



PROJECT PROFILE

MAPLE RIVER DAM CASS COUNTY, ND

CLIENT:

Cass County Joint Water Resource District

LOCATION:

Cass County, ND

KEY DATES:

Construction Began: Fall 2004

Operational: Fall 2006

Completed: Summer 2007

PROJECT COST:

Total Cost: \$29,750,000

North Dakota State Water Commission: \$14,675,000

Red River Joint Water Resource District: \$7,537,500

Cass County Joint Water Resource District: \$7,537,500

PROJECT FEATURES:

Drainage area: 902 miles

Capacity: 60,000 ac-ft

Surface area: 2,800 acres

DAM CROSS SECTION:

Top elevation: 1,063 ft

Height of fill: 73 ft

Top width: 25 ft

Side slopes: 3:1 upstream

4:1 & 6:1 downstream

SPILLWAY INFORMATION:

66" RCPP@990 ft

129' concrete baffle; block chute@1,048 ft

1,200' earthen spillway@1,055 ft

Challenge

Getting the permits required for the project was the biggest challenge, raising issues related to the environment and cultural resources and requiring considerable time and expense. Right-of-way acquisition was also a challenge.

Solution

Moore Engineering coordinated all necessary items related to the permitting process including habitat mitigation, cultural resources surveys, and other items related to the Environmental Impact Statement, as well as right-of-way acquisition.

Constructed over two years, the Maple River Dam stands 73 feet high and controls a drainage area of 902 square miles. This Cass County Joint Water Resource District facility is a dry main stem dam that stores 60,000 acre-feet of floodwater.

Project Outcome

The dam reduces depth and duration of flooding downstream in the Maple and Sheyenne Rivers. In 2009, the Maple River Dam reduced the first peak from approximately 7,000 cfs to 950 cfs at the dam site. Without it, downstream flooding would have been significantly worse.

Total project cost was approximately \$30,000,000, translating to a cost efficiency of \$500 per acre-foot of storage.



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