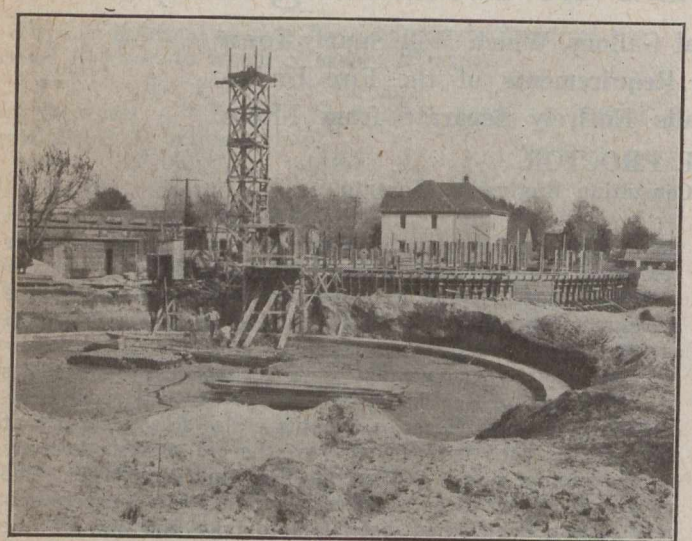
ply tar and gravel cover. The roof has a slope of about 2 ft. 9 ins. in 35 ft.

The floor of the reservoir is constructed in two courses, the lower course being 5½ ins. of concrete, reinforced both ways with ½-in. diameter rods at 12-in. centres. On top of this course was mopped two-ply of 8-oz. burlap, swabbed on with hot asphalt, all joints being lapped. Above this burlap course was laid a 3-in. course of concrete, reinforced both ways with ¼-in. rods at 5-in. centres. Around all columns a 1-in. asphalt joint was constructed, and between this 3-in. top layer of concrete and the wall, a 2-in. asphalt joint was made. The lower course was laid directly upon the soil. The

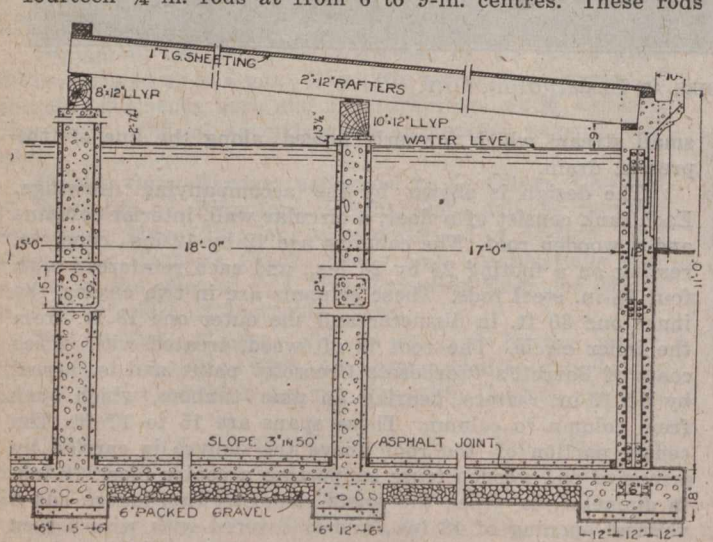


FORMS IN PLACE FOR ONE RESERVOIR—FOOTING OF OTHER RESERVOIR POURED

6 ins. of gravel were omitted, the reason being that the soil was pure sand, making an excellent foundation.

As the ground water level was about 1 ft. above the level of the floor, and to avoid any possibility of hydrostatic thrust on the floor when the tanks are emptied, a system of drainage was installed. This consists of 4-in. field tile at 12-ft. centres, connecting into a main 5-in. tile under each tank. A 5-in. vitrified tile laid with open joints was laid around the complete circumference, and into this was connected the 4-in. cast-iron downspouts from the roof, which were eight in number for each basin.

