Nevada Irrigation District

Staff Report

for the Board of Director's Meeting on July 27, 2016

TO: **Board of Directors**

FROM: **Dar Chen, P.E., G.E., Sr. Engineer - Dam Safety**
Keane Sommers, P.E., Hydroelectric Manager

DATE: **July 20, 2016**

SUBJECT: **Dutch Flat Afterbay Fish Flow Valves Replacement**

HYDROELECTRIC

RECOMMENDATION
Award a service contract in the amount of $152,896 to Syblon Reid General Engineering Contractors for Phase 1 of Dutch Flat Afterbay Fish Flow Valves Replacement Project as recommended by the Engineering Committee and authorize the General Manager to execute the necessary documents.

BACKGROUND
The three existing 12-inch valves (in series) controlling the required fish flows for the Bear River at Dutch Flat Afterbay outlet tunnel have been found to be malfunctioning and in various stages of failure. If the downstream partially-functioning butterfly valve fails, it could either lead to an uncontrolled release of the reservoir water or a regulatory violation regarding minimum instream flow.

Replacement of these fish-flow valves requires specialized diving services, valve replacement design, construction services, and expert coordination of these activities. Syblon Reid General Engineering Contractors is the most qualified contractor to complete this work and has a demonstrated track record of success on similar projects; therefore, Staff recommends a sole source award of this Phase I contract.

The project is currently envisioned to consist of three phases as shown below:

- Phase I includes project management, engineering services, and performing a dive investigation to determine access through the intake structure and down to the concrete plug approximately 275 feet downstream of the intake trash rack. Since there is little available information regarding the condition of

the upstream concrete plug area, the main purpose of the dive investigation is to determine what type of plug will be necessary to isolate the 12-inch valves to be replaced. Phase I also includes engineering for the new valve system that needs to be submitted to the Federal Energy Regulatory Commission (FERC) for review and approval. Engineering will include some analysis relative to how the existing low-level outlet (LLO) valves (42-inch butterfly valves and the new 12-inch valve configuration) can meet the maximum required flows of 45 cfs as part on the new FERC license conditions that are a couple of years out.

- Phase II includes procuring and having divers install an appropriate plug to isolate the existing 12-inch valves and replacing the two existing non-functional 12-inch gate valves with one new valve and a pipe spool. This will allow future isolation of the 12-inch bypass system without the need for diver support.
- Phase III is yet to be determined at this time, but will most likely include final modifications to the 12-inch bypass system. However, it could possibly involve modifications to the existing 42-inch LLO valves as well.

The total cost for Phase I services is $152,896. The cost for Phase II is currently estimated to be approximately $215,000 and will be budgeted in 2017. A cost for Phase III is currently unavailable.

BUDGETARY IMPACT:
A total of $245,000 was budgeted for Non-Routine Repair of Hydroelectric Department Structures and Non-Routine Repair of Reservoirs, Dams, and Waterways in 2016. Approximately $35,000 has been spent to date leaving sufficient funds to complete Phase I of this project.

MDC