

Water Supply Reserve Account – Grant and Loan Program
Water Activity Summary Sheet
September 24, 2013
Agenda Item 18(f)

Applicant: Grand County Water & Sanitary District #1

Water Activity Name: Reservoir 2 Enlargement and Lining Project

Water Activity Purpose: Consumptive & Non-consumptive

County: Grand

River Basin: Colorado

Water Source: Fraser River

Amount Requested: \$664,960 (Statewide Account), and \$41,620 (Colorado Basin Account)

Matching Funds: \$126,200 (15%) cash match by Grand County Water & Sanitation District #1

Staff Recommendation:
Staff recommends approval of up to \$165,000 from the Statewide Account and \$41,620 from the Colorado Basin Account to fund the: Grand County Water & Sanitary District #1 - Reservoir 2 Enlargement and Lining Project.

Water Activity Summary: The project is for enlarging and lining Reservoir 2, which is a Grand County Water & Sanitation District #1 (Grand County WSD1) augmentation reservoir. By lining and enlarging the reservoir, the District will gain new storage (25-30 acre feet), reduce seepage losses (20 acre feet per 6-month period), and will improve operations. The enlargement will give the Grand County WSD1 the ability to store augmentation water allocated for fulfilling more senior water rights obligations during times of low water and/or drought. Additional advantages include water for fishing, and aesthetic considerations. This reservoir is a vital component of the overall Grand County WSD1 water system.

Threshold and Evaluation Criteria

The application meets all four Threshold Criteria.

The application articulates how the project meets the Evaluation Criteria as summarized below:

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

- a. While the District is not a signatory to the Colorado River Cooperative Agreement (CRCA), it is a beneficiary, and as such this project provides storage that can satisfy the need for Replacement Water to Denver and to replace depletions, thus providing benefits in the overall CRCA for the East Slope and the West Slope.
- b. Grand County WSD1 and other Fraser Valley entities have water rights under CRCA, and other associated agreements. Entities supporting this activity include: Middle Park Water Conservancy District, Winter Park Water and Sanitation, Grand County Board of Commissioners, Town of Granby, and the Town of Winter Park.
- c. Grand County WSD1 has worked extensively to improve its water diversion, treatment, and distribution system to optimize the use of its water and water rights, and in order to meet its obligations it is continuing to reduce the amounts of leakage from its water distribution system.

This has the net effect of leaving more water within the natural hydrological basin which benefits downstream entities and helps to fill the gap between current and future supplies and needs.

Tier 2: Facilitating Water Activity Implementation:

- d. Grand County WSD1 has regularly increased fees to provide for upgrades to aging infrastructure, optimizing treatment and conveyance operations, auditing water system operations, and metering to lower water waste. It has also incurred debt obligations for the construction of finished water storage, water treatment upgrades, and waste water treatment. Because of costs of such projects, it has depleted its reserve funds despite the fee increases. As such these grant funds are extremely beneficial to Grand County WSD1 and supporting entities.
- e. Grand County WSD1's cash match contribution of \$126,200 represents approximately 15% of total project costs of \$832,780, while Grand County WSD1 has in addition expended between \$10,000 and \$15,000 on planning, preliminary engineering, and application phase of this project.

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

- f. The water activity provides for releases to the Fraser River when senior calls are made providing water during dryer conditions. Most of the senior water rights that will be satisfied with the use of this water for augmentation purposes are agricultural.
- g. n/a
- h. n/a
- i. n/a
- j. n/a

Discussion:

Subsequent to review, staff considers financing of total project costs (\$832,800) to be more consistent on a 75% CWCB Loan-Match/25% WSRA Grant combination, as opposed to the proposed 85% WSRA Grant/15% Match combination.

Issues/Additional Needs:

No additional issues or needs were identified.

Staff Recommendation:

Staff recommends approval of up to \$165,000 from the Statewide Account, and \$41,620 from the Colorado Basin Account for project titled: Grand County Water & Sanitary District #1 - Reservoir 2 Enlargement and Lining Project.

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.

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

August 1, 2013

Craig Godbout
Colorado Water Conservation Board
Water Supply Planning Section
1580 Logan Street, Suite 200
Denver CO 80203
 [\(303\) 866-3441, ext 3210](tel:(303)866-3441) (office)
 [\(970\) 218-9407](tel:(970)218-9407) (cell)
craig.godbout@state.co.us

Dear Craig:

The Colorado Basin Roundtable voted at its July 29, 2013, meeting to approve three grant requests for Waters Supply Reserve Account (WSRA) funds and forward them to the CWCB staff and board for consideration.

Missouri Heights – Mountain Meadow Irrigation Company

This project was approved for a Basin Account grant of \$50,000. Total cost of the project is \$550,000. The CWCB has also issued a \$454,000 loan. The work is to line a porous outlet ditch from Spring Park Reservoir. It addresses priorities to support a viable agricultural segment and to create water efficiency. It was approved 23-0.

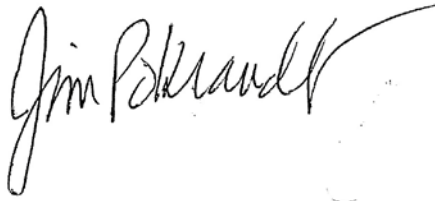
Grand County Water and Sanitation District

This project was approved for a draft of \$41,640 on the Basin Account and \$664,960 on the Statewide Account. The work will enlarge and line Reservoir No. 2, creating 30 acre feet of new storage and preserving 20 acre feet of lost storage through seepage. In itself, this addresses municipal efficiency and new water supply. From a statewide perspective, the new water helps Grand County Water and San benefit from the Colorado River Cooperative Agreement with Denver Water. Denver will provide Grand County new water supply, but the district must be able to replace that water when Denver is in a substitution year. The vote was 21-2. The dissent was based on the belief that this water development was too expensive on an acre-foot basis. Another “yes” vote qualified it with the wish that the match was higher and the WSRA funding lower.

Upper Colorado River Irrigation and Restoration Assessment Phase 1 – Kremmling Area Ranchers

This project was approved for \$50,000 from the Basin Account. It seeks to study a reach of the Colorado River in Grand County where transmountain diversions have impacted irrigation. Changed river flows – and measures to deal with them – have caused channel headcutting, bank erosion and channel aggradation. Irrigation pumps installed as mitigation for the Colorado-Big Thompson Project have performance issues with the changing elevations and movement of the river. The study seeks to recommend projects to improve irrigation while benefitting recreation, fisheries and riparian habitat. The ranchers who make up this application recently finalized a finalized settlement with Northern Water to address long-term issues with irrigation pumping. This study seeks to propose solutions for irrigation pumping that will not lead to short-term gain but long-term, continued degradation. The vote was 23-0.

Sincerely yours,

A handwritten signature in black ink, reading "Jim Pokrandt". The signature is fluid and cursive, with a long horizontal stroke extending from the end of the name.

Jim Pokrandt
Chair, Colorado Basin Roundtable

Attachment: CFWE grant applications, supporting CBRT Grants Committee Analyses

LETTERS OF SUPPORT

- Middle Park Water Conservancy District
- Winter Park Water and Sanitation District
- Denver Water
- Grand County Board of Commissioners
- Town of Granby
- Town of Winter Park
- Colorado River Headwaters Chapter of Trout Unlimited
- Town of Fraser
- Winter Park Ranch Water and Sanitation

MIDDLE PARK WATER CONSERVANCY DISTRICT
POST OFFICE BOX 145
GRANBY, COLORADO 80446

April 2, 2013

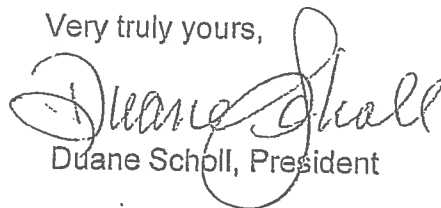
Mr. Robert Wolf, President
Grand County Water and Sanitation District #1
P.O. Box 3077
Winter Park, CO 80482

RE: Grand County Water and Sanitation District No.1 Supply Reserve Account
Application

Dear Mr. Wolf:

As you know, Middle Park Water Conservancy District purchased water from the District last year, in order to provide water to its contractees in the Upper Fraser River. Based upon the critical water shortages in the area, Middle Park is fully supportive of Grand County Water and Sanitation District's request for a Grant from the Water Supply Reserve Account. If Middle Park Water Conservancy District can provide any additional support regarding this Application, please let us know.

Very truly yours,


Duane Scholl, President



WINTER PARK WATER and SANITATION DISTRICT
Post Office Box 7 • Winter Park, Colorado 80482

Administration 970.887.2970
Water Plant 970.726.9221
Wastewater Plant 970.726.5041

April 3, 2013

Bob Wolf, President
Grand County Water and Sanitation District #1
P.O. Box 3077
Winter Park, CO 80482

Re: Augmentation Ponds

Dear Bob:

We are please to hear you are moving forward with the project to enlarge the ponds. I'm writing this letter to express our interest in the project. We're looking into just how much we will need, most conservatively we could use as much as 66 ac ft. On the other had we would not be need more than 25 ac ft for years to come. I'll be discussing this with the board at our next meeting.

This project has the potential to benefit the all water uses along the River. We would like to participate in whatever capacity that would benefit the project. We would be open to providing matching funds in any grant process as well as helping with the capital costs of getting this type of project off the ground.

We believe this project will provide a tremendous benefit for the Fraser River and the Grand County Water Users. We look forward to working with you on this project.

Sincerely,

A handwritten signature in dark ink, appearing to read "Jack Buchheister".

Jack Buchheister
President

cc District Board



DENVER WATER

4600 West 120th Avenue • Denver, Colorado 80204-4412
Phone: 303.628.6000 • Fax No.: 303.628.6199 • denverwater.org

May 13, 2013

Mr. Bruce Hutchins, District Manager
Grand County Water and Sanitation District No. 1
P.O. Box 3077
Winter Park, CO 80482

Subject: WSRA Grant Application for Enlarging and Lining Reservoir No. 2

Dear Mr. Hutchins:

Denver Water and Grand County Water and Sanitation District No. 1 have cooperated on several projects that benefit both entities and the local communities and environment, including the Clinton-Fraser River Agreement, the UPCO process and the recent Colorado River Cooperative Agreement. As part of our continued partnership, Denver Water fully supports the District's application for funding to enlarge and line its Reservoir No. 2.

