

# Notice and Agenda of a Meeting of the Beaumont Basin Watermaster

Wednesday, February 1, 2017 at 10:00 a.m.

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## 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

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### I. Call to Order

### II. Roll Call

City of Banning: Arturo Vela (Alternate: Michael Rock)

City of Beaumont: \_\_\_\_\_ (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: Jennifer Ares)

### 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. Meeting Minutes for December 7, 2016

### VI. Reports

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

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

### VII. Discussion Items

A. Reorganization of the Beaumont Basin Watermaster Committee - Chairman, Vice-Chairman, Secretary, and Treasurer [Memorandum No. 17-01, Page 11 of 82]

Recommendation: That the members of the Watermaster either reaffirm the existing officers or conduct nominations for the appointment of new officers of the Beaumont Basin Watermaster.

B. Independent Accountant's Financial Report of Agreed-Upon Procedures for the Beaumont Basin Watermaster [Memorandum No. 17-02, Page 12 of 82]

Recommendation: That the Watermaster Committee receives and files the Independent Accountant's Financial Report for the period ending June 30, 2015.

- C. Review and Discussion of Conditions Related to the Groundwater Storage Agreement in the Beaumont Basin for the San Gorgonio Pass Water Agency (SGPWA) [Memorandum No. 17-03, Page 18 of 82]
- Recommendation: That the Watermaster schedule a special meeting on Wednesday, March 1, 2017 to consider adopting Resolution No. 17-01.
- D. Review and Discussion of the Conceptual Framework for the Formation of a Groundwater Sustainability Agency for the San Timoteo Basin 8-2.08 [Memorandum No. 17-04, Page 22 of 82]
- Recommendation: That the Watermaster Committee request to identified as a stakeholder within the San Timoteo Basin Memorandum of Agreement for the Sustainability Groundwater Management Act.
- E. Approval of a Contract Amendment for Engineering Services with ALDA Inc. [Memorandum No. 17-05, Page 33 of 82]
- Recommendation: That the Watermaster Committee directs legal counsel to prepare a contract amendment extending the contract with ALDA Inc. through December 31, 2021.
- F. Discussion Regarding Task Order No. 12 with ALDA Inc. for the Preparation of the 2016 Consolidated Annual Report, Estimate of the Basin Safe Yield, Update of the Groundwater Model, and Associated Consulting Services [Memorandum No. 17-06, Page 47 of 82]
- Recommendation: That the Watermaster Committee approves Task Order No. 12 for a sum not to exceed \$95,970.
- G. Discussion Regarding Task Order No. 13 with ALDA Inc. for the Installation, Maintenance, and Data Collection of Water Level Monitoring Equipment in 2017 [Memorandum No. 17-07, Page 53 of 82]
- Recommendation: That the Watermaster Committee approves Task Order No. 13 for a sum not to exceed \$21,520.
- H. Discussion Regarding Task Order No. 14 with ALDA Inc. for the Analysis of Return Flows by Appropriators to the Beaumont Groundwater Basin and incorporation of findings into the 2016 Beaumont Basin Watermaster Annual Report [Memorandum No. 17-08, Page 57 of 82]
- Recommendation: That the Watermaster Committee approves Task Order No. 14 for a sum not to exceed \$12,960.
- I. Presentation of Methodology for Estimating Groundwater Storage Losses Associated with Supplemental Water Recharge [Memorandum No. 17-09, Page 61 of 82]
- Recommendation: That the Watermaster Committee provides direction and feedback to the ALDA/TH&Co team based on the presentation and discussion.
- J. Discussion Regarding the Methodology for Calculating New Yield [Memorandum No. 17-10, Page 62 of 82]
- Recommendation: No recommendation.
- K. Discussion Regarding the Water Level Monitoring Equipment [Memorandum No. 17-11, Page 63 of 82]
- Recommendation: That the Watermaster Committee continues to use the Solinst monitoring equipment.

### **VIII. Topics for Future Meetings**

- A. Groundwater Storage Agreement in the Beaumont Basin for the San Gorgonio Pass Water Agency
- B. Development of a methodology and policy to account for new yield from capturing local stormwater in the basin.
- C. Development of a methodology and policy to account for groundwater storage losses in the basin resulting from the spreading of additional water sources.
- D. Development of a methodology and policy to account for recycled water recharge.
- E. Develop a protocol to increase the accuracy and consistency of data reported to the Watermaster.
- F. Develop a policy to account for transfers of water that may result when an Appropriator provides water service to an Overlying Party.

### **IX. Comments from the Watermaster Committee Members**

#### **X. Announcements**

- A. The next regular meeting of the Beaumont Basin Watermaster is scheduled for Wednesday, April 5, 2017 at 10:00 a.m.

### **XI. Adjournment**

# Consent Calendar



**Record of the Minutes of the  
Beaumont Basin Committee Meeting of the  
Beaumont Basin Watermaster  
Wednesday, December 7, 2016**

**Meeting Location:**

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

**I. Call to Order**

*Chairman Arturo Vela called the meeting to order at 10:05 a.m.*

**II. Roll Call**

<i>City of Banning</i>	<i>Arturo Vela</i>	<i>Present</i>
<i>City of Beaumont</i>	<i>Kyle Warsinski</i>	<i>Present</i>
<i>Beaumont Cherry Valley Water District</i>	<i>Eric Fraser</i>	<i>Present</i>
<i>South Mesa Water Company</i>	<i>George Jorritsma</i>	<i>Present</i>
<i>Yucaipa Valley Water District</i>	<i>Joseph Zoba</i>	<i>Present</i>

*Kyle Warsinski was present as the alternate representing the City of Beaumont in the absence of Member Dave Dillon. Thierry Montoya was present representing legal counsel for the Beaumont Basin Watermaster.*

*Members of the public who registered their attendance were: John Covington and Hannibal Blandon.*

**III. Pledge of Allegiance**

*Chairman Vela led the pledge of allegiance.*

**IV. Public Comments**

*No public comment was received at this time.*

**V. Consent Calendar**

**A. Meeting Minutes**

**1. Meeting Minutes for October 5, 2016**

*Member Joseph Zoba motioned to approve the consent calendar. The motion was seconded by Member George Jorritsma and passed 5-0.*

## VI. Reports

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

*Engineer Hannibal Blandon stated that the 2015 Annual Report had been finalized and 2 copies were provided to each member agency. He also reported that proposals for the development of methodologies and policies to account for new yield from capturing local storm water in the basin as well as for groundwater storage losses had not been finalized yet but would be by the next meeting.*

- B. Report from Legal Counsel - Thierry Montoya, Alvarado Smith

*Legal Counsel Thierry Montoya reported on the discussions he had been involved in with legal counsel for the San Gorgonio Pass Water Agency (SGPWA) related to its application for a groundwater storage account. He also outlined a recommended framework for how to make adjustments to future storage accounts, to address concerns about impacts to water quality from recycled water recharge, as well as the potential limitation of drilling and constructing new wells by allowing recycled water recharge. Legal Counsel Montoya stated he would provide a memo to the members of the Watermaster Committee, and once a framework is settled upon, a Resolution could be voted on by the Committee as soon as the next meeting.*

## VII. Discussion Items

- A. Status Report on Water Level Monitoring throughout the Beaumont Basin through November 29, 2016 [Memorandum No. 16-19, Page 11 of \_]

Recommendation: No recommendation

*Engineer Blandon reported on trouble encountered with instrumentation that logs well water levels and steps that had been taken to remedy the situation, including sending the equipment still under warranty back to the manufacturer, as well as logging well water levels by hand. Member Eric Fraser suggested looking at different vendors for monitoring equipment as a result of the lack of technical support from the vendors of the defective equipment. Member Zoba directed Engineer Blandon to work with Jennifer from Yucaipa Valley Water District to look at other solutions for monitoring equipment issues.*

- B. Discussion Regarding the Creation of a Return Flow Policy for Beaumont Basin [Memorandum No. 16-20, Page 14 of \_]

Recommendation: No recommendation

*Member Fraser provided an overview of how return flows could be now be identified and tied back to specific areas to which those return flows occur. He suggested working with legal counsel to implement a final rule or ordinance that identifies how those return flows would be credited, utilizing the data from the Safe Yield Study.*

*After further discussion among the Committee Members, Member Fraser made a motion to direct staff to develop a return flow policy in which the individual retail agencies are credited appropriately for the return flows that occur within their service area as a result of their activities, and that such a policy be brought back to this governing body at the next meeting for consideration. The motion was seconded by Member Zoba and passed 5-0.*

- C. Conditions Related to the Groundwater Storage Agreement in the Beaumont Basin for the San Gorgonio Pass Water Agency [Memorandum No. 16-21, Page \_ of \_]

Recommendation: Pending

*Member Zoba stated that except for what was discussed by Legal Counsel Montoya earlier in the meeting, the Committee is ready to move forward related to the SGPWA Groundwater Storage Agreement subject to the five conditions and that an update would be provided at the next meeting.*

*SGPWA General Manager Jeff Davis addressed the Committee and made a commitment to having something for Committee consideration at the February meeting.*

#### **VIII. Topics for Future Meetings**

- A. Groundwater Storage Agreement in the Beaumont Basin for the San Gorgonio Pass Water Agency
- B. Development of a methodology and policy to account for new yield from capturing local storm water in the basin
- C. Development of a methodology and policy to account for groundwater storage losses in the basin resulting from the spreading of additional water sources
- D. Development of a methodology and policy to account for recycled water recharge
- E. Develop a protocol to increase the accuracy and consistency of data reported to the Watermaster
- F. Develop a policy to account for transfers of water that may result when an Appropriator provides water service to an Overlying Party
- G. Develop a policy to account for transfers of water that may result when an Appropriator provides water service to an Overlying Party

#### **IX. Comments from the Watermaster Committee Members**

*There were no comments from the Watermaster Committee Members.*

#### **X. Announcements**

- A. The next regular meeting of the Beaumont Basin Watermaster is scheduled for Wednesday, February 1, 2017 at 10:00 a.m.

## **XI. Adjournment**

*Chairman Vela adjourned the meeting at 10:36 a.m.*

Attest:

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Eric Fraser, Secretary  
Beaumont Basin Watermaster

# Reports

# Discussion Items

# BEAUMONT BASIN WATERMASTER

## MEMORANDUM NO. 17-01

**Date:** February 1, 2017

**From:** Joseph Zoba, Treasurer

**Subject:** Reorganization of the Beaumont Basin Watermaster Committee - Chairman, Vice-Chairman, Secretary, and Treasurer

**Recommendation:** That the members of the Watermaster either reaffirm the existing officers or conduct nominations for the appointment of new officers of the Beaumont Basin Watermaster.

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The purpose of this agenda item is to provide the Watermaster Committee members with the opportunity to reaffirm the existing officers or solicit nominations for the appointment of new officers for the organization.

The current officers are:

Chairman - Art Vela  
Vice Chairman - George Jorritsma  
Secretary - Eric Fraser  
Treasurer - Joseph Zoba

# BEAUMONT BASIN WATERMASTER

## MEMORANDUM NO. 17-02

**Date:** February 1, 2017

**From:** Joseph Zoba, Treasurer

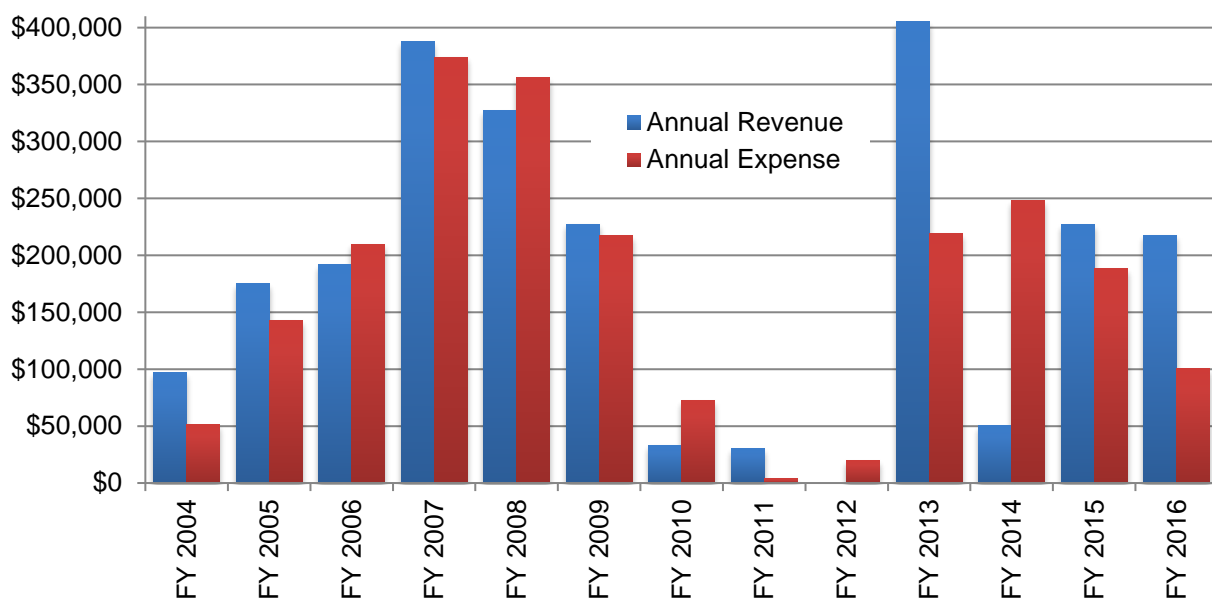
**Subject:** Independent Accountant's Financial Report of Agreed-Upon Procedures for the Beaumont Basin Watermaster

**Recommendation:** That the Watermaster Committee receives and files the Independent Accountant's Financial Report for the period ending June 30, 2016.

The Beaumont Basin Watermaster engaged the firm of Rogers, Anderson, Malody & Scott to perform an independent financial review of the Watermaster activities for the fiscal year ending June 30, 2016. The independent financial review was conducted under the same terms and scope as the prior fiscal year.

At the beginning of the 2015-2016 fiscal year, the Beaumont Basin Watermaster had unrestricted net assets in the amount of \$61,310. During the fiscal year, the Watermaster collected \$217,692 in revenues and expended \$100,908. As of June 30, 2016, the Watermaster had unrestricted net assets in the amount of \$178,094.

The following illustration provides a summary of the annual revenues and expenses of the Beaumont Basin Watermaster since its formation in 2004.





**BEAUMONT BASIN WATERMASTER**  
**INDEPENDENT ACCOUNTANT'S REPORT ON APPLYING**  
**AGREED-UPON PROCEDURES**  
**ON THE BEAUMONT BASIN WATERMASTER SCHEDULES**

**June 30, 2016**



**ROGERS, ANDERSON, MALODY & SCOTT, LLP**  
**CERTIFIED PUBLIC ACCOUNTANTS, SINCE 1948**



ROGERS, ANDERSON, MALODY & SCOTT, LLP  
CERTIFIED PUBLIC ACCOUNTANTS, SINCE 1948

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San Bernardino, CA 92408  
909 889 0871 T  
909 889 5361 F  
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## INDEPENDENT ACCOUNTANT'S REPORT ON APPLYING AGREED-UPON PROCEDURES

### PARTNERS

Brenda L. Odle, CPA, MST  
Terry P. Shea, CPA  
Kirk A. Franks, CPA  
Scott W. Manno, CPA, CGMA  
Leena Shanbhag, CPA, MST, CGMA  
Bradford A. Welebit, CPA, MBA, CGMA  
Jay H. Zercher, CPA (Partner Emeritus)  
Phillip H. Waller, CPA (Partner Emeritus)

### MANAGERS / STAFF

Jenny Liu, CPA, MST  
Seong-Hyeon Lee, CPA, MBA  
Charles De Simoni, CPA  
Nathan Statham, CPA, MBA  
Gardaryn Duran, CPA  
Ivan Gonzales, CPA, NSA  
Brianna Schultz, CPA  
Daniel Hernandez, CPA, MBA  
Lisa Guo, CPA, MBA

Yucaipa Valley Water District as treasurer  
of the Beaumont Basin Watermaster  
Yucaipa, California

We have performed the procedures enumerated below, which were agreed to by the Yucaipa Valley Water District (District), as treasurer of the Beaumont Basin Watermaster (Watermaster), solely to assist the District in evaluating certain amounts reported in the Watermaster Schedules (Schedules), attached as Exhibit A and Exhibit B, on the full accrual basis of accounting as of June 30, 2016 and for the year then ended. The District and Watermaster are responsible for the accuracy of the Schedules. This agreed-upon procedures engagement was conducted in accordance with attestation standards established by the American Institute of Certified Public Accountants. The sufficiency of the procedures is solely the responsibility of those parties specified in the report. Consequently, we make no representations regarding the sufficiency of the procedures described below, either for the purpose for which this report has been requested or for any other purpose.

Our procedures and findings are as follows:

### 1. Procedure

Agree the opening equity on Exhibit B to the ending equity noted on the trial balance for the fiscal year ended June 30, 2015.

#### Finding

No exceptions were noted as a result of applying the procedure.

### 2. Procedure

Agree the cash balance reported on Exhibit A to the bank reconciliation, bank statement and trial balance. Select all of the deposits in transit and outstanding checks and trace their clearing to the subsequent month's bank statement.

#### Finding

No exceptions were noted as a result of applying the procedure.

MEMBERS  
American Institute of  
Certified Public Accountants

PCPS The AICPA Alliance  
for CPA Firms

Governmental Audit  
Quality Center

California Society of  
Certified Public Accountants

STABILITY. ACCURACY. TRUST.

**3. Procedure**

Trace all member agency assessments recorded in the schedule to invoices and the bank statements.

**Finding**

No exceptions were noted as a result of applying the procedure.

**4. Procedure**

Compare the ending check number for the fiscal year ended June 30, 2015 to the beginning check number for the period beginning on July 1, 2015. Note any breaks in check sequence for the period of July 1, 2015 through June 30, 2016.

