Water Supply Reserve Account – Grant and Loan Program
Water Activity Summary Sheet
May 21-22, 2014
Agenda Item 23h

Applicant: Red Mesa Reservoir and Ditch Company

Water **Activity Name:** Red Mesa Feasibility Study

Water Activity Purpose: Agriculture/Study

County: La Plata

Drainage Basin: Southwest

Water Source: Hay Gulch and La Plata River

Amount Requested: $30,000

Source of Funds: Rio Grande Basin Account

Matching Funds: $40,000 total cash match by applicant and third parties: 57% of total study costs of $70,000 (refer to *Funding Overview/Match Summary* below).

Staff Recommendation
Staff recommends approval of up to $30,000 from the Southwest Basin Account to assist in the funding of the study titled: .

Water Activity Summary: The Colorado State Engineer (SEO) has identified the spillway at Red Mesa Dam as seriously deficient in flood routing capacity and has directed the owners to bring the spillway into compliance with dam safety requirements for a high hazard dam, or face significant storage restrictions or a possible breach order. In 2012, a time frame of approximately three years was established to achieve compliance. The proposed Feasibility Study, which will conform to CWCB water project loan requirements, is the final preliminary step to acquiring funding to design and construct improvements to the dam and reservoir to comply with the SEO requirements. This Feasibility Study, anticipated to be performed by URS Corporation, will incorporate the results of two previously Southwest Basin Account WSRA funded studies ($29,000 in 2009 for an *Incremental Damage Analysis and Emergency Action Plan*; and $19,400 in 2012 for a *Spillway Alternatives Analysis*). This study will also further consider the viability of enlargement scenarios (250 and 550 acre-feet) versus the baseline cost of maintaining existing storage. The Spillway Alternatives Analysis identified that a dam breach scenario presents significant costs, on the order of $1.2 million, and results in the total loss of storage, which is the primary asset of the company.

Discussion:
No additional discussion is required.

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

Funding Overview/Matching Funds

	Cash	In-kind	Total
WSRA Southwest Basin Account	$30,000	n/a	$30,000
Red Mesa Reservoir and Ditch Company	$10,000	$0	$10,000
Southwestern Water Conservation District	$30,000	$0	$30,000
Totals	**$70,000**	**$0**	**$70,000**

Staff Recommendation:
Staff recommends approval of up to $30,000 from the Southwest Basin Account to assist in the funding of the study: Red Mesa Feasibility Study.

All products, data and information developed as a result of this grant must be provided to the CWCB in hard copy and electronic format as part of the project documentation. This information will in turn be made widely available to Basin Roundtables and the general public and will help promote the development of a common technical platform. In accordance with the revised WSRA Criteria and Guidelines, staff would like to highlight additional reporting and final deliverable requirements. The specific requirements are provided below.

Reporting and Final Deliverable: 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 scope of work including a description of any major issues that have occurred and any corrective action taken to address these issues. 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.

Engineering: All engineering work (as defined in the Engineers Practice Act (§12-25-102(10) C.R.S.)) performed under this grant shall be performed by or under the responsible charge of professional engineer licensed by the State of Colorado to practice Engineering.

SOUTHWEST BASINS ROUNDTABLE
Michael Preston, Chair
c/o Dolores Water Conservancy District
P.O. Box 1150
Cortez, Colorado 81321
970-565-7562

March 17, 2014

Mr. Craig Godbout
Water Supply Management Section
Colorado Water Conservation Board
1580 Logan Street, Suite 600
Denver, Colorado 80203

SUBJECT: Red Mesa Feasibility Study - $30,000 from Basin Account

Dear Mr. Godbout:

The Southwest Basin Roundtable is pleased to recommend funding of $30,000 from the Southwest Basin Account for the Red Mesa Feasibility Study. The application was considered in detail and approved at the March 12, 2014 meeting of the Southwest Basin Roundtable. There was a quorum of Roundtable members present.

The proposed project is a Southwest Basin Roundtable IPP. With previous WSRA assistance, the Red Mesa Reservoir and Ditch Company completed an Incremental Damage Analysis, Emergency Action Plan and Spillway Alternatives Analysis. The requested funding will provide funding for the feasibility study needed to apply for a CWCB loan to make the necessary improvements.

The completed Grant Application will be forwarded directly to you by the applicant. Please contact the applicant directly or me at 970-565-7562, mpreston@frontier.net, if you have questions or wish to discuss this application in more detail.

Sincerely,

Michael Preston
Southwest Basin Roundtable Chair

COLORADO
DEPARTMENT OF NATURAL RESOURCES

COLORADO WATER CONSERVATION BOARD

WATER SUPPLY RESERVE ACCOUNT APPLICATION FORM

Today's Date: 3/18/14

Red Mesa Feasibility Study

Name of Water Activity/Project

Red Mesa Reservoir & Ditch Company

Name of Applicant

Southwest Basin

Approving Basin Roundtable(s)
(If multiple basins specify amounts in parentheses.)

Amount from Statewide Account:

Amount from Basin Account(s): $30,000

Total WSRA Funds Requested: $30,000

FEIN 84-04094513

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Required Exhibits

A. Statement of Work, Budget, and Schedule
B. Project Map
C. Red Mesa Articles of Incorporation
D. Irrigated Lands Map

Appendices – Reference Material

1. Program Information
2. Insurance Requirements
3. WSRA Standard Contract Information (Required for Projects Over $100,000)
4. W-9 Form (Required for All Projects Prior to Contracting)

Instructions

To receive funding from the Water Supply Reserve Account (WSRA), a proposed water activity must be approved by the local Basin Roundtable **AND** the Colorado Water Conservation Board (CWCB). The process for Basin Roundtable consideration and approval is outlined in materials in Appendix 1.

Once approved by the local Basin Roundtable, the applicant should submit this application **with a detailed statement of work including budget and schedule as Exhibit A** to CWCB staff by the application deadline.

WSRA applications are due with the roundtable letter of support 60 calendar days prior to the bi-monthly Board meeting at which it will be considered. Board meetings are held in January, March, May, July, September, and November. Meeting details, including scheduled dates, agendas, etc. are posted on the CWCB website at: http://cwcb.state.co.us Applications to the WSRA Basin Account are considered at every board meeting, while applications to the WSRA Statewide Account are only considered at the March and September board meetings.

When completing this application, the applicant should refer to the WSRA Criteria and Guidelines available at: http://cwcb.state.co.us/LoansGrants/water-supply-reserve-account-grants/Documents/WSRACriteriaGuidelines.pdf

The application, statement of work, budget, and schedule **must be submitted in electronic format** (Microsoft Word or text-enabled PDF are preferred) and can be emailed or mailed on a disk to:

Craig Godbout - WSRA Application
Colorado Water Conservation Board
1580 Logan Street, Suite 200
Denver, CO 80203
Craig.godbout@state.co.us

If you have questions or need additional assistance, please contact Craig Godbout at: 303-866-3441 x3210 or craig.godbout@state.co.us.

