

**Water Marketing Strategy for the City of Grand Junction**

**WaterSMART Grants:  
FY18 Water Marketing Strategy Grant Application**

**Funding Opportunity Announcement  
No. BOR-DO-18-F010**

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## **Table of Contents**

- 1.0 Technical Proposal
  - 1.1 Executive Summary
  - 1.2 Background Data
  - 1.3 Project Description
  - 1.4 Evaluation Criteria
- 2.0 Environmental and Cultural Resources Compliance
- 3.0 Required Permits or Approvals
- 4.0 Project Budget
  - 4.1 Funding Plan and Letters of Commitment
  - 4.2 Budget Proposal
  - 4.3 Budget Narrative

## **Appendices**

- A Mandatory Federal Forms
- B Letters of Support
- C Official Resolution
- D Existing Analysis Contributing to the Water Marketing Strategy

## 1.0 Technical Proposal

The Technical Proposal ensues with the following areas:

- 1) Executive Summary
- 2) Background Data
- 3) Project Description
- 4) Evaluation Criteria

### 1.1 Executive Summary

Date: July 17, 2018

Applicant Name: City of Grand Junction

Location: City of Grand Junction, Mesa County, Colorado

Proposal Summary:

The City of Grand Junction proposes to develop a water marketing strategy for its portfolio of water rights in the Kannah Creek Basin as well as conditional water rights on the Colorado and Gunnison Rivers. Planning activities will include review of all of the City's existing water rights and quantification of the firm yield of the City's primary municipal water supply in comparison to projected water demands. Engineering studies will be conducted to evaluate options for supplying water during peak demand and emergency conditions and the infrastructure needed to improve the reliability of the system. Once future needs of the municipal water system are addressed, the City will identify water rights that may be available for other uses. The water marketing strategy will help ensure drought resiliency for municipalities in the Grand Valley as well as facilitate making water available to agriculture in the Kannah Creek and Lower Gunnison basin, where there is a projected shortage of 116,000 AFY by 2050, through temporary leases or other mechanisms.

Schedule:

The City of Grand Junction already has planning activities underway to support the proposed marketing strategy. The City estimates a project duration of two years, with completion no later than September 30, 2020.

Bureau of Reclamation Projects, Facilities, Activities in the Area:

The City of Grand Junction's water rights are within two river basins - the Colorado River and the Gunnison River. The following Bureau of Reclamation projects are located within these basins and may realize some benefits from the City's proposed water marketing strategy project:

- **Grand Valley Project:** The Grand Valley Project is in west-central Colorado in the Colorado River Basin. Water is furnished to 33,368 acres of land along the Colorado River in the vicinity of Grand Junction. The project works include a diversion dam, a power plant, two pumping plants, two canal systems totaling 90.1 miles, 166 miles of laterals, and 113 miles of drains. Participants include:

Mesa County Irrigation District, Orchard Mesa Irrigation District and Palisade Irrigation District.

- **Uncompahgre Project:** located on the western slope of the Rocky Mountains in west-central Colorado. The project is operated by Uncompahgre Valley Water Users Association and serves lands surround the town of Montrose and extends 34 miles along both sides of the Uncompahgre River to Delta, Colorado. Project features include Taylor Park Dam and Reservoir, Gunnison Tunnel, 7 diversion dams, 128 miles of main canals, 438 miles of laterals, and 216 miles of drains. The systems divert water from the Uncompahgre and Gunnison Rivers to serve over 76,000 acres of project land.

## 1.2 Background Data

The following is a general description of the area to be addressed by the City of Grand Junction's proposed water marketing strategy.

### Water Supply and Water Rights

The City of Grand Junction maintains water rights in five drainage basins: Kannah Creek drainage area, the North Fork of the Kannah Creek, the Whitewater Creek drainage area, the Gunnison River, and the Colorado River. The City has continued to invest in infrastructure projects to improve the reliability of the water supply, treatment, and distribution system. Water from Kannah Creek, the North Fork of Kannah Creek, and the Whitewater watershed is diverted through a system of ditches, canals, reservoirs and pipelines to supply water to the City of Grand Junction Water Treatment Plant, the Kannah Creek Treatment Plant, and agricultural irrigation.

The City continues to maintain the Gunnison River pump station for irrigation water supply and as an emergency backup raw water source. The City maintains a 120 cfs water right on the Gunnison River, of which 18.6 cfs is absolute and 101.4 cfs is conditional. The Grand Junction Water Treatment Plant does not have the capability, at the present time, to treat Gunnison River water to meet current drinking water standards.

The City also maintains an 80 cfs water right on the Colorado River, of which 6.96 cfs is absolute and the remaining is conditional. The City conveyed a 20 cfs water right to the Clifton Water District in 1977. Clifton has obtained adjudication of 11.61 cfs as an absolute right. The City has an agreement with the District to maintain an interconnection to provide up to 4.5 mgd of treated water, if needed.

### Current and Projected Water Demand

The City's incorporated area covers 39 square miles and has a population of about 60,000. However, the City's water service area is limited to 9 square miles, serving a population of about 30,000 (9,900 active water taps). The rest of the incorporated area (about 75% of the City) is served by the Ute Water District.

By 2035, the population of the City of Grand Junction is expected to top 100,000. While population forecasts for the District's water service area estimate an annual growth rate of 2.95%, water demand for the City's water service area is currently only projected to grow at an annual rate of 0.70% because of the present service area boundaries. In 2012, the City estimated water supply versus demand under average and drought conditions through 2050. By 2050, the projected municipal demand is about 7,000 acre-feet and could be met by Kannah Creek/North Fork/Whitewater Creek, which can yield 16,200 acre-feet under average conditions.

In drought conditions similar to 1976/77, the projected municipal demand is about 8,000 acre-feet in 2050. Kannah Creek/North Fork/Whitewater Creek would yield about 6,000 acre-feet and would need to be supplemented with other direct flow rights available or carry over reservoir storage. About 2,485 acre-feet (1.9 mgd) average of water is available through agreement with the Clifton Water District and 13,000 acre-feet is available from the Gunnison River (depending on time of year).

