



Environmental Solutions

July 2009 Newsletter

Inside this issue:

VSMP Regulatory Update	1
Dam Safety Emergency Action Plan Exercise	1
EPA Proposed Effluent Guidelines	2
Shoreline Protection	3
VPDES GP for Discharges of Stormwater Associated with Industrial Activity	3
Before the Next Floods Come...	4

Special Points of Interest:

- The EPA is proposing technology-based Effluent Limitations Guidelines and New Source Performance Standards (page 2)
- The VPDES GP for Discharges of Stormwater Associated with Industrial Activity expired June 30, 2009 (page 3)
- FEMA has been implementing a nationwide map modernization process (page 5)
- WEG assisted in the restoration of 7,632 LF of stream (back cover)

Virginia Stormwater Management Program Regulatory Update

On June 1, 2009, the Virginia Department of Conservation and Recreation (DCR) sent the draft amended Virginia Stormwater Management Program (VSMP) Regulations, Parts I, II, III, and XIII (4VAC50-60) to the Virginia Registrar of Regulations for publication in the June 22, 2009 edition of the *Virginia Register*. The proposed amendments address changes in stormwater management for water quantity and quality control and permit fees for VSMP permits. The 60-day public comment period has commenced and extends to August 21, 2009. During this time, DCR will accept public comments on the proposed draft regulations. They have conducted a series of public hearings throughout the Commonwealth to provide information and accept public comment.

Information about the regulations can be found on DCR's website at dcr.virginia.gov.

DCR has engaged in an unprecedented level of stakeholder outreach and involvement during the regulatory process, including the development of basic technical guidance for on-site compliance evaluation, formation of numerous technical advisory committee meetings, participation in design charettes, and direct interaction with industry



Continued on Page 4

Dam Safety Emergency Action Plan Exercise

The January 2009 WEG Newsletter provided a general update on modifications to the Virginia Impounding Structure Regulations (4VAC50-20 et al.) adopted by the Virginia Soil and Water Conservation Board (SWCB) on September 26, 2008. New requirements for High and Significant Hazard Potential dam owners are included in the regulations, including a site-specific

Emergency Action Plan (EAP), and a requirement to "exercise" the EAP. Previously, the EAP was a standard form to be completed by the owner and the owner's engineer in coordination with local emergency management agencies, signed by the owner and local emergency management agencies, and filed with the Virginia Department of Conservation and Recreation

Continued on Page 5

EPA Proposed Effluent Guidelines

The U.S. Environmental Protection Agency (EPA) is proposing technology-based Effluent Limitations Guidelines (ELG) and New Source Performance Standards (NSPS) to address discharges of pollutants in stormwater from construction sites. The intent of the ELGs is to reduce the amount of sediment and other pollutants discharged by construction sites. In 2004, the EPA determined that ELGs, “would not be the most effective way to control discharges from construction sites and instead chose to rely on the range of existing programs,” at the federal, state, and local levels. Subsequent court challenges resulted in a district court holding that the Clean Water Act “imposes on EPA a mandatory duty to promulgate ELGs and NSPSs for new industrial point source categories,” and enjoined EPA to promulgate ELGs and NSPSs for Construction and Development no later than December 1, 2009. This rule would establish a technology-based “floor” or minimum requirements on a national basis.

Three regulatory options were considered by the EPA, briefly summarized as follows:

- Option 1 – sites with ≥ 10 acres would be required to install and maintain sediment basins or equivalent sediment controls.
- Option 2 – same requirements as Option 1 plus a numeric limit on turbidity for qualifying sites based on the following three criteria:
 - average soil clay content of more than 10%;
 - annual rain erosivity (R) factor of 50 or more; and
 - size of 30 or more acres.
- Option 3 – same requirements as Option 1 plus a numeric limit on turbidity for all sites with common drainage locations that serve an area with ≥ 10 acres disturbed at one time.

Under all three options, sediment basins would be required for all construction sites which disturb ≥ 10 acres at a time with minimum standards of design for sediment basins. The EPA proposes to select Option 2 which would require all construction sites to implement the non-numeric effluent limitations described for Option 1 as well as requiring a

numeric turbidity limitation of 13 NTU (nephelometric turbidity units) for applicable sites (>30 acres and meets certain erosivity criteria). The technological basis for the turbidity limit is active treatment systems (ATS), which consist of polymer-assisted clarification followed by filtration or equivalent sediment controls.

