

AGENDA
Borrego Water District Board of Directors
Regular Meeting
December 18, 2013 9:00 a.m.
806 Palm Canyon Drive
Borrego Springs, CA 92004

I. OPENING PROCEDURES

- A. Call to Order
- B. Pledge of Allegiance
- C. Roll Call
- D. Approval of Agenda (1-2)
- E. Approval of Minutes
 - Special meeting of November 12, 2013 (3)
 - Regular meeting of November 20, 2013 (4-7)
 - Comments from Directors and Requests for Future Agenda Items
- F. Comments from the Public and Requests for Future Agenda Items (comments will be limited to 3 minutes)
- G. Correspondence:
 - Letter from U.S. Department of the Interior (8)

II. CURRENT BUSINESS MATTERS

- A. Discussion and possible approval of amendment to District Water Credit Policy (9)
- B. Discussion and possible approval of Genus L.P. request for water credits on Pepper Farm property (10-13)
- C. Consideration of transfer of EDU's from Baker/ Marlow to Marlow (13 EDU's) and Baker/Marlow to Anza Borrego Desert Natural History Association (4 EDU's) (14-27)
- D. Discussion and possible action on updating the Groundwater Management Plan
 - Review of Borrego Water Coalition Basin Management Objectives and Strategies (28-65)
 - Proposed stakeholder interview process (66-68)

III. STAFF REPORTS

- A. Financial Reports – November 2013 (70-82)
- B. General Manager / Operations Report (83-84)
- C. Water and Wastewater Operations Report – November 2013 (85)
- D. Water Production/Use Records – November 2013 (86-89)

IV. ATTORNEY'S REPORT

V. COMMITTEE REPORTS & PROPOSALS:

Ad Hoc Committees

- | | |
|--------------------------------------|------------------------|
| 1. Audit Committee | (M. Brecht, L. Brecht) |
| 2. Due-Diligence | (M. Brecht, L. Brecht) |
| 3. Strategic Planning Committee/IRWM | (Hart, L. Brecht) |
| 4. Executive Committee | (Estep, Hart) |
| 5. Operations & Management Committee | (M. Brecht, Delahay) |
| 6. Parks Committee | (Estep, Hart) |
| 7. Asset Ad Hoc Committee | (Hart, M. Brecht) |
| 8. Personnel Committee | (Hart, M. Brecht) |
| 9. Negotiating Committee | (Hart, Estep) |

VI. INFORMATION ITEMS

VII. CLOSED SESSION

- A. Conference with Legal Counsel – Anticipated Litigation
Significant exposure to litigation pursuant to paragraph 2 of subdivision (d) of Section 54956.9.
One case.

- B. Public Employee Appointment
Government Code section 54957
Title: General Counsel

VIII. CLOSING PROCEDURE

The next Special Meeting of the Board of Directors is scheduled for January 14, 2014 at the Borrego Water District.
The next Regular Meeting of the Board of Directors is scheduled for January 22, 2014 at the Borrego Water District.

II. CURRENT BUSINESS MATTERS

A. Presentation of FYE 2013 audited financial results by Hosaka, Rotherham & Co.: Jim Rotherham, Chairman and Managing Partner of the District's audit firm, Hosaka, Rotherham & Co., invited the Board's attention to pages 2 and 3 of the financial section of the audit report. They summarize the firm's opinion of the District's financial statements and present a clean, unqualified opinion. On page 33, regarding the District's internal controls, the firm found no material weaknesses. Had there been any questions or findings or concern arising from the audit they would have appeared on page 36, but there were none.

Mr. Rotherham went on to summarize the balance of the audit report, which included descriptions of the District's financial statements and financial position, a balance sheet, and summaries of its cash position, current assets and liabilities. The report also provided a profit and loss statement and a schedule of individual accounts.

President Hart inquired about a recommendation from last year's audit that the District ensure sufficient revenue to meet ID 4 bond requirements (115% of the amount owed). John Arndt, Audit Manager for the firm, stated that it did.

The Board received and filed the audit report.

B. Presentation by Nicole Martin, LLBS regarding request to participate in meetings by teleconferencing: Nicole Martin, an attorney representing several agricultural landowners in Borrego Valley, requested the opportunity to participate in District meetings, particularly those relative to the groundwater management plan, by teleconference. She explained that the system could be set up using the Internet and offered to support it financially. Participants could call in and pay for their own calls. Ms. Martin offered to work with Mr. Rolwing, compile cost estimates from several vendors and present a written summary to the Board.

Discussion followed, including questions concerning whether the calls would be interactive, whether the arrangement would be disruptive to the meeting's productivity and how the teleconferencing speakers would be identified. President Hart suggested contacting other public agencies that have used this type of system to find out their opinions, and Mr. Rolwing recommended asking potential vendors for references.

C. Discussion and possible approval of Policy No. 2013-20-1 6" Fire Main Service Availability: Mr. Rolwing explained that the proposed Policy is part of an ongoing process of updating the District's policies and procedures. It is based on the current practices used in ID 1 and has been updated per current Fire Department requirements. The Operations Committee recommends approval. **MSC: *L.Brecht/M.Brecht approving Policy No. 2013-20-1, 6" Fire Main Service Availability.***

D. Discussion of funding options to purchase farm land: Director Lyle Brecht reported that some lobbying and consulting groups in 2012 proposed a legislative initiative to fund the purchase and fallowing of farm land. They feel this would be a good time to introduce it because of the availability of farm land for sale. District participation would cost money, so it would need to be tied to reduction of the overdraft, and local pumpers would have to be supportive. The fact that Borrego Springs is surrounded by the Anza Borrego Desert State Park, a statewide asset, could also help in securing funding. The Borrego Water Coalition has the matter on its agenda and has asked whether BWD is supportive.

Bill Berkley reported that he met last week with Dick Troy of the Anza Borrego Foundation, Ray Shindler, farmer Dennis Jensen, realtor Rebecca Falk and a legislative staff member. The funding proposal is \$25 million for five years. The fallowed land could become part of the State Park and the Park could recoup its investment through water credits. Mr. Rolwing reported that he would be meeting with Senator Anderson in December. The Board agreed to consider the proposal.

E. Discussion and possible action on updating the Groundwater Management Plan:
Mr. Rolwing invited the Board's attention to a handout summarizing tasks to be accomplished relative to the Groundwater Management Plan update and including a proposed table of contents. He had begun accumulating historical data and planned to write some of the new sections. Mr. Rolwing proposed a stakeholders' section based on individual interviews by a neutral party. The Board agreed to approach Jan Naragon to serve as interviewer, tentatively for a maximum fee of \$3,000 and a completion target date of February or March. Mr. Rolwing asked Board members to suggest questions for the interviews at the next meeting. Director Lyle Brecht suggested posting groundwater studies and accompanying maps on the District website.

III. STAFF REPORTS

A. Financial Reports - October 2013: Kim Pitman summarized highlights from her written report and responded to questions from the Board.

B. General Manager/Operations Report: Mr. Rolwing referred to his written report and offered to answer questions. He invited the Board's attention to the attached discussion draft of a Groundwater Workplan Concept Paper sent to him for comment by the State Water Board. Mr. Rolwing had discussed the Workplan with Tim Ross of the California Department of Water Resources and they agreed it's a good concept with statewide interest. If there are no substantial critical comments the Workplan was stay as is.

C. Water and Wastewater Operations Report - October 2013

D. Water Production/Use Records - October 2013:

The monthly Water and Wastewater Operations Report and the Water Production/Use Records were included in the Board package.

IV. ATTORNEY'S REPORT

None

V. COMMITTEE REPORTS & PROPOSALS

Ad Hoc Committees

1. Audit Committee

The audit report was covered earlier in the meeting.

2. Due-Diligence

The Due-Diligence Committee is working on availability fees.

3. Strategic Planning Committee/IRWM

The Strategic Planning Committee is working with the Borrego Water Coalition and Rams Hill.

4. Executive Committee

No report.

5. Operations & Management Committee

Director Delahay reported that the Committee met last week and would meet again this afternoon. President Hart asked about the status of Mr. Coffman's proposal at the last meeting. Mr. Rolwing replied that Mr. Coffman had been requested to submit a written proposal and agreed to arrange for him to meet with the Operations & Management Committee.

6. Parks Committee

No report.

7. Asset Ad Hoc Committee

No report.

8. Personnel Committee

No report.

9. Negotiating Committee
No report.

VI. INFORMATION ITEMS

Director Lyle Brecht inquired about the status of the proposed master calendar of District deadlines and due dates. Ms. Pitman promised to work on it now that the audit has been completed.

Jim Engelke reported that he had submitted a proposal to the Anza Borrego Foundation to develop a campground on part of the Viking Ranch property. He will bring the proposal to the BWD Board at a future meeting.

VII. CLOSED SESSION

A. Conference with Legal Counsel – Anticipated Litigation. Significant exposure to litigation pursuant to paragraph 2 of subdivision (d) of Government Code Section 54956.9. One case: The Board adjourned to closed session at 10:45 a.m., and the public meeting reconvened at 11:45 a.m. There was no reportable action.

VIII. CLOSING PROCEDURE

There being no further business, the Board adjourned at 11:45 a.m. The next Regular Meeting of the Board of Directors is scheduled for December 18, 2013 at the Borrego Water District.



United States Department of the Interior

U.S. GEOLOGICAL SURVEY
California Water Science Center
4165 Spruance Road, Suite 200
San Diego, CA 92101

December 10, 2013

Mr. Jerry Rowling
General Manager, Borrego Water District
806 Palm Canyon Drive
Borrego Springs, CA 92004

Dear Mr. Rowling,

I apologize for the delay in completing the Borrego Groundwater report. Unfortunately, the completion of this report has had very bad timing. Factors contributing to the report delay include Peter Martin's retirement, Claudia's assumption of many of Peter's managerial responsibilities (which has taken time away from her completing this study), the sequestration budget cuts which have reduced resources to cover projects, and the government shutdown in October. In addition, after the model was completed, some errors were recently found in the numerical code used to do the simulation. Although the results have only changed very slightly, the parameters (hydraulic properties) used to calibrate the model were adjusted, and all simulations had to be re-run.

I recognize how important this report is to your agency and want to assure you that we will get a draft of the complete report to you in early January. As stipulated in USGS Fundamental Science Practices, cooperators can be provided courtesy copies of draft reports to get their input suggestions. We do not currently have any agreements with the Borrego Water Coalition or Reclamation associated with their basin studies. Therefore, we will not be providing them a copy until it is published.

Again, I am sorry that this report has been delayed. Claudia is a superb scientist and modeler, and I have no doubt that her final report will be an extremely valuable resource for the Borrego Water District and stakeholders. We will do all we can to get it to you as soon as possible. Please feel free to contact me with any questions (619 225-6134; egreich@usgs.gov).

Sincerely,

Eric G. Reichard
Center Director

4. E. Forfeiture of Credits Granted

The purpose of issuing a water credit is to recognize the fallowing of actively irrigated land located in the BVGB. A water credit may be used in the future to offset the groundwater use of a proposed development. However, this offset value of the water credits issued will be forfeit if **any of** the water use activity on the fallowed land is merely transferred to other land located in the BVGB.

APPLICATION FOR WATER CREDIT CERTIFICATE
(BWD Form 100)

Borrego Water District
Board of Directors
PO Box 1870
Borrego Springs, CA 92004

ATTENTION: General Manager

Name: GENUS LP

Mailing Address: 2006 OLD HIGHWAY 395 FALLBROOK CA. 92028

Phone Number: 760-343-6686 PAUL NORMAN (AGENT)

Assessor's Parcel Number: 141-030-35 Acreage: 63.58

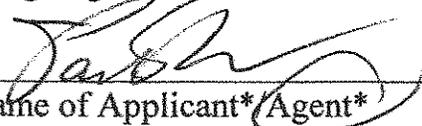
Address of Property: BORREGO SPRINGS RD
(if applicable)

Crop cultivation:

Date Cultivation Commenced (must be prior to 4/9/03)	Water Activity (crop, turf, etc.)	Area	For BWD Use Only Water Entitlement Quantity
1970		63.58	

Current Water Provider: ONSITE WELL

I declare under penalty of perjury under the laws of the State of California that the foregoing statements are true and correct of my own personal knowledge.


Name of Applicant*/Agent*

DEC 11, 2008
Date

Name of Applicant/Agent

Date

* All legal owners of the property must sign

BWD Water Credit Application Process and Status

- Water Credit Application submitted for water credits under BWD Water Credit and Mitigation Policy.
- Submitted by Genus LP to Borrego Water District on Dec 11 2009.
- Attended BWD Ground Water Management Meeting on Feb 17 2010 for Agenda Item 5 “Status of applications for water credits”.
 - As of the time of this meeting our application is on hold pending the water boards request for a letter from San Diego County saying that property owner has permission to farm property.
 - General Manager asked me to write him a letter saying that the DPLU has denied our request for a written letter stating what the farming status is on this parcel because the board requires a written letter from the DPLU on this parcel. The purpose of this letter is for him to take it to the County Supervisor (Bill Horn) and ask him to have the county write this letter to satisfy BWDs requirement.
 - Having verbally asked for this letter from the DPLU we found out that this practice is against DPLU policy and our request cannot be complied with.
 - The water district has made approval of our request for water credits conditional on a letter from DPLU that is against county policy.
 - No other property in this BWD program has had this requirement requested.
 - We complied with BWD’s first verbal request in July 2009 for a review of this parcel by the San Diego County DPLU.
 - Upon this request by the BWD a meeting was setup on August 3 2009 with Jarrett Ramaiya (San Diego DPLU) and Gary Dix (Borrego Sunshine Farms) and myself to present documentation to the DPLU on the ongoing farming operation on APN 141-030-35. This was done to validate that this property **Does Not** require an agriculture clearing permit.
 - On Aug 7 I received on Follow up Email from the DPLU Staff stating that they had just spoke to BWD stating that the county does not require a clearing permit for this particular parcel given the following period qualifies under an allowed agriculture use that is commencing this year.
 - On august 18, 2009 @ 9:15 am the BWD sent an email to the DPLU asking for an Email response “So we can move on with our program” in reference to this parcel.

- After presenting our documentation the BWD received on Email from the DPLU dated Aug 18th 2009 @ 1:07 pm stating the following:
 - Staff has evaluated the proposed agriculture use of the property – in reviewing the evidence submitted by the involved parties, staff has confirmed that the activities commencing on the property do not require the filing on an agriculture clearing permit. The parcel had been farmed as recently as 2004 and has had one crop rotation within the past 5 years. Therefore, the fallowing of up to 5 years (with one of those years being in ag production), is confirmed – and therefore, is allowed for continued agricultural use. Please let me know if you should need anything else. PDLU.

Planting Annual Grain Crop of Montezuma Oats during the month of Feb 2008

- Clearing of debris and tilling the ground in preparation for planting
- Purchase 2500 lbs of Montezuma Oats @ 50 lbs per acre 50 Acres covered / 2/6/2008
- Lease Water Truck 2/8/08 to 2/11/08
- Plowing and seeding.

Field Prep and cleanup:

- July 9 2009 San Diego DPLU issued an Administrative Citation for cleanup on the Borrego Sunshine Property APN 141-030-35
- The material and debris cited in this action was the result of a 2 year cleanup process required to prepare the land for annual grain crops. Previous farming tenant had vacated the property and left the remains of the vinyl ground cover and shade cloth and infrastructure required for their pepper farming operation. This required many man hours to prepare the area.
- Dec 2009 cleanup was completed and signed off by the county Ref Citation # DPLU 36750.

Paul Nordman

BORREGO WATER DISTRICT

ASSIGNMENT

Baker / Marlow

_____, Holder hereby assigns and transfers to
Marlow Non-Exempt Family Trust
_____, Assignee, all of Holder's rights under the
Agreement Respecting in the Town Center Sewer and Deed, dated as of
July 13, 1988, with the BORREGO WATER DISTRICT, with respect to the
following number of EDUs: seven (7) [6 holder and 1 user]

Assignee hereby promises to perform all Holders' duties under said
Agreement with respect to said EDUs.

Nothing in this Assignment shall modify the rights or obligations of Holder or
District under such Agreement and Deed with respect to any of Holder's
EDU's which are not being assigned to Assignee.

This Assignment shall become effective on the approval of the Board of
Directors of the BORREGO WATER DISTRICT.

DATED: 11-15-13 BY: X [Signature]

Holder/Assignor

DATED: 11-15-13 BY: X [Signature]

Purchaser/Assignee

Acknowledgements attached hereto and made a part hereof.

CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT

CIVIL CODE § 1189

State of California

County of Ventura

On 11-15-13 before me, _____
Date

Kathy A. Echerd, Notary Public
Here Insert Name and Title of the Officer

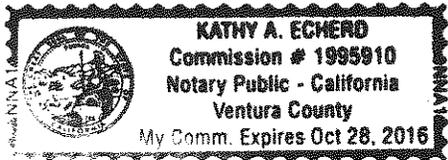
personally appeared _____
Name(s) of Signer(s)

Sharon Marlow

who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal,



Place Notary Seal Above

Signature: Kathy A. Echerd
Signature of Notary Public

OPTIONAL

Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of this form to another document.

Description of Attached Document Bronze Water District Assignment 7 EDUs
Title or Type of Document: to Marlow Non-Exempt Family Trust

Document Date: _____ Number of Pages: 1

Signer(s) Other Than Named Above: _____

Capacity(ies) Claimed by Signer(s)

Signer's Name: _____ Signer's Name: _____

- | | |
|---|---|
| <input type="checkbox"/> Corporate Officer -- Title(s): _____ | <input type="checkbox"/> Corporate Officer -- Title(s): _____ |
| <input type="checkbox"/> Individual | <input type="checkbox"/> Individual |
| <input type="checkbox"/> Partner -- <input type="checkbox"/> Limited <input type="checkbox"/> General | <input type="checkbox"/> Partner -- <input type="checkbox"/> Limited <input type="checkbox"/> General |
| <input type="checkbox"/> Attorney in Fact | <input type="checkbox"/> Attorney in Fact |
| <input type="checkbox"/> Trustee | <input type="checkbox"/> Trustee |
| <input type="checkbox"/> Guardian or Conservator | <input type="checkbox"/> Guardian or Conservator |
| <input type="checkbox"/> Other: _____ | <input type="checkbox"/> Other: _____ |

Signer Is Representing: _____ Signer Is Representing: _____

BORREGO WATER DISTRICT

ASSIGNMENT

Baker / Marlow

_____, Holder hereby assigns and transfers to

Marlow Non-Exempt Family Trust

_____, Assignee, all of Holder's rights under the Agreement Respecting in the Town Center Sewer and Deed, dated as of July 13, 1988, with the BORREGO WATER DISTRICT, with respect to the following number of EDUs: seven (7) [6 holder and 1 user]

Assignee hereby promises to perform all Holders' duties under said Agreement with respect to said EDUs.

Nothing in this Assignment shall modify the rights or obligations of Holder or District under such Agreement and Deed with respect to any of Holder's EDU's which are not being assigned to Assignee.

This Assignment shall become effective on the approval of the Board of Directors of the BORREGO WATER DISTRICT.

DATED: 12/6/13 BY: Stacia Cameron, executor
Holder/Assignor

DATED: _____ BY: _____
Purchaser/Assignee

Acknowledgements attached hereto and made a part hereof.

California All-Purpose Acknowledgment

State of California

County of Los Angeles

s.s.

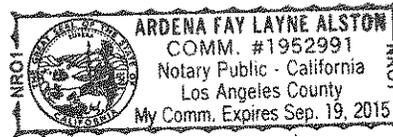
On 12/6/13 before me, Ardena Fay Layne Alston, Notary
personally appeared Sharon L. Cameron

who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Ardena Fay Layne Alston



OPTIONAL INFORMATION

Description of Attached Document

The preceding Certificate of Acknowledgment is attached to a document titled/for the purpose of Assignment

containing 1 pages, and dated 12/6/13

The signer(s) capacity or authority is/are as:

- Individual(s)
 Attorney-in-fact
 Corporate Officer(s)

- Guardian/Conservator
 Partner - Limited/General
 Trustee(s)
 Other:

representing: SELF

Method of Signer Identification

Proved to me on the basis of satisfactory evidence:

- form(s) of identification credible witness(es)

Notarial event is detailed in notary journal on:

Page # 19 Entry # 2

Notary contact: 310547-3150

Other

- Additional Signer Signer(s) Thumbprints(s)

BORREGO WATER DISTRICT

ASSIGNMENT

Baker / Marlow

_____, Holder hereby assigns and transfers to
Marlow Surviving Spouse's Trust
_____, Assignee, all of Holder's rights under the
Agreement Respecting in the Town Center Sewer and Deed, dated as of
July 13, 1988, with the BORREGO WATER DISTRICT, with respect to the
following number of EDUs: six (6) [6 holder]

Assignee hereby promises to perform all Holders' duties under said
Agreement with respect to said EDUs.