Please contact me if you have any questions about this endorsement or about the above-mentioned cooperative efforts.

Regards,



Dave Little
Director of Planning



CONSERVE



BOARD OF COMMISSIONERS

JAMES L. NEWBERRY
District I, Winter Park 80482
MERRIT S. LINKE
District II, Granby 80446
GARY BUMGARNER
District III, Kremmling 80459

May 14, 2013

E-Mail: grndcty1@co.grand.co.us
PHONE: 970/725-3100
Fax: 970/725-0565
LURLINE UNDERBRINK CURRAN
County Manager
ANTHONY J. DICOLA
County Attorney

Mr. Bruce Hutchins, District Manager
Grand County Water & Sanitation District No. 1
PO Box 3077
Winter Park, CO 80482

Subject: WSRA Grant Application for Enlarging and Lining Reservoir #2

Dear Bruce:

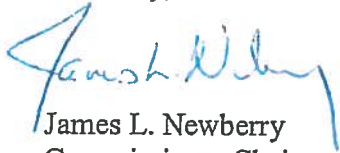
Grand County supports your district's application for funding through the WSRA grant program to enlarge and line the District's Reservoir #2. We understand that this project will enhance the ability of the District to store junior water rights from the Fraser River for augmentation purposes.

With the water demand increasing along the Fraser River for municipal needs, as well as for recreation purposes, this multi-use facility brings significant value to the District and its neighbors.


This project compliments existing agreements, such as the Colorado River Cooperative Agreement, by helping to address the additional water storage needs within the Fraser Valley and provides beneficial use of an existing reservoir by enhancing its storage capability without having to develop a new reservoir and helps to protect water rights within the Fraser Valley needed for current and future municipal and recreational needs. It is a multi-use project fully meeting the criteria for the WSRA Grant Program.

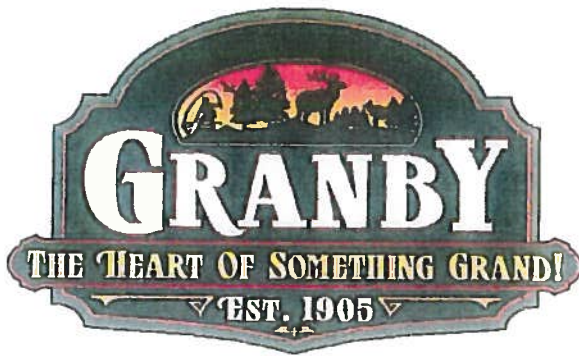
We appreciate the District's efforts with water planning within the Fraser Basin and within Grand County and fully support your application for funding this project. This project will provide much needed storage as well as multi-use benefits to the region.

Sincerely,


James L. Newberry
Commissioner Chairman


Merrit Linke
Commissioner


Gary Bumgarner
Commissioner



TOWN OF GRANBY

Don Wally Baird

Town Manager

ZERO JASPER AVENUE, P.O. Box 440

GRANBY, COLORADO 80446-0440

970-887-2501 ext. 212

970-887-9347 (fax)

970-531-3961

May 10, 2013

Mr. Bruce Hutchins, District Manager
Grand County Water & Sanitation District No. 1
PO Box 3077
Winter Park, CO 80482

Subject: WSRA Grant Application for Enlarging and Lining Reservoir #2

Dear Bruce:

As the Town Manager of Granby I can relay to you the Town of Granby fully supports your district's application for funding through the WSRA grant program to enlarge and line the District's Reservoir #2. We understand that this project will enhance the ability of the District to store junior water rights from the Fraser River for augmentation purposes.

With the water demand increasing along the Fraser River for municipal needs, as well as for recreation purposes, this multi-use facility brings significant value to the District and its neighbors.

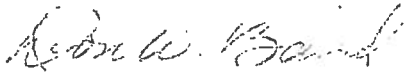
This project compliments existing agreements, such as the Colorado River Cooperative Agreement, by helping to address the additional water storage needs within the Fraser Valley. Furthermore, your proposed project makes beneficial use of an existing reservoir by enhancing its storage capability without having to develop a new reservoir.

This project helps to protect water rights within the Fraser Valley needed for current and future municipal and recreational needs. It is a multi-use project fully meeting the criteria for the WSRA Grant Program and shows a good return for minimal costs and impacts when compared to other project alternatives.

Past studies have shown that reservoir sites are not readily obtainable or cost-effective to develop along the upper Fraser Basin. Thus, this project shows a wise use of an existing site to enhance storage for multiple needs. It exists precisely where the need is and does not necessitate the costs or considerations with developing a new storage facility where none currently exists.

We appreciate the District's efforts with water planning within the Fraser Basin and within Grand County and fully support your application for funding this well needed and well conceived project. This project will provide much needed storage as well as multi-use benefits to the region.

Sincerely,

A handwritten signature in dark ink, appearing to read "Don W. Baird". The signature is written in a cursive, slightly slanted style.

Don W. Baird
Town Manger

May 14, 2013

Mr. Bruce Hutchins, District Manager
Grand County Water and Sanitation District No. 1
P.O. Box 3077
Winter Park, CO 80482

RE: WSRA Grant Application for Enlarging and Lining Reservoir #2

Dear Bruce,

Please accept this letter of support from the Town of Winter Park for the District's application for funding through the WSRA grant program to enlarge and line the District's Reservoir #2. We understand that this project will enhance the ability of the District to store junior water rights from the Fraser River for augmentation purposes.

We believe that the original reservoir project, which converted your old wastewater lagoon site into a storage reservoir, was an innovative reuse of that system that enabled storage of augmentation water. The proposed project would enhance the storage opportunities in the Upper Fraser River Valley within the same physical footprint. This is a cost-effective approach, minimizing any negative environmental impacts while meeting a need that has been underscored by the UPCO and other water studies. As a result, we fully support your efforts.

Past studies have shown that reservoir sites are not readily obtainable or cost-effective to develop along the Upper Fraser River. Thus, this project shows a wise use of an existing site to enhance storage for multiple needs. It exists precisely where the need is and does not necessitate the costs or considerations with developing a new storage facility where none currently exists.

We appreciate the District's efforts with water planning within the Fraser River basin and within Grand County, and fully support your application for funding this well-needed and well-conceived project. This will provide additional storage in a water-starved region while also giving the community multi-use benefits.

If you have any questions, please do not hesitate to contact me. Thank you for your attention to this matter.

Sincerely,



Drew Nelson
Town Manager

Town of Winter Park

p.o. box 3327

winter park, colorado 80482

phone (970) 726-8081

fax (970) 726-8084

www.wpgov.com

COLORADO RIVER HEADWATERS CHAPTER OF TROUT UNLIMITED

May 13, 2013

Colorado Water Conservation Board,

The Headwaters Chapter of Trout Unlimited supports the grant application from Grand County Water and Sanitation District #1 to enlarge the storage capacity of their augmentation pond. Additional storage on the West side of the divide high up in the headwaters can be helpful in dealing with the depleted flows of the Fraser River. Please help the Fraser River by assisting Grand #1 with the funding that they need to complete this project.

Sincerely,

Kirk Klancke
President



May 13, 2013

Mr. Bruce Hutchins, District Manager
Grand County Water & Sanitation District No. 1
PO Box 3077
Winter Park, CO 80482

Subject: WSRA Grant Application for Enlarging and Lining Reservoir #2

Dear Bruce:

The Town of Fraser fully supports the District's application for funding through the WSRA grant program to enlarge and line the District's Reservoir #2. We understand that this project will enhance the ability of the District to store junior water rights from the Fraser River for augmentation purposes.

We appreciate that the District has invested to convert the abandoned wastewater treatment ponds into augmentation reservoirs. We entered into an Intergovernmental Lease Agreement with the District in 2009 to form a partnership allowing public recreational uses on this property. The Town of Fraser has recently applied for a grant which would provide funding for fishing site improvements to the property.

We understand that the District faces the need to store water for augmentation purposes and this project will provide much needed storage as well as multi-use benefits to the region.

Sincerely,

A handwritten signature in blue ink, appearing to read "C. Trotter".

Catherine E. Trotter, AICP
Fraser Town Planner

Town of Fraser
PO Box 370, Fraser, CO 80442 office 970-726-5491 fax 970-726-5518
www.frasercolorado.com

WINTER PARK RANCH WATER & SANITATION DISTRICT

May 13, 2013

Colorado Water Conservation Board

This letter is written in support of the Grand County Water and Sanitation District grant application to increase their augmentation storage. Municipalities in the Fraser Valley are tasked with meeting the water demands created by growth in a valley where most of the surface water belongs to Front Range water diverters. By increasing augmentation storage, Grand #1 will be able to exercise additional water rights which will help them meet more of the demand that they are obligated to meet. This can be done without injuring any of the water rights of other water providers in the Fraser Valley and will allow them to meet senior downstream calls when they are diverting out of priority. My water district supports this project.

Sincerely,



Kirk Klancke
Manager



COLORADO WATER CONSERVATION BOARD



WATER SUPPLY RESERVE ACCOUNT APPLICATION FORM

Reservoir 2 Enlarging and Lining Project

Name of Water Activity/Project

Grand County Water & Sanitation District No. 1

Name of Applicant

Amount from Statewide Account:

\$664,960.00

Amount from Basin Account(s):

\$41,640.00

Total WSRA Funds Requested:

\$706,600.00

Approving Basin Roundtable(s)

(If multiple basins specify amounts in parentheses.)

