

**Errata to the September 30, 2009 Version of the Stormwater Regulations
(Language in yellow represents the additional changes being recommended)
October 2, 2009**

Parts I, II, and III Action

4VAC50-60-63

Line 1075; after “year” insert “for projects greater than or equal to one acre”

~~b. Within Urban Development Areas designated pursuant to §15.2-2223.1 in the Chesapeake Bay Watershed a qualifying local program may establish a phosphorus standard between 0.28 and 0.45 pounds per acre per year for projects greater than or equal to 1 acre in order to encourage compact development that achieves superior water quality benefits.....~~

4VAC50-60-65

Lines 1120 and 1121; after “Table 1” strike “or the BMPs available on the Virginia Stormwater BMP Clearinghouse website”

Line 1123; after “found” insert “on the Virginia Stormwater BMP Clearinghouse website”

Line 1124; after <http://www.vwrrc.vt.edu/swc>, insert “Other approved BMPs available on the website may also be utilized.”

~~B. The BMPs listed in Table 1 [or the BMPs available on the Virginia Stormwater BMP Clearinghouse website] shall be utilized as necessary to effectively reduce the phosphorus load in accordance with the Virginia Runoff Reduction Method. Design specifications for the BMPs listed in Table 1 can be found [on the Virginia Stormwater BMP Clearinghouse website] at <http://www.vwrrc.vt.edu/swc>. [Other approved BMPs available on this website may also be utilized.]~~

In Table 1, footnote and practice refinements were made to conform with the BMP Clearinghouse and Runoff Reduction spreadsheets.

**TABLE 1
BMP Pollutant Removal Efficiencies**

Practice	Removal of Total Phosphorus by Runoff Volume Reduction (RR, as %) (based upon 1 inch of rainfall --90% storm)	Removal of Total Phosphorus by Treatment -- Pollutant Concentration Reduction (PR, as %)	Total [Mass Load] Removal of Total Phosphorus (TR, as %)
[Green Vegetated] Roof 1	45	0	45
[Green Vegetated] Roof 2	60	0	60
Rooftop Disconnection [± ²]	25 [or 50 ¹]	0	25 [or 50 ¹]
[Rooftop Disconnection ₂]	[50]	[0]	[50]
[Rain Tanks/Cisterns ₁] Rainwater Harvesting]	[actual volume x .75 up to 90 ^{3,5}]	0	[actual volume x .75 up to 90 ^{3,5}]
[Soil Amendments ₁]	[50]	[0]	[50]
[Soil Amendments ₂]	[75]	[0]	[75]
[Soil Amendments]	[Can be used to decrease runoff coefficient for turf cover at site. See designs for Rooftop Disconnection, Sheet Flow, and for Grass Channel practices.]		
Permeable Pavement 1	45	25	59
Permeable Pavement 2	75	25	81

Grass Channel [1]	10 [or 20 ¹]	15	23
[Grass Channel 2]	[20]	[15]	[32]
Bioretention 1 [(also applies to Urban Bioretention)]	40	25	55
Bioretention 2	80	50	90
Infiltration 1	50	25	63
Infiltration 2	90	25	93
Dry Swale 1	40	20	52
Dry Swale 2	60	40	76
Wet Swale 1	0	20	20
Wet Swale 2	0	40	40
Sheet Flow to [Conserved-Filter/]-Open Space 1	[0-25 or 50 ¹]	[50 0]	[25 or] 50[¹]
Sheet Flow to [Conserved-Filter/]-Open Space 2[⁵]	[0-50 or 75 ¹]	[75 0]	[50 or] 75[¹]
Extended Detention Pond 1	0	15	15
Extended Detention Pond 2	15	15	[28 31]
Filtering Practice 1	0	60	60
Filtering Practice 2	0	65	65
Constructed Wetland 1	0	50	50
Constructed Wetland 2	0	75	75
Wet Pond 1	0	50 [(45) ⁴]	50 [(45) ⁴]
Wet Pond 2	0	75 [(65) ⁴]	75 [(65) ⁴]
<p>[¹ Lower rate is for Hydrologic Soil Group (HSG) class C and D soils; higher rate is for HSG class A and B soils;</p> <p>² The removal can be increased to 50% for C and D soils by adding soil compost amendments, and may be higher yet if combined with secondary runoff reduction practices.</p> <p>³ Credit up to 90% is possible if all water from storms of 1" or less is used through demand, and tank is sized such that no overflow occurs. Total credit not to exceed 90%.</p> <p>⁴ Lower nutrient removals in parentheses apply to wet ponds in coastal plain terrain.</p> <p>⁵ See BMP design specification for an explanation of how additional pollutant removal can be achieved.]</p>			

4VAC50-60-66

Lines 1206, 1221, and 1224; made the formatting changes outlined below to establish a subdivision 5 to meet regulatory protocols.

