

PREVENTING EROSION RUNOFF & MANAGING STORMWATER

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WHY IT MATTERS

Virginia is facing more frequent high-intensity rain-fall events due to climate change.¹ At the same time, the Commonwealth is experiencing vast construction projects and an increasing percentage of impervious surfaces, which can negatively impact land and water without proper controls.

Developed areas are the fastest-growing source of pollution to our waterways.² Significant development pressures result in the expansion of impervious surfaces – parking lots, rooftops, and roads – in suburban and urban areas. Impervious surfaces transport water and pollution rapidly to storm sewers and streams; this rapidly moving runoff erodes streams, harms aquatic ecosystems, and contributes to the decline of streams and the Chesapeake Bay.

Stormwater runoff from sites under construction also contributes large amounts of pollution to Virginia's waters. Construction sites with required erosion and sediment control (ESC) measures contribute the highest annual sediment pollution loads per acre of any land use in the Chesapeake Bay watershed³ and Virginia currently permits more than 6,000 construction site discharges across the state under its Virginia Pollutant Discharge Elimination System (VPDES),⁴ with over 13,000 acres approved for construction.⁵ Experts have concluded that many sites, even with required ESC measures, will be moderately or extremely “functionally deficient” in sediment removal efficiency.⁶ What is more, Virginia Department of Environmental Quality (DEQ) only has 21 inspectors to cover this large volume of projects and acreage.

Conversion of land from agricultural to urban, highly-developed and low-density residential land uses is increasing rapidly, with new development from 2017-2022 exceeding totals from the previous 15 years,⁷ thus exacerbating runoff problems. Additionally, Virginia lost 19 percent of its tree canopy between 2001 and 2024.⁸

Managing construction stormwater and post-development runoff with low-impact development (LID) methods and wider use of green infrastructure, as opposed to engineered installations, will reduce pollution to our waterways, ameliorate flooding impacts, and be more cost-efficient in the long term. Virginia can implement these solutions through municipal permits (Municipal Separate Stormwater Systems, MS4), construction stormwater (CSW) permits, and flexible planning and zoning rules.

CURRENT LANDSCAPE

Stormwater permits for Virginia's largest localities, called Phase I Municipal Separate Storm Sewer System (MS4) permits, were reissued in 2024, after a significant delay, and the related stormwater permits for medium-sized localities, called Phase II Small MS4s, were covered by a General Permit that was reissued in November 2023. These permits will require an additional 60 percent reduction in nitrogen and phosphorus pollution discharges over the next five years. However, additional funding did not make it into the final budget this year to help localities meet these significant obligations. To meet the requirements, the Commonwealth must ensure sufficient and consistent funding of the Stormwater Local Assistance Fund (SLAF), a state and local matching grant program that protects and improves the health of our waterways by funding the locality's stormwater projects.

The Virginia Conservation Assistance Program (VCAP) helps fund residential-scale stormwater management installations. VCAP reimburses homeowners, community associations (e.g. HOAs), businesses, schools, and places of worship to reduce stormwater volume and pollutant loads entering our rivers. Eligible practices include rainwater harvesting, rain gardens, conservation landscaping, permeable pavers, living shorelines, green roofs, and more. Since 2016, the VCAP, as administered by the Soil and Water Conservation Districts, has protected local waterways by funding thousands of practices across Virginia. Sadly, many HOAs restrict opportunities for residents to manage their runoff using native plantings (“conservation landscaping”), which can limit these Virginians from accessing state-funded programs like VCAP. Nearly 25% of Virginians live in HOAs.⁹

OPPORTUNITIES

Meeting the stated SLAF needs assessment is critical as Virginia continues to face more frequent and intense storms. The FY26 needs assessment is approximately \$46M with cumulative needs through FY29 of \$189M.¹⁰ These funds will allow communities to address increased needs as they face more frequent and intense storms.

VCAP was funded at \$4M in the FY25-26 state budget. Funding for VCAP would need to increase to \$7M to meet the growing demands of stormwater management.

Given that almost 25% of Virginians live in a community association, it is also important to ensure that these homeowners have the option to install con-

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conservation landscaping on private property to help mitigate runoff. Limitations to the installation of conservation landscaping also limit constituents' ability to access state-sponsored programs such as VCAP.

Improving controls for erosion, sediment, and stormwater under the Construction Stormwater (CSW) general permit (or individual CSW permits) is necessary to limit pollutant discharges. For larger construction projects, ensuring stabilization and limiting the areas that can be disturbed may be necessary.

Funding opportunities are needed for smaller localities (those with fewer than 10,000 residents) that are not subject to MS4 permitting requirements to implement stormwater best management practices. Localities across the Commonwealth rely on state funding to reduce pollution discharges and effectively manage stormwater.

TOP TAKEAWAYS

Developed areas are the fastest-growing source of pollution to our waterways, and the largest construction sites need to have sufficient staging and controls to reduce erosion runoff.

Managing stormwater runoff with low-impact development (LID) methods and green infrastructure is more cost-effective than engineered installations in the long term, and more Virginians should be allowed to implement them, even if you live in an HOA.

Consistent and sustained funding at the levels identified by the state needs assessment supports the implementation of practices by localities and their residents to reduce stormwater runoff.

ENDNOTES

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