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Colorado Water Conservation Board	
Water Supply Reserve Fund	
<u>Exhibit A - Statement of Work</u>	
Date:	11/01/17
Water Activity Name:	St. Vrain and Left Hand Stream Management Plan
Grant Recipient:	St. Vrain and Left Hand Water Conservancy District
Funding Source:	\$50,000 SP Basin Funds with an additional \$57,500 cash, and \$42,500 in-kind, and \$150,000 from another CWCB Grant
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.)	
<p>The St. Vrain Creek watershed is critical to maintaining the health, biodiversity, character, and economy of communities within the region, including Lyons and Longmont. The creek is home to a diverse population of native fish, receives Colorado River transmountain water, hosts one of the country's largest outdoor games, has its headwaters in Rocky Mountain National Park and the Indian Peaks Wilderness, and its confluence in a county that is the largest agricultural economic producing county in Colorado. With such a wide range of uses and an intense focus of study, the St. Vrain poses an excellent opportunity to balance river health with water users' needs through completion of a stream management plan.</p> <p>The District will lead the development of a Stream Management Plan (SMP). The overall goal of the SMP is to build upon the extensive studies that have already taken place in the basin (see Exhibit B) to collaboratively identify projects and management strategies that will transition stakeholders from flood recovery to stream health projects that improve environmental conditions in the river while also meeting water users' current and future needs and are aligned with private property rights and the prior appropriation system.</p>	
Objectives: (List the objectives of the project)	
<p>Phase 1 – 2018-2019</p> <ul style="list-style-type: none"> • Objective 1: Develop support from stakeholders and the community at large for projects and management options that improve stream health and water availability for agricultural, municipal and recreational users • Objective 2: Compile existing databases, reports, studies, and analyses of environmental, recreational, municipal, and agricultural water uses within the Study Area • Objective 3 - Characterize the future water needs of agricultural, environmental, recreational, municipal and industrial users in the Study Area, including shortages and infrastructure needs • Objective 4 – Assess river functional health within the Study Area and inventory stressors that are challenging or degrading it • Objective 5 – Compile results from Objectives 1 – 4 and develop an on-line interactive report that communicates those results and makes recommendations for proceeding to Phase 2 <p>Phase 2 – 2019 - 2022</p> <ul style="list-style-type: none"> • Objective 1 – Collect additional data on priority reaches as identified in Phase 1 • Objective 2 – Work with stakeholders to select specific management objectives for the priority reaches and describe measurable goals. • Objective 3 - Quantify projects or management options such as ranges of numeric flow recommendations to support environmental and recreational values that meet water users' needs as identified in Phase 1 • Objective 4 – Identify constraints and opportunities that may limit or assist meeting project goals 	



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- Objective 5 - Revise the Community and Stakeholder Engagement Plans to reflect the roles and responsibilities of the stakeholders for project implementation.

Tasks

Task 1 - Stakeholder Engagement and Community Outreach

Description of Task: The purpose of this task is to organize and convene the key stakeholders in the Study Area and assign roles and responsibilities throughout Phase 1. We will engage both stakeholders (those with a direct and active role as a water user in the basin) and the broader community. Specific subtasks are described below.

- Subtask 1.1 - Convene key stakeholders and outline operating protocols, roles and responsibilities and group decision making procedures that will move the planning process forward.
- Subtask 1.2 – Develop and implement a Stakeholder Engagement Plan that identifies tangible and metrically-driven involvement and participation goals and objectives, targeting consumptive and non-consumptive stakeholders. Specific elements of this plan will include, but not be limited to:
 - Creation of a list of the stakeholders who should be included throughout all phases of SMP development.
 - Development of guiding principles for stakeholder engagement, including expectations and outcomes of the plan.
 - Creation of a schedule and objectives for each meeting (will be dynamic as the phases of the SMP are completed); anticipate 8 meetings.
 - Identification and prioritization of ecological and recreational values that could be protected or enhanced.
 - Facilitation of each meeting to ensure adherence to agenda topics, respectful and construction dialogue, and equal and fair treatment of all individuals and perspectives in the group.
 - Documentation of each meeting to capture key themes of discussion (including minority viewpoints and areas of disagreement), agreements, and action items.
 - Circulation of draft documents for stakeholder review, consideration of all proposed changes, revision of draft documents as appropriate, and distribution of all final summaries.
- Subtask 1.3 - Develop a Community Engagement Plan that identifies tangible and metrically-driven involvement and participation goals and objectives. Specific elements of this plan will include, but not be limited to:
 - Consultation with the stakeholder group to solicit input on best approaches to community engagement in the Study Area.
 - Additional consultation if/as needed with local watershed groups, ditch companies, recreation groups, and others to solicit input on the best methods for community engagement.
 - Host up to three Community Engagement meetings that will aim to meet the objectives of the Plan.