Water Supply Reserve Account – Application Form
Revised October 2013

Part I. - Description of the Applicant (Project Sponsor or Owner);

1. Applicant Name(s): Red Mesa Reservoir & Ditch Company

Mailing address: 7882 County Road 100
Hesperus, CO 81326

FEIN #: 84-04094513

Primary Contact: Trent Taylor Position/Title: Director

Email: trentjtaylor02@gmail.com

Phone Numbers: Cell: 970-769-0950 Office: 970-588-3495

Alternate Contact: Jim Greer Position/Title: President

Email: drysiderancher@yahoo.com

Phone Numbers: Cell: 970-749-6393 Office: 970-588-2220

2. Eligible entities for WSRA funds include the following. What type of entity is the Applicant?

[ ] Public (Government) – municipalities, enterprises, counties, and State of Colorado agencies. Federal agencies are encouraged to work with local entities and the local entity should be the grant recipient. Federal agencies are eligible, but only if they can make a compelling case for why a local partner cannot be the grant recipient.

[ ] Public (Districts) – authorities, Title 32/special districts, (conservancy, conservation, and irrigation districts), and water activity enterprises.

[x] Private Incorporated – mutual ditch companies, homeowners associations, corporations.

[ ] Private individuals, partnerships, and sole proprietors are eligible for funding from the Basin Accounts but not for funding from the Statewide Account.

[ ] Non-governmental organizations – broadly defined as any organization that is not part of the government.

3. Provide a brief description of your organization

The Red Mesa Reservoir & Ditch Company is a not-for-profit corporation established in 1923 under Colorado law, for the purposes of (1) appropriating or otherwise acquiring waters from the La Plata River and other nearby sources for storage in reservoirs and for distribution and use for domestic and irrigation purposes by shareholders; (2) acquiring ownership of facilities necessary to store and convey water and the land on which those facilities are located; (3) constructing, operating, and maintaining said facilities; and (4) levying and collecting assessments for the repair, operation, maintenance and superintendence of facilities.

The Articles of Incorporation filed with the Secretary of State in 1923 provide for five directors of the company, who are empowered to make by-laws which are proper and necessary for the management, conduct and control of company business. However, by-laws were never developed or filed by the company. The Articles of Incorporation are attached as Exhibit C.

The company owns the Red Mesa Reservoir, the dam for which was originally constructed in 1908 and reconstructed in about 1932, following its failure during a flood in 1929, and subsequently enlarged in 1946 to its current decreed storage capacity of 1172 acre-feet; a diversion structure on the La Plata River; and the inlet ditch to the reservoir. The reservoir is situated on Hay Gulch, a tributary to the La Plata River, and is currently the only significant water storage facility located within the La Plata River drainage. It is used to provide supplemental irrigation water to about 1140 acres of land within the Red Mesa system, with approximately fifty shareholders utilizing this water.

One share of stock in the company amounts to approximately one acre-foot of storage in the reservoir; thus, the 1137 shares of stock are spread among the fifty shareholders. The current shareholder assessment is $20 per share, of which approximately 20 % is designated for ongoing maintenance and repairs and 80% for operational expenses, including corrective action studies, and to build the cash reserves of the company in preparation for actual construction work. The current assessment represents an increase of approximately 125% since 2008.

4. If the Contracting Entity is different then the Applicant (Project Sponsor or Owner) please describe the Contracting Entity here.

Not Applicable

5. Successful applicants will have to execute a contract with the CWCB prior to beginning work on the portion of the project funded by the WSRA grant. In order to expedite the contracting process the CWCB has established a standard contract with provisions the applicant must adhere to. A link to this standard contract is included in Appendix 3. Please review this contract and check the appropriate box.

[X] The Applicant will be able to contract with the CWCB using the Standard Contract

[ ] The Applicant has reviewed the standard contract and has some questions/issues/concerns. Please

be aware that any deviation from the standard contract could result in a significant delay between grant approval and the funds being available.

6. The Tax Payer Bill of Rights (TABOR) may limit the amount of grant money an entity can receive. Please describe any relevant TABOR issues that may affect the applicant.

   As a private corporation, the Red Mesa Reservoir and Ditch Company is not subject to the provisions of TABOR, nor are TABOR issues relevant to this activity.

Part II. - Description of the Water Activity/Project

1. What is the primary purpose of this grant application? (Please check only one)

	Nonconsumptive (Environmental or Recreational)
X	Agricultural
	Municipal/Industrial
	Needs Assessment
	Education
	Other Explain:

2. If you feel this project addresses multiple purposes please explain.

3. Is this project primarily a study or implementation of a water activity/project? (Please check only one)

X	Study		Implementation

4. To catalog measurable results achieved with WSRA funds can you provide any of the following numbers?

	New Storage Created (acre-feet)
	New Annual Water Supplies Developed, Consumptive or Nonconsumptive (acre-feet)
1172	Existing Storage Preserved or Enhanced (acre-feet)
	Length of Stream Restored or Protected (linear feet)
	Length of Pipe/Canal Built or Improved (linear feet)
	Efficiency Savings (acre-feet/year OR dollars/year – **circle one**)
	Area of Restored or Preserved Habitat (acres)
	Other -- Explain:

4. To help us map WSRA projects please include a map (Exhibit B) and provide the general coordinates below:

Latitude: 37 deg 10′ N Longitude: 108 deg 8.5′ W

5. Please provide an overview/summary of the proposed water activity (no more than one page). Include a description of the overall water activity and specifically what the WSRA funding will be used for. A full **Statement of Work** with a detailed budget and schedule is required as **Exhibit A** of this application.

The Colorado State Engineer (SEO) has identified the spillway at Red Mesa Dam as seriously deficient in flood routing capacity and has directed the owners to bring the spillway into compliance with the dam safety requirements for a high hazard dam, or face significant storage restrictions or a possible breach order. In 2012, a time frame of approximately three years was established to achieve compliance. The proposed Feasibility Study, which will conform to CWCB construction loan requirements, is the final step preliminary to acquiring funding to design and construct actual improvements to the dam and reservoir to comply with the SEO requirements.

