>
<td>60 - 90</td>
<td>2.1</td>
</tr>
<tr>
<td>• Typically curb/gutter conveyance</td>
<td>&gt;90</td>
<td>2.8</td>
</tr>
<tr>
<td><strong>Cropland (Cropland that is draining to the basin)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dominant Surface Soil Texture</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- S, LS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- SC, SCL, SL, L, SiL, Si</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- C, CL, SiCL, SiC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Erosion &lt; Tolerable</td>
<td>0.6</td>
<td>0.9</td>
</tr>
<tr>
<td>Erosion &gt; Tolerable</td>
<td>1.6</td>
<td>2.4</td>
</tr>
<tr>
<td></td>
<td>2.0</td>
<td>3.0</td>
</tr>
</tbody>
</table>

1 Multiply the value listed by the watershed area within the category to determine the minimum pond surface area. Prorate for drainage areas with multiple categories due to different land use, management, percent impervious, soil texture, or erosion rates. For example, a 50 acre (residential, 50% imperviousness) x 0.01 (1% of watershed from table) = 0.5 acre + 50 acres (office park, 85% imperviousness) x 0.02 (2% of watershed) = 1.0 acre. Therefore 0.5 acre + 1.0 acre = 1.5 acres for the minimum surface area of the permanent pool.  
2 For offsite areas draining to the proposed land use, refer to local municipalities for planned land use and possible institutional arrangements as a regional stormwater plan.  
3 Impervious surfaces include rooftops, parking lots, roads, and similar hard surfaces, including gravel driveways/parking areas. Roofs are assumed to be pitched and half connected (or draining directly) to the storm sewer system. The other half is assumed to drain onto a vegetated area. Paved parking and storage areas are assumed to be all connected. Sidewalks and driveways are only half connected.  
4 Category includes insurance offices, government buildings, company headquarters, schools, hospitals, and churches.  
5 Category includes shopping centers, strip malls, power plants, steel mills, cement plants, lumber yards, auto salvage yards, grain elevators, oil tank farms, coal and salt storage areas, slaughter houses, and other outdoor storage or parking areas.  
6 S=Sand, Si=Silt, C=Clay, L=Loam (USDA Textural Soil Classification System)
b. **Extended Detention Volume** - Volume above permanent pool that is released slowly. (see fig. 1 and 2)

1. Extended detention volume shall be the runoff volume produced by a 1-yr., 24-hr. design storm or as computed by an approved model. The 1-yr., 24-hr rainfall data for Wisconsin is shown in Table 4. The relationship of runoff to precipitation is shown in Table 5. For curve number determination see Chapter 2, Natural Resources Conservation Service, Technical Release 55 (TR-55). Use the post development curve number.

2. Outlet design shall allow for the release of the extended detention volume over a period of 24 hr. or greater.

3. **Peak Flow Control** - Peak flow control shall be designed to maintain stable downstream conveyance systems and comply with local ordinances or conform with regional stormwater plans where they are more restrictive than this standard. At a minimum:
   a. Outflow shall not exceed pre-development peak flows for both the 2-yr. and 10-yr., 24-hr design storms.
   b. All runoff and flow calculations required for peak flow design of this practice shall use a hydrograph-producing method such as TR-55.
   c. When pre-development land cover is cropland, use the runoff curve numbers in Table 2. For all other pre-development land covers, use runoff curve numbers from TR-55 assuming “good hydrologic conditions.” For post-development calculations use runoff curve numbers based on actual conditions.

<table>
<thead>
<tr>
<th>Hydrologic Soil Group</th>
<th>Runoff Curve Number</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>55</td>
<td>68</td>
<td>77</td>
<td>80</td>
</tr>
</tbody>
</table>

4. **Inflow Points** - All inlets shall be designed to prevent erosion during peak flows produced by the 10-yr., 24-hr. design storm. Any rock rip-rap or other channel liners shall extend a minimum of 1.5 vertical ft. below the permanent pool elevation.

5. **Outlets** - All outlet designs shall incorporate preventive measures for ice damage, trash accumulation, and erosion at the outfall.

6. **Emergency Spillway** - All basins shall have an emergency spillway. The spillway shall be designed to safely pass peak flows produced by a 100-yr., 24-hour design storm routed through the basin without damage to the structure. The flow routing calculations shall start at the permanent pool elevation.

7. **Freeboard** – The basin design shall ensure the top of embankment, after settling, is a minimum of 1 vertical foot above the flow depth in the emergency spillway required to safely pass the routed 100-yr., 24-hr. storm.

8. **Side Slopes** – All interior side slopes above the safety shelf shall be 4:1v or flatter.

9. **Bedrock** – If bedrock is encountered within 2 ft. of the bottom of the pond, special precautions shall be taken, as needed, to minimize movement of pollutants to groundwater.

10. **Earthen Embankments** - Earthen embankments (see fig. 2) shall be designed to address potential risk and structural integrity issues such as seepage and saturation. All constructed earthen embankments shall meet the following criteria.
   a. The base of the embankment shall be stripped of all vegetation, stumps, topsoil and other matter. Stripping shall be a minimum of 6 in.
   b. For embankments where the permanent pool is ponded 3 ft. or more against the embankment, there shall be a core trench or key-way along the centerline of the embankment up to the permanent pool elevation. The core trench or key-way shall be a minimum of 2 ft. deep and 8 ft. wide with a side slope of 1:1 or flatter.
   c. All embankments shall be constructed with non-organic soils and compacted to 90% standard proctor according to the procedures outlined in ASTM D-698 or by using compaction requirements of USDA Natural Resource Conservation Service, Wisconsin Construction Specification 3. No tree stumps, or other organic material shall be buried in the embankment. The constructed embankment height shall be increased by a minimum of 5% to account for settling.

DNR, WI (06/99)
d. Any pipes extending through the embankment shall be bedded and backfilled with embankment or equivalent soils. The bedding and backfill shall be compacted in lifts and to the same standard as the original embankment. Excavation through a completed embankment shall have a minimum side slope of 1:1 or flatter.
e. Measures shall be taken to minimize seepage along any conduit buried in the embankment. Measures such as anti-seep collars or sand diaphragms are acceptable.
f. Downstream side slopes shall be 3h:1v or flatter.
g. Minimum embankment top width shall be 10 ft.
11. Topsoil and Seeding - Topsoil shall be spread on all disturbed areas, except for elevations below the safety shelf, as areas are completed. Minimum depth of topsoil spread shall be 4 in. Seed all areas above safety shelf.
12. Operation and Maintenance - An operation and maintenance plan shall be developed that is consistent with the purposes of this practice, its intended life, safety requirements and the criteria for its design.