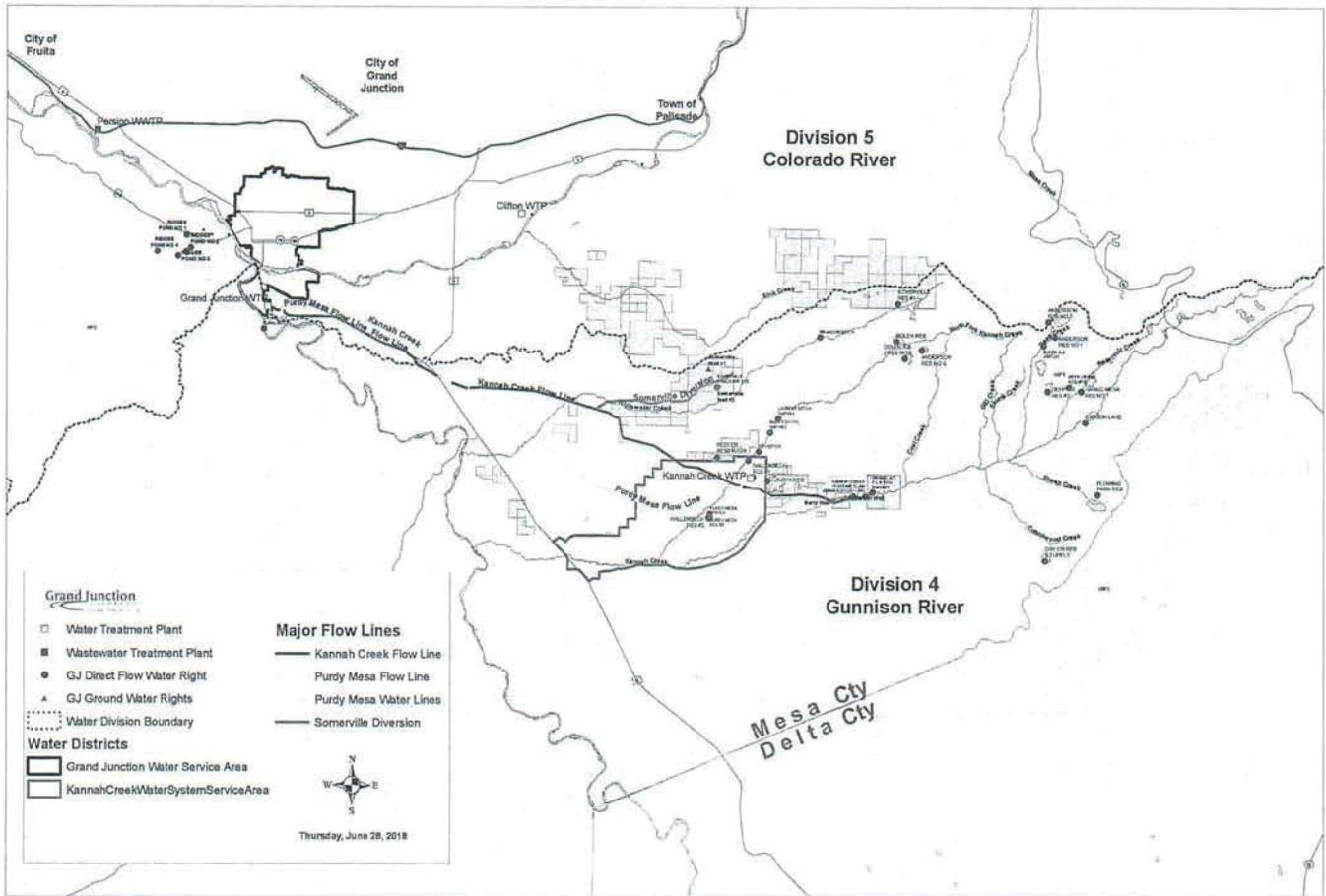
#### **Past Working Relationships with Bureau of Reclamation**

The City of Grand Junction has worked with the Bureau of Reclamation along with their contract operators, Grand Valley Water Users Association and Orchard Mesa Irrigation District, in the past on transferring drainage infrastructure from the Bureau of Reclamation to the City of Grand Junction. The Bureau of Reclamation had not maintained or operated either D Drain or OM Drain 1-1, as an urban storm water drain, and asked the City to take over the drains. D Drain was transferred in 2006, while OM Drain 1-1 was transferred in 2009.

The original purpose of both Drain D and Drain 1-1 was to collect administrative spills of agricultural water from laterals associated with the Grand Valley Project and irrigation return flows, which consist of seepage, surface drainage and unused waters, from the lands served by the Grand Valley Project. Once it was determined that a majority of the volume conveyed by these drains was due to storm water runoff and not agricultural water, the ownership, maintenance, and operational control of both Drains was transferred to the City of Grand Junction.

#### **Project Location**

The City of Grand Junction's Water Marketing Strategy Project is located in Mesa County, Colorado and encompasses an area that includes the City of Grand Junction, the Colorado River Basin between the towns of Clifton and Palisade, the Gunnison Basin near Orchard Mesa, and the Kannah Creek watershed on the Grand Mesa, as shown on the map below.



### 1.3 Project Description

The City's water marketing strategy project will involve the following activities to determine the potential markets for water rights that the City may not require to meet future municipal water demands. These include:

- 101.4-cfs conditional water right on the Gunnison River.
- 73.04-cfs conditional water right on the Colorado River.

The City anticipates completing the water marketing strategy within 2 years and therefore is seeking federal Funding Group I (up to \$200,000).

#### Element 1. Outreach and Partnership Building

There are two distinct geographic areas that the City will explore for outreach and partnership building, namely the Colorado River and the Gunnison River basins. The City will inform and obtain input from potential market participants and stakeholders within the relevant geographic areas, which may include but is not limited to:

- Conducting outreach to potential partners, participants, and interested or affected stakeholders in the area through public meetings, webinars, notices, or other forms of communication, and research.
- Hosting workshops to gather input and feedback on the development of the water marketing strategy.

The City envisions that initial outreach activities will be through the Gunnison River Basin and Colorado River Basin Roundtable meetings.

#### Element 2. Scoping and Planning Activities

##### Task 2.1 Quantifying Existing Water Rights

The City completed an initial planning study to quantify its existing water rights, consumptive use, diversions, and return flows. This work is summarized in a report entitled Summary of Water Supply System, City of Grand Junction, April 2018.

##### Task 2.2 Quantifying Firm Yield Water Supply

The City initiated work in June 2018 to determine the "firm yield" for water supply during average and drought conditions in comparison with projected future demand for municipal water as well as irrigation water for a 50-year planning period.

The work will involve developing a computer model that can:

- Simulates the diversions and operation of reservoirs that are used to supply water treatment plants, irrigation, and raw water customers.
- Assess which water rights are needed to meet projected demands.
- Determine which water rights would not be utilized to meet future demand under normal and drought conditions.

- Determine if the City needs to make any operational changes to fully capture diversion rights or better manage reservoirs to enhance reliability, especially during an extended drought.
- Assess the adequacy of the City's emergency backup water sources.
- Provide a tool that can be used by the City's staff to help manage operations (e.g., carryover storage) from year to year.
- Provide a tool that can be used by the City's staff to evaluate planning scenarios.

#### Task 2.3 Engineering Studies for Water Supply Infrastructure (Kannah Creek)

The City currently maintains two water supply flowlines, Purdy Mesa and Kannah Creek, that convey water from the Grand Mesa reservoirs and diversion points to the Grand Junction Water Treatment Plant. The City currently has capital improvement projects underway to replace segments of the primary Purdy Mesa flowline and install a control structure to improve reliability of water transfer through this flowline. The City also has an engineering study underway to assess the Kannah Creek flowline, which is used as for backup or supplemental delivery of raw water to the Grand Junction Water Treatment Plant. This task will identify the infrastructure needed to replace the Kannah Creek flowline so that it can serve as a redundant supply to meet current and future water demands.

