

# Additional Theodore Roosevelt Dam Photographs

**Figure 1**





**Figure 2**



# Excerpts from “The Hoover Dam: Controlling Water in the West” (Adapted)

by Marcia Amidon Lusted

- 1 The 1,450-mile-long Colorado River is a vital waterway in the West. It is a resource for 30 million people. One of the greatest man-made marvels, the Hoover Dam, was built after flooding of the Colorado River damaged farms and towns. The dam was designed to harness that river’s potential power. Spanning the river between Nevada and Arizona, the dam supplies water, provides hydroelectric power, and controls flooding for seven states in the American Southwest and Mexico.
- 7 Beginning in June 1933, workers poured concrete 24 hours a day, seven days a week for two years. The dam contains a total of 3.25 million cubic yards of concrete, which is enough to pave a two-lane highway from San Francisco, California, to New York, New York!
- 8 In addition to the dam itself, workers built spillways—channels to carry off excess water. The men also built a hydroelectric plant to convert the power of moving water into electricity. Falling water causes a turbine to spin, which generates electricity. When the dam was completed, the river still flowed through two of the diversion tunnels, which were outfitted with valves. The valves control the water that is released downstream for irrigation purposes to support California’s Imperial Valley, which is an important commercial agricultural region.





- 9 As the released river was allowed to flow again, it filled up the canyon behind the dam. The body of water that resulted—Lake Mead—took almost seven years to fill completely. Water from Lake Mead flows through the dam’s intake towers and pipes and into the power plant. The power plant produces enough energy to serve 1.3 million people a year.
- 10 On September 30, 1935, President Franklin D. Roosevelt dedicated the Hoover Dam. It reaches a height of 726.4 feet. It has a base thickness of 660 feet (the equivalent of two football fields end to end) that tapers to 45 feet at the top. Today, Hoover Dam continues to control the waters of the Colorado River and supply electricity. It was designated a National Historic Landmark in 1985. Lake Mead, the largest reservoir in the United States, was the first site to be designated a national recreation area. Nearly 8 million people visit the dam each year.

## LESSON 23 RESOURCE C

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- 2 Built as a concrete arch-gravity dam, the Hoover Dam is remarkable on many levels. It was the largest government project at the time. The job was so complex that it generated only a handful of bids, and the winning bid—\$48.9 million (about \$835 million today)—came from an organization of several smaller companies who had joined together. It combined government-funded public works with private enterprise ingenuity. It provided jobs for an average of 3,500 unemployed men desperate for work during the Great Depression.
- 3 Construction began in 1931 and was completed in 1936, almost two years ahead of schedule. The location chosen for the dam, Black Canyon, was a remote site, so roads and railroad lines had to be built first to make it accessible for workers and materials. Workers also had to construct tunnels, buildings, intake towers, and penstocks associated with the operation of the dam. Many of the men employed to work on the dam brought their families with them, and a town was built to provide temporary housing for the thousands of workers. Some families remained after the dam was completed. Boulder City, Nevada, the permanent town that resulted, is still inhabited today.
- 4 Before work could begin on the dam, the Colorado River had to be temporarily diverted. Workers spent a year blasting and carving out four diversion tunnels through the cliffs along the Colorado River near the dam site. The 50-foot-diameter tunnels were used to alter the river’s route around the construction site so that it could be dried out and construction could be started on the riverbed. A cofferdam was built to direct the river to flow into the tunnels. Workers then removed vast amounts of loose silt and gravel from the riverbed to make sure the dam would rest on bedrock.
- 5 Workers tackled dangerous tasks and difficult conditions, such as handling explosives, scaling the high canyon walls hooked only to rope harnesses, and enduring summer temperatures of above 120°Fahrenheit. About 112 workers died during construction. Although the dam created jobs at a time when it was difficult to find employment, African Americans and Native Americans faced discrimination and made up less than one percent of the work force.
- 6 The dam could not be created in one piece because it would have required more than 100 years for such a massive amount of concrete to completely cool and set without cracking. Instead, a series of 215 wooden blocks were built. Once the blocks were in place, a cable system transported large buckets of wet concrete, which was poured into them. To allow time for the concrete to set, the columns of wooden blocks were staggered and filled five feet at a time. A system of pipes carrying ice water also helped the concrete to cool and harden quickly. Then the wooden blocks were disassembled and moved to the next section. Later, cement was poured to fill in the spaces around the concrete blocks and bond them together.





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