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Method/Procedure:
<p>The District will capitalize on local knowledge and experience by involving stakeholder groups, such as the St. Vrain Creek Coalition, Left Hand Watershed Oversight Group, and other entities in the watershed throughout the SMP development. Outreach will be obtained and conducted through a series of progress meetings and/or other means such as surveys, etc. as identified in the Stakeholder and Community Engagement Plans.</p> <p>The District will hire a Facilitation Consultant to support the stakeholder and community engagement meetings and a Project Manager to support the organization, coordination, and documentation needed for this task. We anticipate that the stakeholder group will meet approximately 8 times, and the broader community will meet 3 times over the course of Phase 1 of the project.</p>
Grantee Deliverable: (Describe the deliverable the grantee expects from this task)
<ul style="list-style-type: none">• Organize and facilitate eight Stakeholder Meetings and three Community meetings• Meeting agendas, participants, and notes• Stakeholder Engagement Plan
CWCB Deliverable: (Describe the deliverable the grantee will provide CWCB documenting the completion of this task)
<ul style="list-style-type: none">• Stakeholder Engagement Plan



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Task 2 - Existing Data Collection and Review
<p>Description of Task: The purpose of this task is to: 1) compile quantitative and qualitative information from existing databases, reports, studies, and analyses of environmental, recreational, municipal, and agricultural water uses within the Study Area; 2) communicate the available information using an interactive web mapping application to inform water planning efforts and communication at the local, regional, and state levels. Specific subtasks are described below.</p>
<ul style="list-style-type: none"> • Subtask 2.1 – Extract and organize information from existing studies and databases. • Subtask 2.2 - Create an on-line spatial GIS database to house or link to existing information and data. • Subtask 2.3 – Develop a publicly accessible web-based mapping interface (like the Colorado Basin Roundtable’s or equivalent) that allows users to access and view the spatial database information. This is being identified as a separate task as it adds an additional level of complexity to providing an interface with the data and user.
<p>Method/Procedure:</p>
<p>This task is limited to only the collection, compilation, and reduction of existing data. No new assessments will be done for this phase.</p>
<p>Grantee Deliverable: (Describe the deliverable the grantee expects from this task)</p>
<ul style="list-style-type: none"> • On-line spatial GIS database • Web-based mapping interface
<p>CWCB Deliverable: (Describe the deliverable the grantee will provide CWCB documenting the completion of this task)</p>
<ul style="list-style-type: none"> • Access to database and web-based interface



