

**LAS VEGAS VALLEY WATER DISTRICT  
ASR OPERATIONS FIELD TRIP**

Las Vegas, Nevada  
Saturday, November 3, 2007  
ISMAR6 Sponsored Event

Transportation to Las Vegas by commercial flight from Phoenix:

Check with airlines (Southwest Airlines and U.S. Airways have numerous flights). A one-way ticket to Las Vegas from Phoenix costs between \$50 and \$100. The flight takes a little over one hour.

Airline websites:

Southwest Airlines: <http://www.southwest.com/>

U.S. Airways: <http://www.usairways.com/awa/>

Tour Fee: \$30 to cover cost of local bus/van and sack lunch. Fee will be collected in Las Vegas at beginning of tour.

Tour Registration: Please contact Barbara Murphy ([bmurphy@clearcreekassociates.com](mailto:bmurphy@clearcreekassociates.com))  
telephone: +1 (480) 659-7131

Hotel:

Gold Coast Hotel and Casino: 4000 W. Flamingo Rd., Las Vegas, Nevada 89103

For reservations call: +1 (800) 331-5334

Room rate (single occupancy) varies between \$134 and \$144/night depending on the day of the week. Please contact hotel directly to make reservation.

Tour Meeting Location, Time and Duration:

Meet on Saturday November 3, 2007 at 8:30 am PST at the front entrance of the Gold Coast Hotel and Casino. The Tour Bus will leave the parking lot at 9:00 am and return to the Gold Coast Hotel and Casino at approximately 4:30 pm.

Transportation:

Transportation to the water utility facilities will be by bus or van, depending on the size of the group. Due to the secure nature of the facilities, personal vehicles will not be permitted. Personal vehicle exceptions must be approved 2-weeks prior to the tour to allow security checks and authorization processing.

Lunch and Drinks:

Sack lunches and chilled bottled water will be provided.

Tour Synopsis:

The Las Vegas Valley Water District is one of the ten largest water utilities in the United States and has been the leader in the nation in direct aquifer recharge through wells for nearly 20 years. The utility has achieved "World Class" status in water management, distribution, and conservation programs. Come join us for a day to take a closer look at the inside workings that makes this massive recharge program work.

The tour will start at the beginning – the original location of the desert oasis, once active with free-flowing springs and natural creeks. The impact of basin over-pumping is displayed by the massive subsidence crater and well derricks sticking high above the ground level. A casual stroll through this historical landscape will pass by water structures from the late 1800's up to modern day aquifer storage and recovery wells. The tour will then take a quick look at the cutting edge technology used to control the operations and water service to nearly one million people.

Our lunch stop will be at the Gardens at the Springs Preserve. The new facility serves as an attraction to help educate visitors about sustainable living in a desert environment and one can see how lush and beautiful a desert landscape can be beyond the rocks.

Next we will see how aquifer recharge technology is used at the North West Water Resource Center to support re-use programs. In this facility, tertiary treated sewage effluent water is mixed with system water to irrigate numerous golf courses. This is unique because the system water supply necessary for the irrigation year is piped into the city and placed underground during the winter months. The water is then pumped from the aquifer as needed to meet the golf course deliveries during the summer months, reducing the max-day delivery strain on the distribution system.

A 100 MGD recharge program includes just more than wells. Extensive upgrades to pump stations, distribution piping, and storage reservoirs were necessary to carry the extra capacity. The final stop will include a massive underground pumping facility and storage reservoir. This facility utilizes cutting-edge water distribution technology accompanied by excellent public displays and community acceptance. As we arrive, the impression will be that we are entering a typical gated residential housing community. The tour will show how each house in the neighborhood is actually a component to an industrial facility.

#### Tour Outline:

1. North Well Field (NWF) and Las Vegas Springs Preserve (9:30am to 11:15am)
  - a. LV Recharge program overview and reason (in PS viewing area?)
  - b. Old Well 5 subsidence bowl – Where it started and ended (NWF walk)
  - c. Wells 13 and 34 observation – Recharge wells and basin management
2. SCADA System (11:30am to 12:00 noon)
3. Lunch at the Gardens at the Las Vegas Springs Preserve (12:15pm to 1:30pm )
  - a. Recharge and Conservation are system management tools
  - b. Self guided tour of Gardens at the Springs Preserve
4. North West Water Resource Center – ASR integration (2:00pm to 2:45pm)
  - a. Recharge philosophy used in the water re-use center
  - b. Well 121 operation demonstration
5. Spring Mountain-Durango Pump Station (3:15pm to 4:00pm)
  - a. ASR storage and distribution requirements
  - b. Public compatibility of industrial facilities
6. Return to Gold Coast Hotel and Casino at approximately 4:30 pm.