



An Update on Stormwater Management Regulations in Virginia

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VA Stormwater Management Regulations

Timeline

2010

- **Spring 2010:** HB 1220 and SB 395 delay regulations until 280 days after approval of the TMDL but no later than December 1, 2011.

2011

- **May 24:** Board adopted final regulations
- **June 20 – August 2:** Administration review
- **August 10:** Deadline for submittal of regulatory materials to registrar for publication
- **August 29:** Publication in Virginia Registrar, start of final adoption period
- **September 12:** Final adoption period closes
- **September 13:** Statutory effective date target

2014

- **July 1:** Implementation date



VA Stormwater Management Regulations

Major Elements

- Grandfathering (4VAC50-60-48)
- Stormwater Pollution Prevention Plan Requirements (Effluent Limit Guidelines; 4VAC50-60-54.F)
- Quality (4VAC50-60-63)
- Quantity (4VAC50-60-66)
- Offsite Compliance Options (4VAC50-60-69)

Note: Information contained in this presentation represents the version of the Stormwater Regulations as adopted by the Soil and Water Conservation Board on May 24, 2011 (available at <http://www.dcr.virginia.gov/lr2d.shtml>).



Grandfathering



Development site in
Gainesville, Virginia in April,
2011 (Wetland Studies and
Solutions, Inc.)

Grandfathering

Verbatim from the Regulations

4VAC50-60-47.1. Time limits on applicability of approved criteria

Beginning with the VSMP General Permit for Discharges of Stormwater from Construction Activities issued July 1, 2009, all land-disturbing activities that receive general permit coverage shall be conducted in accordance with the Part II B or Part II C technical criteria in place at the time of initial permit coverage and shall remain subject to those criteria for an additional two permit cycles, except as provided for in subsection D of 4VAC50-60-48. After the two additional permit cycles have passed, or should permit coverage not be maintained, portions of the project not under construction shall become subject to any new technical criteria adopted since original permit coverage was issued. For land-disturbing projects issued coverage under the July 1, 2009 permit and for which coverage was maintained, such projects shall remain subject to the technical criteria of Part II C for an additional two permits.



Grandfathering – cont.

Verbatim from the Regulations

4VAC50-60-48. Grandfathering

A. Until June 30, 2019, any land-disturbing activity for which a currently valid proffered or conditional zoning plan, preliminary or final subdivision plat, preliminary or final site plan or zoning with a plan of development, or any document determined by the locality as being equivalent thereto, was approved by a locality prior to July 1, 2012, and for which no coverage under the VSMP General Permit for Discharges of Stormwater from Construction Activities has been issued prior to July 1, 2014, shall be considered grandfathered by the stormwater program administrative authority and shall not be subject to the technical criteria of Part II B, but shall be subject to the technical criteria of Part II C for those areas that were included in the approval, provided that the stormwater program administrative authority finds that such proffered or conditional zoning plan, preliminary or final subdivision plat, preliminary or final site plan or zoning with a plan of development, or any document determined by the locality as being equivalent thereto,

(i) provides for a layout; and



Grandfathering – cont.

Verbatim from the Regulations

4VAC50-60-48. Grandfathering

(ii) the resulting land-disturbing activity will be compliant with the requirements of Part II C. In the event that the locality-approved document is subsequently modified or amended in a manner such that there is no increase over the previously approved plat or plan in the amount of phosphorus leaving each point of discharge of the land-disturbing activity through stormwater runoff, and such that there is no increase over the previously approved plat or plan in the volume or rate of runoff, the grandfathering shall continue as before.

B. Until June 30, 2019, for locality, state, and federal projects for which there has been an obligation of locality, state, or federal funding, in whole or in part, prior to July 1, 2012, or for which the department has approved a stormwater management plan prior to July 1, 2012, such projects shall be considered grandfathered by the stormwater program administrative authority and shall not be subject to the technical criteria of Part II B, but shall be subject to the technical criteria of Part II C for those areas that were included in the approval.



Grandfathering – cont.

Verbatim from the Regulations

4VAC50-60-48. Grandfathering

- C. For land-disturbing activities grandfathered under subsections A and B above, construction must be completed by June 30, 2019 or portions of the project not under construction shall become subject to the technical criteria of Part II B.*
- D. In cases where governmental bonding or public debt financing has been issued for a project prior to July 1, 2012, such project shall be subject to the technical criteria of Part II C.*
- E. Nothing in this section shall preclude an operator from constructing to a more stringent standard at their discretion.*



Grandfathering

What does this mean?