#### Task 2.4 Engineering Studies for Water Supply Infrastructure (Gunnison River)

As an alternative to replacing the Kannah Creek flowline, the City of Grand Junction could utilize the Gunnison River water right to supply raw water the Grand Junction Water Treatment Plant. If the City utilized the Gunnison River water right for emergency backup or to meet peak demands rather than the Kannah Creek flowline, the City could potentially make available water rights on the Grand Mesa for agricultural irrigation at certain times of the year.

This task would include an engineering study to determine the infrastructure needed to upgrade the Gunnison River pump station and water treatment plant to treat Gunnison River water to meet drinking water standards (particularly the 0.3 NTU or less standard for turbidity). Given the high quality of the Kannah Creek water supply, the City can meet drinking water standards with direct filtration. Due to the higher turbidity levels of the Gunnison River water, conventional treatment would likely be necessary. This would require addition of a sedimentation process ahead of filtration. This task will involve developing conceptual design, sizing and cost estimates for infrastructure improvements.

The results of this task would be utilized to compare the cost of replacing the Kannah Creek flowline to the cost of enhancing pumping and treatment infrastructure to enable utilization of the Gunnison River water right for potable water supply.

#### Task 2.5 Engineering Studies for Water Supply Infrastructure (Colorado River)

The City conveyed a 20 cfs water right to the Clifton Water District and has an agreement with the District to maintain an interconnection to provide the City with treated water, if needed. The City is entitled to up to 4.5 MGD of treated water from the Clifton Water Treatment Plant through the "High Service Line" and the "Enlarged Link Line" to the Meter Vault located just west of 30 Road and south of I-70. Clifton replaced its conventional sand filtration plant with a 12 MGD Microfiltration/Ultrafiltration Membrane treatment technology in 2015. This task will be used to evaluate the current capability of the Clifton Water District to provide treated water to the City as an emergency backup or to supplement the City's treated water supply.

An engineering study will be performed to evaluate limitations of the current water supply, Clifton water treatment plant and interconnection with the City to provide backup water supply. In addition, the engineering study will identify infrastructure needed to expand the Clifton water treatment plant and interconnection(s) with the City to serve as a redundant treated water supply in lieu of replacing the Kannah Creek flowline or upgrading the Grand Junction Water Treatment Plant to treat Gunnison River water. This analysis will include evaluating utilizing either the City's or Clifton's remaining conditional water rights (8.39 and 73.04 cfs, respectively) to supply the Clifton water treatment plant.

#### Task 2.6 Engineering Studies for Water Supply Infrastructure (Interconnections with Ute Water Conservancy District)

The City maintains several interconnections with the Ute Water Conservancy District that allow the Ute Water Conservancy District to supply treated water to the City, vice versa, in the event of an emergency or planned maintenance activity. These interconnections are limited in quantity and service area coverage depending upon which utility is providing the water. Current challenges with this interconnection also include water main pressure differentials and incompatible chlorine residual compounds. This task will explore the possibility of expanding the capacity of these interconnections to provide backup water supply in the event of an emergency.

#### Task 2.7 Develop Plan for Backup City Water Supply and Treatment

Based on the results of the above tasks, the City will identify the most cost-effective option for backup water supply and treatment to meet current and future water demands for the City of Grand Junction. The options that will be evaluated include:

- Option 1: Kannah Creek Flowline
- Option 2: Gunnison River Pump Station and Enhanced Water Treatment
- Option 3: Colorado River (partner project with Clifton Water District)
- Option 4: Interconnections with Ute Water Conservancy District)

### Task 2.8 Identify Water Rights Available for Marketing

Based upon the results of the above tasks, the City will quantify water rights that may be available for marketing.

This task will include studies to explore the potential to market available water, which may include, but are not limited to, the following types of analyses:

- Conducting financial or economic analyses to identify potential buyers and sellers, assess demand for the water market, and research the cost of implementing the water market.
- Researching different water marketing approaches to support development of administrative or institutional requirements for implementation of a water market/water marketing activities.
- Analyzing water rights issues or legal requirements, including legal mechanisms for transferring water within the relevant area, and legal constraints on existing water rights (type and place of use requirements, title issues, or other constraints).
- Analyzing economic, social, community, and environmental impacts of potential market/transaction(s).

### Element 3. Development of a Water Marketing Strategy

The City will prepare a written document that describes a proposed approach to establish water marketing activities based on the results of the outreach, scoping, and planning activities that are performed under Project Elements 1 and 2.

The Water Marketing Strategy document will address the following requirements:

Implementation Plan	How the water market/water marketing activities will be implemented following completion of the strategy, including: <ul style="list-style-type: none"><li>• How marketing activities will be conducted, including a discussion of any alternatives that were considered and support for why the recommended approach was selected;</li><li>• Addressing long-term project management and financial sustainability;</li><li>• The actual or potential administrative structure and institutional components;</li><li>• The participants, water rights, and infrastructure involved;</li><li>• How transactions will be tracked; and</li><li>• The issues to be resolved and the steps to be taken prior to implementation.</li></ul>
Legal Framework	The legal framework for the water market/marketing activities, including:

	<ul style="list-style-type: none"> <li>• How the water marketing activity fits within state water law requirements;</li> <li>• Any contracts, interstate-compacts treaties, or other legal requirements that may impact the water market or marketing activities;</li> <li>• The actual or potential rules and requirements that will govern the implementation of the water market/marketing activities;</li> <li>• The actual or potential contracts, agreements that are being drafted or would need to be drafted, and any legal actions that would need to be taken (e.g., change of water rights) to support the water market/marketing activities; and</li> <li>• The strategy will also describe any legal issues to be resolved prior to implementation.</li> </ul>
Monitoring	<p>How water marketing activities will be monitored, including:</p> <ul style="list-style-type: none"> <li>• The process by which market participants will track the physical movement of water from seller to buyer,</li> <li>• How the purchasers will recognize the receipt of water, and</li> <li>• How transactions will be monitored to avoid harm to other water users.</li> </ul>

#### Element 4. Project Management and Reporting Requirements

The City's designated project manager will serve as a primary point of contact for the Bureau of Reclamation and will provide overall project management and fulfill reporting requirements included in the financial assistance agreement. The following reports will be submitted during the term of the agreement:

##### Task 4.1 Financial Reports

The City will submit a fully completed form SF-425 Federal Financial Report on at least a semi-annual basis and with the final performance report. The SF-425 must be signed by a person legally authorized to obligate the recipient.

##### Task 4.2 Interim Performance Reports

The City will submit interim performance reports on at least a semi-annual basis. At a minimum, each interim performance report must include the following information:

- A comparison of actual accomplishments to the milestones established by the financial assistance agreement for the period
- The reasons why established milestones were not met, if applicable

- The status of milestones from the previous reporting period that were not met, if applicable
- Whether the project is on schedule and within the original cost estimate
- Any additional pertinent information or issues related to the status of the project.