Application Content

- Application Instructions
- Part I – Description of the Applicant
- Part II – Description of the Water Activity
- Part III – Threshold and Evaluation Criteria
- Part IV – Required Supporting Material
 - Water Rights, Availability, and Sustainability
 - Related Studies
 - Signature Page

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12 yrs - to pay off current loan
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page 3
page 5
page 7
page 12
page 13
page 14

Required Exhibits and Additional Exhibits

- A. Statement of Work, Budget, and Schedule
- B. Project Map
- C. Additional Exhibits
 - District Service Area Map
 - Grand County Water Rights Map
 - Water Case No. 02CW367
 - Water Availability Memorandum

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)

Water Supply Reserve Account – Application Form

Revised December 2011

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:

Greg Johnson – WSRA Application
Colorado Water Conservation Board
1580 Logan Street, Suite 200
Denver, CO 80203
gregory.johnson@state.co.us

If you have questions or need additional assistance, please contact Greg Johnson at: 303-866-3441 x3249 or gregory.johnson@state.co.us.

Water Supply Reserve Account – Application Form

Revised December 2011

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

1.	Applicant Name(s):	Grand County Water & Sanitation District No. 1			
	Mailing address:	P.O.Box 3077 Winter Park, CO 80482-3077			
	Taxpayer ID#:	98-04416			
	Primary Contact:	Bruce Hutchins	Position/Title:	Manager	
	Email:	bhutchins@gcws1.com			
	Phone Numbers:	Cell:	970-531-9207	Office:	970-726-5583
	Alternate Contact:	Ed Duerr, PE	Position/Title:	District Engineer	
	Email:	edduerrinc@aol.com			
	Phone Numbers:	Cell:	303-818-5144	Office:	303-973-3987

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.
- ☐ 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.

Water Supply Reserve Account – Application Form
Revised December 2011

3. Provide a brief description of your organization

Grand County Water & Sanitation District No. 1 (District) is a Title 32, Colorado Revised Statutes, District formed for to provide Water and Sanitation services pursuant to that Statute and by Decree entered into Grand County District Court, Civil Action #1376 on April 9, 1960. The District, as a Water and Sanitation District, is governed by the provisions of C.R.S. 32-1-101, ET.SEQ. Paragraph 1 provides information regarding the District and the contact person.

The District presently serves the area within the Town of Winter Park, which was historically know as Hideaway Park, and most of the Town with the exception of the Winter Park Ski Area and its immediate surroundings. Presently, the District serves 695 metered taps equating to 2,333 Single Family Equivalent (SFE) customer taps. A copy of the current District service area map is attached in Exhibit C. The District's current water use is approximately 465 acre feet per year with a maximum daily demand of 0.8 million gallons per day, typically occurring during the month of December. The zoning within the Town of Winter Park still provides a considerable amount of area for growth, providing that the District may serve up to an estimated 8,300 single family equivalents at build-out. The District currently serves about 2,334 single family equivalents. The District owns and operates two water treatment plants that are located within Town limits and on the United States Forest Service property, for which it maintains Special Use Permits with the Forest Service. The Big Mac Plant is located off the main stem of Vasquez Creek and has a treatment capacity of 1.5 million gallons per day (mgd) or 2.3 cfs. The other, the Little Mac Plant, is located off Little Vasquez Creek and has a treatment capacity of just under 0.5 mgd or 0.78 cfs.

The District also provides wastewater collection and treatment services to the properties within the District Service Area. The District entered into an Intergovernmental Agreement with the Town of Fraser and Winter Park Ranch Water and Sanitation District for the ownership and operation of a consolidated wastewater treatment plant, located on the Fraser River, just below the town of Fraser. The Agreement provides for the consolidated governance and operation of the wastewater treatment facilities by all three entities."

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

☒ 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.

The applicant is not subject to TABOR limitations with respect to this project.

Water Supply Reserve Account – Application Form
Revised December 2011

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)

☐

Agricultural

☐

Municipal/Industrial

☐

Needs Assessment

☐

Education

☒

Other

Explain:

For enhancing augmentation storage and reducing leakage

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

The reservoir is decreed for "municipal uses, irrigation, augmentation, piscatorial, aesthetic, and recreation". In addition, the reservoir is used for fishing by locals and tourists, and it ties in with overall aesthetic and recreational elements within the Town of Fraser. Also, the District has additional conditional water rights that are junior and will need to be augmented from time to time in the future. Through the Colorado River Cooperative Agreement, which was entered into by many West Slope entities, Denver Water will provide water in the Upper Fraser River. It remains necessary for some of the beneficiaries under the Agreement, including this District, to obtain its own augmentation source, as well as replacement source, and this reservoir would satisfy those augmentation and replacement source requirements.

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

☐

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)

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:

Reservoir lining provides "new" enhanced storage.

Water Supply Reserve Account – Application Form
Revised December 2011

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

Latitude: N39° 56.329'

Longitude: W105° 47.915'

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 project is for enlarging and lining Reservoir 2, which is an augmentation reservoir for the Grand County Water & Sanitation District No.1. The original Reservoirs 1 and 2 were developed from the abandoned District lagoons, which were put out of service when the District tied into the regional wastewater facility in Fraser. Reservoir 2 has the potential to store additional water and is leaking appreciable quantities of water in its current state.

By enlarging and lining the reservoir, the District will essentially gain new storage and will improve operations. The District will have the ability to store augmentation water to be used for fulfilling more senior water rights obligations during times of low water and/or drought. Other advantages, as noted above, include water for fishing, aesthetic considerations, and the ability to provide services to its customers while alleviating or limiting the impacts on the ability to provide those services. Thus it is a vitally important component of the overall District water system.

The project activities include the following:

- Planning and budgeting activities including pursuing grant funds.
- Preliminary engineering and geotechnical activities.
- Development of plans and specifications for bidding.
- Bidding the project to general contractors qualified to complete the work.
- Construction and completion of the proposed construction improvements.
- Final contract documentation and putting the Reservoir back into service.

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

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

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The project should not impact any existing water rights. The water will only be stored when in priority pursuant to the District's decrees and agreements. As previously stated, the project compliments existing agreements, such as the Colorado River Cooperative Agreement, by fulfilling the need for water storage in the Fraser Valley."

- 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 BRT's 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.

Roundtable letters of support need to be referenced here and attached...

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.

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- 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.

There has long been a shortage of storage in the Fraser River Basin. The Colorado Water and Power Development Authority, in the 1980s, did a comprehensive study and was unable to find an acceptable storage location that, under the existing criteria, could be developed. Since then, various studies have shown a need for additional water supply, including the UPCO Final Report of May 9, 2003, the CDM Basin M and I Gap Analysis, which analyzes SWSI, indicates the gap of 2000 acre feet in Grand County, as well as the Major Findings and Recommendations from Current Basin Reports as Summarized for IBCC dated June 21, 2011. According to 37-75-104 (2), the goal is to identify projects that will meet future need which this project does in the Colorado River Basin and Grand County.

- d) Matching Requirement: For requests from the Statewide Fund, the applicants is required to demonstrate a **20 percent** (or greater) match of the request from the Statewide Account. Statewide requests must also include a minimum match of **5 percent** of the total grant amount from Basin Funds. 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)

District shall be providing a direct cash match in the amount of \$126,200.00.

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.

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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).

Response: The District is a beneficiary under the Colorado River Cooperative Agreement (CRCA), even though not a signatory. Paragraph 20 provides much needed water in the Upper Fraser Valley, however, the District and other beneficiaries under Paragraph 20 of the CRCA, which provides 375 acre feet in the Upper Fraser Valley, have to provide Replacement Water to Denver and replace depletions. This project provides storage that can satisfy that requirement and thus provides benefits in the overall Colorado River Cooperative Agreement for the East Slope and the West Slope.

- 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.

Response: The entities supporting Grand County Water & Sanitation District #1 in promoting this project activity include: Middle Park Water Conservancy District, Winter Park Water and Sanitation, Denver Water, Grand County Board of Commissioners, Town of Granby, Town of Winter Park, Colorado River Headwaters of Trout Unlimited, Town of Fraser and Winter Park Ranch Water and Sanitation District.

The District and the other Fraser Valley entities have water rights under the Colorado River Cooperative Agreement, and other associated agreements, and can provide for instream flow purposes (see Application 11CW152).

- 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.

Response: The District has extensively worked to improve its water diversion, treatment, and distribution

systems to optimize the use of its water supplies and water rights. Nonetheless, there is tremendous pressure upon limited water resources within Grand County and the Fraser River, specifically during dry or drought conditions when multiple calls are made upon the river. To allow the District to meet its obligations to their constituents for potable water services, it is in the best interest of the District to improve the operations of and increase the capacity of augmentation Reservoir #2. The Grand County Water & Sanitation District No. 1 is continuing to reduce the amounts of leakage from its water distribution system, and infiltration and inflow to its sewer system, which has the net benefit of leaving more water within the natural hydrological basin system. All of these activities benefit downstream entities and help to fill the gaps between current and future supplies and needs. The subject project is one more example of optimizing and making the best use of current facilities versus attempting to develop totally new facilities. The UPCO Study shows a need in the Fraser Valley of approximately 2,000 acre feet. Additionally, the CDM Memorandum of June 26, 2011 regarding the Basin M & I Gap Analysis indicates a gap of 2,300 acre feet by 2,050 part of which can be provided by this project.

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).

Response: The Grand County Water & Sanitation District #1 has regularly reviewed and increased service fees to provide funding for a myriad array of activities, including:

- Upgrading aging infrastructure including replacing old cast iron water lines with more resilient ductile iron.
- Firming up water supplies.
- Continually improving and optimizing treatment and conveyance operations.
- Auditing water system operations, production and demand records, and metering to lower water waste.
- Implementing leak detection and reduction programs.

All of these activities have significant costs associated with them. Even as fees are increased, there is a growing disparity between costs and fees, resulting in a continual lowering of District reserve funds to make up the difference. The District already has loan obligations associated with construction of finished water storage, water treatment upgrades and wastewater treatment. Thus, assistance with this water activity is extremely beneficial, not only to the District and supporting entities, but also to other downstream water users and the overall river environment.

- 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.

