



State of Ohio Environmental Protection Agency

Northeast District Office

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Ted Strickland, Governor
Lee Fisher, Lieutenant Governor
Chris Korleski, Director

September 29, 2009

RE: LORAIN COUNTY
HEIDER DITCH WATERSHED
CITY OF AVON
CITY CENTRE OF AVON NO. 2

Christina Eavenson, P.E.
KS Associates
260 Burns Road, Suite 100
Elyria, OH 44035

Dear Ms. Eavenson:

On September 16, 2009, Ohio EPA received your request for approval of an alternative post-construction best management practice (BMP) for the above referenced project. The City Centre of Avon is a new commercial development with a larger common plan of development or sale that will result in a disturbance of 5 or more acres of land. As such, the Ohio EPA General Storm Water National Pollutant Discharge Elimination System (NPDES) Permit for Construction Activities #3GC04434*AG requires Ohio EPA approval of the alternative BMP.

Although the majority of the project will be treated through bioretention cells, dry enhanced swales and wet extended detention basins, you are seeking approval to use a hydrodynamic separator, the VortSentry, to treat a 0.39-acre drainage area for a section of the loop road between SR 83 and SR 254. Although Ohio EPA may consider the use of an alternative BMP for this situation, after reviewing test data for the proposed device, **Ohio EPA cannot approve the VortSentry for this application.** Per information available from the University of Massachusetts Amherst Stormwater Technologies Clearinghouse (see <http://www.mastep.net/index.cfm>), although reliable laboratory testing has been conducted on the VortSentry showing a total suspended solids (TSS) removal efficiency of 69%, it has not received final verification of performance data through the Technology Acceptance and Reciprocity Partnership (TARP) because it is awaiting field testing. Field test data from the University of New Hampshire Stormwater Center indicates that the VortSentry performed no better than two other hydrodynamic separators and, as a group, hydrodynamic separators had unacceptable pollutant removal rates (27% TSS removal). See enclosure. Per Part III.G.2.e of the NPDES permit, for large construction activities, you must show that the alternative BMP has a minimum TSS removal efficiency of 80%.

In reviewing your options for another proposal, please be sure that you have exhausted all possibilities for a standard post-construction BMP first. The drainage area for which you are seeking approval of an alternative post-construction BMP is immediately adjacent to Bioretention Cell #3 in Phase 1 of this project. Is it possible to direct runoff from the 0.39-acre drainage area to Bioretention Cell #3 and enlarge it to accommodate this additional drainage area? Also, you state that the section of loop road in question cannot be directed to the Main Basin, but you did not indicate where the storm sewer that services this section of roadway is directed. Does it drain to a post-construction BMP? Can the section of the loop road in question be directed to that post-construction BMP for treatment?

If you have exhausted these possibilities and an alternative is required, options that may be available to you include:

- Another manufactured system that has been TARP verified to achieve 80% TSS removal efficiency
- Non-structural post-construction BMPs to reduce the increase in the volume of runoff generated by the development of the 0.39-acre drainage area. These BMPs would include permeable pavement, rain barrels, green roofs and other green infrastructure (see www.epa.gov/npdes/greeninfrastructure). These BMPs may be incorporated in any phase of the City Centre project wherever it is most feasible to install them. Thus, this option provides you with a great deal of flexibility on meeting post-construction BMP requirements.
- Offsite mitigation of post-construction requirements on a different site within the same HUC-14 watershed as the City Centre of Avon project. This option requires mitigation at a 1.5:1 ratio, based on the Water Quality Volume (WQv) associated with the 0.39-acre drainage area. I suggest you check with the City of Avon to see if there are any storm water retrofit projects, e.g., installation of bioretention cells at the City Hall parking lot, that may be suitable for this purpose.

These options are all approvable under the current NPDES permit, but Ohio EPA does have to review and approve the selected option on a case-by-case basis.

Finally, I would like to explain the Ohio EPA's approval of a hydrodynamic separator for a 0.44-acre drainage area within Phase 1 of the City Centre of Avon project. It should be noted that Phase 1 of this project was permitted under a previous generation of the general NPDES permit for construction activities with less restrictive language for review and approval of alternative post-construction BMPs. Phase 2 has been permitted under the third generation of the Ohio EPA General Storm Water NPDES Permit for Construction Activities (#OHC000003) and is subject to its terms and conditions.

CHRISTINA EAVENSON
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I trust this provides you with the guidance necessary to develop an approvable proposal for post-construction BMPs. If you have any questions or would like to discuss this matter further, please contact me at (330) 963-1145.

Sincerely,



Dan Bogoevski
District Engineer
Division of Surface Water

DB:bo

pc: Jim Piazza, Storm Water Program Manager, City of Avon
Mike Bramhall, Engineer, City of Avon
Randy Eiler, Deville Developments