The plan shall address the responsible party for operation, maintenance, and documentation of the plan. At a minimum, the plan shall also include details on inspecting sediment depths, frequency of sediment removal, disposal locations for sediment, inlet and outlet maintenance, keeping embankments clear of woody vegetation, and providing access to perform the operation and maintenance activities.

C. Agricultural. A wet detention basin, designed to meet the minimum criteria in V. A. will also meet the criteria for the control of pollution from agricultural watersheds if the following additional criteria and exceptions are followed.

1. A permanently vegetated buffer extending a minimum of 75 ft. beyond the designed permanent pool elevation is required around the entire basin.
2. The peak outflow for the 10-yr., 24-hr. design storm shall not exceed the peak inflow for the 2-yr., 24-hr. design storm.
3. If the permanent pool is ponded 3 ft. or more against the basin embankment, the embankment and spillway design shall meet the criteria in Engineering Standard 378 - Pond, NRCS Field Office Technical Guide (FOTG) Section IV.
4. The sediment forebay (V. A. 2. a. (2)) is not required.
5. Livestock shall be excluded from the pool, embankment, outlet, and buffer areas.

VI. Considerations. Additional recommendations relating to design which may enhance the use of, or avoid problems with, this practice.

A. General. Consider the following items for all applications of this standard:

1. Additional conservation practices should be considered if the receiving water body is sensitive to temperature fluctuations, oxygen depletion, excess toxins or nutrients.
2. Consider providing additional length to the safety shelf, above or below the wet pool elevation, to enhance safety.
3. The use of liners should be evaluated for maintaining permanent pool levels and reducing potential groundwater contamination.
4. To prevent damage or failure due to ice, all risers extending above the pond surface should be incorporated into the basin embankment.
5. The use of underwater outlets should be considered to minimize ice damage, accumulation of floating trash or vortex control.
6. When designing basins in series (along same flow path), consider the impacts on sediment removal efficiency, flow routing, and safety.

7. Minimum watershed size and land cover should be considered to ensure adequate runoff volumes to maintain a permanent pool. For supplementing low runoff periods, consider the installation of a well to maintain the permanent pool level.

8. Aesthetics of the pond should be considered in designing the shape and specifying landscape practices.

9. If downstream flood management or bank erosion is a concern, a watershed study should be conducted to determine the most appropriate location and design of stormwater management structures.

10. For elongated pools in the direction of prevailing winds, consider reinforcing banks, extending the safety shelf, or other measures to prevent erosion of embankment due to wave action.

11. Consider the potential impacts on downstream channels, farming practices, or other land uses if the wet detention basin may create or alter base flows.

12. To prevent failure, earthen emergency spillways should not be constructed over fill material.

13. All flow channels draining to the basin should be stable to minimize sediment delivery to the basin.

14. The use of baffles may be used to artificially lengthen the flow path in the basin.

15. Consider aerators to maintain aerobic conditions.

B. Urban Applications. Consider the following items when applying this standard to urban areas:

1. Consider including volume reduction practices in the design to reduce the potential downstream impacts of larger runoff volumes with increased development.

2. Consider using flow splitters before the basin inlet to provide treatment of the first flush from urban areas.

3. Consider safety issues such as signage, flotation devices and special landscaping to deter entry by people.

4. Consider the effects of construction site compaction and the use of deep tilling to increase soil infiltration. Consider raising the hydrologic soil group used in calculating post-development runoff to calculate a more representative runoff volume due to compaction.

5. Consider vegetative buffer strips along drainage ways leading to the detention basin to help filter pollutants in urban runoff.

C. Construction Site Applications. Consider the following items when applying this standard to construction sites:

1. Consider providing extra sediment storage depth for structures that will serve as permanent stormwater management practices. This could eliminate the need for sediment removal after site stabilization.

2. The entire drainage area, and all of the basin side slopes, should be thoroughly stabilized with a vegetative cover prior to conversion to a permanent pond.

3. Consider construction sequencing to minimize the amount of land opening during construction.

D. Agricultural Applications. Consider the following items when applying this standard to an agricultural setting:

1. Consider installing a sediment forebay to minimize maintenance needs for the entire basin, especially if coarse surface soils are present in the watershed.

2. Consider vegetative buffer strips between cropland and drainage ways leading to the detention basin to help filter agricultural pollutants. See Standard 393 - Riparian Vegetative Buffer, NRCS FOTG Section IV.

3. To enhance use by wildlife, consider enlarging the pond surface area, flattening slopes below the water surface, creating irregular edges and planting native species in and around the pond. See Chapter 11 - Ponds and Reservoirs, NRCS Engineering Field Manual.
4. Consider using the basin as an outfall for subsurface drains from upstream agricultural lands.

5. All concentrated flow channels entering the basin from drainage areas as large or larger than those listed in the middle column of Table 3 should be vegetated adequately to carry the 10 yr. storm. See Standard 412 - Grassed Waterway, NRCS FOTG Section IV and to Chapter 7 - Grassed Waterways, USDA-NRCS Engineering Field Manual.

6. All concentrated flow channels entering the basin from drainage areas in the range shown in the right hand column of Table 3 should be vegetated 200 ft. up the channel from the permanent pool. Vegetation should be adequate to carry the 10 yr. storm.

7. Consider measures to minimize sheet and rill erosion in the entire drainage area.

---

**Table 3 - Drainage areas for vegetation of concentrated flow channels**

<table>
<thead>
<tr>
<th>Hydrologic Soil Group</th>
<th>Drainage Area for vegetated channels, ac</th>
<th>Drainage Area for 200 ft. of vegetation up the channels, ac</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>100</td>
<td>20 to 99</td>
</tr>
<tr>
<td>A/B</td>
<td>40</td>
<td>15 to 39</td>
</tr>
<tr>
<td>B</td>
<td>25</td>
<td>10 to 24</td>
</tr>
<tr>
<td>B/C</td>
<td>15</td>
<td>7 to 14</td>
</tr>
<tr>
<td>C, D</td>
<td>10</td>
<td>5 to 9</td>
</tr>
</tbody>
</table>

---

**E. Operation and Maintenance Considerations for All Applications** - The maintenance plan should address weed or algae growth and removal, insect and wildlife control and any landscaping practices. Outlet designs should consider having the ability to dewater the pond to ease future maintenance. To prevent nuisance from geese, consider not mowing around the pond perimeter. To maximize safety and pollutant removal, allow plant growth along the safety shelf.

