BEFORE THE COLORADO WATER CONSERVATION BOARD STATE OF COLORADO **CONCERNING THE APPLICATION FOR WATER RIGHTS OF THE BOARD OF COMMISSIONERS FOR THE COUNTY OF GRAND, COLORADO** **IN GRAND COUNTY**	▲ **COURT USE ONLY** ▲ Case Number: 10CW298
Attorneys for the Homestake Partners, being the Cities of Aurora and Colorado Springs, acting through the Homestake Steering Committee CARLSON, HAMMOND & PADDOCK, L.L.C. Mary Mead Hammond, Reg. No. 9851 Karl D. Ohlsen, Reg. No. 32497 Leila C. Behnampour, Reg. No. 42754 1700 Lincoln Street, Suite 3900 Denver, Colorado 80203 Phone: (303) 861-9000; Fax: (303) 861-9026 Email: mhammond@chp-law.com kohlsen@chp-law.com lbehnampour@chp-law.com Co-counsel for the City of Colorado Springs Michael Gustafson, Reg. No. 37364 City Attorney's Office – Utilities Division Colorado Springs Utilities 121 S. Tejon Street, Fourth Floor P.O. Box 1103, MC 940 Colorado Springs, CO 80947-0940 Phone: (719) 668-8047; Fax: (719) 668-8048 Email: mgustafson@csu.org	

PRE-MEETING STATEMENT OF THE HOMESTAKE PARTNERS

Objector, the Homestake Partners, being the Cities of Aurora and Colorado Springs, acting through the Homestake Steering Committee, by its undersigned counsel, submit this Pre-Meeting Statement for consideration pursuant to the Colorado Water Conservation Board's

("CWCB") Notice of Prehearing Conference and Deadlines for Submissions dated February 24, 2012.

I. The Homestake Partners

The Homestake Partners are owners and claimants of vested water rights and decreed conditional water rights on the Colorado River and its tributaries. The Homestake Project is a transmountain project that diverts water from the headwaters of Homestake Creek and its tributaries. Homestake Creek is a tributary of the Eagle River, which is a tributary of the Colorado River. Diverted water is stored in Homestake Reservoir, and is conveyed to Turquoise Reservoir via the Homestake Tunnel and Lake Fork Creek. Water is conveyed to Colorado Springs and Aurora via the Homestake Pipeline and the Otero Pump Station (often referred to as the "Otero Conveyance System"). The yield from the Homestake System is shared equally between Colorado Springs and the City of Aurora.

The Homestake Partners are planning to develop the remaining conditional rights associated with the Homestake Project including those rights contained in Water Division No. 5 Case Nos. 88CW449 and 95CW272. The 1997 Eagle River MOU between the Cities of Aurora and Colorado Springs, the Colorado River Water Conservation District, the Vail Consortium consisting of the Eagle River Water and Sanitation District, Upper Eagle Regional Water Authority, and Vail Associates, Inc. ("Vail Consortium"), and Cyprus Climax Metals Co., provides for the development of the Eagle River MOU Joint Use Water Project. The Eagle River MOU Joint Use Project ("ERMOU Project") is a phased project that will provide water supply for East Slope and West Slope water users. The ERMOU Project has been cooperatively configured to avoid or minimize environmental concerns and will be constructed as an alternative to the federally permitted Homestake II Project. Successful implementation of the ERMOU Project is important to meet the current and future water needs of both East Slope and West Slope ERMOU Project parties. The ERMOU Project will provide 30,000 acre-feet of dry year firm yield to East Slope and West Slope entities, including 10,000 acre-feet per year to each of the Cities of Colorado Springs and Aurora and 10,000 acre-feet per year to West Slope partners.

Colorado Springs also owns and operates the Continental-Hoosier Transmountain Diversion System, commonly referred to as the "Blue River System." The Blue River System was built in the 1950s, and was the first transmountain system operated by Colorado Springs. The Blue River project diverts water from the Blue River and its tributaries above Breckenridge, Colorado, and the proposed Gore Canyon RICD. The water diverted from the Blue River and its tributaries is conveyed under the Continental Divide to Montgomery Reservoir on the Middle Fork of the South Platte River.

Colorado Springs intends on developing its remaining conditional water rights associated with the Continental-Hoosier System, which were originally decreed in Civil Action No. 1806 (Summit County District Court), dated May 10, 1952, and Consolidated Cases No. 2782, 5016, and 5017 (United States District Court), dated October 5, 1955, and most recently confirmed in

Water Division No. 5 Case No. 06CW132. These conditional storage rights have an appropriation date of May 13, 1948, and include over 3,000 acre-feet of additional storage on Monte Cristo Creek and Spruce Creek, which are tributary to the Blue River above Breckenridge. Colorado Springs also maintains additional pending and decreed conditional and absolute water rights, including appropriative rights of substitution and exchange, associated with its Continental-Hoosier System, which are senior to the proposed Gore Canyon RICD.

II. Standard of Review

When an applicant files an application for a recreational in-channel diversion ("RICD"), it must submit a copy of the application to the CWCB for review. C.R.S. § 37-92-102(5). Pursuant to C.R.S. § 37-92-102(6)(b), the CWCB must consider the following three factors and make written findings as to each:

I. Whether the adjudication and administration of the recreational in-channel diversion would materially impair the ability of Colorado to fully develop and place to consumptive beneficial use its compact entitlements;

IV. Whether exercise of the recreational in-channel diversion would cause material injury to instream flow water rights appropriated pursuant to subsections (3) and (4) of this section; and

V. Whether adjudication and administration of the recreational in-channel diversion would promote maximum utilization of waters of the state.

III. List of Disputed Factual and Legal Issues and Homestake Partners' Position on these Issues

The Homestake Partners assert several concerns regarding aspects of Grand County's RICD application that relate to the first (I) and third (V) factors listed above. The Homestake Partners request that the CWCB consider the following disputed issues when evaluating Grand County's proposed RICD.

A. No Call Provisions

Paragraph 45.c of Grand County's proposed ruling dated February 29, 2012 ("proposed ruling") states:

> In addition to the no call provisions in paragraphs 21.c and 45.f, Grand County reserves the right not to call the RICD Water Rights as against future water rights up to 3,000 acre-feet of depletions, *within the sole discretion of Grand County.*

(Emphasis added). Paragraph 45.c, as written, may materially impair the ability of Colorado to fully develop and place to consumptive beneficial use its compact entitlements and may hinder

maximum utilization of waters of the state. Paragraph 45.c leaves within the sole discretion of Grand County the ability to place calls on junior rights. By reserving the discretionary ability not to call out certain junior rights, Grand County creates uncertainty for other junior water rights holders because junior water rights holders would not know whether they will be called out, and under which circumstances a call would be placed. Such uncertainty may hinder development of the water resources of the State, as water rights holders will be hesitant to make the substantial investments of time, money, and resources necessary to build the infrastructure and facilities necessary to perfect the exercise of water rights that are uncertain in their operation and yield. This uncertainty may result in the State not being able to fully develop and place to consumptive beneficial use its compact entitlements.

Moreover, allowing Grand County the discretion to determine whether to place a call on up to 3,000 acre-feet of junior water rights will allow Grand County considerable leverage in determining which water rights it will place a call on, and which it will not. If such a scenario occurs, Grand County may choose to favor certain junior water rights to the detriment of more senior water rights, which could include East Slope water rights holders, creating a lack of equality within the system and circumnavigating the basic tenet of the prior appropriation system—first in time, first in right.

The last sentence of Paragraph 45.d of the proposed ruling establishes a similar scenario:

> Grand County shall not use the RICD Water Rights as a basis to oppose any future applications in the Division 5 water court that proposes future development of the waters of the Colorado River or its tributaries upstream of the Grand County whitewater parks where the diversion, beneficial use(s) and return flows occur upstream of either Grand County whitewater park, and the contemplated diversion is less than 1,000 acre-feet each year. Such water rights *may*, however, be subject to curtailment by a call for water under the RICD Water Rights.

(Emphasis added). As with Paragraph 45.c, Paragraph 45.d creates additional uncertainty as to whether Grand County will place a call, and against what rights. This, in turn, may hinder the State's ability to fully develop and place to consumptive beneficial use its compact entitlement and promote maximum utilization of the waters of the state.

B. RICDs and Compact Development, Including Risk Management

The water court cannot decree a proposed RICD that will "materially impair the ability of Colorado to fully develop and place to consumptive beneficial use its compact entitlements." C.R.S. § 37-92-305(13)(c). Grand County maintains that its proposed RICD water rights will not impair Colorado's development of its compact entitlements. However, the facts indicate that Grand County's proposed RICDs may impair the State's development of its compact entitlements by (1) restricting future upstream consumptive uses and water development potential and, (2) by reducing the State's flexibility to manage its water entitlements under the Colorado and Upper Colorado River Compacts.

Grand County's proposed RICDs will restrict the State's ability to develop its remaining compact entitlements in an efficient, cost effective manner. Grand County's two proposed RICDs on the main stem of the Colorado River, alone and in combination with other decreed and pending RICDs in the headwaters of the Colorado River watershed, will restrict water development in the headwater areas where the primary demand for such development occurs. As a practical matter, the RICDs will impede the development of compact waters in the headwater areas where a known demand exists. While compact entitlements may remain available for development at downstream locations, there may be limited demand for additional development at these downstream sites because of cost, engineering and technical issues, environmental issues, and an absence of regional demands for water. Grand County's proposed RICDs could adversely impact Colorado's efforts to study and implement projects and processes to most effectively develop its remaining compact entitlements and develop risk management measures which are intended to avoid or lessen the impact of a compact curtailment through proactive water management practices.

Even if most of the water has been appropriated and diverted upstream of the proposed RICD, the potential for development for future water supplies is still a likely possibility, particularly in the Blue River watershed upstream from the proposed Gore Canyon RICD. This is illustrated by the fact that onee or more large development projects are currently being studied upstream of the proposed Gore Canyon RICD by the CWCB, through its Statewide Water Supply Initiative, as well as by the Interbasin Compact Committee and Basin Roundtables.

C. Upstream Reservoir Releases

The amount of water flowing through Grand County's proposed RICDs will be increased by storage releases from upstream reservoirs, which include Green Mountain Reservoir, Windy Gap Reservoir, and Lake Granby, among other reservoirs. Although storage releases may flow through and be put to use in the whitewater parks to help satisfy the RICDs, Grand County's RICD decree should not give Grand County any rights to stored and released water, nor provide any basis for any party to request or demand releases of such water to maintain flows at any level. Such a requirement is necessary to promote maximum utilization of the waters of the State. Further, the RICD decree should not be allowed to limit the exercise of exchanges or substitutions through the RICD reaches when those exchanges and substitutions are made against reservoir releases.

D. Whitewater Park Structures

C.R.S. § 37-92-103(10.3) defines "recreational in-channel diversion" as the "minimum amount of stream flow . . . for a reasonable recreational experience." One factor that a court may look at to determine whether an intended recreational experience is reasonable is the "flow needed to accomplish the claimed recreational use." C.R.S. § 37-92-305(13)(b).

Based on material provided by the applicant, the Homestake Partners believe that Grand County's proposed flow rates for the whitewater park structures are greater than the minimum flow rates required to accomplish the claimed recreational use. If Grand County were to receive the flow rates it requests, it would materially impair the ability of Colorado to fully develop and place to consumptive beneficial use its compact entitlements. Moreover, it would inhibit maximum utilization of waters of the state.

In addition, Grand County seeks to operate the RICD through October 15. The Homestake Partners believe there is insufficient demand for recreational whitewater experiences during this period, as it is at the end of the typical "tourist season," weather has turned colder and is less conducive to water-based recreation, and natural river flows are not supportive of a reasonable recreational experience as a result of a lack of snowmelt runoff and a fall weather pattern that typically includes little precipitation to feed rivers and streams.

IV. Witnesses

Homestake Partners may call the following witnesses:

A. M. Patrick Wells, Water Planning and Analysis Supervisor, Colorado Springs Utilities. Mr. Wells has knowledge regarding Homestake Partners' water rights; the operation of Homestake Partners' water rights; the water rights of the Colorado River basin and its tributaries; the plans for future water development in the Colorado River basin; compliance with the Colorado River Compact and the Upper Colorado River Compact; demand for water rights and exchanges in the Colorado River basin; nonconsumptive water needs; and anything identified in this pre-meeting statement.

B. Kerry Sundeen, Hydrologist, Grand River Consulting. Mr. Sundeen has knowledge regarding the same matters as Mr. Wells.

C. Maria Pastore, Hydrologist, Grand River Consulting. Ms. Pastore has knowledge regarding the same matters as Mr. Wells.

D. Kathy Kitzman, Water Resources Engineer, City of Aurora. Ms. Kitzman has knowledge of the City of Aurora' water rights as well as knowledge regarding the same matters as Mr. Wells.

E. Gerry Knapp, Arkansas and Colorado River Basins Program Manager, Member of Homestake Steering Committee. Mr. Knapp has knowledge regarding the same matters as Mr. Wells.

F. Brett W. Gracely, Water Resources Manager, Member of Homestake Steering Committee. Mr. Gracely has knowledge regarding the same matters as Mr. Wells.

V. Exhibits

The Homestake Partners do not intend to present exhibits at the meeting of the CWCB. The Homestake Partners reserve the right to offer exhibits in rebuttal and to comment on exhibits tendered to the CWCB.

Respectfully submitted this 7th day of March, 2012.

CARLSON, HAMMOND & PADDOCK, L.L.C.

By: _____

Mary Mead Hammond
Karl. D Ohlsen
Leila C. Behnampour

ATTORNEYS FOR THE HOMESTAKE PARTNERS

CERTIFICATE OF SERVICE

I hereby certify that on this 7th day of March 2012 I electronically filed by LexisNexis File and Serve a true and correct copy of the foregoing **PRE-HEARING STATEMENT OF THE HOMESTAKE PARTNERS** in Case No. 10CW298, and that copies of the same, addressed as follows, were served on the following parties by LexisNexis File and Serve, or by U.S. mail, first-class postage prepaid, for all parties not enrolled to receive electronic filings:

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THIS DOCUMENT WAS E-FILED PURSUANT TO RULE 121. DULY-SIGNED ORIGINAL IS ON FILE AT THE OFFICES OF CARLSON, HAMMOND & PADDOCK, L.L.C.

NOTE: This bill has been prepared for the signature of the appropriate legislative officers and the Governor. To determine whether the Governor has signed the bill or taken other action on it, please consult the legislative status sheet, the legislative history, or the Session Laws.

An Act

SENATE BILL 06-037

BY SENATOR(S) Isgar, Dyer, Entz, Evans, Fitz-Gerald, Kester, Lamborn, Mitchell, Taylor, and Teck;
also REPRESENTATIVE(S) Curry, Borodkin, Buescher, Butcher, Frangas, Gallegos, Kerr A., Merrifield, Rose, and White.

CONCERNING THE ADJUDICATION OF RECREATIONAL IN-CHANNEL DIVERSIONS.

Be it enacted by the General Assembly of the State of Colorado:

SECTION 1. 37-92-102 (6) (a), (6) (b), and (6) (c), Colorado Revised Statutes, are amended to read:

37-92-102. Legislative declaration - basic tenets of Colorado water law. (6) (a) ~~Following a public hearing, if requested by any party, the board shall make findings of fact and a final recommendation as to whether the application should be granted, granted with conditions, or denied.~~

(b) ~~In determining whether the board shall recommend that the water court grant, grant with conditions, or deny such application,~~ The board, AFTER DELIBERATION IN A PUBLIC MEETING, shall consider the following factors and make written findings ~~thereon~~ AS TO EACH:

Capital letters indicate new material added to existing statutes; dashes through words indicate deletions from existing statutes and such material not part of act.

(I) Whether the adjudication and administration of the recreational in-channel diversion would MATERIALLY impair the ability of Colorado to fully develop and place to consumptive beneficial use its compact entitlements;

(II) ~~The appropriate reach of stream required for the intended use;~~

(III) ~~Whether there is access for recreational in-channel use;~~

(IV) Whether exercise of the recreational in-channel diversion would cause material injury to instream flow water rights appropriated pursuant to subsections (3) and (4) of this section; AND

(V) Whether adjudication and administration of the recreational in-channel diversion would promote maximum utilization of waters of the state. ~~as referenced in paragraph (a) of subsection (1) of this section; and~~

(VI) ~~Such other factors as may be determined appropriate for evaluation of recreational in-channel diversions and set forth in rules adopted by the board, after public notice and comment.~~

(c) Within ninety days after the filing of statements of opposition, the board shall report its findings to the water court for review pursuant to section 37-92-305 (13). The board may ~~defend such findings through participation~~ FULLY PARTICIPATE in the water court proceedings.

SECTION 2. 37-92-103 (7) and (10.3), Colorado Revised Statutes, are amended, and the said 37-92-103 is further amended BY THE ADDITION OF THE FOLLOWING NEW SUBSECTIONS, to read:

37-92-103. Definitions. As used in this article, unless the context otherwise requires:

(6.3) "CONTROL STRUCTURE" MEANS A STRUCTURE CONSISTING OF DURABLE MAN-MADE OR NATURAL MATERIALS THAT HAS BEEN PLACED WITH THE INTENT TO DIVERT, CAPTURE, POSSESS, AND CONTROL WATER IN ITS NATURAL COURSE FOR AN APPROPRIATOR'S INTENDED AND SPECIFIED RECREATIONAL IN-CHANNEL DIVERSION. THE CONTROL STRUCTURE AND ITS EFFICIENCY SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER, AS THAT

TERM IS DEFINED IN SECTION 12-25-102, C.R.S., OR UNDER THE DIRECT SUPERVISION OF A PROFESSIONAL ENGINEER, AND CONSTRUCTED SO THAT IT WILL OPERATE EFFICIENTLY AND WITHOUT WASTE TO PRODUCE THE INTENDED AND SPECIFIED REASONABLE RECREATION EXPERIENCE. CONCENTRATION OF RIVER FLOW BY A CONTROL STRUCTURE CONSTITUTES CONTROL OF WATER FOR A RECREATIONAL IN-CHANNEL DIVERSION.

(7) "Diversion" or "divert" means removing water from its natural course or location, or controlling water in its natural course or location, by means of a CONTROL STRUCTURE, ditch, canal, flume, reservoir, bypass, pipeline, conduit, well, pump, or other structure or device; except that, ON AND AFTER JANUARY 1, 2001, only a county, municipality, city and county, water district, water and sanitation district, water conservation district, or water conservancy district may FILE AN APPLICATION TO control water in its natural course or location BY MEANS OF A CONTROL STRUCTURE for recreational in-channel diversions. ~~This does not apply to applications filed prior to January 1, 2001.~~

(10.1) "REASONABLE RECREATION EXPERIENCE" MEANS THE USE OF A RECREATIONAL IN-CHANNEL DIVERSION FOR, AND LIMITED TO, NONMOTORIZED BOATING. OTHER RECREATIONAL ACTIVITIES MAY OCCUR BUT MAY NOT SERVE AS EVIDENCE OF A REASONABLE RECREATION EXPERIENCE.

(10.3) "Recreational in-channel diversion" means the minimum AMOUNT OF stream flow as it is diverted, captured, controlled, and placed to beneficial use between specific points defined by ~~physical~~ control structures pursuant to an application filed by a county, municipality, city and county, water district, water and sanitation district, water conservation district, or water conservancy district for a reasonable recreation experience in and on the water FROM APRIL 1 TO LABOR DAY OF EACH YEAR UNLESS THE APPLICANT CAN DEMONSTRATE THAT THERE WILL BE DEMAND FOR THE REASONABLE RECREATION EXPERIENCE ON ADDITIONAL DAYS. THE RECREATIONAL IN-CHANNEL DIVERSION SHALL BE LIMITED TO ONE SPECIFIED FLOW RATE FOR EACH TIME PERIOD CLAIMED BY THE APPLICANT. INDIVIDUAL TIME PERIODS SHALL NOT BE SHORTER THAN FOURTEEN DAYS UNLESS THE APPLICANT CAN DEMONSTRATE A NEED FOR A SHORTER TIME PERIOD. THERE SHALL BE A PRESUMPTION THAT THERE WILL NOT BE MATERIAL INJURY TO A RECREATIONAL IN-CHANNEL DIVERSION WATER RIGHT FROM SUBSEQUENT APPROPRIATIONS OR CHANGES OF WATER RIGHTS

IF THE EFFECT ON THE RECREATIONAL IN-CHANNEL DIVERSION CAUSED BY SUCH APPROPRIATIONS OR CHANGES DOES NOT EXCEED ONE-TENTH OF ONE PERCENT OF THE LOWEST DECREED RATE OF FLOW FOR THE RECREATIONAL IN-CHANNEL DIVERSION AS MEASURED AT THE RECREATIONAL IN-CHANNEL DIVERSION AND THE CUMULATIVE EFFECTS ON THE RECREATIONAL IN-CHANNEL DIVERSION CAUSED BY SUCH APPROPRIATIONS OR CHANGES DO NOT EXCEED TWO PERCENT OF THE LOWEST DECREED RATE OF FLOW FOR THE RECREATIONAL IN-CHANNEL DIVERSION MEASURED AT THE RECREATIONAL IN-CHANNEL DIVERSION. THE OWNER OF A WATER RIGHT FOR A RECREATIONAL IN-CHANNEL DIVERSION MAY NOT CALL FOR WATER THAT HAS BEEN LAWFULLY STORED BY ANOTHER APPROPRIATOR.

SECTION 3. 37-92-305 (13), Colorado Revised Statutes, is amended to read:

37-92-305. Standards with respect to rulings of the referee and decisions of the water judge. (13) (a) The water court shall ~~apply the factors set forth in section 37-92-102 (6). All~~ CONSIDER THE findings of fact ~~contained in the recommendation of~~ MADE BY the Colorado water conservation board PURSUANT TO SECTION 37-92-102 (6) (b) REGARDING A RECREATIONAL IN-CHANNEL DIVERSION, WHICH FINDINGS shall be presumptive as to such facts, subject to rebuttal by any party. IN ADDITION, THE WATER COURT SHALL CONSIDER EVIDENCE AND MAKE AFFIRMATIVE FINDINGS THAT THE RECREATIONAL IN-CHANNEL DIVERSION WILL:

(I) NOT MATERIALLY IMPAIR THE ABILITY OF COLORADO TO FULLY DEVELOP AND PLACE TO CONSUMPTIVE BENEFICIAL USE ITS COMPACT ENTITLEMENTS;

(II) PROMOTE MAXIMUM UTILIZATION OF WATERS OF THE STATE;

(III) INCLUDE ONLY THAT REACH OF STREAM THAT IS APPROPRIATE FOR THE INTENDED USE;

(IV) BE ACCESSIBLE TO THE PUBLIC FOR THE RECREATIONAL IN-CHANNEL USE PROPOSED; AND

(V) NOT CAUSE MATERIAL INJURY TO INSTREAM FLOW WATER RIGHTS APPROPRIATED PURSUANT TO SECTION 37-92-102 (3) AND (4).

(b) IN DETERMINING WHETHER THE INTENDED RECREATION EXPERIENCE IS REASONABLE AND THE CLAIMED AMOUNT IS THE APPROPRIATE FLOW FOR ANY PERIOD, THE WATER COURT SHALL CONSIDER ALL OF THE FACTORS THAT BEAR ON THE REASONABLENESS OF THE CLAIM, INCLUDING THE FLOW NEEDED TO ACCOMPLISH THE CLAIMED RECREATIONAL USE, BENEFITS TO THE COMMUNITY, THE INTENT OF THE APPROPRIATOR, STREAM SIZE AND CHARACTERISTICS, AND TOTAL STREAMFLOW AVAILABLE AT THE CONTROL STRUCTURES DURING THE PERIOD OR ANY SUBPERIODS FOR WHICH THE APPLICATION IS MADE.

(c) IF A WATER COURT DETERMINES THAT A PROPOSED RECREATIONAL IN-CHANNEL DIVERSION WOULD MATERIALLY IMPAIR THE ABILITY OF COLORADO TO FULLY DEVELOP AND PLACE TO CONSUMPTIVE BENEFICIAL USE ITS COMPACT ENTITLEMENTS, THE COURT SHALL DENY THE APPLICATION.

(d) IN ADDITION TO DETERMINING THE MINIMUM AMOUNT OF STREAM FLOW TO SERVE THE APPLICANT'S INTENDED AND SPECIFIED REASONABLE RECREATION EXPERIENCE, THE WATER COURT SHALL MAKE A FINDING IN THE DECREE AS TO THE FLOW RATE BELOW WHICH THERE IS NO LONGER ANY BENEFICIAL USE OF THE WATER AT THE CONTROL STRUCTURES FOR THE DECREED PURPOSES.

(e) IF THE OTHER ELEMENTS OF THE APPROPRIATION ARE SATISFIED, THE DECREE SHALL SPECIFY THE TOTAL VOLUME OF WATER REPRESENTED BY THE FLOW RATES DECREED FOR THE RECREATIONAL IN-CHANNEL DIVERSION. FOR PURPOSES OF THIS SUBSECTION (13), THE "TOTAL VOLUME OF WATER REPRESENTED BY THE FLOW RATES DECREED FOR THE RECREATIONAL IN-CHANNEL DIVERSION" MEANS THE SUM OF THE FLOW RATES CLAIMED IN CUBIC FEET PER SECOND FOR EACH DAY ON WHICH A CLAIM IS MADE MULTIPLIED BY 1.98.

(f) IF THE COURT DETERMINES THAT THE TOTAL VOLUME OF WATER REPRESENTED BY THE FLOW RATES DECREED FOR THE RECREATIONAL IN-CHANNEL DIVERSION EXCEEDS FIFTY PERCENT OF THE SUM OF THE TOTAL AVERAGE HISTORICAL VOLUME OF WATER FOR THE STREAM SEGMENT WHERE THE RECREATIONAL IN-CHANNEL DIVERSION IS LOCATED FOR EACH DAY ON WHICH A CLAIM IS MADE, THE DECREE SHALL:

(I) SPECIFY THAT THE STATE ENGINEER SHALL NOT ADMINISTER A

CALL FOR THE RECREATIONAL IN-CHANNEL DIVERSION UNLESS THE CALL WOULD RESULT IN AT LEAST EIGHTY-FIVE PERCENT OF THE DECREED FLOW RATE FOR THE APPLICABLE TIME PERIOD;

(II) LIMIT THE RECREATIONAL IN-CHANNEL DIVERSION TO NO MORE THAN THREE TIME PERIODS; AND

(III) SPECIFY THAT EACH TIME PERIOD IS LIMITED TO ONE FLOW RATE.

SECTION 4. Applicability. This act shall apply only to applications for and the administration of new recreational in-channel diversions filed on or after the effective date of this act and shall not apply to applications for reasonable diligence or to make absolute recreational in-channel diversions that were decreed or applied for prior to the effective date of this act.

SECTION 5. Safety clause. The general assembly hereby finds,

determines, and declares that this act is necessary for the immediate preservation of the public peace, health, and safety.

Joan Fitz-Gerald
PRESIDENT OF
THE SENATE

Andrew Romanoff
SPEAKER OF THE HOUSE
OF REPRESENTATIVES

Karen Goldman
SECRETARY OF
THE SENATE

Marilyn Eddins
CHIEF CLERK OF THE HOUSE
OF REPRESENTATIVES

APPROVED_____

Bill Owens
GOVERNOR OF THE STATE OF COLORADO

Supplemental Initial Engineering Report

Case No. 2010CW298

Application by Grand County for Recreational In-Channel Diversion Water Rights for Hot Sulphur Springs and Gore Canyon Whitewater Parks

Prepared for the

Board of Grand County Commissioners
Hot Sulphur Springs, Colorado

December 2011

Submitted under C.R.E. 408

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1 Introduction

In June of 2011, AMEC produced an Initial Engineering Report for Case No. 2010CW298 in support of the Board of Grand County Commissioners' application for conditional recreational in-channel diversion (RICD) water rights associated with two whitewater parks in and on the Colorado River: the Hot Sulphur Springs Whitewater Park and the Gore Canyon Whitewater Park. Since the publication of the Initial Engineering Report, the County and its representatives have had discussions with representatives of the Colorado Water Conservation Board (CWCB) and the Colorado Division of Water Resources (CDWR) regarding the CWCB's and CDWR's potential concerns with the County's RICD application. Those discussions are continuing. For purposes of moving towards entering into a stipulated settlement with the CWCB and the CDWR for entry of a decree for Case No. 2010CW298, the County has provided the CWCB and CDWR with a proposed decree dated December 30, 2011 (the Proposed Decree).

This Supplemental Report provides updated information as reflected in the Proposed Decree and replaces certain information contained in the Initial Engineering Report. Other than the specific changed items described in this report, the Initial Engineering Report continues in support of the County's application.

2 Refinement of Claimed Water Rights

2.1 Hot Sulphur Springs Whitewater Park

For the purposes of settlement as reflected in the Proposed Decree, the County has modified its proposed RICD rights for the Hot Sulphur Springs Whitewater Park. The County is now proposing RICD flow rates of 250 cfs and 850 cfs for the Glory Hole and Hot Pocket control structures that comprise the Hot Sulphur Springs Whitewater Park. Based upon the recreational experiences and associated flow rates for the Glory Hole and Hot Pocket control structures shown in Table 2 of the Initial Engineering Report and the determinations of water availability shown in Tables 3 and 4 of the Initial Engineering Report, the County now claims RICD rights for Hot Sulphur Springs Whitewater Park as shown in Table 1 and Figure 1 of this Supplemental Report. Table 1 of this Supplemental Report replaces Table 5 of the Initial Engineering Report and Figure 1 of this Supplemental Report replaces Figures 9 and 10 of the Initial Engineering Report.

2.2 Gore Canyon Whitewater Park

For the purposes of settlement as reflected in the Proposed Decree, the County has modified its proposed RICD rights for the Gore Canyon Whitewater Park. The County is now proposing RICD flow rates of 860 cfs and 1500 cfs for the Inspiration Point and Launch Counter control structures that comprise the Gore Canyon Whitewater Park. Based upon the recreational experiences and associated flow rates for the Inspiration Point and Launch

Counter control structures as shown in Table 2 of the Initial Engineering Report and the determinations of water availability as shown in Tables 6 and 7 of the Initial Engineering Report, the County now claims RICD rights for Gore Canyon Whitewater Park as shown in Table 2 and Figure 2 of this Supplemental Report. Table 2 of this Supplemental Report replaces Table 8 of the Initial Engineering Report, and Figure 2 of this Supplemental Report replaces Figures 13 and 14 of the Initial Engineering Report.

2.3 Volume of Appropriations

CRS 37-92-305 (13)(f) requires that, if the Water Court determines that the total volume of water represented by the flow rates decreed for an RICD exceeds fifty percent of the sum of the total average historical volume of water for the stream segment where the RICD is located for each day on which a claim is made, the decree shall: (i) specify that the state engineer shall not administer a call for the RICD unless the call would result in at least eighty-five percent of the decreed flow rate for the applicable time period; (ii) limit the RICD to no more than three time periods; and (iii) specify that each time period is limited to one flow rate.

The statutorily defined volumes of water claimed by the County under the currently proposed water rights for the Hot Sulphur Springs and Gore Canyon Whitewater Parks are compared to the sum of the average historical daily flows for the stream gages at those respective locations during the time periods claimed by the proposed water rights as shown in Table 3 of this Supplemental Report. Table 3 of this Supplemental Report replaces Table 9 of the Initial Engineering Report.

The statutorily defined volumes claimed under each of the currently proposed RICD rights would exceed 50% of the sum of the average historical daily flows at those respective locations during the time periods claimed by the currently proposed water rights. Therefore, these proposed RICD rights would be subject to the requirement that the state engineer shall not administer a call for any of the RICD rights unless the call would result in at least eighty-five percent of the decreed flow rate for the calling RICD right. Consistent with statutory requirements, the water right for each RICD structure has been limited to no more than three time periods with a single flow rate specified for each time period.

Figure 1: Comparison of Currently Claimed RICD Rights for the Hot Sulphur Springs Whitewater Park to Daily Flow Statistics at Colorado River at Hot Sulphur Springs

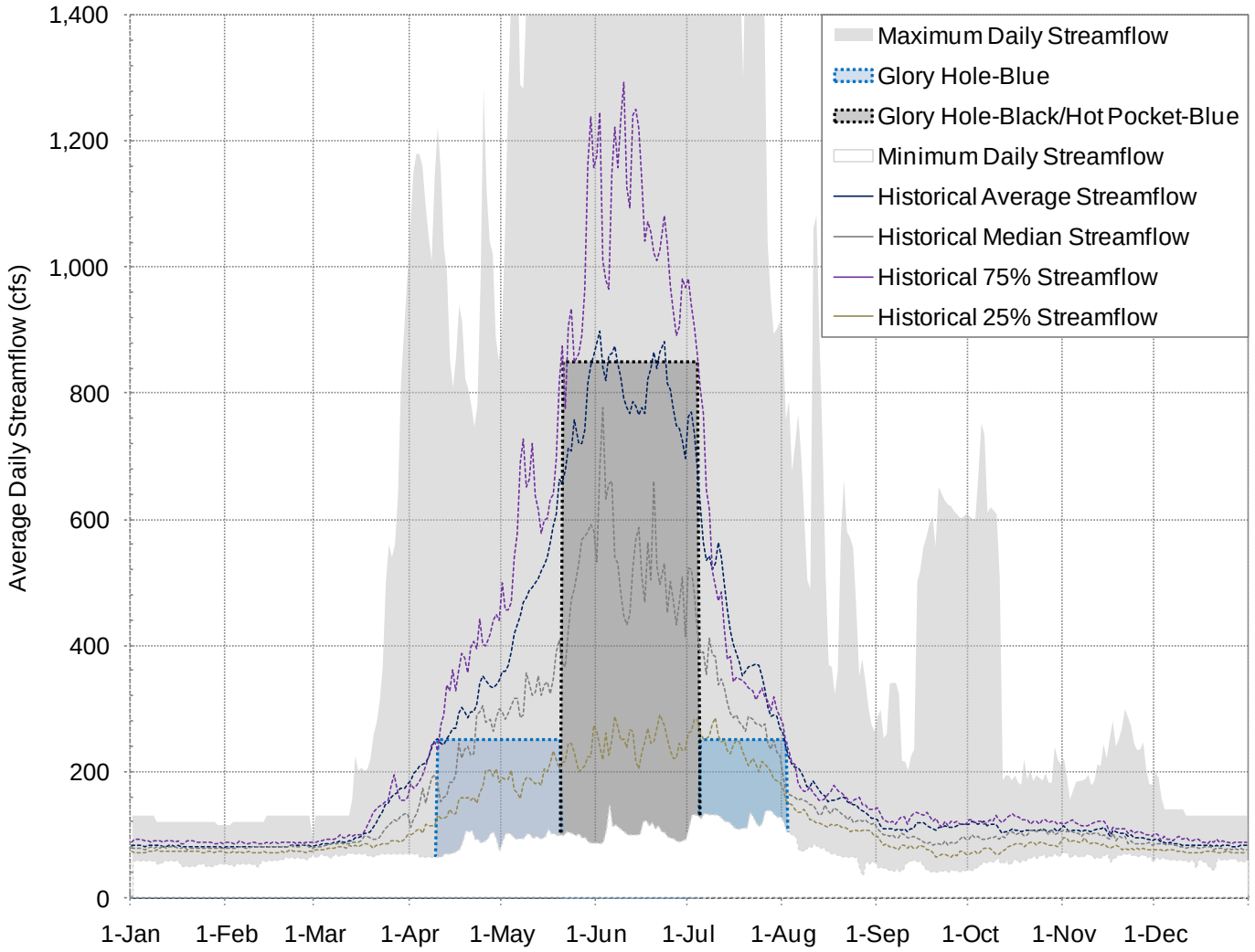

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Figure 2: Comparison of Currently Claimed RICD Rights for the Gore Canyon Whitewater Park to Daily Flow Statistics at Colorado River near Kremmling

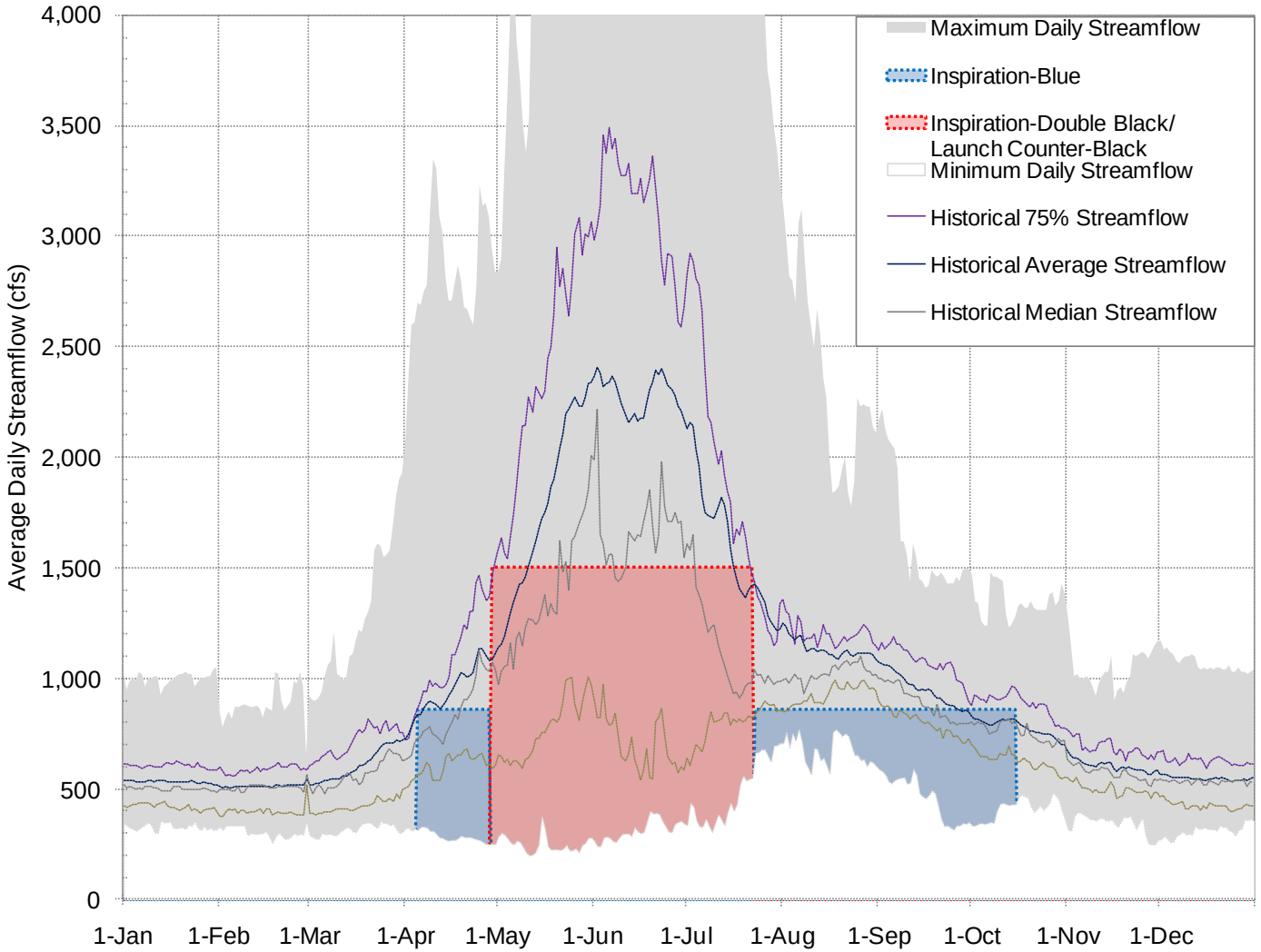

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Table 1: Summary of Refined RICD Water Rights for Hot Sulphur Springs Whitewater Park, Case No. 2010CW298

Time Period	April 10 - May 20	May 21 - July 4	July 5 - August 2
Flow Rate (cfs)	250	850	250
Recreational Use Level	Blue (Glory Hole)	Black (Glory Hole) Blue (Hot Pocket)	Blue (Glory Hole)
Duration (days)	41	45	29

Table 2: Summary of Refined RICD Water Rights for Gore Canyon Whitewater Park, Case No. 2010CW298

Time Period	April 5 - April 28	April 29 - July 22	July 23 - October 15
Flow Rate (cfs)	860	1,500	860
Recreational Use Level	Blue (Inspiration Point)	Double Black (Inspiration Point) Black (Launch Counter)	Blue (Inspiration Point)
Duration (days)	24	85	85

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Table 3: Comparison of RICD Water Volumes Claimed to Average Stream Flows

	Hot Sulphur Springs Whitewater Park	Gore Canyon Whitewater Park
Total Volume of Water Claimed (AF)[(1)]:	64,391	255,532
Total Volume of Water Claimed Based on Statutory Definition (AF)[(2)]:	110,385	438,055
Average Streamflow Volume During Claimed Time Periods (AF):	125,136	543,178
Percent of Average Streamflow Volume Claimed (based on statutory definition):	88%	81%

(1) Grand County has proposed terms and conditions that would limit its claims for RICD flow rates to the hours of 6am to 8pm.

(2) CRS 37-92-305 (13)(f) requires a comparison of the total volume of water represented by the flow rates decreed for the recreational in-channel diversion to the sum of the total average historical volume of water for the stream segment where the recreational in-channel diversion is located for each day on which a claim is made. For the purpose of this comparison, CRS 37-92-305 (13)(e) defines "the total volume of water represented by the flow rates decreed for the recreational in-channel diversion" as the the sum of the flow rates claimed in cubic feet per second for each day on which a claim is made multiplied by 1.98.

DISTRICT COURT, WATER DIVISION 5, COLORADO 109 8th Street, Suite 104 Glenwood Springs, CO 81601	
CONCERNING THE APPLICATION FOR WATER RIGHTS OF THE BOARD OF COMMISSIONERS FOR THE COUNTY OF GRAND, COLORADO IN GRAND COUNTY, COLORADO	▲ Court Use Only ▲ Case No.: 2010CW298
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APPLICANT'S PRE-MEETING STATEMENT TO THE COLORADO WATER CONSERVATION BOARD

Applicant, Board of County Commissioners for the County of Grand, Colorado ("Grand County"), through its undersigned counsel White & Jankowski, LLP, submits this Pre-Meeting Statement pursuant to a memorandum from the Colorado Water Conservation Board, Notice of Prehearing Conference and Deadlines for Submissions, dated February 24, 2012.

I. Introduction.

Grand County proposes to build two whitewater parks, the Hot Sulphur Springs Whitewater Park and the Gore Canyon Whitewater Park, and is seeking confirmation of conditional water rights for each park ("RICD Water Rights") in its application in Case No. 10CW298 in the Water Court for Colorado Water Division 5. The parks are located on the main stem of the Colorado River in Grand County, as shown on Exhibit A to the attached draft decree. The purpose of the parks is to further Grand County's mission, in part, "to provide a natural and social environment suitable for a variety of commercial, recreational, and personal pursuits in which people can live, work, play, grow up, and grow old." Recreational boating activities on the Colorado River make up a significant portion of Grand County's recreational and tourism activities, and the County has applied to the Water Court for confirmation of its RICD Water Rights as part of its continuing plan to improve water-based recreation and economic

opportunities within the County. The RICD Water Rights are also part of the proposed Colorado River Cooperative Agreement among Grand County, Denver Water and others.

This Pre-Meeting Statement first provides general background regarding Grand County's RICD Water Rights. Next, it presents the scope of the Colorado Water Conservation Board's ("CWCB") review of Grand County's requested water rights pursuant to statute. Then, the Statement describes the Grand County's proposed CWCB findings for this case. Finally, the Statement lists the speakers and exhibits Grand County may present to the CWCB at its March 2012 meeting.

II. Background regarding the RICD Water Rights.

Jason Carey, P.E. of River Restoration has designed both whitewater parks for Grand County, each of which will consist of two structure units. The structure units will be built in the Colorado River to create new whitewater features. The RICD control structures have been designed to provide different levels of recreational experience, and the amounts claimed by Grand County are the minimum amounts of flow required to achieve these targeted recreational experiences at each of the four features. Mr. Carey's attached report contains an explanation of how whitewater features function (pp. 1-7), and an explanation of the recreational experiences targeted by his design of each of the four whitewater features (pp. 8-10). The structure units have been designed to integrate with the natural environment where they will be located. *See* Section III.B, below.

Initially the County claimed water rights between April 1 and October 15 at the Hot Sulphur Springs Whitewater Park not to exceed 900 cfs and at Gore Canyon Whitewater Park not to exceed 2,500 cfs. In addition, the County claimed six flow rate schedules for each whitewater park designed to achieve the desired recreational experiences. Rather than litigate over the six flow rate concept and in order to try to reach a settlement that could still reasonably accommodate Grand County's goals, the County substantially refined and reduced the amount of its initial claims and the time period for which the RICD Water Rights can call.

On December 30, 2012, Grand County served a revised decree on the parties to this matter. The most significant changes in the proposed decree is that each planned whitewater park now has a water right schedule consisting of three, instead of six, flow rates that would call for water as set forth in paragraphs 15 and 28 of the decree. The reduced time periods and amounts for each park are shown in the two tables below:

Flow Schedule for Calling Rates of Flow for Hot Sulphur Springs Whitewater Park Water Rights			
Period	Flow Rate	Experience	85% of Flow Rate
Apr. 10 – May 20	250 cfs	Blue	212.5 cfs
May 21 – July 4	850 cfs	Black (Hot Pocket) / Blue (Glory Hole)	722.5 cfs
July 5 – Aug. 2	250 cfs	Blue	212.5 cfs

Flow Schedule for Calling Rates of Flow for Gore Canyon Whitewater Park Water Rights			
Period	Flow Rate	Experience	85% of Flow Rate
Apr. 5 – Apr. 28	860	Blue	731 cfs
Apr. 29 – July 22	1500	Black (Launch Counter) / Double Black (Inspiration Point)	1275 cfs
July 23 – Oct. 15	860	Blue	731 cfs

These revisions have been made as part of ongoing compromise and settlement discussions with the staff of the CWCB, staff of the State Engineer's office (SEO), and their counsel. The attached decree dated February 29, 2012 includes the compromise terms. The practical effect of this compromise and changes to the decree is that the County will be claiming the right to considerably less of the available water in the river when its RICD rights are in priority.

In addition, as part of this compromise the County has proposed to deliver water the County owns or controls to the proposed whitewater parks to meet certain "non-calling" flow rates. *See* paragraphs 16 and 29. For example, if the County wanted to produce 1,280 cfs at the Gore Canyon Whitewater Park for the Gore Race in August, and flows were only at 1,200 cfs, the "non-calling" rates of flow would allow delivery of 80 cfs of the County's water from Williams Fork Reservoir.

III. Discussion of factors to be considered by the CWCB.

Pursuant to section 37-92-102(5), C.R.S., the CWCB, "after deliberation in a public meeting, shall consider the following [three] factors and make written findings as to each:

(I) Whether the adjudication and administration of the recreational in-channel diversion would materially impair the ability of Colorado to fully develop and place to consumptive beneficial use its compact entitlements;

(IV) Whether exercise of the recreational in-channel diversion would cause material injury to instream flow water rights…; and

(V) Whether adjudication and administration of the recreational in-channel diversion would promote maximum utilization of waters of the state."

As explained below, Grand County is entitled to favorable findings on all three factors.

A. Grand County's RICD Water Rights will not materially impair the ability of Colorado to fully develop and place to consumptive beneficial use its compact entitlements.

The location and non-consumptive nature of the RICD Water Rights, together with terms and conditions in Grand County's proposed decree, ensure that the RICD water rights will not impair Colorado's development of its compact entitlements. The interstate compacts relevant to Grand County's RICD Water Rights are the Colorado River Compact of 1922 and the Upper Colorado River Compact of 1948.

Pursuant to Grand County's revised proposal, the volumes of water claimed at the parks are 64,391 acre feet at the Hot Sulphur Springs Whitewater Park and 255,532 acre-feet at the Gore Canyon Whitewater Park. AMEC December Report at Table 3. By comparison, the total physical supply leaving Colorado in the Colorado River and its tributaries is more than 8,700,000 acre-feet on average. AMEC June Report at 7. Grand County's appropriation is only 3% of this total and is both non-consumptive and located far upstream from the Colorado state line.