4. [a. Except as set out in subdivision b5, concentrated ~~Concentrated~~]stormwater flow to unstable natural stormwater conveyance systems. Where the point of discharge releases stormwater into a natural stormwater conveyance system that is unstable, stormwater runoff following a land-disturbing activity shall be released into a channel at or below a peak flow rate ($Q_{Developed}$) based on the one-year 24-hour storm, calculated as follows or in accordance with another methodology that is demonstrated by the local program to achieve equivalent or more stringent results and is approved by the board:

$$Q_{Developed} * RV_{Developed} \leq Q_{[Forested\ Good\ Pasture]} * RV_{[Forested\ Good\ Pasture]}, \text{ where}$$

$Q_{Developed}$ = The allowable peak flow rate from the developed site.

$Q_{[Forested\ Good\ Pasture]}$ = The peak flow rate from the site in a [forested good pasture] condition.

$RV_{[Forested\ Good\ Pasture]}$ = The volume of runoff from the site in a [forested good pasture] condition.

$RV_{Developed}$ = The volume of runoff from the developed site.

[unless-However in the case that the pre-developed condition is forested, in which case, both the peak flow rate and the volume of runoff from the developed site shall be held to the forested condition.]

[b. 5 This subsectiondivision shall apply to concentrated stormwater flow to unstable natural stormwater conveyance systems from: i) a land disturbing activity less than 5 acres on prior developed lands, or ii) a regulated land disturbing activity less than 1 acre for new development. Where the point of discharge releases stormwater into a natural stormwater conveyance system that is unstable, stormwater runoff following a land-disturbing activity shall provide a peak flow rate from the one-year 24-hour storm, calculated as follows or in accordance with another methodology that is demonstrated by the local program to achieve equivalent or more stringent results and is approved by the board:

Lines 1260 and 1267; made the formatting changes outlined below to establish a subdivision 5 to meet regulatory protocols.

4. [a.] Concentrated stormwater flow to natural stormwater conveyance systems where localized flooding exists during the 10-year 24-hour storm. The point of discharge releases a postdevelopment peak flow rate for the 10-year 24-hour storm that shall not exceed the predevelopment peak flow rate from the 10-year 24-hour storm based on [forested good pasture] conditions [, unless the pre-developed condition is forested, in which case the peak flow rate from the developed site shall be held to the forested condition].

[b.5 Subsectiondivision (B)(4)(a)-notwithstanding, this subsectiondivision shall apply to concentrated stormwater flow to natural stormwater conveyance systems where localized flooding exists during the 10-year 24-hour storm from: i) a land disturbing activity less than 5 acres on prior developed lands, or ii) a regulated land disturbing activity less than 1 acre for new development. The point of discharge releases a postdevelopment peak flow rate for the 10-year 24-hour storm that is less than the predevelopment peak flow rate from the 10-year 24-hour storm.]

Line 1308; after “practices” strike “in accordance with guidance” and insert “. Guidance”

Line1309; after “Handbook” strike “and by the qualifying local program” and insert “shall be considered appropriate standards”.

G. Predevelopment runoff characteristics and site hydrology shall be verified by site inspections, topographic surveys, available soil mapping or studies, and calculations consistent with good engineering practices [in accordance with guidance . Guidance] provided in the Virginia Stormwater Management Handbook [and by the qualifying local program shall be considered appropriate standards].

4VAC50-60-69

Line 1370; after “pound” insert “of”

....Payment amounts shall be determined based upon the nearest 0.01 of a pound of phosphorus.

Line 1387; after “with” insert practice standards established within”

....Any remaining funds shall be utilized to fund long-term contracts for agricultural best management practices no less than 20 years in duration or long-term best management practices including but not limited to stream fencing, alternative water supplies, and riparian buffers in accordance with practice standards established within the Virginia Agricultural BMP Cost Share Program administered by the department.

Line 1410; after “MS4” insert “name”

The department shall additionally track the annual expenditure of the funds including the locality and regulated MS4 name, if any, where the monies are expended, the associated poundage of phosphorus reduced, and the cost per pound for phosphorus reductions associated with the nutrient reduction practices.