**VII. Plans and Specifications**

Plans and specifications shall be prepared in accordance with the criteria of this standard and shall describe the requirements for applying the practice to achieve its intended use. Plans shall specify the materials, construction processes, location, size and elevations of all components of the practice to allow for certification of construction upon completion.

**VIII. References**


**IX. Definitions**

Approved Model (V. A. 2. b. (1), V. A. 2. c. (1)) - A computer model that is used to predict pollutant loads from urban lands and has been approved by the applicable regulatory authorities. SLAMM and P8 are examples of models which may be used to verify that a detention pond design meets the minimum criterion of 80% reduction of suspended solids.

Bedrock (V. A. 1., V. A. 1. b., V. A. 2. a.) - Consolidated rock material and weathered in-place material with > 50%, by volume, larger than 2 mm in size.

Tolerable (Table 1) - The tolerable level (“T”) of erosion that could occur without losing long term productivity as farmland. T values are assigned for each soil type and are found in Section 1 of the NRCS FOTG. Erosion
rates are estimated using industry standard formulas such as the Revised Universal Soil Loss Equation.

### Table 4 - Rainfall for Wisconsin Counties for a 1 - year, 24 - hour Rainfall

<table>
<thead>
<tr>
<th>Inches of Rainfall</th>
<th>County</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1 in.</td>
<td>Door, Florence, Forest, Kewaunee, Marinette, Oconto, Vilas</td>
</tr>
<tr>
<td>2.2 in.</td>
<td>Ashland, Bayfield, Brown, Calumet, Douglas, Iron, Langlade, Lincoln,</td>
</tr>
<tr>
<td></td>
<td>Manitowoc, Menominee, Oneida, Outagamie, Price, Shawano, Sheboygan</td>
</tr>
<tr>
<td>2.3 in.</td>
<td>Barron, Burnett, Dodge, Fond du Lac, Green Lake, Marathon, Milwaukee,</td>
</tr>
<tr>
<td></td>
<td>Ozaukee, Portage, Racine, Rusk, Sawyer, Taylor, Washburn, Washington,</td>
</tr>
<tr>
<td></td>
<td>Wausesha, Waupaca, Waushara, Winnebago, Wood</td>
</tr>
<tr>
<td>2.4 in.</td>
<td>Adams, Chippewa, Clark, Columbia, Dane, Dunn, Eau Claire, Jackson,</td>
</tr>
<tr>
<td></td>
<td>Jefferson, Juneau, Kenosha, Marquette, Pepin, Pierce, Polk, Rock,</td>
</tr>
<tr>
<td></td>
<td>St. Croix, Walworth</td>
</tr>
<tr>
<td>2.5 in.</td>
<td>Buffal!, Green, Iowa, La Crosse, Monroe, Richland, Sauk, Trempealeau,</td>
</tr>
<tr>
<td></td>
<td>Vernon</td>
</tr>
<tr>
<td>2.6 in.</td>
<td>Crawford, Grant, Lafayette</td>
</tr>
</tbody>
</table>


### Table 5 - Runoff for Selected Curve Numbers and Rainfall Amounts

<table>
<thead>
<tr>
<th>Rainfall (inches)</th>
<th>Runoff Depth in Inches for Curve Number of:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>50</td>
</tr>
<tr>
<td>2.1 in.</td>
<td>.00</td>
</tr>
<tr>
<td>2.2 in.</td>
<td>.01</td>
</tr>
<tr>
<td>2.3 in.</td>
<td>.01</td>
</tr>
<tr>
<td>2.4 in.</td>
<td>.02</td>
</tr>
<tr>
<td>2.5 in.</td>
<td>.02</td>
</tr>
<tr>
<td>2.6 in.</td>
<td>.03</td>
</tr>
</tbody>
</table>

1NRCS TR-55
Figure 2: Typical Embankment Cross Section for Wet Detention Basin (Not to Scale)

1. These are conceptual outlet locations to indicate the need to have different outlets for different purposes. Numerous outlet designs will meet the criteria of the standard.
Figure 1: Conceptual Wet Detention Basin
(Not to Scale)

Plan View

Cross Section
Bioretention For Infiltration

(WI-1004)

Wisconsin Department of Natural Resources
Conservation Practice Standard

I. Definition

A bioretention device is an *infiltration device* consisting of an excavated area that is back-filled with an engineered soil, covered with a mulch layer and planted with a diversity of woody and herbaceous vegetation. Storm water directed to the device percolates through the mulch and engineered soil, where it is treated by a variety of physical, chemical and biological processes before infiltrating into the native soil.

II. Purpose

A bioretention device may be applied individually or as part of a system of stormwater management practices to support one or more of the following purposes:

- Enhance storm water infiltration
- Reduce discharge of storm water pollutants to surface and ground waters
- Decrease runoff peak flow rates and volumes
- Preserve base flow in streams
- Reduce temperature impacts of storm water runoff

III. Conditions Where Practice Applies

Bioretention devices are suitable for small drainage areas where increased urban storm water pollutant loadings, thermal impacts, runoff volumes and peak flow discharges are a concern and the area is suitable for infiltration. Bioretention devices are best suited to providing on-site stormwater management opportunities adjacent to *source areas* such as landscaped areas, rooftops, parking lots and streets.

Bioretention devices are not suitable for controlling construction site erosion. These devices will not treat chlorides, and will be damaged by heavy loading of salt-based deicers.

IV. Federal, State and Local Laws

Users of this standard shall be aware of applicable federal, state and local laws, rules, regulations or permit requirements governing bioretention devices. This standard does not contain the text of federal, state or local laws.

V. Criteria

A. Site Criteria

1. A site selected for construction of a bioretention device shall be evaluated in accordance with the WDNR Conservation Practice Standard 1002, “Site Evaluation for Stormwater Infiltration” and shall meet the site requirements of that standard.

