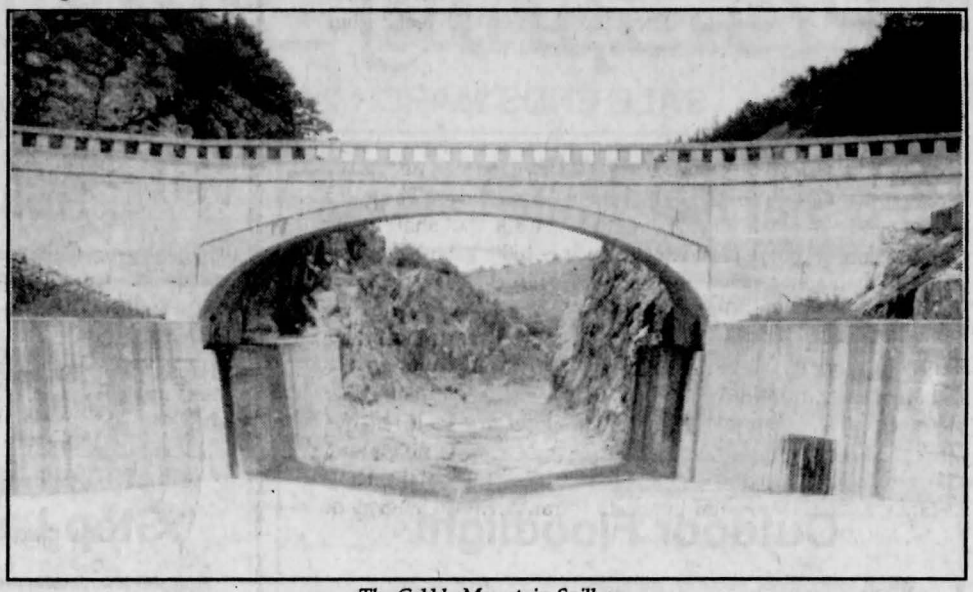
ding of the Cobble Mountain Dam



The Cobble Mountain Spillway

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pringfield, say in the year 2000.
When these men surveyed the rough wooded slopes, as they looked in 1905, it took great foresight to envision this vast basin filled with water, by man, as once nature had done.

Highest Dam in the World

In 1927, work on the project commenced. The construction of Cobble Mountain Dam, then the highest hydraulic fill dam in the world, quickly eclipsed in popular interest the tunnel construction, begun at the same time. By spring of 1930, when the dam was well on its way, visitors gazed astounded at a tremendous gash in the face of the mountain. So large its very size left one awe struck and fearful. The equally tremendous activity gave it a note of reassurance.

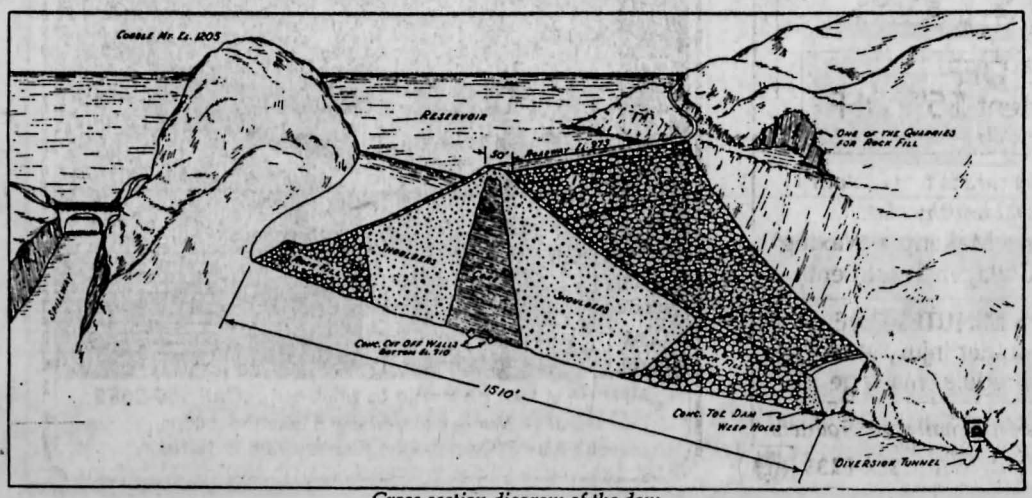
The engineer in charge of construction was Harry H. Hatch. Hundreds of workmen were being housed and fed on the location. Young engineers worked in laboratories analyzing all the varieties of silt, clay, sand, gravel and rock that were available for use as dam-building material. There were pits from which the proper material could be "borrowed" and transported to the dam site. There were two methods to transport the materials. The first was wholly hydraulic, where the material was excavated by hydraulic "giants" supplied with water under sufficient pressure to break up the soil and carry it, mixed with water, into steel pipes leading directly to the dam. The other method, semi-hydraulic, involved the use of a double track narrow gauge railroad by which the material was transported dry to the edge of the great chasm where the dam now lies. Twelve times an hour ten-car trains dumped 40 cubic yards of filling material into a dissolving bin called a hog box.

