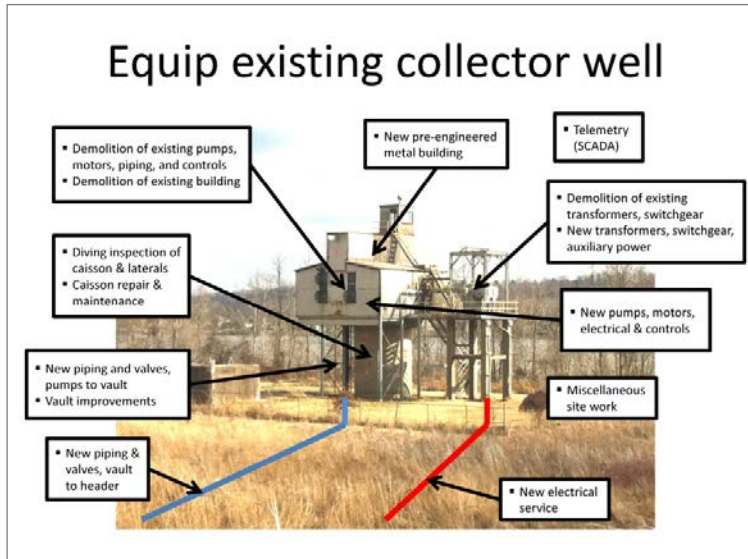


# Evaluating the Potential Capacity of a Redeveloped Well Field

Charlestown State Park, Indiana



One example for equipping an existing defunct collector well with pumps and other equipment and constructing a new pump house.

## Key Project Areas

Groundwater Flow Modeling

Geophysical Surveys

Water Supply Planning

Water Quality

Conceptual Design & Cost Estimates

In Southern Indiana there are only a few large rivers, several marginally productive aquifers, and many communities that depend on small surface water reservoirs for their drinking water. A tenuous water supply makes it difficult to attract businesses, which in turn suppresses the economic vitality of the region. Consequently, the State was interested in understanding the water supply potential of an aquifer adjacent to the Ohio River.

In the 1940s, this narrow but prolific aquifer supplied water to an ammunition plant. Currently, the mechanical components of remaining water supply infrastructure are old and defunct, but the aquifer can still deliver an abundant and sustainable water supply.

Layne carried out an extensive investigation to determine the potential capacity of a redeveloped high-capacity well field at the Park. We employed groundwater flow modeling, geophysical surveys, and conceptual layouts and estimated costs for 16 water demand scenarios. Our modeling and field analysis combined with the alternative scenarios analysis will be used by the State to inform planning and investment decisions related to the development of this water supply.

