STATE OF COLORADO

Colorado Water Conservation Board
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TO: Colorado Water Conservation Board Members

FROM: Linda J. Bassi, Chief
Kaylea White
Stream and Lake Protection Section

DATE: January 19, 2010

SUBJECT: **Agenda Item No. 13, January 26-27, 2010 Board Meeting**
Stream and Lake Protection Section
Proposed Water Right Acquisition on the Alamosa River

Introduction

The Alamosa Riverkeepers ("ARK") has offered the CWCB the opportunity to acquire 2.5 cfs of water from the Gabino Gallegos Ditch, Priority 11 water right on the Alamosa River near the town of Capulin in Conejos County in Water Division 3. Additionally, the Terrace Irrigation Company has offered 2,000 acre-feet of storage space in Terrace Reservoir to allow the acquired Gabino Gallegos water right to be stored and released for instream flow ("ISF") use by the Board to increase stream flows during the late summer through early winter. Terrace Reservoir is located on the Alamosa River upstream from the Gabino Gallegos headgate. The donation of storage space is contingent upon the required reconstruction of the reservoir spillway and lifting of a storage restriction, which is expected to be completed in the next few years. The reservoir is currently under a storage restriction imposed by the State Engineer because the spillway is unable to pass the Probable Maximum Flood design storm. The offer letter is attached as **Exhibit A.** This proposed acquisition is the first step in the much larger Alamosa River Instream Flow Project ("ISF Project") to restore flows and replace natural resources damaged by mining operations at the Summitville Mine in the upper Alamosa River watershed. Additional water acquisitions are anticipated to reach the goal of 2,000 acre-feet feet of water stored for ISF use.

Under this proposal, ARK will donate the Gabino Gallegos water right to the CWCB, and the CWCB will change the point of diversion for the water right to Terrace Reservoir, and change the use from irrigation to storage and release for ISF use from the outlet of Terrace Reservoir downstream to County Road 10, a distance of approximately 16 miles. A map showing the stream reaches where the acquired water would be used are attached to this memo.

Staff Recommendation

Pursuant to ISF Rule 6b., the CWCB's consideration of this proposal at this meeting will initiate the 120-day period for CWCB review. **No formal action is required at this time.** The initial presentation of this proposal provides an opportunity to the CWCB and the public to identify questions or concerns that Staff or the ARK will address at this or a subsequent meeting.

History

In 1984, Summitville Consolidated Mining Corporation began construction of an open pit gold mine near the headwaters of the Alamosa River. (See attached map). Although this site had been mined for over 100 years, the new owners utilized a cyanide leaching technology to extract gold from the ore. Shortly after it became operational, there were problems with accidental releases of contaminants from the mine. The acid and metal drainage ultimately resulted in a massive fish kill affecting 53 miles of the Alamosa River. The operator abandoned the mine site in December 1992 and filed for bankruptcy. The EPA Emergency Response Branch assumed responsibility, and the Summitville site was added to the National Priorities List of Superfund sites on May 31, 1994.

The United States and Colorado initiated litigation under the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA) to recover remediation for the Summitville site. Colorado and the United States successfully recovered $5 million to restore, replace or acquire the equivalent of the natural resources damaged by operations at the Summitville Mine. The $5 million award was split evenly between the U.S. and Colorado, and five Trustees were appointed to make joint decisions about how to use the funds. The three Colorado Trustees are: the Colorado Attorney General, the Executive Director of the Colorado Department of Public Health and Environment (CDPHE), and the Director of the Colorado Department of Natural Resources.

From 1992 to 2001, EPA and CDPHE completed several projects to reduce acid mine drainage from the site, and by 2005, site-wide reclamation and contaminant source collection structures were completed. Remediation and reclamation work is still underway at the mine. Recently, Summitville Superfund Site received up to $25 million in new funding through the American Recovery and Reinvestment Act of 2009, which will be used to construct a new on-site water treatment plant. Construction of the treatment plant is expected to begin in 2010. Once completed, all proposed clean-up work at the Summitville Mine site will be implemented.

Along with ongoing remediation and reclamation efforts at the mine, the Trustees funded a master plan and environmental assessment for the Alamosa River Watershed. The CWCB was assigned responsibility for managing the project on behalf of the Trustees and the Alamosa River Foundation. The purpose of the ***Alamosa River Watershed Restoration Master Plan and Environmental Assessment*** (Master Plan) was to ensure that funds recovered from the litigation settlement would be used in a manner that "comprehensively addresses the restoration needs of the Alamosa River watershed and is implemented in a manner that is fully and consistently integrated into existing and future Alamosa River projects and the Summitville CERCLA cleanup remedy."

The Master Plan Final Report, issued by CWCB in 2005, summarized existing environmental conditions in the watershed, identified problems, and developed specific restoration solutions designed to bring about a healthier Alamosa River watershed. The ISF Project was one of the highest ranking projects identified by the Master Plan, and was included in the Preferred Restoration Alternative.

Alamosa River Instream Flow Project

The ISF Project implements several recommendations from the Master Plan and is part of the larger effort to restore and replace damaged resources in the Alamosa River watershed. The ISF Project includes:

(1) increasing the Terrace Reservoir spillway capacity to remove a storage restriction;

(2) acquiring senior irrigation water rights on the Alamosa River from willing Sellers;

(3) transferring the irrigation water rights to CWCB for storage in Terrace Reservoir; and,

(4) operating Terrace Reservoir to store and release the acquired water for ISF use by the CWCB in the Alamosa River between Terrace Reservoir and County Road 10.

Once operational, the ISF Project is expected to improve the magnitude and duration of surface flows in the river, thereby improving environmental, water resource and recreation values while restoring and replacing resources damaged by operations at the Summitville Mine.

The ISF Project is a two-phased, community-based effort spearheaded by the ARK and Terrace Irrigation Company. Phase I, currently underway, includes purchasing senior irrigation water rights, transferring the water rights to the CWCB, changing the use in water court to ISF use by CWCB, and designing the spillway improvements to Terrace Reservoir. Phase II, which is not yet funded, involves reconstructing the Terrace Reservoir spillway, storing the acquired water rights in the reservoir, and releasing the water rights to restore flows in the Alamosa River during the late summer, fall, and early winter months.

The Board's Water Acquisition Procedures

Rule 6 of the Rules Concerning the Colorado Instream Flow and Natural Lake Level Program ("ISF Rules") sets forth the Board's procedures for acquiring water for ISF use. Section 37-92-102(3), C.R.S. (2009) provides 120 days for the Board to determine what terms and conditions it will accept in an acquisition agreement for water, water rights, or interests in water to preserve or improve the natural environment. ISF Rule 6 requires a minimum of two Board meetings to allow for public input prior to taking final action on a proposed acquisition. The Board's initial consideration of this proposal at this Board meeting initiates the 120-day time period for the Board to consider the terms and conditions of the proposed acquisition. Final action on the proposal could occur at the March 2010 Board meeting. ISF Rule 6m.(4) provides that any person may request the Board to hold a hearing on the proposed acquisition, and that such a request must be filed within twenty days of this Board meeting.

ISF Rule 6e. requires the Board to evaluate the appropriateness of the acquisition and determine how best to utilize the acquired water to preserve or improve the natural environment. The Rules list several factors the Board may consider in its evaluation of the acquisition, which factors are addressed in this memo.

Pursuant to statute, Staff has requested recommendations from the Colorado Division of Wildlife ("CDOW"), the Division of Parks and Outdoor Recreation, the U.S. Department of Agriculture and the U.S. Department of Interior. Pursuant to ISF Rule 6m.(1), Staff has provided notice of the proposed acquisition to all persons included on the appropriate ISF Subscription Mailing Lists and provided notice to the State Engineer's Substitute Supply Plan Notification List. The CDOW's recommendation letter and general comment letters supporting this proposed acquisition are attached as **Exhibit B**.

1. Water Right Proposed for Acquisition

The water right proposed for this acquisition is 2.5 cfs of the Gabino Gallegos Ditch, Priority 11, which diverts from the Alamosa River, downstream from Terrace Reservoir, near the town of Capulin in Conejos County. Priority 11 of the Gabino Gallegos Ditch was decreed for irrigation and domestic purposes by the Conejos County District Court on July 11, 1888, in the amount of 16 cfs absolute, with an appropriation date of April 15, 1870 (see decree attached as **Exhibit C**). The proposed Acquisition Agreement is attached as **Exhibit D**.

The Gabino Gallegos Ditch diverts from the east side of the Alamosa River approximately 8 miles downstream from Terrace Reservoir. The Ditch flows in an easterly direction to irrigate approximately 1,000 acres of alfalfa, pasture grass, small grains and vegetables. In Case No. 82CW097, 1 cfs of the Gabino Gallegos Ditch was transferred to storage in Terrace Reservoir to augment depletions from a development called the Jasper Development.

In addition to the Gabino Gallegos water right, this proposal also contemplates acquisition of up to 2,000 acre feet of storage space in Terrace Reservoir. The Terrace Irrigation Company has agreed to donate the storage space to store the Gabino Gallegos right for ISF use, subject to completion of spillway improvements and obtaining removal of the storage restriction. Reconstruction of the spillway is scheduled for Phase II of the ISF Project, and is anticipated to go to bid this fall. The proposed Storage Agreement is attached as **Exhibit E.**

2. Proposed Method of Acquisition

The Valle Del Sol Community Center, a Colorado non-profit corporation acting on behalf of ARK has entered into a Purchase Agreement with the owner of the subject water right ("the Seller). The Seller has executed a Dry-Up Covenant for the lands historically irrigated by the subject water right. The Valle Del Sol / ARK intend to donate the purchased water right to CWCB. The transaction will close in escrow pending CWCB's approval. If CWCB elects not to accept the water right, the Deed and Dry-up Covenant will be returned to the Seller, and all escrow money will be released. If the CWCB accepts the proposal, the Deed and Dry-Up Covenant will be released to the buyer and donated to the CWCB for ISF use.

CWCB's use of Terrace Reservoir to release water for instream flow purposes is contingent upon reconstruction of the spillway; therefore, ARK and CWCB are considering options for using the donated right until the spillway reconstruction is completed, including bypassing the acquired right at the headgate for instream flow use or leasing the water back to the Seller to use for irrigation.

3. Reaches of Stream Proposed for Use of the Acquired Right

The reach of stream proposed for use of the acquired Gabino Gallegos water right extends from the outlet of Terrace Reservoir, downstream approximately 16 miles, to the bridge at County Road 10, which includes the restored section of stream channel between Gunbarrel Road and County Road 10. The Alamosa River is currently dry most years downstream from Gunbarrel Road during late summer until spring runoff.

4. Natural Flow Regime

The Alamosa River watershed is approximately 148 square miles, and ranges in elevation from over 13,000 feet to about 7,600 feet. The headwaters are located near the Continental Divide, and the river terminates at ditch headgates just east of Highway 285. Stream flow in the Alamosa River is derived primarily from snow melt and local precipitation, with peak flows occurring in June. Surface water in the Alamosa River rarely reaches the Rio Grande, located approximately 10 miles to the east. Terrace Reservoir is the only mainstem storage facility on the River.

In the segment of the Alamosa River downstream from Terrace Reservoir, the river is confined by steep valley walls. Peak flow typically occurs in June, and drops off quickly in July and August of most years. Table 1 reflects mean monthly streamflow recorded at the State gage located ½ mile downstream from Terrace Reservoir.

Table 1 – Mean Monthly Flow (cfs), Alamosa River downstream from Terrace Reservoir, State Gage ALABELCO, 1980 – 2008

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MAX	141	29	22	29	12	49	195	583	872	415	178	96
AVG	49	12	5	6	5	8	88	381	418	174	92	57
MIN	14	1	1	1	2	2	36	108	53	36	7	9

Approximately 2-3 miles downstream from the reservoir, the valley widens, and irrigation diversions pull water from the River. Senior decreed water rights in the reach of the River between Terrace Reservoir and the Town of Capulin total nearly 90 cfs, and significantly reduce stream flows. The following table from the Master Plan describes the last water right priority expected to be filled in a given month based upon average stream flow at the gage downstream from Terrace Reservoir. The Gabino Gallegos right is priority number 11.

Priority Numbers Expected to be Fulfilled in a Given Month

Month	Average Flow at Below Terrace Reservoir Gage (cfs)	Last Priority Number Fulfilled by Average Flow
April	97	14
May	363	45
June	418	58
July	185	27
August	103	15
September	51	9

Source: CWRD, 2004

The Capulin Ditch, located downstream from the Gabino Gallegos diversion, is decreed as Priority 10, and can call up to 31.37 cfs past the Gabino Gallegos headgate. By mid-summer, the Capulin Ditch diverts the remaining flow of the Alamosa River.

5. Existing Instream Flow Water Rights

The CWCB does not currently hold ISF water rights on the Alamosa River downstream from Terrace Reservoir. There is an ISF water right located upstream of the reservoir between Treasure Creek/Cascade Creek and the confluence of Wightman Fork (3-82W209), but that water right will not be affected by this proposal.

6. Existing Natural Environment

The Alamosa River is classified as a large river (between 60-90 feet wide) and habitat surveys indicate the stream environment of the Alamosa River could support a self-sustaining fishery in the future, if current water quality and wintertime water quantity continue to improve. In the past, the Alamosa River in this area did support a healthy fishery. Local residents have reported that prior to 1990, the river near Capulin was a popular place for weekend picnics and recreational fishing.

The CDOW has conducted surveys on the Alamosa River and found the fishery has been severely impacted by metals and acids draining from the Summitville Mine site, and extremely low wintertime stream flows. Although the natural environment was severely damaged, recent reports by the CDPHE indicate that aquatic life is returning in the lower watershed, and construction of a new, higher capacity treatment plant this year is expected to achieve the water quality standards and aquatic life goals established for the Alamosa River (CDPHE, March 2009).

In addition to the remediation efforts at the mine, stream channel restoration projects have been completed for 2.5 miles of the River in the reach between Gunbarrel Road and County Road 10. Restoration projects are planned for an additional 2.5 miles of stream in the same area. These restoration projects are designed to improve aquatic habitat and riparian areas along the river, with the expectation that once instream flows are stabilized, the River will be able to support a fishery.

7. Proposed Use of the Water Right

This proposal contemplates storage in Terrace Reservoir of up to 427 acre-feet of water. This amount represents the average annual diversions attributable to 2.5 cfs of the Gabino Gallegos Ditch, Priority 11 water right. Storage will begin in April, when the Gabino Gallegos right comes into priority. Water will be released from Terrace Reservoir to the Alamosa River during late summer/ fall/ early winter to maintain flows in the River downstream to County Road 10 (the restoration reach). The amount of water released for ISF use would include the amount historically diverted by the ditch as well as the historical consumptive use amount. The Master Plan has identified a target flow of 10 cfs for the proposed ISF reach based upon interviews with water administration officials and their experience with water deliveries from Terrace Reservoir. This initial target flow is expected to maintain flows through a longer reach of the Alamosa River than historically available. Staff is working with the CDOW to establish what amounts are needed to preserve and improve the natural environment.

ISF releases from Terrace Reservoir would be used to preserve and improve the natural environment by providing surface stream flows that eventually will naturally percolate down into the stream bed and accrue to the alluvial aquifer. It is expected that the ISF releases will establish more sustainable stream flows in the Alamosa River, replenish the alluvial aquifer and extend surface flows further downstream to County Road 10.

