Nichols and McClure Reservoirs Restoration Project
Frequently Asked Questions

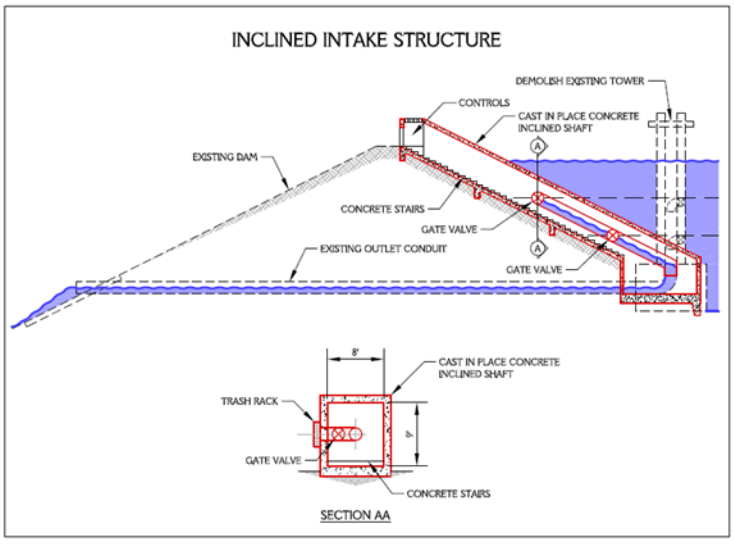
Why are improvements at the reservoirs needed?

Replacement of the intake towers at both Nichols and McClure Dams are needed to improve dam safety, operating personnel safety, and improve flow control of reservoir releases.

- The original intake tower at Nichols was over 70 years old and the original intake tower at McClure is almost 90 years old and do not meet current seismic stability requirements.
- Intake valves leak and only one valve at each tower was in operating condition.
- The original vertical intake tower was located several hundred feet from the shore and could only be accessed by boat or walking over ice when the reservoir is frozen.
- The original intake tower at Nichols was 80 feet high with a 5 foot inside diameter. The existing McClure intake tower is over 100 feet high with only 4 foot inside diameter and valves and valve actuators are located inside the tower where there is inadequate room for repair, replacement, or maintenance.

How is water released from the reservoir and what is an inclined intake structure?

Water is released from a dam in either a controlled release through the outlet works or through the spillway when the water level reaches the spillway overflow elevation. The outlet works are used to make controlled releases of reservoir water impounded behind the dam. The outlet works consists of an intake structure that has valves openings at various heights that allows reservoir water to flow into the structure at a selected flow rate. Water then flows down the intake tower down to an outlet conduit and through the bottom of the dam back into a river and/or pipeline.



Schematic Diagram of Outlet Works with
Inclined Intake Structure

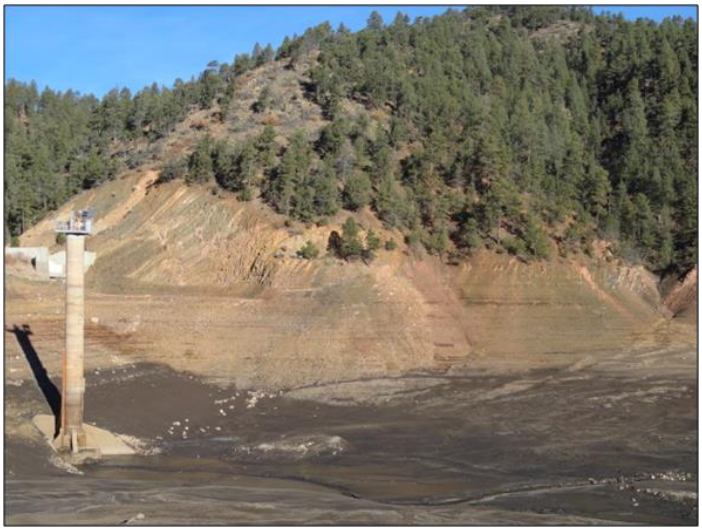
The advantage of an inclined intake structure is that it provides access directly from the dam crest. Operating staff can perform inspection and maintenance operations by walking down a stairway inside the structure. The structure is 8 feet wide and 8 feet high on the inside and there is adequate room to service the intake valves. The intake structure is equipped with electrically actuated valves and there are redundant valves to increase safety and reliability.

How long will construction take?

Work at Nichols Reservoir began September 3, 2013 and was substantially completed in mid-May 2014, when filling of the reservoir began. Nichols Dam and Reservoir is back in service and is supplying water to the Canyon Road Water Treatment Plant.

Nichols Dam Inclined Intake Structure. Reservoir Being Refilled. Photo 5/23/2014

McClure Reservoir draining was completed on October 31, 2014 with Santa Fe River flow going directly into the outlet conduit and through the dam. A Notice to Proceed with McClure Reservoir construction was issued to RMCI, the construction contractor, on November 7, 2014 rather than on September 2, 2014 as originally planned. It is anticipated that RMCI will mobilize for work on or about March 2, 2014 and construction will be completed by November 27, 2015. McClure Reservoir will then be ready to receive 2016 spring and summer runoff.



McClure Reservoir Fully Drained with Santa Fe River Flowing Directly Through Outlet. Photo 11/6/2014

Why do the reservoirs have to be drained?
Water in the reservoirs must be drained for the removal of the existing intake tower. New concrete intake structures will be constructed from the bottom of the dams to the crest of the dams on the upstream face of the dam embankments as shown in the schematic.

How is water supply affected with McClure Reservoir storage?
Flows of the Santa Fe River pass directly through the McClure Reservoir and flow into Nichols Reservoir. There will be no water stored in McClure Reservoir until late fall 2015 when construction is completed.

The Source of Supply section will manage the Santa Fe Canyon watershed supply so that as much runoff as possible will be utilized for treated water supply, acequia deliveries, and Living River target flows. This will be done by carefully managing Nichols Reservoir storage and coordinating water supply with the Buckman Direct Diversion project so that the maximum amount of Santa Fe Canyon watershed runoff is used.

Will customers experience water shortages?
No. The City has additional water sources including the Buckman Direct Diversion Facility, the Buckman Production Wells and the wells within the City limits. Even without the reservoirs and continuous drought, the City can still meet customer water demand during the peak demand of the summer months.

Can work at McClure Dam be postponed*?*
No. The condition of the existing vertical tower and control valves does not provide safe, reliable, and redundant operation of the outlet works. The time to replace the tower is now.

How much water do we get from the Santa Fe River Watershed and reservoirs?
The Santa Fe River watershed provides up to 40% of Santa Fe's drinking water. The reservoir storage allows water to be used as needed to meet water demand.

- McClure Reservoir holds 3,257 acre feet of water or 1,061 million gallons when completely full.
- Nichols Reservoir holds 684 acre feet of water or 223 million gallons when completely full.

What happens if there is a wildfire in the watershed, the Buckman Direct Diversion isn't operational due to low flows on the Rio Grande, or another heavy rain storm similar to the rain events in fall 2013?
The City Water Division has planned for worst-case scenarios and has the flexibility to use a combination of different water sources and water saved from the community's response to water conservation efforts, particularly during peak demand.

Where can I find more information?
The City provides daily information on water production, reservoir capacity, and total system storage at http://www.santafenm..gov/daily_water_production_reports. For drought management information and water conservation, please visit www.savewatersantafe.com. For specific information on inclined intake project, email Robert Jorgensen, P.E. at rnjorgensen@santafenm.gov