#### Task 4.3 Final Performance Report

The City will submit a final performance report encompassing the entire period of performance. The final performance report must include, but is not limited to, the following information:

- Whether the Project objectives and goals were met
- Discussion of the benefits achieved by the Project, including how the plan improves long-term water supply sustainability
- How the water marketing strategy demonstrates collaboration amongst the stakeholders
- Photographs documenting the Project are also appreciated

### 1.4 Evaluation Criteria

Evaluation Criterion A—Water Marketing Benefits (40 points)

A.1 Explain whether the water market/activity will address a specific water supply shortfall and describe the extent of benefits to different sectors.

The Statewide Water Supply Initiative (SWSI) 2010 estimated the following water supply shortfalls for the agricultural and municipal and industrial (M&I) sectors in the Colorado River Basin by 2050:

- Agricultural – 100,000 acre-feet per year
- M&I – 48,000 acre-feet per year

The Basin Implementation Plan (BIP) for the Colorado River Basin notes that the shortfall for agricultural will potentially increase as more senior water rights, that were once “conditional”, are developed in other parts of the Basin.

The Colorado BIP also noted that the gap for the 63 municipal water providers is likely underestimated because water providers have not addressed the uncertainties brought about by extended drought, Compact calls and climate change into their long-range water plans (beyond 2050). Many lack redundancy of supplies and even though most of them have a legal supply from augmentation reservoirs to meet in-basin calls, they do not have physical supply from reservoirs above intakes that can protect them in drought periods. Therefore, the BIP recommends that water providers need to update master plans beyond 2050 and pursue multiple and redundant water supplies to maintain reliable water supplies during extended drought conditions.

SWSI 2010 identified water supply shortfalls for both the agricultural and M&I sectors in the Gunnison River Basin by 2050:

- Agricultural – 128,000 acre-feet per year (current), 116,000 (2050)
- M&I – 36,000 to 43,000 acre-feet per year

The BIP for the Gunnison Basin identified addressing M&I and agricultural water shortages as key goals.

The City's proposed water marketing strategy will explore the potential for the City of Grand Junction's water rights on the Colorado and Gunnison Rivers to address these shortfalls. Consistent with the BIPs for the Colorado and Gunnison, the City will first focus on securing safe drinking water to meet the growing demands by developing in-basin supplies. Secondly, the proposed marketing strategy will explore the possibility of utilizing the City's water rights to reduce agricultural shortages.

The proposed marketing strategy will first address the long-term municipal water demands for the Grand Valley by collaborating with the Ute Water Conservancy District and the Clifton Water District. This will result in significant benefits to water supply reliability to meet the Grand Valley's municipal water demands well into the future.

At present, the City maintains sufficient water rights to meet the quantity of projected water demands municipal and irrigation demands. However, the City is currently constrained by existing infrastructure. The City's water supply pipelines that convey raw water from the Grand Mesa to the Grand Junction Water Treatment Plant need to be replaced to restore capacity and meet reliability requirements. Alternately, the City could upgrade its water treatment plant to conventional treatment to enable utilization of its Gunnison River water right. Other options that will be explored include partnership projects with the Clifton Water District and/or the Ute Water District to utilize water rights on the Colorado River as a backup water supply. The proposed marketing strategy will result in a robust and sustainable water supply plan for the City's while also identifying opportunities to market water rights that the City may not need to rely upon to meet future water demands.

Underutilized water rights could then potentially address agricultural shortfalls in the area. Other opportunities for marketing these water rights might include expanding hydropower capacity in the area. Redlands Water and Power operates a 1600 kW hydroelectric plant on the diversion dam immediately downstream from the City's Gunnison River point of diversion. The City also operates a pump station for irrigation water that serves the Ridges Subdivision and the Redlands Mesa Golf Course. There may be an opportunity to expand hydropower capacity if additional water is diverted through the power canal.

While the specific benefit has not yet been quantified, the benefits that can be expected to occur upon implementation of the proposed water marketing strategy to

partially offset the overall shortages that have been identified in the Gunnison River and Colorado River basins.

A.2 Explain how and to what extent the proposed water market or water marketing activities will improve water supply reliability in general in the area upon implementation of the strategy.

The proposed water marketing activities will improve water supply reliability in general in the area upon implementation of the strategy by:

- Reducing the likelihood of conflicts over water, particularly between municipal and agricultural interest.
- Increasing resiliency to drought by further developing a secondary water source to meet peak demands during drought conditions.

A.3 Explain the extent to which the water market/activity will be ready to proceed upon completion of the strategy.

The City has identified water supply infrastructure projects in its 10-year capital improvement plan including replacing the Purdy Mesa and Kannah Creek flow lines. The proposed water marketing strategy will complement the long-range capital improvement plan by identifying the most cost-effective approach to meeting water supply reliability and identifying water rights that are not needed to sustain the City's water infrastructure system. Therefore, once the strategy is developed, the City will be in a position to move forward with implementing the strategy.

The specific timeline for implementing the strategy will depend upon market conditions, City policy decisions, and resolution of any legal issues. The City anticipates that legal issues will involve filing diligence for conditional water rights or request a change of status of the conditional water court decree.

As noted in the Technical Proposal, Project Element 2, Task 2.1, the City completed an initial planning study to quantify its existing water rights, consumptive use, diversions, and return flows. This work is summarized in a report entitled Summary of Water Supply System, City of Grand Junction, April 2018. A link to this report is included as **Appendix A**.

Evaluation Criterion B—Level of Stakeholder Support and Involvement (30 points)

B.1 Identify stakeholders in the planning area who have committed to be involved in the planning process.

The following stakeholders have committed to be involved in the planning process for the City of Grand Junction's water marketing strategy:

- ✓ Clifton Water District
- ✓ Ute Water Conservancy District

These entities have committed to engage in the planning process as described in the Letters of Support included in Appendix B. The project is supported by a diverse set of stakeholders across the watersheds including other municipal water utilities, basin roundtables representing both agricultural and municipal water users as well as environmental interests, and state water rights administrators.

B.2 Describe stakeholders in the planning area who have expressed their support for the planning process, whether or not they have committed to participate.

The following stakeholders have expressed their support for the planning process for the City of Grand Junction's water marketing strategy:

- ✓ Colorado Division of Natural Resources Division 4
- ✓ Colorado River District
- ✓ Colorado River Basin Roundtable
- ✓ Gunnison River Basin Roundtable

Letters of Support from these entities are included in Appendix B.

B.3 Is there opposition to the proposed strategy?

No opposition to the proposed strategy has been identified.

B.4 Do any separate planning efforts express support for the proposed water market/transaction? Or, will the proposed water marketing strategy complement other ongoing or recent planning efforts within the area?

The proposed water marketing strategy will complement the Colorado Basin Implementation Plan, the Gunnison Basin Implementation Plan, the Grand Valley Regional Water Conservation Plan, the Grand Valley Drought Response Plan, and the Colorado Water Plan. The Colorado Water Plan and the basin implementation plans identified basin water supply shortfalls and the need for municipalities to provide longer-term projections for water demand. This proposal will focus on providing 50-year demand projections, firm yield analysis, and identification of reliable and redundant water supplies to meet the municipal demands for the City of Grand Junction. This will enable identification of water rights that could potentially be utilize to meet other municipal water demands in the Grand Valley (Ute Water Conservancy District and Clifton Water District) or agricultural shortfalls within the basins. Therefore, this project will build upon the planning efforts that have already been completed at the State and basin levels.

