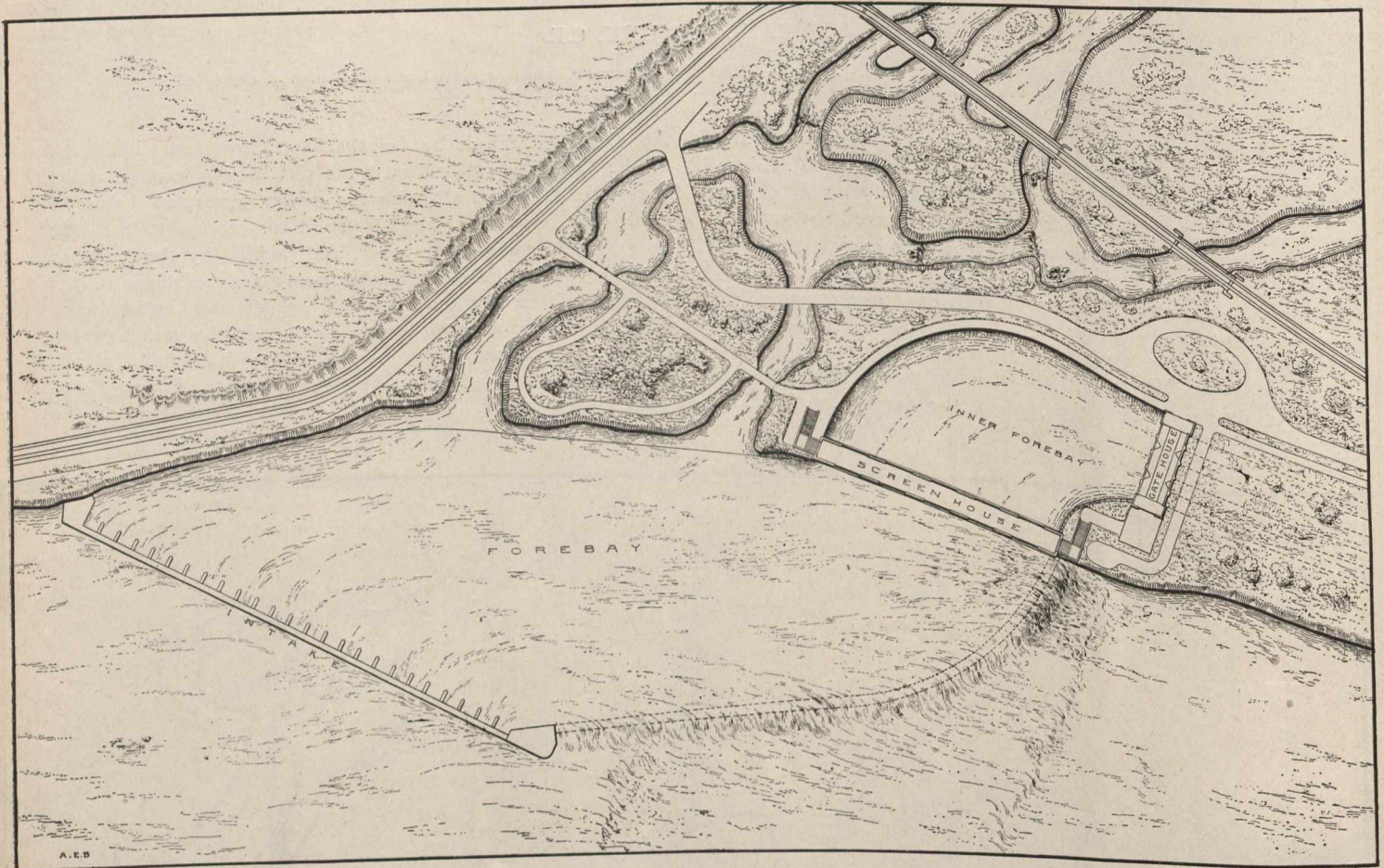


of the twenty-two penstocks are already in place within their shafts and tunnels and two others are building, while the power-house is nearly prepared for the concomitant apparatus. The distributing station is completed for the

from the Great Lakes, and mush ice is formed in the turbulent rapids primarily by the freezing of spray and foam, and secondarily by the disintegration of cake ice. To avoid the latter the intake is located in the smooth but

