

Two Wrongs Make A Right To Eliminate Potable Water Usage

Bell Nob Golf Course
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Issue

The Bell Nob Golf Course is a municipal course located in Gillette, Wyoming. Although antelope still roam the property as part of the vast plains around the course, the human population in the area has increased significantly during the past two decades. The expanding city was reaching the limits of its water supply and began raising water rates to help curb usage and promote conservation. Rates were raised to a level that would have required the golf course to spend over \$350,000 on water in 2011. Irrigating with potable water was no longer economically sustainable, the golf course needed to develop an alternative.

Action

There were two available sources of non-potable groundwater. Unfortunately neither was suitable for golf course irrigation because of high bicarbonates and low calcium in the water. Water from each source had been used to irrigate turf in the past and had caused poor turf quality. After running some tests and mixing the water from both sources together it was determined that the weaknesses of one source were countered by the qualities of the other. Mixing the water made it suitable for irrigation.

In 2012 a water storage facility was built on the property that could hold water from both sources and mix it together. Because the course operators were uncertain how much water the wells would produce, they built a reservoir with a substantial 154 acre-feet of storage capacity. In fact, the reservoir was so large that it required a downstream floodplain study along with state inspection and permitting.

Results

Dwayne Dillinger, CGCS, reports that the new system is producing usable irrigation water for \$1.30 per 1000 gallons as opposed to \$4.23 for 1000 gallons of potable water. In addition to the unit cost savings, Bell Nob Golf Course has also made a commitment to reduce overall water usage. They shifted their focus to providing firm and fast playing conditions and decreased the total acreage of irrigated turf from 120 to 110 acres, leading to significant water savings. Prior to changing water sources, the golf course used approximately 90 million gallons of water per year on this very windswept site. The course has since reduced water use to 70 million gallons annually, a 23-percent reduction.

Developing a non-potable water source has proven to be an economically and environmentally sustainable solution for Bell Nob Golf Course and the city of Gillette, Wyoming. Golfers at Bell Nob enjoy a great course with excellent playing conditions. At the same time, 90 million gallons of potable water were shifted away from golf course irrigation and made available for the growing population. Mixing water sources turned a “lose-lose” situation into a “win-win”.



In 2011, irrigating with potable water would have cost Bell Nob Golf Course nearly \$350,000. Mixing two non-potable water sources provided an economically and environmentally sustainable solution.