

**Case Study** 

# Valley of Fire State Park Replacement Well Site

Nevada, USA

# Willowstick locates the drilling sites most likely to produce high quality water in sufficient volume

### Looking for both quality and quantity

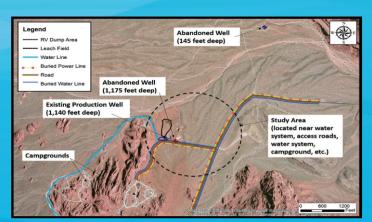
The Valley of Fire State Park is located in an extremely dry desert area. Not only is water scarce, it is also of uneven quality.

The Park had only one operating production well that showed signs of aging. They had attempted drilling two additional wells, but both were immediately-abandoned due to poor water quality.



#### Avoiding connectivity with the existing well

The Park asked Willowsick to help site a new well near the Park's existing infrastructure (such as campgrounds, access roads, power lines, water lines, water storage and distribution facilities, etc.) without affecting the existing production well.



Willowstick provided a detailed proposal that recommended the optimum coordinates, angle, and depth to achieve the best possible water quality.

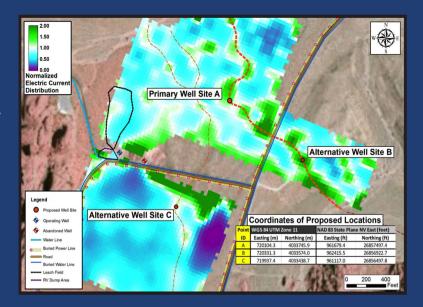
Willowstick's analysis identified the lower reaches of the sandstone formation where quality and quantity of groundwater are assumed to be the best.

### Locating well recharging sources

The proposed well site is located such that recharge from the west, southwest and south drainages will eventually flow toward the well.

## Finding the only two possible drilling sites in the area

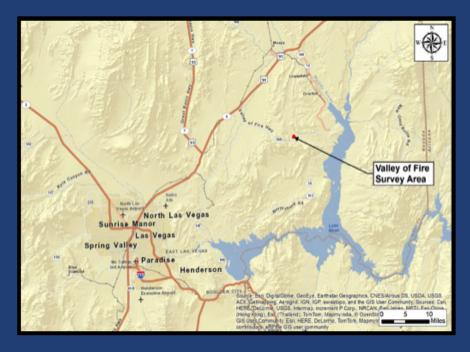
Willowstick also identified an alternative site in case the primary site did not work out.



If water quality is found to be poor in the primary well, the Park can drill in a secondary fault zone that is close to but not connected to the first.

They have the assurance that they would not be double-dipping into the same water source with the secondary well site.

Because Willowstick was able to help the Park view the water production potential of the area in such focused detail, the Park will be able to plan future public services with much more confidence.



#### **Epilogue**

The Park drilled two wells at the recommended locations. Water was found at the primary site, but it was only about 10 gpm at about 600 -700 feet. They drilled at the secondary site to about the same level, and have achieved about 30 gpm so far.

Preliminary water quality tests are positive