Response: The Grand County Water & Sanitation District #1 has invested considerable funds and efforts to join downstream entities in the development of the regional wastewater facilities in Fraser, closed the existing lagoon system and modified the lagoons to act as augmentation reservoirs. Thus, major funds have already been expended on the specific reservoir for which funds are requested. This project allows the District to further optimize the benefits of augmentation storage by improving operations, decreasing waste, and increasing the volume of storage without having to develop a new reservoir site, that would be cost prohibitive and difficult to undertake. The District will share in the costs for this project and has

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solely borne all costs for the original lagoon to reservoir project. Thus, the commitment to this project is underscored by all the previous activities of the District to develop the augmentation reservoirs to begin with.

The District has expended between \$10,000 and \$15,000 on the planning, preliminary engineering, and application phases of this 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.

Response: The water activity provides for releases to the Fraser River when senior calls are made on the river, while allowing for water service to be maintained to District constituents during dry or drought conditions. The secondary benefit is that there is sustained water in the river during dryer conditions, while obligations to serve constituents are being met.

The reservoir site has been leased at no cost by the Town of Fraser for an addition to their park system. This has opened up the property to public use. The division of wildlife has maintained a cutthroat fishery in the south pond. Most of the senior water rights that will be satisfied with the use of this water for augmentations purposes are agricultural. Utilization of this storage right decreases the need for the purchase of agricultural water rights.

- 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.

Response: The activity directly enhances use of state waters while assisting with the administration of entitled waters. This storage, as with other storage, provides additional available water supply in the case of the compact call and administration. The project promotes maximum utilization for state waters by utilizing an already existing location that has been used for a lagoon in the past, and it provides a reservoir site in the Fraser Valley which is extremely short of water and sites.

- h. The water activity assists in the recovery of threatened and endangered wildlife species or Colorado State species of concern.

Response: The activity minimizes impacts by capturing excess river capacity and releasing it during times of dry or drought conditions.

- i. The water activity provides a high level of benefit to Colorado in relationship to the amount of funds requested.

Response: The activity allows the full use of facilities developed for the purpose of optimizing water supply for direct use by constituents within Grand County. Since the reservoir is an existing facility, the work can be accomplished with low to no impacts and provide a better augmentation benefit to the District allowing better management of its limited water supplies. Also, further reducing future impacts, the District can postpone additional water development activities and infrastructure by their ongoing optimization efforts, of which this activity is a key component. The Colorado Water and Power Development Authority has looked for reservoir sites in the past within the Fraser Valley.

- j. The water activity is complimentary to or assists in the implementation of other CWCB programs.

Response: As previously noted, optimizing the use of limited water supplies is a continuing goal of the CWCB. Use of the water for augmenting consumptive use will help maintain the CWCB instream flow program, and may be available, when not needed for direct release for the program.

Continued: Explanation of how the water activity/project meets all applicable **Evaluation Criteria**.

This project can succinctly meet all applicable Evaluation Criteria. The Fraser Valley is short of water because of both existing in-basin appropriations and trans-basin diversions. Entities in the Fraser Valley have joined together with Grand County, Colorado River Water Conservation District, Northern Colorado Water Conservancy District and Denver Water to cooperatively look at methodologies to address these concerns.

The 2003 UPCO Study, which was another joint East Slope/West Slope endeavor, showed the initial need for more water in the Fraser Valley. The Colorado River Cooperative Agreement negotiations between Denver and the West Slope were specifically designed to provide additional water in the Upper Fraser for direct use as well as for maintaining instream flows. This particular project can provide storage complimenting water made available to the Fraser Valley entities, as well as perhaps the CWCB (instream flow uses), because it can provide needed Replacement Water and Augmentation/replacement Water high up in the Fraser River where there is need but very limited available storage.

Suggested Format for Scope of Work

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 reservoirs divert water directly from the Fraser River, just downstream of the Town of Winter Park and within the boundaries of the Town of Fraser. Overall, the Fraser River and its major tributaries are impacted first by Denver's Fraser River Diversion Project. The Fraser River has been intensely studied as part of the Denver-Moffat Expansion, which will solidify Denver's bypasses in the Fraser River and its tributaries. The Colorado Water Conservation Board instream flows for the reach of the Fraser from Vasquez Creek to Saint Louis Creek, are 11 cfs for May 15th through September 15th, and 5 cfs from September 16th through May 14th. These reservoirs should impact neither Denver's nor the CWCB water rights since they will only be diverting in priority. Historically, there have not been any calls on the mainstem of the Fraser River above its confluence with the Colorado and Fraser River by water right holders, with exception of a CWCB call in 2012 for instream flows. The construction of these reservoirs will provide additional protection against such a call, and water should be available to fill the reservoirs. The Fraser Valley municipal and quasi municipal entities have agreements involving bypass flows by the Denver Water that ensure additional water will be in the Fraser River at this location. The District has been in contact with various municipal and quasi municipal entities in the Fraser Valley who have expressed an interest in utilizing the water from these reservoirs when they are fully operational. Additionally, in 2012, the Middle Park Water Conservancy District purchased water for release from the reservoirs to replace depletions for some of its contractees in the Upper Fraser Basin. A recent study performed by Leonard Rice Consulting Water Engineers indicated that there is water available for appropriation and use under the reservoirs' 2002 priority. A copy of the decrees for the reservoirs (Case No. 02CW367), the Leonard Rice Study, and a map showing the general water rights in the Upper Fraser River Basin are included as Exhibit C.

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

Recent water studies providing analyses of Grand County water needs include the Upper Colorado Study (UPCO) completed by Hydrosphere in 2003. The study documents the existing and future water supply issues facing the area. The State Water Supply initiative adopted the UPCO finding with regard to Grand County. This study, and subsequent efforts by the UPCO participants, indicates that there will be water supply shortages in Grand County for both consumptive and non-consumptive uses. Grand County experienced historically low stream flows and critically low municipal water supplies during 2002 – 2004. A key stream impacted by low stream flows was the Fraser River near Winter Park, which is precisely where the augmentation reservoir project is located. As noted in the UPCO Phase II Report, the districts that will experience the most pronounced municipal shortages are Grand County Water and Sanitation District No. 1 and Winter Park Water and Sanitation District. The Grand County Water and Sanitation District No. 1 is leading this project effort and is willing to lease storage capacity in the enhanced augmentation reservoirs to others in need. When physical low flows occur, the ability to divert can be hampered, both by calls on the river and by the physical difficulty to actually divert a flow. The augmentation reservoirs allow the GCWSD#1 to release water to meet downstream needs during such times, providing a critical tool for dealing with drought conditions.

Previous to 2005, GCWSD#1 completed and participated in a series of studies and construction projects that allowed for the establishment of the augmentation reservoirs. In summary, those included:

- Evaluation of advanced wastewater treatment alternatives and designs
- Comprehensive regionalization study for wastewater providers in Grand County
- Design and construction of the regional wastewater facilities in Fraser and related trunk collection sewers
- Lagoon closure study and implementation project
- Study for the conversion of lagoon ponds into augmentation reservoirs
- Completion of lagoon closure project (2004)
- Completion of augmentation reservoir project (2005)

All of these projects have improved water quality in the Fraser River and allowed for the development of augmentation storage without having to purchase and develop a virgin reservoir site. The project to convert lagoon treatment basins into augmentation storage reservoirs provided a cost-effective and unique approach to developing critical storage at a point in the Fraser River documented to experience historically and critically low stream flows.

Additionally, the reservoir lining project is in line with the requirements of the State Engineer's office to construct and maintain reservoir storage that does not allow rogue waters to enter the storage basin and provides efficient and "tight" storage of water diverted for that purpose.

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.

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.

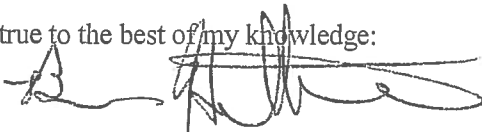
Final Deliverable: At completion of the project, the applicant shall provide the CWCB a final report that summarizes the project and documents how the project was completed. This report may contain photographs, summaries of meetings and engineering reports/designs.

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:



Print Applicant's Name: Bruce Hutchins, Manager, Grand County Water and Sanitation District No.1

Project Title: Grand County Water & Sanitation District No.1 Reservoir 2-Enlarging and Lining

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

Greg Johnson – WSRA Application
Colorado Water Conservation Board
1580 Logan Street, Suite 200
Denver, CO 80203
gregory.johnson@state.co.us

EXHIBIT A

- Project Summary
- Project Costs

**EXHIBIT A - STATEMENT OF WORK, BUDGET AND SCHEDULE
GRAND COUNTY WATER & SANITATION DISTRICT No. 1
RESERVOIR #2 – ENLARGING AND LINING PROJECT**

The following is a summary of the project, costs opinions, materials, methodologies and proposed schedule for the excavation, enlarging, and lining of the bottom of the District's Reservoir #2.

PURPOSE

The purpose for the enlarging and lining of Reservoir #2 is as follows:

- The reservoir serves as an augmentation reservoir for the District for replacing depletions in response to calls on the Fraser River by more senior water rights.
- The existing reservoir is known to leak, thus compromising its usefulness, especially during dry or drought years. The District estimates that they can lose up to 30% of stored water within 6 months.
- By enlarging the reservoir, the District can store more water when it is available for diversion out of the Fraser River. The District's consultant estimated that the increase in storage would be in the range of 25 to 30 acre feet. Current storage in Reservoir 2 is about 60 acre feet.
- By lining the reservoir, the leakage can be reduced, making the reservoir more efficient in dry or drought years and greatly reducing the 30% potential loss during the seasonal storage period which equates to about 20 acre feet.
- Total acre feet of yield is estimated to be 45 to 50 acre feet once the reservoir is enlarged and lined.