Because the RICD Water Rights are non-consumptive, the volumes of Grand County's appropriation would be available to downstream water users for consumptive beneficial use along the more than 200 river miles between the location of the RICD Water Rights and the Colorado state line with Utah. In addition, Colorado's entitlement under the Colorado River compacts can be developed in other basins in Colorado, including the Yampa, White, Green, Little Snake, Dolores, and San Juan River sub-basins. The land upstream of the whitewater parks for the RICD Water Rights constitutes less than 5% of the combined drainage area of these sub-basins. Thus the RICD Water Rights could potentially affect less than 5% of Colorado's future water development opportunities to utilize its Compact entitlements.

The RICD Water Rights also will not materially impair development in the sub-basin of the Colorado River upstream of the RICD Water Rights. As described in the attached AMEC June Report at page 7, "most of the natural flow of the Colorado River upstream of the Hot Sulphur Springs Whitewater Park has already been appropriated and diverted out of the sub-basin." This means that there is little potential consumptive water development remaining upstream of the RICD Water Rights.

Grand County has proposed terms and conditions in the attached draft decree to protect the limited upstream potential for development. First, Paragraph 45.b provides that Grand County will comply with any compact curtailment rules adopted by the State or the State Engineer pursuant to C.R.S. §37-80-104 and §37-92-501, and Grand County has agreed not to

call for water for its RICD water rights if a compact curtailment occurs and no compact curtailment rules are in effect. Grand County has also agreed to not call for water against certain junior water rights, including rights of exchange (see paragraphs 21.c and 45.g) and has specifically reserved the right to not call out up to 3,000 acre feet of depletions from future upstream water rights.

B. Exercise of Grand County's RICD Water Rights will not cause material injury to instream flow water rights.

The CWCB has appropriated an existing instream flow water right through the reach of the Hot Sulphur Springs Whitewater Park for 90 cfs, which was decreed in Case No. 80CW447 (Div. 5). The CWCB has filed an application for an instream flow water right through the reach of the river where the Inspiration Point and Launch Counter structures are to be located for 500 cfs (September 16 – May 14), 600 cfs (May 15 – July 31) and 750 cfs (August 1 – September 15) in pending Case No. 11CW159 (Div. 5).

These existing and proposed CWCB instream flow rights will not be injured by the RICD Water Rights for the following reasons. First, the RICD Water Rights are non-consumptive in nature and operation of the water rights will not diminish flows in the reaches of the CWCB's existing and proposed instream flow water rights, nor upstream or downstream of these reaches. *See* attached AMEC Report (June 2011) at page 9. Second, construction of the structures associated with the RICD Water Rights will not injure the instream flow rights. Jason Carey has designed control structures to integrate with the natural environment, including enhancements to fish habitat, and has met with the Division of Parks and Wildlife, along with the County's Manager, to discuss these designs. No long term impacts to the environment that the instream flow rights seek to protect are expected, and environmental effects resulting from the RICD water rights may in fact be incidentally beneficial to the ecology of the River in these reaches. *See* attached River Restoration Report at 13. Pursuant to paragraph 44.d of the attached decree, Grand County has agreed to consult with the Division of Parks and Wildlife and the CWCB before and during any construction or repair of the RICD to prevent injury to the instream flow rights. Finally, the proposed decree clarifies at paragraph 45.h that the RICD Water Rights will not be "stacked" on top of the CWCB's instream flow water rights for administration purposes.

C. Grand County's RICD Water Rights promote maximum utilization of the waters of the state.

The RICD Water Rights promote maximum utilization by providing for new beneficial uses of water for recreational purposes while not impairing downstream or upstream uses of the Colorado River. Non-motorized boating on the Colorado River provides substantial economic benefit to Grand County and Colorado. As explained in Mr. Carey's Report, the structures designed for the whitewater parks are efficient means of diversion that are designed to produce targeted recreational experiences, and Grand County has claimed the minimum amount of water necessary for these targeted reasonable recreational experiences. River Restoration Report, Sections II & IV.

Allowing Grand County to appropriate flows for new white-water recreation in the County is a productive use of Colorado's water resources. In addition, the use is non-

consumptive, and there are more than 200 river miles remaining in Colorado downstream of the RICD Water Rights where the same water can be put to additional beneficial uses.

The RICD Water Rights do not impair maximum utilization of water for other uses upstream in the Colorado River basin. As explained above in section III.A, the Colorado River upstream of the RICD Water Rights is already heavily appropriated and the probability of future large upstream development is relatively small. In addition, the proposed decree (paragraphs 21.c and 45), will allow for additional water to be developed upstream of the RICD Water Rights.

IV. Additional Material on Two Issues

During the course of the negotiations with the CWCB/SEO staff and its attorneys, request has been made for additional material on two issues. Due to time constraints, the County will provide the following information in advance of the March 12 conference:

A. Minimum Rates for Non-Calling Rates. The County will provide additional information for the minimum rates in paragraphs 16 and 29 for beneficial use for the non-calling rates of flow.

B. Demand after Labor Day. The County will provide additional information that demand exists after Labor Day until October 15 for the Gore Canyon Whitewater Park.

V. List of Speakers and Exhibits

At the public meeting regarding Grand County's RICD Water Rights, the County may present its plan through the following speakers and use the following exhibits:

A. Speakers

David Taussig, Matthew Merrill, or Mitra Pemberton
Water Counsel for Grand County

Mr. Taussig, Mr. Merrill, or Ms. Pemberton will discuss the application, negotiations with parties including CWCB/SEO staff, and proposed decree and engineering reports.

Lurline Curran, County Manager of Grand County
Nancy Stewart, Commissioner for Grand County
Gary Bumgarner, Commissioner for Grand County

Ms. Curran, Ms. Stewart, or Mr. Bumgarner may discuss Grand County's intent in filing the application, the economic and other benefits to Grand County from whitewater recreation, and the Colorado River Cooperative Agreement.

Lee Rozaklis
AMEC Earth and Environmental

Mr. Rozaklis may discuss matters from his Initial and Supplemental Engineering Reports (attached), including historical flows in the Colorado River basin in Colorado, issues related to the Colorado River compacts, instream flow rights, and maximum utilization of water in the Colorado River basin in Colorado.

Jason Carey, P.E.
River Restoration

Mr. Carey may discuss the design of the structures for the RICD Water Rights, including the recreational experiences sought for each structure.

B. Exhibits (copies of each are submitted with this statement).

1. Proposed Decree in Case No. 10CW298 Version 3 (CWCB / SEO) dated February 29, 2012.

2. Initial Engineering Report by AMEC (June 2011).

3. Supplemental Initial Engineering Report by AMEC (Dec. 2011).

4. Design Engineering Report by River Restoration (June 2011).

VI. Conclusion.

At the March CWCB meeting, Grand County will present information that shows it is entitled to favorable findings from the CWCB pursuant to section 37-92-102(5), C.R.S., regarding Grand County's water rights application in Case No. 10CW298.

Respectfully submitted this 29th day of February, 2012.

WHITE & JANKOWSKI, LLP

By: _____
David C. Taussig
*Matthew L. Merrill
Mitra M. Pemberton

Efiled per C.R.C.P. 121
Duly signed copy on file at White & Jankowski, LLP

ATTORNEYS FOR BOARD OF COUNTY COMMISSIONERS FOR GRAND COUNTY, COLORADO

CERTIFICATE OF SERVICE

I hereby certify that on this 29th day of February, 2012, a true and correct copy of **Applicant's Pre-Meeting Statement to the Colorado Water Conservation Board** for **Case 2010CW298, division 5**, was served by e-filing via LexisNexis File & Serve and addressed to the following:

*s/ Shirley Merryman

* Shirley Merryman, White & Jankowski, LLP
Efiled per C.R.C.P. 121
Duly signed original on file at White & Jankowski, LLP

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Ramsey L. Kropf, Esq. Laura C. Makar, Esq. Patrick Miller & Kropf PC 730 E Durant Ste 200 Aspen CO 81611 [Cornerstone Winter Park Holdings LLC] [Byers Peak Properties LLC] [C.Clark Lipscomb & Meredith C. Lipscomb]	Scott Steinbrecher, Esq. Susan J. Schneider, Esq. Attorney General Office 1525 Sherman St 5th Floor Denver CO 80203 [Colorado Water Conservation Board]

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DISTRICT COURT, WATER DIVISION 5, COLORADO 109 8th Street, Suite 104 Glenwood Springs, CO 81601	Version 3 (CWCB / SEO) February 29, 2012 *CRE 408 Settlement Document*
CONCERNING THE APPLICATION FOR WATER RIGHTS OF **THE BOARD OF COMMISSIONERS FOR THE COUNTY OF GRAND, COLORADO** IN GRAND COUNTY, COLORADO	▲ Court Use Only ▲ Case No.: 2010CW298

DRAFT FINDINGS OF FACT, CONCLUSIONS OF LAW, JUDGMENT, AND DECREE OF THE WATER COURT

THIS MATTER came before the Court on the application of the Board of Commissioners for the County of Grand, Colorado ("Grand County" or "Applicant") for Recreational In-Channel Diversions ("RICD") water rights. The Court, having considered the pleadings, evidence and arguments presented and the stipulations of the parties, and being fully advised in the premises, hereby finds, concludes, rules, adjudges and decrees as follows.

FINDINGS OF FACT

1. Name and Address of Applicant. The name of the Applicant is the Board of Commissioners for the County of Grand, State of Colorado, P.O. Box 264, Hot Sulphur Springs, CO 80451, *with a copy to* David C. Taussig, White & Jankowski, LLP, 511 Sixteenth Street, Suite 500, Denver, Colorado, 80202.

2. Notice and Jurisdiction. The application herein was filed on December 28, 2010. All notices of the application and the amendment were given in the manner required by law and the Court has jurisdiction over the subject matter of this proceeding and over all persons and property affected hereby, regardless of whether those persons or owners of property have appeared. The water and lands which are the subject of this decree are not located in a designated groundwater basin.

3. Statements of Opposition. Statements of opposition to the application were timely filed by 21 parties, and 1 party intervened by unopposed motion as described below:

   a. Board of County Commissioners of Pitkin County;

   b. Board of County Commissioners for the County of Summit;

   c. CNL Income Granby LLC;

d. Colorado Water Conservation Board ("CWCB");

e. Colorado River Water Conservation District;

f. Cornerstone Winter Park Holdings LLC, Byers Peak Properties, LLC, C. Clark Lipscomb & Meredith C. Lipscomb (collective statement of opposition);

g. Denver Water;

h. Granby Realty Holdings LLC;

i. Grand County Water and Sanitation District;

j. Grand County Mutual Ditch and Reservoir Company;

k. Homestake Partners, being the Cities of Aurora and Colorado Springs, through the Homestake Steering Committee;

l. Middle Park Water Conservancy District;

m. Northern Colorado Water Conservancy District and the Municipal Subdistrict, Northern Colorado Water Conservancy District;

n. State and Division Engineers;

o. Town of Fraser;

p. Town of Kremmling;

q. Town of Winter Park;

r. Trout Unlimited;

s. United States of America, Department of the Interior, Bureau of Land Management, Kremmling Field Office;

t. Winter Park Recreational Association; and

u. Winter Park Water and Sanitation District.

v. Climax Molybdenum Company filed an unopposed motion to intervene on May 26, 2011 and its statement of opposition was accepted by order dated October 7, 2011.

4. No Summary of Consultation. The Division Engineer entered the case as an objector and did not prepare a summary of consultation.

5. Stipulations. Applicant has entered into stipulations with the following parties on the basis that these parties would not oppose entry of a decree at least as protective of their rights as the version attached to each such stipulation:

   a. Bureau of Land Management in a Stipulation dated January 5, 2012 and an Order approving the same entered January 5, 2012;

   b. [add later].

   The Court has approved the stipulations listed above and made them orders of the Court.

6. Referral. Grand County's application was referred to the Water Referee.

7. Notice to CWCB and CWCB Findings. Pursuant to C.R.S. § 37-92-102(5), Grand County transmitted a copy of its application in this case to the CWCB on January 25, 2011. The CWCB considered Grand County's application at a public meeting on March 21, 2012 in Denver, Colorado. The CWCB submitted its findings to the Court on [to be determined], 2012. The Court has considered the CWCB's findings.

8. Description of Applicant. Grand County's mission, in part, is "to provide a natural and social environment suitable for a variety of commercial, recreational, and personal pursuits in which people can live, work, play, grow up, and grow old." Water based recreation is an important component of Grand County's economy, and the County actively works to protect and develop water resources within its boundaries to support recreation and other uses. Grand County filed the application in this case to develop new non-motorized recreational boating opportunities on the main stem of the Colorado River.

9. Summary of the Application. The Applicant seeks confirmation of conditional water rights associated with two whitewater parks in and on the Colorado River: the Hot Sulphur Springs Whitewater Park and the Gore Canyon Whitewater Park. The general locations of these parks are shown on Exhibit A. At each park, Grand County has designed and plans to install two structures in the Colorado River to create whitewater hydraulic features for non-motorized recreation use. Each of the four structures will divert and control the flow of the main stem of the Colorado River between specific points and will create different recreational experiences at different rates of flow. Grand County seeks separate water rights for each of the whitewater parks, and collectively these water rights are referred to as "RICD Water Rights" in this decree.

10. Intended Recreational Experiences. Although any recreational use of water may occur at Grand County's whitewater parks, the intended recreational experiences that form the basis of Grand County's appropriation involve freestyle whitewater recreation. Grand County seeks recreational experiences for multiple ability levels, and has designed its structures and appropriations to appeal to different ability levels depending on the location, time period, and flow rate. These different difficulties of navigating and playing in a whitewater feature are analogous to different difficulties of ski or snowboard trails,

and Grand County has designated the experiences it seeks using the same terminology as those trails: green for beginner, blue for intermediate, black for advanced, and double black for expert.

Hot Sulphur Springs Whitewater Park

11. Introduction. Grand County has appropriated conditional water rights for the Hot Sulphur Springs Whitewater Park. The elements of appropriation and terms and conditions for operation of these water rights are as follows.

12. Location. The Hot Sulphur Springs Whitewater Park will be located in and on the Colorado River in Pioneer Park near the Town of Hot Sulphur Springs, Colorado in part of the S½ of the SE¼ of Section 3, T. 1 N., R. 78 W., 6th P.M.. Grand County, Colorado. The Hot Sulphur Springs Whitewater Park is designed with two structures that will each control and divert the flow of the Colorado River to create a hydraulic feature. The upstream structure and associated whitewater feature are named the "Glory Hole" and the downstream structure and associated whitewater feature are named the "Hot Pocket." A map showing the approximate upstream and downstream extent of the Hot Sulphur Springs Whitewater Park and the structure locations is attached as Exhibit B.

    a. The Glory Hole structure will be located in and across the Colorado River in the SE¼ of Section 3, T. 1 N., R. 78 W., 6th P.M., Grand County, Colorado. The left abutment of the Glory Hole structure will be located in the SE¼ SE¼ of said Section 3, whence the SE corner of said Section 3 bears S 53° 39" E, 880 feet.

    b. The Hot Pocket structure will be located in and across the Colorado River in the SE¼ of Section 3, T. 1 N., R. 78 W., 6th P.M., Grand County, Colorado. The left abutment of the Hot Pocket structure will be located in the SE¼ SE¼ of said Section 3, whence the SE corner of said Section 3 bears S 61° 20" E, 1,426 feet.

13. Source. Colorado River.

14. Date of Appropriation. December 21, 2010. See paragraph 38 for initiation of appropriation.

15. Calling Rates of Flow. As a matter of compromise and settlement with the CWCB, Grand County has defined "calling" rates of flow for the Hot Sulphur Springs Whitewater Park water rights in this paragraph 15, and "non-calling" beneficial use of the Hot Sulphur Springs Whitewater Park water rights described below in paragraph 16. Grand County may place a call for water for the calling rates of flow in this paragraph subject to the terms of this decree. The following calling rates of flow for the Hot Sulphur Springs Whitewater Park water rights, expressed in cubic feet per second ("cfs"), are CONDITIONAL:

Flow Schedule for Calling Rates of Flow for Hot Sulphur Springs Whitewater Park Water Rights			
Period	Flow Rate	Experience	85% of Flow Rate
April 10 – May 20	250 cfs	Blue	212.5 cfs
May 21 – July 4	850 cfs	Black (Hot Pocket) / Blue (Glory Hole)	722.5 cfs
July 5 – Aug 2	250 cfs	Blue	212.5 cfs

After considering all of the factors bearing on the reasonableness of Grand County's claims, including the flow needed to accomplish the claimed recreational experiences listed above, benefits to the community, the intent of the appropriator, stream size and characteristics, and total stream flow available at the control structures during the periods listed above, the Court finds that the flow rates listed in the table above are the minimum amounts necessary to serve Grand County's intended reasonable recreation experiences.

16. Non-Calling Beneficial Use. The Court finds that beneficial recreational in-channel uses may occur at the Hot Sulphur Springs Whitewater Park and there is a demand for reasonable recreation experiences at flow rates between 90 cfs[1] up to 850 cfs between April 1 and October 15. With water that Grand County makes available to the Colorado River for recreational use at the Hot Sulphur Springs Whitewater Park under other water rights decreed for recreational use, Grand County shall have the ability to deliver and protect such water to increase otherwise existing flows to achieve flows between 90 cfs and 850 cfs for recreational use between April 1 and October 15, but Grand County shall not have the right to place a call for water at the Hot Sulphur Springs Whitewater Park except as identified in the schedule in paragraph 15, and subject to the terms of this Decree. The delivery of water by Grand County under such other water rights shall be administered by the Division Engineer consistent with this decree and any other decrees for such water rights.

17. Uses. All recreational uses in and on the Colorado River including without limitation, boating, rafting, kayaking, tubing, floating, canoeing, paddling, and all other non-motorized recreational uses.

18. Minimum Flow Rates. The minimum amounts necessary to serve Grand County's intended reasonable recreation experiences are listed in paragraph 15 above. As contemplated by section 37-92-305(13)(d) and described in paragraph 16 above, the Court finds that the beneficial uses listed in paragraph 17 may occur at flow rates below those necessary for the intended recreational experiences. However, the Court finds that

[1] Grand County will submit evidence to demonstrate that beneficial use will occur at 90 cfs.

below 90 cfs, there is no longer any beneficial use of water at the Hot Sulphur Springs Whitewater Park.

19. Volume of Appropriation. Pursuant to C.R.S. § 37-92-305(13)(e), the Court finds that the total volume of water appropriated for the Hot Sulphur Springs Whitewater Park water rights is 110,385 acre-feet according to the calculation prescribed by the statute. The Court notes that, pursuant to the time of day term and condition in paragraph 21.b below, the actual appropriated volumes are 42% less than the statutory calculation. Nevertheless, the volume calculated pursuant to statute exceeds 50% of the sum of the total average historical volume of water passing the park between April 10 and August 2. The volume of the appropriation is non-consumptive.

20. Appropriate Stream Reach. The Glory Hole and Hot Pocket are located near a reach of the Colorado River that is used by non-motorized boaters. These structures are located to create new recreational opportunities, especially for beginning and intermediate boaters, adjacent to an existing park in Hot Sulphur Springs. The river channel at each of the two structure locations is suitable for creation of the new whitewater features claimed by Grand County. The Court finds that the Glory Hole and Hot Pocket structures are located in an appropriate stream reach.

21. Terms and Conditions.

a. Grand County shall only call for water to satisfy the Hot Sulphur Springs Whitewater Park water rights in accordance with the schedule in paragraph 15 above. The State Engineer shall not administer a call for these water rights unless the curtailment of junior water rights would result in at least 85% of the flow rate for the applicable time period at the calling structure.

b. The hours of operation of the Hot Sulphur Springs Whitewater Park are 6:00 a.m. to 8:00 p.m.

c. *Case No. 2011CW21 (Div. 5).* Grand County shall not place a call for water for the Hot Sulphur Springs Whitewater Park water rights when a call would impair Denver Water's exchanges sought in Case No. 11CW21 from Dillon Reservoir to Williams Fork Reservoir at a rate of 148 cfs and up to 6,095 acre-feet annually, and to the existing points of diversion on the Fraser River and Williams Fork Diversion Projects at a rate of 56 cfs and up to 8,747 acre-feet annually.

d. Initially, the Hot Sulphur Springs Whitewater Park may be administered using the existing stream gauge on the Colorado River at Hot Sulphur Springs (Station ID #09034500) with due consideration for any return flows or other inflows accruing to the stream below the gauge and above the park, as reasonably approved by the Division Engineer. If that gauge is not operating, then back-up administration may be done using the existing Colorado River at Windy Gap near Granby gauge (ID #09034250) with due consideration for any return flows or other inflows

accruing to the stream below the gauge and above the park, as reasonably approved by the Division Engineer. See also paragraph 63 for measuring devices.

22. Land Ownership. The land where the Glory Hole and Hot Pocket structures are to be located is owned by the Town of Hot Sulphur Springs. Grand County provided notice of its application in this case to the Town of Hot Sulphur Springs in compliance with C.R.S. § 37-92-302(2)(b). Grand County shall not construct the Glory Hole and Hot Pocket structures until it obtains permission from the Town of Hot Sulphur Springs.

23. Access. The Glory Hole and Hot Pocket structures are to be located on the Colorado River at Pioneer Park in the Town of Hot Sulphur Springs. There is existing public access to the river and a parking lot at this location. Grand County may work with the Town of Hot Sulphur Springs to improve this access or construct additional access pursuant to the terms and conditions in paragraph 22 above.

Gore Canyon Whitewater Park

24. Introduction. Grand County has appropriated conditional water rights for the Gore Canyon Whitewater Park. The elements of appropriation and terms and conditions for operation of these water rights are as follows.

25. Location. The Gore Canyon Whitewater Park will be located in and on the Colorado River below Big Gore Canyon in parts of the W½ of Section 7, T. 1 S., R. 81 W., 6th P.M. and the E½ of Section 12, T. 1 S., R. 82 W., 6th P.M., Grand County, Colorado. The Gore Canyon Whitewater Park is designed with two structures that will each control and divert the flow of the Colorado River to create hydraulic features. The upstream structure and associated whitewater feature are named "Inspiration Point" and the downstream structure and associated whitewater features are named the "Launch Counter." A map showing the upstream and downstream extent of the Gore Canyon Whitewater Park is attached as Exhibit C.

    a. The Inspiration Point structure will be located in the W½ of Section 7, T. 1 S., R. 81 W., 6th P.M., Grand County, Colorado. The right abutment of the Inspiration Point structure will be located in the NE¼ NW¼ of said Section 7, whence the NW corner of said Section 7 bears N 56° 11" W, 1,742 feet.

    b. The Launch Counter structure will be located in the E½ of Section 12, T. 1 S., R. 82 W., 6th P.M., Grand County, Colorado. The left abutment of the Launch Counter structure will be located in the NE¼ SE¼ of said Section 12, whence the SE corner of said Section 12 bears S 15° 41" E, 1,948 feet.

26. Source. Colorado River.

27. Date of Appropriation. December 21, 2010. See paragraph 38 for initiation of appropriation.

28. Calling Rates of Flow. As a matter of compromise and settlement with the CWCB, Grand County has defined "calling" rates of flow for the Gore Canyon Whitewater Park water rights in this paragraph 28, and "non-calling" beneficial use of the Gore Canyon Whitewater Park water rights described below in paragraph 29. Grand County may place a call for water for the calling rates of flow in this paragraph subject to the terms of this decree. The following calling rates of flow for the Gore Canyon Whitewater Park water rights expressed in cfs are CONDITIONAL:

Flow Schedule for Calling Rates of Flow for Gore Canyon Whitewater Park Water Rights			
Period	Flow Rate	Experience	85% of Flow Rate
April 5 – April 28	860	Blue	731 cfs
April 29 – July 22	1500	Black (Launch Counter) / Double Black (Inspiration Point)	1275 cfs
July 23 – Oct. 15[2]	860	Blue	731 cfs

After considering all of the factors bearing on the reasonableness of Grand County's claims, including the flow needed to accomplish the claimed recreational experiences listed above, benefits to the community, the intent of the appropriator, stream size and characteristics, and total stream flow available at the control structures during the periods listed above, the Court finds that the flow rates listed in the table above are the minimum amounts necessary to serve Grand County's intended reasonable recreation experiences.

29. Non-Calling Beneficial Use. The Court finds that beneficial in-channel recreational use of water may occur and there is a demand for reasonable recreation experiences at the Gore Canyon Whitewater Park at flow rates between 500 cfs[3] up to 2,500 cfs between April 1 and October 15. With water that Grand County makes available to the Colorado River for recreational use at the Gore Canyon Whitewater Park under other water rights decreed for recreational use, Grand County shall have the ability to deliver and protect such water to increase otherwise existing flows to achieve flows between 500 cfs and 2,500 cfs for recreational use between April 1 and October 15, but Grand County shall not have the right to place a call for water at the Gore Canyon Whitewater Park except as identified in the schedule in paragraph 28, and as limited by the terms of this Decree. The delivery of water by Grand County under such other water rights shall be

[2] Grand County will submit evidence of demand after Labor Day.
[3] Grand County will submit evidence to demonstrate that beneficial use will occur at 500 cfs.

administered by the Division Engineer consistent with this decree and any other decrees for such water rights.

30. Uses. All recreational uses in and on the Colorado River including without limitation, boating, rafting, kayaking, tubing, floating, canoeing, paddling, and all other non-motorized recreational uses, for both structures.

31. Extended Recreation Season. The Court finds that there is demand for a reasonable recreation experience at the Gore Canyon Whitewater Park between Labor Day and October 15. Without limiting the foregoing finding, the Court finds that non-motorized boating already occurs in the area of the two planned structures at the Gore Canyon Whitewater Park between Labor Day and October 15 and that there is demand for a continuing reasonable recreation experience on the Colorado River at this location during the period from Labor Day to October 15.

32. Minimum Flow Rates. The minimum amounts necessary to serve Grand County's intended reasonable recreation experiences are listed in paragraph 28 above. As contemplated by section 37-92-305(13)(d) and described in paragraph 29 above, the Court finds that the beneficial uses listed in paragraph 30 may occur at flow rates below those necessary for the intended recreational experiences. However, the Court finds that below a flow rate of 500 cfs, there is no longer any beneficial use of water at the Gore Canyon Whitewater Park.

33. Volume of Appropriations. Pursuant to C.R.S. § 37-92-305(13)(e), the Court finds that the total volume of water appropriated for the Gore Canyon Whitewater Park water rights is 438,055 acre-feet according to the calculation prescribed by the statute. The Court notes that, pursuant to the time of day term and condition in paragraph 35.b below, the actual appropriated volumes are 42% less than the statutory calculation. Nevertheless, the volume calculated pursuant to statute exceeds 50% of the sum of the total average historical volume of water passing the park between April 5 and October 15. The volume of the appropriation is non-consumptive.

34. Appropriate Stream Reach. The Inspiration Point and Launch Counter structures are located in a reach of the Colorado River that is already frequently used by non-motorized boaters. These structures are located to create new recreational opportunities near the bottom of Gore Canyon and near an existing access road, parking facilities, and boat launch. Finally, the river channel at each of the two structure locations is suitable for creation of the new whitewater features claimed by Grand County. The Court finds that the Inspiration Point and Launch Counter structures are located in an appropriate stream reach.

35. Terms and Conditions.

    a. Grand County shall only call for water to satisfy the Gore Canyon Whitewater Park water rights in accordance with the schedule in paragraph 28 above. The

State Engineer shall not administer a call for these water rights unless the curtailment of junior water rights would result in at least 85% of the flow rate for the applicable time period at the calling structure.

b. The hours of operation of the Gore Canyon Whitewater Park are 6:00 a.m. to 8:00 p.m.

c. Initially, the Gore Canyon Whitewater Park may be administered using the existing Colorado River near Kremmling, Colorado gauge (ID# 09058000), with due consideration for any return flows or other inflows accruing to the stream below the gauge and above the park, as reasonably approved by the Division Engineer. See also paragraph 63 for measuring devices.

36. Land Ownership. The land where the Inspiration Point and Launch Counter are to be located is owned and managed by the United States Department of the Interior, Bureau of Land Management ("BLM"). Grand County provided notice of its application in this case to the BLM in compliance with C.R.S. § 37-92-302(2)(b). Grand County shall follow the appropriate permitting and/or other appropriate processes under federal statutes and regulations at the time it develops the Inspiration Point and Launch Counter structures.

37. Access. There is existing public access to the Colorado River and a parking lot at the location of the Gore Canyon Whitewater Park. Grand County may work with the BLM to improve this access or construct additional access pursuant to the process described in paragraph 36 above.

Additional Findings of Fact

38. Initiation of Appropriations. Grand County initiated the appropriations for the RICD Water Rights by forming the intent to appropriate combined with overt actions manifesting and providing notice of that intent. Specifically, Grand County adopted Resolution No. 2010-12-33 memorializing its intent to appropriate and posted notice of its intent at both the Hot Sulphur Springs and Gore Canyon Whitewater parks on December 21, 2010. Grand County provided further confirmation and notice of its intent by, inter alia, adopting Resolution No. 2010-12-41, dated December 28, 2010, describing its intent in various public meetings, and filing the application in this case.

39. Confirmation of Appropriations. Grand County has completed the "first step" in the appropriation of its RICD Water Rights by showing the requisite intent to appropriate combined with an open, physical demonstration of that intent and the Court confirms the conditional appropriation of the RICD Water Rights.

40. Diligence. Since the date of appropriation, Grand County has continually exercised reasonable diligence in the development of its RICD Water Rights. Specific activities undertaken by Grand County include detailed design work on the four structures

described above, hydrologic investigations at the whitewater park locations, and the prosecution of the application in this case.

41. Availability of Unappropriated Water. The Court finds that there is sufficient unappropriated water available in the Colorado River on sufficiently frequent occasions that there is a substantial probability Grand County can and will complete the appropriations of the RICD Water Rights.

42. Can and Will. The Court finds that, under all the facts and circumstances, there is a substantial probability Grand County can and will complete the appropriations of its RICD Water Rights within a reasonable time.

43. No injury. The appropriation of the RICD Water Rights will not cause material injury to any other water rights so long as they are operated pursuant to the terms and conditions of this decree.

44. Additional Findings Pursuant to C.R.S. § 37-92-305(13).

a. The RICD Water Rights decreed herein will not materially impair the ability of the State of Colorado ("State") to fully develop and place to consumptive beneficial use its compact entitlements. The RICD Water Rights are non-consumptive and are located more than 200 river miles upstream of the location where the Colorado River flows into Utah. Because of their location and non-consumptive nature, the RICD Water Rights do not preclude other water development opportunities to use any remaining portion of Colorado's entitlement to waters of the Colorado River.

b. The adjudication and administration of the water rights decreed herein will promote maximum utilization of waters of the State. The RICD Water Rights will not impact downstream development of new water projects because the RICD Water Rights are non-consumptive. The terms and conditions in this decree, including but not limited to those in paragraph 45 and 21.c, will allow for additional water to be developed upstream of the RICD Water Rights. Finally, the Court finds that non-motorized boating on the Colorado River provides substantial economic benefit to Grand County and Colorado and the non-consumptive use of water for the RICD Water Rights is consistent with maximum utilization of the waters of the Colorado River.

c. The RICD Water Rights decreed herein control water and place it to the intended beneficial uses via a reasonably efficient means of diversion without waste.

d. The CWCB appropriated an instream flow water right through the reach of the river where the Glory Hole and Hot Pocket structures are to be located for 90 cfs, which was decreed in Case No. 80CW447 (Div. 5). The CWCB has filed an application for an instream flow water right through the reach of the river where

the Inspiration Point and Launch Counter structures are to be located for 500 cfs (September 16 – May 14), 600 cfs (May 15 – July 31) and 750 cfs (August 1 – September 15) in pending Case No. 11CW159 (Div. 5). Grand County has designed control structures to integrate with the natural environment, including enhancements to fish habitat. The Applicant will consult with the Division of Parks and Wildlife and the CWCB before and during any construction or repair of the RICD so that the construction activities will not impact the natural environment that the instream flow water rights seek to protect. As a result, the RICD Water Rights decreed herein will not cause material injury to instream flow water rights appropriated pursuant to C.R.S. § 37-92-102(3) and (4).

45. Additional Terms and Conditions:

a. Pursuant to § 37-92-103(10.3), there shall be a presumption that there will not be material injury to this RICD from subsequent appropriations or changes of water rights if the effect on this RICD caused by such appropriations or changes does not exceed one-tenth of one percent of the lowest decreed rate of flow (0.25 cfs for the Hot Sulphur Springs Whitewater Park and 0.86 cfs for the Gore Canyon Whitewater Park) for this RICD as measured at the RICD and the cumulative effects on this RICD caused by such appropriations or changes do not exceed two percent of the lowest decreed rate of flow (5 cfs for the Hot Sulphur Springs Whitewater Park and 17.2 cfs for the Gore Canyon Whitewater Park) for this RICD measured at the RICD.

b. During any period identified by the Upper Colorado River Commission in a finding issued pursuant to Article VIII(d)(8) of the Upper Colorado River Basin Compact of 1948 for curtailment of Colorado River basin water uses within Colorado, which the State of Colorado has agreed to implement in a manner that impacts water diversions within Water Division 5, these RICD water rights will be administered in accordance with the compact curtailment rules adopted by the State of Colorado or other rules promulgated by the State Engineer pursuant to C.R.S. §37-80-104 and §37-92-501 that are then in effect. If no such compact curtailment rules are then in effect, this RICD will not call for water during the period of any such compact curtailment, but shall otherwise be administered in accordance with this decree and Colorado law.

c. In addition to the no call provisions in paragraphs 21.c and 45.f, Grand County reserves the right not to call the RICD Water Rights as against future water rights up to 3,000 acre-feet of depletions, within the sole discretion of Grand County.

d. Grand County shall not use the RICD Water Rights as a basis to oppose any future application in the Division 5 water court that proposes future development of the waters of the Colorado River or its tributaries upstream of the Grand County whitewater parks where the diversion, beneficial use(s) and return flows occur upstream of either Grand County whitewater park, and the contemplated

diversion is less than 1,000 acre-feet each year. Such water rights may, however, be subject to curtailment by a call for water under the RICD Water Rights.

e. Grand County shall provide final designs for the four control structures described above that are signed and sealed by a professional engineer to the Division Engineer and the Water Court.

f. For purposes of making the RICD Water Rights absolute, use of a higher calling flow rate at each Whitewater Park will suffice to also make the lower flow rate(s) absolute.

g. *Case No. 2011CW152 (Div. 5).* Grand County shall not place a call for water under the RICD Water Rights, specifically the Calling Rates of Flow in paragraphs 15 and 28, when such a call would impair the storage and substitution of up to of 1,375 acre feet in Gross Reservoir, storage of up to 2,500 acre feet in Williams Fork Reservoir, and exchanges of up to 3,500 acre feet into Green Mountain Reservoir and Wolford Mountain Reservoir, as contemplated by the application in Case No. 2011CW152.

h. The RICD Water Rights do not have the right to "stack" on top of the instream flow water rights identified in paragraph 44.d. For example, if the flows in the Colorado River at the Hot Sulphur Springs Whitewater Park measure 240 cfs on April 15, Grand County shall have the right to call to produce 250 cfs in the Colorado River at the Park, and not to produce 330 cfs (90 cfs + 250 cfs) at the Park.

i. Grand County shall determine by resolution up to three employees or agents who shall be authorized to place a call for the recreational in-channel water rights approved herein. Grand County shall provide the Division Engineer with a copy of the initial resolution designating the authorized individuals and each subsequent resolution changing the authorized individuals.

CONCLUSIONS OF LAW

46. Incorporation of Findings of Fact. To the extent they may be deemed to be Conclusions of Law, the foregoing Findings of Fact are incorporated in these Conclusions of Law.

47. Consistent with Law. The application is contemplated and authorized by law. *See e.g.*, C.R.S. § 37-92-101 *et seq.*; *id*. at § 103(10.3).

48. Notice and Jurisdiction. Timely and adequate notice of this application was given in the manner required by law and the Court has jurisdiction over the subject matter of this proceeding and over all persons, owners of property, and water rights affected hereby, regardless of whether those persons or water rights have appeared. The application in

this matter and the resume publications of the application placed such persons on notice of the relief requested by the application and granted by this Decree.

49. Control Structures. The amounts of water claimed and decreed herein will be controlled in the water's natural course in the Colorado River during the claimed time periods by means of the structures described in paragraphs 12 and 24 above. C.R.S. § 37-92-103(7). Flow rates up to 2,500 cfs will be efficiently controlled, concentrated and diverted, without waste, to create waves, hydraulic holes, large changes in current direction, and whitewater features that are used by kayakers and other boaters for the intended recreational experiences.

50. Diversion and Use. The controlling of the claimed amounts of water during the claimed time periods by the proposed in-channel structures and devices and the use of such water for the intended recreational in-channel boating purposes:

a. Represents a reasonably efficient practice of diversion and beneficial use, *Alamosa-La Jara Water Users Protection Ass'n v. Gould*, 674 P.2d 914, 934-5 (Colo. 1983); C.R.S. §§ 37-92-102(2)(b), 37-92-103(4) and (7);

b. Represents the use of the minimum amount of water that is reasonable and appropriate under reasonably efficient practices to accomplish without waste the purpose for which the appropriation was lawfully made by Grand County, C.R.S. § 37-92-103(4) and (10.3); and

c. Will create opportunities for the intended recreational experiences to occur, at the minimum stream flows needed to provide the identified recreational experiences. C.R.S. § 37-92-103(10.3).

51. Reasonable Recreational Experience. The intended recreation experiences are reasonable. By using the proposed in-channel structures and devices in a reasonably efficient manner to control that amount of water that is reasonable and appropriate to accomplish without waste the intended recreational in-channel non-motorized boating purposes, and thereby providing opportunities for reasonable recreation experiences to occur with the minimum amounts of water for each recreational opportunity, the proposed appropriation of water meets the beneficial use standards historically applied to water rights, which standards, as recognized by Senate Bill 01-216, are also to be applied to "recreational in-channel diversions." *See* C.R.S. § 37-92-103(4) and (10.3).

52. No Injury to Instream Flow Rights and Flood Control. Decreed instream flow water rights exist in the reach of the Glory Hole and Hot Pocket structures decreed herein. However, exercise of the water rights decreed herein will complement, and will not cause material injury to, any CWCB instream flow water rights. Construction of the Glory Hole and Hot Pocket structures will not adversely affect the reach of the stream or the natural environment of the stream that instream flow rights are decreed to protect. The CWCB maintains no liability for any damages, injury or other issues related to or arising

from the control structures. Should the CWCB's pending instream flow application in Case No. 11CW159 (Div. 5) be decreed, the same conclusions of law shall apply as to those instream flow water rights.

53. Extended Season at Gore Canyon Whitewater Park. There is a demand for reasonable recreational experiences at the Gore Canyon Whitewater Park between Labor Day and October 15. C.R.S. § 37-92-103(10.3).

54. Non-Speculation. The Court concludes, in accordance with C.R.S. § 37-92-103(3), that Grand County has a non-speculative intent to put the RICD Water Rights decreed herein to beneficial use within a reasonable time.

55. Can and Will. The Court concludes, in accordance with C.R.S. § 37-92-305(9)(b), that Grand County's RICD Water Rights are feasible and that Grand County has shown a substantial probability that it will divert and use its RICD Water Rights for the purposes for which they were adjudicated with diligence and within a reasonable time.

56. Reasonable Diligence. The Court concludes that, in accordance with C.R.S. § 37-92-301(4), Grand County has demonstrated reasonable diligence in development of its RICD Water Rights by showing that, since their date of appropriation, Grand County has undertaken a steady application of effort to complete the appropriations in a reasonably expedient and efficient manner taking into account all the facts and circumstances.

57. Non-injury. Grand County can and will be able to divert its RICD Water Rights without injury to owners and users of vested water rights and decreed conditional water rights.

58. Integrated System. The RICD Water Rights are part of integrated system of water rights together with anticipated sources of water from agreements with other water users, and future acquisitions and appropriations to support Grand County's economy, ecology and recreation.

JUDGMENT AND DECREE

59. Incorporation of Findings and Conclusions. The foregoing Findings of Fact and Conclusions of Law are incorporated herein as if set forth verbatim.

60. CWCB Recommendation Considered. The CWCB submitted its findings of fact and recommendations to the Court on [date to be determined]. The Court has duly considered the findings and recommendations as required by C.R.S. § 37-92-305.

61. Approval of RICD Water Rights. Grand County's application for RICD water rights is hereby confirmed, approved, adjudicated and decreed subject to the terms and conditions herein with an appropriation date of December 21, 2010.

62. Accounting. Applicant shall provide such accounting for the water rights adjudicated herein as reasonable requested by the Division Engineer.

63. Measuring Devices. Applicant shall install adequate measuring devices as may reasonably be required by the Division Engineer pursuant to C.R.S. §37-92-502(5)(a) to administer this decree.

64. Administration by State and Division Engineers. The State Engineer shall administer this decree in accordance with the terms and conditions set forth herein.

65. No Material Injury. The terms and conditions provided for in this ruling and decree are adequate to assure that no material injury to any water users will result from the operation of Grand County's RICD Water Rights.

66. Priority Administration. The water rights and priority granted herein are based on the appropriation date above and the filing of the application in this case in 2010. Said water rights and priority shall be administered as having been filed in 2010 and shall be junior to all water rights granted pursuant to applications filed in previous years. As between all water rights applied for in the same calendar year, priorities shall be determined by historical dates of appropriation and shall not be affected by the date of filing of the Application or the date of entry of this ruling.

67. Reasonable Diligence. The conditional RICD Water Rights decreed herein are continued in full force and effect until the last day of _____, _____. To maintain these conditional RICD Water Rights, an application for reasonable diligence shall be filed on or before the last day of _____, _____, or a showing made on or before such date that such conditional water rights have become absolute water rights by reason of the completion of the appropriation.

68. No Precedent. The findings of fact, conclusions of law and decree in this matter were completed as a result of substantial discussions, negotiations, and compromises by, between and among the Applicant and several objectors pertaining to all parts of the findings, conclusions and decree. It is specifically understood and agreed by the parties hereto, and found and concluded by the Court, that the acquiescence of the parties to a stipulated decree under the specific factual and legal circumstances of this contested matter and upon the numerous and interrelated compromises reached by the parties shall never give rise to any argument, claim, defense or theory of acquiescence, waiver, bar, merger, *stare decisis*, *res judicata*, estoppel, laches, or otherwise, nor to any administrative or judicial practice or precedent, by or against any of the parties hereto in any other matter, case or dispute, nor shall testimony concerning such acquiescence of any party to a stipulated decree herein be allowed in any other matter, case or dispute. All parties stipulate and agree that they do not intend the findings, conclusions and decree to have the effect of precedent or preclusion on any factual or legal issue in any other matter. The parties further stipulate and agree that they each reserve the right to propose

or to challenge any legal or factual position in any other matter filed in this or any other court without limitation by these Findings, Conclusions and Decree.

69. The water clerk shall file a copy of this Decree with the Division Engineer for Water Division No. 5 and the State Engineer.

DATED this _____ day of _____, 20___.

_____
Water Referee, Water Division No. 5

THE COURT finds that no protest was filed in this matter. The foregoing ruling of the Water Referee is confirmed and approved and is hereby made the Judgment and Decree of this Court.

ENTERED this _____ day of _____, 20___.

