

The Canadian Engineer

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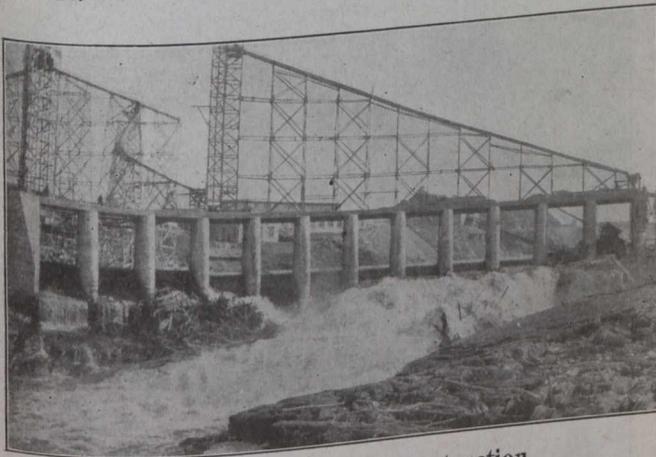
Hydro-Electric Power Development and Pulp Manufacturing Plant at Smooth Rock Falls

Establishing A New Town—Erection of Eight Concrete Mill Buildings, Dam, Power House, Pumping Station and Filter Plant—Construction Carried on During Severe Winter Weather

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THE plant of the Mattagami Pulp and Paper Co., comprising a sulphite pulp mill, power house and dam, is located at Smooth Rock Falls, on the Mattagami River, thirty-two miles west of Cochrane, Ont. This work, recently completed, has been under construction for the past year and a half.

The site of the plant is about three miles north of the National Transcontinental Railway. Before building construction work could be proceeded with it was necessary to construct a three and a half mile standard railway spur from the main line. This was undertaken and completed during the summer of 1916. In addition to this, about one square mile of land was cleared to provide for the establishing of the mill and town site, also to obtain adequate protection from bush fire, which in the northern part of Ontario is a serious menace during the summer months.



View of Dam During Construction

Construction work consisted of the erection of a pulp mill comprising a group of eight concrete buildings, a concrete dam, power house, pumping station and filter plant. The general layout of the various structures is shown on page 487.

Dam and Power House

The Mattagami River at this point had a fall of about 25 feet in a distance of 180 feet before construction was begun.

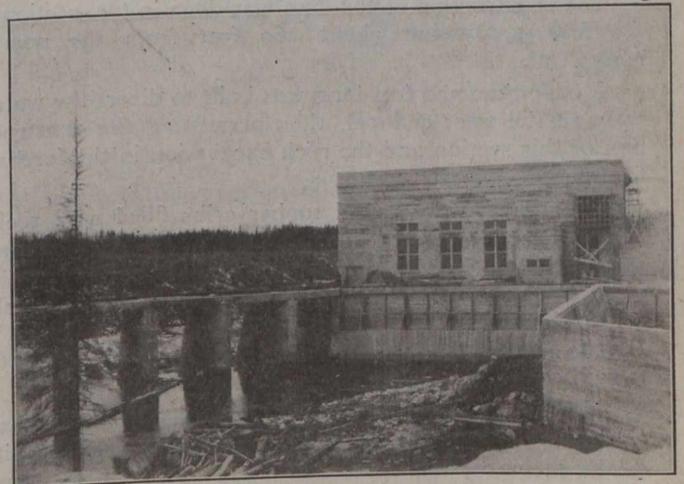
At low water, this fall was through two narrow gorges, the river being divided by a rocky island, a feature which proved of value during the construction period, as it was possible to build a considerable portion of the dam before the unwatering was wholly complete.

The dam, which is of the stop-log type, is constructed to permit of raising the water 30 feet above the lowest water level, giving a maximum head of 45 feet. In plan



Lower Cofferdam

it is curved, the curve at the up-stream side having a radius of 333 feet with a total length of 448 feet. Below the stop-log sill level it is of mass construction, sloping both ways from that point to a maximum width of 40 feet



Power House

6 inches. Above this it comprises 18 piers covered with a deck 25 feet wide terminating at the abutments at each end of the dam.