7100 Cubic Yards Per Day

The hydraulic giant shot a stream of water into the material reducing it to a swirling mass of sand and stones forcing it into a revolving "grizzly", a device to grade it for size. The rocks held in the grizzly were discharged into a rock chute. From the chute they bounded down the slope. The finer material was carried by water to the beaches which supported the core of the dam during construction. On an average day, 7100 cubic yards of material was placed in the dam, yet it seemed almost imperceptible, and one gets the feeling the task is impossible. However, it has been done, successfully. Before building the dam all organic material had to be removed. All roots, sod, and vegetation were picked up and taken away. It is an important fact that the dam does not have any kind of conduit through its body for any purpose.

Tragedy and Comedy

During the dynamiting of Cobble Mountain a piece of rock the size of a grand piano was blown over the mountain where it struck and killed one of the workman. For the comedy side, imagine Ernest Zoerb, Mr. Lochridge's chauffeur, piloting his old big Pierce-Arrow down 30 degree grades and around hairpin turns on a roadbed of slithering mud! Getting stuck? Not too often.



Cross section diagram of the dam

The Water Supply

Unfortunately Granville did not take advantage of the opportunity to supply its own town with water! We supply three cities with water, yet, to quote Coleridge, "water, water, everywhere and not a drop to drink!" One visitor viewing the spillway explained to his family. "This is where the water will flow down the mountain once the system begins. If that were

true Westfield would indeed have cause for alarm. The spillway is, of course for flood control. With an earth dam water must never flow over the top. The spill way is 1700 feet east of the dam and is cut through solid rock. The top of the dam is 20 feet higher than the maximum elevation in the reservoir.

The Tunnels

The first tunnel built was the Diversion Tunnel, necessary to divert the water from the dam during construction. The gates for the tunnel are located at the bottom of a 300 foot shaft in the first gate house on the Blandford side. It is 1600 feet long, and is built through solid rock. It is closed now but could be open for leveling purposes or flood control.

The power tunnel is the climax and high point of the entire project. The water enters the east portal of this tunnel (at the second gate-house, Granville side) and is carried 7200 feet under the mountain, through solid rock to a point where it reaches three steel pipes, located at such an angle as to give the water a sharp drop of approximately 300 feet to the power plant. Here turbines, transformers and generators transform the energy of the water fall into electric power.

The Surge Tank

Another interesting sight, on the hill above the power plant, is the surge tank. It is a huge steel stand pipe, 25 feet in diameter, 207 feet high, and open to the sky. Many amusing explanations for it have been over heard. Its real purpose is indicated by its name. It is located at the upper terminus of the forementioned pipes, and when these lines are closed at the power plant below, the water may "Surge" up in the tank and spend its force harmlessly. A compressor at the bottom of the tank discharges air which makes currents and maintains the water a little above freezing.

From the power plant the water goes to the West Parish filter beds. Here it is filtered and aerated and piped on to storage at Provin Mountain.

Cobble Mountain still stands as one of the world's great accomplishments in dam building.

The material for this article was taken from an article, published in 1934, by Katherine Duke, in The Associates Press which then was the official publication of the Municipal Associates of Springfield. More of Cobble Mountain will be written in future issues of Southwoods. ❑