BY THE COURT:

_____
Water Judge, Water Division 5

Figure 5: Locations of Hot Sulphur Springs and Gore Canyon Whitewater Parks within Upper Colorado River Basin

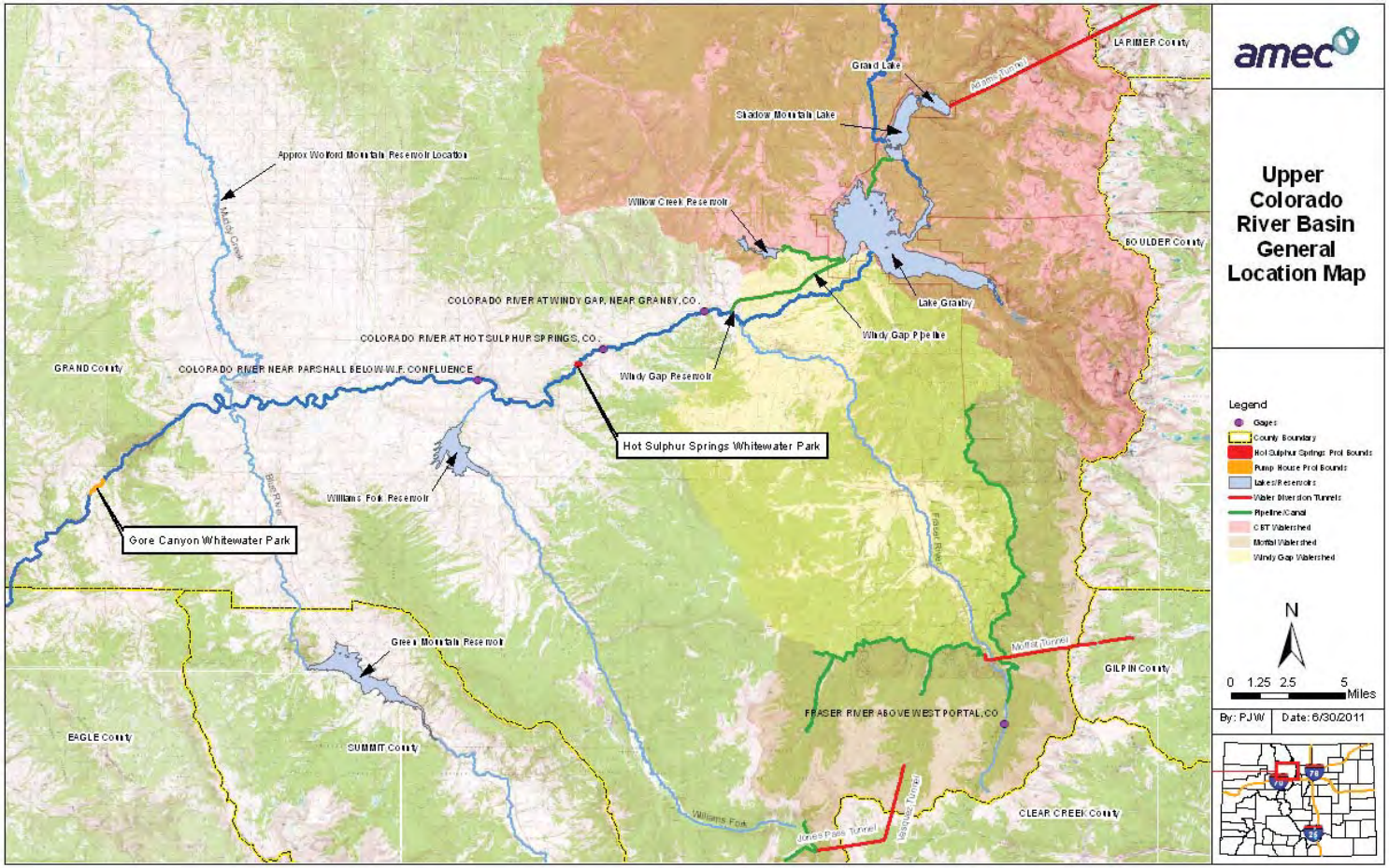


Figure 3: Locations of RICD Control Structures, Hot Sulphur Springs Whitewater Park

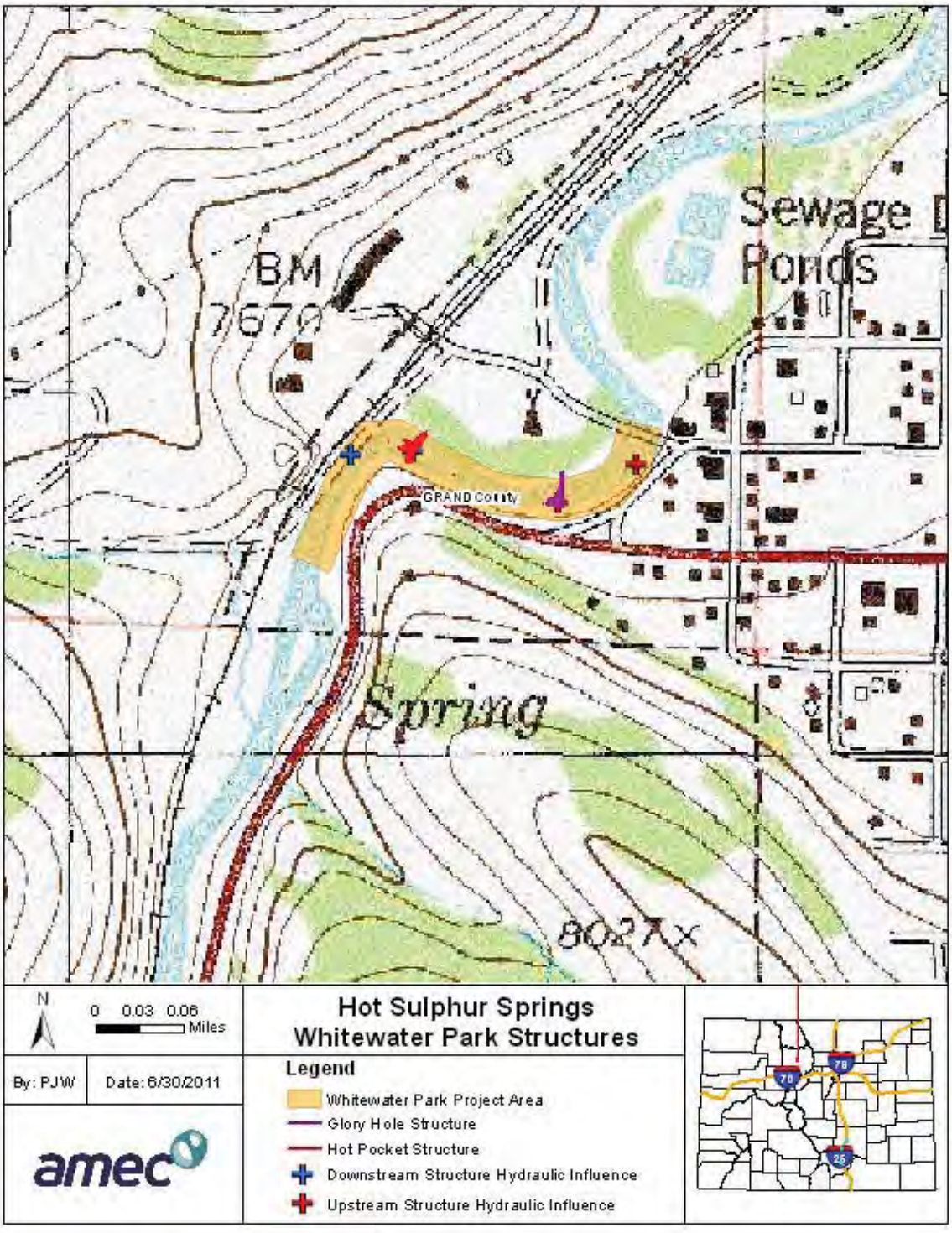
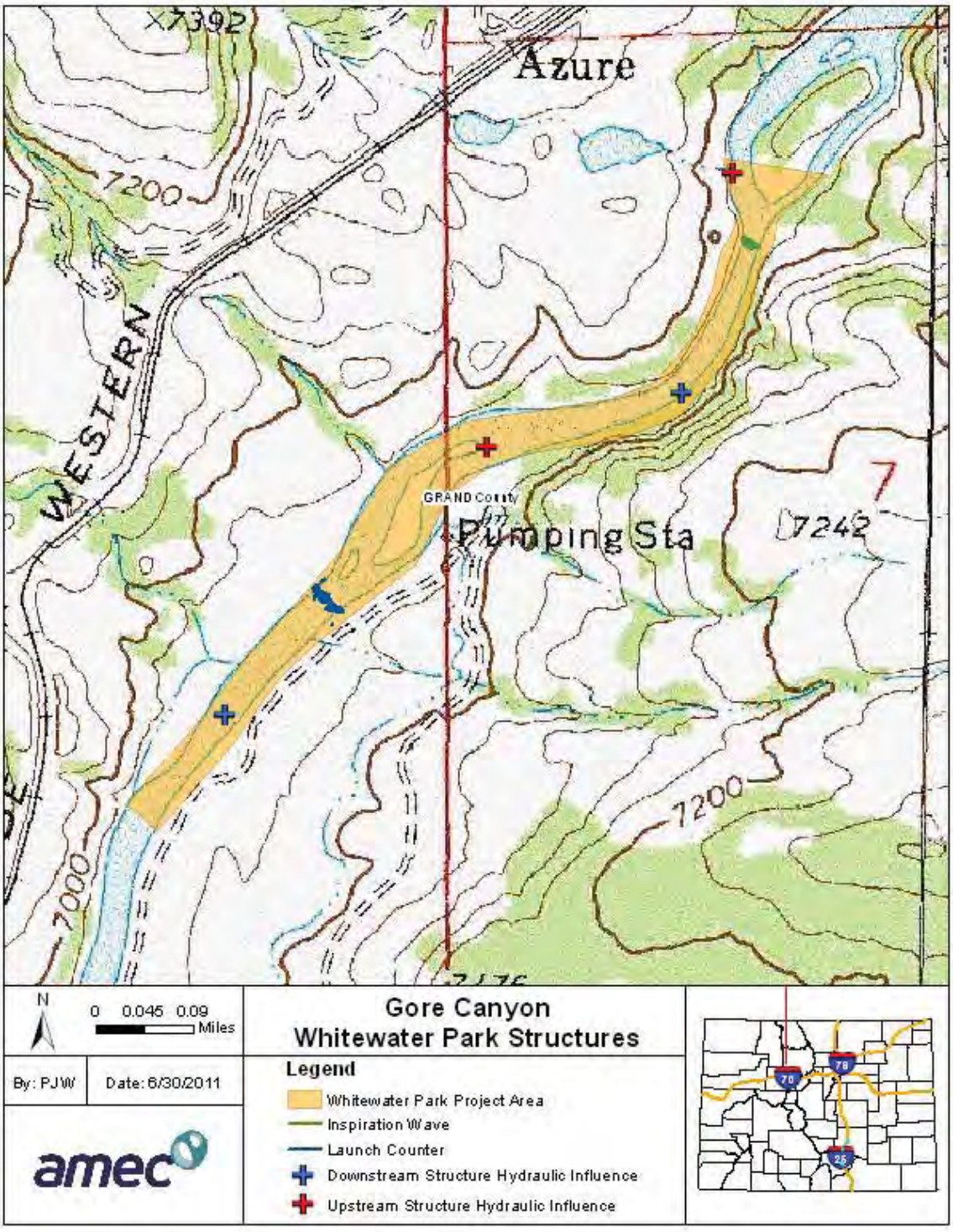


Figure 4: Locations of RICD Control Structures, Gore Canyon Whitewater Park



Caroline Bradford

From: Brian magee [bpmagee20@hotmail.com]
Sent: Wednesday, February 29, 2012 9:01 PM
To: carolinebradford@wildblue.net
Subject: RE:Fall boating on the Colorado River

RE: FALL USE OF PROPOSED GORE CANYON WHITEWATER PARK

TO WHOM IT MAY CONCERN:

I am a kayaker, rafter, and fisherman. It my understanding that Grand County, Colorado is planning to build a whitewater recreation park on the Colorado River, known as Gore Canyon Whitewater Park. I fully support Grand County's plans to build two whitewater boating features, one near Pumphouse Recreation Site and the other about 1/4 mile upstream at the bottom of Gore Canyon.

If and when these structures are built, **I will use the Gore Canyon Whitewater Park for non-motorized boating activities between Labor Day and October 15th.**

I live in Durango, CO with my wife and two young boys. This section of river is one of the only sections that the boating community can depend upon for late summer and fall flows in Colorado. Because of this, we travel nearly every fall with several other families from Durango, Morrison, and Aspen to the Colorado River and camp at Pumphouse. We typically kayak Gore Canyon in the mornings, fly fish for brown trout in the evening (they spawn in the fall so they are easier to catch!), and raft/float fish to state bridge or Rancho del Rio with the kids. Our group has discussed, at length, the benefits and recreational enhancement that a white water park could bring to the area. In fact, a whitewater park combined with Gore Canyon (class 5), hugh brown trout, and rafting with the family might even be the most perfect river experience that I can imagine! Our kids are getting older and have the desire to test their skill on rivers and white parks across Colorado. The opportunity for them to continue their play boating educational efforts, in the fall, at pumphouse is most welcomed.

Feel free to contact me with any questions.

Sincerely,

brian magee

Feb. 25, 2012
Sent via email

RE: FALL USE OF PROPOSED GORE CANYON WHITEWATER PARK

TO WHOM IT MAY CONCERN:

I understand that Grand County, Colorado is planning to build a whitewater recreation park on the Colorado River, known as the Gore Canyon Whitewater Park. Grand County plans to build two structures, one near Pump House and the other just slightly upstream at Inspiration Point for whitewater boating.

If and when these structures are built, I have the desire and intent to use the Gore Canyon Whitewater Park for non-motorized boating activities between Labor Day and October 15th of any given year. Many whitewater boaters and paddle boarders will use these proposed park and play features from early spring until late fall and will take advantage of the Gore Canyon Whitewater Park in Grand County throughout the extended paddling season.

After the summer rush, many of us whom live locally finally have more time to get out and kayak. We travelled all last fall to both Glenwood Springs Whitewater Park and down to the Arkansas River in Buena Vista for Play Kayaking.

We also go to the Colorado River in Grand Junction for fall season boating, this new park will save us driving and be very pleasant addition to "off-season" recreation.
We will certainly come up, boat, camp and relax along this section of river.

Please contact me with any questions.

Sincerely,

Darryl Bangert
Owner/Operator
Sage Outdoor Adventures
PO Box 460
Wolcott,CO 81655
w:(970) 476-3700
c:(970)-390-1710

Caroline Bradford

From: Lacey Black [lacey@laceyblack.net]
Sent: Tuesday, February 28, 2012 1:22 PM
To: CarolineBradford@wildblue.net
Subject: Fall Use of Proposed Gore Canyon Whitewater Park

TO WHOM IT MAY CONCERN:

I am a river and tourism advocate that lives in Durango. I understand that Grand County, Colorado is planning to build a whitewater recreation park on the Colorado River, known as the Gore Canyon Whitewater Park. I support Grand County's plans to build two whitewater boating features, one near Pumphouse Recreation Site and the other about ¼ mile upstream at the bottom of Gore Canyon.

If and when these structures are built, I have many friends who have shared with me the desire and intent to use the Gore Canyon Whitewater Park for non-motorized boating activities between Labor Day and October 15th of any given year.

I support this project because tourism, specifically adventure tourism, is a growing segment of Colorado's economy. To hear my boater friends talk about it, I can tell that other people across the country will view it as a destination for their travel plans, thus putting money into the state's coffers, which everyone would appreciate. My friends are always talking about the fall as being the optimal time to boat on the Colorado, because many of their other favorite streams have dwindled below boatable flows by September 1. This is a great opportunity to funnel all interested boaters in the region, and perhaps from farther distances, to the Gore Canyon Whitewater park. It will undoubtably help bolster the shoulder season of the Colorado tourism cycle.

Feel free to contact me with any questions.

Sincerely,
Lacey Black

PO Box 557
Durango, CO 81302
c: 970.799.4252
h: 970.403.5223
Lacey@LaceyBlack.net

Caroline Bradford

From: Craig Phillips [cwp.craig@gmail.com]
Sent: Tuesday, February 28, 2012 2:35 PM
To: CarolineBradford@wildblue.net
Subject: Gore Canyon Whitewater Playpark

Caroline,

I nearly jumped out of my seat in joy when I saw two features may be built near the Pumphouse Put-in. I consider myself to be one of the most frequent users of Gore Canyon, generally my first run of the year is in mid March, and last being Thanksgiving.

I live at Copper Mountain Resort, one hour from the BV, Glenwood, and Lawson playparks. The problem with all of these playparks is that they are out of water by August. I think I speak for everyone in the state saying there needs to be a year round feature, and this is one of the only places for it to happen.

From Labor day to mid-November the last two summers I have averaged around 3 trips a week to Gore Canyon, with every Friday in the fall being called, "front range friday," around 5-10 die-hard boaters from the Denver area. Not only would this be a great additional perk for people to travel this direction, I believe play features are essential to building a local kayaking community.

Hope to hear more about the project if it happens. Thanks.

Craig Phillips

Caroline Bradford

From: Adam Atchley [adamatchley@gmail.com]
Sent: Thursday, March 01, 2012 5:06 PM
To: CarolineBradford@wildblue.net
Subject: Fall Use of Proposed Gore Canyon Whitewater Park

TO WHOM IT MAY CONCERN:

I am a boater that lives in Lakewood, CO. I understand that Grand County, Colorado is planning to build a whitewater recreation park on the Colorado River, known as the Gore Canyon Whitewater Park. I support Grand County's plans to build two whitewater boating features, one near Pumphouse Recreation Site and the other about ¼ mile upstream at the bottom of Gore Canyon.

If and when these structures are built, I have the desire and intent to use the Gore Canyon Whitewater Park for non-motorized boating activities between Labor Day and October 15th of any given year.

I support this project because the Upper Colorado River is one of the very few Colorado rivers that offers late season kayaking and rafting. The added whitewater park will increase the recreation opportunities for the Upper Colorado by connecting an expert river run to a family friendly float with an intermediate play feature. As an avid kayaker and father of young children, I am constantly looking for whitewater recreation that provides fun for the whole family. The Upper Colorado stretch fulfills this need and the added whitewater park will only increase the appeal to this beautiful river.

Sincerely,

Adam Atchley
1580 Tabor St.
Lakewood, CO 80215
435-260-9901
adamatchley@gmail.com=

Caroline Bradford

From: Russ Huff [geosugar.com@gmail.com]
Sent: Thursday, March 01, 2012 3:15 PM
To: CarolineBradford@wildblue.net
Subject: Gore Canyon Whitewater Park Support

Hi,

I am president of the Lyons Kayak Club and I would like to express deep support for the proposed Gore Canyon Whitewater Park. The Lyons Whitewater Park continues to be a tremendous value to myself, our club and our community receiving thousands of paddlers each year.

I understand that Grand County, Colorado is planning to build a whitewater recreation park on the Colorado River consisting of two water features. If these features are built, I and my family will regularly kayak in the Gore Canyon Whitewater Park between Labor Day and October 15th of any given year.

I support this project because of both the tremendous benefits that my town receives from our park as well as the unique opportunity that a Whitewater Park on the Colorado River affords. While the water in Lyons is generally too low to paddle in the Fall, the Gore Canyon Whitewater Park would allow us to paddle late into the Fall. Several of our members and my son are international caliber slalom kayak racers and currently have to travel tremendous distances to paddle during the Fall. This park would allow them to stay and train in Colorado.

Feel free to contact me with any questions. Our club's website is here: kayaklyons.com

Sincerely,

--
Russell Huff, PhD.
PO Box 860
Lyons, CO 80540

(303) 823-5007 o
(720) 323-4153 c

Caroline Bradford

From: Joshua Mack [mackjw@gmail.com]
Sent: Wednesday, February 29, 2012 1:13 PM
To: CarolineBradford@wildblue.net
Subject: Gore whitewater park

I love Gore Canyon. I have paddled it somewhere around 80 times and still travel from Durango about twice a year to paddle there. Apart from the great whitewater and scenery, one of the best things about Gore is the late summer and fall flows. The typical 1100-1300 cfs that we see in August through October are perfect. The only thing that would make Gore better would be a whitewater park at the takeout. I can guarantee that it would see a lot of use and bring even more people to the Upper Colorado, because it would broaden the spectrum of potential users. The Pumphouse Recreation area is basically the perfect place for a whitewater park. If you want to enhance the recreation values of the Upper Colorado, this one is a no brainer.

Sincerely,

Josh Mack

February 29, 2012

RE: FALL USE OF PROPOSED GORE CANYON WHITEWATER PARK

Dear whoever may be concerned about a Grand County Whitewater Park:

I understand that Grand County, Colorado is planning to build a whitewater recreation park on the Colorado River, known as Gore Canyon Whitewater Park. I am a kayaker that lives in Frisco and have enjoyed boating this section of the Colorado River for many years.

I support Grand County's plans to build two whitewater boating features, one near Pumphouse Recreation Site and the other about 1/4 mile upstream at the bottom of Gore Canyon.

I am excited at the prospect of using the Gore Canyon Whitewater Park and would be thrilled to have access to these features between Labor Day and October 15th for any year. This would provide a terrific non-motorized boating opportunity when most others are no longer available or would require significant travel.

I fully support this proposed project and would volunteer my time to provide labor or anything else that would help make it a reality.

Please feel free to contact me with any questions.

Sincerely,

Lane Wyatt
PO Box 1691
Frisco, CO 80443
lanewyatt@hotmail.com

Caroline Bradford

From: Clair Anicito [staffcc@yahoo.com]
Sent: Thursday, March 01, 2012 9:07 AM
To: CarolineBradford@wildblue.net
Subject: Fall Boating on the Colorado River

RE: FALL USE OF PROPOSED GORE CANYON WHITEWATER PARK

TO WHOM IT MAY CONCERN:

I am a boater that lives in Breckenridge, Colorado. I understand that Grand County, Colorado is planning to build a whitewater recreation park on the Colorado River, known as Gore Canyon Whitewater Park. I support Grand County's plans to build two whitewater boating features, one near Pumphouse Recreation Site and the other about 1/4 mile upstream at the bottom of Gore Canyon.

If and when these structures are built, I have the desire and intent to use the Gore Canyon Whitewater Park for non-motorized boating activities between Labor Day and October 15th of any given year.

I support this project because I love the Colorado River. I love boating. I know how short our boating season is in Colorado and adding these features will lengthen our season. The proposed whitewater park is in a area respected by rafters and kayakers everywhere. Gore Canyon brings out the best of the best and I know that everyone will benefit from a whitewater park. I also know that these boaters respect the land, the river and the people who allow us to play! PLEASE put in a whitewater park on the Colorado River!!!

Feel free to contact me with any questions.

Sincerely,

Clair Anicito
PO Box 3001 Breckenridge, Colorado
staffcc@yahoo.com

Caroline Bradford

From: Nik White [nawhite@gmail.com]
Sent: Tuesday, February 28, 2012 3:47 PM
To: CarolineBradford@wildblue.net
Subject: Fall Use of Proposed Gore Canyon Whitewater Park

TO WHOM IT MAY CONCERN:

I am a whitewater kayaker/rafter that lives in Denver. I understand that Grand County, Colorado is planning to build a whitewater recreation park on the Colorado River, known as the Gore Canyon Whitewater Park. I support Grand County's plans to build two whitewater boating features, one near Pumphouse Recreation Site and the other about ¼ mile upstream at the bottom of Gore Canyon.

If and when these structures are built, I have the desire and intent to use the Gore Canyon Whitewater Park for non-motorized boating activities between Labor Day and October 15th of any given year.

I support this project because the additional features would be another reason for me to make the trip to the Gore Canyon in the fall. I already enjoy running the canyon but the length of the drive limits how often I make the trip. The additional park features would encourage me to make the trip as well as make for a very enjoyable 2 day trip, one day using the whitewater park and one day running the canyon.

Feel free to contact me with any questions.

Sincerely,

Nik White
9888 E Vassar Dr Apt A204
Denver, CO 80231
585-957-3355

Caroline Bradford

From: nathan weih [nathanweih@yahoo.com]
Sent: Tuesday, February 28, 2012 4:20 PM
To: CarolineBradford@wildblue.net
Subject: FALL USE OF PROPOSED GORE CANYON WHITEWATER PARK

TO WHOM IT MAY CONCERN:

I am a boater that lives in Portland, OR. I understand that Grand County, Colorado is planning to build a whitewater recreation park on the Colorado River, known as the Gore Canyon Whitewater Park. I support Grand County's plans to build two whitewater boating features, one near Pumphouse Recreation Site and the other about ¼ mile upstream at the bottom of Gore Canyon.

If and when these structures are built, I have the desire and intent to use the Gore Canyon Whitewater Park for non-motorized boating activities between Labor Day and October 15th of any given year.

I support this project because I love the Colorado river and its natural beauty.

Feel free to contact me with any questions.

Sincerely,

NAME Nathan F Weih
MAILING ADDRESS 7455 N Burr ave Portland, OR 97203
EMAIL &/OR PHONE nathanweih@yahoo.com

Caroline Bradford

From: Ian Howells [ianjhowells@gmail.com]
Sent: Tuesday, February 28, 2012 4:16 PM
To: CarolineBradford@wildblue.net
Subject: Fall boating season on the colorado

RE: FALL USE OF PROPOSED GORE CANYON WHITEWATER PARK

TO WHOM IT MAY CONCERN:

I am a boater living in Denver. I understand that Grand County, Colorado is planning to build a whitewater recreation park on the Colorado River, known as the Gore Canyon Whitewater Park. I support Grand County's plans to build two whitewater boating features, one near Pumphouse Recreation Site and the other about ¼ mile upstream at the bottom of Gore Canyon.

Gore Canyon and the Pumphouse area is an amazing resource to the boatmen in the Rocky Mountain area. Very little runs in the early and late season save Gore and Pumphouse. This offers a mellow class II float and a Class V adventure. It would be an incredible bonus to build two whitewater features as proposed by Grand County. Particularly in the fall season from September and well in to October this would be one of the only places in Colorado to utilize a whitewater playpark and in fact, one of the few areas in the entire Rocky Mountain region where boating is possible that time of year. A whitewater park would broaden the spectrum of boaters that would be attracted to the area and would give myself a reason to bring both my boats and make it a long weekend in Grand County instead of just a quick day trip.

Thank you for your time and I sincerely hope that you go forward with this project and boatable flows are protected through the fall season for recreational use.

Sincerely,

Ian J Howells
1235 Albion ST.
Denver, CO
970-420-8835

Caroline Bradford

From: Jeremy Syz [jeremysyz@hotmail.com]
Sent: Tuesday, February 28, 2012 4:40 PM
To: carolinebradford@wildblue.net
Subject: FALL USE OF PROPOSED GORE CANYON WHITEWATER PARK

TO WHOM IT MAY CONCERN:

I am a boater that lives in Boulder, Colorado. I understand that Grand County, Colorado is planning to build a whitewater recreation park on the Colorado River, known as Gore Canyon Whitewater Park. I support Grand County's plans to build two whitewater boating features, one near Pumphouse Recreation Site and the other about 1/4 mile upstream at the bottom of Gore Canyon.

If and when these structures are built, I have the desire and intent to use the Gore Canyon Whitewater Park for non-motorized boating activities between Labor Day and October 15th of any given year.

I support this project because I am a frequent user of the Upper Colorado River, including Gore Canyon, Pumhouse, State Bridge, Catamount, Ruby/Horsethief, and Westwater. I enjoy all of these reaches, but the Gore Canyon area is of most interest to me because it is the closest, consistently available whitewater resource. This reach is significant and unique because it provides consitently boat-able flows, long after the rest of the rivers in the state are too low for whitewater activites. Last year, I was able to kayak Gore Canyon until November, and had upwards of 20 days on the river.

I strongly support this project as it would add to the whitewater resources available to boaters, both those in Colorado, as well as those throughout the Western United States, who would almost certainly make use of this unique opportunity.

Feel free to contact me with any questions.

Sincerely,

Jeremy Syz
3050 17th Street
Boulder, CO 80304
Email: jeremysyz@hotmail.com
Phone: 719.510.8800

Caroline Bradford

From: Kevin Heiner [fun4kevin@gmail.com]
Sent: Friday, March 02, 2012 10:40 PM
To: CarolineBradford@wildblue.net
Subject: Fall Use of Proposed Gore Canyon Whitewater Park

TO WHOM IT MAY CONCERN:

I am a boater that lives in Durango, CO. I understand that Grand County, Colorado is planning to build a whitewater recreation park on the Colorado River, known as the Gore Canyon Whitewater Park. I support Grand County's plans to build two whitewater boating features, one near Pumphouse Recreation Site and the other about ¼ mile upstream at the bottom of Gore Canyon. Each year many boaters flock to the exciting and relatively predictable flows contained in Gore Canyon coming from miles to enjoy the scenery, whitewater, and comradery that are unmatched anywhere else during the fall season.

If and when these structures are built, I have the desire and intent to use the Gore Canyon Whitewater Park for non-motorized boating activities between Labor Day and October 15th of any given year.

I support this project because continued seasonal fall flows are absolutely essential to an extended paddling season in the state of Colorado and in the western rockies in general. I personally make the 650 mile round trip 1-3 times per year, usually in the fall, because there are few other higher caliber whitewater runs anywhere in the country at this time of year. Constructing a whitewater park to ensure a RICD water right is a move in the right direction to ensure the continued enjoyment of this annual tradition that not only brings excitement to this area, but ecomomic benefit as well.

Feel free to contact me with any questions.

Sincerely,

Kevin Heiner

2206 CR 207

Durango, CO 81301

kevin@sccorps.org

Caroline Bradford

From: Mark Robbins [mrobbins@frii.com]
Sent: Sunday, March 04, 2012 8:38 AM
To: CarolineBradford@wildblue.net
Subject: Support for Gore Cyn Play Park

To Whom it may concern,

I am a whitewater kayaker who lives in Fort Collins, Colorado. Often during the late fall I head up to the Upper Colorado to kayak the many different stretches of river, and often use the Pumphouse site as a put-in or take-out, camping near by. Having a whitewater play park at that site would greatly enhance the boating opportunities for all levels of boaters and would be a great addition to the site. Thank you for considering this project-

Mark Robbins
1460 C Front Nine Dr.
Fort Collins, CO 80525
mrobbins@frii.com
970-204-9319

RE: FALL USE OF PROPOSED GORE CANYON WHITEWATER PARK

TO WHOM IT MAY CONCERN:

I am excited to hear that Grand County, Colorado is considering building a whitewater recreation park on the Colorado River, known as the Gore Canyon Whitewater Park. Grand County plans to build two structures, one near Pump House and the other just slightly upstream at Inspiration Point for whitewater boating.

If and when these structures are built, I have the desire and intent to use the Gore Canyon Whitewater Park for kayaking and stand-up paddle boarding between Labor Day and October 15th of any given year.

The early spring and late fall season of the Gore Canyon Whitewater Park in Grand County will be a recreational draw for weekends, and even after work. The exceptional boating, great camping, beautiful scenery, excellent fishing, swimming, and other activities will keep me and my family visiting the Park for years to come. I support this Project and look forward to paddling the Gore Canyon Whitewater Park.

Sincerely,

Crystal Young
6235 Brush Creek Road
Eagle, CO 81631
crystal.young@riverrestoration.org

Caroline Bradford

From: Kenny VanStone [kennyvs@yahoo.com]
Sent: Tuesday, February 28, 2012 7:28 PM
To: CarolineBradford@wildblue.net
Subject: Fall Use of Proposed Gore Canyon Whitewater Park

TO WHOM IT MAY CONCERN:

I am a boater that lives in Moab, Utah. I understand that Grand County, Colorado is planning to build a whitewater recreation park on the Colorado River, known as the Gore Canyon Whitewater Park. I support Grand County's plans to build two whitewater boating features, one near Pumphouse Recreation Site and the other about ¼ mile upstream at the bottom of Gore Canyon.

If and when these structures are built, I have the desire and intent to use the Gore Canyon Whitewater Park for non-motorized boating activities between Labor Day and October 15th of any given year. I support this project because although I don't live in Colorado, I frequently travel there to kayak, especially in the Fall when the water is low in Moab. Feel free to contact me with any questions.

Sincerely,

Kenny VanStone
2544 Roberts Drive
Moab, Utah 84532
(435) 260-2219
kennyvs@yahoo.com

RE: FALL USE OF PROPOSED GORE CANYON WHITEWATER PARK

TO WHOM IT MAY CONCERN:

I recently heard that Grand County, Colorado is planning to build a whitewater park on the Colorado River, known as the Gore Canyon Whitewater Park. Grand County plans to build two structures, one near Pump House and the other just slightly upstream at Inspiration Point for whitewater boating! This

If and when these structures are built, I have the desire and intent to use the Gore Canyon Whitewater Park for non-motorized boating activities between Labor Day and October 15th of any given year. Many whitewater boaters and paddle boarders will use these proposed park and play features from early spring until late fall and will take advantage of the Gore Canyon Whitewater Park in Grand County throughout the extended paddling season.

I support this project because Grand County will honestly be creating a destination on the international whitewater scene. Combining the upper section of world class class V with 2 awesome play features will make this place a destination from early spring all the way into the fall when there is no where else to boat. This is a win win. Paddlers get a great amenity and grand county will benefit from the added tax revenue! If you build it you will make my life!

Please contact me with any questions.

Sincerely,

Dan Piano
119 west Williams st
po 262
Oak Creek CO,80467
danimalp@hotmail.com

Caroline Bradford

From: Don Beveridge [don@smallworldadventures.com]
Sent: Thursday, March 01, 2012 5:23 AM
To: CarolineBradford@wildblue.net
Subject: Fall Use of Proposed Gore Canyon Whitewater Park

TO WHOM IT MAY CONCERN:

I am a boater that lives in Salida, CO. I understand that Grand County, Colorado is planning to build a whitewater recreation park on the Colorado River, known as the Gore Canyon Whitewater Park. I support Grand County's plans to build two whitewater boating features, one near Pumphouse Recreation Site and the other about ¼ mile upstream at the bottom of Gore Canyon.

If and when these structures are built, I have the desire and intent to use the Gore Canyon Whitewater Park for non-motorized boating activities between Labor Day and October 15th of any given year.

I support this project because whitewater parks are great for kayakers and local communities. They bring boaters to areas that they may not have been visiting and in this case would give a play and training option to an area that doesn't have any good options nearby.

Because the Colorado at Gore canyon still has good flow in the fall, it will be THE best boating destination in Colorado at that time of year.

Feel free to contact me with any questions.

Sincerely,

Don Beveridge
Small World Adventures
don@smallworldadventures.com
970 948 2918
PO Box 1225
Salida, CO 81201
www.smallworldadventures.com
smallworldadventures.blogspot.com

Caroline Bradford

From: Bruno Lutz [brunolutz1@gmail.com]
Sent: Thursday, March 01, 2012 1:29 PM
To: CarolineBradford@wildblue.net
Subject: Gore Canyon Whitewater Park

To Whom It May Concern:

I am a boater who lives in Golden, CO. If and when Grand County builds the proposed Colorado River - Gore Canyon Whitewater Park, I intend to use the features for non-motorized boating activities between Labor Day and October 15th of any given year.

I support this project because it would increase fall boating options in Colorado as well as the remainder of the year and Gore Canyon and Pump House are two of my favorite stretches of river in the state.

Bruno Lutz
69 Lupine Way
Golden, CO 80401
303-635-6461

Caroline Bradford

From: Kyle McCutchen [kyle.mccutchen@gmail.com]
Sent: Thursday, March 01, 2012 2:17 PM
To: CarolineBradford@wildblue.net
Subject: Fall Use of Proposed Gore Canyon Whitewater Park

Hi,

I am a kayaker and rafter from Denver, Colorado. I understand that Grand County, Colorado is planning to build a whitewater recreation park on the Colorado River, known as the Gore Canyon Whitewater Park. I support Grand County's plans to build two whitewater boating features, one near Pumphouse Recreation Site and the other about ¼ mile upstream at the bottom of Gore Canyon.

If and when these structures are built, I have the desire and intent to use the Gore Canyon Whitewater Park for non-motorized boating activities between March and November every year.

I support this project because I already frequently kayak Gore canyon, and occasionally run Pumphouse. The one type of whitewater that the area lacks is easily accessible freestyle kayaking opportunities, and this project would solve that. This is also one of the few rivers in the state that consistently has very good flows late into the season, and I am hopefully that this park will help to maintain those flows.

Feel free to contact me with any questions.

Sincerely,

Kyle McCutchen
Whitewater of the Southern Rockies
3104 Elizabeth St, Denver, CO 80205
303.918.7546
kyle.mccutchen@gmail.com

RIVER RESTORATION.ORG
PO Box 2123, Glenwood Springs, CO 81601 (970) 947-9568

March 6, 2012

Board of County Commissioners
Grand County Colorado
308 Byers Ave.
Hot Sulphur Springs, CO
(970) 725-3100

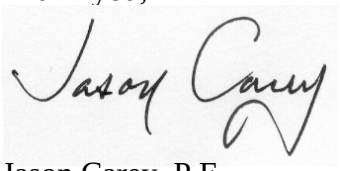
RE: Grand County Recreational In-channel Diversions *CRE 408*

Grand BOCC,

We are very excited about Grand County Whitewater Parks, these are important projects for Grand County. The BOCC's and Staff's commitment to the Colorado River is very valuable to our community and one of the reasons I live on the Western Slope. I understand that a minimum "beneficial use" flow rate, below those necessary for the intended recreational experiences, has been negotiated on behalf of Grand County. These "beneficial use" minimum flow rates are referenced in the proposed decree dated February 29, 2012 under paragraph 16 for the Hot Sulphur Springs Whitewater Park and paragraph 29 for the Gore Canyon Whitewater Park. I have been asked if beneficial uses, as defined in the decree, can occur at these locations at the flows of 90 cfs at Hot Sulphur Springs and 500 cfs at Gore Canyon.

We regularly observe low flow conditions at whitewater parks that we have designed, as well as at other parks that have RICD water rights. We often observe recreational use, including non-motorized boating, at these parks during low flow conditions. It is my opinion that beneficial use can and will occur at 90 cfs at Hot Sulphur Springs and 500 cfs at Gore Canyon whitewater parks. Although these flows may not facilitate the intended uses of the design, the structures will facilitate other decreed uses such as tubing.

Thank you,



Jason Carey, P.E.
Principal River Engineer
PO Box 2123
Glenwood Springs, CO 81602
970-947-9568
Jason.Carey@RiverRestoration.org

White & Jankowski

Lawyers

March 6, 2012

Counsel of Record
10CW298, Div. 5

Re: 10CW298: Supplemental Information
CRE 408 Communication

Dear Counsel:

As noted in Grand County's *Pre-meeting Statement to the Colorado Water Conservation Board* dated February 29, 2012, CWCB/SEO staff and its attorneys requested additional material on two issues prior to the Board's March meeting.

A. **Minimum rates for non-calling rates of flow.** Enclosed is a letter from Jason Carey providing additional information for the minimum rates in paragraphs 16 and 29 of the proposed decree.

B. **Demand after Labor Day.** Grand County has received a number of letters from river recreation enthusiasts establishing that there is significant demand for a whitewater park at the County's proposed location between Labor Day and October 15th. At the request of CWCB staff we are providing a sampling of these letters today (21 letters) and will bring the remaining letters and any additional letters we receive to the pre-meeting conference March 12, 2012.

Thank you for your consideration of this matter.

Sincerely,

Mitra Pemberton

White & Jankowski, L.L.P.
Kittredge Building, 511 Sixteenth Street, Suite 500, Denver, Colorado 80202
(303) 595-9441 Fax (303) 825-5632 mail@white-jankowski.com

CERTIFICATE OF SERVICE

I hereby certify that on this 6th day of March, 2012, a true and correct copy of **Letter to Counsel** for **Case 2010CW298, division 5**, was served by e-filing via LexisNexis File & Serve and addressed to the following:

*s/ Shirley Merryman

* Shirley Merryman, White & Jankowski, LLP
Efiled per C.R.C.P. 121
Duly signed original on file at White & Jankowski, LLP

Charles B. White, Esq. Petrros & White LLC [Summit County Board of Commissioners]	Timothy J. Beaton, Esq. Aaron S. Ladd, Esq. Patricia M. DeChristopher, Esq. Moses Wittemyer Harrison & Woodruff PC [Board of County Commissioners of Pitkin County]
Stanley W. Cazier, Esq. John D. Walker, Esq. [Middle Park Water Couservancy District] [Grand County Water & Sanitation District] [Winter Park Water & Sanitation District] [Town of Kremmling]	David A. Bailey, Esq. Carver Schwarz McNab & Bailey LLC [Grand County Mutual Ditch & Reservoir Company]
Robert V. Trout, Esq. Bennett W. Raley, Esq. Trout Raley Montano Witwer & Freeman PC [Northern Colorado WCD] [Municipal Subdistrict, Northern Colorado WCD]	Scott Balcomb, Esq. Christopher L. Geiger, Esq. Scott Grosscup, Esq. Balcomb & Green PC [Granby Realty Holdings LLC]
Richard A. Johnson, Esq. Stephen C. Larson, Esq. David F. Bower, Esq. Johnson & Repucci LLP [Winter Park Recreational Association] [Town of Winter Park]	Kristen C. Guerriero, Esq. Office of the Regional Solicitor US Dept of the Interior [United States – Dept of Interior – BLM]
Ramsey L. Kropf, Esq. Laura C. Makar, Esq. Patrick Miller & Kropf PC [Cornerstone Winter Park Holdings LLC] [Byers Peak Properties LLC] [C.Clark Lipscomb & Meredith C. Lipscomb]	Scott Steinbrecher, Esq. Susan J. Schneider, Esq. Attorney General Office [Colorado Water Conservation Board]
Amelia S. Whiting, Esq. [Trout Unlimited]	Casey S. Funk, Esq. Michael L. Walker, Esq. Daniel J. Arnold, Esq. [Denver Water]
Paul L. Benington, Esq. Scott Steinbrecher, Esq. Attorney General Office [State Engineer] [Division Engineer]	James W. Culichia, Esq. David M. Shohet, Esq. Felt Monson & Culichia LLC [CNL Income Granby LLC]
Peter C. Fleming, Esq. Jason V. Turner, Esq. [Colorado River Water Conservation District]	Christopher L. Thorne, Esq. Kylie J. Crandall, Esq. Holland & Hart LLP [Town of Fraser]
Mary M. Haumond, Esq. Karl D. Ohlsen, Esq. Carlson Hammond & Paddock LLC [Homestake Partners]	Richard L. Griffith, Esq. City Attorney's Office – Utilities Division [Colorado Springs Utilities]
Brian M. Nazarenus, Esq. Sheela S. Stack, Esq. Ryley Carlock & Applewhite [Climax Molybdenum Co]	

Initial Engineering Report

Case No. 2010CW298

Application by Grand County for Recreational In-Channel Diversion Water Rights for Hot Sulphur Springs and Gore Canyon Whitewater Parks

Prepared for the

Board of Grand County Commissioners
Hot Sulphur Springs, Colorado

June 2011

Submitted under C.R.E. 408

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1 Introduction

From its headwaters on the west side of Rocky Mountain National Park through Gore Canyon and past the Town of Radium, the Colorado River runs through the heart of Grand County, Colorado. Much of Grand County's spring and summer season tourism activities are focused on water-related recreational opportunities on the Colorado River. In particular, whitewater kayaking, canoeing and rafting have become popular activities. As part of its ongoing effort to improve water-based recreational and economic opportunities within the County, the Board of Grand County Commissioners has applied for conditional recreational in-channel diversion (RICD) water rights associated with two whitewater parks in and on the Colorado River: the Hot Sulphur Springs Whitewater Park and the Gore Canyon Whitewater Park.

The purpose of this report is to provide engineering support for County's application. This report focuses on the subjects of water availability and statutory and Colorado Water Conservation Board (CWCB) rule requirements related to Colorado's interstate compact entitlements, maximum utilization of water, and potential injury to instream flow rights.

Issues related to the selection of the recreational in-channel river reaches, the specific locations and hydraulic and design aspects of the individual RICD control structures, the specific recreational boating experiences to be provided by each RICD control structure, and the determination of the minimum flows required to provide the specific recreational boating experiences are addressed in a report by Jason P. Carey. P.E. (Carey, June 2011).

2 Proposed Water Rights

2.1 Original Application

On December 28, 2010, in Case No 2010CW298, Water Division 5, the Board of County Commissioners for Grand County applied for surface water rights for RICD structures to be located in the Hot Sulphur Springs Whitewater Park and the Gore Canyon Whitewater Park. A summary of the subject applied-for water rights is provided in Table 1. A copy of the County's Application is included in Attachment A.

The Hot Sulphur Springs Whitewater Park will be located on the Colorado River in Pioneer Park near the Town of Hot Sulphur Springs within portions of the south half of the southeast quarter of Section 3, Township 1 North, Range 78 West, 6th Principal Meridian, as shown in Figure 1. At the time of the County's application, at least two RICD control structures were proposed to be located within the Hot Sulphur Springs Whitewater Park stream reach.

The Gore Canyon Whitewater Park will be located on the Colorado River below Big Gore Canyon within portions of the west half of Section 7, Township 1 South, Range 81 West, 6th Principal Meridian, and within portions of the east half of Section 12, Township 1 South, Range 82 West, 6th Principal Meridian, as shown in Figure 2. At the time of the County's

application, at least two RICD control structures were proposed to be located within the Gore Canyon Whitewater Park stream reach.

2.2 Refinement of Proposed Water Rights

Since the application was submitted, the County has done additional work to refine its water rights claims. Two RICD control structures have been designed for each whitewater park. The Hot Sulphur Springs Whitewater Park will include the Glory Hole and the Hot Pocket RICD structures. The approximate locations of those structures, and their respective upstream and downstream limits of hydraulic influence, are shown in Figure 3. The Gore Canyon Whitewater Park will include the Inspiration and the Launch Counter RICD structures. The approximate locations of those structures, and their respective upstream and downstream limits of hydraulic influence, are shown in Figure 4.

The RICD control structures have been designed to provide different levels of recreational whitewater boating experience at different stream flow rates. The Glory Hole and the Hot Pocket RICD structures will each provide two levels of recreational experience, while the Inspiration and the Launch Counter RICD structures will each provide three levels of recreational experience. Hydraulic analysis and modeling was done as part of the design to determine the minimum stream flow rates needed to provide specific levels of recreational experience. The proposed RICD structures will provide a range of recreational experiences that have been characterized using the labeling convention commonly used at ski areas: green (beginner), blue (intermediate), black (advanced), and double-black (expert). The different levels of recreational experience to be provided by each proposed RICD structure and the minimum flow rates required for each level of recreational experience at each structure are shown in Table 2.

3 Water Availability and Seasonal Determination

The locations of the Hot Sulphur Springs and Gore Canyon Whitewater Parks within the regional setting of the Upper Colorado River basin in Colorado are shown on Figure 5.

Stream flows at the Hot Sulphur Springs Whitewater Park are significantly affected by trans-basin diversion projects including the Grand River Ditch (since 1892), the Fraser basin portion of the Moffat Tunnel Collection Project (since 1936), the Colorado-Big Thompson Project (since 1947), and the Windy Gap Diversion Project (since 1985); and by in-basin irrigation, domestic, municipal and industrial uses within the Fraser River basin and the Three Lakes area.

Stream flows at the Gore Canyon Whitewater Park are affected by the above-mentioned trans-basin diversion projects and in-basin uses; by additional trans-basin diversion projects including the Blue River Diversion Project (since 1935), the Roberts Tunnel (since 1962), Dillon Reservoir (since 1963) and the Williams Fork portion of the Moffat Tunnel Collection Project (since 1940); by regulation of water by Green Mountain Reservoir (since 1942),

Williams Fork Reservoir (since 1939) and Wolford Mountain Reservoir (since 1996); and by additional in-basin uses within the Blue River, Williams Fork, Muddy Creek and mainstem Colorado river basins.

3.1 Hot Sulphur Springs Whitewater Park

The Hot Sulphur Springs Whitewater Park will be located on the Colorado River adjacent to the Town of Hot Sulphur Springs. Flows in the Colorado River were measured at a location approximately 1.5 miles upstream of the Park by the Colorado River at Hot Sulphur Springs, Colorado stream gage, Station ID# 09034500, ("the Hot Sulphur Springs gage") operated by the U.S. Geological Survey during water years 1904 through 1994. The Hot Sulphur Springs gage has a drainage area of approximately 825 square miles and includes the headwaters of the Colorado River and the Willow Creek and Fraser River basins. Stream flows at the Hot Sulphur Springs gage reasonably represent the physical supply at the Hot Sulphur Springs Whitewater Park. The Hot Sulphur Springs gage includes more than 98% of the drainage area tributary to the Park. The remaining drainage includes Heimbaugh, Ute Bill and Gardiner Creeks, which have small and relatively low elevation drainage areas.

Since October 1, 1981, flows in the Colorado River have also been measured by the Colorado River at Windy Gap, near Granby, Colorado stream gage, Station ID# 09034250 ("the Windy Gap gage"). The Windy Gap gage has a drainage area of approximately 789 square miles, which includes more than 95% of the drainage area of the Hot Sulphur Springs gage. As shown in Figure 6, measured daily stream flows at the two gages are highly correlated. We therefore used daily stream flow records for the Windy Gap gage and the regression equation shown in Figure 6 to estimate daily stream flows at the Hot Sulphur Springs gage for water years 1995 through 2010.

For the purposes of determining water available for Grand County's proposed RICD rights for the Hot Sulphur Springs Whitewater Park, we used average daily stream flow records and estimated daily flows for the Hot Sulphur Springs gage for the years 1980 through 2010. As shown in Figure 7, this study period contains wet, average and dry years and is representative of stream flows at this location since diversion of flows by the Colorado-Big Thompson project began at Granby Reservoir in the fall of 1949. This study period also generally reflects current levels of upstream water development. We calculated the maximum, 75th percentile, average, median, 25th percentile and minimum daily flows for this study period as shown in Figure 8.

The Glory Hole and Hot Pocket RICD control structures each have two proposed recreational experience-specific flow rates associated with them. We compared the minimum flow rates required for each level of recreational experience at the Glory Hole and Hot Pocket RICD control structures in the Hot Sulphur Springs Whitewater Park to the daily flow statistics at the Hot Sulphur Springs gage for the 1980-2010 study period in order to determine the time periods for which sufficient water would be available. We generally assumed that the 75th percentile daily flow is a reasonable threshold for defining the beginning and end points of water availability for each recreation experience-specific flow rate during the rising and

falling limbs of the hydrograph. Such a threshold would provide sufficient flows for the specified recreational experience over the entire length of the resulting RICD flow season on the average of once in four years. This is a reasonable threshold because whitewater boaters regularly monitor flow conditions and travel significant distances on relatively short notice to take advantage of infrequent but desirable flow conditions. It should be noted that during most of their respectively proposed seasons, the recreation experience-specific RICD flow rates would be met more frequently than once in four years. The results of this comparison are shown in Figure 9 and Table 3 for the Glory Hole RICD control structure and in Figure 10 and Table 4 for the Hot Pocket RICD control structure.

There is sufficient water available at Hot Sulphur Springs Whitewater Park to satisfy the recreation-specific flow rates proposed for the Glory Hole and Hot Pocket RICD control structures for the time periods shown in Tables 3 and 4. Based upon this finding, Grand County proposes the RICD water rights for the Glory Hole and Hot Pocket RICD control structures as shown in Table 5.

Because the Windy Gap gage is located upstream of and relatively close to the Hot Sulphur Springs Whitewater Park and because there are no major intervening diversions between the gage and the Whitewater Park, the Windy Gap gage is adequate to administer the RICD rights proposed for the Hot Sulphur Springs Whitewater Park. The equation shown in Figure 6 should be applied to measured flows at the Windy Gap gage in order to estimate flows at the upper terminus of the Hot Sulphur Springs Whitewater Park.

3.2 Gore Canyon Whitewater Park

The Gore Canyon Whitewater Park will be located on the Colorado River approximately seven miles southwest of the Town of Kremmling. Flows in the Colorado River have been measured at a location approximately 4.7 miles upstream of the Park by the Colorado River near Kremmling, Colorado stream gage, Station ID# 09058000, ("the Kremmling gage") operated by the U.S. Geological Survey during water years 1905-1918, 1962-1970, and 1972 through the present. The Kremmling gage has a drainage area of approximately 2,382 square miles and includes the headwaters of the Colorado River and the Willow Creek, Fraser River, Williams Fork River, Blue River and Muddy Creek basins. Stream flows at the Kremmling gage reasonably represent the physical supply at the Gore Canyon Whitewater Park. The Kremmling gage includes more than 99% of the drainage area tributary to the Park. The remaining drainage includes Canyon Creek and a few small unnamed tributaries that have small and relatively low elevation drainage areas.

