Water Supply Reserve Fund – Grant and Loan Program
Water Activity Summary Sheet
March 21-22, 2018
Agenda Item 25(c)

Applicant & Grantee:	Diane Martin
Water Activity Name:	Tornay Highline Diversion Improvement
Water Activity Purpose:	Multipurpose (Ag/Env&Rec)
County:	Gunnison
Drainage Basin:	Gunnison
Water Source:	Quartz Creek
Amount Requested:	$15,000 Gunnison Basin Account
Matching Funds:	Applicant Match (cash & in-kind) = $25,750 • 172% of the Basin Account request (meets 10% min)

Staff Recommendation:
Staff recommends approval of up to $15,000 from the Gunnison Basin Account to help fund the project titled: Tornay Highline Diversion Improvement

Water Activity Summary: WSRF grant funds, if approved, will assist a collaborate effort between Green Mesa Ranch and Trout Unlimited to reconstruct the Tornay Highline diversion structure. The project is located on Quartz Creek approximately 12 miles east of the city of Gunnison. Green Mesa Ranch is a 330-acre ranch owned by Johnny Leverett. Owners produce grass hay and pasture livestock on the irrigated land. The Tornay Highline ditch is owned by Green Mesa Ranch and delivers water for irrigation of 224 acres of grass hay meadow and pasture. The existing Tornay Highline diversion is difficult and dangerous to operate, is a barrier to trout, and is contributing to channel instability thru the segment of Quartz creek. This project will replace the existing structure with a new structure will improve ditch operations, operator safety, channel stability, and fish passage.

Project Objective

- Improve access and control of pre-compact water rights.
- Improve safety of personnel operating diversion
- Reduce in channel disturbance caused by diversion maintenance.
- Reduce risk of diversion failure during high flow periods.
- Improve trout passage for spawning and migration.
- Improve channel stability and instream habitat.
- Improve wintering trout habitat with pooling below the diversion.

Discussion: As pointed out in the accompanying application, this project assists the Gunnison Basin Roundtable in meeting Goals 1 and 2 of the Gunnison Basin Implementation Plan.

In addition, this effort helps the state achieve several of the Measurable Objectives of Colorado's Water Plan, such as meeting Agricultural needs.

Issues/Additional Needs: No issues or additional needs have been identified.

Eligibility Requirements: The application meets requirements of all eligibility components: General Eligibility, Entity Eligibility, Water Activity Eligibility, and Eligibility Based on Match Requirements.

Evaluation Criteria: This activity has undergone review and evaluation and staff has determined that it satisfies the Evaluation Criteria. Please refer to Basin Roundtable Chair's Recommendation Letter and the WSRF Grant Application for applicant's detailed response.

Funding Summary/Matching Funds:

Funding Source	Cash	In-kind	Total	Status
Trout Unlimited	$0	$3,000	$3,000	Secured
Upper Gunnison River Water Conservancy District	$17,000	$0	$17,000	Pending
Diane Martin & Johnny Leverett	$2,750	$3,000	$5,750	Secured
Subtotal	$19,750	$6,000	$25,750	
WSRF Gunnison Basin Account	$15,000	n/a	$15,000	Secured
Total	$34,750	$6,000	$40,750	

CWCB Project Manager: Craig Godbout

The Gunnison Basin Roundtable
501 Palmer Street
Delta, CO 81416

January 17, 2018

Mr. Craig Godbout
Water Supply Management Section
COLORADO WATER CONSERVATION BOARD
1313 Sherman St., Room 718
Denver, CO 80203

Re: WSRF Grant Request: Tournay Highline Ditch Diversion Repair

Dear Mr. Godbout:

This letter is presented to advise you that the grant application submitted by Trout Unlimited for $15,000 from Basin Account funds from the Water Supply Reserve Fund for the Tournay Highline Ditch Diversion Repair was reviewed by the Gunnison Basin Roundtable and its Project Screening Committee. The request for funding was approved by a unanimous vote of the Gunnison Basin Roundtable during our meeting on December 4, 2017.

This water activity meets the provisions of Section 37-75-104(2), Colorado Revised Statutes. The requirements/language from the statute is provided in Part 3 of the Criteria and Guidelines. In addition, this project helps achieve Goals 1, 2,3, 5, 6, 7 and 8 of the Gunnison Basin Implementation Plan.

Thank you for your support of this grant application.

Sincerely,

Frank J. Kugel
Gunnison Basin Roundtable

cc: Kathleen Curry (email)
Tom Alvey (email)

Last Update: August 3, 2017

Colorado Water Conservation Board

Water Supply Reserve Fund
Grant Application

Instructions

All WSRF grant applications shall conform to the current 2016 WSRF Criteria and Guidelines.

To receive funding from the WSRF, a proposed water activity must be approved by a Roundtable(s) **AND** the Colorado Water Conservation Board (CWCB). The process for Roundtable consideration and recommendation is outlined in the 2016 WSRF Criteria and Guidelines. The CWCB meets bimonthly according to the schedule on page 2 of this application.

If you have questions, please contact the current CWCB staff Roundtable liaison:

Arkansas	**Gunnison | North Platte | South Platte | Yampa/White**	**Colorado | Metro | Rio Grande | Southwest**
Ben Wade	Craig Godbout	Megan Holcomb
ben.wade@state.co.us	craig.godbout@state.co.us	megan.holcomb@state.co.us
303-866-3441 x3238	303-866-3441 x3210	303-866-3441 x3222

WSRF Submittal Checklist (Required)

x	I acknowledge this request for funding was recommended for CWCB approval by the sponsoring Basin Roundtable(s).
x	I acknowledge I have read and understand the 2016 WSRF Criteria and Guidelines.
x	I acknowledge the Grantee will be able to contract with CWCB using the Standard Contract.(1)
Exhibit A	
x	Statement of Work(2) *(Word – see Exhibit A Template)*
x	Budget & Schedule(2) *(Excel Spreadsheet – see Exhibit A Template)*
x	Letters of Matching and/or Pending 3rd Party Commitments(2)
Exhibit C	
x	Map(2)
x	Photos/Drawings/Reports
x	Letters of Support
	Certificate of Insurance(3) (General, Auto, & Workers' Comp.)
Contracting Documents	
	Certificate of Good Standing(3)
	W-9(3)
	Independent Contractor Form(3) (If applicant is individual, not company/organization)
	Electronic Funds Transfer (ETF) Form(3)

(1) Click "Grant Agreements". For reference only/do not fill out or submit/required for contracting
(2) Required with application if applicable.
(3) Required for contracting. While optional at the time of this application, submission can expedite contracting upon CWCB Board approval.

