



# Great Rivers Chapter



INTERNATIONAL EROSION CONTROL ASSOCIATION

*A Newsletter For Members and Friends of the Great Rivers Chapter of the International Erosion Control Association*

Spring 2011

Great Rivers IECA

## President's Message: Ready or not...



Ready or not spring 2011 is here! As we travel down this yellow brick road through the economic Land of OZ are you preparing for a leisurely stroll through the poppy fields or are you waiting for the flying monkeys to come swooping in?

We have a large chapter area and economic conditions can vary greatly from some areas of the Chapter to others. There have been several positive economic indicators but there still seems to be this ominous cloud of fear and hesitation that seems to affect all geographic areas of our chapter at some point.

One trend that I have noticed lately is that for those developers that are fortunate enough to continue to build and develop, more so than ever, times are tight and every penny counts. Not that it was ever a free for all on spending money on BMP's, but now more than ever there is battle of balancing risk and reward. What is the absolute minimum we have to do to "get by"...note that I didn't say "stay in compliance"... that wasn't an accident. People are just ducking and covering, just trying to stay below the radar and out of trouble.

An even more troubling trend is those banking on skimming by. Regulators at the local, state, and federal levels are also in terribly tight financial times and not always able to spend as much time or effort perusing the little things. Some, either at the contractor level or at the applicant level are taking the calculated risk of forgoing some BMP maintenance or installation all together. This often puts other members of the SWPPP management team in tough and sometimes uncomfortable situations.

So what now? How do we reach and maintain regulatory compliance without breaking the ever shrinking budget? Our chapter is made up of a pretty diverse group of industry professionals ranging from consultants, inspectors, regulators, developers, distributors, contractors, and educators. Each group has their own specific focus or motivating factors, but we all have the same ultimate goal of completing a successful project on time, under budget, and in compliance.

In my experience I have learned that sometimes there is nothing that a SWPPP Management team can do, that there are many variables that are beyond our control, regardless of the role we may play. Rain events, unforeseen delays, etc... can wreak havoc on even the most meticulous of planners. However, those instances are the exception not the rule. In most instances, runaway budgets and time lines that can sometimes force us into making poor decisions are a direct result of SWPPP team member break downs. There are many variables that can lead to SWPPP Team failures, the more

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time and research we put into the preparation, planning, and development of our team the better off we will be.

On a much lighter note IECA Great Rivers Chapter has just wrapped up their spring conference in Dubuque Iowa. This was another tremendous event that we were very fortunate to be able to partner with the City of Dubuque and the Conservation District. It was two days of some of the best speakers I have seen in a long time on a wide array of topics. The planning team members from all the partnering entities should be commended on completing another amazing event.

So now onward and upwards, our team is working feverously on the planning for the upcoming annual fall conference and expo in St. Louis Missouri. We will have much more information to follow as we move through the planning process. So keep checking our facebook page and blog site for the latest and greatest info on this and many other relevant topics.

And finally, as is symbolic of the change of season of growth and rejuvenation, our chapters Board of Directors elections are coming up quickly. We have a total of four positions available this year so this could be your opportunity to get involved. The details have been listed in emails, facebook, and blogs so I won't go through them again here. I will just state that if you are interested or have any questions please contact myself or any of the other Board Members listed at the end of this newsletter.

Now and as always, thank you for the opportunity to serve,



Thomas M. Wells, CPESC, CISEC  
IECA Great Rivers Chapter President



**Save the  
Date**

**IECA Great Rivers Chapter  
Fall Conference  
October 12th & 13th  
St. Louis, Missouri**

**More details to come soon!**



## Meet Your Board Member — J. B. Dixon

J.B. Dixon, CISEC, CPESC is a Stormwater Specialist with The Lower Platte South Natural Resources District in Lincoln, Nebraska. He has served the citizens of the district in this position for 10 years, following the creation of the City of Lincoln's NPDES program.

J.B. assists in the management of the construction stormwater compliance program of Lincoln's NPDES General Permit. His duties include erosion and sediment control compliance inspection, Stormwater Pollution Plan reviews, and assisting property owners and developers with various cost-share programs. He offers technical assistance to landowners interested in Green Infrastructure, and has recently established the District's Urban Water Quality BMP Cost-Share Program for encouraging green solutions for post-construction stormwater management. J.B. also is involved in the District's watershed basin master planning projects in Lincoln metro area. He assists in the coordination of the area's NPDES Education programs, instructing developers, consultants, and contractors about the various aspects of the permit process.

J.B. has been a member of the International Erosion Control Association since 2001, and currently serves as Chair of the Technology Sections Committee, as well as serving on the Association's Professional Development Committee, helping to guide IECA's educational efforts. He is a past President and current member of the Great Rivers Chapter Board of Directors. J.B. is also an ap-

proved instructor for the Certified Inspector of Sediment & Erosion Control (CISEC) training modules, teaching across the country over the past 4 years. He has a BS degree in Environmental Science/Geology from Simpson College. He resides in Seward, Nebraska with his wife Lisa and 1 year-old son Blaine.