Two previous studies to address the hydrologic inadequacy of the current spillway have been performed in recent years utilizing WSRA SW Basin Grant funds. In 2009, Red Mesa received a basin grant for an Incremental Damage Analysis (IDA) and Emergency Action Plan (EAP), in the amount of $29,000. Red Mesa provided matching funds of $3000. While the IDA did not result in the hoped-for result of a decreased inflow design flood requirement, the study did include a new hydrologic analysis using the SEO's Extreme Precipitation Analysis Tool (EPAT) which was accepted for use by the SEO. The inflow design flood peak obtained via EPAT, while still large, is significantly smaller than that obtained by previous analyses and will serve as the basis for spillway design.

In 2012, Red Mesa received a basin grant of $19,400 for a Spillway Alternatives Analysis project which was designed to identify the cost-effectiveness of various potential alternatives for spillway enlargement. That study, completed in 2013, determined the relative cost levels of the alternatives, and indicated that an enlarged earth-cut spillway on the left abutment, combined with increasing the dam crest elevation with the materials excavated from the spillway cut, is the most cost-effective approach to achieving compliance. The study also illustrated that two potential reservoir enlargements considered, of approximately 250 and 550 acre-feet, may also be cost-effective.

At this time, Red Mesa needs to move forward with the procurement of funds to perform actual design and construction of the required improvements. The Feasibility Study proposed by this application is intended to address the requirements of the Colorado Water Conservation Board with respect to obtaining a construction loan to perform the work, and will incorporate the results of the previous studies described above. The study, which will be performed under contract by URS Corporation, will address all of the required elements of the CWCB water project loan program and will further consider the viability of the enlargement scenarios versus the baseline cost of maintaining existing storage. This step is necessary to obtain the funds to complete the work, in order to prevent the imminent loss of reservoir storage due to regulatory action, either a reservoir restriction or a dam breach order. The Spillway Alternatives Analysis project identified that a dam breach scenario of itself presents significant costs, on the order of $1.2 million, and results in the total loss of storage, which is the primary asset of the company. This scenario is unacceptable to Red Mesa.

Part III. – Threshold and Evaluation Criteria

1. Describe how the water activity meets these **Threshold Criteria.** (Detailed in Part 3 of the Water Supply Reserve Account Criteria and Guidelines.)

   a) The water activity is consistent with Section 37-75-102 Colorado Revised Statutes.[1]

   The proposed activity is completely consistent with CRS 37-75-102. It in no way affects or impacts existing water rights in the area, other than to help ensure that the existing storage rights within the reservoir are maintained for the use of the applicant and the water is used for its decreed purposes.

   No new water diversions or uses are included within the scope of this project, which is merely a study of feasible alternatives for the purposes of obtaining financing for a preferred alternative. However, two potential courses of action which will be considered contain elements of reservoir enlargement, either of which would, if selected, result in additional storage capacity within the reservoir. The applicant currently holds conditional storage rights for Red Mesa Reservoir which would allow the storage of the additional waters within the enlarged reservoir. Either enlargement scenario would utilize only a small portion of the applicant's conditional storage right of 2898 acre-feet. All waters stored within Red Mesa Reservoir are subject to administration under the La Plata River Compact between Colorado and New Mexico, and additional waters stored within the enlarged reservoir would be no different. Compact issues are involved only to the extent that maintaining or enhancing reservoir storage helps ensure Colorado's use of the water to which it is entitled under the La Plata River Compact.

   b) The water activity underwent an evaluation and approval process and was approved by the Basin Roundtable (BRT) and the application includes a description of the results of the BRTs evaluation and approval of the activity. At a minimum, the description must include the level of agreement reached by the roundtable, including any minority opinion(s) if there was not general agreement for the activity. The description must also include reasons why general agreement was not reached (if it was not), including who opposed the activity and why they opposed it. Note- If this information is included in the letter from the roundtable chair simply reference that letter.

[1] 37-75-102. Water rights - protections. (1) It is the policy of the General Assembly that the current system of allocating water within Colorado shall not be superseded, abrogated, or otherwise impaired by this article. Nothing in this article shall be interpreted to repeal or in any manner amend the existing water rights adjudication system. The General Assembly affirms the state constitution's recognition of water rights as a private usufructuary property right, and this article is not intended to restrict the ability of the holder of a water right to use or to dispose of that water right in any manner permitted under Colorado law. (2) The General Assembly affirms the protections for contractual and property rights recognized by the contract and takings protections under the state constitution and related statutes. This article shall not be implemented in any way that would diminish, impair, or cause injury to any property or contractual right created by intergovernmental agreements, contracts, stipulations among parties to water cases, terms and conditions in water decrees, or any other similar document related to the allocation or use of water. This article shall not be construed to supersede, abrogate, or cause injury to vested water rights or decreed conditional water rights. The General Assembly affirms that this article does not impair, limit, or otherwise affect the rights of persons or entities to enter into agreements, contracts, or memoranda of understanding with other persons or entities relating to the appropriation, movement, or use of water under other provisions of law.

The proposed activity was presented for the consideration of the Southwest Basin Roundtable at its bi-monthly meeting in Cortez on March 12, 2014. The roundtable voted, without dissention, to approve the proposed project for WSRA basin grant funding in the amount requested. Please refer to the approval letter from the roundtable chair, dated March 17, 2014.

c) The water activity meets the provisions of Section 37-75-104(2), Colorado Revised Statutes.[2] The Basin Roundtable Chairs shall include in their approval letters for particular WSRA grant applications a description of how the water activity will assist in meeting the water supply needs identified in the basin roundtable's consumptive and/or non-consumptive needs assessments.

The proposed activity meets the provisions of CRS 37-75-104(2). The need for continued / improved water supply / storage within the La Plata River drainage, commonly referred to locally as "the dry side", was identified by the SW Basin Water Supply and Needs Report prepared under the auspices of the Statewide Water Supply Initiative (SWSI). This conclusion was reinforced by the SWSI 2010 Report, where Water District 33 (the La Plata River Basin) was identified as having a clear and significant deficiency of agricultural water supply, often amounting to more than half of the annual irrigation water requirement for that basin. The La Plata basin is, in fact, identified by SWSI 2010 as one of the most seriously water-deficient basins in the state.

The Animas - La Plata Project, as originally conceived and developed by the U. S. Department of Interior, Bureau of Reclamation, would have resolved much of the water supply problem on the La Plata River drainage; however, the irrigation water supply component for the La Plata side was ultimately removed from the project as a condition of gaining approval. Thus, irrigation water supply and storage needs on the La Plata drainage were never addressed by that project, and irrigation water remains in short supply, frequently affected by flow delivery requirements of the La Plata River Compact with New Mexico.

