HARTFORD. — XXXVII.

In 1879, the waste gate of this reservoir was opened by some unknown person, and it was suddenly emptied and the slope walls slid into the reservoir. It was repaired.

In 1865-7 gravity works were built at West Hartford after plans and under supervision of Mr. George Marsh and Mr. M. Gray. Water is taken from a mountain stream known as Trout Brook. An earthen dam 58 ft. high, 768 ft. long, was built, forming 82 acres with a capacity of 16,290,000 gallons. The elevation of flow-line above low water in river was 360 ft. In September, 1867, a heavy fall of rain occurred, breaking away a partly constructed dam above, and washing the bank of this reservoir bodily. The water, flowing above the paddle wall in the dam, cut a channel over the top, and in 30 minutes the dam went down, sending 200,000,000 gallons of water into the valley, causing much damage. The dam was rebuilt under the direction of J. W. McAlpine, and finished by December of the same year.

In 1874 the waste way of this reservoir was widened to double its capacity, and an overflow of masonry near the outlet, with 1-foot flashboards, was constructed. This reservoir is called No. 4. Another reservoir, called No. 8, was completed in 1889 with banks left sufficiently wide to be raised 8 ft., which was done in the following year. It has a capacity of 254,524,829 gallons, with extreme length 2,890 ft., and average width 380 ft.

In 1875, a reservoir called No. 4 was built on Trout Brook, above No. 3. A dam of earth was thrown across the ravine. A paddle trench, 25 ft. wide, is parallel to the rock 19 ft. below the bed of the stream.

The dam is 170 ft. long at the bottom and 500 ft. at the top. The extreme width at the base is 295 ft., 90 ft. at the top water line, or 55 ft. below top of bank, it is 50 ft. thick. It is 48½ ft. high above the bed of the stream. The inside slope is 1 to 3, covered with rip-rap 30 in. thick. The dam rests on earth and gravel, with basalt. The waste way was cut through to a small ravine, which joins the main stream 300 ft. below the dam. The 16 and 20-in. discharge pipes also enter this ravine at this end of the reservoir. A reservoir dyke 6 ft. high and 310 ft. long separates the water from the water of Mine Brook Valley. A second dyke 125 ft. long and 4 ft. high separates a water course from dyke pond lying between reservoirs No. 4 and No. 3.

There is a 19-in. connection pipe through this dyke and into reservoir No. 3. About 6 acres of mum at the upper end of the reservoir were covered with gravel 5 ft. deep.

In 1880 a reservoir was built across the plans of W. E. Worthington, C. E., in a ravine into which empties Caldwell and another small brook. It is known as the Coldwell or No. 5 Reservoir. The dam rests on earth and gravel, 6 ft. in elevation, and watered area, and is an average of 2 ft. thick. The surface was excavated to hard rock, and a concrete heart wall built, and the remainder of the trench filled with concrete and gravel. This reservoir has 40 acres. Two 20-in. pipe lines lead through the dam, one for waste and one for supply. There is a masonry gate-house on the inside slope. The main dam is 436 ft. long, and the low pressure working a Thames Dutton pump, in diameter for the high pressure, and 86 in. for the low-pressure working a Thames Dutton pump, with bucket of 26.18 in. and plunger of 2 in. diameter, the stroke of pistons and pump being 84 in., and the capacity of the pump, at 12 revolutions of engine, 5 million gallons per day. The water is raised 164 ft. through a 20-in. wrought iron and cement pipe 1,904 ft. long into the distributing reservoir on Pine Hill, which is built in excavation and embankment, with a water seal at the bottom, and is capable of holding 50,000,000 gallons at 15 ft. head, and a capacity of 30,000,000 gallons at 15 ft. head. The bottom, being of apparently water-tight material, was not puddled, and when the reservoir was filled, it was proved to be almost useless. In 1878 the bottom was excavated 3 ft., and then covered with a foot of clay pad. The reservoir was also divided into two parts by a dam 10 ft. wide, and a paddle core. On being filled, it leaked slightly at first, but gradually be-