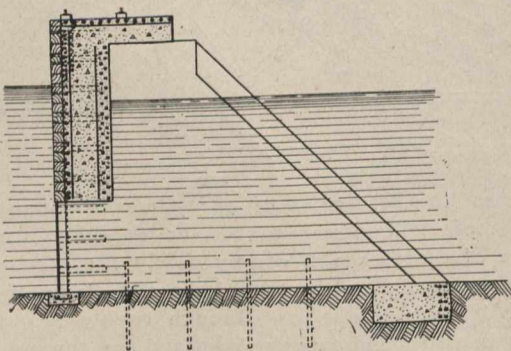


Plan of Ontario Power Company's Intake Works.

switchboard of the entire twenty-two units, for the transformers of eight, and for other apparatus of fourteen. As to equipment, the coming month will witness one complete unit being operated, a second being tested, a third being installed, and a fourth being completed at the factories, with other units to follow as equipment of such size can be manufactured and installed.

The purposes and methods followed in the development of the pioneer plant and the environment and natural conditions at Niagara Falls have become so well known that interest in this younger development necessarily centres in its salient features, or in those most likely to represent

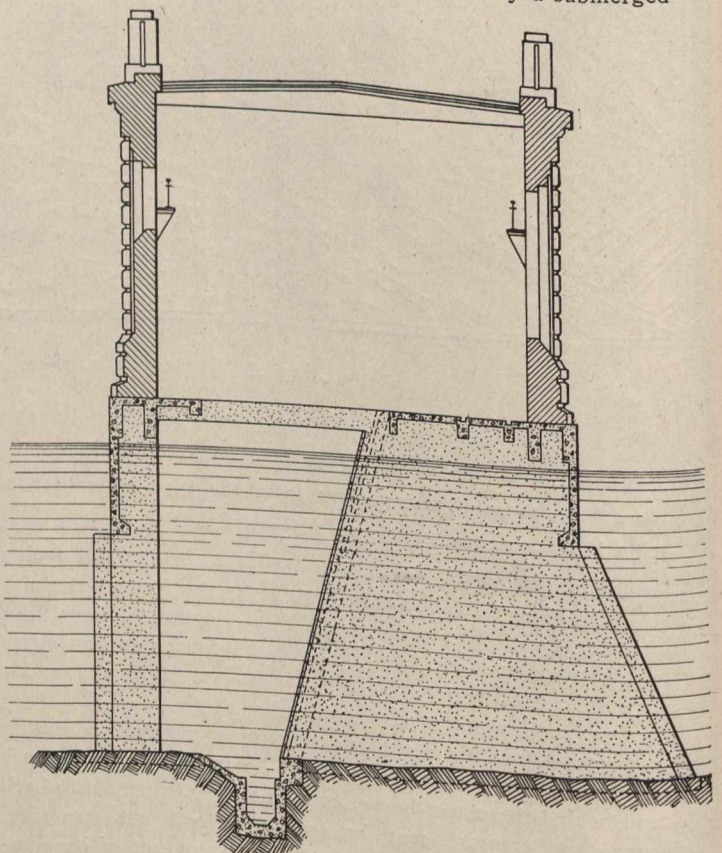
swift water just above the rapids; to exclude the former the following features have been introduced: A long and tapering forebay, protected at its entrance by the main intake terminates at its narrow, down-stream end in a deep spillway. Upon the river side it is enclosed by a submerged



Section Through Intake.

advance in engineering. The more important of these are the arrangement of intake works, the design of main conduit and spillway, the horizontal shaft units, the symmetry of arrangement, the centralization of control, and the protective isolation of apparatus.

The intake works have been located and designed with especial reference to the ice difficulties, which have been the limiting factor in the success of Niagara power. Cake ice in enormous quantities floats down for weeks at a time



Section through Screen House.