- After July 1, 2009, sites with VSMP permit shall be covered under existing permit criteria for additional 2 permits (after June 30, 2014 expiration; 4VAC50-60-47.1)
- Until June 30, 2019 land disturbing activity (with conditions below) approved by locality by July 1, 2012 and no VSMP permit by July 1, 2014 (4VAC50-60-48.A)
 - Conditions: Proffered or conditional zoning plan, preliminary or final subdivision plat, preliminary or final site plan, or zoning with a plan of development
 - Grandfathered until June 30, 2019 (4VAC50-60-48.C)
- Project with issued governmental bonding or public debt financing by July 1, 2012 (4VAC50-60-48.B)
 - Grandfathered until June 30, 2019 (4VAC50-60-48.C)



SW Pollution Prevention Plan Reqs.



Stream in Arlington, Virginia
on 6/27/10 (Aileen Winquist –
Arlington County)

SW Pollution Prevention Plan Reqs.

Verbatim from the Regulations

NTU requirements (were 280 NTUs) removed due to lawsuit, but EPA still required DCR to add the following (verbatim):

4VAC50-60-54. Stormwater pollution prevention plan requirements.

F. The stormwater pollution prevention plan must address the following requirements, to the extent otherwise required by state law or regulations and any applicable requirements of a VSMP permit:

- 1. **Control stormwater volume and velocity** within the site to minimize soil erosion;*
- 2. **Control stormwater discharges**, including both peak flow rates and total stormwater volume, to minimize erosion at outlets and to minimize downstream channel and stream bank erosion;*



SW Pollution Prevention Plan Reqs.– cont.

Verbatim from the Regulations

4VAC50-60-54. Stormwater pollution prevention plan requirements.

3. *Minimize the amount of soil exposed during construction activity;*
4. *Minimize the disturbance of steep slopes;*
5. *Minimize sediment discharges from the site.*
design, installation and maintenance of erosion and sediment controls must address factors such as the amount, frequency, intensity and duration of precipitation, the nature of resulting stormwater runoff, and soil characteristics, including the range of soil particle sizes expected to be present on the site;
6. *Provide and maintain natural buffers around surface waters, direct stormwater to vegetated areas to increase sediment removal and maximize stormwater infiltration, unless infeasible;*



SW Pollution Prevention Plan Reqs.– cont.

Verbatim from the Regulations

4VAC50-60-54. Stormwater pollution prevention plan requirements.

- 7. Minimize soil compaction** and, unless infeasible, preserve topsoil; and
- 8. Stabilization of disturbed areas must, at a minimum, be initiated immediately** whenever any clearing, grading, excavating or other earth disturbing activities have permanently ceased on any portion of the site, or temporarily ceased on any portion of the site and will not resume for a period exceeding 14 calendar days. Stabilization must be completed within a period of time determined by the stormwater program administrative authority. In arid, semiarid, and drought-stricken areas where initiating vegetative stabilization measures immediately is infeasible, alternative stabilization measures must be employed as specified by the stormwater program administrative authority.



SW Pollution Prevention Plan Reqs.

What does this mean?

- This may be a problem as E & S plans and regulations don't appear to meet all of the requirements (debatable)



Water Quality



Algae blooms near Norfolk Yacht Club on 8/8/09 (Ryan C. Henriksen – The Virginian Pilot)

Water Quality

Verbatim from the Regulations

4VAC50-60-63. Water quality design criteria requirements.

A. In order to protect the quality of state waters and to control the discharge of stormwater pollutants from regulated activities, the following minimum design criteria and statewide standards for stormwater management shall be applied to the site.

*1. **New development.** The total phosphorus load of new development projects shall not exceed 0.41 pounds per acre per year, as calculated pursuant to 4VAC50-60-65.*

*2. **Development on prior developed lands.***

a. For land-disturbing activities disturbing greater than or equal to one acre that result in no net increase in impervious cover from the predevelopment condition, the total phosphorus load shall be reduced at least 20% below the predevelopment total phosphorus load.



Water Quality - cont.

Verbatim from the Regulations

4VAC50-60-63. Water quality design criteria requirements.

- b. For regulated land-disturbing activities disturbing less than one acre that result in no net increase in impervious cover from the predevelopment condition, the total phosphorus load shall be reduced at least 10% below the predevelopment total phosphorus load*
- c. For land-disturbing activities that result in a net increase in impervious cover over the predevelopment condition, the design criteria for new development shall be applied to the increased impervious area. Depending on the area of disturbance, the criteria of subdivisions a or b above, shall be applied to the remainder of the site.*
- d. In lieu of subdivision (c), the total phosphorus load of a linear development project occurring on prior developed lands shall be reduced 20% below the predevelopment total phosphorus load.*



Water Quality - cont.