**Finding**

No exceptions were noted as a result of applying the procedure.

**5. Procedure**

Based on the population of checks issued during July 1, 2015 through June 30, 2016, select all payments and trace the check to supporting invoice noting whether the activity pertains to the Watermaster. Agree the dollar amount and vendor on the invoice to the check for accuracy.

**Finding**

No exceptions were noted as a result of applying the procedure.

**6. Procedure**

Obtain the general ledger detail for the period of July 1, 2015 to June 30, 2016. Select all journal entries and trace the transaction to an approved journal entry and documentation supporting the nature and rationale of the journal entry.

**Finding**

No exceptions were noted as a result of applying the procedure.

We were not engaged to, and did not conduct an audit, the objective of which would be the expression of an opinion on the schedules of assets, liabilities and equity (Exhibit A) and assessments and expenses (Exhibit B) or the related internal control structure. Accordingly, we do not express such an opinion. Had we performed additional procedures, other matters might have come to our attention that would have been reported to you.

This report is intended solely for the use of the Watermaster and the District and is not intended to be and should not be used by anyone other than the specified party.

*Rogers, Anderson, Malody & Scott, LLP*

August 30, 2016  
San Bernardino, CA

## Exhibit A

**Beaumont Basin Watermaster  
Schedule of Assets, Liabilities and Net Assets  
(Unaudited)  
June 30, 2016**

**Assets**

Cash and cash equivalents	\$ 178,094
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Total assets	<u>\$ 178,094</u>
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**Liabilities**

Accounts payable	<u>                    </u>
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**Net assets**

Unrestricted	<u>\$ 178,094</u>
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## Exhibit B

**Beaumont Basin Watermaster  
Schedule of Revenues and Expenses  
(Unaudited)  
For the year ended June 30, 2016**

Revenues	
Assessments	\$ 217,521
Interest	<u>171</u>
Total revenues	<u>217,692</u>
Expenses	
Special projects	
Acquisition/computation and annual report	58,366
Engineering	13,245
Monitoring and data acquisition	16,572
Administrative	
Legal and professional	<u>12,725</u>
Total expenses	<u>100,908</u>
Change in net assets	116,784
Unrestricted net assets, beginning of year	<u>61,310</u>
Unrestricted net assets, end of year	<u><u>\$ 178,094</u></u>

# BEAUMONT BASIN WATERMASTER

## MEMORANDUM NO. 17-03

**Date:** February 1, 2017

**From:** Hannibal Blandon, ALDA Inc.  
Joseph Zoba, Treasurer

**Subject:** Review and Discussion of Conditions Related to the Groundwater Storage Agreement in the Beaumont Basin for the San Gorgonio Pass Water Agency (SGPWA)

**Recommendation:** That the Watermaster schedule a special meeting on Wednesday, March 1, 2017 at 10:00 a.m. to consider adopting Resolution No. 17-01.

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At the April 2016 Watermaster meeting, copies of SGPWA's application for a groundwater storage agreement in the Beaumont Basin were distributed to members of the Watermaster Committee for their review.

At the Watermaster meeting on June 1, 2016, the Watermaster Committee discussed the importance of incorporating contingencies into the approval of the storage account to protect the rights and responsibilities of the Watermaster members to fulfill the terms of the Stipulated Judgment.

On October 5, 2016, the Watermaster Committee reviewed the following proposed conditions that would be included in the storage agreement with the San Gorgonio Pass Water Agency to represent the common goals of the parties:

1. The storage account authorized to the San Gorgonio Pass Water Agency shall not negatively impact, impede, reduce or obstruct the purchase and delivery of supplemental water from the San Gorgonio Pass Water Agency to any water retailer of the Watermaster Committee at any location or time.
2. When the quantity of supplemental water available on an annual basis exceeds all demands and/or requests for supplemental water by the Watermaster Committee members, the San Gorgonio Pass Water Agency may recharge the excess supplemental water in the Beaumont Avenue Recharge Facility or any other location approved by the Beaumont Basin Watermaster.
3. Supplemental water stored by the San Gorgonio Pass Water Agency pursuant to the conditions herein and the approved Storage Agreement will be made available at any time to the members of the Watermaster without restrictions

4. Any member or members of the Watermaster shall maintain the first right of refusal to purchase the supplemental water placed in storage by the San Gorgonio Pass Water Agency. All Watermaster members shall be notified in writing a minimum of 60 calendar days prior to any sale, transfer, distribution, or exchange of any supplemental water in the storage account of the San Gorgonio Pass Water Agency. The Watermaster maintains an opportunity to individually or collectively purchase the water in the storage account of the San Gorgonio Pass Water Agency under the same terms and conditions offered to a member of the Watermaster, non-member of the Watermaster, or any other entity.
5. Any future condition, issue, or operational constraint that conflicts with the ability of any Watermaster member to administer and fulfill their obligation(s) pursuant to the Stipulated Judgment shall be immediate cause for rescinding the storage agreement to the San Gorgonio Pass Water Agency.

The language was shared with Jeff Davis, General Manager of the San Gorgonio Pass Water Agency and presented again for review and discussion at the December 7, 2016 Watermaster meeting.

In preparation for this meeting, a draft resolution has been prepared with a proposed modification to condition number five above.

The San Gorgonio Pass Water Agency has requested additional time to review the conditions outlined above and modified in the attached resolution.

If there are no further issues or suggestions related to this language, then the final Groundwater Storage Resolution should be scheduled for consideration at a special meeting on the first Wednesday in March.

**RESOLUTION NO. 17-01****A RESOLUTION OF THE BEAUMONT BASIN WATERMASTER TO CONFIRM AND ADOPT SAN GORGONIO PASS WATER AGENCY'S ("SGPWA") APPLICATION FOR GROUNDWATER STORAGE AGREEMENT, SUBJECT TO STATED CONDITIONS**

**WHEREAS**, the Stipulated Judgment establishing the Beaumont Basin Watermaster (Riverside Superior Court Case No. 389197) empowers the Beaumont Basin Watermaster to adopt appropriate rules and regulations for the conduct of Watermaster affairs; and

**WHEREAS**, pursuant to its authority, the Beaumont Basin Watermaster established principles of groundwater storage in the Beaumont Basin via Resolution No. 2005-01, the foundation for SGPWA's Application for Groundwater Storage Agreement;

**WHEREAS**, SGPWA is a state water contractor formed in 1961 for the purpose of importing water from the State Water Project into the San Gorgonio Pass area. SGPWA's service area includes the Beaumont Basin;

**WHEREAS**, SGPWA submitted to the Beaumont Basin Watermaster a Groundwater Storage Application requesting, in pertinent part, to store up to 10,000 acre-feet of water in the Beaumont Basin through artificial recharge of water from the State Water Project, via a proposed recharge facilities to be located in the southwest corner of Brookside Avenue and Beaumont Avenue; and

**WHEREAS**, the Beaumont Basin Watermaster issued copies of SGPWA's Groundwater Storage Application to members of its Watermaster Committee for review in advance of the October 5, 2016, Beaumont Basin Watermaster meeting; and,

**WHEREAS**, on October 5, 2016 and December 7, 2016, the Beaumont Basin Watermaster met to discuss SGPWA's Groundwater Storage Application agreeing to support such under the following draft conditions that:

1. SGPWA's Groundwater Storage Account shall not negatively impact, impede, reduce or obstruct the purchase and delivery of ~~supplemental~~ imported water from SGPWA to any water retailer of the Beaumont Basin Watermaster Committee, at any location or time;
2. when the quantity of ~~supplemental~~ imported water available on an annual basis exceeds the demands and/or requests for supplemental water by the Watermaster Committee members, SGPWA may recharge the excess ~~supplemental~~ imported water in the Beaumont Avenue Recharge Facility, or any other location approved by the Beaumont Basin Watermaster;
3. ~~supplemental~~ imported water stored by the SGPWA pursuant to the conditions herein and the approved SGPWA Groundwater Storage Application, will be made available, at any time, to the members of the Beaumont Basin Watermaster without restrictions;
4. any member of members of the Beaumont Basin Watermaster shall maintain the right of first refusal to purchase the ~~supplemental~~ imported water placed in storage by the SGPWA on a pro rata purchase sharing basis. All Beaumont Basin Watermaster members shall be notified in writing a minimum of sixty-(60) calendar days prior to any sale, transfer, distribution, or exchange of any ~~supplemental~~ imported water in the storage account of the SGPWA. The Beaumont Basin



- Watermaster maintains an opportunity to individually or collectively purchase the water in the storage account of the SGPWA under the same terms and conditions offered to a member of the Beaumont Basin Watermaster, non-member of the Beaumont Basin Watermaster, or any other entity; and,
5. any future condition, issue, or operational constraint that conflicts with the ability of any Beaumont Basin Watermaster member to administer and fulfill its obligation(s) pursuant to the Stipulated Judgment establishing the Beaumont Basin Watermaster (Riverside Superior Court Case No. 389197), shall be ~~immediate~~ cause for suspending the rescinding SGPWA's Groundwater Storage account by a majority action of the Beaumont Basin Watermaster Committee.

**WHEREAS**, the Beaumont Basin Watermaster met on February 1, 2017 to take this matter up, finding that the foregoing is true and accurate, and

**NOW, THEREFORE, BE IT RESOLVED BY THE BEAUMONT BASIN WATERMASTER** that it does hereby accept SGPWA's Groundwater Storage Application and does hereby grant SGPWA a water storage account pursuant to SGPWA's Groundwater Storage Application, subject to the conditions set forth in this Resolution, and subject to the Judgment establishing the Beaumont Basin Watermaster (Riverside Superior Court Case No. 389197), its rules and regulations for the Beaumont Basin – to include groundwater storage in the Beaumont Basin by Non-Appropriators – a classification applying to SGPWA.

**PASSED AND ADOPTED** this 1st day of February, 2017.

BEAUMONT BASIN WATERMASTER

By: \_\_\_\_\_  
Art Vella, Chairman of the  
Beaumont Basin Watermaster

# BEAUMONT BASIN WATERMASTER

## MEMORANDUM NO. 17-04

**Date:** February 1, 2017

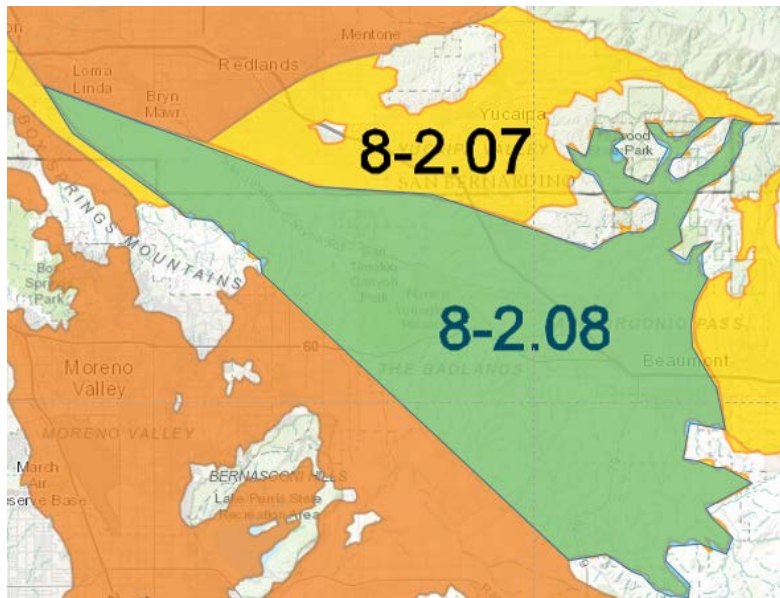
**From:** Joseph Zoba, Treasurer

**Subject:** Review and Discussion of the Conceptual Framework for the Formation of a Groundwater Sustainability Agency for the San Timoteo Basin 8-2.08

**Recommendation:** That the Watermaster Committee request to identified as a stakeholder within the San Timoteo Basin Memorandum of Agreement for the Sustainability Groundwater Management Act.

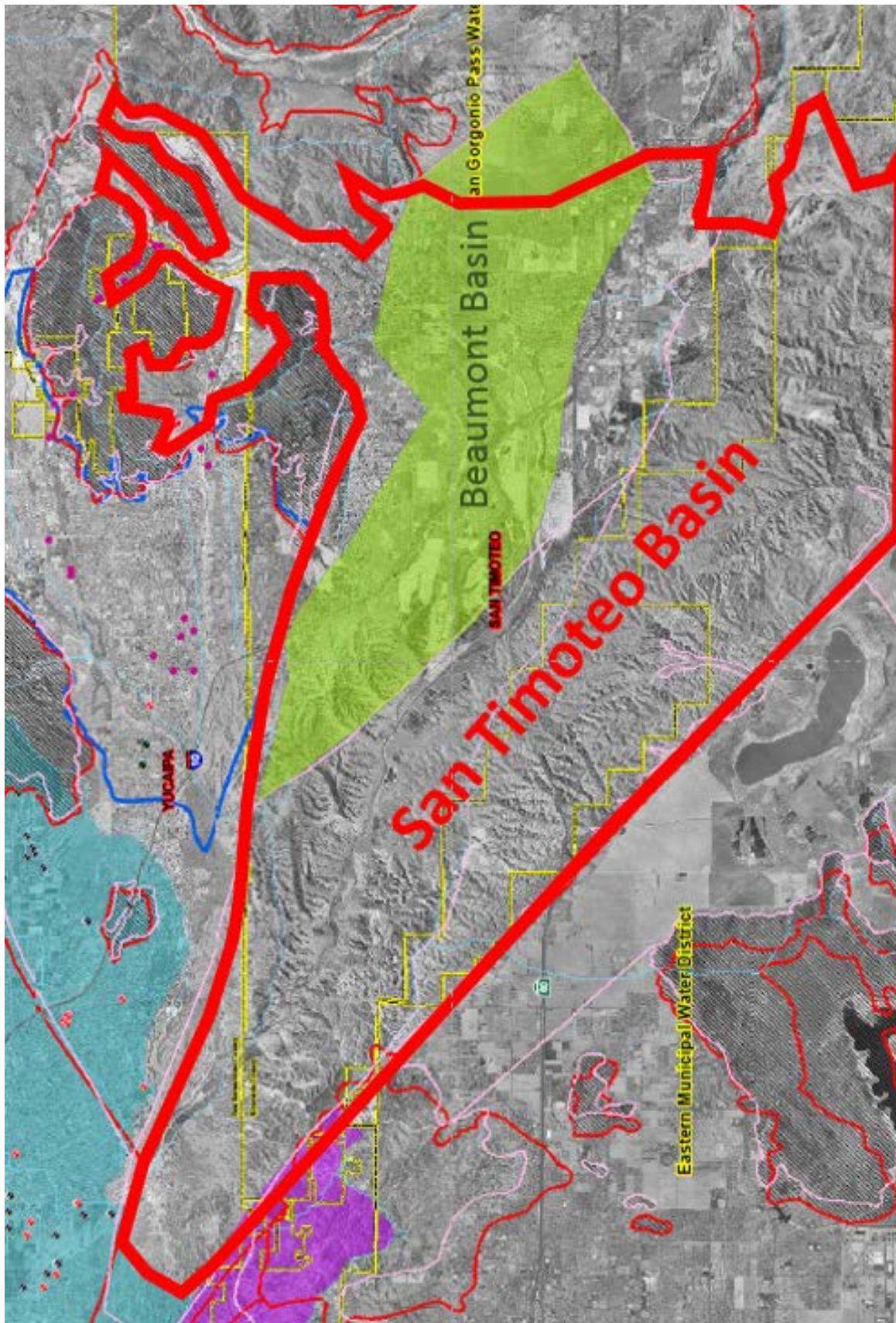
The Sustainable Groundwater Management Act (SGMA) established a new structure for managing California's groundwater resources at a local level by local agencies. SGMA requires the formation of locally-controlled groundwater sustainability agencies (GSAs) in the State's high- and medium-priority groundwater basins and subbasins (basins). A GSA is responsible for developing and implementing a groundwater sustainability plan to meet the sustainability goal of the basin to ensure that it is operated within its sustainable yield, without causing undesirable results.

Since the Beaumont Basin is adjudicated, the management of the Beaumont subbasin significantly contributes to the overall sustainability of the San Timoteo Basin.. However, the remaining portion of the San Timoteo Basin (8-2.08) resides within the boundary of the Beaumont Cherry Valley Water District, the Yucaipa Valley Water District, Eastern Municipal Water District, the City of Redlands, and the San Geronio Pass Water Agency.



The purpose of this agenda item is to discuss the concept regarding the formation of a groundwater sustainability agency to manage the groundwater supplies beyond the boundary of the Beaumont Basin Watermaster in the remaining portion of the San Timoteo Basin.





January 29, 2017

**MEMORANDUM OF AGREEMENT TO FORM A GROUNDWATER SUSTAINABILITY  
AGENCY FOR A PORTION OF THE SAN TIMOTEO SUBBASIN AND TO COORDINATE  
WITH OTHER GROUNDWATER SUSTAINABILITY AGENCIES**

This 2017 Memorandum of Agreement (MOA) is entered into by and among Beaumont Cherry Valley Water District (BCVWD), Yucaipa Valley Water District (YVWD), City of Redlands (City), San Geronimo Pass Water Agency (SGPWA), and Eastern Municipal Water District (EMWD), which may be referred to herein individually as a “Party” and collectively as the “Parties.”

Pursuant to the Sustainable Groundwater Management Act (SGMA) and as further set forth herein, the purposes of this MOA are to form a Groundwater Sustainability Agency (GSA) for a portion of the San Timoteo Subbasin (Basin), the members of which GSA shall be BCVWD, YVWD, City, SGPWA, EMWD, and County (herein, the ST-GSA), and to establish that the ST-GSA will coordinate and cooperate with other GSAs that may already exist and/or may be formed in the Basin.