Last Update: August 3, 2017

Schedule		
CWCB Meeting	**Application Submittal Dates**	**Type of Request**
January	December 1	Basin Account; BIP
March	February 1	Basin/Statewide Account; BIP
May	April 1	Basin Account; BIP
July	June 1	Basin Account; BIP
September	August 1	Basin/Statewide Account; BIP
November	October 1	Basin Account/BIP

Desired Timeline	
Desired CWCB Hearing Month:	March 2018
Desired Notice to Proceed Date:	May 1, 2018

Water Activity Summary	
Name of Applicant	Johnny Leverett and Diane Martin
Name of Water Activity	Tornay Highline Diversion Improvement

Approving Roundtable(s)	Basin Account Request(s)[1]
Gunnison	$15,000
Basin Account Request Subtotal	$ 15,000
Statewide Account Request[1]	$
Total WSRF Funds Requested (Basin & Statewide)	$ 15,000
Total Project Costs	$ 40,750

(1) Please indicate the amount recommended for approval by the Roundtable(s)

Last Update: August 3, 2017

Grantee and Applicant Information	
Name of Grantee(s)	Diane Martin
Mailing Address	525 CR 75, Gunnison, CO 81230
FEIN	Will use SSN and will provide upon grant approval
Grantee's Organization Contact(1)	Diane Martin
Position/Title	Ranch Partner
Email	dianeellice@yahoo.com
Phone	720-251-9988
Grant Management Contact(2)	Jesse Kruthaupt
Position/Title	Trout Unlimited Upper Gunnison Project Specialist
Email	jesse.kruthaupt@tu.org
Phone	970-209-0976
Name of Applicant (if different than grantee)	
Mailing Address	
Position/Title	
Email	
Phone	

(1) Person with signatory authority

(2) Person responsible for creating reimbursement invoices (Invoice for Services) and corresponding with CWCB staff.

Description of Grantee
Provide a brief description of the grantee's organization (100 words or less).
Diane Martin is a partner in the ranching operations at Green Mesa ranch. Green Mesa Ranch is a Historic Ranch located on a bluff between the confluence of Tomichi Creek and Quartz Creek, east of Gunnison, CO. Approximately 224 acres on the ranch is irrigated by the Tourney Highline Ditch. Grass hay is grown harvested for feed for livestock on the ranch.

Last Update: August 3, 2017

Type of Eligible Entity (check one)	
	Public (Government): municipalities, enterprises, counties, and State of Colorado agencies. Federal agencies are encouraged to work with local entities. Federal agencies are eligible, but only if they can make a compelling case for why a local partner cannot be the grant recipient.
	Public (Districts): authorities, Title 32/special districts (conservancy, conservation, and irrigation districts), and water activity enterprises
	Private Incorporated: mutual ditch companies, homeowners associations, corporations
x	**Private Individuals, Partnerships, and Sole Proprietors:** are eligible for funding from the Basin Accounts but not for funding from the Statewide Account.
	Non-governmental organizations: broadly, any organization that is not part of the government
	Covered Entity: as defined in Section 37-60-126 Colorado Revised Statutes

Type of Water Activity (check one)	
	Study
x	Implementation

Category of Water Activity (check all that apply)		
x	Nonconsumptive (Environmental)	
	Nonconsumptive (Recreational)	
x	Agricultural	
	Municipal/Industrial	
	Needs Assessment	
	Education & Outreach	
	Other	Explain:

Location of Water Activity	
Please provide the general county and coordinates of the proposed activity below in **decimal degrees**. The Applicant shall also provide, in Exhibit C, a site map if applicable.	
County/Counties	Gunnison County
Latitude	38°31'19.74"N
Longitude	106°40'8.29"W

Last Update: August 3, 2017

Water Activity Overview
Please provide a summary of the proposed water activity (200 words or less). Include a description of the activity and what the WSRF funding will be used for specifically (e.g. studies, permitting, construction). Provide a description of the water supply source to be utilized or the water body affected by the activity. Include details such as acres under irrigation, types of crops irrigated, number of residential and commercial taps, length of ditch improvements, length of pipe installed, area of habitat improvements. If this project addresses multiple purposes or spans multiple basins, please explain. The Applicant shall also provide, in Exhibit A, a detailed Statement of Work, Budget, and Schedule.
This project is a collaborate effort between Green Mesa Ranch and Trout Unlimited to reconstruct the Tornay Highline diversion structure. The project is located on Quartz Creek approximately 12 miles east of the city of Gunnison. The Tornay Highline ditch is owned by Green Mesa Ranch and delivers water for irrigation of 224 acres of grass hay meadow and pasture. There are three water rights associated with the Tornay Highline ditch totaling 20.7 cfs: 3.6 cfs adjudicated 1915, 9.6 cfs adjudicated 1943, and 7.5 cfs adjudicated 1943. The existing Tornay Highline diversion is difficult and dangerous to operate, is a barrier to trout, and is contributing to channel instability thru the segment of Quartz creek. This project will replace the existing structure with a new structure that will improve ditch operations, operator safety, channel stability, and fish passage. Trout Unlimited is contributing in-kind labor to assist the applicants in funding, design, and construction of the new diversion. Trout Unlimited is a national sportsmen conservation organization working to conserve, protect, and restore North America's cold-water fisheries.