Verbatim from the Regulations

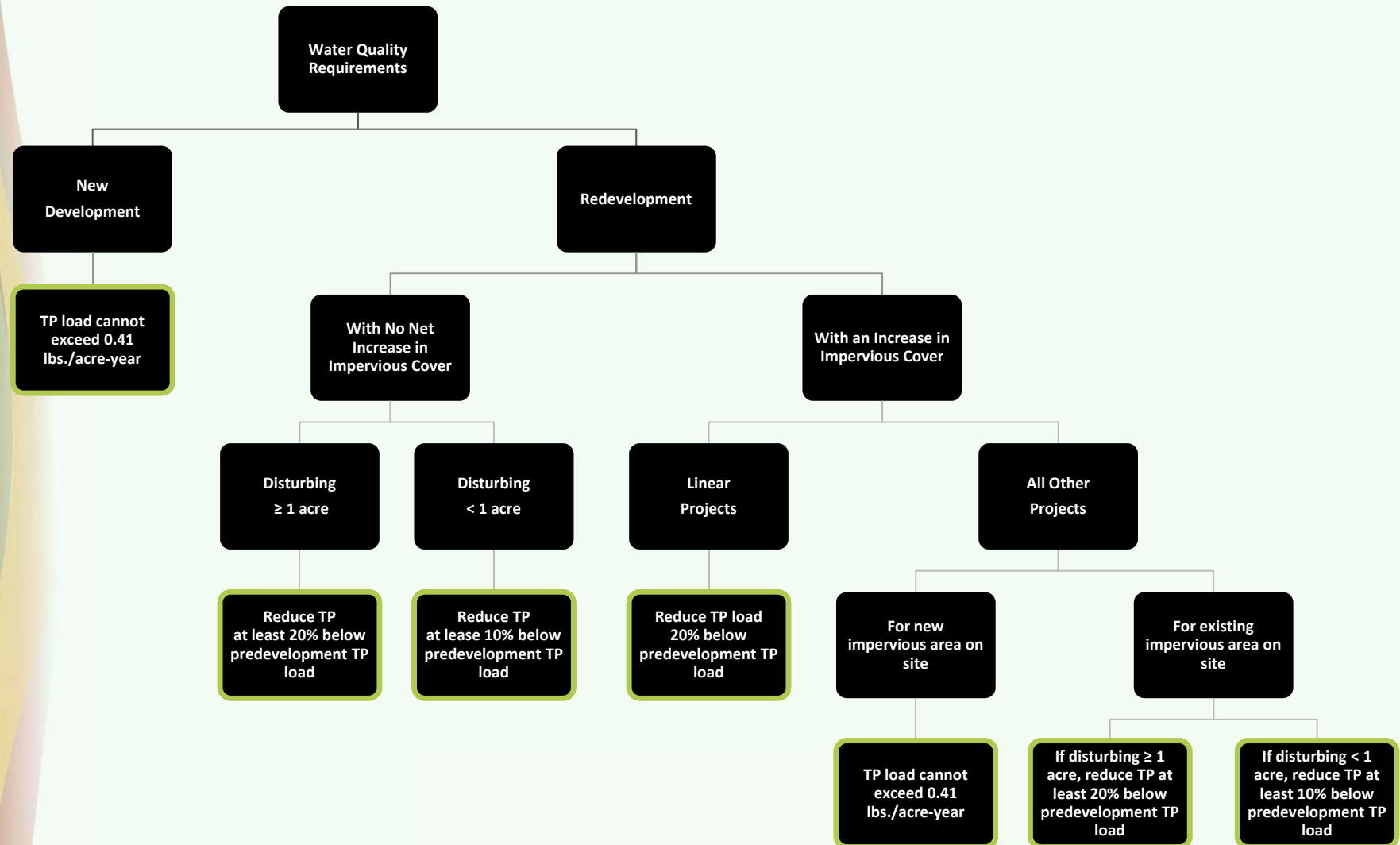
4VAC50-60-63. Water quality design criteria requirements.

- e. The total phosphorus load shall not be required to be reduced to below the applicable standard for new development unless a more stringent standard has been established by a local stormwater management program.*
- B. Compliance with subsection A above shall be determined in accordance with 4VAC50-60-65*
- C. Upon completion of the 2017 Chesapeake Bay Phase III Watershed Implementation Plan, the department shall review the water quality design criteria standards.*
- D. Nothing in this section shall prohibit a local stormwater management program from establishing more stringent water quality design criteria requirements.*



Water Quality

What does this mean?



Water Quality - cont.

What does this mean for new development?

This means **more BMPs** and **more infiltration** (where possible).

For example in Fairfax County, consider:

A downtown commercial site on C soils (80% impervious and 20% turf)

Under the old regulations, the site produces:

1.76 lb/ac/yr TP

Under the old regulations, the load must be reduced by 40% to:

1.06 lb/ac/yr TP

This currently can be done with extended detention ponds.



Water Quality - cont.

What does this mean for new development?

