Great Rivers chapter
INTERNATIONAL EROSION CONTROL ASSOCIATION
A Newsletter For Members and Friends of the Great Rivers Chapter of the International Erosion Control Association
Summer 2009 NEWSLETTER

Sustainable Rain Garden Created in "Backyard"

Employees from Omaha civil engineering firm Lamp, Rynearson & Associates decided to make a difference in their own "backyard" by creating a rain garden behind their office building at 147th and West Dodge Road in Omaha, Nebraska. Employees who are also civil engineers and landscape designers planned and designed the project. Twenty employees worked throughout a weekend to move dirt, lay pipe, improve soil, and plant drought-resistant plants.

A rain garden is created by adapting a landscape to capture and infiltrate storm water during minor rain storm events, thereby improving water quality. Plantings include native and non-native grasses and flowers. These plants tolerate a wet/dry cycle within the drainage zone and typically require less water than traditional landscape plantings. The plantings in general will uptake moisture along with nutrients and some of the contaminants. As they develop, the deep-rooted native grasses and flowers in particular will allow for better infiltration of stormwater to further assist with treatment.

Contaminants from the parking lot and excess nutrients from the adjacent lawn are directed to the series of three rain gardens (or bioretention basins). The basins are essentially flat to allow stormwater to sit and slowly infiltrate into the ground for a period of up to 36 hours so that treatment of the stormwater can occur before getting into the storm sewer system. Treatment occurs within the plant structure as mentioned above, within the soil and root zones due to microbial activity, and by filtration through natural soils and soils that have been amended with sand and compost. The result is improved stormwater quality and less stormwater runoff. It also means there may be an opportunity to reduce irrigation needs.

This demonstration project by Lamp Rynearson employees was in response to a recent City of Omaha ordinance which addresses Post-Construction Stormwater Management. This ordinance requires water quality control of the first ½ inch of stormwater runoff. A rain garden or bioretention basin is one way to meet those requirements. This project was a hands-on experience for Lamp Rynearson employees, a sample exhibit for clients, and a way to make a sustainable improvement to an office site.

Article by David Lampe, P.E., LEED AP

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Mid Summers Blues—*from the President*

Tom Wells
Chapter President

"I can't imagine ther are too many people out there in the public or private sector that haven't had to sit back and evaluate their programs..."

Another summer construction season is now half over…and what a season! Some folks that I have talked to are so busy that they honestly did not realize that the season was half gone and didn't like the reminder. And on the other side there are those I halve talked to that are still waiting for their season to start. They are stuck in a pattern of working piece meal projects, only now it's not the weather and ground slowing them down.

It really does seem to be an interesting scenario out there. The people that are busy seem to be busy because they are refusing to say no to any work. People are bidding on everything they can on the theory that if you keep throwing mud at the wall something will stick. Where as in the past they may have passed on smaller or less profitable work some people are trying to get any and all work they can just to keep themselves busy. Although this method can backfire on multiple levels I understand the thought process. At the opposite end of the spectrum you have those that are sticking to their guns and bidding the same way they have in the past.

Whichever school of thought you may be in I can't imagine there are too many people out there in the public or private sector that haven't had to sit back and evaluate their programs and look to become a little more efficient and a little more competitive. The key is to do so without losing your integrity as a contractor. I have seen a wide spectrum of bad ways to save money. Silt fence posts being spaced out at 10+ feet to save on "T" posts, maintenance to inlet protection devices or other BMP's pushed back, obvious shortages on seed and mulch quantities. Inspectors not doing full inspections or a report to save time and budget, cheaper or inappropriate BMP's selected for a site. These are a few of the things I have seen or heard of…and I am writing this from Omaha Nebraska, so far one of the least economically affected areas in the country.

So how are you coping? The biggest issue I have been trying to push is the same as it has always been…if you do it right the first time…it will be the only time. You're not going to save time or money by skimping on T posts, even if the inspector lets it pass and you don't have to go back – you know that you will be back more often than usual to repair and maintain. That may sound good, until your client fires you for being an ineffective installer. For the inspectors, you may think you're doing the client a favor by being a little more lenient but if you are falsifying reports than you are not only causing potential damage to your client and real damage to your personal and your employer's reputation. So what is the answer, how do you stay afloat in a turbulent economy while keeping yourself, your sites, and your clients above par? Well I can't answer that for everyone, and I am not trying to judge anyone else's actions either, it is a tough market out there. Just remember that this economy will turn around eventually, and where do you want to be when it does? As an inspector, regulator, contractor, or developer there are few commodities more voluble than your reputation and character, if you can escape with that intact then you have fared this storm better than some.

