350 feet and beyond. The dam is built of a concrete core 1½ feet wide at its top, which is 7 feet below the top of the dam, and 3 feet wide at the surface of the ground. The trench below the surface of the ground averages 6 feet wide and is filled with concrete and fillers of rock. The water surface will be 3 feet below the top of the dam, with a top width of 10 feet. On either side of the core wall there is a cushion of earth 3 feet thick that is carried up to the top of the dam, and beyond this is a heavy rock fill having slopes of 1½ to 1 on the water side, and 2 to 1 on the lower side. The water side is protected by hand laid rip rap. There is a concrete culvert through the dam in solid rock with a sluice gate built of 3 thicknesses of 2" plank set in heavy wooden frames anchored to the concrete, and operated from a gate house set on a heavy tower. The gate rod enters a cast iron standard, having a brass nut and ball bearings. All woodwork is coated with carbolineum and tar.

Total excavation in rock	9,177	cu. yds.
Earth filling around wall	1,471	" "
Riprapping, hand laid	1,471	sq. "
Concrete wall (6 to 1)	581	cu. "

The concrete in place cost $12.00 per cu. yd., and the cost of the rock in place varies from about $1.00 to $0.42 per cu. yd. The spillway is 40 feet long.

Dam No. 2 is situated about half a mile east of Dam No. 1, and is similar in construction. Its length is 255 ft. with a maximum depth of 41 ft., or 25 feet above the ground surface. The foundation is all in solid rock, except for a length of about 30 feet where the foundation was placed in hardpan at a depth of 14 feet below the ground surface. The rock fill being very heavy and large no riprapping was done.

Total excavation in rock	8,555	cu. yds.
Earth filling around wall	850	" "
Concrete core wall	290	" "

As a precaution, a 12-inch concrete pipe, set in a concrete bed, was built provided with a 12-inch gate, gate tower and house. All the rock for the dam had to be blasted and hauled to the dam, using 3 sets of track and cars and derricks.

Dam No. 3 is across a slight depression 250 feet long and 4 feet deep and formed of rock and earth.