Same site:

A downtown commercial site on C soils (80% impervious and 20% turf)

Under the new regulations, the site produces:

1.83 lb/ac/yr TP

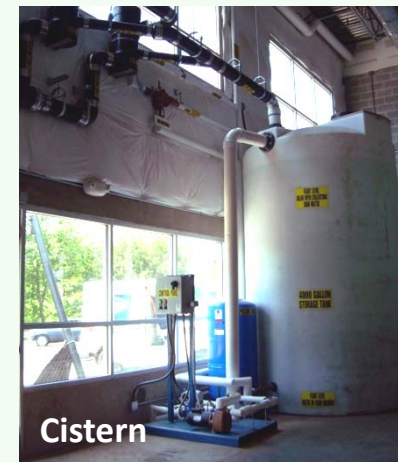
Under the new regulations, the load must be reduced by 78% to:

0.41 lb/ac/yr TP

- This cannot be accomplished with extended detention alone; requires additional BMPs (rain gardens, cisterns, permeable pavements, infiltration, wetlands, etc.) or trading.

The debate on trading is ongoing:

- Who sets the price of credits- the market or the government?
- How much can be traded? What percentage must be achieved on-site?
- How will acceptable service areas be determined?



Water Quantity



Snakeden Branch in Reston, Virginia prior to restoration (Wetland Studies and Solutions, Inc.)

Water Quantity

Verbatim from the Regulations

4VAC50-60-66. Water quantity.

- A. *Channel protection and flood protection shall be addressed in accordance with the minimum standards set out in this section, which are established pursuant to the requirements of subdivision 7 of § 10.1-603.4 of the Code of Virginia. Nothing in this section shall prohibit a local stormwater management program from establishing a more stringent standard. Compliance with the minimum standards set out in this section shall be deemed to satisfy the requirements of 4VAC50-30-40.19 (Minimum Standard 19 of the Virginia Erosion and Sediment Control Regulations).*
- B. **Channel protection.** *Concentrated stormwater flow shall be released into a stormwater conveyance system and shall meet criteria 1, 2 or 3 of this subsection, where applicable, from the point of discharge to a point to the limits of analysis in subsection 4.*
1. **Manmade stormwater conveyance systems.** *When stormwater from a development is discharged to a manmade stormwater conveyance system, following the land-disturbing activity, either:*



Water Quantity – cont.

Verbatim from the Regulations

4VAC50-60-66. Water quantity.

- a. The manmade stormwater conveyance system shall convey the postdevelopment peak flow rate from the two-year 24-hour storm event without causing erosion of the system. Detention of stormwater or downstream improvements may be incorporated into the approved land-disturbing activity to meet this criterion, at the discretion of the stormwater program administrative authority; or*
 - b. The peak discharge requirements for concentrated stormwater flow to natural stormwater conveyance systems in subsection 3 shall be met.*
- 2. Restored stormwater conveyance systems.** *When stormwater from a development is discharged to a restored stormwater conveyance system that has been restored using natural design concepts, following the land-disturbing activity, either:*



Water Quantity – cont.

Verbatim from the Regulations

4VAC50-60-66. Water quantity.

- a. The development shall be consistent, in combination with other stormwater runoff, with the design parameters of the restored stormwater conveyance system that is functioning in accordance with the design objectives; or*
 - b. The peak discharge requirements for concentrated stormwater flow to natural stormwater conveyance systems in subsection 3 shall be met.*
- 3. Natural stormwater conveyance systems.** *When stormwater from a development is discharged to a natural stormwater conveyance system, the maximum peak flow rate from the one-year 24-hour storm following the land-disturbing activity shall be calculated either:*



Water Quantity – cont.

Verbatim from the Regulations

4VAC50-60-66. Water quantity.

a. In accordance with the following methodology:

$$Q_{\text{Developed}} \leq \text{I.F.} * (Q_{\text{Pre-developed}} * RV_{\text{Pre-Developed}}) / RV_{\text{Developed}}$$

Under no condition shall $Q_{\text{Developed}}$ be greater than $Q_{\text{Pre-Developed}}$ nor shall $Q_{\text{Developed}}$ be required to be less than that calculated in the equation $(Q_{\text{Forest}} * RV_{\text{Forest}}) / RV_{\text{Developed}}$;

Where

I.F. (Improvement Factor) equals 0.8 for sites > 1 acre or 0.9 for sites ≤ 1 acre.

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

$RV_{\text{Developed}}$ = The volume of runoff from the site in the developed condition.

$Q_{\text{Pre-Developed}}$ = The peak flow rate of runoff from the site in the pre-developed condition.

$RV_{\text{Pre-Developed}}$ = The volume of runoff from the site in pre-developed condition.

Q_{Forest} = The peak flow rate of runoff from the site in a forested condition.

RV_{Forest} = The volume of runoff from the site in a forested condition; or



Water Quantity – cont.

