

the backfill to permit inspection from the outside when the reservoir was put into service.

The structure is equipped with suitable connections for circulation and for cleaning out.

noted in Fig. 10, the chemical storage and tanks are located above the pump room.

This unique system whereby Medicine Hat is provided with 6,000,000 gallons of water per day and 1,200 kw. of electrical energy with one boiler, one turbo-generator,

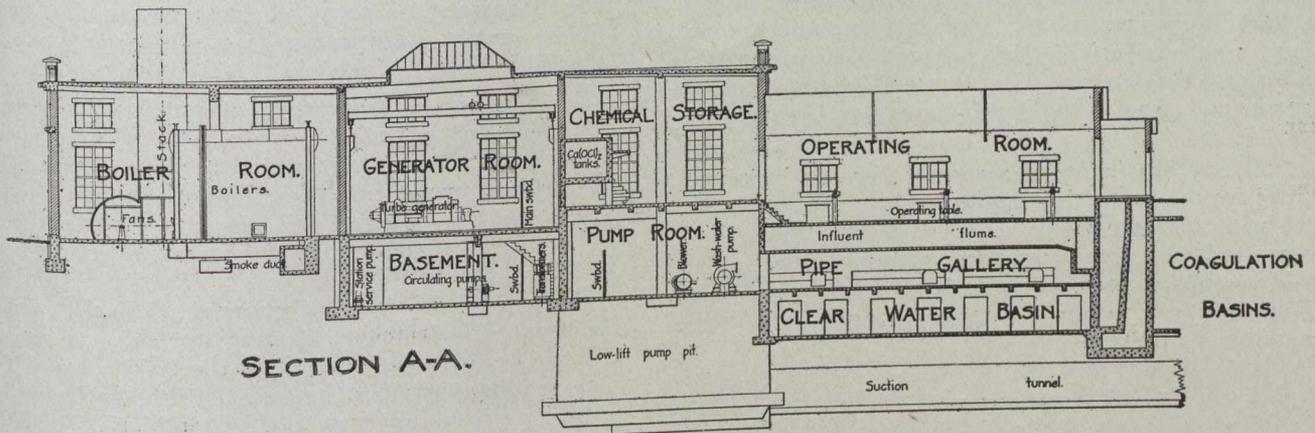
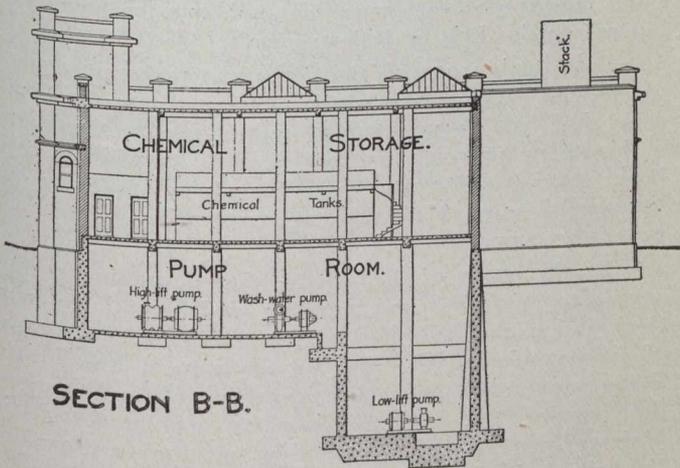


Fig. 10.—Sections of Power and Pumping Station.



one high-lift and one low-lift pump in reserve, has been developed according to the designs of Messrs. R. S. and W. S. Lea, consulting engineers of Montreal. It was carried out while Mr. A. K. Grimmer was city engineer. Messrs. Fyshe, Martin and Company, of Calgary, were

The general features of the power development are illustrated in Figs. 9 and 10. The boiler room comprises four 400-h.p. water tube boilers set in two batteries. These are gas-fired and induced draught is provided by two steam-driven fans in the smoke duct, as illustrated, discharging immediately above the roof through an 8-foot steel stack. One multi-stage turbine-driven feed pump is employed, with a plunger feed pump in reserve. Both connect with a concrete feed water tank supplied by the discharge main or by service pump from the sedimentation basins.

The boiler and generator rooms are on the same level. The latter is equipped with two turbo-generator units each consisting of a 3,600 r.p.m. steam turbine direct connected to a 2,200-volt, 60-cycle, 3-phase, 750-kv.a. Siemens generator. The turbines were supplied by Fraser and Chalmers, of Montreal. Each unit is equipped with a Koerting ejector condenser, water for which is drawn from the discharge header of the low-lift pumps, and boosted by a small centrifugal pump driven by motor. The latter also drives a centrifugal return pump with submerged suction in the hot well, and whereby any desired amount of the water from the hot well is returned to the coagulation basins.

There is a motor-driven and also a steam turbine-driven exciter for the main unit. As shown in Fig. 9, the condenser, circulating pump, service pump and transformers are located on the lower floor level.

The building itself is of reinforced concrete with brick and tile curtain walls and a flat concrete roof. As

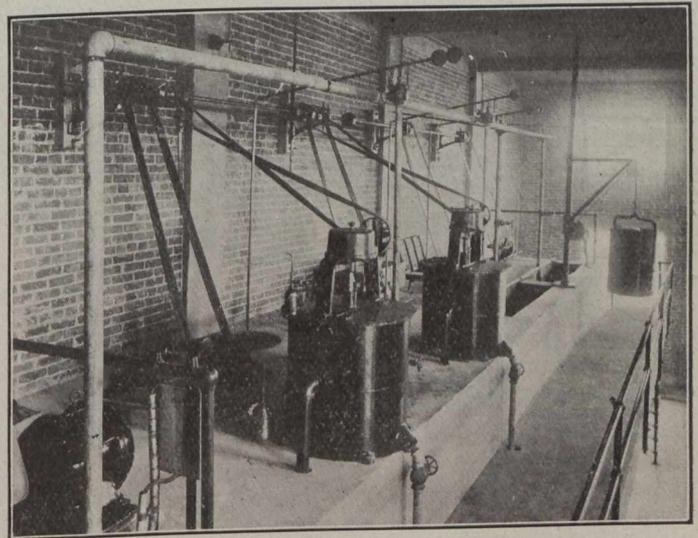


Fig. 11.—Solution Tanks and Operating Apparatus.

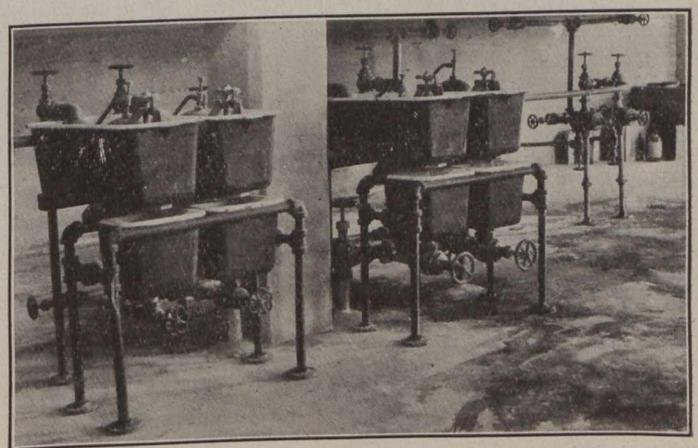


Fig. 12.—Orifice Tanks and Connections.