

**SPECIAL MEETING OF THE WATER RESOURCES COMMITTEE
OF THE BOARD OF DIRECTORS
WATER REPLENISHMENT DISTRICT OF SOUTHERN CALIFORNIA
4040 PARAMOUNT BOULEVARD, LAKEWOOD, CALIFORNIA 90712
12:00 P.M., TUESDAY, JANUARY 17, 2012**

AGENDA

EACH ITEM ON THE AGENDA, NO MATTER HOW DESCRIBED, SHALL BE DEEMED TO INCLUDE ANY APPROPRIATE MOTION, WHETHER TO ADOPT A MINUTE MOTION, RESOLUTION, PAYMENT OF ANY BILL, APPROVAL OF ANY MATTER OR ACTION, OR ANY OTHER ACTION. ITEMS LISTED AS "FOR INFORMATION" MAY ALSO BE THE SUBJECT OF ANY "ACTION" TAKEN BY THE BOARD OR A COMMITTEE AT THE SAME MEETING.

- 1. DETERMINATION OF A QUORUM**
- 2. PUBLIC COMMENT**
- 3. MINUTES OF THE MEETING OF DECEMBER 7, 2011**
Staff Recommendation: Approve the minutes as submitted.
- 4. GROUNDWATER BASIN UPDATE**
Staff Recommendation: For information.
- 5. CONSIDERATION OF RESOLUTION NO. 12-922 – A RESOLUTION OF THE BOARD OF DIRECTORS OF THE WATER REPLENISHMENT DISTRICT OF SOUTHERN CALIFORNIA ORDERING AN ENGINEERING SURVEY AND REPORT REGARDING THE GROUNDWATER SUPPLIES OF THE DISTRICT PURSUANT TO WATER CODE §60300**
Staff Recommendation: Adopt Resolution No. 12-922 ordering the preparation of the 2012 Engineering Survey and Report.
- 6. GROUNDWATER BASINS MASTER PLAN UPDATE**
Staff Recommendation: For information.
- 7. CONTRACT AMENDMENT FOR NELLOR ENVIRONMENTAL ASSOCIATES**
Staff Recommendation: Extend the termination date for the agreement with Nellor Environmental Associates, Inc., to December 31, 2012, and increase the contract amount by an additional \$20,000.
- 8. AGREEMENT WITH THE LOS ANGELES COUNTY FLOOD CONTROL DISTRICT FOR ALAMITOS BARRIER OBSERVATION WELLS**
Staff Recommendation: Enter into an Agreement with the Los Angeles County Flood Control District, subject to approval to form by District Counsel, to construct new observation wells within the Alamitos Barrier Project for a cost to WRD not to exceed \$300,000.
- 9. NO COST TIME EXTENSION FOR HYDROGEOLOGIC, WATER QUALITY, AND GROUNDWATER MODELING RESEARCH WITH THE UNITED STATES GEOLOGICAL SURVEY**
Staff Recommendation: Extend the expiration date of USGS Contract No. 07W4CAD21710 for hydrogeologic and modeling research to June 30, 2012, at no cost to the District.

10. **WATEREUSE RESEARCH FOUNDATION 2012 MEMBERSHIP RENEWAL**
Staff Recommendation: Renew membership with the WaterReuse Research Foundation in the amount of \$12,000 for calendar year 2012.
11. **LOS ANGELES BASIN STORMWATER CONSERVATION STUDY BY LOS ANGELES COUNTY FLOOD CONTROL DISTRICT AND BUREAU OF RECLAMATION**
Staff Recommendation: For information.
12. **HYDRAULIC FRACTURING**
Staff Recommendation: For information.
13. **SPREADING GROUNDS OPERATION DISCUSSION**
Staff Recommendation: For discussion.
14. **GROUNDWATER RELIABILITY IMPROVEMENT PROGRAM (GRIP) UPDATE**
Staff Recommendation: For information.
15. **DIRECTORS REPORTS, INQUIRIES, AND FOLLOW-UP OF DIRECTIONS TO STAFF**
16. **ADJOURNMENT**

Posted by Abigail C. Andom, Deputy Secretary, January 10, 2012.

In compliance with the Americans with Disabilities Act (ADA), if special assistance is needed to participate in the Board meeting, please contact Deputy Secretary Abigail Andom at (562) 921-5521 for assistance to enable the District to make reasonable accommodations.

