

Notice and Agenda of a Meeting of the Beaumont Basin Watermaster

Wednesday, June 5, 2013 at 10:00 a.m.

Meeting Location:

Beaumont Cherry Valley Water District
560 Magnolia Avenue
Beaumont, California 92223
(951) 845-9581

Watermaster Members:

City of Banning
City of Beaumont
Beaumont Cherry Valley Water District
South Mesa Water Company
Yucaipa Valley Water District

I. Call to Order

II. Roll Call

City of Banning: Duane Burk (Alternate: Arturo Vela)

City of Beaumont: Dave Dillon (Alternate: Kyle Warsinski)

Beaumont Cherry Valley Water District: Eric Fraser (Alternate: Tony Lara)

South Mesa Water Company: George Jorritsma (Alternate: Dave Armstrong)

Yucaipa Valley Water District: Joseph Zoba (Alternate: Jack Nelson)

III. Pledge of Allegiance

IV. Public Comments At this time, members of the public may address the Beaumont Basin Watermaster on matters within its jurisdiction; however, no action or discussion may take place on any item not on the agenda. To provide comments on specific agenda items, please complete a Request to Speak form and provide that form to the Secretary prior to the commencement of the meeting.

V. Consent Calendar

A. Meeting Minutes

1. Approval of Meeting Minutes for April 10, 2013

VI. Reports

A. Report from Engineering Consultant - Hannibal Blandon, ALDA Engineering

B. Report from Legal Counsel - Keith McCullough, Alvarado Smith

VII. Discussion Items

A. Amended Budget for Fiscal Year 2012-2013 [[Memorandum No. 13-10, Page 9 of 54](#)]

Recommendation: That the Watermaster Committee approves the amended budget as presented for Fiscal Year 2012-2013.

B. Proposed Budget for Fiscal Year 2013-2014 [[Memorandum No. 13-11, Page 12 of 54](#)]

Recommendation: That the Watermaster Committee approves the proposed budget as presented for Fiscal Year 2013-2014.

- C. Amendment No. 1 to Task Order No. 4 with Alda, Inc. for On Call Technical Support Services [Memorandum No. 13-12, Page 14 of 54]
Recommendation: That the Watermaster Committee approves Amendment No. 1 to Task Order No. 4.
- D. Review of the Draft Application for Groundwater Storage Agreement [Memorandum No. 13-13, Page 17 of 54]
Recommendation: No recommendation.
- E. Application for Groundwater Storage Agreement from the Morongo Band of Mission Indians [Memorandum No. 13-14, Page 24 of 54]
Recommendation: No recommendation.
- F. Status Report on the Preparation of the 2012 Annual Report and Operating Safe Yield [Memorandum No. 13-15, Page 36 of 54]
Recommendation: No recommendation.

VIII. Topics for Future Meetings

- A. Monitoring Well Data Collection Issues
- B. Audit
- C. Other Topics

IX. Comments from the Watermaster Committee Members

X. Announcements

- A. The next regular meeting of the Beaumont Basin Watermaster is scheduled for Wednesday, August 7, 2013 at 10:00 a.m.

XI. Recess the Meeting to a Beaumont Basin Watermaster Special Project Committee

- - - - Meeting Recess- - - -

XII. Reconvene the Meeting of the Beaumont Basin Watermaster - Special Project Committee (Beaumont Cherry Valley Water District, City of Banning, Yucaipa Valley Water District, South Mesa Mutual Water Company)

- A. Status Report on the Groundwater Model Update and Redetermination of Safe Yield [Memorandum No. 13-16, Page 42 of 54]

XIII. Adjournment

Consent Calendar

**Record of the Minutes of the
Beaumont Basin Watermaster
April 10, 2013**

Meeting Location:

Beaumont-Cherry Valley Water District
560 Magnolia Avenue
Beaumont, CA 92223

I. Call to Order

Chairman Duane Burk called the meeting to order at 9:00 a.m.

II. Roll Call

City of Banning	Duane Burk	Present
City of Beaumont	Dave Dillon	Absent
Beaumont-Cherry Valley Water District	Eric Fraser	Present
South Mesa Water Company	George Jorritsma	Present
Yucaipa Valley Water District	Joseph Zoba	Present

Kyle Warsinski was present as the alternate representing the City of Beaumont in the absence of Member Dave Dillon. Keith McCullough was present representing legal counsel for the Watermaster.

Members of the public who registered their attendance were: Robert Hoffman, Ken Ross, Luwana Ryan, John Covington, Jack Nelson, Mary Ann Melleby, Fran Flanders and Blair Ball.

III. Pledge of Allegiance

George Jorritsma led the pledge of allegiance.

IV. Public Comments

Niki Magee read into the record regarding Item XII her letter to the Committee Members that as a property owner with water rights, she is unaware of the Beaumont Basis Overlyers Conservation Association organization and that the statement that the organization “consists of an overwhelming majority of those who have overlyer water rights” should be corrected to state “overwhelming majority of the eleven overlying defendants of the stipulated judgment.”

Judy Bingham representing Beaumont Citizens for Responsible Growth invited everyone to visit the group’s website to sign their petition to the district attorney.

V. Consent Calendar

A. Meeting Minutes

1. Approval of Meeting Minutes February 6, 2013
2. Approval of Meeting Minutes March 25, 2013

Member Joseph Zoba motioned to approve the items of the consent calendar. Chairman Duane Burk seconded the motion. The motion passed 5-0.

VI. Reports

A. Report from Engineering Consultant – Hannibal Blandon, Alda Engineering

Mr. Blandon provided the Committee Members with the following reports: 2012 Draft Annual Report, 2011 Final Annual Report, and the Final Engineer's Report No. 3 2008-2011. He then stated that there was a form that has been provided to the Committee Members and that has been set out for the Overlyers to take and complete. Mr. Blandon then advised the Committee Members that there is a series of monitoring wells throughout the Basin that Wildermuth Environmental used to collect information from through the summer of 2011. Many of the wells have transducers that appear to no longer be monitored, and the data may be overwriting itself.

B. Report from Legal Counsel – Keith McCullough, Alvarado Smith

Mr. McCullough advised the Committee Members that, as directed, he has sent a letter to the legal counsel of the Morongo Band of Mission Indians that their application for storage agreement is continuing and open, inviting additional information and indicating that a new application form for storage agreement may be considered by the Committee at today's meeting. Mr. McCullough also confirmed that the Permit Streamlining Act does not apply to committee activities nor to a pending application for storage agreement.

VII. Discussion Items

A. Status Report on the Preparation of the 2012 Annual Report and Operating Safe Yield [Memorandum No. 13-07]

Recommendation: No recommendation

Member Joseph Zoba indicated that the 2012 Annual Report Draft has been provided to the Committee Members and it has been made available on the Watermaster website. Mr. Blandon and Mr. Thomas Harder provided an overview of the 2012 Annual Report Draft and answered Committee Members questions.

B. Independent Accountant's Financial Report of Agreed-Upon Procedures for the Beaumont Basin Watermaster [Memorandum No. 13-08]

Recommendation: That the Watermaster Committee receives and files the Independent Accountant's Financial Report for the period ending June 30, 2012.

Member Joseph Zoba provided an overview of the Independent Accountant's Financial Report. Chairman Duane Burk noted the Report was to be received and filed.

C. Review of Draft Application for Groundwater Storage Agreement [Memorandum 13-09]

Recommendation: No recommendation

Mr. McCullough and Mr. Blandon discussed the preparation of the revised draft application for groundwater storage agreement. The revised application and tangent policy

considerations were discussed by the Committee Members, along with the Engineering and Legal counsels. Mr. Blandon will make changes as commented upon by the Committee Members and resubmit it for Committee approval.

VIII. Topics for Future Meetings

- A. Review and Approval of the 2012 Beaumont Basin Watermaster Annual Report
- B. Review and Approval of the Operating Budget for Fiscal Year 2013-14
- C. Other Topics

Chairman Duane Burk announced the topics for future meetings above. Member Eric Fraser recommended adding a discussion about the metering of producers in the Basin. Chairman Duane Burk added that he would like to see the Morongo Band of Mission Indians' Application for Storage Agreement brought back for consideration by the Committee at the next meeting. Member Eric Fraser asked that additional information to the original application be provided.

IX. Comments from the Watermaster Committee Members

No comments from the Watermaster Committee Members were made.

X. Announcements

- A. The next regular meeting of the Beaumont Basin Watermaster is scheduled for Wednesday, June 5, 2013 at 10:00 a.m.

Chairman Duane Burk made the announcement above.

XI. Recess the Meeting to a Beaumont Basin Watermaster Study Session

Chairman Duane Burk recessed the meeting to the study session at 10:00 a.m. Jack Nelson replaced Joseph Zoba in representing the Yucaipa Valley Water District for the remainder of the meeting.

- - - - Meeting Recess - - - -

XII. Reconvene to Meeting to a Beaumont Basin Watermaster Study Session

- A. Presentation by the Beaumont Basin Overlyers Conservation Association

The Beaumont Basin Overlyers Conservation Association discussed their concerns with the Committee Members.

XIII. Adjournment

Chairman Duane Burk adjourned the meeting at 10:35 a.m.

Duane Burk, Chairman
Beaumont Basin Watermaster

Reports

Discussion Items

BEAUMONT BASIN WATERMASTER

MEMORANDUM NO. 13-10

Date: June 5, 2013

From: Joseph Zoba, Treasurer

Subject: Amended Budget for Fiscal Year 2012-2013

Recommendation: That the Watermaster Committee approves the amended budget as presented for Fiscal Year 2012-2013.

At the Beaumont Basin Watermaster meeting on June 6, 2012, the Watermaster Committee approved the following operating budget for Fiscal Year 2012-2013.

Operating Expenses	Adopted Budget Fiscal Year 2012-2013
Bank Fees & Interest	\$450.00
Miscellaneous & Meetings	\$1,000.00
Acquisition/Computation & Annual Report	\$70,000.00
Annual Audit	\$2,000.00
Legal Expenses	\$10,500.00
Reserve Funding	\$7,000.00
Total Operating Expense	\$90,950.00

Over the past year, several additional contracts were approved by the Watermaster Committee as itemized on page 3 of this memorandum. The amended budget for Fiscal Year 2012-2013 reflects the approved contracts and expenses authorized by the Watermaster Committee throughout the year.