HISTORY

The original augmentation Reservoirs 1 and 2 were developed from the old District lagoon system which was abandoned in 2005. The lagoons were officially closed when the joint use wastewater facility was developed in Fraser. An engineering report and subsequent design was undertaken by District consultants to convert the abandoned and closed lagoons into reservoirs for augmentation storage. The lower pond, or Reservoir 2, was found to be leaking and inadequately sized for the District's needs. As a result, additional work was done to determine how the reservoir could be upsized and sealed so as to provide the benefits of reducing water loss and increasing available storage for dry and drought years, when there can be calls on the Fraser River.

The District has an existing geotechnical study for the site from the original project and has had subsequent input from geotechnical and civil engineering consultants on the project approach. Based on this, the District would like to gain funding support for the project.

Grand County Water & Sanitation District No. 1 Reservoir 2, Enlarging and Lining Project

The District will provide the matching funds from its own reserves and from other sources that it is seeking. The District has managed projects of equal and greater costs and complexity for both its water and sewer systems.

WORK TASKS

The work to be completed under this project includes the surveying, engineering and construction work involved with enlarging and lining the District's Reservoir #2.

Key engineering, planning, and administration work elements include the following:

Task E1

Description: Planning and preliminary engineering to develop project goals, construction alternatives, initial probable budget, and information for funding applications.

Method: Work under this task has included:

- Review of past geotechnical and engineering reports for the project site.
- Development of the project goals.
- Research into construction alternatives.
- Selection of a selected alternative to pursue.
- Development of initial opinions of probable costs.
- Completing and processing submittals for funding applications to agencies.

Deliverables: The deliverables for this task include technical memorandums, initial budgeting and scheduling opinions, and completion of funding applications.

Task E2

Description: Developing project support with neighboring districts and agencies.

- Meet and communicate with other districts and entities to discuss the project implementation and goals.
- Coordination to obtain letters of support.
- Discuss other interests or types of support.
- Review any experiences with similar projects.

Deliverables: The deliverables for this task include letters of support and possible other forms of commitment to the project. Also, information from others on relevant project experiences.

Grand County Water & Sanitation District No. 1
Reservoir 2, Enlarging and Lining Project

Task E3

Description: Development of project drawings and specifications for completion of the work.

- Complete additional geotechnical, surveying and engineering investigations and tasks needed to complete design work for the project site.
- Finalize materials selections and the selected construction alternative.
- Develop engineering design report.
- Develop plans including detailed drawings.
- Develop technical specifications and exhibits.

Deliverables: The deliverables for this task include development of review plans and specifications for the State Engineer's Office.

Task E4

Description: Submittal of project design package for State and other agency review.

- Submit necessary reports, plans, specifications and attachments for State review of the project.
- Meetings and other communications with the State and other entities to facilitate project review.
- Respond to reviewer comments and questions.

Deliverables: The deliverable for this task is the approved project design letter from the State Engineer's Office.

Task E5

Description: Developing bid and contract documents to bid to general contractors.

- Finalize all materials and equipment selections.
- Finalize design drawings and technical specifications based on review comments and on refining design elements.
- Add legal elements to the bid package including general and special conditions, contract document, bond and insurance requirements, etc.
- Provide for final bid package review.
- Add any additional requirements from funding sources and/or bid package reviews.

Deliverables: The deliverable for this task is the final bid package.

Grand County Water & Sanitation District No. 1
Reservoir 2, Enlarging and Lining Project

Task E6

Description: Bid Phase

- Set up bid schedule.
- Develop contractor qualifications as applicable.
- Advertise bid process.
- Hold site walk-through and bidders meeting.
- Receive and evaluate bids.
- Select responsive low bidder.
- Finalize contract documents with selected bidder.

Deliverables: The deliverable for this task is the final contract and notice to proceed to the successful bidder.

Task E7

Description: Construction phase services.

- Kickoff meeting with contractor.
- Conduct site weekly meetings.
- Testing and observation services.
- Photos records and field reports.
- Submittal reviews and responses to RFIs.
- Management of change orders.
- Process pay requests.

Deliverables: The documentation of construction progress.

Task E8

Description: Construction phase services.

- Final project review with appropriate agencies and owner staff.
- Development of final punchlist.
- Final testing and startup support services.
- Finalize contract documents and advertise for final payment.
- Final project acceptance and initiation of warranties.

Deliverables: The final approved project.

**Grand County Water & Sanitation District No. 1
Reservoir 2, Enlarging and Lining Project**

Task C1

Description: Contractor construction.

- Earthwork to deepen the existing reservoir by removing and crushing the excavated material.
- Segregating a portion of the excavated material to be mixed with imported bentonite for sealing the bottom.
- Importing a refined Bentonite clay product from a supplier in Wyoming.
- Mixing and placing the native material and bentonite mixture as a sealing layer in the reservoir bottom and sides.
- After placement, the liner material would be roller compacted into place.
- Excess excavated material would be hauled away for use at other locations.
- Construction management including pay requests, construction drawing mark-ups, RFIs, change order requests, and all related items.

Deliverables: The final approved project.

Task A1

Description: Administrative and legal support.

- Project bookkeeping needed for grant reimbursement.
- Administrative costs for ensuring grant objectives met for reporting and other requirements.
- Legal support for contracting, reviewing bidder submittals, bonds, insurance, and other related items.
- Legal support for grant agreement and provisions.
- Support with bookkeeping and legal requirements in the event of change orders and related items.

Deliverables: Support for project completion and a final approved project.

ENGINEERING OPINIONS OF PROBABLE COSTS

Engineering opinions of probable quantities and costs were based on preliminary quantities, vendor pricing, local contractor pricing, and unit costs for similar work. These opinions of costs and quantities are provided on an attached table.

Grand County Water & Sanitation District No. 1
Reservoir 2, Enlarging and Lining Project

ENGINEERING OPINION OF PROBABLE SCHEDULE

Updated Preliminary Project Schedule – Reservoir 2, Enlarging and Lining

Task	Timeline
E1 - Planning & Prelim. Engineering	October 2012 – September 2013
E2 – Develop Project Support	April – October 2013
E3 – Design Drawings & Specifications	October 2013 – January 2014
E4 – Design Submittal & Review	January – March 2014
E5 – Develop Bid Package	March - April 2014
E6 – Bid Phase/Contractor Selection	May – June 2014
E7 – Construction Phase Services	July – September 2014
E8 – Construction Closeout & Startup	October 2014
C1 – Contractor/Construction	July – September 2014
A1 – Administration & Legal	April 2013 – October 2014

GRAND COUNTY WATER & SANITATION DISTRICT NO. 1 - RESERVOIR #2 ENLARGING AND LINING PROJECT

TASK	LABOR COST	DIRECT COSTS*	TASK COST	COMMENTS
E1 - Planning & Prelim. Engineering**	\$ 15,000.00	\$ 1,200.00	\$ 16,200.00	District funded
E2 - Develop Project Support	\$ 3,000.00	\$ 400.00	\$ 3,400.00	
E3 - Design Drawings & Specs.	\$ 55,000.00	\$ 4,500.00	\$ 59,500.00	
E4 - Design Submittal & Review	\$ 4,500.00	\$ 400.00	\$ 4,900.00	
E5 - Develop Bid Package	\$ 8,500.00	\$ 800.00	\$ 9,300.00	
E6 - Bid Phase/Contractor Selection	\$ 7,500.00	\$ 700.00	\$ 8,200.00	
E7 - Construction Phase Services	\$ 25,000.00	\$ 1,800.00	\$ 26,800.00	
E8 - Construction Closeout & Startup	\$ 4,500.00	\$ 400.00	\$ 4,900.00	
Total: Engineer, planning, geotech, survey	\$ 123,000.00	\$ 10,200.00	\$ 133,200.00	
C1 - Contractor/Construction	\$ 180,000.00	\$ 370,000.00	\$ 550,000.00	District funded
20% Construction Contingency			\$ 110,000.00	
Total: Construction w/ contingency			\$ 660,000.00	
Total: Construction & Engineering			\$ 793,200.00	
A1 - Administration & Legal (5%)	\$ 36,000.00	\$ 3,600.00	\$ 39,600.00	
Grand Total Costs			\$ 832,800.00	

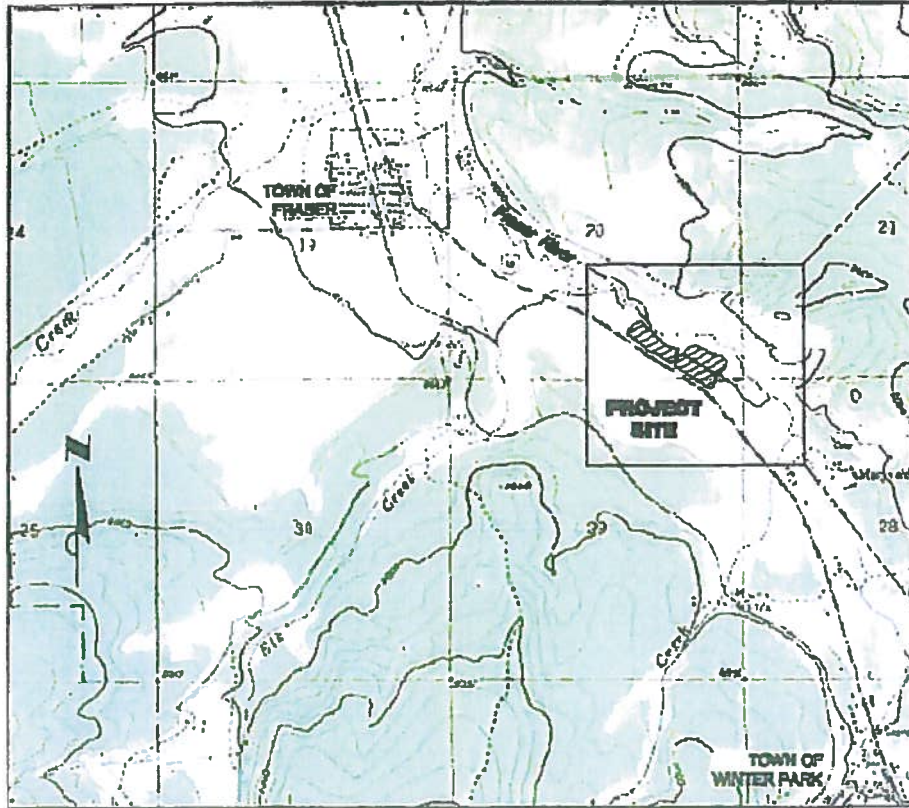
* Includes equipment costs for construction