Measurable Results		
To catalog measurable results achieved with WSRF funds please provide any of the following values.		
	New Storage Created (acre-feet)	
	New Annual Water Supplies Developed or Conserved (acre-feet), Consumptive or Nonconsumptive	
	Existing Storage Preserved or Enhanced (acre-feet)	
	Length of Stream Restored or Protected (linear feet)	
	Efficiency Savings (indicate acre-feet/year OR dollars/year)	
	Area of Restored or Preserved Habitat (acres)	
	Length of Pipe/Canal Built or Improved	
1 diversion	Other	Explain: One diversion replacement resulting in improved operation, channel stability, and 5 miles stream reconnected

Last Update: August 3, 2017

Water Activity Justification
Provide a description of how this water activity supports the goals of Colorado's Water Plan, the most recent Statewide Water Supply Initiative, and the respective Roundtable Basin Implementation Plan and Education Action Plan (1). The Applicant is required to reference specific needs, goals, themes, or Identified Projects and Processes (IPPs), including citations (e.g. document, chapters, sections, or page numbers). For applications that include a request for funds from the Statewide Account, the proposed water activity shall be evaluated based upon how well the proposal conforms to Colorado's Water Plan criteria for state support (CWP, Section 9.4, pp. 9-43 to 9-44;) (Also listed pp. 4-5 in 2016 WSRF Criteria and Guidelines).
This project will improve access to and the use of pre-compact agricultural water rights thereby address Gunnison BIP Goal 1: Protect Existing Uses; and Goal 2: Discourage the conversion of productive agricultural land to other uses within the context of private property rights (Gunnison BIP, pp 30-31). The third goal listed section 6.6, page 6-157, of the Colorado Water Plan is "Support the development of multipurpose projects and methods that benefit environmental and recreational water needs as well as water needs for communities or agriculture". This project will involve coordination between Trout Unlimited and agricultural water users and is specifically designed to benefit multiple uses including cold water trout habitat, stream connectivity, and agricultural water use.

(1) Access Basin Implementation Plans or Education Action Plans from Basin drop down menu.

Last Update: August 3, 2017

Matching Requirements: Basin Account Requests	
Basin (only) Account grant requests require a 25% match (cash and/or in-kind) from the Applicant or 3rd party and shall be accompanied by a **letter of commitment** as described in the 2016 WSRF Criteria and Guidelines (submitted on the contributing entity's letterhead). Attach additional sheet if necessary.	
Contributing Entity	Amount and Form of Match (note cash or in-kind)
Trout Unlimited	$3,000 in-kind
Applicants	$5,750 ($3,000 in-kind/$2,750 cash)
Will request funding from UGRWCD Spring Grant Program on February 12th, 2018. Grantees will be notified on March 26th.	$17,000 cash
Total Match	$25,750
If you requested a Waiver to the Basin Account matching requirements, indicate the percentage you wish waived.	

Matching Requirements: Statewide Account Requests	
Statewide Account grant requests require a 50% match as described in the 2016 WSRF Criteria and Guidelines. A minimum of 10% match shall be from Basin Account funds (cash only). A minimum of 10% match shall be provided by the applicant or 3rd party (cash, in-kind, or combination). The remaining 30% of the required match may be provided from any other source (Basin, applicant, or 3rd party) and shall be accompanied by a **letter of commitment.** Attach additional sheet if necessary.	
Contributing Entity	Amount and Form of Match (note cash or in-kind):
Total Match	
If you requested a Waiver to the Statewide Account matching, indicate % you wish waived. (Max 50% reduction of requirement).	

Last Update: August 3, 2017

Related Studies
Please provide a list of any related studies, including if the water activity is complimentary to or assists in the implementation of other CWCB programs.

Previous CWCB Grants
List all previous or current CWCB grants (including WSRF) awarded to both the Applicant and Grantee. Include: 1) Applicant name; 2) Water activity name; 3) Approving RT(s); 4) CWCB board meeting date; 5) Contract number or purchase order
None

Tax Payer Bill of Rights
The Tax Payer Bill of Rights (TABOR) may limit the amount of grant money an entity can receive. Please describe any relevant TABOR issues that may affect the applicant.
None

Last Update: October 24, 2017

Colorado Water Conservation Board	
Water Supply Reserve Fund	
Exhibit A - Statement of Work	
Date:	**10/30/17**
Water Activity Name:	**Tornay Highline Diversion Improvement**
Grant Recipient:	**Diane Martin**
Funding Source:	**WSRF GBRT basin account**

Water Activity Overview: (Please provide brief description of the proposed water activity (no more than 200 words). Include a description of the overall water activity and specifically what the WSRF funding will be used for.

This project is a collaborate effort between Green Mesa Ranch and Trout Unlimited to reconstruct the Tornay Highline diversion structure. The project is located on Quartz Creek approximately 12 miles east of the city of Gunnison. Green Mesa Ranch is a 330-acre ranch owned by Johnny Leverett. Owners produce grass hay and pasture livestock on the irrigated land.

The Tornay Highline ditch is owned by Green Mesa Ranch and delivers water for irrigation of 224 acres of grass hay meadow and pasture. There are three water rights associated with the Tornay Highline ditch totaling 20.7 cfs: 3.6 cfs adjudicated 1915, 9.6 cfs adjudicated 1943, and 7.5 cfs adjudicated 1943.

The existing Tornay Highline diversion is difficult and dangerous to operate, is a barrier to trout, and is contributing to channel instability thru the segment of Quartz creek. This project will replace the existing structure with a new structure will improve ditch operations, operator safety, channel stability, and fish passage.

Trout Unlimited is contributing in-kind labor to assist the applicants in funding, design, and construction of the new diversion. Trout Unlimited is a national sportsmen conservation organization working to conserve, protect, and restore North America's cold-water fisheries.

Objectives: (List the objectives of the project)

Completing the diversion reconstruction by December 1st, 2018 will:

- Improve access and control of pre-compact water rights.
- Improve safety of personnel operating diversion
- Reduce in channel disturbance caused by diversion maintenance.
- Reduce risk of diversion failure during high flow periods.
- Improve trout passage for spawning and migration.
- Improve channel stability and instream habitat.
- Improve wintering trout habitat with pooling below the diversion.