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Task 3 - Hydrology Characterization, Demand Shortage and Infrastructure Assessment
<p>Description of Task: The purpose of this task is to characterize point flows in St. Vrain Creek and Left Hand Creek and how water is currently stored, diverted, consumed, and returned within the Study Area. This task will also identify the future needs of the municipal, recreational and agricultural water users in the Study Area, including shortages and infrastructure conditions.</p>
<ul style="list-style-type: none"> • Subtask 3.1 – Obtain existing monthly SPDSS river flow data (1950 through 2012) and develop estimated daily point flows for Study Area streams from the dataset. Describe river flow data, decreed diversions, and irrigated acreages. River flow data will be considered for natural conditions (no diversions, imports or releases) and existing conditions (current diversions) for wet, dry and average conditions. • Subtask 3.2 – Compile information and data on the condition of the existing municipal and agricultural diversions, delivery and application (irrigation) infrastructure. Provide recommendations and conceptual cost on improvement needs. • Subtask 3.3 - Develop and conduct recreational flow studies on those river reaches in the Study Area with significant current or planned recreational (boating or fishing) use, to collect and organize overall and specific flow evaluations, and define optimal and acceptable flow ranges that meet current recreational needs. • Subtask 3.4 -- Project future changes in hydrology and water availability patterns due to climate scenarios developed by the CWCB. • Subtask 3.5 – Project potential future demand shortages in agricultural, municipal and recreational uses. It is anticipated that the calculation of each of these demands will require different tools and approaches. • Subtask 3.6 – Assess whether more detailed daily point flow modeling is beneficial for assessment of stream conditions relative to uses for all or portions of the Study Area and recommend any needed hydrology modeling for Phase 2.
<p>Method/Procedure:</p>
<p>A database of monthly point flows (presented as average daily flows) at diversions and confluences on streams within the Study Area will be created using existing StateMod modeling of the St. Vrain and Left Hand basins developed for the South Platte Decision Support System (SPDSS). The SPDSS modeling includes data for natural flows as well as for historical conditions. Communications with owners of existing municipal I, agricultural and recreational infrastructure, and field reconnaissance where necessary, will be used to develop information for subtask 3.2. If available, information regarding effects of climate change on stream hydrology will be sought and characterized and incorporated into the point flows database. Water providers and water users will be contacted, and existing information will be reviewed and used to the extent possible, to assess future demand increases for municipal, agricultural and recreational water users, and the resulting impacts on point flows. The project will seek to identify where/whether a true daily point flow model needs to be developed in Phase 2 to assess needs and to project results of management changes.</p>
<p>Grantee Deliverable: (Describe the deliverable the grantee expects from this task)</p>
<ul style="list-style-type: none"> • Information (data and graphics) showing estimated daily hydrology in the basin under natural, current and projected future conditions • Infrastructure condition assessment results • List of recommended infrastructure improvements and conceptual costs • List of recommended strategies for those locations that can also benefit stream health conditions and any incremental costs associated with those improvements • Recommendation for further daily point flow development • Technical Report summarizing results of subtasks 3.1 – 3.6
<p>CWCB Deliverable: (Describe the deliverable the grantee will provide CWCB documenting the completion of this task)</p>



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- Technical Report summarizing results of subtasks 3.1 – 3.6



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Task 4 - River Health Assessment

Description of Task: The purpose of this task is to assess river functional health within the Study Area, inventorying stressors using data and analyses compiled during Tasks 2 and 3, and completing additional desktop and rapid field evaluations. Functional health assessment results can then be compared to stakeholders' priority ecological and recreational values to identify a subset of priority reaches. Priority reaches will be assessed for projects and management strategies, including flow targets, in Phase 2. The river health assessment will be carried out by a multi-disciplinary team hired by the District. Specific subtasks are described below.

- Subtask 4.1 – Develop a stream health assessment framework calibrated specifically to the study area based on an appropriate holistic stream health assessment methodology, such as the Colorado Stream Health Assessment Framework, that includes assessment of fluvial geomorphology, water quality, aquatic habitat quality and riparian area health.
- Subtask 4.2 – Divide the study area into relatively homogenous zones and reaches to be evaluated.
- Subtask 4.3 – Conduct desktop and rapid field evaluations as needed to complete river health assessment. The extent of evaluations will depend upon the quality and quantity of data found in Task 2.
- Subtask 4.4 – Evaluate the health of individual reaches, zones, streams (St. Vrain and Left Hand) and the watershed based on assessment of stressors and evidence of their effects.
- Subtask 4.5 – Use the list of priority ecological and recreational values identified in subtask 1.2 to characterize challenges to maintaining river health in light of societal demands.
- Subtask 4.6 – Compile results from subtask 4.1 – 4.5 and develop a set of criteria that allows the stakeholders to rank and select their top priority reaches for management strategies.
- Subtask 4.7 – Draft a list of watershed focus areas based on the needs identified in previous subtasks and identify outstanding data needs for each.

