

March 25, 2008

An eco-friendly solution for Afghan Soldiers

By SSG David Waddell
O&M Site Manager

Herat, Afghanistan- When you drive through the gate at Camp Zafar, an Afghanistan National Army (ANA) Base about 100 Km from the Iranian border, at first glance it looks like any other ANA base with rows of cream colored one-story buildings surrounded by a perimeter wall. That is until you notice there are several peculiar shaped, bright green cement structures sporadically placed throughout the compound; each one is shaped slightly different from the others, about two feet high, with a hole near the bottom and a trough-like cement ramp leading up to the hole. Is this the Afghan version of a putt-putt golf course? If so, shouldn't some of these Soldiers have putters and score cards in their hands? It turns out; this is not a putt-putt golf course at all, but an ingenious irrigation system that the US Army Corps of Engineers developed to recycle the effluent water at Camp Zafar to help beautify the facility. Yep, you heard right; an eco-friendly irrigation system.



A putt-putt golf like irrigation head feeds recycled water to trees along a road at Camp Zafar.



A platoon of ANA Soldiers march by one of the irrigation heads at Camp Zafar.

Camp Zafar is built on a gently sloping stretch of dry, rocky ground at the base of a mountain range, where the temperatures average about 120 sweltering degrees in summer and plunge into the low 30's during the cool, dry winters. The base is located about 10 Km from the nearest working well and more than 20 Km from the nearest river or lake, so water is a precious commodity that has to be trucked in year-round. The well-intentioned Afghan Soldiers stationed at Camp Zafar are very proud of their base, but they were using up almost all their potable water to irrigate the trees and gardens, which was a major problem.

The US Army Corps of Engineers Operations and Maintenance program is designed specifically to help Afghan Security forces maintain their facilities. After analyzing the problem, the O&M staff in Herat came up with an innovative, eco-friendly fix that would allow the Soldiers to water the trees and flowers, and still give them ample potable water to drink.

They installed a submersible pump in the compounds effluent pond, and then ran a feed line to three large water storage tanks located at the highest point of the facility. Gravity then pulls the recycled water from the storage tanks into a network of underground irrigation lines which disperses the water to 31 of the putt-putt like irrigation heads which are strategically located near the trees and gardens. Each irrigation head is designed slightly different to take advantage of the terrain and allow gravity to easily move the water where it's needed. It took about three months to complete the project, and now with a flick of a switch, the nutrient-rich recycled water flows freely to the thirsty trees and flowers throughout the compound. Thanks to the Army Corps of Engineers, the 2,300 Soldiers at Camp Zafar have plenty of potable water to drink, and they can do it in a lush, green environment.



The effluent water is pumped into three large storage tanks located at the highest point at Camp Zafar.



Potable water is trucked into Camp Zafar year-round.



Water is pumped from the effluent pond to irrigate the trees and gardens at Camp Zafar.