All public records relating to an agenda item on this agenda are available for public inspection at the time the record is distributed to all, or a majority of all, members of the Board. Such records shall be available at the District office located at 4040 Paramount Boulevard, Lakewood, California 90712.

Agendas and minutes are available at the District's website, www.wrd.org.

UNAPPROVED
MINUTES

UNAPPROVED
MINUTES

**MINUTES OF DECEMBER 7, 2011
MEETING OF THE WATER RESOURCES COMMITTEE
OF THE BOARD OF DIRECTORS
WATER REPLENISHMENT DISTRICT OF SOUTHERN CALIFORNIA**

A meeting of the Water Resources Committee of the Board of Directors of the Water Replenishment District of Southern California was held on Wednesday, December 7, 2011, 12:25 p.m., at the District Office, 4040 Paramount Boulevard, Lakewood, California. Director Rob Katherman called the meeting to order and presided thereafter. Deputy Secretary Abigail C. Andom recorded the minutes.

1. DETERMINATION OF A QUORUM

Attendees at the meeting were as follows:

Committee: Directors Albert Robles and Rob Katherman

Staff: Robb Whitaker, Ted Johnson, Jason Weeks, Jim McDavid,
Everett Ferguson, Special Counsel David J. Alvarez

Public: Terry Foreman, CH2MHILL

2. PUBLIC COMMENT

Chief Hydrogeologist Ted Johnson introduced Everett Ferguson to the Committee members. Mr. Johnson stated that Mr. Ferguson is the District's new Senior Hydrogeologist replacing a position vacated a few months ago. He stated that Mr. Ferguson has a B.S. Geology degree, a Masters in Business Administration and is a certified hydrogeologist in California and Kentucky.

The agenda items were taken out of order.

4. MINUTES OF THE SPECIAL MEETING OF NOVEMBER 2, 2011

The minutes were approved as submitted.

5. GROUNDWATER BASIN UPDATE

Chief Hydrogeologist Ted Johnson provided an update on the groundwater conditions in the Central and West Coast Basins. Mr. Johnson highlighted the following:

- Precipitation – since the start of the water year on October 1, 2011, there has been 2.59 inches of rainfall recorded. A normal year is 15.83 inches so the region was 16% normal in two months of the water year.
- Groundwater levels - groundwater levels in the Central Basin are currently rising at the rate of about 0.9 feet per week and in the West Basin water levels are currently falling at the rate of 0.2 feet per week.
- Montebello Forebay Spreading Grounds Replenishment – updated numbers from the L.A. County Department of Public Works indicate that 114,800 acre-feet of storm water has been captured at the Montebello Forebay from October 1, 2010 – September 30, 2011. A normal year is 54,000 acre-feet so this year, storm water captured is 213% above normal. WRD purchased 37,315 acre-feet of imported water during the

Water Year, including 18,041.3 acre-feet of Tier 1 untreated water between October 2010 and March 2011, and 19,273.7 acre-feet of discounted MWD untreated replenishment water between June and August 2011. MWD is considering new replenishment program opportunities for 2012 depending on surplus water availability, and their Board is expected to take action in December to adopt such a program. Recycled water amounts are low this year from the 50,000 acre-feet target due to excessive amounts of stormwater that occupied the spreading grounds in the winter months.

- Seawater Barrier Well Replenishment – imported water purchased for injection into the three seawater barriers (West Coast Basin Barrier Project, Dominguez Gap Barrier Project, Alamitos Barrier) totaled 13,363 acre-feet, short of the planned amount of 14,300 acre-feet for the year. The difference is due to several unexpected short-term barrier shutdowns or reductions over the year due to leaks or pipeline breaks, and also due to reduced Alamitos Barrier demands as a result of the Long Beach In-Lieu program. Recycled water purchased for injection totaled 11,286 acre-feet, short of the planned 14,100 acre-feet for the year. The difference is due to short-term barrier shutdowns over the year due to leaks or pipeline breaks, the continued difficulties of producing more recycled water at the West Basin treatment plant, and due to reduced Alamitos Barrier demands as a result of the Long Beach In-Lieu program.
- In-Lieu Replenishment Water – WRD and the City of Long Beach are in discussions for an In-Lieu Program for 2012 but it is dependent upon the new MWD replenishment program and if they offer the In-Lieu water.
- Pumping – compared to the previous year, Central Basin is down 13.4% and West Coast Basin is up 1.2%. Combined, pumping is down 10.8% from the previous year. Reasons for the decline in the Central Basin are likely due to the wet weather in the first half of 2011 which caused reduced water demands, WRD's In-Lieu program with the City of Long Beach that has reduced pumping, and continuing water conservation efforts by the public and businesses in the District.