For the purposes of determining water available for Grand County's proposed RICD rights for the Gore Canyon Whitewater Park, we used average daily stream flow records for the Kremmling gage for the years 1980 through 2010. As shown in Figure 11, this study period contains wet, average and dry years and is representative of stream flows at this location since flow measurements resumed at the Kremmling gage in 1962. It also generally reflects current levels of upstream water development, including diversions by Dillon Reservoir and the Roberts Tunnel, the Hoosier Pass Tunnel and other projects. We calculated the maximum, 75th

percentile, average, median, 25th percentile and minimum daily flows for this study period as shown in Figure 12.

The Inspiration Point and Launch Counter RICD control structures each have three proposed recreational experience-specific flow rates associated with them. We compared the minimum flow rates required for each level of recreational experience at the Inspiration Point and Launch Counter RICD control structures in the Gore Canyon Whitewater Park to the daily flow statistics at the Kremmling gage for the 1980-2010 study period in order to determine the time periods for which sufficient water would be available. We generally assumed that the 75th percentile daily flow is reasonable threshold for defining the beginning and end points of water availability for the proposed RICD water rights during the rising and falling limbs of the hydrograph. Such a threshold would provide sufficient flows for the specified recreational experience over the entire length of the resulting RICD flow season on the average of once every four years. This is a reasonable threshold because whitewater boaters regularly monitor flow conditions and travel significant distances on relatively short notice to take advantage of infrequent but desirable flow conditions. It should be noted that during most of their respectively proposed seasons, the recreation experience-specific RICD flow rates would be met more frequently than once in four years. The results of this comparison are shown in Figure 13 and Table 6 for the Inspiration Point RICD control structure and in Figure 14 and Table 7 for the Launch Counter RICD control structure.

There is sufficient water available at Gore Canyon Whitewater Park to satisfy the recreation-specific flow rates proposed for the Inspiration Point and Launch Counter RICD control structures for the time periods shown in Tables 6 and 7. Based upon this finding, Grand County proposes the RICD water rights for the Inspiration Point and Launch Counter RICD control structures as shown in Table 8.

Because the Kremmling gage is located upstream of and relatively close to the Gore Canyon Whitewater Park and because there are no major intervening diversions between the gage and the Whitewater Park, the Kremmling gage is adequate to administer the RICD rights proposed for the Gore Canyon Whitewater Park. Measured flows at the Kremmling gage should be assumed to be available at the upper terminus of the Hot Gore Canyon Whitewater Park.

3.3 Volume of Appropriations

CRS 37-92-305 (13)(f) requires that, if the Water Court determines that the total volume of water represented by the flow rates decreed for an RICD exceeds fifty percent of the sum of the total average historical volume of water for the stream segment where the RICD is located for each day on which a claim is made, the decree shall: (i) specify that the state engineer shall not administer a call for the RICD unless the call would result in at least eighty-five percent of the decreed flow rate for the applicable time period; (ii) limit the RICD to no more than three time periods; and (iii) specify that each time period is limited to one flow rate

The statutorily defined volumes of water claimed under the proposed water rights for the four RICD structures are compared to the sum of the average historical daily flows at those

respective structures during the time periods claimed by the proposed water rights as shown in Table 9. The statutorily defined volumes claimed under each of the four proposed RICD rights would exceed 50% of the sum of the average historical daily flows at those respective structures during the time periods claimed by the proposed water rights. Therefore, these proposed RICD rights would be subject to the requirement that the state engineer shall not administer a call for any of the RICD rights unless the call would result in at least eighty-five percent of the decreed flow rate for the calling RICD right. Consistent with statutory requirements, the water right for each RICD structure has been limited to no more than three time periods with a single flow rate specified for each time period. Grand County's proposed draft decree also contains a term and condition that Grand County shall only call for a single flow rate at each Whitewater Park at any time.

4 Interstate Compacts

Colorado's statutes governing RICD rights require that, in determining whether a decree should be issued for a proposed RICD right, the Water Court shall consider evidence and make affirmative findings that the RICD right will not materially impair the ability of Colorado to fully develop and place to consumptive beneficial use its compact entitlements. In making its findings, the Water Court must consider the findings of the CWCB on this subject. Section 7(a) of the CWCB's RICD rules includes ten factors that the CWCB may consider in this regard. These factors are addressed in the discussion below.

The interstate compacts relevant to Grand County's proposed RICD rights are the Colorado River Compact of 1922 and the Upper Colorado River Compact of 1948. The Colorado River Compact allocates 7.5 million acre-feet (MAF) per year to the Upper Basin states, including Colorado. This allocation is subject to a requirement that the Upper Basin states deliver a running total of 75 MAF every ten years, plus a portion of Mexico's right to use water from the Colorado River if such right is not supplied by excess waters, to the Lower Basin States as measured at Lee Ferry. The Upper Colorado River Compact allocates to Colorado 51.75% of the Upper Basin states' net allocation after 50,000 acre-feet per year are first deducted for delivery to Arizona.

Thus, Colorado's entitlement to Colorado River water is not a fixed amount, but varies as a function of the long-term average natural flow of the Colorado River. Several entities have estimated the long-term average flow of the Colorado River based upon historical hydrology and paleoclimate information; those estimates range from 13.0 to 14.7 MAF. Based upon those estimates, Colorado's entitlement to Colorado River water would correspondingly range from approximately 2.8 to 3.7 MAF. According to the U.S. Bureau of Reclamation's Consumptive Uses and Losses Reports, in recent years Colorado has consumed an average of approximately 2.09 MAF per year. Mainstem reservoir evaporation in the Upper Colorado River basin has averaged approximately 0.46 MAF per year. Assuming that Colorado would bear a portion of that evaporation proportionate to its Upper Colorado River Compact allocation percentage, Colorado's remaining developable entitlement would range from approximately 0.5 to 1.4 MAF per year.

Neither the Compacts nor any state statutes or regulations apportion Colorado's entitlement between sub-basins within Colorado. Development of Colorado remaining unused entitlement could therefore occur within any of the Colorado River sub-basins within Colorado: Colorado, Yampa, White, Green/Little Snake, Dolores or San Juan depending demands for additional water, either locally or for trans-basin export.

The volumes of water claimed by Grand County at its proposed Hot Sulphur Springs and Gore Canyon Whitewater Parks are 72,570 acre-feet per and 322,271 acre-feet per year, respectively, as shown in Table 9. The volumes of water claimed are nonconsumptive and would be available to downstream water users. The drainage areas tributary to the Hot Sulphur Springs and Gore Canyon Whitewater Parks are approximately 840 square miles and 2,400 square miles, respectively. The proposed Hot Sulphur Springs and Gore Canyon Whitewater Parks are located more than 130 miles (by line of sight) and more than 200 river miles from the Colorado-Utah state line. In comparison, the total physical supply leaving Colorado in the Colorado, Yampa, White, Green/Little Snake, Dolores and San Juan sub-basins averages more than 8.7 MAF per year, according to the State Engineer's most recent graphical depiction of historical average annual stream flows (Attachment B), and the combined drainage area of those sub-basins is approximately 48,000 square miles. Thus Grand County's proposed RICD rights could potentially affect no more than 3.7% of the 8.7 MAF per year of water leaving Colorado in the Colorado River and its tributaries, out of which no more than 500,000 to 1,400,000 acre-feet per year of additional water may be developed. The lands upstream of Grand County's proposed Whitewater Parks comprise less than 5% of the combined drainage area from which the 8.7 MAF per year of water leaving Colorado originates and flows. Thus Grand County's proposed RICD rights could potentially affect less than 5% of Colorado's water development opportunities for utilizing its remaining Colorado River Compact entitlement.

Because of their senior priorities, upstream existing absolute and conditional water rights would not be affected by Grand County's proposed RICD water rights. As reflected in the long-term trend in annual flow at the Hot Sulphur Springs gage, most of the natural flow of the Colorado River upstream of the Hot Sulphur Springs Whitewater Park has already been appropriated and diverted out of the basin. Given the existing water rights and facilities of the Colorado-Big Thompson and Windy Gap projects and the Moffat Tunnel collection system, three are relatively few significant water development opportunities remaining upstream of the Hot Sulphur Springs Whitewater Park. The level of existing water development upstream of the Gore Canyon Whitewater Park is nearly as intense: the water rights and structures associated with the Williams Fork portion of the Moffat Tunnel collection system, Williams Fork Reservoir, Dillon Reservoir, the Roberts Tunnel, the Blue River Diversion Project and Wolford Reservoir, in combination with the water rights and structures located upstream of the Hot Sulphur Springs Whitewater Park, utilize nearly half of the natural flow of the Colorado River upstream of the Gore Canyon Whitewater Park.

Reasonably foreseeable exchange opportunities from points of substitute supply located downstream of Grand County's proposed RICD stream reaches to points of diversion located upstream of Grand County's proposed RICD stream reaches have already been appropriated

and would be senior to Grand County's claimed RICD rights. Grand County is also proposing additional terms and conditions in its proposed draft decree to allow for some additional upstream in-basin water development.

Grand County's claimed RICD rights will not materially impair Colorado's ability to fully use its Colorado River compact entitlements.

5 Maximum Utilization

Colorado's statutes governing RICD rights require that, in determining whether a decree should be issued for a proposed RICD right, the Water Court shall consider evidence and make affirmative findings that the RICD right will promote maximum utilization of waters of the state. In making its findings, the Water Court must consider the findings of the CWCB on this subject. Section 7(c) of the CWCB's RICD rules includes twenty factors that the CWCB may consider in this regard. These factors are addressed in the discussion below.

Grand County's claimed RICD rights will promote maximum utilization of waters of the state because they will be non-consumptive in nature and will provide for new beneficial uses of water for recreational purposes while not diminishing or impairing any existing or future downstream uses of water. Because Grand County's claimed RICD rights will be new water rights with 2010 appropriation dates, they will not affect any upstream existing absolute or conditional water rights. The stream systems upstream of Grand County's claimed RICD rights are already heavily appropriated, both for trans-basin exports and in-basin uses, and the probability of future large upstream junior direct flow or storage appropriations is relatively small. As previously mentioned, Grand County is also proposing additional terms and conditions in its proposed draft decree to allow for some additional upstream in-basin water development.

Issues related to reasonable and efficient means to divert, reasonable demand for recreational activity, depth and flow velocities of claims are addressed in Grand County's disclosures and the report by Jason P. Carey. P.E. (Carey, June 2011).

The water that would be claimed by the proposed RICD water rights would be comprised of a mixture of already appropriated natural flows that flow through the RICD stream segments to their downstream points of diversion, water released from upstream reservoirs, and some amount of unappropriated natural flows. None of the water claimed by the proposed RICD rights would be derived from imported water. While some of the historically available water is comprised of reservoir release water, such water has been and would continue to be released as part of the operation of existing water development projects and water rights that are utilized to meet existing water needs on both the Front Range and West Slope of Colorado. The fact that such reservoir release water would be part of the water available to satisfy the proposed RICD water rights is another example of maximum utilization of waters of the state.

Grand County's claimed RICD rights will promote maximum utilization of waters of the State of Colorado.

6 Instream Flow Rights

Colorado's statutes governing RICD rights require that, in determining whether a decree should be issued for a proposed RICD right, the Water Court shall consider evidence and make affirmative findings that the RICD right will not cause material injury to instream flow water rights appropriated pursuant to section 37-92-102(3) and (4).

Because Grand County's claimed RICD rights will be non-consumptive in nature, they will not diminish stream flows upstream, downstream or within the claimed reaches and will not cause material injury to existing instream flow rights, including the CWCB's instream flow right decreed in Case No. 80CW447 for 90 cfs in the Colorado River between the Windy Gap diversion dam and the confluence with the Williams Fork River. Issues related to potential construction-related impacts to instream flow rights are addressed in the report by Jason P. Carey. P.E. (Carey, Draft May 2011).

7 Conclusions

There is sufficient water available at Hot Sulphur Springs Whitewater Park to satisfy the recreation-specific flow rates proposed for the Glory Hole and Hot Pocket RICD control structures for the time periods shown in Tables 3 and 4.

There is sufficient water available at Gore Canyon Whitewater Park to satisfy the recreation-specific flow rates proposed for the Inspiration Point and Launch Counter RICD control structures for the time periods shown in Tables 6 and 7

Grand County's claimed RICD rights will not materially impair Colorado's ability to fully use its Colorado River compact entitlements.

Grand County's claimed RICD rights will promote maximum utilization of waters of the State of Colorado.

Because Grand County's claimed RICD rights will be non-consumptive in nature, they will not diminish stream flows upstream, downstream or within the claimed reaches and will not cause material injury to instream flow rights.

8 References

1. Colorado River Outfitters Association. Commercial River Use in the State of Colorado, 1988-2010.

2. Jason P. Cary, P.E. Design Engineering Report, Case No. 2010-CW-298, Grand County's Recreational In-Channel Diversion Water Rights for the Colorado River, June 2011

3. Draft Findings of Fact, Conclusions of Law, Judgment, and Decree of the Water Court, Case No.: 2010CW298, June 30, 2011

4. Compilation of Records of Surface Waters of the United States through September 1950, Part 9. Colorado River Basin. U.S. Geological Survey Water Supply Paper 1313.

5. Surface Water Supply of the United States, 1961-1965, Part 9. Colorado River Basin. U.S. Geological Survey Water Supply Paper 1924.

6. Selected Streamflow Records, Colorado Decision Support System.

7. U.S. Bureau of Reclamation, 2007. Upper Colorado River Basin Consumptive Uses and Losses Report 2001-2005 (Provisional), June 2007.

8. U.S. Bureau of Reclamation, 2010. Upper Colorado River Basin Consumptive Uses and Losses Report 2006-2010 (Provisional), November 2010.

9. U.S. Bureau of Reclamation Climate Technical Work Group, August 21, 2007. Review of Science and Methods for Incorporating Climate Change Information into Reclamation's Colorado River Basin Planning Studies (Final Report).

10. Colorado Division of Water Resources, 2011. Colorado Historical Average Annual Stream Flows (2011 Revision).

Figure 1: Hot Sulphur Springs Whitewater Park

Figure 2: Gore Canyon Whitewater Park

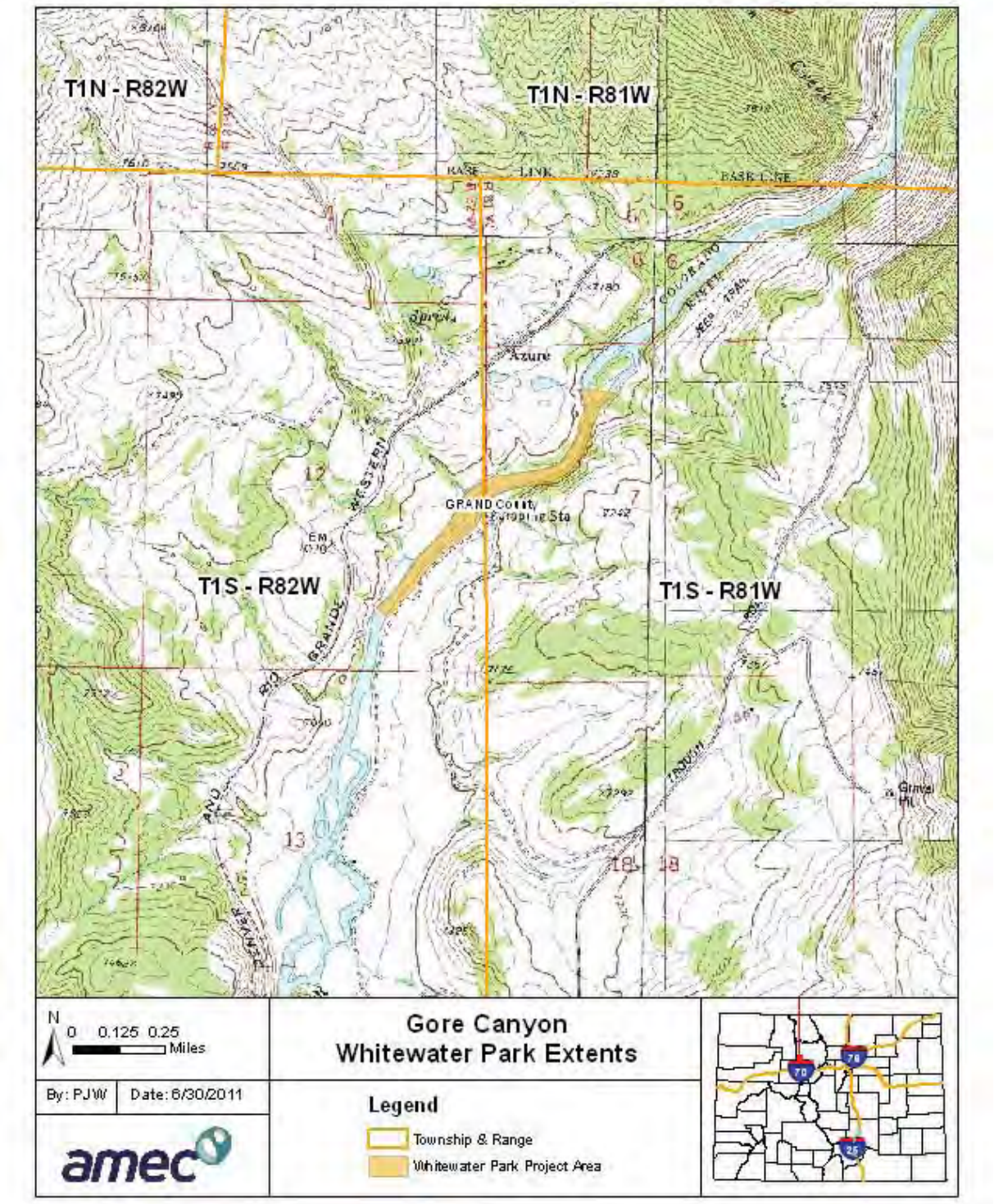

Figure 3: Locations of RICD Control Structures, Hot Sulphur Springs Whitewater Park

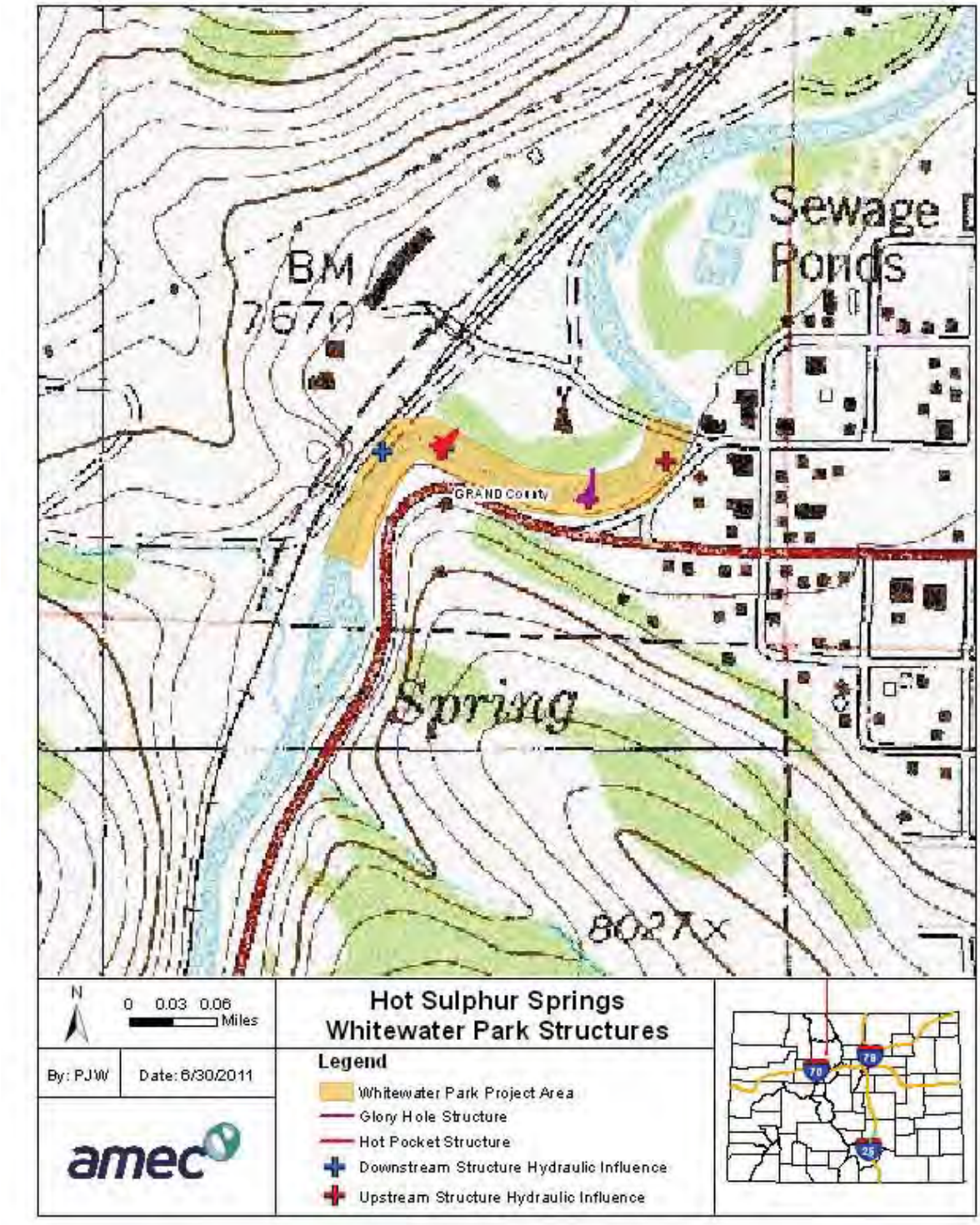

Figure 4: Locations of RICD Control Structures, Gore Canyon Whitewater Park

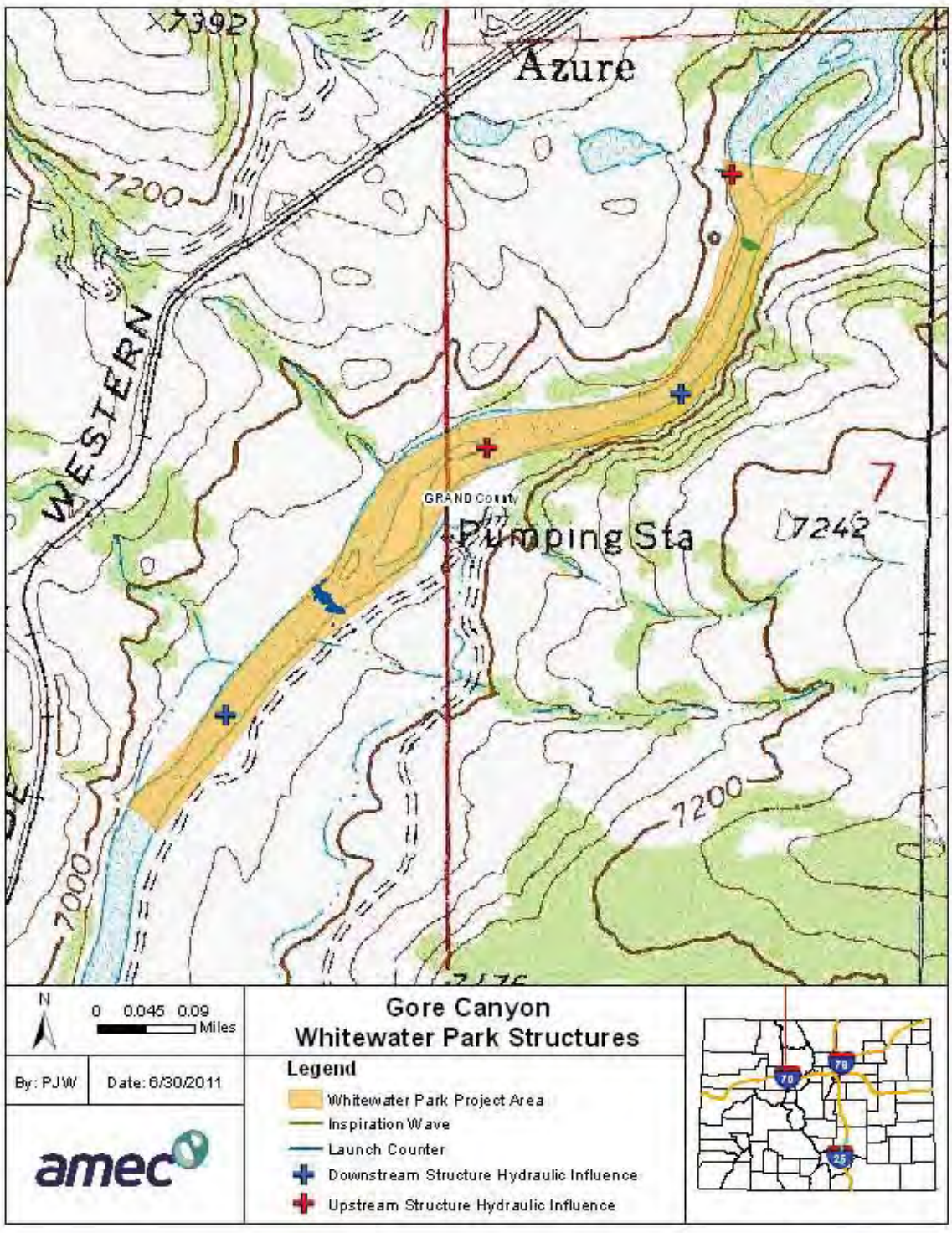

Figure 5: Locations of Hot Sulphur Springs and Gore Canyon Whitewater Parks within Upper Colorado River Basin

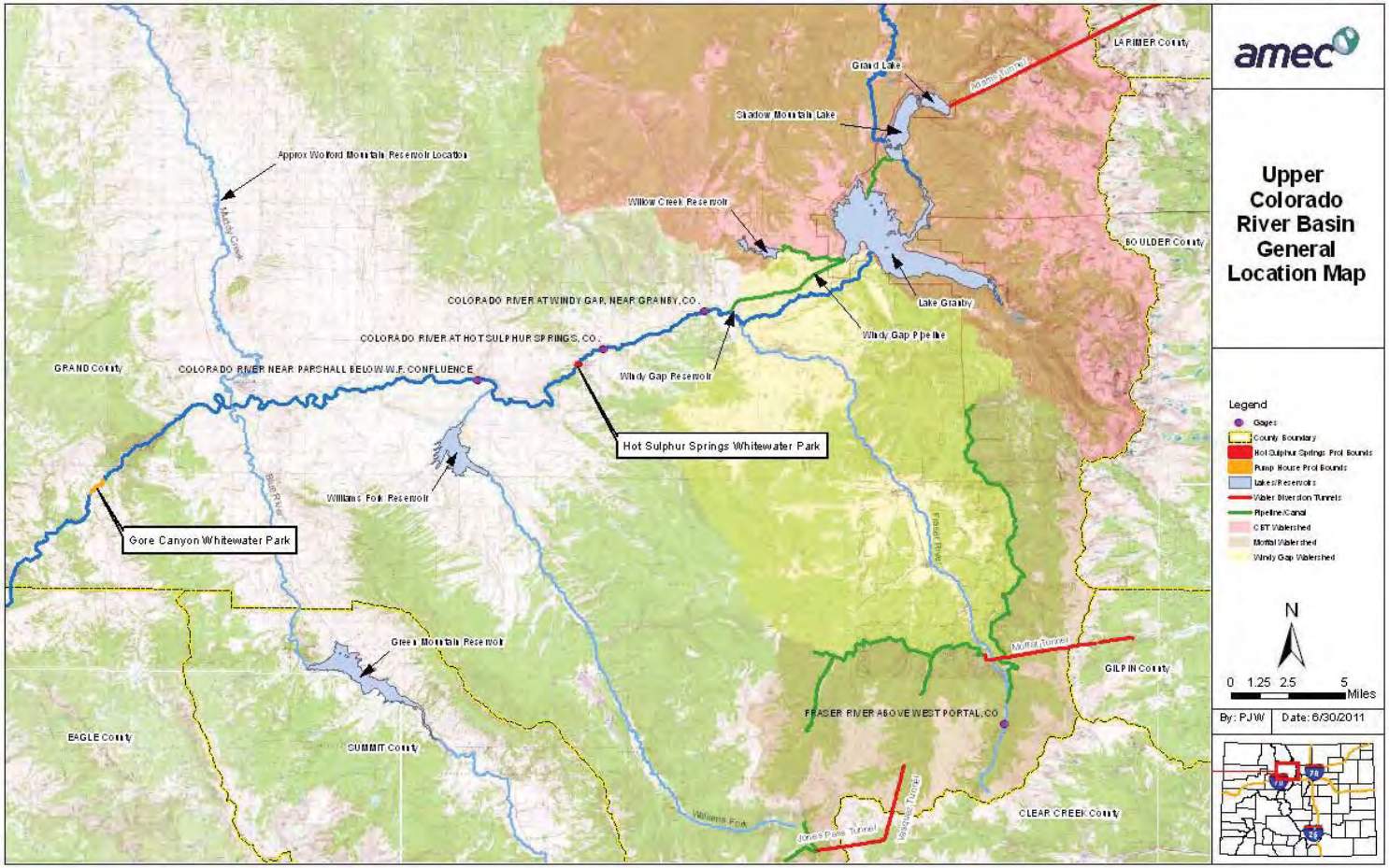

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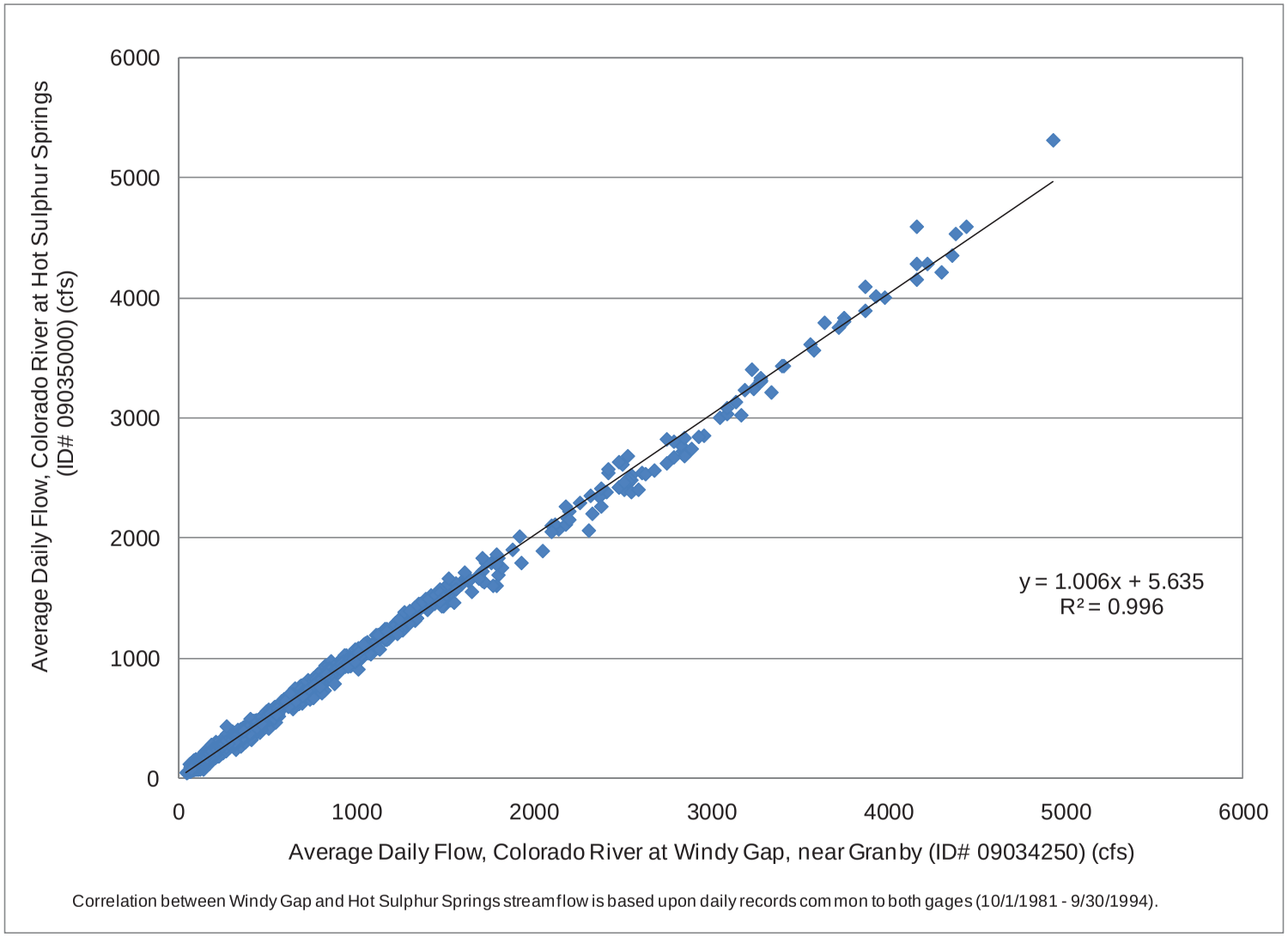
Figure 6: Correlation of Average Daily Flows, Colorado River at Hot Sulphur Springs and at Windy Gap



Correlation between Windy Gap and Hot Sulphur Springs streamflow is based upon daily records common to both gages (10/1/1981 - 9/30/1994).

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Fax +1 (303) 442-0616

Figure 7: Historical Flows and Selected Study Period, Colorado River at Hot Sulphur Springs

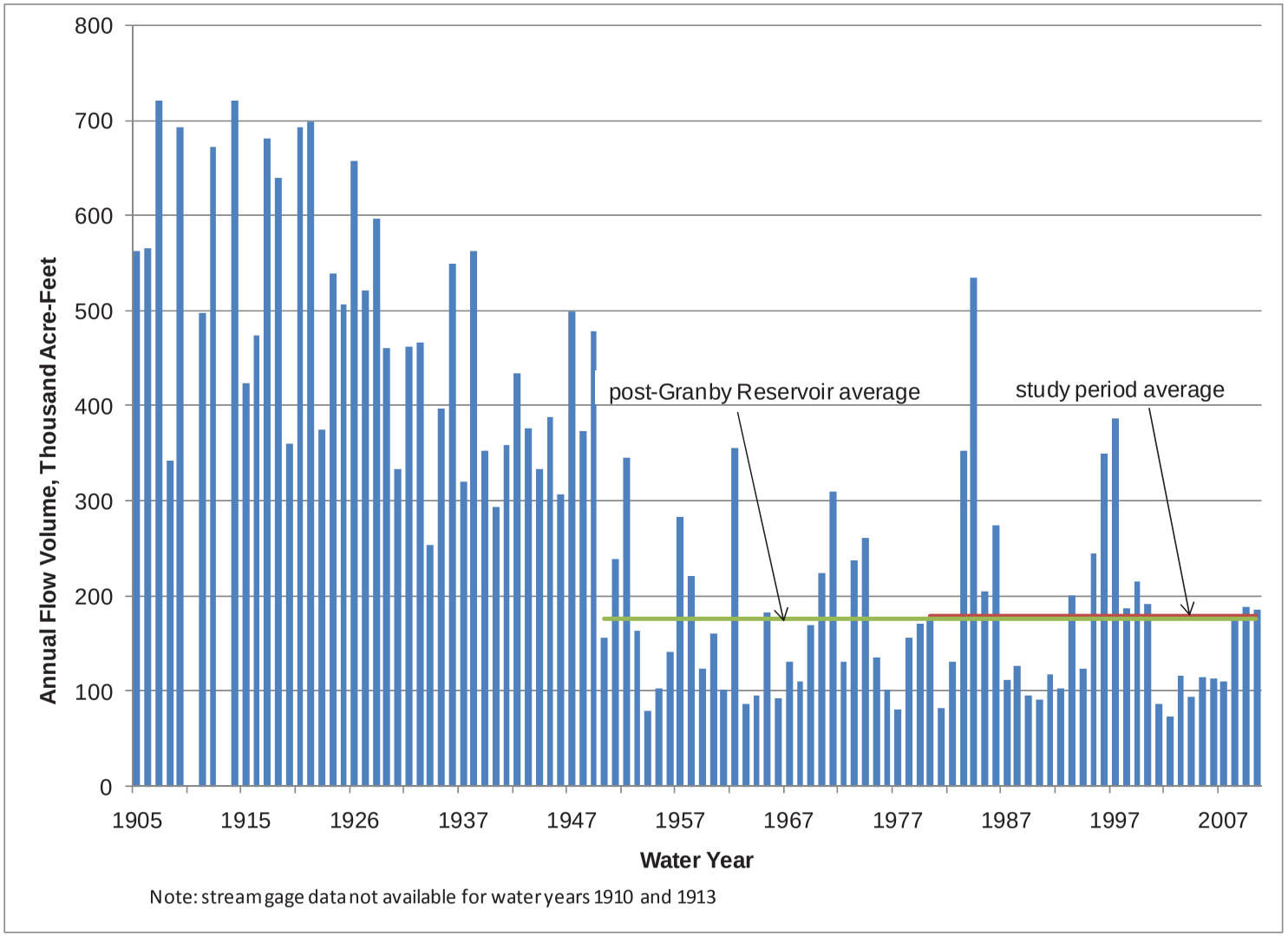
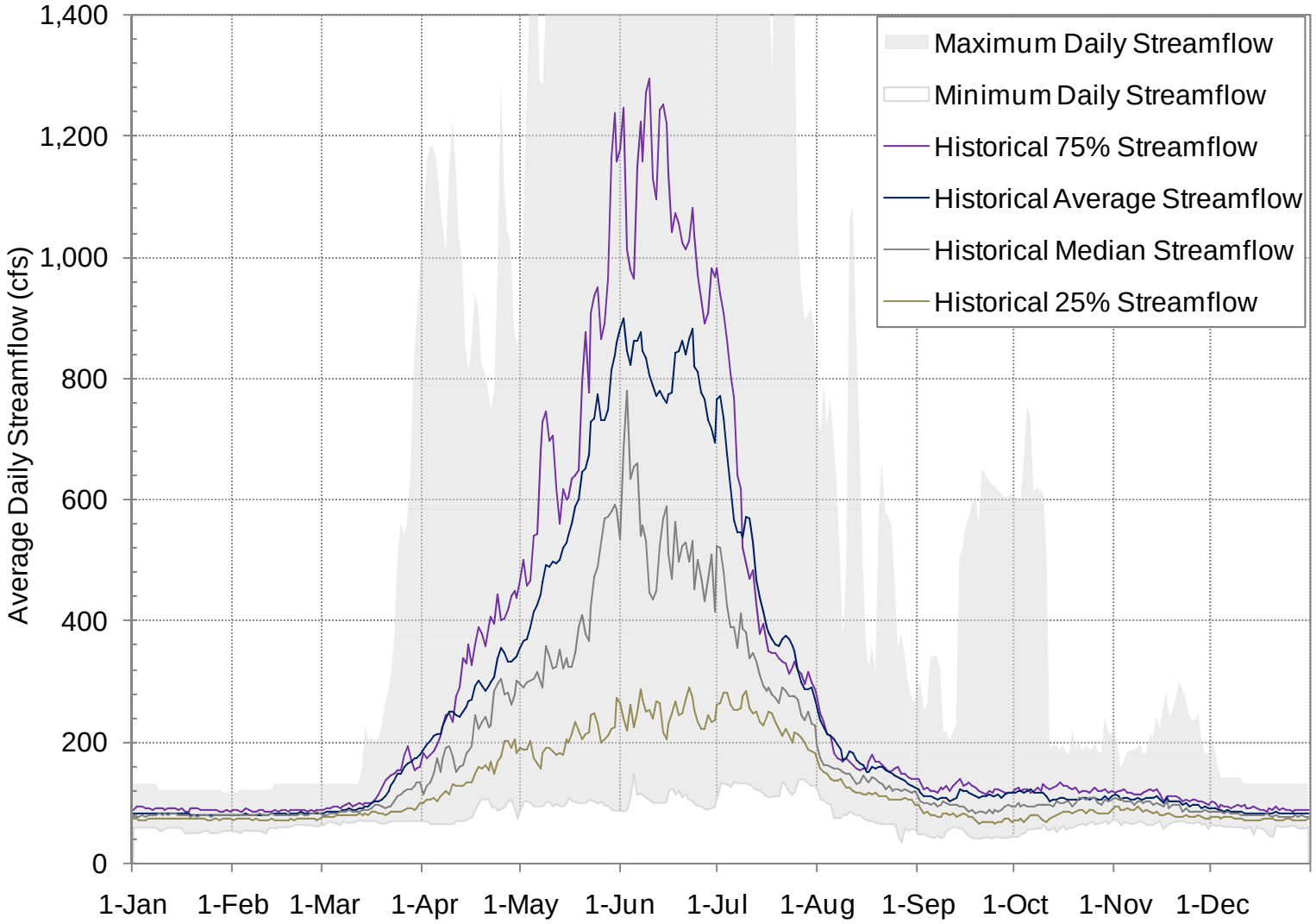


Figure 8: Daily Stream Flow Statistics, Colorado River at Hot Sulphur Springs, 1980-2010



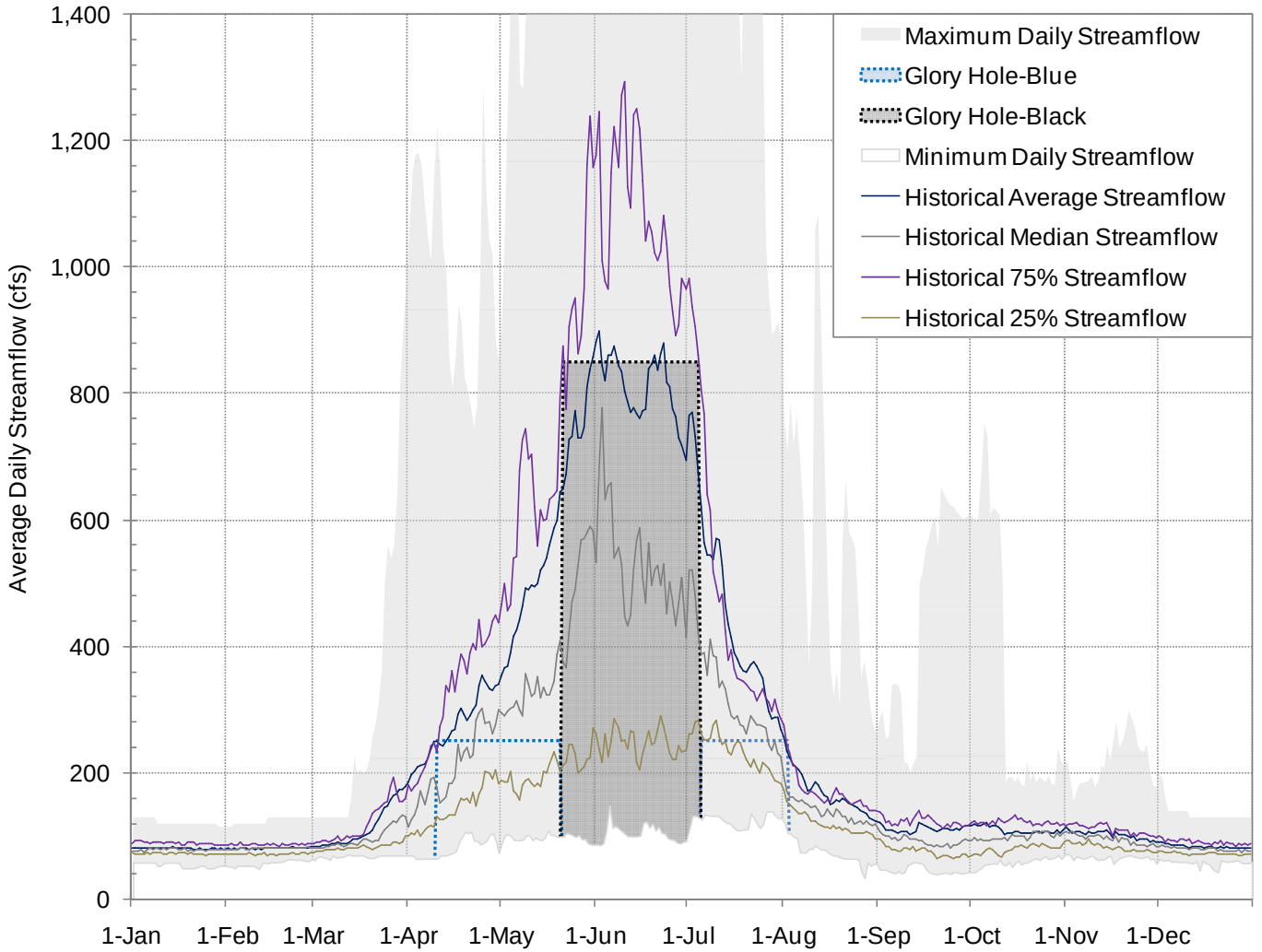
AMEC Earth & Environmental
Boulder Office
1002 Walnut Street, Suite 200
Boulder, CO 80302

Submitted under C.R.E.408

www.amec.com

Tel +1 (303) 443-7839
Fax +1 (303) 442-0616

Figure 9: Comparison of Minimum Required Flows for Glory Hole RICD Structure to Daily Flow Statistics at Colorado River at Hot Sulphur Springs



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Boulder, CO 80302

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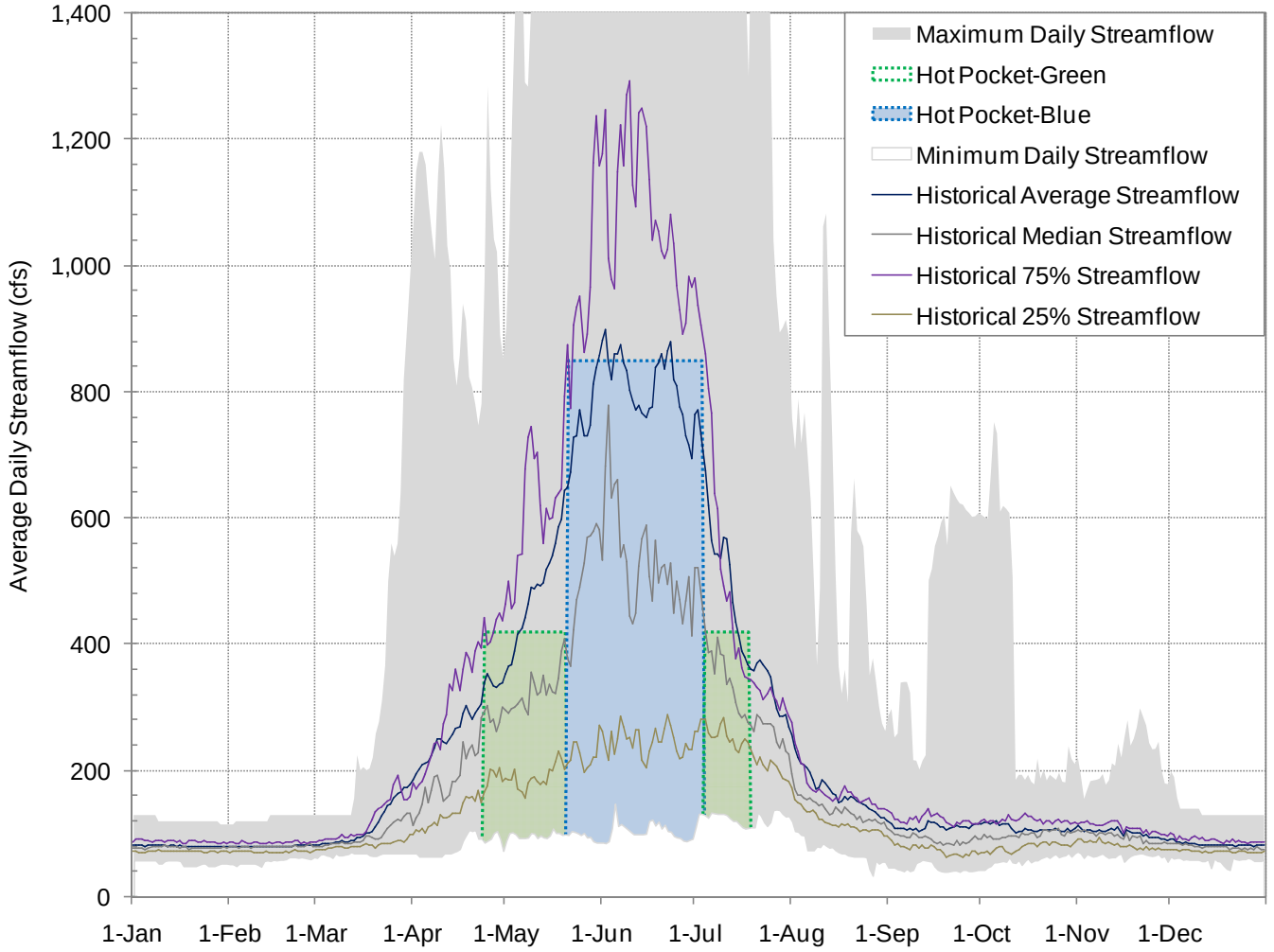
Fax +1 (303) 442-0616

