



**Environmental  
Protection Agency**

**John R. Kasich, Governor**

**Mary Taylor, Lt. Governor**

**Scott J. Nally, Director**

July 20, 2012

RE: CUYAHOGA COUNTY  
CITY OF SOLON  
CONSTRUCTION STORM WATER  
SOLON VILLAGE  
FACILITY PERMIT #3GC05914\*AG

Erick Allen, P.E.  
Atwell LLC  
30575 Bainbridge Rd, Suite 180  
Cleveland, OH 44139

Dear Mr. Allen:

On July 6, 2012, and July 17, 2012, Ohio EPA received additional information from you regarding the proposed alternative post-construction best management practices (post-construction BMPs) at the above referenced site. Ohio EPA sought additional information to demonstrate the proposed StormTech with Isolator Row system was designed to provide 80% TSS removal efficiency, a requirement contained in Part III.G.2.e of the Ohio EPA General National Pollutant Discharge Elimination System (NPDES) Permit for Storm Water Associated with Construction Activities #OHC000003. In addition, I requested further information to demonstrate that the parking lot islands would reduce impervious area and act as areas where storm water would be absorbed or infiltrated rather than shed to the storm sewer system.

In response, Atwell provided Ohio EPA with a full-scale laboratory study of the StormTech Isolator Row by Tennessee Tech University that indicated the Isolator Row system achieved 88% TSS removal at a hydraulic loading rate of 1.7 gpm/sq ft using a silica-water slurry with an average particle size of 45 microns. TSS removal efficiencies were less than 80% for a hydraulic loading rate of 3.2 gpm/sq ft and for a hydraulic load rate of 1.7 gpm/sq ft using a silica-water slurry with an average particle size of 22 microns. Ohio EPA requested Atwell provide us with the hydraulic loading rate of the StormTech Isolator Row systems for this site when the full WQv is present in the system. Atwell did not provide Ohio EPA with this information.

Despite this, the StormTech Isolator Row systems to be used on this site are designed as underground extended detention facilities. Discharges from the systems are controlled by plates that provide an orifice designed to provide a 48-hour release of the water quality volume (WQv), in compliance with design requirements for dry extended detention basins contained in Part III.G.2.e of the NPDES permit. Additional treatment is provided through the incorporation of infiltration areas ("forebay" and "micropool") beneath the StormTech system underdrains. In addition, Atwell has amended the storm water pollution prevention plan to instruct the contractor to scarify underlying soils within parking lot islands, avoid compaction of the islands and add four to six inches of topsoil to promote infiltration and absorption capacity. As such Ohio EPA will accept the proposed alternative post-construction BMPs for use on this project in lieu of the standard BMPs listed in Table 2 in Part III.G.2.e of the NPDES permit.

However, as underground systems, Ohio EPA is concerned that the long-term maintenance of the StormTech systems will be overlooked. To address this concern, Ohio EPA is approving these systems on condition that the party responsible for long-term maintenance (typically, the property owner) enter into a maintenance agreement with the City of Solon to ensure execution of the long-term maintenance plan approved under the City of Solon municipal storm water program and required by Part III.G.2.e of the NPDES permit. **A copy of the stand-alone long-term maintenance plan and executed maintenance agreement is to be provided to Ohio EPA prior to these systems being put into operation.** A sample long-term maintenance agreement can be found on the Chagrin River Watershed Partners website at [http://crwp.org/pdf\\_files/model\\_im\\_agree\\_sw\\_bmp\\_10\\_29\\_2008.pdf](http://crwp.org/pdf_files/model_im_agree_sw_bmp_10_29_2008.pdf).

If you have any questions, please contact me at (330) 963-1145.

Sincerely,



Dan Bogoevski  
District Engineer  
Division of Surface Water

DB/cs

cc: John Bush, Engineer, City of Solon  
Susan Drucker, Mayor, City of Solon  
Phillip Bishop, Echo Solon LLC