Verbatim from the Regulations

4VAC50-60-66. Water quantity.

- b. In accordance with another methodology that is demonstrated by the local stormwater management program to achieve equivalent results and is approved by the board.*
- 4. **Limits of analysis.** *Unless subsection 3 is utilized to show compliance with the channel protection criteria, stormwater conveyance systems shall be analyzed for compliance with channel protection criteria to a point where either:*
 - a. Based on land area, the site's contributing drainage area is less than or equal to 1.0% of the total watershed area; or*
 - b. Based on peak flow rate, the site's peak flow rate from the one-year 24-hour storm is less than or equal to 1.0% of the existing peak flow rate from the one-year 24-hour storm prior to the implementation of any stormwater quantity control measures*



Water Quantity – cont.

Verbatim from the Regulations

4VAC50-60-66. Water quantity.

*C. **Flood protection.** Concentrated stormwater flow shall be released into a stormwater conveyance system and shall meet one of the following criteria as demonstrated by use of acceptable hydrologic and hydraulic methodologies:*

- 1. Concentrated stormwater flow to stormwater conveyance systems that currently do not experience localized flooding during the 10-year 24-hour storm event: The point of discharge releases stormwater into a stormwater conveyance system that, following the land-disturbing activity, confines the postdevelopment peak flow rate from the 10-year 24-hour storm event within the stormwater conveyance system. Detention of stormwater or downstream improvements may be incorporated into the approved land-disturbing activity to meet this criterion, at the discretion of the stormwater program administrative authority.*
- 2. Concentrated stormwater flow to stormwater conveyance systems that currently experience localized flooding during the 10-year 24-hour storm event: The point of discharge either:*



Water Quantity – cont.

Verbatim from the Regulations

4VAC50-60-66. Water quantity.

- a. Confines the postdevelopment peak flow rate from the 10-year 24-hour storm event within the stormwater conveyance system to avoid the localized flooding. Detention of stormwater or downstream improvements may be incorporated into the approved land-disturbing activity to meet this criterion, at the discretion of the stormwater program administrative authority; or*
 - b. Releases a postdevelopment peak flow rate for the 10-year 24-hour storm event that is less than the predevelopment peak flow rate from the 10-year 24-hour storm event. Downstream stormwater conveyance systems do not require any additional analysis to show compliance with flood protection criteria if this option is utilized.*
- 3. Limits of analysis.** *Unless 2b above is utilized to comply with the flood protection criteria, stormwater conveyance systems shall be analyzed for compliance with flood protection criteria to a point where:*



Water Quantity – cont.

Verbatim from the Regulations

4VAC50-60-66. Water quantity.

- a. The site's contributing drainage area is less than or equal to 1.0% of the total watershed area draining to a point of analysis in the downstream stormwater conveyance system;*
- b. Based on peak flow rate, the site's peak flow rate from the 10-year 24-hour storm event is less than or equal to 1.0% of the existing peak flow rate from the 10-year 24-hour storm event prior to the implementation of any stormwater quantity control measures; or*
- c. The stormwater conveyance system enters a mapped floodplain or other flood prone area, adopted by ordinance, of any locality*



Water Quantity – cont.

Verbatim from the Regulations

4VAC50-60-66. Water quantity.

D. Increased volumes of sheet flow resulting from pervious or disconnected impervious areas, or from physical spreading of concentrated flow through level spreaders, must be identified and evaluated for potential impacts on down-gradient properties or resources. Increased volumes of sheet flow that will cause or contribute to erosion, sedimentation, or flooding of down gradient properties or resources shall be diverted to a stormwater management facility or a stormwater conveyance system that conveys the runoff without causing down-gradient erosion, sedimentation, or flooding. If all runoff from the site is sheet flow and the conditions of this subsection are met, no further water quantity controls are required.



Water Quantity – cont.

Verbatim from the Regulations

4VAC50-60-66. Water quantity.

- E. For purposes of computing predevelopment runoff, all pervious lands on the site shall be assumed to be in good hydrologic condition in accordance with the U.S. Department of Agriculture's Natural Resources Conservation Service (NRCS) standards, regardless of conditions existing at the time of computation. Predevelopment runoff calculations utilizing other hydrologic conditions may be utilized provided that it is demonstrated to and approved by the stormwater program administrative authority that actual site conditions warrant such considerations*
- F. Predevelopment and postdevelopment 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. Guidance provided in the Virginia Stormwater Management Handbook and by the Virginia Stormwater BMP Clearinghouse shall be considered appropriate practices.*



Quantity Control

What does this mean?