**WHEREAS**, on September 16, 2014, Governor Jerry Brown signed into law Senate Bills 1168 and 1319, and Assembly Bill 1739, collectively known as the Sustainable Groundwater Management Act (SGMA), codified in certain provisions of the California Government Code, commencing with Section 65350.5, and in Part 2.74 of Division 6 of the California Water Code, commencing with Section 10720; and

**WHEREAS**, SGMA went into effect on January 1, 2015; and

**WHEREAS**, various clarifying amendments to SGMA were signed into law in 2015, including Senate Bills 13 and 226, and Assembly Bills 617 and 939, allowing, among other things, mutual water companies and water corporations regulated by the Public Utilities Commission to participate in a GSA through a memorandum of agreement or other legal agreement; and

**WHEREAS**, SGMA includes several uncodified findings by the California Legislature, including the determination that the people of the state have a primary interest in the protection, management, and reasonable beneficial use of the water resources of the state, both surface and underground, and that the integrated management of the state’s water resources is essential to meeting its water management goals; and

**WHEREAS**, the San Timoteo Subbasin (Basin), as further depicted in **Exhibit A** to this MOA, is identified by the California Department of Water Resources (DWR) Bulletin 118 as Subbasin No. 8-02.08 of the Upper Santa Ana Valley Groundwater Basin, and is designated by DWR as medium priority, and therefore, except as provided by SGMA, the Basin is subject to the requirements of SGMA; and

**WHEREAS**, the Parties recognize and agree that a portion of the Basin is subject to the Beaumont Basin adjudication and Judgment in the case referred to as *San Timoteo Watershed Management Authority v. City of Banning, et al.*, Riverside County Superior Court Case No. RIC 389197, and that pursuant to SGMA Section 10720.8(a)(1), said portion of the Basin generally is not subject to the requirements of SGMA; and



**WHEREAS**, SGMA Section 10720.7 requires the Basin, as a medium priority basin which is not designated by DWR as being subject to critical conditions of overdraft, to be managed by a Groundwater Sustainability Plan (GSP) or coordinated GSPs by January 31, 2022; and

**WHEREAS**, SGMA Section 10727(b) authorizes (1) a single GSP covering the entire Basin developed and implemented by one GSA, (2) a single GSP covering the entire Basin developed and implemented by multiple GSAs, or (3) multiple GSPs developed and implemented by multiple GSAs and coordinated pursuant to a single coordination agreement that covers the entire Basin; and

**WHEREAS**, SGMA Section 10735.2 requires the formation of a GSA or multiple GSAs for the Basin, or the approval or pending approval by DWR of an alternative plan for the Basin pursuant to SGMA Section 10733.6, by June 30, 2017; and

**WHEREAS**, SGMA Section 10723.6(a) authorizes a combination of local agencies to form a GSA pursuant to a joint powers agreement, a memorandum of agreement, or other legal agreement, and SGMA Section 10723.6(b) authorizes a water corporation regulated by the Public Utilities Commission or a mutual water company to participate in a GSA through a memorandum of agreement or other legal agreement; and

**WHEREAS**, for purposes of forming the ST-GSA, as further depicted in **Exhibit B** to this MOA, BCVWD, YVWD, City, SGPWA, and EMWD, are local agencies as defined by SGMA, wherein each overlies at least a portion of the Basin and each has respective water supply, water management, and/or land use responsibilities within the Basin, and thus each is authorized by SGMA to become part of the ST-GSA; and

**WHEREAS**, in accordance with the terms of this MOA, and in furtherance of the shared intent of the Parties to maximize funding opportunities for the Basin and avoid potential intervention in the Basin by the State Water Resources Control Board, the Parties agree that the ST-GSA formed by this MOA will cover the entire Basin except (A) \_\_\_\_\_; and

**WHEREAS**, the Parties mutually desire and intend to work with local stakeholders and interested entities in the Basin that are not Parties to this MOA, including but not limited to the City of Beaumont (Beaumont), the City of Calimesa (Calimesa) the County of Riverside Planning Department, The County of San Bernardino Flood Control District, the San Bernardino Valley Municipal Water District, the Beaumont Basin Watermaster, overlying landowners, and others, and as further specified in this MOA, to carry out the policy, purposes, and requirements of SGMA in the Basin.

**NOW, THEREFORE**, in consideration of the promises, terms, conditions, and covenants contained herein, it is mutually understood and agreed as follows:

**I. Incorporation of Recitals**

The Recitals stated above are incorporated herein by reference.

**II. Purposes**

The purposes of this MOA are as follows:

- A. To form the ST-GSA for a portion of the Basin as specified herein pursuant to applicable provisions and requirements of SGMA, including but not limited to SGMA Sections 10723 and 10723.6.

### III. Approval of MOA and Formation of the ST-GSA

Approval of this MOA and formation of the ST-GSA shall be accomplished as follows:

- A. BCVWD, YVWD, City, EMWD, and SGPWA each will hold its own noticed public hearing pursuant to SGMA Section 10723(b) and Government Code Section 6066 and at such hearing will consider approval of a Resolution by its governing board to enter this MOA and jointly form the ST-GSA as specified in this MOA;

### IV. Definitions

The following terms, whether used in the singular or plural, and when used with initial capitalization, shall have the meanings specified herein. The Parties agree that any definitions set forth herein are intended to be consistent with SGMA, and in the event of any discrepancy between a defined term in this MOA and a defined term in SGMA, the terms of SGMA shall control.

- A. **Basin** refers to the San Timoteo Subbasin, designated by the California Department of Water Resources Bulletin 118 as Subbasin No. 8-02.08, as further specified and depicted in **Exhibit A** to this MOA.
- B. **BCVWD** means the Beaumont Cherry Valley Water District
- C. **YVWD** means the Yucaipa Valley Water District
- D. **EMWD** means the Eastern Municipal Water District
- E. **SGPWA** means the San Geronio Pass Water Agency
- F. **City** means the City of Redlands
- G. **DWR** means the California Department of Water Resources.
- H. **GSA** means Groundwater Sustainability Agency, as defined by SGMA.
- I. **GSP** means Groundwater Sustainability Plan, as defined by SGMA.
- J. **Memorandum of Agreement** or **MOA** refers to this Memorandum of Agreement
- K. **Party** or **Parties** refers individually or collectively to Beaumont Cherry Valley Water District, Yucaipa Valley Water District, Eastern Municipal Water District, San Geronio Pass Water Agency, and City of Redlands, as signatories to this MOA.
- L. **SGMA** refers to the Sustainable Groundwater Management Act.

- 3 -

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M. **ST-GSA** refers to the San Timoteo Subbasin GSA formed under this MOA, the members of which GSA are BCVWD, YVWD, EMWD, City, and SGPWA.

N. **SGPWA** means the San Gorgonio Pass Water Agency.

**V. Boundaries of GSAs**

- A. The boundaries of the ST-GSA shall be the entire Basin except (A) that portion of the Basin covered by the \_\_\_\_\_, as further specified and depicted in **Exhibit B** to this MOA.
- B. The Parties understand and agree that pursuant to SGMA Section 10720.8, the portion of the Basin which is subject to the Beaumont Basin adjudication and Judgment in the case referred to as *San Timoteo Watershed Management Authority v. City of Banning, et al.*, Riverside County Superior Court Case No. RIC 389197, generally is not subject to the requirements of SGMA.

**VI. Coordination and Cooperation**

- A. Continued Cooperation. The Parties to this MOA will continue to meet, confer, coordinate, and collaborate to discuss and develop technical, managerial, financial, and other criteria and procedures for the preparation, governance, and implementation of a GSP or coordinated GSPs in the Basin and to carry out the policy, purposes, and requirements of SGMA in the Basin.
- B. Points of Contact. Each Party shall designate a principal contact person for that Party, who may be changed from time to time at the sole discretion of the designating Party. The principal contact person for each Party shall be responsible for coordinating with the principal contact persons for the other Parties in scheduling meetings and other activities under this MOA.
- C. Management Areas. The Parties acknowledge that SGMA, and provisions of the SGMA regulations promulgated by DWR, including but not limited to Section 354.20 (23 C.C.R. § 354.20), authorize the establishment of management areas for the development and implementation of sustainable groundwater management within the Basin, and accordingly the Parties acknowledge and agree that the establishment of management areas within the Basin is a governance alternative that the Parties may explore.

**VII. Roles and Responsibilities**

- A. The Parties agree to jointly establish their roles and responsibilities for implementing a GSP or coordinated GSPs for the Basin in accordance with SGMA.

- B. The Parties agree to work in good faith and coordinate all activities to carry out the purposes of this MOA in implementing the policy, purposes, and requirements of SGMA in the Basin.
- C. BCVWD, YVWD, EMWD, SGPWA, and City, as members of the ST-GSA, shall coordinate with each other to cause all applicable noticing and submission of required information to DWR regarding formation of the ST-GSA.
- D. SGPWA shall continue to undertake ongoing CASGEM reporting activities in the Basin as provided by terms outside of this MOA.
- E. As provided in this MOA, the Parties will continue to meet, confer, coordinate, and collaborate to discuss and develop governance, management, technical, financial, and other matters, including respective roles and responsibilities for activities such as, but not limited to, the following:
  - i. Modeling;
  - ii. Metering;
  - iii. Monitoring;
  - iv. Hiring consultants;
  - v. Developing and maintaining list of interested persons under SGMA Section 10723.4;
  - vi. Budgeting; and
  - vii. Other initial tasks as determined by the Parties.

#### **VIII. Funding and Budgeting**

The Parties agree to cooperate and coordinate in pursuing state and/or federal grant and loan funding opportunities that may apply to carrying out SGMA in the Basin. The Parties shall mutually develop reasonable budgets and cost sharing agreements or arrangements for work to be undertaken in carrying out SGMA in the Basin.

#### **IX. Stakeholder Access**

- A. The Parties agree to work together in ensuring public outreach and involvement of the public and other interested stakeholders throughout the SGMA process, including but not limited to all beneficial uses and users of groundwater as provided in SGMA Section 10723.2.
- B. The Parties acknowledge, agree, and desire that the preparation, adoption, and implementation of one or more GSPs for the Basin, and the ongoing process of ensuring compliance with the requirements of SGMA in the Basin, will involve close coordination and cooperation with stakeholders and other interested parties, including but not limited to the parties identified above.

#### **X. Term, Termination, and Withdrawal**



- A. Term. This MOA shall continue and remain in effect unless and until terminated by the unanimous written consent of the Parties, or as otherwise provided in this MOA or as authorized by law.
- B. Withdrawal. Any Party may decide, in its sole discretion, to withdraw from this MOA by providing ninety (90) days written notice to the other Parties. A Party that withdraws from this MOA shall remain obligated to pay its share of costs and expenses incurred or accrued under this MOA and any related cost sharing agreement or arrangement up to the date the Party provides its notice of withdrawal as provided herein. Withdrawal by a Party shall not cause or require the termination of this MOA or the existence of the ST-GSA with respect to the non-withdrawing Parties.
1. In the event of withdrawal by BCVWD, YVWD, EMWD, SGPWA, or City from this MOA and the ST-GSA, said five local agency parties shall meet and confer regarding whether the withdrawing local agency party wishes to seek GSA status for a portion of the Basin underlying the service area or management area of the withdrawing party. Said five local agency parties also shall meet and confer regarding: (i) whether the ST-GSA, or one or both of the non-withdrawing local agency parties, wishes to retain GSA status over the affected portion of the Basin; (ii) whether to enter a co-GSA management or other arrangement with the withdrawing party; or (iii) whether to address the GSA issues in a different manner. Any resolution of such and other GSA issues shall be undertaken in a manner that satisfies all requirements of SGMA and DWR, including any requirement to file new GSA notices.

## **XI. Notice Provisions**

All notices required by this MOA shall be made in writing and delivered to the respective representatives of the Parties at their respective addresses as follows:

Beaumont Cherry Valley Water District

Yucaipa Valley Water District

Eastern Municipal Water District

San Geronio Pass Water Agency

City of Redlands

Any Party may change the address to which notices are to be given under this MOA by providing the other Parties with written notice of such change at least fifteen (15) calendar days prior to the effective date of the change. All notices shall be effective upon receipt and shall be deemed received upon confirmed personal service, confirmed facsimile delivery, confirmed courier service, or on the fifth (5<sup>th</sup>) calendar day following deposit of the notice in registered first class mail.

## **XII. General Terms**

- A. Amendments. Amendments to this MOA require unanimous written consent of all Parties and approval by the Parties' respective governing boards; provided, however, that amendments to this MOA pertaining to the SGP-GSA only require unanimous written consent and board approval of the members of the SGP-GSA.
- B. Successors and Assigns. The terms of this MOA shall be binding upon all successors in interest and assigns of each Party; provided, however, that no Party shall assign its rights or obligations under this MOA without the signed written consent of all other Parties to this MOA.
- C. Waiver. No waiver of any provision of this MOA by any Party shall be construed as a further or continuing waiver of such provision or any other provision of this MOA by the waiving Party or any other Party.
- D. Authorized Representatives. Each person executing this MOA on behalf of a Party hereto affirmatively represents that such person has the requisite authority to sign this MOA on behalf of the respective Party.
- E. Exemption from CEQA. The Parties recognize and agree that, pursuant to SGMA Section 10728.6, neither this MOA nor the preparation or adoption of a GSP constitute a "project" or approval of a project under the California Environmental Quality Act (CEQA) or the State CEQA Guidelines, and therefore this MOA is expressly exempt from CEQA review.
- F. Governing Law and Venue. This MOA shall be governed by and construed in accordance with the laws of the State of California. Any suit, action, or proceeding brought under the scope of this MOA shall be brought and maintained to the extent allowed by law in the County of Riverside, California.
- G. Attorney's Fees, Costs, and Expenses. In the event of a dispute among any or all of the Parties arising under this MOA, each Party shall assume and be responsible for its own attorney's fees, costs, and expenses.
- H. Entire Agreement/Integration. This MOA constitutes the entire agreement among the Parties regarding the specific provisions of this MOA, and the Parties hereto have made no agreements, representations or warranties relating to the specific provisions of this MOA which are not set forth herein.
- I. Construction and Interpretation. The Parties agree and acknowledge that this MOA has been developed through a negotiated process among the Parties, and that each Party has had a full and fair opportunity to review the terms of this MOA with the advice of its own legal counsel and to revise the terms of this MOA, such that each Party constitutes a drafting Party to this MOA. Consequently, the Parties understand and agree that no rule of construction shall be applied to resolve any ambiguities against any particular Party as the drafting Party in construing or interpreting this MOA.
- J. Force Majeure. No Party shall be liable for the consequences of any unforeseeable force majeure event that (1) is beyond its reasonable control, (2) is not caused by the fault or negligence of such Party, (3) causes such Party to be unable to perform its

obligations under this MOA, and (4) cannot be overcome by the exercise of due diligence. In the event of the occurrence of a force majeure event, the Party unable to perform shall promptly notify the other Parties in writing to the extent practicable. It shall further pursue its best efforts to resume its obligations under this MOA as quickly as possible and shall suspend performance only for such period of time as is necessary as a result of the force majeure event.

- K. Execution in Counterparts. This MOA may be executed in counterparts, each of which shall be deemed an original and all of which when taken together shall constitute one and the same instrument.
- L. No Third Party Beneficiaries. This MOA is not intended, and will not be construed, to confer a benefit or create any right on a third party or the power or right of any third party to bring an action to enforce any of the terms of this MOA.
- M. Timing and Captions. Any provision of this MOA referencing a time, number of days, or period for performance shall be measured in calendar days. The captions of the various articles, sections, and paragraphs of this MOA are for convenience and ease of reference only, and do not define, limit, augment, or describe the scope, content, terms, or intent of this MOA.

IN WITNESS WHEREOF, the Parties hereto have approved and executed this MOA as of the respective dates specified in the adopting Resolution of each Party as provided above in Article III of this MOA.

BEAUMONT CHERRY VALLEY  
WATER DISTRICT

By: \_\_\_\_\_

EASTERN MUNICIPAL WATER DISTRICT

By: \_\_\_\_\_

CITY OF REDLANDS

By: \_\_\_\_\_

SAN GORGONIO PASS WATER AGENCY

By: \_\_\_\_\_

- 8 -

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YUCAIPA VALLEY WATER DISTRICT

By: \_\_\_\_\_

DRAFT

# BEAUMONT BASIN WATERMASTER

## MEMORANDUM NO. 17-05

**Date:** February 1, 2017

**From:** Joseph Zoba, Treasurer

**Subject:** Approval of a Contract Amendment for Engineering Services with ALDA Inc.

**Recommendation:** That the Watermaster Committee directs legal counsel to prepare a contract amendment extending the contract with ALDA Inc. through December 31, 2021.

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The initial contract between the Beaumont Basin Watermaster and ALDA Inc. was signed on May 10<sup>th</sup>, 2012. The contract (attached) was for a four-year period ending on June 30<sup>th</sup>, 2016.

It is recommended that the existing contract be amended to extend the consulting services provided by ALDA Inc. for a five-year period ending on December 31<sup>st</sup>, 2021 with updated billing rates to be maintained for the duration of the contract amendment.

### AGREEMENT FOR SERVICES BY INDEPENDENT CONSULTANT

THIS AGREEMENT is made and effective as of the 16th day of April, 2012, by and between the BEAUMONT BASIN WATERMASTER ("OWNER") whose address is 560 Magnolia Avenue, Beaumont, California 92223 and ALDA INC. ("CONSULTANT") whose address is 5928 Vineyard Avenue, Alta Loma, California 91701; telephone: (909-587-9916; fax: (909-498-0423 ; Federal Tax Identification. No. \_\_\_\_\_.

