COLORADO
Colorado Water Conservation Board
Department of Natural Resources
1313 Sherman Street, Room 718
Denver, CO 80203

WSRF & Watershed Restoration Grant
South Boulder Creek Stream Management Plan – Phase 1
POGG1 2019-2848

April 12, 2019

Colorado Trout Unlimited
Attn: Dave Nickum, Executive Director
1536 Wynkoop Street, Suite 32
Denver, CO 80202

Dear Grantee:

We are pleased to inform you that the Colorado Department of Natural Resources, Colorado Water Conservation Board (CWCB) has approved your grant request for funding pursuant to the WSRF Grant Program ("Program"). This letter authorizes you to proceed with the South Boulder Creek Stream Management Plan – Phase 1 Project ("Project") in accordance with the terms of this Grant Award Letter.

Attached to this letter are the terms and conditions of your Grant. Please review these terms and conditions, as they are requirements of this Grant to which you, Colorado Trout Unlimited, agree by accepting the Grant Funds.

If you have any questions or concerns regarding the project, please contact Linda Bassi, Project Manager at 303-866-3441 or at Linda Bassi@state.co.us. Please send all grant correspondence directly to Linda.

Thank you.

Sincerely,

//s//

Doriann Vigil
Program Assistant II
O 303-866-3441 ext. 3250
1313 Sherman Street, Rm. 719, Denver, CO 80203
Dori.vigil@state.co.us / cwcb.state.co.com

cc: Chris Sturm, CWCB

STATE OF COLORADO

Department of Natural Resources

ORDER

Number: POGG1,PDAA,201900002848

Date: 4/18/19

Description:

PDAA WSRF/WS RESTORE CO TROUT_S.BOULDER CREEK STREAM MGMT

Effective Date: 04/18/19

Expiration Date: 06/01/20

*****IMPORTANT*****

The order number and line number must appear on all invoices, packing slips, cartons, and correspondence.

BILL TO

COLORADO WATER BOARD CONSERVATION
1313 SHERMAN STREET, ROOM 718
DENVER, CO 80203

BUYER

Buyer:

Email:

VENDOR

COLORADO TROUT UNLIMITED
1536 WYNKOOP ST
STE 320
DENVER, CO 80202-1138

Contact: .

Phone: 3034402937

SHIP TO

COLORADO WATER BOARD CONSERVATION
1313 SHERMAN STREET, ROOM 718
DENVER, CO 80203

SHIPPING INSTRUCTIONS

Delivery/Install Date: -

FOB: FOB Dest, Freight Allowed

VENDOR INSTRUCTIONS

EXTENDED DESCRIPTION

Line Item	Commodity/Item Code	UOM	QTY	Unit Cost	Total Cost	MSDS Req.
1	G1000		0	0.00	$27,000.00	☐
Description:	PDAA WSRF_CO TROUT_S.BOULDER CREEK STREAM MGMT					
Service From:	04/18/19		Service To:	06/01/20		
Line Item	**Commodity/Item Code**	**UOM**	**QTY**	**Unit Cost**	**Total Cost**	**MSDS Req.**
2	G1000		0	0.00	$55,500.00	☐
Description:	PDAA 2500 WS RESTORATION YAMPA FOREST RESTORE & MIT IN YW					
Service From:	04/18/19		Service To:	06/01/20		

TERMS AND CONDITIONS

https://www.colorado.gov/pacific/osc/small-dollar-grant-award-terms-conditions

STATE OF COLORADO

Department of Natural Resources

DOCUMENT TOTAL = $82,500.00

South Boulder Creek Stream Management Plan – Phase I

EXHIBIT A - SCOPE OF WORK

GRANTEE and FISCAL AGENT (if different): Colorado Trout Unlimited
PROJECT SPONSOR: Colorado Trout Unlimited and Boulder Flycasters Trout Unlimited Chapter

PRIMARY CONTACT:
Grantee (Grant Administration): David Nickum; 1536 Wynkoop Street, Suite 320, Denver, CO 80202; 303.440.2937
Sponsors Representative (Project Execution): Stephen Brant; PO Box 541, Boulder, CO 80306; 303.885.4141

PROJECT NAME: Stream Management Plan Phase I – Stakeholder Outreach, River Health Assessment Methodology Selection and Existing Physical Infrastructure Assessment

PROJECT LOCATION: The ~9 mile stretch of South Boulder Creek beginning at the FRICo (Community Ditch) check structure at the mouth of Eldorado Canyon (LAT: 39.932 / LONG: -105.281) to the confluence with Boulder Creek (LAT: 40.033 / LONG: -105.217).