Nothing in this Assignment shall modify the rights or obligations of Holder or
District under such Agreement and Deed with respect to any of Holder's
EDU's which are not being assigned to Assignee.

This Assignment shall become effective on the approval of the Board of
Directors of the BORREGO WATER DISTRICT.

DATED: 11-15-13 BY: X [Signature]

Holder/Assignor

DATED: 11-15-13 BY: X [Signature]

Purchaser/Assignee

Acknowledgements attached hereto and made a part hereof.

CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT

CIVIL CODE § 1189

State of California

County of Ventura

On 11-15-13 before me, _____
Date

Kathy A. Echerd, Notary Public
Here Insert Name and Title of the Officer

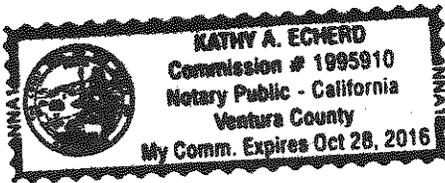
personally appeared _____

Sharon Marlow
Name(s) of Signer(s)

who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.



Place Notary Seal Above

Signature: Kathy A. Echerd
Signature of Notary Public

OPTIONAL

Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of this form to another document.

Description of Attached Document Borrego Water District Assignment, 6 ADUs

Title or Type of Document: To Marlow Surviving Spouse's Trust

Document Date: _____ Number of Pages: 1

Signer(s) Other Than Named Above: _____

Capacity(ies) Claimed by Signer(s)

Signer's Name: _____ Signer's Name: _____

- | | |
|---|---|
| <input type="checkbox"/> Corporate Officer -- Title(s): _____ | <input type="checkbox"/> Corporate Officer -- Title(s): _____ |
| <input type="checkbox"/> Individual | <input type="checkbox"/> Individual |
| <input type="checkbox"/> Partner -- <input type="checkbox"/> Limited <input type="checkbox"/> General | <input type="checkbox"/> Partner -- <input type="checkbox"/> Limited <input type="checkbox"/> General |
| <input type="checkbox"/> Attorney in Fact | <input type="checkbox"/> Attorney in Fact |
| <input type="checkbox"/> Trustee | <input type="checkbox"/> Trustee |
| <input type="checkbox"/> Guardian or Conservator | <input type="checkbox"/> Guardian or Conservator |
| <input type="checkbox"/> Other: _____ | <input type="checkbox"/> Other: _____ |

Signer Is Representing: _____ Signer Is Representing: _____

BORREGO WATER DISTRICT

ASSIGNMENT

Baker / Marlow

_____, **Holder hereby assigns and transfers to**

Marlow Surviving Spouse's Trust

_____, **Assignee, all of Holder's rights under the Agreement Respecting in the Town Center Sewer and Deed, dated as of July 13, 1988, with the BORREGO WATER DISTRICT, with respect to the following number of EDUs: six (6) [6 holder]**

Assignee hereby promises to perform all Holders' duties under said Agreement with respect to said EDUs.

Nothing in this Assignment shall modify the rights or obligations of Holder or District under such Agreement and Deed with respect to any of Holder's EDU's which are not being assigned to Assignee.

This Assignment shall become effective on the approval of the Board of Directors of the BORREGO WATER DISTRICT.

DATED: 12/6/13

BY:

Laura L. Pomeroy, executor
Holder/Assignor

DATED: _____

BY: _____

Purchaser/Assignee

Acknowledgements attached hereto and made a part hereof.

California All-Purpose Acknowledgment

State of California

County of Los Angeles

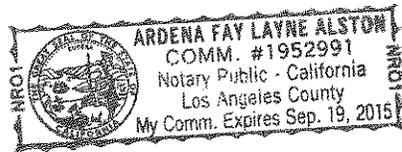
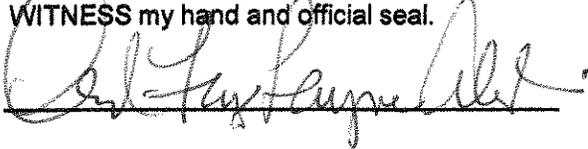
S.S.

On 12/6/13 before me, Ardena Fay Layne Alston, notary
personally appeared Sharon L. Cameron

who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.



OPTIONAL INFORMATION

Description of Attached Document

The preceding Certificate of Acknowledgment is attached to a document titled/for the purpose of Assignment

containing 1 pages, and dated 12/6/13

The signer(s) capacity or authority is/are as:

- Individual(s)
 Attorney-in-fact
 Corporate Officer(s)

- Guardian/Conservator
 Partner - Limited/General
 Trustee(s)
 Other: _____

representing: self

Method of Signer Identification

Proved to me on the basis of satisfactory evidence:

- form(s) of identification credible witness(es)

Notarial event is detailed in notary journal on:

Page # 19 Entry # 3

Notary contact: 310547-3150

Other

- Additional Signer Signer(s) Thumbprints(s)

BORREGO WATER DISTRICT

ASSIGNMENT

Baker / Marlow _____, Holder hereby assigns and transfers to
Anza Borrego Desert Natural History Association
_____, Assignee, all of Holder's rights under the
Agreement Respecting in the Town Center Sewer and Deed, dated as of
July 13, 1988, with the BORREGO WATER DISTRICT, with respect to the
following number of EDUs: four (4)

Assignee hereby promises to perform all Holders' duties under said
Agreement with respect to said EDUs.

Nothing in this Assignment shall modify the rights or obligations of Holder or
District under such Agreement and Deed with respect to any of Holder's
EDU's which are not being assigned to Assignee.

This Assignment shall become effective on the approval of the Board of
Directors of the BORREGO WATER DISTRICT.

DATED: 12/6/13 BY: Marion A. Baker, executor
Holder/Assignor

DATED: _____ BY: _____
Purchaser/Assignee

Acknowledgements attached hereto and made a part hereof.

California All-Purpose Acknowledgment

State of California

County of Los Angeles

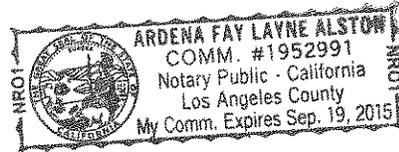
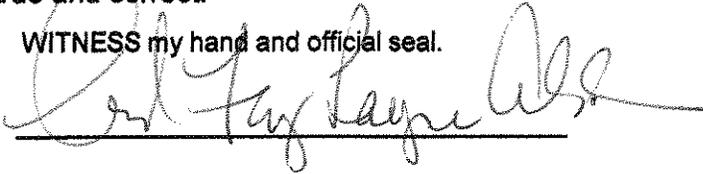
s.s.

On 12/6/13 before me, Ardena Fay Layne Alston, Notary
personally appeared Sharon L. Cameron

who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.



OPTIONAL INFORMATION

Description of Attached Document

The preceding Certificate of Acknowledgment is attached to a document titled/for the purpose of Assignment

containing 1 pages, and dated 12/6/13

The signer(s) capacity or authority is/are as:

- Individual(s)
 Attorney-in-fact
 Corporate Officer(s)

- Guardian/Conservator
 Partner - Limited/General
 Trustee(s)
 Other: _____

representing: SELF

Method of Signer Identification

Proved to me on the basis of satisfactory evidence:

- form(s) of identification credible witness(es)

Notarial event is detailed in notary journal on:

Page # 19 Entry # 1

Notary contact: 310547-3150

Other

- Additional Signer Signer(s) Thumbprints(s)

BORREGO WATER DISTRICT

ASSIGNMENT

Baker / Marlow

_____, Holder hereby assigns and transfers to

Anza Borrego Desert Natural History Association

_____, Assignee, all of Holder's rights under the Agreement Respecting in the Town Center Sewer and Deed, dated as of July 13, 1988, with the BORREGO WATER DISTRICT, with respect to the following number of EDUs: four (4)

Assignee hereby promises to perform all Holders' duties under said Agreement with respect to said EDUs.

Nothing in this Assignment shall modify the rights or obligations of Holder or District under such Agreement and Deed with respect to any of Holder's EDU's which are not being assigned to Assignee.

This Assignment shall become effective on the approval of the Board of Directors of the BORREGO WATER DISTRICT.

DATED: 1-15-13 BY: 
Holder/Assignor

DATED: _____ BY: 
Purchaser/Assignee

Acknowledgements attached hereto and made a part hereof.

CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT

CIVIL CODE § 1189

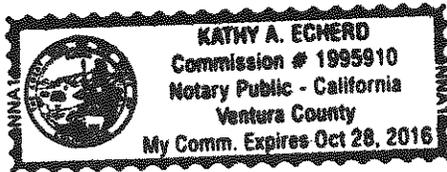
State of California }
County of Ventura }

On 1-15-13 before me,
Date

Kathy A. Echerod, Notary Public
Here Insert Name and Title of the Officer

personally appeared Sharon Marlow
Name(s) of Signer(s)

who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.



I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature: Kathy A. Echerod
Signature of Notary Public

Place Notary Seal Above

OPTIONAL

Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of this form to another document.

Description of Attached Document Borrego Water District Assignment 4 EDUs
Title or Type of Document: To Sanza Borrego Desert Natural History Museum

Document Date: Number of Pages:

Signer(s) Other Than Named Above:

Capacity(ies) Claimed by Signer(s)

- Signer's Name:
Signer's Name:
Corporate Officer - Title(s):
Individual
Partner - Limited General
Attorney in Fact
Trustee
Guardian or Conservator
Other:

Signer Is Representing: Signer Is Representing:

BORREGO WATER DISTRICT

ASSIGNMENT

Baker / Marlow, Holder hereby assigns and transfers to ANZA-BORREGO DESERT NATURAL HISTORY ASSOCIATION, Assignee, all of Holder's rights under the Agreement Respecting in the Town Center Sewer and Deed, dated as of July 13, 1988, with the BORREGO WATER DISTRICT, with respect to the following number of EDUs: 4 (FOUR)

Assignee hereby promises to perform all Holders' duties under said Agreement with respect to said EDUs.

Nothing in this Assignment shall modify the rights or obligations of Holder or District under such Agreement and Deed with respect to any of Holder's EDU's which are not being assigned to Assignee.

This Assignment shall become effective on the approval of the Board of Directors of the BORREGO WATER DISTRICT.

DATED: _____ BY: _____

Holder/Assignor

DATED: 9/13/11 BY: Elizabeth Knaak

Purchaser/Assignee

EXECUTIVE DIRECTOR, ABDNHA

Acknowledgements attached hereto and made a part hereof.

See attached California acknowledgment for notarization

CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT

State of California

County of San Diego }

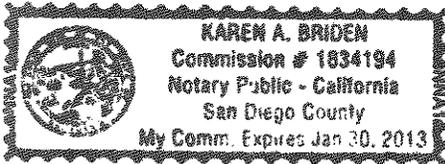
On 09/13/2011 before me, KAREN A BRIDEN, Notary Public,
Date Here Insert Name and Title of the Officer

personally appeared ELIZABETH KNAAK
Name(s) of Signer(s)

who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.



Place Notary Seal Above

Signature [Handwritten Signature]
Signature of Notary Public

OPTIONAL

Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of this form to another document.

Description of Attached Document

Title or Type of Document: Assignment

Document Date: 09/13/2011 Number of Pages: 1

Signer(s) Other Than Named Above: _____

Capacity(ies) Claimed by Signer(s)

Signer's Name: _____

- Individual
- Corporate Officer — Title(s): _____
- Partner — Limited General
- Attorney in Fact
- Trustee
- Guardian or Conservator
- Other: _____



Signer Is Representing: _____

Signer's Name: _____

- Individual
- Corporate Officer — Title(s): _____
- Partner — Limited General
- Attorney in Fact
- Trustee
- Guardian or Conservator
- Other: _____



Signer Is Representing: _____



DRAFT DISCUSSION DOCUMENT

Wednesday, December 11, 2013

Author: BORREGO WATER COALITION

This document describes the Borrego Water Coalition's (BWC) two recommended Basin Management Objectives (BMOs):

- **Bring Basin Supply And Demand Into Balance**
- **Protect Water Quality**

The document aims to support public discussion and comment on potential strategies that best advance each BMO.

The document also describes a potential defined methodology and standards for choosing strategies. A methodology is important as there is often a limited amount of resources (time, labor, money) to accomplish objectives. The reason for applying standards is that there is a cost for delay; for assuming perfect information or conditions are necessary before action commences.

The BWC has proposed strategies for discussion that the Borrego Valley (BV) community can move forward with now. These strategies are well-enough understood. These strategies also potentially provide the best outcome value for the resources expended.

**DRAFT DISCUSSION DOCUMENT: BASIN MANAGEMENT OBJECTIVES & STRATEGIES
FOR BORREGO VALLEY GROUNDWATER MANAGEMENT PLAN UPDATE - 2014**



MISSION OF RECOMMENDED BASIN MANAGEMENT OBJECTIVES

Water For the Future: Transitioning from Borrego Valley Groundwater Basin (BVGB; Basin) Overdraft to a Sustainable Use of the Basin.¹ Resolving the overdraft of the BVGB is a **process**. This *process* has physical, legal, environmental, social, and economic ramifications. A sustainable community-wide groundwater system provides for the economy, the community, the desert ecosystem, and equity. There are no panaceas or quick fixes. The Coalition believes that sole reliance and blind faith in *laissez faire* market forces, governmental rescue, future technological fixes and/or legal solutions are misplaced. We understand that solutions by necessity are multifaceted and will only come with the application of human ingenuity and community involvement and effort over time.

THE ROLE OF THE BWC

The BWC is a thought leadership forum whose responsibility is advisory. The BWC has attempted to create a working group that represents all constituencies in the Valley. Each constituency represented by the BWC has a significant stake in the BV that is potentially at risk from the continued overdraft of the BVGB. Members acknowledge that they have no authority to bind their respective constituencies by any decisions or recommendations of the BWC.

¹ The goal of *sustainability* is “to ensure that natural resources are managed in ways that ensure their efficient but renewable use, and equitable distribution of their benefits.” See David L. Feldman, *Water* (Cambridge: Polity Press, 2012), 53.

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Members further acknowledge that the BWC's recommendations are in no way meant to abridge the statutory or fiduciary responsibilities of any public regulatory agency.

THE GOALS OF THE BWC²

Goal 1: To develop recommendations for managing the BVGB including: what needs to be done, by when, by who, for what cost and what benefits, under what authority, how will results be measured and assessed.

Goal 2: To make certain the analytical basis for choosing basin management strategies to achieve basin management objectives meets the reasonable economic feasibility test. (That is, do we understand in sufficient detail the economic costs and benefits of a particular strategy and are these strategies prioritized as to expected costs and benefits?)

Goal 3: To recommend the means for paying for the implementation of the managed basin plan.

Goal 4: To recommend the best authority to enforce the basin management plan.

PRIORITIZING STRATEGIES: PLANNING & DECISION-MAKING CORE VALUES³

1. We will use a broad, stakeholder-based, long-view perspective for Basin management;
2. We will incorporate science, best data, and community knowledge in a documented groundwater management plan (GWMP) update process with public participation.
3. We will determine values for economic, environmental, and social benefits, costs, and tradeoffs for different strategy options for meeting Basin management objectives;
4. We will incorporate future climate variability, economic uncertainties, and risk management options in the decision-making process to prioritize Basin management strategies.

² See Appendix A: "Borrego Water Coalition Memorandum of Understanding" (MOU).

³ Adapted from *IWM Highlights - Update 2009*, 12B.

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PLANNING ASSUMPTIONS

1. There is an overdraft of the BVGB;⁴
2. The overdraft is presently best defined by the work of the United States Geological Survey (USGS) work between 2010 - 2014;⁵
3. It's time to do something to resolve the overdraft.⁶ (See Exhibit A: "Cost of Delay: Economics of Managed vs. Unmanaged Basin" and Appendix B: "Economics of Sustainable Groundwater Supply").
4. *Timeliness* is important. Actions taken or delayed all have an economic and/or social consequence. Resolving the overdraft will be a *process* that occurs over time.

**WHAT HAPPENS IF THE BV COMMUNITY CAN'T AGREE ON A COURSE OF ACTION TO
RESOLVE THE OVERDRAFT?**

The most likely scenario if the BV community cannot agree on a process to resolve the overdraft now is not many years of more delay. The most likely result is the loss of local control over management of the BVGB. The most probable mechanism for this loss of control would be an adversarial adjudication of the BVGB (see Exhibit B: "Adjudication Explained").

⁴ Approximately \$5.645 million in scientifically-based technical work has been produced since 1982 primarily to define the physical characteristics of the overdraft. Of this amount, approximately \$2.345 million has been spent primarily on science-based technical work since 2009. There is absolutely no dispute among the experts that overwhelming definitive evidence exists that the BVGB is being overdrafted to the extent that serious economic, social, and environmental harms are likely to occur. See Appendix B: "Economics of Sustainable Groundwater Supply" for some common fallacies that may enter one's thinking in an attempt to dispute scientifically gathered data regarding the Basin overdraft situation.

⁵ Despite the expenditure of this \$5.645M on scientific studies since 1982, according to the USGS report due out in final form in 2014, the net result has been that the overdraft has more than doubled since 1982; increasing from about 6,000 acre-feet per year (AFY) in 1982 to about 15,000 AFY today (see http://www.borregowd.org/uploads/Borrego_USGS_2013.pdf).

⁶ The USGS believes at present withdrawal rates, there is no more than 50-years until the upper aquifer of the Basin will be dewatered (drained of economically extractable water). There is a high probability that water from the middle and lower aquifers of the Basin will be of less quality and more expensive to pump to the surface due to these lower aquifers containing much less water per cubic foot than the upper aquifer. For example, as soon as approximately 30-years from now, water extracted from the Basin may become more expensive for all uses than at present (see Exhibit A: "Cost of Delay: Economics of Managed vs. Unmanaged Basin") primarily due to potentially needing advanced water treatment for some or all uses.

**PLANNING TIMEFRAME FOR THE BV COMMUNITY TO AGREE ON A PROCESS TO
RESOLVE THE OVERDRAFT**

The Coalition is making incremental steps that involve both water pumpers and users giving-up something and being part of an overall solution. The Coalition is building the capacity and relationships to continue to work together over time, in whatever form that takes. The Coalition's intent is to retain local control of the Basin rather than to delegate control to either the County or State government agencies, or the California courts. Even if the BV community doesn't reach agreement on all matters, each item we can agree on is potentially significant as compared to the years when there was little cooperation and virtually no progress on reducing the physical overdraft. Our purpose is to work cooperatively to have water for the future and to have a future community worth living in. In the worst case scenario, the parties would be required to revert to an adversarial adjudication process that would cost the BV community local control, as well as significant money, time, and human resources. The planning objective is to reach agreement on a recommended process to resolve the overdraft by the fall of 2014.

**WHERE WILL THE MONEY COME FROM TO IMPLEMENT A PROCESS TO RESOLVE THE
BVGB OVERDRAFT?**

Assuming a plan that is agreeable to the BV community is developed, then there are options to potentially obtain some new public state funding, private foundation funding, existing implementation funding from Proposition 84 bonds, and from the private bond markets. However, none of these known funding sources are presently available to the BV community. That is because, there is no agreed plan to manage the BVGB. Once a plan is in place, there are other funding sources that potentially may become available. However, whatever the funding sources that ultimately become available, it is highly probable that the BV community will be asked to bear a portion of the ultimate cost to resolve the overdraft.

WHY NOT JUST INITIATE AN ADVERSARIAL ADJUDICATION OF THE BASIN NOW?

In an adversarial adjudication, the courts decide what is best for a basin rather than the community. The courts apply a remedy that may or may not be beneficial to the whole community since their obligation is to "balance" water use in the basin. They apply established legal standards that offer little or no flexibility. This surrender of local control to an outside court could have a devastating effect on our community as we know it today.

