

Lake Gregory's Dam Could Slip

Mike Harris, Crestline Courier-News, 10-13-11

Lake Gregory's dam is at risk of slipping during a major earthquake, according to the state Division of Safety of Dams, and will need to be fixed before higher water levels are ever again allowed.

There may be a dozen ways to fix the dam, according to David Gutierrez, chief of the division, ranging from removing the old dam and building another, to building a berm downstream of the dam, but cost will be an issue.

Gutierrez made his comments at the first meeting of the new Lake Gregory Improvement Committee Tuesday afternoon at the San Bernardino County Government Center. He flew down from his Sacramento office to brief the seven Crestline members on a preliminary report concerning the dam.

The seven Crestline members include Aaron Creighton, Rick Dinon, Mick Hill, Conrad Newberry, John Short, Kyle Schulty and Leslie Dodge-Taylor.

Also attending were 2nd District Supervisor Janice Rutherford, and members of her staff; Keith Lee, the county's regional parks director, and members of his department; and James Oravets, Special Districts Department division manager.

According to Gutierrez, taking out the old dam and putting in a new one may be too costly, and taking the lake away from the community during the construction may be too long a period of time. He called that option "extreme."

Gutierrez said normally his department doesn't like to share information from a preliminary plan, but the Lake Gregory situation is different.

"I know how sensitive this is to you (Crestline residents) and to the county," he told those at the meeting.

Developing a final plan will depend on the county's consultant finishing a report, and the Division of Safety of Dams using the report to help finalize results.

"What's next will be up to the county," he said.

After the meeting, Gutierrez told this newspaper that the process, including selecting the best way to fix the dam, finding a way to finance it, and following the necessary permit steps, will take months, if not years.

Present during most of the meeting, Rutherford told the committee that the issues surrounding fixing the dam were serious enough, and costly enough, that the entire board of supervisors will need to make the final decision.

Questions about the dam's stability during a major earthquake focus on a 30-foot wide horizontal section of the dam approximately 50 feet from the top that was poorly compacted when the dam was constructed in the late 1930s.

The fill material used to build the area below the 30-foot section was adequately applied and compacted, given the standards at the time, and the area above the 30-foot section was constructed similarly.

From analysis of the dam's construction history, as well as review of core samples taken in 2010 by drilling four test holes into the dam, the part (in the middle) is where you can see the original construction team stopped working, and another team came in, Gutierrez said.

Above the 30-foot section, Gutierrez told committee members, is where you can see the original construction team came back, following earlier methods.

Those correct methods included laying material down in 12-inch strips, then rolling the area several times to properly compact the material.

Committee member Rick Dinon called the 30-foot section a "ribbon of concern" upon hearing Gutierrez's report on the construction.

A major earthquake, most likely triggered along the San Andreas Fault, could shake the dam strongly enough that liquefaction of the construction material would occur in the 30-foot section, possibly causing the dam to lower and water to spill over the top.

The key to any fix will be keeping the inside of the dam dry, Gutierrez said.

"No water, no liquefaction," he said.

Gutierrez also said there was no way his office would allow the dam's spill boards to be re-installed during the winter to raise the lake level.

In fact, if the county had not created an Emergency Action Plan and an inundation map showing areas along Houston Creek that would be flooded during a major spill, his office probably would order lowering the lake even more.

The other issue covered during the meeting was how water in the dam could quickly be lowered in case of an emergency.

There is an outlet, but the original valves probably are frozen. Even if they could be opened, there's no guarantee they could be closed.

Two solutions might be to improve the existing outlet, or construct a siphon near the dam's spillway.

Committee member Creighton asked if the county could work on developing a solution to the drainage issue while the final report was being finished.

"Absolutely," Gutierrez said.

But the question of funding any fix to either the dam or the drainage problem remains.

Gutierrez said getting federal money was key, and his department is looking for possible grants. None have been identified as yet, he added.

"You have to start contacting congressional representatives to help," he said.