GRANT AMOUNT:

CWCB Stream Management Plan:	$55,500
Metro Basin Round Table WSR Funds:	$13,500
South Platte Basin Round Table WSR Funds:	$13,500
TOTAL:	$82,500

INTRODUCTION AND BACKGROUND
Colorado Trout Unlimited (CTU) and Boulder Flycasters (BFC) will bring stakeholders together, facilitate discussions, establish assessment methodology, assemble data, evaluate stream flow needs, and identify actions regarding improving this stretch of the South Boulder Creek (SBC) watershed. As Denver Water nears permits and approvals for the Gross Reservoir expansion project, cooperation is needed in implementing and using the Environmental Pool, as defined in the 2010 IGA between Denver Water, City of Boulder and City of Lafayette.

During 2018 BFC worked with Denver Water, City of Boulder (Water Utility and Open Space & Mountain Parks - "Boulder") and City of Lafayette (Water Utility - "Lafayette") to complete a high level assessment of SBC, including current water quality / flow measurement, monitoring regimes, existing structural impediments to year-round in-stream flows, and the existence of watershed assessment / scientific reports. The entities within this group act as municipal water utilities, but also have degrees of ownership in agricultural ditches, and responsibility for recreational and environmental stewardship of public lands through which SBC flows. CTU and BFC propose to work with and augment the resources of the key stakeholders to help promote a more comprehensive watershed plan. As a result of the 2018 work, this group set goals to promote, facilitate, and actively help to build, the needed collaborations, processes and organization to provide continuous improvement of habitat quality and water quantity / quality within the SBC watershed. The desired outcome is an ongoing capability to: i.) measure and monitor comprehensive watershed health; ii.) be a central repository of watershed information for consumptive and non-consumptive water user decision making; and iii.) identify opportunities and take action for on going improvement of the watershed

Additionally this SMP will help advance elements of the South Platte BIP. By assisting with planned mitigation for the Moffat Firming Project, we will help "maximize the implementation of IPPs" (5.5.1). By developing next steps for environmental flow management, fish passage, and potential habitat improvement projects along a stretch with significant public access, the SMP will also "protect and enhance environmental and recreation attributes" (5.5.5). Planned community outreach in this SMP will advance the BIP element to "facilitate South Platte communications and outreach programs" (5.5.9).

OBJECTIVES

Objective 1: Develop working collaboration between key stakeholders committed to habitat quality and water quantity and quality

- Established initial working relationships between CTU / BFC and Denver Water, Boulder and Lafayette during 2018
- Additional stakeholder outreach and involvement is part of this grant application; i. e. ditch owners (commercial / industrial / agricultural), as well as private landowners / local community members (non-consumptive users) with interests in SBC

Objective 2: Improve understanding of the current state, challenges and future opportunities for improvement to the SBC watershed

- Stakeholder outreach and data consolidation / collection will underpin this effort
- Agreement on methods and criteria, as well as time frame (River Health Methodology), and a data / information inventory, will be the starting point for reliable, science-based decision-making
- Conducting stream flow needs assessment to determine if existing modeling provides an accurate basis for base flow targets, or if channel changes caused by 2013 flooding may necessitate some adjustment in those flow objectives
- All of this will build stakeholder trust and credibility of results
- Future phases of work will develop the specific tools and communication methods for public access to data, recommendations and actions

Objective 3: Completion of Phase I of the SMP will enable future implementation and action phases, likely focused on:

- Helping to complete and augment efforts to implement an Environmental Pool within Gross Reservoir to provide for sustainable year round in-stream water flows.
- Implementing additional monitoring (beyond existing stakeholder activities / requirements)
- Building & maintaining a consolidated database of key water and habitat quality and quantity measures for use in making adjustments to water quality and quantity, measuring flows, defining water and habitat improvement and mitigation requirements, and communicating with the public
- Design and construction of infrastructure improvements needed to facilitate 1) above, as well as to improve habitat and stream function, and fish / aquatic organism passage

These objectives are interrelated and interdependent. Phase I is largely stakeholder engagement, methodology and data / information identification driven. This will form the basis for final deliverables, recommendations and implementation projects for Phase II.

TASKS

South Boulder Creek Stream Management Plan – Phase I

Task 1.0: Stakeholder Engagement and Communications

Overview: Stakeholder engagement will be accomplished through two task areas: steering committee involvement and stakeholder outreach. The current steering committee is made up Denver Water, Boulder, Lafayette and BFC / CTU. This group will continue forward. Through stakeholder outreach we will work to add at least two other representatives from the identified stakeholder community; targeting a third party ditch operator and a community representative, at a minimum. Cooperation will be very important in order to implement and use the Environmental Pool (a complex effort), as well as monitoring in order to ensure habitat quality, water quantity / quality and in-stream flow goals are met. Underlying this will be consistent and timely communication through upfront planning and stakeholder outreach.

Method / Procedure:

1.1 Formalize involvement of concurrent partners (Denver Water, Boulder, Lafayette)
- 1.1.1 Reiterate current stakeholders commitments and reaffirm expectations to ensure acceptance of the plan
- 1.1.2 Define specific roles and responsibility

1.2 Identify and reach out to other stakeholders: State / municipal, industrial, agricultural, recreational, and environmental, as well as public and private land owners
- 1.2.1 Conduct two listening sessions, get input, identify needs and determine level of participation / commitment to SMP goals, objectives and implementation of outcomes with municipal level project sponsors

1.3 Proactively and consistently communicate and provide points of contact
- 1.3.1 Develop and execute communications plan
- 1.3.2 Establish program management / communications protocols for partners, contractors and other third parties
- 1.3.3 Establish PR / communications protocols for the public and elected officials

Deliverables:

1. Project Charter with Denver Water, Boulder and Lafayette
2. Stakeholder List – municipal, state, agricultural, industrial, private land owners, public
3. Listening Sessions Notes and Summary
4. Communication Plan
5. Communication Protocols
6. PR Plan

Resources:

1. Boulder Flycasters: Project Sponsors' Representative (1 person) with support of chapter board members (4 people)
2. SMP / Watershed Health Contract Consultant (1 person)
3. Municipal Partners' Staff Leads (5 people) – City of Boulder Water Utility Source Water Management, City of Boulder OSMP Ecological Stewardship/Wetland Ecology, City of Boulder OSMP Water Resources, City of Lafayette Water Dept Capital Projects and Engineering, and Denver Water Gross Reservoir Expansion Project Office

Task 2.0: Governance and Third Party Relationships

South Boulder Creek Stream Management Plan – Phase I

Overview: This task area is primarily concerned with managing third party relations through the steering committee and other third party communications execution. State of Colorado stakeholders will also be engaged.

Method / Procedure:

2

2.1 Establish steering committee
- 2.1.1 Confirm / determine specific personnel for membership; set expectations; set out commitment to action guidelines; define roles
- 2.1.2 Set meeting schedule (kick off meeting, quarterly meetings, topic specific meetings)

2.2 Establish relationship structures with other related groups
- 2.2.1 Basin Round Tables, Partners, Contractors, Funding Sources (and others as needed) briefing meetings for new participants
- 2.2.2 Engage with State level stakeholders, such as: CWCB, CPW and the District Water Commissioner, to establish roles and responsibilities

2.3 Set up communication and collaboration technology as needed
- 2.3.1 Document sharing and collaborative development
- 2.3.2 Communications platform – message board, email lists, etc and the public-access website for posting final deliverables