Beaumont Basin Watermaster

Amended Budget for Fiscal Year 2012-2013

OPERATING REVENUE:

	Account Number	Amended Administrative Revenue	Special Project Revenue	Estimated Operating Revenue	Special Project Distribution Percentage
Carryover from Prior Fiscal Year	--	\$20,158.14	--	\$20,158.14	--
City of Banning	3120	\$33,173.85	\$75,183.70	\$108,357.55	31.43%
City of Beaumont	3105	\$33,173.85	\$0.00	\$33,173.85	--
Beaumont Cherry Valley Water District	3110	\$33,173.85	\$101,688.17	\$134,862.02	42.51%
South Mesa Mutual Water Company	3125	\$33,173.85	\$29,853.41	\$63,027.26	12.48%
Yucaipa Valley Water District	3115	\$33,173.85	\$32,484.72	\$65,658.57	13.58%
Total Operating Revenue		\$186,027.39	\$239,210.00	\$425,237.39	100.00%

OPERATING EXPENSES:

	Account Number	Amended Administrative Expenses	Special Project Expenses	Estimated Operating Expenses
Bank Fees & Interest	5000	\$50.00	--	\$50.00
Miscellaneous & Meetings	5010	\$450.00	--	\$450.00
Acquisition/Computation & Annual Report	5020	\$80,000.00	--	\$80,000.00
Annual Audit	5040	\$2,000.00	--	\$2,000.00
Engineering Services	5060	\$3,000.00	--	\$3,000.00
Legal Expenses	5070	\$22,500.00	--	\$22,500.00
Reserves	5080	\$7,000.00	--	\$7,000.00
Special Project - Engineering	5910	--	\$51,000.00	\$51,000.00
Special Project - Litigation	5915	--	\$10,000.00	\$10,000.00
Total Operating Expense		\$115,000.00	\$61,000.00	\$176,000.00

Revenue Over / (Under) Expenses \$71,027.39 \$178,210.00 \$249,237.39

Beaumont Basin Watermaster**Itemized Invoice Summary for Watermaster Members**

Item	Description	Date	Watermaster Memorandum	General Ledger Account Reference	Total Amount
A.	Issuance of Change Order No. 1 to Task Order No. 1 to Alda for 2011 Annual Report	12/05/2012	Memorandum No. 12-20	# 5020	\$6,263.00
B.	Issuance of Task Order No. 2 to Alda for 2012 Annual Report	01/09/2013	Memorandum No. 13-01	# 5020	\$51,800.00
C.	Issuance of Task Order No. 4 to Alda for On Call Technical Support Services for Fiscal Year 2012-13	01/09/2013	Memorandum No. 13-03	# 5050	\$20,000.00
D.	Special Project - Issuance of Task Order No. 3 to Alda for Groundwater Model Update and	02/06/2013	Memorandum No. 13-06	# 5910	\$229,210.00
E.	General Legal Expenses	--	--	# 5070	\$12,000.00
F.	Special Project - Litigation Expenses	--	--	# 5915	\$10,000.00
Total					\$329,273.00

Item	Beaumont Cherry Valley Water District	City of Banning	Yucaipa Valley Water District	South Mesa Mutual Water Company	City of Beaumont	Total Amount
	42.51%	31.43%	13.58%	12.48%	0.00%	
A.	\$1,252.60	\$1,252.60	\$1,252.60	\$1,252.60	\$1,252.60	\$6,263.00
B.	\$10,360.00	\$10,360.00	\$10,360.00	\$10,360.00	\$10,360.00	\$51,800.00
C.	\$4,000.00	\$4,000.00	\$4,000.00	\$4,000.00	\$4,000.00	\$20,000.00
D.	\$97,437.17	\$72,040.70	\$31,126.72	\$28,605.41	\$0.00	\$229,210.00
E.	\$2,400.00	\$2,400.00	\$2,400.00	\$2,400.00	\$2,400.00	\$12,000.00
F.	\$4,251.00	\$3,143.00	\$1,358.00	\$1,248.00	\$0.00	\$10,000.00
	\$119,700.77	\$93,196.30	\$50,497.32	\$47,866.01	\$18,012.60	\$329,273.00

BEAUMONT BASIN WATERMASTER

MEMORANDUM NO. 13-11

Date: June 5, 2013

From: Joseph Zoba, Treasurer

Subject: Proposed Budget for Fiscal Year 2013-2014

Recommendation: That the Watermaster Committee approves the proposed budget as presented for Fiscal Year 2013-2014.

The attached budget for Fiscal Year 2013-2014 provides funding for Administrative expenses in the amount of \$107,060 and funding for Special Project expenses in the amount of \$180,710. The majority of the expenses included in the budget represent a continuation of activities already approved by the Watermaster Committee.

The only new contract proposed to be funded next year is the preparation of the 2013 annual report at an estimated cost of \$55,000.

Any other contracts or expenses approved by the Watermaster Committee during the next fiscal year will be invoiced following authorization and reflected in an amended budget.

Beaumont Basin Watermaster

Proposed Budget for Fiscal Year 2013-2014

OPERATING REVENUE:	Account Number	Administrative Revenue	Special Project Revenue	Estimated Invoice		Special Project Distribution Percentage
				Amount for FY 2013-2014		
Carryover from Prior Fiscal Year	--	\$71,027.39	\$178,210.00	--	--	--
City of Banning	3120	\$7,206.52	\$785.75	\$7,992.27		31.43%
City of Beaumont	3105	\$7,206.52	\$0.00	\$7,206.52		--
Beaumont Cherry Valley Water District	3110	\$7,206.52	\$1,062.75	\$8,269.27		42.51%
South Mesa Mutual Water Company	3125	\$7,206.52	\$312.00	\$7,518.52		12.48%
Yucaipa Valley Water District	3115	\$7,206.52	\$339.50	\$7,546.02		13.58%
Total Operating Revenue		\$107,060.00	\$180,710.00	\$38,532.61		100.00%

OPERATING EXPENSES:	Account Number	Amended Administrative Expenses	Special Project Expenses	Revenue Over / (Under) Expenses
Bank Fees & Interest	5000	\$60.00	--	--
Miscellaneous & Meetings	5010	\$500.00	--	--
Acquisition/Computation & Annual Report	5020	\$55,000.00	--	--
Annual Audit	5040	\$2,000.00	--	--
Engineering Services	5060	\$17,000.00	--	--
Legal Expenses	5070	\$22,500.00	--	--
Reserves	5080	\$10,000.00	--	--
Special Project - Engineering	5910	--	\$178,210.00	--
Special Project - Litigation	5915	--	\$2,500.00	--
Total Operating Expense		\$107,060.00	\$180,710.00	--

Revenue Over / (Under) Expenses -- --

BEAUMONT BASIN WATERMASTER

MEMORANDUM NO. 13-12

Date: June 5, 2013

From: Joseph Zoba, Treasurer

Subject: Amendment No. 1 to Task Order No. 4 with Alda, Inc. for On Call Technical Support Services

Recommendation: That the Watermaster Committee approves Amendment No. 1 to Task Order No. 4.

On January 9, 2013, the Watermaster Committee approved Task Order No. 4 for Alda, Inc. for professional engineering services. This task order provides the Watermaster Committee members the ability to provide direction to the Alda, Inc. staff members at a Watermaster meeting. To properly approve and process payment pursuant to this task order, any costs incurred must be authorized by a majority of the Watermaster Committee members.

Amendment No. 1 to Task Order No. 4 extends the previously approved term of the task order from June 30, 2013 to June 30, 2014.

Beaumont Basin Watermaster

INDEPENDENT CONTRACTOR'S TASK ORDER ISSUED TO ALDA, INC.

TASK ORDER NO. 4 AMENDMENT NO. 1

Project Title: Professional Engineering Services - On Call Technical Support Services

Task Order Authorization Date: January 9, 2013

Contractor Name: Alda, Inc.
Contact: Mr. F. Anibal Blandon
Address: 5928 Vineyard Avenue
Alta Loma, California 91701
Telephone: (909) 587-99160
Fed. Tax ID #: _____

SUMMARY OF TASK ORDER:

Description	Amount	Reference
Original Contract Amount	\$20,000	Watermaster Memorandum No. 13-03
Amendment No. 1	- -	Watermaster Memorandum No. 13-12

This AMENDMENT NO. 1 to TASK ORDER No. 4 is issued pursuant to that certain Agreement for Services by Independent Contractor between the BEAUMONT BASIN WATERMASTER ("OWNER") and ALDA, INC. (CONTRACTOR") dated May 16, 2012 (the "AGREEMENT").

The OWNER and CONTRACTOR have entered into this TASK ORDER as specifically set forth herein below, and except as specifically provided herein, the AGREEMENT shall remain in full force and effect as originally stated.

1. Tasks to be Performed & Compensation. CONTRACTOR shall provide all labor, materials and equipment to perform the following tasks as fully described in the attached Task Order No. 4 Scope of Services dated January 3, 2013 and the proposal to Provide Professional Engineering Services by the CONTRACTOR dated April 16, 2012.

2. Term. This Task Order shall remain in full effect until the proposed project is completed which is estimated to be by ~~June 30, 2013~~ June 30, 2014.

IN WITNESS WHEREOF, the parties have executed this Task Order No. 3 on the date indicated below.

Beaumont Basin Watermaster

Alda, Inc.

By: _____

By: _____

Dated: June 5, 2013

Dated: _____

Name: Duane Burk, Chairman

Name: _____

Beaumont Basin Watermaster – Task Order No. 4
On-Call Technical Support Services

3-Jan-13

TASK OBJECTIVE

This task is intended to be used to provide technical support services to the Beaumont Basin Watermaster on a as needed basis as requested and authorized by the Watermaster. Projects under this task will be authorized individually with and upper limit established for each project.

COST ESTIMATE

An upper limit of \$20,000.00 (Twenty Thousand Dollars and 00/100) has been allocated for this task order. Technical Support services will be billed on a time and materials basis according to the attached billing rate for 2013.

