



*Photo of construction showing circular cells used (above and lower left), and view of Hydroelectric Plant where MRCE designed a cofferdam to protect the structure from possible flooding reaching a 65' head (lower right).*

## Cofferdam Design for Belleville Hydroelectric Plant

Belleville, West Virginia

### PROJECT HIGHLIGHTS:

- Comprehensive Geotechnical and Structural Engineering
- Design of Cofferdam for Protection of Structure
- Interaction with Public Agencies

MRCE designed a cellular sheet pile cofferdam to permit the construction of a low-head hydroelectric facility adjacent to the Belleville Lock and Dam on the Ohio River. Excavation for the power plant will extend 110 feet below existing grade (60 feet to top of rock and an additional 50 feet into rock.) The cofferdam was designed to resist a 50 year flood (65 foot head) while maintaining minimum navigation pools upstream and downstream during power plant construction. MRCE received permission from the Corps of Engineers to modify the contract design and tie the cofferdam into the existing dam which will serve as part of the cofferdam, eliminating the need for a separate cofferdam tie-in structure which would have been difficult to construct due to head room restrictions with the dams overhead structure.