Figure 10: Comparison of Minimum Required Flows for Hot Pocket RICD Structure to Daily Flow Statistics at Colorado River at Hot Sulphur Springs



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Tel +1 (303) 443-7839
Fax +1 (303) 442-0616

Figure 11: Historical Flows and Selected Study Period, Colorado River near Kremmling

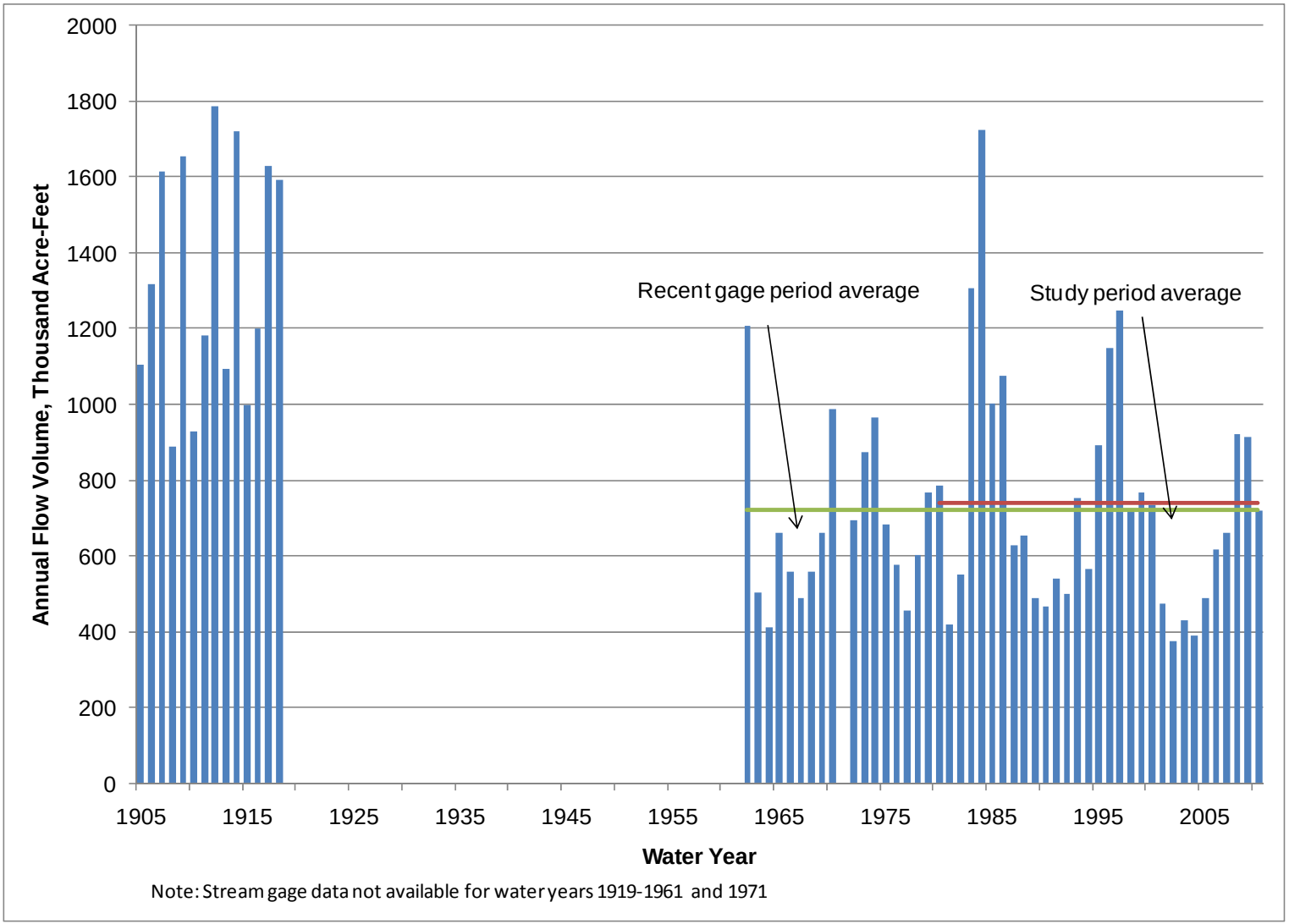
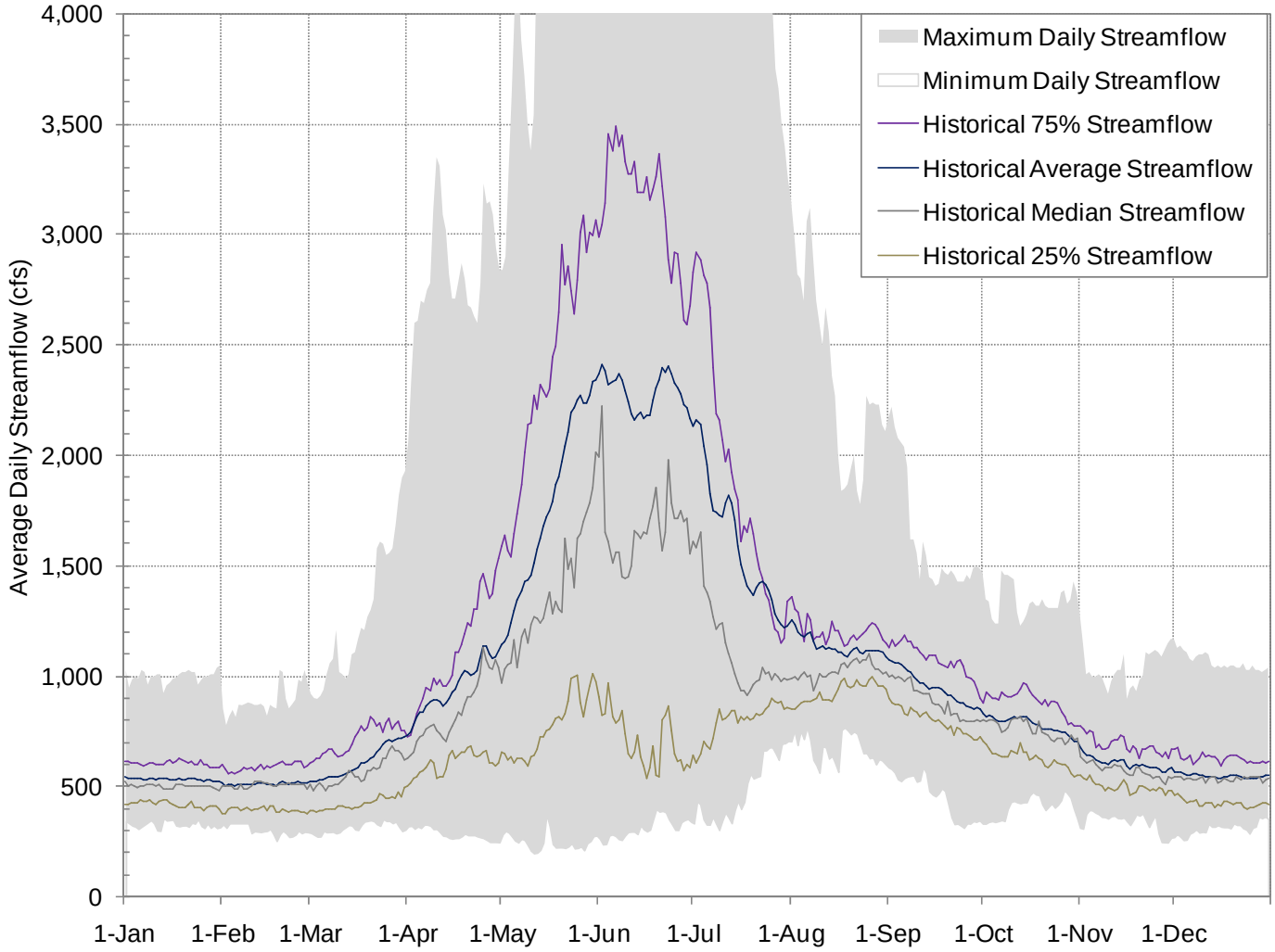


Figure 12: Daily Stream Flow Statistics, Colorado River near Kremmling, 1980-2010



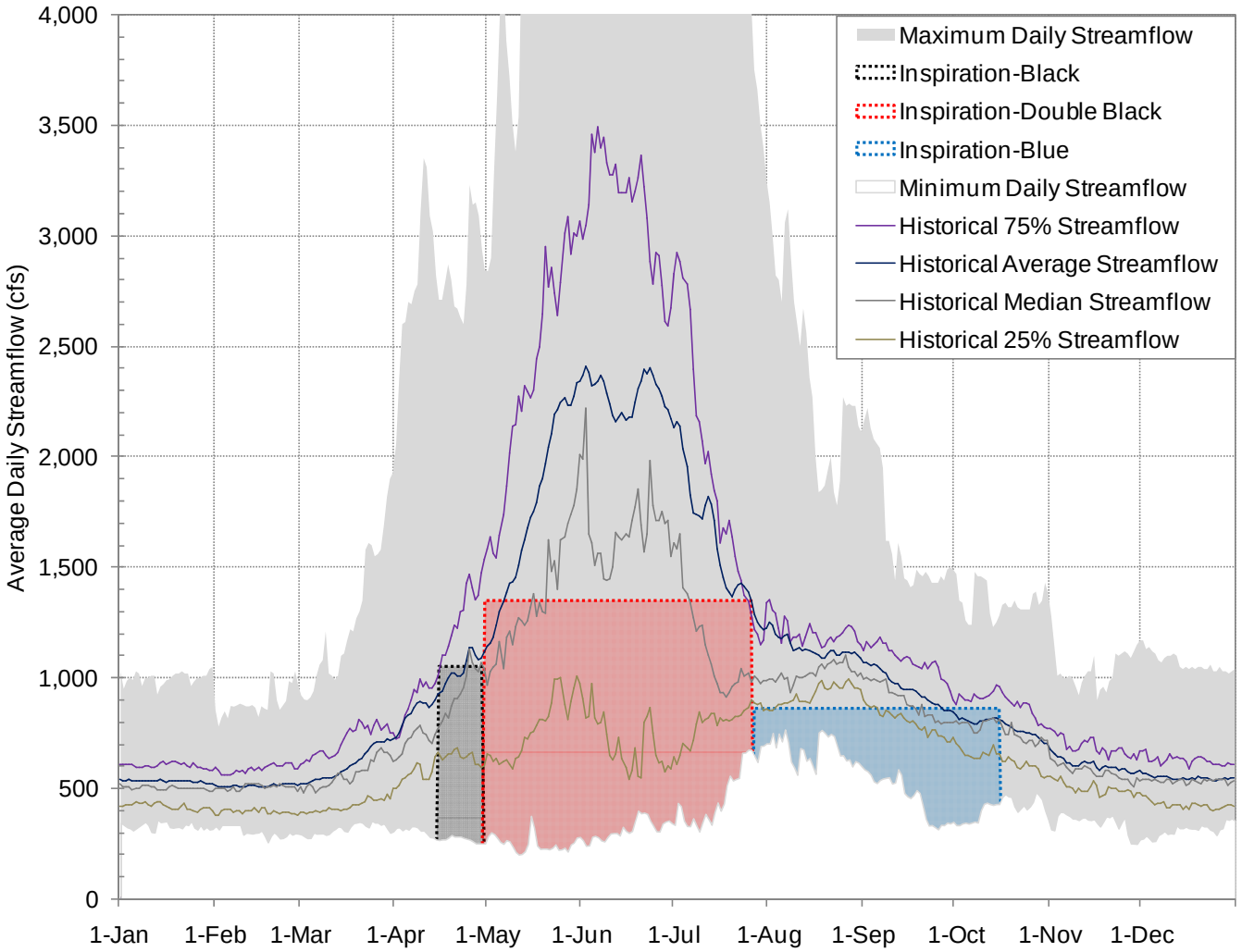
AMEC Earth & Environmental
Boulder Office
1002 Walnut Street, Suite 200
Boulder, CO 80302

Submitted under C.R.E.408

www.amec.com

Tel +1 (303) 443-7839
Fax +1 (303) 442-0616

Figure 13: Comparison of Minimum Required RICD Flows for Inspiration Point RICD Structure to Daily Flow Statistics at Colorado River near Kremmling



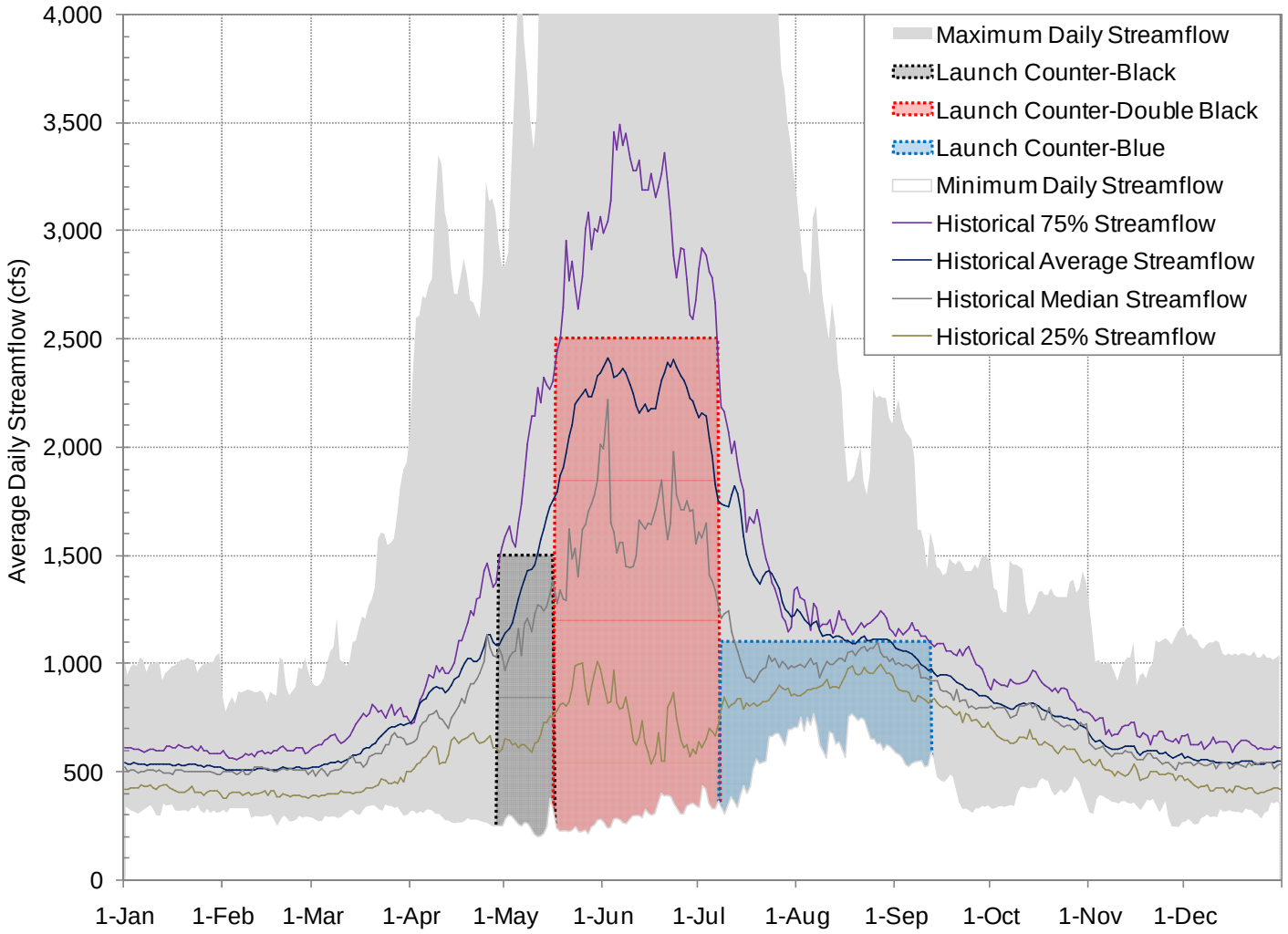
AMEC Earth & Environmental
Boulder Office
1002 Walnut Street, Suite 200
Boulder, CO 80302

Submitted under C.R.E.408

www.amec.com

Tel +1 (303) 443-7839
Fax +1 (303) 442-0616

Figure 14: Comparison of Minimum Required RICD Flows for Launch Counter RICD Structure to Daily Flow Statistics at Colorado River near Kremmling



AMEC Earth & Environmental
Boulder Office
1002 Walnut Street, Suite 200
Boulder, CO 80302

www.amec.com

Tel +1 (303) 443-7839
Fax +1 (303) 442-0616

Table 1: Summary of RICD Water Rights Applied for by Grand County in Case No. 2010CW298

Location	Flow Rate	Season	Appropriation Date
Hot Sulphur Springs Whitewater Park	900 cfs	April 1 - October 15	December 21, 2010
Gore Canyon Whitewater Park	2500 cfs	April 1 - October 15	December 21, 2010

The proposed beneficial use for each water right includes all recreational uses in and on the Colorado River including without limitation, boating, rafting, kayaking, tubing, floating, canoeing, paddling, and all other non-motorized recreational uses.

Table 2: Recreational Experiences and Associated Flow Rates for RICD Structures

Table 2: Recreational Experiences and Associated Flow Rates for RICD Control Structures

Location	RICD Control Structure	Recreational Experience Level	Flow Rate (cfs)
Hot Sulphur Springs Whitewater Park	Glory Hole	Blue	250
		Black	850
	Hot Pocket	Green	420
		Blue	850
Gore Canyon Whitewater Park	Inspiration Point	Blue	860
		Black	1,050
		Double-Black	1,350
	Launch Counter	Blue	1,100
		Black	1,500
		Double-Black	2,500

Flow rates are the minimum rates required for the specified levels of experience.

Table 3: Summary of Water Availability Analysis for Recreational Experience-Specific Flow Rates, Glory Hole RICD Control Structure

Time Period	April 10 - May 20	May 21 - July 4	July 5 - August 2
Flow Rate (cfs)	250	850	250
Recreational Use Level	Blue (early season)	Black	Blue (late season)
Duration (days)	40	44	28

Table 4: Summary of Water Availability Analysis for Recreational Experience-Specific Flow Rates, Hot Pocket RICD Control Structure

Time Period	April 24 - May 20	May 21 - July 4	July 5 - July 18
Flow Rate (cfs)	420	850	420
Recreational Use Level	Green (early season)	Blue	Green (late season)
Duration (days)	26	43	14

Table 5: Summary of Refined RICD Water Rights for Hot Sulphur Springs Whitewater Park, Case No. 2010CW298

RICD Water Right for Glory Hole Control Structure

Time Period	April 10 - May 20	May 21 - July 4	July 5 - August 2
Flow Rate (cfs)	250	850	250
Recreational Use Level	Blue (early season)	Black	Blue (late season)
Duration (days)	40	44	28

RICD Water Right for Hot Pocket Control Structure

Time Period	April 24 - May 20	May 21 - July 4	July 5 - July 18
Flow Rate (cfs)	420	850	420
Recreational Use Level	Green (early season)	Blue	Green (late season)
Duration (days)	26	43	14

Table 6: Summary of Water Availability Analysis for Recreational Experience-Specific Flow Rates, Inspiration Point RICD Control Structure

Time Period	April 15 - April 29	April 30 - July 26	July 27 - October 15
Flow Rate (cfs)	1,050	1,350	860
Recreational Use Level	Black	Double Black	Blue
Duration (days)	14	87	80

Table 7: Summary of Water Availability Analysis for Recreational Experience-Specific Flow Rates, Launch Counter RICD Control Structure

Time Period	April 29 - May 16	May 17 - July 7	July 8 - September 12
Flow Rate (cfs)	1,500	2,500	1,100
Recreational Use Level	Black	Double Black	Blue
Duration (days)	17	51	66

Table 8: Summary of Refined RICD Water Rights for Gore Canyon Whitewater Park, Case No. 2010CW298

RICD Water Right for Inspiration Point Control Structure

Time Period	April 15 - April 29	April 30 - July 26	July 27 - October 15
Flow Rate (cfs)	1,050	1,350	860
Recreational Use Level	Black	Double Black	Blue
Duration (days)	14	87	80

RICD Water Right for Lauch Counter Control Structure

Time Period	April 29 - May 16	May 17 - July 7	July 8 - September 12
Flow Rate (cfs)	1,500	2,500	1,100
Recreational Use Level	Black	Double Black	Blue
Duration (days)	17	51	66

Table 9: Comparison of RICD Water Volumes Claimed to Average Stream Flows

	Hot Sulphur Springs Whitewater Park			Gore Canyon Whitewater Park		
	Glory Hole	Hot Pocket	Maximum of Both Rights	Inspiration Point	Launch Counter	Maximum of Both Rights
Total Volume of Water Claimed (AF)[(1)]:	64,505	63,684	72,570	236,279	266,930	322,271
Total Volume of Water Claimed Based on Statutory Definition (AF)[(2)]:	110,580	109,172	124,405	405,051	457,593	552,464
Average Streamflow Volume During Claimed Time Periods (AF):	125,392	108,263		526,844	441,894	
Percent of Average Streamflow Volume Claimed (based on statutory definition):	88%	101%		77%	104%	

(1) Grand County has proposed terms and conditions that would limit its claims for RICD flow rates to the hours of 6am to 8pm.

(2) CRS 37-92-305 (13)(f) requires a comparison of the total volume of water represented by the flow rates decreed for the recreational in-channel diversion to the sum of the total average historical volume of water for the stream segment where the recreational in-channel diversion is located for each day on which a claim is made. For the purpose of this comparison, CRS 37-92-305 (13)(e) defines "the total volume of water represented by the flow rates decreed for the recreational in-channel diversion" as the the sum of the flow rates claimed in cubic feet per second for each day on which a claim is made multiplied by 1.98.

Attachment A:

Application for Case No. 2010CW298,
District Court, Water Division 5, Colorado

DISTRICT COURT, WATER DIVISION 5, COLORADO 109 8th Street, Suite 104 Glenwood Springs, CO 81601	EFILED Document CO Garfield County District Court 9th JD Filing Date: Dec 28 2010 11:45AM MST Filing ID: 35080527 Review Clerk: Kathy Hall
CONCERNING THE APPLICATION FOR WATER RIGHTS OF THE BOARD OF COMMISSIONERS FOR THE COUNTY OF GRAND, COLORADO IN GRAND COUNTY, COLORADO	▲ Court Use Only ▲ Case No.: 2010CW 298
David C. Taussig, #16606 Mitra M. Pemberton, #37833 Matthew L. Merrill, #37918 WHITE & JANKOWSKI, LLP 511 Sixteenth Street, #500 Denver, Colorado 80202 Tele: (303) 595-9441 Fax: (303) 825-5632 Davet@white-jankowski.com mitrap@white-jankowski.com matthewm@white-jankowski.com	

APPLICATION FOR SURFACE WATER RIGHTS FOR RECREATIONAL IN-CHANNEL DIVERSIONS

1. **Name, address and telephone number of applicant:**

   Board of Commissioners for the County of Grand, State of Colorado
   c/o Lurline Underbrink Curran, County Manager
   P.O. Box 264
   Hot Sulphur Springs, CO 80451
   (970) 725-3347

   Please send copies of all pleadings to:

   David C. Taussig, Mitra M. Pemberton, Matthew L. Merrill
   White & Jankowski, LLP
   511 Sixteenth Street, #500
   Denver, CO 80202

2. **Introduction:** As part of its ongoing effort to improve water-based recreational and economic opportunities for its citizens and the general public, the Board of County

Commissioners for the County of Grand, State of Colorado ("Grand County" or "Applicant") is applying for confirmation of conditional water rights associated with two whitewater parks in and on the Colorado River: the Hot Sulphur Springs Whitewater Park and the Gore Canyon Whitewater Park.

3. **Names of Structures:** Hot Sulphur Springs Whitewater Park and Gore Canyon Whitewater Park.

4. **Surface Water Right for Recreational In-Channel Diversion: Hot Sulphur Springs Whitewater Park.**

   a. **Legal Description:** The Hot Sulphur Springs Whitewater Park will be located in and on the Colorado River in Pioneer Park near the Town of Hot Sulphur Springs, Colorado in part of the S½ of the SE¼ of Section 3, T. 1 N., R. 78 W., 6th P.M. The project boundaries for the Hot Sulphur Springs Whitewater Park are shown on the map attached as Exhibit A. The Hot Sulphur Springs Whitewater Park will include at least two control structures in the area identified on Exhibit A.

   b. **Source:** Colorado River.

   c. **Date of Appropriation:** December 21, 2010.

   d. **How appropriation was initiated:** By formation of the requisite intent to appropriate combined with actions manifesting and providing notice of that intent, including but not limited to, the Applicant's Resolution No. 2010-12-33, December 21, 2010 and Resolution No. 2010-12-41, dated December 28, 2010, public meetings, posting notice of the appropriation at the Hot Sulphur Springs Whitewater Park, and the filing of this application.

   e. **Date Water Applied to Beneficial Use:** Not applicable. This claim is for a conditional water right.

   f. **Amounts Claimed (Conditional):**

Season	**Flows**
April 1 – October 15	Not to exceed 900 cfs

Applicant hereby reserves the right and gives notice to all interested parties that it will further refine the time periods and flow rates for the Hot Sulphur Springs Whitewater Park and provide such information to the CWCB and Objectors, but Applicant's water rights associated with the Hot Sulphur Springs Whitewater Park will not exceed the above-listed flow rate nor extend beyond the season listed.

g. **Use:** All recreational uses in and on the Colorado River including without limitation, boating, rafting, kayaking, tubing, floating, canoeing, paddling, and all other non-motorized recreational uses.

5. **Surface Water Right for Recreational In-Channel Diversion: Gore Canyon Whitewater Park**

a. **Legal Description:** The Gore Canyon Whitewater Park will be located in and on the Colorado River below Big Gore Canyon in parts of the W½ of Section 7, T. 1 S., R. 81 W., 6th P.M. and the E½ of Section 12, T. 1 S., R. 82 W., 6th P.M. The project boundaries for the Gore Canyon Whitewater Park are shown on the map attached as Exhibit B. The Gore Canyon Whitewater Park will include at least two control structures in the area identified on Exhibit B.

b. **Source:** Colorado River.

c. **Date of Appropriation:** December 21, 2010.

d. **How appropriation was initiated:** By formation of the requisite intent to appropriate combined with actions manifesting and providing notice of that intent, including but not limited to, the Applicant's Resolution No. 2010-12-33, dated December 21, 2010 and Resolution No. 2010-12-41, dated December 28, 2010, public meetings, posting notice of the appropriation at the Gore Canyon Whitewater Park, and the filing of this application.

e. **Date Water Applied to Beneficial Use:** Not applicable. This claim is for a conditional water right.

f. **Amounts Claimed (Conditional):**

Season	Flows
April 1 – October 15	Not to exceed 2,500 cfs

Applicant hereby reserves the right and gives notice to all interested parties that it will further refine the time periods and flow rates for the Gore Canyon Whitewater Park and provide such information to the CWCB and Objectors, but Applicant's water rights associated with the Gore Canyon Whitewater Park will not exceed the above-listed flow rate nor extend beyond the season listed.

g. **Use:** All recreational uses in and on the Colorado River including without limitation, boating, rafting, kayaking, tubing, floating, canoeing, paddling, and all other non-motorized recreational uses.

6. **General Remarks:**

a. On information and belief and based upon the Grand County Assessor records, the names and addresses of owners of land upon which the Whitewater Parks will be located are:

i. Gore Canyon Whitewater Park: Bureau of Land Management, Kremmling Field Office, 2103 E. Park Avenue, P.O. Box 68, Kremmling, Colorado 80459.

ii. Hot Sulphur Springs Whitewater Park: Town of Hot Sulphur Springs, 513 Aspen St, Box 116, Hot Sulphur Springs, Colorado 80451.

b. This application is made pursuant to, *inter alia*, Colo. Const. Art. XVI, § 5 Art. XVI, § 6, and C.R.S. §§ 37-92-101, et seq. Pursuant to C.R.S. § 37-92-102(5), within 30 days of filing this application, Applicant will submit a copy of the application to Colorado Water Conservation Board for review.

Respectfully submitted this 28th day of December, 2010.

WHITE & JANKOWSKI, LLP

By: *S/ David C. Taussig

*David C. Taussig
Mitra M. Pemberton
Matthew L. Merrill

Efiled per C.R.C.P. 121
Duly signed copy on file at White & Jankowski, LLP

ATTORNEYS FOR BOARD OF COUNTY COMMISSIONERS FOR GRAND COUNTY, COLORADO

VERIFICATION

STATE OF COLORADO)
) SS
COUNTY OF GRAND)

I, James L. Newberry, Chairman for the Board of County Commissioners for the County of Grand, State of Colorado state under oath that I have read this Application and verify its content.

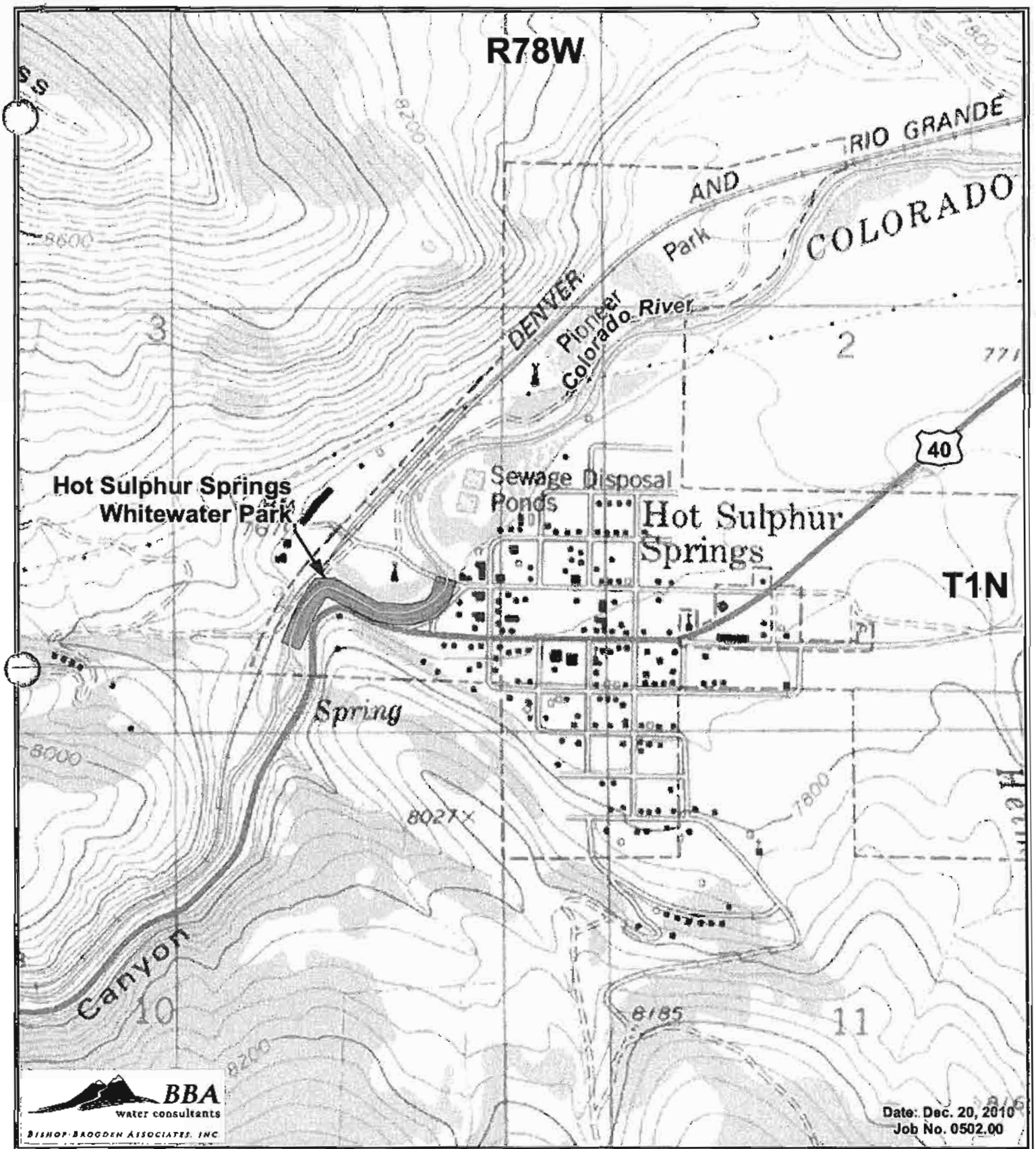
S/ James L. Newberry
James L. Newberry
E-filed per C.R.C.P. 121
Duly signed original on file at White & Jankowski, LLP

Subscribed under oath before me on December 28, 2010

My commission expires: n/a.

S/ Tara L. Lovato
~~Notary Public~~ Grand County Clerk + Recorder
E-filed per C.R.C.P. 121
Duly signed original on file at White & Jankowski, LLP

Address: P.O. Box 120
Hot Sulphur Springs, CO
80451



BBA water consultants
Bishop-Brogden Associates, Inc

Date: Dec. 20, 2010
Job No. 0502.00

Legend
- Whitewater Park Project Area
- Township & Range

Exhibit A
Hot Sulphur Springs Whitewater Park

N
W E
S

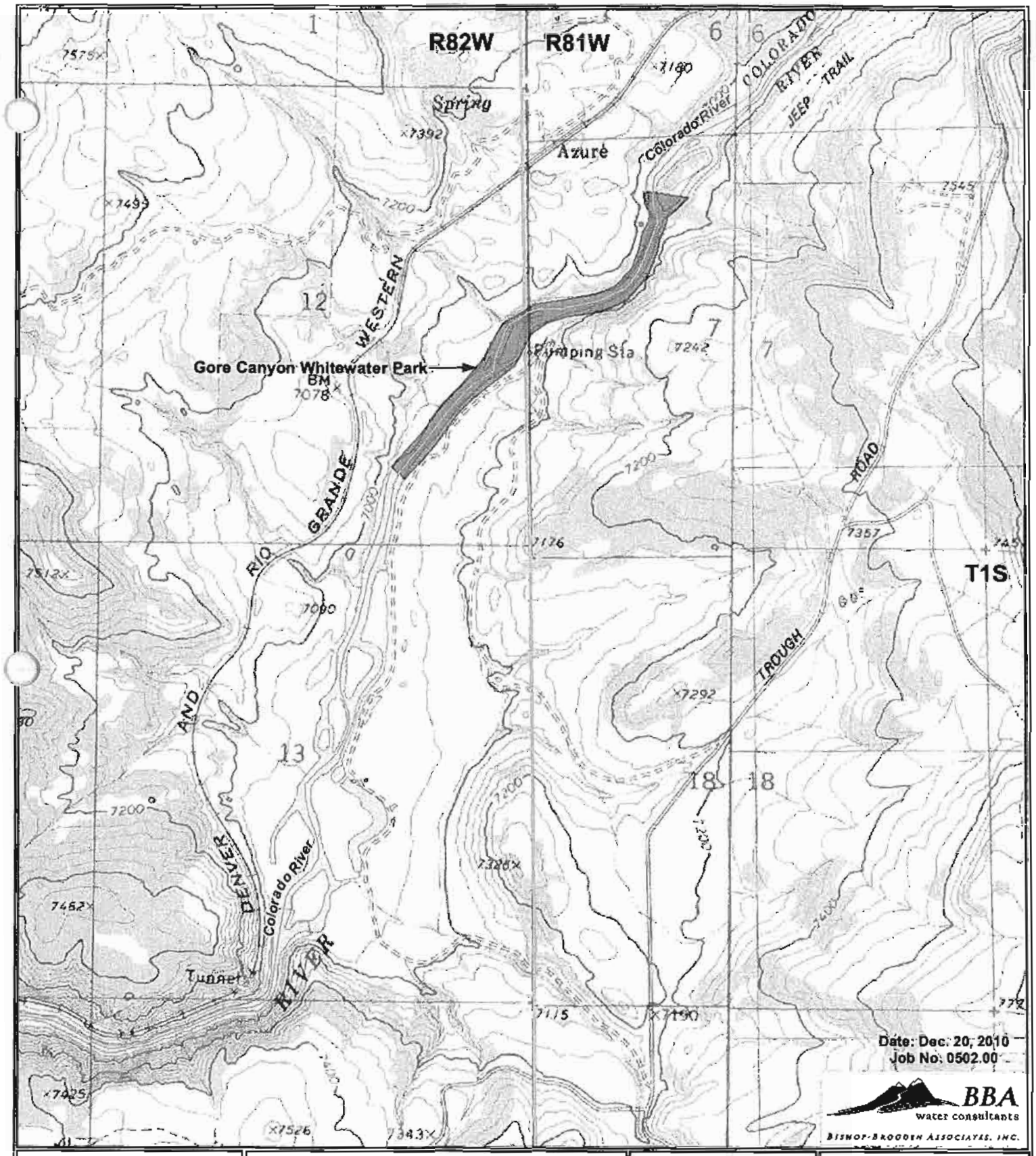
1 inch = 1,000 feet

0 500 1,000 Feet

Overview Map

Main Map

Colorado



Legend

- Whitewater Park Project Area
- Township & Range

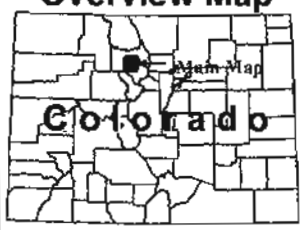
Exhibit B
Gore Canyon Whitewater Park

N
W E
S

1 inch = 1,500 feet

0 750 1,500 Feet

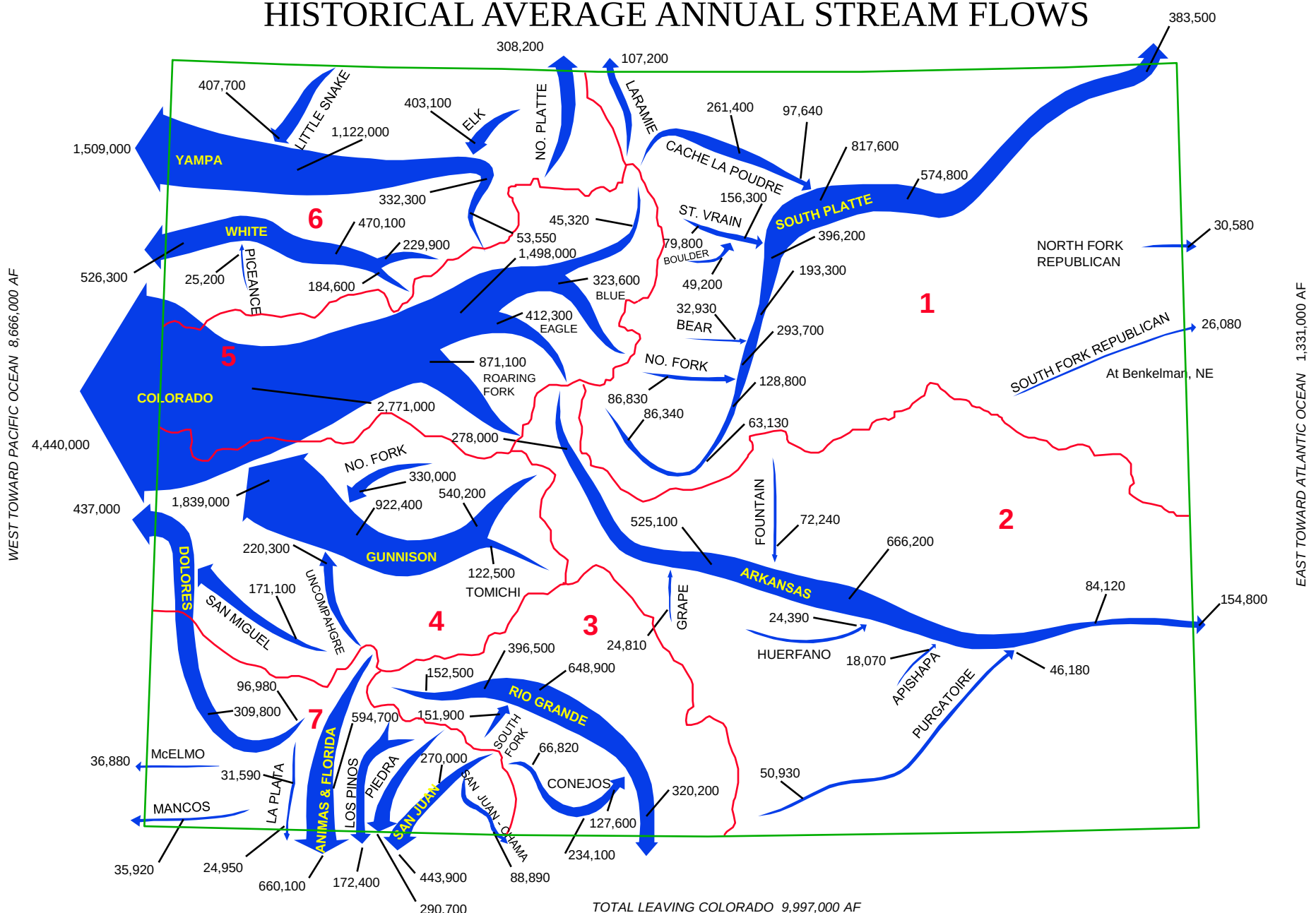
Overview Map



Attachment B:

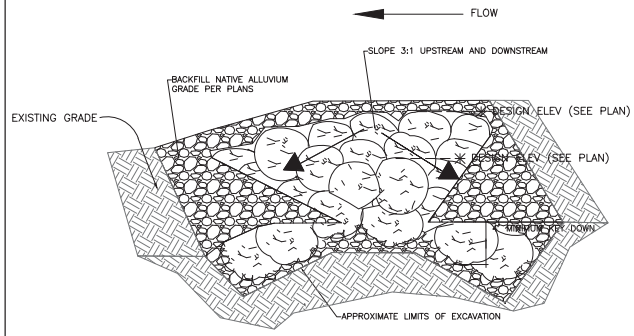
Colorado Historical Average Annual Stream Flows (2011 Revision)
Office of the State Engineer, Colorado Division of Water Resources

COLORADO
HISTORICAL AVERAGE ANNUAL STREAM FLOWS



Prepared by the Hydrographic Branch (2011 Revision)
[all values in acre feet (AF)]

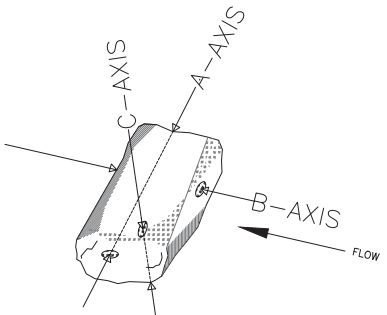
OFFICE OF THE STATE ENGINEER
COLORADO DIVISION OF WATER RESOURCES



WING STRUCTURE TIE–IN & KEY DOWN

1 / D2

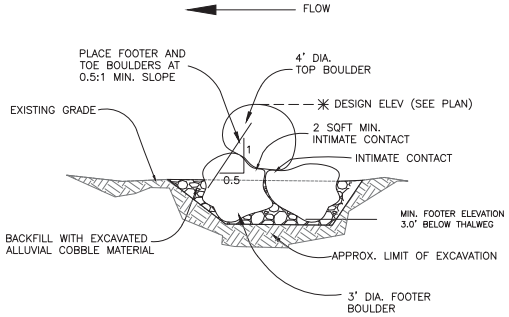
Oblique View NTS



BOULDER AXIAL PLACEMENT

3 / D2

NTS

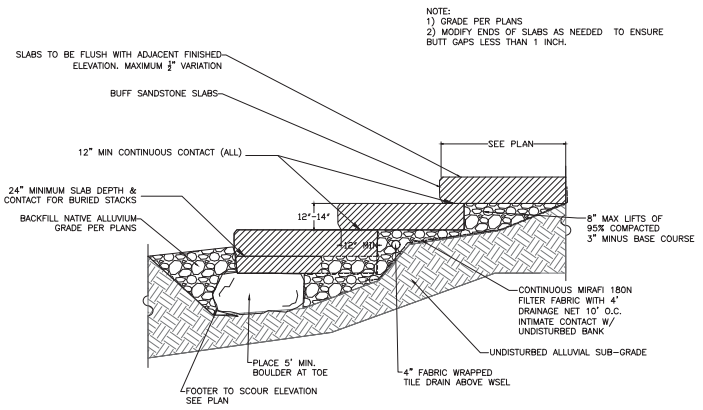


NOTE: OFFSET FOOTER BOULDERS IN THE UPSTREAM & DOWNSTREAM DIRECTIONS, PERPENDICULAR TO FLOW

EXPOSED TOP BOULDER FOOTING DETAIL

2 / D2

SECTION NTS



SLABSTONE TERRACE TYP.

4 / D2

SCALE: NTS

General Notes

GRAND COUNTY RICD
HOT SULPHUR LOCATION
BOULDER STRUCTURE DETAILS I

NOT FOR CONSTRUCTION

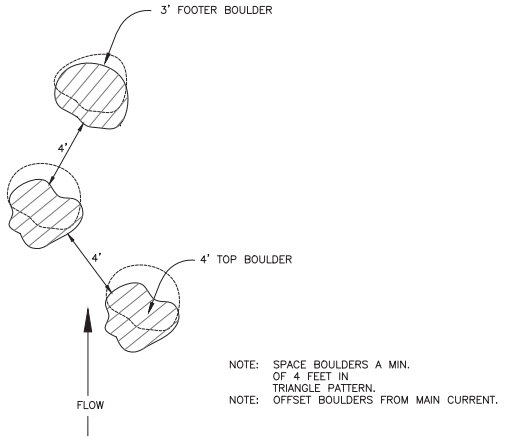
No.	Revision/Issue	Date

Firm Name and Address
RIVER RESTORATION.ORG
P.O. Box 2123
Glenwood Springs, CO 81602
www.RiverRestoration.org

Project Name and Address

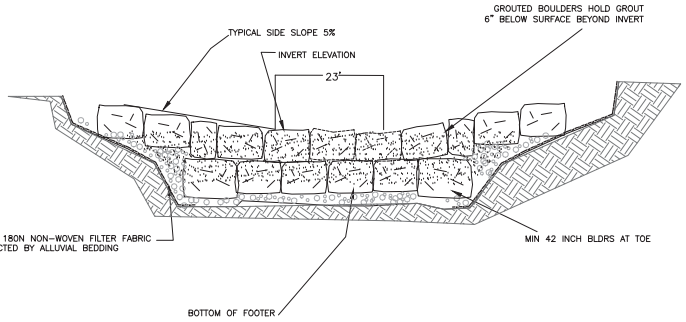
GRAND COUNTY
COLORADO RIVER

Project	Sheet
GCRICD	D-2
Date: 03-18-2011	
Scale: NTS	

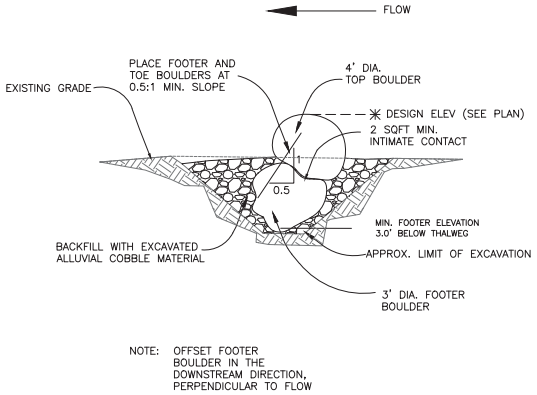


NOTE: SPACE BOULDERS A MIN. OF 4 FEET IN TRIANGLE PATTERN.
NOTE: OFFSET BOULDERS FROM MAIN CURRENT.