BILLING RATES**Billing Rates for ALDA Inc. for Calendar Year 2013**

<u>Position</u>	<u>Hourly Rate</u>
Project Manager	\$150.00
Project Engineer	\$135.00
Staff Engineer	\$110.00
Graphics / Designer Drafter	\$ 90.00
Drafter	\$ 75.00
Clerical	\$ 65.00

Billing Rates for Thomas Harder and Company for Calendar Year 2013

<u>Position</u>	<u>Hourly Rate</u>
Principal Hydro-geologist	\$160.00
Staff Hydro-geologist	\$ 90.00
Field Technician	\$ 70.00
Graphics	\$ 85.00
Clerical	\$ 65.00
Expert Witness	\$320.00

BEAUMONT BASIN WATERMASTER

MEMORANDUM NO. 13-13

Date: June 5, 2013

From: Joseph Zoba, Treasurer

Subject: Review of the Draft Application for Groundwater Storage Agreement

Recommendation: No recommendation.

At the Beaumont Basin Watermaster meeting on January 9, 2013, legal counsel reported on the preparation of an Application for Groundwater Storage Agreement.

On April 10, 2013, the Watermaster Committee provided comments on the proposed Application. During this meeting, the Watermaster provided direction for Keith McCullough to work together with Hannibal Blandon and Tom Harder to further revise a draft Application for Groundwater Storage Agreement. In general, this application would require specific information about the source, character, quality, quantity and other items concerning the water to be placed in storage with sufficient information to be provided directly on the application and through a number of referenced attachments.

Attached is the latest version of the application for review and comment from the Watermaster Committee members.

BEAUMONT BASIN WATERMASTER
APPLICATION
FOR
GROUNDWATER STORAGE AGREEMENT

1.- APPLICANT INFORMATION

Name of Applicant: _____

Address for Notice: _____

Contact Name: _____

Title: _____

Telephone: _____

Fax: _____

E-mail Address: _____

Date of Application: _____

For Staff Use Only

Date Requested: _____

Date Approved: _____

Amount Requested: _____ ac-ft

Amount Approved: _____ ac-ft

Agreement No. _____

Yes [] - No []

Analysis and Written
Summary Fee Collected**2.- PROJECT DESCRIPTION – Provide a general description of the groundwater storage project sought under this application including potential impacts and benefits. (Use additional pages if necessary).**

THIS APPLICATION IS SUBJECT TO REVIEW AND FURTHER CONSIDERATION BY WATERMASTER;
 APPLICANT IS SOLELY RESPONSIBLE TO PROVIDE WATERMASTER WITH COMPREHENSIVE INFORMATION

3.- AMOUNT REQUESTED: _____ acre feet.

4.- PURPOSE OF STORAGE

- ☐ Stabilize or reduce future water cost / assessments
- ☐ Facilitate utilization of other available sources of supply
- ☐ Facilitate replenishment under certain well sites
- ☐ Preserve pumping right for a changed future potential use
- ☐ Other, explain _____

5.- METHOD OF PLACEMENT IN STORAGE

- ☐ Artificial Recharge
- ☐ Transfer of Water from One Storage Account to Another Storage Account (If checked, proceed to No. 16 below)

6.- SOURCE OF WATER FOR RECHARGE

- ☐ State Water Project
- ☐ Captured Storm Water
- ☐ Colorado River
- ☐ Recycled Water
- ☐ Other, explain _____

Has any portion of the water proposed for storage been characterized as reclaimed water, production from the Beaumont Basin, production from another basin, or in any way claimed as part of a water right or entitlement of any other person or entity? Yes ☐ – No ☐. If YES, please explain in detail.

THIS APPLICATION IS SUBJECT TO REVIEW AND FURTHER CONSIDERATION BY WATERMASTER;
APPLICANT IS SOLELY RESPONSIBLE TO PROVIDE WATERMASTER WITH COMPREHENSIVE INFORMATION

- 7.- RECHARGE SOURCE WATER QUALITY – Provide a copy of the latest full Title 22 drinking water analysis report documenting the quality of water to be stored as **Attachment A** to this Application.
- 8.- METHOD OF RECHARGE
- ☐ Surface Spreading Basin(s)
 - ☐ Injection Well(s)
- 9.- METHOD OF CONVEYANCE FROM SOURCE TO RECHARGE FACILITY
- ☐ Open Unlined Channel
 - ☐ Open Lined Channel
 - ☐ Pipeline
- 10.- LOCATION VICINITY MAP – Include as an **Attachment B** to this Application a project location map at a scale of 1-inch = 2,000 ft or larger. Map shall include, as a minimum, the following, where applicable:
- ✓ Proposed recharge facilities
 - ✓ Existing production, monitoring, and abandoned wells within one mile of project site
 - ✓ Existing or proposed raw water conveyance facilities
 - ✓ Existing creeks and other water features
- 11.- CURRENT GROUNDWATER LEVELS – Provide quantitative 5-yr history of static (non-pumping) groundwater levels in the vicinity of proposed storage location. Include groundwater level hydrographs for two or more existing wells located down-gradient of recharge site and within a one-mile radius of proposed storage site. Attach responses as **Attachment C** to this Application.
- 12.- CURRENT GROUNDWATER QUALITY – Provide quantitative description of current groundwater quality conditions in the vicinity of proposed storage location including water quality trends for TDS and Nitrate over the last five years. Include copies of the most recent drinking water quality reports for two or more existing wells located down-gradient of recharge site and within a one-mile radius of proposed storage site. Attach responses as **Attachment D** to this Application.

THIS APPLICATION IS SUBJECT TO REVIEW AND FURTHER CONSIDERATION BY WATERMASTER;
APPLICANT IS SOLELY RESPONSIBLE TO PROVIDE WATERMASTER WITH COMPREHENSIVE INFORMATION

- 13.- WATER QUANTITY – Provide an estimate of the quantity of water to be stored on an annual basis including estimates for maximum and minimum annual amounts. (Provide attachments to this Application as **Attachment E** for full response as necessary)

- 14.- IMPACTS TO OTHERS – Describe in detail any potential positive/negative impacts to any party to the Stipulated Judgment or any person, entity or property located within or outside the Beaumont Basin that may result from the implementation of this project. (Provide attachments to this Application as **Attachment F** for full response as necessary)

- 15.- ENVIRONMENTAL REVIEW – Indicate whether the proposed water storage operation is subject to review under the California Environmental Quality Act? If so, describe the means of CEQA compliance and attach environmental review documentation and any responsive written review as **Attachment G** to this Application. If not, identify the basis for non-application and/or exemption.

THIS APPLICATION IS SUBJECT TO REVIEW AND FURTHER CONSIDERATION BY WATERMASTER;
APPLICANT IS SOLELY RESPONSIBLE TO PROVIDE WATERMASTER WITH COMPREHENSIVE INFORMATION

16.–TRANSFERS OF WATER FROM ONE STORAGE ACCOUNT TO ANOTHER

From: _____

To: _____

- 17. – CRITERIA ESTABLISHED BY WATERMASTER RESOLUTION 2005-01 –** If the Applicant is not an Appropriator pursuant to Exhibit C of the 2004 Stipulated Judgment in Riverside Superior Court Case No. RIC 389197 that created Watermaster, provide a complete, narrative response to each of the criteria identified in Section 2 Preferred Groundwater Storage and Section 3 Types of Groundwater Storage Programs of Watermaster Resolution No. 2005-01, which can be found on the website: www.beaumontbasinwatermaster.org under the tab "Documents & Publications" (Provide attachments to this Application as **Attachment H** for full response as necessary)

THIS APPLICATION IS SUBJECT TO REVIEW AND FURTHER CONSIDERATION BY WATERMASTER;
APPLICANT IS SOLELY RESPONSIBLE TO PROVIDE WATERMASTER WITH COMPREHENSIVE INFORMATION

18. LIST OF ATTACHMENTS**Required Attachments**

- A.- Complete Title 22 Drinking Water Analysis (Per Section 7)
- B.- Vicinity Map – Minimum Scale: 1"=2,000 ft (Per Section 10)
- C.- 5-year history of static water levels in the vicinity of project recharge facilities (Per Section 11)
- D.- Current groundwater quality in the vicinity of project recharge facilities (Per Section 12)
- E.- Annual estimates of water to be recharged (Per Section 13)
- F.- Description of positive or negative impacts resulting from project implementation (Per Section 14)
- G.- Environmental Review Documentation (Per Section 15)

Additional Attachments (as Applicable and/or Necessary)

- H.- Watermaster Resolution No. 2005-01 Supporting Documentation (Per Section 17)
- I.- _____
- J.- _____
- K.- _____
- L.- _____
- M.- _____
- N.- _____

THIS APPLICATION IS SUBJECT TO REVIEW AND FURTHER CONSIDERATION BY WATERMASTER;
APPLICANT IS SOLELY RESPONSIBLE TO PROVIDE WATERMASTER WITH COMPREHENSIVE INFORMATION

BEAUMONT BASIN WATERMASTER

MEMORANDUM NO. 13-14

Date: June 5, 2013

From: Joseph Zoba, Treasurer

Subject: Application for Groundwater Storage Agreement
from the Morongo Band of Mission Indians

Recommendation: No recommendation.

On December 5, 2012, the Watermaster Committee reviewed the attached Application for Groundwater Storage Agreement from the Morongo Band of Mission Indians (Watermaster Memorandum No. 12-18).

Since the item was first considered, the Watermaster has requested additional information as provided in the attached correspondence between the Watermaster and the Morongo Band of Mission Indians.

At the Watermaster meeting on April 10, 2013, Watermaster Member Duane Burk requested that the original Application for Groundwater Storage Agreement be added to this meeting agenda for consideration.



