

## MALDON HALL RESERVOIR SCHEME

Due to the general water shortage during the summer months in the Maldon Borough it was finally decided to augment existing water supplies and storage in the area by constructing a reservoir of one million gallons capacity on the high ground at Maldon Hall Farm.

There are two existing sources of supply to the Borough :

1. Well supplies yielding some 90,000 gallons per day.
2. Bulk supplies from the Southend Waterworks Company which can deliver around 20,000 gallons per hour (average for 1969 was 19,350 gallons per hour).

Storage in the area is the Water Tower of capacity 100,000 gallons.

With the ever increasing demand for water, 36 gallons per head per day in 1961 estimated to increase to 50 gallons per head per day in 1981, together with an almost twofold increase in population over the same period has led to an acute shortage of water at times of the highest demand.

It was decided to alleviate the situation by dividing the area into pressure zones supplying the high ground from the Tower and the remainder of the area from the reservoir.

In 1964 the Chief Engineer of the Southend Waterworks Company, Mr. H. W. Knight was asked to appraise the situation and proposals were formulated and presented to the Ministry. In 1968, acting in a consultative capacity to the Borough Council detailed design for the reservoir and inlet and outlet mains comprising the Maldon Hall Reservoir Scheme, were produced and presented to the Maldon Borough Council.

### Water Mains

The reservoir inlet main will be a 6" diameter P.V.C. pipeline extending from the Southend Waterworks Company's trunk main at Great Beeleigh Farm into the reservoir. This is designed for a flow rate in excess of one million gallons per day (41,000 gallons per hour). The outlet main will be a 12" diameter P.V.C. pipeline from the reservoir extending into the existing mains system at Fullbridge.

The cost of the water mains is expected to be in the region of £40,000 and mainlaying expected to start in June, 1970.

### Reservoir

The reservoir will be a reinforced concrete closed tank constructed in two halves each of  $\frac{1}{2}$  million gallons capacity. Depth of water when full will be 15 ft. Over 1,800 tons of concrete and 500 tons of steel will be used in the construction of the reservoir which will be set 10 ft. into the ground and finally earthed over and grass seeded.

The design is strictly to the British Standard Code for water retaining structures.

The inlet to the reservoir will be governed by two streamlined pattern float valves set to shut off at top water level and provision will be made for the future installation of control electrodes and water level equipment if required. A 9" diameter drain line will be provided to the adjacent ditch for roof drainage, overflow and washout purposes.

This work is estimated to cost £70,000 inclusive of land charges and construction is due to start in March.

Chief Engineer  
SOUTHEND WATERWORKS COMPANY

17th February, 1970