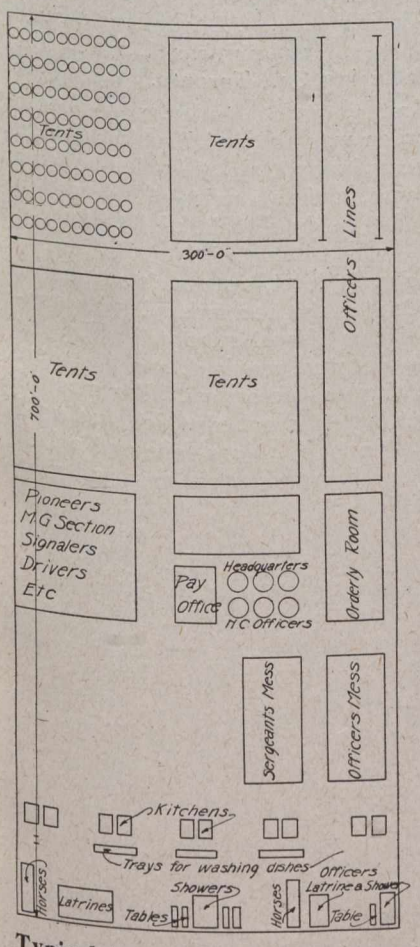
capita, or a total of 1,000,000 gallons per diem, so that the supply was considered plentiful. After 30,000 soldiers had reached camp, however, it was found that 50 gallons per capita were being used, so drilling was continued and another well of 480,000 gallons per diem was discovered.

To get the water into camp required pumping, so work was immediately started at the pump station, a brick building 40 ft. x 45 ft., with steel roof. Adjoining it was erected the hydro-electric power house, 23 ft. x 18 ft.

The sub-soil in this vicinity is a boggy substance composed of sand and tree roots, so that a concrete foundation was constructed, 2 ft. thick, with 50-lb. rails placed at 24-inch centres both ways to act as reinforcement, and 18 ins. of broken stone was placed for drainage under the concrete floor.

A concrete well 20 ft. x 10 ft. x 10 ft. deep was constructed 30 ft. from the pump station to collect the water which flows from the three wells. Twelve-inch wood pipe lines conduct the water from the flowing wells into this pump well. The wood pipe was coated with asphalt, and was laid upon the surface.



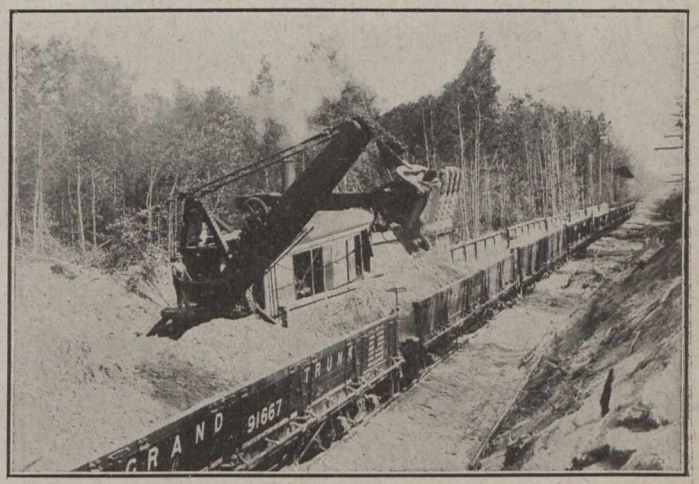
Typical Arrangement of Units in a Battalion Area, or Reserve.

Two 2-stage Morris centrifugal pumps were supplied by the Storey Pump and Equipment Co., Toronto. These pumps have 8-inch discharge and are belt-driven by 150-h.p. electric motors. Each of the two pumps has a capacity of 1,000 gallons per minute against 300 ft. head. One of the motors was supplied by the Canadian General Electric Co., Toronto, and the other by the Canadian Westinghouse Co., Hamilton. Both motors and pumps were purchased and installed by the engineers of the Hydro-Electric Power Commission of Ontario.

A 12-inch intake pipe was laid into Pine River, and the piping in the pump house so arranged that water can be pumped directly from the river in case of emergency. The Pine River water has been piped to the rifle ranges and, if used, will be well chlorinated. This work is in charge of Dr. J. W. S. McCullough, Provincial Health Officer, who is spending much of his time at the camp.

There are two separate 8-inch discharges from the pump house to a water tower situated about 1,400 ft. from the pump house, and as the course of these two force mains is through a swamp, they were laid on 6-in. x 4-in. timbers, and wedged at both sides. Provision is made at the tower to permit pumping directly into the mains.

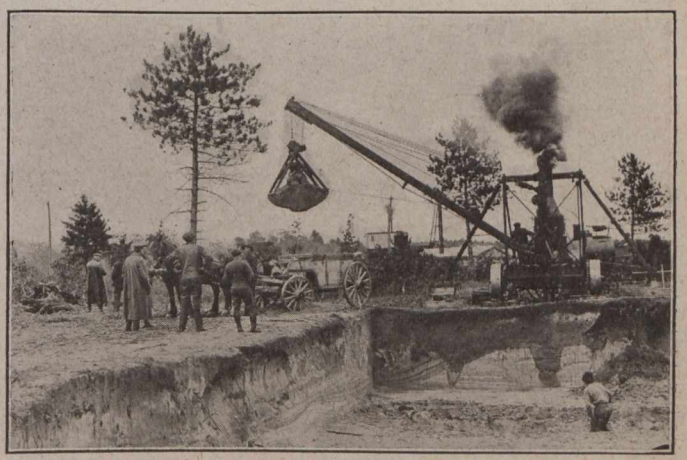
At the other end of the camp another water tower was erected, and the distribution of the entire supply is from these two 50,000-gallon steel tanks, each 100 ft. high. These tanks were erected by the Canadian Chicago Bridge and Iron Works. There are about 10 miles of wrought iron mains, with screw joints, and expansion joints at every 1,500 ft. The 6-inch mains encircle the camp, with 3-inch connections to the building line, the latter running into 2-inch laterals which supply the whole



Revolving Shovel Supplying Sand for a Fill on the G.T.R. Line into Camp Borden.

length of the building line. Therefore, on the 125-ft. streets between the battalion areas, or reserves, the mains are 6-inch diameter, while on both sides are 2-inch supply pipes connected to the mains by 3-inch pipes. From the 2-inch supply pipes there are eleven 1-inch and ½-inch connections for every battalion frontage of 300 ft. All piping was supplied by the Canadian General Fire Extinguisher Co., Montreal.

Power.—Electric power for pumping and lighting was brought in from the Hydro-Electric line which runs between Barrie and Waubaushene. A transformer station was erected at the camp and the voltage stepped down



Excavating with Clam Shell for Sewage Disposal Plant.

from 22,000 volts to 2,200 volts for the distribution system. On the main thoroughfares, 150-c.p. gas-filled lamps were placed on every second pole or about 200 ft. apart. The camp is now taking over 300 h.p. The lighting equipment, switchboards, etc., were installed by the Northern Electric Co., Montreal, under the supervision of T. C. James, engineer for the Ontario Hydro-Electric Power Commission.