A PROFESSIONAL CORPORATION
INCLUDING PROFESSIONAL CORPORATIONS

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Raymond G. Alvarado,
Retired

April 18, 2013

VIA EMAIL & US MAIL

Mark St. Angelo, Esq.
Tribal Attorney
Morongo Band of Mission Indians
12700 Pumarra Road
Banning, California 92220
mstangelo@morongo-nsn.gov

Re: Morongo Application for Storage Agreement before the Beaumont Basin Watermaster

Dear Mr. St. Angelo:

Following the recent Beaumont Basin Watermaster regular meeting, you requested that I, on behalf of Watermaster, identify the specific information that members of Watermaster would like the Applicant to provide in addition to the Application for Groundwater Storage Agreement that was previously submitted and first considered at the December 2012 Watermaster meeting. It would be advantageous for the Morongo Band to supply comprehensive responses to the following requests to assist Watermaster in evaluating the Application:

- A narrative description of the proposed project that includes where the water is coming from, where it will be recharged, how it will be metered, what the historical use of the property was where the water is being recharged, to include any pertinent phase I, phase II or CEQA environmental studies on the property;
- A comprehensive water quality analysis for the water to be recharged including regulated and unregulated contaminants listed in Title 22 of the California Code of Regulations. Also, please explain whether the water proposed to be pumped from the San Timoteo basin meets drinking water standards? If it does not, what specific water quality constituent cause the water not to meet drinking water standards?
- A description of the projected volume of water to be recharged on an annual basis, and the amount of storage requested;



April 18, 2013

Page 2

- A narrative description of the ownership of the property upon which the groundwater wells to be used by the Morongo tribe in the San Timoteo basin are located, with a copy of related vesting deeds;
- A narrative response, addressing the risks and benefits of the proposed project, with reference to each of the listed items in **Section 2 Preferred Groundwater Storage Projects** and **Section 3 Types of Groundwater Storage Programs** contained in Watermaster Resolution No. 2005-01 "A Resolution of the Beaumont Basin Watermaster Establishing Principles of Groundwater Storage in the Beaumont Basin by Non-Appropriators", a copy of which is available on the Watermaster website: www.beaumontbasinwatermaster.org under "Documents & Publications";
- Please clarify the terms and conditions of the storage agreement apparently approved by the City of Beaumont on September 21, 2010 and referenced in the following news article: <http://www.pe.com/local-news/riverside-county/the-pass/the-pass-headlinesindex/20100924-beaumont-approves-water-storage-agreement-with-morongo-tribe.ece> A copy of this article is enclosed for your reference.

Additional information may be needed to understand the impacts of the proposed operation depending on the level of detail Morongo is able to supply in furtherance of its application. Watermaster reserves the right to request additional information in order to consider the groundwater storage application and perform its duty to protect, and where possible, enhance the basin.

Thank you in advance for the anticipated additional information.

Sincerely yours,

ALVARADO SMITH
A Professional Corporation

A handwritten signature in blue ink, appearing to read 'Keith E. McCullough', written over a blue ink stamp of the same name.

Keith E. McCullough,
A Professional Corporation

KEM:lc
Enclosure

[Home](#)> [Local News](#)> [Riverside County](#)> [The Pass](#)> [The Pass Headlines](#)

Beaumont approves water-storage agreement with Morongo tribe

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By KIMBERLY PIERCEALL | The Press-Enterprise | September 24, 2010; 12:56 PM |
[Comments \(0\)](#)

Beaumont officials have approved an agreement with the Morongo Band of Mission Indians that would give the tribe a place to store imported water and give the city **more water for proposed developments.**

Tuesday's City Council was 4-1, with councilwoman Nancy Gall opposing the motion.

How the tribe would transport water from Northern California to Southern California isn't clear. Neither is the tribe's motivation in wanting to store up to 50,000 acre-feet of water in the Beaumont Groundwater Basin.

An acre-foot of water, the unit used to measure the resource, is equal to about 326,000 gallons.

The tribe doesn't need the water but wanted to assist a region that does -- the Pass, according to the public relations firm that represents Morongo.

The tribe also has been interested in buying the two East Valley Golf Club courses in Beaumont. But Michael Fisher with O'Reilly Public Relations said the water **wouldn't be used for the courses.**

David Dillon, Beaumont's economic development adviser, called the basin a critical part of the puzzle for the tribe in its efforts to transport water south.

In turn, the city could use more water for future developments.

<http://www.pe.com/local-news/riverside-county/the-pass/the>

The Cherry Valley Acres and Neighborhood group has filed lawsuits against large proposed developments in the Pass area, challenging contentions that the projects would have enough water to serve future residents.

Early last year, a judge ruled that plans for a proposed 3,000-home Legacy Highlands development in Beaumont didn't prove there would be enough water to support it, effectively shelving the project until the developer could show it had enough water.

In early 2008, a judge ruled that the city of Banning erred in approving a proposed 1,500-home development called Black Bench because it didn't sufficiently account for the available water supply.

The city of Beaumont had 30,000 acre-feet of available storage space in the basin as of a week ago. In the agreement, it would give 50 percent of that space to the tribe. The city would store the water for free and have the first right to buy the water from the tribe if the city wanted it.

Because the space is reserved for the city, it wouldn't need any approvals from the Beaumont Basin Watermaster, which divvies out water rights and manages the basin's resources. The city is a member of the Watermaster group.

The city and tribe plan to ask that group for more space so the tribe would have 50,000 acre-feet of storage in the future.

The agreement would also give the city high-quality water to fill the basin with -- so that the overall quality of the water, some of which is recycled, remains high.

The city is responsible for water quality in the basin. As long as quality remains high, the city can delay building a desalination plant.

Latest Headlines

CALIMESA: Garden club to hold plant sale

BEAUMONT: Annual youth fishing derby upcoming

BEAUMONT: Highway 60 reopened after crash

Banning officials updating strategic plan

Most Shared

BASEBALL: Freshman female pitcher excelling at Notre Dame

ONTARIO AIRPORT: Don't blame Inland city for claim

RIVERSIDE: City to repay \$10 million to water utility

CONGRESS: Stone won't run against Calvert in 2014

WINCHESTER: Sheriff's deputy accused of DUI, threatening an officer





Morongo Band of Mission Indians

Legal Department
12700 Pumarra Road
Banning, CA 92220
951-849-4697

May 21, 2013

[Via E-Mail and U.S. Mail]

Keith E. McCullough
Alvarado Smith
1 MacArthur Place, Suite 200
Santa Ana, CA 92707

Re: Morongo Band of Mission Indians' Application for Storage Agreement

Dear Mr. McCullough:

This is in response to your letter of April 18, 2013 concerning the Application for Groundwater Storage Agreement submitted by the Morongo Band of Mission Indians ("Tribe") to the Beaumont Basin Watermaster ("Watermaster") in October, 2012.

At the outset, I wish to assure you that the Tribe, as an overlying land owner that relies on water from the Beaumont Basin ("Basin") for its golf course and related clubhouse facility, is just as concerned with the quality of water in the Basin as your client, the Watermaster. In addition, as a successor in interest to a party to the court action pursuant to which the Watermaster was created, the Tribe also is committed to complying with the terms of the February 4, 2004 Judgment Pursuant to Stipulation Adjudicating Groundwater Rights in the Beaumont Basin ("Judgment"), and to ensuring that the terms of the Judgment are applied equally to all parties as required by Section VI.3 of the Judgment itself.

In order to benefit both the Basin and the Tribe itself, the Tribe is interested in bringing Supplemental Water, as that term is defined in the Judgment, into the Basin to help alleviate overdrafting of the Basin. Toward that end, before purchasing the golf course property that has overlying water rights within the Basin, the Tribe entered into the Cooperative Memorandum for Development of a Conjunctive Use Project for the Beaumont Basin ("Cooperative Memo") with the City of Beaumont ("Beaumont") that you referenced in your letter. Although the Tribe believes that this is a public document available on Beaumont's website (or from its archives), for your convenient reference I am enclosing a copy of that document with this letter.

As you can see from paragraph 4 of the Cooperative Memo, the Tribe and Beaumont each agreed that "protection and enhancement of water quality in the Beaumont Basin is of paramount importance," and Beaumont committed itself to ensuring that "all imported water stored in its account" pursuant to the Cooperative Memo "shall not cause, or have the potential to cause, the degradation of existing groundwater supplies."

The Cooperative Memo also provides, in paragraph 5, that with respect to any Supplemental Water brought into the Basin by the Tribe and stored in the Basin pursuant to Beaumont's Groundwater Storage Account Agreement with the Watermaster, the Tribe is obligated to give Beaumont the "first priority right" to purchase that water. By contrast, if the

Keith E. McCullough
May 21, 2013
Page 2

Tribe were to bring Supplemental Water into the Basin and store it therein pursuant to the Tribe's own Groundwater Storage Agreement with the Watermaster, the Tribe does not believe that it would be obligated to give Beaumont the "first priority right" to purchase that water.

The Tribe currently is not in a position to answer all of the other questions in your letter, in significant part because providing answers to those questions, such as your request for a "comprehensive water quality analysis," would be very expensive. For example, with respect to the Tribe's current proposed project to bring Supplemental Water into the Basin, it would require the Tribe not only to pay for water quality testing, but it also would require the Tribe to go to the expense of refurbishing a well, located on property owned by the Tribe, that currently is not operational. As explained by John Covington to the members of the Watermaster board when the Tribe's application first was addressed at the Watermaster's December meeting, it would not be fiscally prudent for the Tribe or anyone else to incur expenses of that magnitude without any assurance that the Tribe will be able to store that water in the Basin if the results of the water quality testing are favorable.

Thus, what I would like to propose is that the Tribe's application be granted, like the applications that previously have been granted by the Watermaster, without first requiring the Tribe to provide the information requested. At the same time, I propose that the Groundwater Storage Agreement between the Tribe and the Watermaster require the Tribe to provide all of the water quality information required of others with Groundwater Storage Agreements, as well as any additional information reasonably required to ensure protection of the water quality in the Basin, each time the Tribe proposes to store Supplemental Water in the Basin from a different source, and prior to the Tribe actually storing in the Basin any Supplemental Water from that source.

The course of action proposed would enable the Tribe to be assured that it would have a legal right to store Supplemental Water in the Basin if the water to be stored meets the applicable water quality standards, thus justifying the expenditure by the Tribe of the funds necessary to establish that the water does, in fact, meet those standards. At the same time, it would protect the Basin, and also your client, by enabling the Watermaster to ensure in each instance where the Tribe sought to bring Supplemental Water from a different source, that the Supplemental Water to be stored in the Basin by the Tribe meets the applicable water quality standards.

Should you have any questions or comments concerning the foregoing, or should you wish any additional information, please do not hesitate to contact me at your earliest convenience.

Very truly yours,



Mark St. Angelo
Tribal Attorney

Copy to:
Morongo Tribal Council

**COOPERATIVE MEMORANDUM
FOR DEVELOPMENT OF A
CONJUNCTIVE USE PROJECT FOR THE
BEAUMONT BASIN**

THIS MEMORANDUM is made and entered into this 21st day of September, 2010, by and between the **CITY OF BEAUMONT**, a public agency ("**CITY**") and the **MORONGO BAND OF MISSION INDIANS ("MORONGO")**. The **CITY** and **MORONGO** are sometimes collectively referred to herein as the "**PARTIES**."

