

ATTACHMENT 9: PAST PERFORMANCE

The Indian Wells Valley Water District (IWWVD) was the lead agency for two grants within the past 5 years.

❖ Installation and Implementation of a Comprehensive Groundwater Monitoring Program for the Indian Wells Valley, California (FY 2004/2005)

✚ Grant Amount: \$249,725.00

✚ Total Project Budget: \$448,325.00

Attached you will find a copy of the Grantee Performance Evaluation for this project dated January 13, 2009. All seven tasks were completed and all requirements of the agreement were fulfilled. Tasks included: installation of 8 monitoring wells, collection of numerous groundwater samples (including samples for isotope measurements), and installation of nine data loggers in key wells for continuous groundwater level sampling. The total budget for this project was \$448,325.00. All tasks were completed within budget and within the time frame allotted (one time extension granted). This LGA grant was a continuation of work first begun in FY 2000/2001 under AB303 entitled “Groundwater Management in the Indian Wells Valley Basin” which provided a comprehensive review of the basin’s groundwater quantity and quality. Each grant was obtained on behalf of the Indian Wells Valley Cooperative Groundwater Management Group. The current grant request will continue the work of the two previous grants by continuing analysis of groundwater quality in the basin with a focus on data gap areas and to obtain the data needed for compliance with the upcoming Salt and Nutrient Management Plan.

❖ Pilot Testing of Zero-Liquid Technologies Using Brackish Groundwater for Inland Desert Communities

✚ Grant Amount: \$578,500.00

✚ Total Project Budget: \$1,189,000.00

This pilot project was awarded under the 2006 Proposition 50 Chapter 6(a) Water Desalination grants program. The objective of this study was to pilot-test the potential to desalt brackish water from the IWWVD’s Northwest Well Field (NWWF) to produce up to 3000 acre-ft per year of new potable water. Although the work under this project is not directly comparable to the current project, it does demonstrate the ability of the IWWVD to manage a project of this size within budget and a fixed time frame. The original grant amount for this project was \$578,500.00. The IWWVD invoiced \$536,036.80, which was \$42,463.20 under budget. The total project cost was \$1,116,579.30 for a total of

\$72,420.70 under budget. Nine quarterly progress reports were submitted to DWR along with five copies of the final report and one electronic copy. All six tasks were completed with only one significant delay caused by a third party's inability to deliver vital testing equipment on time. Three posters and 8 presentations of the results of this project were presented at conferences throughout the county by IWVWD and their consultant Carollo Engineers. Attached you will find a letter from Richard Mills, DWR section chief, summarizing the project and performance by IWVWD. In addition, an e-mail from Fethi BenJemaa, DWR staff scientist, is attached that contains some comments regarding the final report.

DEPARTMENT OF WATER RESOURCES

1416 NINTH STREET, P.O. BOX 942836
SACRAMENTO, CA 94236-0001
(916) 653-5791



January 21, 2009

Mr. Tom Mulvihill
Indian Wells Valley Water District
500 West Ridgecrest Boulevard
Ridgecrest, California 93556-1329

Local Groundwater Management Assistance Act of 2000,
FY 2004/2005 Agreement No. 4600004077

Dear Mr. Mulvihill:

We received and accepted the report entitled "Installation and Implementation of a Comprehensive Groundwater Monitoring Program for the Indian Wells Valley, California". This represents completion of your agency's obligations with the California Department of Water Resources under Agreement No. 4600004077.

Thank you for your interest in the Local Groundwater Assistance Grant Program and your efforts to better understand and manage groundwater resources in your area. The Grant Performance Evaluation is attached for your records and submittal with future evaluations. If you have any questions, please contact Jim Lin at (916) 651-9221 or Harley H. Davis at (916) 651-9229.

Sincerely,

A handwritten signature in cursive script, appearing to read "Ralph Svetich".

Ralph Svetich, Section Chief
Special Projects
Financial Assistance Branch

Attachment

STATE OF CALIFORNIA
GRANTEE PERFORMANCE EVALUATION
 DEPARTMENT OF WATER RESOURCES
 CONJUNCTIVE WATER MANAGEMENT BRANCH
 Rev5/04

		AGREEMENT NUMBER	AMENDMENT NUMBERS
DEPARTMENT Water Resources	GRANTEE'S NAME AND ADDRESS Indian Wells Water District 500 W. Ridgecrest Blvd. Ridgecrest, CA 93556-1329		
DIVISION Planning and Local Assistance			
EVALUATOR'S NAME Jim Lin			
PROJECT TITLE Installation & Implementation of a Groundwater Monitor. Prog. for Indian Wells Valley	AGREEMENT EXPIRATION DATE November 15, 2007		
1. TOTAL AGREEMENT AMOUNT INCLUDING AMENDMENTS \$249,725	GRANTEE DEPARTMENT (if different than grantee's name)		

2. DESCRIBE THE WORK THAT WAS IN THE PROJECT WORK PLAN.

The work plan consisted of seven tasks: 1. Environmental documentation; 2. Construct monitoring wells; 3. Water sampling; 4. Continuous water level monitoring; 5. Geohydrologic data review and interpretation; 6. Quarterly progress reports; and 7. Prepare final report.

The objectives of this project were to install monitoring wells at ten locations, to collect water samples and isotopic samples, to interpret data and to determine trend, to conduct continuous water level and water quality monitoring, and to make recommendations for management strategies to assure a safe, reliable water supply to the Indian Wells Valley.

3. WAS THE WORK PERFORMED?

NO - If no, explain why

YES - if yes, explain how the work met the specific problem, administrative requirement, or program need for the project.