2. The following site criteria shall also be met:
   a. Private Onsite Wastewater Treatment System (POWTS) – The bioretention device shall be located a minimum of 50 feet from any POWTS and shall not be *hydraulically connected* to the POWTS dispersal cell or cause negative impacts such as cross contamination.
   b. Foundations – The bioretention device shall not be hydraulically connected to building or pavement foundations or cause negative impacts to structures.
   c. Slopes – Sloped areas immediately adjacent to the bioretention device shall be less than 20% but greater than 0.5% for pavement and greater than 1% for vegetated areas to ensure positive flow towards the device.
   d. Maximum Drainage Area – The area draining to the bioretention device shall not exceed 2 acres. The drainage area shall not contain significant sources of soil erosion.

---

1 Words in the standard that are shown in italics are described in X. Definitions. The words are italicized the first time they are used in the text.
B. Design – The bioretention device shall be sized using an approved model. (See Consideration L.)

1. Configuration - Bioretention components include pretreatment, flow regulation, ponding area, planting bed vegetation and surface mulch layer, engineered soil planting bed, storage layer, underdrain, sand/native soil interface layer and observation well (See Figures 1 - 3).

2. Target Stay-on Depth – The target stay-on depth shall be determined using an approved model. (See Consideration L.)

3. Flow Regulation
   a. Inflow – The flow at the inlet to the bioretention device shall be controlled to prevent erosion and achieve uniform distribution across the surface of the soil planting bed.
   b. Overflow – The overflow system shall meet the following requirements:
      (1) A weir or standpipe shall be used to regulate the maximum ponding depth. The invert of the overflow structure shall be at the elevation of the maximum ponding depth of the bioretention device. This component shall meet the ponding requirements of section V.B.4.
      (2) Water discharged from the overflow shall be conveyed to a stable outlet leading to a suitable conveyance such as a swale, storm drain or surface water.
      (3) Overflow control structures, such as curtain drains, that bypass the soil planting bed and discharge directly to ground water are allowed only if the sole source of stormwater runoff is from rooftops without significant contamination from industrial activity.
   c. Underdrain – The underdrain shall meet the requirements of section V.B.8.

4. Ponding Area
   a. Maximum Design Ponding Depth – The design ponding depth shall not exceed 12 inches.
   b. Drawdown Time - In designing the bioretention device, the design ponding depth divided by the Design Drawdown Rate shall not exceed 24 hours.
   c. Side slopes – The side slopes of the berm that forms the ponding area shall be 2H:1V or flatter.

5. Planting Bed Vegetation and Surface Mulch Layer
   a. Vegetation Plan – A vegetation plan and planting specifications shall be prepared. The following apply:
      (1) The plan shall identify planting zones based on anticipated depth of water level fluctuations and duration of inundation.
      (2) Rootstock and plugs shall be used in establishing trees, shrubs and herbaceous perennials. Seed shall not be used to establish vegetation.
      (3) If the bioretention device receives runoff from non-residential source areas or streets, the plant density at maturity must be low enough to accommodate long-term maintenance or replenishment of the surface mulch layer. If the bioretention device receives runoff only from residential land uses other than streets, the mulch layer can be discontinued at maturity provided that a dense vegetation layer is formed.
      (4) Plants shall be native to the area and capable of withstanding the environmental conditions of the bioretention device such as insect and disease infestations, drought, water level fluctuations and regional temperature variations. Vegetation shall be salt tolerant when the bioretention device is likely to receive runoff containing salt-based deicers.
(5) Turf grass shall not be used to vegetate the bioretention device, although it may be used in the pretreatment area. Invasive plants and noxious weeds shall not be used.

(6) Woody vegetation shall not be specified at inflow locations. Trees and vegetation shall not block flow paths, create traffic or safety issues, or obstruct utilities.

(7) The planting plan shall cover plant placement, planting sequence, planting time of year, fertilizing, watering and protection from other stresses such as animals, wind and sun to maximize plant growth and survival.

(8) If the engineered soil will be left to settle prior to planting, the surface shall be mulched.

b. Surface Mulch Layer – Shredded hardwood mulch or chips, aged a minimum of 12 months, shall be placed on the surface of the bioretention area. The mulch shall be 2 to 3 inches in depth. The mulch shall be free of foreign material, including other plant material.

6. Engineered Soil Planting Bed

a. Surface Area – The surface area shall be determined using an approved model. (See Consideration L.)

b. Surface Slope – The surface slope of the device shall not exceed 1%.

c. Engineered Soil Depth – After settling, there shall be sufficient soil to support the rooting depth of the vegetation. If the storage layer (V.B.7.) uses gravel, a lens of pea gravel not to exceed 4 inches shall separate the engineered soil from the storage layer. The soil layer (including the pea gravel lens) shall be at least 3 feet deep.

d. Engineered Soil Composition– The soil shall be engineered to the following specifications:

(1) The planting mixture shall consist of a mixture of sand, compost and topsoil.

The mix shall be designed to approximate the percentages in Table 1.

<table>
<thead>
<tr>
<th>Engineered Soil Component</th>
<th>Percentage Composition (by Volume)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Silica Sand</td>
<td>40%</td>
</tr>
<tr>
<td>Topsoil</td>
<td>20% if loam texture</td>
</tr>
<tr>
<td></td>
<td>30% if sandy loam or loamy sand texture</td>
</tr>
<tr>
<td>Compost</td>
<td>30% - 40%</td>
</tr>
</tbody>
</table>

Note: This mixture meets the equivalency requirements of s. NR 151.12(5)(c)5.i., Wis. Adm. Code.

(2) The silica sand component shall be USDA coarse sand (0.02 to 0.04 inch diameter), pre-washed to remove clay and silt particles, and well-drained or dry prior to mixing. Calcium carbonated, dolomitic sand, and other substitutions are not allowed.

(3) The topsoil component shall be a USDA classified sandy loam, loamy sand or loam texture. The topsoil component textural class shall be verified by a laboratory analysis or a professional acceptable to the jurisdiction having authority.

(4) The compost component shall meet the requirements of Wisconsin Department of Natural Resources Specification S100, Compost.

(5) The engineered soil mix shall be free of rocks, stumps, roots, brush or other material over 1 inch in diameter. No other materials shall be mixed with the planting soil that may be harmful to plant growth or prove a hindrance to planting or maintenance.

(6) The engineered soil mix shall have a pH between 5.5 and 6.5.

(7) The engineered soil mix shall have adequate nutrient content to meet plant growth requirements.