BOULDER CLUSTER PLAN VIEW DETAIL
NTS



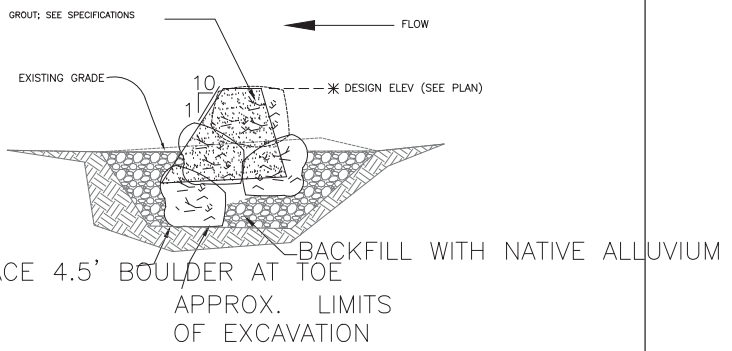
GROUTED BOULDER GRADE CONTROL (TYP)
NTS



NOTE: OFFSET FOOTER BOULDER IN THE DOWNSTREAM DIRECTION, PERPENDICULAR TO FLOW

BOULDER CLUSTER DETAIL
NTS

1
D3



GROUTED BOULDER GRADE CONTROL
NTS

2
D3

General Notes

GRAND COUNTY RICD
HOT SULPHUR LOCATION
BOULDER STRUCTURE DETAILS II

NOT FOR CONSTRUCTION

No.	Revision/Issue	Date

Firm Name and Address
RIVER RESTORATION.ORG
P.O. Box 2123
Glenwood Springs, CO 81602
www.RiverRestoration.org

Project Name and Address
GRAND COUNTY
COLORADO RIVER

Project	GCRICD	Sheet
Date	03-18-2011	D-3
Scale	NTS	

Notes:

1. Contractor Shall Use All Natural 100% Biodegradable Erosion Control Blankets, Type 1, Type 2, Type 3.

2. Stake Blanket In Place, Cut Holes Through The Layers, Then Dig The Planting Holes In The Soil. Staple Around Plant Every 1'.

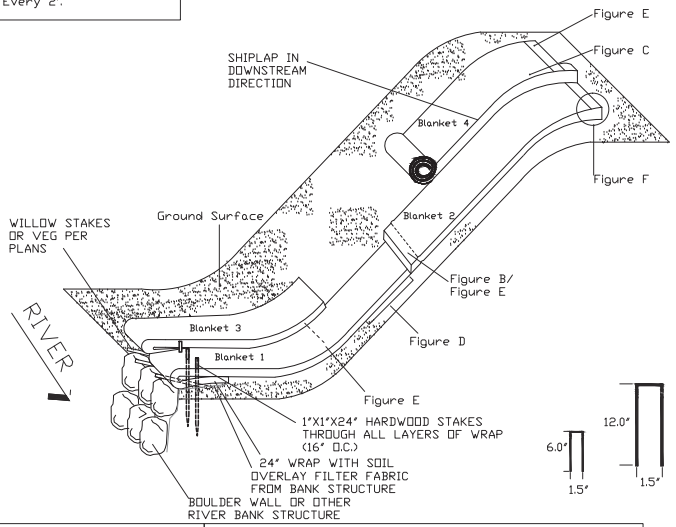
3. Erosion Control Material Must Be Placed Loosely Over Ground Surface. Do Not Stretch.

4. Excavate A 6" Wide By 6" Deep Trench Along The Top Of The Slope. The Trench Shall Run Along The Length Of The Installation. Staple Blanket Along Bottom Of Trench, Fill With Compacted Soil, Overlap Blanket Towards Toe Of Slope, And Secure With Staples Every 2'.

*Approximately 200 Staples Per 8.0' Roll.

Drawings Not To Scale

8.0' Wide Blanket Shown



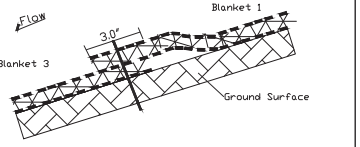


Figure B- Profile View

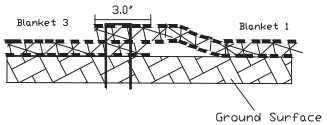
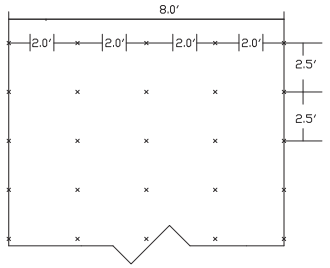
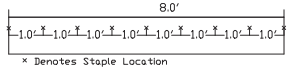


Figure C- Cross Section View



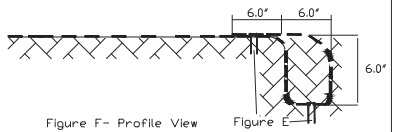
× Denotes Staple Location

Figure D- Plan View



× Denotes Staple Location

Figure E- Plan View



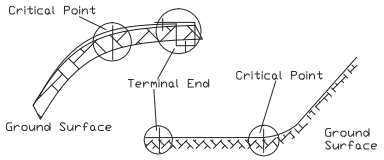


Figure G- Critical Point Securing

EROSION CONTROL BLANKET (ECB) INSTALLATION

NTS

1
D4

General Notes

GRAND COUNTY RICD
HOT SULPHUR LOCATION
EROSION CONTROL BLANKETS

NOT FOR CONSTRUCTION

No.	Revision/Issue	Date

Firm Name and Address

RIVER RESTORATION.ORG

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Project Name and Address

GRAND COUNTY
COLORADO RIVER

Project: GCRICD	Sheet: D-4
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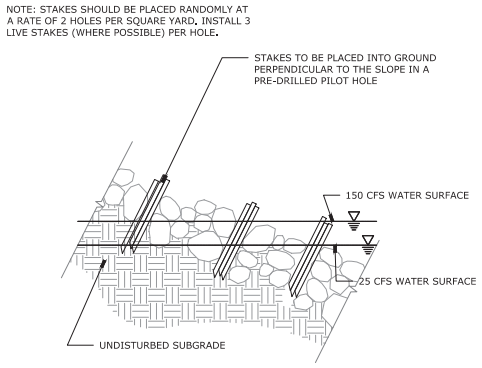
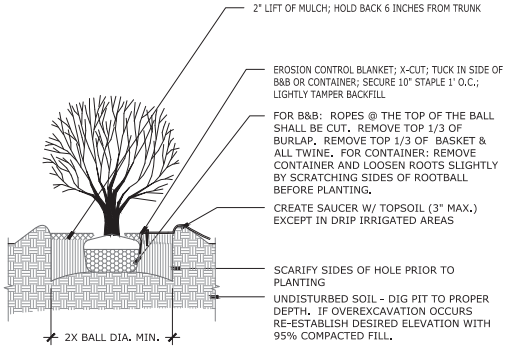
Scale: NTS	



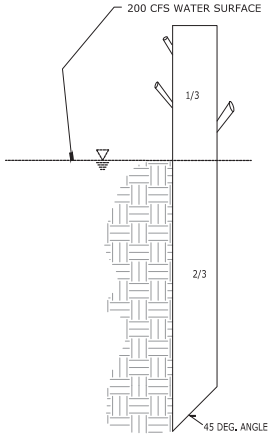
1 / D5 WILLOW STAKING

NTS



3 / D5 SHRUB PLANTING

NTS



1. SEE SPECIFICATIONS
2. CUTTINGS SHALL BE COLLECTED WHILE DORMANT, WHEN THE LEAVES HAVE FALLEN, AND NIGHT TEMPERATURES ARE FREEZING.
3. COTTONWOOD CUTTINGS SHALL BE ¾" TO 1¾" IN DIAMETER, AND 2' MINIMUM IN LENGTH.
4. CUTTING SHALL BE TAKET FROM THE BASE OF THE STEMS. CUT THE BOTTOMS AT A 45 DEG. ANGLE AND THE TOPS FLAT.
5. CUTTINGS SHALL BE STRIPPED OF LEADERS, AND LONG BRANCHES TO AVOID EXCESS DRYING.
6. CUTTINGS SHOULD BE STORED IN WATER AND SHADE FOR UP TO 24 HOURS BEFORE PLANTING.
7. PLANT THE CUTTINGS WITH THEIR BASES AT OR NEAR THE 200 CFS WATER ELEVATION.
8. LIGHTLY PAINT THE EXPOSED CUTS OF THE COTTONWOOD POLES WITH 50/50 MIX OF LATEX PAINT AND WATER TO REDUCE WATER LOSS.

2 / D5 TREE POLE PLANTING

NTS

	Containerized Ripairan Shrubs:		
Qty	Species	Common Name	Size
18	Populus angustifolia	narrowleaf cottonwood	#1
18	Salix monticola	Rocky Mountain willow	#1
18	Salix geyeriana	Geyers willow	#1
18	Salix drummondiana	Drummonds willow	#1
10	Salix drummondiana	Drummonds willow	#5
18	Salix lasiandra	whiplash willow	#1
10	Salix lasiandra	whiplash willow	#5
30	Salix exigua	coyote/streambank/sandbar willow	1 qt
10	Alnus incana ssp. tenuifolia	thinleaf alder	#5
20	Ribes inermie/lacustra	whitestem gooseberry/spiny currant	#1
20	Lonicera involucrata	twinberry honeysuckle	#5
20	Rosa woodsii	woods rose	#1

	Staked Riparian Shrubs		
Qty	Species	Common Name	Size
50	Populus angustifolia	narrowleaf cottonwood	cutting
50	Salix monticola	Rocky Mountain willow	cutting
50	Salix geyeriana	Geyers willow	cutting
50	Salix drummondiana	Drummonds willow	cutting
80	Salix exigua	coyote/streambank/sandbar willow	cutting

General Notes

GRAND COUNTY RICD
HOT SULPHUR LOCATION
PLANT INSTALLATION

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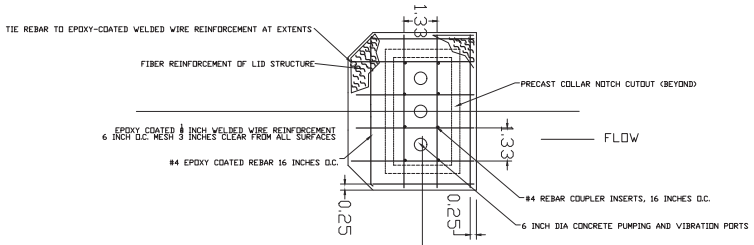
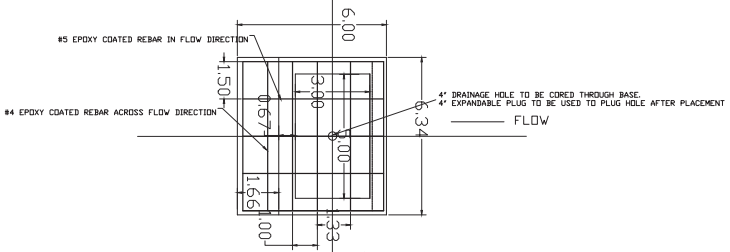
Project Name and Address
GRAND COUNTY
COLORADO RIVER

Project GCRICD
Date 03-18-2011
Scale NTS
Sheet D-5

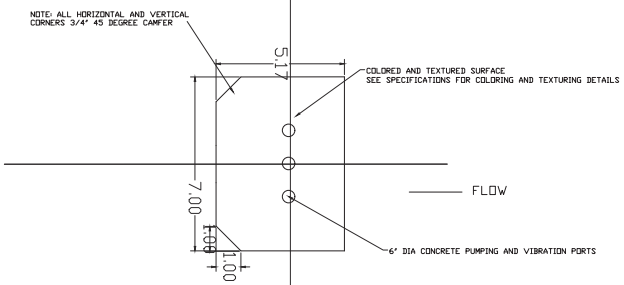
PRE-CAST STRUCTURE # 1



LID REBAR PLAN



MONOLITHIC BASE PLAN



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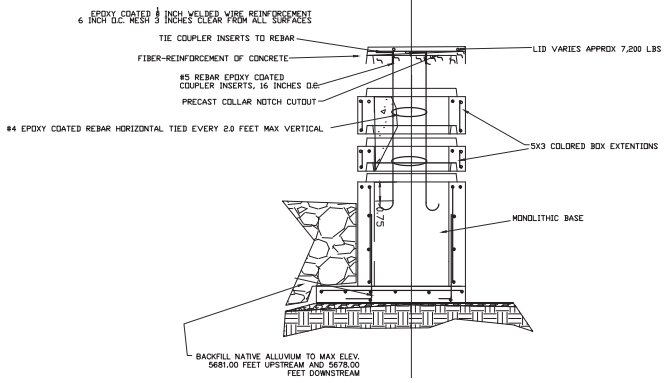

PRECAST ELEVATION

0 1 2 3 4 5 10

Project GCRICD
Date 03-18-2011
Scale NTS
Sheet D-6

Project Name and Address
GRAND COUNTY
COLORADO RIVER

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Glenwood Springs, CO 81602
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No.	Revision/Issue	Date

NOT FOR CONSTRUCTION

GRAND COUNTY RICD
HOT SULPHUR LOCATION
PRE-CAST STRUCTURE DETAILS

General Notes

GORE CANYON
RIVER RECREATION ENHANCEMENTS
GRAND COUNTY, CO
MARCH, 2011

DRAWING INDEX

PLATE NO	TITLE
G1	VICINITY MAP, DRAWING INDEX, LEGEND
C1	OVER VIEW
C2	PLAN VIEW WHITEWATER STRUCTURES
C3	PLAN VIEW WHITEWATER STRUCTURES
C4	VIEW SECTIONS 1
C5	VIEW SECTIONS 2
D1	CARE OF WATER DETAILS
D2	BOULDER STRUCTURE DETAILS 1
D3	BOULDER STRUCTURE DETAILS 2
D4	EROSION CONTROL BLANKETS
D5	PLANT INSTALLATION
D6	PRE-CAST CONCRETE STRUCTURES

LEGEND

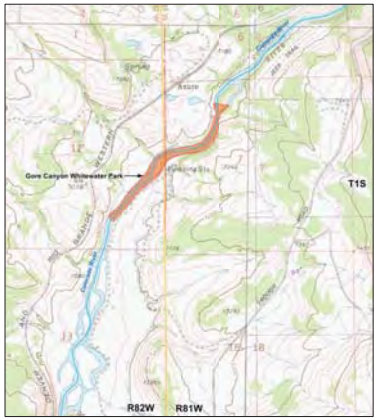
- Ordinary High Water Line
- Base Line for X-Sections
- ×98 Spot Elevation
- Limits of Riparian
- X-Section Line
- Placed Boulders
- Habitat Boulders
- Proposed Grade
- Pre-cast Structures
- Scattered Trees

CONTACTS

1. Mrs.Lurline Curran
County Manager
Grand County, CO
(970) 725-3100

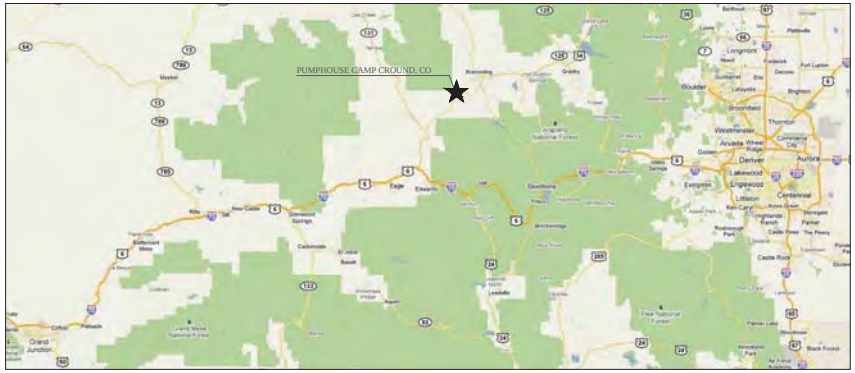
2. Mr. Jason Carey, P.E.
River Engineer
RiverRestoration.org, LLC.
(970) 947-9568

LOCATION MAP



NTS

VICINITY MAP



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General Notes

GRAND COUNTY RICD
GORE CANYON LOCATION
COVER PAGE

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COLORADO RIVER

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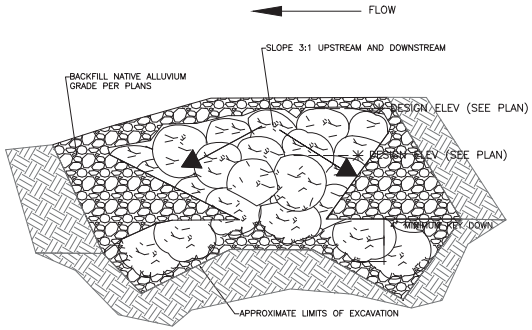
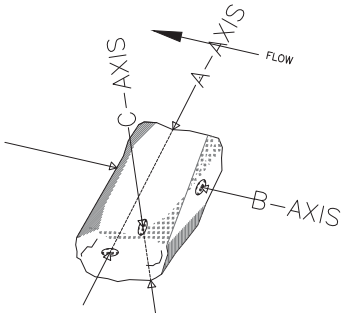


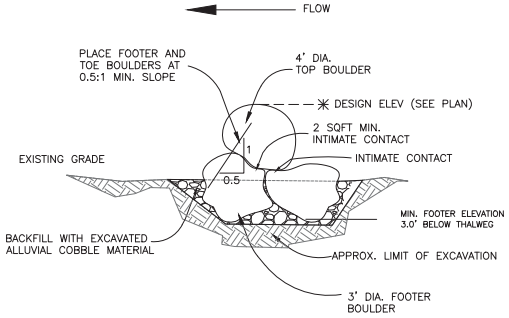
WING STRUCTURE TIE–IN & KEY DOWN (1 / D2)

Oblique View NTS



BOULDER AXIAL PLACEMENT (3 / D2)

NTS



NOTE: OFFSET FOOTER BOULDERS IN THE UPSTREAM & DOWNSTREAM DIRECTIONS, PERPENDICULAR TO FLOW

EXPOSED TOP BOULDER FOOTING DETAIL (2 / D2)

SECTION NTS

General Notes

GRAND COUNTY RICD
GORE CANYON LOCATION
BOULDER STRUCTURE DETAILS I

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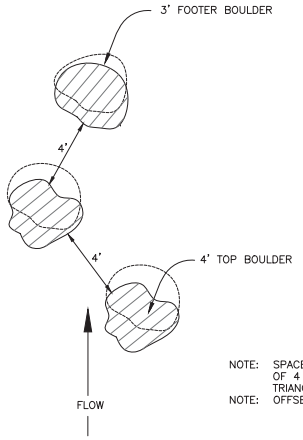
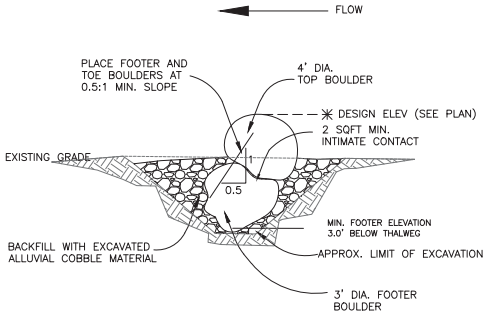


NOTE: SPACE BOULDERS A MIN. OF 4 FEET IN TRIANGLE PATTERN.
NOTE: OFFSET BOULDERS FROM MAIN CURRENT.

BOULDER CLUSTER PLAN VIEW DETAIL

NTS

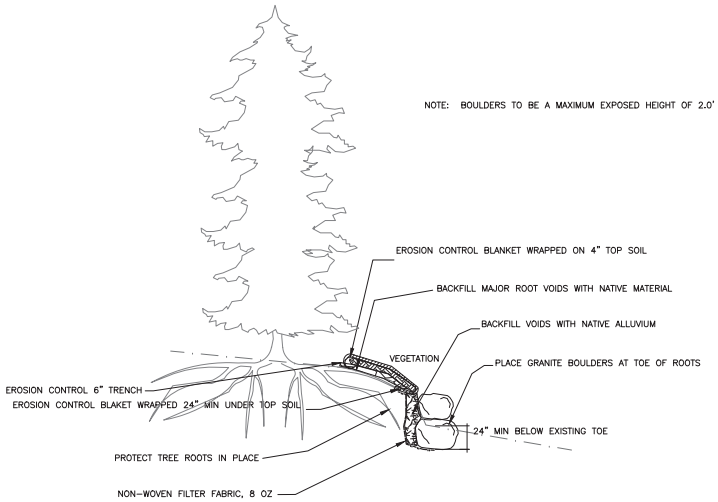


NOTE: OFFSET FOOTER BOULDER IN THE DOWNSTREAM DIRECTION, PERPENDICULAR TO FLOW

BOULDER CLUSTER DETAIL

NTS

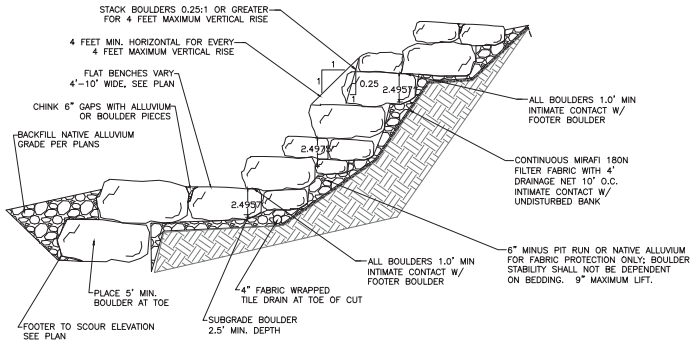
1 / D3



BOULDER BANK TREE STABILIZATION

SCALE: NTS

2 / D3



BOULDER RIVERBANK TERRACE

NTS

3 / D3

General Notes

GRAND COUNTY RICD
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BOULDER STRUCTURE DETAILS 2

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GRAND COUNTY
COLORADO RIVER

Project	GCRICD	Sheet
Date	03-18-2011	D-3
Scale	NTS	

Notes:

1. Contractor Shall Use All Natural 100% Biodegradable Erosion Control Blankets, Type 1, Type 2, Type 3.

2. Stake Blanket In Place, Cut Holes Through The Layers, Then Dig The Planting Holes In The Soil. Staple Around Plant Every 1'.

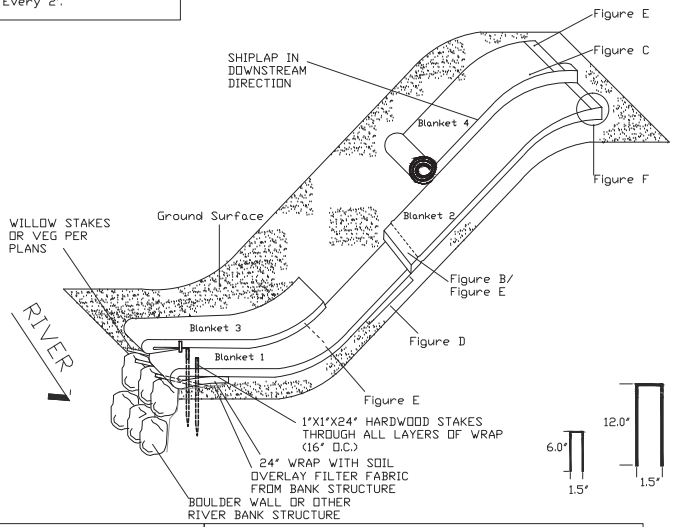
3. Erosion Control Material Must Be Placed Loosely Over Ground Surface. Do Not Stretch.

4. Excavate A 6" Wide By 6" Deep Trench Along The Top Of The Slope. The Trench Shall Run Along The Length Of The Installation. Staple Blanket Along Bottom Of Trench, Fill With Compacted Soil, Overlap Blanket Towards Toe Of Slope, And Secure With Staples Every 2'.

*Approximately 200 Staples Per 8.0' Roll.

Drawings Not To Scale

8.0' Wide Blanket Shown



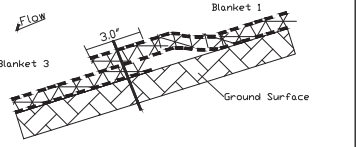


Figure B- Profile View

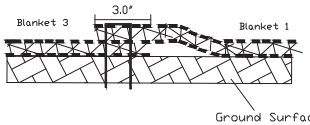
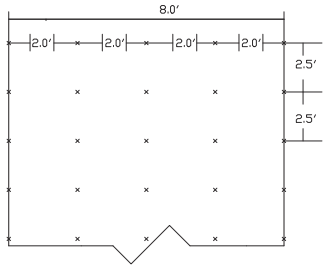


Figure C- Cross Section View



× Denotes Staple Location

Figure D- Plan View

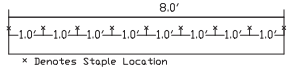


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Figure E- Plan View

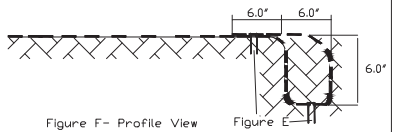

Figure F- Profile View

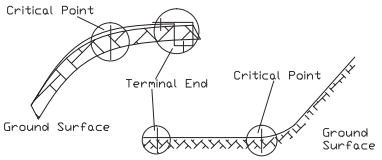

Figure G- Critical Point Securing

EROSION CONTROL BLANKET (ECB) INSTALLATION

NTS

1
D4

General Notes

GRAND COUNTY RICD
GORE CANYON LOCATION
EROSION CONTROL BLANKETS

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No.	Revision/Issue	Date

Firm Name and Address

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COLORADO RIVER

Project: GCRICD
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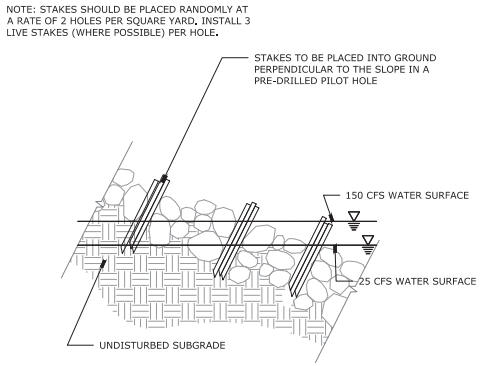
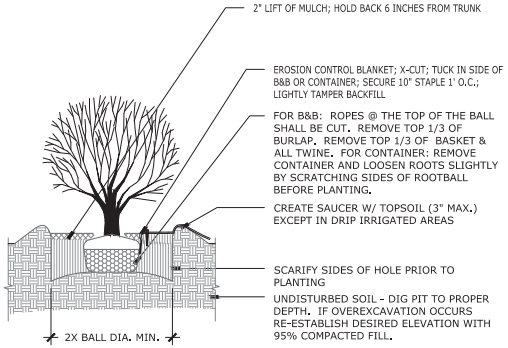


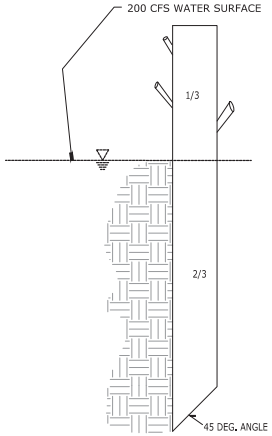
1 / D5 WILLOW STAKING

NTS



3 / D5 SHRUB PLANTING

NTS



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2 / D5 TREE POLE PLANTING

NTS

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10	Salix lasiandra	whiplash willow	#5
30	Salix exigua	coyote/streambank/sandbar willow	1 qt
10	Alnus incana ssp. tenuifolia	thinleaf alder	#5
20	Ribes inermie/lacustra	whitestem gooseberry/spiny currant	#1
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80	Salix exigua	coyote/streambank/sandbar willow	cutting

General Notes

GRAND COUNTY RICD
GORE CANYON LOCATION
PLANT INSTALLATION

NOT FOR CONSTRUCTION

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GRAND COUNTY
COLORADO RIVER

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Date 03-18-2011
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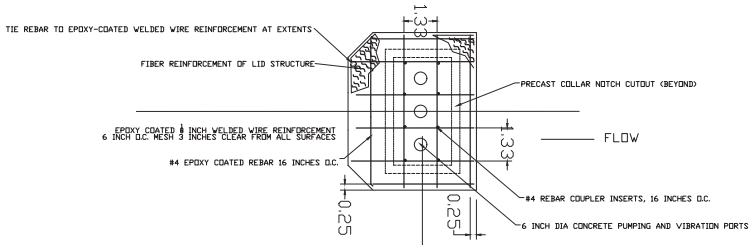
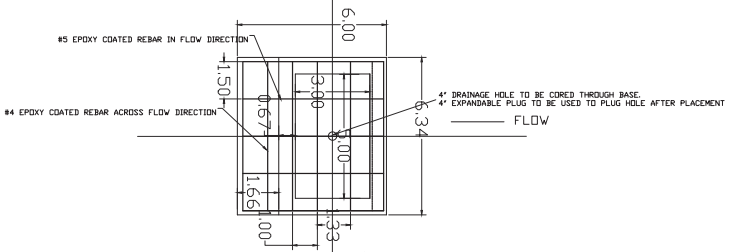
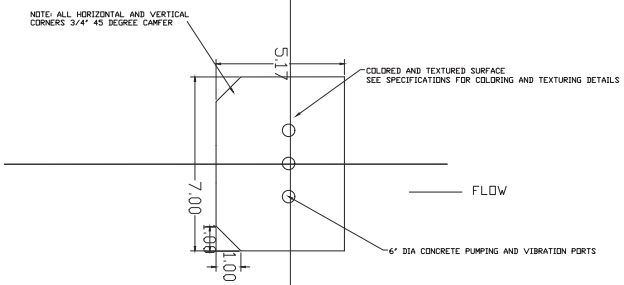
PRE-CAST STRUCTURE # 1



LID REBAR PLAN



MONOLITHIC BASE PLAN



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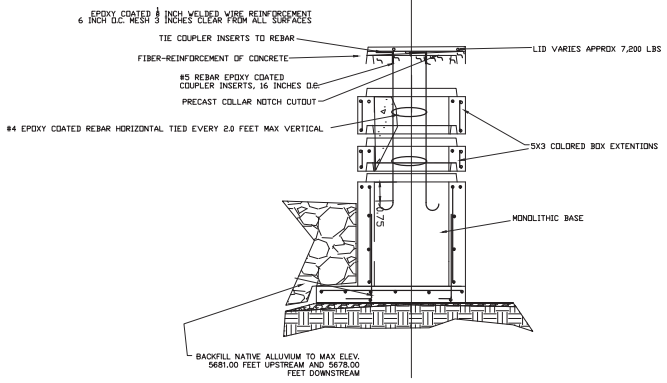

PRECAST ELEVATION

0 1 2 3 4 5 10

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Project Name and Address
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GRAND COUNTY RICD
GORE CANYON LOCATION
PRE-CAST STRUCTURE DETAILS

General Notes

CRE 408 Document

DESIGN ENGINEERING REPORT

CASE NO. 2010-CW-298
GRAND COUNTY'S
RECREATIONAL IN-CHANNEL DIVERSION
WATER RIGHTS IN THE
COLORADO RIVER

PREPARED FOR
GRAND COUNTY FOR SUBMISSION TO COLORADO WATER CONSERVATION BOARD

JUNE 2011

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CASE NO. 2010-CW-298
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RECREATIONAL IN-CHANNEL DIVERSION
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COLORADO RIVER

PREPARED FOR
GRAND COUNTY FOR SUBMISSION TO COLORADO WATER CONSERVATION BOARD

JUNE 2011

The technical material in this report was prepared by or under the supervision and direction of the undersigned, whose seal as a Professional Engineer is affixed below:

Jason P. Carey, P.E.

DESIGN ENGINEERING REPORT
GRAND COUNTY'S RECREATIONAL IN-CHANNEL DIVERSION
WATER RIGHT IN THE COLORADO RIVER

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DESIGN ENGINEERING REPORT
GRAND COUNTY'S RECREATIONAL IN-CHANNEL DIVERSION
WATER RIGHT IN THE COLORADO RIVER

I. Background

The Board of County Commissioners of Grand County, Colorado (Grand County) has filed an application with the Division 5 Water Court to appropriate flows in the Colorado River for four Recreational In-Channel Diversions (RICD) Water Rights, Case No. 10-CW-298, Water Division No. 5. The application seeks entry of a decree for the purpose of maintaining flows at levels to achieve specific reasonable recreational whitewater boating and other recreational experiences.

The amounts claimed by Grand County for the RICD are the minimum amounts of flow required to achieve the desired recreational experiences and operate four hydraulic features to be constructed in the Colorado River. The periods of the requested flow amounts are based on hydrologic studies conducted by AMEC (2011) that are documented in a separate Hydrologic Engineering Report. A summary of the RICD flow amounts requested by the County are shown in Table 1 and Table 2.

II. Recreational Experience Sought

A whitewater feature is an abrupt change in the flow of a river. An abrupt change in the river's water surface is usually created by structural changes in the bed and the banks of the river. A whitewater feature can have many different forms at differing flows or in different locations of a river. Some whitewater features take a form that is attractive to boaters for recreational purposes. Boat designs are being innovated specifically to "play" in whitewater features as part of the sport of freestyle whitewater. Official freestyle whitewater events are sanctioned by the International Canoe Federation (ICF) who explain the sport as:

> *Canoe Freestyle is a whitewater Canoe Disicpline (sic) where the paddler performs a range of acrobatic tricks and manoeuvres (sic) on a river feature such as a wave or hole. Canoe Freestyle, also referred to as Playboating, is enjoyed by many as a recreational sport. At the top level, Canoe Freestyle athletes participate in competitions both nationally and internationally. (http://www.canoeicf.com/icf/Aboutoursport/Canoe-Freestyle.html)*

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Figure 1: Glenwood Springs low flow hole; typical black experience

It is often observed in nature, and at existing whitewater parks that the characteristics of a whitewater feature can change through a range of flows. In general, holes often form at low flows, but as the discharge increases, waves may be generated. Holes most often are characterized by steep flow with a submerged hydraulic jump. In a hole, the recreation equipment is usually displaced in the aerated portion of the whitewater. In a hole, the aerated water is usually below the backwater elevation and the aerated water covers the trough and meets the descending water.

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Figure 2: Glenwood Springs medium flow wave-hole; typical blue-black experience

As flows increase, forceful jets of water can push the hole away from the structures and create a trough which identifies a wave-hole. In a wave-hole, recreation equipment can move from the aerated portion of the whitewater down to the bottom of the trough and "side surf" or hydroplane on its side. A wave-hole may have aerated water that is slightly elevated above the backwater and the aerated water nearly extends into the bottom of the trough.

Figure 3: Glenwood Springs high flow wave; typical double black experience

As a wave forms the trough becomes greatly extended horizontally and vertically so that recreation equipment can "front surf" by hydroplaning down the face of the wave in the upstream direction. A wave crest is usually above the elevation of the backwater and the aerated water on the face of the wave does not fall all the way to the bottom of the trough.

Freestyle whitewater is a flashy sport that often attracts spectators. Whitewater recreation has a $150,000,000 impact on Colorado's annual economy (CROA, 2010). Whitewater parks are widely considered to have an positive economic benefit to local economies ranging from direct expenditures to word of mouth advertizing. Exceptional whitewater features become destinations for both the boaters and the spectators. Often when a whitewater feature destination is discovered, it is tradition to name the location so that others may discover it. Because of the flashy and unique character of the sport, the action and attraction is not always well conveyed in still photographs. A video of freestyle whitewater recreation may be viewed at:
http://www.riverrestoration.org/video/promovideo/index.html

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Open channel hydraulics is the scientific study of how the structure of a channel influences the water surface at differing flows. Section IX below describes our use of open channel hydraulic science to design whitewater structures that will in turn create dynamic whitewater features that are expected to provide a recreational experience worthy of a destination. With this expectation, we have taken liberty with tradition to name the whitewater features. We have also used the parameters of open channel hydraulics to indicate changes in recreational experiences so that minimum flows and water use efficiencies may be evaluated with some scientific basis.

Four whitewater features are being proposed in Grand County at two locations. Each is designed to appeal to different skill levels at differing flows. The upstream river recreation enhancement location is at Hot Sulphur Springs where the upstream feature is referred to as the Glory Hole and the downstream feature is referred to as the Hot Pocket. The downstream river recreation enhancement location is at Gore Canyon where the upstream feature is referred to as Inspiration Point and the downstream feature is referred to as the Launch Counter.

The category of whitewater boating experience sought by Grand County is freestyle whitewater. There are three main categories of whitewater sport: slalom, extreme and freestyle. Each category has specific equipment modified for its purpose. Freestyle whitewater appeals to a broader population than the other categories. For explanation purposes herein, we use the analogy of the recreational experiences associated with green, blue, black, and double black runs at a ski area. Similar to ski sports, there are also a number of different equipment types that can be used to practice the recreation. Kayaks are the standard; however, canoes, rafts, surf boards, stand-up paddle boards, inner tubes, boogie boards and a number of other equipment types can be used. Innovation in the sport may develop other equipment and techniques in the future.

Freestyle whitewater can be practiced at a single whitewater feature and repeated multiple times by navigating upstream after being washed downstream. The repeatable nature of freestyle whitewater at a single feature, casually termed “park and play”, is what creates a popular destination. The feature itself can vary in character, typically described as a “hole”, a “wave-hole” or a “wave”. A “Rodeo” is the typical name given to a freestyle whitewater competition.

A freestyle whitewater feature is created where there is a “hydraulic jump,” which is a natural phenomenon resulting in an abrupt rise of the water surface. A hydraulic jump in the river channel is what creates the hole, wave-hole or wave. A hydraulic jump can occur naturally, or can be induced (as in a whitewater park) through the placement of structures in the river bed. Properly formed hydraulic jumps are what create the freestyle whitewater recreational experience.

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The season of whitewater recreation is anytime that the channel is not obstructed by ice and there is sufficient water. Typically the warm-up season in Colorado is in April and May on the rising limb of the hydrograph. Expert freestyle whitewater season is around the peak in late May or June. As the runoff recedes, the water warms and the intermediate and beginning freestyle paddlers are more active. Historically, when the lowest of the claimed flows have been in the river, there has been recreational activity. For example, on October 24, 2010 we observed whitewater paddlers on the Gore Canyon Location with flows of approximately 1,050 cfs.

Green Freestyle Whitewater Recreation Feature

Figure 4: Glenwood Springs wave at low flow; typical green experience

Green freestyle whitewater features are characterized by gentler whitewater, calm eddies and large recovery pools where beginners can be introduced to the sport and practice new

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skills. Similar to a ski mountain, intermediates and experts also use the green feature. The efficiency of a green feature is usually not maximized in the main feature and additional energy is expended in subsequent waves. True novice boaters are not expected in the course. Even a freestyle whitewater beginner must have certain skills such as “eddy catching”, “ferrying”, “bracing”, “wet exiting” or “combat rolling”. The green feature allows a boater to be captured by the whitewater, practice navigating the different currents, and recovering.

Blue Freestyle Whitewater Recreation Experience

A Blue freestyle whitewater experience allows intermediates and experts to perform tricks and “play” in a hydraulic. It is important for this reasonable recreation experience to have an extended season duration, where a whitewater feature offers interest before and after runoff. The blue experience allows for locals to hone skills.

Black Freestyle Whitewater Recreation Experience

Black freestyle whitewater experience may challenge intermediates and allows experts to perform basic aerial maneuvers in a hydraulic. This reasonable recreation experience may be differentiated from blue by navigation obstacles in the reach or more dynamic currents.

Double Black Freestyle Whitewater Recreation Experience

The double black freestyle whitewater experience may be characterized by high velocity water and dynamic hydraulics creating a wave feature that allows equipment (including surf boards) to hydroplane and for significant aerial maneuvers (i.e. flips) to be attempted. Rodeo events are often planned and advertised when the double black experience is anticipated. This may attract regional and national expert athletes as well as spectators.

III. Location of Whitewater Parks

An important part of a freestyle whitewater experience is the pool downstream of the whitewater feature. The pool allows for recovery and navigation back upstream after being flushed from a whitewater feature. The pool is maintained by the scour hole created by installed or modified structures and interaction with the grade control downstream of the pool. The installed structures are predicted to raise the water surface

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upstream (backwater) but are designed to submerge at flood flows. An insignificant impact (less than 0.05 feet) on the 100-year event flooding was found at a point upstream of each of the installed structures. This point is the upstream extent of the impact from the structural modifications to the channel. A Structure Unit is defined herein as the channel required to absorb the backwater created by the structural modifications, the structural modifications themselves, and the pool that is maintained by those structural modifications.

Hot Sulphur Springs Location

The Glory Hole Structure Unit is 985 feet in length from the backwater influence of the structural modifications to downstream across the associated recovery pool. There is a total hydraulic drop of 3.0 feet across the Glory Hole Structure Unit.

The Hot Pocket Structure Unit is 841 feet in length from the backwater influence of the structural modifications to downstream across the associated recovery pool. There is a total hydraulic drop of 2.4 feet across the Hot Pocket Structure Unit.

Gore Canyon Location

The Inspiration Point Structure Unit is 1224 feet in length from the backwater influence of the structural modifications to downstream across the associated recovery pool. There is a total hydraulic drop of 5.9 feet across the Inspiration Point Structure Unit.

The Launch Counter Structure Unit is 1844 feet in length from the backwater influence of the structural modifications to downstream across the associated recovery pool. There is a total hydraulic drop of 7.4 feet across the Launch Counter Structure Unit.

IV. Minimal Flows Sought for Reasonable Recreational Experiences

Any structural modifications designed as permanent fixtures in the river must function through the full range flows that the river can experience. River structures must accompany wide ranging functions such as sediment transport, fish passage, boat passage and flood conveyance. Consideration of the other river functions (beyond freestyle whitewater recreation) informs the design constraints and, therefore, performance of the structures. These considerations also apply to the designs described herein.

The minimum flows and associated reasonable recreational experiences sought for Grand County were calculated with an open channel hydraulic basis and are discussed in the sub-sections immediately below, shown in Table 1 and Table 2, and justified in Section IX.

Hot Sulphur Springs Location

Glory Hole

Two different levels of recreation experience are sought for two different flow periods at the Glory Hole Structure Unit. The different recreation experiences sought are blue and black freestyle whitewater.

The Glory Hole Structure Unit has been designed to create whitewater features ranging from a hole feature with a blue experience at 250 cfs to a wave-hole feature with a black experience at flows greater than or equal to 850 cfs.

Hot Pocket

Two different levels of recreation experience are also sought for two different flow periods at the Hot Pocket feature. The different recreation experiences sought are green and blue freestyle whitewater.

The Hot Pocket Structure Unit has been designed to create whitewater features ranging from a wave-hole feature with a green experience at 420 cfs to a wave with a blue experience at flows greater than or equal to 850 cfs.

Table 1 Hot Sulphur Springs Flow Rates, Periods and Recreational Experience Sought

RICD	Period	Amount	Experience
Glory Hole Structure Unit	April 10 – May 20 May 21 – July 4 July 5 – August 2	250 cfs 850 cfs 250 cfs	Blue Black Blue
Hot Pocket Structure Unit	April 24 – May 20 May 21 – July 4 July 5 – July 18	420 cfs 850 cfs 420 cfs	Green Blue Green

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Gore Canyon Location

Inspiration Point

Three different levels of recreation experience are sought for three different flow periods at the Inspiration Point Structure Unit. The different recreation experiences sought are blue, black, and double black freestyle whitewater.

The Inspiration Point Structure Unit has been designed to create whitewater features ranging from a hole feature with a blue experience at 860 cfs to a wave-hole feature with a black experience at 1,050 cfs to a wave feature with a double black experience at flows greater than or equal to 1,350 cfs.

Launch Counter

Three different levels of recreation experience are sought for three different periods at the Launch Counter Structure Unit. The different recreation experiences sought are blue, black, and double black freestyle whitewater.

The Launch Counter Structure Unit was designed to form a wave-hole feature with a blue experience at 1,100 cfs. At 1,500 cfs, a wave-hole feature with a black experience is expected. A wave feature with a double black experience is predicted to form at flows greater than or equal to 2,500 cfs.

Table 2 Gore Canyon Flow Rates, Periods and Recreational Experience Sought

RICD	Period	Amount	Experience
Inspiration Point Structure Unit	April 15 – April 29 April 30 – July 26 July 27 – October 15	1,050 cfs 1,350 cfs 860 cfs	Black Dbl. Black Blue
Launch Counter Structure Unit	April 29 – May 16 May 17 – July 7 July 8 – September 12	1,500 cfs 2,500 cfs 1,100 cfs	Black Dbl. Black Blue

V. Permits

Grand County intends to apply for and comply with all of the necessary state and federal permits for this project including an Army Corps of Engineers §404 individual permit and a Department of Public Health and Environment §401 Water Quality permit if required. Furthermore, the proposed Gore Canyon location is on Federal Lands managed

by the Bureau of Land Management and this project may require an Environmental Assessment (EA).

VI. Impact to Floodplain

The proposed project will not result in a significant increase of the Existing Conditions 100-year flood elevations at the upstream extent of the Structure Units. The potential impacts of the Grand County RICD structures on 100-year water surface elevations of the Colorado River were evaluated based on existing and proposed conditions. Topographic and hydrographic survey was performed at all sites by RiverRestoration, in October of 2010. Survey data for all locations was collected on the 1988 North American Vertical Datum (NAVD). Cross sections were generated from survey data and used to describe existing conditions for each reach. A computer model, HEC-RAS 4.1.0 (USACE, 1997) was used to compute water surface elevations describing the existing conditions for the reaches at both whitewater park locations. The hydraulic roughness coefficients (Mannings 'n') values were calibrated based on measured water surface elevations collected during the field surveys.

The proposed conditions were described through modifications to the existing conditions cross sections in the HEC-RAS model. Additional cross sections were interpolated between surveyed cross sections and subsequently modified to describe proposed conditions representing the structural changes following construction of the whitewater park facilities. The hydraulic roughness coefficients (Mannings 'n') values, describing the proposed conditions cross sections, were obtained from tables of common values (USACE, 1997).

Hot Sulphur Springs Location

The 100-yr flow was initially determined by Bishop-Brogden Associates as 5,720 cfs (Wynne) and confirmed by AMEC.

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Table 3 Existing Conditions 100-yr Water Surface Elevations and Proposed RICD Conditions Hot Sulphur Springs Location

Station	Description	100-yr Existing (ft)	100-yr Proposed (ft)	Difference (ft)
1654	418 ft upstream of Glory Hole Structure Unit (downstream face of bridge)	7677.57	7677.61	0.0
1423	187 ft upstream of Glory Hole Structure Unit	7677.09	7677.15	0.1
1235.69	at Glory Hole Structure Unit	7676.53	7676.68	0.2
1217.94	18 ft downstream of Glory Hole Structure Unit	7676.59	7676.64	0.1
1187.11	518 ft upstream of Hot Pocket Structure Unit	7676.57	7676.62	0.1
933.06	264 ft upstream of Hot Pocket Structure Unit	7675.12	7675.23	0.1
668.84	at Hot Pocket Structure Unit	7674.75	7674.58	0.2
530.72	138 ft downstream of Hot Pocket Structure Unit	6950.93	6950.93	0.0

Gore Canyon Location

The 100-yr flow was initially determined by Bishop-Brogden Associates as 13,600 cfs (Wynne) and confirmed by AMEC.

