

CASE STUDY

Well and Storage System Decreases Potable Water Use

Bel-Air Country Club
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Issue

Severe drought and mandatory water use restrictions have occurred in many parts of the country. Some golf facilities have developed wells to reduce their reliance upon public water sources to cope with this issue. In Los Angeles, Bel-Air Country Club has been irrigating primarily with well water for several years. However, due to topographical challenges they could not use their well to irrigate a six-hole portion of the golf course. A new well was drilled and developed on that portion of the course, but it would only yield 20 gallons per minute (GPM). They needed an efficient and economical way to store this small, but valuable amount of water and pump it into the irrigation system.

Action

Ten tanks, each with a storage capacity of 6,600 gallons, were installed to store water from the well. The tanks fill continuously with well water at 20 GPM and a separate pump station feeds the stored water into the irrigation system. The well, pump station and public water inlet all have pressure and flow sensors that communicate with one another to maximize the amount of well water used on the golf course. The new sensors also measure total water use at each point so that irrigation can be monitored and managed effectively.

Numerous parties were involved in the design and installation of this system, including golf course managers, irrigation consultants, pump specialists, electricians and hydrogeologists. Communicating goals and timelines between all parties and to golfers was a critical component of the project's success.

The initial investment to develop the system was approximately \$375,000 and included:

- Well installation and development
- Pump, motor and controls for connection to the irrigation system
- Storage tanks
- Pump and motor inside the well

Results

Prior to installing the well and storage tanks, holes 11-16 at Bel-Air were irrigated entirely with potable water at a significant cost. The new system generates 28,800 gallons of water per day and 8,600,000 gallons per year. This accounts for 28.8 percent of the water used on that portion of the golf course. Purchasing the same amount of potable water would cost \$231 per day and \$69,300 annually.

The new well produces a relatively small amount of water for a golf course in the Southwest. However, even small amounts of well water can significantly reduce potable water use and provide considerable cost savings over time.



Well water is stored in large tanks and pumped into the irrigation system. Using well water decreases the golf course's reliance on expensive potable water.