Deliverables:
1. Steering Committee Membership List
2. 2019/2020 Steering Committee Schedule
3. Steering Committee Notes and Minutes
4. Identified people for each relationship and frequency / type of contact
5. Identified tool(s) – google, slack, drop box etc.
6. Public access website for final deliverables

Resources:
1. Boulder Flycasters: Project Sponsors' Representative (1 person) with support of chapter board members (4 people)
2. SMP / Watershed Health Contract Consultant (1 person)
3. Municipal Partners' Staff Leads (5 people) – City of Boulder Water Utility Source Water Management, City of Boulder OSMP Ecological Stewardship/Wetland Ecology, City of Boulder OSMP Water Resources, City of Lafayette Water Dept Capital Projects and Engineering, and Denver Water Gross Reservoir Expansion Project Office

Task 3. 0: River Health Assessment Methodology

Overview: Establish agreed-to methodologies for river health assessment. Identify, catalog and assess existing data / information sources to establish baseline and gaps. Data will be critical for understanding future phase's projects and expected outcomes. Assess / confirm basic flow modeling accuracy post 2013 flooding for minimum in-stream flow goals.

3

3.1 Identify Methodology for assessing biological, hydrological, and geomorphological conditions at a reach scale
- 3.1.1 Identify the prevailing and proven assessment methodologies available – State of Colorado frameworks (EcoMeterics / Colorado's FACStream); stakeholder methodologies in use; etc.
- 3.1.2 Select and confirm use, metrics and other parameters

- 3.1.3 Leverage measurement and standards criteria regarding habitat and water quality criteria already defined for SBC (especially in regard to Gross Reservoir Expansion permits)

3.2 Identify sources, ownership, and appropriateness of existing SBC data
- 3.2.1 Work with existing stakeholders directly to identify best data sources
- 3.2.2 Conduct public records searches / requests of municipalities, water utilities and other governmental / public sources
- 3.2.3 Discuss what data / information sources that might be available with industrial, commercial and private landowner stakeholders

3.3 Leverage BFC Data Collection Efforts
- 3.3.1 Continue BFC data collection activities (water / air temperature data loggers, and dissolved O2 field data collection)
- 3.3.2 Collect and Incorporate BFC data collection results

3.4 Create Data / Information Inventory
- 3.4.1 Catalog and categorize the various types of habitat and water quality and quantity data and sources that exist for SBC

3.5 Assess Quality and Usefulness of Data / Information in Inventory
- 3.5.1 Determine quality and usefulness of each data / information source
- 3.5.2 Determine if date created, scale / criteria of measurement, frequency of collection / data points, objectives, etc are relevant to River Health Methodology
- 3.5.3 Determine effort to normalize data / information across sources
- 3.5.4 Identify gaps in the existing data, and devise plans to close those gaps through additional data gathering and / or studies / assessments
- 3.5.5 Write up recommended improvements

3.6 Evaluate stream channel to determine if existing modeling provides accurate basis for flow targets or if changes from 2013 flooding necessitate adjustments in flow objectives
- 3.6.1 Use existing data from 2013 flood mitigation studies, and analyze for appropriate minimum in-stream / environmental flows
- 3.6.2 Analyze model results based on new data to determine what, if any, changes are needed in target flows

Deliverables:

1. Short list of alternatives
2. Methodology Selected
3. Metrics / Measurements Table
4. Stakeholder source data list; personnel to contact
5. Records search data list; people contacted
6. Data list from stakeholder outreach / listening sessions
7. BFC collected data assessment
8. BFC In-Stream Database
9. Data / Information Inventory
10. Data / Information Inventory Analysis
11. In-stream flow analyses report

Resources:

1. Boulder Flycasters: Chapter Volunteers (2-4 people) – data source library and data inventory
2. SMP / Watershed Health Contract Consultant (1 person) - methodology and data assessment

