

Chapters Comm 60 to 65

APPENDIX A

The material contained in this appendix is for clarification purposes only and is numbered to correspond to the number of the rule as it appears in the text of the code.

A-60.20(3) CONTROL STANDARDS. The following are designs acceptable by the department to achieve compliance with the control standards of acceptable soil loss or percent reduction of sediment load in runoff from a site.

Less than one acre disturbance (regardless of the lot or property size).

A. Mandated practices:

1. A method to prevent or reduce soil from leaving a site via entries or roads. This may include a tracking pad or tire washing stand designed and installed to meet DNR Standard 1057. Other means of compliance include a gravel mulch, frozen soil, bedrock or some other physical means to prevent soil from leaving the site on vehicle tires which is equivalent to the tracking pad or tire washing stand.
2. Storm water inlet protection. Inlet protection may be accomplished by using DNR Technical Standard, number 1050, "Storm Drain Inlet Protection for Construction Sites". The protection of stormwater inlets in the code is specific to "on-site" inlets; however an off-site inlet may create a direct conduit to a water of the state, which links any inlet that leads to a water of the state to the #3 mandated practice. In that case, special care should be taken to protect both types of inlets from sediment in runoff from a construction site.
3. Protection of adjoining waters of the state. The installation of practices is necessary if runoff from the disturbance could impact a water of the state. Practices may include channel erosion mats, silt fences, vegetative buffers or any other practices applicable to the specific site.
4. Drainage way protection. Any ditches or drainage ways that flow off site must be protected with appropriate best management practices (BMPs). This may include but is not limited to ditch checks, channel erosion control mats or riprap.
5. Dewatering activity sediment reduction. Any dewatering necessary on the construction site must include measures to reduce the sediment in the water leaving the site. Dewatering BMPs may include filters, fiber rolls or gravel bag berms.
6. Stockpile protection. Any soil stockpiles which are left more than 7 days must be protected by seeding and mulching, erosion mat, silt fencing, covering or other methods. This does not include fill or topsoil piles that are in active use.

B. In addition to mandated practices, the owner/contractor or designer must choose one or more of the following methods in order to achieve compliance with the standards.

1. The Revised Universal Soil Loss Equation may be used to determine the amount of soil lost from a site in order to stay below the 5 tons/acre/year for sand, loamy sand, sandy loam, loam, sandy clay loam, clay loam, sandy clay, silty clay or clay textures or the 7.5 tons/acre/year soil loss for silt, silty clay loam or silt loam textures. The Commerce-accepted version of an Excel worksheet that is used to calculate the soil loss is available at: <http://commerce.wi.gov/SB/SB-SoilErosionControlProgram.html>
2. Silt fence may be placed in accordance with the DNR Technical Standard 1056 and remain on the site until the pervious area is stabilized. This practice, in addition to the mandated practices in part "A" is accepted by the Department of Commerce as compliant with the 40% reduction in sediment load goal.
3. The site may be seeded and mulched, erosion control mat may be installed or polymers may be applied. The erosion control BMPs must be applied within one week of disturbance. Seeding must be accomplished in accordance with DNR Technical Standard 1059 and mulching with DNR Technical Standard 1058. Erosion control mat must be installed in accordance with DNR Technical Standards 1052 & 1053. Polymer application must be done in accordance with DNR Technical Standard 1051. Contact the department for other methods that may be acceptable for this process. This practice is only acceptable when the maximum slope length is 300 feet and the maximum slope is no more than that specified in Table A-60.20-1.
4. Practices may be included in the erosion and sediment control plan for the site that achieve compliance with the 40% reduction in sediment load in the runoff from the site. Table A-60.20-2 lists several erosion and sediment control BMPs and the USEPA (United States Environmental Protection Agency) efficiency rating for that BMP.
5. A unique design may be submitted to the department or agent for review. The design must be accompanied by the current building program plan submittal fee.

One acre or more disturbed (regardless of the size of the lot or property).