### RECITALS

This Agreement is entered into on the basis of the following facts, understandings and intentions of the parties to this Agreement:

A. OWNER desires to engage the services of CONSULTANT to perform such professional services, as may be assigned from time to time, by OWNER in writing for the purpose of monitoring, recording, and documenting compliance with the Judgment Pursuant to Stipulation Adjudicating Groundwater Rights in the Beaumont Basin, dated February 4, 2004.

B. The services to be performed by CONSULTANT shall be specifically described in one or more written Task Orders issued by OWNER to CONSULTANT pursuant to this Agreement.

C. CONSULTANT agrees to provide such services pursuant to, and in accordance with, the terms and conditions of this Agreement, and has represented and warrants to OWNER that CONSULTANT possesses the necessary skills, qualifications, personnel and equipment to provide such services.

### AGREEMENT

NOW, THEREFORE, in consideration of the foregoing Recitals and mutual covenants contained herein, OWNER and CONSULTANT agree as follows:

1. Term of Agreement. This Agreement is effective as of the date first above written and shall continue until June 30, 2016, unless extended or sooner terminated as provided for herein.

2. Services to be Performed by CONSULTANT. CONSULTANT agrees to provide such services as may be assigned, from time to time, in writing by the Watermaster Committee. Each such assignment shall be made in the form of a written Task Order. Each such Task Order shall include, but shall not be limited to, a description of the nature and scope of the services to be performed by CONSULTANT, the amount of compensation to be paid, and the expected time of completion.

3. Subconsultants. CONSULTANT may, at CONSULTANT's sole cost and expense, employ such competent and qualified independent subconsultants as CONSULTANT deems necessary to perform each such assignment; provided, however, that CONSULTANT shall not subcontract any of the work to be performed without the prior written consent of OWNER. The cost of such independent subconsultants shall be included in the not-to-exceed

amount of the applicable Task Order, and shall not constitute an additional cost above and beyond the not-to-exceed amount. CONSULTANT shall not charge any mark-up for such costs.

4. Compensation.

4.01 In consideration for the services to be performed by CONSULTANT, OWNER agrees to pay CONSULTANT as provided for in each Task Order.

4.02 Each Task Order shall specify a total not-to-exceed amount and shall be based upon CONSULTANT's schedule of regular hourly rates customarily charged by CONSULTANT to its public agency clients.

4.03 OWNER will not reimburse CONSULTANT for any expenses incurred by CONSULTANT in the performance of services for OWNER.

4.04 CONSULTANT shall not be compensated for any services rendered in excess of those authorized in any Task Order unless approved in advance by the OWNER, in writing.

4.05 Unless otherwise provided for in any Task Order issued pursuant to this Agreement, CONSULTANT agrees that payment of compensation earned will be made in monthly installments within 30 business days after receipt of a written invoice describing in reasonable detail the services performed, the time spent performing such services, the hourly rate charged therefor, the identity of individuals performing such services for the benefit of OWNER, and materials consumed or used. CONSULTANT's invoice shall include all work performed and labor charges incurred as of the date(s) identified in the invoice. OWNER may withhold payment(s) associated with any Deliverables until such time as such Deliverables have been received by the OWNER. OWNER may also withhold payment for any invoice disputed by OWNER unless and until such dispute has been resolved, and OWNER will endeavor to notify CONSULTANT of any such dispute(s) within a reasonable time.

5. Obligations of CONSULTANT.

5.01 CONSULTANT agrees to perform all assigned services in accordance with the terms and conditions of this Agreement and those specified in each Task Order. CONSULTANT hereby specifically represents and warrants to OWNER that the services to be rendered pursuant to this Agreement shall be performed in accordance with the standards customarily applicable to an experienced and competent professional rendering the same or similar services.

5.02 Except as otherwise provided for in each Task Order, CONSULTANT will supply all personnel, materials and equipment required to perform the assigned services.

5.03 CONSULTANT shall keep OWNER informed as to the progress of the work assigned hereunder, by means of regular and frequent consultations. From time-to-time, when requested by the OWNER, CONSULTANT shall prepare written status reports.



5.04 CONSULTANT hereby agrees to be solely responsible for the health and safety of its employees, subconsultants and agents in performing the services assigned by OWNER. CONSULTANT also hereby covenants and agrees to:

a. Provide Comprehensive General Liability insurance policy on Insurance Service Office ISO-CG 2010 or equivalent in an amount of not less than \$1,000,000 per occurrence. Such insurance may be provided by a combination of primary and excess liability insurance policies;

b. Provide Automobile Liability Insurance coverage for any automobile owned, rented, leased or borrowed. This insurance shall have a standard cross liability clause and endorsement in the amount of \$1,000,000 combined single limit per accident for bodily injury and property damage naming OWNER as an additional insured. Such insurance may be provided by a combination of primary and excess liability insurance policies;

c. Provide Worker's Compensation Insurance for CONSULTANT's employees and agents as required by the Labor Code of the State of California and Employers Liability Insurance in the amount of, at least, \$1,000,000 per accident, for bodily injury and disease;

d. Obtain a policy of errors and omissions insurance in a minimum amount of \$1,000,000 per occurrence to cover any errors or omissions committed by CONSULTANT, its employees, subconsultants and agents in the performance of any services for OWNER. Such insurance may be provided by a combination of primary and excess policies;

e. Comply with all applicable local, state and federal laws, rules and regulations regarding, by way of example and not by limitation, nondiscrimination and payment of wages;

5.05 CONSULTANT waives all rights of subrogation against OWNER. Evidence of all insurance coverage shall be provided to OWNER prior to issuance of the first Task Order. Such policies shall be issued by a highly rated insurer (Best's Ins. rating of "A:VII" or better) licensed and admitted to do business in California, and shall provide that they shall not be cancelled or amended without 30 days' prior written notice to OWNER. Self-insurance does not comply with these insurance specifications. CONSULTANT acknowledges and agrees that all such insurance is in addition to CONSULTANT's obligation to fully indemnify and hold OWNER completely free and harmless from and against any and all claims arising out of any, loss, injury or damage to property or persons caused by the negligence, recklessness or willful misconduct of CONSULTANT in performing services under this Agreement.

5.06 CONSULTANT and OWNER agree that OWNER, its employees, agents and officials should, to the extent permitted by law, be fully protected from any loss, injury, damage, claim, lawsuit, cost, expense, attorneys' fees, litigation costs, defense costs, court costs or any other costs arising out of or in any way related to CONSULTANT's negligence, recklessness or willful misconduct in the performance of this Agreement. Accordingly, the provisions of this indemnity are intended by the parties to be interpreted and construed to provide the fullest protection possible under the law to OWNER. CONSULTANT acknowledges that OWNER would not enter into this



Agreement in the absence of the commitment of CONSULTANT to indemnify and protect OWNER as set forth here.

5.06.1 To the full extent permitted by law, CONSULTANT shall defend, indemnify and hold harmless OWNER, its employees, agents and officials, from any liability, claims, suits, actions, arbitration proceedings, administrative proceedings, regulatory proceedings, losses, expenses or costs of any kind, whether actual, alleged or threatened, including actual attorneys' fees incurred by owner, court costs, interest, defense costs, expert witness fees and any other costs or expenses of any kind whatsoever without restriction or limitation incurred in relation to, as a consequence of or arising out of or in any way attributable to the CONSULTANT's negligence, recklessness or willful misconduct in the performance of this Agreement. All obligations under this provision are to be paid by CONSULTANT as they are incurred by OWNER.

5.06.2 Without affecting the rights of OWNER under any provision of this Agreement or this Section, CONSULTANT shall not be required to indemnify and hold harmless OWNER as set forth above for liability attributable to the negligence of OWNER.

5.07 In the event that OWNER requests that specific employees or agents of CONSULTANT supervise or otherwise perform the services specified in each Task Order, CONSULTANT shall ensure that such individual (or individuals) shall be appointed and assigned the responsibility of performing the services.

5.08 The preparation of documents, tables, files, presentations, reports or any other work product ("Deliverables") shall be delivered to OWNER in complete, final and native form such that they can be used by OWNER without further preparation, modification, expansion or enhancement using commercially available software programs, and current release versions without third party proprietary alteration or CONSULTANT's modifications, acceptable to the OWNER. Acceptable programs include AutoCad, Excel, Word, PowerPoint and Access. CONSULTANT shall be responsible for any and all additional costs and expenses that the OWNER may incur in the event that such further preparation, modification, expansion or enhancement of such Deliverables is reasonably deemed necessary by the OWNER. Further, as provided in Section 4.05, OWNER may withhold payment(s) associated with any Deliverables until such time as such Deliverables have been received by the OWNER.

5.09 CONSULTANT shall be solely responsible for obtaining all permits, licenses and approvals necessary or applicable to the performance of services under this Agreement, unless otherwise expressly provided for in any Task Order issued pursuant to this Agreement. In the event OWNER is required to obtain an approval or permit from another governmental entity, CONSULTANT shall provide all necessary supporting documents to be filed with such entity.

## 6. Obligations of Owner.

6.01 OWNER shall do the following in a manner so as not to unreasonably hinder the performance of services by CONSULTANT:

- a. Provide information, requirements and criteria regarding OWNER's project;
- b. Furnish all existing studies, reports and other available data and items pertinent to each Task Order that are in OWNER's possession;
- c. Designate a person to act as a liaison between CONSULTANT and the OWNER for each Task Order.

7. Additional Services, Changes and Deletions.

7.01 During the term of this Agreement, the OWNER may, from time to time, and without affecting the validity of this Agreement or any Task Order issued hereunder, order changes, deletions and additional services by the issuance of written change orders authorized and approved by the OWNER.

7.02 In the event CONSULTANT performs additional or different services than those described in any Task Order or authorized change order without the prior written approval of the OWNER, CONSULTANT shall not be compensated for such services.

7.03 CONSULTANT shall promptly advise OWNER as soon as reasonably practicable upon gaining knowledge of a condition, event or accumulation of events, which may affect the scope, and/or cost of services to be provided pursuant to this Agreement. All proposed changes, modifications, deletions and/or requests for additional services shall be reduced to writing for review and approval by the OWNER.

7.04 In the event that OWNER orders services deleted or reduced, compensation shall likewise be deleted or reduced by a fair and reasonable amount and CONSULTANT shall only be compensated for services actually performed.

8. Termination of Agreement.

8.01 In the event the time specified for completion of an assigned task in a Task Order exceeds the term of this Agreement, the term of this Agreement shall be automatically extended for such additional time as is necessary to complete such Task Order, and thereupon this Agreement shall automatically terminate without further notice.

8.02 Notwithstanding any other provision of this Agreement, OWNER, at its sole option, may terminate this Agreement at any time by giving 30 days' written notice to CONSULTANT, whether or not a Task Order has been issued to CONSULTANT.

8.03 In the event of termination, the payment of monies due CONSULTANT for work performed prior to the effective date of such termination will be paid within approximately 30 business days after receipt of an invoice as provided in this Agreement. Upon payment for such services, CONSULTANT agrees to promptly provide and deliver to OWNER all original documents, reports, studies, plans, specifications, including any Deliverables, which are in the possession or control of CONSULTANT and pertain to the services performed by CONSULTANT for OWNER.

9. Status of CONSULTANT. CONSULTANT shall perform the services assigned by OWNER in CONSULTANT's own way as an independent contractor, and in pursuit of CONSULTANT's independent calling, and not as an employee or agent of OWNER. CONSULTANT shall be under the control of OWNER only as to the result to be accomplished and the personnel assigned to perform services. However, CONSULTANT shall regularly confer with OWNER's General Manager and Board of Directors as provided for in this Agreement.

10. Audit; Ownership of Documents.

10.01 All draft and final reports, plans, drawings, studies, maps, photographs, specifications, data, notes, manuals, warranties, including electronic and computer data and disks in native format, and all other documents of any kind or nature prepared, developed or obtained by CONSULTANT in connection with the performance of services assigned to it by OWNER shall become the sole property of OWNER, and CONSULTANT shall promptly deliver all such materials to OWNER. At the OWNER's sole discretion, CONSULTANT may be permitted to retain original documents, and furnish reproductions.

10.02 CONSULTANT shall retain and maintain, for a period not less than five years following termination of this Agreement, all time records, accounting records and vouchers and all other records with respect to all matters concerning services performed, compensation paid and expenses reimbursed. At any time during normal business hours and as often as OWNER may deem necessary, CONSULTANT shall make available to OWNER's agents for examination all of such records and shall permit OWNER's agents to audit, examine and reproduce such records.

11. Miscellaneous Provisions.

11.01 This Agreement supersedes any and all previous agreements, either oral or written, between the parties hereto with respect to the rendering of services by CONSULTANT for OWNER and contains all of the covenants and agreements between the parties with respect to the rendering of such services in any manner whatsoever. Any modification of this Agreement will be effective only if it is in writing signed by both parties. CONSULTANT represents and warrants that the individual signing this Agreement on behalf of CONSULTANT has the full authority to bind CONSULTANT to this Agreement.

11.02 CONSULTANT shall not assign or otherwise transfer any rights or interest in this Agreement without the prior written consent of OWNER. Unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under this Agreement.

11.03 CONSULTANT shall comply with all applicable local, state and federal laws, rules, regulations, entitlements and/or permits applicable to, or governing the services authorized hereunder.

11.04 If required by law, CONSULTANT shall file Conflict of Interest Statements with OWNER.

11.05 Any dispute which may arise by and between the OWNER and the CONSULTANT, including the CONSULTANT's subconsultants, laborers, and suppliers, shall be submitted to binding arbitration. Arbitration shall be conducted by the Judicial Arbitration and Mediation Services, Inc., or such other arbitration service that the parties agree to in writing. The arbitrators must decide each and every dispute in accordance with the laws of the State of California, and all other applicable laws. Unless the parties stipulate to the contrary in writing, prior to the appointment of the arbitrator all disputes shall first be submitted to non-binding mediation, conducted by the Judicial Arbitration and Mediation Services, Inc., or such other mediation service that the parties agree to in writing.

11.06 In performance of the services under this Agreement, it is understood that CONSULTANT may be supplied with certain information and/or data by OWNER and/or others, and that CONSULTANT will rely on such information. It is agreed that the accuracy of such information is not within the CONSULTANT's control, but CONSULTANT shall use all reasonable efforts to verify the accuracy of such information, and shall notify OWNER of any concerns or discrepancies that CONSULTANT discovers immediately upon such discovery. Failure to notify OWNER immediately of any such concerns or discrepancies upon discovery of same shall be deemed an acknowledgment by the CONSULTANT that such information is accurate and reliable.

11.08 Each party to this Agreement warrants that the individuals who have signed this Agreement have the legal power, right and authority to execute this Agreement and bind each respective party, and that each party has obtained all appropriate approvals from their respective governing boards and/or officers.

IN WITNESS WHEREOF, the parties hereby have made and executed this Agreement as of the day and year first above-written.

OWNER:

CONSULTANT:

BEAUMONT BASIN WATERMASTER

ALDA, INC.

By \_\_\_\_\_  
Duane Burk, Chairmant

By \_\_\_\_\_  
F. Anibal Blandon, P.E., Principal

# Beaumont Basin Watermaster

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

### TASK ORDER NO. 1

Project Title: Professional Engineering Services

Task Order Authorization Date: May 16, 2012

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	\$68,860	Watermaster Memorandum No. 12-06

This TASK ORDER No. 1 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 Request for Proposals to Provide Professional Services for the Beaumont Basin Watermaster distributed in March 2012 and the proposal to Provide Professional Engineering Services by the CONTRACTOR dated April 16, 2012 (attached).

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.

IN WITNESS WHEREOF, the parties have executed this Task Order No. 14 on the date indicated below.

**Beaumont Basin Watermaster**

**Alda, Inc.**

By: \_\_\_\_\_

By: \_\_\_\_\_

Dated: May 16, 2012

Dated: \_\_\_\_\_

Name: Duane Burk, Chairman

Name: \_\_\_\_\_

# ALDA Inc.

5928 Vineyard Avenue  
Alta Loma, CA 91701  
Tel: (909) 587-9916  
Fax: (909) 498-0423

May 10, 2012

Joseph B. Zoba, General Manager  
Yucaipa Valley Water District  
12770 Second Street  
Yucaipa, California 92399

Subject: **Beaumont Basin Watermaster – Task Order No. 1**

Dear Mr. Zoba:

Per our conversation earlier today, please find attached our proposed scope of services and consulting fee for Task Order No. 1 under the Engineering Services contract with the Beaumont Basin Watermaster dated May 10, 2012. Please note that this is the same scope of services and consulting fee that were included in our April 16, 2012 proposal to the Watermaster.

Should you have any questions on this matter, please contact us at 909-587-9916 during normal business hours.

Very truly yours

ALDA Inc.



F. Anibal Blandon, P.E.  
Principal



Mr. Joe Zoba  
Beaumont Basin Watermaster  
Scope of Services for Task Order No. 1  
Page 2 of 5

**Beaumont Basin Watermaster**  
**Scope of Services for Task Order No. 1**

**Task 1 – Data Collection**

ALDA 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 is our understanding 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**

ALDA 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, and a water quality summary of the Basin Condition Report, conducted under Task 5. The report will also include the annual independent financial reports (prepared by others) and a description of Watermaster activities and Board actions.

Twenty-five 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**

ALDA 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 2011. The focus of the review will be groundwater level trends at the eight monitoring wells previously reported in the





Mr. Joe Zoba  
Beaumont Basin Watermaster  
Scope of Services for Task Order No. 1  
Page 3 of 5

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.

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

#### **Task 4 – Review of Rules and Regulations**

ALDA 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.

Making revisions and distributing documents is not included as part of our scope of services as we do not know at this time the extent of the revisions to be made. Under this task, ALDA will review the documents and may provide recommendations, if any, for potential changes to be considered by the Board.

#### **Task 5 – Basin Condition Report**

ALDA will obtain from the Appropriators and selected producers with overlying rights water quality information to prepare a Basin Condition Report in accordance with Section 2.13 of the Rules and Regulations. The findings of this report will be summarized in the annual report; however, an independent report will be prepared documenting the conditions of the basin.