Outfall condition 1: Manmade conveyance systems

1. Convey the 2-year, 24-hour storm (after SWM) without erosion, OR
2. Allowable 1-yr, 24-hr peak flow rate for all conditions:

- $Q_{\text{developed}} \leq IF \times Q_{\text{pre-developed}} \times RV_{\text{pre-developed}} / RV_{\text{developed}}$
- $Q_{\text{developed}}$ shall not be required to be less than $[Q_{\text{forested}} \times RV_{\text{forested}}] / RV_{\text{developed}}$
- $Q_{\text{developed}}$ must be $\leq Q_{\text{pre-developed}}$

Where:

- Q = Peak flow rate of runoff
- RV = Volume of runoff
- Improvement Factor (IF) = 0.8 for sites > 1 ac
0.9 for sites \leq 1 ac
- Pre-developed = conditions prior to development, not pre-colonial conditions

For background information on the Energy Balance Method see slides 36-38.



Quantity Control - cont.

What does this mean?

Outfall condition 2: Restored conveyance systems

1. Discharge was considered in the design of the restored system, OR

2. Allowable 1-yr, 24-hr peak flow rate for all conditions:

- $Q_{\text{developed}} \leq IF \times Q_{\text{pre-developed}} \times RV_{\text{pre-developed}} / RV_{\text{developed}}$
- $Q_{\text{developed}}$ shall not be required to be less than $[Q_{\text{forested}} \times RV_{\text{forested}}] / RV_{\text{developed}}$
- $Q_{\text{developed}}$ must be $\leq Q_{\text{pre-developed}}$

Where:

- Q = Peak flow rate of runoff
- RV = Volume of runoff
- Improvement Factor (IF) = 0.8 for sites > 1 ac
0.9 for sites \leq 1 ac
- Pre-developed = conditions prior to development, not pre-colonial conditions



Restored
Conveyance



Quantity Control - cont.

What does this mean?

Outfall condition 3: Natural conveyance systems

Allowable 1-yr, 24-hr peak flow rate for all conditions:

- $Q_{\text{developed}} \leq \text{IF} \times Q_{\text{pre-developed}} \times \text{RV}_{\text{pre-developed}} / \text{RV}_{\text{developed}}$
- $Q_{\text{developed}}$ shall not be required to be less than $[Q_{\text{forested}} \times \text{RV}_{\text{forested}}] / \text{RV}_{\text{developed}}$
- $Q_{\text{developed}}$ must be $\leq Q_{\text{pre-developed}}$

Where:

- Q = Peak flow rate of runoff
- RV = Volume of runoff
- Improvement Factor (IF) = 0.8 for sites > 1 ac
0.9 for sites \leq 1 ac
- Pre-developed = conditions prior to development, not pre-colonial conditions



