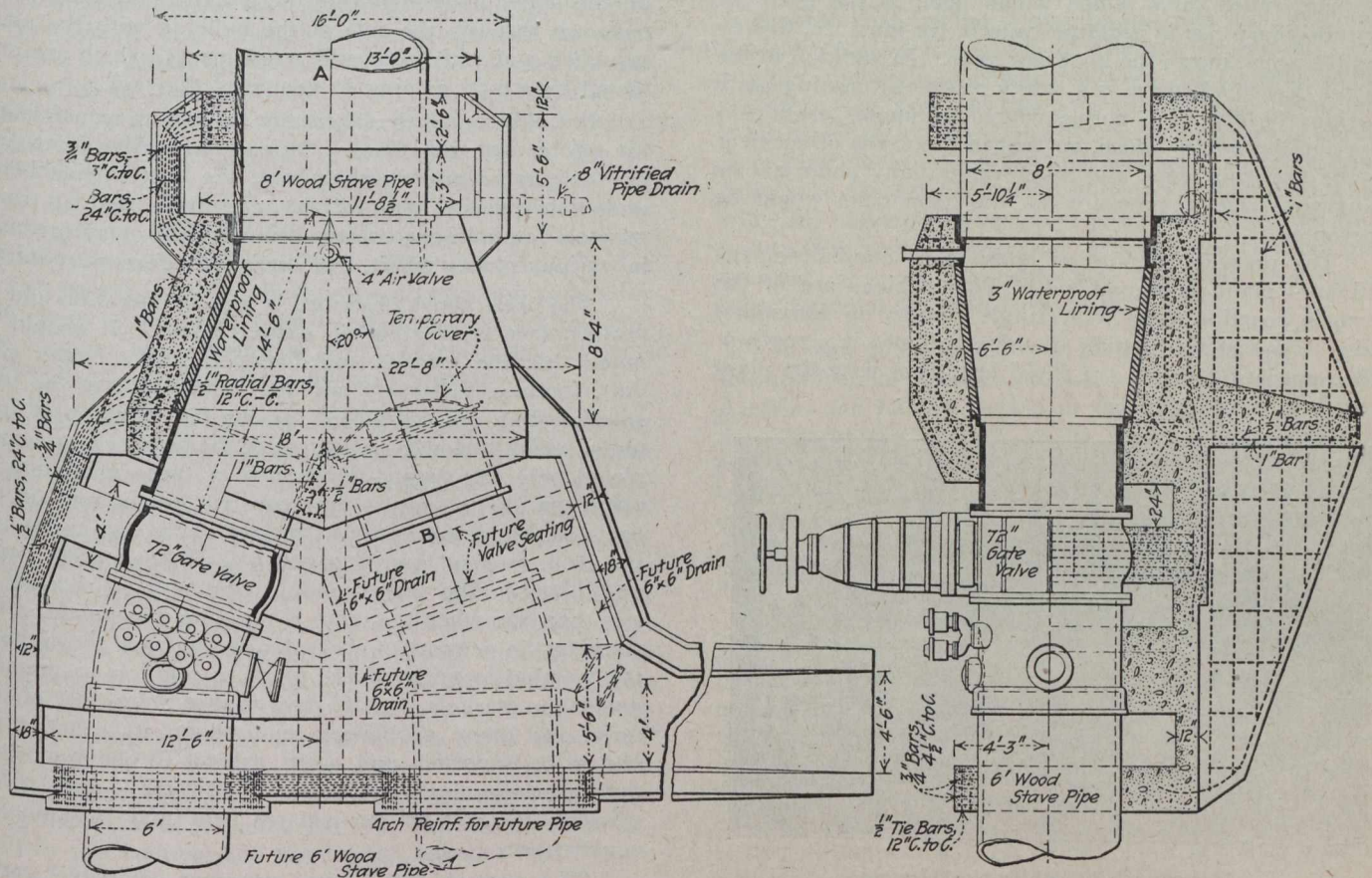


of the building are of glass in large proportion. The main building is designed with crane girders on which a 40-ton traveling crane has been installed. These girders are of reinforced concrete with embedded runway rails. All of the concrete in the exterior of the building was made with 10% hydrated lime. The roofs are covered with felt; the roof drainage is run through the interior of the building to a central drain to guard against frost in the leaders.

ratio obtained was the best possible owing to naturally unfavorable topographical conditions. The forebay is located at the nearest suitable point gradually to the station site.

In a penstock system of such a high head-length ratio, it is difficult to obtain power regulation by means designed to conserve the water supply, but inasmuch as there was no scantiness of supply and economy of water

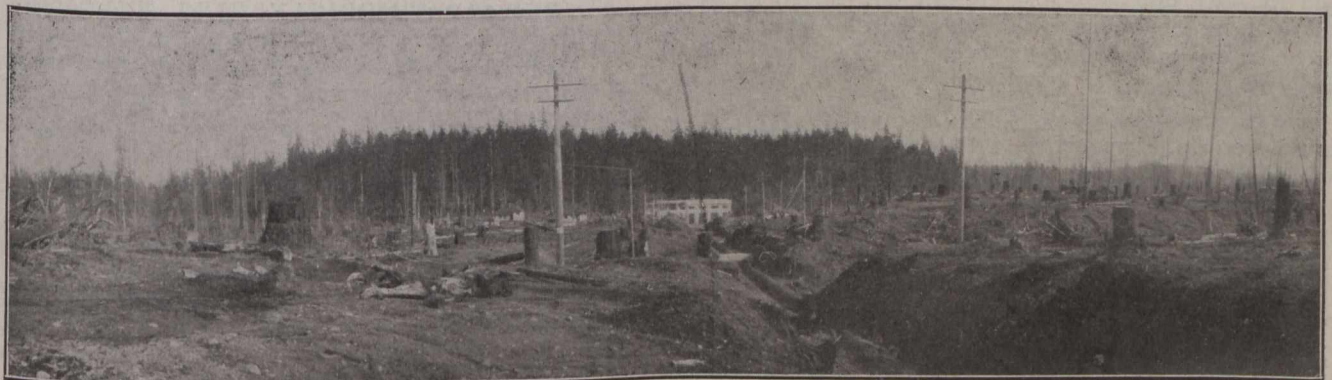


Sectional Plan and Vertical Section of a 96 x 72 x 72-inch Reinforced Concrete Y-pipe Connection.

Regulation.—The elevation of the intake is 414 ft., the elevation of water in the tail race is 64 ft., giving a static head of 350 ft. The length of penstock system being 13,700 ft., the head-length ratio of the pipe is about 1:40. The part played by such a high ratio, as an unfavorable element in the problem of regulation under varying power-load conditions, was fully realized; much study was given to the general development to obtain the arrangement most favorable to good regulation, but the

did not enter, the problem of regulation as presented was comparatively simple. The arrangement adopted, however, insures against sudden or high rises in pressure in the penstock system.

Throttling of the turbine gates by the governor gear of each turbine operates a relief valve on its penstock which opens and closes with the turbine gates, thus permitting water to waste in approximate proportion to the load taken off and maintaining so nearly a uniform rate



Steel Penstocks Leading to the Power House.