It is our understanding that an all-inclusive water quality analysis is not intended as part of this report. The water quality analysis will focus on nitrate, TDS, and some trace metals. In addition, the report will document current water quality concentrations in relation to current Federal and State Drinking Water Standards.

#### **Task 6 – Meeting Attendance**

ALDA will prepare for, attend, and participate in up to six (6) Watermaster meetings in 2012. Assistance during agenda preparation was not identified in the RFP; however, we have allocated some time to assist Watermaster in the preparation of technical memoranda to address potential issues to be included in the meeting agenda.

#### **Task 7 – Miscellaneous Special Projects**

ALDA will coordinate with Watermaster on additional activities that may be required in the course of the year to address specific issues not identified in the RFP. For each of



Mr. Joe Zoba  
 Beaumont Basin Watermaster  
 Scope of Services for Task Order No. 1  
 Page 4 of 5

these activities, ALDA will develop a scope of services and a consulting fee for Watermaster consideration before proceeding with any additional work.

## Beaumont Basin Watermaster Engineering Consulting Fee for Task Order No. 1

### Beaumont Basin Watermaster Professional Engineering Services - Fee Estimate - Year 1

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		
<b>Task 1 - Data Collection</b>										54	\$ 6,480
1.1- Data collection for Annual Report	4	8	24							36	\$ 4,320
1.2- Additional for Basin Condition Report	2	4	12							18	\$ 2,160
<b>Task 2 - Annual Report</b>										160	\$ 19,040
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	8	32	8	12	12			8		80	\$ 8,940
2.5- Prepare final report	4	12		4	8					28	\$ 3,100
<b>3 - Operating Safe Yield</b>										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
<b>4 - Rules and Regulations</b>										8	\$ 1,200
<b>5 - Basin Condition Report</b>										204	\$ 22,900
5.1- Evaluate basin conditions	4	4				2	8			18	\$ 2,180
5.2- Develop groundwater contour maps		4				4	8	8		24	\$ 2,580
5.3- Calculate change in storage						4	8			12	\$ 1,360
5.4- Groundwater quality evaluation	4	24				4	16			48	\$ 5,920
5.5- Prepare draft report	4	12	8	8	12	8	8	12		72	\$ 7,620
5.6- Prepare final report	2	12		4	4		4	4		30	\$ 3,240
<b>6 - Meeting Attendance</b>										82	\$ 12,040
6.1- Assistance with agenda preparation	12	8	8			6				34	\$ 4,720
6.2- Attend Watermaster meetings	36					12				48	\$ 7,320
<b>7 - Miscellaneous Projects</b>											\$ -
<b>TOTALS:</b>	104	152	68	28	36	64	76	36	4	568	\$ 68,850

# ALDA Inc.

Mr. Joe Zoba  
Beaumont Basin Watermaster  
Scope of Services for Task Order No. 1  
Page 5 of 5

## Beaumont Basin Watermaster Billing Rates for Task Order No. 1

### Billing Rates for ALDA Inc.

Billing rates for Calendar Year 2012 are as follows:

<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

Billing rates for Calendar Year 2012 are as follows:

<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. 17-06

**Date:** February 1, 2017

**From:** Joseph Zoba, Treasurer

**Subject:** Discussion Regarding Task Order No. 12 with ALDA Inc. for the Preparation of the 2016 Consolidated Annual Report, Estimate of the Basin Safe Yield, Update of the Groundwater Model, and Associated Consulting Services

**Recommendation:** That the Watermaster Committee approves Task Order No. 12 for a sum not to exceed \$95,970.

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A new task order is necessary to authorize ALDA Inc. to provide technical support services to the Watermaster Committee during Calendar Year 2017.

The proposed scope of services for Task Order No. 12, consistent with previously years, provides for the preparation of the 2016 Consolidated Annual Report, estimate of the 2016 Safe Yield of the Beaumont Basin, and Associated Consulting Services in support to Watermaster activities. In addition, this task order incorporates the annual update of the groundwater model to 2016 hydrologic conditions. The estimated cost of completion is based on the newly amended rates for the 2017-21 calendar years. Hourly rates will remain constant during this five-year period.

The financial impacts associated with the proposed contract would result in a budget line item of approximately \$96,000, and if approved would result in an invoice sent to each Watermaster Committee member in the amount of \$19,194.

# ALDA Inc.

5928 Vineyard Avenue  
Alta Loma, CA 91701  
Tel: (909) 587-9916  
Fax: (909) 498-0423

February 1, 2017

Joseph B. Zoba, General Manager  
Yucaipa Valley Water District  
12770 Second Street  
Yucaipa, California 92399

Subject: **Beaumont Basin Watermaster – Task Order No. 12  
Preparation of the 2016 Operating Safe Yield and Annual Report and  
Engineering Support Services for Calendar Year 2017**

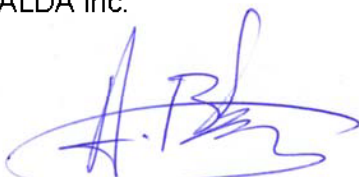
Dear Mr. Zoba:

Please find attached our proposed scope of services and consulting fee for Task Order No. 12 under the Engineering Services contract with the Beaumont Basin Watermaster dated May 10, 2012 and amended in February 2017. The proposed scope of services includes a) the preparation of the consolidated Annual Report for 2016, b) an estimate of the operating safe yield for 2016, c) the update of the groundwater model to include 2016 hydrologic data, and d) provide general consulting services in support to Watermaster activities during 2017.

We welcome your thorough review of our proposed scope services. Should you have any questions on our proposed services or need further information, please contact us at 909-587-9916 during normal business hours.

Very truly yours

ALDA Inc.



F. Anibal Blandon, P.E.  
Principal

Beaumont Basin Watermaster – Task Order No. 12  
2016 Annual Report and Associated Consulting Services for 2017

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Feb 1, 2017

## **TASK OBJECTIVES**

The objectives of Task No. 12 are as follows:

- A. Prepare the consolidated Annual Report for CY 2016
- B. Estimate the Operating Safe Yield for Calendar Year 2016
- C. Update groundwater model to include 2016 hydrologic data
- D. Provide general consulting support services during 2017

## **SCOPE OF SERVICES**

### **Task 1 – Data Collection**

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

- ✓ Climate and hydrologic information
- ✓ Monitoring and data collection programs
- ✓ Monthly water production from member agencies
- ✓ Monthly imported water recharge by each party
- ✓ Monthly rainfall from the USGS, Army Corps, and/or 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
- ✓ Water quality information as documented in the California Department of Public Health database.

### **Task 2 – Preparation of Expanded Annual Report**

The expanded annual report will consolidate the topics discussed in previous annual reports and those included in the bi-annual Engineering 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, replenishment obligations and water quality conditions throughout the basin. In addition, the report will incorporate the results of the Operating Safe Yield analysis, conducted under Task 3 and long term hydrographs from selected wells in the basin. The report will also include the annual independent financial reports (prepared by others) and a description of Watermaster activities and Board actions.

With regards to water quality, the analysis will focus on nitrate, TDS, and some trace metals. In addition, the report will document current water quality concentrations in relation to current Federal and State Drinking Water Standards.

Beaumont Basin Watermaster – Task Order No. 12  
2016 Annual Report and Associated Consulting Services for 2017

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Feb 1, 2017

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, and groundwater recharge data for the Beaumont Basin area as a basis for determining the annual operating safe yield (OSY) of the basin for the Calendar Year 2016. The focus of the review will be groundwater level trends at the eight monitoring wells previously reported in the 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 – Update Groundwater Model to 2016 Conditions**

The ALDA/TH&Co team will prepare and input the 2016 groundwater levels, groundwater production, and artificial recharge into the groundwater flow model for analysis. The model will be run with the updated data and the results analyzed to validate the calibration. The budget for this task assumes that additional calibration will not be necessary.

**Task 5 – 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 6 – Meeting Attendance and Agenda Assistance**

The ALDA/TH&Co team will prepare for, attend, and participate in up to six (6) Watermaster meetings in 2017. 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 June 2017 Board meeting. Comments on the draft annual report will be addressed and presented at the August 2017 Board meeting. General consulting support services will be provided throughout the year.



Beaumont Basin Watermaster – Task Order No. 12  
2016 Annual Report and Associated Consulting Services for 2017

Feb 1, 2017

## **COST ESTIMATE**

Our estimated cost to perform the scope of work as outlined herein is \$95,970.00 (Ninety Five Thousand Nine Hundred Seventy Dollars and 00/100); this estimate is based on 683 technical and administrative hours and is summarized in the attached table by task and sub-task. Billing rates for the 2017 Calendar Year are based on the new amended contract and are applicable through 2021.

### **Beaumont Basin Watermaster Billing Rates for Task Order No. 12**

#### **Billing Rates for ALDA Inc.**

Billing rates for Task Order No. 12:

<b><u>Position</u></b>	<b><u>Hourly Rate</u></b>
Project Manager	\$180.00
Project Engineer	\$150.00
Staff Engineer	\$130.00
Graphics / Designer Drafter	\$ 95.00
Clerical	\$ 65.00

#### **Billing Rates for Thomas Harder and Company**

Billing rates for Task Order No. 12:

<b><u>Position</u></b>	<b><u>Hourly Rate</u></b>
Principal Hydrogeologist	\$180.00
Senior Hydrogeologist	\$140.00
Project Hydrogeologist	\$120.00
Staff Hydrogeologist	\$ 95.00
Field Technician	\$ 70.00
Graphics	\$ 85.00
Clerical	\$ 65.00
Expert Witness	\$360.00

**Beaumont Basin Watermaster - Task Order No. 12**  
**Preparation of Expanded Annual Report and Operating Safe Yield for 2016 and General Support Services for 2017**

Task / Subtask	ALDA Inc.				Thomas Harder & Co.				Total Hours	Cost (\$)
	PM	PE	SE	Graph	Clerk	Principal Hydrologist	Project Hydrologist	Staff Hydrologist		
Task 1 - Data Collection	18	28	44						90	\$ 13,160
Task 2 - 2016 Annual Report									332	\$ 44,440
2.1 - Document pumping for metered wells	4	20							24	\$ 3,720
2.2 - Document pumping for unmetered wells	2	4							6	\$ 960
2.3 - Document basin activities	8	16							24	\$ 3,840
2.4 - Develop groundwater contour maps	2					1	1	6	2	\$ 1,400
2.5 - Calculate change in storage	2					2	6	24	42	\$ 4,400
2.6 - Evaluate groundwater quality	20	32							52	\$ 8,400
2.7 - Incorporate long-term hydrographs	4	8							12	\$ 1,920
2.7 - Prepare draft report	8	32	16	12	8	2	8	12	110	\$ 13,460
2.8 - Prepare final report	8	16		12	8	2	4		50	\$ 6,340
Task 3 - Operating Safe Yield									81	\$ 9,810
3.1 - Review of data for 2016						1	4	16	21	\$ 2,180
3.2 - Preparation of OSY TMs for 2016	8	8				6	20	6	60	\$ 7,630
Task 4 - Update GW Model for 2016	8	12				2	12	24	58	\$ 7,320
Task 5 - Rules and Regulations	8								8	\$ 1,440
Task 6 - Meeting Attendance									114	\$ 19,800
5.1 - Assistance with agenda preparation	24	24				18			66	\$ 11,160
5.2 - Attend Watermaster meetings	24					24			48	\$ 8,640
TOTALS:	148	200	60	24	16	58	55	88	683	\$ 95,970

# BEAUMONT BASIN WATERMASTER

## MEMORANDUM NO. 17-07

**Date:** February 1, 2017

**From:** Joseph Zoba, Treasurer

**Subject:** Discussion Regarding Task Order No. 13 with ALDA Inc. for the Installation, Maintenance, and Data Collection of Water Level Monitoring Equipment in 2017

**Recommendation:** That the Watermaster Committee approves Task Order No. 13 for a sum not to exceed \$21,520.

---

A new task order is necessary to authorize ALDA Inc. to provide water level monitoring services in 2017.

The proposed scope of services for Task Order No. 13, provides for the identification of new monitoring sites and installation of related equipment and the operation, maintenance, and data collection at existing sites during calendar year 2017. It is anticipated that a total of 18 monitoring sites will be operational in the Beaumont Basin during Calendar Year 2017.

The financial impacts associated with the proposed contract would result in a budget line item of \$21,520.00, and if approved would result in an invoice sent to each Watermaster Committee member in the amount of \$4,304.

# ALDA Inc.

5928 Vineyard Avenue  
Alta Loma, CA 91701  
Tel: (909) 587-9916  
Fax: (909) 498-0423

February 1, 2017

Joseph B. Zoba, General Manager  
Yucaipa Valley Water District  
12770 Second Street  
Yucaipa, California 92399

Subject: **Beaumont Basin Watermaster – Task Order No. 13  
Installation, Maintenance, and Operation of Water Level Monitoring  
Equipment**

Dear Mr. Zoba:

Please find attached our proposed scope of services and consulting fee for Task Order No. 13 under the Engineering Services contract with the Beaumont Basin Watermaster dated May 10, 2012 and amended in February 2017. The proposed scope of services includes a) coordination of equipment purchase and authorization from private owners, b) installation of monitoring equipment at additional sites, c) operations and maintenance of equipment at existing sites, and d) reporting to Watermaster Committee.

We welcome your thorough review of our proposed scope services. Should you have any questions on our proposed services or need further information, please contact us at 909-587-9916 during normal business hours.

Very truly yours

ALDA Inc.



F. Anibal Blandon, P.E.  
Principal

**Beaumont Basin Watermaster – Task Order No. 13****Installation, Maint, and Data Collection of WL Monitoring Equipment for 2017****Feb 1, 2017****TASK OBJECTIVES**

The objectives of Task No. 13 are as follows:

- A. Install Groundwater Level Monitoring Equipment at up to Five New Sites
- B. Conduct Operations and Maintenance of Existing Equipment
- C. Report Water Level Conditions to Watermaster Committee

**SCOPE OF SERVICES****Task 1 – Selection of Sites and Equipment Acquisition**

The ALDA/TH&Co team will select the Five additional monitoring sites for installation of water level monitoring equipment. Selection of the final sites will be based on a number of parameters including location within the basin, distance to pumping wells, accessibility to site, and on-site improvements requirement amongst others. As part of this effort, the ALDA/TH&Co team will contact property owners as applicable to obtain authorization for installation of monitoring equipment.

Estimated Hours: 8 Hours

Estimated Cost: \$1,200.00

**Task 2 – Installation of Monitoring Equipment**

The ALDA/TH&Co team will install water level probes at each of the new selected sites. Required modifications at some of the well head sites, such as installation of plates, locks, measurement ports, etc., will be coordinated by the ALDA/TH&Co team to make sure all sites operate adequately and the monitoring equipment is secured.

In addition, groundwater level at each site will be determined to calibrate the monitoring probes individually.

Estimated Hours: 16 Hours

Estimated Cost: \$2,080.00

**Maintenance of Selected Sites**

The ALDA/TH&Co team will visit the selected sites every two months to download the collected data and to check that the probes are working as intended. In addition, probes will be calibrated twice a year. Close coordination with member agencies and selected private parties will be required to gain access to the sites during each visit. A total of six visits to each site is anticipated during Calendar Year 2016.

Estimated Hours: 64 Hours

Estimated Cost: \$9,600.00

**Beaumont Basin Watermaster – Task Order No. 13**

Installation, Maint, and Data Collection of WL Monitoring Equipment for 2017

Feb 1, 2017

**Task 4 – Reporting to Watermaster**

The information collected at the selected sites will be tabulated and presented at the Watermaster Committee meetings as a regular agenda item. In addition, water level histograms will be prepared and incorporated into the annual report.

Estimated Hours: 48 Hours

Estimated Cost: \$8,640.00

**COST ESTIMATE**

Our estimated cost to perform the scope of work as outlined herein is \$21,520.00 (Twenty One Thousand Five Hundred Twenty Dollars and 00/100); this estimate is based on 136 technical and administrative hours. Services will be billed on a time and material basis up to the approved limit and according to the billing rates below.

**Billing Rates for ALDA Inc.**

Billing rates for Task Order No. 13:

<b>Position</b>	<b>Hourly Rate</b>
Project Manager	\$180.00
Project Engineer	\$150.00
Staff Engineer	\$130.00
Graphics / Designer Drafter	\$ 95.00
Clerical	\$ 65.00

**Billing Rates for Thomas Harder and Company**

Billing rates for Task Order No. 13:

<b>Position</b>	<b>Hourly Rate</b>
Principal Hydrogeologist	\$180.00
Senior Hydrogeologist	\$140.00
Project Hydrogeologist	\$120.00
Staff Hydrogeologist	\$ 95.00
Field Technician	\$ 70.00
Graphics	\$ 85.00
Clerical	\$ 65.00
Expert Witness	\$360.00

# BEAUMONT BASIN WATERMASTER

## MEMORANDUM NO. 17-08

**Date:** February 1, 2017

**From:** Joseph Zoba, Treasurer

**Subject:** Discussion Regarding Task Order No. 14 with ALDA Inc. for the Analysis of Return Flows by Appropriators to the Beaumont Groundwater Basin and incorporation of findings into the 2016 Beaumont Basin Watermaster Annual Report

**Recommendation:** That the Watermaster Committee approves Task Order No. 14 for a sum not to exceed \$12,960.

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In consideration of the fact that irrigation return flows contribute to the Safe Yield of the Beaumont Basin, the Beaumont Basin Watermaster Board directed ALDA Inc. to incorporate return flow estimates, by Appropriator, into the report of the 2013 Reevaluation of the Safe Yield. The 2013 return flow estimate was based on water delivery records within each Appropriator's respective service areas within the Beaumont Basin Adjudication boundary.