The Committee thanked Mr. Johnson for his report and requested a similar presentation be made to the Board of Directors at their January 2012 meeting.

6. MEMORANDUM OF UNDERSTANDING WITH WBMWD FOR SALINE PLUME GROUNDWATER MODELING IMPROVEMENTS

Mr. Johnson stated that WRD and West Basin Municipal Water District (WBMWD) would like to partner and use WBMWD's existing groundwater model to calibrate the movement of the saline plume in the West Coast Basin. He explained that this partnership will consolidate efforts, minimize costs, and utilize WBMWD's existing model versus constructing a new one.

Discussion followed and the Committee recommended the Board enter into a Memorandum of Understanding (MOU) with WBMWD for reimbursement of costs associated with Saline Plume calibration and model updates for a cost not to exceed \$50,000.

7. GROUNDWATER BASINS MASTER PLAN UPDATE

Senior Engineer Jason Weeks provided an update on the status of the Groundwater Basins Master Plan for the West Coast Basin and Central Basin. Mr. Weeks provided the Committee with a schedule of tasks and projected completion dates. He explained that since the West Coast Basin portion of the study commenced earlier, the Central Basin portion is expected to catch up by January 2012 with the report finalized by May 2012.

Discussion followed on proposed outreach efforts for the Plan. The Committee recommended stakeholder meetings be held on a basin by basin basis in association with Central Basin Water Association and West Basin Water Association.

8. UPDATE ON THE VANDER LANS FACILITY EXPANSION

Senior Engineer Jim McDavid provided an update on the Leo J. Vander Lans Water Treatment Facility (LVLWTF) expansion project. Mr. McDavid stated that WRD executed a contract with CDM consulting on September 19, 2011 for final design of the expansion of LVLWTF, including a 30-percent design of a source water supply pipeline. He noted that the design started immediately with a kickoff meeting held on September 21, 2011, and highlighted the following progress made to date:

- Reviewed the pre-design report and revised the design criteria to enhance the performance of the facility;
- Met with manufacturers of major equipment, including Pall Corporation (for microfiltration) and Trojan Technology (for UV system), to layout requirements to ensure that the equipment would satisfy the criteria of the expanded facility;
- Evaluating alternative pipeline routes for source water supply. Will finalize the route in the next month;
- Currently reviewing the new draft Groundwater Recharge Rules (released by California Department of Public Health (CDPH) on November 22, 2011) and is scheduled to meet with CDPH on December 7, 2011 to discuss impacts of the new rules on the expansion project;
- A pilot study is in progress to optimize the performance of the high-recovery third-stage reverse osmosis (RO) and to provide water quality data that may be required by the regulators due to the new Recharge Regulations; and
- Met with CDM to review electrical and instrumentation control design concept with the facility's operations team to synchronize the design with operations.

Mr. McDavid stated that the final design is expected to continue until the end of May 2012.

9. GROUNDWATER RELIABILITY IMPROVEMENT PROGRAM (GRIP) UPDATE

Senior Engineer Jim McDavid provided an update to the Committee on the Groundwater Reliability Improvement Program (GRIP). Mr. McDavid stated that staff has been meeting with the Los Angeles County Sanitation Districts regarding the recycled water agreement and opportunities to use additional tertiary water in the spreading grounds. He noted that the GRIP Environmental Impact Report (EIR) requests for proposals (RFP) will be issued this month.

10. DIRECTORS REPORTS, INQUIRIES, AND FOLLOW-UP OF DIRECTIONS TO STAFF

Senior Hydrogeologist Everett Ferguson provided an update on the Goldsworthy Desalter expansion pre-bid meeting. Mr. Ferguson stated that the meeting went well and 20 consultants were in attendance.

The next Water Resources Committee meeting is scheduled Wednesday, January 11, 2012 at 12:00 p.m.

