Fort Smith
Regional Water Supply Project Update

Winter 2000

Highlights:

- Preliminary design of dam has two spillways.
- Plans for new park available for public comment in March.
- Cultural resources survey evaluates area for historic and prehistoric sites.
- Environmental assessment available for public review and comment.

Designs for New Dam and Spillway Take Shape

For any man-made lake, getting water out of the reservoir is just as important as keeping it in. At the new Lake Fort Smith, water will be withdrawn for drinking water and discharged over the spillway when the lake level exceeds 911 feet above mean sea level.

Controlled release of water to the treatment plant will be made through a large diameter tunnel through the west abutment. Water directed to the treatment plant will flow through two pipes contained within the tunnel. Having more than one pipe improves the reliability of the water supply system. If one pipe fails or is closed for maintenance, water can still be delivered to the treatment plant through the other pipe.

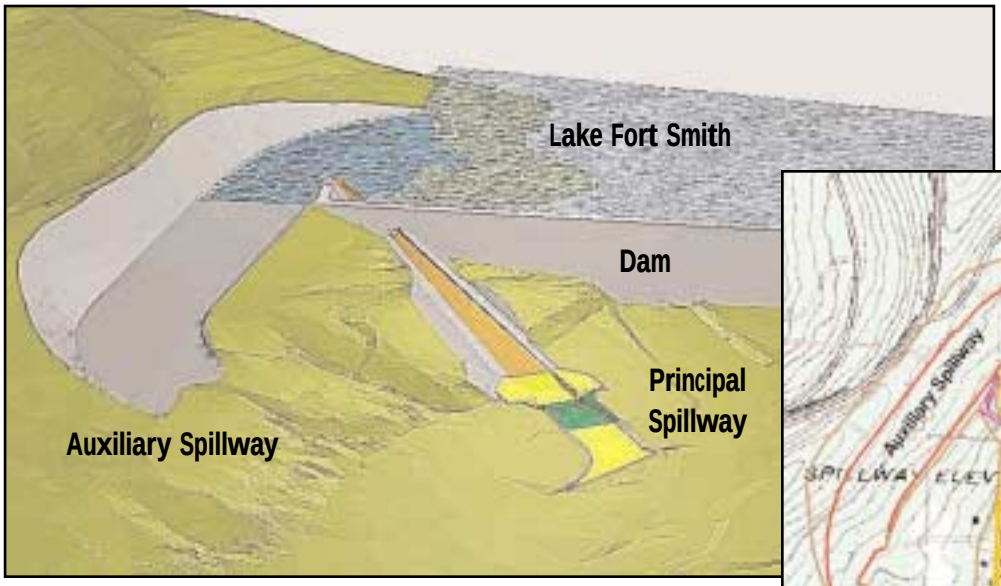
Overflows from the reservoir would pass over a spillway. The original concept for the new spillway was a single channel sweeping around the west end of the dam similar to the current configuration, but larger. In this design, the spillway would handle both routine discharges from the lake and flood flows.

Currently, discharges from Lake Fort Smith pass through a single spillway. Studies have determined, however, that principal and auxiliary spillways will be necessary for the new lake. The plan currently being considered for the principal spillway consists of an approximately 300-foot-long, side-discharge, S-shaped weir leading to a trough near the west end of the dam. Water that enters the spillway would flow down an approximately 1,500-foot-long concrete channel on the west abutment of the dam. At the bottom of the channel, water would pass over energy dissipation structures, then enter a stilling basin before flowing into Frog Bayou (see figures on next page).

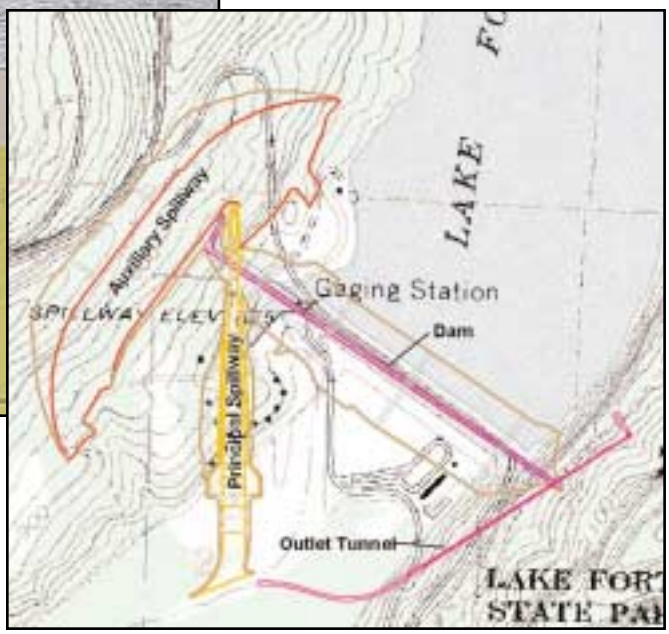
The principal spillway would be able to discharge water produced by an up to 100-year flood. Water in excess of the 100-year flood level would pass out of the lake through the auxiliary spillway. The latter spillway would consist of a large channel cut into the bedrock between the west abutment of the dam and Highway 71.

New State Park

Merlin E. Seamon Associates, a recreation facility design subconsultant to Burns & McDonnell, continues to work with the city and the Arkansas Department of Parks and Tourism on designs for a new state park to replace the park to be eliminated by the new



Visualization of the new dam and spillways.



Plan view of the outlet and spillways.

dam. Current plans place the park on the west shore of what is now Lake Shepherd Springs. Access to the park is tentatively planned from a point on Highway 71 about 2 miles south of Artist Point.

The new, larger lake will provide recreation opportunities such as boating and swimming that are not currently possible at Lake Fort Smith. Because the lake will be a drinking water supply, some restrictions on the location and types of boating and swimming activities will be necessary. For example, to protect water quality, boating and swimming will not be allowed within three-quarters of a mile of the treatment plant intake.

Preliminary designs for the new park will be available for comment at public meetings scheduled for March in Mountainburg and Fort Smith. Comments received at these meetings will help determine the design of the park and the construction schedule. The Arkansas Department of Parks and Tourism has not yet decided if some of the existing park facilities will be replaced before construction of the new dam causes the park to close in 2002.

Rock and Soil Testing

Shannon and Wilson, Inc., a geotechnical subconsultant to Burns & McDonnell, continues to take soil and rock core samples from the project site. Recent efforts have focused on investigating the geology of the east dam abutment and the area where the outlet tunnel will be located.

Cultural Resource Survey

Archaeologists from Burns & McDonnell will soon begin surveying areas around the lake that may be disturbed by construction or inundation. They will be looking for sites containing unrecorded historic artifacts greater than 50 years old, and evaluating known historic sites for eligibility for listing on the *National Register of Historic Places*. The purpose of the survey is to prevent the loss of historically or scientifically significant cultural resources.

Progress on Permitting

The U.S. Army Corps of Engineers, Little Rock District, has approved the Draft Environmental Assessment (EA) for publication. This document is available for public review and comment at local public libraries and the Mountainburg City Hall. A public hearing on the city of Fort Smith's application for a Section 404 Dredge and Fill permit from the Corps of Engineers will probably take place in April.

The City of Fort Smith ARKANSAS

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