

Knowledge Check Answers

Module 2

1. Rainfall in Virginia averages between ____ and ____ per year?
42-48 inches per year
2. Which of the following represent human influences on the natural water cycle (circle all that apply):
 - A. Groundwater withdrawal.
 - B. Rainfall capture in cisterns for dry period usage.
 - C. Diverting stormwater runoff from steep slopes.
 - D. Evaporation of water from ocean surfaces to the atmosphere.
 - E. None of the above.

Correct answer is A, B, C

3. The frequency of extreme precipitation events in Virginia since 1948 has increased by what percent?
25 percent
4. Traditionally, Virginia has used what design storm for discharges into a natural channel or stream?
 - A. 2 Year / 24 hour
 - B. 2 Year / 12 hour
 - C. 10 Year / 24 hour
 - D. 10 year / 12 hour

Correct answer is A. 2 Year / 24 hour

5. True or False? When stormwater runoff is allowed to drain away instead of being used to recharge the groundwater it alters the hydrologic balance of a watershed.

A. True

B. False

Correct answer is A. True

6. Nationwide, significant flow alterations have occurred in what proportion of assessed waters?

A. 50%

B. 60%

C. 75%

D. 90%

Correct answer is D. 90%

7. Ecological stress becomes apparent when impervious cover in a watershed reaches between:

A. 40-50%

B. 30-40%

C. 20-30 acres

D. 10-25%

Correct answer is D. 10-25%

8. Increased peak discharges for a developed watershed can be how many times higher than an undisturbed watershed?

2 to 5 times

9. Beneficial uses for the Chesapeake Bay include:

- A. Swimming and sport fishing
- B. Human consumption of fish or shellfish
- C. A depository for excess nutrients
- D. A. and B.
- E. All of the above

Correct answer is D. (A. Swimming and sport fishing, and B. Human consumption of fish or shellfish)

10. Rainwater harvesting presents an option that could alleviate pressures on water supplies in Virginia. What are some of these pressures?

Possible correct answers include: Water treatment plant capacity (struggle to keep up with demands); groundwater sources becoming increasingly depleted (more runoff); decreased stream base flow (clean water supply)

11. How does increasing surface runoff change groundwater recharge rates?

*Correct answer: increases in surface runoff **decrease** groundwater recharge*

Module 3

1. A _____ is a good example of a “common plan of development.”

Subdivision

2. With respect to stormwater runoff, the Code of Virginia requires the Board to:

- A. Permit
- B. Regulate
- C. Control
- D. All of the above

Correct answer is D. All of the above

3. Which of the following statements is false with respect to technical criteria and administrative procedures for VSMPs?

- A. Establish a permit fee schedule
- B. Provide for the evaluation of innovative technologies
- C. Discourage the use of LID design
- D. Establish provisions for the long term maintenance of SWM control devices

Correct answer is C. Discourage the use of LID design

4. True or False. Localities may adopt more stringent ordinances if they are necessary to address TMDL requirements or depleted ground water resources.

- A. True
- B. False

Correct answer is A. True

5. The VSMP authority must act on any permit application within what time frame?

- A. 30 days after it has determined the final application is complete
- B. Before the first snowfall
- C. 45 days before the bond is posted
- D. 60 days after it has determined the final application is complete

Correct answer is D. 60 days after it has determined the final application is complete

6. Absent an imminent threat, documentation of a problem is done throughout an onsite inspection and enforcement consists of the following steps?
- A. Don't ask, don't tell
 - B. Stop, drop, and roll
 - C. Report, notice, stop work order

Correct answer is C. Report, notice, stop work order

7. The Department may invoke civil penalties not to exceed:
- A. \$25,00/day
 - B. \$32,500/violation
 - C. \$100,000/annually

Correct answer is B. \$32,500/violation

8. True or false. Professional engineers licensed in VA do not need to complete a Board administered training program to qualify for the initial certificate of competency?
- A. True
 - B. False

Correct answer is B. False

Module 4

Part II

2. Are state and federal agencies or local governments able to impose more stringent technical criteria or other requirements than included in the Regulation?

Yes, as stated in 4VAC50-60-47.

3. A two-acre LDA received a Construction GP on March 14, 2013. What technical criteria must be met and for how long?

The project's site design must meet the Part II C technical criteria for two additional five-year permit cycles.

4. What are the exceptions to the question above?

If state permit coverage is not be maintained, the portions of the project not under construction shall become subject to any new technical criteria adopted since original state permit coverage was issued.

Government projects where bonding or public debt financing has been issued for a project prior to July 1, 2012. Those projects are subject to the technical criteria of Part II C and have no specified time for completion.