Even if the community were to go through an adversarial adjudication process right now, it would not resolve the question of how to pay for the needed changes. An adversarial adjudication would most likely eliminate many or all of the above potential funding sources. For example, it is likely that potential state, foundation, and private bond market funding sources

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would be unwilling to provide funding when the basin's future was unsettled. Also, an adversarial adjudication does not relieve the necessity for developing a plan to resolve the overdraft of the Basin. It just eliminates known funding sources for developing this plan (see Exhibit B: "Adjudication Explained").

BASIN MANAGEMENT OBJECTIVES (BMO)⁷

A. Bring Basin Supply And Demand Into Balance

What this means is that outflow = inflow. There is no longer an overdraft of the Basin (overdraft means that outflow is greater than inflow). This objective does not specify *how* to achieve this objective. That is the job of strategy. Why is this objective important? Not because the Basin will run out of water in the foreseeable future. The problem with dewatering the upper aquifer is that the water will become much more expensive as water levels drop; as the upper aquifer becomes dewatered, and withdrawals occur primarily from the middle and lower aquifers. That is, continued overdraft will affect the *economic extractability* of withdrawals from the Basin.⁸

What is necessary for any objective to be operationally useful is to *quantify* the objective in terms that can be measured so that it is possible to know whether or not the objective is being met; to *qualify* the objective by specifying who is responsible for implementing the strategies to achieve the objective, who is accountable if the objective is not met by a specific date, and what penalties are assessed against whom if the objectives and various milestones along the way are not met by the allotted timeframes.

An important prioritization requirement to operationalize any strategy to meet a basin management objective is *cost*. How much will it cost to achieve this objective? Who pays this cost? The goal for any strategy is to equitably allocate the cost to all stakeholders. The final requirement is an *update process* that can alter the plan, as necessary, by looking at what is

⁷ DWR mandatory groundwater management plan components include: (a) monitoring AND management of groundwater levels within the groundwater basin; (b) monitoring AND management of groundwater quality degradation; (c) monitoring AND management of inelastic land surface subsidence; (d) monitoring AND management of changes in surface flow and surface water quality that directly affect groundwater levels or quality; (e) monitoring AND management of changes in surface flow and surface water quality that are caused by groundwater pumping in the basin; (f) description of how recharge areas identified in the plan substantially contribute to the replenishment of the groundwater basin. Specific and measurable Basin Management Objectives need to be established to cover all the above items. See R. Hull, "Required technical components of a groundwater management plan," DWR (8/2013).

⁸ The overriding issue is not necessarily how much water remains in a basin, but the cost to extract and use whatever water is there. For example, a basin could have 500-years of water in it at present extraction rates, but only 20-years of economically extractable water left for beneficial purposes.

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working and what is failing and making adjustments in a timely fashion so that money can be spent most effectively.

B. Protect Water Quality

Protecting and restoring groundwater quality to safeguard public and environmental health and secure water supplies for beneficial irrigation, recreational, and domestic and commercial uses. Why is this important? Presently, water from most areas of the Basin's upper aquifer is of very high quality requiring little treatment for drinking water purposes and is of sufficient quality for irrigation and recreational purposes without treatment. Water from lower in the Basin may require expensive advanced water treatment for drinking water purposes and/or be harmful to use for irrigation purposes without treatment.⁹

A. STRATEGIES¹⁰ FOR BRINGING BASIN SUPPLY AND DEMAND INTO BALANCE¹¹ (Basin Management Strategies [BMS])¹²

Strategies are best initially prioritized using standard economic analysis methodologies such as ROIC (return on invested capital) or DCF (discounted cash flow) or ROV (real options value) metrics by monetizing the costs/benefits of each strategy.¹³ These analytical methods provide

⁹ Two potential future water quality issues in the Basin include dissolved minerals (such as fluoride and arsenic) that may reside in harmful concentrations in the lower portion of the Basin and the potential migration of nitrates in the most upper portion of the Basin as withdrawals in the northern portion of the Basin decrease.

¹⁰ *Strategy* is used here to mean a high level plan to achieve one or more Basin Management Objectives (BMOs) under conditions of uncertainty. Strategy is important because the resources available to achieve these BMOs are limited. Strategy helps to focus appropriate resources on those activities that potentially will provide the best outcome value for the resources expended (Wikipedia).

¹¹ From *IWM Highlights - Update 2009*, 12C-D

¹² See State of California, California Natural Resources Agency, Department of Natural Resources, *California Water Plan: Integrated Water Management - Update 2009 Volume 2 - Resources Management Strategies* (Bulletin 160-09, December 2009) available at http://www.waterplan.water.ca.gov/docs/cwpu2009/0310final/v2_all_cwpu2009.pdf.

¹³ Understanding the costs and benefits of a strategy and how that strategy will be financed is really "creating the architecture for reaching a [Basin Management Objective] - and providing stewardship to protect and preserve the assets needed for the achievement and maintenance of that [BMO]." See Robert J. Shiller, *Finance and the Good Society* (Princeton and Oxford: Princeton University Press, 2012), 7.

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the opportunity to prioritize strategies and make informed decisions to allocate limited capital to achieve results.¹⁴

Strategy Priorities Ranked Highest Potential ROIC¹⁵

1. Use and Reuse Water More Efficiently

Use water more efficiently with significantly greater end-use efficiency,¹⁶ water conservation, recycling, and reuse to help meet future water demands and adapt to climate change. For example, increase residential,¹⁷ recreational, and agricultural water use efficiency,¹⁸ implement measures such as conservation and recycling; capture, store, treat, and use storm water runoff: such as small surface basins, residential storm water capture systems; the creation of catchment basins or sumps downhill of development;¹⁹ incorporate and implement low impact

¹⁴ "Trust is the cornerstone of most relationships in life" (Shiller, 36). The reason trust often enters in to decision making regarding strategy is that the information regarding a strategic choice is almost always less than what one may wish for. Sometimes "the best you can expect is to avoid the worst." See Italo Calvino, *If on a Winter's Night a Traveler* (1979) in William Poundstone, *Prisoner's Dilemma* (New York: Doubleday, 1992), 53.

¹⁵ ROIC = return on invested capital. See Exhibit C: "Standards & Methodology for Establishing Strategic Priorities."

¹⁶ "The primary benefit of improving water use efficiency is the lowering of demand and the ability to cost-effectively stretch existing water supplies. Once viewed and invoked primarily as a temporary source of water supply in response to drought or emergency water shortage situations, water use efficiency and conservation approaches have become viable long-term supply options, saving considerable capital and operating costs for utilities and consumers, avoiding environmental degradation, and creating multiple benefits." See *Resources Management Strategies*, 3-21; and http://www.swrcb.ca.gov/water_issues/hot_topics/20x2020/docs/comment043009/202020_final_report_draft.pdf.

¹⁷ *Urban Water Use Efficiency* - California law (Senate Bill X7 7, November 2009) requires all appropriators of water in the state to reduce end-use consumption of water 20% by December 31, 2020.

¹⁸ *Agricultural Water Use Efficiency* - the use and application of scientific processes to control agricultural water delivery and achieve a cost-beneficial outcome.

¹⁹ *Urban Runoff Management* - Activities to manage both storm water and dry weather runoff. Dry weather runoff occurs when, for example, excess landscape irrigation water flows from the land. For new catchment basins to be valuable for recharge, they must produce a *net* improvement in recharge to the Basin. To date, the advice of experts familiar with the recharge characteristics of this Basin believe that it is unlikely that the development of man-made bio-retention recharge areas would add significant amounts of recharge to the Basin. The majority of recharge occurs within the ABDSP and man-made structures would not be allowed to be constructed on parkland. Also, it is unlikely that the County would approve the construction of publicly funded bio-retention recharge areas. Historically, public flood control structures have ben overwhelmed by periodic flood flows, resulting in County liability for damages to private homes. If bio-retention recharge areas were privately funded, then the owner would become liable for any damages from flood flows.

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development (LID) design features, techniques, and practices to reduce landscape irrigation needs and to reduce storm water runoff.²⁰

Work Plan Elements

- work with growers to identify Best management practice (BMPs) innovations;
- work with golf course owners to establish a water budget for each course;
 - based on the water budget for each course, estimate the capital needed to invest to achieve this water budget;
 - identify financing alternatives that could meet the business requirements for each course achieving its water budget;
- review commercial BMPs and estimate costs for implementing these best practices;
- discuss with Borrego Water District prospect for a Proposition 218 process to develop a tiered rate structure that will incentivize residential customers to employ BMPs for end use efficiency in water use.

Work Plan Schedule - see Exhibit D: "Proposed 2014 Groundwater Management Planning Process"

2. Expand Environmental Stewardship through Improved Land Use Management²¹

Projects that practice, promote, improve, and expand environmental stewardship to protect and enhance the desert environment. Work with San Diego County Department of Planning and Development Services (DPS) and the California Department of Parks and Recreation (DPR) on improved land use management practices for the Borrego Valley Watershed. Such land use changes may involve:

Desert Lands Stewardship - Working landscapes such as the Anza-Borrego Desert State Park (ABDSP; Park) and agricultural lands in the northern part of the Basin provide critical habitat and sequester carbon. It is likely that difficult decisions will be made in order to

²⁰ Source: CWP Update 2009; SWRCB Recycled Water Policy: DWR Sustainability Values from *Integrated Regional Management Grant Program Funded by Proposition 84 and Proposition 1E Draft (March 2010) - Guidelines* available at http://www.water.ca.gov/irwm/docs/prop84/guidelinepsp/GL_drtf_FINAL.pdf.

²¹ *Land Use Planning & Management* - Integrating land use and water management consists of planning for the business and economic development needs of a growing population while providing for the efficient use of water, water quality, energy, and other resources. The way in which we use land—the pattern and type of land use and transportation and the level of intensity—has a direct relationship to water supply and quality, flood management, and other water issues.

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fulfill the goals of reliable water supplies and functional desert ecosystems both in and outside the boundaries of the Park.²²

Crop Idling for Water Transfers - Crop idling is removal of lands from irrigation with the aim of returning the lands to irrigation at a later time or the sale of water rights at a later time without losing such rights. Crop idling for water transfers is done to make water available for potential transfer to other uses in the Valley such as ecosystem maintenance and new development.

Irrigated Land Retirement (fallowing) - Irrigated land retirement is the removal of farmland from irrigated agriculture. Permanent land retirement is perpetual cessation of irrigation of lands from agricultural production, which is done for water transfer or for solving overdraft-related problems.²³

Water Transfers - Water transfers are a voluntary change in the way water is distributed among water users in response to water scarcity (by definition, overdraft is a condition of water scarcity). Transfers can be between water districts that are neighboring or across the state, provided there is a means to convey and/or store the water. Water transfers can be a temporary or permanent sale of water or a water right by the water right holder; a lease of the right to use water from the water right holder; or a sale or lease of a contractual right to

²² For example, one doesn't see healthy, well-watered mesquites in the landscaped environment of Borrego Valley dying in droves like we see in the Borrego Sink---Borrego Airport areas of the Valley. Although mesquite has the deepest roots documented for any tree (at least that local botanists have seen references for) they still succumb to drought and severe over-draft. Because a mesquite puts roots 50 meters down into a mine in Kansas doesn't mean it goes that deep everywhere it is found, or that in response to severe overdraft it responds by going deeper--we don't know. USGS stated in the early 2000's that the Southwest was experiencing its worst drought cycle in more than 500 years. As one travels the West it is clear a large percentage of junipers and pinyons have died as a result of severe drought---in some cases 50% of previous coverage---and one scientifically documented result is an upsurge in large-scale wildfires in Utah, Colorado, Arizona, and New Mexico. Mesquite is not immune to drought or overdraft issues, though it is supremely adapted to the desert environment.

²³ "Communities of individuals have relied on institutions resembling neither the state nor the market to govern some resource systems [commonly pooled resources - CPRs] with reasonable degrees of success over long periods of time." Users of CPRs in many places around the world have managed to sustainably manage those resources through local, self-regulation rather than rely on state regulation or privatization of the commons. See Elinor Ostrom, *Governing the Commons: The Evolution of Institutions for Collective Action* (Cambridge: Cambridge University Press, 1990), 1

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water supply. Water transfers can also take the form of long-term contracts for the purpose of improving long-term supply reliability.²⁴

Ecosystem Restoration - Ecosystem restoration improves the condition of modified natural landscapes and biological communities to provide for their sustainability and for their use and enjoyment by current and future generations. This strategy focuses on restoration of aquatic, riparian and floodplain ecosystems because they are the natural systems most directly affected by water and flood management actions, and are likely to be affected by climate change.

Economic Incentives - Economic incentives include financial assistance, water pricing, and water market policies intended to influence more sustainable groundwater management. Economic incentives can influence the amount of use, time of use, wastewater volume, source of supply and speed at which BMPs (best management practices) are adopted. Examples of economic incentives include low interest loans, grants, and water rates, extraction fees and rate structures. Free services, rebates, and the use of tax revenues to partially fund water services also have a direct effect on the prices paid by water users and the incentive users have to alter water-related practices today rather than at some future date.

Work Plan Elements

- work with San Diego County Department of Planning and Development Services (DPS) to remove land use barriers for fallowing presently irrigated farmland;
- establish formal mechanisms to purchase farmland from those growers wishing to exit the Valley at this time and to permanently retire this irrigated land;
- develop pricing incentives to promote the use of best management practices (BMPs) by agriculture, recreation, commercial, and recreational water users.

Work Plan Schedule - see Exhibit D: "Proposed 2014 Groundwater Management Planning Process"

3. Improve Data and Analysis for Decision-making

Improve and expand monitoring, data management, and analysis to support decision-making, especially in light of uncertainties, that support groundwater management and flood

²⁴ Both using water transfers to establish a recharge basin and/or initiating groundwater banking schemes typically require an adjudication of water rights in order to establish who pays what amounts for the use of water once these mechanisms are in place. See http://www.dpla2.water.ca.gov/publications/waterfacts/water_facts_3.pdf and <http://www.water.ca.gov/groundwater/bulletin118/update2003.cfm>.

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management systems.²⁵ [See mandatory monitoring requirements in footnote #3 above.]
Produce an annual report of progress in Basin health that supports funding requests for GW projects identified by the GWMP.

Work Plan Elements

- review pending DRAFT USGS report;
- use USGS MODFLOW model to estimate impact of particular strategies on improving the balance of inflows and outflows from the upper aquifer of the Basin;
- review pending DRAFT Reclamation Southeast California Regional Basin Study results. Use results to forecast the economic cost of replacement water for recharging the Basin.

Work Plan Schedule - see Exhibit D: "Proposed 2014 Groundwater Management Planning Process"

Secondary Strategy Priorities²⁶

4. Invest in New Water Technology

Identify and develop creative ways to pay for implementing applied research on emerging, cost-effective water technology for more efficient water use. Also, identify and develop creative ways to pay for implementing advanced technology to reduce energy consumption of water systems and uses (e.g. use of cleaner energy sources to move and treat water).²⁷

5. Build Conveyance Systems to Transport Purchased Water to the Valley²⁸

The U.S. Department of the Interior, Bureau of Reclamation (Reclamation) is scheduled to complete a draft of their Southeast California Regional Basin Study within the next few months. This \$900,000 study (50% federal grants; 50% in-kind payments by the Borrego

²⁵ *Flood Risk Management* - Flood Risk Management is a strategy specifically intended to enhance flood protection. It includes projects and programs that assist individuals and communities to manage flood flows and to prepare for, respond to, and recover from a flood.

²⁶ Secondary Strategies will generally only be investigated once strategies believed to possess the highest potential ROIC are fully vetted and if found worthy, funded and implemented.

²⁷ For example, a clearinghouse for new technology that has worked in other desert environments might help shorten the time to bring new technology to market here.

²⁸ *Conveyance* - Conveyance provides for the movement of water. Conveyance infrastructure includes natural watercourses as well as constructed facilities like canals and pipelines, including control structures such as weirs.

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Water District [BWD]) should provide the economic and practical costs/benefits of this long-standing option to address the overdraft. However, water availability from Colorado River allotments is highly unlikely at this time, based on recent research.²⁹ It is likely that any imported water used to recharge the Basin would require advanced treatment before it was used for recharge, adding to the cost of this imported water.

6. Expand Conjunctive Management of Groundwater

Advance and expand conjunctive management of existing groundwater sources with groundwater storage to prepare for future droughts, floods, and climate change.³⁰ This conjunctive use could potentially be for water banking.³¹

B. STRATEGIES FOR PROTECTING WATER QUALITY

_____ Strategy Priorities Ranked Highest Potential ROIC _____

1. Monitor Drinking Water Treatment Requirements and Distribution Integrity and Invest in Advanced Water Treatment, If Necessary³²

²⁹ The turning point was Tim Barnet and David Pierce, both at Scripps Institution of Oceanography, 2008 paper and their 2009 update to the model where they project that Lake Mead has about a 50/50 chance of reaching dead pool by 2025-2030. Many Colorado Basin water managers now believe that for planning purposes, long term sustainable deliveries from the Colorado River will lie in the range of 11.0 to 13.5 million acre feet (maf) per year, much less than the 17.0 maf presumed by the Colorado River Compact. Thus, the growing impetus is for managers to be thinking about augmented supply from groundwater, and not assuming existing Colorado River allocations can or will be met going forward. For example, see MWD's recent study: <http://www.mwdh2o.com/BlueRibbon/pdfs/BRCreport4-12-2011.pdf>. Info on SNWA's GW project is at http://www.snwa.com/ws/future_gdp.html

³⁰ "Conjunctive use" is typically used to describe the practice of storing water in a groundwater basin in wet years and withdrawing it from the basin in dry years. In this Basin, the term is often used to describe the concept of "water banking" (see footnote below).

³¹ *Groundwater Banks* - Groundwater banks consist of water that is "banked" during wet or above average years. The water to be banked is provided by the entity that will receive the water in times of need. Although transfers or exchanges may be needed to get the water to the bank and from the bank to the water user, groundwater banks are not transfers in the typical sense. The water user stores water for future use; this is not a sale or lease of water rights. It is typical for fees to apply to the use of groundwater banks.

³² *Drinking Water Treatment & Distribution* - the reliability, quality, and safety of the raw water supply are critical to achieving the goal of maintaining adequate water treatment and distribution facilities for public water systems. If groundwater quality deteriorates, investment in advanced treatment technology will be necessary.

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Drinking water quality standards are presently being revised by almost all states and by the federal government. What these revisions mean is that in the future, treating groundwater extractions from the Basin will become progressively more expensive. Protecting the quality of the groundwater being withdrawn from the Basin is not only good stewardship but the most economically prudent course of action rather than assuming some future advanced water treatment will solve a water quality problem in an affordable fashion.

Work Plan Elements

- *develop an estimate of where BV is currently on the cost curve of an unmanaged basin (see Exhibit A: Cost of Delay: Economics of Managed vs. Unmanaged Basin”);*
- *develop an estimate of the slope of the cost curve the BV is presently on (see Exhibit A: Cost of Delay: Economics of Managed vs. Unmanaged Basin”);*
- *develop a forecast of future water quality degradation and the costs associated with withdrawals primarily from the middle and lower aquifers as the upper aquifer becomes more dewatered at present withdrawal rates. Use results to forecast the economic cost of meeting drinking water standards in future years;*
- *work with Regional Water Quality Control Board to protect water quality in the BV.*

Work Plan Schedule - see Exhibit D: “Proposed 2014 Groundwater Management Planning Process.”

2. Manage BVGB Watershed

Example: the acquisition, protection, and restoration of open space and watershed land.³³ Protecting the watershed for a groundwater basin, in case after case across the country, has often proven to be one of the most cost-effective means to assuring future water quality.

Work Plan Elements

- *review map of BVGB watershed to determine watershed not within the purview of the Anza-Borrego Desert State Park (ABDSP) that could potentially be purchased or protected;*
- *continue to work with ABDSP on BMPs for watershed management.*

³³ *Watershed Management* - Watershed management is the process of creating and implementing plans, programs, projects, and activities to restore, sustain, and enhance watershed functions. These functions provide the goods, services and values desired by the community affected by conditions within a watershed boundary. Watershed management is often a key component to protect water quality in some Groundwater Management Plans (GWMPs).

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Work Plan Schedule - see Exhibit D: "Proposed 2014 Groundwater Management Planning Process."