7. Storage layer – A sand or gravel storage layer situated beneath the underdrain will facilitate groundwater recharge because water in this storage area can not exit via the underdrain. It can only exit the bioretention device by
infiltration into the native soil. The following requirements shall be met in designing the storage layer.

a. The storage layer is required when the design infiltration rate of the native soil is less than 3.6 inches/hour, as determined using DNR Technical Standard 1002, “Site Evaluation for Stormwater Infiltration.”

b. The design thickness of the storage layer shall be that which results in a total device drain time of 72 hours, but shall not exceed 48 inches. In calculating the total device drain time, assume that event runoff has ended and the bioretention device is fully saturated prior to the initiation of drawdown. (Refer to Section VI.U for guidance in determining the storage layer thickness.)

c. Gravel Specifications – The gravel shall meet the coarse aggregate #2 and other specifications of Wisconsin Standards and Specifications for Highway and Structure Construction, Section 501.2.5, 2003 edition, or an equivalent as approved by the administering authority. Gravel shall be double-washed. Note: Inadequate washing of aggregate may lead to clogging at the native soil interface.

d. Sand Specifications – A layer of sand may be used in lieu of gravel to form the storage layer. The sand shall be washed quartz or silica. Sand particles shall be 0.02 to 0.04 inches in diameter (USDA Coarse Sand). Calcium carbonated, dolomitic sand, and other substitutions are not allowed.

8. Underdrain – A perforated underdrain pipe is required unless there is no suitable pipe outlet or the risk of infiltration failure at the native soil interface is minimal. The risk of infiltration failure is assumed to be minimal if the design infiltration rate of the native soil is determined to be at least 3.6 inches/hour, as determined using DNR Technical Standard 1002, “Site Evaluation for Stormwater Infiltration.”

a. Pipe Location - The underdrain pipe shall be placed at the top of the gravel or sand storage layer.

b. Size and Material – The pipe shall have a minimum diameter of 6 inches and be made of flexible pipe or other material approved by the administering authority. The pipe shall be capable of withstanding expected traffic loads over portions of the pipe extending beyond the soil planting bed.

c. Orifice Diameter – The underdrain orifice shall be restricted as necessary so that the design infiltration rate plus the underdrain flow rate equals the design draw down rate. The restriction shall be achieved by using an adjustable restrictor plate or valve. The restriction device shall be accessible for adjustment.

d. Perforations – The total opening area of all perforation holes combined shall be sufficient to allow the underdrain pipe to discharge at full capacity, as would occur if there were no orifice restriction. The amount of perforation shall be increased to provide a margin of safety but shall not be so great as to compromise structural integrity of the pipe material.

e. Pipe Protection – The underdrain pipe shall be protected from clogging by use of filter fabric or a filter sock. If the storage layer is sand, a filter sock shall be used. A cover of pea gravel may also be used.

(1) Pea Gravel – If used, the pea gravel layer shall be at least 4 inches thick. Pea gravel shall be washed. Pea gravel shall be large enough to prevent its falling through the perforations of the under-drain pipe.

(2) Filter Fabric – Filter fabric shall cover the underdrain pipe and shall not extend laterally from either side of the pipe more than two feet. The fabric shall meet the specifications of Wisconsin Standards and Specifications for Highway and Structure Construction, Section 645.2.4, Schedule Test B, 2003 edition, or an equivalent approved by the administering authority.

(3) Filter Sock - The openings in the fabric shall be small enough to prevent sand particles from entering the underdrain pipe. The flow rate of the fabric shall be capable of passing water at a rate equal to or greater than the flow rate capacity of the total combined perforations in the
underdrain pipe. In addition, the fabric shall meet the other requirements of Wisconsin Standards and Specifications for Highway and Structure Construction, Section 612.2.8(1-3), 2003 edition, or an equivalent approved by the administering authority.

f. Clean-out Port – The underdrain pipe shall have a vertical, connecting standpipe to serve as a clean-out port for the underdrain pipe. The pipe shall be rigid, non-perforated PVC pipe, a minimum of 6 inches in diameter and covered with a watertight cap that is flush with the ground elevation of the device.

g. Outlet – The underdrain pipe shall discharge to an existing drainage system. Examples of drainage systems include swales, storm sewers, subsurface dispersal fields and surface waters.

(1) A check valve shall be installed when backflow is possible.

(2) Access for maintenance of the check-valve shall be provided.

9. Sand/Native Soil Interface Layer

a. The interface layer is required when the design infiltration rate of the native soil is less than 3.6 inches/hour, as determined using DNR Technical Standard 1002, “Site Evaluation for Stormwater Infiltration.”

b. Three inches of sand shall be placed below the gravel or sand storage layer, and vertically mixed with the native soil interface to a depth of 2-4 inches.

c. Sand shall be washed quartz or silica 0.02 to 0.04 inches in diameter (USDA Coarse Sand). Calcium carbonated, dolomitic sand, and other substitutions are not allowed.

10. Design Infiltration Rate – The design infiltration rate of the native soil shall not exceed the rate identified in accordance with WDNR Conservation Practice Standard 1002 “Site Evaluation for Stormwater Infiltration”.

11. Observation Wells – If there is no underdrain, one or more observation wells shall be installed to monitor drainage from the device. There shall be a minimum of one well per 1,000 square feet of effective infiltration area. The wells shall be:

a. Located at the center of each section being monitored.

b. A minimum 6 inch diameter slotted PVC pipe, anchored vertically to a footplate at the bottom of the bioretention device. The top of the pipe shall be high enough to prevent the entry of water ponded within the infiltration device.

c. Have a secured aboveground cap.

C. Construction Sequencing and Oversight – A person trained and experienced in the construction, operation and maintenance of infiltration devices shall be responsible for construction of the device. The following apply:

1. Construction Site Stabilization – Construction site runoff from disturbed areas shall not be allowed to enter the bioretention device. Runoff from pervious areas shall be diverted from the device until the pervious areas have undergone final stabilization.

2. Suitable Weather – Construction shall be suspended during periods of rainfall or snowmelt. Construction shall remain suspended if ponded water is present or if residual soil moisture contributes significantly to the potential for soil smearing, clumping or other forms of compaction.

3. Compaction Avoidance – Compaction and smearing of the soils beneath the floor and side slopes of the bioretention area, and compaction of the soils used for backfill in the soil planting bed, shall be minimized. During site development, the area dedicated to the bioretention device shall be cordoned off to prevent access by heavy equipment. Acceptable equipment for constructing the bioretention device includes excavation hoes, light equipment with turf type tires, marsh equipment or wide-track loaders.