** Includes other consultants, legal, and district costs

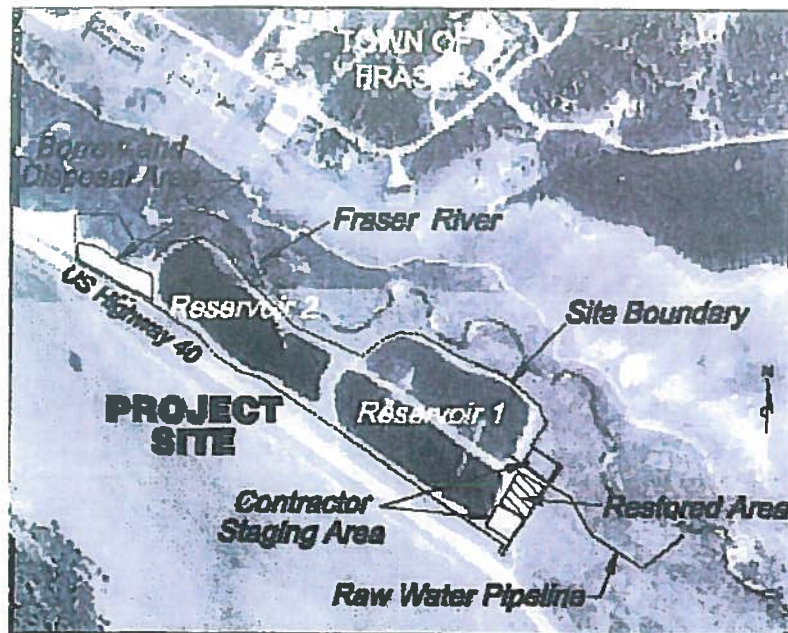
EXHIBIT B

- Project Map

Grand County Water & Sanitation District #1
Reservoir #2 Enlarging and Lining Project



Project Location Map – not to scale



Project Site Map – not to scale





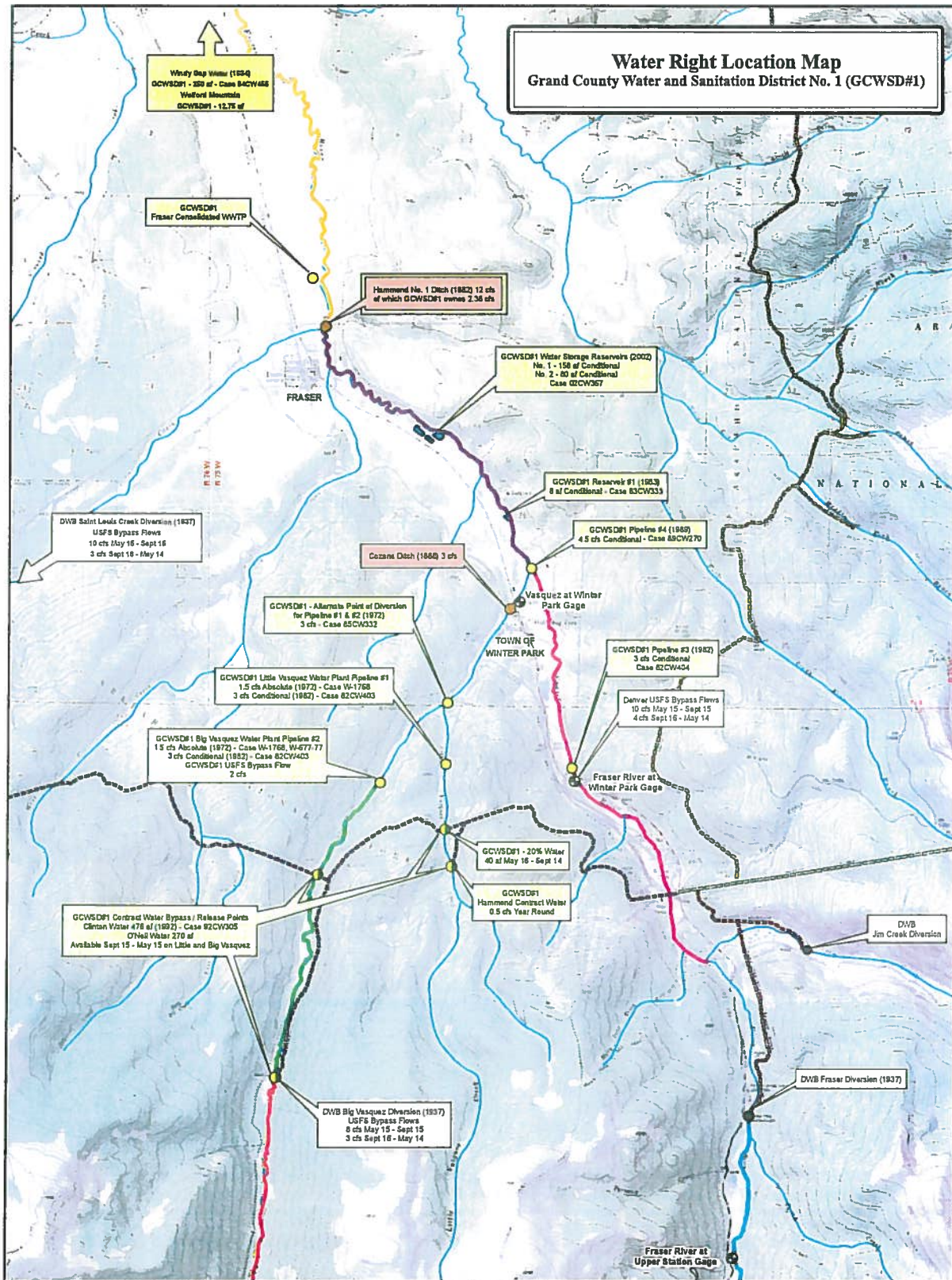




EXHIBIT C

- Water Rights
- Boundary Map
- Water Case #02CW367
- Water Availability Analysis

Water Right Location Map Grand County Water and Sanitation District No. 1 (GCWSD#1)



Facilities

- GCWSD #1 and Denver Facility Location
- GCWSD #1 Facility Location
- USGS Gauging Station
- Key Water Right in Basin
- Denver Facility Location

Denver Canal and Tunnel Systems

- Fraser / Jim Canal
- Moffat Tunnel
- Ranch Creek Canal
- Vasquez Canal

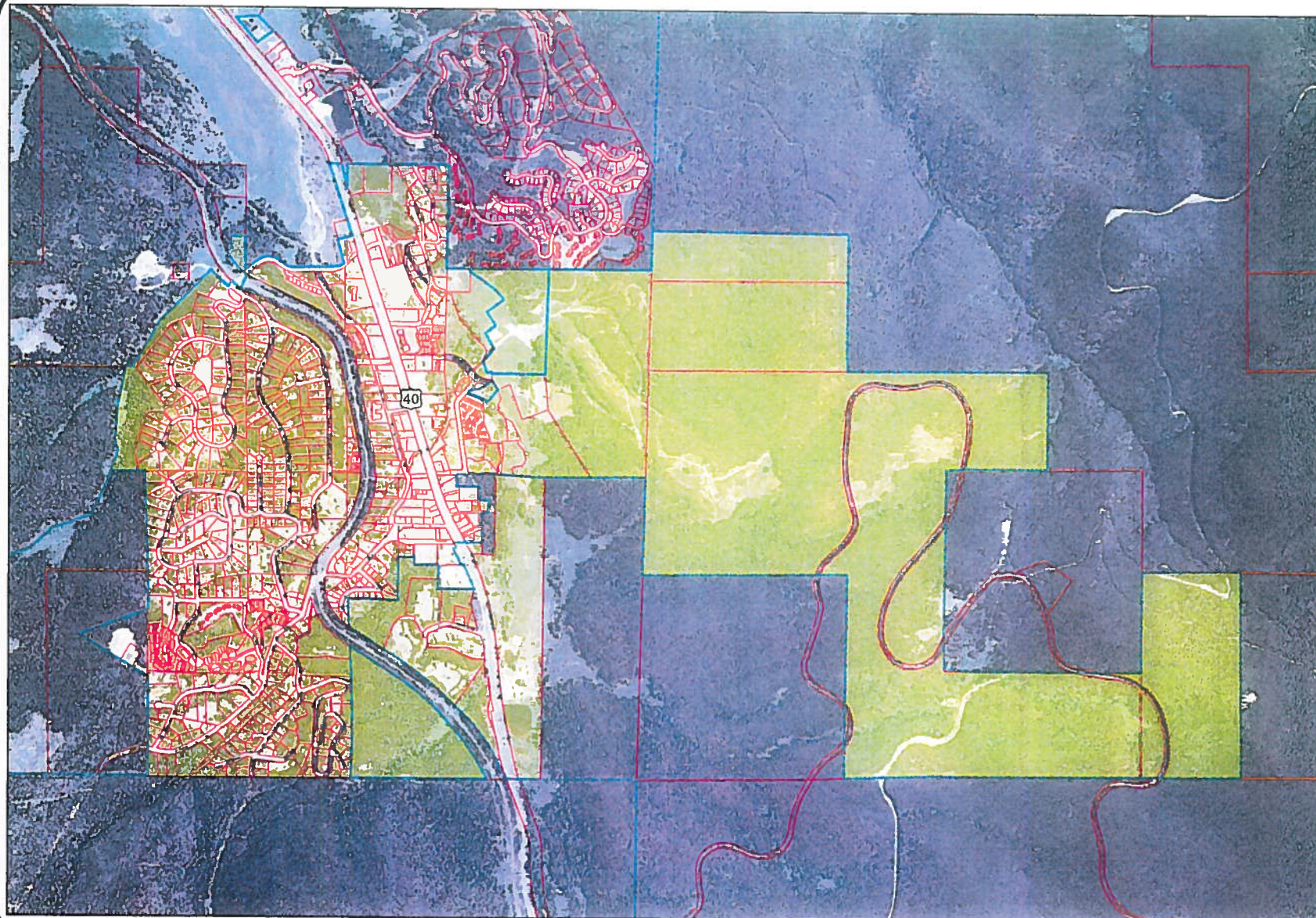
Denver's Fraser River
Diversion Project
Adjudication 11/05/1937
Appropriation 07/04/1921