RECITALS

A. The **CITY** overlies the Beaumont Basin, which Basin is the primary water supply for the **CITY**. In 2004, the groundwater rights in the Beaumont Basin were adjudicated in San Timoteo Management Authority v. City of Banning, et al., Riverside Superior Court Case No. RIC 389197 ("the **JUDGMENT**").

B. The **JUDGMENT** is administered and enforced by a "**Watermaster**," consisting of a committee of persons nominated by the **CITY**, the City of Banning, the Beaumont-Cherry Valley Water District, the South Mesa Mutual Water Company and the Yucaipa Valley Water District.

C. There exists in the Beaumont Basin a substantial amount of available groundwater storage capacity which can be reasonably used for conjunctive use purposes, subject to **Watermaster** regulation to prevent injury to the adjudicated water rights, prevent the waste of water and to protect and enhance groundwater quality.

D. The **JUDGMENT** reserves, for conjunctive use, a minimum of 200,000 acre feet of groundwater storage capacity, of which the **CITY** presently holds the right to store up to 22,000 acre feet. The **CITY** presently uses its storage right to store recycled water produced by the Beaumont Water Treatment Facility.

E. **MORONGO** is presently investigating the development of water resources in areas outside the Beaumont Basin which, if imported to the Basin, would qualify as "Supplemental Water" under the **JUDGMENT**. In the event such water was made available, the **CITY** has informed **MORONGO** that it would purchase some or all of such water.

F. It is the purpose of this Memorandum to generally describe, subject to the execution of definitive agreements, the cooperative conjunctive use and water supply project envisioned by the **PARTIES**.

AGREEMENT

1. **Development of an Imported Water Supply.** MORONGO shall use its best efforts to develop an imported water supply. To the maximum extent feasible, the CITY shall cooperate with MORONGO in developing such water supply. It is the PARTIES' goal to store as much as 50,000 acre feet of imported water in the Beaumont Basin.
2. **Conjunctive Use of Groundwater Storage Right.** The CITY shall reserve up to 50% of its groundwater storage right for use by MORONGO to store imported water, if any. In anticipation of the possible importation of imported water in quantities that may exceed such right, the CITY and MORONGO shall cooperatively seek an increase in the CITY's storage right.
3. **Imported Water Recharge Facilities.** The CITY shall use its best efforts to obtain agreements with third parties to facilitate the storage of MORONGO's imported water in the Beaumont Basin including, without limitation, the Beaumont-Cherry Valley Water District and the San Geronio Pass Water Agency. In addition, or alternatively, the CITY shall, in conjunction with third parties, develop a recharge facility in Noble Creek to facilitate the storage of MORONGO's imported water.
4. **Protection of Water Quality in Beaumont Basin.** The PARTIES acknowledge and agree that the protection and enhancement of water quality in the Beaumont Basin is of paramount importance. The CITY shall ensure that all imported water stored in its account shall not cause, or have the potential to cause, the degradation of existing groundwater supplies or as otherwise set forth in applicable regulatory requirements including, without limitation, the "maximum benefit" requirements of the California State Regional Water Quality Control Board. The PARTIES further acknowledge and agree that, to the extent that the quality of imported water serves to mitigate the increasing levels of salt, nitrogen or other pollutant measured in the groundwater in the Beaumont Basin, the benefit of such mitigation, in the form of an increase in assimilative capacity, salt credits and other related benefits shall accrue exclusively to the CITY.
5. **First Priority to Purchase Imported Water.** In consideration of the CITY's desire to work cooperatively with MORONGO to establish a conjunctive use program for the Beaumont Basin, the PARTIES agree that the CITY shall have a first priority right to purchase imported water from MORONGO at a price comparable to the price offered to any other party that can legally and physically purchase and acquire such water.
6. **Term of Memorandum.** The initial term of this Memorandum shall be for a period of 15 years from the date of execution, but may be extended or terminated upon written agreement of the PARTIES.
7. **Necessity for Definitive Agreements.** The PARTIES acknowledge and agree that this Memorandum provides the general outline of a cooperative venture that may only be implemented upon execution of a series of definitive agreements including, without limitation, the acquisition of additional storage capacity in the Beaumont Basin, a recharge and recovery

agreement with the **Watermaster**, access to a recharge facility and/or the provision of a facility, and a water purchase agreement.

8. **Further Acts.** The **PARTIES** agree to act diligently and in good faith in the discharge of their respective responsibilities as defined herein, and shall fully cooperate with each other in the preparation and execution of such other agreements and documents as may be reasonably necessary to discharge such responsibilities.

9. **CEQA Compliance.** The **CITY** and **MORONGO** acknowledge and agree that the obligations of the **PARTIES** under this Memorandum are conditioned on the **CITY** completing any applicable proceedings under the California Environmental Quality Act ("CEQA") which may be required in connection with the execution of one or more of the definitive agreements contemplated hereunder. Further, the **CITY** finds and determines that this Memorandum is exempt from environmental review under the CEQA Guidelines' "common sense" exemption (Cal. Code Regs., Title 14, Section 15061(b)(3)) for the reason that this Memorandum is conditional and does not commit the **PARTIES** to a definitive course of action.

IN WITNESS WHEREOF, the **PARTIES** have executed this Memorandum to be effective on the day and year first above written.

CITY OF BEAUMONT

Dated: _____

By _____
Mayor

MORONGO BAND OF MISSION INDIANS

Dated: _____

By  _____
Chairman

BEAUMONT BASIN WATERMASTER
APPLICATION
FOR
GROUNDWATER STORAGE AGREEMENT

APPLICANT

Morongo Band of Mission Indians
 Name

12700 Pumarra Road
 Address for Notice

Banning CA 92220
 City State Zip Code

Telephone: 951-755-5220

Facsimile: 951-849-5108

For Staff Use Only

Date Requested: _____
 Date Approved: _____
 Amount Requested: _____ acre feet
 Amount Approved: _____ acre feet
 Agreement No.: _____

TYPE OF WATER TO BE PLACED IN STORAGE

☒ Supplemental Water ☒ Other: In-lieu overlyer water ☒ Both

PURPOSE OF STORAGE – Check all that may apply

- ☒ Stabilize or reduce future water costs/assessments.
☒ Facilitate utilization of other available sources of supply.
☐ Facilitate replenishment under certain well sites.
☒ Preserve pumping right for a changed future potential use.
☐ Other, explain _____
 _____.

METHOD AND LOCATION OF PLACEMENT IN STORAGE – Check and attached all that may apply

- ☒ Recharge.
☒ Assignment in-lieu of Production.
☐ Other, explain _____
 _____.

METHOD AND LOCATION OF RECAPTURE FROM STORAGE – Check and attach all that may apply

- ☒ Pump from my well(s).
☒ Other, explain Water may be pumped up by an Appropriator or other user who purchases the water using the Appropriator's or other user's own well(s).

WATER QUALITY AND WATER LEVELS:

Description of groundwater quality in vicinity of facility and quality of water to be stored: To the extent that the Supplemental Water is used for direct surface application in lieu of extraction of groundwater already in the Beaumont Basin, the quality of the water to be stored will be the same as the water already in the Beaumont Basin. To the extent that the Supplemental Water is to be used for recharge, the quality of the water will be equivalent to the quality of groundwater currently in the San Timoteo Basin.

Description of existing water levels in the areas that are likely to be affected: Because the amount of Supplemental Water is likely to be only 2,000-2,500 acre feet per year, it is not likely to have a significant effect on the existing water levels in the area where that Supplemental Water is to be applied or stored by recharge.

NEGATIVE IMPACTS OF PROPOSED RECAPTURE:

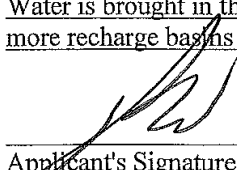
Is the Applicant aware of any potential negative impacts to a party to the Judgment or the Basin that may be caused by the action covered by the application? Yes [] No [X]

If yes, what are the proposed mitigation measures, if any, that might reasonably be imposed to ensure that the action does not result in negative impact to a party to the Judgment or the Basin?

N/A

ADDITIONAL INFORMATION ATTACHED Yes [] No []

Describe: Note: The Morongo Band of Mission Indians is the owner of the Morongo Golf Club at Tukwet Canyon, f/k/a Southern California PGA, and intends to use some or all of the Supplemental Water for direct surface application on the golf course in lieu of extraction of groundwater pursuant to its overlying water right as set forth in the Judgment pursuant to which the Watermaster was created. To the extent more Supplemental Water is brought in than can be used beneficially for surface application, it will be stored by means of one or more recharge basins located on the golf course property or elsewhere in the Beaumont Basin.


Applicant's Signature

Roger Meyer
Print Name

Chief Executive Officer
Title

BEAUMONT BASIN WATERMASTER

MEMORANDUM NO. 13-15

Date: June 5, 2013

From: Joseph Zoba, Treasurer

Subject: Status Report on the Preparation of the 2012 Annual Report and Operating Safe Yield

Recommendation: No recommendation

At the Beaumont Basin Watermaster meeting on January 9, 2013, the Watermaster Committee approved Task Order No. 2 from Alda, Inc. for professional engineering services related to the preparation of the 2012 Annual Report and Operating Safe Yield.

On April 10, 2013, Mr. Hannibal Blandon provided an overview of the status of the 2012 Annual Report for the Beaumont Basin Watermaster. A copy of the draft 2012 Annual Report is available at the following link:

<http://documents.yvwd.dst.ca.us/bbwm/documents/2012annualreport130408.pdf>

Comments and questions regarding this report should be provided to Hannibal Blandon so the report can be finalized at the regular meeting in August 2013.