Last Update: October 24, 2017

Tasks
Provide a detailed description of each task using the following format:
Task 1 – Remove existing Diversion
Description of Task:
This diversion is located next to Gunnison County Rd 87. The inlet pipe goes from the head gate directly under the county road so the pipe and head gate will remain in place. The existing diversion consists of two concrete block abutments, one located on each side of the channel, and a concrete apron on the channel bed. The channel width between abutments is 13 feet. Beams are staked between the abutments to raise the water elevation for the ditch inlet during low flow periods and ideally removed as flows increase. The process of placing and removing beams requires the use of heavy equipment and adjustments are often postponed due to staffing and equipment availability. If beams are in place during high flows water overtops and erodes bank material around the buttress blocks. Additionally, when the beams are in place this diversion is a complete barrier to trout migration. If the beams are not in place, or not placed properly, during low flow periods water users are unable to get water into the ditch inlet. The width between the abutments is too narrow and material tying the abutments to the bank is unstable. The apron on the channel bed has shifted. This task will involve deconstruction of the existing structure and reshaping the channel to the width and slope appropriate for this segment of stream.
Method/Procedure:
An excavation contractor will be hired to remove existing abutment blocks, apron, and material near the abutments. Usable material will be sorted and stockpiled for use during reconstruction. Construction of the new channel profile will occur during this task by widening the channel by 5-8ft. A coffer dam will be constructed to dewater the left side of the channel. Channel substrate will be graded in preparation for the new apron and abutment. Mobilization of equipment to the site is also included in this task.
Grantee Deliverable: (Describe the deliverable the grantee expects from this task)
• Hire contractor • Mobilize equipment to site • Old diversion removal • Material sorted • Channel clean up and reshaping

Last Update: October 24, 2017

Tasks
CWCB Deliverable: (Describe the deliverable the grantee will provide CWCB documenting the completion of this task)
Contract with contractor Photos of work to document progress Summary report of work completed.

Tasks
Provide a detailed description of each task using the following format:
Task 2 – New Diversion Construction
Description of Task:
To reduce costs and minimize the risks of damage from icing and flooding, the new diversion will use a similar design to the existing structure in that it will have two abutments and concrete apron base. The changes to the structure design will include an increase in the width between the abutments, improved rock reinforcement of the stream bank and channel near the structure, and installation of a metal walkway. To adjust the water elevation individual 12'-24' wide vertical panels will be used instead of channel wide horizonal beams. The walkway and panels will be described in Task 3. Raising the elevation of the apron will compensate for the throat width increase and will improve the availability of water at the ditch inlet during a range of flow levels. The apron will have a 2ft segment in the center consisting grouted rock. This segment will aid in trout passage as panels are placed other segments. In addition to the improvements described above, angular rock will be used to reinforce stream banks near each abutment. A cross-vane will be constructed with angler rock downstream of the structure apron to reduce velocities, create pooling, and control scouring below the structure. The goal is to maintain velocities through the center segment near or below 4-5 feet/sec. This velocity range may be difficult to meet when all other check panels are in place, but the grouted rock segment, and cross-vane below will provide roughness and pooling to increase the chances trout can dart through the center segment. There may be times when this segment is blocked, during that period passage will be restricted.
Method/Procedure:

Tasks
Rock and additional concrete blocks will be purchased and stockpiled at the site. Beginning with the left side of the channel, the contractor will construct a new apron on the stream bed using 2'x2'x6' concrete blocks. Blocks will be placed long ways in line with flow direction. The apron elevation will be 6-8 inches higher than the invert of the inlet pipe. The abutment will be tied into the outer 2ft of the apron. Angler rock and cobble material will be used to fill around the abutment and rip-rap the banks above and below the structure. The coffer dam will be adjusted to dewater the opposite side of the channel. The same method will be repeated to build the right side of the structure. The 2ft segment in the center of the apron will be set at a lower elevation than the others grouted rock or natural rock substrate will be used to fill that segment. The cross vane will be constructed as an upstream arch with arms shaped at a 20% angle to the direction of flow. The elevation in the center of the arch will be lower and slope upward to the elevation of bank full stage. The cross-vane will rest on footer rocks and be keyed into each stream bank.
Grantee Deliverable: (Describe the deliverable the grantee expects from this task)
We expect to see a newly constructed diversion that will allow for operational ease and safety, channel stability, and passage for trout.
CWCB Deliverable: (Describe the deliverable the grantee will provide CWCB documenting the completion of this task)
• Progress photos as work is completed. • Invoices for contracting and materials. • 6-month reporting describing progress. • Final reporting summarizing project.

Tasks
Provide a detailed description of each task using the following format:
Task 3 – Walkway and Panel construction
Description of Task:
This task will involve the construction and placement of a walkway that spans over the channel. The walkway will rest on and be secured to the right bank and the left bank abutment. The walkway will be used to adjust the vertical check panels and to mount the lifting mechanisms. The panels and vertical angle iron supports will be supported by the walkway and by an angle iron or concrete lip on the upstream base of the structure. The width between vertical panels will be easily adjustable to compensate for water pressure resistance. It will not be necessary to have all the panels in place across the channel except for during lower flow conditions. Two small hydraulic jacks or hand cranks will be mounted on the walkway and used

Tasks
to mechanically raise the panels.
Method/Procedure:
A contractor will be hired to weld the walkway to span the channel. Two pieces of iron tubing or I-beams will be placed at a 3-foot width and secured to each abutment. Three cross members will be welded between the two spanning beams. Pressure treated decking will be attached to the top of the beams. Metal tubing railing will be constructed in 3-4 foot segments and inserted into circular slots welded on the upstream side of the walkway. Eight 4 foot pieces of 2-inch angle iron will cut and welded back-to-back and be hinged to the upstream spanning beam. They will pivot on the hinge so they can drop into place in the stream or be flipped up and secured in a vertical position when not needed to support check panels. Check panels will be cut from pressure treated plywood. Panel width will be 2 feet and height will vary from 1-2 feet.
Grantee Deliverable: (Describe the deliverable the grantee expects from this task)
The ability to manually and safely adjust the elevation of water at the ditch head gate during a range of flow levels.
CWCB Deliverable: (Describe the deliverable the grantee will provide CWCB documenting the completion of this task)
• Progress photos as work is completed. • Invoices for contracting and materials. • 6-month reporting describing progress. • Final reporting summarizing project.

