

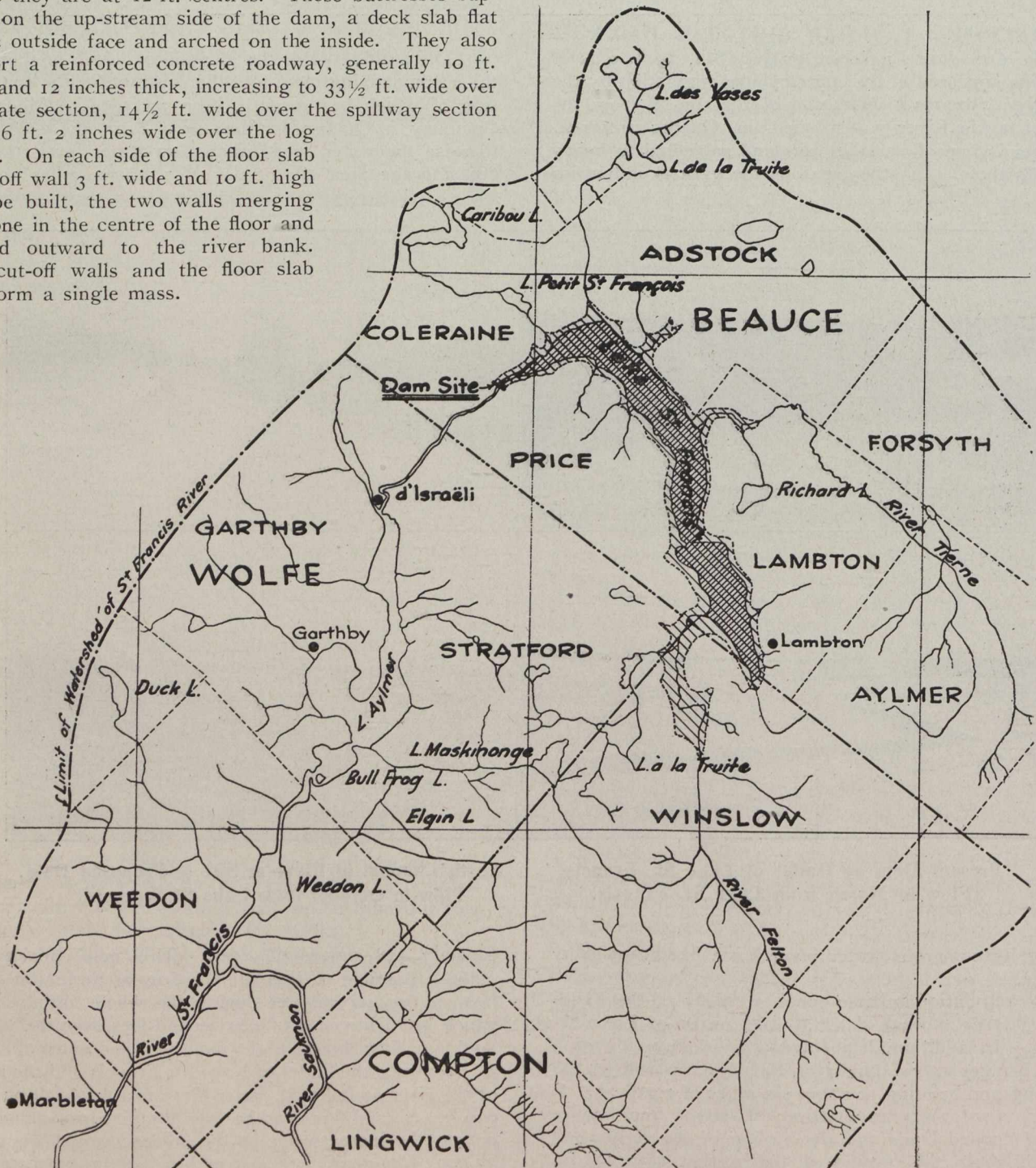
storage, and to be used immediately will be 6,000 h.p.-year. This will be sold to the power owners at a price per horse-power calculated to give an annual revenue sufficient to cover the interest and sinking fund on the capital invested and the cost of maintenance.

The proposed dam at the discharge of Lake St. Francis is about 1,500 ft. down-stream from the present dam of the Brompton Pulp and Paper Company, and about six miles above the village of D'Israeli. The accompanying plan, half-elevations and cross-sections illustrate the general design of the structure. It is to be of the hollow type with reinforced concrete floor slab supporting a series of concrete buttresses 5 ft. thick and at 20-ft. centres, except in the gate section of the dam where they are at 15-ft. centres and in the log slide section where they are at 12-ft. centres. These buttresses support, on the up-stream side of the dam, a deck slab flat on its outside face and arched on the inside. They also support a reinforced concrete roadway, generally 10 ft. wide and 12 inches thick, increasing to 33½ ft. wide over the gate section, 14½ ft. wide over the spillway section and 16 ft. 2 inches wide over the log sluice. On each side of the floor slab a cut-off wall 3 ft. wide and 10 ft. high will be built, the two walls merging into one in the centre of the floor and carried outward to the river bank. The cut-off walls and the floor slab will form a single mass.

The floor slab varies in thickness from 15 to 36 inches, depending on elevation. Its width also varies, as shown. It is reinforced with ¾-inch square twisted steel bars bent so that under the buttresses they are 3 inches above the bottom of the slab for a distance of 8 ft., and between the buttresses they are 3 inches below the face of the floor for a distance of 9 ft.

In the gate section another floor will be built 2½ inches thick with a width of 18 ft. and ending in a retaining wall, as indicated.

The buttresses, which are at 20-ft. centres, are 5 ft. in thickness, their length varying at the foot according to the elevation of the floor. As shown in section A-A, their up-stream face has a slope of 37 in 26, and their down-stream face a slope of 37 in 12. In the lateral faces



St. Francis Drainage Area, Showing Present Area of Lake (El. 100.00) Shaded Heavy; Land Flooded When Level is Raised (El. 127.00) Shaded Light.