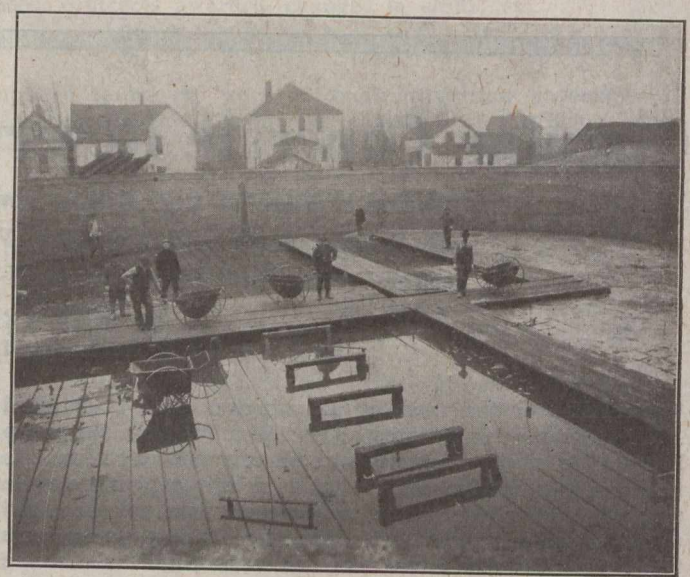
Perhaps the most interesting part of the design is the circular wall. This wall is 12 ins. thick and is reinforced circumferentially by means of the following rods: Twenty-two 1⅛-in. diameter, near the bottom, spaced from 4 to 6 ins. apart; then six 1-in. rods at 6-in. spacing; and the top course, fourteen ¾-in. rods at from 6 to 9-in. centres. These rods



PART SECTION THROUGH RESERVOIR

are supported on structural steel struts, built of two angles, 2½ by 2 by ¼ ins., connected by batten plates. These supports are placed at 8-ft. centres.

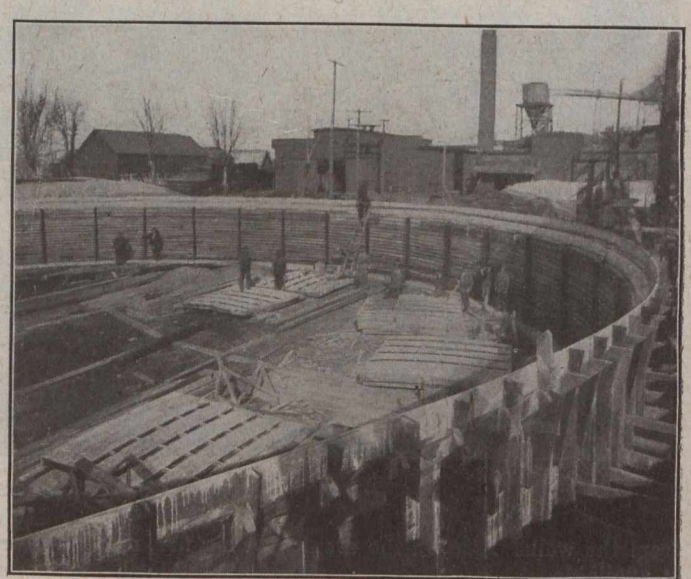
This circular wall bears on a footing 3 ft. in width, which is also circular. The rods in the lower course of the floor



POURING FLOOR FOR RESERVOIR

projected from this footing. The wall is corbelled out at the top to provide for a gutter.

This wall has no physical connection with the footing. The method of construction was as follows: The footing was first poured and finished with a trowelled surface, upon which was applied a coating of asphalt. The outer



OUTSIDE FORMS AND REINFORCING IN PLACE—NOTE INSIDE FORMS READY FOR ERECTION

forms were erected, and then the reinforcing was placed, after which the inner forms were placed, and when all was in readiness the concrete for the entire wall was poured continuously. The steel takes up the entire circumferential stresses, the concrete being simply a covering for the steel and means of containing the water. By leaving the wall free at its base, expansion and contraction stresses are eliminated. In order to provide assurance that the concrete will not crack when subject to full stress, a unit stress in the steel of 4,000 lbs. per sq. in. was adopted. This unit stress is low enough that the resulting elongation in the steel will not crack the concrete.