*JB and his best buddy, Blaine.  
Do you think they're Cornhusker fans?*

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# The Sediments Stops Here

## Slash Mulch

By Ronald Poe

Slash Mulch, nicknamed by my staff as “beaver chew,” is becoming a standard BMP in our portfolio of products to control erosion on roadsides. One of my responsibilities at Nebraska Department of Roads is to approve products to be listed on our Approved Products List for erosion and sediment control items. In this role, I am continually working with manufacturers and am exposed to most every new BMP on the market. With all the products being installed on our projects, we began asking the question – Are there opportunities to recycle products readily available on our sites to achieve some of the same benefits of the erosion and sediment control devices that are currently being used?



In working with Dwayne Stenlund and Leo Holm from Minnesota, we began looking at the volumes of trees within our Right of Way being cleared for new construction and experimenting with the idea of grinding these to make a product that can be used as an alternative to purchased erosion and sediment control devices. Some of the uses we've found have been a substitute for perimeter control devices, erosion check dams, and stabilizing construction exits.

Besides the idea of doing something new, one of the biggest challenges associated with recycling a product to create slash mulch on a linear construction project has been dealing with the impacts the product can have on the various industries that are working on the project. Generally,

the mulch is being generated in low land areas, where box culvert or bridge construction is occurring. This adds the challenge of finding a location to store the material with limited right of way and many contractors working in tight conditions. In addition, more equipment and time is required to generate the product as opposed to just burning the trees.

Besides the challenges of generating the product, there have been numerous benefits associated with its use. The product has worked well as a perimeter control device when placed as a berm approximately three feet tall. We have been using it, basically as an alternative to silt fence to control sheet flow discharges from our sites. The benefits have been excellent storage capacity and no fabric to repair or ties to replace.

As an erosion check dam, the slash mulch berm across a ditch has shown potential to trap sediment and improve turbidity levels. Currently we're working on configurations to reduce blow-outs and improve the product's filtering ability.

Using slash mulch as a stabilized construction exit is another area where we've experimented with the product. It doesn't necessarily clean the tires of vehicles, the way a tire wash system or rock exit may. However, it can act as a mat that covers the dirt from exposure to the vehicles entering an area.

One of the issues we continually face with highway projects is the removal of non-biodegradable products after construction is complete. By utilizing a biodegradable product like slash mulch, it can be left in place or tilled into the site prior to seeding. This helps minimize the need for removal of BMPs. The next time you have a project and trees are being cleared, considering specifying Slash Mulch as a BMPs for the project. The possibilities of uses seem endless and the environmental benefits of creating a product on site are rewarding.

## Researcher's Corner

### Stormwater and LID

By Rebecca Knauten

Noted stormwater management expert Andy Reese recently presented at the Great Rivers Chapter IECA Spring Workshop in Dubuque, Iowa. The following is a summation of both comments he made during his presentation and a snippet from his in-depth treatise on stormwater management, co-authored by Thomas N. Debo.

Since the early development of cities and urbanized areas, humans have struggled with the need to manage surface water. The early days of exploration gave high value to finding lakes, rivers and streams simply due to their influence on basic survival. Once we became organized, urbanized and socialized, we tended to lose sight of the value those waters hold. Whether it fell from the sky or flowed in from the river, odds are it was often viewed initially as a nuisance rather than a resource.

In the 1800s, the Industrial Revolution brought forth the quest for convenience and technological innovation. A common by-product of both included environmental degradation. According to Debo and Reese, the initial reaction to surface-level drainage was to dig ditches and convey water away as quickly and efficiently as possible. This trend carried over into the 20<sup>th</sup> Century, particularly when subterranean drainage systems made of concrete and metal pipe came into vogue. Not only could we drain the water quickly, but unobtrusively. As long as we never saw the point of discharge to whatever nearby water body served as a catchment, we were fine.

The latter part of the 20<sup>th</sup> Century was a game changer for this paradigm of surface and stormwater management. People started seeing just what was coming out of those pipes. And some of our lakes, rivers and streams started to experience drastic, sometimes irreversible damage as a result of what was being discharged into them. The most notable impacts often came from industrial waste, but soon people started to wonder what the impacts were from urban areas in general.

Flooding was a major driver for changes to stormwater management policies in the 1970s. This era served as the dawn of stormwater detention ponds, with the promise of volume control and discharge at a controlled

rate. Reese uses the basic analogy of traffic jams as a way to dispute this particular philosophy. To paraphrase, imagine the traffic generated after a game ends in a football stadium in a major city. In order to address any bottleneck effects, parking lots only let out so many cars at one time – similar to how a detention pond slowly releases water stored within. But if hundreds of lots are all releasing the same, albeit limited, volume of cars at the same time, they simply relocate the bottleneck effect and still have to manage the same number of cars – regardless of whether they are on the road or contained within the lot.