A. Mandated practices:

1. A method to prevent or reduce soil from leaving a site via entries or roads. This may include a tracking pad or tire washing stand designed and installed to meet DNR Standard 1057. Other means of compliance include a gravel mulch, frozen soil, bedrock or some other physical means to prevent soil from leaving the site on vehicle tires which is equivalent to the tracking pad or tire washing stand.
2. Storm water inlet protection. Inlet protection may be accomplished by using DNR Technical Standard, number 1050, "Storm Drain Inlet Protection for Construction Sites". The protection of stormwater inlets in the code is specific to "on-site" inlets; however an off-site inlet may create a direct conduit to a water of the state, which links any inlet that leads to a water of the state to the #3 mandated practice. In that case, special care should be taken to protect both types of inlets from sediment in runoff from a construction site.
3. Protection of adjoining waters of the state. The installation of practices is necessary if runoff from the disturbance could impact a water of the state. Practices may include channel erosion mats, silt fences, vegetative buffers or any other practices applicable to the specific site.
4. Drainage way protection. Any ditches or drainage ways that flow off site must be protected with appropriate best management practices (BMPs). This may include but is not limited to ditch checks, erosion control mats or riprap.
5. Dewatering activity sediment reduction. Any dewatering necessary on the construction site must include measures to reduce the sediment in the water leaving the site. Dewatering BMPs may include filters, fiber rolls or gravel bag berms.
6. Stockpile protection. Any soil stockpiles which are left more than 7 days must be protected by seeding and mulching, erosion mat, silt fencing, covering or other methods. This does not include fill or topsoil piles that are in active use.

B. In addition to mandated practices, the owner/contractor or designer must choose at least one of the following methods in order to achieve compliance with the standards.

1. The Revised Universal Soil Loss Equation may be used to determine the amount of soil lost from a site in order to stay below the 5 tons/acre/year for sand, loamy sand, sandy loam, loam, sandy clay loam, clay loam, sandy clay, silty clay or clay textures or the 7.5 tons/acre/year soil loss for silt, silty clay loam or silt loam textures. The Commerce-accepted version of an Excel worksheet that is used to calculate the soil loss is available at: <http://commerce.wi.gov/SB/SB-SoilErosionControlProgram.html>
2. The site may be seeded and mulched, erosion control mat may be installed or polymers may be applied. The erosion control BMPs must be applied within one week of disturbance. Seeding must be accomplished in accordance with DNR Technical Standard 1059 and mulching with DNR Technical Standard 1058. Erosion control mat must be installed in accordance with DNR Technical Standards 1052 & 1053. Polymer application must be done in accordance with DNR Technical Standard 1051. Contact the department for other methods that may be acceptable for this process. This method is only acceptable when the maximum slope length is 300 feet and the maximum slope is no more than that specified in Table A-60.20-1 and Table A-60.20-2.
3. Practices may be included in the erosion and sediment control plan for the site that achieve compliance with the 80% reduction in sediment load in the runoff from the site. Table A-60.20-3 lists several erosion and sediment control BMPs and the USEPA (United States Environmental Protection Agency) efficiency rating for that BMP. The design must be submitted to the department or agent for review. The design must be accompanied by the current building program plan submittal fee.
4. A unique design may be submitted to the department or agent for review. The design must be accompanied by the current building program plan submittal fee.

Table A-60.20-1

**Slope Limitations for Permissible Soil Loss with max. 300' slope length¹
When sites are seeded, mulched or otherwise stabilized within one week of disturbance²**

Soil Texture	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
7.5 tons/acre/year allowable soil loss												
Silt loam or Silty clay loam	20%	20%	16%	9%	6%	5%	6%	8%	12%	17%	20%	20%
5 tons/acre/year allowable soil loss												
Sand	20%	20%	20%	14%	10%	8%	9%	12%	19%	20%	20%	20%
Loamy sand	20%	20%	20%	13%	9%	8%	9%	11%	17%	20%	20%	20%
Sandy loam	20%	20%	16%	9%	7%	5%	6%	8%	16%	17%	20%	20%
Loam, Sandy clay loam, Clay loam, Sandy clay	20%	20%	13%	8%	5%	4%	5%	6%	10%	17%	20%	20%
Silty clay	20%	20%	16%	9%	7%	5%	6%	8%	13%	17%	20%	20%
Clay	20%	20%	15%	9%	6%	5%	5%	7%	12%	16%	20%	20%

¹ The information in the table is derived from Grant County rainfall information and the use of the Revised Universal Soil Loss Equation. The slope limitation refers to the maximum slope permitted in order to achieve code compliance for the site specifics in the table. Opening date is the 15th of each month and closing is the 22nd. End date is 60 days past closing date.

² Stabilization may be accomplished by temporary seeding & mulching, permanent seeding and mulching, application of polymers or placement of erosion control mats. Additionally, the mandated practices specific to the site must be in place.