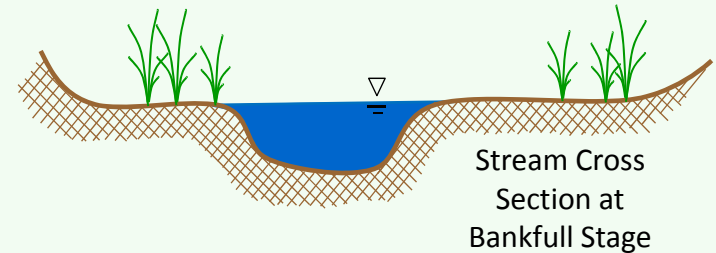
Natural
Conveyance



Energy Balance

The theory behind 4VAC50-60-66.B

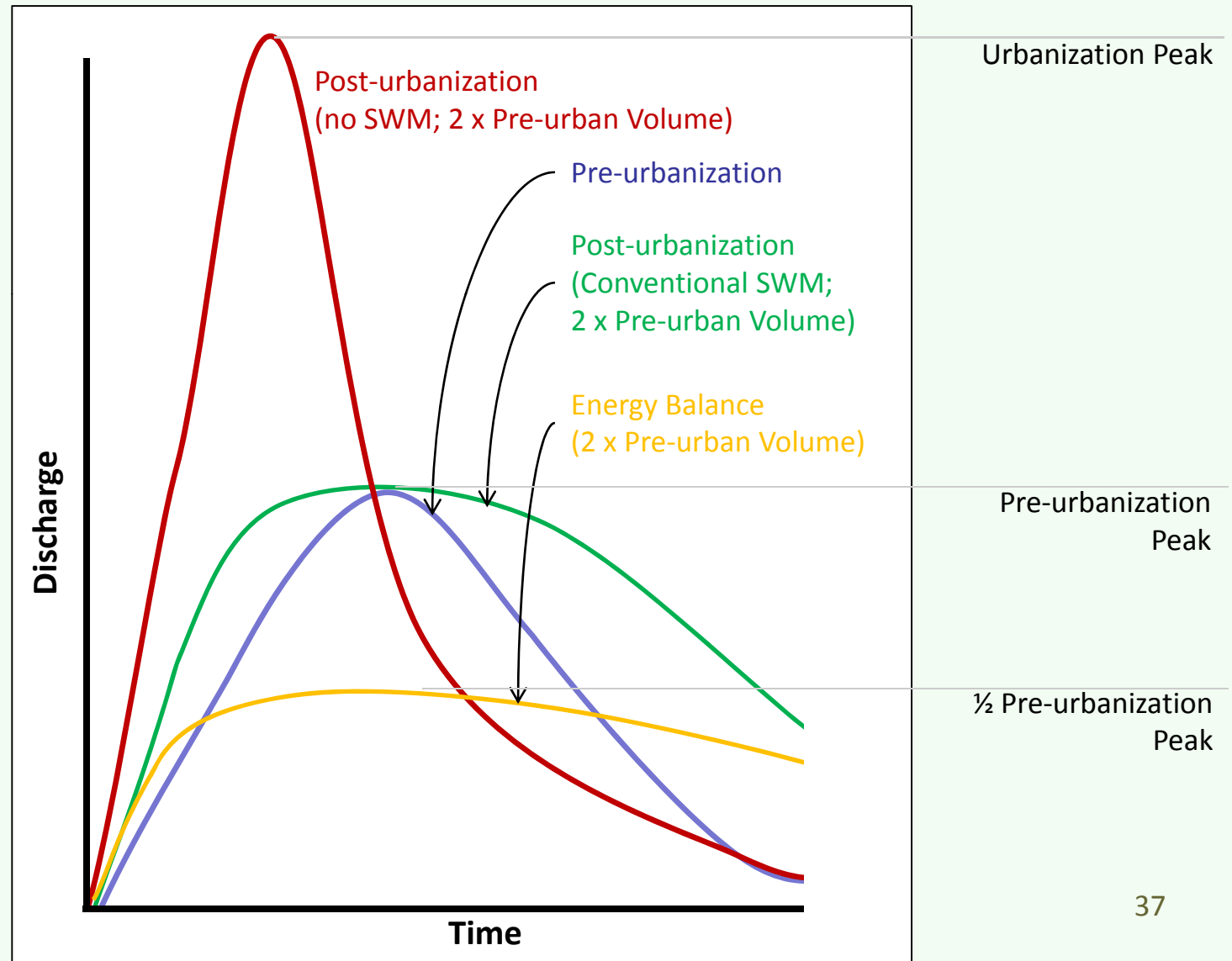
- Stable streams in this region and climatic epic formed in forested watersheds and achieve stability by overbank flooding in the 1-1.5 year event
- To prevent degradation, need to match peak flow, volume, and timing of such conditions
- Traditional SW management controls peak flow, but increases volume, which increases stream power (and power degrades streams)
- Goal of Energy Balance:
 - Keeps pre-development power same, by reducing peak flow rate if volume increases
 - Provides a quantifiable incentive to match pre-development volume to the MEP
 - Mass Balance Equation: $Q \cdot Rv_{\text{post}} = Q \cdot RV_{\text{forest}}$
- Economic considerations of proposed version use pre-development conditions instead of forest (unlike state law and Fairfax County PFM) , coupled with improvement factor (I.F.; I.F. required because state law requires an improvement on existing conditions)
 - I.F. of 0.8 yields same ballpark SW sizing as forest conditions



Energy Balance

The theory behind 4VAC50-60-66.B

Assume: $RV_{\text{post}} = 2 * RV_{\text{pre}}$



Energy Balance

The theory behind 4VAC50-60-66.B

Energy Balance Method:

Allowable 1-yr, 24-hr peak flow rate:

$$Q_{\text{developed}} \leq \text{I.F.} \times Q_{\text{pre-developed}} \times \text{RV}_{\text{pre-developed}} / \text{RV}_{\text{developed}}$$

$$Q_{\text{developed}} \text{ shall not be required to be less than } [Q_{\text{forested}} \times \text{RV}_{\text{forested}}] / \text{RV}_{\text{developed}}$$

$$Q_{\text{developed}} \text{ must be } \leq Q_{\text{pre-developed}}$$

Where:

- Q = Peak flow rate of runoff
- RV = Volume of runoff
- Improvement Factor (I.F.) = 0.8 for sites > 1 ac
0.9 for sites ≤ 1 ac
- Pre-developed = conditions prior to development, not pre-colonial conditions



Quantity Control - cont.

Point of Analysis

Stormwater conveyance systems shall be analyzed for channel protection to a point where either one of the following is satisfied:

1. Based on area

Prior to any land disturbance, the site's contributing drainage area to site discharge point is $\leq 1.0\%$ of total watershed area draining to that point of discharge, or

2. Based on peak flow rate

Based on the postdevelopment land cover without quantity control measures, the 1-year, 24-hour peak flow rate increases by $< 1.0\%$ over the existing 1-year, 24-hour peak flow rate generated by the total watershed area.