4. Compaction Remediation – If compaction occurs at the base of the bioretention device, the soil shall be refractured to a depth of at least 12 inches. If smearing occurs, the smeared areas of the interface shall be corrected by raking or roto-tilling.
5. Placement and Settling of Engineered Soil –
The following apply:

a. Prior to placement in the bioretention
device, the engineered soil shall be pre-
mixed and the moisture content shall be
low enough to prevent clumping and
compaction during placement.

b. The engineered soil shall be placed in
multiple lifts, each approximately 12
inches in depth.

c. Steps may be taken to induce mild
settling of the engineered soil bed as
needed to prepare a stable planting
medium and to stabilize the ponding
depth. Vibrating plate-style compactors
shall not be used to induce settling.

6. Planting – The entire soil planting bed shall
be mulched prior to planting vegetation to
help prevent compaction of the planting soil
during the planting process. Mulch shall be
pushed aside for the placement of each plant.

VI. Considerations

A. This infiltration device is especially suitable where
other benefits are desired such as shade, windbreak,
noise absorption, reduction in reflected light,
microhabitat for plants and wildlife and improved
aesthetics.

B. Place the infiltration device in a site that is visible to
encourage routine up-keep and maintenance. Choose
a site that provides ample room for maintenance
access to all parts of the device. Consider traffic
visibility and other safety issues when siting the
infiltration device.

C. The bioretention device may be constructed as a
filtration and recovery system followed by discharge
to a storm sewer or surface outlet. Table 2 shows
estimated pollutant removal rates for bioretention
when used as a filtration device:

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Removal Rate (percent)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Suspended Solids</td>
<td>90(^1)</td>
</tr>
<tr>
<td>Metals (Cu, Zn, Pb)</td>
<td>&gt; 95(^2)</td>
</tr>
<tr>
<td>Total Phosphorus</td>
<td>80(^3)</td>
</tr>
<tr>
<td>Total Kjeldahl Nitrogen</td>
<td>65-75(^3)</td>
</tr>
<tr>
<td>Ammonium</td>
<td>60-80(^3)</td>
</tr>
<tr>
<td>Organics</td>
<td>90(^3)</td>
</tr>
<tr>
<td>Bacteria</td>
<td>90(^4)</td>
</tr>
</tbody>
</table>

Source: 1Prince George’s County Department of
Environmental Resources, 1993
2Davis, et al., 2003.

D. This infiltration device is not suitable for treating
chlorides. Chloride use on source areas tributary to
the bioretention device can be reduced or eliminated
by minimizing the amount of compound used, using
alternative de-icers or using clean sand. Aggressive
sweeping in these areas, along with pretreatment
sumps and filter strips, will reduce the impact of the
sand on the bioretention device.

E. A maximum drainage area is established to protect the
device and reduce risk of failure. Potential problems
such as erosion at the inflow points, disruption of the
mulch layer, premature clogging of the device and
inputs of chlorides and sodium will be reduced.
Additionally, numerous smaller bioretention devices
are expected to have better long term performance
when compared to one large device. For large
impervious areas, such as parking lots, dividing the
drainage area up into smaller portions (0.5 – 1 acre) is
recommended. If the total drainage area to a
treatment device must be larger than 2 acres, an
alternative practice should be selected.

F. Longevity of the engineered soil is decreased by
clogging, reduced cation exchange capacity and
accumulation of sodium. Clogging problems can be
reduced by limiting the input of sediment. Cation
exchange capacity can be rejuvenated by the
replacement of the engineered soil. Sodium
accumulation can be countered by adding gypsum to
the soil and/or by allowing about 1” of clean water to
percolate through the planting bed 3 to 4 times in the
spring

G. Erosion at the inlet to the bioretention device can be
reduced by using a sump inlet or gravel bed. Level
spreading can be enhanced by the use of a level
spreader or by using multiple pipe inlets.
H. Pretreatment - Pretreatment will extend the life of the bioretention device, particularly when runoff is from parking lots and streets. Alternatives include grass channels, grass filter strips, sumps or forebays. Sumps and forebays should be sized to trap coarse sand (.02 - .04 inches). Table 3 provides sizing guidelines for pretreatment grass channels. Table 4 provides guidelines for sizing filter strips. Pretreatment is not considered part of the effective infiltration area for purposes of section NR 151.12(5)(c) or NR 151.24(5)(a), Wis. Adm. Code.

I. When possible, the dimensions of the planting bed should have a minimum width of 10 feet, a minimum length of 15 feet and a width to length ratio of about 2:1.

J. If no vegetated pretreatment area is provided, snow may be piled upgradient of the bioretention device, preferably upgradient of the pretreatment forebay or sump. If a vegetated pretreatment area, such as a filter strip, is provided, it may be used for snow storage but heavy machinery should not be driven onto or across the vegetated area.

---

**Table 3. Pretreatment Grass Channel Guidance**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Stormwater Runoff Inflow Approach From Impervious Parking Lots</th>
<th>Stormwater Runoff Inflow Approach From Lawns/Landscaped Areas</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum inflow approach length (feet)</td>
<td>35</td>
<td>75</td>
<td>75</td>
</tr>
<tr>
<td>Filter strip slope</td>
<td>≤2% &gt;2% ≤2% &gt;2% ≤2% &gt;2% ≤2% &gt;2%</td>
<td>Maximum Slope = 6%</td>
<td></td>
</tr>
<tr>
<td>Filter strip Minimum length</td>
<td>10’ 15’ 20’ 25’ 10’ 12’ 15’ 18’</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Example: To pretreat runoff that flows 75 feet across a parking lot before reaching the bioretention device, the filter strip should be 20 feet long if the filter strip slope is ≤2% and 25 feet long if the filter strip slope is over 2%.

---

**Table 4. Pretreatment Filter Strip Sizing Guidance**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Stormwater Runoff Inflow Approach From Impervious Parking Lots</th>
<th>Stormwater Runoff Inflow Approach From Lawns/Landscaped Areas</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum inflow approach length (feet)</td>
<td>35</td>
<td>75</td>
<td>75</td>
</tr>
<tr>
<td>Filter strip slope</td>
<td>≤2% &gt;2% ≤2% &gt;2% ≤2% &gt;2% ≤2% &gt;2%</td>
<td>Maximum Slope = 6%</td>
<td></td>
</tr>
<tr>
<td>Filter strip Minimum length</td>
<td>10’ 15’ 20’ 25’ 10’ 12’ 15’ 18’</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Example: To pretreat runoff that flows 75 feet across a parking lot before reaching the bioretention device, the filter strip should be 20 feet long if the filter strip slope is ≤2% and 25 feet long if the filter strip slope is over 2%.