Tasks
Provide a detailed description of each task using the following format:
Task 4 – Project Management
Description of Task:

Last Update: October 24, 2017

Tasks
This task will involve general management the of the construction project. Including contracting, invoicing and project reporting to funding agencies.
Method/Procedure:
Diane Martin and Jesse Kruthaupt will share the role of project managers. Diane will oversee contracts between the ranch and the excavation company and welding contractor hired to perform work on the diversion. Diane will also manage and invoice for work completed by ranch personnel with ranch equipment. Jesse Kruthaupt will assist the applicant with design, onsite management during construction, contracting with funding agencies, and reporting to funding agencies. Jesse is employed by Trout Unlimited and his time will be TU's in-kind contribution to the project.
Grantee Deliverable: (Describe the deliverable the grantee expects from this task)
Record of project management hours and billing rates.
CWCB Deliverable: (Describe the deliverable the grantee will provide CWCB documenting the completion of this task)
• Invoice describing Diane Martins hours spent on project management and billing rate for those hours. • Invoice describing Jesse Kruthaupt hours spent on project management and billing rate for those hours.

Budget and Schedule
Budget: This Statement of Work and Schedule shall be accompanied by a Budget (link?) that reflects the Tasks identified in the Statement of Work and Schedule and shall be submitted to CWCB in an excel format.
Schedule: This Statement of Work and Budget shall be accompanied by a Schedule (link?) that reflects the Tasks identified in the Statement of Work and Budget and shall be submitted to CWCB in an excel format.

Last Update: October 24, 2017

Reporting Requirements
Reporting: The grantee shall provide their respective Roundtable(s) and the CWCB a Progress Report every 6 months, beginning from the date of executed contract. The Progress Report shall describe the status of the water activity, the completion or partial completion of the tasks identified in the Statement of Work including a description of any major issues that have occurred and any corrective action to address these issues. The CWCB may withhold reimbursement until satisfactory Progress Reports have been submitted.
Final Deliverable: At the completion of the water activity, the grantee shall provide their respective Roundtable(s) and the CWCB a final report on the grantee's letterhead that: • Summarizes the water activity and how the water activity was completed • Describes any obstacles encountered, and how these obstacles were overcome • Explains the Proposed Budget versus the Actual Budget • Confirms that all matching commitments have been fulfilled • Includes photographs, summaries of meeting and engineering reports/design, if appropriate The CWCB will pay the last 10% of the entire water activity budget when the Final Report is completed to the satisfaction of CWCB staff. Once the Final Report has been accepted, and final payment has been issued, the water activity and purchase order or contract will be closed without any further payment. Any entity that fails to complete a satisfactory Final Report and submit to CWCB within 90 days of the expiration of a purchase order or contract may be denied consideration for future funding of any type from CWCB.

Last Update: May 19, 2017

COLORADO
Colorado Water Conservation Board
Department of Natural Resources

Colorado Water Conservation Board

Water Supply Reserve Fund
Exhibit B - BUDGET AND SCHEDULE

Date: 10/30/2017

Water Activity Name: Tornay Highline Diversion Improvement

Grantee Name: Diane Martin

Task No.	Description	Start Date[1]	End Date	Matching Funds (cash & in-kind) Ranch/Water Users	Matching Funds TU (In-kind)	Matching Funds (Cash) Requested UGRWCD	WSRF Funds (Basin & Statewide combined)[2]	Total
1	**Remove Existing Diversion**	**4/15/2018**	**12/18/2018**	**$1,000.00**	**$375.00**	**$2,800.00**	**$0.00**	**$4,175.00**
	Ranch Loader/Backhoe and labor			$1,000.00	$0.00	$0.00	$0.00	$1,000.00
	Excavation including (mobilization to from site)			$0.00	$0.00	$2,800.00	$0.00	$2,800.00
2	**New Diversion Construction**	**4/15/2018**	**12/18/2018**	**$2,000.00**	**$375.00**	**$11,200.00**	**$7,000.00**	**$20,575.00**
	Excavation including (mobilization to from site)			$0.00	$0.00	$3,000.00	$7,800.00	$10,800.00
	Ranch Loader/Backhoe and labor			$2,000.00	$750.00	$0.00	$0.00	$2,750.00
	1-4 foot rock rip rap and boulders			$0.00	$0.00	$6,700.00	$0.00	$6,700.00
	2x2x6 Block			$0.00	$0.00	$1,500.00	$0.00	$1,500.00
3	**Walkway and Panel construction**	**4/15/2018**	**12/18/2018**	**$1,700.00**	**$700.00**	**$3,000.00**	**$8,000.00**	**$13,400.00**
	Welding and materials			$1,000.00	$0.00	$3,000.00	$6,300.00	$10,300.00
	Decking labor			$700.00	$700.00	$0.00	$0.00	$1,400.00
	Decking materials			$0.00	$0.00	$0.00	$800.00	$800.00
	Panels and angle iron supports			$0.00	$0.00	$0.00	$900.00	$900.00
4	**Project Management**	**4/15/2018**	**12/18/2018**	**$1,050.00**	**$1,550.00**	**$0.00**	**$0.00**	**$2,600.00**
	Contracting			$300.00	$300.00	$0.00	$0.00	$600.00
	Reporting and invoicing to funders			$0.00	$500.00	$0.00	$0.00	$500.00
	Construction on site management			$750.00	$750.00	$0.00	$0.00	$1,500.00
			Total	$5,750.00	$3,000.00	$17,000.00	$15,000.00	$40,750.00

Reimbursement eligibility commences upon the grantee's receipt of a Notice to Proceed (NTP)

NTP will not be accepted as a start date. Project activities may commence as soon as the grantee enters contract and receives formal NTP if prior to the listed "Start Date"

CWCB will withhold the last 10% of the entire grant budget until the Final Report (Deliverable) is completed and accepted (2016 WSRF Criteria & Guidelines).