Until next time.

Tom Wells, CPESC, CISEC
IECA Great Rivers Chapter President

Researcher's Corner: Water Environment Research Foundation

The Water Environment Research Foundation (www.werf.org) is a resource many stormwater and erosion control professionals can turn to for the latest research and emerging technologies for the built environment. Formed in 1989, WERF serves as an independent scientific research organization dedicated to peer reviewed research and collaboration on wastewater and stormwater issues. The organization operates with funding from subscribers such as treatment plants, stormwater utilities, and regulatory agencies. Industry, equipment companies, engineers and environmental consultants also lend their support and expertise as subscribers, with matching funds from the Federal government.

WERF Reports of Interest:

Hydrologic Bioretention Performance and Design Criteria for Cold Climates,
A three year (2005-2008) research project that explored the movement of water into and through the soil profile of four existing bioretention cells located in the Twin Cities metropolitan area of Minnesota during cold climate conditions. The study collected air temperature, soil temperature, and soil moisture data and conducted simulated snowmelt events to measure the cells individual performance responses under full scale winter conditions.
www.ndwrcdp.org/publications/index.htm **Project # 04-DEC-13SG**

Pennsylvania Standards for Residential Land Development, offers municipalities a set of model subdivision and land development ordinances that can reduce impervious areas, conserve open space, and minimize costs. With some modifications, these standards may be applicable in other areas of the country.
www.ndwrcdp.org/publications/index.htm **Project #: 04-DEC-12SG**

Article by Rebecca Kauten, Urban Coordinator, Iowa DNR

Bioretention Installation tips from the Minnesota Project:

- Avoid reducing the infiltration capability of the underlying soils during installation by avoiding compaction, smearing and damage from construction sediment.
- Installation should only be done during periods of dry weather. Remove all standing water and mud to avoid mixing with the existing underlying (in-situ) soils. Prevent run-on into excavated cell. Engineered soil placement should be place on dry soils and completed before the next precipitation event.
- Excavate with a backhoe equipped with a toothed bucket to avoid compacting or smearing the underlying soils.
- The existing underlying (in-situ) soils in the excavated bottom and side slope soils of bioinfiltration cells should be ripped 18 to 24 inches deep to remove compaction prior to placing engineered soil. The first lift of engineered soil should be gently mixed with the loosened in-situ soils to avoid layer stratification and promote permeability.
- The bottom of the excavated cell should be flat and level (not parabolic and/or sloped)
- Care must be taken to avoid contamination of engineered soils during excavation and backfilling operations.
- Construction equipment should not be allowed into the basin area; except that a tracked skid loader may be used for spreading the engineered soil mixture after the first 1.5 feet of engineered soil has been placed in the excavated bottom.

Shirley Morrow, President of ABC's of BMP's and a Board Member for the Great Rivers Chapter of IECA.

Meet Your Board Member— Shirley Morrow

Shirley is a newly elected member of the Great Rivers Chapter of IECA but she is not new to the organization. She is a past Board member and served as President for five years. She has also served on the Board of the IECA. Since her last service to the organization, Shirley has been very busy. She moved to Bentonville, Arkansas in 2004 and developed the EPA consent ordered, stormwater training program for Wal-Mart Stores, Inc. As Director of Stormwater, she trained and certified over 4,000 general contractors, project managers and Wal-Mart personnel. She also led the stormwater in-house team which oversaw over 450 construction projects a year. Since then, she started her own company ABC's of BMP's, LLC where she provides in-house training to contractors, municipalities, agencies, etc. She has worked with Stormwater USA in creating two on-line training and certification programs and has also created construction inspector training and certification programs for Johnson County, Kansas and Toronto and Region Conservation in Ontario, Canada.