3. Hydrological Contract Consultant (1 person) - Basic Flow Assessment
4. Municipal Partners' Staff Leads (8 people) – City of Boulder Water Source Water Management, City of Boulder OSMP Ecological Stewardship/Wetland Ecology, City of Boulder OSMP Water Resources, City of Lafayette Water Dept Capital Projects and Engineering, and Denver Water Gross Reservoir Expansion Project Office. And municipal specialists: City of Boulder Water Testing / Lim Lab, Boulder and Lafayette Cities' Open Records Requests, and City of Boulder OSMP SBC Watershed Modeling

Task 4.0: Existing Physical Infrastructure Assessment

Overview: Establish agreed-to methodologies for physical infrastructure assessments. Leverage earlier physical infrastructure mapping. Work with stakeholders to ensure completeness and accuracy of the inventory. Physically inspect each infrastructure location. Develop recommendations for modification to allow low water flow passage, fish passage and water use efficiency.

4

4.1 Identify and assess the engineered structures (at low and high water flow seasons)
- 4.1.1 Begin with existing high level mapping document
- 4.1.2 Confirm current map with stakeholders, and identify additional structures to be considered
- 4.1.3 Visit each structure to confirm exact location (GPS coordinates); exact type / use; take photographs; prepare notes of potential modifications

4.2 Document Potential Modifications at a conceptual design level
- 4.2.1 In regard to enabling or impeding year round in-stream flows, fish passage, efficient water use, environmental / habitat quality and recreational use
- 4.2.2 Develop high level modifications by structure as appropriate
- 4.2.3 Identify areas for future stakeholder agreement in regard to the number of structures that would be impacted

4.3 Identify opportunities for channel and habitat improvement in area proximate to physical structures
- 4.3.1 Develop initial list through discussion with stakeholders
- 4.3.2 Walk SBC stretch to develop high level habitat map to highlight obvious actively eroding banks or channel instability and pools / riffles / point bars, as well as an inventory of potential physical infrastructure improvements.
- 4.3.3 Discuss with stakeholders
- 4.3.4 Prepare report documenting recommended improvements, using agreed to methodology

Deliverables:
1. Updated Structures Inventory including, but not limited to, structure name, ownership, GPS coordinates, description / function, dimensions, construction materials, ability to pass through low flows, potential for fish passage, potential water use efficiency opportunities, potential for habitat improvement, water rights – ownership, seasonal dates / priority, flow rights
2. Report with recommended conceptual modifications for each structure, as needed
3. Report including high level habitat map and potential stream improvements proximate to physical structures

Resources:
1. Boulder Flycasters: Chapter Volunteers (2-4) – Structures Inventory and structures / habitat assessment
2. SMP / Watershed Health Contract Consultant (1) - methodology and structures assessment, and review of high level habitat mapping recommendations.

3. Engineering Contract Consultant (1) – In-stream physical structures assessment (head gates, diversions, fish passage)
4. Colorado School Mines Student Engineers (3) – In-stream physical structures assessment (head gates, diversions, fish passage)
5. Colorado School Mines Student Engineers (3) – Opportunities for channel and habitat improvement in area proximate to physical structures
6. Municipal Partners' Staff Leads (8 people) – City of Boulder Water Source Water Management, City of Boulder OSMP Ecological Stewardship/Wetland Ecology, City of Boulder OSMP Water Resources, City of Lafayette Water Dept Capital Projects and Engineering, and Denver Water Gross Reservoir Expansion Project Office. And municipal specialists: City of Boulder Water Testing / Lim Lab, Boulder and Lafayette Cities' Open Records Requests, and City of Boulder OSMP SBC Watershed Modeling

Task 5.0: Program Management and Administration

Overview: Overall management of the project, including budget tracking, periodic reporting, task deliverable tracking, and final deliverables development.