- All seven tasks were completed. Nine holes were drilled, and eight wells were completed (one hole was collapsed) with four paired wells.
- Groundwater samples were collected and water quality were measured of concentrations of Na, Ca, Mg, K, Fe, Cl, HCO₃, CO₃, SO₄, F, B, NO₃, As, and hardness, alkalinity, conductivity and TDS.
- Stable isotope measurements in hydrogen, oxygen, sulfur, boron, plus radioactive isotopes of ¹⁴C and tritium ³H.
- Nine data loggers were installed in key wells for continuous groundwater level sampling.
- The Grantee installed eight new groundwater monitoring wells and nine data loggers; monitored groundwater level changes; and collected groundwater samples for chemical, stable isotope, and carbon 14 and tritium analyses. The work suggested that the groundwater resources in the Indian Wells Valley were limited within the Basin and no groundwater entered the Basin from the Kern Plateau.

4. DID THE GRANTEE FULFILL ALL REQUIREMENTS OF THE AGREEMENT?

NO - If no, explain why

YES - if yes, explain how the work met the specific problem, administrative requirement, or program need for the project.

- Four Quarterly reports were submitted on time.
- Final Report (two hard copies and two CDs) were received.
- Invoice requirements (including the retention invoice) were met.
- Grantee was available all the time and worked cooperatively with DWR Project Manager during site inspection and in Final Report preparation.
- The Final Report was technically of high quality. The grantee presented the results at technical conferences.

5. EMPLOYEE TO BE CONTACTED REGARDING GRANTEE PERFORMANCE Jim Lin		6. TITLE Water Resources Engineer	7. TELEPHONE NUMBER (916) 651-9221
8. EVALUATOR'S SIGNATURE 	9. TITLE Water Res. Engineer	10. DATE January 13, 2009	11. TELEPHONE NUMBER (916) 651-9221

DEPARTMENT OF WATER RESOURCES

1416 NINTH STREET, P.O. BOX 942836
SACRAMENTO, CA 94236-0001
(916) 653-5791



July 10, 2012

Ms. Renee Morquecho
District Engineer
Indian Wells Valley Water District
500 West Ridgecrest Boulevard
Ridgecrest, California 93555

Dear Ms. Morquecho:

On behalf of the Department of Water Resources, we would like to thank you for your participation in the Chapter 6 of Proposition 50 (Water Code Section 79545(a)) Desalination Grant Program. Indian Wells Valley Water District (IWWVD) received \$538,920.30 in grant funds for the project called Pilot Testing of Zero-Liquid-Discharge Technologies Using Brackish Groundwater for Inland Desert Communities (DWR Contract No. 4600007436). The contract period was April 30, 2007 through June 30, 2010, and the work was satisfactorily completed. The results of the project will contribute to helping further desalination in California to meet existing and future water supply and environmental needs.

Indian Wells Valley Water District (IWWVD) examined brackish groundwater treatment to produce potable water. Located in an inland basin, IWWVD could not use traditional brine disposal methods; therefore, the pilot project focused on the optimum brackish groundwater treatment train to allow for brine minimization. The project treatment utilized reverse osmosis (RO) and electrodialysis-reversal (EDR) technologies.

The 1,600 hours of operation provided significant data, which showed the treatment of brackish water by RO and EDR achieved 92 percent water recovery with 90 percent removal of influent total dissolved solids. The final report provides a good description of the methodologies and a concise narrative of the results and findings.

The state's goal is to increase the use and availability of desalinated water in an economically and environmentally acceptable manner in California. We encourage you to share the results of this project with other agencies that might benefit in their own efforts to make best use of available water resources.

Thank you again for your participation. If we can be of further assistance, please contact me at (916) 651-0715 or mills@water.ca.gov.

Sincerely,

A handwritten signature in black ink that reads "Richard A. Mills".

Richard A. Mills
Chief, Water Recycling and Desalination Section
Water Use and Efficiency Branch
Department of Water Resources

Renee Morquecho

From: Jemaa, Fethi Ben [jemaa@water.ca.gov]
Sent: Thursday, May 06, 2010 1:43 PM
To: reneem@iwwwd.com; jennifer.keep@iwwwd.com
Subject: [SPAM] Final report / Prop 50 Desal 4600007436

Renee,

I finally got the chance to finish reviewing the draft final report. I commend you and Carollo for it. It contains a good description of the methodologies and a concise narrative of the results and findings. Please go ahead and finalize it. A small piece of information that needs to be corrected is the reference to the "2004 Water Desalination Grant Program of Prop 50" made in Chapter 1 (p. 1-1) and in the Exec. Summary (p. ES-1). Instead, it should refer to the "2006 Desal Grant Program" (that's the 2nd cycle of the desal grants). Even though the agreement specifies that 10 copies of the final should be submitted, half of that number should be just fine - however, we would also like to get an electronic copy (preferably a pdf), which we will use for posting on the web. In addition, can you please send us a final cost summary statement for the whole pilot project study, showing actual expenditures by categories for both State grant and local cost share.

I have also approved invoice # 8 and submitted it for payment.

Once you send us the Final Report - you can send a final invoice for the release of retentions - those are:

Retention:	Invoice
\$12,115.92	#1
\$9,635.95	#2
\$6,426.62	#3
\$5,475.08	#4
\$10,538.53	#5
\$5,392.33	#6
\$2,845.32	#7
\$1,173.93	#8

Total retentions: \$53,603.68

Please let me know if you have any questions

Regards.
Fethi

Fethi BenJemaa, Ph.D., Staff Scientist

Water Recycling & Desalination | California Department of Water Resources

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www.water.ca.gov/desalination/ | www.water.ca.gov/recycling/