Method/Procedure:

The St. Vrain and Left Hand Creek stream health assessment framework will be assembled by a multi-disciplinary team based on sound science, while being responsive to known issues and stakeholder input (subtask 4.1). The study area will be divided based on stream system (St. Vrain vs. Left Hand). Each of the two stream systems, including the mainstem and major tributaries will be subdivided into appropriately homogenous zones and/or individual reaches based on process domains and land cover/land use (subtask 4.2).

According to the assessment methodology chosen, desired ranges for stream health variables or criteria will be designated. Desired ranges will incorporate stakeholder input. They will be articulated by the study team and should represent levels which will maintain the balance between stream needs and its ability to provide the ecosystem services society depends on, remain resilient and ecologically viable, while satisfying purely human needs such as municipal and agricultural water supply.

Once the stream health study framework and design have been developed, stream health will be evaluated using the best available information (subtask 4.4). The stream health assessment will be considered a “living” document that will be continually built upon and improved as new information is developed. Existing data and the collection of new data will be used to fill out the framework (subtask 4.3). New data will be collected at a level of intensity commensurate with need and available budget. Based on these analyses and those of previous tasks, opportunities for, and challenges to, maintaining river health will be articulated (subtask 4.5).

Once analysis of river health is complete, lists of priority reaches will be assembled based on identified stream needs and stakeholder input (subtask 4.6).

Analyses of river health will reveal areas and subjects for which insufficient information exists to make decisions with an appropriate level of certainty. Data gaps will be listed and candidate priorities for obtaining new information will be developed (subtask 4.7).



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Grantee Deliverable: (Describe the deliverable the grantee expects from this task)
<ul style="list-style-type: none">• Completed health assessment including hierarchical summary of reach condition, zone condition and overall stream condition. The health assessment will include graphical exhibits and be integrated into the geospatial database created in Task 2.• Narrative and quantitative rationale for each health conclusion.• A list of candidate priority reaches for health improvement and data gaps needed to be filled in Phase 2 to better assess and recommend strategies.
CWCB Deliverable: (Describe the deliverable the grantee will provide CWCB documenting the completion of this task)
<ul style="list-style-type: none">• All the above



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Task 5 - Phase 1 Final Report and Phase 2 Recommendations
Description of Task:
The purpose of this task is to compile results from Tasks 1 – 4 and develop an on-line interactive report that: 1) highlights the existing and future demand gaps and infrastructure needs for the agricultural, recreational, and municipal sectors; 2) presents information on the functional health of the Study Area by reach; and 3) discusses next steps for the priority reaches, including identification of data gaps and methods and costs for obtaining that information. This deliverable may resemble the Reach Fact Sheets developed for the Big Thompson River.
Method/Procedure:
Grantee Deliverable: (Describe the deliverable the grantee expects from this task)
<ul style="list-style-type: none"> • Compile data and information from Tasks 1-4 • Develop an on-line interactive report summarizing Phase 1
CWCB Deliverable: (Describe the deliverable the grantee will provide CWCB documenting the completion of this task)
<ul style="list-style-type: none"> • An on-line interactive report summarizing Phase 1



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Task 6 - Project Management and Coordination

Description of Task: The purpose of this task is to support St. Vrain and Left Hand Water Conservancy District with the project management needs of the Project, specifically: tracking project progress, including each subconsultant’s deliverables and costs against the scope of work; supporting the District with the necessary communication and coordination with the Project Team; coordinating with Colorado Water Conservation Board (CWCB), as needed; and preparing for and participating in public education and stakeholder meetings. Specific subtasks are described below.

- Subtask 6.1 - Coordinate with Project Team (propose monthly project check-in meetings).
- Subtask 6.2 - Compile monthly subconsultant invoices; track project budget, deliverables, and schedule and document in monthly progress reports (includes tracking of in-kind hours and cash match).
- Subtask 6.3 - Develop required CWCB 6-month progress reports; final report (see Task 5).

Method/Procedure: The District will hire a Consultant to provide Project Management services as identified above.

Grantee Deliverable: (Describe the deliverable the grantee expects from this task)

- Progress reports
- Monthly invoices

CWCB Deliverable: (Describe the deliverable the grantee will provide CWCB documenting the completion of this task)

- Request for Payment including progress report



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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.

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.