Additonally, the applicant shall provide a progress repost every 6 months, beginning from the date of contract execution

Figure 1: Regional Map

Figure 2: Site Map

Figure 3: Bank Near Structure

Figure 4: Existing Diversion

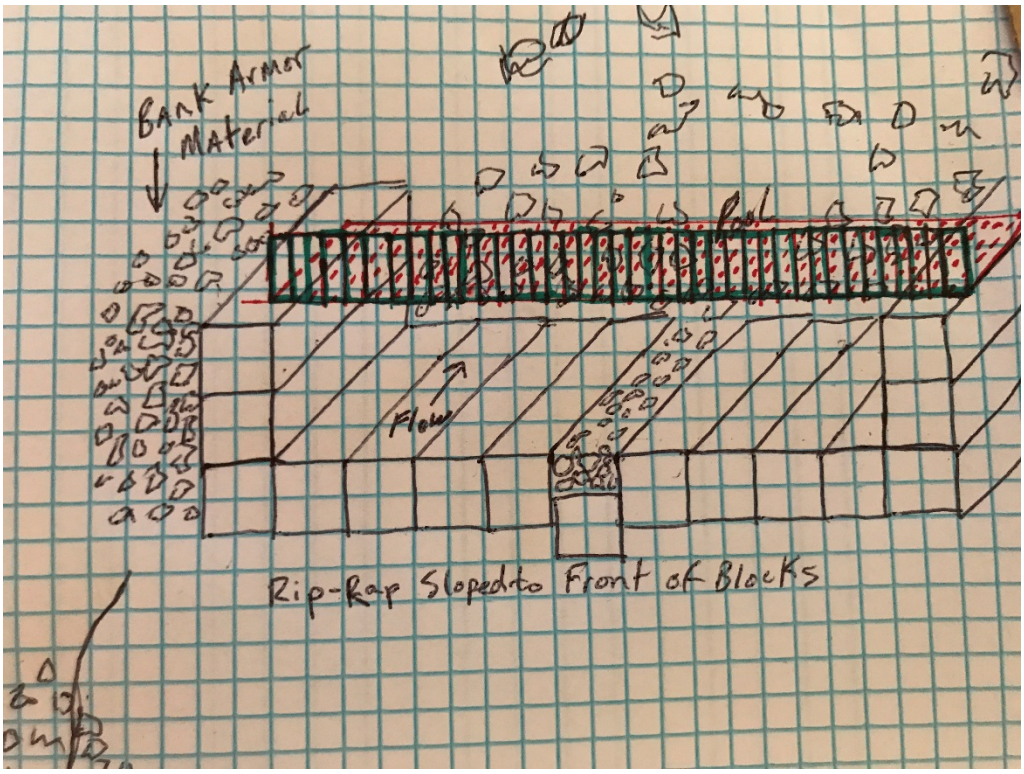

Figure 5: Conceptual Sketch Cross-section

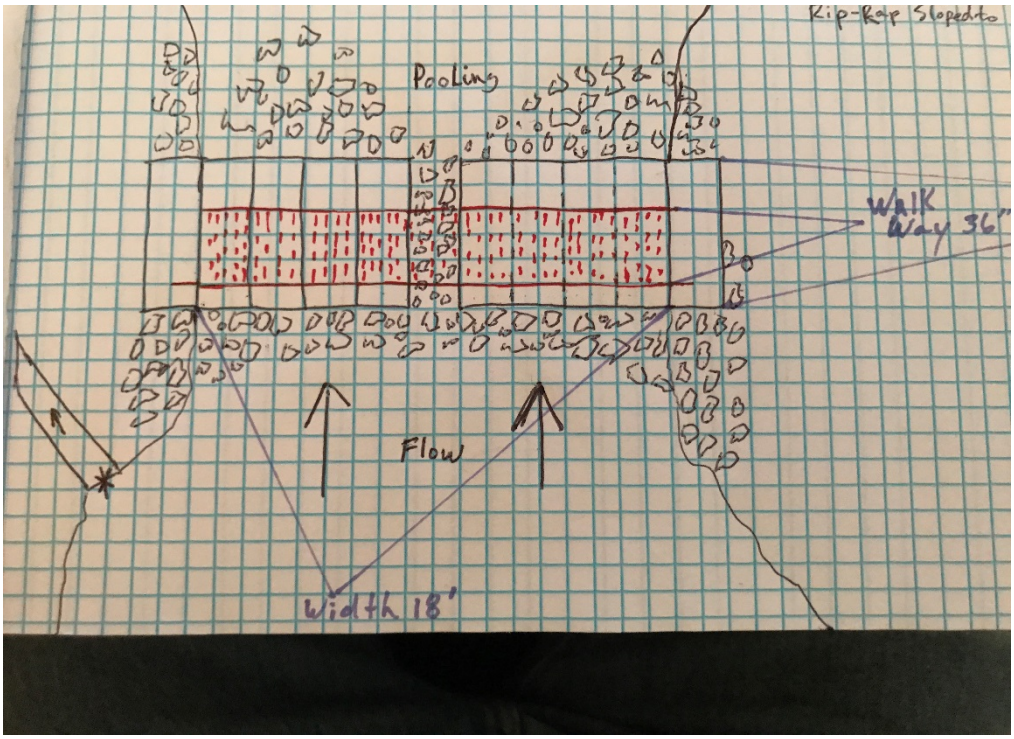

Figure 6: Conceptual sketch

UPPER GUNNISON RIVER WATER CONSERVANCY
DISTRICT 2018 GRANT APPLICATION

Date Received (for UGRWCD use only):_____

Project Title: Tourney Highline Diversion Improvement

Applicant Diane Martin and Jonny Leverett

Contact Information:

Name: Diane Martin Address: 525 CR 75, Gunnison, CO 81230

Phone: 720-251-9988 Fax: _____ Email: dianeellice@yahoo.com

Estimated Start Date April, 2018 Estimated Completion Date Dec 1, 2018

Amount of Funding Request: $17,000

Match Amount provided (all sources): $23,750

Total Project Cost: $40,750

Project Description: Please see attached proposal

2.1 Project Background

This project is a collaborate effort between Green Mesa Ranch and Trout Unlimited to reconstruct the Tornay Highline diversion structure. The project is located on Quartz Creek approximately 12 miles east of the city of Gunnison. Owners produce grass hay and pasture livestock on the land irrigated by the Tornay Highline Ditch.