5. What date must grandfathered projects be completed by?

Grandfathered projects must be completed by June 30, 2019 unless they are government projects where bonding or public debt financing has been issued prior to July 1, 2012.

6. If a portion of the grandfathered project is not complete by the above date, what happens?

Portions of the project not under construction shall become subject to the technical criteria of Part II B.

Part II A

1. What are the four components of a SWPPP?

Approved erosion and sediment control plan

Approved stormwater management plan

Pollution prevention plan

A plan specifying any additional control measures to meet the requirements of a TMDL

2. Who approves the erosion and sediment control plan?

Virginia Erosion and Sediment Control authority

3. Which two plans have to be approved before the Department can issue a Construction General permit?

Erosion and sediment control plan and stormwater management plan.

4. Which plan within the SWPPP describes the pollution prevention measures that will take place during construction activities to protect waterways?

Pollution prevention plan

Part II B

1. What nutrient is measured to control the quality of stormwater discharge from a site after construction?

Phosphorous

2. Why is it important to control the quantity of stormwater leaving a site after construction?

Protect channels from concentrated stormwater flow, prevent flooding, and minimize erosion and sedimentation

3. What are the three conditions that offsite options can be used under to meet required phosphorous reductions?

1. Less than 5 acres of land will be disturbed

2. Post construction P load is less than 10 pounds per year

3. At least 75% of the required P reductions are achieved onsite

Part II C

The following questions all pertain to grandfathered projects.

1. What is the assumed percentage of impervious surface in a watershed?

16%

2. If the percentage of proposed impervious cover for a project is less than the average land cover condition and the existing percentage of impervious cover on the site is less than or equal to the average land cover condition, what is the pollutant discharge requirement?

No pollutant discharge reduction required

3. When utilizing technology based criteria, is the appropriate BMP selected based on the predevelopment condition or the post development condition?

Post-development condition

4. If utilizing a comprehensive stormwater management plan, what is the requirement for offsite reductions?

Ensure offsite reductions equal to or greater than those that would be required on each contributing site are achieved within the same HUC or within another locally designated watershed.

Part III A

1. What part of the Regulations explains the administrative and technical criteria VSMP authorities must require land-disturbing activities to comply with?

Part II

2. A locality's VSMP authority must adopt ordinances, and other VSMP authorities must provide program documentation, that ensure compliance with what?

State permit conditions of subsection L in 4VAC50-60-460 and are at least as stringent as the provisions of the CG Permit (4VAC50-60-1100 et. seq.)

3. How long does the VSMP authority have to determine the completeness of a stormwater management plan?

15 days

4. If a plan is determined complete, and notification has been given within 15 days of submission, how long does the authority have to review the plan?

60 days from the time of notification

Part III B & III C

1. How often does the Department review each Board approved VSMP?

At least once every 5 years

2. If the Board determines that the deficiencies noted in the Department's review of a VSMP and its ordinances will cause the VSMP to be out of compliance of the Act and Regulations, what are the next steps for the VSMP authority?

If the VSMP authority agrees to the corrective action approved by the Board, the VSMP will be considered conditionally compliant with the Act and Regulations until a subsequent finding of compliance is issued by the Board. If the VSMP authority fails to implement the necessary compliance action identified by the Board within the specified time, the Board may take action pursuant to § 62.1-44.15:38 of the Code of Virginia.

Part IV

1. What technical criteria do state projects have to comply with?

Technical criteria in Part II

2. What is the purpose of state stormwater management annual standards?

State agencies, such as VDOT, conduct multiple land-disturbing activities a year. Annual standards allow state agencies to follow the Regulations while saving time by not having to submit an application for each project.

3. How often should stormwater management facilities be inspected by the responsible state agency?

Inspection of a stormwater management facility must occur at least annually and after any storm which causes the capacity of the facility's principal spillway to be exceeded.

Module 5

1. By signing the Construction General Permit registration statement, the operator is verifying what plan has been prepared?

By signing the registration statement, the operator certifies the SWPPP has been prepared.

2. A long-term maintenance agreement for permanent stormwater management facilities has to be approved before approving what plan?

Before approving a stormwater management plan, the plan reviewer must approve any long-term maintenance agreements for permanent stormwater management facilities.

3. What five things must the VSMP administrator verify before permit coverage can be issued by the department?

1) Operator's registration statement has been accepted by the Department

2) Stormwater management plan has been approved by the VSMP authority

3) Long-term maintenance agreement for permanent stormwater management facilities has been approved by the VSMP authority

4) Erosion and sediment control plan has been approved by the VESCP authority

5) All fees have been paid