The feasibility study proposed by this application will assist Red Mesa in obtaining funding for required improvements which will ensure the continued existence of the decreed storage within the reservoir, thereby maintaining the existing water supply within the La Plata River drainage, without requiring the need for developing new water sources. A favorable outcome regarding the economics of reservoir enlargement as a component of spillway improvement activities could be expected to ultimately help relieve some of the water supply shortages which currently exist in the La Plata River drainage.

d) Matching Requirement: For requests from the **Statewide Fund**, the applicant will be required to demonstrate a 25 percent (or greater) match of the total grant request from other sources, including but not limited to Basin Funds. A minimum match of 5% of the total grant amount shall be from Basin

[2] 37-75-104 (2)(c). Using data and information from the Statewide Water Supply Initiative and other appropriate sources and in cooperation with the on-going Statewide Water Supply Initiative, develop a basin-wide consumptive and nonconsumptive water supply needs assessment, conduct an analysis of available unappropriated waters within the basin, and propose projects or methods, both structural and nonstructural, for meeting those needs and utilizing those unappropriated waters where appropriate. Basin Roundtables shall actively seek the input and advice of affected local governments, water providers, and other interested stakeholders and persons in establishing its needs assessment, and shall propose projects or methods for meeting those needs. Recommendations from this assessment shall be forwarded to the Interbasin Compact Committee and other basin roundtables for analysis and consideration after the General Assembly has approved the Interbasin Compact Charter.

funds. A minimum match of 5% of the total grant amount must come from the applicant or 3rd party sources. Sources of matching funds include but are not limited to Basin Funds, in-kind services, funding from other sources, and/or direct cash match. Past expenditures directly related to the project may be considered as matching funds if the expenditures occurred within 9 months of the date the application was submitted to the CWCB. Please describe the source(s) of matching funds. (NOTE: These matching funds should also be reflected in your Detailed Budget in **Exhibit A** of this application)

Red Mesa is not requesting grant funds from the Statewide Fund, so the described matching requirement is not applicable. However, Red Mesa is proposing to provide $10,000 of company funds, which represents approximately 14% of the total project cost of $70,000, to complete the project.

Additional grant funding for the proposed project, in the amount of $30,000, was requested from the Southwestern Water Conservation District at their board meeting on February 12, 2014. The SWCD board voted to approve the grant funding in the amount requested.

Altogether, matching funds provided by Red Mesa and sources other than the SW Basin Roundtable amount to $40,000, or approximately 57% of the total project cost. The remaining 43% is requested from the basin account of the SW Basins Roundtable.

2. For Applications that include a request for funds from the **Statewide Account**, describe how the water activity/project meets all applicable **Evaluation Criteria.** (Detailed in Part 3 of the Water Supply Reserve Account Criteria and Guidelines and repeated below.) Projects will be assessed on how well they meet the Evaluation Criteria. **Please attach additional pages as necessary.**

Evaluation Criteria – the following criteria will be utilized to further evaluate the merits of the water activity proposed for funding from the Statewide Account. In evaluation of proposed water activities, preference will be given to projects that meet one or more criteria from each of the three "tiers" or categories. Each "tier" is grouped in level of importance. For instance, projects that meet Tier 1 criteria will outweigh projects that only meet Tier 3 criteria. WSRA grant requests for projects that may qualify for loans through the CWCB loan program will receive preference in the Statewide Evaluation Criteria if the grant request is part of a CWCB loan/WSRA grant package. For these CWCB loan/WSRA grant packages, the applicant must have a CWCB loan/WSRA grant ratio of 1:1 or higher. Preference will be given to those with a higher loan/grant ratio.

Tier 1: Promoting Collaboration/Cooperation and Meeting Water Management Goals and Identified Water Needs

a. The water activity addresses multiple needs or issues, including consumptive and/or non-consumptive needs, or the needs and issues of multiple interests or multiple basins. This can be demonstrated by obtaining letters of support from other basin roundtables (in addition to an approval letter from the sponsoring basin).
b. The number and types of entities represented in the application and the degree to which the activity will promote cooperation and collaboration among traditional consumptive water interests and/or non-consumptive interests, and if applicable, the degree to which the water activity is effective in addressing intrabasin or interbasin needs or issues.
c. The water activity helps implement projects and processes identified as helping meet Colorado's future water needs, and/or addresses the gap areas between available water supply and future need as identified in SWSI or a roundtable's basin-wide water needs assessment.

Tier 2: Facilitating Water Activity Implementation

d. Funding from this Account will reduce the uncertainty that the water activity will be implemented. For this criterion the applicant should discuss how receiving funding from the Account will make a significant difference in the implementation of the water activity (i.e., how will receiving funding enable the water activity to move forward or the inability obtaining funding elsewhere).
e. The amount of matching funds provided by the applicant via direct contributions, demonstrable in-kind contributions, and/or other sources demonstrates a significant & appropriate commitment to the project.

Tier 3: The Water Activity Addresses Other Issues of Statewide Value and Maximizes Benefits

f. The water activity helps sustain agriculture & open space, or meets environmental or recreational needs.
g. The water activity assists in the administration of compact-entitled waters or addresses problems related to compact entitled waters and compact compliance and the degree to which the activity promotes maximum utilization of state waters.
h. The water activity assists in the recovery of threatened and endangered wildlife species or Colorado State species of concern.
i. The water activity provides a high level of benefit to Colorado in relationship to the amount of funds requested.
j. The water activity is complimentary to or assists in the implementation of other CWCB programs.

Explanation of how the water activity/project meets all applicable **Evaluation Criteria**.
Please attach additional pages as necessary.

Not applicable – applicant is not requesting funding for this activity from the Statewide Fund.

Part IV. – Required Supporting Material

1. **Water Rights, Availability, and Sustainability** – This information is needed to assess the viability of the water project or activity. Please provide a description of the water supply source to be utilized, or the water body to be affected by, the water activity. This should include a description of applicable water rights, and water rights issues, and the name/location of water bodies affected by the water activity.

The Red Mesa Reservoir & Ditch Company holds the following water rights associated with Red Mesa Reservoir:

- 1176 acre-feet of absolute storage right for Red Mesa Reservoir
- 2898 acre-feet of conditional storage right for Red Mesa Reservoir
- 120 cfs absolute diversion right from the La Plata River for reservoir storage

All of the rights were adjudicated in 1912, and have an appropriation date of 1905. The water rights are decreed for irrigation, domestic, municipal, industrial, recreation, fish & wildlife, flood control and other beneficial purposes.

The reservoir is filled via diversions from the La Plata River into the Company's Supply Ditch, and by natural flows within Hay Gulch above the reservoir, both of which are allowed by the storage decree. The service area is downstream of Red Mesa Reservoir, which is located near the mouth of Hay Gulch, and generally surrounds the small, unincorporated town of Red Mesa in southwest La Plata County. Water from the reservoir is distributed to shareholders via three ditches: the Joseph Freed Ditch, the Warren Vossburg Ditch and the Greer Revival Ditch, all of which serve irrigated lands to the south and east of the La Plata River. See Exhibit D for a map of the irrigated lands served by Red Mesa Reservoir and the three ditches.