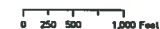
Project: 070GC028
August 2011

CWCB Minimum Stream Flows

Case Number	Flow 1	Date 1	Flow 2	Date 2	Appropriation Date
90CW318	6.0 cfs	May 15 - Sept 15	3.0 cfs	Sept 16 - May 14	11/27/1990
90CW292	2.5 cfs	Year Round			11/27/1990
90CW302	8.0 cfs	May 15 - Sept 15	3.5 cfs	Sept 16 - May 14	11/27/1990
90CW315	17.0 cfs	May 15 - Sept 15	11.0 cfs	Sept 16 - May 14	11/27/1990
90CW307	11.0 cfs	May 15 - Sept 15	5.0 cfs	Sept 16 - May 14	11/27/1990
90CW289	6.0 cfs	April 15 - Sept 30	2.5 cfs	Oct 1 - April 14	11/27/1990



SCALE IN FEET



**GRAND COUNTY
WATER AND SANITATION
DISTRICT#1**

Map Legend:

- Grand County Water_San #1
Parcels
Townlimits
WP_Fraser

Image Data from USDA National Agriculture
Imagery Program (NAIP) 1 Meter mosaic in
NAD 83, UTM Zone 13 N, NAD 83
Aerial Photography Summer 2005.

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May 2002
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 100 North American Drive, Suite 100, San Jose, CA 95128

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This product has been developed for Windows 95 and runs in the protected mode of Windows 95. It is not recommended to be installed on a Windows 95 system as a standalone, since it requires a protected mode environment, or to be installed on a Windows 95 system as a standalone, since it requires a protected mode environment.

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CENTRAL FILES

WATER COURT, WATER DIVISION NO. 5 Garfield County Courthouse 109 8 th Street, Suite 104 Glenwood Springs, Colorado 81601-3303 (970) 945-5075	RECEIVED JAN 31 2005 <small>WATER RESOURCES STATE ENGINEER COLO</small> <input type="checkbox"/> COURT USE ONLY <input type="checkbox"/>
CONCERNING THE WATER RIGHTS APPLICATION OF THE GRAND COUNTY WATER AND SANITATION DISTRICT NO. 1, IN GRAND COUNTY	
DAVID A. BAILEY (# 13135) Carver Kirchhoff Schwarz McNab & Bailey, LLC 1600 Stout Street, Suite 1700 Denver, Colorado 80202 (303) 893-1815 (Telephone) (303) 893-1829 (Facsimile) dbailey@cksmb.com	Case No. 02CW367
RULING OF THE REFEREE AND JUDGMENT AND DECREE OF THE WATER COURT	

The within application for water storage rights was filed on December 26, 2002 by the Grand County Water & Sanitation District No. 1. The Application seeks conditional water storage rights for the GCWSD Water Storage Reservoirs 1 and 2.

The above-entitled application was referred to the undersigned as Water Referee for Water Division No. 5, State of Colorado, by the Water Judge of said Court in accordance with Article 92 of Chapter 37, Colorado Revised Statutes, known as The Water Right Determination and Administration Act of 1969.

The undersigned Referee, having made such investigations as are necessary to determine whether or not the statements in the Application are true and having become fully advised with respect to the subject matter of the Application does hereby make the following determination and Ruling of the Referee in the matter, to-wit:

1. Name and address of Applicant:

Grand County Water and Sanitation District No. 1 (the "District")
c/o General Manager
P.O. Box 3077
Winter Park, Colorado 80482
Telephone: (970) 726-5583
Fax: (970) 726-5636

2. Name and description of structures and water rights :

a. Name of water storage water right: GCWSD Water Storage Reservoir No 1.

- i. Location: The GCWSD Water Storage Reservoir No. 1 will be located at the site of the District's former sewage lagoons, which have been taken out of service and which have been or will be fully reclaimed. The GCWSD Water Storage Reservoir No. 1 is generally located northeasterly of U.S. Highway No. 40 within the S½SE¼ of Section 20 and the NE¼NE¼ of Section 29, Township 1 South, Range 75 West of the 6th P.M. The GCWSD Water Storage Reservoir No. 1 will be constructed to the GCWSD Water Storage Reservoir No. 2 by a pond transfer structure consisting of an inlet pipeline, a gate valve, a manhole or vault and an outlet pipeline.
- ii. Point of diversion: The point of diversion for the GCWSD Water Storage Reservoir No. 1, which shall be referred to herein as the GCWSD Intake Structure and shall also be the intake structure for the GCWSD Water Storage Reservoir No. 2, shall be located in the NW¼NW¼ of Section 28, Township 1 South, Range 75 West, 6th P.M. at a point on the west bank of the Fraser River approximately 270 feet east of the west line of Section 28 and 195 feet south of the north line of Section 28. The District claims the right to divert water from the GCWSD Intake Structure to the GCWSD Water Storage Reservoir No. 1 at a maximum rate of 6.0 cfs (6.0 cfs total as between this reservoir and GCWSD Water Storage Reservoir No. 2).
- iii. Source: The source of the water right is the Fraser River and its tributaries upstream of the point of diversion.
- iv. Amount claimed: 158 acre-feet, conditional, subject to the right to fill and refill the Reservoir as more particularly described below.

- v. Uses or proposed uses: Municipal uses, irrigation, augmentation, piscatorial, aesthetic and recreation. The District also claims the right to fill and refill the GCWSD Water Storage Reservoir No. 1 so long as it is in priority for the purposes of replacing water applied to the beneficial uses decreed herein and to replace evaporative losses.
 - vi. Appropriation date: December 4, 2002, which is the date on which the Board of Directors of the District duly passed, in a public meeting, a resolution authorizing the appropriation of water and the filing of the application herein.
 - vii. Maximum height of dam: The GCWSD Water Storage Reservoir No. 1 has an earthen berm on its east and north sides the height of which has a maximum height of approximately fourteen feet from the ground surface to the top of the berm and twelve feet from the ground surface to the crest of the spillway.
 - viii. Length of dam: The length of the earthen berm described above is approximately 1,300 feet.
- b. Name of water storage water right: GCWSD Water Storage Reservoir No. 2.
- i. Location: The GCWSD Water Storage Reservoir No. 2 will be located at the site of the District's former sewage lagoons, which have been taken out of service and which have been or will be fully reclaimed. The GCWSD Water Storage Reservoir No. 2 is generally located northeasterly of U.S. Highway No. 40 within the S½SE¼ of Section 20, Township 1 South, Range 75 West of the 6th P.M. The GCWSD Water Storage Reservoir No. 2 will be connected to the GCWSD Water Storage Reservoir No. 1 by a pond transfer structure consisting of an inlet pipeline, a gate valve, a manhole or vault and an outlet pipeline.
 - ii. Point of diversion: The point of diversion for the GCWSD Water Storage Reservoir No. 2, which shall be referred to herein as the GCWSD Intake Structure and shall also be the intake structure for the GCWSD Water Storage Reservoir No. 1, shall be located in the NW¼NW¼ of Section 28, Township 1 South, Range 75 West, 6th P.M. at a point on the west bank of the Fraser River approximately 270 feet east of the west line of Section 28 and 195 feet south of the north line of Section 28. The District claims the right to divert water from the GCWSD Intake Structure to the GCWSD Water Storage Reservoir

No. 2 at a maximum rate of 6.0 cfs (6.0 cfs total as between this reservoir and GCWSD Water Storage Reservoir No. 1).

- iii. Source: The source of the water right is the Fraser River and its tributaries upstream of the point of diversion.
- iv. Amount claimed: 80 acre-feet, conditional, subject to the right to fill and refill the Reservoir as more particularly described below.
- v. Uses or proposed uses: Municipal uses, irrigation, augmentation, piscatorial, aesthetic and recreation. The District also claims the right to fill and refill the GCWSD Water Storage Reservoir No. 2 so long as it is in priority for the purposes of replacing water applied to the beneficial uses decreed herein and to replace evaporative losses.
- vi. Appropriation date: December 4, 2002, which is the date on which the Board of Directors of the District duly passed, in a public meeting, a resolution authorizing the appropriation of water and the filing of the application herein.
- vii. Maximum height of dam: The GCWSD Water Storage Reservoir No. 2 has an earthen berm on its east and north sides the height of which has a maximum height of approximately sixteen feet from the ground surface to the top of the berm and fourteen feet from the ground surface to the crest of the spillway.
- viii. Length of dam: The length of the earthen berm described above is approximately 1,400 feet.

3. Findings of Fact and Conclusions of Law:

- a. Owners of land on which point of diversion and inlet pipeline are located. The land on which the GCWSD Intake Structure is located is owned by the Town of Fraser. The land on which the inlet pipeline from the Intake Structure to the Reservoir is owned by the Town of Fraser and by objector Rendezvous Colorado, LLC ("Rendezvous"). Prior to any use of the GCWSD Intake Structure and the inlet pipeline, the District shall obtain the right to construct and use said structures pursuant to written agreements with the Town of Fraser and Rendezvous.
- b. Integrated water system. The GCWSD Water Storage Reservoirs 1 and 2 are part of an overall integrated water supply system owned and operated by the District.