To date, annual return flow estimates, by Appropriator, have not been incorporated into the Beaumont Basin Watermaster annual reports. ALDA Inc., in Association with Thomas Harder and Company has prepared a proposed scope of work and cost estimate to compile water delivery records and estimate return flow, by Appropriator, within the Beaumont Basin Adjudication area. The Appropriator service areas to be evaluated will include the Beaumont-Cherry Valley Water District, the City of Banning, and the Yucaipa Valley Water District. The return flow estimates would be incorporated into the 2016 annual report.

The financial impacts associated with the proposed contract would result in a budget line item of \$12,960, and if approved would result in an invoice sent to each Watermaster Committee member in the amount of \$2,592.



# ALDA Inc.

5928 Vineyard Avenue  
Alta Loma, CA 91701  
Tel: (909) 587-9916  
Fax: (909) 498-0423

February 1, 2017

Joseph B. Zoba, General Manager  
Yucaipa Valley Water District  
12770 Second Street  
Yucaipa, California 92399

Subject: **Beaumont Basin Watermaster – Task Order No. 14**  
**Analysis of Return Flows**

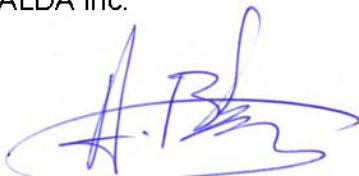
Dear Mr. Zoba:

Please find attached our proposed scope of services and consulting fee for Task Order No. 14 under the Engineering Services contract with the Beaumont Basin Watermaster dated May 10, 2012 and amended in February 2017. The proposed scope of services includes the analysis of return flows by appropriator for 2016 and the incorporation of findings into the 2016 Annual Engineering Report.

We welcome your thorough review of our proposed scope services. Should you have any questions on our proposed services or need further information, please contact us at 909-587-9916 during normal business hours.

Very truly yours

ALDA Inc.



F. Anibal Blandon, P.E.  
Principal

## Beaumont Basin Watermaster – Task Order No. 14

## Analysis of Return Flows by Appropriator in the Beaumont Basin

Feb 1, 2017

**TASK OBJECTIVES**

The objectives of Task No. 14 are as follows:

- A. Determine Return Flows by Appropriator
- B. Incorporate findings into the 2016 Annual Engineering Report

**SCOPE OF SERVICES****Task 1 – Prepare Return Flow by Appropriator**

ALDA Inc., in Association with Thomas Harder and Company will work with each respective Appropriator to compile their water delivery records and apply the return flow factors established for each land use within the respective Appropriators' service areas of the Beaumont Basin Adjudication area. The Appropriator service areas to be evaluated will include the Beaumont-Cherry Valley Water District, the City of Banning, and the Yucaipa Valley Water District. It is assumed that the water delivery records will be provided by the Appropriators in electronic format (preferably in Excel or another spreadsheet format).

It is our understanding that the City of Banning requires assistance from our team to identify delivered water account addresses that are within the portion of the City that overlaps the adjudication area. This scope of work and cost estimate is to cross-reference City of Banning water account addresses to assessor's parcel numbers or geographical coordinates, as applicable. Our team will use the City of Banning Beaumont Basin 2013 Consumption Detail spreadsheet already provided by the City which contains 4,768 customer accounts. Spatial data will be from Riverside County parcel shapefiles and on-line mapping websites (e.g. Google Maps).

Estimated Hours: 92 Hours

Estimated Cost: \$10,020.00

**Task 2 – Basin Condition Report**

Return flow estimates, by Appropriator, will be developed for 2016. The 2016 return flow estimates will be incorporated into the 2016 annual report. The return flow estimate will be reported in the context of the lag time that has been estimated for the applied water to reach the regional aquifer (which is estimated to be 25 years).

Estimated Hours: 24 Hours

Estimated Cost: \$2,940.00

## Beaumont Basin Watermaster – Task Order No. 14

## Analysis of Return Flows by Appropriator in the Beaumont Basin

Feb 1, 2017

**COST ESTIMATE**

Our estimated cost to perform the scope of work as outlined herein is \$12,960.00 (Twelve Thousand Nine Hundred Sixty Dollars and 00/100); this estimate is based on 116 technical and administrative hours. Services will be billed on a time and material basis up to the approved limit and according to the billing rates below.

**Billing Rates for ALDA Inc.**

Billing rates for Task Order No. 14:

<u>Position</u>	<u>Hourly Rate</u>
Project Manager	\$180.00
Project Engineer	\$150.00
Staff Engineer	\$130.00
Graphics / Designer Drafter	\$ 95.00
Clerical	\$ 65.00

**Billing Rates for Thomas Harder and Company**

Billing rates for Task Order No. 14:

<u>Position</u>	<u>Hourly Rate</u>
Principal Hydrogeologist	\$180.00
Senior Hydrogeologist	\$140.00
Project Hydrogeologist	\$120.00
Staff Hydrogeologist	\$ 95.00
Field Technician	\$ 70.00
Graphics	\$ 85.00
Clerical	\$ 65.00
Expert Witness	\$360.00

# BEAUMONT BASIN WATERMASTER

## MEMORANDUM NO. 17-09

**Date:** February 1, 2017

**From:** Thomas Harder, Thomas Harder and Company

**Subject:** Presentation of Methodology for Estimating Groundwater Storage Losses Associated with Supplemental Water Recharge

**Recommendation:** That the Watermaster Committee provides direction and feedback to the ALDA/TH&Co team based on the presentation and discussion.

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One of the findings from the 2013 Reevaluation of the Beaumont Basin Safe Yield was that there are groundwater underflow losses out of the basin and that the amount of loss is sensitive to pumping and recharge from both within and outside the Beaumont Basin. Furthermore, as the San Gorgonio Pass area is a groundwater flow divide, underflow losses appear to occur in multiple locations along the southern portion of the basin. The calibrated groundwater flow model developed for the Safe Yield reevaluation was used to estimate the amount and location of losses in the basin, based on existing data.

The 2015 Beaumont Basin Watermaster annual report recommended that the Watermaster Committee consider developing a methodology to account for groundwater storage losses from the Beaumont Basin.

The purpose of this agenda item is to review a presentation of our current understanding of groundwater losses out of the basin, the impacts of supplemental water recharge on losses, and considerations for developing a methodology to account for losses associated with storage of water in the basin.

# BEAUMONT BASIN WATERMASTER

## MEMORANDUM NO. 17-10

**Date:** February 1, 2017

**From:** Thomas Harder, Thomas Harder and Company

**Subject:** Discussion Regarding the Methodology for Calculating New Yield

**Recommendation:** No recommendation.

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Past Beaumont Basin Watermaster annual reports have recommended that the Watermaster Board consider developing a methodology for determining New Yield in the Beaumont Basin. New Yield is defined in the Judgment as:

“Increases in yield in quantities greater than historical amounts from sources of supply including, but not limited to, capture of available storm flow, by means of projects constructed after February 20, 2003, as determined by the Watermaster.”

The purpose of this agenda item is to provide a presentation of the concept of New Yield as it relates to the Beaumont Basin and the challenges involved with quantifying New Yield in this basin, given its unique hydrology. Based on the recent hydrological work to reevaluate the Safe Yield of the Basin, it is concluded that the available surface water monitoring network is not adequate to develop definitive New Yield estimates.

The purpose of the presentation is to facilitate a discussion of New Yield as it relates to Watermaster goals and strategic planning.

# BEAUMONT BASIN WATERMASTER

## MEMORANDUM NO. 17-11

**Date:** February 1, 2017

**From:** Hannibal Blandon, ALDA Inc

**Subject:** Discussion Regarding the Water Level Monitoring Equipment

**Recommendation:** That the Watermaster Committee continues to use the Solinst monitoring equipment.

---

Over the last few months several concerns have been raised during the Watermaster meetings about the poor customer service received from Solinst, the manufacturer of the monitoring equipment currently in use. The Watermaster Committee requested that we look at other manufacturers to evaluate the possibility of installing new equipment.

It should be noted that we have brought the customer services issues to upper management at Solinst and they have been resolved. Equipment at present is working as intended.

Over the last few weeks we contacted two additional manufacturers that use depth probes and one that uses sonic waves to record water levels. One of the manufacturers contacted was In-Situ; this company and Solinst are the two brands most commonly used in similar groundwater monitoring programs. The attached table compares Solinst product against these companies. Attached to this memorandum are included the bids submitted by these manufacturers along with pertinent equipment information.

Given that a) the customer service issues have been addressed with Solinst, b) the equipment is working as intended, and c) new equipment will have to be acquired, we recommend to continue using the existing equipment.

**Water Level Monitoring Equipment – Comparison Matrix**

	<b>Solinst</b>	<b>In-Situ</b>	<b>Feron</b>	<b>ENO Scientific</b>
Will their product work with existing equipment	YES	NO	NO	NO
Initial cost	\$18,000	A.- \$19,790 <sup>(1)</sup> B.- \$30,385	\$13,573	\$14,770
Cost of Probe / Unit	\$597.00	A.- \$595.00 B.- \$795.00	\$299.00	\$1,055.70
Cost of communication cable per foot	\$1.00	A.- \$2.10 B.- \$3.50	\$1.00	N/A
Local power requirement	NO	NO	NO	YES <sup>(2)</sup>
Battery life	10 yrs	10 yrs	10 yrs	N/A
Technical support	8 AM to 5 PM Eastern Time	24 Hours / 7 Days a Week	8 AM to 5 PM Eastern Time	8 AM to 5 PM Eastern Time
Reliability of equipment	Reliable	Reliable	Reliable	Problems when using Site Ports and Cascading water <sup>(3)</sup>
Subject to vandalism	Low	Low	Low	High <sup>(4)</sup>
Customer service	The best before you buy			

(1) Bid A uses a communication cable that does not allow probe to adjust for barometric pressure. Bid B uses a communication cable that allows probe to adjust.

(2) Equipment requires a small solar panel to provide energy to equipment.

(3) May not be as accurate when side ports are used or when cascading water is present.

(4) Solar panels and above ground equipment could be subject to vandalism.





221 East Lincoln Ave., Fort Collins, Colorado 80524  
Tel: 1.970.498.1500 / Fax: 1.970.498.1598 / www.in-situ.com

## Sales Quote

This quote is valid for 30 days and  
may not include tax or freight

Issue Date: January 26, 2017  
Page: 1 of 2

<b>Quote To:</b> Alda Engineering 5928 Vineyard Ave Rancho Cucamonga CA 91701 United States	<b>Ship To:</b> <b>ATTN: Hannibal H</b> (909) 587-9916 Alda Engineering 5928 Vineyard Ave Rancho Cucamonga California 91701 United States	<b>Comments:</b>
<b>FINAL DESTINATION:</b> California United States		

Quote No.	Customer ID	Issued By	Payment Terms	Tax / Freight	Ship Via	FOB Point	INCO Terms
00018577		Angela Lull	CREDIT PENDING	May not be included		Ft. Collins, CO	

Line	Product Number / Product Name	Unit of Sale	Qty.	Standard Price	Discount %	Quote Price	Total Price
1	0091950 / Rugged TROLL 200 0 - 250 ft (0 - 75m)	Each	14	\$595.00		\$595.00	\$8,330.00
2	0061500-03 / Direct Read, RS485, TOW, Large Plastic Spool	500 Feet	3	\$990.00		\$990.00	\$2,970.00
3	0061500-03 / Direct Read, RS485, TOW, Large Plastic Spool	600 Feet	3	\$1,165.00		\$1,165.00	\$3,495.00
4	0061500-02 / Direct Read, RS485, TOW, Small Plastic Spool	400 Feet	3	\$810.00		\$810.00	\$2,430.00
5	0061500-02 / Direct Read, RS485, TOW, Small Plastic Spool	200 Feet	5	\$460.00		\$460.00	\$2,300.00
6	0091990 / Rugged TROLL 200 TROLL Com and software bundle USB	Each	1	\$265.00		\$265.00	\$265.00

Tax:

For further information regarding the Warranty or Terms and Conditions, please refer to our website at  
<http://in-situ.com/terms-conditions/>

Shipping:

All quoted product & service prices are in U.S. Dollars unless specifically noted otherwise.

For help or questions regarding this quote, please contact **Angela Lull at (970) 498-1562**

**Quote Total: \$19,790.00**



221 East Lincoln Ave., Fort Collins, Colorado 80524  
Tel: 1.970.498.1500 / Fax: 1.970.498.1598 / www.in-situ.com

## Sales Quote

Quote No: 00018577  
Issue Date: January 26, 2017  
Page: 2 of 2

Line	Product Number	Product Description
1	0091950	Rugged TROLL 200 0 - 250 ft (0 - 76m)
2	0061500-03	Direct Read Cable, RS485, TOW, Large Plastic Spool (Max 850ft)
3	0061500-03	Direct Read Cable, RS485, TOW, Large Plastic Spool (Max 850ft)
4	0061500-02	Direct Read Cable, RS485, TOW, Small Plastic Spool (Max 500ft)
5	0061500-02	Direct Read Cable, RS485, TOW, Small Plastic Spool (Max 500ft)
6	0091990	Rugged TROLL Com for Rugged TROLL 200, with USB cable (Includes software CD)



Innovations in Water Monitoring

Spec Sheet



## Rugged TROLL® 100 and 200 Data Loggers

Rugged TROLL 100 and 200 Data Loggers are designed for long- and short-term groundwater and surface water monitoring. These non-vented (absolute) water level data loggers measure and record changes in water level, pressure, and temperature. Ensure accurate results by using a Rugged BaroTROLL® Data Logger. All loggers are compatible with user-friendly Win-Situ® Software, which guides you through programming steps, automates level corrections, and accelerates report generation.

### Affordable Titanium Data Loggers

- Get reliable data at a budget-friendly price.
- Use in harsh environments. Solid titanium construction offers chemical- and corrosion-resistance and outlasts specially-coated data loggers.
- Select the appropriate logging mode for your project: Linear, Fast Linear, or Event.

### Flexible Deployment Options

- Deploy zero-maintenance loggers in flood-prone areas, high-humidity environments, and remote locations.
- Choose the cable length and termination type that works best for your project.
- Use suspension wire and backshell hanger for applications requiring minimal instrument access.

### Outstanding Service

- Receive 24/7 technical support and online resources.
- Order data loggers and accessories directly from our website.
- Get guaranteed 7-day service for maintenance (U.S.A. only).

### Simplified Setup and Data Retrieval

- Save time and reduce errors with the intuitive Win-Situ 5 and Win-Situ Mobile Software platform. Quickly program loggers, download data, graph results, and more.
- Use a Rugged TROLL Docking Station for programming and downloading data.
- Connect a cabled logger to a telemetry system, radio, controller, or a SCADA/PLC system via Modbus/RS485 or SDI-12 (only Rugged TROLL 200 and Rugged BaroTROLL).
- Integrate with In-Situ Tube and Cube telemetry systems and HydroVu™ Data Services for real-time feedback on your remote monitoring sites.

### Applications

- Coastal wetland and estuary research
- Crest stage gaging and stream gaging
- Drilling and well development
- Flood and storm surge monitoring
- Landfill leachate monitoring

CALL OR CLICK TO PURCHASE OR RENT

1-800-446-7488 (toll-free in U.S.A. and Canada)

1-970-498-1500 (U.S.A. and international)

WWW.IN-SITU.COM

## Rugged TROLL® 100 and 200 Data Loggers

Spec Sheet



General	Rugged TROLL 100 & 200	Rugged BaroTROLL
<b>Temperature ranges<sup>1</sup></b>	Operational: 0-50° C (32-122° F) Storage: -40-80° C (-40-176° F) Calibrated: 0-50° C (32-122° F)	Operational: 0-50° C (32-122° F) Storage: -40-80° C (-40-176° F) Calibrated: 0-50° C (32-122° F)
<b>Diameter</b>	2.62 cm (1.03 in.)	2.62 cm (1.03 in.)
<b>Length</b>	14.43 cm (5.68 in.)	14.43 cm (5.68 in.)
<b>Weight</b>	170 g (0.37 lb)	170 g (0.37 lb)
<b>Materials</b>	Titanium body; Delrin™ nose cone, hanger, backend	Titanium body; Delrin nose cone, hanger, backend
<b>Output options</b>	Rugged TROLL 100: USB or RS232 via docking station Rugged TROLL 200: USB or RS232 via docking station; Modbus/RS485 or SDI-12 via Rugged TROLL 200 Cable	USB or RS232 via docking station; Modbus/RS485 or SDI-12 via Rugged TROLL 200 Cable
<b>Battery type &amp; life<sup>2</sup></b>	3.6V lithium; 10 years or 2M readings	3.6V lithium; 10 years or 2M readings
<b>External power</b>	Rugged TROLL 100: NA Rugged TROLL 200: 8-36 VDC	8-36 VDC
<b>Memory</b>	2.0 MB	2.0 MB
<b>Data records<sup>3</sup></b>	120,000	120,000
<b>Data logs</b>	Rugged TROLL 100: 1 log Rugged TROLL 200: 2 logs	2 logs
<b>Fastest logging rate</b>	1 per second	1 per minute
<b>Fastest output rate</b>	Rugged TROLL 200 only Modbus & SDI-12: 1 per second	Modbus & SDI-12: 1 per second
<b>Log types</b>	Linear, Fast Linear, and Event	Linear
<b>Sensor Type/Material</b>	Piezoresistive; Ceramic	Piezoresistive; Ceramic
<b>Range</b>	9 m (30 ft) (Burst: 18 m; 60 ft) 30 m (100 ft) (Burst: 40 m; 134 ft) 76 m (250 ft) (Burst: 112 m; 368 ft)	7 to 30 psi; 0.5 to 2 bar
<b>Accuracy<sup>4</sup></b>	±0.1% full scale (FS) typical ±0.3% FS max.	±0.1% FS typical ±0.3% FS max.
<b>Resolution</b>	±0.01% FS or better	±0.01% FS or better
<b>Units of measure</b>	Pressure: psi, kPa, bar, mbar, mmHg Level: in., ft, mm, cm, m	Pressure: psi, kPa, bar, mbar, mmHg, inHg
<b>Temperature Sensor</b>	Silicon	Silicon
<b>Accuracy</b>	±0.3° C	±0.3° C
<b>Resolution</b>	0.01° C or better	0.01° C or better
<b>Units of measure</b>	Celsius or Fahrenheit	Celsius or Fahrenheit
<b>Warranty</b>	2 years	2 years

**Notes:** <sup>1</sup>Temperature range for non-freezing liquids. <sup>2</sup>Typical battery life when used within the factory-calibrated temperature range. <sup>3</sup>1 data record = date/time plus 2 parameters logged for a total of 360,000 data points; no wrapping. <sup>4</sup>Across factory-calibrated pressure and temperature ranges. Delrin is a registered trademark of E.I. du Pont de Nemours & Co. Specifications are subject to change without notice.