3. CLOSED SESSION

Conference with Legal Counsel – Anticipated Litigation, Pursuant to Government Code §54956.9 (b), One Case

The Committee went into closed session. The Committee reconvened in open session. Special Counsel David Alvarez reported that no action was taken.

11. ADJOURNMENT

With no further business for the Committee, the meeting was adjourned.

Chair

ATTEST:

Member

DATE: JANUARY 17, 2012

TO: WATER RESOURCES COMMITTEE

FROM: ROBB WHITAKER, GENERAL MANAGER

SUBJECT: GROUNDWATER BASIN UPDATE

SUMMARY

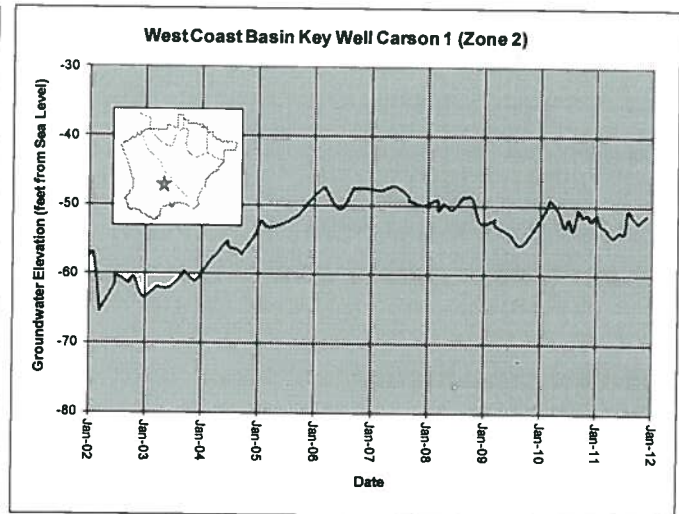
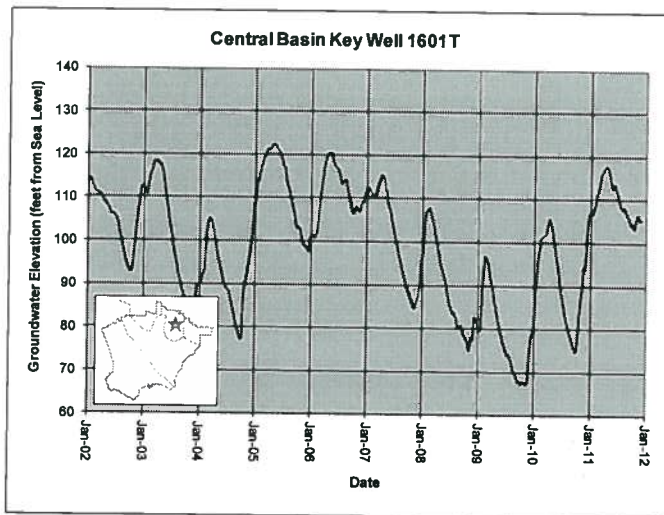
Staff monitors groundwater conditions in the Central and West Coast Basins throughout the year. A summary of the latest information is presented below.

Precipitation:

As of this writing (12/28/2011), the Los Angeles region has had 3.76 inches of rain for the season compared to a normal of 3.91 inches. Although the season started off strong and was above average, December rainfall was below average bringing the current season total to below average.

Groundwater Levels:

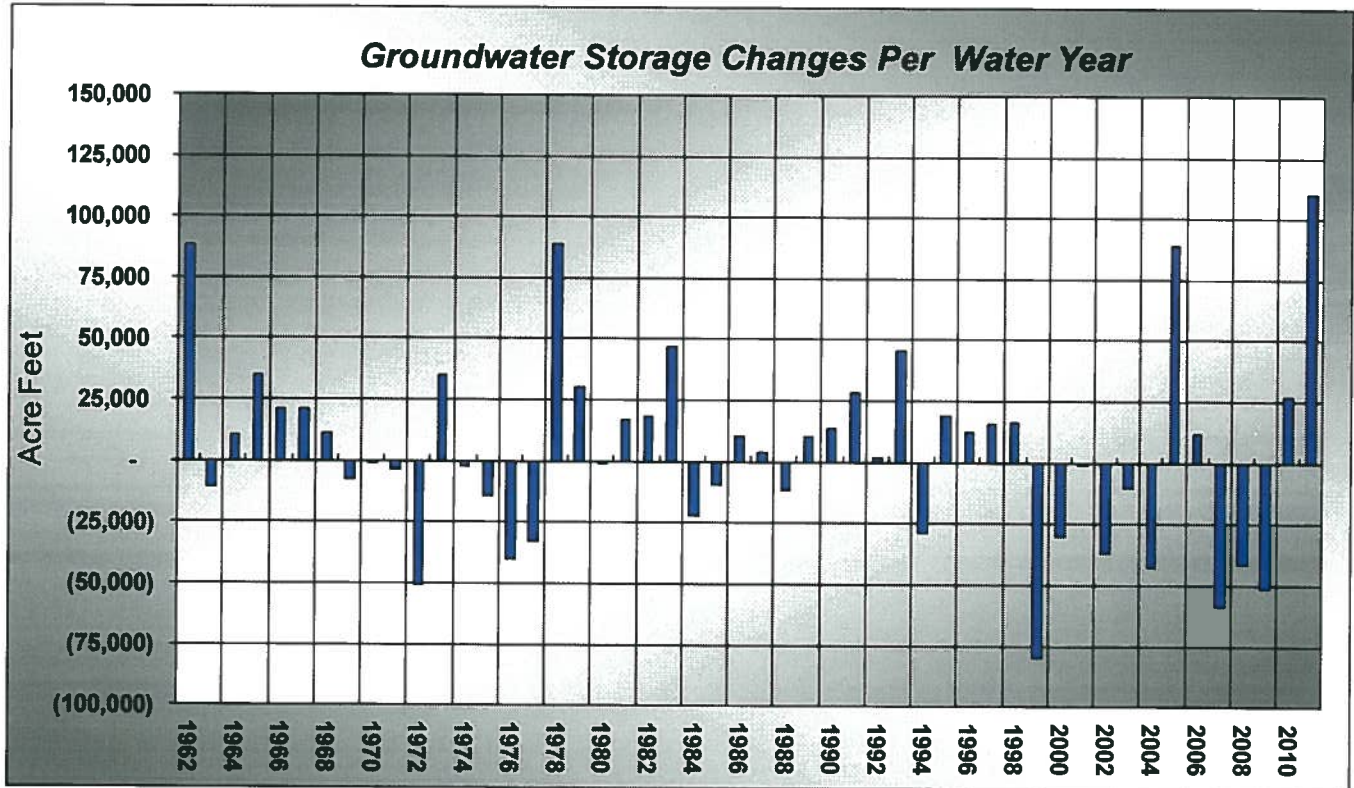
Groundwater levels in Central Basin and West Coast Basin key wells for the past 10 years are shown below in the hydrographs. In the Central Basin Key Well 1601T, groundwater levels are currently falling at the rate of about 0.5 feet per week. In the West Coast Basin Key Well Carson #1, water levels are currently falling at the rate of about 0.2 feet per week.



Groundwater Balance for Previous Water Year 2010-2011

The previous water year saw a considerable amount of groundwater enter the basins. Local spreading was more than double a normal year due to conservation efforts by the Los Angeles

County Department of Public Works and close coordination with WRD and other water agencies. WRD purchased more imported water than planned for recharge when MWD made available its discounted replenishment water for a limited time. Areal recharge was higher than normal due to a wet year. WRD's In-Lieu program with the City of Long Beach and other reduced pumping by District water purveyors caused total pumping to be reduced by 25,800 acre feet. Collectively, the District has made a preliminary calculation of 325,200 acre feet entering the basins and 215,200 acre feet leaving the basins (via pumping) for a net change in storage of 110,000 acre feet. This is the largest change of storage recorded by the District since its inception, as shown on the chart below.



FISCAL IMPACT

For information.

STAFF RECOMMENDATION

For information.