CENTRAL FILES

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FEB 25 2005

- c. Statement of Opposition. A timely Statement of Opposition<sup>WATER RESOURCES
STATE ENGINEER</sup> was filed by Rendezvous by and through its attorneys, Patrick, Miller & Kropf, P.C. Said Statement has been resolved by the parties by execution and filing with the Court of a stipulation between them.
- d. Lined storage. Groundwater tributary to the Fraser River shall not infiltrate or inflow into the GCWSD Water Storage Reservoirs 1 and 2 at a rate or in a manner that exceeds the performance standard for a constructed liner as established by the Colorado State Engineer. If the State Engineer or the Division Engineer determines that said standard has not been met, the District shall apply to the State for appropriate permits pursuant C.R.S. § 37-90-137, as amended, and the District shall augment any groundwater use accordingly.
- e. Measuring devices. The District shall install and maintain, at its expense, adequate meters, gauges or other measuring devices as required by the State Engineer or Division Engineer.
- f. Appropriation of water and determination of a water right for the same. The Court has subject matter jurisdiction over this matter. The Court finds and concludes that the District has initiated a valid appropriation of a water storage right for which application has been made herein. The District has satisfied the requirements for initiation of a conditional water storage right and adjudication of the same pursuant to the requirements of Chapter 37, Article 92 of the Colorado Revised Statutes. Specifically, the Court finds that a complete application was filed herein and duly published in the December 2002 resume of water rights applications. Adequate notice was provided as required by C.R.S. § 37-92-302. The Court finds that the relief requested herein is consistent with the relief originally requested in the application for which notice was provided.
- g. Ruling of the Referee, Judgment and Decree. The District shall be granted a decree for the GCWSD Water Storage Reservoirs 1 and 2 more particularly described above subject to all earlier priority dates of others and tabulation by the Division Engineer of such priorities. This Decree shall be filed with the Water Clerk and subject to judicial review. A copy of this Decree shall be filed with the State Engineer and the Division Engineer in and for Water Division No. 5.
- h. Diligence application. An application for Hexennial finding of reasonable diligence shall be filed in the same month as the decree is entered during the year 2010 and every six years after entry of the decree until the rights are made absolute by reason of the completion of the appropriation.

DATED this 25th day of January, 2004.⁵

Copy of the foregoing mailed to all Counsel
of Record, Water Referee, Div. Engineer
and State Engineer Date 1/28/05

TC
Benny Clark Water Div. 5

Bailey
Patrick

L. Leoniak
~~Daniel B. Petre~~ Lain Leoniak
Water Referee
Water Division No. 5

No protest was filed in this matter. Accordingly, the foregoing Ruling of the Referee is confirmed and approved and is made the judgment and decree of the Water Court.

Dated this 23rd day of February, 2004.⁵

Thomas A. Steele
Water Judge, Water Division No. 5
State of Colorado

Copy of the foregoing mailed to all Counsel
of Record, Water Referee, Div. Engineer
and State Engineer Date 2/24/05

TC
Benny Clark Water Div. 5

Bailey
Patrick

Memorandum

To: Bruce Hutchins, Manager, Grand County Water and Sanitation District No. 1
cc: Stan Cazier, Ed Duerr
From: Janet P. Williams, P.E., Leonard Rice Engineers, Inc.
Reviewed by: Stephanie Luce, E.I., Leonard Rice Engineers, Inc.
Date: May 7, 2013
Subject: Water Availability Analysis for GCWSD Water Storage Reservoir Nos. 1 and 2

On behalf of the Grand County Water and Sanitation District No. 1 (GCWSD#1, or District), an analysis of water available for diversion to storage, in priority, to the GCWSD Water Storage Reservoir Nos. 1 and 2 was conducted by Leonard Rice Engineers, Inc. (LRE). The GCWSD Water Storage Reservoir Nos. 1 and 2 (Reservoirs) were decreed in Case No. 02CW367 for 158 acre-feet (AF) and 80 AF, respectively, for a total storage of 238 AF, to be filled at a flow rate of up to 6 cubic-foot per second (cfs). The Reservoirs are located in Sections 20 and 29, Township 1 South, Range 75 West of the 6th Prime Meridian.

The study period for the water availability analysis, November 1, 1987 through October 31, 2011, was selected to reflect a sufficient length of time, including dry years, average years, and wet years. This study period is representative of recent Division 5 administration.

To determine the amount of water physically available for diversion to the Reservoirs, daily streamflow data were obtained from USGS Fraser River at Winter Park stream gage records (USGS ID # 09024000) and USGS Vasquez Creek at Winter Park (USGS ID # 09025000). The streamflows at these two upstream gages were added together over the study period to estimate the amount of water physically available at the diversion point for the Reservoirs, which is downstream on the Fraser River from the confluence of Vasquez Creek and the Fraser River.

In this analysis, it was assumed that when water was available at both the aforementioned gages combined, a like amount was available for diversion and storage at the location of the diversion point for the Reservoirs. It was assumed that water was not available for diversion on days when a call was in effect on the Fraser or Colorado Rivers. Call data for the Colorado River basin were obtained from the Call Chronology section of Colorado's Decision Support System.

The results of the analysis are summarized in the tables below. Table 1 shows the estimated amount of water available, in AF, for storage to GCWSD#1 in Case No. 02CW367, over the study period, on a monthly basis. Table 2 shows the estimated number of days on which water would have been available to store in the Reservoirs in priority.

Based on our analysis, the average annual volume of available water is an estimated 2,206 AF during the study period. The average number of days on which water is available to the proposed water right is an estimated 185 days per year during the study period. Future expansion of Denver's Moffat system, and a subsequent increase in Denver diversions, will likely reduce this water availability somewhat. However, these increased Denver diversions are anticipated to primarily affect the wet and average years, and not to reduce the District's dry year yields.

Based on this analysis, under historical flow and call conditions, we estimate that there will likely be a sufficient supply of water available in priority to fill the GCWSD Water Storage Reservoir Nos. 1 and 2 in every year.

**Table 1. Flow Available for In-Priority Storage
In GCWSD Water Storage Reservoir Nos. 1 and 2 (Limited to 6 cfs)**

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Yearly Total
1987											0	0	
1988	0	0	0	309	369	357	214	0	0	0	0	0	1,250
1989	0	0	262	357	369	357	95	0	0	0	0	0	1,440
1990	0	0	0	83	83	12	309	0	0	0	0	0	488
1991	0	0	238	0	286	357	369	95	0	0	0	0	1,345
1992	309	345	369	214	369	357	167	0	0	0	0	0	2,130
1993	333	214	0	119	369	357	369	250	0	12	48	12	2,083
1994	369	333	369	155	369	333	0	0	0	0	0	0	1,928
1995	345	321	0	0	238	357	369	369	357	369	357	119	3,201
1996	357	345	369	357	369	357	369	143	0	48	60	24	2,797
1997	369	333	369	357	369	357	369	369	357	369	357	369	4,344
1998	369	333	369	357	369	357	369	298	0	0	0	0	2,821
1999	333	333	250	119	369	357	369	369	357	369	357	369	3,951
2000	369	345	369	274	369	357	226	0	48	0	0	0	2,356
2001	0	0	0	12	369	333	0	0	0	0	71	48	833
2002	0	0	0	24	274	143	0	0	0	0	0	0	440
2003	0	0	0	250	321	357	119	0	0	60	0	0	1,107
2004	0	0	143	321	369	357	131	0	0	0	0	0	1,321
2005	0	0	0	238	369	357	274	179	0	0	48	0	1,464
2006	345	333	369	357	369	357	274	0	0	0	0	0	2,404
2007	143	238	369	357	369	357	369	226	71	309	357	369	3,535
2008	369	345	369	357	369	357	369	369	357	202	0	0	3,463
2009	0	0	167	357	369	357	369	190	0	107	190	369	2,475
2010	131	36	369	357	369	357	286	369	274	309	357	357	3,570
2011	369	333	369	357	369	357	369	369	357	369			
Average	188	175	213	237	342	332	256	150	91	105	92	85	2,206
Maximum	369	345	369	357	369	357	369	369	357	369	357	369	4,344
Minimum	0	0	0	0	83	12	0	0	0	0	0	0	440

**Table 2. Number of Days with Flow Available for In-Priority Storage
In GCWSD Water Storage Reservoir Nos. 1 and 2**

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Yearly Total
1987											0	0	
1988	0	0	0	26	31	30	18	0	0	0	0	0	105
1989	0	0	22	30	31	30	8	0	0	0	0	0	121
1990	0	0	0	7	7	1	26	0	0	0	0	0	41
1991	0	0	20	0	24	30	31	8	0	0	0	0	113
1992	26	29	31	18	31	30	14	0	0	0	0	0	179
1993	28	18	0	10	31	30	31	21	0	1	4	1	175
1994	31	28	31	13	31	28	0	0	0	0	0	0	162
1995	29	27	0	0	20	30	31	31	30	31	30	10	269
1996	30	29	31	30	31	30	31	12	0	4	5	2	235
1997	31	28	31	30	31	30	31	31	30	31	30	31	365
1998	31	28	31	30	31	30	31	25	0	0	0	0	237
1999	28	28	21	10	31	30	31	31	30	31	30	31	332
2000	31	29	31	23	31	30	19	0	4	0	0	0	198
2001	0	0	0	1	31	28	0	0	0	0	6	4	70
2002	0	0	0	2	23	12	0	0	0	0	0	0	37
2003	0	0	0	21	27	30	10	0	0	5	0	0	93
2004	0	0	12	27	31	30	11	0	0	0	0	0	111
2005	0	0	0	20	31	30	23	15	0	0	4	0	123
2006	29	28	31	30	31	30	23	0	0	0	0	0	202
2007	12	20	31	30	31	30	31	19	6	26	30	31	297
2008	31	29	31	30	31	30	31	31	30	17	0	0	291
2009	0	0	14	30	31	30	31	16	0	9	16	31	208
2010	11	3	31	30	31	30	24	31	23	26	30	30	300
2011	31	28	31	30	31	30	31	31	30	31			
Average	16	15	18	20	29	28	22	13	8	9	8	7	185
Maximum	31	29	31	30	31	30	31	31	30	31	30	31	365
Minimum	0	0	0	0	7	1	0	0	0	0	0	0	37