

Water Resources.—An abundant supply of water for domestic use may be obtained at many places from the basal sandy beds of the Pleistocene deposits at depths of from 10 to 30 feet. Near dwellings, and especially in a city as large as Wilmington, such supplies are constantly liable to pollution from accumulations of various kinds of decaying matter on the surface, and should not, therefore, be used for domestic purposes when other purer supplies are available.

The waterworks plant at Wilmington is owned by the Clarendon Waterworks Company. The supply is taken from Northeast Cape Fear River at Hilton Park. The water here has a dark, yellowish-brown color, due to its organic content, and it also carries considerable solid matter in suspension. During periods of protracted dry weather, when the amount of fresh water in the river is small, or during times when strong winds from the south or southwest prevail for several consecutive days, brackish water finds its way up the Cape Fear estuary as far as the intake at the waterworks. This condition is of rare occurrence.

The dark color and the large amount of suspended matter present render the water in its natural state very unsatisfactory for the various domestic purposes, and for many years there was constant and just complaint as to the quality of the water supplied to the patrons of the water company. In response to the public demand for better water, a filtration plant was installed in 1907 which is designed to remove the suspended matter and by chemical treatment to remove the coloring matter. The water is pumped to a concrete sedimentation reservoir, from which it passes by gravity to the filters proper. In its passage through the filters, in addition to mechanical filtration, it is treated chemically with sulphate of alumina and soda ash. By the chemical treatment the color which in the original water ranged from 140 to 270 parts per million is reduced to from 20 to 50 parts. After filtration the water is pumped to a nearby standpipe for distribution. The plant has a normal capacity of 2,000,000 gallons and a maximum capacity of 2,600,000 gallons per day. As to its efficiency the consulting engineer of the company, Mr. George C. Whipple, has pronounced the plant a success. The State Board of Health has made monthly examinations of the filtered water and has pronounced it very potable.

The pumping station is equipped with 4 pumps having capacities respectively of 2,500,000, 2,000,000, 1,500,000, and 750,000 gallons per day. The standpipe, which is located near the plant, has a capacity of 211,000 gallons. It furnishes a pressure of 50 pounds per square inch. By pumping directly into the mains the pressure can be raised to 115 pounds. There are $16\frac{1}{2}$ miles of water mains. For the various do-