MEMORANDUM

ITEM NO. 5

Prepared by: Ted Johnson
Reviewed by: Everett Ferguson
Approved by: Robb Whitaker

DATE: JANUARY 17, 2012
TO: WATER RESOURCES COMMITTEE
FROM: ROBB WHITAKER, GENERAL MANAGER
SUBJECT: CONSIDERATION OF RESOLUTION NO. 12-922 – A RESOLUTION OF THE BOARD OF DIRECTORS OF THE WATER REPLENISHMENT DISTRICT OF SOUTHERN CALIFORNIA ORDERING AN ENGINEERING SURVEY AND REPORT REGARDING THE GROUNDWATER SUPPLIES OF THE DISTRICT PURSUANT TO WATER CODE §60300

SUMMARY

Resolution No. 12-922 orders the preparation of the annual Engineering Survey and Report (ESR) and states the items that are to be included in the report pursuant to Water Code Section 60300. This report determines, among other things, the replenishment water needs and water costs of the District for the ensuing water year 12-13. This information, combined with the upcoming budget forecast, provides the Board of Directors with the necessary information to determine the Replenishment Assessment (RA) required for the ensuing fiscal year 12-13.

Staff has drafted a preliminary schedule (subject to change) to meet the requirements of the Water Code for this year’s ESR and RA process:

Date	Item	Board action
01/20/12	Order preparation of ESR	Adopt a resolution to order preparation of the ESR
03/16/12	Receive and File the ESR	Adopt a resolution giving notice that a RA will be established for the ensuing fiscal year 12-13
04/06/12	Open Public Hearing	Conduct public hearing on ESR and RA
05/04/12	Close Public Hearing	Close public hearing on ESR and RA
05/04/12	Set the RA	Adopt a resolution to set the RA for fiscal year 12-13

FISCAL IMPACT

None.

STAFF RECOMMENDATION

Adopt Resolution No. 12-922 ordering the preparation of the 2012 Engineering Survey and Report.

RESOLUTION NO. 12-922

A RESOLUTION OF THE BOARD OF DIRECTORS OF THE WATER REPLENISHMENT DISTRICT OF SOUTHERN CALIFORNIA ORDERING AN ENGINEERING SURVEY AND REPORT REGARDING THE GROUNDWATER SUPPLIES OF THE DISTRICT PURSUANT TO WATER CODE §60300

WHEREAS, Section 60300 of the California Water Code requires the Board of Directors of a Water Replenishment District to order an engineering survey and report to be made regarding the groundwater supplies of the District as a prerequisite to the establishment of an annual water replenishment assessment;

NOW, THEREFORE, IT IS RESOLVED AS FOLLOWS:

1. The Board of Directors ("Board") of the Water Replenishment District of Southern California ("District") orders that an engineering survey and report be prepared by Staff regarding the groundwater supplies of the District.
2. The engineering survey and report shall include, in addition to such other information as may be deemed relevant by Staff, the following:
 - a. Records, data, and other information for the consideration of the Board in its determination of the annual overdraft;
 - b. Records, data, and other information for the consideration of the Board in its determination of the accumulated overdraft as of the last day of the preceding water year;
 - c. A report, with supporting data, as to the total production of groundwater from the groundwater supplies within the District during the preceding water year;
 - d. A report, with supporting data, as to the changes during the preceding water year in the pressure levels or piezometric heights of the groundwater contained within pressure-level areas of the District, and as to the effects thereof upon the groundwater supplies within the District;
 - e. An estimate of the annual overdraft for the current water year and for the ensuing water year;
 - f. An estimate of the accumulated overdraft as of the last day of the current water year;
 - g. An estimate of the total production of groundwater from the groundwater supplies within the District for the current water year and for the ensuing water year;

- h. An estimate of the changes during the current water year in the pressure levels or piezometric heights of the groundwater contained within pressure-level areas of the District, and of the effects thereof upon the groundwater supplies within the District;
 - i. An estimate of the quantity, source, and cost of water available for replenishment of the groundwater supplies during the ensuing water year under the provisions of Section 60315 of the California Water code;
 - j. A statement of any recommended actions to be undertaken by the District for the purpose of protecting and preserving the groundwater supplies within the District for beneficial uses under Section 60224 of the California Water Code and the estimated costs of each recommended action, including but not limited to engineering and legal fees, expenses, and District overhead.
3. Staff shall deliver the report as requested herein on or before the second Tuesday in March 2012 or as otherwise specified under Section 60043 of the California Water Code.

PASSED, APPROVED AND ADOPTED this 27th day of January, 2012.