8. Proposed Season of Use

Storage in Terrace Reservoir will begin in April, and continue as long as the Gabino-Gallegos right is in priority. Releases of stored water will be constrained by weather and icing issues, but will generally occur July through December. The Acquisition Agreement and the Storage Agreement both provide for an annual planning meeting to discuss release rates and schedules.

9. Stacking Evaluation

Since the CWCB does not currently hold ISF water rights for the Alamosa River downstream from Terrace Reservoir, there is no need for a stacking evaluation to be completed as part of this proposed water acquisition. However, at such time when ARK purchases additional water rights for donation to CWCB, staff will conduct a stacking evaluation to determine how those additional rights will be combined with the existing Gabino Gallegos right to preserve and improve the natural environment in the Alamosa River downstream from Terrace Reservoir.

10. Historical Use and Historical Return Flows

Ken Knox of URS has evaluated the historical use and historical return flows of the Gabino Gallegos Ditch water right. (See the URS Report attached as **Exhibit F**). The URS report includes an analysis of the historical use and historical return flows associated with the 2.5 cfs of the Gabino Gallegos, Priority 11 water right. The subject water right has been used to flood irrigate 180 acres of alfalfa and small grains. Diversions typically begin in April and occasionally extend into November. Records indicate the Gabino Gallegos ditch is usually in priority and able to divert during the early spring months. However, Alamosa River stream flows decline quickly after spring runoff, and despite the relatively senior priority, the Gabino Gallegos ditch is only able to maintain diversions into the summer months during wet and average years. The URS report indicates average annual diversions for the 2.5 cfs of the Gabino Gallegos right amount to approximately 427 acre-feet. The historical consumptive use attributable to the right is 130 acre-feet.

The URS report also evaluated return flows from the use of the 2.5 cfs Gabino Gallegos right, and found no evidence of excess surface water runoff from the irrigated fields. The report indicates that the land in this area of the valley is quite flat, and URS concluded that any irrigation water not consumed by the crop percolates through the soil and accrues to the unconfined aquifer, not to the surface water. Therefore, maintenance of surface return flows should not be required by this change case because there were no surface return flows historically. The location and amount of groundwater return flows will be maintained by using the entire diversion amount for ISF, allowing the historic return flow amounts to percolate near the same location as historically occurred. The timing of the groundwater return flows may change slightly from a historic practice of spring to mid-summer irrigation to a changed practice of late summer to early fall ISFs. The slight change in timing should not cause any injury to wells because the changed timing of recharge to the groundwater will be absorbed by the groundwater in storage, which will dissipate the seasonal change in timing. It is possible that the historical groundwater return flows may have reached the Rio Grande, but groundwater return flows that may have eventually accrued to the Rio Grande would likely take many years to decades after application to the irrigated field(s) to reach the river due to the minimal hydraulic gradient, distance and permeability through the geologic materials. The changed use to instream flow will provide return flows to the groundwater in the same vicinity and will eventually accrue to the Rio Grande in a similar manner to the former irrigation practice many years to decades after application to ISF. It is highly unlikely that the slight change in seasonal return flow timing will change the timing of return flow accrual to the Rio Grande River.

11. Location of Other Water Rights

There are four large irrigation diversions located between Terrace Reservoir and the Gabino Gallegos Ditch. These four structures divert approximately 43.25 cfs of senior water rights from the Alamosa River, and include the Terrace Main Canal, Alamosa Creek Canal, Valdez Ditch and the El Viego Ditch. The senior Capulin Ditch is located approximately 2.5 miles downstream from the Gabino Gallegos Ditch, and is decreed for 31.37 cfs. Based on information contained in the Master Plan, it appears the Gabino Gallegos Priority 11 would be satisfied through August in most average flow years. However, discussions with Luis Heredia, the District 21 Water commissioner, indicate the Gabino Gallegos right is often called out of priority by the Capulin Ditch in mid-July.

12. Material Injury to Existing Rights

There will be no material injury to existing rights. This proposed acquisition will require a change in point of diversion and change in use for 2.5 cfs of the Gabino Gallegos water right to be stored in Terrace Reservoir. There are several water rights located on the reach of river between Terrace Reservoir and the Gabino Gallegos headgate, including the Terrace Main Canal, J H Valdez, Alamosa Creek Canal, Valdez Ditch and the El Viego Ditch, all of which would be entitled to protection from injury related to any change of the Gabino Gallegos water right. The proposed Terrace Reservoir Storage Agreement contains a provision limiting diversion of the Gabino Gallegos water right into storage to times when the right is in priority and there is physical water available at the historical headgate (without regard to any ISF releases).

Water users located downstream from the Gabino Gallegos Ditch also would be entitled to protection from injury related to any change of the Gabino Gallegos water right. The URS Report evaluated return flows from the historically irrigated lands and concluded that the irrigated lands are extremely flat, and "there is no apparent evidence the return flows migrate back to the stream and contribute toward fulfilling downstream water rights during periods of time in which they are in priority and could apply water to a beneficial use." In addition, the ISF flow releases will naturally percolate into the stream channel and recharge the unconfined aquifer. These flows will extend further downstream than would have resulted from the original irrigation practice, and water once consumed by the crop will also supplement stream flows and increase the total amount of water added to groundwater.

13. Effect on Interstate Compact Issues

Water rights in Water Division 3 are subject to the water delivery obligations of the 1938 Rio Grande Compact. However, in a 1983 decision, the Colorado Supreme Court determined that the compact negotiators did not include the Alamosa River since "practically no water from [La Jara Creek or Alamosa Creek] reaches the Rio Grande except during periods of flooding." *Alamosa-La Jara Water Users Protection Association v. Gould*, 674 P.2d 914, 925-26 (Colo. 1983). The Division 3 Engineer has confirmed that the Gabino Gallegos Ditch is not subject to the requirements of the Rio Grande Compact.

Additionally, this proposal will return the consumptive use water which was historically lost to the stream system. For these reasons, staff believes the proposed acquisition will not impair the State's ability to meet its compact delivery obligations.

14. Effect on Maximum Utilization of Waters of the State

The 2.5 cfs of the Gabino Gallegos water right was historically used to irrigate alfalfa and small grains. The changed water right will be directly put to beneficial use as an ISF to preserve and improve the natural environment to a reasonable degree. This proposal is also an integral first component of the Instream Flow Project, which will provide increased water level in the aquifers, thus contributing to maintaining a more sustainable aquifer condition and eventually an associated base flow in the river to support a healthy fishery.

15. Availability for Downstream Use

The Alamosa River is a losing stream in the reach downstream from Terrace Reservoir. Most of the surface flow is either diverted for irrigation use or lost through the stream bed to groundwater. Although the proposed acquisition is expected to increase stream flows through a longer reach of stream, the additional stream flows provided by this water acquisition will also percolate into the stream bed of the Alamosa River and accrue to the unconfined aquifer. For that reason, there will be no surface water available for subsequent, downstream use.

16. Administrability

CWCB staff has discussed administration of this proposal with Craig Cotten, the Division Engineer, and the District 21 Water Commissioner. Although there are several large diversion structures within the proposed ISF reach, water officials believe the ISF releases from Terrace Reservoir will be administrable. To facilitate administration, there is a State-operated satellite gage located on the Alamosa River approximately 0.5 mile downstream from Terrace Reservoir.

17. Potential Benefits of This Proposed Acquisition

This proposed acquisition is just the first step of the much larger ISF Project to restore flows to the Alamosa River. Additional water acquisitions are anticipated in order to bring the ISF storage up to 2,000 acre-feet. The potential benefits of the proposed ISF Project are described in great detail in the Master Plan and Environmental Assessment, and include:

- Releases of stored water will restore the highly altered hydrologic regime of the Alamosa River which impairs natural functions and values;
- The Project is designed to improve the natural environment that was injured by release of hazardous substances from the Summitville Mine site;
- Existing riparian habitat along the lower Alamosa River will be enhanced and new habitat created due to introduction of more sustained and dependable stream flows and increased ground water levels;
- Improving stream flow characteristics in the lower Alamosa River will improve biological resources, with the goal of eventually recovering a sustainable fishery;
- Increasing the duration of stream flows in the lower Alamosa River should increase alluvial groundwater levels adjacent to the stream;
- Additional public benefits include maximizing the storage capacity in Terrace Reservoir, providing fishing, skating, and other recreational activities, healthier grass meadows and domestic well levels; and
- Preservation and improvement of riparian areas, stream restoration, and instream flow would benefit waterfowl, sparrows, warblers, raptors, beaver and other species known to inhabit the riparian zone.

Additionally, the CDOW determined that this water right acquisition "will potentially increase the amount of time the Alamosa River carries sufficient flows to maintain a fishery and it will also extend the reach of wetted stream channel downstream" and will "increase the quality of the instream habitats currently associated with this segment of the Alamosa River." CDOW's recommendation letter is attached as **Exhibit B**.

18. Cost to Complete Transaction

This water right acquisition was contemplated in Phase I of the ISF Project, which was funded in part by a grant from the Summitville Natural Resource Damage (NRD) account. CWCB has provided matching funds to the ARK in the amount of $100,000 from the Severance Tax Operational Account.

Phase II of the ISF Project, which includes rehabilitation of the Terrace Reservoir spillway, has not yet been funded. Additional funds from the NRD account are available, but will also require matching funds.

Potential CWCB costs could include analysis of the water right acquisition proposal, as well as costs associated with preparing, filing, and prosecuting a change of water right application for the acquired water right. CWCB may also incur costs associated with monitoring ISF releases

from Terrace Reservoir. However, there may be additional outside funding or partnership opportunities available to defray potential CWCB costs.

The CWCB has a history of supporting the Alamosa River watershed restoration project. In addition to partial funding and management of the $250,000 Master Plan, the Board has provided assistance to ARK in the form of matching funds from the Severance Tax Operational Account to leverage NRD monies for the ISF Project. In FY 2008-2009, ARK received $100,000 in matching Severance Tax funds to be used for engineering and legal services and purchasing water rights. By accepting this water donation, CWCB can continue to support this important restoration project and maximize benefits from its previous expenditures.

Staff Recommendation

Pursuant to ISF Rule 6b., the Board's consideration of this proposal at this meeting will initiate the 120-day period for Board review. **No formal action is required at this time.** Staff believes that this proposed acquisition will benefit the ISF Program and assist the ARK in achieving their restoration goals for the Alamosa River. The initial presentation of this proposal provides an opportunity to the Board and the public to identify questions or concerns that Staff or the ARK will address at this or a subsequent meeting.

Attachments

Maps
Exhibit A – Offer Letter
Exhibit B – CDOW Recommendation and Other Comment Letters
Exhibit C – Decree
Exhibit D – Acquisition Agreement
Exhibit E – Storage Agreement
Exhibit F – URS Report

WATERKEEPER® ALLIANCE
MEMBER

Alamosa **RIVERKEEPERS®**
P.O. Box 223, Capulin, CO 81124

January 15, 2010

Colorado Water Conservation Board
1313 Sherman Street, Room 721
Denver, CO 80203

Dear Members of the Board:

Alamosa Riverkeepers'® (ARK) mission strives for a clean functional river system which benefits the economic, ecological, and recreational needs of the Alamosa River watershed. ARK has partnered with the Terrace Irrigation Company (TIC) to provide an instream flow for the Alamosa River. Terrace Irrigation Company owns and operates Terrace Reservoir located in Conejos County, Colorado, which derives its water from, and releases water to, the Alamosa River.

ARK and Terrace Irrigation Company are pleased to offer to the Colorado Water Conservation Board (CWCB) two and one-half (2.5) cfs decreed to the Gabino Gallegos Ditch by the District Court in and for Conejos County, in the State of Colorado. ARK and TIC request that CWCB consider the first step towards acceptance of this interest in the Gabino Gallegos water right during the Board's January 2010 meeting.

The CWCB, with the leadership of Brian Hyde, sponsored the *Alamosa River Watershed Restoration Master Plan and Environmental Assessment* (Master Plan), which was funded by the Summitville Natural Resource Damage Settlement. The $250,000 Master Plan was completed in July, 2005. The Master Plan summarizes current environmental conditions and develops solutions for identified problems that will lead to a healthier watershed. An instream flow was identified as a "tier one" project for the Alamosa River.

The Instream Flow benefits the Alamosa River and its hydrology by improving the flow regime of the Alamosa River, enhancing the riparian zones, recharging the underlying aquifer and potentially developing a fishery. Monies from the Summitville Natural Resource Damage Settlement are largely funding this project.

Over the past year, ARK and TIC have worked closely with Linda Bassi, Anne Janicki, and staff in the Stream and Lake Protection Section to make this offer to you. We look forward to working with CWCB to complete this transaction.

Sincerely,

Cindy Medina, Alamosa Riverkeeper

Sincerely,

Rodney Reinhardt, President of TIC

STATE OF COLORADO

Bill Ritter, Jr., Governor
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF WILDLIFE
AN EQUAL OPPORTUNITY EMPLOYER

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For Wildlife-
For People

January 14, 2010

Ms. Linda Bassi
Colorado Water Conservation Board
1313 Sherman Street, Room 723
Denver, CO 80203

Dear Linda,

The following is the Colorado Division of Wildlife's (DOW) analysis and recommendation regarding the possible donation of 2.5 cfs of the Gabino Gallegos Ditch Water Right for instream flow purposes on the Alamosa River.

General Information

The Colorado Water Conservation Board (CWCB) requested the DOW to evaluate the benefits and possible impacts associated with accepting the proposed donation of the Gabino Gallegos Ditch Water Right to the natural environment of the Alamosa River. The CWCB currently does not hold an instream flow water right on the Alamosa River downstream from Terrace Reservoir. The Alamosa River is a tributary of the Rio Grande River and is located in Conejos County near the Town of Capulin (see Figure 1).

Biological Survey Data

The CDOW has conducted field surveys of the fishery resources on the Alamosa River and has found the fishery of the Alamosa River within this reach has been severely impacted by heavy metal contamination and extremely low wintertime stream flows. The Alamosa River is classified as a large river (between 60 to 99 feet wide) and habitat surveys indicate the stream environment of the Alamosa River could support a self-sustaining fishery, in the future, if current water quality and wintertime water quantity continues to improve.

Existing Field Data Collection

The existing R2Cross data collected to date by the CDOW was collected downstream of Terrace Reservoir and upstream of the Gabino Gallegos Ditch. This R2Cross data indicates that for this reach of stream, instream flows of 45 cfs, summer, and 15 cfs, winter, would be appropriate goals to strive for to preserve and improve the natural environment to a reasonable degree. However, these results are only based on the physical data collected to date and do not incorporate any water availability constraints.

Water Right Donation Analysis

The 2.5 cfs of the Gabino Gallegos Ditch, associated with this acquisition, was historically diverted from the Alamosa River to irrigate approximately 180 acres of land near the Town of Capulin. Historic irrigation return flows associated with the lands irrigated by the Gabino Gallegos Ditch accrued to the unconfined aquifer. The CDOW believes that the best use of this water right would be to store it during the irrigation season in Terrace Reservoir for later release. By storing in Terrace Reservoir the amount historically diverted during the irrigation season, up to approximately 430 acre-feet, for release after existing irrigation releases are discontinued, around the end of October, would benefit the existing natural environment of the Alamosa River. Currently late fall and early winter stream flows are less than 5 cfs below the reservoir which results in a dry streambed in a significant portion of the reach between the reservoir and the Gabino Gallegos Ditch headgate. Even though acquiring the 430 acre-feet associated with the Gabino Gallegos Ditch would not solve all of the water needs of this reach of stream, it would provide the first block of water to meet the goal of providing a year-round supply.

