

the building by underground ducts. These municipal stations are located in such a manner that they may be electrically connected in a "loop" circuit.

The city of Toronto is at present installing transformers stepping down from 13,200 to 2,200 volts in the basement of the station, which will be used for city service, mainly to

going lines in each station are provided with electrolytic arresters. The transformers are supplied with current at high potential, from the buses through automatic oil switches. Disconnecting switches are installed on either side of the oil switches, except on the transformer side of the transformer oil switch.

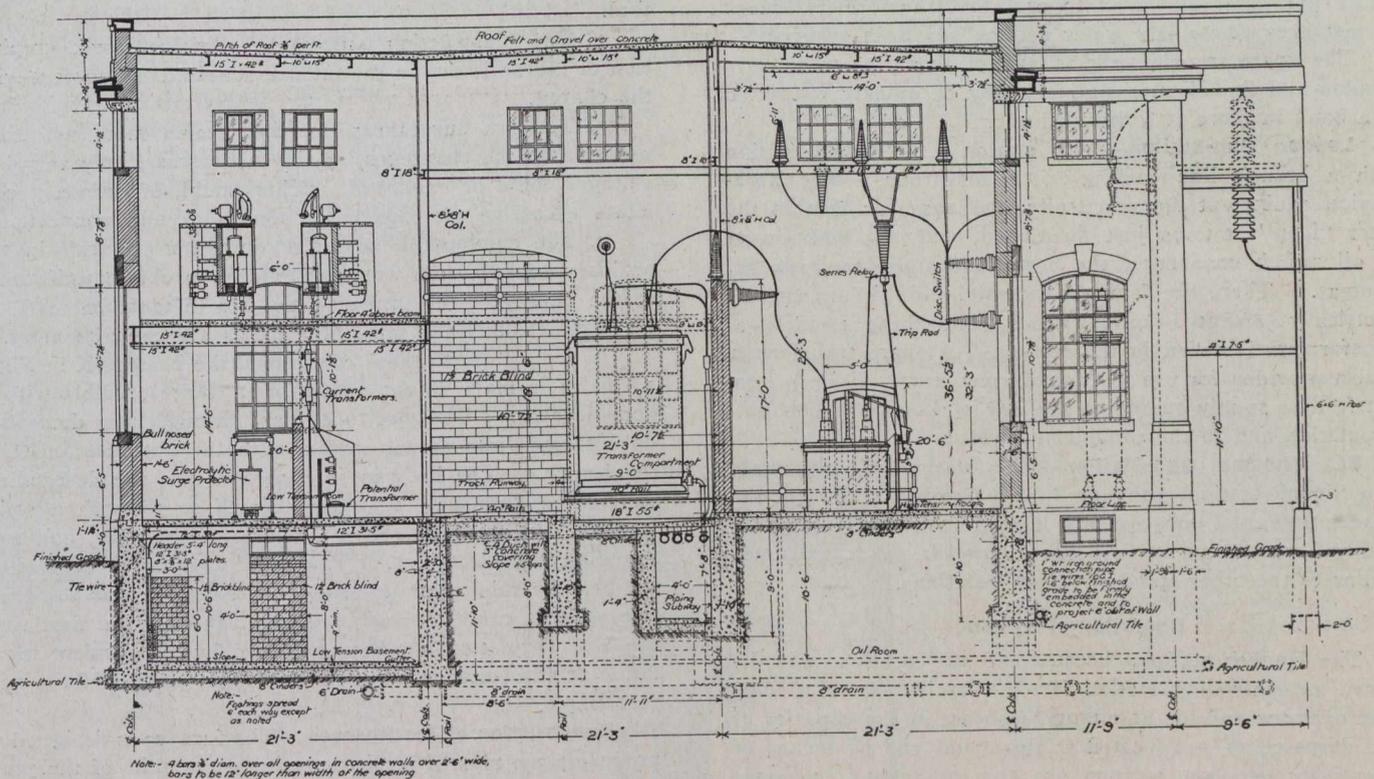


Fig. 30.—Transverse Section, Toronto Station.

supply energy for the factory load of the city, a large part of which is located within one-half mile of the station. (Fig. 31).

The control switchboard is located on a small gallery. All 110,000 and 13,200-volt switches are operated from the board. Curve drawing meters are mounted on the feeder panel for recording both the load and power factors.

A concrete pump house has been constructed a few hundred yards distant on the shore of Lake Ontario with an intake pipe extending 500 feet into the lake to provide cold water for cooling purposes. Duplicate motor-driven pumps and a service equipment similar to that at the Niagara Falls station is employed.

Loop Stations.—The 110,000-volt equipment is similar in each of the "loop" stations. The lines enter the stations through automatic oil switches to the buses, and pass out through similar circuit-breakers. The incoming and out-

Each station is equipped with a bank of three single-phase 750 kv-a. oil-insulated, water-cooled transformers and also a spare unit available for use in case of an emergency. The low-tension winding potential is 13,200 in every case with the exception of Preston, where the greatest transmission distance is only six miles, and 6,600 volts potential was adopted for distributing purposes. All transformers are supplied with taps for both 6,600 and 13,200 volts.

The low-tension equipment is similar, and the general arrangement the same in all stations, the only difference being in the number of outgoing feeders. All feeders are equipped with automatic, hand-operated oil switches, disconnecting switches, switchboard panels containing indication and recording meters, relays and handles for operating the switches, and protected by electrolytic lightning arresters.

Provisions were made for six outgoing feeders at each of the present stations. Preston, Berlin and

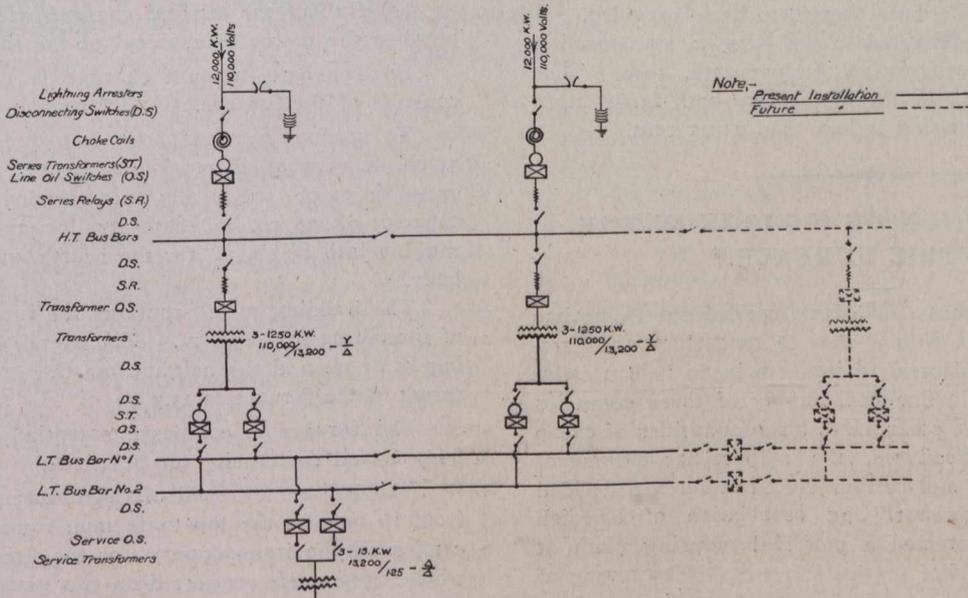


Fig. 31.—Wiring Diagram, Toronto Station.