K. Regulatory Sizing “Caps” – If a bioretention device designed in accordance with this standard exceeds the maximum required effective infiltration area established in s. NR 151.12(5)(c), the designer may reduce the effective infiltration area in the final design. Such a reduction is not required, however, and sizing based on an approved model will achieve optimal infiltration and device longevity. If the size of the device is reduced as provided for in NR 151.12(5)(c), then the design should consider maximizing the pond depth and gravel storage thickness to compensate for the decrease in the effective infiltration area.

L. The DNR has created a technical note that may be used to size bioretention devices. The “Technical Note for Sizing Infiltration Basins and Bioretention Devices To Meet State Of Wisconsin Stormwater
Infiltration Performance Standards” contains an approved method to determine the target stay-on depth and presents an approved infiltration model (RECARGA) that can be used to determine the effective infiltration area requirements. Other models may be used if approved. The Technical Note can be accessed at: http://dnr.wi.gov/org/water/wm/nps/stormwater/techstds.htm#Post

M. If possible, settling of the planting bed should be accomplished naturally by allowing the filled bed to sit for several months. This will require over-filling the planting area so that after settling the proper ponding depth is achieved. Watering each lift of the planting bed to induce settling is not recommended unless water can be gently applied and the watered lift is allowed sufficient time (at least 24 hours) to thoroughly drain prior to adding the subsequent lift and at least 48 hours prior to adding mulch.

N. The sidewalls of the planting bed and sand/gravel storage area may be sloped as needed to assure a stable configuration.

O. To reduce lateral flow of water from the bioretention device towards pavement foundations, a geotextile fabric may be placed along the side-walls of the device.

P. The optimal design pond depth for overall system function is 6-9 inches.

Q. Plants can be selected to simulate a variety of plant communities. Forest and forest fringe communities should contain a mix of trees and shrubs. Trees should be planted 11-19 feet apart, shrubs 4-7 feet apart and shrub-tree mixes about 7 feet apart. Ornamental communities should contain a mix of shrubs and perennial herbaceous plants. The foliage canopy of ornamental communities should completely cover the soil planting bed at the end of two growing seasons. Meadows and meadow gardens that employ a mixture of grasses and wildflowers may also be planted.

R. Use plant materials from a certified nursery that offers a plant warranty. Select plants that can thrive with minimum maintenance in the environment of the bioretention device and that have added wildlife value as food or cover. Section IX includes two references for plant selection (Shaw and Schmidt, 2003; Bannerman and Considine, 2003). It is recommended that experienced individuals be consulted to assist with vegetation selection and establishment.

S. The rooting depth of plants and the depth of the soil planting bed should be matched to prevent plant roots from clogging holes in the underdrain.

T. A reasonable underdrain perforation safety factor is 2 to 4. The underdrain outlet may be fitted with an end wall and rodent shield if allowed by the local jurisdiction.

U. A 72-hour time limit is established in this standard for draining water from a fully saturated bioretention device. This limit is established to reduce the risk of declining infiltration caused by persistent saturation at the native soil interface.

The maximum allowable thickness of the storage layer will depend on how much time is available to drain water from that layer after time is taken to drain water from the ponding area and engineered soil. The water in the ponding area and the engineered soil exits the bioretention device via the underdrain and the native soil. The water in the storage layer exits only via the native soil. The following equations may be used to determine the allowable storage layer thickness:

\[ \begin{align*}
H_p &= D_p/(K_u + K_n) \\
H_{ES} &= (D_{ES} \times P_{ES})/(K_u + K_n) \\
D &= (72 \text{ hours} - (H_p + H_{ES})) \times K_n \\
T_{SL} &= D/P_{SL}
\end{align*} \]

Where:

\[ \begin{align*}
H_p &= \text{Time to drain the ponding area (hours)} \\
D_p &= \text{Depth of ponding area (inches)} \\
K_u &= \text{Underdrain flow rate (inches/hour)} \\
K_n &= \text{Native soil infiltration rate (inches/hour)} \\
H_{ES} &= \text{Time to drain the engineered soil (hours)} \\
D_{ES} &= \text{Depth of the engineered soil (inches)} \\
P_{ES} &= \text{Porosity of engineered soil} \\
D &= \text{Maximum depth of water in storage layer (inches)} \\
T_{SL} &= \text{Thickness of storage layer (inches)} \\
P_{SL} &= \text{Porosity of gravel storage layer}
\end{align*} \]

Using these equations, Table 5 shows sample storage layer thicknesses for a variety of conditions. Variables include pond depth, drawdown rate (underdrain flow rate \(K_u\) + design infiltration rate \(K_n\)) and design infiltration rate \(K_n\).
The following assumptions are incorporated into Table 5:

- Maximum pond depth will drain in 24 hours or less,
- The maximum allowable storage layer thickness is 48 inches,
- The engineered soil depth is 36 inches,
- Engineered soil porosity is assumed to be 27%,
- Storage layer porosity is assumed to be 33%.

V. A municipal easement may be acquired to facilitate maintenance.

W. Once the design depth of the storage layer is determined, it can be reduced as long as the total storage volume is maintained. This will require making a corresponding increase in the surface area of the storage layer. This may be necessary at some sites to meet the required groundwater separation.

### VII. Plans and Specifications

A. Plans and specifications shall be prepared for each specific field site in accordance with the criteria of this standard and shall describe the requirements for applying the infiltration device to achieve its intended use. Plans shall specify the materials, construction processes and sequence, location, size, and elevations of all components of the infiltration device to allow for certification of construction upon completion.

B. The plans shall include:

1. A vicinity map showing the drainage area, device location and flow paths to and from the device.

2. A plan view of the device showing the shape, dimensions, flow paths to and from the device, vegetation plan (including plant names and planting locations) and pretreatment components.

3. Longitudinal and cross-section views of the device

C. Specifications shall include the following:

1. A description of the contractor’s responsibilities.

2. A requirement for the contractor to submit certifications prior to use for all materials that are to be incorporated into the project stating compliance with the standards.

