



Gerald R. Ford International Airport constructing system to treat runoff

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As many Michiganders gear up to travel by air during the busy holiday season, a Grand Rapids-area airport is working to make winter air travel more environmentally friendly.

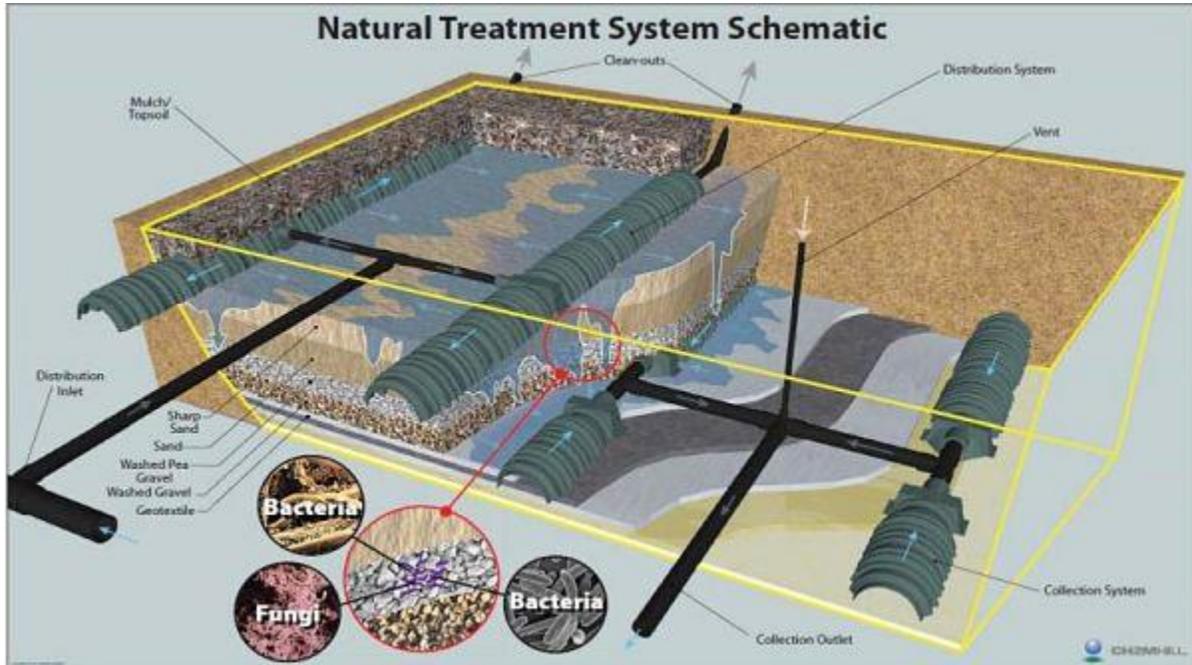
The Gerald R. Ford International Airport, or GFIA, is constructing a treatment system to remove a deicing agent from the airport's stormwater runoff before it reaches the Thornapple River in Kent County.

The DEQ's Water Resources Division re-issued GFIA's National Pollutant Discharge Elimination System, or NPDES, permit in August 2013. The NPDES permit authorizes the discharge of stormwater associated with deicing activities. To meet a condition of the permit, GFIA is constructing a natural treatment system for stormwater and aircraft deicing fluids, or ADFs. ADFs are glycol-based products used by airlines to remove snow and ice from airplanes and protect public safety.

GFIA only uses propylene glycol-based ADF products at their airport, considered a more environmentally friendly option by the U.S. Environmental Protection Agency. ADFs applied at airports mix with the snow, ice and rainwater, and eventually discharge from the site during stormwater runoff events.

Although the propylene glycol-based option is said to be better for the environment, and although GFIA implements numerous best management practices through its stormwater management programs, discharges of stormwater containing residual ADFs to nearby streams sometimes may contribute to the formation of biofilms. Biofilms form in streams when naturally occurring bacteria grow prolifically in response to enrichment provided by runoff sources. This can create nuisance-type conditions that negatively impact aquatic insect habitat, fish habitat and dissolved oxygen levels.

Construction of a stormwater and ADF treatment system is underway at GFIA and is slated for completion by October 2015. The system will be the first system of its kind constructed at an airport in Michigan, and one of only a few nationwide. The system is designed to create a favorable environment for bacteria and other micro-organisms to establish and consume the residual ADFs in the stormwater before it is discharged to the Thornapple River, reducing the likelihood of biofilm problems. Below is a schematic of the system:



The DEQ is proud to partner with GFIA in its efforts to minimize the environmental impacts of its operation for the betterment of the Thornapple River and the many community members who enjoy the river resource.

GFIA has worked with DEQ and stakeholders throughout the process of identifying and implementing its long-term stormwater and deicing management system. This collaborative effort can serve as a potential example in addressing complex and challenging stormwater discharge compliance requirements.

What do you do in the WRD? Meet Ryan Grant.

Ryan Grant is the Water Resources Division’s Grand Rapids District industrial stormwater permit compliance staff involved with GFIA’s NPDES permit. Ryan is pictured below with the GFIA’s Thomas R. Ecklund, P.E., Facilities Management Director, and Roy E. Hawkins, R.L.A., Airport Planning Engineer, at the stormwater and ADF treatment system construction.