5

- 5.1 Establish Program Management Office
  - 5.1.1 Functions, staffing and costs
  - 5.1.2 Supplies, printing, copying, mailing, etc cost
- 5.2 Funding Sources Reporting*
  - 5.2.1 Grant administration and reporting
  - 5.2.2 Periodic reporting to governance and other interested parties
- 5.3 Third Party / Contract Services
  - 5.3.1 Establish contracting standards / templates, and prepare RFPs
  - 5.3.2 Manage and report on third party contracts
- 5.4 Overall Budget tracking and management
  - 5.4.1 Budget tracking and management – all sources (hours and costs)
  - 5.4.2 In-Kind and third party donations – time sheets and costs
- 5.5 Manage Deliverables
  - 5.5.1 Oversee and critique task level deliverables
  - 5.5.2 Consolidate findings, recommendations, projects and next steps as developed
- 5.6 Stakeholder and Other Third Party Status Reporting
  - 5.6.1 Prepare Steering Committee agendas, presentations, hand outs, etc.
  - 5.6.2 Prepare third party reporting and presentation packages
- 5.7 Project Final Reports / Deliverables**
  - 5.7.1 Prepare interim and final deliverable report(s) outline early in the task process timeline
  - 5.7.2 Create and / or manage interim findings report by 8/31/2019
  - 5.7.3 Create and / or manage final deliverables by 6/1/2020

Deliverables:

1. Grant Specific Reports
2. Communication Plan Reporting
3. Contract Templates
4. RFPs as needed
5. Budget Reporting

6. In-Kind Donation Reports
7. Briefing Documents, Archive, Running Status
8. Running Deliverables Library
9. Steering Committee Library
10. Third Party Library
11. Outline, and Interim and Final Report for Each Funding Source, Stakeholder Group and Public*

Resources:

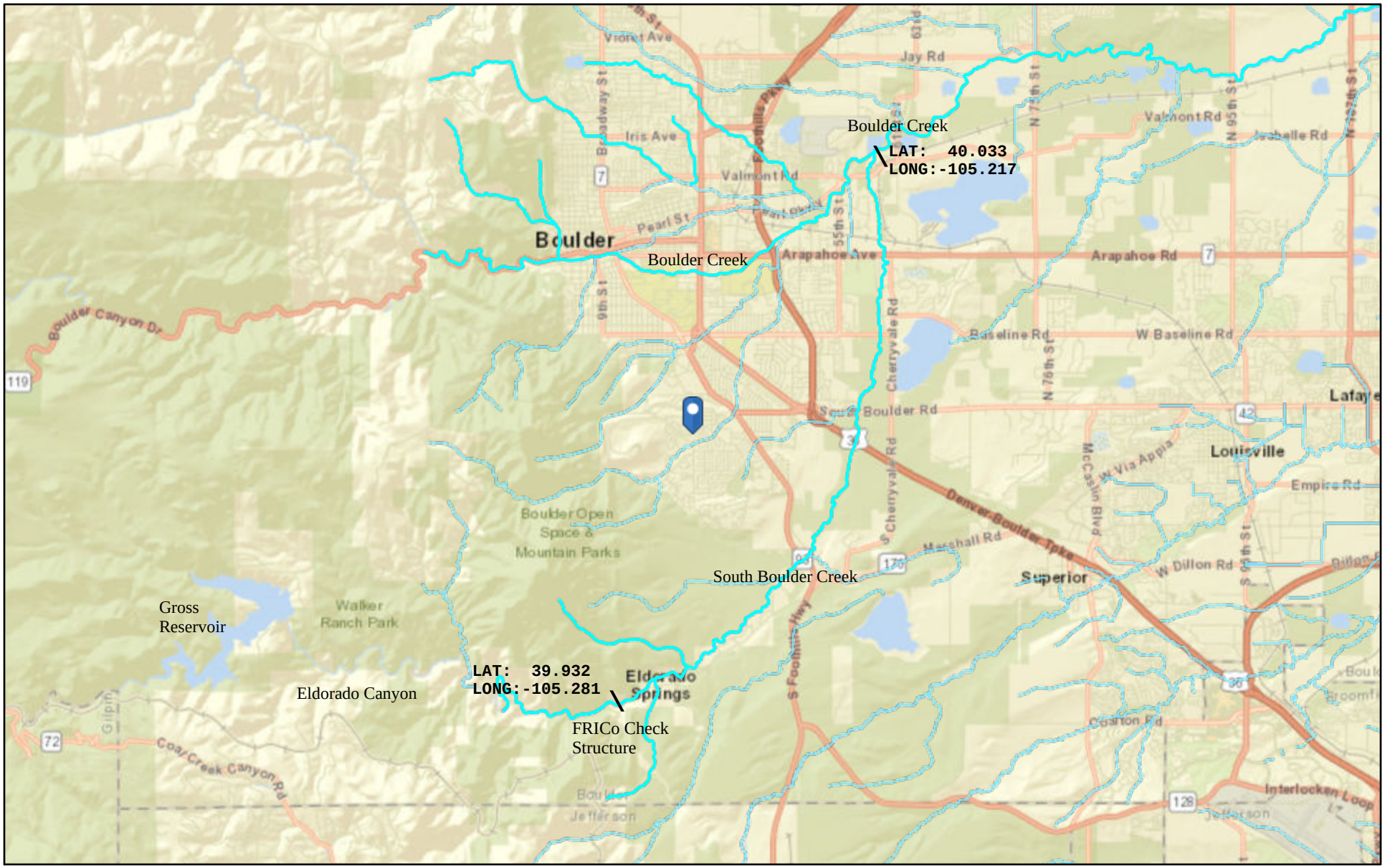
1. Boulder Flycasters: Project Sponsors' Representative (1 person) with support of chapter board members (4 people)
2. SMP / Watershed Health Contract Consultant (1) – Administration, project management, reporting and deliverables
3. CTU Staff (2) – Grant management and financial
4. Municipal Partners' Staff Leads (5 people) – City of Boulder Water Source Water Management, City of Boulder OSMP Ecological Stewardship/Wetland Ecology, City of Boulder OSMP Water Resources, City of Lafayette Water Dept Capital Projects and Engineering, and Denver Water Gross Reservoir Expansion Project Office