The one aspect of her job she truly enjoys is providing contractors with "as needed" services on construction sites. She loves to investigate sites and provide audit reports on stormwater compliance. She says it is like playing the game "Clue". You have to find out if it is Colonel Mustard in the kitchen with the candle stick. It isn't enough to just say you need to clean out behind the silt fence. You need to determine what the problem is that makes the silt fence fill with sediment. You have to look outside the box at the cause and effect.

The Sediments Stops Here

Erosion Control Blankets – So many choices….

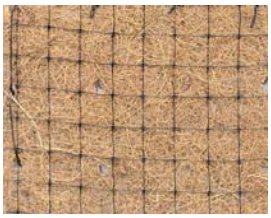
Single net, double net, straw, coconut, quick degrading, or composite. With so many different types of erosion control blankets on the market today, which one should I choose?

To help simplify the process, the Erosion Control Technology Council (ECTC) has a product selection tool on their website to help the specifier determine which products are appropriate to the situation they are encountering on their project. This tool is available at www.ectc.org.

Another option available is your state Department of Transportation. Most state DOTs manage some type of Approved Products List. The DOTs group similar products together into generic categories to ensure that if a type of product is specified, then the end user can select equivalent products from that list. For instance, Nebraska uses full and bench scale testing data as well as physical property requirements to determine which products are assigned to specific categories.

So, you have selected an erosion control blanket that you feel will give you an adequate level of protection for your situation. This is actually just the first step in ensuring your project is protected. The success or failure of the erosion control blanket is very dependent upon its installation. The following items are essential to having a good erosion control blanket installation.

1. Review the installation details before installing the products. Most manufacturers will provide installation diagrams to help the contractor properly install the product. These details will show things such as the necessary staple spacing, appropriate blanket overlaps and trenching details.
2. Install the products as shown in the details. In order for these products to function appropriately, the need to be installed appropriately. Trenching at the top of the blanket stops water from getting under the blanket which can cause rill erosion. Overlap seams as shown in the details to reduce the likelihood of erosion occurring between blankets. And my biggest issue, using the appropriate amount of staples. This helps with blanket to soil contact which improves erosion protection and reduces "tenting" when new plants begin to emerge.
3. Inspect, inspect, inspect. When doing compliance inspections, we seldom see failures that are due to the wrong erosion control blanket for the application. The majority of the failures that we encounter can be traced back to installation issues. It's relatively easy to inspect trenching and overlaps, once you know what you're looking for. But inspecting staple patterns in erosion control blankets are difficult. One manufacturer has implemented a dot system, where they paint colored dots on the blankets. The inspector can then look at the dots to ensure that staples have been installed. When products are used that do not have these dots, the inspector needs to refer back to the installation details to determine the appropriate staple spacing.



When installed properly, erosion control blankets are an excellent tool for controlling erosion from your site. There are many different types of blankets available for different situations with nets and matrixes designed for different periods of longevity and durability. So whether you're looking for a single net, double net, straw, coconut, quick degrading or composite blanket, there are products on the market to fit your need.

Article by Ronald Poe, RLA, CPESC

Great Rivers—IECA
2009 ADVERTISEMENT FORM

Interested in Ad Space?

Name: _____

Company: _____

Address: _____

City, State, Zip: _____

Phone: _____ Fax: _____

Business Card Size Ad (3.5" x 2")
$50.00 for both issues (estimated 2 issues in 2009) $_____

¼ page ad (3.5" x 4")
$125.00 for both issues (estimated 2 issues in 2009) $ _____

Estimated distribution dates for E-Newsletter: 09/15/2009 and 12/15/2009

Ad material should be sent in electronic format as a .jpg file, Microsoft Word or Publisher file to Sara Drake at sdrake@carter-waters.com. Payment is due prior to the ad running. If you have any questions please contact Sara at 816-872-3318, ext. 2296

Send this form and a check payable to:
IECA Great Rivers Chapter
Sara Drake
17202 E 44th Terrace Court South
Independence, MO 64055.

Signature: _____ Date: _____

For Editor Use Only:
□ Artwork Received
□ Payment Received

Save the Date

October 27, 28 & 29
Lenexa, KS

2009 Annual Conference & Expo

We're on the web!
greatriversieca.org

This years conference will be held in Lenexa, Kansas at the Historical Thompson Barn Conference Center. Look for more information on our website very soon.

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