

# MANAGING FLOODING, POLLUTION, & EROSION: EVALUATING STORMWATER SOLUTIONS IN OHIO

## Stormwater Collaborative Group Project Update March 2012

### Assessment of Ohio Stormwater Management

The Consensus Building Institute has submitted a final report synthesizing themes from interviews with stormwater professionals and offering project recommendations. The report has been e-mailed to interviewees and distributed to the project's collaborative group members.

### Monitoring

The project team recently learned that we cannot subcontract with a federal agency to complete the monitoring components of this project. We had been in communication with USGS for two years about the BMP monitoring planned for this project and this has forced us to rethink our strategy. We are now exploring what other BMP monitoring capacity exists in Ohio and will be discussing the project with the OSU Department of Agricultural Engineering, Voinovich Center, Old Woman Creek NERR, and Heidelberg University.

The project team reviewed the group's input on BMP types and criteria and decided to focus on bioretention, pervious pavement, dry basin retrofits, water quality swales, and filter strips. All criteria discussed at our last meeting will be considered with the below designated as "must-haves":

- Appropriate size and scale of BMP
- Availability of construction and maintenance costs and maintenance plans

- Well-defined drainage area to BMP
- Knowledge of construction sequence and any issues that would compromise BMP function
- Monitorability - useable outlet, ability to control and quantify inflow
- Located in target watershed
- Replicability
- Design criteria (WQv, etc.)
- C or D soils
- Retrofit vs. virgin ground

The project team completed site visits for most projects discussed at our first meeting. Key findings are below. We will continue to investigate and plan to announce the first 2 sites at our April 4th meeting.

- Mayfield Heights SWIF Pervious Concrete- May be monitorable, under consideration
- Eastlake SWIF Bioretention - Likely not a good site due to multiple issues
- Moreland Hills Bioretention- Eliminated as constructed directly next to river
- Wiley Park 319 Mayfield Village Pervious Pavers - Under consideration
- City Centre Avon Bioretention - No site visit, still a possibility though not in a targeted watershed
- Seven Hills City Hall Bioretention - Likely not monitorable due to underdrain connection
- Tremont Bioretention - Likely exclude as it is on A&B soils
- Cleveland Metroparks West Creek Center multiple BMPs - No site visit completed, under consideration but not likely to be one of the first two monitoring sites



*Mayfield Heights SWIF Pervious Concrete*

- Perkins Township Administration Building Pervious Concrete, Bioretention, Filter Strips- Selected pending construction
- Vermilion Ritter Library Pervious Pavers – Under consideration, need construction sequence information and outlet modification during monitoring
- City of Sandusky Boulevard Project Bioretention – Possible site pending funding and design

Other possible sites under review by project team:

1. Gully Brook Lake Metroparks parking lot bioretention
2. Sheetz gas station Bioretention & Underground Detention
3. Gates Mills School bioretention – vegetated with sod only
4. Gates Mills Village Hall bioretention – likely construction spring 2013
5. Geauga Park District – Sunnybrook Preserve and Orchard Hills parking lot bioretention
6. Cuyahoga SWCD is also developing a list of potential sites

*Continued on other side....*

## ABOUT THIS PROJECT

This project is a collaboration of the Chagrin River Watershed Partners, Inc., Old Woman Creek National Estuarine Research Reserve (NERR), Ohio Department of Natural Resources Divisions of Soil and Water Resources and Wildlife, Erie Soil and Water Conservation District, and the Consensus Building Institute. Intended users of this science and these planning tools include engineers, state and local regulators, stormwater program managers, plan reviewers, and watershed programs.

## FOR MORE INFORMATION

The project team welcomes feedback by any interested stakeholder. If you would like to receive project updates or notices of how to get involved, please contact Amy Brennan, principal investigator and director, Chagrin River Watershed Partners, Inc.: [abrennan@crwp.org](mailto:abrennan@crwp.org), 440-975-3870. Or contact Heather Elmer, collaboration lead & coastal training program coordinator at the Old Woman Creek NERR: [heather.elmer@dnr.state.oh.us](mailto:heather.elmer@dnr.state.oh.us), 419-433-4601.

## ABOUT THE FUNDER

This project is supported by the National Estuarine Research Reserve System Science Collaborative, a partnership of the National Oceanic and Atmospheric Administration and the University of New Hampshire. Projects sponsored by this program bring intended users of science into the research process so that their perspectives can inform problem definition, research implementation, and ultimately, the practical application of research results to help manage coastal environments, protect human health and property, and support coastal economies.

For more information, visit:

[nerrs.noaa.gov/sciencecollaborative](http://nerrs.noaa.gov/sciencecollaborative).



*Potential monitoring site: pervious pavers at the Vermilion Ritter Public Library underdrain into a rain garden.*



## Modeling

A search was conducted to identify models, tools, or approaches used by others to characterize the hydrology of BMPs. Through this we discovered a couple new models, additional BMP modeling studies, BMP performance monitoring studies that may serve as sources of modeling data sets, and studies discussing climate change projections for the Midwest.

- An example of a “new” model is the Bioretention Hydrologic Performance (HyPer) Model developed at North Carolina State University <http://www.bae.ncsu.edu/stormwater/downloads.htm> This is a spreadsheet design tool based on the DRAINMOD model.
- We are planning to use the SWMM, DRAINMOD and WinSLAMM models. ODNR-DSWR has begun collecting guidance on populating these models
- Organization of a modeling focus team will be explored at our next CLG meeting.
- Inventory of existing BMP hydrologic modeling and monitoring and identification of data gaps and needs will be ongoing. Please take a few minutes to share your thoughts regarding modeling and monitoring research, data gaps, & needs at: <http://www.surveymonkey.com/s/6D8ZJ7Z>

## Design Assistance

A draft Request For Proposals for design assistance is attached for your review. This draft reflects the group’s input on priority BMPs and selection criteria. Please send comments on this draft RFP to CRWP by March 19, 2012 [abrennan@crwp.org](mailto:abrennan@crwp.org) This RFP is proposed for release on March 20, 2012 with responses due by April 20, 2012. Final selection of proposals will be discussed at the July 17th group meeting.

## Training

- The project team will participate in a collaboration training workshop on July 17–19 in conjunction with our quarterly meeting. Collaborative group members are welcome, but not specifically requested to participate in this workshop. More details will be provided at our April meeting.
- CRWP staff, Tinkers Creek Watershed Partners, Old Woman Creek NERR, Cleveland State University, and Erie SWCD completed a workshop on CRWP model codes Friday March 9th to build capacity to work with communities on model code adoption and implementation.

## Communications and Outreach

The project fact sheet has been finalized. We are also working to develop a website and create a process overview to illustrate how project components are connected and will progress over time.