3. Protect Existing Groundwater Recharge Areas³⁴

Example: the acquisition, protection, and restoration of lands that serve as natural recharge areas for the Basin. The objective of this strategy is to make certain that the largest amount of water of the highest quality occurs to recharge the Basin during normal recharge events. With the advent of abrupt climate change, recharge events are expected to be more variable than historical values. That is, average annual recharge is expected to be more variable than during recent historical periods (e.g. over the past 200 years), with increased and more severe flood events, as well as longer and more severe periods of drought. In a closed basin like the BVGB, under present conditions of increased variability of natural recharge, the protection of natural recharge areas is a high priority. Fortunately, the majority of natural recharge areas for the BVGB fall within the boundaries of the ABDSP.

Work Plan Elements

- review map of BVGB recharge areas to determine areas not under the purview of the Anza-Borrego Desert State Park (ABDSP) that could potentially be purchased or protected;
- continue to work with ABDSP on BMPs for recharge areas.

Work Plan Schedule - see Exhibit D: "Proposed 2014 Groundwater Management Planning Process."

_____ Secondary Strategy Priorities³⁵ _____

³⁴ *Recharge Areas Protection* - Recharge areas are those areas that provide the primary means of replenishing groundwater. Protection of recharge areas requires a number of actions based on two primary goals. These goals are (1) ensuring that areas suitable for recharge continue to be capable of adequate recharge rather than covered by urban infrastructure, such as buildings and roads; and, (2) preventing pollutants from entering groundwater to avoid expensive treatment that may be needed prior to potable, agricultural, or industrial beneficial uses. Fortunately, the majority of natural recharge areas for the BVGB are located within the ABDSP boundaries.

³⁵ Strategies ranked lowest potential ROIC will generally only be investigated once strategies with highest potential ROIC are fully vetted and if found worthy, funded and implemented.

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4. Monitor and Reduce Sources of Nonpoint³⁶ Source Pollution³⁷

Whatever toxins or pollutants are placed on the land will almost invariably, somehow, someday end up in the aquifer. Over time, even a small amount of toxins and pollutants can contaminate a very large portion of the aquifer. The least costly management strategy is to prohibit non-point pollution at the outset rather than assuming some inexpensive means to remediate an aquifer will be found in the future. Remediating an aquifer that has become polluted is an expensive undertaking and the most cost-efficient approach is proactive control of contaminants.

5. Remediate Groundwater and Aquifer to Protect the Basin from Expensive Future Water Quality Issues.³⁸

Sometimes, the only option is to remediate the portion of the aquifer that is polluted before the entire aquifer is polluted or lost to production. Often, once data is available concerning the polluted state of a portion of the aquifer, it is least costly to begin remediation in a timely fashion before the pollutant has migrated to other areas of the aquifer and the remediation cost increases by magnitudes, or the opportunity for any cost-effective remediation is foregone. Additionally, updating any County and local ordinances and permitting processes or new wells and processes for well destruction may be useful for protecting the Basin's groundwater from future contamination and overuse.

6. Match Water Quality To Use.

Sometimes the water quality problem is best characterized by a mismatch of use. For example, depending on the pollutant, water that was unsuitable for drinking water use without treatment may be used for irrigation and recreational purposes without treatment. Sometimes, even irrigation quality water can be used for some crops, but not others, or used on turf, but not for crops destined for human consumption. Blending higher quality water with lower quality

³⁶ Nonpoint source pollution generally results from land runoff, precipitation, atmospheric deposition, drainage, seepage or hydrologic modification. The term "nonpoint source" is defined to mean any source of water pollution that does not meet the legal definition of "point source" in section 502(14) of the Clean Water Act.

³⁷ *Pollution Prevention* - Pollution prevention can improve water quality for all beneficial uses by protecting water at its source and therefore reducing the need and cost for other water management and treatment options. An important pollution prevention strategy is implementation of proper land use management practices to prevent sediment and pollutants from entering the source water.

³⁸ *Groundwater and Aquifer Remediation* - Portions of the upper aquifer of the Valley's groundwater Basin already has degraded water quality that may not support beneficial use of groundwater for all purposes. Groundwater remediation is necessary to improve the quality of degraded groundwater for beneficial use. Drinking water supply is the beneficial use that typically requires remediation when groundwater quality is degraded.

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water sometimes can be used to bring the final water up to certain standards for beneficial use. Public education programs may be helpful in enabling the public to better understand the value of protecting the groundwater from overuse and pollution.

7. Practice Integrated Flood Management

Projects that promote and implement integrated flood management to provide multiple benefits including: better emergency preparedness and response, improved flood protection, more sustainable flood and water management systems, enhanced floodplain ecosystems, LID techniques that store and infiltrate runoff while protecting groundwater quality.³⁹ Examples: storm water capture, storage, clean-up, treatment, and best management practices.

C. ONE STRATEGY THAT WE HAVE REJECTED TO MEET BMOs - DO NOTHING OPTION

Waiting beyond a critical point in time to decide on managed solutions to a community's water supply problems can be expensive (see Exhibit A: "Cost of Delay: Economics of Managed vs. Unmanaged Basin"). That is because, often an economic point-of-no-return is reached beyond which any proposed solution is either unaffordable or unobtainable at a reasonable cost.⁴⁰

For example, waiting for market collapse (e.g. dewatering of the upper aquifer that potentially renders the groundwater from lower aquifers uneconomic to extract) to occur before making adjustments in regulatory structure and/or directed capital flows to water markets is likely to be a higher economic cost than addressing the overdraft in a timely fashion.

The classical economic theory of "automatic stabilization" due to changing *laissez faire* market-based pricing signals has been repeatedly shown not to work well for situations of depleting natural resources. While pricing and markets are absolutely necessary to resolve a groundwater overdraft situation, there is little data, either historical or current, from anywhere in the world, that supports a *laissez faire* approach to resource depletion. *Laissez faire* typically

³⁹ Source CWP Update 2009 from *Integrated Regional Management Grant Program Funded by Proposition 84 and Proposition 1E Draft (March 2010) - Guidelines* available at http://www.water.ca.gov/irwm/docs/prop84/guidelinepsp/GL_drtf_FINAL.pdf.

⁴⁰ See <http://www.scribd.com/doc/22163392/Consequential-Catastrophic-Risks>.

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does not lead to “automatic stabilization,” but often to dis-economic (wealth-destroying) system collapse.⁴¹

Note 1: If a plan is silent on procedures to *update* the implementation project list, the applicant is limited to projects contained in the plan at the time of adoption.⁴²

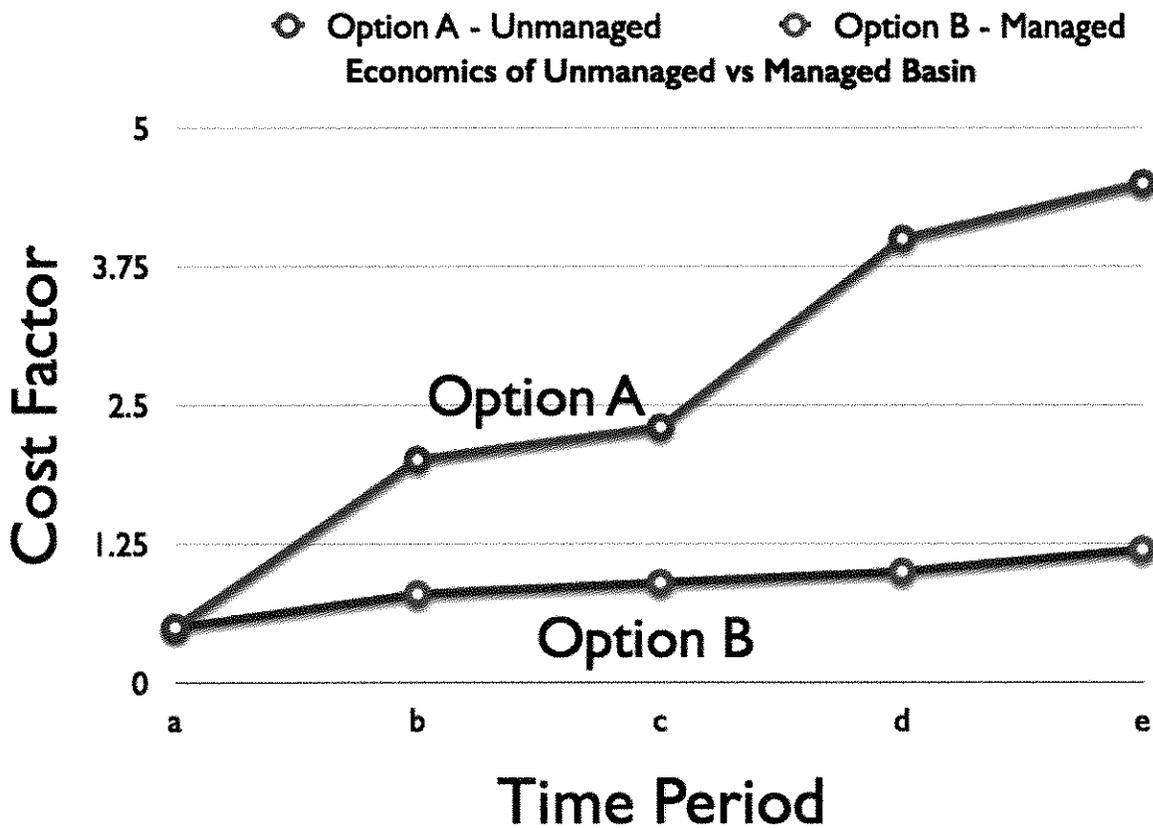
⁴¹ An example of this “tipping point” principle, is the failure of the levees surrounding New Orleans post-Katrina resulting in ~\$20 billion in damages to the city’s economy, the 2008-2010 meltdown of Wall Street financial institutions that cost investors ~\$50 trillion in lost economic value, the BP Gulf oil spill that is estimated to cost the Gulf communities ~\$50 billion in lost economic value, the Fukushima nuclear industrial accident that some estimates indicate may cost the Japanese economy ~\$100 billion in lost economic value, etc.

In each of these cases, markets failed to adequately price the systemic risk of a knowable, calculable risk. Each case represents the pernicious results of the myth of *laissez faire* that pits “free markets” over government “interference” in markets to resolve economic externalities or probabilistic cost forecasts related to the real economy. In each case, no classical economic theory of the automatic, self-equilibration of markets is operative or useful. *Laissez faire* for depleting natural resources often does not lead to “automatic stabilization,” but to system collapse; collapse that is much more costly than managing the situation in the first place. Promoting *laissez faire* in such cases represents the economic fallacy of *confirmation bias* (see Appendix B: “Economics of Sustainable Water Supply”).

⁴² See *Integrated Regional Management Grant Program Funded by Proposition 84 and Proposition 1E Draft (March 2010) - Guidelines* p. 15 available at http://www.water.ca.gov/irwm/docs/prop84/guidelinepsp/GL_drtf_FINAL.pdf.

Exhibit A: CONCEPTUAL PICTOGRAPH OF THE COST OF DELAY:

ECONOMICS OF MANAGED VS UNMANAGED BASIN



Note: The above conceptual pictograph illustrates the idea of potential costs over time in a situation where *laissez faire* markets (“do nothing”) prevails In Option A. Option B describes a situation where a plan to manage the basin exists. This pictograph does not illustrate specific prices or timeframes for the Borrego Valley Groundwater Basin. We know that the Borrego Basin is somewhere on the Option A curve. But, we do not know where. That is because, to date, no economic work has been done for forecasting prices under a “do nothing” (*laissez faire*) scenario. Option B curve has been realized in other basins where human intervention and planning has been successfully implemented.

Exhibit B: ADJUDICATION EXPLAINED

An adjudication process provides a formal process to establish a managed basin. An adjudication of a groundwater basin is only one method for regulating groundwater extraction when an overdraft exists. The purpose of each method is threefold: (a) to develop an agreed upon written plan to bring the basin into balance (withdrawals = recharge); (b) to establish an authority to enforce the plan implementation; and (c) to establish a funding mechanism to pay for implementing the plan. Below are some of the mechanisms available in California to establish a managed basin:

Adjudication. Adjudication is the legal process by which a court in California reviews evidence and argumentation set forth by parties using groundwater to come to a decision which determines rights and obligations among the parties involved:

- *Adversarial Adjudication.* A court-directed adjudication process can be lengthy and costly when adversarial. For example, this adversarial process could cost as much as \$4 million and take as long as 8-years in the case of the BVGB. If the adjudication is adversarial, often the local community loses control over the basin. The courts take control by appointing a *Watermaster* to oversee the implementation of the managed basin plan, to collect fees to pay for the implementation of the plan, and to exact penalties for non-compliance..
- *Stipulated Agreement Adjudication.* If the parties can agree on a plan to manage the basin, then the courts can *stipulate* (legally approve) this plan. The stipulation would create the authority to implement the plan and the funding mechanism to pay for its implementation. This process could take a few months and cost no more than a few hundred thousand dollars once the plan is agreed to by the BV community. If the adjudication is the result of a negotiated settlement that the courts then stipulate, local stakeholders often retain control over the basin.

Legislative. An alternative to the courts is the California State Legislature enacting laws that can be used to manage the BVGB. There are two types of legislative initiatives: (a) asking the legislature to enact a new law specially for the BV; and (b) using existing laws to manage the Basin:

- *New Legislation.* The legislature can create a groundwater management authority for the Borrego Valley by law. This is a difficult and expensive process that can take two or more years, cost more than \$200,000 and require significant local human resources to pull off. However, because this is the potential result of a political process, the

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probability of the legislature approving such legislation, even with the expenditure of time, money, and human resources is low (estimate is 10%-30% probability, depending on the composition of the legislature).

- **Existing Legislation.** More compelling due to its lower risk and lower cost than new legislation is the potential use of existing groundwater management legislation. In the BV, the Borrego Water District (District) is the management authority of the Basin under Assembly Bill 3030 (see http://www.water.ca.gov/groundwater/gwmanagement/ab_3030.cfm). The District adopted a groundwater management plan (GWMP) under AB 3030 in 2002. In October 2013, the District's Board passed a resolution to update the 2002 GWMP. The District has broad authority, through the AB 3030 process, to manage a groundwater basin. Water Code section 10753.9(c) gives the District the authority to limit or suspend groundwater extractions in the area covered by the groundwater management plan if the District has determined, after appropriate study, that "groundwater replenishment programs or other alternative sources of water supply have proved insufficient or infeasible to lessen the demand for groundwater." Water Code section 10754.2 authorizes the District to impose "equitable annual fees and assessments for groundwater management" within the area covered by the groundwater management plan. The area covered by the GWMP is the District's boundaries, which encompasses more than 90% of the BVGB. Under AB 3030, a plan to manage the basin must be developed with community support and acceptance. That is, an approved GWMP cannot be developed by fiat by a board of the District.

Regulation.

- *County Ordinances.* Some aspects of basins in California are managed under county ordinances. However, there are presently no counties in California who have enacted ordinances that include the full range of provisions required to manage a basin including: a written plan to balance the basin, the creation of an authority to implement the plan, and a mechanism to pay for the implementation of the plan. The majority of county ordinances are much more limited in their intent.
- *State Agency Intervention.* Presently, there exists no statewide regulatory authority that is able to "take-over" a basin from local control, if local control fails in its responsibilities to address an overdraft situation in a timely fashion. However, this situation is likely to change in the near future. When, is unknown at present. Groundwater has currently become a hot topic in Sacramento, as the economic importance of existing groundwater resources in California is becoming more widely understood.

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Exhibit C: STANDARDS & METHODOLOGY FOR ESTABLISHING STRATEGIC PRIORITIES

Standards:

- *Forward progress.* We cannot afford to be caught in “analysis paralysis” by waiting for perfect information (which never exists) and perfect solutions. We need to keep moving forward as time is our enemy.
- *Pareto’s Law (80/20 rule).* We need to focus on the biggest bang for the buck and not over-optimize. We don’t have the time or resources to over-optimize. This needs to consider the backdrop of timing. What do we need to know “now” to take the next step vs. what will we need to fine-tune over time.
- *Timing.* When, in what order, and to what degree often determines the economic and social cost/benefits of any strategy. Thus, it is important to consider the timing and timeframe for implementation of a strategy.

Methodology:

A high level, first-cut approach using available information at hand will be adequate in most instances to choose a strategy. Both for a first-cut approach and those special instances where additional information is necessary to move forward on a particular strategy, the methodology shall include the following parameters:

- *Physical Benefit.* How much water will be added to the upper aquifer (by capturing, saving/reducing withdrawals, or adding/importing water) with this strategy?
- *Economic Costs and Benefits.* Economically, how much money will this strategy cost? What are the first order benefits from this strategy? Are the economic benefits greater than the costs?
- *Social Costs and Benefits.* Socially, who benefits; who loses? Are the social benefits from the strategy greater than the social costs?
- *Feasibility.* What are the chances of success? For example, are we proposing a strategy that has rarely been tried before or a strategy that has been used successfully by others in the past?
- *Risk.* What is the risk if the strategy is unsuccessful? For example, are we putting all of our eggs in one baskets by pursuing a particular strategy? What are the trade-off’s and white/black swans regarding this strategy that may emerge?

Use:

Matrix. Side-by-side comparison of analytically determined values, where available and affordable to determine, for differing strategies.

Ranking: Using return on invested capital (ROIC), discounted cash flow (DCF), and/or real options analysis (ROA) metrics to choose strategies potentially producing the best value for the resources invested to implement this strategy.

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Exhibit D: PROPOSED 2014 BASIN MANAGEMENT PLANNING PROCESS

- October 23, 2013: District: Public Hearing to adopt a resolution of intention to draft a GWMP
Review of timeline for GWMP update process
Review required technical components of the Plan update
- October 24, 2013: District: Provide copy of the signed resolution to DWR
Staff to begin revision process of 2002 GWMP update document
Staff to setup web page for GW background studies
- November 7, 2013: Coalition: Adopt Basin Management Objectives (BMOs)
Prioritize Basin Management Strategies (BMSs) to meet these BMOs
- November 20, 2013: District: GWM agenda item for discussion at monthly Board workshop
Preliminary outline sections requiring revisions based on new data
Discuss BMOs from Coalition meeting
Discuss GWMP Stakeholders' Committee membership
- December 5, 2013: Coalition: Adopt scope of work for BMS priorities
Provide DRAFT BMO document for District GWMP update process
Develop talking points for January 14th public meeting
- December 18, 2013: District: GWM agenda item for monthly Board workshop
Report on status of update progress
Discuss DRAFT Coalition BMO document
Finalize GWMP Stakeholders' Committee membership

2014

- January 9, 2014: Coalition: Discuss DRAFT USGS Report and USBR Basin Study
UCI presentation regarding technical assistance for GWMP update
process
Public meeting talking points practice
Finalize BMSs
Finalize talking points for public meeting on January 14th
- January 14, 2014: District: Meeting to discuss DRAFT USGS Report and USBR Basin Study
Set Annual Town Hall Meeting Date
Discussion of Water Quality Program

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- (map)
- Discussion of groundwater flow/water level monitoring
Discussion of surface water flow/quality and identify recharge areas
- January 14, 2014 Coalition: 4:30 – 6:30 PM Public Meeting
- February 6, 2014 Coalition: Update BMO document based on feedback at public meeting
Begin discussing reduction-sharing formula
- February 18, 2014: District: Prepare agenda for Town Hall Meeting
Finalize Report of the GWMP Stakeholders' Committee
Discussion of land surfaced subsidence and monitoring plan
Begin graphic design/review
Review required technical components of the Plan (second time)
Discussion of Basin Management Objectives
- March 6, 2014 Coalition: Discussion of BMO document
Continue development of reduction-sharing formula
Discussion of financing options for implementing strategies
Discussion of alternatives for a Basin management authority
Providing District with most recent BMO document
- March 18, 2014: District: Finalize preparation for Town Hall Meeting
Discussion with County and Park personnel (flood, planning,
environmental)
Final review of GWMP Stakeholder's Committee
Discussion of Basin Management Objectives
- Town Hall Meeting (date yet to be determined)**
- April 3, 2014 Coalition: Update BMO document based on feedback at public meeting
Adopt final reduction-sharing formula
Further discussion of financing options for implementing strategies
Further discussion of alternatives for a Basin management authority
Provide District with most recent BMO document
Review agenda and talking points for May 22nd public meeting
- April 15, 2014: District: Review of Town Hall Meeting
Final discussion of Water Quality Program
Final discussion of surface water flow/quality and identify recharge areas

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- Final discussion of land subsidence and monitoring plan
- May 1, 2014 meeting
Coalition: Update BMO based on stakeholder feedback at District meeting
- Apply final reduction-sharing formula to final GMSs
Review draft financing plan and implementation timeline
Continue discussion of monitoring and performance metrics
Finalize agenda and talking points for May 22nd public meeting
Provide status update for authority recommendations
- May 20, 2014:
District: Discussion of monitoring protocols for the Plan
Review graphic design and document layout of the Plan
Review required technical components of the Plan (third and final time)
Discussion of incorporating GWMP into Integrated Regional Water Management Plan (IRWMP)
- May 22, 2014
Coalition: Public Meeting
- June 5, 2014 meeting
Coalition: Update BMO based on stakeholder feedback at public meeting
- recommendations
Debrief May 22nd public meeting feedback
Adopt final strategy applications of reduction-sharing formula
- Adopt final financing plan and implementation timeline recommendations
Adopt final monitoring and performance metrics recommendations
Convey Coalitions recommendations to District's Board
- June 17, 2014: planning, environ)
District: Discussion with County and Park personnel (flood,
Determine monitoring protocol for groundwater level and water quality
- June 26, 2014
Coalition: Public Meeting
- July 15, 2014:
District: Finalize all components of GWMP to meet DWR standards
Incorporate feedback from Coalition public meeting
- August Break**
- September 16, 2013: District: Review of finalized plan
- October 14, 2014: District: Public Hearing to adopt 2014 Groundwater Management Plan Update

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Appendix A: BORREGO WATER COALITION MEMORANDUM OF UNDERSTANDING

[see <http://borregowatercoalition.org>]

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Appendix B: ECONOMICS OF SUSTAINABLE GROUNDWATER SUPPLY

*Nothing is more useful than water;
but it will purchase scarce anything;
scarce anything can be had in exchange for it.”⁴³*

DEFINITIONS

Acre-feet/year (af/y): a unit of measuring water usage over time corresponding to covering one acre of land with one foot of water over the course of one year. An acre-foot of water equals 43,560 cubic-feet of water or 325,851.4 U.S. gallons. A football field is about 1.1 acres. One cubic-foot contains 7.48 gallons of water.

