

Memorandum

December 10, 2018

To: Raton City Commission

Prepared By: Dan Campbell, Manager Raton Water Works

Subject: 2019 Capital Outlay Request

Based upon the possibility of greater funding for capital outlay, RWW would like to add this Lake Maloya Dam Safety Improvements Project to the expanded request recommendations. This recommendation is reflected in the Infrastructure Capital Improvement Plan (ICIP) approved earlier in the year by the Raton City Commission. The funding would probably be through the Office of State Engineer Dam Safety Bureau.

Lake Maloya Dam Safety Improvements – This project will consist of construction of a service spillway crest structure and inspection of the outlet works. The engineered design drawings will be complete for the spillway structure by January, 2019 so the project will be ready to proceed in 2019. Inspection of the conduit works is a complicated task that also can be started in 2019.

Recommended Capital Outlay Request- \$1,500,000 (Engineer's Budgetary Estimate attached)

Mr. Dan Campbell
General Manager, Raton Water Works
224 Savage Avenue
Raton, New Mexico 87740

October 26, 2018

Subject: Budgetary Planning Cost Estimates for an Outlet Works Inspection and Service Spillway Modification Construction at Lake Maloya Dam

Dear Mr. Campbell,

The City of Raton (City), New Mexico Office of the State Engineer (NMOSE) Dam Safety Bureau, and AECOM have identified deficiencies and data gaps at Lake Maloya Dam based on dam safety inspections and historical data review as well as site reconnaissance, investigations, and observations. At the request of the City of Raton and in support of budgetary planning and funding requests, AECOM have developed cost estimates to:

- Complete an outlet works inspection; and
- Complete the construction of a service spillway crest structure modification.

Outlet Works Inspection

The condition of the outlet works conduits is unknown and represents a data gap as well as a potential dam safety risk, particularly given documented historical conduit seepage and deficiencies. In 2015, AECOM assisted the City in developing an outlet works inspection plan, bid advertisement, contractor selection, and contractor fee solicitation. The selected contractor provided a fee estimate of about \$492,000 to complete an outlet works inspection, which exceeded the City's expectations and available funds. As such, the completion of the outlet works inspection was deferred to a future date. For the purposes of budgetary planning and potential funding requests, AECOM modified this estimate, as presented in Table 1, to include:

- Escalation due to inflation and the current construction and bid environment;
- Engineering support/oversight;
- Perceived construction risk (change orders, claims, etc.); and
- New Mexico gross receipts tax.

Table 1: Budgetary Planning Cost Estimate for Outlet Works Inspection

Cost Item	Cost	Comment
Base Estimate	\$492,000	Contractor estimate from 2015
Escalation	\$49,000	10 percent increase (from base estimate)
Adjusted Base Estimate	\$541,000	
Engineering Support	\$27,000	5 percent of adjusted base estimate
Construction Risk	\$162,000	30 percent of adjusted base estimate
Subtotal	\$730,000	
Taxes	\$44,500	6.0833 percent (Colfax County) applied to subtotal
Total Estimated Cost	\$774,500	

Service Spillway Modification Construction

The existing service spillway crest structure is aging and in generally poor condition and has been contributing to observed seepage under the service spillway and foundation (i.e., dam embankment) erosion, which are significant dam safety concerns. AECOM is currently engaged by the City to develop the final design and bid ready documents for a service spillway crest replacement. The project is presently about 60 percent complete with final completion anticipated to be the end of 2018. The 60 percent design level represented a milestone in which 60 percent modification drawings, specifications, design report, and engineer's opinion of probable construction costs (EOPCC) were developed. The 60 percent EOPCC is sufficiently refined to support budgetary planning and potential funding requests, however, this estimate was modified, as presented in Table 2, to include:

- Engineering support/oversight;
- Construction contingency; and
- New Mexico gross receipts tax.

Table 2: Budgetary Planning Cost Estimate for Service Spillway Modification Construction

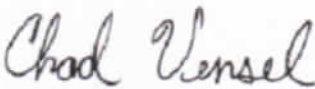
Cost Item	Cost	Comment
Base Estimate	\$485,400	60 percent EOPCC
Engineering Support	\$48,600	10 percent of base estimate
Contingency	\$150,000	30 percent of base estimate
Subtotal	\$684,000	
Taxes	\$40,000	6.0833 percent (Colfax County) applied to subtotal
Total Estimated Cost	\$724,000	

Summary

Completion of an outlet works inspection and service spillway modification construction would improve overall understanding and address identified dam safety deficiencies. The total estimated cost to complete these tasks is about **\$1,500,000**.

Please contact us if you have any questions or require any further information.

Yours sincerely,



Chad Vensel
Civil Engineer
AECOM
T: 303-740-2741
E: Chad.Vensel@aecom.com



Ed Toms, PE
Vice President
AECOM
T: 303-204-8294
E: Ed.Toms@aecom.com