CALL OR CLICK TO PURCHASE OR RENT

1-800-446-7488 (toll-free in U.S.A. and Canada)

1-970-498-1500 (U.S.A. and International)

WWW.IN-SITU.COM

## Rugged BaroTROLL® Data Logger

Use the titanium Rugged BaroTROLL with either a Rugged TROLL 100 or 200 Data Logger. Win-Situ® Baro Merge® Software simplifies post-correction of water level data for barometric pressure changes.

## Rugged TROLL® 200 Cable

Access real-time data by using Rugged TROLL 200 Cable with a Rugged TROLL 200 or a Rugged BaroTROLL. Use a Cable Suspension Kit to anchor the cable in place. Available configurations:

- Modbus/RS485 stripped-and-tinned cable or SDI-12 stripped-and-tinned cable—Use with PLC, telemetry system, or logger.
- Modbus/RS485 top-of-well cable—Use with Rugged TROLL Com Device and a RuggedReader® Handheld PC or a PC.

<b>Jacket options</b>	TPU (thermoplastic polyurethane)
<b>Conductors</b>	4 conductors, 24 AWG, polypropylene insulation
<b>Diameter</b>	Cable: 5.1 mm (0.200 in.) Connector: 26.1 mm (1.03 in.)
<b>Cable lengths</b>	Modbus/RS485: Customizable up to 300 m (1,000 ft) SDI-12: Standard lengths up to 60 m (200 ft)
<b>Minimum bend radius</b>	5X cable diameter
<b>Break strength</b>	68 kg (150 lbs)

## Rugged TROLL® Com Communication Device

Use the Rugged TROLL Com Device for communication between a cabled Rugged TROLL 200 or a cabled Rugged BaroTROLL and a RuggedReader Handheld PC or a laptop/PC.

<b>Operating temp. range</b>	0-50° C (32-122° F)
<b>Storage temp. range</b>	-40-80° C (-40-176° F)
<b>Materials</b>	Delrin, rubber, copper pins
<b>Environmental rating</b>	IP67 with battery cover closed
<b>Dimensions (LxWxH)</b>	8.9 x 2.9 x 4.8 cm (3.5 x 1.14 x 1.88 in.)
<b>Input connection</b>	Modbus/RS485
<b>Output connection</b>	Available with either USB or RS232
<b>Power source</b>	9V alkaline battery, user-replaceable
<b>Cable</b>	Black polyurethane, 91 cm (3 ft) long

## Rugged TROLL® Docking Station

Use the docking station to program and download data from a Rugged TROLL 100 or 200 or from a Rugged BaroTROLL. The docking station is available with either a USB or RS232 communication interface. USB allows fast data transfer to a PC. Use the RS232 version with a laptop/PC or a RuggedReader Handheld PC.



221 East Lincoln Ave., Fort Collins, Colorado 80524  
Tel: 1.970.498.1500 / Fax: 1.970.498.1598 / www.in-situ.com

## Sales Quote

**This quote is valid for 30 days and may not include tax or freight**

Issue Date: January 26, 2017  
Page: 1 of 2

**Quote To:**  
Alda Engineering  
5928 Vineyard Ave  
Rancho Cucamonga CA 91701  
United States

**FINAL DESTINATION:**  
California United States

**Ship To:**  
**ATTN: Hannibal H**  
(909) 587-9916  
Alda Engineering  
5928 Vineyard Ave  
Rancho Cucamonga California 91701  
United States

**Comments:**

Quote No.	Customer ID	Issued By	Payment Terms	Tax / Freight	Ship Via	FOB Point	INCO Terms
00018570		Angela Lull	CREDIT PENDING	May not be included		Ft. Collins, CO	

Line	Product Number / Product Name	Unit of Sale	Qty.	Standard Price	Discount %	Quote Price	Total Price
	0099260 / Level TROLL 400, 300 PSIA	Each	14	\$795.00		\$795.00	\$11,130.00
	0052000-03-03-02 / Rugged Twist-Lock, Poly NV, Large Plastic Spool, TL PNW	600 Feet	3	\$1,965.00		\$1,965.00	\$5,895.00
	0052000-03-03-02 / Rugged Twist-Lock, Poly NV, Large Plastic Spool, TL PNW	500 Feet	3	\$1,665.00		\$1,665.00	\$4,995.00
	0052000-03-03-02 / Rugged Twist-Lock, Poly NV, Large Plastic Spool, TL PNW	400 Feet	3	\$1,365.00		\$1,365.00	\$4,095.00
	0052000-03-03-02 / Rugged Twist-Lock, Poly NV, Large Plastic Spool, TL PNW	200 Feet	5	\$765.00		\$765.00	\$3,825.00
	0031240 / Wireless TROLL Com for Android (Twist Lock version)	Each	1	\$445.00		\$445.00	\$445.00

Tax:

Shipping:

**Quote Total: \$30,385.00**

For further information regarding the Warranty or Terms and Conditions, please refer to our website at <http://in-situ.com/terms-conditions/>

All quoted product & service prices are in U.S. Dollars unless specifically noted otherwise.

For help or questions regarding this quote, please contact **Angela Lull at (970) 498-1562**



221 East Lincoln Ave., Fort Collins, Colorado 80524  
Tel: 1.970.498.1500 / Fax: 1.970.498.1598 / www.in-situ.com

## Sales Quote

Quote No: 00018570  
Issue Date: January 26, 2017  
Page: 2 of 2

Line	Product Number	Product Description
	0099260	Level TROLL 400, Level Sensor Range - 200m, 658 ft (300 PSIA)
	0052000-03-03-02	Rugged Twist-Lock Cable, Poly Non-Vented, Large Plastic Spool (Max 550ft/168m), Twist Lock Term Non-Vented
	0052000-03-03-02	Rugged Twist-Lock Cable, Poly Non-Vented, Large Plastic Spool (Max 550ft/168m), Twist Lock Term Non-Vented
	0052000-03-03-02	Rugged Twist-Lock Cable, Poly Non-Vented, Large Plastic Spool (Max 550ft/168m), Twist Lock Term Non-Vented
	0052000-03-03-02	Rugged Twist-Lock Cable, Poly Non-Vented, Large Plastic Spool (Max 550ft/168m), Twist Lock Term Non-Vented
	0031240	Wireless TROLL Com for Android (Twist Lock version)





## Level **TROLL**® 400, 500 & 700 Data Loggers

Get water level data the way you want it, when you want it with industry-leading water level/pressure and temperature data loggers. By partnering with In-Situ® Inc., you receive durable Level TROLL® Data Loggers that provide years of service, accurate results, intuitive software, and real-time functionality.

### Be Effective

- **Increase productivity:** Reduce training and installation time with In-Situ Inc.'s intuitive software platform and integrated components. Patented twist-lock connectors, included on Level TROLL Loggers and RuggedCable® Systems, ensure error-free deployments.
- **Set up real-time networks:** Access data 24/7 and receive event notifications when you connect data loggers to telemetry systems, radios, or other third-party data collection platforms. Control gates, pumps, alarms, and other equipment by using built-in Modbus/RS485, SDI-12, or 4-20 mA communication protocols.
- **Streamline analysis and reporting:** Automate water level corrections and post-processing, graph data, and accelerate report generation with Win-Situ® Software. Easily export data to Excel®, a web-based management service, or data analysis software.

### Be Reliable

- **Deploy in all environments:** Install loggers in fresh water, saltwater, and contaminated waters. Solid titanium, sealed construction outperforms and outlasts specially-coated data loggers.
- **Log accurate data:** Get optimal accuracy under all operating conditions. Sensors undergo NIST®-traceable factory calibration across the full pressure and temperature range. For applications requiring the highest levels of accuracy, use a vented (gauged) system.
- **Get long-lasting operation:** Reduce trips to the field with low-power loggers that typically operate for 10 years.

### Be In-Situ

- Receive **free**, 24/7 technical support and online resources.
- Order data loggers and accessories from the In-Situ e-store.
- Get guaranteed 7-day service for maintenance (U.S.A. only).

### Applications

- Aquifer characterization: slug tests & pumping tests
- Coastal: tide/harbor levels & wetland/estuary research
- Hydrologic events: crest stage gages, storm surge monitoring, & flood control systems
- Long-term, real-time groundwater & surface water monitoring
- Mining & remediation



# Level **TROLL**® 400, 500 & 700 Data Loggers

General	Level TROLL 400	Level TROLL 500	Level TROLL 700	BaroTROLL
<b>Temperature ranges<sup>1</sup></b>	Operational: -20-80° C (-4-176° F) Storage: -40-80° C (-40-176° F) Calibrated: -5-50° C (23-122° F)	Operational: -20-80° C (-4-176° F) Storage: -40-80° C (-40-176° F) Calibrated: -5-50° C (23-122° F)	Operational: -20-80° C (-4-176° F) Storage: -40-80° C (-40-176° F) Calibrated: -5-50° C (23-122° F)	Operational: -20-80° C (-4-176° F) Storage: -40-80° C (-40-176° F) Calibrated: -5-50° C (23-122° F)
<b>Diameter</b>	1.83 cm (0.72 in.)	1.83 cm (0.72 in.)	1.83 cm (0.72 in.)	1.83 cm (0.72 in.)
<b>Length</b>	21.6 cm (8.5 in.)	21.6 cm (8.5 in.)	21.6 cm (8.5 in.)	21.6 cm (8.5 in.)
<b>Weight</b>	197 g (0.43 lb)	197 g (0.43 lb)	197 g (0.43 lb)	197 g (0.43 lb)
<b>Materials</b>	Titanium body; Delrin <sup>®</sup> nose cone	Titanium body; Delrin nose cone	Titanium body; Delrin nose cone	Titanium body; Delrin nose cone
<b>Output options</b>	Modbus/RS485, SDI-12, 4-20 mA	Modbus/RS485, SDI-12, 4-20 mA	Modbus/RS485, SDI-12, 4-20 mA	Modbus/RS485, SDI-12, 4-20 mA
<b>Battery type &amp; life<sup>2</sup></b>	3.6V lithium; 10 years or 2M readings	3.6V lithium; 10 years or 2M readings	3.6V lithium; 10 years or 2M readings	3.6V lithium; 10 years or 2M readings
<b>External power</b>	8-36 VDC	8-36 VDC	8-36 VDC	8-36 VDC
<b>Memory</b>	2.0 MB	2.0 MB	4.0 MB	1.0 MB
<b>Data records<sup>3</sup></b>	130,000	130,000	260,000	65,000
<b>Data logs</b>	50	50	50	2
<b>Log types</b>	Linear, Fast Linear, and Event	Linear, Fast Linear, and Event	Linear, Fast Linear, Linear Average, Brent, Step Linear, True Logarithmic	Linear
<b>Fastest logging rate</b>	2 per second	2 per second	4 per second	1 per minute
<b>Fastest output rate</b>	Modbus: 2 per second SDI-12 & 4-20 mA: 1 per second	Modbus: 2 per second SDI-12 & 4-20 mA: 1 per second	Modbus: 2 per second SDI-12 & 4-20 mA: 1 per second	Modbus: 2 per second SDI-12 & 4-20 mA: 1 per second
<b>Real-time clock</b>	Accurate to 1 second/24-hr period	Accurate to 1 second/24-hr period	Accurate to 1 second/24-hr period	Accurate to 1 second/24-hr period
<b>Sensor Type/ Material</b>	Piezoresistive; titanium	Piezoresistive; titanium	Piezoresistive; titanium	Piezoresistive; titanium
<b>Range</b>	<i>Absolute (non-vented)</i> 30 psia: 11 m (35 ft) 100 psia: 60 m (197 ft) 300 psia: 200 m (658 ft) 500 psia: 341 m (1120 ft)	<i>Gauged (vented)</i> 5 psig: 3.5 m (11.5 ft) 15 psig: 11 m (35 ft) 30 psig: 21 m (69 ft) 100 psig: 70 m (231 ft) 300 psig: 210 m (692 ft) 500 psig: 351 m (1153 ft)	<i>Absolute (non-vented)</i> 30 psia: 11 m (35 ft) 100 psia: 60 m (197 ft) 300 psia: 200 m (658 ft) 500 psia: 341 m (1120 ft) 1000 psia: 693 m (2273 ft) <i>Gauged (vented)</i> 5 psig: 3.5 m (11.5 ft) 15 psig: 11 m (35 ft) 30 psig: 21 m (69 ft) 100 psig: 70 m (231 ft) 300 psig: 210 m (692 ft) 500 psig: 351 m (1153 ft)	30 psia (usable up to 16.5 psi; 1.14 bar)
<b>Burst pressure</b>	Max. 2x range; burst > 3x range	Max. 2x range; burst > 3x range	Max. 2x range; burst > 3x range	Vacuum/over-pressure above 16.5 psi damages sensor
<b>Accuracy @ 15° C<sup>4</sup></b>	±0.05% full scale (FS)	±0.05% FS	±0.05% FS	±0.05% FS
<b>Accuracy (FS)<sup>5</sup></b>	±0.1% FS	±0.1% FS	±0.1% FS	±0.1% FS
<b>Resolution</b>	±0.005% FS or better	±0.005% FS or better	±0.005% FS or better	±0.005% FS or better
<b>Units of measure</b>	Pressure: psi, kPa, bar, mbar, mmHg, inHg, cmH <sub>2</sub> O, inH <sub>2</sub> O Level: in., ft, mm, cm, m	Pressure: psi, kPa, bar, mbar, mmHg, inHg, cmH <sub>2</sub> O, inH <sub>2</sub> O Level: in., ft, mm, cm, m	Pressure: psi, kPa, bar, mbar, mmHg, inHg, cmH <sub>2</sub> O, inH <sub>2</sub> O Level: in., ft, mm, cm, m	Pressure: psi, kPa, bar, mbar, mmHg, inHg, cmH <sub>2</sub> O, inH <sub>2</sub> O
<b>Temperature Sensor</b>	Silicon	Silicon	Silicon	Silicon
<b>Accuracy &amp; resolution</b>	±0.1° C; 0.01° C or better	±0.1° C; 0.01° C or better	±0.1° C; 0.01° C or better	±0.1° C; 0.01° C or better
<b>Units of measure</b>	Celsius or Fahrenheit	Celsius or Fahrenheit	Celsius or Fahrenheit	Celsius or Fahrenheit
<b>Warranty<sup>6</sup></b>	3 years	3 years	3 years	3 years
<b>Notes</b>	<sup>1</sup> Temperature range for non-freezing liquids. <sup>2</sup> Typical battery life when used within the factory-calibrated temperature range. <sup>3</sup> 1 data record = date/time plus 2 parameters logged (no wrapping) from device within the factory-calibrated temperature range. <sup>4</sup> Across factory-calibrated pressure range. <sup>5</sup> Across factory-calibrated pressure and temperature ranges. <sup>6</sup> Up to 5-year (total) extended warranties are available for all sensors—call for details. Delrin is a registered trademark of E.I. du Pont de Nemours and Company.			

## Every Application & Budget

Use maintenance-free, non-vented systems for long-term monitoring and at flood-prone or high-humidity sites.

Use high-accuracy, vented systems to conduct aquifer tests and to view barometrically compensated water level data in real time.

Forgot to set a level reference at the beginning of a deployment? Automate level corrections by using Win-Situ Software's post-level correction Wizard.

## BaroTROLL® Data Logger

Using a non-vented system? Collect barometric pressure and temperature data with a titanium BaroTROLL Data Logger in order to compensate data for barometric pressure fluctuations.

Calculating barometric efficiency? Use the BaroTROLL Logger with vented systems.

Win-Situ® Baro Merge® Software automates post correction of water level data.



Specifications are subject to change without notice.