Adjudication: see Exhibit B.

Appropriator: the pumpers of the groundwater basin that resell water for use by other parties.

Aquifer: the underground geologic formation where water is stored within the groundwater basin. The Valley’s groundwater basin is comprised of three aquifers: upper, middle, and lower aquifers. The upper aquifer of the basin contains high quality, potable water. The middle and lower aquifers contain water of lesser quality that would require in some cases tertiary water treatment to render this water potable or suitable for irrigation.

Conjunctive Use: the storage of water in a groundwater basin for use at a later time.

Dewatering: the extraction of water from one or more aquifers that comprise the groundwater basin. As an aquifer is dewatered, pore space in a deep aquifer can collapse, rendering the aquifer no longer useful for storing water. Thus, if the aquifer becomes dewatered to the extent that pore space collapses, “even if pumping stopped, such fossil water cannot be replaced” (*American West at Risk*, 236).

Groundwater: water beneath the surface of the ground below the water table in which soil is saturated with water.

Groundwater Basin: an area underlain by one or more permeable formations capable of furnishing water supply.

Overdraft: a condition wherein the total annual production from a groundwater basin exceeds the safe yield thereof. In the long run, rates of ground water extraction cannot exceed rates of recharge.

Overlying Parties: owners of land that overlies the groundwater basin and who have exercised overlying water rights to pump wherefrom.

⁴³ Adam Smith, *The Wealth of Nations* quoted in Steven Solomon, *Water: The Epic Struggle for Wealth, Power, and Civilization* (New York: HarperCollins Publishers, 2010), 379. Adam Smith was musing about the “diamond-water paradox.” “Why was water, despite being invaluable to life, so cheap, while diamonds, though relatively useless, so expensive?”

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Overlying Water Rights: the rights, limitations, and responsibilities of overlying parties to the groundwater in the groundwater basin.

Recharge: the amount of water falling on the land from all sources that reaches the aquifer. Typically, the maximum safe yield is equal to no more than the annual recharge rate. Recharge is slow. Deeper aquifers take hundreds to thousands of years to recharge. “Withdrawing excessive groundwater amounts (i.e. over-drafting) from deep aquifers is the same as mining a nonrenewable resource, like petroleum” (*American West at Risk*, 236).

Safe Yield: the maximum quantity of water that can be produced annually from a groundwater basin under a given set of conditions without causing a gradual lowering of the groundwater level leading eventually to depletion of supply.

Sustainable Yield: the maximum quantity of water that can be produced annually from a groundwater basin under a given set of conditions without causing damage to existing ecosystems within the basin. The sustainable yield is almost always lower than the safe yield.⁴⁴

Sustainability (broad definition): Sustainability, as used here is the re-engineering of complex economic support systems that enable these existing systems to transition from high Energy Return on Energy Invested (EROEI) sources to systems capable of operating at lower thermodynamic states without experiencing disruptive non-linearities or collapse.⁴⁵

Sustainability (water definition): the maximum economically extractable withdrawals from the basin during any defined period that does not exceed the sustainable yield of the basin. The

⁴⁴ Surface waters and groundwater are interconnected. They may be thought of as a single resource. Over-pumping groundwater can impact surface flows, reducing the water available to support the fauna and flora of the Park’s desert ecosystem. T.C. Winter et. al. *Ground Water and Surface Water, a Single Resource* (U.S. Geological Survey Circular 1139, 1999) in Howard G. Wilshire, Jane E. Nielson, and Richard W. Hazlett, *The American West at Risk: Science, Myths, and Politics of Land Abuse and Recovery* (Oxford & New York: Oxford University Press, 2008), 231, 236, 534 footnote #17.

⁴⁵ In 1930, EROEI of oil, natural gas and coal was 100:1; today EROEI of oil, gas, wind is 15:1; large hydropower 11:1; conventional coal 10:1; newly found oil, photovoltaic solar 8:1; *clean* coal 5:1 (better carbon emissions control through carbon capture and sequestration but coal ash and heavy metals pollution); fuel cell, geothermal, nuclear 4:1 (nuclear’s carbon footprint is ~ 66 gCO₂e/kWh, less than 960 gCO₂e/kWh for conventional coal but for every dollar spent on nuclear, 5X-6X more carbon could be reduced with end-use efficiency, or renewables); oil shale and Alberta tar sands 3:1 (Athabasca Valley tar sands have largest carbon footprint of any oil production); LNG 2:1; ethanol (from corn) 1.3:1; hydrogen 0.8:1; nuclear fusion (unknown). See, Charlie Hall, “Balloon Graph,” The Oil Drum (www.theoil Drum.com); Thomas Homer-Dixon, *The Upside of Down: Catastrophe, Creativity, and the Renewal of Civilization* (Washington, DC, Island Press, 2006).

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permeability of the aquifer, water quality in the aquifer, and the cost of energy for withdrawals primarily determine whether the water is economically extractible for use.⁴⁶

Water Budget Deficit: the amount of water on an annual basis withdrawn that exceeds the safe yield. This total equals the *overdraft*.

Withdrawals: the amount of extraction of groundwater from the groundwater basin.

CONSTRAINTS:

The primary and overdetermining causal claim of basin overdraft is based on ignoring and distorting the value of groundwater. This has resulted in groundwater being overused, degraded, and misallocated. Without price signals or other indicators of value to help guide policy, too little attention and funding for resource management and protection of ground water has occurred.⁴⁷

Essentially, in California the state *owns* the water, which is assumed to have no market value (water in the basin is a *commons*). The overlayers and appropriators may have *claims* to withdraw water from the basin for beneficial use (*rights* must be established by court adjudication) for the cost of pumping, treating, and transporting this withdrawn water for beneficial use. But, the water itself is *free*.

This colossal underpricing of water's full economic and environmental worth unfortunately sends perverse, insidious, and often illusory economic signals "that water supply is endlessly plentiful, prompting wasteful use on wasteful purposes" with dis-economic (wealth-destroying) returns. The Twentieth Century's most egregious example of discounting the full economic and environmental worth of water is the former Soviet Union's destruction of central Asia's Aral Sea

⁴⁶ Water systems are the largest single category user of electricity in the world, accounting for between two and ten percent of electricity use in a country. In the U.S., water systems account for about three percent of electricity consumed annually (about 75 billion kWh). About 39% of freshwater use in the U.S. is used for thermal electric energy production. See AWWA Water Loss Control Committee, "Applying Worldwide BMPs in Water Loss Control," *AWWA Journal* 95:8 (August 2003), 75 and U.S. Department of the Interior, U.S. Geological Survey, <http://ga.water.usgs.gov/edu/wupt.html> (accessed 5/1/08).

California's water infrastructure uses electricity to collect, move, and treat water; dispose of wastewater; and power the large pumps that move water throughout the state. California consumers also use electricity to heat, cool, and pressurize the water they use in their homes and businesses. Total water related electrical consumption for the state amounts to ~52,000 Gigawatthours (GWh). Electricity to pump water by the water purveyors in the state amounts to 20,278 GWh, which is approximately 8% of the statewide total annual electrical use. 32,000 GWh represent electricity used on the customer side of the meter, that is, electricity that customers use to move, heat, pressurize, filter, and cool water. See Lon W. House, "Water Supply Related Electricity Demand in California," *Demand Response Research Center* (December 2006), 1.

⁴⁷ Committee on Valuing Groundwater, *Valuing Ground Water: Economic Concepts and Approaches*, National Research Council Press, 1997.

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to irrigate cotton fields that resulted in a hydrologic Chernobyl.⁴⁸ The failure to place an economic and environmental value on freshwater has created a situation of groundwater overdraft and freshwater shortage not only in the state and the nation, but globally that is “no longer a philosophical threat, no longer a future threat, *no longer a threat at all*. It’s our reality.”⁴⁹

The *purpose of economic analysis* in this context is to understand the consequential risk of decisions in the absence of accurate market pricing for water resources.⁵⁰

FALLACIES:

Anchoring, Adjustment and Contamination: Specific knowledge may *anchor* one’s perception of risk by *contaminating* one’s analysis of new data that is *adjusted* to fit one’s cognitive map. The most common result is the logical *fallacy of generalization from fictional evidence*.

One example is the common refrain that “if 70% of the overdraft is due to overlyer’s withdrawals for agricultural purposes, then what value is there in encouraging conservation by end-users of appropriator withdrawals who account for less than 10% of the basin’s overdraft?” The reality is that efficiency measures taken by end-users produce economic value primarily by the avoidance of expensive water treatment, supply augmentation, and distribution infrastructure expenditures. This economic value has absolutely nothing to do with the 70% of overdraft produced by overlyer withdrawals. For example, typically, water efficiency can deliver another unit of water for a fraction of the cost of a supply augmentation project’s total cost.

Availability Fallacy: the risk of overdraft is discounted because the dewatering of the aquifer or reaching point beyond economically extractable water has never occurred in the experience of the observer. The tendency is to take no action against the larger potential risk of actually running out of water and to imagine the risk of this occurring at much less than it actually is in reality.

Confirmation Bias: Often with information that is difficult or that rubs against one’s heuristic sensibilities, we look for evidence to refute a reasonable analysis. This, biased reasoning looks for data that *fits* one’s preconceived notion of the solution set. Unfortunately, this approach to framing problems almost always gets economic risk very wrong. Oftentimes the more sophisticated the person’s experience or training, the more confirmation bias is in play. Experts regularly do a poorer job of assessing risk in some cases than a naive observer.

Conjunction Fallacy: Studying the problem reduces the risk of occurrence of running out of water. That is, by adding detail, we sometimes get the risk vastly wrong because we are

⁴⁸ Solomon, 377.

⁴⁹ Bill McKibben, *Eaarth: Making a Life on a Tough New Planet* (New York: Times Books, Henry Holt and Company, 2010), xiii.

⁵⁰ Systemic risk is often discounted. See <http://www.scribd.com/doc/22163392/>.

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overconfident. For example, many people who have heard the USGS Town Hall presentation believe that dewatering of the upper aquifer will occur in 50-years because that is what the model predicts. But, the model is not reality. In reality, there is risk that the aquifer can become dewatered less than 50-years.

Preferential Use Fallacy: My use is preferred to your use sets overlayers against appropriators. "It cannot be said, for example, that the residential use of water is always more desirable (or more valuable) than irrigation, or visa versa. Protagonists in public debates about water may sponsor the idea that water is universally more desirable in one sector than another, but economic evidence does not support such thinking."⁵¹ The logical outcome of this fallacy is that a *CocaCola* bottling plant whose economic return of more than \$300,000/af should be preferred over all other uses. This argument was actually used in a few towns in India who saw their aquifers dry-up and the town destroyed by this economic fallacy (of course, the bottling plant actually withdrew the water at no fee to the town).

Overconfidence Fallacy: This is a form of *calibration error* that occurs oftentimes where planning assumes *Technological Optimism*, the misbelief that some future technology can fix any water problem. Not only has this belief not been borne out historically, technological fixes are typically expensive and ultimately uncertain. The overconfidence engendered by this misbelief then leads to assuming that the uncertainties in a risk situation allows one to construct a relatively benign future. This *calibration error* provides for ignoring futures in which water supply runs out. The doubters are right that uncertainties are rife. They are wrong when they present that as a reason for inaction.⁵²

Scope Neglect: A person's stated willingness to pay (SWTP) is not re-calibrated when the scope is magnitudes different between two risk scenarios. Essentially, the analyst is unable to imagine the relative magnitudes of consequences from the associated risk of the solution set, as the consequences lie too far outside his/her life experience. For example, few people, unless they have experienced this for themselves first hand, have a clear picture of what the consequences would be for the Borrego Valley to dewater its basin and the magnitude of economic risk as the final dewatering grows closer in time.

⁵¹ See Ronald C. Griffin, *Water Resource Economics: The Analysis of Scarcity, Policies, and Projects* (Cambridge, MA. & London, The MIT Press, 2006), 12.

⁵² See *The American West at Risk*, 5, 8, 365, 367

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Appendix C: Groundwater Management Plan Update Table of Contents

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**Appendix D: Borrego Valley Community Scope of Work for Updating the 2002
Groundwater Management Plan**

Project Understanding and Approach

Fundamental to developing an effective Groundwater Management Plan (GWMP) is a clear understanding of the problems and challenges facing the groundwater users in the region. Based on the Borrego Valley Community's experience and the information provided to us by stakeholders, the major water resources challenges/issues include the following:

- Borrego Valley (BV) Groundwater Basin (BVGB) groundwater overdraft;
- Entire BV relies exclusively on groundwater;
- Lack of accessibility to alternative surface water or imported water sources;
- Changing agricultural production and recreational land use; and
- Low probability of inelastic land subsidence caused by deep well pumping.

Goals

The District believes that the primary purpose of preparing an update to the 2002 GWMP at this time is to constellate a practical vision that is articulated in the following three statements:

1. Develop a negotiated, agreed-upon plan to address the overdraft that is feasible, quantifiable, and measurable, that describes in writing what, by when, for how much, who is accountable, what metrics will be used to measure success, and includes the process to make mid-course corrections from the initial plan;
2. Create as part of the plan a deliberative body with the authority to enforce the negotiated plan consistent with current state law;
3. Create as part of the plan a mechanism to pay for implementing the plan. The plan must have adequate funding to produce desired, agreed-upon results

Further the District believes the goals of the GWMP to include:

1. Update the existing 2002 GWMP to reflect the overriding vision stated above and to be eligible for state grants, loans and special drought assistance;
2. Update hydrogeologic data from the existing plan to reflect current conditions;
3. Provide a valuable reference document with useful technical and policy information;
4. Improve understanding of groundwater conditions;
5. Identify and document recommendations for addressing water supply, water quality and land subsidence problems;
6. Identify potential multi-agency projects and programs;
7. Assert control over local groundwater to prevent future adjudication and/or state control;

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4. Document progress in achieving previous goals; and
5. Address policy and management changes since previous the GWMP was prepared.

The Borrego Valley Basin GWMP itself will not represent approval for recommended actions and policies, but rather establish goals, objectives, strategies and ideas for improving groundwater management.

Groundwater Management Plan Content

The Borrego Water District (District) and its advisors are thoroughly familiar with legislative requirements for GWMPs, including recent requirements passed in 2011. The GWMP will include DWR recommended, voluntary and required components for GWMPs listed in the California Water Code. **Table X** (at the end of this section) includes a list of these topics and which are addressed in the existing GWMP for the Borrego Water District. Many of these topics are missing in current GWMP, and topics that are addressed will typically require updating or expansion. A proposed outline for the GWMP is also included at the end of this section.

Geographical Area

The GWMP will cover the portion of Borrego Valley Basin located within DWR defined Groundwater Basins. This will include the entire XXXX Basin and portions of the XXXX Basin and XXXX Basin. As a result, the GWMP will not include foothill and mountain portions of San Diego County because they are not within a DWR defined groundwater basin.

Scope of Work

Following is a detailed scope of work, based on the information provided in the Request for Proposals.

Category 1- Water Resources

This task will involve collecting information from existing sources.

1.1 - Identify Groundwater Supplies

This overview will be based on sections in the existing Borrego Water District GWMP. Discussions on groundwater supplies, well production, and demand projections will be updated.

1.2 - Identify Other Supplies

Other potential water supplies will be identified and discussed including effective bio-retention recharge areas, recycled water, agricultural drainage water, and conjunctive use opportunities identified by Reclamation's Southeast Basin Study.

1.3 - Identify Existing Facilities and Operations

This task will include an overview of important groundwater infrastructure with a summary for each plan area and major water user. These facilities will include production wells, groundwater banks, recharge basins, monitoring wells, pipelines, canals and reservoirs.

1.4 - Provide Basin Management Objectives (BMOs)

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Basin Management Objectives are broad basin-wide groundwater management goals. These will be developed with direct participation of the Borrego Water Coalition and other plan participants. When feasible they be quantified. The objectives will cover the entire area within the GWMP.

1.5 – Provide Basin Management Strategies (BMSs)

Category 2 – Stakeholder Involvement

The California Department of Water Resources considers stakeholder involvement an important part of GWMP development. Some stakeholder involvement is required by law, and some new rules were established in 2011. California Assembly Bill 359 (2011) includes new public outreach requirements. These include notifying DWR when an agency plans to prepare a GWMP, so DWR can post the notice on their website, and allowing any person or entity to be placed on a list to receive all pertinent notices, meeting announcements, etc. for the GWMP. Stakeholder involvement will include public meetings, newspaper notices, website and newsletter articles, and directly contacting relevant stakeholders.

2.1 - Involving the Public

The public will be informed of the Groundwater Management Plan update and project meetings through newspaper notices, websites, and newsletter articles. They will also be welcome to attend three project meetings. A copy of the Draft GWMP will be posted on the BVWD website and the public will be given an opportunity to provide written comments. These efforts are described below.

Newspaper Notices. Newspaper notices will be published to comply with California Water Code requirements for updating GWMPs. The first notice will announce a public hearing of intention to update the GWMP. The second notice will announce the intention to adopt the updated GWMP. These notices will be published in a local newspaper one and two weeks prior to the public hearings. Sample notices will be provided to the GWMP Participants. It is assumed that the GWMP participants will coordinate publishing the notices and pay publishing costs.

Website and Newsletter Articles. Two articles will be written on the project. The first will announce plans to update the GWMP, describe the general content of the GWMP, and solicit initial input. The second article will solicit comments on the draft GWMP. These articles will be given to the participating agencies to publish in their newsletters and websites.

Project Meetings. Three public meetings will be held to discuss the Groundwater Management Plan (GWMP) update. The meetings will include the GWMP participants, and other stakeholders that choose to attend. The anticipated topics for each meeting are described below:

Meeting 1 – Kickoff Meeting. Introduce GWMP participants and consultants. Discuss requirements in GWMPs, scope of work, and schedule. Identify important stakeholders to contact. Solicit input from the general public. Identify broad groundwater management goals and basin management objectives related to groundwater overdraft, land subsidence, groundwater recharge, monitoring, and other major topics.

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Meeting 2 – Discuss Recommendations and Proposed Action Items. Discuss consultant’s recommendations and proposed action items to address groundwater management issues.

