



AIRPORT GLYCOL MANAGEMENT SYSTEM

Mead & Hunt Inc.

Client: Dane County Regional Airport

Category: Water & Stormwater

Due to extensive growth in operations at Dane County Regional Airport (DCRA), a solution was needed for deicing fluids.

Airports need glycol management systems to store and dispose of stormwater that may contain aircraft deicing fluids. DCRA was using a glycol pond, which stored stormwater until it could be sent to local waterways or a sewer system. The pond needed to be moved to meet Federal Aviation Administration standards. It was also a wildlife hazard.

Mead & Hunt consulted with airport management and airline representatives to design a new system that samples, tests, stores and discharges stormwater on-site. The facility includes a stormwater collection system, influent pump station, effluent pump station, storage tanks and associated piping and controls.

This new design is an environmentally sustainable solution. It analyzes water on-site and then sends clean water to the creek. Less water goes to the treatment plant, lowering costs and waste.

The new system benefits DCRA in many ways. By keeping deicing operations at the gates, airlines and their passengers don't have to detour for deicing before takeoff. The computerized testing and pumping is more efficient and easier to use and maintain. It reduces staff needs and on-site water testing is done in minutes, instead of



The effluent pump station tests water and sends it to the storage tanks.

days. Thanks to underground storage tanks and the elimination of the glycol pond, the only visible parts of the new system are two new buildings, designed to match other airport facilities.

"Over the years, glycol management at the Dane County Regional Airport has evolved," said Ken Kosciuk, awards judge. "This latest glycol management system is more efficient, better for the environment and user friendly. Very simply, it is good engineering."

To avoid potential risk of future failure, Mead & Hunt chose to use



The shallow storage tanks, shown here under construction, are about 100 feet wide by 250 feet long, measuring about 10 feet from the surface of the ground to the floor of the tanks.

tried-and-true pumps and piping to carry water from the apron to the pump stations and creek. The durability of the system means the airport shouldn't need to update the system for at least 20 years.

The new glycol management system is a success for the client, community and environment. In addition to keeping the public safe, the system uses new technology to streamline the wastewater process, saving the airport time and money.



During non-deicing months, stormwater collects in the detention basin and flows, at a controlled rate, to Starkweather Creek.