Table A-60.20-2

**Slope Limitations for Permissible Soil Loss with max. 300' slope length¹
When sites are seeded, mulched or otherwise stabilized within four weeks of disturbance²**

Soil Texture	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
7.5 tons/acre/year allowable soil loss												
Silt loam or Silty clay loam	18%	11%	8%	4%	3%	2%	3%	4%	6%	10%	15%	20%
5 tons/acre/year allowable soil loss												
Sand	20%	20%	17%	12%	7%	5%	4%	4%	6%	10%	15%	20%
Loamy sand	20%	20%	16%	11%	6%	4%	4%	4%	5%	9%	14%	20%
Sandy loam	20%	18%	11%	8%	4%	3%	2%	3%	4%	6%	10%	16%
Loam, Sandy clay loam, Clay loam, Sandy clay	20%	9%	6%	4%	2%	2%	4%	3%	5%	8%	13%	20%
Silty clay	18%	11%	8%	4%	3%	2%	4%	6%	6%	10%	15%	20%
Clay	17%	11%	7%	4%	3%	2%	4%	6%	6%	9%	14%	20%

¹ The information in the table is derived from Grant County rainfall information and the use of the Revised Universal Soil Loss Equation. The slope limitation refers to the maximum slope permitted in order to achieve code compliance for the site specifics in the table. Opening date is the 15th of each month and closing is the 15th of the following month. End date is 60 days past closing date.

² Stabilization may be accomplished by temporary seeding & mulching, permanent seeding and mulching, application of polymers or placement of erosion control mats. Additionally, the mandated practices specific to the site must be in place.

Table A-60.20-3
Erosion/Sediment Control BMP Efficiency¹

Practice	Type of Practice	Standard Number ²	Recognized Efficiency
Straw Bales	Sediment Control	1055	10% ³
Fiber Rolls	Sediment Control		40%
Sediment Traps	Sediment Control		40%
Silt Fence	Sediment Control	1056	Sand 80% Other soils 40%
Compost Blankets	Erosion Control	See std 1058 for Wisconsin	80%
Polymers	Erosion Control	1050	80%
Sodding	Erosion Control		80%
Seeding	Erosion Control	1059	80%
Mulching	Erosion Control	1058	80%
Non channel control mat	Erosion Control	1052	80% ⁴

¹ BMP efficiency is derived from information provided on the Environmental Protection Construction Erosion Control website in August, 2006 and only when the BMP is installed per the listed standard.

² Standard Number refers to the Wisconsin Department of Natural Resources Conservation Practice Standard number.

³ This efficiency measure is provided by the Department of Commerce, Safety and Buildings Division and only for a short duration as described in the standard.

⁴ This efficiency measure is provided by the Department of Commerce, Safety and Buildings Division.

There are several BMPs that do not have an efficiency assigned by the EPA. These include mandatory controls such as inlet protection, drainage way protection (rip rap) and tracking pads. Diversions, both temporary and permanent, are also not included in Table A-60.20-3. Diversions impact the erosion on a site by shortening the length of slope in the Revised Universal Soil Loss Equation (RUSLE).

A-60.30 STORM WATER MANAGEMENT. Following are design examples acceptable by the department which achieve compliance with the NR 151.12 (2) (d), Wis. Adm. Code exemption to the post-construction stormwater requirements.