CDOW Recommendation

Based on the above analysis, the CDOW recommends the CWCB accept the donation of the water rights associated with the Gabino Gallegos Ditch to preserve and improve the natural environment of the Alamosa River. Accepting this senior water right will potentially increase the amount of time the Alamosa River carries sufficient flows to maintain a fishery and it will also extend the reach of wetted stream channel downstream. Increasing the amount of time the upper reach can support a fishery and extending the wetted stream channel reach should increase the quality of the instream habitats currently associated with this segment of the Alamosa River. As stated above, this block of water by itself may not be enough to establish a naturally reproducing fishery but it is an important first step in trying to recover a significantly impacted natural resource.

If you have any questions regarding the above recommendation, please contact me at (303)-291-7267.

Sincerely,

Mark Uppendahl
Colorado Division of Wildlife
Instream Flow Program Coordinator

Cc: Jay Skinner, CDOW Water Unit Program Manager
John Alves, CDOW Senior Aquatic Biologist – Southwest Region

Terrace Reservoir

J H Valdez Ditch

Terrace Main Canal

Valdez Ditch

Alamosa River

Gunbarrel Road

El Viego Ditch

Alamosa Creek Canal

Gabino Gallegos Ditch

County RD 10

Restoration Reach

Hot Creek

Hot Creek

La Jara Creek

Capulin Ditch

Capulin

RECEIVED
DEC 21 2009
Colorado Water Conservation Board

December 14, 2009

Geoff Blakeslee, Chairman
Colorado Water Conservation Board
1313 Sherman Street
Room 721
Denver, CO 80203

RE: Donation of 2.5 cfs of Gabino Gallegos water

Dear M. Blakeslee:

I have ranched at my present location for seventy-five years and have watched the condition of the Alamosa River during this time.

In the early years, the Alamosa River supplied the town of Capulin with domestic water, which was available only a few feet from the surface of the ground. Trout were in the river, along with ducks and geese. I trapped muskrats and other fur-bearing animals out of the water of the river during the winters.

It was possible to plant grain in early April when the land had been irrigated during the first part of the month with early Alamosa River water. It was possible to drill artesian wells almost any place in the meadows.

All of this has changed during the last twenty-five to thirty years. Now Capulin is very short of water for the town. The underground water table has dropped as never before. Now there are no longer trout, ducks, geese in or on the river. Nor are there any more fur-bearing animals living there.

The river has traditionally recharged the artesian aquifer in two distinct places along its length. Now this does not happen.

Surely this is of great concern because it affects so many people; so much agriculture; so many species of wildlife; and so many acres of wetlands.

Of all the projects planned for the river, surely a minimum stream flow for the Alamosa River must be one of the most important! The donation of the 2.5 cfs from the Gabino Gallegos ditch will make the minimum stream a reality.

Sincerely, John B. Shawcroft

John B. Shawcroft, President
Alamosa-La Jara Conservancy District
25176 South Highway 285, Alamosa, CO 81101

CAPULIN WATER DISTRICT
P.O. Box 154
Capulin, CO 81124

RECEIVED
JAN 11 2010
Colorado Water Conservation Board

January 5, 2010

Geoff Blakeslee, Chairman
Colorado Water Conservation Board
1313 Sherman Street
Room 721
Denver, Colorado 80203

RE: Donation of Gabino Gallegos Water to the Colorado Water Conservation Board

Dear Chairman Blakeslee:

The Capulin Water District Board of Directors endorse the donation of 2.5 cfs to the Colorado Water Conservation Board, which will remove that water from farming into a storage-and-release regime designed to improve the natural environment in the Alamosa River.

The Capulin Water District supplies water to approximately 100 households in the town of Capulin. Eight years ago the water district had to drill a deeper well because the well which was in use for 40 years became dry due to the severe drought in 2002. At that time the Capulin Water District Board of Directors imposed water restrictions on its water consumers; currently, water restrictions continue to be enforced.

The storage of water in Terrace Reservoir for instreams flows will replenish the groundwater for a longer period of time. This, in turn, will benefit the Capulin Water District because the aquifer will be replenished, and the board of directors wouldn't have to worry about the town's well going dry.

Before the Summitville disaster the Alamosa River was major source of recreation for the children in the Capulin community. During the summer months they swam and fished in t he river. Hopefully, once again, the river will provide recreational activities for the children in our community.

Sincerely,

Vivien L Rivera

Vivien L Rivera
President

Board of County Commissioners

J. Steven McCarroll
Chairman

John Sandoval
Vice Chairman

Joe Mestas
Vice Chairman

RECEIVED
JAN 13 2010
Colorado Water Conservation Board

January 11, 2010

Geoff Blakeslee, Chairman
Colorado Water Conservation Board
1313 Sherman Street
Room 721
Denver, CO 80203

RE: Donation of Water to the Colorado Water Conservation Board of Instream Flow

Dear Chairman Blakeslee:

This letter is a gesture of support from the Conejos County Commissioners for the donation of water to the Colorado Water Conservation Board for the purpose of an instream flow in the Alamosa River.

The benefits to the Alamosa River watershed and its hydrology include enhancing the riparian areas, recharging the aquifer, and potentially developing a fishery. The Summitville disaster devastated the watershed with cyanide and heavy metals. The instream flows can only advance the health of the Alamosa River watershed.

Sincerely,

Steve McCarroll
Chairman

/tm

P.O. Box 157 • Conejos, CO 81129 • (719) 376-5772 • Fax: (719) 376-5661

Rio Grande Inter-Basin Roundtable
c/o San Luis Valley Water Conservancy District
415 San Juan Avenue
Alamosa, CO 81101
Telephone: (719) 589 – 2230
Email: slvwcdco1@qwestoffice.net

December 10, 2009

Geoff Blakeslee, Chairman
Colorado Water Conservation Board
1313 Sherman Street
Room 721
Denver, CO 80203

RE: Donation of Water to the Colorado Water Conservation Board: In–Stream Flow

Dear Chairman Blakeslee:

This letter is to reiterate the support of the Rio Grande Inter-Basin Roundtable to the proposal for Alamosa Riverkeepers to donate a water right for an in-stream flow in the Alamosa River.

The Alamosa Riverkeepers will donate 2.5 cfs of the Gabino Gallegos Ditch. These water rights were purchased as part of a larger project that included the Terrace Reservoir Company donating storage space for the subject water right.

The donation of the subject water right to CWCB will be a milestone in the efforts of the Alamosa Riverkeepers to address the impacts to the Alamosa River because of the Summitville issues.

The benefits to the Alamosa River and associated hydrology include: improve the flow regime of the Alamosa River, enhance the riparian zones, recharge the underlying aquifer, and potentially allow the upstream fishery to migrate downstream.

The Rio Grande Inter-Basin Roundtable is a stakeholder in this project as they unanimously recommended the initial funding request for this project, and are enthusiastic that a major milestone has been reached.

Sincerely,

Mike Gibson
Chair, Rio Grande Inter-Basin Roundtable

Number Eleven.

That Ditch numbered Eleven,
named "The Gabino Gallegos Ditch"

Gabino Gallegos, Tiburcio Sena, Jose Leon Rivera, Julian Madril & Jose De Paz Ortiz, Claimants in this matter, having been found in manner aforesaid to be a ditch for irrigation of lands and for domestic purposes, and taking its supply of water from the Alamosa River, with headgate on the north bank thereof, at a point in the S.W.1/4 of Sec. 6. Twp 35 N. R. 8. E. N.M.M., with general course easterly, and entitled by appropriation to use of water from said river to Priority No 11, by construction thereof; and thereby to the quantity of water hereinafter mentioned, for the use aforesaid and benefit of the party or parties aforesaid; It is hereby adjudged and decreed that there be allowed to flow into said Ditch No. 11 from said river, for the use aforesaid and benefit aforesaid, under and by virtue of said appropriation by construction — Priority No 11 — so much water as will flow therein on a grade of 20 feet to one mile, width five feet, with depth of water flow of two feet, computed at sixteen (16) cubic feet of water per second of time;
the appropriation of which water took effect on, and the Priority thereof — No 11 — dates from the 15th day of April A.D. 1870.

DONATION AND ACQUISITION AGREEMENT
(Gabino Gallegos Water Right)

This Donation and Acquisition Agreement is between the **COLORADO WATER CONSERVATION BOARD** ("CWCB" or "Board"), and the **VALLE DEL SOL COMMUNITY CENTER/ALAMOSA RIVERKEEPERS®**, an unincorporated nonprofit Colorado association ("ARK").

WHEREAS, the Board is authorized by section 37-92-102(3), C.R.S. (2009), to acquire from any person, including any governmental entity, such water, water rights or interests in water as the Board determines may be required for instream flows to preserve or improve the natural environment to a reasonable degree and to take whatever action may be needed to ensure such instream flows remain in the river; and

WHEREAS, under section 37-92-102(3), no person or entity other than the Board "shall be granted a decree adjudicating a right to water or interests in water for instream flows in a stream channel between specific points ... for any purpose whatsoever"; and

WHEREAS, the Alamosa River Watershed Restoration Master Plan and Environmental Assessment, dated July 2005, identifies the need to improve stream flow in the Alamosa River below Terrace Reservoir as part of an overall restoration plan for the Alamosa River, to be funded, in part, by Natural Resources Damages money (NRD); and

WHEREAS, the Board does not currently hold an instream flow right on the Alamosa River downstream from Terrace Reservoir; and

WHEREAS, from time to time, ARK intends to acquire and donate to the CWCB, and the CWCB expects to accept donation of existing decreed water rights that divert from the Alamosa River or its tributaries below Terrace Reservoir to provide instream flows to preserve or improve the natural environment in the Alamosa River below the Terrace Reservoir; and

WHEREAS, ARK has purchased 2.5 cfs of the 16.0 cfs of water decreed to the Gabino Gallegos Ditch, which was decreed Stream Priority No. 11 by the Conejos County District Court on July 11, 1888, with an appropriation date of April 15,1870, for irrigation use (the "Gallegos Ditch Right"); and

WHEREAS, the sellers have executed a Dry-Up Covenant certifying that the lands associated with the 2.5 cfs will be permanently removed from irrigation; and

WHEREAS, ARK and the Board have also entered into an agreement with Terrace Reservoir Company allowing storage of the Gallegos Ditch Right in Terrace Reservoir (the "Stored Water");

WHEREAS, the Board intends to accept the donation of the Gallegos Ditch Right from ARK and to file an application with the Division 3 Water Court for a change of use of such water right to allow storage and subsequent instream flow use by the Board to preserve or improve the natural environment to a reasonable degree in the Alamosa River from the outlet of Terrace Reservoir downstream to the bridge at County Road 10 (the "Instream Flow Reach");

WHEREAS, the Board's use of the Gallegos Ditch Right for instream flow purposes will require Water Court approval of a change in use of the Gallegos Ditch Right; and

WHEREAS, ARK wishes to assist the Board in obtaining judicial approval of the change in use to storage and subsequent instream flow use;

NOW, THEREFORE, in consideration of the mutual and dependent covenants contained herein, the parties agree as follows:

1. Conveyance. Within thirty days of the Effective Date of this Agreement, as described in Paragraph 11 herein, ARK will convey the Gallegos Ditch Right to the Board by Special Warranty Deed in substantially the form as the deed attached hereto as **Exhibit A**. ARK shall record said deed with the Conejos County Clerk and Recorder within ten days of such conveyance, and shall provide a copy of the recorded deed to the Board.

2. Water Court Proceedings. Within one year after receiving title to the Gallegos Ditch Right, the Board shall file an application with the Water Court to change the use for the Gallegos Ditch Right to allow for storage in Terrace Reservoir, and subsequent release for instream flow use exclusively by the Board in the Instream Flow Reach (the "Change Proceeding"). ARK may file a statement of opposition in the Change Proceedings in support of the change application and in order to keep informed of all proceedings in the Change Proceeding. The Board will not enter into stipulations in the Change Proceeding or submit a proposed ruling or decree to the Court without first consulting with and obtaining the approval of ARK, which approval shall not be unreasonably withheld.

3. Assistance. The Board will be responsible for the normal and reasonable costs of the Change Proceeding. ARK shall provide reasonable engineering and other assistance to the Board in the Change Proceeding.

4. Enforcement. If the Board successfully obtains a decree in the Change Proceeding, the Board commits to use the Gallegos Ditch Right, as changed, for instream flow purposes to preserve or improve the natural environment to a reasonable degree, consistent with the terms of the decree, and to take reasonable steps to enforce those rights for instream flow purposes and protect them from injury. If the Board receives a request to consider injury with mitigation for the portion of the Alamosa River benefited by the change of the Gallegos Ditch Right, the Board shall promptly inform ARK of such request, consult with ARK regarding such request, and not take any action that, in the CWCB's and ARK's reasonable judgment, would impair the benefits to the Alamosa River resulting from ARK's donation to the Board of the Gallegos Ditch Right and its change to instream flow uses. Nothing herein shall diminish the Board's right to exercise its discretion regarding enforcement of instream flow water rights; however, the Board acknowledges that the intended use of the Gallegos Ditch Right is to preserve or improve the natural environment of the Alamosa River to a reasonable degree.

5. Effect of Denial. If the Change Proceeding is unsuccessful for any reason, or if the decree entered therein is conditioned in such a manner as to prevent the purposes of this Agreement from being fulfilled, then the parties hereto shall consult on future action regarding the Board's use of the Gallegos Ditch Right.

6. Re-Use Right. Pursuant to section 37-92-102(3) and to the water court decree that will implement this Agreement, the Board or ARK shall have the right to bring about beneficial use of the historical consumptive use of the Gallegos Ditch Right as fully consumable water at any point downstream from County Road 10 (the "Re-Use Right"), subject to such terms and conditions as the Water Court deems necessary to prevent injury to vested water rights or decreed conditional water rights. The Board or ARK shall notify the Division 3 Engineer of any agreement for such beneficial use downstream of the Instream Flow Reach prior to the use. However, given the current hydro-geologic conditions, it is unlikely that the historical consumptive use of water associated with the Gallegos Ditch will be maintained as surface flow through the entire Instream Flow Reach and be available for the Re-Use Right.

7. Releases. All requests for releases of Stored Water from Terrace Reservoir shall be made by CWCB pursuant to the Storage Agreement among Terrace Irrigation Company, CWCB and VALLE DEL SOL COMMUNITY CENTER/ALAMOSA RIVERKEEPERS, attached hereto as Exhibit B. CWCB agrees to request releases of Stored Water in such amounts as may be needed to provide a target instream flow of 10 cfs in the Instream Flow Reach. CWCB and ARK acknowledge that the Alamosa River downstream from Terrace Reservoir is a losing stream, and it may be difficult to meet the target flow until additional water rights are acquired and the aquifer is replenished. Representatives of the CWCB and ARK shall meet at least once a year to develop a mutually agreed plan for release of the Stored Water.

8. Monitoring and Administration of Releases. CWCB and ARK agree to develop a plan for agreeing upon and monitoring releases of Stored Water, including installing, maintaining and funding stream gages, and devising such other measures as may be deemed necessary by the Division Engineer CWCB shall take such action under state law, including requesting administration by the State Engineer and the Division Engineer for Water Division No.3, as may be necessary to put the released water to beneficial use and to prevent the unlawful diversion of the released water at any point downstream of Terrace Reservoir.