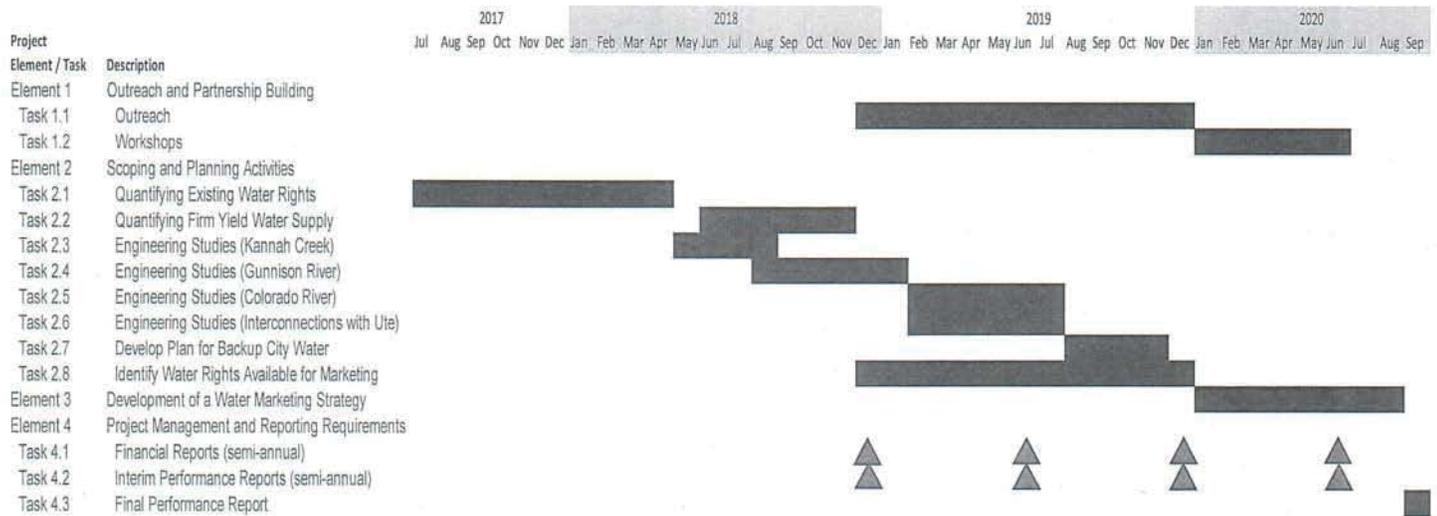
B.5 Describe what efforts that you will undertake to ensure participation by a diverse array of stakeholders in developing the water marketing strategy.

The City has already identified a diverse array of stakeholders that will be involved in the planning process. For specific stakeholders that have not yet been identified or represented, the City will perform outreach in the first few months after an award.

Evaluation Criterion C—Ability to Meet Program Requirements (20 points)

C.1 Describe how the three elements of a water marketing strategy will be addressed within the required timeframe.

The following is a proposed schedule for the water marketing strategy:



C.2 Describe the availability and quality of existing data and models applicable to the proposed water marketing strategy.

The City of Grand Junction recently completed a Water Supply System Summary and is in the process of developing a system model that will determine the City's current firm yield and will be able to evaluate different operational scenarios. In addition, the City is developing a 50-year demand assessment as part of its water rights portfolio evaluation and stewardship processes. The Water Supply System Summary included collection of regional hydrologic data, climate data, and institutional information, such as water rights decrees and other administrative records. In addition, data specific to the City's operations such as diversions, reservoir levels, and historical water use, including use on parks, were compiled. The City's current efforts to develop a system model will include simulation of water rights relevant to the City's water supply and will allow the City to evaluate various operational and future hydrological scenarios, including planning for facility sizing and upgrades, climate change, reservoir operation strategies, ranch irrigation operations, prioritization of sources, and system failure and resiliency analyses. Grand Junction is situated at the confluence of the Gunnison River and Colorado River in western Colorado. Although not developed directly by the City, there have been several environmental studies on stream flows on both rivers in the region associated with federal and state actions, including the Black Canyon of the Gunnison water right and the Aspinall Unit Operations ROD, including streamflow targets on the Gunnison River just upstream of the City near Whitewater. Streamflow targets have also been established on the Colorado River through the Programmatic Biological Opinion for the 15-Mile reach.

C.3 Identify staff with appropriate technical expertise and describe their qualifications.

The City's designated project manager is Mark Ritterbush, Water Services Manager. Mark has a Bachelor's Degree in Human Biology from Chadron State College, a Bachelor's Degree in Medical Technology from the University of Wyoming, and a Class A Water Treatment Operator certificate. Mark joined the City as a Water Quality Specialist in 2002. He was promoted to Water Operations Supervisor in 2008 and has served as Interim Water Services Manager since October 2017 and was promoted to Water Services Manager in May 2018. Mark is responsible for the City's water supply, water treatment operations, and water distribution system. Mark also currently serves as the City's representative on the Gunnison Basin Roundtable.

The City plans to utilize consultants to assist with technical tasks included in this proposal.

#### Evaluation Criterion D—Department of Interior Priorities (10 Points)

The following Department of the Interior priorities are applicable to the City of Grand Junction's proposed project:

##### D.1. Creating a conservation stewardship legacy second only to Teddy Roosevelt

Utilize science to identify best practices to manage land and water resources and adapt to changes in the environment.

The City of Grand Junction will utilize science to identify best practices to manage water resources and adapt to changes in the environment. The City will utilize modeling software to determine firm yield water supplies under drought conditions. This information will be used to determine the water rights needed to provide a reliable and redundant water supply to meet municipal water demands.

##### D.2. Utilizing our natural resources

Ensure American Energy is available to meet our security and economic needs

The City will explore the possibility of utilizing its water rights to increase hydropower capacity in the area.

##### D.3. Restoring trust with local communities

Expand the lines of communication with Governors, state natural resource offices, fish and wildlife offices, water authorities, county commissioners, Tribes, and local communities.

The City's proposed marketing strategy will expand the lines of communications with stakeholders through outreach and partnership building. Stakeholders will include the Colorado Division of Water Resources, the Colorado Basin Roundtable, the Gunnison Basin Roundtable, the Ute Water Conservancy District, the Clifton Water District, and the local agricultural communities.

## **2.0 Environmental and Cultural Resources Compliance**

N/A – The City does not plan to undertake pilot activities or activities involving measurement, monitoring or field work as part of this Project.

## **3.0 Required Permits or Approvals**

N/A – No permits or approvals are anticipated for this Project.