Active treatment systems are typically used in conjunction with other sediment controls to improve pollutant removals. In this regulation, the EPA is not dictating that a specific technology be used to meet the numeric limit, but is specifying the maximum turbidity level for discharges from construction sites. The regulation includes information on

several demonstrated technologies capable of achieving significant reductions of particles (such as clays and fine silts) including electrocoagulation, polymer clarification, and chitosan-enhanced filtration treatment technologies.

The EPA estimates that today’s proposed rule would cost \$1.9 billion dollars per year (not including costs for Alaska, Hawaii, and the U.S.

territories). In addition, the EPA is soliciting comments on setting a turbidity limit in the range of 50 to 150 NTUs (or some other number) based on passive treatment instead of ATS.

Once finalized, the proposed regulations would be applied to construction sites as states revise their general permits. The EPA expects full implementation within 5 years of the effective date of the final rule (anticipated to be December 2009) which would be 2014.

“under all three regulatory options, sediment basins would be required for all construction sites which disturb ≥ 10 acres at a time”



Shoreline Protection

WEG provides clients with design and permitting support for traditional and innovative shoreline stabilization measures addressing site-specific shoreline conditions. The combination of our engineering capabilities, ecological knowledge of the aquatic environment, and extensive permitting experience for many shoreline and marine activities forms a strong foundation to provide effective solutions to an array of coastal challenges.

WEG staff engineer Daniel Proctor, P.E. recently co-authored a paper presented at the American Shore & Beach Preservation Association's 2008 National Conference by Dr. David Basco, Professor and Direc-

tor of the Coastal Engineering Centre at Old Dominion University. The presentation explored the erosion processes transforming historic Jamestown Island since the original English settlement 400 years ago, the benefits of the shoreline protection measures employed to save the island in the last century, and the potential effects of accelerated sea level rise on the island and its unparalleled historical resources. A supporting journal article is currently being prepared for publication consideration as well as grant application submittals for further study.



Governor's Land at Two Rivers, Williamsburg, Virginia (above) implemented a shoreline stabilization approach through the use of gapped break water systems and marsh toe stabilization at strategic locations around the community. Over time, this has proved to foster the living shoreline dynamic, providing protection for upland resources while maintaining interaction with the aquatic environment.

VPDES General Permit for Discharges of Stormwater Associated with Industrial Activity

The Virginia Pollutant Discharge Elimination System (VPDES) General Permit (GP) for Discharges of Stormwater Associated with Industrial Activity expired on June 30, 2009. At its April 27, 2009 meeting, the State Water Control Board voted to adopt a new GP, which became effective on July 1, 2009. The permit, issued by the Virginia Department of Envi-



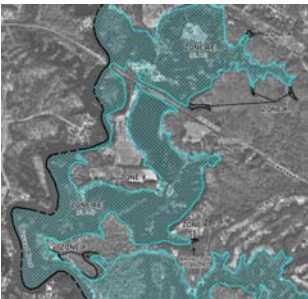
ronmental Quality (DEQ), authorizes the discharge of stormwater from specific industrial categories, such as landfills, auto salvage yards, pulp and paper mills, and air transportation facilities. Regulated activities that discharge under the GP must apply for authorization by submitting a revised registration statement and \$500 fee to the appropriate DEQ Regional Office. While the July 1, 2009 deadline has passed, it is not too late to obtain coverage for a regulated industrial activity. In addition to a new registration statement with fee, each activity must have a revised Stormwater Pollution Prevention Plan (SWPPP) that reflects the requirements in the new GP.

If you have any questions or would like any additional information, please contact Jeff Hancock [jhancock@wegnet.com].



The Virginia Pollutant Discharge Elimination System (VPDES) General Permit (GP) for Discharges of Stormwater Associated with Industrial Activity expired on June 30, 2009.

Before the Next Floods Come...



FEMA's Floodplain Map Modernization Program In an effort to improve the accuracy of floodplain mapping, the Federal Emergency Management Agency (FEMA) has been implementing a nationwide map modernization process, community by community, updating the floodplain limits and 100-year water surface (base flood) elevations. Properties previously not mapped in the floodplain may now be mapped as "within" the limits of the base flood, and vice versa. These changes can affect the requirement for purchasing flood insurance under the National Flood Insurance Program (NFIP), subject a property to permits for activities within floodplains, and potentially influence property values. See all the latest details and locate the most recent flood maps for your property at the online FEMA Map Service Center: msc.fema.gov.



