

Ram Jack Location: Ram Jack Las Vegas | Las Vegas, NV | 877-452-2587



If a primary manifold at a water treatment plant for a large city fails or has to be shut down, it can mean significant water supply problems for a large population of people. Employees of the BNR Waste Water Treatment Plant, serving the City of Las Vegas, were facing such a crisis. After employing temporary measures to stop foundation settlement damage to a primary manifold, they contacted Ram Jack Las Vegas for a permanent solution.

### **SITUATION**

The primary manifold at the BNR influent pumping station in Las Vegas, part of the Water Pollution Control Facility, had settled several inches since its original construction. Associated with waste water being collected by the city sewer system, soil expansion and contraction likely exacerbated the problem, which was in need of rapid repair to prevent severe water treatment issues.

### **PROPOSED SOLUTION**

Working with HDR Engineering and the City of Las Vegas, Ram Jack Las Vegas professionals proposed the use of five W12x30 wide flange beams and nine helical piles to lift and support the foundation. Each of the nine helical piles would be installed through cored holes in the existing pavement under the manifold system. The primary beam would be supported by five helical piles and would support four perpendicular beams and four valves. The perpendicular beams would support the 42 in. diameter header pipe. The helical piles would be used to lift and stabilize the foundation for the primary manifold.

### **OUTCOME**

Because of the need to maintain the water treatment process during the repair, Ram Jack Las Vegas worked at night, allowing for slowing of the system if there was a leak or problem. An 11,000 lb. mini-excavator was used to work above and around the manifold. After coring the pavement, the 2 7/8 in. helical piles with beam brackets were installed according to plan, reaching an average depth of 35 ft. Jack hammers were needed to penetrate a tough layer of soil about five feet deep during helical pile installation. The beams were placed and support systems installed. When finished the foundation was lifted 2.5 in. for maximum practical recovery and to provide maximum support for the primary manifold. No leaks were noted at any joints or welds in the water system. The City of Las Vegas and HDR engineers were completely satisfied with the job performed and relieved the job was completed without damage to the water treatment system.