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221 East Lincoln Avenue, Fort Collins, Colorado, U.S.A. 80524

1-800-446-7488 (toll-free in U.S.A. and Canada)

1-970-498-1500 (U.S.A. and international)

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**HERON**  
INSTRUMENTS INC.  
Groundwater Monitoring

447 Moxley Road  
Dundas, Ontario L9H 5E2  
1-800-331-2032  
orderdesk@heroninstruments.com

## QUOTE

Date	Quote
1/23/2017	7258

Name / Address
Alda Engineering Hannibal Blandon 909-587-9916 5928 Vineyard Ave. Rancho Cucamonga, CA 91701 blandona@aldaengineering.com

Ship To:
Alda Engineering Hannibal Blandon 909-587-9916 5928 Vineyard Ave. Rancho Cucamonga, CA 91701 blandona@aldaengineering.com

Requisitioner	Terms	Sales Rep	Shipping From	Ship Via
Hannibal	PO# or CC USD	Mike	Depew, NY	FedEx

Item	Part Number	Qty	Unit Price	Total
dipperLog NANO ES/S - US	5204(400ft/120m) - calibrated in feet	14	299.00	4,186.00
Direct Read Down Hole Cable F-U	5010F	5,500	1.00	5,500.00
	3 @ 600', 3 @ 500', 3 @ 400', 5 @ 200'			
Direct Read Well Head w/Kit -US	5011-1	14	105.00	1,470.00
barLog NANO - US	5116 barometric comp.	2	310.00	620.00
PC Communication Cable - US	5009	2	99.00	198.00
Software - dipper-Log - US	5008	1	0.00	0.00
water tape x 750ft - US	2005	1	1,159.00	1,159.00
S&H	Shipping and Handling - from Heron direct via FedEx	1	260.00	260.00
S&H	Shipping and Handling - from Heron US warehouse in NY. We ship every Monday to our warehouse. Depending on when you order and will determine when your product may be shipped. Service and Technical support hours are 8am-4pm EST Heron is currently in discussions with a California based distributor to assist in service and technical support for West coast customers. This negotiation is in the initial phase and may take 6-8 months to get active. Heron can also provide pre-scheduled technical support for new users in setting up our software	1	180.00	180.00
<b>Total</b>			<b>\$13,573.00</b>	

- US Funds  
- 2% Processing Fee for Credit Card Payments  
- \$35.00 Processing Fee for Wire Transfer Payments  
- Shipping Term: EXW - incoterms 2010

GST/HST No. 886824887

Web Site

[www.heroninstruments.com](http://www.heroninstruments.com)



## dipperLog NANO

The Affordable Groundwater Level Data Logger

Warranty: 3 year (limited)

The **dipperLog NANO** is a topline, low cost, accurate, user friendly groundwater data logger. They are used by groundwater professionals requiring a durable and reliable, cost effective solution to **long term** monitoring of groundwater levels in boreholes and open bodies of water. The Heron logger is also ideal for applications involving **short term** pump and slug testing, or for wetland and tidal studies.

With an intuitive program, the **dipperLog NANO** is simple to launch and data recovery is fast and easy. The large black font on yellow gives high visibility on your screen while working in the field.

The Heron Instruments' **dipperLog NANO** system allow users to enhance their data logging projects using a family of compatible and affordable accessories.



### Features included with the dipperLog NANO:

- Memory – 32,000 data sets (depth and temperature of water)
- Download Speed – 32,000 data sets in 90 seconds
- Battery – life of approx. 7 years based on 5 minute reading intervals
- Calibration Certificate – with each logger
- Antifouling Screen

### Available options:

- Corrosion proof Delrin or stainless steel
- **barLog NANO** for automatic barometric compensation
- Vented logger
- **tapNtell** for instant real time readings
- **showNtell** hand held display
- **SDI12** interface cable

[www.heroninstruments.com](http://www.heroninstruments.com)

## dipperLog NANO

dipperLog NANO available in Stainless Steel or Delrin

### SELECTION GUIDE:

Item	S/S Part #	Delrin Part #
dipperLog NANO B (30ft/10m)	5201 NANO-BS/S	5101 NANO-BDeI
dipperLog NANO C (100ft/30m)	5202 NANO-CS/S	5102 NANO-CDeI
dipperLog NANO D (200ft/60m)	5203 NANO-DS/S	5103 NANO-DDeI
dipperLog NANO E (400ft/120m)	5204 NANO-ES/S	5104 NANO-EDeI
*vented logger available		5206 VENTED (pressure range)

#### ① SUSPENDED VERSION

Remove from Well to Download



Item	Part #
dipperLog NANO	(as per above)
S/S Suspension Wire (feet)	5005F SSwire (per ft)
S/S Suspension Wire (meters)	5005M SSwire (per m)
PC Communication Cable	5009 PC/USBcable
dipperLog Software	5008 dLog USB

#### ② REEL VERSION

Portable



Item	Part #
dipperLog NANO	(as per above)
Reel for dipperLog Lrg.	5013 dLogReelLrg
Reel for dipperLog Reg.	5012 dLogReelReg
Direct Read Down Hole Cable (feet)	5010F DHcable (per ft)
Direct Read Down Hole Cable (meters)	5010M DHcable (per m)
PC Communication Cable	5009 PC/USBcable
dipperLog Software	5008 dLog USB

#### ③ WELL HEAD READOUT VERSION

Leave in the Well to Read



Item	Part #
dipperLog NANO	(as per above)
Direct Read Down Hole Cable (feet)	5010F DHcable (per ft)
Direct Read Down Hole Cable (meters)	5010M DHcable (per m)
Vented cable (feet)*	5032F Vcable (per ft)
Vented cable (meters)*	5033M Vcable (per m)
Direct Read Well Head / Mounting Kit	5011 WellHead/Mount Kit
PC Communication Cable	5009 PC/USBcable
dipperLog Software	5008 dLog USB

### ACCESSORIES:

<b>PC Communication Cable and Software</b>  5009 PC/USB Cable	<b>tapNtell surface mount display</b>  5020 tapNtell	<b>barLog NANO for barometric comp.</b>  5116 NANO-barLog	<b>SDI-12 Interface Cable</b>  5021 SDI-12	<b>showNtell Hand Held Display</b>  5018 ShowNtell
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## Deployment Options:

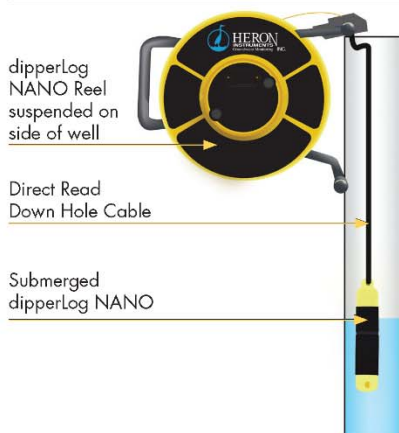
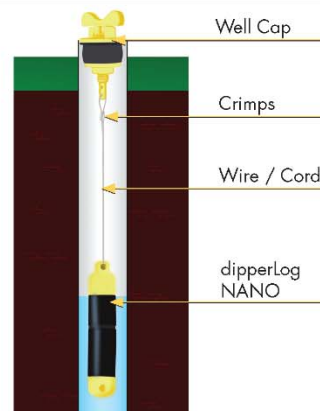
### ① SUSPENDED VERSION - ECONOMICAL

This option is suitable for clients who are looking for a lower cost alternative for **long term** monitoring.

The **dipperLog NANO** can be suspended in the well using a non-corrosive, no-stretch wire or cord.

The **dipperLog NANO** will need to be raised to the surface for downloading and re-programming.

Real time readings are not available with this option.



### ② REEL VERSION - PORTABLE

This option is appropriate for easy portability from well to well for **short term** monitoring. Allows the user access to the **dipperLog NANO** while the logger continues to take readings in the well.

Downloading and re-programming can be done without removing the logger from the well.

Real time readings are available with this option.

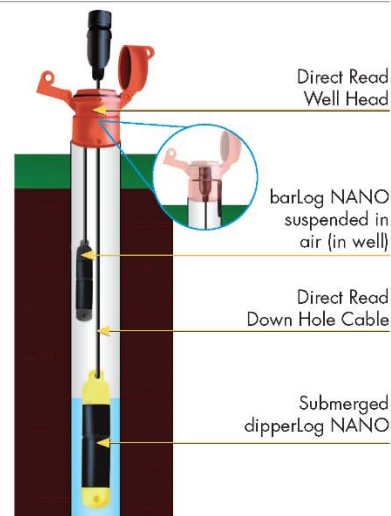
### ③ WELL HEAD READOUT VERSION - MOST POPULAR

This option is suitable for **long term** monitoring with easy access for data download and real time readings.

Downloading and re-programming can be done without removing the logger from the well.

Real time readings are available with this option.

Vented version available.



info@heroninstruments.com



### dipperLog NANO Specifications

Transducer	Piezoresistive Silicon 316LSS
Construction Material	All Delrin (corrosion resistant Acetal Copolymer) or Stainless Steel and Delrin Combination
Hydrostatic Depth Range	0-120M/400F
Accuracy (Typical)	0.05% net FS
Accuracy (Max. error)	0.1% net FS
Pressure Resolution	0.006% net FS
Temperature Sensor	IC Temp Sensor
Temperature Accuracy	+/- 0.5 Deg. C
Temperature Resolution	0.0625 Deg. C
Transducer Temp Compensation Range	0 Deg. C to + 50 Deg. C
Temp Response Time	10 Seconds
Battery Type	3.6 Volt Lithium
Battery Life	Approx. 7 Years @ 5 Minute Readings
Clock Accuracy	+/- 1 Minute per Month
Long Term Stability	+/- 0.2% FS per Year
Operating Temperature	-20 Deg. C to +80 Deg. C
Memory	Non - Volatile EEPROM
Max. Readings Between Downloads	32,000 Sets - Water Depth and Temperature
Communication	USB RS232 SDI 12
Download Speed	1.5 Minutes (32,000 Data Sets)
Dimensions	100mm (4in) Long x 22.5 mm (0.875 in) Diameter
Weight	Delrin -70grams Effective Specific Gravity 2 Stainless Steel - 135 grams Effective S.G 4
Wetted Materials	Stainless Steel, Viton, Acetal Copolymer (Delrin)
Sampling Modes	Linear - Real Time - "Log" Time (see below)
Logging Intervals	Seconds, Minutes, Hours - Min. 1 sec, Max. 255hrs
Download Speed	19.2 k/bits per Second
Units of Measure	Feet and Meters
Antifouling Screen	Weight 22g Length 50mm Dia 25mm Material Phosphor Bronze (98% copper)

Note: In "Log time" mode the **dipperLog NANO** increases the readings from 1 second by an additional 1 second for 255 readings. The final reading interval is 4 min and 14 secs, and the logger then stops logging. This mode logs for a total of 9 hours before stopping.

#### HERON INSTRUMENTS INC.

447 Moxley Rd. | Dundas, ON Canada L9H 5E2 | 1-800-331-2032 | info@heroninstruments.com  
Please visit our website [www.heroninstruments.com](http://www.heroninstruments.com) for more information on the complete Heron line.

✶ Made in Canada

**Southland Water Technologies LLC**

2588 El Camino Real  
Suite F-510  
Carlsbad, CA 92008  
United States

Voice: 760-230-5231  
Fax: 760-431-7397

**QUOTATION**

Quote Number: 012517-12ES

Quote Date: Jan 25, 2017

Page: 1

Drop Shipment

UPS Ground

**Quoted To:**

Alda Engineering Inc.  
5928 Vineyard Avenue  
Rancho Cucamonga, CA 91701

Alda Engineering Inc.  
5928 Vineyard Avenue  
Rancho Cucamonga, CA 91701

Customer ID	Good Thru	Payment Terms	Sales Rep
Alda Engineering	2/24/17	Net 30 Days	KB

Quantity	Item	Description	Unit Price	Amount
1.00	0670	ENO Scientific Well Watch 670 well level sounder, 4-20 mA output	679.00	679.00
1.00	5320	ENO Scientific 5W solar panel kit, includes 5W solar panel, charge controller and rechargeable AGM battery Freight is FOB factory and amount shown is an estimate. Actual freight charges to apply. Expect 7-10 days for delivery.	259.00	259.00
Subtotal				938.00
Sales Tax				72.70
Freight				45.00
<b>TOTAL</b>				<b>1,055.70</b>





# Well Watch Solar Power Kit

## Specifications

SYSTEM SIZE	5W	10W	30W
Rated Power Generation	1.25W	2.5W	8W
Battery Capacity	9Ah		
Battery Voltage	12V		
Battery Type	Valve Regulated Sealed Lead Acid/ Absorbent Glass Mat (AGM)		
Battery Life	5 Yrs		
Controller Type	PWM		
Overcharge Protection	14.4V		
Over-discharge Protection	11.0V		
Over-discharge recovery volts	12.0V		
Controller Self Consumption	<0.5W		
Enclosure Type	Die Cast Aluminum		
Enclosure External Size	11 x 8.5 x 3.5"		
Enclosure Internal Size	10 x 7.75 x 3"		
Solar Panel Dims	11 x 9"	14 x 12"	21 x 20"
Operating Temperature	-30 C to +60 C		
System Weight (no battery)	10 lb		
Battery Weight	5.5 lb		
Wind Speed Rating	110 MPH		
Warranty	1 Years		

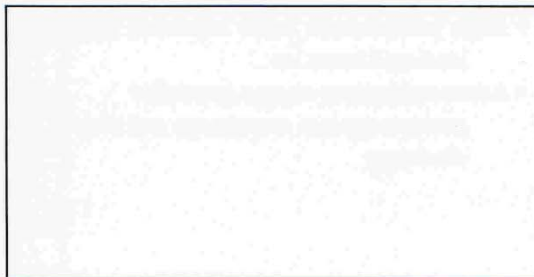
### Included with Well Watch Solar Power Kit:

- Solar panel
- Die cast enclosure
- Pole/wall mounting kit with mounting plate
- Cable assembly to connect battery to controller
- Battery charging controller
- 12V battery
- Outdoor rated cable assembly to connect solar panel to controller



Solar Power Kit was designed for use with the Well Watch Series Level Indicators

For more information, contact your local distributor:



[www.enoscientific.com](http://www.enoscientific.com)



## Well Watch Solar Power Kit

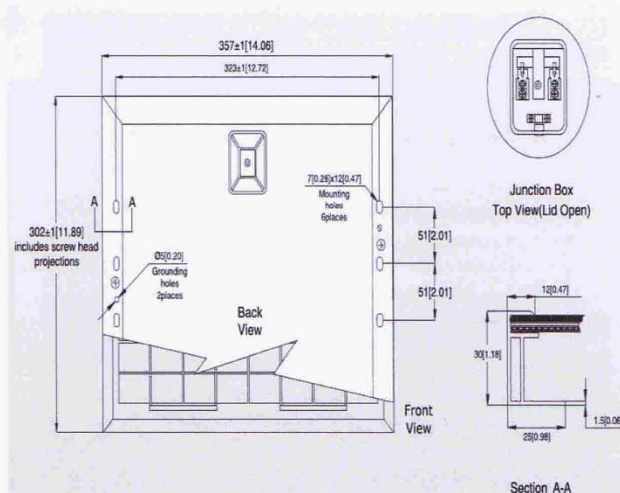


The Well Watch Solar Power Kit offers a complete power solution to off the grid or remote well monitoring applications. The system works best with 6 hours of peak sun per day but has enough reserve to operate the Well Watch on continuous logging for over a week with no sun. The Well Watch's log rate can be changed to lengthen the reserve time to last through a few weeks of cloudy weather.

The system is available in 3 sizes, 5W for sunnier locations and 10W and 30W option for areas with less peak sun per day. There are larger custom sizes available for systems that need the ability to power multiple sensors. Ensuring that all customers have the opportunity to operate the Well Watch system.

### FEATURES

- Complete remote power solution for off grid, power sensitive operation
- Weatherproof, UV resistant, outdoor enclosures
- Enclosures can be wall or pole mounted
- High performance valve regulated sealed lead acid batteries
- Advanced battery charge controller protects against overcharge and over discharge



[www.enoscientific.com](http://www.enoscientific.com)





# Well Watch™ 670

## Specifications

### MEASUREMENT:

Units - English (ft & in) or Metric  
 Resolution - .05 ft (1 cm)  
 Accuracy - .1 ft (3 cm)  
 Range - 10 to 4000 ft (3 to 1200M)  
 Update time - ~1 sec @ 500 ft (150M)

### LOGGING:

Extended Memory - 2GB nonvolatile flash memory for 25 million data points  
 Automatic Logging Rates - 1 sec to 60 minutes per sample

### POWER:

External Power - 6.5 to 12VDC at 80ma max.  
 Do not exceed 16V.  
 Real Time Clock - Li Ion 3V battery CR2032

### ENVIRONMENTAL:

Temperature - -10 to 110 F (-20 to 45 C)  
 Humidity - 10 to 90% non-condensing

### PHYSICAL:

Meter Dimensions - 8.25 x 3.5 x 3.5"  
 Probe Tip Dimensions - 1/2", 3/4" and 1" MPT

### FEATURES:

Display - 2 x 16 character LCD  
 Temperature compensation in unit

### INPUT/OUTPUT:

RS232  
 RS485 (Modbus)  
 4-20mA output  
 0-5V Analog output  
 5V Alarm output  
 USB  
 Built-in wireless link for use with remote display



### Included with Well Watch 670 kit:

Well Watch  
 Quick Start Guide  
 3 Nozzles (1/2", 3/4", 1")  
 Microphone extension tube  
 A/C Power adapter  
 1Year warranty



### Optional Accessories:

Solar Power Kit 5W, 10W, 30W  
 310 Remote Display  
 12V DC Power Cables  
 Extended Warranty



For more information, contact your local distributor:

[www.enoscientific.com](http://www.enoscientific.com)



## Well Watch™ 670

With Sonic Sense™ Technology



The Well Watch 670 water level indicator with *Sonic Sense* technology uses low frequency sound waves to provide continuously updated and accurate water measurements for ground water management.



Using the Well Watch for long term monitoring and diagnostics provides benefits over traditional water level meters. The Well Watch works equally well at any angle, around corners, and partial obstructions down to 4000ft. It requires little power so it can be operated from AC, battery or solar setup. The unit is externally mounted so there is no need to lower anything into the well which eliminates the risk of well contamination and product corrosion. It is the perfect choice for potable, contaminated or caustic wells.

### Product Features:

- SCADA/Telemetry Compatible
- Simple installation in any well configuration
- Data logger stores up to 25 million time/date stamped log points
- Weather resistant housing
- RS232, RS485 (Modbus), 4-20mA, 0-5V, 5V Alarm, USB Outputs
- Capability to initiate pump shut off to prevent overuse

### Product Benefits:

- Complete data with easy acquisition
- Real time well levels (static, drawdown, recovery)
- Save time and money compared to manual readings
- Enables well management and control
- No proprietary software or monthly fees
- Protects the investment in well and pump equipment
- Built in alarm capability in case of emergencies
- Comply with State and Local usage regulations



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