Table 4 Existing Conditions 100-yr Water Surface Elevations and Proposed RICD Conditions Gore Canyon Location

Station	Description	100-yr Existing (ft)	100-yr Proposed (ft)	Difference (ft)
4618	410 ft upstream of Inspiration Point Structure Unit	6966.84	6966.87	0.0
4392	184 ft upstream of Inspiration Point Structure Unit	6963.94	6964.96	1.0
4208	at Inspiration Point Structure Unit	6963.17	6961.82	-1.4
4196	12 ft downstream of Inspiration Point Structure Unit	6963.00	6963.00	0.0
2148	824 ft upstream of Launch Counter Structure Unit	6954.47	6954.50	0.0
1450	136 ft upstream of Launch Counter Structure Unit	6951.51	6952.62	1.1
1314	at Launch Counter Structure Unit	6951.13	6950.67	-0.5
1205	109 ft downstream of Launch Counter Structure Unit	6950.93	6950.93	0.0

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VII. Environmental Effects

No long-term impacts from the project are expected. The project may have temporary construction impacts with track equipment driving on and excavating the bed material in the wet channel and temporary redirection of flow of the main channel. Construction activity may have isolated increases in turbidity. Best management practices such as turbidity curtains, silt fences, construction sequencing and care of water shall be utilized to minimize potential turbid conditions and locations. Relocation of any fish trapped in any coffered area is expected to be coordinated with CDOW at the time of construction.

After construction is complete, any potential increase in flow velocities would be locally dissipated as a result of the hydraulic jumps which are created. Reach wide sediment transport and fluvial geomorphology would be insignificantly altered by the project. No change in location of the downstream riffle is anticipated as the whitewater park structures have been sited to conform to the existing channel morphology and are not expected to alter existing pool-riffle sequencing.

The current geomorphic trends indicate that the project area will remain stable, short of an extreme flood event (greater than 100-year event or a long duration of a significant event). Any channel alteration as a result of an extreme flooding is unpredictable, independent of the installation of the whitewater park. In general, structures in the river environment (including bridges, head gates, bank stabilization, etc…) often require maintenance following significant channel alterations following flood events.

Environmental effects resulting from the proposed RICD flows can be incidentally beneficial to the ecology, geomorphology and aesthetics of the Colorado River. Managing flows necessary for environmental maintenance supports existing sediment transport rates, bed structures, aquatic habitat, riparian vegetation and channel forming flows (Whiting, 2002). The proposed RICD may encourage managing a flow regime resembling the existing hydrograph that physical and biological processes have evolved upon.

VIII. Other Considerations

Hot Sulphur Springs Location

The Hot Sulphur Springs Location is within Pioneer Park. The town has an agreement with the CDOW for management of fishing access at the Park. Pioneer Park consists of a parking area, picnic tables and grills and port-a-potties. The Park is maintained by the

Town of Hot Sulphur Springs. In general the parking and use of the Park is anticipated to facilitate both boating and fishing. Special events are usually scheduled during peak runoff which is not prime fishing season. Grand County anticipates coordinating with Town of Hot Sulphur Springs to improve public access to the whitewater Structure Units when the park is operational.

An ISF water right for the reach including the Hot Sulphur location has been decreed. It is our opinion that the proposed Structure Units will not have significant long-term impacts on the environment that the ISF is intended to protect. The effects of the RICD right, if any, on Instream Flow water right will be discussed in Mr. Rozaklis' report June 2011.

Gore Canyon Location

Drift boating is a historical and continued use of the Gore Canyon Location reach at Launch Counter. For this reason, the Launch Counter site is designed to be navigable for the entire range of flows typically occurring during the drift boating season. The character of the whitewater park rapids will be similar to other navigation obstacles occurring downstream in the greater drift boat reach, which includes Class III rapids. The main boat launch is downstream of the Launch Counter Structure Unit, allowing for drift boats to avoid navigating the Structure Unit. Grand County anticipates coordinating with Bureau of Land Management (BLM) to improve public access to the whitewater Structure Units when the park is operational.

We are under the impression the CWCB is considering filing an ISF water right for the reach including the Gore Canyon location. It is our opinion that the proposed Structure Units will not have significant long-term impacts on the environment that the ISF is intended to protect. The effects of the RICD right, if any, on a possible Instream Flow water right will be discussed in Mr. Rozaklis report June 2011.

IX. Open Channel Hydraulic Analysis

At both the Gore Canyon and Hot Sulphur Springs locations, there are two proposed RICD Structure Units. The appended drawings of C-4 and C-5 show the proposed control sections, that capture and control the flow of the river. The proposed structural modifications create what is known as a "control section," in which flows pass through a "critical" state. In the CWCB's 2003 Technical Criteria, the CWCB defined control as:

> *"A section across the stream where a manmade structure causes the flow to pass through critical depth when flow changes from sub-critical to super-critical."*

The recreation enhancement whitewater structures produce hydraulic jumps. These hydraulic jumps occur at river cross sections downstream of the "control section", where flow transitions from a super-critical state to a sub-critical state. Open channel hydraulics is the study of how the structure of a channel affect the flow patterns of a given hydrology and explains the phenomena of hydraulic jump. The proposed structural modifications control the flow to create the desired hydraulic jump.

The phenomena of flow includes the observation that a given flow can have multiple depths; the depth of a flow associated with the minimum specific energy is considered the critical depth. Different depths of flow have different velocities; when velocities of flow are less than that associated with the critical depth, the flow state is subcritical. When velocities of flow are greater than that associated the critical depth, the flow state is supercritical. The design of the whitewater structures is meant to create a hydraulic jump with a rapid change in depth from a supercritical flow state to a subcritical flow state. The specific energy curve is a graphical representation of the multiple possible specific energies and associated flow depths and for a given discharge.

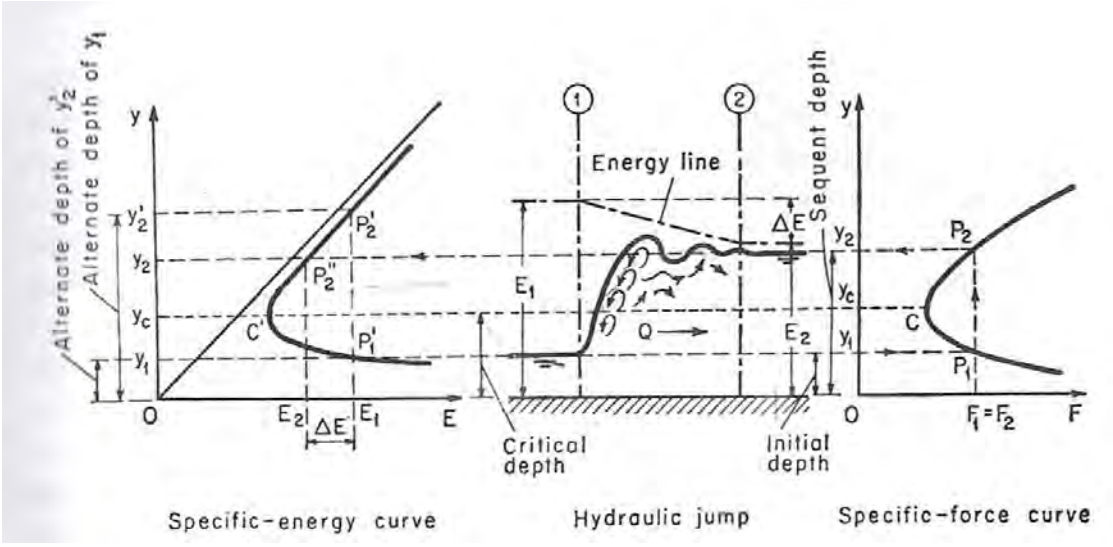

Figure 5. Specific energy curve and energy lost with hydraulic jump (from Chow 1959)

A hydraulic jump occurs at an abrupt change in depth as flow transitions from a super-critical to sub-critical state and is always accompanied by a significant energy loss (Strum, 2010). Analytical equations calculating hydraulic parameters of stream flow and hydraulic jumps are largely based on the Continuity, Energy and Momentum equation,

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which are found within the civil engineering discipline of open channel hydraulics. Application of these equations produces quantifiable results, but requires an in depth understanding of the assumptions made during their development and expert judgment to properly apply them to complex natural settings. No equations have been developed to quantify recreational experience; however, distinct changes, maxima or minima in calculated hydraulic parameters, in our opinion, indicate character changes that translate into differing recreational experiences. Our opinion is based on successful implementation of whitewater parks throughout Colorado.

The state of the flow is described by the dimensionless ratio known as a Froude Number (abbreviated as F*). When a Froude Number is greater than 1.0 the flow is described as super-critical, when less than 1.0 the flow is described as sub-critical, and when equal to 1.0 the flow is considered critical. Table 5 and Table 6 show the Froude Numbers for the Hot Sulphur Springs Locations. Table 7 and Table 8 show the Froude Numbers for the Gore Canyon Locations. At each Structure Unit, Froude Numbers were calculated at multiple cross sections, including: at the structural invert, upstream of the structural invert, and downstream of the structural invert, to reveal the control section and the hydraulic jump. These tables also include additional calculated hydraulic parameters of depth, velocity and efficiency for each recreation enhancement Structure Unit. Hydraulic parameters presented herein are based on one-dimensional hydraulic modeling with a mixed flow regime. These hydraulic parameters were also calculated for 5 percent reduced flows to demonstrate that the target hydraulic parameters are not completely achieved at lower flows for each recreational experience.

Hot Sulphur Springs Location

Glory Hole

The Glory Hole is located within a sub-critical pool-riffle reach of the Colorado River channel. At this site, pre-cast structures and large boulders will be placed to form a hydraulic jump sufficient to produce the desired recreational experiences.

The hydraulic jump generated by these pre-cast structures will form through the monthly average flow range for this reach of the river. At 250 cfs however, the downstream pool depth increases to a depth of 3.0 feet. When flow depths are greater than 3 feet, boaters are able to plunge the bows of their boats into the oncoming current, allowing for an increased range of freestyle whitewater maneuvers. A depth of 3.0 feet is also generally accepted to be the minimum necessary to accomplish an Eskimo-roll (CWCB, 2003). Therefore, 250 cfs is considered the minimum flow rate for the Glory Hole Structure Unit

because at that flow the depths of the pool are at the minimum necessary for a reasonable blue recreation experience.

The efficiency of the hydraulic jump was calculated as the horsepower produced by the hydraulic jump divided by the associated stream flow. The minimum flow to achieve the maximum horsepower is defined herein as the efficient flow. The efficient flow was calculated as 850 cfs and therefore, 850 cfs is considered the minimum flow necessary for a reasonable black recreation experience at the Glory Hole.

Above 2,000 cfs the Glory Hole begins to submerge and gradually reduce its hydraulic influence to the point of the 100-year flood, when the structural modifications are predicted to have an insignificant effect on channel hydraulics. Table 5 shows various hydraulic parameters predicted for the Glory Hole Structure Unit with the key parameters identifying minimum flows or changes in recreational experiences highlighted in green.

Table 5 Glory Hole Hydraulic Parameters

Q	F*	Delta E	Depth	Depth of Submergence	# of Supers	V max	V pool	Efficiency
238	2.1	1.2	2.9	0.47	2	9.7	1.9	19%
250	2.1	1.3	3.0	0.53	2	9.8	1.9	19%
808	1.9	1.4	4.9	2.45	2	13.0	3.0	24%
850	1.9	1.4	5.0	2.56	2	13.1	3.1	25%

Hot Pocket

The Hot Pocket Structure Unit is located approximately 550 feet downstream of the Glory Hole. At this site, large boulders will be placed and grouted to form a sloping ramp which will generate a hydraulic jump sufficient to achieve the desired recreational experiences.

The hydraulic jump generated by the grouted ramp will form through the monthly average range of flows. However, at 420 cfs the downstream pool depth increases to 3.0 feet. Once this threshold depth is achieved, boaters will be able to perform an increased range of freestyle maneuvers while simultaneously allowing for Eskimo-rolls. Therefore, 420 cfs is considered the minimum flow rate for the Hot Pocket Structure Unit because at that flow the depths of the pool are at the minimum necessary for a reasonable green recreation experience.

The efficiency of the hydraulic jump was calculated as the horsepower produced by the hydraulic jump divided by the associated stream flow. The minimum flow to achieve the

maximum horsepower is defined herein as the efficient flow. The efficient flow was calculated as 850 cfs and therefore, 850 cfs is considered the minimum flow necessary for a reasonable black recreation experience at the Hot Pocket.

Above 2,000 cfs the Hot Pocket also begins to submerge and gradually reduce its hydraulic influence to the point of the 100-year flood when the structural modifications are predicted to have an insignificant effect on channel hydraulics. Table 6 shows various hydraulic parameters predicted for the Hot Pocket structure with the key parameters identifying minimum flows or changes in recreational experiences highlighted in green.

Table 6 Hot Pocket Structure Unit Hydraulic Parameters

Q	F*	delta E	Depth	Depth of Submergence	# of Supers	V max	V pool	Efficiency
399	2.0	1.8	2.9	0.82	5	10.8	2.0	7%
420	2.0	1.7	3.0	0.92	5	10.9	2.0	15%
808	1.9	1.8	4.0	1.94	5	12.6	2.8	9%
850	1.9	1.7	4.2	2.06	5	12.7	2.8	18%

Gore Canyon Location

Inspiration Point

Inspiration Point is located within a sub-critical reach of the Colorado River channel at the base of Gore Canyon. At this site, pre-cast structures and large boulders will be placed to form a hydraulic jump sufficient to produce the desired recreational experiences.

The whitewater feature generated by this pre-cast structure will form through the entire monthly average flow range. However, at 860 cfs the downstream pool depth increases to submerge the average invert of the triple pre-cast block configuration by a depth of 0.75 feet. The triple block configuration requires 0.75 feet of submergence in order to perform freestyle kayak maneuvers close to the blocks. For this reason, 860 cfs is considered the minimum flow rate for the Inspiration Point structure to create a blue freestyle whitewater experience.

The Inspiration Point structure also exhibits phase changes. These phase changes are identified by super-critical flow extending over additional cross sections as the flow rates increase. The extension of the super critical flow in the downstream direction is

considered to represent the hole feature extending into a wave-hole and possibly a wave as flows increase. At the Upper Structure, the number of super-critical cross sections increases from 2 sections to 3 sections at 1,050 cfs (Table 7) creating a black experience. These extensions of super-critical flow describe the expected response of the hole to extending out to a wave-hole. For this reason, 1,050 cfs is considered the minimum flow rate for the Inspiration Point structure to create a black freestyle whitewater experience.

The efficiency of the hydraulic jump was calculated as the horsepower expended by the hydraulic jump divided by the associated stream flow. The minimum flow to expend the maximum horsepower is defined herein as the efficient flow. The efficient flow was calculated as 1,350 cfs and therefore, 1,350 cfs is considered the minimum flow necessary for a reasonable double black recreation experience at Inspiration Point.

Above 9,500 cfs the structure begins to submerge and gradually reduce its hydraulic influence to the point of the 100-year flood when the structure is predicted to have an insignificant effect on channel hydraulics. Table 7 shows various hydraulic parameters predicted for the Inspiration Point structure with the key parameters identifying minimum flows or changes in recreational experiences highlighted in green.

Table 7 Inspiration Point Structure Unit Hydraulic Parameters

Q	F*	delta E	Depth	Depth of Submergence	# of Supers	V max	V pool	Efficiency
817	1.6	1.5	4.5	0.66	2	12.8	3.3	19%
860	1.6	1.5	4.5	0.75	2	13.4	3.3	19%
998	1.9	1.6	4.8	1.02	2	13.2	3.6	20%
1050	1.8	1.6	4.9	1.11	3	13.4	3.7	20%
1283	1.8	1.7	5.3	1.52	2	13.8	4.0	20%
1350	1.7	1.7	5.4	1.63	2	13.9	4.1	21%

Launch Counter

The Launch Counter Structure Unit is in an existing sub-critical reach of the channel. Here, well vegetated islands dissect the main channel, immediately upstream of the Launch Counter site. Because of the split nature of the channel at this site, the Launch Counter Structure Unit also has two distinct channels. Placement of the pre-cast structures and boulders will generate two hydraulic jumps, creating the desired whitewater features. A hydraulic jump generated by the pre-cast structures will be evident at all flows, but starting at 1,100 cfs, the downstream pool in the left channel

deepens to 3.0 feet. When flow depths are greater than 3 feet, boaters are able to plunge the bows of their boats into the oncoming current, allowing for an increased range of freestyle whitewater maneuvers. A depth of 3.0 feet is also generally accepted to be the minimum necessary to accomplish an Eskimo-roll (CWCB, 2003). Therefore, 1,100 cfs is considered the minimum flow rate for the Launch Counter Structure Unit because at that flow the depths of the pool are at the minimum necessary for a reasonable blue recreation experience. Beginning at 1,500 cfs, the downstream pool in the right channel deepens to 3.0 feet. Therefore, 1,500 cfs is considered a second minimum flow rate for the Launch Counter Structure Unit because at that flow the depths of the pool are at the minimum necessary for a reasonable black recreation experience.

The efficiency of the hydraulic jump was calculated as the horsepower expended by the hydraulic jump divided by the associated stream flow. The minimum flow to expend the maximum horsepower is defined herein as the efficient flow. The efficient flow was calculated as 2,500 cfs and therefore, 2,500 cfs is considered the minimum flow necessary for a reasonable double black recreation experience at the Launch Counter.

Above 3,250 cfs the structural modifications begin to submerge to the point of the 100-year flood when it is predicted to have an insignificant effect on channel hydraulics. Table 8 shows various hydraulic parameters predicted for the Launch Counter Structure Unit with the key parameters identifying minimum flows or changes in recreational experiences highlighted in green.

Table 8 Launch Counter Hydraulic Parameters

Q	F*	delta E	Depth	Depth of Submergence	# of Supers	V max	V pool	Efficiency
1045	2.1	1.6	2.9	0.8	2	12.2	2.4	13%
1100	2.1	1.7	3.0	0.88	2	12.4	2.4	13%
1425	2.3	1.5	2.9	0.55	2	11.5	4.1	19%
1500	2.3	1.5	3.0	0.65	2	11.6	4.2	19%
2375	2.2	1.4	3.9	1.61	2	13.1	3.0	21%
2500	2.2	1.4	4.1	1.74	2	13.2	3.1	22%

X. Stability Analysis

Drawings C-1 through D-6 show various depths of bury and sizes of materials. These depths, sizes and other design configurations are relevant to the stability of the structural

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components under the forces of flow in the river. The whitewater park structural modifications have been designed to withstand the forces of the 100-year flood from potential local scour, incipient motion and over-turning moment. The concepts of stability are discussed in the sub-sections that follow.

Undermining, scour and general bed degradation are the most common methods for failure of large structures in alluvial channels. Typically large obstructions in the channel cause localized secondary currents, which scour the bed around the obstruction. This scenario often undermines the footing and may eventually lead to failure of the structure under the force of gravity. Scour was evaluated at both the wave block structures and the adjoining ramp wings. The maximum potential scour was then used to determine the footer depths for the structure componets.

Individual particles in the channel bed were analyzed to determine their potential to move as a function of bed shear stresses imposed by the flowing water. These predictions were analyzed up to the 100-year flood scenario and were performed using incipient motion analysis based on Shields' method (Gessler, 1971). The results were used to describe the "critical size" of the bed material. The "critical size" describes the length of the median particle axis at which motion begins when subjected to the shearing force of a given flow. The "critical size" was determined at each Structure Unit using the maximum calculated bed shear stress as the critical shear stress in the Shield's Equation.

Boulders to be used for construction of the ramp and wings at each Structure Unit were sized based on their "critical size" predicted by the Shields' equation and a Factor of Safety (FOS). The FOS calculation describes the ratio of the design boulder size relative to the calculated "critical size". For example, a FOS of 1.0 indicates that the design boulder size will mobilize under the maximum bed shear stress calculated for the range of flow rates at each Structure Unit. A FOS greater than 1.0 indicates a more stable design, where the maximum bed shear stress would be insufficient to mobilize the design boulder size.

In all of the stability analyses, conservative assumptions and values were utilized. The structure components were analyzed independently for a number of different mobilization scenarios. The conclusion is that all Structure Units are designed to be stable up to the 100-year flood.

Hot Sulphur Springs Location

Glory Hole

Scour depths were calculated at the proposed pre-cast structure elevations. The substrate at Glory Hole is alluvial with an approximate median particle size (d50) of 4.4 mm. The minimum scour elevation calculated at Glory Hole was determined to be 7659.7 feet. To prevent failure, the base of the pre-cast structures must be keyed down a minimum of 6 feet into the boulder ramp or to stable bedrock. Potential for scour failure is further reduced at this site due to the armored nature of the channel bed and the design of overlying boulder apron.

The bed shear stress was calculated for a range of flows, including the 100-year discharge of 5720 cfs. The maximum resulting bed shear stress, calculated over the range of flows at Glory Hole, occurred at 1,100 cfs. The maximum particle size to be mobilized at the Glory Hole is 3.0 feet.

The minimum boulder size to be placed at Glory Hole is 4.0 feet and the associated factor of safety is 1.4. The design boulder size at Glory Hole is sufficient to prevent particle mobilization up to the 100-year flood event.

Hot Pocket

The substrate at Hot Pocket is alluvial with an approximate median particle size (d50) of 4.4 mm. The minimum scour elevation calculated at Hot Pocket was determined to be 7661.1 feet. To prevent failure of the grouted ramp, boulders must be keyed down a minimum of 5 feet into native alluvium or to stable bedrock. Potential for scour failure at this site is further reduced by the bed armoring and potential bedrock and the design of the overlying boulder apron.

The bed shear stress was calculated for a range of flows, including the 100-year discharge of 5,720 cfs. The maximum bed shear stress, calculated at Hot Pocket, occurred at 850 cfs. The maximum particle size to be mobilized at the Hot Pocket was calculated as 2.4 feet.

The minimum boulder size to be placed at Hot Pocket is 4.0 feet and the associated factor of safety is 1.7. The design boulder size at Hot Pocket is sufficient to prevent particle mobilization up to the 100-year flood event.

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Gore Canyon Location

Inspiration Point

Scour depths were calculated at the proposed pre-cast structure elevations. The substrate at Inspiration Point is alluvial with an approximate median particle size (d50) of 24 mm. The minimum scour elevation calculated at Inspiration Point was determined to be 6941.7 feet. To prevent failure of the structures, the base of the pre-cast structures will be keyed down to scour depth or to stable bedrock. Due to the armored nature of the existing alluvium at this site and proposed boulder apron, the potential for scour failure is limited.

The bed shear stress was calculated for a range of flows, including the 100-year discharge of 13,600 cfs. The maximum resulting bed shear stress, calculated over the range of flows at Inspiration Point, occurs at 9,500 cfs with a corresponding maximum mobilized particle size of 2.9 feet

The minimum boulder size to be placed at Inspiration Point and associated factor of safety was determined to be 5.0 feet and 1.7, respectively. The design boulder size at Inspiration Point is sufficient to prevent particle mobilization up to the 100-year flood event.

Launch Counter

Scour depths were calculated at the proposed pre-cast structure elevations. The substrate at Launch Counter is alluvial with an approximate median particle size (d50) of 24 mm. The minimum scour elevation calculated at Launch Counter was determined to be 6933.5 feet. To prevent failure of the structures, the base of the pre-cast structures are designed to extend below the calculated scour elevation which is approximately 6 feet below the boulder structures (see Drawings C-4 and C-5). Due to the armored nature of the existing alluvium at this site and proposed boulder apron, the potential for scour failure is limited.

The bed shear stress was calculated for a range of flows, including the 100-year discharge of 13,600 cfs. The maximum resulting bed shear stress, calculated over the range of flows at Launch Counter, occurs at 6,000 cfs with a corresponding maximum mobilized particle size of 2.9 feet

The minimum boulder size to be placed at Launch Counter and associated factor of safety was determined to be 5.0 feet and 1.8, respectively. The design boulder size at Launch Counter is sufficient to prevent particle mobilization up to the 100-year flood event.

XI. Summary

The proposed designs, stream reach and recreational experiences sought are appropriate for these RICD water rights. Based on the findings in this report, the recreational experiences sought are appropriate, these include distinct levels of freestyle whitewater at each Structure Unit, and suitable depths and widths for the proposed courses. Grand County intends to comply with all applicable federal and state legal requirements. The flows requested for appropriation are the minimums for each of the Structure Unit's differing recreational experience as shown in the hydraulic analyses. These Structure Units also have efficient flows within the range of flows annually exceeded. The designs have an adequate factor of safety and are considered stable under the 100-year flood scenario. The proposed project is expected to have minimized temporary environmental impacts associated with construction best management practices and no long-term environmental impacts are anticipated as a result of the structural modifications as proposed.

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XII. References

AMEC 2011. Design Engineering Report, Case No. 2010-CW-298, Grand County's Recreational In-Channel Diversion Water Right in the Colorado River.

Chow, V.T., 1959. Open-Channel Hydraulics. McGraw-Hill Book Company, Inc. USA.

CROA, 2010. Colorado River Outfitters Association, Commercial River Use in Colorado 1998-2010. http://www.croa.org/media/documents/pdf/2010-commercial-rafting-use-report-final.pdf

CWCB, 2003. Recreational In-channel Diversion ("RICD") Policy Regarding Technical Criteria. Colorado Water Conservation Board, November 21, 2003.

Fischenich, C and Seal R., 2000.Boulder Clusters ERDC Technical Notes EMRRP-SR-11. Waterways Experiment Station, USACE Vixburg MS. February, 2000. http://el.erdc.usace.army.mil/emrrp/

Gessler, J., 1971. Beginning and Ceasing of Sediment Motion. River Mechanics; Chapter 7. H.W. Shen (ed.) Water Resources Publication, Littleton, CO.

Strum, T.W. 2010. Open channel hydraulics. 2nd ed. New York (NY): McGraw Hill. 71pp.

USACE, 1997, HEC-RAS River Analysis System User's Manual. U.S. Army Corps of Engineers, Hydrologic Engineering Center, Davis, California.

Whiting, P.J. 2002. Streamflow Necessary for Environmental Maintenance. Annual Review Earth Science, 30, 181-206

Wynne, Kristina. "Re: 1984 and 2010 Peak instantaneous flows" E-mail to Dan Woolley. 22 Dec. 2010.

Draft Findings of Fact, Conclusions of Law, Judgment, and Decree of the Water Court, *Concerning the Application for Water Rights of the Board of Commissioners for the County of Grand, Colorado,* 10CW298, Water Division No. 5.

XIII. Appended Drawings

Appended are 11X17 half scale drawing plates representing the final design of the Hot Sulphur Springs Location and the Gore Canyon Location, as listed in Table 9 and Table 10, respectively.

Table 9 Hot Sulphur Springs Location Appended Drawing Index

SHEET NO.	PLATE NO. GENERAL	TITLE
1	G1	VICINITY MAP, DRAWING INDEX, LEGEND
2	C1	OVER VIEW
3	C2	PLAN VIEW WHITEWATER STRUCTURES
4	C3	PLAN VIEW WHITEWATER STRUCTURES
5	C4	VIEW SECTIONS 1
6	D1	CARE OF WATER DETAILS
7	D2	BOULDER STRUCTURE DETAILS 1
8	D3	BOULDER STRUCTURE DETAILS 2
9	D4	EROSION CONTROL BLANKETS
10	D5	PLANT INSTALLATION
11	D6	PRE-CAST CONCRETE STRUCTURES

Table 10 Gore Canyon Location Appended Drawing Index

SHEET NO.	PLATE NO. GENERAL	TITLE
1	G1	VICINITY MAP, DRAWING INDEX, LEGEND
2	C1	OVER VIEW
3	C2	PLAN VIEW WHITEWATER STRUCTURES
4	C3	PLAN VIEW WHITEWATER STRUCTURES
5	C4	VIEW SECTIONS 1
6	C5	VIEW SECTIONS 2
7	D1	CARE OF WATER DETAILS
8	D2	BOULDER STRUCTURE DETAILS 1
9	D3	BOULDER STRUCTURE DETAILS 2
10	D4	EROSION CONTROL BLANKETS
11	D5	PLANT INSTALLATION
12	D6	PRE-CAST CONCRETE STRUCTURES

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HOT SULPHUR SPRINGS
RIVER RECREATION ENHANCEMENTS
GRAND COUNTY, CO
MARCH, 2011

DRAWING INDEX

PLATE NO	TITLE
G1	VICINITY MAP, DRAWING INDEX, LEGEND
C1	OVER VIEW
C2	PLAN VIEW WHITEWATER STRUCTURES
C3	PLAN VIEW WHITEWATER STRUCTURES
C4	VIEW SECTIONS 1
D1	CARE OF WATER DETAILS
D2	BOULDER STRUCTURE DETAILS 1
D3	BOULDER STRUCTURE DETAILS 2
D4	EROSION CONTROL BLANKETS
D5	PLANT INSTALLATION
D6	PRE-CAST CONCRETE STRUCTURES

LEGEND

- Ordinary High Water Line
- Base Line for X-Sections
- ×98 Spot Elevation
- Scattered Trees
- X-Section Line
- Placed Boulders
- Habitat Boulders
- Proposed Grade
- Pre-cast Structures
- Limits of Riparian

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LOCATION MAP

NTS

VICINITY MAP

NTS

General Notes

GRAND COUNTY RICD
HOT SULPHUR LOCATION
COVER PAGE

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Scale NTS	

General Notes

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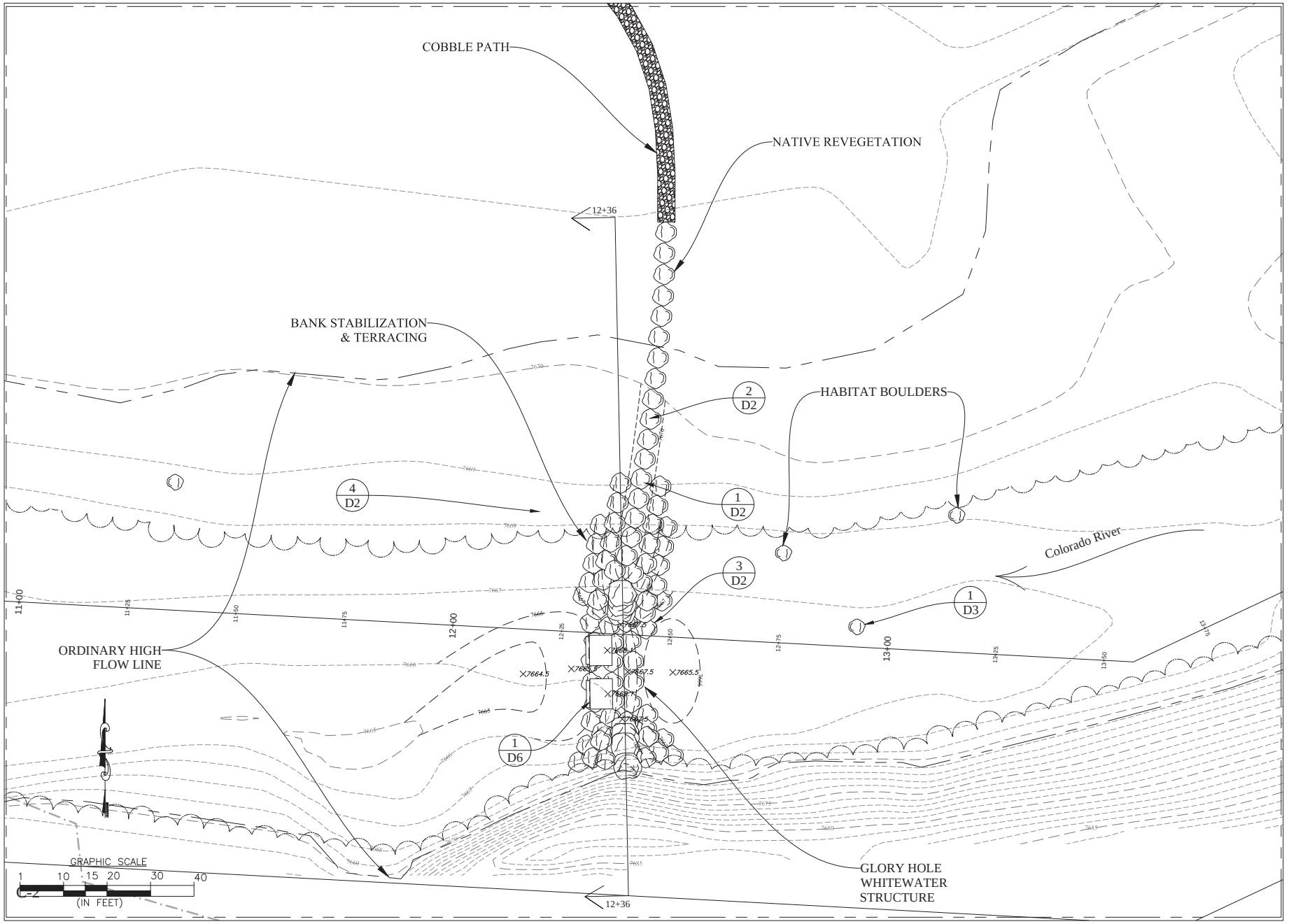

General Notes

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PLAN VIEW WHITEWATER STRUCTURES

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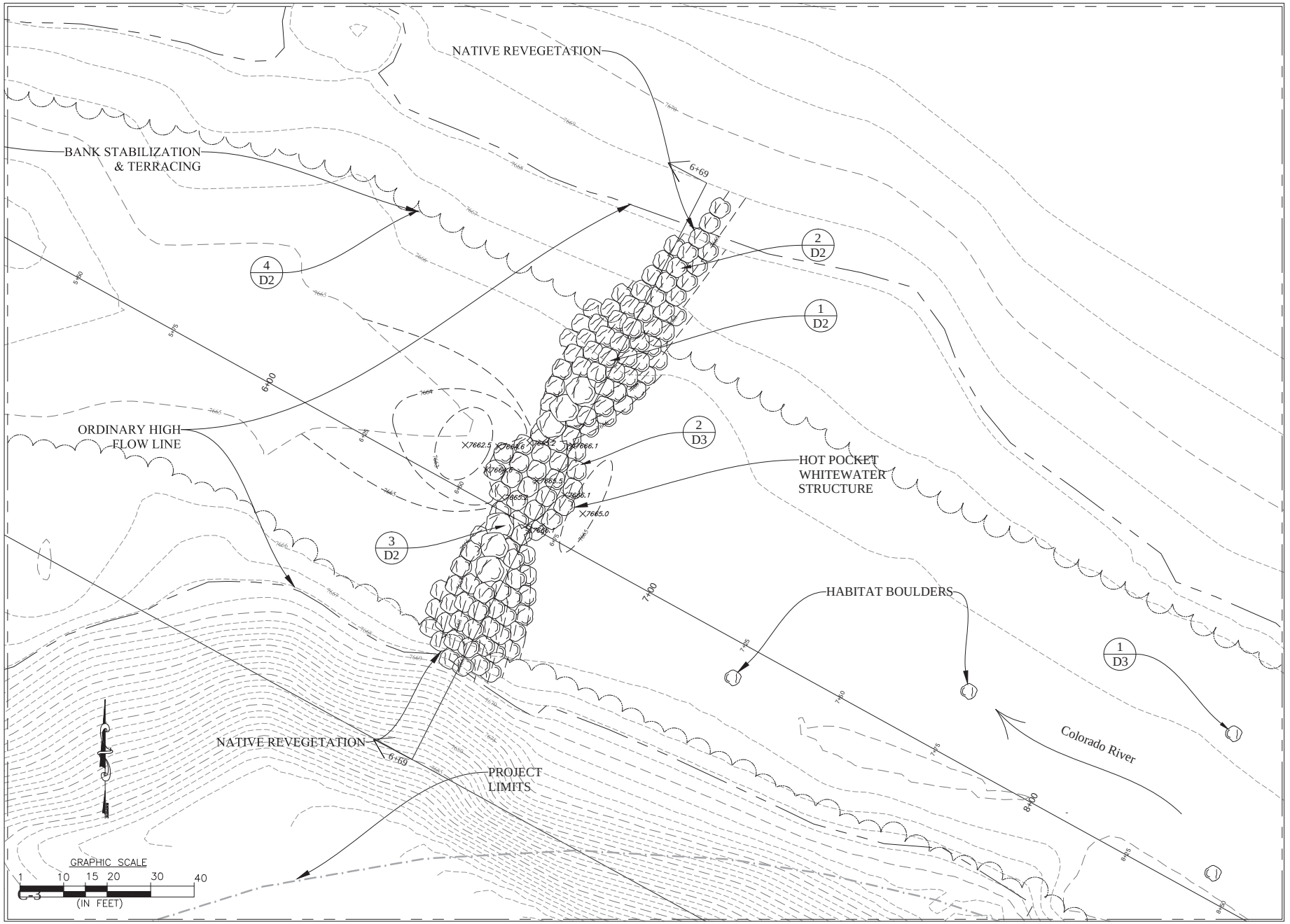

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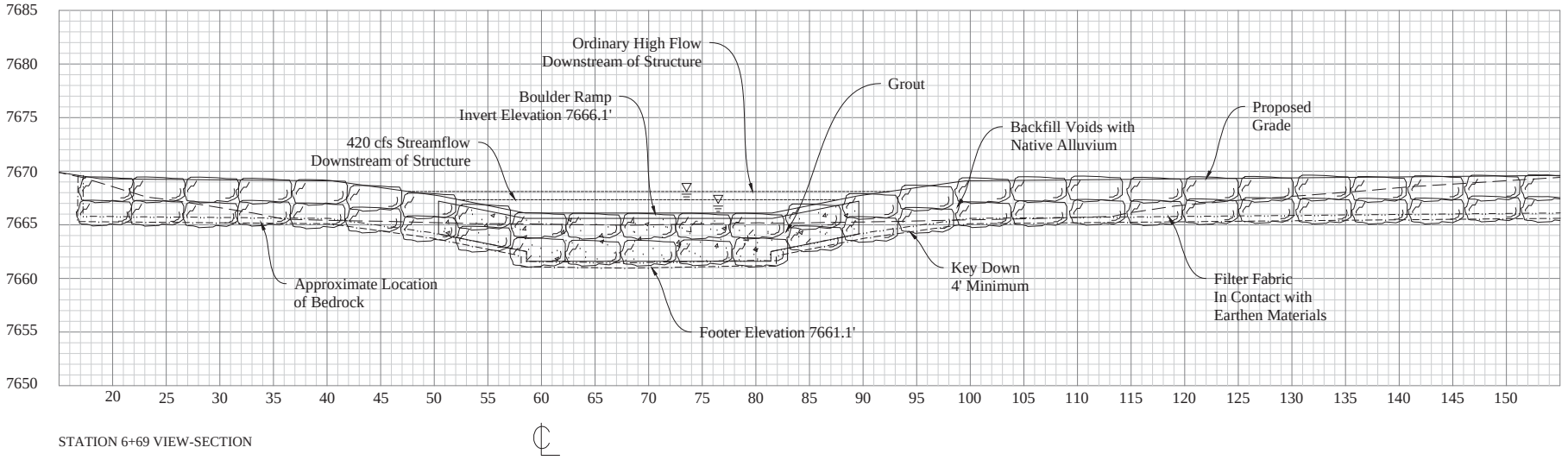


STATION 6+69 VIEW-SECTION

℄

PRE-CAST STRUCTURE

GROUTED RAMP

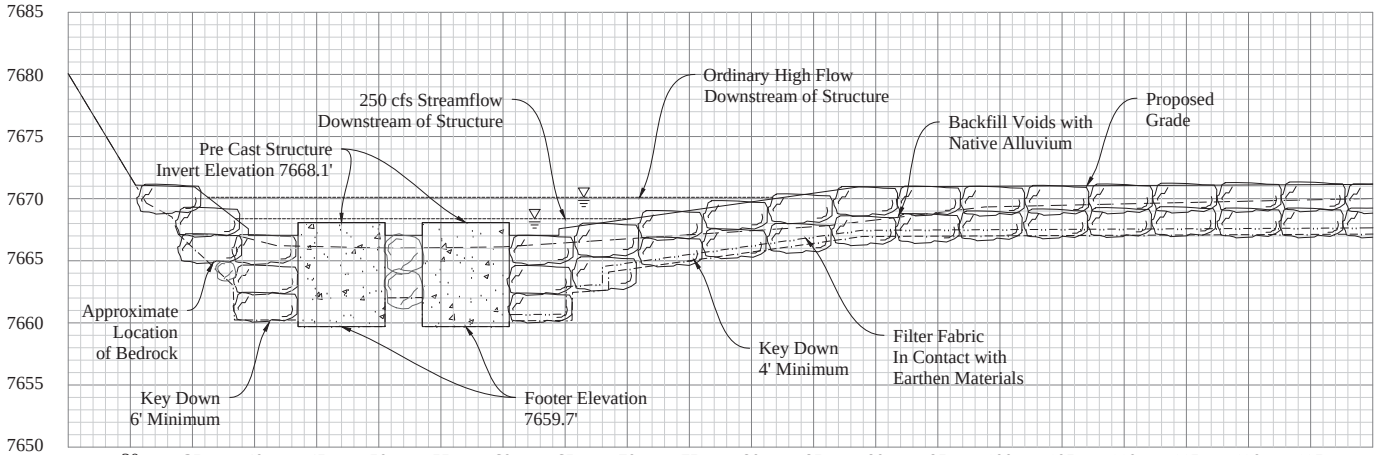
BOULDER PLACEMENT

PROPOSED GRADE

EXISTING GRADE

MINIMUM DEPTH

FILTER FABRIC



STATION 12+36 VIEW-SECTION

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SECTIONS 1

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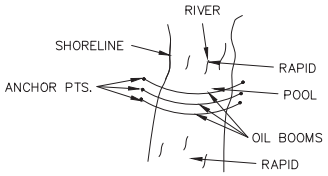
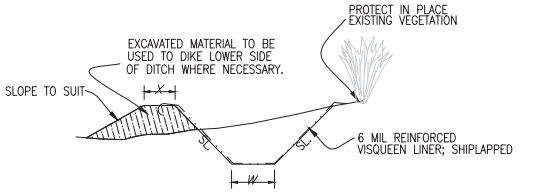
Scale	1" = 5'	

TYPICAL LAYOUT FOR STREAMS AND RIVERS
TO BE PLACED DOWNSTREAM OF ANY EQUIPMENT WORKING IN THE WET



OIL BOOM (TYPICAL)
PLAN VIEW - NTS

1
D1

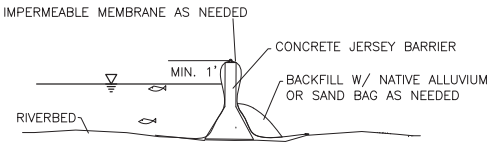


NOTE:
DIMENSION X = W/2 WITH MINIMUM OF 2 FEET. UNLESS OTHERWISE SHOWN IN PLANS. W = 6 FOOT, SL = 1:1.5 SL WILL VARY DEPENDING ON THE TYPE OF SOIL ENCOUNTERED.

