

The waterworks intake is located seven miles above the mouth of the stream at an elevation of 465 ft. above sea level. Owing to the large amount of boulders, gravel, and finer sediment which the creek carries down during freshets, it was necessary to design the intake so that it would not become completely choked up under such conditions, and means had also to be provided to prevent the finer sediment entering the pipe.

The intake is formed by a hewn cedar crib with rock filling, 13 ft. high. It has two openings, each 5 ft. in width, and on the face of each opening is placed an oak rack, set in an iron frame. The water enters the intake at right angles to the direction of the stream, the faces of the racks being parallel with the axis of the stream. This allows boulders and most of the heavy sediment to be swept away, as the current of the stream is stronger than the current of water entering the intake.

About 50 ft. below the intake a low weir, composed of large, broken rocks, extends across the creek. This weir is only of such height as to keep a sufficient depth of water on the intake during extreme low water periods.

The water, after passing through the racks, enters an 11 x 14 ft. forebay. From this there is an open conduit 6 ft. in width, of hewn cedar cribwork. This conduit extends down stream along the bank of the creek for a distance of 300 ft. Its upper end is furnished with a 6 x 10 ft. head-gate. At the lower end of the open conduit is placed a scour-gate, discharging into the creek, to flush out the sediment which may enter the intake and deposit itself along the flume.

Just below are located two sediment tanks, designed to separate the finer sediment and floating matter from the water and prevent it entering the pipe. These tanks are built of 6 in. x 12 in. sawn cedar timbers, the sticks all being placed flat and drift-bolted together, with frequent tie-sticks extending into the bank. Each tank is 20 x 100 x 6 ft. deep, and is lined with 3 inches of concrete, fastened on the sides with expanded metal, spiked to the timber walls.

The floors of the tanks were made by first covering the ground (which consisted of a compact mass of boulders and gravel) with expanded metal, held in place by numerous $\frac{3}{4}$ -in. anchor bolts driven between the boulders. On this as a bed 3 in. of concrete was floated. The object of the anchor bolts was to withstand the upward pressure which occurred at extreme high water.

Each tank is supplied with a 4 x 5 ft. inlet gate, and there is also one of the same dimensions at the lower end, which admits the water to the supply main leading to the city.

A few feet in front of the lower gates are placed two rows of screens, extending across the entire width of both tanks. There are 16 screens in all, each 5 ft. square, having iron frames, backed with heavy steel wire netting, and fitted in front with light wooden frames on which the fine screens are fastened. The screens are operated by a hydraulic hoist, which lifts a row of 8 at a time, the