Water Quantity - cont.

What does this mean?

- Requires the Energy Balance of the 1-year, 24-hour storm with I.F. and no increase in 10-year peak flows, rather than conventional 2- and 10-year peak flow analysis;
- No longer requires Adequate Outfall (MS-19)
 - 4VAC50-60-66.A: *"Compliance with the minimum standards set out in this section shall be deemed to satisfy the requirements of 4VAC50-30-40.19"*
- Pond footprints will typically be similar ($\pm 15\%$) because the 10-year Flood Protection governs the overall size (which matches most current requirements);
- The size of the 2-year orifice will be reduced to meet 1-year Energy Balance requirement; and
- The 1-year detention volume will usually be greater than the current 2-year volume requirement.

Will result in the more effective use of SWM facilities to protect streams and reduce erosion/sediment at minimal cost.



Offsite Compliance Options



Offsite Compliance Options

Verbatim from the Regulations

4VAC50-60-69. Offsite compliance options.

A. Offsite compliance options that a stormwater program administrative authority may allow an operator to use to meet required phosphorus nutrient reductions include the following:

- 1. Offsite controls utilized in accordance with a comprehensive stormwater management plan adopted pursuant to 4VAC50-60-92 for the local watershed within which a project is located;*
- 2. A locality pollutant loading pro rata share program established pursuant to § 15.2-2243 of the Code of Virginia or similar local funding mechanism;*
- 3. The nonpoint nutrient offset program established pursuant to § 10.1-603.8:1 of the Code of Virginia;*
- 4. Any other offsite options approved by an applicable state agency or state board; and*



Offsite Compliance Options – cont.

Verbatim from the Regulations

4VAC50-60-69. Offsite compliance options.

5. When an operator has additional properties available within the same HUC or upstream HUC that the land-disturbing activity directly discharges to or within the same watershed as determined by the stormwater program administrative authority, offsite stormwater management facilities on those properties may be utilized to meet the required phosphorus nutrient reductions from the land-disturbing activity.

B. Notwithstanding subsection A, and pursuant to §10.1-603.8:1, operators shall be allowed to utilize offsite options identified in subsection A under any of the following conditions:

1. Less than five acres of land will be disturbed;

*2. The postconstruction phosphorus control requirement is less than 10 pounds per year;
or*



Offsite Compliance Options – cont.

Verbatim from the Regulations

4VAC50-60-69. Offsite compliance options.

3. At least 75% of the required phosphorus nutrient reductions are achieved on-site. If at least 75% of the required phosphorus nutrient reductions can not be met on-site, and the operator can demonstrate to the satisfaction of the stormwater program administrative authority that (i) alternative site designs have been considered that may accommodate on-site best management practices, (ii) on-site best management practices have been considered in alternative site designs to the maximum extent practicable, (iii) appropriate on-site best management practices will be implemented, and (iv) full compliance with postdevelopment nonpoint nutrient runoff compliance requirements cannot practicably be met on-site, then the required phosphorus nutrient reductions may be achieved, in whole or in part, through the use of off-site compliance options.

C. Notwithstanding subsections A and B, offsite options shall not be allowed:



Offsite Compliance Options – cont.

Verbatim from the Regulations

4VAC50-60-69. Offsite compliance options.

1. *Unless the selected offsite option achieves the necessary nutrient reductions prior to the commencement of the operator's land-disturbing activity. In the case of a phased project, the operator may acquire or achieve offsite nutrient reductions prior to the commencement of each phase of land-disturbing activity in an amount sufficient for each phase.*
2. *In contravention of local water quality-based limitations at the point of discharge that are (i) consistent with the determinations made pursuant to subsection B of § 62.1-44.19:7, (ii) contained in a municipal separate storm sewer system (MS4) program plan approved by the department, or (iii) as otherwise may be established or approved by the board.*

D. In order to meet the requirements of 4VAC50-60-66, offsite options 1 and 2 of subsection A above may be utilized.



Offsite Compliance

What does this mean?

- Off-site compliance options include:
 - Adopted comprehensive watershed SW management plan in local watershed of project
 - Locality pollutant loading pro rata share program
 - Nonpoint nutrient offset program established by VA Code
 - Other options approved by applicable state agency or board
 - Other properties within same or upstream HUC can be used to meet project TP reductions
- Offsite compliance options must meet only one of the following:
 - At least 75% of required phosphorus nutrient reductions are achieved on-site;
 - < 5 acres of land will be disturbed; or
 - Post construction phosphorus control requirement is < 10 pounds per year.
- Local SW management programs may develop comprehensive SW management plans to be approved by the department
- Senate Bill 1099 (2011 Session) addresses SW nonpoint nutrient offsets and establishes priorities to be used by permit issuing authorities