Elevations Certificates and Flood Insurance In April 2009, FEMA released its new elevation certificate clarifying flood venting and adjacent grade survey requirements. Flood insurance rates for basic limits of coverage are also being adjusted as a new risk rating system is being developed for roll out next year. More details will be available on the web at: www.floodsmart.gov/floodsmart/.



Floodplain Easements & Mitigation Local, state, and federal programs are currently encouraging projects that restore and enhance the function and value of streams and floodplains through mitigation and restoration. Mitigation activities can include stream restoration, natural channel design, wetland mitigation, and increasing floodplain storage, all of which affect site development/re-development strategies while influencing land costs, natural resource functions and values, and flood hazard safety. Although these types of projects typically have a beneficial effect on adjacent base flood elevations, a FEMA floodplain study may be required by the local jurisdiction. WEG has extensive experience assisting our clients with floodplain alteration waivers, alteration studies, and associated FEMA map revision applications.

Funds for Municipalities

Most communities and states have pre-identified flood hazard mitigation ideas in their hazard mitigation plans, but often do not have financial resources to carry them out. FEMA's Hazard Mitigation Assistance (HMA) programs are an important source of financial support for these jurisdictions. HMA programs can be used to fund acquisition and demolition, minor flood control measures, channel modifications, stormwater management features, infrastructure protection measures, and the development and updating of hazard mitigation plans. Applications are now being accepted (until December 2009 for non-disaster grant programs) for the fiscal year 2010 funds from FEMA under the agency's HMA programs. Contact WEG for more information or access the uniform guidance at www.fema.gov/library/viewrecord.do?id=3649.

Source: Association of State Floodplain Managers Vol. 21 No. 3 News and Views

Virginia Stormwater Management Program Regulatory Update *(Continued from page 1)*

representatives from municipal, environmental, and private interests. While this outreach has resulted in improvements to the regulations, significant unresolved concerns remain among industry stakeholders in the engineering, land development, and local government sectors. It is not surprising given the nature of the proposed regulations (a more or less complete overhaul of the water quantity, water quality, administrative, and fee structures) and the associated costs of implementation of these more ambitious nutrient standards for land development activities. The concerns further stem from the fact that a significant amount of guidance and policy will be needed to ensure effective implementation of those regulations.

We urge affected parties to review the extensive documentation about the regulations and the regulatory process that can be found on DCR's web site and provide comments, as appropriate, on the proposed regulations. Comments can now be made in writing to DCR. WEG attended several of the public hearings and will be coordinating our comments directly with the Virginia Section of the American Society of Civil Engineers, which will solicit input from their membership to better represent concerns among practitioners of stormwater management practices and principles. If you have any questions or concerns regarding this regulatory action, please contact your WEG project manager or one of our Water Resources Engineers at any of our offices.

Dam Safety Emergency Action Plan Exercise *(Continued from page 1)*

(DCR) and the Virginia Department of Emergency Management (DEM). Now, the EAP is developed by the owner and owner's engineer as a formal document, based on a standard report format and contents requirements. Such a format allows the author to provide content that is more detailed and specific for the regulated dam. While there was no previously specified requirement to exercise the EAP, the revised regulations now state that "[it] is the impounding structure owner's responsibility to develop, maintain, exercise, and implement a site-specific EAP."

The revised regulations define an EAP exercise as an activity to:

- Promote emergency preparedness
- Test or evaluate EAPs, procedures, or facilities
- Train personnel in emergency management duties
- Demonstrate operational capability

An EAP exercise should test the response to a simulated event. "Exercises should consist of the performance of duties, tasks, or operations very similar to the way they would be performed in a real emergency," and may include "drills" and "tabletop exercises." A drill is the least involved exercise and is required to be conducted annually.

A "drill" is a "type of emergency action plan exercise that tests, develops, or maintains skills in an emergency response procedure. During a drill, participants perform an in-house exercise to verify telephone numbers and other means of communica-

tion along with the owner's response. A drill is considered a necessary part of ongoing training."

A "tabletop exercise" must be conducted a minimum of once every six years. It involves a meeting with the owner, local emergency management agencies, and state emergency management agencies (DCR and DEM). The tabletop exercise is informal, but should be done face-to-face. The exercise includes taking various simulated emergency events and responding to them as detailed in the EAP. The participants discuss response procedures and resolve issues that arise concerning responsibilities of and coordination by all parties.

