

Silver Lake Flat Dam Rehabilitation Project Utah County, Utah

History of the Dam:

The Silver Lake Flat Dam was constructed in 1971 in the American Fork – Dry Creek Watershed by local project sponsors with assistance from the USDA Natural Resources Conservation Service (NRCS) Watershed Program. The watershed is within the United States Forest Service Uinta-Wasatch-Cache National Forest.

The dam is an 84 foot tall earthen embankment with a drainage area of four square miles. It was planned and built for the primary purpose of irrigation water storage and has incidental benefits of flood control and sediment retention. The dam was designed and constructed as a high hazard dam, meaning there was a high probability of loss-of-life if the dam should fail. Significant development has occurred downstream from the dam since it was built.



Silver Lake Flat reservoir area.



A new auxiliary spillway was constructed during rehabilitation of the dam.

Why Rehabilitate the Dam?

Sponsors of the dam requested that NRCS perform an assessment of Silver Lake Flat Dam in 2004. The assessment concluded that the dam did not meet current NRCS and Utah State Dam Safety regulations and engineering standards for a high hazard dam.

There were concerns that the dam was not constructed to sufficiently handle the potential maximum spillway flows and seismic loading. Silver Lake Flat is located upstream from the Tibble Fork dam on the same stream. Should either dam fail visitors and campers in American Fork Canyon including the Timpanogos National Monument Visitors Center and multiple Forest Service campgrounds and occupants of the cities of Highland, American Fork, and Lehi, which are in the inundation path of the dam, would be in imminent danger.

Rehabilitation Details:

The project will restore the design storage capacity in the reservoir by raising the height of the spillway 2.5 feet, enlarging the spillway to pass the probable maximum flood, provide slope stability for seismic events, and as a result increase the reservoir surface area. Rehabilitation began in July 2015 and most of the rehabilitation work has been completed, with remaining work to be finished in June 2016 after the winter shut down.

Project Cost:

The NRCS provided technical assistance and 65 percent of the cost. Local project sponsors provided 35 percent of the cost. Rehabilitation of the dam cost \$4,274,896.

Benefits:

Rehabilitation of the dam extends the life of the dam for another 71 years. It is estimated that the dam will provide \$1,071,000 million annually in public benefits.

Partners:

- North Utah County Water Conservancy District – Lead Sponsor
- Natural Resources Conservation Service

For More Information Contact:

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