9. Remedies. Pursuant to section 37-92-102(3), the terms of this Agreement shall be enforceable by each party as a water matter in the District Court for Water Division 3; provided, however, that before commencing any action for enforcement of this Agreement, the party alleging a breach shall notify the other party in writing of the alleged breach and the parties shall make a good faith effort to resolve their differences through informal consultation. Specific performance shall be the exclusive remedy for failure of either party to comply with any provision of this Agreement.

10. Miscellaneous. This Agreement shall not be assignable by either party without the written consent of the other. All of the provisions of this Agreement shall survive the conveyance of the Gallegos Ditch Right from ARK to the Board, and shall not merge therewith.

11. Effective Date. The Effective Date of this Agreement shall be the date on which it has been signed by both parties.

Dated this ____ day of _____, 2010.

VALLE DEL SOL COMMUNITY CENTER,
on behalf of the ALAMOSA RIVERKEEPERS

BY:_____
Julie Gomez-Nuanes, President

Date: _____

COLORADO WATER
CONSERVATION BOARD

BY: _____
Jennifer Gimbel, Director

Date: _____

STORAGE AGREEMENT

(Terrace Reservoir)

This Storage Agreement, dated this _____day of January, 2010, is between THE TERRACE IRRIGATION COMPANY, a Colorado nonprofit corporation (the "Company"), the COLORADO WATER CONSERVATION BOARD ("CWCB"), and the VALLE DEL SOL COMMUNITY CENTER/ALAMOSA RIVERKEEPERS®, an unincorporated nonprofit Colorado association ("ARK").

WHEREAS, the Company owns and operates Terrace Reservoir located in Conejos County, Colorado, which derives its water from, and releases water to, the Alamosa River (the "Reservoir");

WHEREAS, due to existing deficiencies in the spillway, the Reservoir is currently under a State Engineer storage restriction to 7 feet below the crest of its spillway, which limits its current capacity to approximately 13,180 acre feet;

WHEREAS, the Company intends, utilizing money provided by natural resource damage ("NRD") funds available in connection with the cleanup of the Summitville Mine, to redesign and reconstruct the spillway, so as to lift the storage restriction, which would allow approximately 15,182 acre feet to be stored in the Reservoir (the "Spillway Improvements");

WHEREAS, the Alamosa River Watershed Restoration Master Plan and Environmental Assessment dated July 2005(the "Master Plan") identifies the need to improve stream flow in the Alamosa River below the Reservoir as part of an overall restoration plan for the Alamosa River, to be funded, in part, by NRD money;

WHEREAS, from time to time, ARK intends to acquire and donate to the CWCB, and the CWCB expects to accept donation of existing decreed water rights that divert from the Alamosa River or its tributaries above or below the Reservoir using, in part, NRD money, to provide instream flows to preserve and improve the natural environment in the Alamosa River below the Reservoir (the "Acquired Rights");

WHEREAS, ARK and the CWCB desire to store the Acquired Rights in the Reservoir for release from time to time to provide instream flows in the Alamosa River below the Reservoir (the "Instream Flow Releases");

WHEREAS, the Company has agreed to allow such storage and Instream Flow Releases, on the terms and conditions set forth in this Agreement;

THEREFORE, in consideration of the foregoing and the mutual agreements set forth below, the parties agree as follows:

1. Storage Right. The Company agrees to allow the CWCB to store up to 2,000 acre feet of water derived from the Acquired Rights in the Reservoir on an annual basis (the "Stored Instream Flow Water"), provided that, and only if and when, the Spillway Improvements to Terrace Reservoir are completed and the existing storage restriction lifted. If the existing storage restriction only partially lifted, the Stored Instream Flow Water shall be limited to the amount over and above 13,180 acre feet that can be legally stored in the Reservoir after the Spillway Improvements are completed.

2. Change of Acquired Rights. ARK and/or the CWCB shall be responsible for the acquisition of the Acquired Rights, and for obtaining the approval of the Division 3 Water Court for the change and storage of the Acquired Rights in Terrace Reservoir for subsequent release for instream flow purposes (the "Water Court Change"). The Acquired Rights cannot be diverted into storage in Terrace Reservoir except when and to the extent (a) the Acquired Rights are in priority, and (b) there is physical water available (without regard to Instream Flow Releases) at the historic headgates of the Acquired Rights. Any such Water Court Change decree shall incorporate this Agreement by express reference and be subject to the provisions of this Agreement. Subject to compliance with the foregoing, the Company agrees not to oppose any such Water Court Change proceeding.

3. Instream Flow Releases. The Company will make releases of the Stored Instream Flow Water from time to time on the dates and in the amounts directed in writing by the CWCB, or its agents, provided that the Company need not make such releases at times that the full release capacity of Terrace Reservoir is otherwise being used to make releases of irrigation water for delivery to shareholders in the Company. Neither the Company nor any of its shareholders (nor any other water user) shall be entitled to divert from the Alamosa River any Stored Instream Flow Water released from the Reservoir under the provisions of this Paragraph 3. The CWCB or its agents will work with the Division 3 Engineer and Water Commissioners to ensure that the Instream Flow Releases are protected from diversion and are appropriately documented in annual records maintained by the Office of the Division 3 Engineer. If the CWCB elects to appoint a person or entity to act as its agent with regard to this Paragraph 3, the CWCB shall provide written notification to the Company of such designation.

4. Evaporation and Seepage Losses. The Stored Instream Flow Water shall be subject to the same evaporation and seepage losses charged by the Company or Water Commissioner to any other water stored in Terrance Reservoir, on a pro rata basis. The Company shall notify ARK and the CWCB of the rate of evaporation and seepage losses charged, and update such information whenever the rate is changed.

5. Beginning of Season Bookover. Any Stored Insteam Flow Water that remains in storage on the date that the Reservoir begins to make irrigation water releases (normally in April) shall be booked over to the Company for irrigation use by its shareholders, and shall no longer be available for Instream Flow Releases unless this Agreement is amended to provide for carry-over storage on terms and conditions

acceptable to all parties. The Company shall notify ARK and the CWCB in writing, if possible, before the start of each irrigation season to allow any Stored Instream Flow water remaining in the Reservoir to be released for instream flow purposes prior to such bookover. The Company agrees to use its best efforts to assist the CWCB in fully utilizing the Stored Instream Flow Water each year.

6. Spill. In the event of a spill from the Reservoir, any Stored Instream Flow water will be spilled first. If the Company anticipates such a spill event, it will provide ARK and the CWCB, if possible, prior notice before the spill is expected to occur, in order to enable ARK and CWCB to make a controlled release of the Stored Instream Flow water prior to such a spill. ARK and the Company acknowledge that it may not always be possible for the Company to anticipate a spill event and provide such prior notice.

7. Accounting. The Company, working with the District 21 Water Commissioner, shall maintain complete and accurate records of the amount of Acquired Instream Flow Rights stored in the Reservoir at any time, the amount of any evaporation and seepage losses assessed against such water, the amount of any Instream Flow Releases, the amount of any Stored Instream Flow Water booked-over pursuant to Paragraph 5 above, and the amount of any Stored Instream Flow Water spilled pursuant to Paragraph 6 above. The Company or Water Commissioner shall provide such records to the CWCB and ARK from time to time upon reasonable request.

8. Costs and Expenses. The Company shall bear all costs and expenses associated with the storage and release of water pursuant to this Agreement, except as expressly set forth herein. As part of the improvements of the spillway, the Company will design and install a mechanism to allow the release of measurement of the Stored Instream Flow water at low flow release rates.

9. Priority of Rights. Any new instream flow appropriations made by the CWCB on the Alamosa River shall be junior in priority to the existing storage rights decreed to the Reservoir. However, the Acquired Rights can continue to exercise their original priorities, subject to any terms and conditions imposed in the Water Court Change proceedings.

10. Dispute Resolution. The Company, the CWCB and ARK shall meet at least once a year to review and discuss operations under this Agreement, and to attempt to resolve any disputes. Before commencing any litigation relating to this Agreement, the parties agree to meet and attempt to resolve their dispute in good faith. The parties shall have the right to enforce this Agreement by injunction or specific performance. All parties waive any claim to assert or recover damages for breach of this Agreement.

11. Notices. Any notices required or permitted under this Agreement shall be given to the party, or their successors and assigns, at their address set forth below. Any party may change their address from time to time by notice properly given. Notices shall be delivered by U.S. Mail, first class postage prepaid, and shall be deemed received three

days after deposit in the U.S. Mail. An email copy of a notice is encouraged to be given as well, but is not required.

If given to the Company:

President
The Terrace Reservoir Company
_____
_____
Email: _____
Phone:_____

If given to ARK:
Cindy Medina
Alamosa River Keepers
P.O. Box 753
La Jara, CO 81140
Email: cindymedina@gmail.com
Phone: 719-274-4298

If given to the CWCB:

Linda Bassi, Chief
Stream & Lake Protection Section
Colorado Water Conservation Board
1313 Sherman Street, Suite 721
Denver, CO 80203
Email:Linda.bassi@state.co.us
Phone:303-866-3441

12. ARK/CWCB Agreement. ARK and the CWCB are or may become parties to separate agreement(s) between them regarding the acquisition, donation and use of the Acquired Rights. Nothing in this Agreement shall be deemed to modify or amend any such agreements.

13. Miscellaneous.

(a) This Agreement constitutes the complete agreement between the Company, on one hand, and ARK/CWCB on the other. All prior negotiations, understandings or agreements related hereto as merged herein, subject to Paragraph 12 above.

(b) This Agreement shall be enforceable in the Water Court as a water matter, pursuant to C.R.S. §37-92-102(3).

(c) The waiver, or failure by a party to enforce any of its rights under this Agreement, on one or more occasions shall not modify this Agreement or preclude such party from fully enforcing its rights on subsequent occasions.

(d) The parties recognize that operation experiences may require modifications to be made to this Agreement to best achieve the goals of all parties. The parties agree to discuss any such possible amendments in good faith. Any modification or amendment of this Agreement, however, must be set forth in a document executed by all of the parties hereto; provided that should ARK cease to exist prior to the time it assigns its rights hereunder to another party, then only the written consent of the CWCB and the Company shall be required to amend or modify this Agreement.

(e) This Agreement shall constitute a restrictive covenant running with and burdening the Reservoir and benefitting the CWCB and the Acquired Rights, shall be recorded in Conejos County, and shall be binding on the Company and its successors and assigns. ARK may freely assign any of rights or obligations under this Agreement to another entity, but shall notify the Company and CWCB of any such assignment.

(f) This Agreement shall be perpetual in term.

(g) This Agreement shall not be effective until and unless executed by authorized representatives of all the parties hereto. This Agreement may be executed in one or more counterparts, all of which taken together shall constitute one and the same Agreement.

Executed as of the date first set forth above.

[SEPARATE EXECUTION PAGES FOLLOW]

THE TERRACE RESERVOIR COMPANY,
a Colorado nonprofit corporation

By:_____
Name:_____
Its: President

STATE OF COLORADO)
) ss.
COUNTY OF CONEJOS)

The foregoing instrument was executed and acknowledged before me this _____ day of _____, 20___, by _____ as President of The Terrace Reservoir Company, a Colorado nonprofit corporation.

Witness my hand and official seal.

_____
Notary Public

My commission expires:_____

THE ALAMOSA RIVER KEEPERS,
a unincorporated nonprofit Colorado association

By:_____
Name:_____
Its: President

STATE OF COLORADO)
) ss.
COUNTY OF CONEJOS)

The foregoing instrument was executed and acknowledged before me this _____ day of _____, 20__, by _____ as President of The Alamosa River Keepers, an unincorporated nonprofit Colorado association.

Witness my hand and official seal.

_____
Notary Public

My commission expires:_____

THE COLORADO WATER CONSERVATION BOARD

By:_____
Name: Jennifer Gimbel
Its: Director

STATE OF COLORADO)
) ss.
COUNTY OF _____)

The foregoing instrument was executed and acknowledged before me this _____ day of _____, 20___, by Jennifer Gimbel as Director of the Colorado Water Conservation Board.

Witness my hand and official seal.

_____
Notary Public

My commission expires:_____

June 4, 2009

Ms. Cindy Medina
Alamosa Riverkeeper
P.O. Box 753
La Jara, CO 81140

Subject: Water Rights and Consumptive Use Analysis for Alamosa Riverkeepers

Dear Ms. Medina:

URS Corporation (URS) is pleased to provide Alamosa Riverkeepers with this water rights and consumptive use analysis associated with the El Viego Ditch[1] and Gabino Gallegos Ditches. This investigation provides an assessment of the firm yield of the water rights claimed to be under ownership and/or control of Mr. Paul Faucette that are contemplated for acquisition by Alamosa Riverkeepers. Should you deem additional investigation or actions appropriate, this assessment will serve as the technical foundation for a change in water right application filed in the Division III Water Court. The major tasks and findings of this analysis are described within the ensuing narrative.

REVIEW OF ADJUDICATED WATER RIGHTS

The first task included a review of the adjudicated direct flow water rights for the El Viego and Gabino Gallegos Ditches in former Water District 21 in the Rio Grande Basin to verify the amount, locations, adjudicated beneficial use(s), priority, and other relevant information.

Upon compilation and review of the court decrees, the water rights considered for acquisition by Alamosa Riverkeepers are decreed for irrigation use only. The table below describes the net adjudicated status of both the El Viego and Gabino Gallegos Ditches:

Table 1. Water Rights Considered for Acquisition by Alamosa Riverkeepers

Adjudicated Name of Water Right	Adjudication Date	Appropriation Date	Amount	Status
El Viego Ditch	07/11/1888	08/01/1867	14.4 cfs	Absolute
Gabino Gallegos Ditch	07/11/1888	04/15/1870	15.0 cfs	Absolute
Gabino Gallegos Ditch	02/07/1918	02/17/1908	20.0 cfs	Absolute

[1] Although incorrect, the spelling of the El Viego Ditch in this report is consistent with that in the original court decree.

Note: For the purpose of this investigation, the water rights addressed in the subsequent analyses were 1.0 cubic feet per second in the El Viego Ditch and 2.5 cubic feet per second in the senior Gabino Gallegos Ditch (adjudication date 07/11/1888 and appropriation date 04/15/1870). The structures and lands irrigated under the subject water rights that are contemplated for acquisition by Alamosa River Keepers are portrayed in Attachment A.

COMPILATION OF WATER DIVERSION AND IRRIGATED ACREAGE RECORDS

URS compiled the historic diversion and irrigated acreage records available through electronic files maintained by the Colorado Division of Water Resources. The period of record available for the water conveyance structures associated with the El Viego Ditch and Gabino Gallegos Ditch extended from 1950 through 2007. This period of record reflects periods of drought or dry conditions, wet periods, and average conditions. Provided below is a summary of the water diversion records.