Meeting 3 – Discuss Comments on Draft GWMP. If sufficient comments are received from the GWMP participants, general public, and other agencies, then a meeting will be held to review and respond to comments.

It is recognized that the GWMP participants have come to consensus on many issues and agreed by a Memorandum of Understanding to jointly prepare the GWMP. Consideration should be given to including professional meeting facilitators in the GWMP development if the GWMP participants feel they are needed. They may be needed if there are disagreements on Basin Management Objectives, recommendations for solving local problems, or the content in the GWMP. They may also be needed if third-party interests disagree with the content of the new GWMP.

2.2 - Involving Other Agencies Within and Adjacent to the Borrego Valley Basin Area

Other local agencies may want to provide input on the GWMP. A list of agencies will be developed in conjunction with the GWMP participants and they will be formally notified by letter that the GWMP is being updated.

2.3 - Utilizing GWMP Advisory Committees

The State guidelines for GWMPs require a Groundwater Advisory Committee oversee the development of the GWMP and its implementation. The Borrego Water Coalition may already be functioning to fulfill this need. If there is sufficient interest, an advisory committee of local citizens could also be formed to provide input on the GWMP. In addition, other committees that address special interests (i.e. land subsidence, agriculture, etc.) could also be formed, if there is interest. The committees would provide non-binding comments and recommendations.

2.4 - Developing Relationships with State and Federal Agencies

State and Federal Agencies will be contacted and encouraged to attend the project meetings. These will include local representatives from different departments of the California Department of Water Resources. Other State and Federal agencies will be identified during the kickoff meeting and invited to participate.

2.5 - Pursuing Partnerships Opportunities

During development of the GWMP, partnership opportunities with other agencies will be pursued. These could include partnerships to monitor groundwater with other local entities, regional water agencies or others in partnerships to identify and fund projects. Other potential partnerships will be identified during project meetings.

Category 3 – Groundwater Conditions

3.1 - Provide Update of Current Groundwater Conditions

Data from the existing GWMP will be updated to evaluate water-level changes since the previous evaluation. These changes will be determined for both the upper and the lower aquifers in the GWMP study area to the extent there is a confined or semi-confined aquifer present.

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3.2 - Groundwater Overdraft

Previous groundwater overdraft estimates will be reviewed and documented. A preliminary estimate of current overdraft will be performed based on 1) projected development and retirement of irrigated and urban lands relying on groundwater, and 2) recent rates of water-level decline and estimated specific yields. Recent USGS studies also provide estimates of current overdraft rates.

3.3 - Land Subsidence

Existing land subsidence data will be collected from the DWR, USBR, USGS and USACE. Publicly available LIDAR data that illustrates recent land subsidence will also be collected. Existing subsidence will be identified as elastic or inelastic, where feasible.

Category 4 – Groundwater Sustainability

4.1 - Mitigation of Groundwater Overdraft

A variety of methods will be investigated for mitigating groundwater overdraft including: groundwater recharge, groundwater banking, in-lieu recharge, water transfers, urban water conservation, agricultural water conservation (including land retirement), reduction-sharing formulas, and flood water and stormwater capture. The discussion will focus on the areas with the greatest overdraft and the methods most suitable for those areas. Several maps will be prepared to facilitate the evaluation including maps showing areas not receiving any surface water, and areas with groundwater recharge potential (based on various soils and geologic data).

4.2 - Mitigation of Land Subsidence

Mitigation for the potential for land subsidence, although considered low probability by the USGS, will generally follow the alternatives described below: 1) telescoping compression sections in new wells; 2) eliminate or minimize deep well permits; and 3) forecasting of possible conjunctive use projects to reduce the potential permanent loss of basin storage due to compaction. The recommendations will vary geographically within the Basin based on their feasibility and the spatial distribution of current and potential (albeit low probabilistic forecasts of) land subsidence.

4.3 - Assess Water Quality Threats to Groundwater Basin Sustainability

Water quality problems will be documented from existing data sources including the GAMA network, and other sources. The long-term threat to groundwater sustainability as it relates to quality will be discussed.

4.4 - Provide Recommendations for Potable Supply Demand Reduction

Current land use plans will be reviewed to assess their impact on groundwater sustainability. Proposed changes will be documented for consideration by land use planning agencies. Recycled water sources will be identified and their potential use for recharge, landscape irrigation, agricultural irrigation, or industrial use will be discussed.

Category 5 – Monitoring Program

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5.1 - Groundwater Elevation Monitoring.

Existing groundwater monitoring programs will be reviewed including plans used by each GWMP participant and the local CASGEM. California State guidelines for monitoring will also be reviewed. The overall network will be evaluated for suitability in providing a regional monitoring network. Topics discussed will include: density of monitoring network, density in high priority areas, need for dedicated monitoring wells versus production wells, common monitoring protocols, frequency of monitoring, and data sharing.

5.2 - Groundwater Quality Monitoring Program.

Existing groundwater quality monitoring programs will be evaluated including those performed by the GWMP participants, the GAMA program, Irrigated Lands Regulatory Program (if applicable) and others. The need for additional testing will be assessed.

5.3- Land Surface Elevation/Subsidence Monitoring.

Land subsidence monitoring will be discussed including surveying networks, extensometers, and remote sensing techniques, such as LIDAR. Existing monitoring programs will be reviewed to see if they are adequate, or if the GWMP participants should develop their own program.

Category 6 – Plan Implementation

6.1 - Recommended Action Items

Recommended action items will be developed jointly by the District and GWMP participants. They will include high-priority tasks needed to address primary groundwater concerns in the region. They will be largely based on recommended actions listed in Section 4 – Groundwater Sustainability and Section 5 – Monitoring Program. This list will be developed during the second Project Meeting (see Task 2).

6.2 - Recommended Implementation Schedule

A schedule will be developed including the recommended action items over the next five years. The schedule will address practical factors such as funding availability, time to secure funding, grant application deadlines, project priorities, and availability of agency staff to implement the projects.

6.3 - Identify and Provide Recommendations for Funding Opportunities

Potential funding opportunities will be identified including local, state, and federal loans and grants. Revenue sources to fund groundwater projects will also be discussed including water fees, land assessments, water replenishment fees, capital improvement fees, and groundwater banking fees.

Draft and Final Reports

Draft and final reports will be posted on the District's web page and be available in hard copy at the District's office upon request. As required by State Assembly Bill 359, one copy of the final GWMP will be sent to the California Department of Water Resources.

Groundwater Management Plan

Draft Stakeholder Interview Guide – 12/9/13

[Assumes Jerry has invited/recruited interviewees and given a sort of introduction to interviewer]

STAKEHOLDER REPRESENTATIVE: _____

COMMUNITY SECTOR(s) REPRESENTED: _____

DATE OF INTERVIEW: _____ TIME OF INTERVIEW: _____

LOCATION OF INTERVIEW: _____

Thanks for taking time to participate in the process of updating the BWD’s groundwater management plan. The staff and Board of the BWD want the update of the plan to be a community-inspired document, with input from people who fill diverse, important roles in the Borrego Valley community. Your opinions, observations and experience are of great interest to BWD and to grant-makers who may use the groundwater plan as an indicator of community involvement.

This interview should no more than an hour. I will be asking you about what you think and what you observe on five broad topics and one specific one. We are looking at what is valued by the community, so you need not confine your answers to water issues. You may interrupt me any time to add important thoughts or observations. There is no requirement that you answer every question, and you may stop the interview at any time.

We will analyze your responses in conjunction with those of other interviewees. If you have no objection, we may use direct quotes from you in the plan document. Otherwise, we will not reveal the source of information that may come from this interview.

Would you consent to use of direct, attributed quotes from this interview in the groundwater management plan? (please initial) Yes _____ No _____

Would you consent to your name being listed as an interviewee without being associated with a direct quote? (please initial) Yes _____ No _____

Because the answers to broad questions may be lengthy, I would like to use a tape recorder and take notes to insure that I have accurately understood your responses and remarks.

Would you consent to my recording our conversation? (please initial) Yes _____ No _____

(If YES, turn on tape recorder and say “You may ask to turn it off at any time”.)

Would you consent to my taking notes? (please initial) Yes _____ No _____

Thank you. Do you have any questions prior to beginning to answer those in the interview?

If YES: Note them and note responses here.

Question 1: What brought you to the Borrego Valley originally?

OR (if person is speaking for or describing a group) What circumstances brought [members of the group that you represent] to the Borrego Valley?

Probes: health reasons, family, economic, climate, tourism,

Question 2: In your opinion, what are the strong points of the community in the Borrego Valley?

Question 3: A community group has worked with the County of San Diego already to write a community plan. Are you familiar with this document? (circle one) Yes No

(If already familiar, be aware that person may want to refer to it in their response. Or may not want their time wasted...)

What would you like to see happen in this community in the next five years?

What would you like to see in the next 20 years?

Question 4: Getting back to the present, what do you see as the primary problems or weaknesses in the Borrego Valley community?

Question 5: You stated in the first question that you came here because _____. What keeps you here? (*reword if person is representing a group*)

Probe: any changes?,

Question 6: You might have read or heard about the Borrego Water Coalition. (*circle one*) Y N

Which issues about water in the Borrego Valley concern you the most?

Probe: storm water, waste water, water quality, cost of obtaining water, water security,

Is there anything you'd like to add that I might have forgotten to ask?

Thank you very much for your help with this project! We all appreciate your valuable time and your willingness to share. The groundwater planning update should be complete by [date].

Turn off recorder.

INTERVIEWER NOTES ON CONTEXT:

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	C	D	AJ	AK	AL	AM
1	BWD CASH FLOW					
2	2013-2014					
3			ADOPTED	ACTUAL	PROJECTED	ACTUAL
4			BUDGET	NOVEMBER	NOV	YTD
5			2013-2014	2013	2013	2013-2014
6	REVENUE					
6	WATER REVENUE					
7	Residential Water Sales (Assume no water use on Montesoro GC)		822,850	73,620	68,106	373,352
8	Commercial Water Sales		114,404	9,386	9,628	49,694
9	Irrigation Water Sales		145,635	12,022	21,174	71,189
10	GWM Surcharge		102,709	9,614	9,615	49,685
11	Water Sales Power Portion		336,908	30,027	31,821	156,993
12	Readiness Water Charge -15% increase		1,082,452	96,374	90,850	457,473
13	Readiness Water Charge - Liened properties		41,000	0	3,450	7,444
14	Meter Installation		0	0	0	572
15	Water hook-up charge		0	0	0	-
16	Reconnect Fees		6,800	680	680	3,400
17	Backflow Testing/installation		4,575	0	0	-
18	Bulk Water Sales		6,235	797	0	838
19	Penalty & Interest Water Collection		12,197	(42)	1,000	870
20	TOTAL WATER REVENUE:		2,675,765	232,476	236,325	1,171,510
21		Receivables				
22	PROPERTY ASSESSMENTS/AVAILABILITY CHARGES					
		as of 12/10/13				
23	641500 1% Property Assessments		64,388	1,995	1,995	4,352
24	641502 Property Assess wtr/swr/flid (679 parcels \$66 ea(44,814))		25,369	2,047	2,047	2,349
25	641502 Prop Assess. (Allowance for bad debt (\$115,507))		0	0		-
26	641501 Water avail Standby		89,038	6,179	6,179	8,459
28	641504 ID 3 Water Standby (La Casa)		35,165	1,076	1,076	1,186
29	641503 Pest standby		15,474	400	400	667
30	TOTAL PROPERTY ASSES/AVAIL CHARGES:		229,434	11,697	11,697	17,014
31						
32	SEWER SERVICE CHARGES					
33	Town Center Sewer Holder's Fees		168,000	14,274	14,000	71,369
34	Town Center Sewer User Fees		37,920	3,180	3,160	15,820
35	Sewer user Fees		300,300	25,449	25,025	122,507
36	Sewer-liened		3,216	0	268	701
37	Penalty Interest-Sewer		1,200	0	100	54
38	Sewer Capacity Fees		0	0	0	-
39	TOTAL SEWER SERVICE CHARGES:		510,636	42,903	42,553	210,451
40						
41	OTHER INCOME					
43	Annexation Fees		0	0	0	-
44	Fire Hydrant Installation		0	0	0	-
45	Miscellaneous Income (net csd fee/JPIA rebate/check free)		10,320	80	120	942
46	Administrative Fee-Water Credits		0	0	0	5,500
50	Interest Income		187	2	5	27
51	TOTAL OTHER INCOME:		10,507	82	125	6,469
52						
53	TOTAL INCOME:		3,426,341	287,158	290,699	1,405,444
54						
55	CASH BASIS ADJUSTMENTS					
56	Decrease (Increase) in Accounts Receivable			2,279		(11,754)
57	CC Golf Equipment receivable		2,270	189	189	946
58	Other Cash Basis Adjustments-Coljen LMTD deposit			(2,798)		(18,589)
59	TOTAL CASH BASIS ADJUSTMENTS:		2,270	(330)	189	(29,397)
60						
61	TOTAL INCOME RECEIVED:		3,428,611	286,828	290,889	1,376,047

	AN	BA	BB	BC	BD	BE	BF	BG
1								
2	YTD + PROJ MONTHS>>	PROJECTED						
3	PROJECTED	DEC	JANUARY	FEB	MARCH	APRIL	MAY	JUNE
4	<u>2013-2014</u>	<u>2013</u>	<u>2014</u>	<u>2014</u>	<u>2014</u>	<u>2014</u>	<u>2014</u>	<u>2014</u>
5								
6								
7	828,782	53,222	58,123	54,917	49,744	75,020	76,538	87,865
8	113,017	7,584	8,903	8,913	8,624	10,150	9,989	9,160
9	134,809	10,458	7,762	8,298	5,483	9,071	10,538	12,010
10	105,259	6,920	7,271	7,060	6,202	9,235	9,492	9,392
11	336,951	22,916	24,059	23,100	20,550	30,478	28,802	30,053
12	1,093,423	90,850	90,850	90,850	90,850	90,850	90,850	90,850
13	31,594	3,450	3,450	3,450	3,450	3,450	3,450	3,450
14	572	0	0	0	0	0	0	0
15	-	0	0	0	0	0	0	0
16	7,820	1,020	680	0	680	680	680	680
17	4,575	0	4,550	25	0	0	0	0
18	4,044	90	172	350	343	482	970	799
19	8,067	1,000	1,000	1,000	1,197	1,127	873	1,000
20	2,668,914	197,512	206,819	197,963	187,124	230,545	232,182	245,259
21								
22								
23	63,170	21,031	9,601	1,024	2,024	15,990	7,882	1,267
24	25,166	5,681	7,239	1,321	660	1,650	5,340	927
25	-					0	0	
26	87,326	23,715	24,834	2,109	4,429	5,292	14,332	4,156
28	33,552	4,016	13,614	343	10,603	1,046	2,254	490
29	13,798	3,098	3,956	303	592	2,063	2,597	523
30	223,012	57,541	59,243	5,099	18,308	26,040	32,405	7,362
31								
32								
33	169,369	14,000	14,000	14,000	14,000	14,000	14,000	14,000
34	37,940	3,160	3,160	3,160	3,160	3,160	3,160	3,160
35	300,207	25,025	25,025	25,025	25,025	25,025	25,025	27,550
36	2,577	268	268	268	268	268	268	268
37	754	100	100	100	100	100	100	100
38	-	0	0	0	0	0	0	0
39	510,847	42,553	42,553	42,553	42,553	42,553	42,553	45,078
40								
41								
43	-	0	0	0	0	0	0	0
44	-	0	0	0	0	0	0	0
45	10,662	120	120	9,000	120	120	120	120
46	5,500	0	0	0	0	0	0	0
50	147	5	22	10	11	30	11	30
51	16,309	125	142	9,010	131	150	131	150
52								
53	3,419,082	297,731	308,757	254,626	248,116	299,287	307,271	297,850
54								
55								
56	(11,754)							
57	2,270	189	189	189	189	189	189	189
58	(18,589)		0	0	0	0	0	0
59	(28,073)	189	189	189	189	189	189	189
60								
61	3,391,009	297,920	308,946	254,815	248,305	299,477	307,461	298,039

	C	D	AJ	AK	AL	AM
1	BWD CASH FLOW					
2	2013-2014					
3			ADOPTED	ACTUAL	PROJECTED	ACTUAL
4			BUDGET	NOVEMBER	NOV	YTD
62	EXPENSES		2013-2014	2013	2013	2013-2014
63						
64	MAINTENANCE EXPENSE					
65	R & M Buildings & Equipment		130,000	1,775	10,800	31,155
66	R & M - WWTP		40,000	3,963	3,334	13,988
67	Telemetry		10,000	2,607	0	5,687
68	Trash Removal		3,655	287	287	1,435
69	Vehicle Expense		18,000	1,487	1,500	5,350
70	Fuel & Oil		33,000	3,767	2,750	12,779
71	TOTAL MAINTENANCE EXPENSE:		234,655	13,887	18,671	70,393
72						
73	PROFESSIONAL SERVICES EXPENSE					
74	Accounting (Taussig)		1,500	0	0	1,667
75	Administrative Services (ADP/Bank Fees)		6,000	429	500	11,536
76	Audit Fees		14,439	4,813	4,813	14,439
77	Computer billing		9,000	805	750	2,529
78	Consulting/Technical		200	0	0	-
79	Engineering		25,200	0	2,100	440
80	Legal Services		15,000	0	1,250	6,061
81	Testing/lab work		18,000	1,290	966	7,780
82	Regulatory Permit Fees		42,000	18,080	10,715	26,082
83	TOTAL PROFESSIONAL SERVICES EXPENSE:		131,339	25,417	21,094	70,534
84						
85	INSURANCE/INTEREST EXPENSE					
86	ACWA Insurance		73,650	0	0	28,629
87	Workers Comp		18,800	0	0	3,616
88	Interest-COP 2008/Well 12 Purchase Agreement		219,313	0	0	157,438
89	TOTAL INSURANCE/INTEREST EXPENSE:		311,763	0	0	189,683
90						
91	PERSONNEL EXPENSE					
92	Board Meeting Expense (board stipend/board secretary)		12,870	1,585	1,170	4,265
93	Salaries & Wages (gross)		750,000	62,742	66,000	293,990
94	Taxes on Payroll		16,000	1,068	870	4,582
95	Medical Insurance Benefits	+8% Jan-June 2014)	181,000	14,270	14,500	82,100
96	Calpers Retirement Benefits		157,200	12,171	13,100	62,116
97	Salaries & Wages contra account		(12,870)	(1,485)	(1,170)	(3,795)
98	Conference/Conventions/Training/Seminars		7,500	1,027	1,040	3,800
99	TOTAL PERSONNEL EXPENSE:		1,111,700	91,377	95,510	447,058
100						
101	OFFICE EXPENSE					
102	Office Supplies		18,000	636	1,500	7,508
103	Office Equipment/ Rental/Maintenance Agreements		25,400	2,802	1,402	12,210
104	Postage & Freight		13,000	20	0	8,536
105	Taxes on Property		2,150	0	0	2,188
106	Telephone/Answering Service		8,400	617	700	3,141
107	Bad Debt Collection		720	(45)	60	(195)
108	Dues & Subscriptions		4,400	0	200	921
109	Printing, Publications & Notices		747	0	0	622
110	Uniforms		7,177	947	550	2,143
111	Osha Requirements/Emergency preparedness		4,842	0	116	701
112	TOTAL OFFICE EXPENSE:		84,838	4,976	4,528	37,774
113						
114	UTILITIES EXPENSE					
115	Pumping-Electricity		360,000	25,321	43,953	132,282
116	Office/Shop Utilities		16,875	1,085	1,262	8,052
117	Cellular Phone		8,777	531	756	3,127
118	TOTAL UTILITIES EXPENSE:		385,652	26,937	45,971	143,460
119						
120	TOTAL EXPENSES:		2,259,946	162,595	185,774	958,903
121						
122	CASH BASIS ADJUSTMENTS					
123	Decrease (Increase) in Accounts Payable			20,683		42,937
124	Increase (Decrease) in Inventory			4,868		12,575
125	Other Cash Basis Adjustments					-
126	TOTAL CASH BASIS ADJUSTMENTS:			25,551	0	55,513
127						
128	TOTAL EXPENSES PAID:		2,259,946	188,146	185,774	1,014,415
129						
130	NET CASH FLOW (O&M)		1,168,665	98,682	105,115	361,632