The Tornay Highline ditch is owned by Green Mesa Ranch and delivers water for irrigation of 224 acres of grass hay meadow and pasture. There are three water rights associated with the Tornay Highline ditch totaling 20.7 cfs: 3.6 cfs adjudicated 1915, 9.6 cfs adjudicated 1943, and 7.5 cfs adjudicated 1943.

The existing diversion is difficult and dangerous to operate, is a barrier to trout, and is contributing to channel instability thru the segment of Quartz creek. This project will replace the existing structure with a new structure to improve ditch operations, operator safety, channel stability, and fish passage.

Trout Unlimited is contributing in-kind labor to assist the applicants in funding, design, and construction of the new diversion. Trout Unlimited is a national sportsmen conservation organization working to conserve, protect, and restore North America's cold-water fisheries.

2.2 Project Goals

Goals for this project include:

- Improve access and control of pre compact water rights.
- Improve safety of personnel operating diversion
- Reduce in channel disturbance caused by diversion maintenance.
- Reduce risk of diversion failure during high flow periods.
- Improve trout passage.
- Improve channel stability and instream habitat.

2.3 Definition of the Problem

This project will address three primary problems associated with the current design of Tornay Highline diversion.

1. Operation and Safety – Water users use two abutments, one located on each side of the channel, to support stacked beams which are placed to raise the water elevation for the ditch inlet. The process of placing and removing beams is cumbersome and dangerous and is often delayed due to staffing and equipment availability. The result of not making the adjustments in a timely manner results in water

Figure 1: Existing structure

overtopping or washing around the buttress blocks when stream flow increases, or insufficient water available for the ditch as flows decrease.

2. Channel stability – Scouring below the structure, erosion near the right side abutment, and deposition above the structure require continual maintenance and increase the risk of diversion failure. Piping through the left abutment is also occurring. This instability is attributed to the width between abutments, velocity of water moving thru the structure, and from beams being in place during higher flow events.

3. Passage for trout – When beams are in place the diversion is a complete barrier to trout. Because it is difficult to remove beams they can be left in place longer then necessary. Water users are interested in improving the structure not only to improve operational ease but to maximize the likelihood of trout passage through the structure.

2.4 Urgency to Resolve

The newly constructed diversion will address the three issues described above before the diversion structure is further compromised as well as improve operator safety before an accident occurs. The ease of operation will allow water users to frequently adjust the diversion and increase movement and accessible habitat for trout and aquatic insects as well reduce sediment build up above the structure.

2.5 Project Appropriateness

This project is consistent with UGRWCD mission and fulfills four of the five criteria for eligibility.

- Improvement of existing water supply
- Measures to improve in-stream water quality
- Measures to improve water use efficiency
- Implementation of watershed management actions

3.1 Project Design and Implementation

3.1.1 Design

To reduce costs and minimize the risks of damage from icing and flooding, the new diversion will use a similar design to the existing structure in that it will have two abutments and concrete apron base. The changes to the structure design will include an increase in the width between the abutments, improved rock reinforcement of the stream bank and channel near the structure, and installation of a metal walkway and railing spanning the two abutments. To adjust the water elevation individual 12’-24’ wide vertical panels will be used instead of channel wide horizonal beams. The walkway and panels will be described in Task 3.

Raising the elevation of the apron will compensate for the throat width increase and will improve the availability of water at the ditch inlet during a range of flow levels. The apron will have a 2ft

segment in the center consisting grouted rock. This segment will aid in trout passage as panels are placed other segments. In addition to the improvements described above, angular rock will be used to reinforce stream banks near each abutment. A cross-vane will be constructed with angler rock downstream of the structure apron to reduce velocities, create pooling, and control scouring below the structure. The goal is to maintain velocities through the center segment near or below 4-5 feet/sec. This velocity range may be difficult to meet when all other check panels are in place, but the grouted rock segment, and cross-vane below will provide roughness and pooling to increase the chances trout can dart through the center segment. There may be times when this segment is blocked, during that period passage will be restricted.

3.1.2 Implementation

Task 1: Removal of Existing Diversion

An excavation contractor will be hired to remove existing abutment blocks, apron, and material near the abutments. Usable material will be sorted and stockpiled for use during reconstruction. Construction of the new channel profile will occur during this task by widening the channel by 5-8ft. A coffer dam will be constructed to dewater the left side of the channel. Channel substrate will be graded in preparation for the new apron and abutment. Mobilization of equipment to the site is also included in this task. Water users will provide labor and ranch equipment as in-kind to assist with this task.

Task 2: Construction of New Diversion

Rock and additional concrete blocks will be purchased and stockpiled at the site. Beginning with the left side of the channel, the contractor will construct a new apron on the stream bed using 2’x2’x6’ concrete blocks. Blocks will be placed long ways in line with flow direction. The apron elevation will be 6-8 inches higher than the invert of the inlet pipe.

The abutment will be tied into the outer 2ft of the apron. Angler rock and cobble material will be used to fill around the abutment and rip-rap the banks above and below the structure.

The coffer dam will be adjusted to dewater the opposite side of the channel. The same method will be repeated to build the right side of the structure.

The 2ft segment in the center of the apron will be set at a lower elevation than the others and grouted rock or natural rock substrate will be used to fill that segment.

The cross vane will be constructed as an upstream arch with arms shaped at an angle to the direction of flow. The elevation in the center of the arch will be lower and slope upward to the elevation of bank full stage. The cross-vane will rest on footer rocks and be keyed into each stream bank.