El Viego Ditch (Structure ID Number 520) retains net absolute water rights for 14.4 cubic feet per second for diversion from the Alamosa River[2]. The diversion is located downstream of Terrace Reservoir and is generally northwest of Capulin, Colorado. The diversion structure includes a low-head diversion and headgate structure diverting from the north bank of the Alamosa River in the SW ¼ of Section 1, Township 35 N, Range 7 E, New Mexico Principal Meridian. Two different periods of time were analyzed to provide a comparative analysis of historic diversions under this structure. The first reflects the entire period of record available electronically from 1950 through 2007 and is provided in Attachment B. The second is a 28-year period from 1980 through 2007 that also includes a series of wet, average, and dry years hydrology. This period was also selected because it reflects more recent historic diversion activity. Review of annual and daily diversion records indicate the maximum daily recorded diversion typically occurs early in the irrigation season in late-May to early-June, followed by decreasing diversions in subsequent summer months when natural streamflows in the Alamosa River decline. Results of the diversion analysis are tabulated below:

Table 2. El Viego Ditch Diversion Record Summary

Period of Record	Average Number of Days Water Carried	Average Annual Diversion (acre-feet)
1950-2007	209	5102
1980-2007	208	5254

[2] The original adjudicated amount was for 19.2 cubic feet per second. In Case No. 0489, 4.8 cubic feet per second was transferred to the Alamosa Creek Canal.

Gabino Gallegos Ditch (Structure ID Number 526) retains a senior net absolute water rights for 15.0 cubic feet per second for diversion from the Alamosa River[3]. The ditch retains a junior absolute water right for 20.0 cubic feet per second that is filled sporadically during periods of wet or excess water supplies. The diversion is located approximately 1.2 miles downstream of the El Viego Ditch headgate and is generally northwest of Capulin, Colorado. The diversion structure includes a low-head diversion and headgate structure diverting from the north bank of the Alamosa River in the SW ¼ of Section 6, Township 35 N, Range 8 E, New Mexico Principal Meridian. Two different periods of time were analyzed to provide a comparative analysis of historic diversions under this structure. The first reflects the entire period of record available electronically from 1950 through 2007 and is provided as Attachment C. The second is a 28-year period from 1980 through 2007 that also includes a series of wet, average, and dry year's hydrology. Review of annual and daily diversion records indicate the maximum daily recorded diversion typically occurs early in the irrigation season in late-May to early-June, followed by decreasing diversions in subsequent summer months when natural streamflows in the Alamosa River decline. This period was also selected because it reflects more recent historic diversion activity. Results of the diversion analysis are tabulated below:

Table 3. Gabino Gallegos Ditch Diversion Record Summary

Period of Record	Average Number of Days Water Carried	Average Annual Diversion (acre-feet)
1950-2007	99	2584
1980-2007	101	2481

Irrigated Acreage

The irrigated lands subject to this investigation encompass approximately 180 acres located in Section 8, Township 35 N, Range 8 E, New Mexico Principal Meridian and are depicted in Attachment A. Irrigated acreage estimates were derived from five years of aerial photographs and irrigated acreage information: 1936, 1955, 1990, 1998, and 2002. The claimed 180 acres is considered representative of the historic irrigated lands and is conservatively less than the total 213.38 acres of land formerly referred to as the "Braiden Property". The deduction omits lands encumbered by dwellings, roads, ditches, and dry pasture lands that are evident in the aerial photographs. The historic irrigation practice was flood irrigation until a center-pivot sprinkler was

[3] The original adjudicated amount was for 16.0 cubic feet per second and 1.0 cubic feet per second was transferred to a Plan for Augmentation in Case No. 82CW97.

installed in 2003 to irrigate approximately 115 acres in the northern portion of the property.[4] The corners of the pivot and lands south of the Alamosa River continue to be flood irrigated (irrigation ditch water is piped over the Alamosa River from the conveyance structure to the north to irrigate the southern lands through a corrugated metal pipe.

Interviews with present and former land owners and water administration officials indicate the historic source of irrigation water supply to the subject 180 acres of land is a combination of streamflow diversions conveyed through the El Viego and Gabino Gallegos Ditches.[5] This anecdotal information is consistent with the irrigation water supply data maintained by the Division of Water Resources. Multiple parties retain ownership in the El Viego Ditch as well as the Gabino Gallegos Ditch and no measuring devices or records were evident to document the proportional amount, timing, or percentage of irrigation water supply that served the subject property.

REVIEW OF THE WATER ADMINISTRATION PRACTICE/ RIVER CALL REGIME

URS performed an investigation into the typical water administration scheme for the Alamosa River watershed to qualify the frequency and duration the direct flow water and storage water rights are curtailed, in total or partial amounts, necessary to meet the demands of senior water right owners within the system who exercise their authority to "call" for water.

For context, the Alamosa River is within the Rio Grande Basin in Water Division III. The Alamosa River system is considered to be over-appropriated (water demand exceeds available supplies). Direct flow and storage water rights within these systems are routinely curtailed, in total or partial amounts, to satisfy the demands of downstream senior water rights that are receiving insufficient supplies.

Investigation into the historic diversion records and sporadic historic river call chronology for the Alamosa River system indicates the owners of the El Viego Ditch routinely exercise their authority as holders of the Number 1, or most senior water right in the system, to require full or partial curtailment of upstream junior water rights necessary to meet their demand for irrigation water. Review of the historic diversion records indicate the ditch does not call for its entire 14.4 cubic feet per second only during times of excess water supply during spring runoff, significant precipitation events, or during limited periods when diversions are reduced to harvest alfalfa or other crops.

The senior water right to the Gabino Gallegos Ditch retains priority Number 11 in the Alamosa River System. Although it retains a relatively senior date, the water physically and legally available for diversion is limited due to its proximity to more senior water rights and insufficient water supplies in the Alamosa River, particularly during the late irrigation season. The diversion records and call history indicate the Gabino Gallegos Ditch is typically in priority and able to divert water

[4] Interview with Mr. Jim Braiden
[5] Mr. Paul Faucette and Mr. Jim Braiden are the present and former land owners, respectively.

during the early spring months and is able to sustain diversions later into the summer irrigation season in average and wet hydrologic years. For example, in Water Years 2006 and 2007 the Gabino Gallegos Ditch was in priority and able to divert water 109 and 121/365 days respectively. In contrast, during the extreme drought year of 2002 it was able to divert and carry water for only 24 days.

Rio Grande Compact

Administration of tributary water rights in Water Division III is founded upon the dual water allocation requirements of complying with the Doctrine of Prior Appropriation (priority system) within the tributary stream system in Colorado and meeting interstate delivery obligations under the 1938 Rio Grande Compact. The El Viego and Gabino Gallegos Ditches, as part of the Alamosa River system, are exempt from compliance with Rio Grande Compact water delivery obligations. The Colorado Supreme Court found the compact negotiators did not include the Alamosa River or La Jara Creek because they "flow through flat land, the stream channels are not clearly defined, and practically no water from either creek reaches the Rio Grande except during periods of flooding".[6]

HISTORIC CONSUMPTIVE USE ANALYSIS

A historic consumptive use analysis was performed for 1.0 cubic feet per second of the El Viego Ditch. Another analysis was conducted for 2.5 cubic feet per second under the senior water right awarded to the Gabino Gallegos Ditch. Both structures and their inherent water rights are used, in part, to provide irrigation water for the estimated 180 acres formerly known as the Braiden Property. Although historic cropping information was not available, the crop mix for the subject lands over the period of record was apportioned as 80% alfalfa and 20% small grains based upon interviews with present and former lands owners. This estimate is considered reasonable in context of farming practices in the local community. The crop irrigation requirement was determined for the subject water rights using the Manassa, Colorado area climate information and through application of the modified Blaney-Criddle formula. The estimated crop irrigation requirement used in this analysis for alfalfa is 21.41 inches per year and for small grains is 16.58 inches per year (1.78 and 1.38 feet respectively).

Review of the historic diversion and irrigated acreage records maintained by the Division of Water Resources indicates the El Viego Ditch was able to provide a full irrigation water supply in most years. Therefore, the consumptive use attributed to 1.0 cubic feet per second in the El Viego Ditch is the proportional share of ownership (1.0/14.4) multiplied by the monthly crop irrigation requirement based upon the aforementioned crop mix. The total historic consumptive use attributed to 1.0 cubic feet per second of the El Viego Ditch is **92 acre-feet** and is tabulated below:

[6] *Alamosa-La Jara Water Users Protection Association v. Gould* (1983).

Table 4. El Viego Ditch Diversions and Consumptive Use (all values in AF)

1950-2007	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Total
Average Diversions[7]	42.94	483.43	830.85	836.02	826.77	781.99	630.62	549.52	116.2	5098.25
Faucette % Diversions	3.07	34.52	59.35	59.72	59.06	55.86	45.04	39.25	8.30	364.16
Consumptive Use	0.24	3.10	13.67	23.94	23.28	14.19	9.16	3.53	0.39	**91.49**

Review of the historic diversion and irrigated acreage records indicate the 2.5 cubic feet per second in the senior water right for the Gabino Gallegos Ditch is used to supplement the irrigation water supply demands for the subject 180 acre property during the early spring runoff and during significant precipitation events when it is in priority. The consumptive use attributed to 2.5 cubic feet per second in the Gabino Gallegos Ditch is the proportional share of ownership (2.5/15) claimed by Mr. Faucette multiplied by the monthly crop irrigation requirement based upon the aforementioned crop mix. The total historic consumptive use attributed to 2.5 cubic feet per second of the Gabino Gallegos Ditch is **130 acre-feet** and is tabulated below:

Table 5. Gabino Gallegos Ditch Diversions and Consumptive Use (all values in AF)

1950-2007	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Total
Average Diversions[8]	0.00	133.95	798.46	839.84	411.43	256.78	60.13	43.74	16.94	2561.27
Faucette % Diversions	0.00	22.33	133.08	139.97	68.57	42.80	10.02	7.29	2.82	426.88
Consumptive Use	0.00	2.00	30.65	56.11	27.03	10.87	2.04	0.66	0.13	**129.49**

[7] The Total column in Table 4 represents the cumulative average diversions during the irrigation season months of March through November for the period of record. The Total of 5098.25 differs from the 5102 acre-feet quantity represented in Table 2 due to differences in rounding. The amount of 5098.25 acre-feet is conservative and reliable for application within a consumptive use analysis.

[8] The Total column in Table 5 represents the cumulative average diversions during the irrigation season months of March through November for the period of record. The Total of 2561.27 differs from the 2584 acre-feet quantity represented in Table 3 due to differences in rounding and removal of inapplicable records during the non-irrigation months of December through February. The amount of 2561.27 acre-feet depicted in Table 5 is conservative and reliable for application within a consumptive use analysis.

The **combined historic consumptive use credit of 222 acre-feet** for irrigation of 180 acres of land equates to an average of 14.8 inches per year. This estimate is conservative, reasonable, and consistent with interpretation that the Gabino Gallegos Ditch, which provides supplemental water to the irrigated lands, is a perpetually "water short" ditch.[9]

FIELD INSPECTION AND INTERVIEWS

URS conducted a series of interviews with present and former owners of the water rights, other shareholders in the ditch systems, and local water officials to develop a more comprehensive understanding of ditch operations and to identify outstanding issues that may impact the historic consumptive use computation and/or the contemplated change in water rights application.

URS also participated in a one-day field inspection of the water rights, conveyance structures, their proximity to other water rights, and lands served by the El Viego and Gabino Gallegos Ditches that are subject to the proposed transfer on April 29, 2009. Parties in attendance included: Cindy Medina, Alamosa Riverkeeper; Rod Reinhardt, President of Terrace Irrigation Company; Joe McCann, Water Commissioner; Paul and Gerald Faucette, water right and landowners; and Ken Knox, URS Corporation.

Irrigated Lands

Mr. Paul Faucette verbally confirmed ownership of the 1.0 cubic feet per second under the El Viego Ditch and 2.5 cubic feet per second under the Gabino Gallegos Ditch that is the subject of this investigation. Mr. Faucette provided a descriptive tour of both water rights that included their points of diversion from Alamosa River, the open-channel ditch and pipe system used to convey the irrigation water, and overview of the lands irrigated. Mr. Faucette confirmed the use of both ditches to irrigate the subject lands identified in Appendix A are located entirely within Section 8. The lands are level and a flood irrigation efficiency of 60% is a reasonable estimate based upon the quality of land preparation and topographical relief. At the time of the field inspection, the lands irrigated by the center-pivot sprinkler were prepared for seeding (small grain) and the corners exhibited recent production of alfalfa. Lands irrigated on the south side of the Alamosa River were also being prepared for seeding at the time of the field inspection and are supplied with irrigation water through a corrugated metal pipe that conveys water over the river.

Return Flows

The general slope of land in the vicinity of the subject property is minimal and to the east. The lands irrigated by the center-pivot sprinkler and those irrigated by laterals from the ditch systems are well-prepared and level. There was no evidence of phreatophytes or other physical features that exhibited excess or surface water runoff from the irrigated fields. It is therefore reasonable to conclude that

[9] A "water short" ditch is defined as a ditch that is not able to provide a full water supply to meet the potential crop irrigation requirements due to physical and/or legal water availability.

any irrigation waters delivered to the irrigated return flows not consumed by the crop evapotranspiration process percolate through the soil moisture profile into the unconfined aquifer.

It is typically necessary to replace the return flows in time, amount, and location for a pending water right transfers to the degree that such change would adversely impact downstream water rights. Due to the rather unique circumstances surrounding the discrete water rights and irrigated lands that form the subject of this investigation, particularly in context of the natural hydrology of the Alamosa River and proximity to other water rights, there is no apparent evidence the return flows migrate back to the stream and contribute toward fulfilling downstream water rights during the periods in which they are in priority and could apply water to beneficial use. As confirmed by local water administration officials, the Alamosa River is a highly dynamic river that typically requires administrative curtailment of junior water rights in a rapid progression that corresponds to a steep declination of streamflows after early spring runoff. Return flows from the irrigated lands on the "Braiden Property" do not appear to accrue back to the stream system in time or amount available for irrigation by downstream water streamflow diversions.

The contemplated change of water right application is designed to enhance the in-channel beneficial use of water in the Alamosa River. The Alamosa River is an ephemeral stream. It is tributary to the Rio Grande only during times of excess flooding conditions. The dedication of these water rights in a change of water right proceeding to supplement existing streamflows in the Alamosa River will naturally percolate through the streambed channel and recharge the unconfined aquifer as they progress down the river to a greater extent than the current irrigation practice. Water formerly consumed by crop evapotranspiration will supplement streamflows and increase the total contribution of water into the ground water aquifer.

Ditch Conveyance Losses

The El Viego Ditch is an open-channel water conveyance structure. The estimated distance between the headgate and pipeline intake structure serving the subject lands is approximately 5,200 feet. There are no empirical gain/loss studies available that quantify the ditch loss between the headgate and Mr. Faucette's intake structure.

The Gabino Gallegos Ditch is an open-channel water conveyance structure. The estimated distance between the headgate and lateral delivery to the subject lands is approximately 8,200 feet. There are no empirical gain/loss studies available that quantify the ditch loss between the headgate and Mr. Faucette's lands.

FINDINGS AND RECOMMENDATIONS

This water rights and consumptive use analysis is limited to observance of the current physical state of existing structures and the review of historic data and information associated with the El Viego and Gabino Gallegos Ditches. Based upon this analysis, the primary findings are as follows:

1. In-priority water diversions under the El Viego Ditch (1.0 cubic feet per second) and the Gabino Gallegos Ditch (2.5 cubic feet per second) historically provided an integrated source of water supply to irrigate 180 acres of croplands in Section 8, Township 35 N, Range 8 E, New Mexico Principal Meridian.

2. Quantification of the historic consumptive use of water for 1.0 cubic feet per second in the El Viego Ditch is estimated to be 92 acre-feet per year.