Beaumont Basin Watermaster – Task Order No. 2
2012 Annual Report and Operating Safe Yield

3-Jan-13

TASK OBJECTIVES

The objectives of Task No. 2 are as follows:

- A. Conduct the annual report for Calendar Year 2012
- B. Estimate the Operating Safe Yield for Calendar Year 2012

SCOPE OF SERVICES

Task 1 – Data Collection

The ALDA/TH&Co team will collect, compile, and tabulate the following data:

- ✓ Monthly water production from member agencies
- ✓ Monthly imported water recharge by each party
- ✓ Monthly rainfall from the USGS, Army Corps, and National Weather Service
- ✓ Monthly static groundwater levels at dedicated monitoring wells and selected production wells from the water agencies
- ✓ Monthly deliveries of imported water, groundwater from other basins, and surface water diversions from various water agencies
- ✓ Semi-annual static groundwater levels from production wells
- ✓ Annual water quality from production wells from the water agencies

It should be noted that field collection of static water levels at dedicated monitoring wells and/or production wells is not part of this scope of services.

Task 2 – Preparation of Annual Report

The ALDA/TH&Co team will prepare a draft and a final annual report documenting the operations of the Beaumont Basin Watermaster. This includes water levels, water transfers between agencies, water production, assessment of basin conditions, carryovers, and replenishment obligations. In addition, the report will incorporate the results of the Operating Safe Yield analysis, conducted under Task 3. The report will also include the annual independent financial reports (prepared by others) and a description of Watermaster activities and Board actions.

Ten color copies of the draft and final annual reports will be provided along with a digital file of the report. In addition, an editable database will be provided that includes all supporting information for the annual report.

Task 3 – Annual Determination of the Operating Safe Yield

The ALDA/TH&Co team will review groundwater levels, groundwater production, groundwater recharge and groundwater quality data for the Beaumont Basin area as a basis for determining the annual operating safe yield (OSY) of the basin for the Calendar Year 2012. The focus of the review will be groundwater level trends at the eight monitoring wells previously reported in the

Beaumont Basin Watermaster – Task Order No. 2
2012 Annual Report and Operating Safe Yield

3-Jan-13

annual reports. Groundwater level trends will be evaluated in the context of groundwater production and basin and artificial recharge in order to make a determination of OSY.

The ALDA/TH&Co team will generate an Annual OSY Technical Memorandum (TM) that summarizes the analysis and provides a recommended OSY for the upcoming year. The TM will be suitable for incorporation into the Annual Report.

Task 4 – Review of Rules and Regulations

The ALDA/TH&Co team will review the existing Rules and Regulations annually to determine whether it reflects current policies/practices and will make recommendations that will be documented as part of the annual report.

Task 5 – Meeting Attendance and Agenda Assistance

The ALDA/TH&Co team will prepare for, attend, and participate in up to six (6) Watermaster meetings in 2013. In addition, the ALDA/TH&Co team will assist in agenda preparation as required by Watermaster.

SCHEDULE

A draft of the annual report and operating safe yield will be presented to the Beaumont Basin Watermaster at the April 2013 Board meeting. Comments on the draft annual report will be addressed and presented at the June 2013 Board meeting.

COST ESTIMATE

Our estimated cost to perform the scope of work as outlined herein is estimated at \$51,800.00; this estimate is based on 414 technical and administrative hours and is summarized in the attached table by task and sub-task.

Beaumont Basin Watermaster – Task Order No. 2
2012 Annual Report and Operating Safe Yield

3-Jan-13

Beaumont Basin Watermaster - Task Order No. 2
Preparation of Annual Report and Operating Safe Yield

Task / Subtask	ALDA Inc.					Thomas Harder & Co.				Total Hours	Cost (\$)
	Project Manager	Project Engineer	Staff Engineer	Graphics	Clerical	Principal Hydro-geologist	Staff Hydro-geologist	Graphics	Clerical		
Task 1 - Data Collection	16	24	32							72	\$ 9,160
Task 2 - Annual Report										178	\$ 20,040
2.1 - Pumping for metered wells	4	8								12	\$ 1,680
2.2 - Pumping for parties with non-metered wells	4	16	8							28	\$ 3,640
2.3 - Document basin activities	4	8								12	\$ 1,680
2.4 - Prepare draft report	16	16	6	20	24			16		98	\$ 9,940
2.5 - Prepare final report	4	12		4	8					28	\$ 3,100
Task 3 - Operating Safe Yield										60	\$ 7,200
3.1 - Review of data for 2011-12						8	12			20	\$ 2,360
3.2 - Preparation of OSY TMs for 2011-12	4					16	12	4	4	40	\$ 4,840
Task 4 - Rules and Regulations	16									16	\$ 2,400
Task 5 - Meeting Attendance										88	\$ 13,000
5.1 - Assistance with agenda preparation	12	8	8							28	\$ 3,760
5.2 - Attend Watermaster meetings	36					24				60	\$ 9,240
TOTALS:	116	92	54	24	32	48	24	20	4	414	\$ 51,800

Beaumont Basin Watermaster – Task Order No. 2
2012 Annual Report and Operating Safe Yield

3-Jan-13

BILLING RATES

Billing Rates for ALDA Inc. for Calendar Year 2013

<u>Position</u>	<u>Hourly Rate</u>
Project Manager	\$150.00
Project Engineer	\$135.00
Staff Engineer	\$110.00
Graphics / Designer Drafter	\$ 90.00
Drafter	\$ 75.00
Clerical	\$ 65.00

Billing Rates for Thomas Harder and Company for Calendar Year 2013

<u>Position</u>	<u>Hourly Rate</u>
Principal Hydro-geologist	\$160.00
Staff Hydro-geologist	\$ 90.00
Field Technician	\$ 70.00
Graphics	\$ 85.00
Clerical	\$ 65.00
Expert Witness	\$ 320.00

Special Project Committee

BEAUMONT BASIN WATERMASTER

MEMORANDUM NO. 13-16

Date: June 5, 2013

From: Joseph Zoba, Treasurer

Subject: Status Report on the Groundwater Model Update and Redetermination of Safe Yield

Recommendation: No recommendation.

At the Beaumont Basin Watermaster meeting on December 5, 2012, the Watermaster Committee requested the attached Task Order No. 3 from Alda, Inc. for professional engineering services related to the update of the groundwater model and redetermination of safe yield.

This project has been determined to be a Special Project of the Watermaster to include only the following Watermaster Committee Members:

Beaumont Cherry Valley Water District
City of Banning
Yucaipa Valley Water District
South Mesa Mutual Water Company

The purpose of this agenda item is to receive an update on the status of the work performed by Alda, Inc.

Beaumont Basin Watermaster

INDEPENDENT CONTRACTOR'S TASK ORDER ISSUED TO ALDA, INC.

TASK ORDER NO. 3

Project Title: Professional Engineering Services - Groundwater Model Update and Redetermination of Safe Yield

Task Order Authorization Date: January 9, 2013

Contractor Name: Alda, Inc.
Contact: Mr. F. Anibal Blandon
Address: 5928 Vineyard Avenue
Alta Loma, California 91701
Telephone: (909) 587-99160
Fed. Tax ID #: _____

SUMMARY OF TASK ORDER:

Description	Amount	Reference
Original Contract Amount	\$229,210	Watermaster Memorandum No. 13-02

This TASK ORDER No. 3 is issued pursuant to that certain Agreement for Services by Independent Contractor between the BEAUMONT BASIN WATERMASTER ("OWNER") and ALDA, INC. (CONTRACTOR") dated May 16, 2012 (the "AGREEMENT").

The OWNER and CONTRACTOR have entered into this TASK ORDER as specifically set forth herein below, and except as specifically provided herein, the AGREEMENT shall remain in full force and effect as originally stated.

1. Tasks to be Performed & Compensation. CONTRACTOR shall provide all labor, materials and equipment to perform the following tasks as fully described in the attached Task Order No. 3 Scope of Services dated January 3, 2013 and the proposal to Provide Professional Engineering Services by the CONTRACTOR dated April 16, 2012.

2. Term. This Task Order shall remain in full effect until the proposed project is completed which is estimated to be by December 31, 2013.

IN WITNESS WHEREOF, the parties have executed this Task Order No. 3 on the date indicated below.

Beaumont Basin Watermaster

Alda, Inc.

By: _____

By: _____

Dated: January 9, 2013

Dated: _____

Name: Duane Burk, Chairman

Name: _____

Beaumont Basin Watermaster – Task Order No. 3
GW Model Update and Re-determination of Safe Yield

3-Jan-13

Task Objectives

The objectives of Task No. 3 are as follows:

- A. Update the existing surface and groundwater flow models and calibrate them through 2012
- B. Re-evaluate the Safe Yield of the Beaumont Basin in accordance to the Judgment
- C. Develop methodologies for addressing other important Watermaster functions, including recharge from recycled water discharges by the City of Beaumont, new yield, and groundwater losses from the basin.

Background and Approach

Although there are multiple methods available for estimating the safe yield of a groundwater basin, the most comprehensive evaluation is through a calibrated, distributed parameter, numerical surface and groundwater flow model. As presented at our December 2012 workshop, the analysis necessary to complete and calibrate a model provides the most complete representation of the water balance of the basin. Further, the model will provide a valuable tool to address other aspects of the Judgment including:

- ✓ New yield estimates
- ✓ Groundwater losses from the basin
- ✓ Potential changes in safe yield over time from past and future land use changes
- ✓ Optimum management of groundwater resources from planned operation
- ✓ Identification of data gaps

Fortunately, a surface and groundwater flow model has already been developed for the Beaumont Basin and is available for use. The United States Geological Survey (USGS) developed a surface and groundwater flow model for the Beaumont Basin and published the results in 2006.¹ This model was developed using the USGS code MODFLOW, a three-dimensional numerical finite difference modeling code. The model is public domain, encompasses the entire Beaumont Basin and simulates hydrological and hydrogeological conditions from 1927 through 2003.

Although the existing model provides a good basis for evaluating groundwater resources in the Beaumont Basin, it will need to be updated and refined for the purpose of re-determining the safe yield of the basin. The following updates/refinements are necessary:

¹ Rewis, D.L., Christensen, A.H., Matti, J.C., Hevesi, J.A., Nishikawa, T., Martin, P., 2006. *Geology, Ground-Water Hydrology, Geochemistry, and Ground-Water Simulation of the Beaumont and Banning Storage Units, San Geronio Pass Area, Riverside County, California*. USGS Scientific Investigations Report 2006-5026.