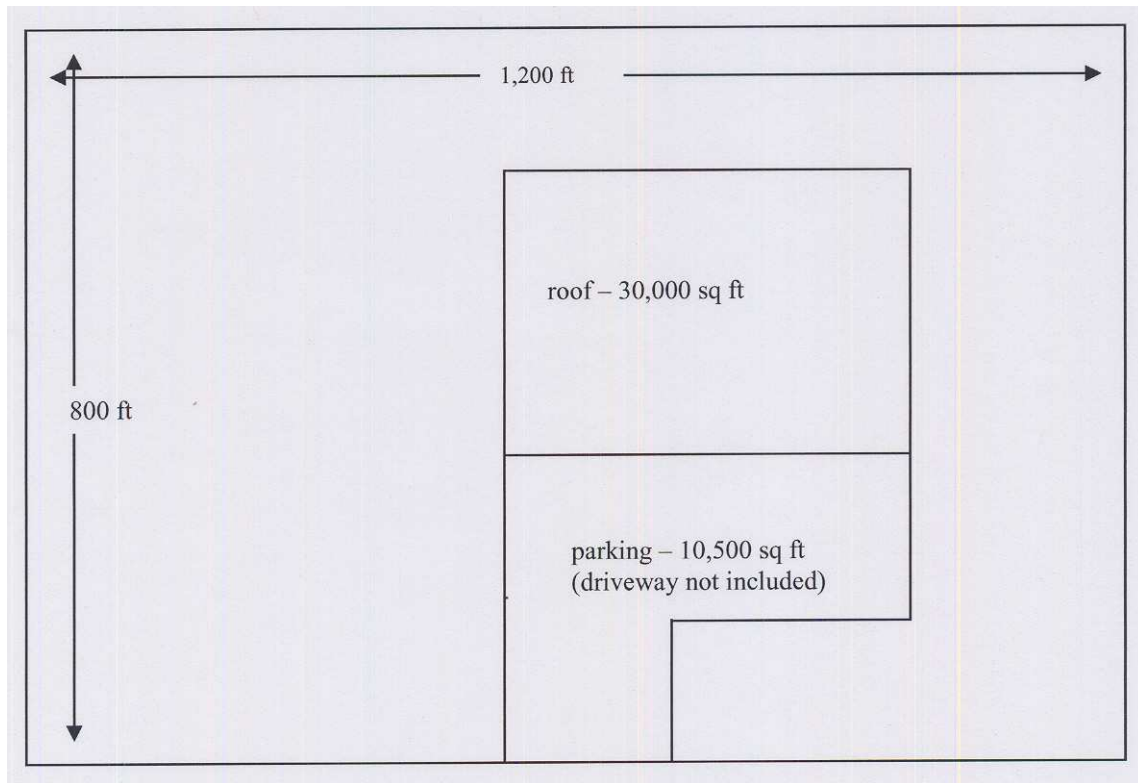
The following examples are three exemptions to the requirements for a post construction stormwater management plan. This means the owners of these sites are **not** required to develop and implement a post construction stormwater management plan.

1. Redevelopment with no increase in area for exposed parking or roads. Redevelopment is defined as "areas where development is replacing older development."
2. The installation of underground utilities such as sewers, water services, electrical services, etc.
3. Sites with less than 10% connected imperviousness when parking lots and roofs total an area of less than one acre. Following is an equation that may be used to evaluate a site for this exemption:

Total area of a completed building site X 0.1 = Maximum area permitted to be connected via impervious flow path or sewer.

The following diagram illustrates a commercial site that meets this exemption.

**Figure A-60.20-1
Sample Site Plan**



The total area of the site is 960,000 sq ft or 22 acres. 10 acres are being disturbed.

The roof & parking is 40,500 sq ft which is less than 1 acre (43,560 sq ft)

$960,000 \text{ sq ft} \times 0.1 = 96,000 \text{ sq ft}$ allowable connected imperviousness

In this example the entire parking, drive and roof area is connected imperviousness. This equals 45,000 sq ft.

This example would not be required to develop a stormwater management plan because the exemption found in NR 151.12(2)(d), Wis. Adm. Code applies.

A-61.03 (4) (b) and 62.0903 (2) Lower thresholds for municipalities with preexisting stricter sprinkler ordinances. Section 101.14 (4m) (d) and (e), Stats., provides the following thresholds above which fire sprinkler protection or 2-hour fire-resistance can be required by a municipality with a preexisting stricter sprinkler ordinance.

Class of Construction	Total Floor Area Within Individual Dwelling Units	Number of Units	Total Floor Area of Nondwelling Unit Portions (Common use areas, such as corridors, stairways, basements, cellars, vestibules, community rooms, laundry rooms, pools, etc.)
Type IA	8,000 sq ft	8 units	12,000 sq ft
Type IB			10,000 sq ft
Type IIA			8,000 sq ft
Type IIB			5,600 sq ft
Type III			
Type IV			
Type VA			
Type VB	4,800 sq ft		

The department, based on ordinances forwarded by municipalities (and checked by Safety and Buildings staff for conformance with the preexisting sprinkler ordinance criteria), or based on other provided information, believes the following municipalities have preexisting stricter sprinkler ordinances. Other municipalities may also have preexisting stricter sprinkler ordinances.

Appleton	Madison	Muskego	Shorewood Hills
Brookfield	Menomonee Falls	New Berlin	Sussex
Franklin	Monona	Oak Creek	Thiensville
Greendale	Mount Pleasant	Racine	West Allis
Greenfield			West Bend