3. Quantification of the historic consumptive use of water for 2.5 cubic feet per second in the Gabino Gallegos Ditch is estimated to be 130 acre-feet per year.

4. The dominant restriction in a change of water right proceeding before the Water Court is a limitation to historic consumptive use. This restriction may not apply to the change in water right application contemplated by Alamosa Riverkeepers. It is our understanding that acquisition of these water rights is intended to facilitate a potential change in water right for those portions of the El Viego and/or Gabino Gallegos Ditches from irrigation of croplands to temporary storage in Terrace Reservoir and the subsequent release downstream for in-channel river restoration and ecosystem enhancement. The total of in-priority diversions, 1.0 cubic feet per second under the El Viego and/or the 2.5 cubic feet per second under the Gabino Gallegos priorities, are contemplated for the change in water right. Injury to other vested water rights in the Alamosa River system is not evident from this potential change in water rights since there is no expansion of use or impact to downstream water rights through diminution of return flows.

5. The potential acquisition and change in water right water court proceedings for the El Viego and Gabino Gallegos Ditches are not dependant upon the other. For example, it is reasonable to attribute the 65-acres of lands currently flood irrigated to the claimed 2.5 cubic feet per second proportional share of ownership under the Gabino Gallegos Ditch for potential acquisition and filing of change in water right application.

Conversion of the potential acquired water rights in the El Viego and/or Gabino Gallegos Ditches from irrigation to temporary storage in Terrace Reservoir and the subsequent release of these waters for instream flow purposes in the Alamosa River is a viable option for Alamosa Riverkeepers. It is

important to note that the authority to approve the contemplated change in water right application to facilitate this transfer is vested exclusively to the Water Court for Division III.

Recommendations

In the event Alamosa Riverkeepers acquires those portions of the El Viego and/or Gabino Gallegos Ditches contemplated and progresses toward a change in water right application, we respectfully recommend the following actions:

1. Collaborate with representatives of Terrace Irrigation Company, the Colorado Water Conservation Board, and appropriate legal counsel to prepare a change in water right application.

2. Coordinate with legal counsel to prepare a change of water right application and to identify potential terms and conditions for a draft decree; to develop a strategy for potential litigation; and to prepare exhibits and provide expert witness testimony, if necessary.

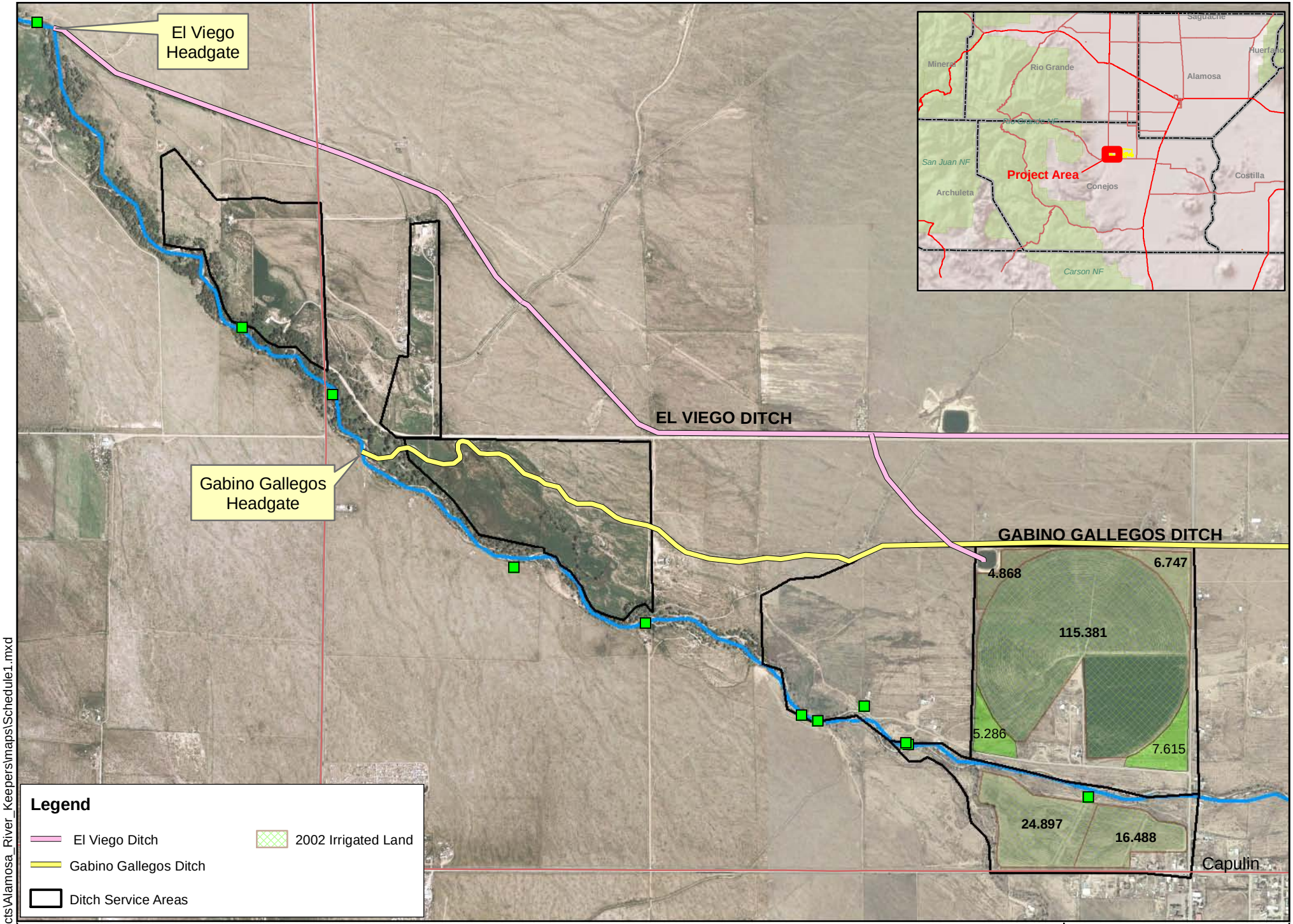
Thank you for the opportunity to provide this analysis into the water rights contemplated for acquisition by Alamosa Riverkeepers. If you have any questions or wish to discuss the report further, please contact me at your convenience.

Sincerely,

Ken Knox, Ph.D., P.E.
Principal Water Resources Engineer

KWK

cc: Mr. Michael Browning
File



Aerial photography Source:
National Agricultural Imagery Program (NAIP) 2006

1,500 750 0 1,500 3,000 Feet

Alamosa River Keepers

Schedule 1

URS 06/26/2009

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State of Colorado

Annual Water Diversion Report

HydroBase

Structure Name: EL VIEGO D

Division: 3 **Water District:** 21 **Structure Id:** 520

Location:

Q10	Q40	Q160	Section	Twnshp	Range	PM
		SW	1	35N	7E	N

Distance From Section From N/S Line: From E/W Line:

UTM Coordinates (NAD 83): Northing (UTM 4130084 Easting (UTM x): 397189.7 Spotted from PLSS distances from section lines

Latitude/Longitude (decimal degrees): 37.311719 -106.160214

IYR	Identifier	FDU	LDU	DWC	Max Q/Date	NOB	NUS	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Annual Total	Unit
1950	Total	1950-03	10-1950	225	14.00 04-05	225	0	0.00	0.00	0.00	0.00	218.19	801.33	860.84	833.07	860.84	821.17	491.91	634.72	5522.06	AF
1951	Total	1951-03	10-1951	225	14.00 04-06	226	0	0.00	0.00	0.00	0.00	115.04	813.24	860.84	833.07	860.84	551.41	416.54	245.95	4696.93	AF
1952	Total	1952-04	10-1952	213	18.00 06-11	213	0	0.00	0.00	0.00	0.00	0.00	285.62	885.43	971.12	935.42	885.43	602.79	636.70	5202.52	AF
1953	Total	1953-03	10-1953	224	14.40 04-01	224	0	0.00	0.00	0.00	0.00	126.94	856.87	885.43	856.87	885.43	724.37	516.70	440.34	5292.97	AF
1954	Total	1954-03	10-1954	223	14.40 04-06	223	0	0.00	0.00	0.00	0.00	57.52	763.65	885.43	856.87	885.43	885.43	672.01	545.46	5551.82	AF
1955	Total	1955-03	10-1955	231	14.40 04-03	231	0	0.00	0.00	0.00	0.00	89.26	803.91	885.43	856.87	885.43	885.43	743.61	434.88	5584.84	AF
1956	Total	1956-03	10-1956	228	14.40 04-06	228	0	0.00	0.00	0.00	0.00	166.61	767.61	885.43	856.87	804.90	528.80	238.26	175.86	4424.36	AF
1957	Total	1957-03	10-1957	240	14.50 06-21	240	0	0.00	0.00	0.00	0.00	335.21	637.50	885.43	858.86	789.04	771.19	780.71	557.36	5615.29	AF
1958	Total	1958-04	10-1958	202	14.40 05-21	203	0	0.00	0.00	0.00	0.00	0.00	452.24	687.08	802.52	844.77	738.46	640.67	409.59	4575.34	AF
1959	Total	1959-04	08-1959	147	14.40 04-27	150	0	0.00	0.00	0.00	0.00	0.00	426.65	885.43	856.87	818.79	430.42	0.00	0.00	3418.17	AF
1960	Total	1960-04	10-1960	210	14.40 06-01	211	0	0.00	0.00	0.00	0.00	0.00	239.01	860.84	856.87	880.67	823.95	545.26	478.80	4685.40	AF
1961	Total	1961-04	10-1961	214	14.40 05-01	214	0	0.00	0.00	0.00	0.00	0.00	419.51	850.13	856.87	885.43	875.91	800.94	564.90	5253.70	AF
1962	Total	1962-04	10-1962	206	14.40 04-23	207	0	0.00	0.00	0.00	0.00	0.00	384.60	870.36	856.87	885.43	885.43	725.96	783.48	5392.15	AF
1963	Total	1963-04	10-1963	214	14.40 04-15	214	0	0.00	0.00	0.00	0.00	0.00	801.33	885.43	856.87	879.88	812.84	675.18	551.41	5462.96	AF
1964	Total	1964-04	10-1964	206	14.50 04-20	206	0	0.00	0.00	0.00	0.00	0.00	415.54	891.58	835.05	891.58	891.58	811.25	596.04	5332.64	AF
1965	Total	1964-11	10-1965	227	14.00 04-26	229	0	95.21	0.00	0.00	0.00	5.95	378.85	807.28	833.07	860.84	860.84	833.07	860.84	5535.95	AF
1966	Total	1965-11	10-1966	235	14.00 11-01	237	0	337.20	0.00	0.00	0.00	71.41	833.07	860.84	833.07	860.84	844.97	727.95	331.25	5700.58	AF
1967	Total	1967-03	10-1967	211	14.00 03-29	213	0	0.00	0.00	0.00	0.00	182.48	833.07	860.84	833.07	860.84	860.84	833.07	349.10	5613.31	AF
1968	Total	1967-11	10-1968	227	14.00 04-18	228	0	436.37	0.00	0.00	0.00	0.00	454.22	860.84	833.07	860.84	860.84	602.98	614.89	5524.05	AF
1969	Total	1968-11	10-1969	224	14.00 04-10	226	0	376.87	0.00	0.00	0.00	0.00	708.11	860.84	833.07	860.84	860.84	833.07	452.24	5785.87	AF
1970	Total	1969-11	09-1970	203	14.00 11-04	206	0	531.58	0.00	0.00	0.00	428.44	523.64	819.19	833.07	860.84	727.95	25.79	0.00	4750.48	AF
1971	Total	1971-04	10-1971	188	14.00 05-03	103	0	0.00	0.00	0.00	0.00	0.00	126.94	757.70	805.30	860.84	860.84	741.83	327.28	4480.73	AF
1972	Total	1971-11	10-1972	248	14.00 03-15	251	0	251.91	0.00	0.00	0.00	472.07	833.07	860.84	833.07	848.94	474.06	416.54	464.14	5454.63	AF
1973	Total	1972-11	10-1973	184	14.00 04-20	193	0	31.74	0.00	0.00	0.00	0.00	305.46	852.91	833.07	860.84	809.27	658.52	243.97	4595.77	AF
1974	Total	1974-03	10-1974	176	14.00 04-27	180	0	0.00	0.00	0.00	0.00	3.97	176.53	860.84	833.07	860.84	652.57	295.54	47.60	3730.96	AF
1975	Total	1975-04	10-1975	188	14.00 04-17	131	0	0.00	0.00	0.00	0.00	0.00	388.77	860.84	833.07	797.37	829.10	656.54	349.10	4714.78	AF
1976	Total	1976-03	10-1976	222	14.00 04-24	114	0	0.00	0.00	0.00	0.00	79.34	555.38	860.84	833.07	846.96	860.84	370.92	355.05	4762.38	AF
1977	Total	1976-11	10-1977	193	14.00 04-18	46	0	35.70	0.00	0.00	0.00	0.00	487.94	860.84	809.27	735.88	688.27	148.76	97.19	3863.86	AF
1978	Total	1977-11	10-1978	212	14.00 03-31	179	0	89.26	0.00	0.00	0.00	73.39	813.24	650.59	833.07	844.97	487.94	67.44	398.68	4258.57	AF
1979	Total	1979-04	10-1979	188	14.00 04-19	143	0	0.00	0.00	0.00	0.00	0.00	481.99	860.84	702.16	315.38	805.30	281.66	33.72	3481.04	AF
1980	Total	1980-05	10-1980	170	17.00 08-20	163	0	0.00	0.00	0.00	0.00	0.00	0.00	468.11	833.07	860.84	757.70	696.21	351.08	3967.00	AF