Waters diverted to and stored within Red Mesa Reservoir are subject to administration under the La Plata River Compact with New Mexico. The Compact provides that (1) between December 1 and February 15, both states have unrestricted use of the river; (2) when the stateline gauge is 100 cfs or more, both states have unrestricted use of the river; and (3), when the first two conditions do not apply, Colorado shall deliver one half of the flow at the Hesperus gauge to New Mexico. These restrictions generally result in the Red Mesa water rights being in priority every year from about November 1 to April 1 (essentially the non-irrigation period) and during periods when flows at the stateline gauge are greater than 100 cfs.

With the impending completion this year of the new Long Hollow Dam and Reservoir on the lower end of the La Plata Basin, it is anticipated that the fill period for Red Mesa Reservoir may be extended beyond historic limitations in future years, as water stored at Long Hollow could be released to meet compact delivery requirements. This would provide a greater probability of filling the existing, or even an enlarged, Red Mesa Reservoir, even in relatively dry years.

2. **Please provide a brief narrative of any related studies or permitting issues.**

Several studies pertaining to correction of the spillway deficiencies and/or enlargement of the reservoir have been completed within the past 15 years. As described in Part II, Item 5 above, URS Corp. completed in 2011a study funded by a WSRA SW Basin grant, entitled "Red Mesa Incremental Damage Analysis and

Emergency Action Plan", which was accepted by the SEO and will serve as the basis for spillway sizing and dam freeboard requirements. This was followed by another study completed by URS in 2013, using SW Basin grant funds, entitled "Red Mesa Dam and Reservoir – Spillway Alternatives Analysis", which presented preliminary designs and cost figures for spillway enlargement, dam modification, and potential reservoir enlargement, as well as for constructing an abandonment breach of the dam. The 2013 study concluded that the breaching of the dam, essentially representing the baseline or "no action" alternative, would cost approximately $1.2 million. Beyond that, all spillway construction scenarios, both for the existing and projected enlarged reservoirs, included a component of dam crest raising, to provide an economical means for disposing of spillway excavation materials while enhancing flood routing capacity. The no-enlargement scenario would be expected to cost approximately $2.9 million, while reservoir enlargements of 250 AF and 550 AF would be expected to cost approximately $3.44 million and $3.66 million, respectively. An additional alternative considered by that study, armoring of the dam to allow overtopping, was found to be non cost-competitive, at an estimated cost of approximately $6.0 million.

Prior to the above two studies, feasibility studies pertaining to both correction of the spillway inadequacy problem and enlargement of the dam and reservoir were completed by Harris Water Engineering (HWE) in 2001 and by Wright Water Engineers (WWE) in 2003. Both studies were funded by the CWCB. Along with the needed safety corrections to the dam, the HWE study investigated the feasibility of enlarging the reservoir to its full decreed capacity of 4070 acre-feet, while the WWE study examined the feasibility of two different enlargement scenarios, one to full decreed capacity, and another to a capacity of 3000 acre-feet. The HWE study identified operational issues in filling the reservoir as a key stumbling block to moving forward with enlargement. The WWE study, which incorporated a much larger inflow design flood developed using previous SEO methodology and approved by the SEO, estimated project costs of $6.1 million and $7.1 million for the two enlargement scenarios, both beyond the financial capability of the Company at that time.

The currently proposed Feasibility Study will evaluate the viability of different, smaller enlargement alternatives than have been considered in the past, as well as the relative merits of retaining the current level of reservoir storage with a new spillway but no reservoir enlargement.

Because the proposed activity consists only of a Feasibility Study, no permitting issues are associated with it. Future permitting issues will depend at least partly on what course of action is decided upon, and will be identified within the study. As a minimum, any improvements or modifications made to the dam will require the review and approval of the Colorado State Engineer's Office (SEO). Additionally, any enlargement scenario would be expected to require a wetlands permit under Section 404 of the *Clean Water Act* and a biological opinion for threatened and endangered species under the *Endangered Species Act*. While both of these hurdles were successfully cleared during previous studies, the permits were allowed to lapse in 2007 and are no longer in effect.

3. Statement of Work, Detailed Budget, and Project Schedule

The statement of work will form the basis for the contract between the Applicant and the State of Colorado. In short, the Applicant is agreeing to undertake the work for the compensation outlined in the statement of work and budget, and in return, the State of Colorado is receiving the deliverables/products specified. **Please note that costs incurred prior to execution of a contract or purchase order are not subject to reimbursement.** All WSRA funds are disbursed on a reimbursement basis after review invoices and appropriate backup material.

Please provide a detailed statement of work using the template in Exhibit A. Additional sections or modifications may be included as necessary. Please define all acronyms and include page numbers.

Refer to Exhibit A, attached.

REPORTING AND FINAL DELIVERABLE

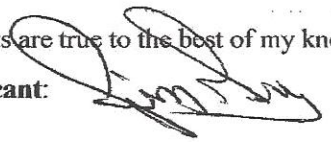
Reporting: The applicant shall provide the CWCB a progress report every 6 months, beginning from the date of the executed contract. The progress report shall describe the completion or partial completion of the tasks identified in the statement of work including a description of any major issues that 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.

PAYMENT

Payment will be made based on actual expenditures and invoicing by the applicant. Invoices from any other entity (i.e. subcontractors) cannot be processed by the State. The request for payment must include a description of the work accomplished by major task, and estimate of the percent completion for individual tasks and the entire water activity in relation to the percentage of budget spent, identification of any major issues and proposed or implemented corrective actions. The last 5 percent of the entire water activity budget will be withheld until final project/water activity documentation is completed. All products, data and information developed as a result of this grant must be provided to the CWCB in hard copy and electronic format as part of the project documentation. This information will in turn be made widely available to Basin Roundtables and the general public and help promote the development of a common technical platform.

The above statements are true to the best of my knowledge:

Signature of Applicant:  Pres.

Print Applicant's Name: Jim Greer, President, Red Mesa Reservoir & Ditch Co.

Project Title: Red Mesa Feasibility Study

Return an electronic version (hardcopy may also be submitted) of this application to:

Craig Godbout – WSRA Application
Colorado Water Conservation Board
1580 Logan Street, Suite 200
Denver, CO 80203
craig.godbout@state.co.us

Exhibit A

Statement of Work

WATER ACTIVITY NAME – Red Mesa Feasibility Study

GRANT RECIPIENT – Red Mesa Reservoir and Ditch Company (Red Mesa)

FUNDING SOURCE – Water Supply Reserve Account Southwest Basin Grant ($30,000), with matching funds from the applicant ($10,000) and from the Southwestern Water Conservation District ($30,000; approved by the SWCD Board at their 2/12/14 meeting).

