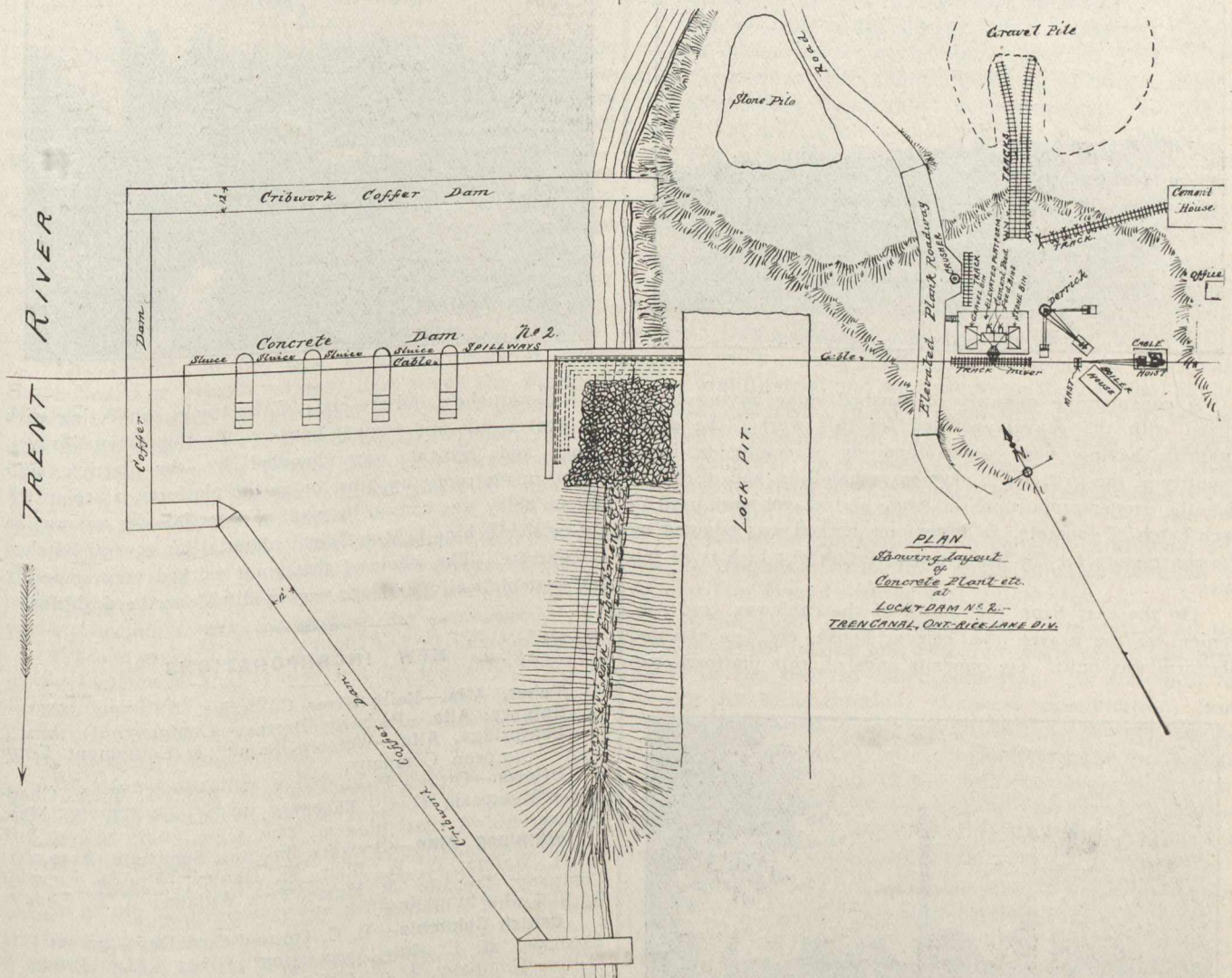


width at foundation level, including apron, being 32 feet. The piers are 8 feet wide, 35 feet long, with an average height of from 28 to 34 feet from the foundation level to top of piers. The west abutment is of the ordinary rectangular form, a face wall and two wing walls, which will be extended well into the solid rock on the river bank.

Throughout the whole length of the dam, when completed, and in line with the stop-log openings, a trench 3 feet wide and 4 feet below the general level of foundations, will be excavated in the rock, to act as a cut-off for any leakage between the strata of limestone forming the bed of the river. A similar trench 2 feet deep, will extend from the face of the east abutment to the face of the west abutment, under the toe of the apron. These trenches form part of the foundations,

cribwork built in sections of about 15 feet in length by 12 feet wide, and filled with stone when in place,—the different sections being held in position, and together, by longitudinal timbers bolted to the ties. The outer face of the coffer dam was first sheeted with one inch boards over which was placed a covering of painted canvas, and over this a second sheeting of one-inch boards. In addition to this, a considerable quantity of cement in bags was used to stop leaks, especially on the upper face, where the pressure was greatest. This coffer dam enclosed an area of about 65,000 square feet, or nearly 1½ acres, and cost in the neighborhood of \$12,000. Concrete work was commenced on the 27th October, 1908, and finished about the middle of December,—the length of dam built was 270 feet, including the east abutment, two



and have been put in on the portion of the dam now finished. The necessary coffer dam in connection with this work was a pretty serious problem, and it was decided to first enclose a sufficient area on the east side, to allow of the construction of about one-half the dam. Work on this coffer dam was begun on the 15th June, 1908, and it was not completed until about the end of September of that year, as great difficulty was experienced in getting a good foundation for the cribs, the bottom being very irregular and consisting of large deposits of gravel and boulders overlying the rock in places. Eventually, an auxiliary puddle dam had to be formed inside the main crib dam, before the water could be held in control. The main coffer dam was constructed of

spillways, four sluiceways, and four piers, the quantity of concrete in this portion of the dam being a little under 5,000 cubic yards.

Another important consideration was, the most economical and quickest method of conveying concrete from the mixer to the work, the mixer necessarily having to be placed on shore. Owing to the height of the dam, a trestle would be a very costly undertaking, and the distance the concrete would have to be carried in barrows or cars, would render this a slow and cumbersome method, so it was decided to install a cableway extending from shore to shore, and in line with the centre line of the dam. The natural ground surface on the west side of the river being some six feet be-