	AN	BA	BB	BC	BD	BE	BF	BG
1								
2	YTD + PROJ MONTHS>>	PROJECTED						
3	PROJECTED	DEC	JANUARY	FEB	MARCH	APRIL	MAY	JUNE
4	2013-2014	2013	2014	2014	2014	2014	2014	2014
62								
63								
64								
65	107,155	10,800	10,800	10,800	10,800	10,800	11,000	11,000
66	37,318	3,334	3,334	3,334	3,334	3,334	3,330	3,330
67	11,687	2,000	0	0	2,000	0	0	2,000
68	3,444	287	287	287	287	287	287	287
69	15,850	1,500	1,500	1,500	1,500	1,500	1,500	1,500
70	32,029	2,750	2,750	2,750	2,750	2,750	2,750	2,750
71	207,482	20,671	18,671	18,671	20,671	18,671	18,867	20,867
72								
73								
74	2,667	0	0	0	0	0	500	500
75	15,036	500	500	500	500	500	500	500
76	14,439	0	0	0	0	0	0	0
77	7,779	750	750	750	750	750	750	750
78	200	0	0	0	0	0	200	0
79	15,140	2,100	2,100	2,100	2,100	2,100	2,100	2,100
80	13,158	1,097	1,000	1,000	1,000	1,000	1,000	1,000
81	17,209	110	1,345	1,232	1,200	1,542	2,000	2,000
82	38,411	240	1,000	5,108	699	0	3,175	2,106
83	124,039	4,797	6,695	10,690	6,249	5,892	10,226	8,956
84								
85								
86	70,279	0	0	10,650	0	31,000	0	0
87	15,616	4,000	0	0	4,000	0	0	4,000
88	219,313	0	0	0	61,875	0	0	0
89	305,208	4,000	0	10,650	65,875	31,000	0	4,000
90								
91								
92	12,455	1,170	1,170	1,170	1,170	1,170	1,170	1,170
93	729,990	62,500	62,500	62,500	62,500	62,000	62,000	62,000
94	16,559	764	5,320	2,646	908	896	766	677
95	174,940	14,540	15,660	15,660	15,660	15,660	15,660	0
96	153,816	13,100	13,100	13,100	13,100	13,100	13,100	13,100
97	(11,985)	(1,170)	(1,170)	(1,170)	(1,170)	(1,170)	(1,170)	(1,170)
98	7,140	1,100	550	600	360	70	600	60
99	1,082,916	92,004	97,130	94,506	92,528	91,726	92,126	75,837
100								
101								
102	18,008	1,500	1,500	1,500	1,500	1,500	1,500	1,500
103	30,361	1,414	2,740	2,500	1,438	2,000	3,059	5,000
104	16,536	2,000	0	2,000	0	2,000	0	2,000
105	2,188	0	0	0	0	0	0	0
106	8,041	700	700	700	700	700	700	700
107	225	60	60	60	60	60	60	60
108	4,226	50	0	600	200	2,360	50	45
109	954	116	0	0	116	0	0	100
110	6,349	550	549	908	550	550	550	550
111	4,901	325	76	111	1,926	59	1,030	673
112	91,789	6,715	5,624	8,379	6,490	9,229	6,949	10,628
113								
114								
115	318,705	25,549	21,785	27,176	26,837	26,466	27,457	31,153
116	16,140	1,062	1,506	904	932	1,079	1,137	1,470
117	8,419	756	756	756	756	756	756	756
118	343,264	27,367	24,047	28,836	28,525	28,301	29,350	33,379
119								
120	2,154,698	155,554	152,167	171,732	220,338	184,819	157,518	153,667
121								
122								
123	42,937							
124	12,575							
125	-							
126	55,513	0	0	0	0	0	0	0
127								
128	<u>2,210,211</u>	<u>155,554</u>	<u>152,167</u>	<u>171,732</u>	<u>220,338</u>	<u>184,819</u>	<u>157,518</u>	<u>153,667</u>
129								
130	1,180,798	142,366	156,779	83,083	27,967	114,658	149,943	144,372

	C	D	AJ	AK	AL	AM
1	BWD CASH FLOW					
2	2013-2014					
3			ADOPTED	ACTUAL	PROJECTED	ACTUAL
4			BUDGET	NOVEMBER	NOV	YTD
			2013-2014	2013	2013	2013-2014
131	NON O & M EXPENSES					
132	USGS Basin study (\$49,028 balance)	(\$49,000 br fwd FY)	57,500	0	49,028	8,460
133	GWM Planning Costs - legal		30,000	0	2,500	19
136	Viking Ranch Purchase		69,000			70,493
137	Viking Ranch Purchase RESERVE		100,000			-
140	Rams Hill #1 1980 steel needs inside coating, 1.25mg	(\$100,000 br fwd FY)	200,000	8,797	8,797	194,836
141	800 Tank	(Bal br fwd FY)	123,576		61,788	-
142	Twin Tanks, 1970's-inside coating (rescheduled into 2013-2014)		40,000			-
144	ID4, Reducing Station design and installation		20,000			-
148	Concrete replacement/Repairs-WWTP		70,000			18,240
150	Lugo building repairs		5,000	500	5,000	500
151	Pipeline-Country Club Road Booster Sta #3 south to Slash M		154,000			-
152	Fire Hydrant Replacements		12,360			-
153	Rewind motors-ID 4-11/ID4-18/ID1-10		35,000			-
154	ID 1-16 pump and casing cleaning		60,000			-
155	ID4-Well 18 new submersible pump					24,500
156	WWTP-Shredder Cutters/Motor & Gear reducers/return pump		28,000			-
157	WWTP-Video Collection Lines		10,000			-
159	TOTAL NON O&M EXPENSES		1,014,436	9,297	127,112	317,046
160						
161	CASH RECAP					
162	Cash beginning of period		1,471,674	1,426,874	1,426,874	1,471,674
163	Net Cash Flow (O&M)		1,168,665	98,682	105,115	361,632
164	Total Non O&M Expenses		(1,014,436)	(9,297)	(127,112)	(317,046)
165	Transfer To/From Reserves			0		-
166	CASH AT END OF PERIOD		1,625,903	1,516,260	1,404,877	1,516,259
167	Cash allocated for Viking reserves		(200,000)			
168	Coljen LMTD deposit net expenditures			(5,517)		
169	CASH AFTER ALLOCATION FOR RESERVES/DEPOSIT		1,425,903			
170						
171						
172	RESERVES		TARGET			
173	Working Capital (3 months)		600,000			
174	Contingency (3%)		80,000			
175	Asset replacement		160,000			
176	Emergency		2,500,000			
177	Viking Ranch		200,000			
178	TOTAL RESERVES		3,540,000			
179						
180	SIGNIFICANT ITEMS		ACTUAL	PROJECTED		
181						
182	Regulatory Permits	18,080	10,715	Projection off \$6,000 for sewer permit fees		
183	Pumping-Electricity	25,321	43,953	Projection WAY off		
184	Total Significant Items:	43,401	54,668			
185						

	AN	BA	BB	BC	BD	BE	BF	BG
1								
2	YTD + PROJ MONTHS>>	PROJECTED	PROJECTED	PROJECTED	PROJECTED	PROJECTED	PROJECTED	PROJECTED
3	PROJECTED	DEC	JANUARY	FEB	MARCH	APRIL	MAY	JUNE
4	2013-2014	2013	2014	2014	2014	2014	2014	2014
131								
132	57,488			49,028				
133	25,015	2,500	2,500	2,500	2,500	2,500	6,248	6,248
136	70,493							
137	-							
140	194,836							
141	123,576		123,576	0				
142	40,000	0		40,000				
144	20,000				20,000			
148	48,240			10,000	10,000	10,000		
150	5,500	1,000	1,000	1,000		1,000		1,000
151	154,000			77,000		77,000		
152	12,360					4,120	4,120	4,120
153	35,000	0		17,500			17,500	
154	60,000		60,000					
155	24,500							
156	22,000	0	16,000	6,000				
157	10,000				10,000			
159	<u>903,006</u>	<u>3,500</u>	<u>203,076</u>	<u>203,028</u>	<u>42,500</u>	<u>94,620</u>	<u>27,868</u>	<u>11,368</u>
160								
161								
162	1,471,674	1,516,260	1,655,125	1,608,828	1,488,883	1,474,350	1,494,387	1,616,462
163	1,180,798	142,366	156,779	83,083	27,967	114,658	149,943	144,372
164	(903,006)	(3,500)	(203,076)	(203,028)	(42,500)	(94,620)	(27,868)	(11,368)
165	0	0	0	0	0	0	0	0
166	1,749,466	1,655,125	1,608,828	1,488,883	1,474,350	1,494,387	1,616,462	1,749,466
167	(200,000)							
168	(5,517)							
169	1,543,949							
170								
171								
172								
173								
174								
175								
176								
177								
178								
179								
180								
181								
182								
183								
184								
185								



BORREGO WATER DISTRICT

	BALANCE SHEET		BALANCE SHEET		MONTHLY
	November 30, 2013		October 31, 2013		CHANGE
	(unaudited)		(unaudited)		(unaudited)
ASSETS:					
CURRENT ASSETS					
Cash and cash equivalents	\$	1,516,260.28	\$	1,426,874.26	\$ 89,386.02
Accounts receivable from water sales and sewer charges	\$	449,670.11	\$	451,949.51	\$ (2,279.40)
Interest receivable	\$	-	\$	-	\$ -
Inventory	\$	156,485.39	\$	161,353.49	\$ (4,868.10)
Availability charges receivable	\$	715,594.62	\$	715,594.62	\$ -
Allowance for uncollectable availability charges	\$	(665,170.62)	\$	(665,170.62)	\$ -
Grant Receivable	\$	-	\$	-	\$ -
Prepaid expenses	\$	43,007.66	\$	43,007.66	\$ -
Other Receivables	\$	3,595.00	\$	3,784.20	\$ (189.20)
TOTAL CURRENT ASSETS	\$	2,219,442.44	\$	2,137,393.12	\$ 82,049.32
RESTRICTED ASSETS					
Debt Service:					
Deferred amount of COP Refunding	\$	142,558.65	\$	142,558.65	\$ -
Unamortized bond issue costs	\$	98,942.11	\$	98,942.11	\$ -
Total Debt service	\$	241,500.76	\$	241,500.76	\$ -
Trust fund:					
Investments with fiscal agent -CFD 2007-1	\$	20,516.08	\$	15,449.97	\$ 5,066.11
Total Trust fund	\$	20,516.08	\$	15,449.97	\$ 5,066.11
TOTAL RESTRICTED ASSETS	\$	262,016.84	\$	256,950.73	
UTILITY PLANT IN SERVICE					
Land	\$	3,134,875.65	\$	1,634,875.65	\$ 1,500,000.00
Flood Control Facilities	\$	4,319,603.58	\$	4,319,603.58	\$ -
Capital Improvement Projects	\$	186,368.42	\$	372,407.17	\$ (186,038.75)
Sewer Facilities	\$	5,523,162.69	\$	5,523,162.69	\$ -
Water facilities	\$	10,565,668.38	\$	10,683,471.48	\$ (117,803.10)
Pipelines, wells and tanks	\$	151,699.02	\$	151,699.02	\$ -
General facilities	\$	1,006,881.13	\$	1,006,881.13	\$ -
Equipment and furniture	\$	312,133.38	\$	312,133.38	\$ -
Vehicles	\$	495,572.91	\$	495,572.91	\$ -
Accumulated depreciation	\$	(10,600,530.90)	\$	(10,600,530.90)	\$ -
NET UTILITY PLANT IN SERVICE	\$	15,095,434.26	\$	13,899,276.11	\$ 1,196,158.15
OTHER ASSETS					
Water rights -ID4	\$	185,000.00	\$	185,000.00	\$ -
TOTAL OTHER ASSETS	\$	185,000.00	\$	185,000.00	
TOTAL ASSETS	\$	17,761,893.54	\$	16,478,619.96	\$ 1,283,273.58

Balance sheet continued

	BALANCE SHEET November 30, 2013 (unaudited)	BALANCE SHEET October 31, 2013 (unaudited)	MONTHLY CHANGE (unaudited)
LIABILITIES:			
CURRENT LIABILITIES PAYABLE FROM CURRENT ASSETS			
Accounts Payable	\$ 54,925.67	\$ 75,608.98	\$ (20,683.31)
Accrued expenses	\$ 134,203.06	\$ 134,203.06	\$ -
Deferred Revenue	\$ -	\$ -	\$ -
Deposits	\$ 17,076.58	\$ 19,874.96	\$ (2,798.38)
TOTAL CURRENT LIABILITIES PAYABLE FROM CURRENT ASSETS	\$ 206,205.31	\$ 229,687.00	\$ (23,481.69)
CURRENT LIABILITIES PAYABLE FOM RESTRICTED ASSETS			
Debt Service:			
Accounts Payable to CFD 2007-1	\$ 20,516.08	\$ 15,449.97	\$ 5,066.11
TOTAL CURRENT LIABILITIES PAYABLE FROM RESTRICTED ASSETS	\$ 20,516.08	\$ 15,449.97	\$ 5,066.11
LONG TERM LIABILITIES			
2008 Certificates of participation(payable from restricted assets)	\$ 2,750,000.00	\$ 2,750,000.00	\$ -
Montesoro Note Payable	\$ 323,402.32	\$ 323,402.32	\$ -
Viking Ranch Note	\$ 1,494,000.00	\$ -	\$ 1,494,000.00
TOTAL LONG TERM LIABILITIES	\$ 4,567,402.32	\$ 3,073,402.32	\$ 1,494,000.00
TOTAL LIABILITIES	\$ 4,794,123.71	\$ 3,318,539.29	\$ 1,475,584.42
FUND EQUITY			
Contributed equity	\$ 9,611,814.35	\$ 9,605,814.35	\$ 6,000.00
Retained Earnings:			
Unrestricted Reserves/Retained Earnings	\$ 3,355,955.48	\$ 3,554,266.32	\$ (198,310.84)
Total retained earnings	\$ 3,355,955.48	\$ 3,554,266.32	\$ (198,310.84)
TOTAL FUND EQUITY	\$ 12,967,769.83	\$ 13,160,080.67	\$ (192,310.84)
TOTAL LIABILITIES AND FUND EQUITY	\$ 17,761,893.54	\$ 16,478,619.96	\$ 1,283,273.58



BORREGO WATER DISTRICT

Treasurer's Report November, 2013

Bank Balance	Carrying Value	Fair Value	% of Portfolio			
			Current Actual	Rate of Interest	Maturity	Valuation Source

Cash and Cash Equivalents:

Demand Accounts at WFB/BSB/LAIF

WFB/BSB General Account/Petty Cash	\$ 1,472,972	\$ 1,430,511	\$ 1,430,511	94.34%	0.00%	N/A	WFB/AB
Payroll Account	\$ 15,422	\$ 14,435	\$ 14,435	0.95%	0.01%	N/A	WFB
MMA	\$ 50,424	\$ 50,424	\$ 50,424	3.33%	0.03%	N/A	WFB
LAIF	\$ 20,891	\$ 20,891	\$ 20,891	1.38%	0.24%	N/A	LAIF
Total Cash and Cash Equivalents	\$ 1,559,708	\$ 1,516,260	\$ 1,516,260	100.00%			

Facilities District No. 2007-1

First American Treas Obligation -US BANK	\$ 20,516	\$ 20,516	\$ 20,516
Total Cash, Cash Equivalents & Investments	\$ 1,580,224	\$ 1,536,776	\$ 1,536,776

Cash and investments conform to the District's Investment Policy statement filed with the Board of Directors on June 26, 2013.

Cash, investments and future cash flows are sufficient to meet the needs of the District for the next six months.

Sources of valuations are Borrego Springs Bank (BSB), Wells Fargo Bank (WFB), LAIF and US Trust Bank.

Kim Pitman, Administration Manager



BORREGO WATER DISTRICT

To: BWD Board of Directors
 From: Kim Pitman
 Subject: Consideration of the Disbursements and Claims Paid
 Month Ending November, 2013

A. Vendor disbursements paid during this period:	\$	129,715.49
<i>Significant items:</i>		
Utilities	\$	26,025.00
CalPERS Payments	\$	14,763.04
Employee Health Benefits	\$	15,420.41
ACWA agency dues 2014	\$	10,488.50
SWRCB-WWTP sewer permit	\$	6,307.00
B. Capital Projects/Fixed Asset Outlays:		
<i>(included in vendor disbursements paid above)</i>		
Paso Robles Tank, Inc-RH Tank #1 Repair-Final payment	\$	8,796.25
C. Total Professional Services for this Period:		
<i>(included in vendor disbursements paid above)</i>		
McDougal, Love, Eckis, Attorneys	Legal-general	
*No invoice received for November	R/H GC Deposit	
	Total Invoice:	\$ -
Downey Brand, Attorneys	Legal-general	
	R/H GC Deposit	\$ 2,784.25
	Total Invoice:	\$ 2,784.25
Hosaka, Rotherham & Company (final)	Auditing:	\$ 4,813.00
RHGC DEPOSIT BALANCE AS OF 11/30/13		\$ (5,517.17)
D. Payroll for this Period:		
Gross Payroll	\$	62,742.44
Employer Payroll Taxes and ADP Fee	\$	1,234.95
Total	\$	63,977.39

BORREGO WATER DISTRICT
FOR BOARD CONSIDERATION AND APPROVAL
NOVEMBER 30, 2013

GENERAL ACCOUNT

CHECK#	DATE	PAYEE & DESCRIPTION	AMOUNT
18837	12/09/13	U.S.BANK CORPORATE PAYMENT SYS SEE INVOICE FOR DETAILS SEE INVOICE FOR DETAILS	1,789.99
18818	11/27/13	ABILITY ANSWERING/PAGING SER ANSWERING SERVICE	171.11
18801	11/18/13	ASSOC OF CALIFORNIA 2014 AGENCY DUES DELTA SUSTAINABILITY ASSESS	10,488.50
18802	11/18/13	ACWA/JPIA BENEFITS 12/1/13-1/1/14	15,420.41
18803	11/18/13	AFLAC EMPLOYEE PAID SUPPLEMENTAL INS	1,660.08
18829	12/03/13	AIRGAS USA,LLC ACETYLENE FOR SOLDERING COPPER FITTINGS	67.37
18838	12/09/13	AMERICAN LINEN INC. UNIFORMS FOR CREW	510.88
18839	12/09/13	AT CONFERENCE CONFERENCE CALLS	21.58
18830	12/03/13	AT&T MOBILITY PHONES FOR CREW	530.74
18840	12/09/13	AT&T-CALNET 2 TELEPHONE CHARGES WWTP TELEPHONE CHARGES MAIN OFFICE TELEPHONE CHARGES	311.96
18841	12/09/13	B & J EARTHWORKS REMOVE OLD MANHOLE CONE & LID INSTALL NEW AIR GAP RELEASE COMPONETS AND MANHOLE INSERT	2,200.00
18819	11/27/13	CONTRON TELEMETRY SERVICE WELLS 18, 12 WWTP, BP#3 TELEMETRY SERVICES WELLS 12, 8, BP#2 & 3	2,607.44
18842	12/09/13	COUNTY OF SAN DIEGO FACILITY PERMIT HAZ MAT	896.00
18820	11/27/13	COUNTY OF SAN DIEGO PERMIT PROCESSING	209.80
18804	11/18/13	DATASTREAM BUSINESS HP9000 PROGRAMMING PE: 10/1/13 - 10/31/13	804.53
18821	11/27/13	DE ANZA READY MIX CONCRETE FOR HYDRANT WEST OF TILTING T DR.	239.88
18843	12/09/13	DE ANZA READY MIX CONCRETE FOR NEW FIRE HYDRANTS	667.20
18831	12/03/13	JAMES G HORMUTH/DBA TRUE VALUE SEE INVOICE FOR DETAILS	155.74