INTRODUCTION AND BACKGROUND

The Colorado State Engineer has identified the spillway at Red Mesa Dam as seriously deficient in flood routing capacity and has directed the owners to bring the spillway into compliance with the dam safety requirements for a high hazard dam, or face significant restriction of storage, up to and including a possible breach order. Because of the degree of current spillway inadequacy, the State Engineer's Office, in 2012, established a time frame of approximately 3 years to achieve compliance with their spillway requirements.

Two previous studies, performed by URS Corp. and funded largely through WSRA SW Basin grants, have resulted in the development of an Inflow Design Flood (IDF) which has been accepted for use by the State Engineer, and preliminary designs and cost estimates for several potential solutions to the spillway inadequacy problem. All cost-competitive solutions involve the construction of a new spillway on the left abutment of the dam in concert with dam crest raising to provide additional flood routing freeboard. Three scenarios of this type were evaluated and are considered potentially feasible, two of which involve additional reservoir storage considerations.

At this time, and using the results of the previous studies, Red Mesa wishes to proceed with the preparation of a Feasibility Study which would be used to obtain funding for design and construction of the necessary improvements to bring the spillway into compliance with the requirements of the Colorado State Engineer and possibly add storage capacity to the reservoir. The Feasibility Study will be completed by URS Corp. in accordance with the Colorado Water Conservation Board's Water Project Loan Program Guidelines and will establish and document the following:

- the need for the project
- the technical, economic, institutional and financial feasibility of the project
- the social and environmental impacts of the project

The Feasibility Study will use the results from previous studies and investigations to the maximum extent possible. The following previous studies will be utilized:

- URS Corporation. Spillway Alternatives Analysis, Red Mesa Reservoir. September 2013.
- URS Corporation. Incremental Damage Assessment and Inflow Hydrology for Red Mesa Dam. May 2011.

- Wright Water Engineers. Red Mesa Ward Dam Enlargement Feasibility Study. April 2003.
- Harris Water Engineering. Red Mesa Reservoir Enlargement Concluding Report. October 2001.

OBJECTIVES

The objectives of the proposed Feasibility Study are to evaluate and discuss the following considerations, focusing on addressing the requirements to obtain a CWCB water project loan:

1. Water Demands and Water Rights – A description of existing and future water demands, and the adequacy of water rights and the quality of water sources with respect to the intended use of the water.
2. Analysis of Alternatives – A formulation and evaluation of potential alternatives for accomplishing the project sponsor's objective.
3. Selected Alternative – A detailed description of the selected alternative, including a preliminary design and construction cost estimate, and a project schedule.
4. Impacts – A description of project social and environmental impacts.
5. Institutional Considerations – A summary of institutional considerations (such as permits, court actions, contracts, agreements, and other approvals) that are required for project implementation.
6. Financial Plan – An analysis of project funding sources and the project sponsor's ability to repay all existing and projected debt service.

TASKS

Task 1 – Geotechnical Investigation

Description of Task

A feasibility level geotechnical field investigation will be conducted to investigate subsurface conditions within the general extent of the proposed spillway widening and evaluate a potential borrow source for the proposed dam raise.

Method/Procedure

The geotechnical field investigation for the spillway will consist of hollow-stem auger (HSA) borings and Standard Penetration Tests (SPT) to obtain disturbed samples for index property testing. URS will contract with a local drilling company to complete the drilling portion of the investigation. A URS field engineer will be on site full time during drilling operations to log borings, field classify soils, and package samples. The anticipated boring depth is 25 to 30 feet, or approximately five feet into bedrock, if encountered. Rock coring to evaluate quality of bedrock in the spillway is not planned as part of this feasibility level investigation.

The geotechnical field investigation for a potential borrow source will consist of test pit excavations and sample collection for index property testing. URS will contract with a local company to complete the test pit excavation portion of the investigation. A URS field engineer will be on site

full time during test pit excavation operations to log test pits, field classify soils, and package samples. The anticipated test pit excavation depth is about 10 feet. The potential borrow source is assumed to be within the reservoir limits or located adjacent to the reservoir on Red Mesa property.

A geotechnical testing program will be developed and completed to evaluate index properties of the material that will be excavated from the spillway widening and also the potential borrow source. Testing to establish engineering strength properties will not be completed as part of this feasibility level investigation. Published strength correlations with SPT information and index properties will be used to complete feasibility level analyses that are required as part of this study.

Deliverable

Geotechnical Investigation Report

Task 2 – Preparation of Technical Report

Description of Task

A technical report will be prepared which assembles and documents the activities and processes for the below sub- tasks.

Task 2.1 – Evaluation of Water Demands and Water Rights
URS will prepare a description and evaluation of existing and future water demands versus the adequacy of water supply and water rights and the quality of water sources with respect to the intended use of the water.

Assumption: URS will use the information and numerical and graphical tabulation of annual flows from previous studies, and will update with current available information, including a description of any anticipated effects from recently developed water supplies which might affect the project, such as Ridges Basin Reservoir (Lake Nighthorse) and Long Hollow Reservoir.

Task 2.2 - Analysis of Alternatives
An evaluation of potential alternatives was previously conducted by URS in 2013. URS will update the alternatives analysis to meet the CWCB's Water Project Loan Program Guidelines and as appropriate based on the findings from the field investigation. URS will consult with Red Mesa to select a preferred alternative and provide a detailed description of the selected alternative, including a preliminary design.

Assumption: Alternatives will be based on the previously developed alternatives; all alternatives will be updated to meet CWCB Water Project Loan Program Guidelines.

Task 2.3 – Cost Estimate and Implementation Schedule
URS will provide both a capital cost estimate and operations and maintenance cost estimate for the alternatives. A preliminary implementation schedule showing the beginning and completion dates for all activities required will be completed for the selected alternative.

Task 2.4 – Social and Environmental Impacts Assessment
A description of project social and environmental impacts will be provided for the selected alternative regarding both man-made and natural environment impacts. The assessment will address local and/or regional plans for water resource development, land use, recreation, water quality management, economic development, and other social and environmental effects.

Task 2.5 – Institutional Investigation
A summary of institutional considerations (such as permits, court actions, contracts, agreements, and other approvals) that are required for project implementation will be investigated and the applicable regulatory agencies will be contacted to confirm requirements.

Task 2.6 – Financial Feasibility Analysis
URS will conduct a financial feasibility analysis describing the project funding sources and the project sponsor's ability to repay all existing and projected debt service.

