

tubes and flumes, and in clearing a sufficient depth in front of the racks. The work was commenced immediately upon the completion of the first up-stream cofferdam and was completed to proper grades in October, 1913.

The rock was handled by three main derricks capable of reaching every part of the excavation. From them it was deposited by another derrick on the crushing plant platform on the bank above. The plant consisted of two No. 2½ Climax steam-driven jaw crushers. From these the rock was elevated directly to the bins, above which it was screened into inch and 2½-inch sizes. The bins, which were capable of holding 50 cu. yds. of 1-inch and

to the working platform of the mixing plant. Later, an industrial track brought it from the railway siding to the top of the hill above the plant and it was delivered, as in the former instance, by chute.

**Dam and Spillway.**—The dam, which is of gravity type of plain concrete, was constructed in 50-ft. sections with expansion joints between the sections. It runs in a straight line from the generator room and is in two sections, the first being 221 ft. long and extending to the western 8-ft. solid pier of the Stoney sluice. The second section extends from the sluice to the east bank of the river, a distance of 450 ft. Here it is met by an earth embankment 443 ft. in length. The latter has a core wall for its entire length, the maximum section of the

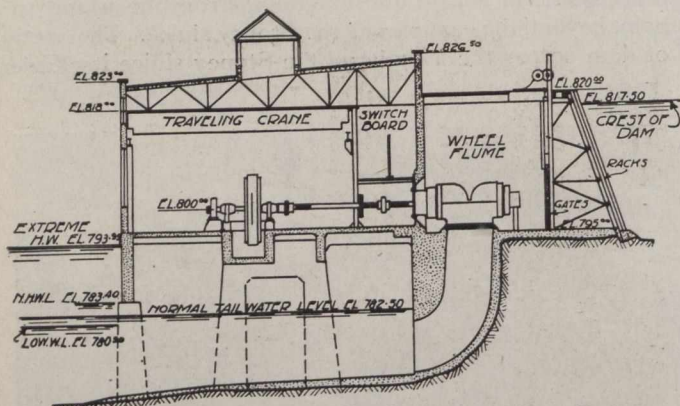


Fig. 6.—Cross-section Through Generator Room.

120 cu. yds. of 2½-inch stone respectively, were supported on posts set on sills. They were 22 ft. x 12 ft. high and the siding consisted of 2 x 8's, laid flat. The adjoining sand bin was of similar construction. The sand was conveyed to the bin by an incline railway from the sand dump on the west bank immediately above the cofferdam.

The bins were set sufficiently high to allow the operation directly under them of two No. 2½ Smith mixers. These dumped directly into side-chute concrete cars of ¾-yard capacity, run on trestles to the power house forms, and, by means of an incline railway, up the hill to the wood-preparing and screen rooms of the mill, then under simultaneous construction. In the early stages of construction the cement was conveyed by the sand railway to the top of the bins and delivered thence by chute

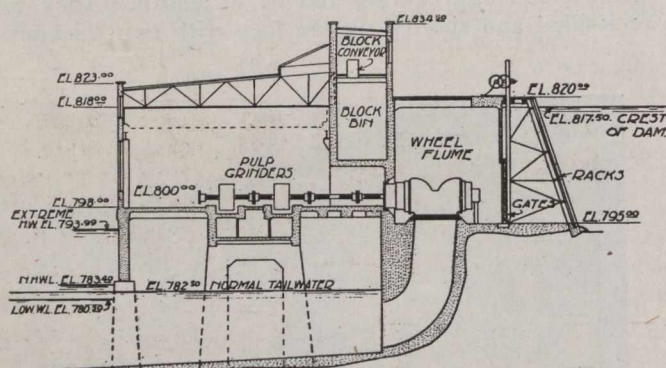


Fig. 8.—Cross-section Through Grinder Room.

wall being 12 ft. high and 24 ins. wide at the top, tapering to 36 ins. at the base. The earth embankment is 12 ft. in width at the top with a 2:1 slope on the up-stream side, which is riprapped, and a 1½:1 slope on the down-stream side. The maximum height of the dam is just east of the Stoney sluice, where it attains 32 ft.

The dam was commenced in April, 1913, and completed in August of the same year; 7,492 cu. yds. of concrete and 6,040 cu. yds. of earth were used. The concrete was placed from a plant established at the south of the generator room of the power house. To it stone and sand were transported by a trestle which crossed just below the upper cofferdam. The concrete was hoisted by a 90-ft. tower and delivered by chute into a hopper 200 ft. distant, from which it was deposited along the dam by Ransome concrete carts. The Stoney sluice was supplied and erected by the Dominion Bridge Co.

**Power House.**—This structure, which includes the pump room at the north side, is 361 ft. long and 52 ft. 6 in. wide. The pump room rests entirely on rock, the flumes and breast wall of all the units are also on rock foundation, while the grinder room and generator room are supported on three rows of battered piers, most of which are set upon reinforced concrete footings resting on the boulders below the original falls, where rock foundation is not accessible. A rock-

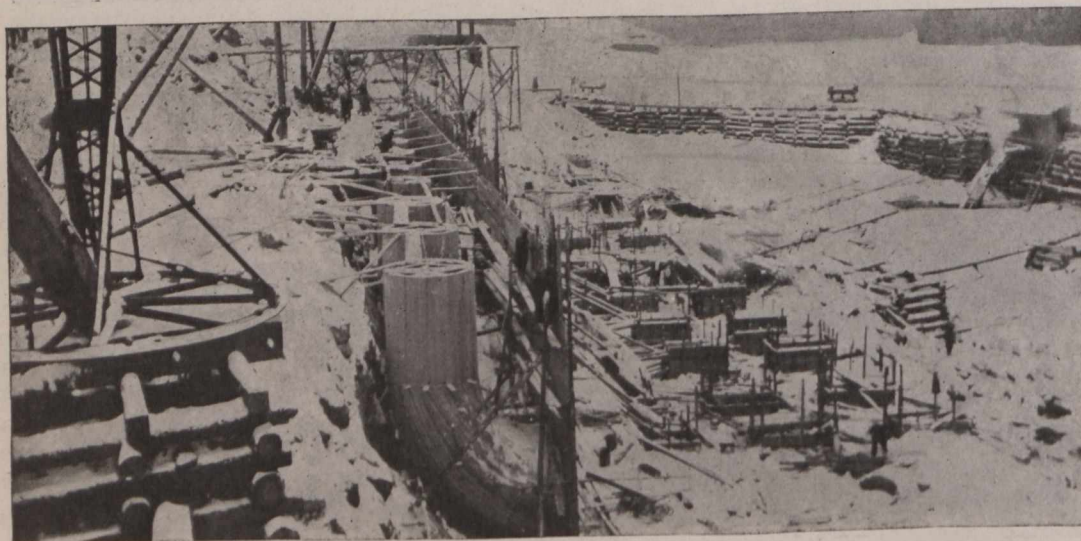


Fig. 7.—Power House Construction, Showing Draft Tube and Pier Forms and Cofferdam, Looking North.