#### 4.0 Project Budget

##### 4.1 Funding Plan and Letters of Commitment

The non-Federal share of Project costs will be provided by the City of Grand Junction. The City will make its contribution to the cost share requirement through a combination of monetary and in-kind contributions. The source of funds is the City's Water Enterprise Fund.

Project funding will not be provided by third party funding sources. Therefore, no letters of commitment are included with this application.

**Table 1—Summary of Non-Federal and Federal Funding Sources**

FUNDING SOURCES	AMOUNT
<b>Non Federal Entities</b>	
1. City of Grand Junction, Water Enterprise Fund	\$189,400
2. City of Grand Junction in-kind contribution*	\$10,640
3.	
<b>Non-Federal Subtotal</b>	
<b>Other Federal Entities</b>	
1.	
2.	
3.	
<b>Other Federal Subtotal</b>	
<b>REQUESTED RECLAMATION FUNDING</b>	<b>\$200,040</b>

**4.2 Table 2—Budget Proposal (Total Project Costs)**

BUDGET ITEM DESCRIPTION	Project Element/Task	COMPUTATION	Quantity		TOTAL COST
		\$/Unit	Quantity		
<b>Salaries and Wages</b>					
Project Manager	Task 4.1 Financial Reports	\$ 43.03	8	hours	\$ 344.24
Utilities director	Task 4.1 Financial Reports	\$ 61.30	8	hours	\$ 490.40
Budget coordinator	Task 4.1 Financial Reports	\$ 36.13	4	hours	\$ 144.52
Project Manager	Task 4.2 Interim Performance Reports	\$ 43.03	48	hours	\$ 2,065.44
Utilities director	Task 4.2 Interim Performance Reports	\$ 61.30	16	hours	\$ 980.80
Administrative Assistant	Task 4.2 Interim Performance Reports	\$ 20.92	6	hours	\$ 125.52
Project Manager	Task 4.3 Final Performance Report	\$ 43.03	60	hours	\$ 2,581.80
Utilities director	Task 4.3 Final Performance Report	\$ 61.30	16	hours	\$ 980.80
Budget coordinator	Task 4.3 Final Performance Report	\$ 36.13	6	hours	\$ 216.78
Administrative Assistant	Task 4.3 Final Performance Report	\$ 20.92	4	hours	\$ 83.68
<b>Fringe Benefits</b>					
Project Manager		32%	\$ 4,991.48		\$ 1,597.27
Utilities Director		34.5%	\$ 2,452.00		\$ 845.94
Budget Coordinator		32%	\$ 361.30		\$ 115.62
Administrative Assistant		32%	\$ 209.20		\$ 66.94
<b>Travel</b>					
Trip 1					
Trip 2					
<b>Equipment</b>					
Item A					
Item B					
Item C					
<b>Supplies and Materials</b>					
Item A					
Item B					
<b>Contractual/Construction</b>					
Spronk Water Engineers, Inc.	Task 2.1 Quantifying Existing Water Rights				\$ 49,400
DiNatale Water Consultants	Task 2.2 Quantifying Firm Yield Water Supply				\$ 50,000
Black & Veatch	Task 2.3 Engineering Studies (Kannah Creek)				\$ 90,000
TBD	Task 2.4 Engineering Studies (Gunnison River)				\$ 50,000
TBD	Task 2.5 Engineering Studies (Colorado River)				\$ 50,000
TBD	Task 2.6 Engineering Studies (Ute)				\$ 25,000
TBD	Task 2.7 Develop Plan for Backup City Water				\$ 25,000
TBD	Task 2.8/2.9 Water Marketing Strategy				\$ 50,000
<b>Other</b>					
Other					
<b>TOTAL DIRECT COSTS</b>					<b>\$ 400,040</b>
<b>Indirect Costs</b>					
Type of rate		percentage	\$base		
<b>TOTAL ESTIMATED PROJECT COSTS</b>					<b>\$ 400,040</b>

### 4.3 Budget Narrative

The City's proposed budget includes the following costs.

#### *Salaries and Wages*

The City's designated project manager will be Mark Ritterbush, Water Services Manager. Other key personnel include Randi Kim, Utilities Director; Amy Brown Administrative Assistant, and Linda Longenecker, Budget Coordinator

Position	Direct Labor Rate (hourly)	Fringe Rate	Estimated Hours
Mark Ritterbush (Project Manager)	\$43.03	32%	116
Randi Kim (Utilities Director)	\$61.30	34.5%	40
Amy Brown (Admin Assistant)	20.92	32%	10
Linda Longenecker (Budget Coordinator)	\$36.13	32%	10

#### *Fringe Benefits*

Fringe rate includes employer-paid taxes and benefits such as Medicare, Social Security, Health Insurance, Life Insurance, Retirement, and Vehicle Allowance. These rates are used for application purposes only.

#### *Travel*

No travel costs are included in this budget.

#### *Equipment*

No equipment will be purchased for this project.

#### *Materials and Supplies*

No materials or supplies will be purchased for this project.

#### *Contractual*

The City of Grand Junction will use consultants to support Tasks 2.1 through 2.9. A budget estimate for each task is included Table 2. The City has already selected

consultants for Tasks 2.1, 2.2 and 2.3 in compliance with the City's Purchasing Policy and Procedure Manual which is designed to obtain fair and reasonable cost proposals through informal solicitations for projects not exceeding \$25,000 or formal competitive proposals for costs of \$25,000 or more. Consultants have not been selected for the remaining tasks and will be subject to approval by the Bureau of Reclamation.

*Other Expenses*

No other expenses are included for this project.

*Indirect Costs*

Indirect costs are not included in the requested budget.

*Total Costs*

Total project costs are estimated at **\$400,040**, including the Federal and non-Federal cost share amounts.

**Appendix A**  
**Mandatory Federal Forms**

- SF-424 Application for Federal Assistance
- SF-424A Budget Information for Non-Construction Programs
- SF-424B Assurances for Non-Construction Programs

## **Appendix B**

### **Letters of support**

Letters from the following interested stakeholders supporting the development the water marketing strategy for the City of Grand Junction are included.

- Clifton Water District
- Ute Water Conservancy District
- Colorado River District
- Colorado Division of Natural Resources
- Colorado River Basin Roundtable
- Gunnison River Basin Roundtable



## CLIFTON WATER DISTRICT

510 34 Road  
Clifton, Colorado 81520  
Office (970) 434-7328  
Fax (970) 434-7338

Treatment Plant  
(970) 434-5571

Laboratory  
(970) 434-7624

June 25, 2018

Randi M. Kim  
Utilities Director  
City of Grand Junction  
333 West Avenue, Building E  
Grand Junction, CO 81501

Subject: Letter of Support – Water Marketing Strategy for the City of Grand Junction  
Bureau of Reclamation Funding Opportunity No. BOR-DO-18-F010

Dear Ms. Kim,

Clifton Water District would like to express our commitment as an interested stakeholder in the development of a water marketing strategy for the City of Grand Junction.