Task 3: Walkway and Railing Construction

This task will involve the construction and placement of a walkway that spans over the channel. The walkway will rest on and be secured to the right bank and the left bank abutment. The walkway will

also be used to adjust the vertical check panels with the use of hydraulic or hand crank lifting mechanisms.

The panels and vertical angle iron struts will be supported by the walkway and by an angle iron or concrete lip on the upstream base of the structure. The width between vertical panels will be easily adjustable to compensate for water pressure resistance. It will not be necessary to have all the panels in place across the channel except for during lower flow conditions.

A contractor will be hired to weld the walkway to span the channel. Two pieces of iron tubing or I-beams will be placed at a 3-foot width and secured to each abutment. Cross members will be welded between the two spanning beams. Pressure treated decking will be attached to the top of the beams. Metal tubing railing will be constructed in 3-4 foot segments and inserted into circular slots welded on the upstream side of the walkway.

4-foot pieces of 2-inch angle iron will cut and welded back-to-back and be hinged to the upstream spanning beam. They will pivot on the hinge so they can drop into place in the stream or be flipped up and secured in a vertical position when not needed to support check panels.

Check panels will be cut from pressure treated plywood. Panel width will be 1-2 feet and height will 30 inches.

3.1.3 Project Budget and Schedual: Please see attached spreadsheet. UGRWCD Request $17,000.

Task No.	Description	Start Date[1]	End Date	Matching Funds (cash & in-kind) Ranch/Water	Matching Funds TU (In-kind)	Requesting UGRWCD	WSRF Funds (Basin)	Total
1	Remove Existing Diversion	4/15/2018	12/18/2018	$1,000.00	$375.00	$2,800.00	$0.00	$4,175.00
	Ranch Loader/Backhoe and labor			$1,000.00	$0.00	$0.00	$0.00	$1,000.00
	Excavation including (mobilization to from site)			$0.00	$0.00	$2,800.00	$0.00	$2,800.00
2	New Diversion Construction	4/15/2018	12/18/2018	$2,000.00	$375.00	$11,200.00	$7,000.00	$20,575.00
	Excavation including (mobilization to from site)			$0.00	$0.00	$3,000.00	$7,800.00	$10,800.00
	Ranch Loader/Backhoe and labor			$2,000.00	$750.00	$0.00	$0.00	$2,750.00
	1-4 foot rock rip rap and boulders			$0.00	$0.00	$6,700.00	$0.00	$6,700.00
	2x2x6 Block			$0.00	$0.00	$1,500.00	$0.00	$1,500.00
3	Walkway and Panel construction	4/15/2018	12/18/2018	$1,700.00	$700.00	$3,000.00	$8,000.00	$13,400.00
	Welding and materials			$1,000.00	$0.00	$3,000.00	$6,300.00	$10,300.00
	Decking labor			$700.00	$700.00	$0.00	$0.00	$1,400.00
	Decking materials			$0.00	$0.00	$0.00	$800.00	$800.00
	Panels and angle iron supports			$0.00	$0.00	$0.00	$900.00	$900.00
4	Project Management	4/15/2018	12/18/2018	$1,050.00	$1,550.00	$0.00	$0.00	$2,600.00
	Contracting			$300.00	$300.00	$0.00	$0.00	$600.00
	Reporting and invoicing to funders			$0.00	$500.00	$0.00	$0.00	$500.00
	Construction on site management			$750.00	$750.00	$0.00	$0.00	$1,500.00
			Total	$5,750.00	$3,000.00	$17,000.00	$15,000.00	$40,750.00

4.1 Qualifications of Applicant and partners

Jonny Leverett and Diane Martin have over 20 combined years of experience in the operation of the Tornay Highline ditch and diversion. Their experience in both agriculture and construction management make them highly qualified to oversee this project through to completion.

Trout Unlimited's onsite representative will be Jesse Kruthaupt. Mr. Kruthaupt works for Trout Unlimited as the Upper Gunnison Project Specialist. Jesse has extensive knowledge in natural resource management and agricultural land use in this region. He has completed several habitat and irrigation improvement projects in the Gunnison Valley and he is experienced in stream restoration planning and evaluation.

4.2 Project beneficiaries

- Green Mesa Ranch
- Twisp Ranch
- Trout Unlimited

4.3 Project Partners

- Green Mesa Ranch
- Trout Unlimited
- Colorado Water Conservation Board

Jesse Kruthaupt

10/30/2017

Tom Alvey
Projects Screening Committee Chair
Gunnison Basin Round Table

Re: Tornay Highline Diversion Reconstruction Project

Dear Mr Alvey,

Trout Unlimited (TU) is a non-profit, coldwater fisheries conservation organization. TU's mission is to reconnect, protect, and sustain coldwater fisheries across the United States. During the last several months (TU) has been a working with Diane Martin and Johnny Leverett to develop an appropriate strategy to upgrade the Tornay Highline Ditch diversion in a way that will provide benefits to the Quartz Creek fishery.

The existing Tornay Highline Ditch diversion is difficult to operate and requires significant maintenance. The structure is contributing to channel instability and is a barrier to trout migration during much of the year. The planned improvements to the diversion structure will greatly benefit the water right owners and the fishery. Once the reconstruction is completed, the water right owners will have better control to adjust the elevation of the water at the ditch inlet. The channel improvements near the structure will reduce erosion, provide critical holding habitat in the late summer and winter months, and improve connectivity to additional habitat on Quartz Creek.

I am confident that this project will improve water quality conditions for trout and improve the ability to manage water at the point of diversion. For that reason, TU has committed $3,000 of in-kind labor toward the completion of this project.

Trout Unlimited encourages the Gunnison Basin Roundtable to grant Mrs. Martin and Mr. Leverett the funds requested for the Tornay Highline Diversion Reconstruction Project.

Thank you for taking the time to consider these comments.

Sincerely,

Jesse Kruthaupt, Trout Unlimited
Upper Gunnison Project Specialist