3. Initial maintenance requirements.

4. Additional specifications relating to vegetation, including:

   a. Site preparation sufficient to establish and grow selected species.

   b. Planting dates, care, and handling of the plants to ensure that planted materials have an acceptable rate of survival, including weeding and watering responsibilities.

   c. Vegetation warranty period

### VIII. Operation and Maintenance

A. An operation and maintenance plan shall be developed that is consistent with the purposes of this infiltration device, its intended life, safety requirements and the criteria for its design. The plan shall be developed for inspection, operation and maintenance of the device. The plan shall assign responsibility for activities and the qualifications of the personnel performing the work.
B. At a minimum, the plan shall address operation and maintenance of all vegetative and non-vegetative components identified in this standard.

C. At a minimum, the plan shall also include details on the following: frequency of inspections; inspecting for sediment buildup and clogging, erosion, trash and debris build-up and plant health; frequency of sediment removal; disposal locations for sediment; pH testing of the soil; frequency of soil, mulch, and plant replacement; inlet and outlet maintenance, and providing access to perform the operation and maintenance activities. The maintenance activities in the plan shall be consistent with Table 6.

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>FREQUENCY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Plants</td>
<td>As necessary during first growing season</td>
</tr>
<tr>
<td>Water as necessary during dry periods</td>
<td>As needed after first growing season</td>
</tr>
<tr>
<td>Re-mulch void areas</td>
<td>As needed</td>
</tr>
<tr>
<td>Treat diseased trees and shrubs</td>
<td>As needed</td>
</tr>
<tr>
<td>Inspect soil and repair eroded areas</td>
<td>Monthly</td>
</tr>
<tr>
<td>Remove liter and debris</td>
<td>Monthly</td>
</tr>
<tr>
<td>Add additional mulch</td>
<td>Once per year</td>
</tr>
</tbody>
</table>

D. Snow shall not be dumped directly onto the conditioned planting bed.

IX. References


Prince George’s County Maryland. Prince George’s County Bioretention Manual, November 2001 (revised December, 2002).


X. Definitions

Approved Model (V.B.): A computer model with an infiltration component that has been approved by the applicable regulatory authorities.

Curtain Drain (V.B.3.b.(3)): An overflow system structures consisting of vertical columns of gravel or sand, called curtain drains, that allow the water quality volume to bypass the soil planting bed and discharge untreated to ground water.

Design Drawdown Rate (V.B.4.b.). The rate (inches/hour) at which water drains from the ponding area through a combination of infiltration into the native soil and loss through the underdrain.

Design Infiltration Rate (V.B.8.c.): The infiltration rate of the native soil selected as a basis to size an infiltration device.

Design Ponding Depth (V.B.4.a.) The distance (inches) between the top of the mulch layer and the invert of the overflow structure.

Effective Infiltration Area (V.B.11) The area of the infiltration system that is used to infiltrate runoff, not to include the area used for site access, berms or pretreatment. For bioretention, the effective infiltration area is considered to be the surface area of the bottom of the excavated hole, at the native soil interface.

Final Stabilization (V.C.1) A condition achieved on pervious areas when uniform perennial vegetative cover has been established with a density of at least 70%.

Fully Saturated(V.B.7.b) A bioretention device that has a saturated storage layer, a saturated engineered soil layer and water ponded to the invert of the overflow pipe in the ponding area.

Heavy Equipment (V.C.3): Equipment with narrow tracks or narrow tires, rubber tires with large lugs, or high-pressure tires.

Hydraulically connected (V.A.2.a): Two entities are said to be hydraulically connected if a surface or subsurface conduit exists between the two such that water is transmitted from one entity to the other.

Infiltration (II): Entry and movement of precipitation or runoff into or through the soil. It includes water that may be subsequently evapotranspired. It does not include water discharged through underdrains or overflow devices.

Infiltration Device (I): A structure or mechanism engineered to facilitate the entry and movement of precipitation or runoff into or through the soil.

Native Soil (I): The undisturbed soil, situated below the bioretention device.

NR 151 (V.B.6.d.(1)): Chapter NR 151, Wisconsin Administrative Code (Runoff Management) that includes State of Wisconsin performance standards for infiltration.

Pretreatment (V.B.1): Preliminary reduction of pollutants from storm water prior to discharge of the storm water to the bioretention device.

Source Area (III): A component of urban land use including rooftops, sidewalks, driveways, parking lots, storage areas, streets and lawns from which urban runoff pollutants and volumes are generated during periods of snow melt and rainfall runoff.

Target Stay-on Depth (V.B.2): The amount of infiltration required on an average annual basis. It is the portion of the annual rainfall (inches) on the development site that must be infiltrated on an annual basis to meet the infiltration goal.

Total Device Drain Time (V.B.7.b): The time it takes water to drain from a fully saturated bioretention device. This includes the time it takes to drain water from the ponding area, the engineered soil and the storage layer. Water from the ponding area and engineered soil exit via a combination of the underdrain and native soil. Water from the storage layer exits only via the native soil.

Underdrain (V.B.1): A perforated drain pipe situated below the engineered soil bed and above the gravel storage layer.

Underdrain Flow Rate (V.B.8.c.): The rate at which water is discharged from the underdrain, as determined by the orifice flow equation.
Figure 1. Example of Bioretention Device – plan view
Sand Interface Layer (3")
Mulch (2-3" Hardwood)

≥ 2 side slope

Engineered Soil Planting Bed (36" minimum)
Filter Fabric
(over perforated underdrain pipe only)

Pea Gravel (4" minimum)
Gravel or Sand Storage Layer
(48" maximum below underdrain pipe)

Sand Interface Layer (3")
Perforated Underdrain Pipe (6" minimum diameter)

Overflow Pipe
Restricted Underdrain Orifice
Overflow Pipe Drain
to Safe Outlet

Underdrain Restrictor Plate

Ponding Depth (max. 12")

Figure 2. Example of Bioretention Device – cross-section across width of device
Figure 3. Example of Bioretention Device – cross-section across length of device

- Engineered Soil (36” minimum)
- Perforated Underdrain Pipe (6” minimum diameter)
- Pea Gravel (4” minimum)
- Gravel or Sand Storage Layer (48” maximum below underdrain pipe)
- Sand Interface Layer (3”)
- Filter Fabric (over perforated underdrain pipe only)
- Mulch (2-3” hardwood)
- Overflow Pipe Drain to Safe Outlet
- Ponding Depth (Maximum 12”)
- Effective Infiltration Area

Note: The diagram shows the layers and components of a bioretention device as described in the text.