Method/Procedure

The preparation of the Feasibility Study will incorporate the results from previous studies and investigations to the maximum extent possible, updating with new information developed during the course of the study. URS will work closely with Red Mesa and the staff of the Colorado Water Conservation Board to obtain additional information to complete the Loan Feasibility Study as necessary.

Deliverable

A technical report (Feasibility Study) in accordance with the Colorado Water Conservation Board Water Project Loan Program Guidelines.

REPORTING AND FINAL DELIVERABLE

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 (Feasibility Study) that summarizes the project and documents how the project was completed. This report may contain photographs, summaries of meetings and engineering reports/designs.

BUDGET

TOTAL COSTS						
	Costs			Source of Funds		
	Personnel	Other Direct Costs	Total Project Costs	WSRA Grant Funds	Matching Funds	
					SWCD	RMR&DC
TASK 1 - Geotechnical Investigation	$17,208.00	$11,453.00	$28,661.00	$12,283.00	$12,283.00	$4,095.00
TASK 2- Technical Report	$3,576.00	$483.00	$4,059.00	$1,740.00	$1,740.00	$579.00
Task 2.1 - Water Demands and Water Rights	$11,277.00	$339.00	$11,616.00	$4,978.00	$4,978.00	$1,660.00
Task 2.2 - Analysis of Alternatives	$8,935.00	$269.00	$9,204.00	$3,944.00	$3,944.00	$1,316.00
Task 2.3 - Cost Estimate and Implementation Schedule	$2,611.00	$79.00	$2,690.00	$1,153.00	$1,153.00	$384.00
Task 2.4 - Social and Environmental Impacts Assessment	$2,955.00	$89.00	$3,044.00	$1,305.00	$1,305.00	$434.00
Task 2.5 - Institutional Investigation	$1,605.00	$49.00	$1,654.00	$709.00	$709.00	$236.00
Task 2.6 - Financial Feasibility Study	$8,807.00	$265.00	$9,072.00	$3,888.00	$3,888.00	$1,296.00
Total :	$56,974.00	$13,026.00	$70,000.00	$30,000.00	$30,000.00	$10,000.00

Personnel Costs								
Project Personnel: Hourly Rate:	Project Manager $160.00	Senior Consultant $191.00	Project Engineer $116.00	Staff Engineer $84.00	CADD Tech. $84.00	Admin Assist $47.00		Total Costs
TASK 1 - Geotechnical Investigation	12		27	132	6	12		$17,208.00
TASK 2- Technical Report	20					8		$3,576.00
Task 2.1 - Water Demands and Water Rights		50		20		1		$11,277.00
Task 2.2 - Analysis of Alternatives		8	20	40	20	1		$8,935.00
Task 2.3 - Cost Estimate and Implementation Schedule			4	24	1	1		$2,611.00
Task 2.4 - Social and Environmental Impacts Assessment		4	4	20		1		$2,955.00
Task 2.5 - Institutional Investigation		2		14		1		$1,605.00
Task 2.6 - Financial Feasibility Study		24	36			1		$8,807.00
Total Hours:	32	88	91	250	27	26		
Cost:	$5,120.00	$16,808.00	$10,556.00	$21,000.00	$2,268.00	$1,222.00		$56,974.00

Other Direct Costs								
Item: Units: Unit Cost:	Reproduction / Copies No. $125.00	Communication (3% of labor)	Lodging Nights $130.00	Mileage Miles $0.56	Geotech Lab	Drilling Sub		Total
TASK 1 - Geotechnical Investigation	3	$517	2	700	$4,489	$5,420		$11,453.00
TASK 2- Technical Report	3	$108						$483.00
Task 2.1 - Water Demands and Water Rights		$339						$339.00
Task 2.2 - Analysis of Alternatives		$269						$269.00
Task 2.3 - Cost Estimate and Implementation Schedule		$79						$79.00
Task 2.4 - Social and Environmental Impacts Assessment		$89						$89.00
Task 2.5 - Institutional Investigation		$49						$49.00
Task 2.6 - Financial Feasibility Study		$265						$265.00
Total Units:	6		2	700				
Total Cost:	$750.00	$1,715.00	$260.00	$392.00	$4,489.00	$5,420.00		$13,026.00

SCHEDULE

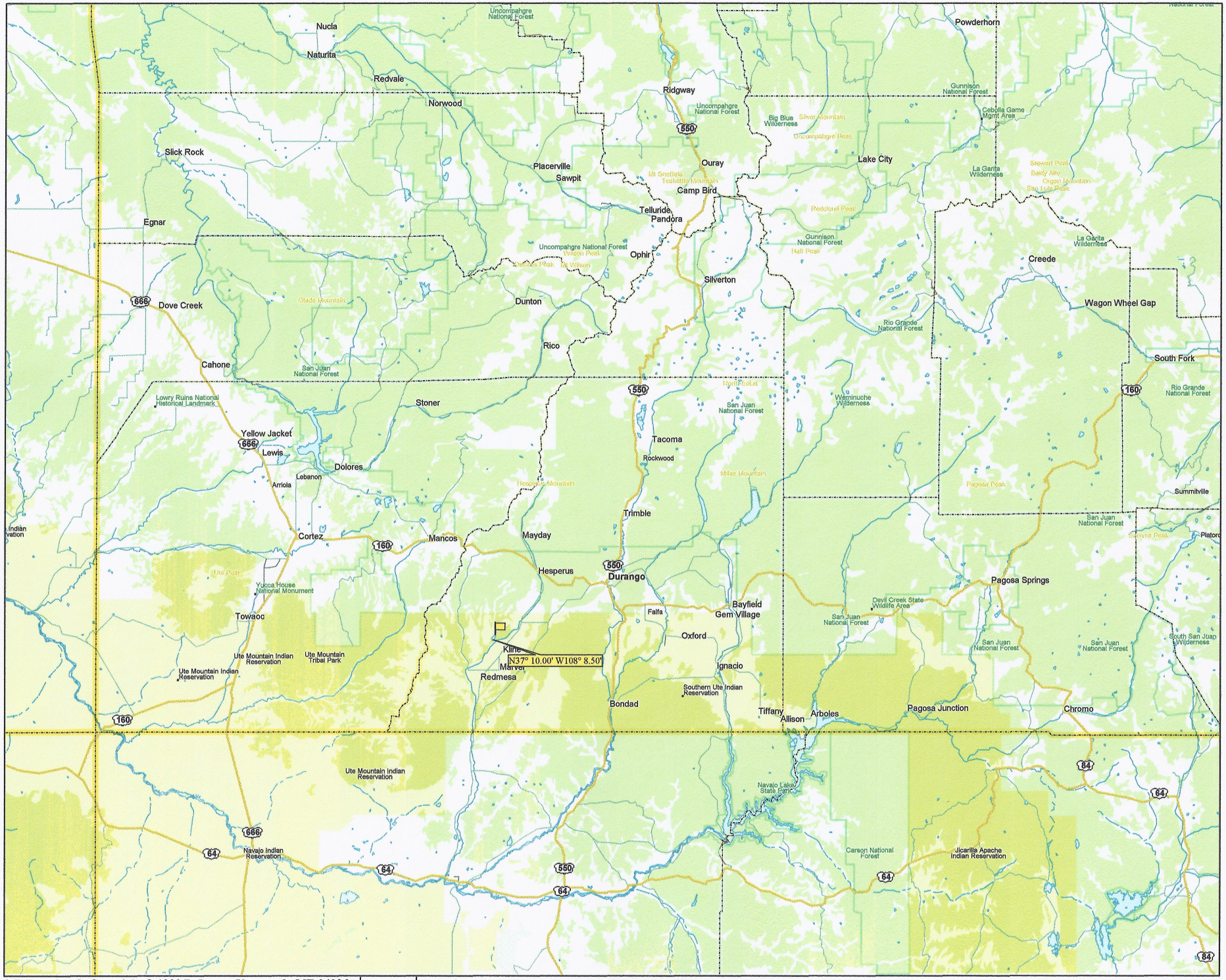
Task	Start Date	Finish Date
1 – Geotechnical Investigation	NTP + 30 days	NTP + 90 days
2 – Technical Report	NTP + 90 days	NTP + 180 days

