

COUNCIL ACTION FORM

SUBJECT: 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 1970s 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. 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.

In April 2016, RiverRestoration.org was awarded a contract in the amount of \$102,499 to begin design on the project. Prior to the start of design, staff hosted a stakeholder input meeting where representatives from the Skunk River Paddlers, Iowa Department of Natural Resources, Prairie Rivers of Iowa, Parks & Recreation Commission, and an adjacent property owner were able to learn about the project and help develop a list of project goals beyond the first and foremost goal of improved safety.

River Restoration prepared three alternatives for the project. **Alternative A** is a project that addresses only the safety concern and is within the scope of current project funds available. **Alternative B** allows for additional in-channel improvements that create two separate flow paths to allow aquatic species passage in all flow levels and boat passage during certain flow levels in the South Skunk River. The idea behind this alternative was to reduce costs compared to Alternative C and potentially allow the bank improvements to be done at a later date but finish all the in channel improvements to meet some secondary project objectives in addition to safety. **Alternative C** is the full

completed vision for the project that includes both in-channel improvements and bank improvements. This alternative meets all the primary and secondary objectives of the project. A sketch of the Alternative C improvements is attached. The full estimated project costs are as follows:

Project Alternatives	Estimated Project Costs
Alternative A	\$347,500
Alternative B	\$537,500
Alternative C	\$844,500

Current funding for the project is as follows:

Low Head Dam Safety Grant (2009)	\$ 75,000
Low Head Dam Safety Grant (2016)	\$ 85,000
Low Head Dam Safety Grant (2017- expected March)	\$112,901
Water Utility Fund - FY 13/14 CIP	\$ 75,000
Parks System Improvements - FY 15/16 CIP	
Add Recreation Features	\$ 40,000
Local Options Sales Tax	\$ 60,000
In-Kind Donations	
Manatts of Ames (asphalt restoration) – possible	\$ 8,000
Martin Marietta (rock donation) - possible	\$ 32,000
Iowa Whitewater Coalition - confirmed	\$ 1,000
Hawkeye Fly Fishing Assoc. - confirmed	\$ 1,000
City of Ames Park & Recreation staff (tree removal, excavation hauling)	\$ 75,000
Total	\$564,901
Funding Shortfall	\$279,599

On November 16, 2016, staff hosted a public meeting on the project, presenting the three alternatives. Those in attendance showed tremendous support for Alternative C, knowing that funding the project could be challenging and could result in a delay as additional funds were raised. The following evening, staff met with the Parks and Recreation Commission who also indicated their preference, if the City was going to do a project, it should pursue Alternative C.

Staff has submitted multiple grant applications to both state and federal programs. Recently, staff were notified that the City will receive an additional \$112,901. This brings total grant funding secured to date for the project to \$288,901. Staff has already submitted another grant application with the Iowa DNR Water Trails Program and will find out the results of that grant in late April. Many of these grants look for 50/50 matching local funds. These matching funds can include both funds from the City of

Ames and any in-kind donations. One comment by a scorer on a recent unsuccessful grant application was that for a project of this magnitude, the contribution by the City is on the low side. The relatively low level of local funds compared to other projects seeking grant funding appears to be negatively impacting the City's scores in the grant application process, leading to less grant funding.

In order to best leverage grant funding, staff is recommending that \$150,000 of the FY 15/16 available balance in the General Fund be allocated to the North River Valley Park Low Head Dam Improvements Project.

Depending on the outcome of the pending grant application, additional local funds may be still necessary in order to allow the Alternative C option to proceed. Staff is recommending that up to \$150,000 in funds from the FY 15/16 Source Water Protection Plan CIP project also be reallocated to the Low Head Dam project.

The Source Water Protection Plan project was intended to develop a long-range plan to protect the quality of the groundwater source serving the Ames Water Treatment Plant. Because of a number of higher workload priorities, no substantive progress on the source water plan has been made to date, and with the start-up of the new water treatment plant looming, staff does not anticipate being able to devote staff resources towards source water protection efforts for at least two years. The Low Head Dam project is, at its core, intended to preserve infrastructure that is crucial to the utility's drought source water management efforts. As such, staff believes that reallocating funds from the Source Water Protection project to the Low Head Dam project would still contribute to the overall intent of protecting the City's source water, admittedly with a focus on quantity instead of quality.

Authorizing the above requested funds would allow the following timeline for the project:

Spring/Summer 2017	Finalize Design/Obtain permits
Fall/Winter 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. City staff asked for letters of support for a grant application and within 48 hours had received 20 letters of support from various organizations and citizens.

ALTERNATIVES:

1. a. Approve a resolution to commit \$150,000 from the FY 16/17 General Fund available balance to the North River Valley Low Head Dam Improvements.

- b. Approve a resolution to commit \$150,000 from the Source Water Protection Plan CIP project to the North River Valley Low Head Dam Improvements project.

Approval of this additional funding will allow staff to begin final design work now on Alternative C, even while additional grant opportunities are explored. Any additional grant funding received will be used to reduce the amount of funds that will be transferred from the Source Water Protection Plan Project to help finance the dam improvement project.

2. Do not approve additional funds at this time for this project, and move ahead to construct Alternative B.

MANAGER'S RECOMMENDED ACTION:

Given the amount of funding that has been secured to date, it would be easy for the City Council to decide to pursue Alternative B. However, Alternative C offers an opportunity to not only increase the safety associated with the City's low-head dam, but also create a unique recreational facility at a quality worthy of this community. Staff is working diligently to help secure additional grant funding for the project. However, additional local funds must be identified at this time in order to improve the City's ability to secure additional grants funds and to fully fund the Alternative C cost estimate.

Therefore, it is the recommendation of the City Manager that the City Council approve Alternative #1 and thereby commit \$150,000 from the FY 16/17 General Fund available balance to the North River Valley Low Head Dam Improvements project as well as redistributing \$150,000 from the Source Water Protection Plan project, if needed.

Attachment
Alternative C Rendering

