DNREC Sediment & Stormwater Listserve Update: August 2019

This month's topics:

1. **Remaining Blue Card Course Dates for 2019**
2. **CCR Recertification**
3. **Deadline for Pre-2014 Approved Plans**
4. **2019 Regulations Highlight: Bioretention Routing Guidance**
5. **Link Of The Month: UMD Study Examines Green Infrastructure and Climate Change**

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1. Blue Card Course Dates for 2019

The Contractor's Certification Course, also known as the "Blue Card Course", is a ½-day course that gives an overview of the Sediment and Stormwater Program, its regulations, and required erosion and sediment control measures in the State of Delaware. Under the Delaware Sediment & Stormwater Regulations, at least one person in responsible charge of a construction site must have successfully completed the Contractor's Certification Course. The remaining Blue Card Course dates for 2019 are **September 5** and **December 12**. September 5 registration is currently open with seats available. Additional information can be found on the Sediment & Stormwater Program website at the following link:

http://www.dnrec.delaware.gov/swc/Drainage/Pages/BlueCard.aspx

2. CCR Recertification

CCR Recertification is for those CCRs whose certification has expired or will expire in the current year and would like to continue their certification. This one-day course highlights any changes in the Sediment and Stormwater Program and Regulations, along with newer approaches to stormwater management. The CCR Recertification course is a one-day class held in the fall of the year. The 2019 CCR Recertification course will be held on **Thursday, October 17, 2019**. Eligible individuals have been notified by DNREC's Division of Watershed Stewardship with a registration packet mailed earlier this month. Eligible individuals must register for the course. CCR certification for individuals whose certification expires in early 2019 will be extended until the date of the recertification course offering.

If your certification will expire in 2019 and you have not received a registration packet in the mail, please email joanne.gedney@delaware.gov for registration information.

3. Deadline for Pre-2014 Approved Plans

Subsection 1.3.2.1 of the Delaware Sediment and Stormwater Regulations requires that any plan approved to comply with Sediment and Stormwater Regulations in effect prior to the 2014 regulations must commence construction no later than December 31, 2019. Where construction has not commenced by December 31, 2019, the plan will expire as of that date. Commencement of construction means that the construction of the approved Plan is visible with the construction of a structure or infrastructure, including but not limited to roads, water and sewer lines, and stormwater management systems. General earth moving is not considered commencement of construction.

Questions regarding the validity of a plan approved in accordance with regulations in effect prior to 2014 should be directed to the approval agency.

4. 2019 Regulations Highlight: Bioretention Routing Guidance

The Sediment & Stormwater Program has received questions recently concerning the proper method for routing bioretention facilities in light of the adoption of the 2019 Delaware Sediment & Stormwater Regulations. Although the basic routing procedure is basically the same as was recommended under the Green Technology BMP Standards & Specifications, some minor adjustments are needed to account for the RPv runoff calculations, as follows:

Given:

1. Bio-soil flow rate controls (f =2.83"/hr); if designed as infiltration system, design soil infiltration rate (DIR) controls if DIR< 2.83"/hr.
2. Available storage in bio-soil mix based on porosity (n = 0.40)
3. Available storage in aggregate based on porosity (n = 0.40)

Determine: Routed hydrograph results for RPv (2.7"), Cv (10-YR) and Fv (100-YR) storm events, as applicable.

Procedure:

1. Develop stage-storage-discharge relationship for bioretention system.
    a. Starting elevation to be bottom of bioretention system for infiltrating designs or invert of underdrain.
    b. Multiply each incremental volume by porosity (0.40) to determine available storage in the stone aggregate and bio-soil mix; continue with this adjustment to top of bioretention system.
    c. Add incremental volume above top of bioretention system.
    d. Discharge is determined based on given condition #1 above.
2. Route 2.7" (RPv) rainfall event.
    a. Adjust Ia/S value to 0.05.
    b. It is recommended that the routed water surface elevation does not exceed 18" in depth above the surface of the bioretention area for the RPv event.
    c. If designed as infiltration practice, drawdown time not to exceed 48 hours.
3. Route remaining regulatory storm events.
    a. Adjust Ia/S value to default 0.20.
    b. System meets quantity control requirements if routed outflow does not exceed pre-developed rates.
    c. System meets design specifications when all freeboard, conveyance and non-erosive velocity criteria have been met.
    d. If designed as infiltration practice, drawdown time not to exceed 48 hours.

5. Link of the Month: UMD Study Examines Green Infrastructure and Climate Change

UMD researchers are connecting climate change to urban and suburban stormwater management, with the ultimate goal of increasing resiliency to major storm events. With models not only predicting more rain, but an increased frequency of particularly intense and destructive storms, flooding is a major concern in communities throughout the region. In a new case study published in the *Journal of Water Resources Planning and Management*, researchers examine two distinct watersheds and demonstrate that even small decentralized stormwater management practices like rain gardens can make a big cumulative difference to the resiliency of a watershed,

using predictive modeling to assess what climate change will demand of our future stormwater management systems. Additional information on the study's findings is available at the following link:

https://agnr.umd.edu/news/umd-case-study-examines-how-green-infrastructure-can-help-suburban-environments-manage