

COUNCIL ACTION FORM

SUBJECT: DESIGN SERVICES FOR NORTH RIVER VALLEY PARK LOW HEAD DAM IMPROVEMENTS

BACKGROUND:

The City of Ames constructed a low-head dam in 1984 in order to create a pool of water in the primary recharge zone for the City's Downtown Well Field, providing a means to increase the capacity of these wells during periods of drought. This dam replaced temporary sand dams constructed in the 1970's for the same purpose. While the City has never promoted recreation at the dam, it is evident that the low head dam attracts members of the public who use the area for recreation. Low head dams can pose a serious hazard due to the recirculation effect which occurs immediately downstream of the dam. This hazard is caused by the uniform hydraulics as the water flows over the top of the dam. Without something to break up the uniform hydraulics, a dangerous undertow can be created. Once caught in the uniform flow, it is easy for a water vessel to capsize and become caught in the recirculation.

A project to improve the safety of this piece of infrastructure that is critical to the overall management of the Ames drinking water supply was first proposed in 2008. The original concept was to place a small number of large boulders on the downstream apron of the dam to break up the dangerous recirculation effect. The design has undergone several changes since 2008 which expanded the project to provide additional aquatic and recreational benefits, but that also increased the cost of the project. The Iowa Department of Natural Resources (IDNR) has worked with the City to develop conceptual ideas that involve a modified design to prevent the dangerous recirculation effects of the dam while improving recreational features of the dam such as bank access, fishing access, and whitewater features. **The revised concept is now a rock arch rapids design that has been successful in other locations. This design will withstand high water events better, and also functions as a "fish ladder," allowing fish and other aquatic life to migrate upstream past the dam.**

Staff has issued a Request for Proposals (RFP) in order to select a firm to prepare the bidding documents. A "two envelope" selection process was used to select an engineering firm; whereby each firm's qualifications and proposed scope of work are submitted in one envelope while their proposed fee is submitted in a second envelope. The process allows staff to review the proposals and identify the firm whose qualifications and proposed scope of work are most appropriate before considering fees. After selecting the preferred firm, staff then opens the proposed fee envelopes to confirm that the selected firm is proposing a fee that is in line with what other firms would propose for a similar scope of work. The final scope of work and fee is

negotiated with the firm identified as having submitted the most appropriate submittal. If a mutually acceptable scope and fee cannot be agreed upon, then staff would begin negotiating with the next highest ranked firm.

On April 1, 2016, staff received four proposals for the design services for the project. On April 20, 2016, a committee made up of Parks & Recreation, Public Works, Iowa Department of Natural Resources, Water & Pollution Control, and a member of the outside stakeholder group conducted a thorough review of each firm’s qualifications. RiverRestoration.Org was identified as the most qualified firm. Following the review of each firms’ qualifications and proposed scope of work, the fee proposals were opened. All firms submitting proposals are listed below in the order they were ranked based on qualifications.

Firm	Initial Proposed Fee
RiverRestoration.org	\$149,395
Riverwise Engineering	\$81,525
Barr Engineering	\$97,793
WHKS	\$29,850

RiverRestoration.org was identified as the preferred firm based on their prior work and their proposed approach to this project. Staff subsequently negotiated a final scope of work with RiverRestoration.org to perform the necessary design, bid phase assistance and construction phase engineering services required to complete the project as originally intended. Their original proposed scope of work and fee was based on some incorrect assumptions about what was desired in the project. Staff worked with the consultant to review the proposed scope and bring in back in line with the current vision for the project, which brought **the proposed fee down to \$102,499.**

Current funding for the project is as follows:

Water Utility Fund - FY 13/14 CIP	\$75,000
Low Head Dam Safety Grant (2009)	\$75,000
Low Head Dam Safety Grant (2016)	\$85,000
In-Kind Donations	
Manatts of Ames (asphalt restoration)	\$ 8,000
Martin Marietta (rock donation)	\$32,000
Parks System Improvements - FY 15/16 CIP	
Add Recreation Features	\$40,000
Total	\$315,000

A preliminary estimate of the proposed cost for the project is as follows:

Construction (2012 Estimate)	\$183,000
Additional Recreation Features	\$ 35,000
Additional Concrete Wall Work	\$ 15,000
Engineering (dam + recreation features)	\$102,499

Contingency	\$ 10,000
Total	\$345,499

At this time, staff is recommending that the design work be allowed to proceed. Once a cost estimate can be developed from a more complete design, staff will provide a recommendation on how to address any funding gap. The current proposed timeline for the project is as follows:

April/May 2016	Engineering Consultant Selection
Late Summer 2016	Public Input Meeting
Fall/Winter 2016	Finalize Design/Obtain permits
Spring/Summer 2017	Bidding and Construction

This project continues to be of high interest by several groups, including the Skunk River Paddlers, Hawkeye Fly Fishing Association (HFFA), Story County Conservation, Prairie Rivers of Iowa, Linda Manatt & Family, Iowa Department of Natural Resources, and other groups and interested citizens. City staff has continued to inform and engage in discussion with those interested in the project. Now that the project is slated to move forward, staff intends to host another public open house. Staff will continue to meet with interested stakeholders throughout the design process to continue gathering feedback on the design. Staff will also continue to meet with Parks and Recreation staff and the Commission to go over the impacts to North River Valley Park.

While recreation, aquatic life protection (i.e. - fish passage), and water quality are all valuable benefits that will result from this project, and single most important outcome will be improving safety. This project has the potential to create a unique and safe opportunity for the Ames community to enjoy the river.

ALTERNATIVES:

1. Award a contract for design, bid and construction phase engineering services to RiverRestoration.org of Carbondale, Colorado in an amount not to exceed \$102,499 without prior approval.
2. Do not award a contract at this time and do not move forward with the North River Valley Low Head Dam Improvements Project.

MANAGER’S RECOMMENDED ACTION:

As a result of the inherent danger of the City’s low head dam in North River Valley Park, staff has continued to pursue a modification to the dam that will significantly reduce the downstream recirculation effect. Staff has reviewed and agreed upon a preliminary design concept that will both improve safety and provide improved fish passage, fishing access, and recreational opportunities for the Ames community, all while maintaining

the integrity and intended purpose of the dam. Although the City has never promoted recreation at the dam, staff understands the attraction and potential danger of activities which are undertaken by both experienced recreational enthusiasts and by those experiencing the river for the first time. Therefore, it is the recommendation of the City Manager that the City Council adopt Alternative No. 1 as described above.