



**KAESER**  
COMPRESSORS®

## Air Diffusion System's Aeration Case Study: Francesville, IN

Start-Up Completed October 2017

In 2012, the Town of Francesville in Indiana contacted Air Diffusion Systems to provide a solution for several suspended solids violations and energy efficient treatment. Air Diffusion Systems was able to provide an unique solution to correct biochemical oxygen demand (BOD) and total suspended solids (TSS) problems using Kaeser Compressors' CB Com-paK blowers. Additionally, the ammonia removal has also proven successful even though there is no limit yet.

### THE DESIGN

After looking at the Town of Francesville's current system and speaking with the plant's operators about future goals, Air Diffusion Systems (ADS) came up with a unique solution. In figure 1 below, the drawing illustrates the spacing of the aeration lines, the location of the baffle curtain, and the placement of a wind resistant floating cover. The importance of having a fully covered baffled area was specified for TSS treatment as well as improved ammonia discharge numbers. This specified treatment feature ensures there is very little green water (TSS) discharged. ADS has warrantied the Francesville Aeration System for a Five-Year Performance and Treatment Warranty to meet and exceed permitted values.

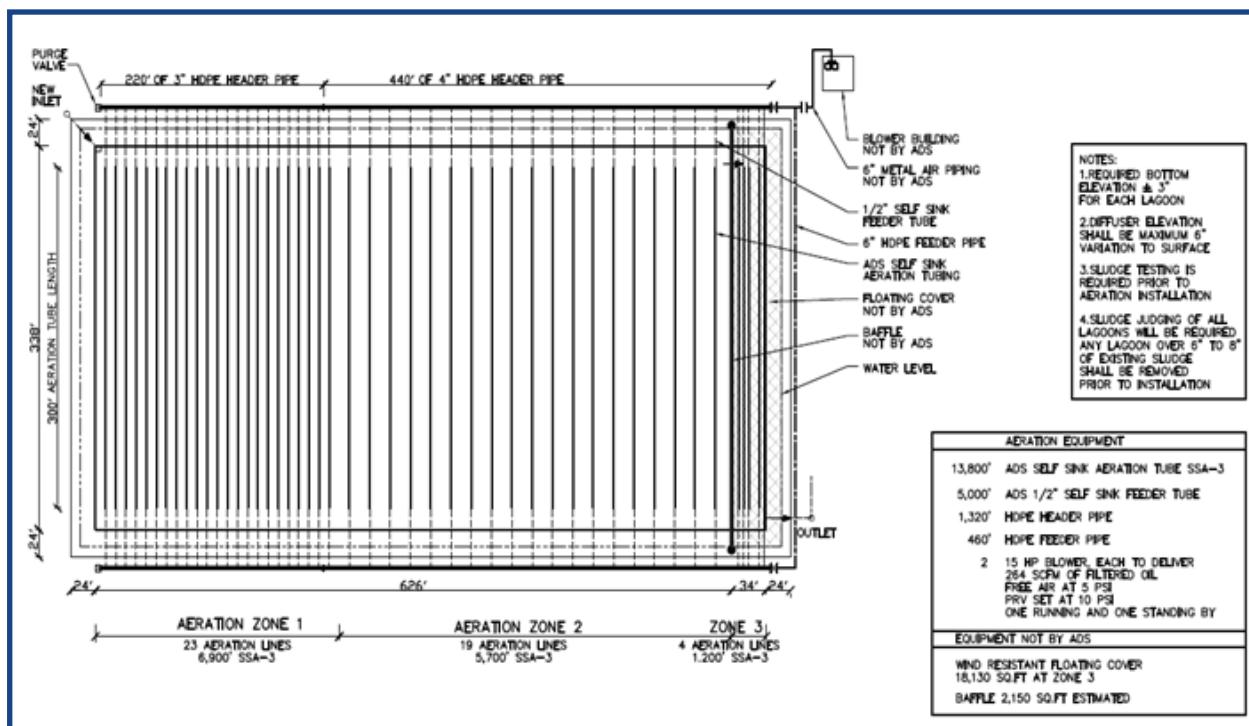


Figure 1: Illustration of the Town of Francesville's spacing of the aeration lines, the location of the baffle curtain, and the placement of a wind resistant floating cover used in the 2017 system upgrade.



◀ ADS aeration lines producing zone of influence on the surface of the primary lagoon (left)

➤ Fine-bubble diffusers capable of operating in below freezing conditions (Right)



◀ Many thanks to the operators for their cooperation during installation and after start-up to keep Indiana water safe and clean. The very quiet and highly efficient Kaeser blowers provide controlled fine bubble treatment to the sludge-water interface without lifting sediment. Kaeser's Com-paK blowers arrived fully-assembled and ready for installation. The diffuser installation was fast and easy from the top of dike without going into the wastewater.

## Air Diffusion Systems

Through dedicated engineering, superior oxygenation and outstanding mixing, this system has proven itself in converting lagoons into natural low energy treatment processes across the United States and Worldwide. ADS can do the same for your lagoon by filling-out our wastewater worksheet located on our website [www.airdiffusion.com](http://www.airdiffusion.com).

## Kaeser Compressors, Inc.

Kaeser is an industry leader in industrial compressed air equipment, including rotary lobe and rotary screw blower packages, rotary screw compressors, vacuum pumps, portable screw compressors, air treatment components, and other system accessories. Wastewater treatment plants across the country rely on us for air system solutions that are engineered for long life and continuous energy savings. Learn more at [us.kaeser.com/wwtp](http://us.kaeser.com/wwtp).