Beaumont Basin Watermaster – Task Order No. 3
GW Model Update and Re-determination of Safe Yield

3-Jan-13

- ✓ The existing model simulates hydrological and hydrogeological conditions through 2003. The model will need to be updated with pumping, recharge and other data from 2003 through 2012.
- ✓ The grid in the USGS model consists of approximate 820-ft squares. While this grid spacing met the objectives of the USGS for a regional analysis of groundwater recharge and flow characteristics, it will be necessary to refine the grid to provide better resolution for simulating groundwater pumping, artificial recharge, return flow recharge, stream bed infiltration and other processes. We are recommending 200-ft grid cells throughout the model area.
- ✓ Pumping and recharge stresses in the current USGS model are varied on an annual basis. While this met the USGS's original objectives for the model, it will be necessary to create monthly stress periods for the latter parts of the transient model calibration in order to simulate seasonal changes in recharge and pumping. Based on our review of available data, it is proposed to maintain annual stress periods from 1927 through 1999 and create monthly stress periods from 2000 to 2012.
- ✓ Finally, it would be beneficial to reevaluate some of the simplifying land use and hydrogeological assumptions that were incorporated into the existing model. We are proposing to vary land use over time (the existing model does not). We are also proposing to reevaluate aquifer parameters in the model area (the existing model uses one specific yield value for the entire model area).

Regardless of these necessary changes, updating and refining the existing model tool will save both time and money over developing a new model.

Our recommended approach to updating the USGS model includes the following main tasks:

1. Obtain and Compile Data to Update the Model
2. Update and Refine the Existing USGS Groundwater Flow Model
3. Update and Refine the Existing USGS Surface Water Model
4. Calibrate the Surface and Groundwater Flow Model through December 2012
5. Reevaluate the Safe Yield of the Beaumont Basin Using the Calibrated Model
6. Prepare a Report Summarizing the Findings

In addition, we have included a task to develop the methodologies for addressing other important Watermaster functions, including recharge from recycled water discharges by the City of Beaumont, new yield resulting from surface water capture and recharge, and groundwater losses from the basin. As part of this task, we will contact the administrative staff for other groundwater basins in Southern California to obtain information related to their methodologies used for addressing these issues.

Beaumont Basin Watermaster – Task Order No. 3
GW Model Update and Re-determination of Safe Yield

3-Jan-13

SCOPE OF WORK

Task 1 – Obtain and Compile Data

The first task will be to obtain and compile the data necessary to refine and update the USGS model. The specific types of data to be compiled will include:

- ✓ Geological Data
 - Reports and studies on faults in the Beaumont Basin
 - Detailed borehole lithologic logs
 - Driller's logs
 - Geophysical logs
 - Surficial soil type maps
- ✓ Hydrogeological Data
 - Pumping test data/aquifer parameters (transmissivity, hydraulic conductivity, and storativity/specific yield)
 - Groundwater levels
- ✓ Basin Operational Data
 - Groundwater production
 - Artificial recharge
 - Imported water deliveries
 - Wastewater treatment plant inflows/outflows
- ✓ Surface Water Hydrological Data
 - Precipitation
 - Evapotranspiration
 - Stream flow
- ✓ Land Use Data
 - Land use/land cover maps
 - Crop data
 - Satellite imagery

Sources of data will include online databases, previous Beaumont Basin Annual Reports, and the various agencies in the basin. Letter requests for this information will be forwarded to all applicable agencies. It will also be necessary to send a request for driller's logs to the California Department of Water Resources (CDWR). Where possible, data will be obtained in electronic format as database or spreadsheet files. Maps and aerial coverage will be obtained as Geographic Information System (GIS) files to expedite the analysis. The budget for this task includes two trips to the Beaumont area to assist local agencies, as necessary, to obtain the data, reports and maps.

Task 2 – Refine the Groundwater Flow Model**Subtask 2.1 Model Grid and Boundary Conditions**

It is recommended to refine the model grid spacing from the current 820-ft square cells to 200-ft square grid cells throughout the model area. In refining the grids, it will be necessary to adjust boundary conditions to accommodate the refined grid spacing. In addition, given that most of the model edge is constructed of General Head Boundaries, it will be necessary to update the reference head in these areas from 2003 through 2012. The ALDA/TH&Co team will refine the grid spacing, adjust the boundary conditions to accommodate the new grid spacing, and update the reference heads at the boundary.

Subtask 2.2 Update Calibration Target Well Hydrographs

Groundwater levels for wells used as calibration targets in the USGS model will be updated from 2003 through 2012. This will include updates to the groundwater level hydrographs for up to 12 wells.

Subtask 2.3 Update Aquifer Properties

Although the USGS model already has spatially distributed aquifer properties (hydraulic conductivity and specific yield), data has been collected since 2003 that can be used to refine the previous distribution (e.g. BCVWD Wells 24, 25 and 26 have been drilled and tested since 2003 and the Noble Creek Recharge Basins have gone into service providing information). Utilizing new data from Task 1, the ALDA/TH&Co team will update, as appropriate, the hydraulic conductivity distribution in the model.

In addition, the USGS model uses simplifying assumptions with respect to the specific yield characteristics of the aquifer sediments (it uses one value for the model). Specific yield is a measure of the ability of sediments to take water into storage or release water from storage. A representative specific yield distribution is important in developing a reliable safe yield estimate for the basin. Other studies have provided specific yield distribution but the bases for the results have not been available to review. Accordingly, it is proposed to reevaluate the specific yield distribution within the Beaumont Basin. This will be conducted through an analysis of detailed borehole lithologic logs, driller's logs, and geophysical logs.

Subtask 2.4 Evaluate Fault Characteristics

The Beaumont Basin is bounded by faults, which act as barriers to groundwater flow. There has been uncertainty as to the amount of groundwater that flows across the faults and into the basin, particularly along the Banning Fault on the north side of the basin. The amount of flow that enters the basin affects the safe yield. Multiple studies have been conducted in the past to understand groundwater flow across the faults. The ALDA/TH&Co team will review these studies as well as recent data collected by the USGS. Any new findings will be incorporated into the model.

It is noted that this task consists of a "paper" study only and no additional field work to investigate the faults is proposed. In the event that the study identifies areas and methods for

further investigation, they will be specified in the summary report for potential investigation at a later time.

Task 3 – Refine the Surface Water Model

Surface water flow was addressed by the USGS using a precipitation/runoff model code called Infil v.3. The original model was calibrated through 2003 and will need to be updated through December 2012. In addition, there are a number of refinements necessary for the purpose of safe yield determination. The updated USGS model is constructed with a single land use designation through time. Given that land use in the Beaumont area has changed significantly in the last 40 years and given that these changes affect return flow and, therefore, the safe yield, it is proposed to incorporate land use changes into the model. It is also recommended to reevaluate the return flow assumptions for the various land use conditions for the model.

Subtask 3.1 Land Use Evaluation

The ALDA/TH&Co team will generate land use distribution maps for up to seven representative time periods since 1970. Electronic versions of land use maps are available for 1990, 1993, 2000, and 2006. The ALDA/TH&Co team will generate two additional land use maps representative of 1970s land use conditions, 1980s land use conditions and a recent time period (since 2006). Return flow values will be assigned to each of the land use conditions based on the analysis in Subtask 3.2 below.

Subtask 3.2 Return Flow Analysis

There are multiple sources of return flow to the groundwater system in the Basin, including agricultural irrigation, individual septic systems, and municipal irrigation (e.g. homeowner lawns and golf courses). The ALDA/TH&Co team will evaluate return flow over time in conjunction with the land use changes determined from Subtask 3.1. For example, agricultural irrigation return flow will be assigned values consistent with the crop type and irrigation efficiency. Return flow from septic systems and municipal irrigation will be evaluated with respect to water delivery records and, if necessary, pumping records, which provide an indication of the amount of water used on each parcel, consistent with its land use.

For this purpose of this task, it is assumed that the billing system used by the BCVWD identifies individual accounts in the Cherry Valley area by street address of the parcel served and assessor parcel number (APN).

Subtask 3.3 Update Stream Flow Records

Stream flow data for stream gages that will be used as calibration targets in the USGS model will be updated from 2003 through 2012. For cost estimating purposes, daily stream records will be updated for up to three stream gages.

Subtask 3.4 Analysis of Return Flow from Wastewater Discharge

The City of Beaumont operates a wastewater treatment plant in the southern part of the Beaumont Basin. Recycled water from the treatment plant is discharged into Cooper's Creek where a portion of it infiltrates into the subsurface. While most of the stream channel is located outside the Beaumont Basin, a portion of the channel extends over the adjudicated basin. Any infiltration in the channel segment that overlies the Beaumont Basin would become recharge in the Beaumont Basin, thus contributing to the safe yield.

The purpose of this subtask is to estimate the amount of recharge attributable to infiltration of discharge runoff from the wastewater treatment plant. As part of the analysis, the ALDA/TH&Co team will evaluate the previous method for estimating recharge to the Beaumont Basin from wastewater treatment plant discharge and determine if changes are necessary.

Task 4 – Update Surface Water Model Input Files

The ALDA/TH&Co team will update the Infil v.4 input files with daily precipitation and air temperature data from 2009 through 2012. Where necessary, historical precipitation data for the 102 weather stations used in the USGS model will be refined based on Doppler radar data (available since 2002) which will provide a more accurate spatial precipitation distribution.

Task 5 – Calibrate the Surface Water Model

The surface water model will be calibrated using the history-matching technique whereby model input parameters will be adjusted until model-generated stream flow at selected calibration points provide an acceptable match with measured stream flow.

Task 6 – Update Groundwater Flow Model Input Files

Pumping and recharge stresses in the current USGS model are varied on an annual basis. While this met the USGS's original objectives for the model, it will be necessary to create monthly stress periods for the latter parts of the transient model calibration in order to simulate seasonal changes in recharge and pumping. Based on our review of available data, it is proposed to maintain annual stress periods from 1927 through 1999 and create monthly stress periods from 2000 to 2012.

Monthly input files will be created for groundwater production and artificial recharge for the period January 2000 through December 2012. The cost estimate assumes creation of monthly input files for approximately 42 wells, two artificial recharge facilities (SGPWA spreading ponds and the Noble Creek artificial recharge facility), and recycled water discharges by the City of Beaumont.

