



Several 5 and 7.5HP Float-Mounted TORNADO Aerators are now operating in a waste pond. Afghan National Army Camp, near Jalalabad. Afghanistan



# TORNADOS Sweep through the Gamberi Desert

## THE FACTS

LOCATION: Gamberi Desert, near Jalalabad, Afghanistan

APPLICATION: Wastewater Pond

DATE OF INSTALLATION: Summer 2009

TOTAL PROJECT COST: \$90 Million

PROBLEM: Needed to treat wastewater from a military camp housing more than 4,000 Afghan National Army soldiers

SOLUTION: Purchased several Float-Mounted TORNADO Aerators

EQUIPMENT: 5 and 7.5HP Aerators

ENGINEER: US Army Corps of Engineers

## ABOUT THE TORNADO

- Self-Aspirating and Blower-Assisted Models available
- All stainless steel construction
- Ideal for activated sludge basins, sludge holding tanks, oxidation ditches, lagoons, ice control, and post aeration applications

## ABOUT AEROMIX

AEROMIX is a world leader in water and wastewater treatment equipment. AEROMIX offers full lines of treatment systems, aeration, equipment, and solar-powered equipment. Please visit us online at [www.aeromix.com](http://www.aeromix.com) to learn more.

## PROJECT BACKGROUND

Gamberi Garrison, is the largest Afghan National Army military post in the Nangahar Province of Afghanistan. The structure houses more than 4,000 soldiers. The 0.62 square mile (1 square kilometer) Garrison is located in the Gamberi Desert; near Jalalabad, Afghanistan and the Pakistan border. Construction on the \$90 million dollar project, began in early 2009 and included three battalion complexes, a medical clinic, training facility, wastewater treatment plant, and more.

The US Army Corps of Engineers evaluated several options for treating the wastewater from the Garrison, and selected the AEROMIX TORNADO type aerator.

## AEROMIX SOLUTIONS

AEROMIX recommended 5 and 7.5HP TORNADO aerators for aerating the waste pond at the wastewater treatment plant. The TORNADO aerators provide strong directional mixing and better oxygen distribution. The aerators are moored to posts on the shore of the waste pond.

## HOW IT WORKS

The TORNADO Aerator mounts at an angle in the water with the motor and air intake above the surface and the propeller below. The motor rotates, turning the solid shaft which spins the propeller. Water moves at a high velocity through and near the propeller blades, creating a low pressure zone at the hub. The low pressure draws air through the stationary intake and down the large-diameter draft tube, until it exits into the water at the propeller hub. Turbulence and flow created by the propeller break-up the air bubbles, mixing the basin and dispersing oxygen.

Horizontal water movement generated by the TORNADO Aerator maximizes oxygen transfer in three ways: **1) by pulling un-oxygenated water in while pushing oxygenated water away 2) by minimizing the coalescence of bubbles in the plume, and 3) by increasing the air aspiration rate.**

## FEATURES

- Corrosion- and UV-resistant stainless steel construction throughout
- Solid shaft vibration-free design
- Patented sealed tapered roller bearings
- Low-maintenance patented
- Replaceable modular seals
- Simplified motor change-out and motor/shaft coupling

In addition, thorough factory testing for each TORNADO Surface Aspirating Aerator ensures the equipment meets the stringent AEROMIX quality standards.