The regulations require that the owner certify to DCR annually that a drill or tabletop exercise was completed and provide a written statement that no changes to the EAP are required as a result of the exercise. If changes to the EAP are necessary, the owner must provide those changes to the DCR along with the written certification.

WEG maintains a professional staff of licensed engineers with experience in dam safety permitting and compliance. We can assist with developing an EAP for your High or Significant Hazard Potential dam, or develop and implement a program for exercising your EAP through drills and tabletop exercises. If you need assistance with compliance for your regulated dam, please contact Robert Cooper [rcooper@wegnet.com] or Doug Beisch [dbeisch@wegnet.com] to see how we can help you.

WEG performed a breach analysis and inundation study for two dams in series located within the Lake Monticello Development in Fluvanna County, Virginia. The purpose of the study was to provide a clear delineation of the land that would be inundated in the event that these dams would breach or be subjected to a probable maximum flood (PMF) storm event. WEG has provided several other services on the project, including watershed management planning, grant support services, stream restoration design, and other related dam safety and environmental planning work.



While there was no previously specified requirement to exercise the Emergency Action Plan (EAP), the revised regulations now state that "[it] is the impounding structure owner's responsibility to develop, maintain, exercise, and implement a site-specific EAP."

July 2009 Newsletter



5209 Center Street
Williamsburg, Virginia 23188
Phone: (757) 220-6869
Fax: (757) 229-4507
Email: info@wegnet.com
Website: www.wegnet.com

Presort Standard
U.S. Postage
PAID
Williamsburg, VA
Permit #152

Branch Offices:

13921 Park Center Road, Ste. 160
Herndon, Virginia 20171
Phone: (703) 437-3096
Fax: (703) 437-6920

7501 Boulders View Drive, Ste. 205
Richmond, Virginia 23225
Phone: (804) 267-3474
Fax: (804) 267-3470

5705 Salem Run Blvd., Ste. 105
Fredericksburg, Virginia 22407
Phone: (540) 785-5544
Fax: (540) 785-1742

1102 South Florida Avenue
Lakeland, Florida 33803
Phone: (863) 686-1718
Fax: (863) 686-1957



Printed on Recycled Paper with soy inks.

Goose Creek (Bluewildlife) Stream and Wetland Restoration Project— a Cooperative Effort

Williamsburg Environmental Group, Inc. (WEG) recently took part in honoring landowners Dennis and Tracey Liberson for their efforts on the Goose Creek (Bluewildlife) Stream and Wetland Restoration Project. "I thought it was kind of cool that there was a stream on [the site], but I don't think I had any idea how nice it could be," Liberson said.

The event, held on June 8th, was attended by Governor Tim Kaine, The Nature Conservancy (TNC), and Fauquier County representatives. The Bolling Branch Dedication Event recognized the Project Team and highlighted the efforts of the Libersons who,



Pictured Left to Right: Karen Johnson (TNC), Governor Tim Kaine, Dennis Liberson (owner), Travis Crayosky (WEG)

along with assistance from WEG, restored approximately 7,632 linear feet (LF) of stream as well as provided wetland creation, wetland enhancement, and riparian buffer restoration. Bolling Branch, which has a 6 square-mile watershed, accounts for approximately 5,347 LF of

the restoration and incorporated Priority I and II restoration activities. "I am extremely thankful to the Libersons for their care of this property," Governor Kaine said. "As my Administration continues our quest to conserve 400,000 acres of open space in Virginia, I commend the Libersons for setting an example and a high standard for all of us."

One of the key mechanisms to the project's success was the landowners' willingness to donate an easement on the entire 119-acre property to TNC. Mr. Michael Lipford, Virginia Director and Vice President of TNC stated, "The health of the Chesapeake Bay is tied to its tributaries. We all can take steps to help the Chesapeake Bay, and the Libersons are showing how regular folks can make a difference." The \$1.7 million project was funded primarily by the Virginia Aquatic Resources Trust Fund (VARTF), which is managed by the U.S. Army Corps of Engineers (Corps) and TNC. This is the largest stream restoration project completed by VARTF to date with final construction completed in May 2009.

WEG played an integral role in the feasibility, planning, design, construction, and monitoring of the project, utilizing its staff of experienced stream restoration experts to make this a successful project.