BORREGO WATER DISTRICT
 FOR BOARD CONSIDERATION AND APPROVAL
 NOVEMBER 30, 2013

CHECK#	DATE	PAYEE & DESCRIPTION	AMOUNT
18810	11/20/13	DEBBIE MORETTI PEST MANAGEMENT	113.00
18811	11/20/13	CDPH-OCP GRADE 3 CERT. RENEWAL OP#28522 ROY MARTINEZ	90.00
18805	11/18/13	DESERT TIRE CENTER TIRES FOR F-650 TRUCK	1,041.14
18812	11/20/13	DESERT TIRE CENTER BRAKE SHOES 2008 GMC CANYON	173.70
18822	11/27/13	DESERT TIRE CENTER WIPER BLADES FOR 2001 FORD	12.81
18844	12/09/13	DIANA DEL BONO REIMBURSEMENT FOR WORK SHIRTS	97.10
18813	11/20/13	DOWNEY BRAND LEGAL SERVICES THROUGH 10/31	2,784.25
18845	12/09/13	E.S. BABCOCK & SONS, INC. WATER SAMPLES	1,260.00
18814	11/20/13	FED EX PACKAGE TO STATE CONTROLLERS OFFICE	19.67
18846	12/09/13	GREEN DESERT LANDSCAPE MANAGMENT FEE CLUB CIRCLE NOV.	5,210.80
18832	12/03/13	HIDDEN VALLEY PUMP SYSTEMS INC RAMS HILL REC PLANT PUMP REPAIR	285.00
18847	12/09/13	HOME DEPOT CREDIT SERVICES SEE INVOICE FOR DETAILS	204.05
18823	11/27/13	HOSAKA, ROTHERHAM & CO. INSTALLMENT ON AUDIT	4,813.00
18848	12/09/13	HYDROTEX VEHICLE ENGINE OIL TESTS AND SAMPLE BOTTLES	181.30
18806	11/18/13	KENNY STRICKLAND, INC. GAS FOR DISTRICT VEHICLES 1142874, 11120405, 11120218	2,386.88
18824	11/27/13	KENNY STRICKLAND, INC. FUEL FOR DISTRICT VEHICLES 11121777, 11121776	1,380.17
18807	11/18/13	KONICA MINOLTA INSTALLMENT ON BIZ HUB COPIER 10/25/13 - 11/24/13	1,298.47
18849	12/09/13	KONICA MINOLTA COPIER LEASE PE: 11.25.13 - 12.24.13	1,298.47
18850	12/09/13	NAPA AUTO PARTS INC PARTS FOR DISTRICT VEHICLES	89.70
18851	12/09/13	BLUE TARP MOTOR OIL PUMP FOR SAMPLING ENGINE OIL	77.97
18825	11/27/13	PACIFIC PIPELINE SUPPLY INC INVENTORY, PARTS METER BOX LID CAST IRON #3 CUTTER FOR HOLE SAW BRASS NIPPLE 3/4" X 6	5,788.71

BORREGO WATER DISTRICT
 FOR BOARD CONSIDERATION AND APPROVAL
 NOVEMBER 30, 2013

CHECK#	DATE	PAYEE & DESCRIPTION	AMOUNT
18852	12/09/13	PACIFIC PIPELINE SUPPLY INC PARTS	
		2" STAINLESS STEEL FITTINGS	1,478.98
18833	12/03/13	PASO ROBLES TANK, INC FINAL PAYMENT RH TANK REPAIR	8,796.25
18815	11/20/13	CASH BUSINESS MEALS 5 DAYS	275.00
18816	11/20/13	PUBLIC EMP'S RETIREMENT SYSTEM RETIREMENT BENEFITS PE: 11/1/13-11/15/13	7,582.23
18834	12/03/13	PUBLIC EMP'S RETIREMENT SYSTEM RETIREMENT BENEFITS	7,180.81
18817	11/20/13	QUILL CORPORATION OFFICE SUPPLIES, 7167425, 7174217	405.47
18853	12/09/13	RAMONA DISPOSAL SERVICE WASTE REMOVAL STIRRUP & WWTP WASTE REMOVAL CLUB CIRCLE NOV.	3,184.50
18854	12/09/13	RECORDER/COUNTY CLERK'S OFFICE LIEN RELEASE RHODES, ESPARZA	26.00
18826	11/27/13	SAN DIEGO GAS & ELECTRIC ELECTRICTY CHARGES	26,025.00
18808	11/18/13	SECAP FINANCE COPIER LEASE PE: 10/30-11/30	137.49
18809	11/18/13	SWRCB ACCOUNTING OFFICE PERMIT FEE 7SSO10513 / 198061 PE: 7/1/13 - 6/30/14 WWTP SEWER PERMIT 7A370125001 INDEX: 199726	6,307.00
18827	11/27/13	SYNECO SYSTEMS, INC CONVERTER MEDIA USED FOR ODOR CONTROL	561.00
18835	12/03/13	U.S. POSTAL SERVICE ANNUAL PO BOX RENEWAL	80.00
18855	12/09/13	UNDERGROUND SERVICE ALERT DIG ALERTS	9.00
18836	12/03/13	WENDY QUINN RECORDING SERVICES FOR NOV.	100.00
18828	11/27/13	XYLEM WATER SOLUTIONS USA, INC IMPELER AND WEAR RING WWTP	207.36
		TOTAL	----- 129,715.49 =====

Borrego Water District Management Report – December 2013

By: Jerry Rolwing

FEDERAL LEVEL

U.S. Geological Survey: A partial draft was provided from the USGS on December 9th with a full draft expected in January.

U.S. Bureau of Reclamation: A draft was provided from Reclamation on December 6th and a follow up conference call was held on December 10th with the Stakeholders and comments will be due back next week.

STATE LEVEL

A meeting has been set up with State Senator Joel Anderson for December 17th. The meeting will focus on Borrego Valley water issues and hopefully, how the Senator can assist. President Beth Hart and several members of the Borrego Water Coalition will attend with a request for funding to purchase farmland from willing sellers. (Attachment A).

COUNTY LEVEL

After months of discussion and review, the County Department of Planning and Development Services has approved the water credit easement and certification documents for the Viking Ranch Project. Final negotiations are in place with the seller and I hope to have some County approved water credits for sale soon. Thanks to Jim Bennett at the County for making this happen.

DISTRICT LEVEL

Work continues with the Strategic Planning Ad Hoc Committee on the Rams Hill Golf Course and planning for the Groundwater Management Plan update.

December 12, 2013

Dear Senator Anderson:

Thank you for allowing the Borrego Water District and Borrego Water Coalition to meet with you. The unincorporated community of Borrego Springs is located in the extreme northeastern corner of San Diego County. The community is the gateway to the Anza-Borrego Desert State Park and totally reliant on the Borrego Valley Aquifer as its sole source of water supplies. The Borrego Valley Aquifer, although quite large, has been in an overdraft situation since pumping began in the 1940's. Recent studies by both the California Department of Water Resources and the United States Geological Survey suggest that the upper, and most prolific of three aquifers identified by the USGS, could be exhausted in the next fifty years if we continue the present rate of extraction. Due to our remote location, the possibility of importing water is beyond our means. Our only option is to develop economic incentives for users to reduce current usage.

The Borrego Water District is a California Water agency with groundwater management authority. The District has worked diligently over the past twelve years to address the overdraft by commissioning studies, building a groundwater management plan, instituting tiered water rates and providing ratepayers with conservation incentives to reduce water. The District supplies domestic water to the 3,000 residents which use an estimated 10% of the groundwater. Agriculture, golf courses and other privately owned wells account for the remaining 90%.

In an effort to address the overdraft locally and with the assistance of the California Department of Water Resources, the Borrego Water Coalition was formed in late 2012 and has been meeting over the past year. The Coalition is a thought leadership forum with the single goal of "Water for the Future" and is composed of all the primary water users and pumpers in the Valley. The Coalition is challenged to build a "roadmap" for groundwater sustainability.

By a unanimous vote the Borrego Water Coalition has approved the idea of proceeding forward with submittal for legislation that would ultimately benefit our community and the State of California as well. We look forward to the assistance of your staff and legislative group in Sacramento to prepare and secure approval for a bill that could address our Community's needs and concerns.

Thank you.

Sincerely,

Jerry Rolwing
General Manager



BORREGO WATER DISTRICT

November 2013

WATER OPERATIONS REPORT

WELL	TYPE	FLOW RATE	STATUS	COMMENT
ID1-1	Irrigation	150	Standby	Backup well for Rams Hill Golf Course
ID1-2	Irrigation	150	Standby	Backup well for Rams Hill Golf Course
ID1-8	Production	350	In Use	
ID1-10	Production	300	In Use	
ID1-12	Production	950	In Use	
ID1-16	Production	950	Out of Service	
Wilcox	Production	150	In Use	Diesel backup well for ID-4
ID4-4	Production	350	In Use	
ID4-10	Production	80	In Use	
ID4-11	Production	1000	In Use	Diesel engine drive exercised monthly
ID4-18	Production	250	In Use	
ID5-5	Production	900	In Use	Diesel engine drive exercised monthly

System Problems: ID1-Well 16 not in use waiting for evaluation from pump service company.
 All other Production Wells are in operating condition. Re-Relining of the 800 tank will start January 13, 2014 the new liner will be replaced with a new one piece liner. No payment to date for any work done on the 800 tank.

WASTEWATER OPERATIONS REPORT

Rams Hill Water Reclamation Plant serving ID-1, ID-2 and ID-5 Total Cap. 0.25 MGD (million gallons per day):

Average flow: 84,109 (gallons per day)
Peak flow: 114912 gpd Saturday November 30, 2013

All restaurant grease traps were clean.



BORREGO WATER DISTRICT

WATER PRODUCTION SUMMARY

November 2013

DATE	ID-1	ID-3	ID-4	ID-5	DISTRICT-WIDE TOTALS
Dec-11	14.63	11.22	83.50	3.12	112.47
Jan-12	14.14	9.99	93.09	3.60	120.82
Feb-12	15.96	9.75	99.64	4.60	129.95
Mar-12	17.01	9.36	87.22	4.73	118.32
Apr-12	13.47	10.86	101.43	6.86	132.62
May-12	20.98	13.34	131.79	8.31	174.42
Jun-12	31.57	13.84	133.24	5.36	184.01
Jul-12	33.18	14.27	135.30	6.36	189.11
Aug-12	42.43	17.76	157.68	6.35	224.22
Sep-12	27.60	12.72	117.15	3.14	160.61
Oct-12	33.21	12.41	122.78	29.77	198.17
Nov-12	36.38	11.13	100.49	0.00	148.00
Dec-12	20.41	8.54	101.89	0.00	130.84
Jan-13	15.18	10.21	103.59	2.05	131.03
Feb-13	11.65	9.60	76.50	2.26	100.01
Mar-13	10.26	8.33	85.01	4.54	108.14
Apr-13	12.26	10.88	135.54	7.10	165.78
May-13	22.86	11.86	118.08	5.37	158.17
Jun-13	26.59	12.71	133.18	2.86	175.34
Jul-13	27.81	14.19	153.49	2.42	197.91
Aug-13	27.96	13.26	123.17	2.45	166.84
Sep-13	30.51	11.16	117.30	0.92	159.89
Oct-13	29.63	10.86	137.93	4.34	182.76
Nov-13	21.45	11.58	113.46	5.28	151.77
12 Mo. TOTAL	256.57	133.18	1399.14	39.59	1828.48

Totals reflect individual improvement district usage. Interties from ID-3 and ID-5 have been subtracted from well pumpage totals and applied to respective ID's. All figures in Acre Feet of water pumped or recorded on intertie meters.

WATER LOSS SUMMARY (%)

DATE	ID-1	ID-3	ID-4	ID-5	DISTRICT-WIDE AVERAGE
Oct-13	4.80	6.48	11.32	N/A	7.53
12 Mo. Average	5.84	2.88	14.27	N/A	7.66

BORREGO WATER DISTRICT
Water Production / Use Records
ID # 1
Month of November 2013

----- Water Production (Acre Feet) -----								
Date	Well 1	Well 2	Well 8	Well 10	Well 12	Well 16	Total	LessID3&4
=====	=====	=====	=====	=====	=====	=====	=====	=====
NOV'12	0.00	0.00	0.04	12.18	63.65	0.04	75.91	36.38
DEC'12	0.00	0.00	0.07	9.04	19.84	0.00	28.95	20.41
JAN'13	0.00	0.00	0.06	10.86	14.47	0.00	25.39	15.18
FEB'13	0.00	0.00	8.49	2.70	10.06	0.00	21.25	11.65
MAR'13	0.00	0.00	18.59	0.00	0.00	0.00	18.59	10.26
APR'13	0.00	0.00	0.00	0.00	23.14	0.00	23.14	12.26
MAY'13	0.00	0.00	0.00	0.00	34.72	0.00	34.72	22.86
JUN'13	0.00	0.00	6.78	0.04	32.48	0.00	39.30	26.59
JUL'13	0.00	0.00	0.02	7.16	34.82	0.00	42.00	27.81
AUG'13	0.00	0.00	0.08	13.53	27.61	0.00	41.22	27.96
SEP'13	0.00	0.00	1.00	10.35	30.32	0.00	41.67	30.51
OCT'13	0.00	0.00	0.06	11.21	29.22	0.00	40.49	29.63
NOV'13	0.00	0.00	0.00	11.99	21.04	0.00	33.03	21.45
TOTALS	0.00	0.00	35.15	76.88	277.72	0.00	389.75	256.57
=====	=====	=====	=====	=====	=====	=====	=====	=====

----- Water Use (Acre Feet) -----									
Date	Domestic	Irrigat'n	Constrt'n	Golf Course	ID 3	ID 4	Total	Water Loss	% Loss
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
NOV'12	10.36	25.16	0.00	0.00	11.13	28.40	75.05	0.86	1.13%
DEC'12	8.32	10.12	0.00	0.00	8.54	0.00	26.98	1.97	6.81%
JAN'13	8.01	5.39	0.00	0.00	10.21	0.00	23.61	1.78	6.97%
FEB'13	7.35	3.76	0.00	0.00	9.60	0.00	20.71	0.54	2.53%
MAR'13	7.03	3.12	0.00	0.00	8.33	0.00	18.48	0.11	0.64%
APR'13	8.36	5.51	0.00	0.00	10.88	0.00	24.75	-1.61	-6.95%
MAY'13	9.49	7.03	0.00	0.00	11.86	0.00	28.38	6.34	18.25%
JUN'13	9.99	10.56	0.00	0.00	12.71	0.00	33.26	6.04	15.36%
JUL'13	11.06	15.99	0.00	0.00	14.19	0.00	41.24	0.76	1.76%
AUG'13	11.19	18.22	0.00	0.00	13.26	0.00	42.67	-1.45	-3.51%
SEP'13	10.18	18.81	0.00	0.00	11.16	0.00	40.15	1.52	3.64%
OCT'13	11.12	13.31	0.00	0.00	10.86	0.00	35.29	5.20	12.85%
NOV'13	9.63	10.24	0.00	0.00	11.58	0.00	31.45	1.58	4.80%
TOTALS	111.73	122.06	0.00	0.00	133.18	0.00	366.97	22.78	5.84%
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====

BORREGO WATER DISTRICT
 Water Production / Use Records
 ID # 3
 Month of November 2013

Date	La Casa del Zorro Total Acre Feet		Deep Well Trail / Others Acre Feet			Total Irrigat'n	Total Domestic	Total Acre Feet
	Irrigat'n	Domestic	Irrigat'n	Domestic	Total			
NOV'12	0.92	4.24	0.07	5.66	5.73	0.99	9.90	10.89
DEC'12	0.00	3.29	0.01	4.58	4.59	0.01	7.87	7.88
JAN'13	1.24	3.67	0.03	4.81	4.84	1.27	8.48	9.75
FEB'13	0.68	4.08	0.16	4.57	4.73	0.84	8.65	9.49
MAR'13	0.57	4.16	0.05	3.54	3.59	0.62	7.70	8.32
APR'13	0.79	4.03	0.02	5.40	5.42	0.81	9.43	10.24
MAY'13	0.83	5.16	0.08	5.89	5.97	0.91	11.05	11.96
JUN'13	1.06	5.21	0.15	6.06	6.21	1.21	11.27	12.48
JUL'13	1.08	6.31	0.11	6.36	6.47	1.19	12.67	13.86
AUG'13	1.10	5.74	0.03	5.98	6.01	1.13	11.72	12.85
SEP'13	0.93	4.67	0.03	5.36	5.39	0.96	10.03	10.99
OCT'13	1.17	4.50	0.06	4.96	5.02	1.23	9.46	10.69
NOV'13	0.59	3.28	0.12	6.84	6.96	0.71	10.12	10.83
TOTALS	10.04	54.10	0.85	64.35	65.20	10.89	118.45	129.34

Date	Water Produced Acre Feet	Water Delivered Acre Feet	Wtr Loss	% Loss
NOV'12	11.12	10.89	0.23	2.07%
DEC'12	8.54	7.88	0.66	7.73%
JAN'13	10.21	9.75	0.46	4.51%
FEB'13	9.60	9.49	0.11	1.15%
MAR'13	8.33	8.32	0.01	0.12%
APR'13	10.88	10.24	0.64	5.88%
MAY'13	11.86	11.96	- .10	-.84%
JUN'13	12.71	12.48	0.23	1.81%
JUL'13	14.19	13.86	0.33	2.33%
AUG'13	13.26	12.85	0.41	3.09%
SEP'13	11.16	10.99	0.17	1.52%
OCT'13	10.86	10.69	0.17	1.57%
NOV'13	11.58	10.83	0.75	6.48%
TOTALS	133.18	129.34	3.84	2.88%

BORREGO WATER DISTRICT
 Water Production / Use Records
 ID # 4
 Month of November 2013

----- Water Production (Acre Feet) -----											
Date	Well 2	Well 3	Well 4	Well 5	Well 10	Well 11	Well 18	Wilcox	Well 85	Total	Less ID5
NOV'12	0.00	0.00	51.45	24.80	9.97	0.00	14.27	0.00	0.00	100.49	100.49
DEC'12	0.00	0.00	49.39	35.72	9.47	1.54	5.77	0.00	0.00	101.89	101.89
JAN'13	0.00	0.00	61.63	27.85	11.84	0.00	4.32	0.00	0.00	105.64	103.59
FEB'13	0.00	0.00	38.14	10.41	9.84	16.89	3.48	0.00	0.00	78.76	76.50
MAR'13	0.00	0.00	43.79	23.93	9.60	5.48	6.75	0.00	0.00	89.55	85.01
APR'13	0.00	0.00	0.00	37.31	11.28	88.84	5.21	0.00	0.00	142.64	135.54
MAY'13	0.00	0.00	0.09	13.14	9.40	96.00	4.82	0.00	0.00	123.45	118.08
JUN'13	0.00	0.00	0.88	16.22	9.52	102.65	6.02	0.75	0.00	136.04	133.18
JUL'13	0.00	0.00	10.28	19.46	11.12	114.63	0.04	0.38	0.00	155.91	153.49
AUG'13	0.00	0.00	3.08	11.83	9.31	98.37	3.03	0.00	0.00	125.62	123.17
SEP'13	0.00	0.00	0.00	7.60	9.42	95.61	4.33	0.34	0.00	117.30	116.38
OCT'13	0.00	0.00	0.09	12.89	10.69	113.95	4.64	0.01	0.00	142.27	137.93
NOV'13	0.00	0.00	0.22	10.85	9.41	93.97	4.29	0.00	0.00	118.74	113.46
TOTALS	0.00	0.00	207.59	227.21	120.90	827.93	52.70	1.48	0.00	1437.81	1398.22

Date	Water Produced Acre Feet	Water Use Acre Feet	Wtr Loss	% Loss	ID 5 Acre Feet
NOV'12	100.49	99.42	1.07	1.06%	0.00
DEC'12	101.89	80.44	21.45	21.05%	0.00
JAN'13	105.64	89.67	15.97	15.12%	2.05
FEB'13	78.76	68.36	10.40	13.20%	2.26
MAR'13	89.55	80.28	9.27	10.35%	4.54
APR'13	142.64	121.22	21.42	15.02%	7.10
MAY'13	123.45	110.05	13.40	10.85%	5.37
JUN'13	136.04	115.98	20.06	14.75%	2.86
JUL'13	155.91	130.17	25.74	16.51%	2.42
AUG'13	125.62	111.39	14.23	11.33%	2.45
SEP'13	117.30	98.56	18.74	15.98%	0.92
OCT'13	142.27	121.16	21.11	14.84%	4.34
NOV'13	118.74	105.30	13.44	11.32%	5.28
TOTALS	1437.81	1232.58	205.23	14.27%	39.59