The Clifton Water District has a long-standing collaborative working relationship with the City of Grand Junction that dates back to a 1956 Agreement that provided water to the District from the City of Grand Junction's Purdy Mesa Flow Line. This was the District's first water source. Increased growth in the 1970s required the Clifton Water District to construct a larger water treatment plant using an alternative water source which was the Colorado River. In a 1977 Agreement the City of Grand Junction and the Clifton Water District again collaborated by sharing capacity and construction costs of the new water treatment plant. The 1977 Agreement and subsequent 1981 and 1990 agreements have allowed for various exchanges of both raw water and treated water for municipal use and the operation and maintenance of facilities to implement such exchanges. The 1990 Agreement remains effective and allows for the exchange of water through the Meter Vault that is jointly maintained and operated by the City of Grand Junction and Clifton Water District.

As a result of Clifton Water District's upgrade of its water treatment facilities to incorporate membrane technology using Nanofiltration, Reverse Osmosis and most recently, Microfiltration/Ultrafiltration Membrane treatment technology, the District does not rely upon the City to the extent it previously did for treated water during winter months when the salinity in the Colorado River is at its highest levels. However, the interconnection between our two systems remains critically important to allow for exchanges of water in the event of an emergency or, if needed, to support preventative maintenance activities of both entities.

It is important that we continue to work together to ensure the reliability of future water supplies to serve the residents of the City of Grand Junction and Clifton. This project will build upon our existing mutual aid agreement. Because our water systems are interdependent, the Clifton Water District has a specific interest in planning for the long-term reliability of our respective systems.

*"Earning your confidence every day"*



The Clifton Water District commits to participating in the planning process through the following activities:

- Sharing data and information about firm yields of existing water rights and projected future water demands;
- Evaluating the limitations of the current water supply, Clifton water treatment plant and the interconnection with the City to provide backup water supply to each other;
- Assessing the potential need to enhance existing infrastructure interconnections and water treatment plant capacity to meet future water demand projections;
- Working with the City to evaluate the City's water rights to determine if they could be utilized by Clifton Water District to meet Clifton's future needs.

The work that will be undertaken by this proposed marketing strategy will complement the ongoing water supply planning work that the Clifton Water District is performing. We look forward to partnering with you on this project.

Sincerely,

A handwritten signature in cursive script that reads "Dale Tooker".

Dale Tooker  
Manager, Clifton Water District

P.O. Box 460 (81502)  
2190 H 1/4 Road  
Grand Junction, CO 81505



Office: (970)242-7491  
Fax: (970) 242-9189  
[www.utewater.org](http://www.utewater.org)

June 28, 2018

Randi M. Kim  
Utilities Director  
City of Grand Junction  
333 West Avenue, Building E  
Grand Junction, CO 81501

**Subject:** Letter of Support – Water Marketing Strategy for the City of Grand Junction  
Bureau of Reclamation Funding Opportunity No. BOR-DO-18-F010

Dear Ms. Kim,

Ute Water Conservancy District would like to express our commitment as an interested stakeholder in the development of a water marketing strategy for the City of Grand Junction.

Ute Water Conservancy District has a long-standing collaborative working relationship with the City of Grand Junction. Ute Water Conservancy District's service boundaries encompass approximately 260 square miles within Mesa County, including approximately 75 percent of the City's 39-square mile incorporated area as well as surrounding rural areas of the Grand Valley. It is important that we work together to ensure the reliability of future water supplies to serve all residents of the City of Grand Junction and Mesa County.

This project will build upon our existing mutual aid agreement to provide water in the event of an emergency or, if needed, to support preventative maintenance activities. Because our water systems are interdependent, the Ute Water Conservancy District has a specific interest in planning for the long-term reliability of our respective systems.

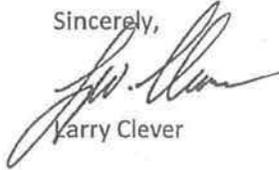
The Ute Water Conservancy District commits to participating in the planning process through the following activities:

- Sharing data and information about firm yields of existing water rights and projected future water demands;
- Reviewing the existing interconnections between our respective water supply and distribution systems to assess the capacity of each entity to provide backup water supply to the other;
- Assessing the potential need to enhance existing infrastructure interconnections to meet future water demand projections; and
- Working with the City to evaluate the City's water rights to determine how they could be best utilized to meet the needs of the Grand Valley region.



The work that will be undertaken by this proposed marketing strategy will complement the ongoing water supply planning work that the Ute Water Conservancy District is performing. We look forward to working with you on this project.

Sincerely,

A handwritten signature in black ink, appearing to read "Larry Clever". The signature is fluid and cursive, with a large initial "L" and "C".

Larry Clever

General Manager



June 27, 2018

Randi M. Kim  
Utilities Director  
City of Grand Junction  
333 West Avenue, Building E  
Grand Junction, CO 81501

**RE: Letter of Support – Water Marketing Strategy for the City of Grand Junction  
Bureau of Reclamation Funding Opportunity No. BOR-DO-18-F010**

Dear Ms. Kim,

Please accept our letter of support for the City of Grand Junction's WaterSMART Grant request for the development of a water marketing strategy for the City's portfolio of perfected and conditional water rights in the Kannah Creek, Gunnison and Colorado River Basins.

As a regional water planning and policy agency responsible for the protection, conservation, use, and development of the water resources of the Colorado River basin, the Colorado River District supports actions that address long term water supply and demand sustainability.

In short, we believe that the proposed Water Marketing Strategy development would do this by providing regional benefits to both the City and other related stakeholders in the source watersheds in a number of important ways:

- 1.) There is a projected shortage of 116,000 AFY in the Gunnison River Basin by the year 2050, identified by the Colorado Water Plan. The proposed water marketing strategy will help develop data and information to inform drought management actions that provide resiliency for water users competing for the limited water resources available. For example, this study would facilitate making water available to Grand Valley municipalities and while providing certainty to agricultural water users in the Kannah Creek and Lower Gunnison basin through temporary, compensated leases, or other mechanisms, therefore helping to alleviate the likelihood of conflicts arising over water in this area.
- 2.) The Study will develop sharable data and information to better define both projected future water demands and firm yields from source watersheds on the Grand Mesa thereby better defining localized supply/demand gaps.
- 3.) The developed Water Marketing Strategy will re-examine and prioritize the activities needed to modernize local water resource infrastructure. This is an important component of the Gunnison Basin Implementation Plan of the Colorado Water Plan
- 4.) Lastly, this project will explore new water sources and alternate water treatment technologies that may expand the yields of existing and conditional water rights, potentially broadening the applicability of supplies to be available for other uses.

With the support of the requested WaterSmart funding, these important planning and engineering studies will be conducted to better define future peak municipal water system supply/needs, evaluate options to meet peak water demands brought about by extreme drought and/or emergency conditions and identify the infrastructure needed to improve the reliability of the system. The City will then be able to more optimally utilize its water right portfolio to support other, complementary uses.

