cult. For some time in October, the amount of water discharged had to be reduced below that required by the St. Francis Hydraulic Co. This company had to operate its auxiliary steam plant for a few weeks.

The dam is now in operation. The machinery for the lifting of the gates is working satisfactorily. It is likely that a shed will be built over that machinery to protect it against the weather. This construction could be done cheaply next summer.

During the floods in the spring and in the month of June, a large volume of water passed through the openings left in the dam for that purpose. Between piers 21-22, a width of 15 feet, there was on June 19th a discharge of 6,000 second-feet. The bed of the river downstream from this opening was scoured to a maximum depth of ten feet for a length of about ninety feet.

In October this hole was filled with concrete mixed in the proportions $1:2\frac{1}{2}:5$, to which was added about 40%of boulders. A cut-off wall was built at the downstream testing of cement and sand, under the charge of J. C. Legendre.

To guide the floating logs to the sluices in the dam will require booms and anchor piers. The timber required for the construction of the piers has been delivered at the dam. They will be built next summer. The booms will be supplied by the lumber companies.

Water Powers on St. Francis River

Disraeli	60 feet
Weedon	30 "
East Angus	55 "
Bromptonville	29 "
Windsor Mills	16 "
Drummondville	12 "



Spillway Deck, St. Francis Storage Dam

end of this filling, and the bottom of the river was covered with boulders and protected from further scouring. A similar cut-off wall was built at the downstream edge of the apron. It is believed that these additional works will protect the river bottom from being washed out.

During construction it was thought advisable to build a concrete spillway deck in two spans of the spillway, so that the water let out from these two openings should not fall on the base of the dam but would be directed to the downstream apron, thus eliminating the impact due to the fall. Moreover, these two openings, which are adjacent to the log sluice, may be used to pass logs should an accident render the regular sluice not sufficient. The above drawing shows the construction details of these two decks.

The work on the dam was carried out under the supervision of A. O. Bourbonnais, assisted by a small staff. There was at the site a small laboratory for the At the request of the Department of Lands and Forests, we have started to study the undeveloped waterpowers on this river. P. E. Bourbonnais made a complete survey of three of these powers, namely: Westbury Rapid, the rapid above Ascot Corner and the Ulverton Rapid. A lay-out for a complete development of each of these waterpowers will be made.

Following are extracts from the reports made by Mr. Bourbonnais:---

Westbury Rapids

"The Westbury Rapids are located on the St. Francis River, about three miles above the town of East Angus, in the townships Westbury and Dudswell, in the counties of Compton and Wolfe. They compriseWestbury Rapid proper, above the point called 'The Basin'; the rapid Ledge, the rapid Tardif and a small rapid where the river is crossed by the Maine Central Railroad.

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