IYR	Identifier	FDU	LDU	DWC	Max Q/Date	NOB	NUS	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Annual Total	Unit
1981	Total	1980-11	10-1981	216	14.00 04-19	201	0	172.57	0.00	0.00	0.00	0.00	370.92	825.14	833.07	856.87	841.00	785.47	493.89	5178.92	AF
1982	Total	1981-11	10-1982	210	14.00 05-03	178	0	394.72	0.00	0.00	0.00	0.00	19.84	765.63	833.07	727.95	698.19	626.79	690.26	4756.43	AF
1983	Total	1982-11	10-1983	203	14.00 05-13	183	0	390.75	0.00	0.00	0.00	0.00	0.00	644.64	809.27	727.95	797.37	646.62	718.03	4734.61	AF
1984	Total	1983-11	10-1984	211	14.00 05-12	211	0	236.04	0.00	0.00	0.00	0.00	162.65	702.16	769.60	797.37	829.10	513.73	549.43	4560.07	AF
1985	Total	1984-11	10-1985	205	18.00 11-01	194	0	378.85	0.00	0.00	0.00	0.00	107.11	553.40	813.24	803.32	708.11	523.64	460.17	4347.83	AF
1986	Total	1986-03	10-1986	215	16.00 07-07	167	0	0.00	0.00	0.00	0.00	9.92	529.60	731.91	813.24	821.17	848.94	801.33	835.05	5391.15	AF
1987	Total	1986-11	10-1987	205	15.00 05-21	150	0	261.82	0.00	0.00	0.00	0.00	214.22	708.11	765.63	813.24	807.28	803.32	634.72	5008.34	AF
1988	Total	1987-11	10-1988	216	14.00 11-02	205	0	357.03	0.00	0.00	0.00	0.00	464.14	837.04	833.07	841.00	813.24	829.10	833.07	5807.69	AF
1989	Total	1989-03	10-1989	217	19.00 05-19	97	0	0.00	0.00	0.00	0.00	61.29	815.02	922.72	857.07	881.86	873.53	763.65	860.24	6035.39	AF
1990	Total	1990-04	10-1990	210	19.90 06-12	104	0	0.00	0.00	0.00	0.00	0.00	722.19	908.84	882.46	894.36	904.87	868.38	913.60	6094.70	AF
1991	Total	1990-11	10-1991	205	18.20 08-08	114	0	76.56	0.00	0.00	0.00	0.00	538.12	846.36	869.96	914.79	910.03	878.89	873.53	5908.25	AF
1992	Total	1992-04	10-1992	197	18.50 04-24	108	0	0.00	0.00	0.00	0.00	0.00	392.73	876.91	863.42	894.76	903.68	812.64	750.76	5494.89	AF
1993	Total	1993-04	10-1993	200	18.50 08-17	114	0	0.00	0.00	0.00	0.00	0.00	302.29	801.33	819.38	869.96	1032.02	997.30	723.18	5545.47	AF
1994	Total	1994-03	10-1994	221	19.90	163	0	0.00	0.00	0.00	0.00	33.72	471.28	879.88	794.19	839.81	1063.35	873.73	890.00	5845.97	AF
1995	Total	1994-11	10-1995	209	19.40 06-14	156	0	126.94	0.00	0.00	0.00	0.00	545.07	840.81	891.39	785.66	874.72	799.15	790.03	5653.77	AF
1996	Total	1995-11	10-1996	232	16.20 04-02	177	0	459.58	0.00	0.00	0.00	19.44	838.82	872.54	855.68	890.00	673.80	665.27	482.19	5757.31	AF
1997	Total	1997-04	10-1997	207	14.50 04-09	136	0	0.00	0.00	0.00	0.00	0.00	642.85	870.36	817.60	884.44	872.34	862.82	883.65	5834.07	AF
1998	Total	1997-11	10-1998	197	14.90 10-03	147	0	128.13	0.00	0.00	0.00	0.00	148.37	874.92	854.49	884.84	884.84	749.57	868.97	5394.13	AF
1999	Total	1999-03	10-1999	215	14.50 04-03	145	0	0.00	0.00	0.00	0.00	26.38	846.16	887.62	848.15	887.62	832.48	786.66	866.99	5982.04	AF
2000	Total	1999-11	10-2000	218	14.50 04-19	193	0	303.48	0.00	0.00	0.00	0.00	469.10	858.06	856.08	695.81	500.64	402.25	808.87	4894.29	AF
2001	Total	2000-11	10-2001	204	15.30 11-08	146	0	256.27	0.00	0.00	0.00	0.00	267.97	854.29	853.30	858.26	869.57	788.64	575.61	5323.91	AF
2002	Total	2001-11	10-2002	180	14.70 04-07	174	0	349.49	0.00	0.00	0.00	0.00	703.35	890.79	716.64	237.23	21.22	131.07	348.10	3397.89	AF
2003	Total	2002-11	10-2003	221	14.50 04-14	174	1	93.03	0.00	0.00	0.00	0.00	706.52	886.23	862.43	764.84	794.59	795.19	743.22	5646.03	AF
2004	Total	2003-11	10-2004	188	14.50 05-02	157	0	24.60	0.00	0.00	0.00	0.00	0.00	860.24	859.65	889.80	809.67	703.35	730.52	4877.82	AF
2005	Total	2005-04	10-2005	196	14.50 04-26	136	0	0.00	0.00	0.00	0.00	0.00	290.38	865.40	843.78	890.79	884.05	704.94	477.63	4956.97	AF
2006	Total	2005-11	10-2006	222	14.50 04-19	135	0	165.62	0.00	0.00	0.00	0.00	505.59	880.87	862.03	889.20	873.73	839.42	868.77	5885.24	AF
2007	Total	2006-11	10-2007	219	14.50 04-29	146	0	310.62	0.00	0.00	0.00	0.00	337.20	761.27	821.96	852.11	843.78	753.14	664.87	5344.94	AF

Legend for identifier string coding:

Source (S): 1 - Natural Streamflow, 2 - Reservoir Storage, 3 - Ground water (wells), 4 - Transbasin, 5 - Non-stream (springs, run-off), 6 - Combined, 7 - Transdistrict, 8 - Re-used, 9 - Multiple, R - Remeasured and rediverted

From (F): From structure WDID

Use (U): 0 - Storage, 1 - Irrigation, 2 - Municipal, 3 - Commercial, 4 - Industrial, 5 - Recreation, 6 - Fishery, 7 - Fire, 8 - Domestic, 9 - Stock, A - Augmentation, B - Export from basin, C - Cumulative accretion to river, D - Cumulative depletion from river, E - Evaporation, F - Federal reserve, G - Geothermal, H - Household use only, K - Snow making, M - Minimum streamflow, N - Net effect of river, P - Power generation, Q - Other, R - Recharge, S - Export from state, T - Transmountain export, W - Wildlife, X - All beneficial use

Diversion Type (T): 0 - Administrative record only, 1 - Exchange, 2 - Trade, 3 - Carrier, 4 - Alternate point of diversion, 5 - Re-used, 6 - Replacement to river, 7 - Released by river, 8 - Released to stream, A - Augmented, G - Geothermal,

Group (G): Group structure WDID

State of Colorado

Annual Water Diversion Report

HydroBase

Structure Name: GABINO GALLEGOS D **Division:** 3 **Water District:** 21 **Structure Id:** 526

Location:

Q10	Q40	Q160	Section	Twnshp	Range	PM
		SW	6	35N	8E	N

Distance From Section From N/S Line: From E/W Line:

UTM Coordinates (NAD 83): Northing (UTM 4128691 Easting (UTM x): 398294.7 Spotted from PLSS distances from section lines

Latitude/Longitude (decimal degrees): 37.299286 -106.147556

IYR	Identifier	FDU	LDU	DWC	Max Q/Date	NOB	NUS	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Annual Total	Unit
1950	Total	1950-04	07-1950	98	16.00 04-10	100	0	0.00	0.00	0.00	0.00	0.00	666.46	983.82	952.08	460.17	0.00	0.00	0.00	3062.52	AF
1951	Total	1951-05	06-1951	54	16.00 05-07	55	0	0.00	0.00	0.00	0.00	0.00	0.00	793.40	908.44	0.00	0.00	0.00	0.00	1701.84	AF
1952	Total	1952-04	09-1952	160	25.00 06-21	161	0	0.00	0.00	0.00	0.00	0.00	400.67	983.82	1041.34	983.82	983.82	353.06	0.00	4746.52	AF
1953	Total	1953-05	07-1953	69	16.00 05-01	71	0	0.00	0.00	0.00	0.00	0.00	0.00	983.82	918.36	61.49	0.00	0.00	0.00	1963.67	AF
1954	Total	1954-04	06-1954	68	16.00 04-20	70	0	0.00	0.00	0.00	0.00	0.00	405.63	983.82	632.74	0.00	0.00	0.00	0.00	2022.18	AF
1955	Total	1955-05	08-1955	70	16.00 05-01	75	0	0.00	0.00	0.00	0.00	0.00	0.00	864.81	952.08	0.00	144.80	0.00	0.00	1961.68	AF
1956	Total	1956-04	06-1956	66	16.00 04-14	69	0	0.00	0.00	0.00	0.00	0.00	289.59	983.82	793.40	0.00	0.00	0.00	0.00	2066.81	AF
1957	Total	1957-04	09-1957	144	40.00 06-22	147	0	0.00	0.00	0.00	0.00	0.00	507.78	1013.57	1364.65	844.97	571.25	122.98	0.00	4425.19	AF
1958	Total	1958-04	07-1958	65	30.00 05-27	68	0	0.00	0.00	0.00	0.00	0.00	47.60	749.76	940.18	17.85	0.00	0.00	0.00	1755.40	AF
1959	Total	1959-05	10-1959	121	16.00 05-04	127	0	0.00	0.00	0.00	0.00	0.00	0.00	686.29	938.20	0.00	364.96	441.33	115.04	2545.82	AF
1960	Total	1960-04	07-1960	77	16.00 05-12	78	0	0.00	0.00	0.00	0.00	0.00	27.77	812.24	952.08	430.42	0.00	0.00	0.00	2222.51	AF
1961	Total	1961-05	08-1961	76	16.00 05-05	80	0	0.00	0.00	0.00	0.00	0.00	0.00	885.63	862.82	0.00	356.04	0.00	0.00	2104.49	AF
1962	Total	1962-04	08-1962	93	16.00 05-02	95	0	0.00	0.00	0.00	0.00	0.00	89.26	971.92	952.08	690.26	47.60	0.00	0.00	2751.12	AF
1963	Total	1963-04	06-1963	50	16.00 04-17	55	0	0.00	0.00	0.00	0.00	0.00	142.81	860.84	439.35	0.00	0.00	0.00	0.00	1443.00	AF
1964	Total	1964-04	08-1964	74	16.00 05-01	82	0	0.00	0.00	0.00	0.00	0.00	63.47	763.65	809.27	23.80	545.46	0.00	0.00	2205.65	AF
1965	Total	1965-05	10-1965	114	16.00 05-21	169	0	0.00	0.00	0.00	0.00	0.00	0.00	412.57	952.08	983.82	636.70	0.00	119.01	3104.18	AF
1966	Total	1965-11	08-1966	115	16.00 05-10	138	0	126.94	0.00	0.00	0.00	0.00	71.41	860.84	952.08	329.26	311.41	0.00	0.00	2651.94	AF
1967	Total	1967-04	09-1967	145	16.00 05-11	151	0	0.00	0.00	0.00	0.00	0.00	39.67	797.37	952.08	856.87	872.74	392.73	0.00	3911.46	AF
1968	Total	1968-05	09-1968	121	16.00 05-20	130	0	0.00	0.00	0.00	0.00	0.00	0.00	809.27	952.08	650.59	737.86	95.21	0.00	3245.01	AF
1969	Total	1969-04	10-1969	145	16.00 04-25	147	0	0.00	0.00	0.00	0.00	0.00	206.28	983.82	952.08	936.21	777.53	0.00	287.61	4143.53	AF
1970	Total	1969-11	10-1970	117	20.00 05-19	126	0	396.70	0.00	0.00	0.00	0.00	0.00	634.72	952.08	670.42	0.00	0.00	218.19	2872.11	AF
1971	Total	1970-11	10-1971	114	16.00 05-04	94	0	47.60	0.00	0.00	0.00	0.00	160.66	888.61	912.41	404.63	0.00	0.00	146.78	2560.70	AF
1972	Total	1971-11	10-1972	117	16.00 04-11	119	0	236.04	0.00	0.00	0.00	0.00	634.72	983.82	753.73	0.00	0.00	0.00	136.86	2745.17	AF
1973	Total	1972-11	08-1973	108	20.00 06-02	118	0	11.90	0.00	0.00	0.00	0.00	0.00	702.16	995.72	1019.52	222.15	0.00	0.00	2951.45	AF
1974	Total	1974-05	08-1974	67	16.00 05-08	84	0	0.00	0.00	0.00	0.00	0.00	0.00	733.90	952.08	113.06	150.75	0.00	0.00	1949.78	AF
1975	Total	1975-04	08-1975	129	16.00 05-09	89	0	0.00	0.00	0.00	0.00	0.00	117.03	827.12	952.08	686.29	549.43	0.00	0.00	3131.95	AF
1976	Total	1976-04	08-1976	118	16.00 04-28	64	0	0.00	0.00	0.00	0.00	0.00	186.45	983.82	944.15	571.25	285.62	0.00	0.00	2971.28	AF
1977	Total	1977-04	09-1977	54	16.00 05-06	23	0	0.00	0.00	0.00	0.00	0.00	61.49	470.09	299.51	45.62	190.42	83.31	0.00	1150.43	AF
1978	Total	1978-04	07-1978	65	16.00 05-13	50	0	0.00	0.00	0.00	0.00	0.00	95.21	652.57	872.74	176.53	0.00	0.00	0.00	1797.05	AF
1979	Total	1979-04	08-1979	116	16.00 05-23	90	0	0.00	0.00	0.00	0.00	0.00	29.75	791.42	884.64	844.97	525.63	0.00	0.00	3076.41	AF
1980	Total	1980-04	08-1980	93	16.00 05-27	88	0	0.00	0.00	0.00	0.00	0.00	11.90	238.02	952.08	835.05	251.91	0.00	0.00	2288.96	AF

IYR	Identifier	FDU	LDU	DWC	Max Q/Date	NOB	NUS	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Annual Total	Unit
1981	Total	1981-04	08-1981	93	16.00 04-30	87	0	0.00	0.00	0.00	0.00	0.00	154.71	573.23	581.17	698.19	142.81	0.00	0.00	2150.12	AF
1982	Total	1982-04	10-1982	185	16.00 05-01	164	0	0.00	0.00	0.00	0.00	0.00	49.59	801.33	952.08	936.21	819.19	714.06	376.87	4649.33	AF
1983	Total	1982-11	09-1983	124	16.00 05-07	113	0	7.93	0.00	0.00	0.00	0.00	0.00	793.40	936.21	900.51	523.64	69.42	0.00	3231.12	AF
1984	Total	1984-05	09-1984	120	20.00 05-29	122	0	0.00	0.00	0.00	0.00	0.00	0.00	644.64	892.58	878.69	684.31	47.60	0.00	3147.82	AF
1985	Total	1984-11	10-1985	159	27.00 06-08	158	0	111.08	0.00	0.00	0.00	0.00	142.81	644.64	1426.14	962.00	531.58	0.00	122.98	3941.22	AF
1986	Total	1986-04	10-1986	159	27.00 06-04	133	0	0.00	0.00	0.00	0.00	0.00	158.68	579.18	880.67	823.15	364.96	238.02	103.14	3147.82	AF
1987	Total	1987-05	08-1987	94	21.00 05-18	86	0	0.00	0.00	0.00	0.00	0.00	0.00	708.11	714.06	797.37	158.68	0.00	0.00	2378.22	AF
1988	Total	1988-05	09-1988	72	15.00 05-07	78	0	0.00	0.00	0.00	0.00	0.00	0.00	731.91	892.58	69.42	85.29	55.54	0.00	1834.74	AF
1989	Total	1989-04	08-1989	89	20.30 04-17	52	0	0.00	0.00	0.00	0.00	0.00	589.10	928.08	814.03	75.77	89.26	0.00	0.00	2496.24	AF
1990	Total	1990-04	10-1990	69	18.10 06-12	51	0	0.00	0.00	0.00	0.00	0.00	86.48	753.14	806.49	76.37	33.52	0.00	180.10	1936.10	AF
1991	Total	1991-04	09-1991	126	33.60 05-12	72	0	0.00	0.00	0.00	0.00	0.00	140.83	998.49	934.63	628.37	544.67	264.80	0.00	3511.79	AF
1992	Total	1992-04	07-1992	80	15.30 05-04	71	0	0.00	0.00	0.00	0.00	0.00	26.78	917.57	855.09	301.89	0.00	0.00	0.00	2101.32	AF
1993	Total	1993-04	08-1993	93	30.10 06-02	81	0	0.00	0.00	0.00	0.00	0.00	44.03	886.23	962.20	500.64	198.15	0.00	0.00	2591.25	AF
1994	Total	1994-04	07-1994	83	28.60 05-31	71	0	0.00	0.00	0.00	0.00	0.00	278.29	934.23	889.01	192.80	0.00	0.00	0.00	2294.32	AF
1995	Total	1995-04	09-1995	131	35.00 06-07	104	0	0.00	0.00	0.00	0.00	0.00	27.37	803.91	1215.69	879.88	768.01	81.92	0.00	3776.78	AF
1996	Total	1996-04	07-1996	54	15.30 05-03	50	0	0.00	0.00	0.00	0.00	0.00	169.99	880.28	309.62	89.85	0.00	0.00	0.00	1449.74	AF
1997	Total	1997-04	10-1997	149	17.40 05-31	113	0	0.00	0.00	0.00	0.00	0.00	208.86	854.10	890.20	493.50	273.53	64.86	122.98	2908.01	AF
1998	Total	1997-11	07-1998	75	15.10 05-06	59	0	8.53	0.00	0.00	0.00	0.00	0.00	770.00	887.82	364.37	0.00	0.00	0.00	2030.71	AF
1999	Total	1999-04	09-1999	146	15.10 04-26	103	0	0.00	0.00	0.00	0.00	0.00	149.75	765.83	768.81	879.29	597.63	340.17	0.00	3501.47	AF
2000	Total	2000-04	06-2000	53	15.10 04-24	45	0	0.00	0.00	0.00	0.00	0.00	228.70	924.11	289.99	0.00	0.00	0.00	0.00	1442.80	AF
2001	Total	2001-04	08-2001	93	15.10 04-30	70	0	0.00	0.00	0.00	0.00	0.00	151.74	882.86	878.69	181.29	294.15	0.00	0.00	2388.73	AF
2002	Total	2002-04	05-2002	24	15.10 04-15	29	0	0.00	0.00	0.00	0.00	0.00	126.94	407.41	0.00	0.00	0.00	0.00	0.00	534.36	AF
2003	Total	2003-04	06-2003	47	15.10 05-03	43	0	0.00	0.00	0.00	0.00	0.00	29.55	632.14	642.06	0.00	0.00	0.00	0.00	1303.76	AF
2004	Total	2004-05	09-2004	78	15.10 05-05	59	0	0.00	0.00	0.00	0.00	0.00	0.00	816.81	872.74	145.59	0.00	80.73	0.00	1915.86	AF
2005	Total	2005-04	09-2005	102	15.10 05-07	75	0	0.00	0.00	0.00	0.00	0.00	118.42	849.34	805.90	448.27	22.81	1.59	0.00	2246.31	AF
2006	Total	2006-04	10-2006	109	15.10 04-22	70	0	0.00	0.00	0.00	0.00	0.00	422.88	904.48	511.55	120.20	277.89	0.00	439.54	2676.54	AF
2007	Total	2006-11	10-2007	121	15.10 04-30	76	2	55.74	0.00	0.00	0.00	0.00	165.23	861.24	873.14	305.06	257.66	111.87	116.43	2746.35	AF

Legend for identifier string coding:

Source (S): 1 - Natural Streamflow, 2 - Reservoir Storage, 3 - Ground water (wells), 4 - Transbasin, 5 - Non-stream (springs, run-off), 6 - Combined, 7 - Transdistrict, 8 - Re-used, 9 - Multiple, R - Remeasured and rediverted

From (F): From structure WDID

Use (U): 0 - Storage, 1 - Irrigation, 2 - Municipal, 3 - Commercial, 4 - Industrial, 5 - Recreation, 6 - Fishery, 7 - Fire, 8 - Domestic, 9 - Stock, A - Augmentation, B - Export from basin, C - Cumulative accretion to river, D - Cumulative depletion from river, E - Evaporation, F - Federal reserve, G - Geothermal, H - Household use only, K - Snow making, M - Minimum streamflow, N - Net effect of river, P - Power generation, Q - Other, R - Recharge, S - Export from state, T - Transmountain export, W - Wildlife, X - All beneficial use

Diversion Type (T): 0 - Administrative record only, 1 - Exchange, 2 - Trade, 3 - Carrier, 4 - Alternate point of diversion, 5 - Re-used, 6 - Replacement to river, 7 - Released by river, 8 - Released to stream, A - Augmented, G - Geothermal,

Group (G): Group structure WDID

January 11, 2010

Memorandum

To: Cindy Medina, Alamosa Riverkeeper
From: Ken Knox

The following information is offered in anticipation of the presentation before the Colorado Water Conservation Board on January 26, 2010 in contemplation of acquisition of partial (2.50 cfs) ownership of the Gabino Gallegos Ditch. This information supplements the URS report provided on June 4, 2009.

Identification/quantification of return flows

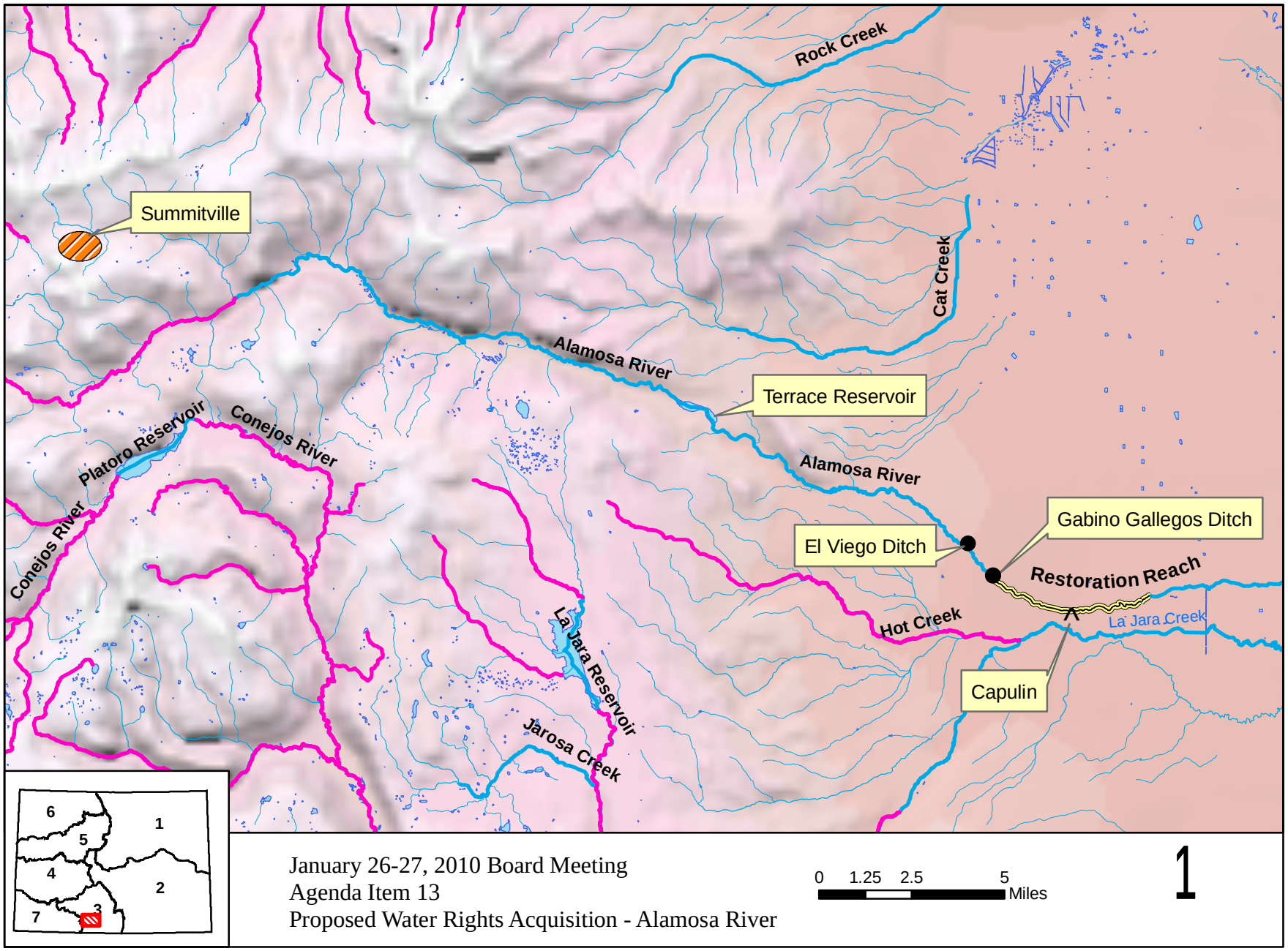
The topography of the irrigated lands served by the Gabino Gallegos Ditch is relatively flat with minimal slope and are located on the floor of the San Luis Valley near Capulin, Colorado. Succinctly, the land served is flat with insufficient gradient to promote surface water runoff from the bottom of the irrigated fields. Further, inspection of the perimeter of the irrigated fields indicate the combination of roadways, borrow ditches and absence of phreatophytes indicates there are no surface water returns from the irrigated lands back to the river. The water delivered to the lands under the Gabino Gallegos Ditch is either consumed by crop evapotranspiration (majority of on-field deliveries) or percolates through the ground surface to recharge the unconfined aquifer.

Proximity and potential impact to downstream surface water rights.

The Alamosa River is an ephemeral stream. The amount of water available for diversion is highly dynamic and dependent upon limited periods of time during snowmelt runoff or extreme precipitation events. The annual streamflow hydrograph for the Alamosa River reflects its character as a "flash" stream in which the streamflow is highly variable. The senior priority for the Gabino Gallegos Ditch is number 11 on the Alamosa River and it is satisfied in full or partial amounts for only short periods of time. Return flows migrating through the ground water alluvium do not occur in time or location to provide benefit to downstream surface water diversions due primarily to the rapid decrease in Gabino Gallegos Ditch diversions (often in terms of hours, not days) and the distance to nearest downstream junior water right as described by the District 21 Water Commissioner.

Impact to ground water wells

The contemplated acquisition of the Gabino Gallegos Ditch by the CWCB, and its subsequent use to enhance and protect the riparian environment of the Alamosa River to a reasonable degree will not injure ground water appropriators. In fact, the proposed change in water rights will enhance the water supply to those ground water appropriators located down-gradient of the lands served by this ditch by proving an incremental increase in the amount of ground water recharged that was formerly consumed by crop evapotranspiration. The ground water will recharge the shallow unconfined aquifer that underlies the majority of the "floor" of the San Luis Valley, including this portion of the Alamosa River system.


Rock Creek
Summitville
Cat Creek
Alamosa River
Terrace Reservoir
Platoro Reservoir
Conejos River
Alamosa River
Conejos River
Gabino Gallegos Ditch
El Viego Ditch
Restoration Reach
Hot Creek
La Jara Creek
La Jara Reservoir
Capulin
Jarosa Creek
6
1
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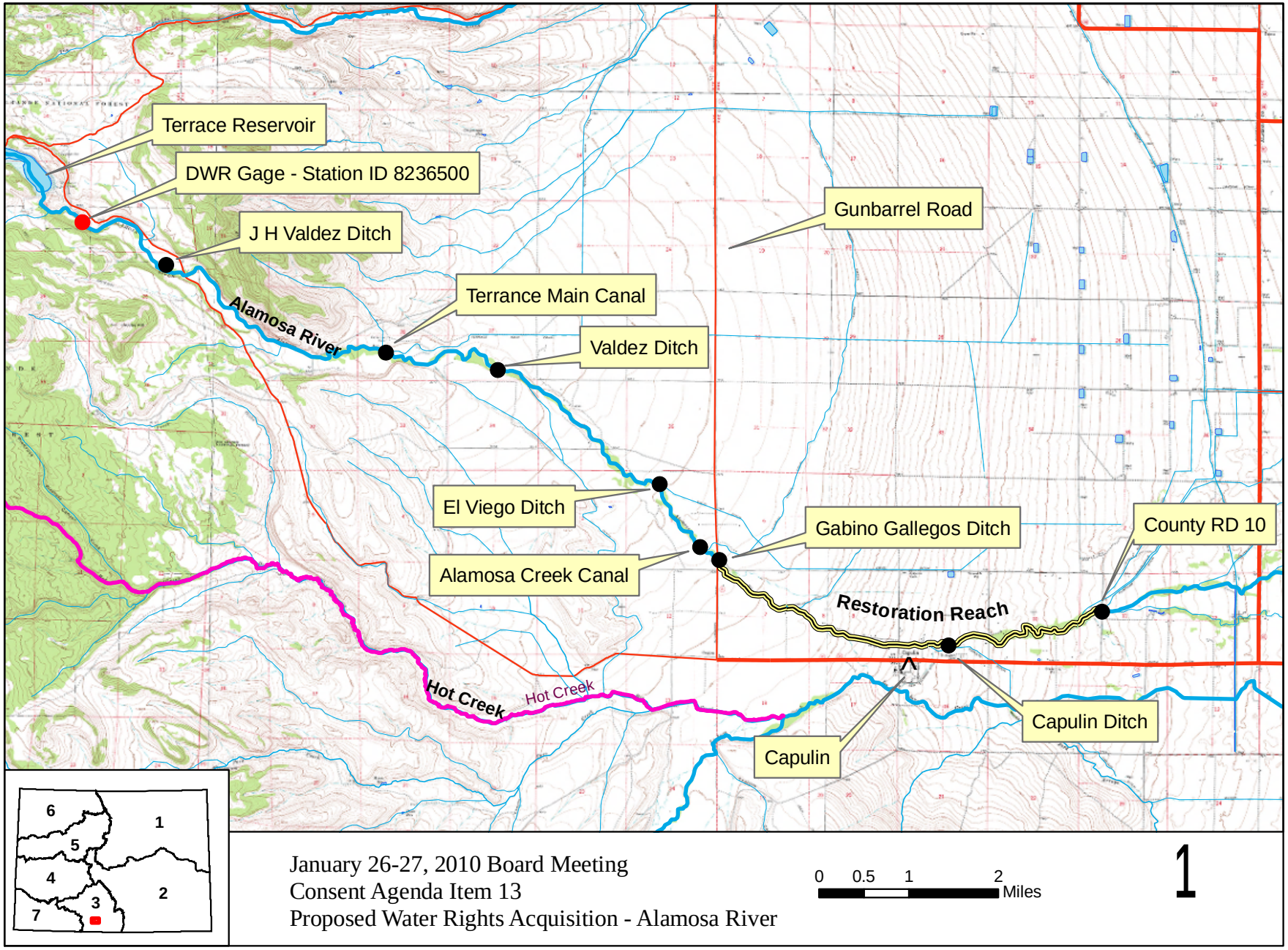
January 26-27, 2010 Board Meeting
Agenda Item 13
Proposed Water Rights Acquisition - Alamosa River
0 1.25 2.5 5
Miles
1


Terrace Reservoir
DWR Gage - Station ID 8236500
J H Valdez Ditch
Alamosa River
Terrance Main Canal
Valdez Ditch
Gunbarrel Road
El Viego Ditch
Gabino Gallegos Ditch
County RD 10
Alamosa Creek Canal
Restoration Reach
Hot Creek
Hot Creek
Capulin Ditch
Capulin
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January 26-27, 2010 Board Meeting
Consent Agenda Item 13
Proposed Water Rights Acquisition - Alamosa River
0 0.5 1 2
Miles
1