NTP = Notice to Proceed

PAYMENT

Payment will be made based on actual expenditures and invoicing by the applicant. Invoices from any other entity (i.e. subcontractors) cannot be processed by the State. The request for payment must include a description of the work accomplished by major task, and estimate of the percent completion for individual tasks and the entire water activity in relation to the percentage of budget spent, identification of any major issues and proposed or implemented corrective actions. The last 5 percent of the entire water activity budget will be withheld until final project/water activity documentation is completed. All products, data and information developed as a result of this grant must be provided to the CWCB in hard copy and electronic format as part of the project documentation. This information will in turn be made widely available to Basin Roundtables and the general public and help promote the development of a common technical platform.

Exhibit B



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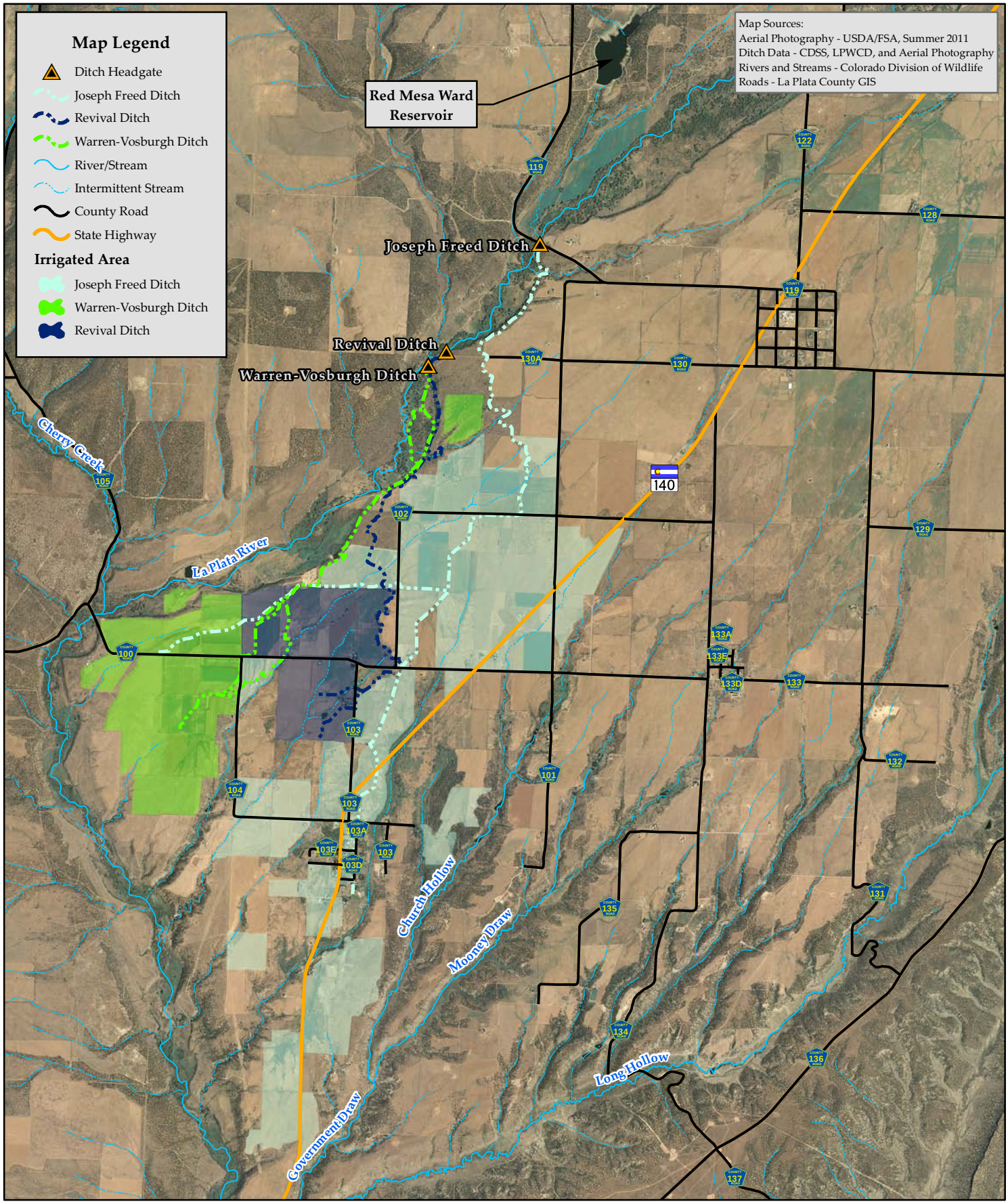

555 RiverGate Lane, Suite B4-82
Durango, CO 81301
(970) 385-2340ph 385-2341fx
www.BikisWater.com

0 1,100 2,200 4,400 6,600 Feet

1 inch = 4,400 feet

Designed by: MJK
Checked by: EAB
Date: 6/5/2012
Scale: 1:52,800

LPWCD Ditch Map

DRAFT
Figure 1

P:\Project Files\002-06 LPWCD\Mapping\ArcMap_files\2012\Warren Vosburgh, Revival, Joseph Freed Ditches.mxd

Exhibit D