TYPICAL SECTION FOR DIVERSION CHANNEL

2
D1

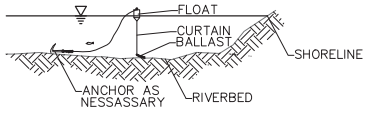
SECTION VIEW



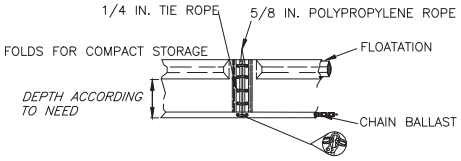
TEMP. JERSEY BARRIER COFFER (TYPICAL)
NTS

3
D1

ORIENTATION WHEN INSTALLED



TURBIDITY CURTAIN SECTION (TYPICAL)
NTS

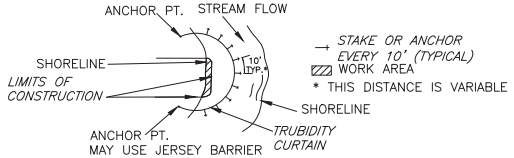


(BLOW-UP OF SHACKLE CONNECTION)

SILTMASTER II PERMEABLE GEOTEXTILE
DREDGE BARRIER NON-WOVEN DBNW
BY PARKERSYSTEMS OR EQUIVALENT

TURBIDITY CURTAIN (TYPICAL)
NTS

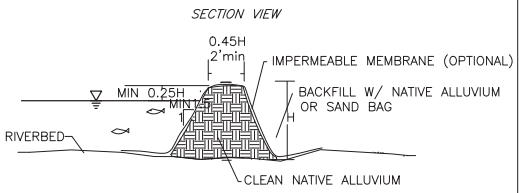
TYPICAL LAYOUTS
STREAMS, PONDS, AND LAKES (PROTECTED AND NON-TIDAL)



TURBIDITY CURTAIN (TYPICAL)
NTS

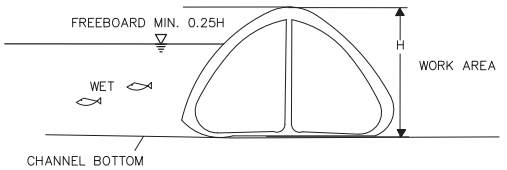
4
D1

SECTION VIEW



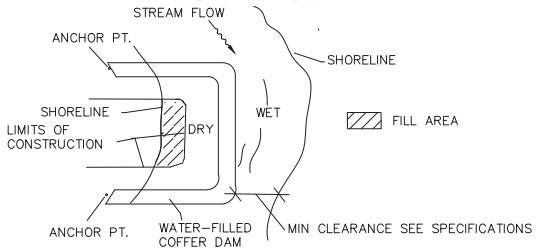
ALLUVIAL COFFER (TYPICAL)
NTS

5
D1



WATER-FILLED COFFER DAM (TYPICAL)
SECTION VIEW - NTS

TYPICAL LAYOUTS
STREAMS AND RIVERS



WATER-FILLED COFFER DAM (TYPICAL)
PLAN VIEW - NTS

6
D1

General Notes

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HOT SULPHUR LOCATION
CARE OF WATER DETAILS

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General Notes

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GORE CANYON LOCATION OVER VIEW

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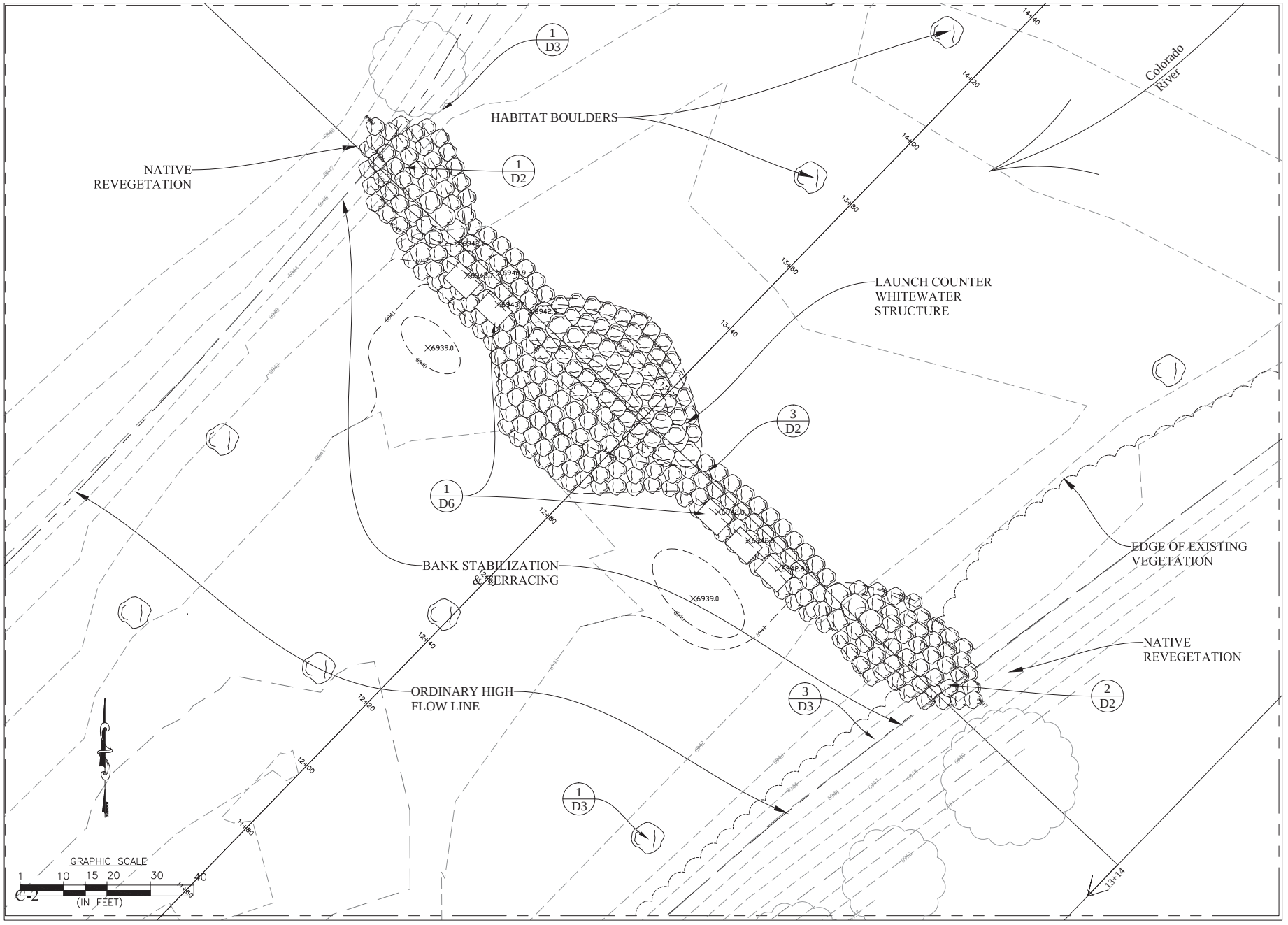

General Notes

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GORE CANYON LOCATION
PLANVIEW WHITEWATER STRUCTURES

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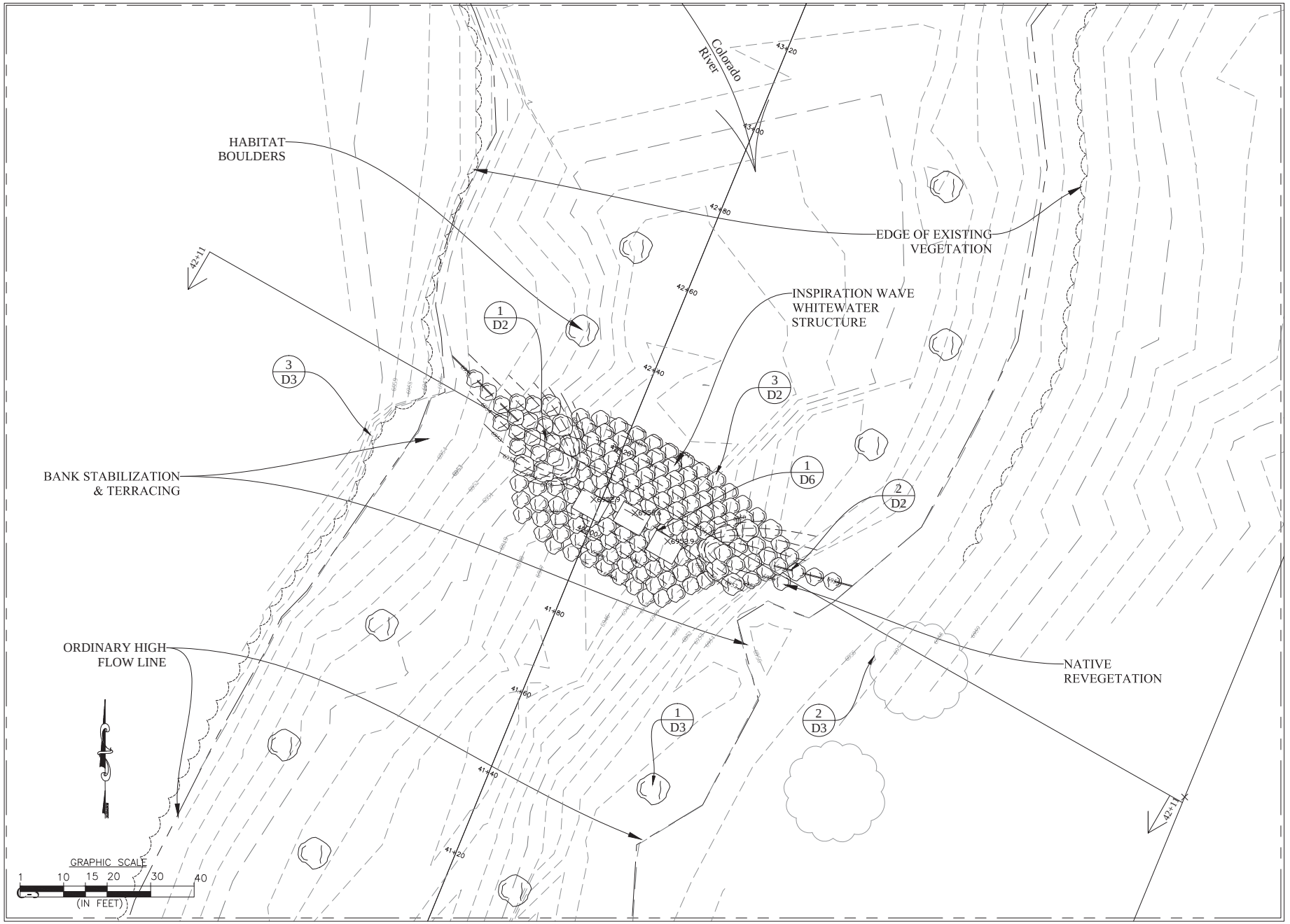

General Notes

GRAND COUNTY RICD
GORE CANYON LOCATION
PLANVIEW WHITEWATER STRUCTURES

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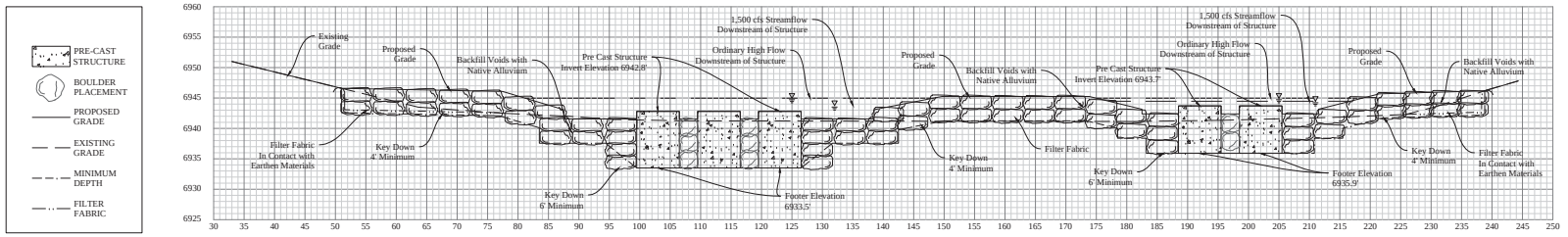

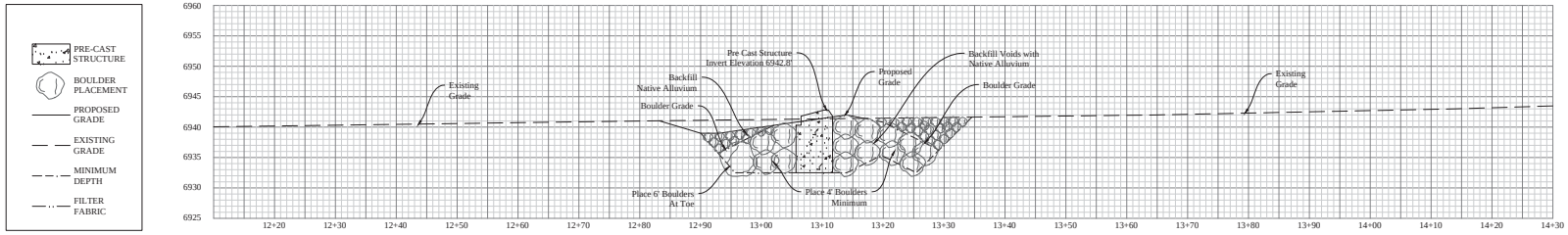

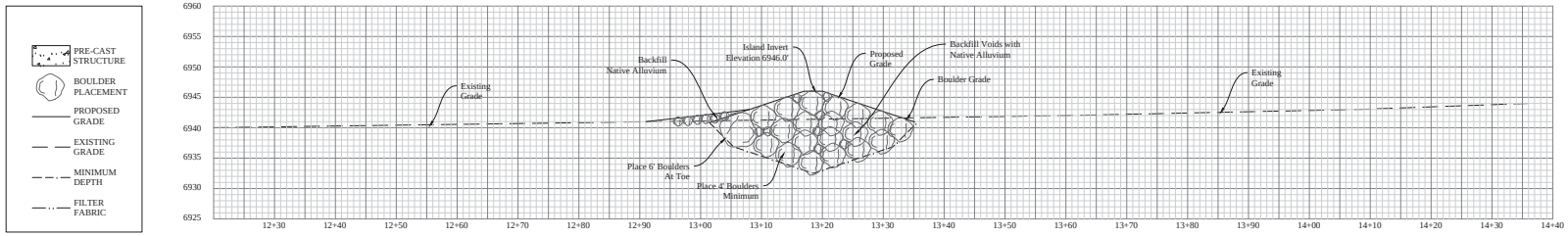

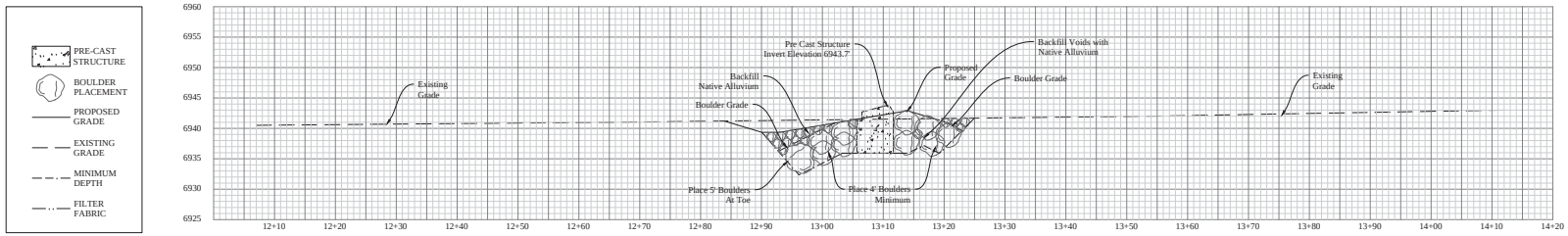

General Notes

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SECTIONS 1

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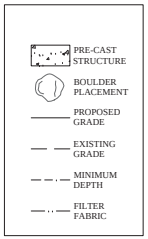
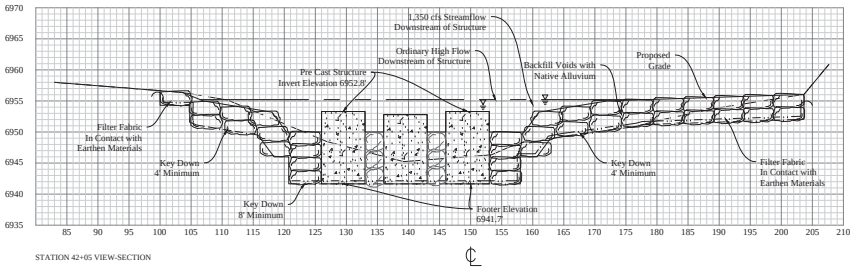
Project	GCRICD	Sheet	C-4
Date	03-21-2011		
Scale	1" = 10'		





STATION 42+05 VIEW-SECTION

General Notes

GRAND COUNTY RICD
GORE CANYON LOCATION
SECTIONS 2

NOT FOR CONSTRUCTION

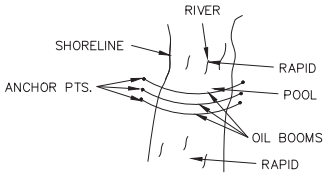
No.	Revision/Issue	Date

RIVER RESTORATION
P.O. Box 2123
Glenwood Springs, CO 81602
www.RiverRestoration.org

GRAND COUNTY
COLORADO RIVER

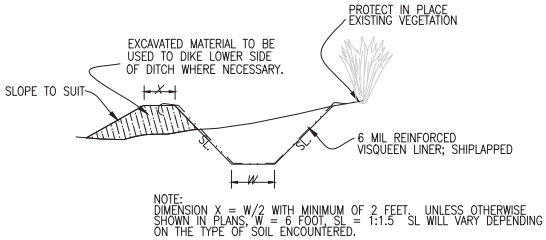
Project	Sheet
GCRICD	C-5
Date: 03-21-2011	
Scale: 1" = 10'	

TYPICAL LAYOUT FOR STREAMS AND RIVERS
TO BE PLACED DOWNSTREAM OF ANY EQUIPMENT WORKING IN THE WET



OIL BOOM (TYPICAL)
PLAN VIEW - NTS

1
D1

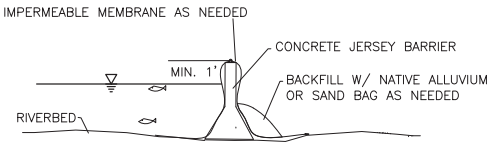


NOTE:
DIMENSION X = W/2 WITH MINIMUM OF 2 FEET. UNLESS OTHERWISE SHOWN IN PLANS. W = 6 FOOT, SL = 1:1.5 SL WILL VARY DEPENDING ON THE TYPE OF SOIL ENCOUNTERED.

TYPICAL SECTION FOR DIVERSION CHANNEL

2
D1

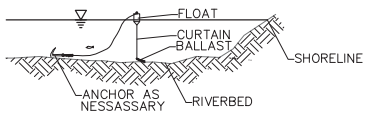
SECTION VIEW



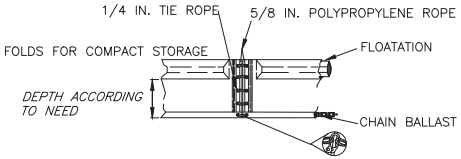
TEMP. JERSEY BARRIER COFFER (TYPICAL)
NTS

3
D1

ORIENTATION WHEN INSTALLED



TURBIDITY CURTAIN SECTION (TYPICAL)
NTS

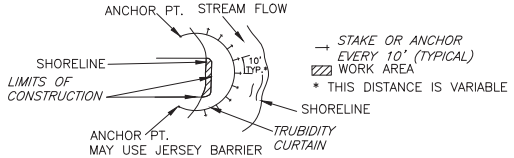


(BLOW-UP OF SHACKLE CONNECTION)

SILTMASTER II PERMEABLE GEOTEXTILE
DREDGE BARRIER NON-WOVEN DBNW
BY PARKERSYSTEMS OR EQUIVALENT

TURBIDITY CURTAIN (TYPICAL)
NTS

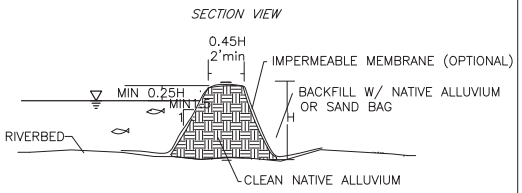
TYPICAL LAYOUTS
STREAMS, PONDS, AND LAKES (PROTECTED AND NON-TIDAL)



TURBIDITY CURTAIN (TYPICAL)
NTS

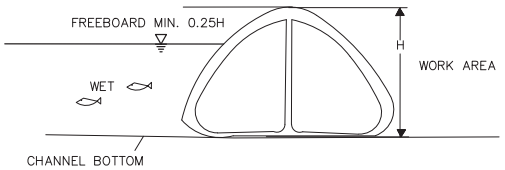
4
D1

SECTION VIEW

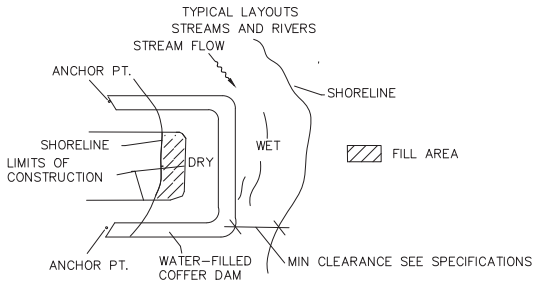


ALLUVIAL COFFER (TYPICAL)
NTS

5
D1



WATER-FILLED COFFER DAM (TYPICAL)
SECTION VIEW - NTS



WATER-FILLED COFFER DAM (TYPICAL)
PLAN VIEW - NTS

6
D1

General Notes

GRAND COUNTY RICD
GORE CANYON LOCATION
CARE OF WATER DETAILS

NOT FOR CONSTRUCTION

No.	Revision/Issue	Date

Firm Name and Address
RIVER RESTORATION.ORG
P.O. Box 2123
Glenwood Springs, CO 81602
www.RiverRestoration.org

Project Name and Address
GRAND COUNTY
COLORADO RIVER

Project	GCRICD	Sheet
Date	03-18-2011	D-1
Scale	NTS	

DISTRICT COURT, WATER DIVISION NO. 5 STATE OF COLORADO Garfield County Courthouse 109 Eighth Street, Suite 104 Glenwood Springs, Colorado 81601	
CONCERNING THE APPLICATION FOR WATER RIGHTS OF THE BOARD OF COMMISSIONERS FOR THE COUNTY OF GRAND, COLORADO IN GRAND COUNTY	**▲COURT USE ONLY▲**
Attorneys For Opposer Climax Molybdenum Company: Brian M. Nazarenus, #16984 Sheela S. Stack, #32768 RYLEY CARLOCK & APPLEWHITE 1700 Lincoln Street, Suite 3500 Denver, Colorado 80203 Telephone: (303) 863-7500 Facsimile: (303) 595-3159 E-mail: bnazarenus@rcalaw.com sstack@rcalaw.com	**Case No. 2010CW298**

OPPOSER, CLIMAX MOLYBDENUM COMPANY'S PRE-MEETING STATEMENT TO THE COLORADO WATER CONSERVATION BOARD

Opposer, Climax Molybdenum Company ("Climax"), through its undersigned counsel, submits this Pre-Meeting Statement pursuant to the Colorado Water Conservation Board's ("CWCB") Notice of Pre-Hearing Conference and Deadlines for Submissions, dated February 24, 2012.

1. Climax owns the Climax Mine, located at the summit of Fremont Pass in Summit, Lake and Eagle counties. In addition to ongoing site reclamation and management activities consistent with Climax's mine plan, Climax is resuming mineral extraction at the Climax Mine in response to market demands. Climax's mining activities will necessarily involve the ability to fully utilize its water rights, as well as adequately manage surface flows to assure its ability to meet operational requirements. The Climax Mine holds water rights for use of water tributary to the Blue River for mining and milling purposes. Full exercise of the Climax Mine's Blue River water rights will be important for planned resumed production.

2. Climax also owns the Henderson Mine and Mill. The Henderson Mine is generally located beneath the Continental Divide in Clear Creek and Grand Counties. The Henderson Mill is located in the Williams Fork River basin in Grand County. The Henderson Mine and Mill are currently in active production. Molybdenum ore is mined at the Henderson Mine and conveyed to the Henderson Mill via a 14.6 mile long conveyance mechanism, 9.6 miles of which are located underground. At the Henderson Mill, the ore is milled, processed, and refined; water is an integral component of these processes. Climax holds water rights for use of water tributary to the Williams Fork and Fraser Rivers, as well as non-tributary water rights, for mining and milling purposes at the Henderson Mine and Mill.

3. In the application herein, Grand County seeks to establish two recreational in-channel diversions ("RICD") on the Colorado River mainstem, one immediately downstream of the confluence of the Blue River and the Colorado River. The flows sought for the RICDs and the extended seasons sought for these rights could affect the administration of the Colorado River and its tributaries and detrimentally affect Climax's water rights and operations.

4. Pursuant to the Modified Case Management Plan filed in this matter, after deliberation in the public meetings held on March 20 and 21, 2012, the CWCB must file with the Water Court its findings made pursuant to C.R.S. §§ 37-92-102(6)(b) and 305(13) by April 11, 2012. Climax and Grand County have engaged in preliminary settlement discussions with respect to this case and the potential impacts to Climax's water rights, as well as its mining and milling operations at both the Climax Mine and Henderson Mine and Mill. Climax plans to submit comments to Grand County by June 1, 2012 in compliance with the modified case management plan.

5. Counsel for Climax will attend the March 20-21, 2012 CWCB meeting, but Climax does not presently anticipate the need to present any information at the meeting. Climax reserves the right to comment on the CWCB's findings of fact and recommendations to the Water Court.

Respectfully submitted this 7th day of March, 2012.

RYLEY CARLOCK & APPLEWHITE

By: Brian M. Nazarenus, #16984
Sheela S. Stack, #32768

Attorneys for Opposer Climax Molybdenum Company

CERTIFICATE OF SERVICE

I hereby certify that on this 7th day of March, 2012, a true and correct copy of the foregoing OPPOSER, CLIMAX MOLYBDENUM COMPANY'S PRE-MEETING STATEMENT TO THE COLORADO WATER CONSERVATION BOARD was filed and served electronically via LexisNexis File and Serve to the following:

Party	Party Type	Attorney	Firm
BOARD OF COUNTY COMMISSIONERS OF PITKIN	Opposer	Beaton, Timothy J	Moses Wittemyer Harrison & Woodruff PC
BOARD OF COUNTY COMMISSIONERS OF PITKIN	Opposer	DeChristopher, Patricia M	Moses Wittemyer Harrison & Woodruff PC
BOARD OF COUNTY COMMISSIONERS OF PITKIN	Opposer	Ladd, Aaron S	Moses Wittemyer Harrison & Woodruff PC
BYERS PEAK PROPERTIES LLC	Opposer	Kropf, Ramsey Elizabeth	Patrick Miller & Kropf PC
BYERS PEAK PROPERTIES LLC	Opposer	Makar, Laura C	Patrick Miller & Kropf PC
CITY AND COUNTY OF DENVER ACTING BY AND	Opposer	Funk, Casey S	Denver Water Board Legal Division
CITY AND COUNTY OF DENVER ACTING BY AND	Opposer	Walker, Michael L	Denver Water Board Legal Division
CITY AND COUNTY OF DENVER ACTING BY AND	Opposer	Arnold, Daniel J	Denver Water Board Legal Division
CNL INCOME GRANBY, LLC	Opposer	Culichia, James W	Felt Monson & Culichia LLC
CNL INCOME GRANBY, LLC	Opposer	Shohet, David M	Felt Monson & Culichia LLC
COLORADO RIVER WATER CONSERVATION DISTRI	Opposer	Fleming, Peter C	Colorado River Water Conservation District
COLORADO RIVER WATER CONSERVATION DISTRI	Opposer	Turner, Jason V	Colorado River Water Conservation District
COLORADO SPRINGS UTILITIES	Opposer	Ohlsen, Karl D	Carlson Hammond & Paddock LLC
COLORADO SPRINGS UTILITIES	Opposer	Hammond, Mary Mead	Carlson Hammond & Paddock LLC
COLORADO SPRINGS UTILITIES	Opposer	Griffith, Richard L	Colorado Springs Utilities
COLORADO WATER CONSERVATION BOARD	Opposer	Schneider, Susan J	CO Attorney General
COLORADO WATER CONSERVATION BOARD	Opposer	Steinbrecher, Scott	CO Attorney General
CORNERSTONE WINTER PARK HOLDINGS LLC	Opposer	Kropf, Ramsey Elizabeth	Patrick Miller & Kropf PC
CORNERSTONE WINTER PARK HOLDINGS LLC	Opposer	Makar, Laura C	Patrick Miller & Kropf PC

Party	Party Type	Attorney	Firm
DIV. 5 ENGINEER	Division Engineer	Division 5 Water Engineer	Division 5 Engineer
FRASER, TOWN OF	Opposer	Thorne, Christopher L	Holland & Hart LLP-Denver
FRASER, TOWN OF	Opposer	Crandall, Kylie J	Holland & Hart LLP-Denver
GRANBY REALTY HOLDINGS LLC	Opposer	Balcomb, Scott M	Balcomb & Green PC
GRANBY REALTY HOLDINGS LLC	Opposer	Geiger, Christopher L	Balcomb & Green PC
GRANBY REALTY HOLDINGS LLC	Opposer	Grosscup, Scott	Balcomb & Green PC
GRAND COUNTY BOARD OF COUNTY COMMISSION	Applicant	Taussig, David C	White & Jankowski LLP
GRAND COUNTY BOARD OF COUNTY COMMISSION	Applicant	Pemberton, Mitra M	White & Jankowski LLP
GRAND COUNTY BOARD OF COUNTY COMMISSION	Applicant	Merrill, Matthew L	White & Jankowski LLP
GRAND COUNTY MUTUAL DITCH AND RESERVOIR	Opposer	Bailey, David Alan	Carver Schwarz McNab & Bailey LLC
GRAND COUNTY WATER AND SANITATION DISTRI	Opposer	Cazier, Stanley W	Cazier McGowan & Walker
GRAND COUNTY WATER AND SANITATION DISTRI	Opposer	Walker, John D	Cazier McGowan & Walker
KREMMLING, TOWN OF	Opposer	Cazier, Stanley W	Cazier McGowan & Walker
KREMMLING, TOWN OF	Opposer	Walker, John D	Cazier McGowan & Walker
LIPSCOMB, C CLARK	Opposer	Kropf, Ramsey Elizabeth	Patrick Miller & Kropf PC
LIPSCOMB, C CLARK	Opposer	Makar, Laura C	Patrick Miller & Kropf PC
LIPSCOMB, MERIDITH C	Opposer	Kropf, Ramsey Elizabeth	Patrick Miller & Kropf PC
LIPSCOMB, MERIDITH C	Opposer	Makar, Laura C	Patrick Miller & Kropf PC
MIDDLE PARK WATER CONSERVANCY DISTRICT	Opposer	Cazier, Stanley W	Cazier McGowan & Walker
MIDDLE PARK WATER CONSERVANCY DISTRICT	Opposer	Walker, John D	Cazier McGowan & Walker
MUNICIPAL SUBDISTRICT NORTHERN COLORADO	Opposer	Trout, Robert Vernal	Trout Raley Montano Witwer & Freeman PC
MUNICIPAL SUBDISTRICT NORTHERN COLORADO	Opposer	Raley, Bennett W	Trout Raley Montano Witwer & Freeman PC
NORTHERN COLORADO WATER CONSERVANCY DIST	Opposer	Trout, Robert Vernal	Trout Raley Montano Witwer & Freeman PC

Party	Party Type	Attorney	Firm
NORTHERN COLORADO WATER CONSERVANCY DIST	Opposer	Raley, Bennett W	Trout Raley Montano Witwer & Freeman PC
STATE AND DIVISION ENGINEERS	Opposer	Benington, Paul L	CO Attorney General
STATE AND DIVISION ENGINEERS	Opposer	Steinbrecher, Scott	CO Attorney General
STATE ENGINEER	State Engineer	State Water Engineer, Colorado	State Engineers Office
SUMMIT COUNTY BOARD OF COUNTY COMMISSIO	Opposer	White, Charles B	Petros & White LLC
TROUT UNLIMITED	Opposer	Whiting, Amelia	Trout UnLtd
UNITED STATES OF AMERICA	Opposer	Guerriero, Kristen	US Attorneys Office-Denver
WINTER PARK RECREATIONAL ASSOCIATION	Opposer	Johnson, Richard A	Johnson & Repucci LLP
WINTER PARK RECREATIONAL ASSOCIATION	Opposer	Larson, Stephen C	Johnson & Repucci LLP
WINTER PARK RECREATIONAL ASSOCIATION	Opposer	Bower, David F	Johnson & Repucci LLP
WINTER PARK WATER AND SANITATION DISTRIC	Opposer	Cazier, Stanley W	Cazier McGowan & Walker
WINTER PARK WATER AND SANITATION DISTRIC	Opposer	Walker, John D	Cazier McGowan & Walker
WINTER PARK, TOWN OF	Opposer	Johnson, Richard A	Johnson & Repucci LLP
WINTER PARK, TOWN OF	Opposer	Larson, Stephen C	Johnson & Repucci LLP
WINTER PARK, TOWN OF	Opposer	Bower, David F	Johnson & Repucci LLP

This document was filed and served via Lexis/Nexis File and Serve pursuant to C.R.C.P. Rule 121. A duly signed original of this document is on file at the law firm of RYLEY CARLOCK & APPLEWHITE.

Colorado Water Conservation Board	
DISTRICT COURT, WATER DIVISION 5, COLORADO GARFIELD COUNTY COMBINED COURTS 109 8TH STREET, SUITE 104 GLENWOOD SPRINGS, CO 81601-3303	
CONCERNING THE APPLICATION FOR WATER RIGHTS OF THE BOARD OF COMMISSIONERS FOR THE COUNTY OF GRAND, STATE OF COLORADO IN GRAND COUNTY, COLORADO	**Δ COURT USE ONLY Δ**
CHARLES B. WHITE, NO. 9241 PETROS & WHITE, LLC 1999 BROADWAY, SUITE 3200 DENVER, CO 80202 PHONE: (303) 825-1980 FAX: (303) 825-1983 E-MAIL: cwhite@petros-white.com	**Case No.: 10CW298**
PRE-MEETING STATEMENT OF SUMMIT COUNTY	

The Objector, Board of County Commissioners of the County of Summit ("Summit County"), by and through its undersigned counsel, Petros & White, LLC, submits this Pre-meeting Statement pursuant to the Colorado Water Conservation Board's Notice of Prehearing Conference and Deadlines for Submissions.

1. List of disputed issues and position of Summit County:

A. Summit County does not dispute the recitals in Grand County's pre-meeting statement. Summit County is generally supportive of the efforts of Grand County to protect streamflows for recreational and other purposes in the Colorado River and its tributaries. Summit County recognizes that the claimed RICDs will also provide certain benefits in the administration of water rights in Grand County.

B. Summit County does have a few comments on the proposed decree that was submitted by Grand County in Case No. 10CW298 and will discuss those comments with counsel for Grand County.

C. Summit County wishes to participate in proceedings before the CWCB to monitor the evidence submitted and positions taken by all of the parties and the CWCB staff

and Board in order to protect Summit County's interests in the Upper Colorado River basin and the mutual interests of Summit County and Grand County in the Colorado River Cooperative Agreement.

2. Witnesses and Exhibits:

At this time, Summit County does not intend to present testimony or exhibits at the meeting of the CWCB. Summit County reserves the right to offer testimony or exhibits in rebuttal, to question witnesses of other parties, and to comment on their testimony or exhibits.

Respectfully submitted this 7th day of March, 2012.

PETROS & WHITE, LLC

/s/ Charles B. White
Charles B. White, No. 9241

ATTORNEYS FOR THE BOARD OF COUNTY COMMISSIONERS OF SUMMIT COUNTY

CERTIFICATE OF SERVICE

I certify that I served a true and correct copy of the above **PRE-MEETING STATEMENT OF SUMMIT COUNTY** was served, via electronic mail on this 7th day of March, 2012, to the following:

Ted Kowalski (ted.kowalski@state.co.us)
Casey Schpall (casey.shpall@state.co.us)
Susan Schneider, Esq. (susan.schneider@state.co.us)
Scott Steinbrecher, Esq. (scott.steinbrecher@state.co.us)

I certify that I served a true and correct copy of the above **PRE-MEETING STATEMENT OF SUMMIT COUNTY** was served, via LexisNexis CourtLink this 7th day of March, 2012, by selecting the following parties of record:

Party Name	Party Type	Attorney	Firm
BOARD OF COUNTY COMMISSIONERS OF PITKIN	Opposer	Beaton, Timothy J	Moses Wittemyer Harrison & Woodruff PC
BOARD OF COUNTY COMMISSIONERS OF PITKIN	Opposer	DeChristopher, Patricia M	Moses Wittemyer Harrison & Woodruff PC
BOARD OF COUNTY COMMISSIONERS OF PITKIN	Opposer	Ladd Esq, Aaron S	Moses Wittemyer Harrison & Woodruff PC
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BYERS PEAK PROPERTIES LLC	Opposer	Makar, Laura C	Patrick Miller & Kropf PC
CITY AND COUNTY OF DENVER ACTING BY AND	Opposer	Funk, Casey S	Denver Water Board Legal Division
CITY AND COUNTY OF DENVER ACTING BY AND	Opposer	Walker, Michael L	Denver Water Board Legal Division
CITY AND COUNTY OF DENVER ACTING BY AND	Opposer	Arnold, Daniel J	Denver Water Board Legal Division
CLIMAX MOLYBDENUM COMPANY	Opposer	Nazarenus, Brian M	Ryley Carlock & Applewhite Pa-Denver
CLIMAX MOLYBDENUM COMPANY	Opposer	Stack, Sheela S	Ryley Carlock & Applewhite Pa-Denver
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CNL INCOME GRANBY, LLC	Opposer	Shohet, David M	Felt Monson & Culichia LLC
COLORADO RIVER WATER CONSERVATION DISTRI	Opposer	Fleming, Peter C	Colorado River Water Conservation District
COLORADO RIVER WATER CONSERVATION DISTRI	Opposer	Turner Esq, Jason V	Colorado River Water Conservation District
COLORADO SPRINGS	Opposer	Ohlsen, Karl D	Carlson Hammond & Paddock LLC

UTILITIES			
COLORADO SPRINGS UTILITIES	Opposer	Hammond, Mary Mead	Carlson Hammond & Paddock LLC
COLORADO SPRINGS UTILITIES	Opposer	Griffith, Richard L	Colorado Springs Utilities
COLORADO WATER CONSERVATION BOARD	Opposer	Schneider, Susan J	CO Attorney General
COLORADO WATER CONSERVATION BOARD	Opposer	Steinbrecher, Scott	CO Attorney General
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CORNERSTONE WINTER PARK HOLDINGS LLC	Opposer	Makar, Laura C	Patrick Miller & Kropf PC
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FRASER, TOWN OF	Opposer	Crandall, Kylie J	Holland & Hart LLP-Denver
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GRANBY REALTY HOLDINGS LLC	Opposer	Geiger, Christopher L	Balcomb & Green PC
GRANBY REALTY HOLDINGS LLC	Opposer	Grosscup, Scott	Balcomb & Green PC
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LIPSCOMB, C CLARK	Opposer	Kropf, Ramsey Elizabeth	Patrick Miller & Kropf PC
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LIPSCOMB, MERIDITH C	Opposer	Kropf, Ramsey Elizabeth	Patrick Miller & Kropf PC
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MIDDLE PARK WATER CONSERVANCY DISTRICT	Opposer	Walker, John D	Cazier McGowan & Walker
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MUNICIPAL SUBDISTRICT	Opposer	Raley, Bennett W	Trout Raley Montano Witwer & Freeman

NORTHERN COLORADO			PC
NORTHERN COLORADO WATER CONSERVANCY DIST	Opposer	Trout, Robert Vernal	Trout Raley Montano Witwer & Freeman PC
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STATE AND DIVISION ENGINEERS	Opposer	Steinbrecher, Scott	CO Attorney General
STATE ENGINEER	State Engineer	State Water Engineer, Colorado	State Engineers Office
TROUT UNLIMITED	Opposer	Whiting, Amelia	Trout UnLtd
UNITED STATES OF AMERICA	Opposer	Guerriero, Kristen	US Attorneys Office-Denver
WINTER PARK RECREATIONAL ASSOCIATION	Opposer	Johnson, Richard A	Johnson & Repucci LLP
WINTER PARK RECREATIONAL ASSOCIATION	Opposer	Larson, Stephen C	Johnson & Repucci LLP
WINTER PARK RECREATIONAL ASSOCIATION	Opposer	Bower, David F	Johnson & Repucci LLP
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WINTER PARK, TOWN OF	Opposer	Johnson, Richard A	Johnson & Repucci LLP
WINTER PARK, TOWN OF	Opposer	Larson, Stephen C	Johnson & Repucci LLP
WINTER PARK, TOWN OF	Opposer	Bower, David F	Johnson & Repucci LLP

/s/ Kari Newmyer

Pursuant to Rule 121 the signed original is on file in the office of Petros & White, LLC

DEPARTMENT OF NATURAL RESOURCES

Colorado Water Conservation Board

2 CCR 408-3

RECREATIONAL IN-CHANNEL DIVERSION RULES

1. Title

Rules Concerning Recreational In-Channel Diversions, adopted pursuant to section 37-92-102, C.R.S., and hereinafter referred to as the "RICD Rules" or "Rules".

2. Purpose of Rules

The purpose of these Rules is to set forth the procedures to be followed by: 1) applicants for Recreational In-Channel Diversions (hereinafter referred to as "RICDs"); and 2) the Colorado Water Conservation Board (hereinafter referred to as "CWCB" or "Board") when making Findings of Fact to a water court regarding RICDs. In addition, the purpose of these Rules is to provide guidance about the type of information that will assist the Board in making its findings to the water court. The Board has incorporated into these Rules, the Statement of Basis and Purpose prepared and adopted at the time of the rulemaking. These Rules will supersede the RICD Rules adopted on November 15, 2005, codified at 2 CCR 408-3, and they are intended to apply to applications that will be reviewed by the Board after the effective date of these Rules. However, they will not apply to applications that were already filed prior to July 1, 2006.

3. Statutory Authority

The General Assembly specifically recognized the appropriation and adjudication of RICDs by local governmental entities, pursuant to sections 37-92-102, 37-92-103, & 37-92-305, C.R.S. The statutory authority for these Rules is found at section 37-60-106(k) and 37-60-108, C.R.S. By promulgating these Rules, the Board assumes no liability related to RICDs and expressly does not waive its sovereign immunity under Article 10, Title 24, C.R.S.

4. Definitions

a. Applicant. Means a local governmental entity that has filed a water court application for a RICD on or after July 1, 2006.
b. Application Receipt Date. Means the date that the Board receives a copy of the RICD application.
c. Application. A water court application filed with the CWCB for consideration under these Rules.
d. Beneficial Use. Is defined as stated in section 37-92-103(4), C.R.S., which is incorporated herein by reference.
e. Board. Means the Colorado Water Conservation Board as defined in sections 37-60-101, 103 and 104, C.R.S., which is incorporated herein by reference.
f. Board's Office. Means the Colorado Water Conservation Board's office, located at 1313 Sherman Street, 7th Floor, Denver, CO 80203. The phone number is (303) 866-3441. The facsimile number is (303) 866-4474. The Board's website is http://www.cwcb.state.co.us.

g. Compact Entitlements. Means all of Colorado's water entitlements pursuant to interstate compacts, equitable apportionments, supreme court rulings designating water apportionments, or any other legally recognized designation of apportionment of interstate waters.
h. Control Structure. Is defined as stated in section 37-92-103(6.3), C.R.S., which is incorporated herein by reference.
i. Director. Means the director of the Colorado Water Conservation Board, who is the chief administrative head of the Board, under the direction and supervision of the Board, and who has general supervision and control of all its activities, functions, and employees.
j. Diversion or Divert. Is defined as stated in section 37-92-103(7), C.R.S., which is incorporated herein by reference.
k. Findings of Fact. Means the written factual findings of the Board regarding the factors set out in section 37-92-102(6), C.R.S. and filed with the water court.
l. Instream Flow (hereinafter referred to as "ISF"). Means any water, water rights or interests in water appropriated or acquired by the Board, pursuant to section 37-92-102(3), C.R.S., for the preservation of the natural environment to a reasonable degree. Pursuant to section 37-92-102(3), C.R.S., no other person or entity may appropriate such rights, for any purpose whatsoever.
m. Local Governmental Entity. Means a Colorado entity authorized to appropriate a RICD and includes a county, municipality, city and county, water district, water and sanitation district, water conservation district, or water conservancy district.
n. Person. Means an individual, a partnership, a corporation, a municipality, the state of Colorado, the United States, or any other legal entity, public or private.
o. Reasonable Recreation Experience. Is defined as stated in section 37-92-103(10.1), C.R.S., which is incorporated herein by reference.
p. Recreational In-Channel Diversion. Is defined as stated in section 37-92-103(10.3), C.R.S., which is incorporated herein by reference.
q. Staff. Means the Director and other personnel employed by the Board.

5. Optional Pre-Application Process

Prior to submitting an application to the water court or to the Board, the Board encourages the applicant to meet with staff to discuss the proposed RICD application and the procedures to be followed by the Board to review the application. Staff will provide input regarding how the proposed application can meet the intent of the RICD Rules.

6. Submissions Required from an Applicant

Within 30 days after filing an application for a RICD with any water court, an applicant shall submit a copy of the application to the Board office, pursuant to section 37-92-102(5), C.R.S.

7. Required Findings

The Board, after deliberation in a public meeting, is required to make certain written findings relative to each RICD application. § 37-92-102(6), C.R.S. The statutory definition of RICD requires that the applicant claim only the minimum stream flow, that the flow be used for a reasonable recreation experience in and on the water, and that the flow be diverted, captured, controlled, and placed to beneficial use. The required findings on factors are:

a. Whether the adjudication and administration of the RICD would materially impair the ability of Colorado to fully develop and place to consumptive beneficial use its compact entitlements. The Board, in making this finding, may consider, but is not limited to, the following:
   i. The amount and location of remaining unappropriated compact entitlement waters in the basin in question and at the RICD point of diversion;
   ii. The proximity of the RICD to the state line;
   iii. The proximity of the RICD to suitable upstream points of diversion or storage which may be utilized by those who would place the water to consumptive beneficial use;
   iv. The existence of suitable downstream points of diversion or storage for consumptive beneficial uses before the water leaves the state;
   v. Exchange opportunities within the state that may be adversely impacted by the existence of the RICD;
   vi. Whether the basin is over-appropriated;
   vii. The effect on other decreed, existing undecreed, or reasonably foreseeable uses of the amount of water claimed;
   viii. Whether a RICD shields waters from a consumptive use that would otherwise be available under a particular compact;
   ix. Whether beneficial consumptive water use opportunities upstream from the claimed RICD would further develop Colorado's compact entitlements and would be impaired by applicant's sought for stream flow amounts; and,
   x. What provisions in the application are proposed for reducing or canceling the RICD.

b. Whether the exercise of the RICD would cause material injury to existing ISF water rights. The Board, in making this finding, may consider, but is not limited to, the following:
   i. The nature and extent of the ISF in the proposed reach or any affected downstream reach;
   ii. The timing and duration of the RICD as such may relate to the specific natural environment for which the ISF was decreed;
   iii. Whether the RICD, or administration of the RICD, would negatively impact the natural environment for which the ISF was decreed; and,
   iv. Whether during the construction of the RICD structures, the construction may cause material injury to the ISF or the natural environment for which the ISF was decreed.

c. Whether the adjudication and administration of the RICD, in the amounts claimed, would promote maximum utilization of the waters of the State. The Board, in making this finding, may consider, but is not limited to, the following:
   i. Whether there are any probable future upstream junior appropriations for direct diversion or storage;
   ii. Whether there are any probable future changes, transfers, or exchanges of water rights from points of diversion downstream of the reach affected by the RICD to points upstream of or in the reach affected by the RICD;

iii. Whether Applicant has demonstrated that it has complied with appropriate federal policies, regulations and laws, or has indicated that it will comply with all appropriate federal policies, regulations and laws;
iv. Whether a reasonable and efficient means is to be utilized to use, divert, capture and control the water for a RICD so as to minimize its call upon the river and avoid waste;
v. Whether a reasonable demand exists for the recreational activity in question as determined by levels of current use and/or estimates of future use;
vi. Whether the application has appropriate limitations upon the time of day, days per month, or seasons during which the RICD would be exercised;
vii. The depth and flow rate of the proposed RICD;
viii. With what frequency and duration, and from what sources, the requested amounts of water for the RICD occur;
ix. The economic effects of the proposed RICD;
x. The environmental effects of the proposed RICD;
xi. The relationship of the requested RICD flow rates to the historic appropriated and unappropriated flow rates for each time period requested;
xii. The effect of the RICD on other potential uses of water;
xiii. Whether the application as a whole meets the elements of the definition of a RICD, as found in section 37-92-103(10.3);
xiv. Whether the RICD would conserve and efficiently use the available stream flow, thereby promoting maximum utilization of Colorado's water resources;
xv. Whether the RICD will make the river basin water critical and the resulting impact on existing water rights and users;
xvi. Whether the RICD may work together with existing and/or future uses within the State of Colorado to promote maximum utilization;
xvii. Any provision in the application for reducing or canceling the RICD;
xviii. A description of each recreational opportunity sought by the applicant at each flow amount sought, and why the flow amount is the minimum amount for each reasonable recreation experience sought;
xix. The historic frequency and flow rates of imported water and reservoir releases through the proposed RICD reach, and whether such flows will be necessary to meet the flow rates claimed for the proposed RICD; and,
xx. Whether, and to what extent, unappropriated native flows exist in the proposed RICD stream reach during the periods claimed, and the percentage of unappropriated flows claimed by the RICD.

8. Additional Information

Because section 37-92-102(6)(b), C.R.S. requires the Board to report its findings within 90 days after the closing date for the filing of statements of opposition, an applicant may elect to provide additional information at the time it submits its application to the Board. The following types of information would assist the Board in making its findings:

a. A description of structures, including design plans for the physical control structures, engineering data and calculations used to design the facilities associated with the application;
b. Maps showing the location of all physical control structures and access points;

c. Evidence, including hydraulic and hydrologic calculations, that the physical control structures are capable of diverting, capturing, and controlling water within the stream channel;
d. Documentation describing and justifying the nature of the recreational experience sought;
e. Documentation identifying and/or justifying the time of day and season of use sought;
f. Evidence that the amounts requested in the RICD application are available for appropriation;
g. Information about the frequency of occurrence of the requested stream flows, including exceedance calculations and duration curves for the claimed stream flows;
h. Information demonstrating that the amount of water claimed is the minimum amount necessary to achieve the reasonable recreation experience sought;
i. Information about all necessary permits and the status thereof, including existing or proposed permit terms and conditions;
j. List of persons notified by the applicant about the RICD; and,
k. Information about existing or proposed gages on the affected stream that may be utilized to administer the water right being sought.

9. Notice

Within fifteen days of the application receipt date, the staff shall post notice of receipt of the application on the CWCB website. The notice shall include the name of the applicant, the flow amounts claimed, the water division, the name of the stream, the proposed reach of the stream, the location of the structures including the county, and information about how to obtain party status. In addition, the staff shall notify the county commissioners of the county in which the RICD is (or will be) located, and any upstream counties. The Board shall include notice of public deliberations on an RICD on its agenda for a regularly scheduled or specially scheduled Board meeting that is also posted on the CWCB website. At that time or at a subsequently noticed Board meeting the Board will: 1) ratify the Statement of Opposition filed by the Staff; 2) direct the Staff to issue appropriate written findings.

10. Statements of Opposition and Staff Report

The staff intends to file a statement of opposition in every RICD case to assure that the Board has the ability to properly weigh in on the requisite factors to the water court. Circumstances may occur where the Staff would propose not filing a statement of opposition to an RICD case, but the Staff would inform the Board of such a case and obtain Board concurrence or comment in these types of situations. The Staff shall provide a written report and recommendation to the Board based on the information provided by the applicant and any other applicable information. At a Board meeting following the Staff's filing of a statement of opposition, the Board will: 1) ratify the statement of opposition, inform the Staff about the appropriate findings to file with the water court, and direct the Staff to fully participate in the water court proceedings; 2) inform the Staff about the appropriate findings to file with the water court and choose to withdraw the statement of opposition; or 3) ratify the statement of opposition and table the discussion regarding the appropriate findings to file with the water court and whether to participate fully in water court.

11. Public Deliberations

The Board will publicly deliberate about the findings that it will make for each RICD.

12. Submission of Findings to the water court

Pursuant to section 37-92-102(6)(c), C.R.S., the Board shall submit its findings of fact to the water court within 90 days after the final closing date for filing statements of opposition. However, the Board, for good cause shown on the record, may request that the water court grant additional time to the Board for making and reporting its findings of fact.