Line 1413; after “must” strike “achieve a phosphorus reduction of at least” and insert “reduce its phosphorus discharge to a level of”

Line 1414; after “site” insert “, or less,”

a. A new development project disturbing greater than or equal to 1 acre in the Chesapeake Bay Watershed must achieve a phosphorus reduction of at least reduce its phosphorus discharge to a level of 0.45 pounds per acre per year of phosphorus on site, or less, and then may achieve all or a portion of the remaining required phosphorus reductions through a payment.

4VAC50-60-96

Line 1698; after “4VAC50-60-65” strike “or on the Virginia Stormwater BMP Clearinghouse website”

Line 1700; after “efficiency” strike “will be” and insert “are”

Line 1701; after "Handbook." insert "Other approved BMPs available on the Virginia Stormwater BMP Clearinghouse website at <http://www.vwrrc.vt.edu/swc> may also be utilized."

C. Technology-based criteria. For land-disturbing activities, the postdeveloped stormwater runoff from the impervious cover shall be treated by an appropriate BMP as required by the postdeveloped condition percent impervious cover as specified in Table 2 of this section. The selected BMP shall be located, designed, and maintained to perform at the target pollutant removal efficiency specified in Table 2 or those found in 4VAC50-60-65 or on the Virginia Stormwater BMP Clearinghouse website. Design standards and specifications for the BMPs in Table 2 that meet the required target pollutant removal efficiency will be available in the 1990 Virginia Stormwater Management Handbook. Other approved BMPs available on the Virginia Stormwater BMP Clearinghouse website at <http://www.vwrrc.vt.edu/swc> may also be utilized.

4VAC50-60-122

Line 2125; after "site" insert "or through the available offsite options of subsection A of 4VAC50-60-69"

D. [Any exception to the water quality technical criteria of 4VAC50-60-63 subdivisions 1 and 2 shall require that all available offsite options be utilized before an exception is granted and that any necessary phosphorus reductions unable to be achieved on site or through the available offsite options of subsection A of 4VAC50-60-69 be achieved through a payment made in accordance with subsection B of 4VAC50-60-69. In the case of the granting of an exception, the minimum on site thresholds of subsection B of 4VAC50-60-69 shall not apply;

Documents Incorporated by Reference

Create a line 2497; insert "Virginia Runoff Reduction Method Worksheet – Redevelopment, September 2009."
Virginia Runoff Reduction Method Worksheet – Redevelopment, September 2009

Part XIII Action

4VAV50-60-820

Line 230; after "state" insert "or federal"

The following fees apply to coverage under the General Permit for Discharges of Stormwater from Construction Activities for a state [or federal] agency that does not file annual standards and specifications, an individual permit issued by the board or coverage under the General Permit for Discharges of Stormwater from Construction Activities issued by a qualifying local program, or a department-administered local stormwater management program that has been approved by the board.

4VAC50-60-825

Line 255; after "site." insert "In addition to the permit modifications fee, modifications resulting in an increase in total disturbed acreage shall pay the difference in the initial permit fee paid and the permit fee that would have applied for the total disturbed acreage in 4VAC50-60-820."

Lines 258 and 259; after "state" insert "or federal"

The following fees apply to modification or transfer of individual permits or of registration statements for the General Permit for Discharges of Stormwater from Construction Activities issued by a qualifying local program or a department-administered local stormwater management program that has been approved by the board. If the permit modifications result in changes to stormwater management plans that require additional review by the local stormwater management program, such reviews shall be subject to the fees set out in this section. The fee assessed shall be based on the total disturbed acreage of the site. [In addition to the permit modifications fee, modifications resulting in an increase in total disturbed acreage shall pay the difference in the initial permit fee paid and the permit fee that would have applied for the total disturbed acreage in 4VAC50-60-820.] No modification or transfer fee shall be required until such board-approved programs exist. No modification fee shall be required for the General Permit for Discharges of Stormwater from Construction Activities for a state [or federal] agency that is administering a project in accordance with approved annual standards and specifications but shall apply to all other state [or federal] agency projects.

4VAC50-60-830

Lines 270 and 271; after "state" insert "or federal"

....No maintenance fee shall be required for the General Permit for Discharges of Stormwater from Construction Activities for a state [or federal] agency that is administering a project in accordance with approved annual standards and specifications but shall apply to all other state [or federal] agency projects. All regulated MS4s who are issued joint coverage under an individual permit or general permit registration shall each pay the appropriate fees set out below: