Friends of the Yampa
www.friendsoftheyampa.com
PO Box 771654, Steamboat Springs, CO 80477

June 13, 2017

Attn: Dori Vigil and Craig Godbout
RE: Official Report - Yampa River Structures Project

Hello Dori and Craig,

Here is the official report and final deliverable of the Yampa River Structures project that the Friends of the Yampa recently completed. We realize that this project has taken quite a bit more time than what we outlined back in 2012 when this grant was approved. So, we'd like to thank you for your patience, advice, help and ability to extend this grant over the years.

As of March 31st, 2017, Friends of the Yampa has completed this project. Please find our official report attached below.

Let us know if you need anything else or have any questions.

Thanks again for your help with this project.

Sincerely yours,

Kent Vertrees
Friends of the Yampa

Yampa River Structures Project
Yampa River
Steamboat Springs, Colorado
Final Report

Prepared for:
Water Supply Reserve Account – Grant Program
Attn: Craig Godbout

Friends of the Yampa (Fiscal Agent)
Grant Amount: $50,000 from Yampa/White/Green Basin Funds
Prepared by: Kent Vertrees

FRIENDS OF THE YAMPA

INTRODUCTION

In 2008, the City of Steamboat Springs in partnership with the Friends of the Yampa (FOY) and other entities created a Yampa River Structures Master Plan (YRSMP) that provided " a framework for instream and riparian area improvements that will optimize the recreational benefits of the river (Yampa) while protecting its ecological integrity." This plan identified over $3.5 million dollars of potential river work in a 6.4 mile reach of the Yampa River owned by the City of Steamboat Springs.

In 2012, working with the City of Steamboat Springs, FOY created a proposal and was awarded a grant thru the Colorado Water Conservation Board's Water Supply Reserve Account through the Yampa/White/Green River Roundtable's Basin Funds to carry out a portion of the YRSMP titled the Yampa River Structures Project (YRSP).

This YRSP goals were to re-grade and replant riparian habitat, create more formalized access point(s), remove debris, repair/enhance existing boating structure and install a new boating structure. Objectives include enhance/preserve the natural character of the Yampa River through river rehabilitation improvements, improve and create additional recreational boating and fishing opportunities, enhance the value of the Yampa as a community amenity and improve public safety by fixing an outdated boating structure.

FOY's mission is to protect and enhance the river's environmental and recreational integrity through stewardship, advocacy, education and partnerships.

BACKGROUND

The YRSP set out to design, engineer, permit, build and improve on several instream, recreational and environmental rock structures in the Yampa River.

This YRSP identified river work in the vicinity of 9th Street, downstream to just upstream of the Charlie's Hole by the 13th Street Bridge in downtown Steamboat Springs, Colorado. This reach of river is approximately ¼ of a mile in river length. Within this reach of river, the YRSP identified seven 7

locations and 5 types of river structures to work on including: re-grading and replanting riparian habitat, creating formalized access points, removing debris from the river, repair/enhancing existing boating structures and installing a new boating structure. Total estimated engineering and construction costs of this project were identified as $100,600.00.

This reach of river has been identified by the Yampa/White/Green Basin Roundtable as one of the major recreational reaches of the river in the Basin's Non-Consumptive Needs Assessment (NCNA). This reach of river has the "Highest recreation use along the entire Yampa River allowing for multiple recreational opportunities and includes the only Recreational In-Channel Diversion in entire Yampa/White/Green Basin", according to Phase I of the NCNA.

On August 2, 2012, FOY was approved for a $50,000 grant thru the Water Supply Reserve Accounts grant program from the Yampa/White/Green Basin funds which was leveraged with other grants and fundraising from FOY in order to make this project happen.

TIMELINE & DISCUSSION

2013

After grant approval from the Colorado Water Conservation Board (CWCB) in the fall of 2012, and contracting with engineer Gary Lacy from Recreation Engineering and Planning (REP), work began immediately on initial design. In partnership with the City of Steamboat Springs, plans were submitted to the Army Corps of Engineers in the Spring of 2013. This initial design included the use of sub-riverbed grout in the two main features at the Ambulance Hole and Toots Hole features with the intention to lock in the basement rocks to mitigate future maintenance and/or a future failure in the structures. Similar grout style design work had been used in the past on two other river features in Steamboat Springs, at the Charlie's Hole and the D-Hole.

During the review process with the Army Corps, and upon public comment from our local CO Parks and Wildlife (CPW) aquatic biologist, it was advised to us to withdraw the application and specifically redesign

the Ambulance Hole and Orange Peel Wave a.k.a. Toot's Wave without the use of grout.

As a good player, partner and in hopes to get full buy-in from our local CPW team, we pulled the application and worked on a redesign without grout during the summer of 2013. After multiple meetings and a walk through of the site with CPW staff, Army Corps representatives, City of Steamboat Springs officials, FOY board members and our engineer Gary Lacy, a reengineered design without the use of grout was resubmitted to the Army Corps in October of 2013.

At this time, we reconnected with CWCB about our need to get an extension on this grant and it was approved for another year.

In December, upon review of this new application and design, the Army Corps requested that we pull the plan. Their staff felt the design did not meet "today's standards".

2014

During the winter of 2014, REP worked on a new design by taking existing plans and converting them to AutoCAD so to meet Army Corps standards. Once completed, we provided CPW with these new plans in an effort to answer any additional questions they may have before resubmitting to Army Corps.

In May, we provided CPW with an outline of answers to their questions on the new design, which they then followed up with an additional list of questions that REP answered.

In June, we then resubmitted this new design and application to the Army Corps.

In September, the application was subjected to another round of public comment through the Army Corps process. By October, through this process, we were then required to develop a Cultural Resources Report of the project reach, submit a revegetation plan, develop a hydraulic model of the design with existing and proposed velocities and updated timeline to finalize a No Rise and Floodplain Permit.

In November, we received a letter from the Army Corps that they had withdrawn our application as they said that we had not fully addressed the concerns to sufficiently answer questions posed by CPW regarding current and future water velocity ranges affected by this project.

At this time, we reconnected with CWCB about our need to get an extension on our grant and it was approved for another year.

2015

During the winter months, REP worked on the hydraulic analysis which was completed in April. We submitted this to CPW staff for review before turning it over once again to the Army Corps.

In May we received more comments from CPW. In June we responded to them and adjusted design elements in the structures based on CPW's suggestions.

In July we resubmitted a new application to the Army Corps.

In September we were rewarded an approved 404 Permit thru the Army Corps. In review and now, as part of this permit, the Colorado Department of Public Health & Environment issued additional conditions requiring FOY to develop a sampling plan to collect macro invertebrate, sediment and water chemistry to determine if this project has any future impact to aquatic life in the project reach. This "new" condition created an additional $32,000 estimated overrun on our initial budget.

In October, we hired Nordic Excavating to be the contractor for this project.

In November we kicked off the first phase of the YRSP construction. It became quickly evident due to a big winter storm that we would only be able to finalize Task 1 of the YRSP, which was to "rebuild what is now a 'sub-optimal' recreational feature (Ambulance Hole), improve and formalize the existing access point to this feature and rehabilitate the eroding bank near the access point by improving the riparian buffer

zone. Also, place select boulders downstream of feature to increase fisheries habitat."

At this time, we submitted another extension to the CWCB for our YRSP grant. This grant was extended to March 31, 2017.

2016

After wrapping up construction in November, we looked to the opportunity for a March build-out of the remainder of this project. As it turned out, the Yampa River was running too high in March for machinery to be in the river, so we postponed the work to the following fall.

In July, after high water run off receded and the newly placed rocks were exposed, CPW identified and discussed with us that the left wing or the "fish passage" of the rebuilt (and renamed) A-Wave (formerly Ambulance Hole or A-Hole) had some inconsistencies from our original plan. After thorough discussion, we agreed to rebuild this left wing fish passage come November.

In late November of 2016, we proceeded with build out of the plan and finished this project by "Removing, rebuilding and enhancing the recreational structure identified as the Orange Peel Wave (a.k.a. Toots Wave) which currently has limited recreational value, and to work to optimize fisheries habitat by maintaining adequate riffle water and by placement of select boulders."

At this time we also rebuilt the "fish passage" of the A-Wave.

Before entering and exiting the river with our excavator, we had a walk through meeting with all parties to ensure that everyone was happy with the plan and the final outcome of the project.

Conclusion

We believe this project to be a success, even though it wasn't a slam-dunk and had to evolve in numerous ways. The features that were rebuilt and created in the Yampa, the fish habitat that was improved upon and the access

points that we have established with the Yampa River Structures Project fulfilled our initial objectives to:

- To enhance/preserve the natural character of the Yampa River in downtown Steamboat Springs through river rehabilitation improvements;
- Improve upon and create additional recreational boating and fishing opportunities in the Yampa River in downtown Steamboat Springs;
- To enhance the value of the River as a community amenity through access points and recreational use opportunities;
- Improve public safety by rebuilding the D-Hole which was built with outdated methodology and isn't functioning properly.

Early on in this project, we faced multiple roadblocks that required us to redesign, reengineer and resubmit our plan to the Army Corps, thus delaying the initial, submitted timeline of this grant.

Our initial scope of work also included some elements that we had to revise and retract from this project.

Specifically, during our floodplain analysis, our proposed work on the Z-Hole, which was in Task 2 of our approved scope, would have impacted the 100-year floodplain, so we pulled this work from our project. Also, in Task 4, there was an additional recreational feature to be built between the Toot's Wave and Charlie's Hole that we had to retract from the plan due to budgeting constraints.

Coincidently, during this time, the City of Steamboat received significant funding for a different project that was also within this same reach of river. This Yampa Street Improvement's project essentially took over some of the elements within our approved scope of work. These were parts of Task 2 and Task 3, which provided access point improvements, removal of debris from the riverbank and the fixing of points of erosion.

Our main partner, the City of Steamboat Springs and specifically Craig Robinson who is the City's Parks, Open Space and Trails Manager, was very patient, supportive and helped keep the project moving forward. His ability to navigate between our engineer, the Army Corps and CPW staff was imperative in getting this project finalized.

Without the help, support and patience from the CWCB, this project may have been derailed after that initial year.

Appendix

Final – Yampa River Structures Project – SOW
YWG – River Structures Project_OE131BC-6
YWG – Yampa River Structures Project_NTP8.2.12
Final Approved Design – Steamboat Springs_9_26_2015
Army Corps Permit
Engineering No_Rise Certification
CDPHE – SpeclCondCert-Reviewable #4325YampaRiver
CDPHE – Discharge Permit – COGO70000_Permit
Hydraulic Modeling – SteamboatHYDReport_6_2015
GEI - Yampa River whitewater park sampling 2016-2020
GEI – Feb 2016 – Macroinvertebrate and sediment report
FOY – final request for funds to CWCB

Image files
A-Hole before
A-Hole after
Toots Hole before
Toots Hole afterBuilding Toots Wave
Building Toots Wave 2
Building Toots Wave 3