Monthly areal recharge, mountain-front recharge, and return-flow recharge will be input for the same time period (January 2003 through December 2012) based on output from the surface water model. In addition, stream channel flow output from the surface water model will be

incorporated into the Stream Flow Routing package in the MODFLOW groundwater model to simulate recharge within unlined stream channels.

Task 7 – Calibrate Groundwater Model and Perform Sensitivity Analysis

The groundwater flow model will be calibrated using the history-matching technique whereby model input parameters will be adjusted until model-generated groundwater levels provide an acceptable match with measured groundwater levels. During calibration, the ALDA/TH&Co team will perform a sensitivity analysis to test the effects of varying certain model parameters on calibration. The results of the sensitivity analysis will be plotted on graphs and presented in the summary report described in Task 9. The final model calibration will also be presented in Task 9.

Task 8 – Analysis of Safe Yield

The ALDA/TH&Co team will use the updated and calibrated groundwater flow model to re-determine the safe yield of the Beaumont Basin. The analysis will involve a predictive simulation using the model to assess the combination of artificial recharge and pumping that result in stable groundwater levels over a 30-yr period of time (i.e. no net change in groundwater storage). Preliminarily, it is proposed to conduct the simulation using an average hydrology developed from a 40-yr base period. Land use will be maintained at 2012 conditions. Initial groundwater production and artificial recharge will be input based on planned pumping and recharge rates. The ALDA/TH&Co team will then adjust pumping and recharge in order to achieve equilibrium within the basin. The safe yield will be estimated from the water budget that results in long-term hydrologic equilibrium within the basin.

Task 9 – Prepare a Report on the Safe Yield of the Beaumont Basin

The results of the safe yield analysis using the calibrated groundwater flow model will be summarized in a report. The report will include:

- ✓ A background and purpose for the analysis
- ✓ A description of the original USGS model
- ✓ A description of the sources of data used to refine and update the USGS model
- ✓ A description of the hydrogeologic setting and updated conceptual model
- ✓ A description of the refined numerical model
- ✓ Results of the updated model calibration and sensitivity analyses
- ✓ A description of the methodology and assumptions used to analyze the safe yield of the basin using the model
- ✓ Results of the safe yield analysis
- ✓ Identification of data gaps for future collection and analysis

The report will include maps showing the model area, hydrogeologic setting, wells and recharge basins, boundary conditions, input parameter distribution and model analysis results. Supporting data and information will be provided in appendices as appropriate.

The budget for this task includes development and submittal of one draft version of the safe yield report for review and comment (ten hard copies with electronic files). Upon incorporation of comments, the ALDA/TH&Co team will generate one final version of the report (ten hard copies with electronic files).

Task 10 – Develop Methodologies for Addressing Recycled Water Recharge, Groundwater Losses and New Yield

The ALDA/TH&Co team will use the updated surface and groundwater models as the basis for developing methodologies to be used by the Beaumont Basin Watermaster in evaluating a) groundwater recharge credits resulting from the recycled water discharges by the City of Beaumont, b) New Yield that may result from the implementation of new surface water diversion and recharge projects, and c) potential groundwater losses resulting from the implementation of various groundwater recharge projects.

In addition, the ALDA/TH&Co team will contact the watermaster administrative staff for other groundwater basins in Southern California to obtain information related to their methodologies for addressing the above mentioned issues; up to three groundwater basin watermasters will be contacted by our team.

Task 11 – Project Management and Meetings

During the course of preparing the groundwater flow model, it is recommended to have meetings/workshops to provide model progress updates, present the methodology and assumptions for re-determining the safe yield, and present preliminary results of the analyses. The workshops will provide a forum for answering questions and obtaining feedback on assumptions. The budget for this task assumes four meetings/workshops in Beaumont between the time the scope of work is approved and the time the final report is submitted. Overall project management activities are also included as part of the budget for this task.

SCHEDULE

The attached Figure 1 shows the proposed schedule to perform Tasks 1 through 11 of this scope of work. The schedule assumes that all necessary data for developing the model can be obtained by the end of March, 2013. Based on this schedule, a draft report on the safe yield of the Beaumont Basin would be submitted to the Watermaster Board in October 2013.

COST ESTIMATE

Our estimated cost to perform the scope of work as outlined herein is estimated at \$229,210.00; this estimate is based on 2,032 technical and administrative hours and is summarized in the attached table by task and sub-task.

Beaumont Basin Watermaster – Task Order No. 3
 GW Model Update and Re-determination of Safe Yield

3-Jan-13

Beaumont Basin Watermaster - Task Order No. 3
 Update of the USGS Beaumont Basin Model and Re-Determine the Safe Yield of the Basin

Task	Description	Project Manager	Hydro-geologist	Project Engineer	Staff Engineer	Staff Geologist	Graphics	Clerical	Total Hours	Total Cost
Task 1 - Obtain and Compile Data										
		0	10	24	0	92	0	6	132	\$ 13,510
Task 2 - Refine the Groundwater Model										
2.1	Refine Model Grid and Boundary Conditions	2	12	0	0	80	0	0	94	\$ 9,420
2.2	Update Hydrographs (assume 12)	0	2	0	0	48	0	0	50	\$ 4,640
2.3	Aquifer Properties									
	Transmissivity and Hydraulic Conductivity	2	4	0	0	24	0	0	30	\$ 3,100
	Specific Yield Distribution Analysis	2	18	0	0	120	0	0	140	\$ 13,980
2.4	Evaluation of Fault Characteristics	0	20	0	0	8	0	0	28	\$ 3,920
Task 3 - Refine the Surface Water Model										
3.1	Land Use Evaluation	0	18	0	40	80	0	0	138	\$ 14,480
3.2	Refine Return Flow Factors - Land Use	4	24	24	40	8	0	0	100	\$ 12,800
3.3	Update Stream Flow Records	2	2	0	0	24	0	0	28	\$ 2,780
3.4	Return Flow from Waste Water Discharge	2	6	24	24	16	0	0	72	\$ 8,580
Task 4 - Update Surface Water Model Input Files										
		0	6	0	0	80	0	0	86	\$ 8,160
Task 5 - Calibrate Surface Water Model										
		4	32	12	0	40	0	0	88	\$ 10,940
Task 6 - Update Groundwater Model Input Files										
		0	22	12	12	140	0	0	186	\$ 19,060
Task 7 - GW Model Calibration & Sensitivity Analysis										
		4	60	16	0	96	0	0	176	\$ 21,000
Task 8 - Analysis of Safe Yield										
		0	60	24	0	120	0	0	204	\$ 23,640
Task 9 - Prepare Safe Yield Report										
		4	60	16	16	72	60	16	244	\$ 26,740
Task 10 - Development of Methodologies										
	Recycled Water Recharge	4	6	24	8	0	4	0	46	\$ 6,020
	Groundwater Losses	4	6	24	8	0	4	0	46	\$ 6,020
	New Yield	4	6	24	8	0	4	0	46	\$ 6,020
Task 11 - Project Management and Meetings										
		32	42	16	0	8	0	0	98	\$ 14,400
TOTALS:		70	416	240	156	1056	72	22	2032	\$ 229,210

Beaumont Basin Watermaster – Task Order No. 3
GW Model Update and Re-determination of Safe Yield

3-Jan-13

BILLING RATES

Billing Rates for ALDA Inc. for Calendar Year 2013

<u>Position</u>	<u>Hourly Rate</u>
Project Manager	\$150.00
Project Engineer	\$135.00
Staff Engineer	\$110.00
Graphics / Designer Drafter	\$ 90.00
Drafter	\$ 75.00
Clerical	\$ 65.00

Billing Rates for Thomas Harder and Company for Calendar Year 2013

<u>Position</u>	<u>Hourly Rate</u>
Principal Hydro-geologist	\$160.00
Staff Hydro-geologist	\$ 90.00
Field Technician	\$ 70.00
Graphics	\$ 85.00
Clerical	\$ 65.00
Expert Witness	\$320.00

FIGURE 1

Proposed Schedule to Update the USGS Beaumont Basin Groundwater Model and Re-Determine the Safe Yield of the Basin

Task	Subtask	Task Description	Duration (Business Days)	Start	Finish	January	February	March	April	May	June	July	August	September	October	November
1	Obtain and Compile Data		50	14-Jan-13	22-Mar-13											
	Workshop #1		1	3-Apr-13	3-Apr-13				★							
	Refine the Groundwater Model		45	11-Feb-13	12-Apr-13											
	2.1 Refine Model Grid and Boundary Conditions		10	11-Feb-13	22-Feb-13											
2	2.2 Update Hydrographs (assume 12)		10	19-Feb-13	8-Mar-13											
	2.3 Aquifer Properties		25	11-Mar-13	12-Apr-13											
	2.4 Evaluation of Fault Characteristics		5	25-Mar-13	29-Mar-13											
	3 Refine the Surface Water Model		25	15-Apr-13	17-May-13											
3	3.1 Land Use Evaluation		20	15-Apr-13	10-May-13											
	3.2 Refine Return Flow Factors for Various Land Use Conditions		10	15-Apr-13	26-Apr-13											
	3.3 Update Stream Flow Records		5	29-Apr-13	3-May-13											
	3.4 Analyze Return Flow from Waste Water Discharge		15	29-Apr-13	17-May-13											
4	Workshop #2		1	5-Jun-13	5-Jun-13					★						
	Update Surface Water Model Input Files		14	20-May-13	8-Jun-13											
	5 Calibrate Surface Water Model		15	11-Jun-13	28-Jun-13											
	6 Update Groundwater Model Input Files		19	18-Jun-13	12-Jul-13											
7	Calibrate the Groundwater Flow Model and Perform Sensitivity Analysis		20	15-Jul-13	9-Aug-13											
	Workshop #3		1	7-Aug-13	7-Aug-13						★					
	8 Analysis of Safe Yield		19	12-Aug-13	6-Sep-13											
	9 Prepare Draft Report on the Safe Yield of the Beaumont Basin		20	9-Sep-13	4-Oct-13											
	Workshop #4		1	2-Oct-13	2-Oct-13											
	Incorporate Comments and Prepare Final Report on the Safe Yield of the Beaumont Basin		20	7-Oct-13	15-Nov-13								★			
	Submit Final Report		1	18-Nov-13	18-Nov-13											★
	Develop Methodologies for Addressing Recycled Water Recharge, Groundwater Losses and New		99	14-Jan-13	31-May-13											