***Reporting:** The applicant shall provide the CWCB a progress report every 6 months, beginning from the date of the executed contract. The progress report shall describe 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 taken to address these issues.

****Final Deliverable:** At completion of the project, the applicant shall provide the CWCB a final report that summarizes the project and documents how the project was completed. This report may contain photographs, summaries of meetings and engineering reports / designs.

South Boulder Creek Stream Management Plan - Phase I Budget & Timeline Table								
Sponsors: Colorado Trout Unlimited (Grantee) and Boulder Flycasters (Project Execution)								
Task	**Description**	**Target Start Date**	**Target Completion Date**	**CWCB Funds CO Watershed Restoration Prog.**	**CWCB Funds WSRF Basin**	**Other Funding Cash**	**Other Funding In-Kind**	**Total**
1.0	**Stakeholder Engagement and Communications**	**04/18/19**	**06/01/20**	**$4,037.00**	**$1,963.00**	**$1,336.00**	**$1,225.00**	**$8,561.00**
2.0	**Governance and Third Party Relationships**	**04/18/19**	**06/15/19**	**$4,426.00**	**$2,153.00**	**$1,455.00**	**$1,225.00**	**$9,259.00**
3.0	**River Health Assessment Methodology**	**04/18/19**	**12/31/19**	**$11,744.00**	**$5,715.00**	**$3,698.00**	**$6,671.00**	**$27,828.00**
4.0	**Existing Physical Infrastructure Assessment**	**04/18/19**	**10/30/19**	**$23,159.00**	**$11,267.00**	**$7,194.00**	**$25,208.00**	**$66,828.00**
5.0	**Program Management and Administration**	**04/18/19**	**06/01/20**	**$12,134.00**	**$5,902.00**	**$3,817.00**	**$3,671.00**	**$25,524.00**
	TOTALS			**$55,500.00**	**$27,000.00**	**$17,500.00**	**$38,000.00**	**$138,000.00**

ArcGIS Web Map



10/17/2018, 10:41:43 AM

1:144,448

0 0.75 1.5 3 mi

0 1.5 3 6 km

City of Boulder, Boulder County, Bureau of Land Management, Esri, HERE,

Web AppBuilder for ArcGIS

City of Boulder, Boulder County, Bureau of Land Management, Esri, HERE, Garmin, NGA, USGS, NPS | County and City of Denver, Esri, HERE |