The same can be said for managing stormwater. While water quality does play a role, volume is often the more relevant factor in the management paradigm we see today. Each time it rains, detention



ponds serve as those hundreds of parking lots after the stadium empties out. The water is temporarily contained in various locations, and peak runoff may in fact be controlled. But when thinking in terms of watersheds and overall drainage areas, if the volume itself is not reduced, we are simply extending the period of time in which the water is impacting the resources downstream.



So today we see a myriad of practices, proprietary systems and other tools intended to not only contain water, but in some cases also encourage infiltration and volume reduction. Depending on the watershed or water quality concern, a reduction in volume may also lead to reductions in overall pollutant load, increases in stream bank or shoreline stability, and overall watershed health.

Much of the Clean Water Act was developed as a way to improve, protect or maintain water quality in the U.S. However, when considering basic stormwater management principles, the culprit often becomes “too much water and nowhere for it to go.” The excess water then moves over the surface of impervious, often man-made or anthropogenic structures, and picks up whatever it can carry along the way. If we reduce the volume, we likely thereby reduce the water quality concern.

In some cases, however, infiltration may not either be possible or serve as a viable water quality solution. We in the Midwest often find shallow groundwater, karst topography or other situations where infiltrating water of any kind – let alone pollutant urban runoff – is a practical solution. This is where other options may be considered, such as proprietary storage or containment systems or vegetation as a way to move water through natural evapotranspiration systems. If the volume absolutely cannot be reduced on site, Reese recommends a “treatment train” approach where water is decanted to one or more additional systems to either filter, temporarily store, re-use or re-purpose the water via other systems.

Basic erosion and sediment control play a vital role in the “new” paradigm for municipal stormwater management – not only when considering the impacts of active construction sites, but also regarding maintenance of existing structures or practices over time. Erosion and sedimentation in the hundreds of stormwater ponds strewn about a community may in time reduce the storage capacity of such structures. In the end, these “magic bullets” for flood mitigation may one day become flooding hazards if they are not maintained or cleaned out properly. In addition, if adjacent land use does not incorporate effective erosion and sediment control, the deposition within these ponds becomes an ongoing problem. And if the ponds are over capacity, the controlled discharge may remain at a constant rate, but for longer periods of time. This results in additional downstream impacts – also over an extended period of time.

Many people may see the stormwater and LID communities as mutually exclusive from the erosion and sediment control world. However, as we see the evolution of how communities manage runoff – and consider the impacts of erosion and sedimentation, connections can be made. Volume reduction and impacts on detention ponds serve as just basic examples of such connections. But it’s a great place to start linking the two paradigms.



**For further reading: Debo, Thomas N. and Andrew Reese. *Municipal Stormwater Management*, Second Edition. 2003. Lewis Publishers. 1141 pp.**

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## Great Rivers Chapter Board

### *President*

**Tom Wells**

**CPESC, CISEC**

Senior Erosion Control  
Coordinator  
Lamp, Rynearson & Assoc., Inc.  
14710 West Dodge Road,  
Suite 100  
Omaha, Nebraska 68154-2027  
Office (402) 496-2498  
[tom.wells@LRA-inc.com](mailto:tom.wells@LRA-inc.com)

### *Vice President*

**Ronald Poe**

**RLA, CPESC**

Nebraska Department of Roads  
1500 Highway 2  
P.O. Box 94759  
Lincoln, NE, 68509-4759  
Office (402) 479-4499  
[ronald.poe@nebraska.gov](mailto:ronald.poe@nebraska.gov)

### *Treasurer*

**Sara Drake**

**CPESC**

Carter-Waters Corporation  
P.O. Box 412676  
Kansas City, MO 64141  
(816) 471-2570 ext. 2296  
[sdrake@carter-waters.com](mailto:sdrake@carter-waters.com)

### *Secretary*

**Rebecca L. Kauten**

Rebecca Kauten  
University of Northern Iowa  
Urban Water Quality Project  
243 WRC  
Cedar Falls, Iowa 50614-0241  
(319) 415-0476  
[rebecca.kauten@dnr.iowa.gov](mailto:rebecca.kauten@dnr.iowa.gov)

### *Past President*

**J. B. Dixon**

**CPESC, CISEC**

Stormwater Specialist  
Lower Platte South NRD  
Lincoln, NE  
(402) 476-2729  
[JBDixon@lpsnrd.org](mailto:JBDixon@lpsnrd.org)

**Darice Baxter**  
**CISEC**

Environmental Specialist  
Environmental Services  
350 University Services Building  
Iowa City, IA 52242-1922  
(319) 335-5966  
[darice-baxter@uiowa.edu](mailto:darice-baxter@uiowa.edu)

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Services  
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[containment@diodecom.net](mailto:containment@diodecom.net)

**Dean Mattoon CESSWI**

Engineering Technician  
City of Dubuque Engineering  
Department  
Office (563) 589-4270  
Fax (563) 589-4205  
[dmattoon@cityofdubuque.org](mailto:dmattoon@cityofdubuque.org)