201 Centennial Street / PO Box 1120 • Glenwood Springs, CO 81602  
(970) 945-8522 • (970) 945-8799 Fax  
[www.ColoradoRiverDistrict.org](http://www.ColoradoRiverDistrict.org)

For these many reasons, the Colorado River District urges the US Bureau of Reclamation to support the City of Grand Junction's WaterSmart application for financial assistance to help develop a Water Marketing Strategy.

Sincerely,

David  
Kanzer

Digitally signed by David Kanzer  
DN: cn=David Kanzer, o=CRWCD,  
ou, email=dkanzer@crwcd.org,  
c=US  
Date: 2018.07.03 17:46:53 -06'00'

Dave "DK" Kanzer  
Deputy Chief Engineer



## COLORADO

Division of Water Resources  
Department of Natural Resources

Water Division 4 Main Office

June 12, 2018

Bureau of Reclamation  
Financial Assistance Support Section  
Attn: Ms. Julie J. Hendricks  
P.O. Box 25007, MS 84-27814  
Denver, CO 80225

Bureau of Reclamation  
Water Resources and Planning  
Attn: Ms. Avra Morgan  
Mail Code: 84-51000  
P.O. Box 25007  
Denver, CO 80225

RE: WaterSMART Water Marketing Strategy Grants for FY 2018 FOA No. BOR-DO-18-F010

Dear Reviewing Agent,

The Division 4 Office of the Colorado Division of Water Resources is pleased to provide a letter of support for the the City of Grand Junction in seeking financial assistance for their project through your program. As the administrative agent overseeing the diversion of water in the Gunnison River, our support is based on our understanding that the project meets the criteria of the program by increasing the reliability of water supply in the basin in a variety of ways. The City of Grand Junction owns a portfolio of water rights on or tributary to the Colorado River and the Gunnison River. We believe it is in the vital interest of the City as well as the surrounding unincorporated areas of adjacent Mesa County to complete a long term water resources planning project which assesses the firm yield of their existing water rights under a variety of climate scenarios, and determines which water rights are best suited to meet existing demands as well as how existing water rights can be utilized to achieve and meet multiple competing and/or complimentary uses. Such an activity strategy will enhance the City's resiliency to drought conditions, increase benefits for multiple stakeholders such as fish and recreation, and improve water quality conditions for the river systems as a whole.

Our support is further bolstered by our understanding that the project is consistent with Section 37-75-102, Colorado Revised Statutes (CRS) and will not attempt to repeal or, in any manner, amend the existing water rights adjudication system. Nor will the project conflict with the operation of, or cause injury to, any decreed water right or permitted well. Additionally, it is our understanding that this project would not impair our ability to comply with the Colorado River Compact, the Upper Colorado River Basin Compact, or Section 37-80-104, CRS regarding my duties to ensure compliance with interstate compacts. Please contact me if you have any questions.

Sincerely,

Bob Hurford, P.E.  
Division Engineer



**THE COLORADO BASIN ROUNDTABLE**  
**C/O P.O. BOX 1120**  
**GLENWOOD SPRINGS, COLORADO 81602**

July 2, 2018

Randi M. Kim  
Utilities Director  
City of Grand Junction  
333 West Avenue, Building E  
Grand Junction, CO 81501

Subject: Letter of Support – Water Marketing Strategy for the City of Grand Junction  
Bureau of Reclamation Funding Opportunity No. BOR-DO-18-F010

Dear Ms. Kim,

The Colorado Basin Roundtable, formed under the 2005 “Colorado Water for the 21<sup>st</sup> Century Act” in the Colorado General Assembly, supports the City of Grand Junction in seeking a WaterSMART Grant for the development of a water-marketing strategy for its portfolio of water rights in the Kannah Creek Basin as well as conditional water rights it holds in the Colorado and Gunnison Rivers.

As part of Colorado’s Water Plan of 2015, the Colorado Basin Roundtable submitted its own Basin Implementation Plan. Two of six key findings are to “Secure and Protect Safe Drinking Water for Today and Tomorrow” and to “Sustain, Protect and Promote Agriculture.”

(<https://www.colorado.gov/pacific/sites/default/files/CBIP-April-17-2015.pdf>)

The Colorado Basin Roundtable sees the WaterSMART grant and its scope of work as direct actions to support these two findings. The work will not only benefit Grand Junction but other stakeholders in our watershed by:

- Sharing data and information about firm yields of existing City water rights, firm yields of what can be expected from watersheds on the Grand Mesa, and also projected future water demands;
- Prioritizing the modernization of infrastructure, which serves as a component of the Implementation Phase of the Colorado Water Plan and our Basin Implementation Plan;
- Exploring alternate water treatment technologies and water sources that may facilitate existing water rights to be available for other uses;
- There is a projected shortage of 116,000 AFY in the Gunnison River Basin by the year 2050. The resulting water marketing strategy will help ensure drought resiliency for municipalities in the Grand Valley as well as facilitate making water available to agriculture in the Kannah Creek and Lower Gunnison basin through temporary leases or other mechanisms, therefore helping to alleviate the likelihood of conflicts arising over water in this area.

Sincerely yours,



Jim Pokrandt  
Chair, Colorado Basin Roundtable



July 5, 2018

Randi M. Kim  
Utilities Director  
City of Grand Junction  
333 West Avenue, Building E  
Grand Junction, CO 81501

Subject: Letter of Support – Water Marketing Strategy for the City of Grand Junction  
Bureau of Reclamation Funding Opportunity No. BOR-DO-18-F010

Dear Ms. Kim,

The Gunnison River Basin Roundtable would like to provide a letter of support for the City of Grand Junction in seeking a WaterSMART Grant for the development of a water marketing strategy for its portfolio of water rights in the Kannah Creek Basin as well as conditional water rights on the Colorado and Gunnison Rivers.

We feel that this endeavor will not only benefit the City of Grand Junction, but also other stakeholders in our watersheds in the following ways:

- Sharing data and information about firm yields of existing City water rights, firm yields of what can be expected from watersheds on the Grand Mesa, and also projected future water demands.
- Prioritizing the modernization of infrastructure, which serves as a component of the Implementation Phase of the Colorado Water Plan
- Exploring alternate water treatment technologies and water sources that may facilitate existing water rights to be available for other uses.
- There is a projected shortage of 116,000 AFY in the Gunnison River Basin by the year 2050. The resulting water marketing strategy will help ensure drought resiliency for municipalities in the Grand Valley as well as facilitate making water available to agriculture in the Kannah Creek and Lower Gunnison basin through temporary leases or other mechanisms, therefore helping to alleviate the likelihood of conflicts arising over water in this area.

Sincerely,

Kathleen Curry,

Chair, Gunnison Basin Roundtable

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## **Appendix C**

### **Official Resolution**

An Official Resolution has been prepared by the City of Grand Junction and will be included on the agenda for the City Council meeting on July 18, 2018. The approved resolution will be submitted no later than August 16, 2018.

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**Appendix D**  
**Existing Analysis Contributing to the Water Marketing Strategy**

Included for reference is a report prepared for the City of Grand Junction entitled "Summary of Water Supply System, City of Grand Junction" prepared by Spronk Water Engineers, Inc. dated April 2018.