President, Board of Directors

ATTEST:

Secretary, Board of Directors



MEMORANDUM

ITEM NO. 6

Prepared by: Jason Weeks

Reviewed by: Ted Johnson

Approved by: Robb Whitaker

DATE: JANUARY 17, 2012
TO: WATER RESOURCES COMMITTEE
FROM: ROBB WHITAKER, GENERAL MANAGER
SUBJECT: GROUNDWATER BASINS MASTER PLAN UPDATE

SUMMARY

District staff and its consultants, CH2MHILL and RMC Water and Environment, are continuing work on the development of a Groundwater Basins Master Plan for the West Coast Basin and Central Basin (Plan).

The focus of effort over the previous month was the execution of model runs for the evaluation of alternatives for the Central and West Coast Basins.

District staff will provide the Committee with an overview of the modeling results and an updated schedule of activities and projection for completion.

FISCAL IMPACT

None.

STAFF RECOMMENDATION

For information.



MEMORANDUM

ITEM NO. 7

Prepared by: Ted Johnson

Reviewed by: Cathy Chang

Approved by: Robb Whitaker

DATE: JANUARY 17, 2012

TO: WATER RESOURCES COMMITTEE

FROM: ROBB WHITAKER, GENERAL MANAGER

SUBJECT: CONTRACT AMENDMENT FOR NELLOR ENVIRONMENTAL ASSOCIATES

SUMMARY

The District has an existing contract with Nellor Environmental Associates, Inc. (NEA), which provides as-needed professional consulting services associated with expanding the District's use of recycled water for groundwater recharge, including the Water Independence Now (WIN) and Groundwater Reliability Improvement Program (GRIP) initiatives. The contract term expired at the end of December 2011. Staff recommends the extension of the contract through 2012 as well as an increase in the contract amount. This is a budgeted item in the current fiscal year.

Ms. Margie Nellor, President of NEA, is the person working directly for the District. She has nearly 30 years of experience in the environmental field and was formerly with the Los Angeles County Sanitation Districts (LACSD), where she was in charge of water reclamation permits and associated research program activities of the LACSD water reclamation plants. As a consultant, she has a wide array of experience in the recycled water industry, specializing in regulatory issues and research on emerging contaminants. In particular, she provided valuable technical assistance in successfully submitting a petition on behalf of the District to the State Water Resources Control Board (State Board) that effectively removed the use of notification levels as enforceable effluent limits in the permit for the Alamitos Barrier Recycled Water Project.

The scope of the work for 2012 will include providing consultation on regulatory processes to facilitate increases in recycled water use, preparing technical documents, participating in the monthly GRIP status calls, assisting with the District's comments on the California Department of Public Health's new draft groundwater replenishment reuse regulations and the State Board's recycled water policy, and supporting the staff on numerous tasks related to the continued and expanded use of recycled water for groundwater recharge.

FISCAL IMPACT

A total of \$20,000 was included for this item in the current fiscal year budget under project 004000.

STAFF RECOMMENDATION

Extend the termination date for the agreement with Nellor Environmental Associates, Inc., to December 31, 2012, and increase the contract amount by an additional \$20,000.

**AMENDMENT #5 TO AGREEMENT #514
FOR PROFESSIONAL SERVICES
WITH
NELLOR ENVIRONMENTAL ASSOCIATES, INC.**

This Amendment to Agreement For Professional Services effective as of **January 1, 2012** (“Effective Date”), is entered into by and between the Water Replenishment District of Southern California (hereinafter “WRD”), a public entity, and **Nellor Environmental Associates, Inc.**, (hereinafter “Consultant”).

I.

RECITALS

A. Effective as of **January 11, 2008**, WRD and **Nellor Environmental Associates, Inc.**, entered into an Agreement For Professional Services (the “Agreement”).

B. The parties desire to extend **the term and fee of the Agreement**.

NOW, THEREFORE, for good and valuable consideration, including the mutual promises contained herein, and subject to the terms and conditions set forth below, WRD and the Consultant agree as follows:

1. Term of Agreement: The term of the Agreement shall be extended to **December 31, 2012** (the “Expiration Date”).
2. Budget amount shall be increased by an additional \$20,000.00
3. Item 3.0 of Exhibit B of the January 11, 2008 Agreement is modified as follows: “The Consultant shall be reimbursed at a rate of \$190.00 per hour, plus expenses.”
4. Remaining Portions of the Agreement: Except as otherwise expressly set forth in this Amendment, all other provisions of the Agreement remain in full force and effect between WRD and the Consultant.

IN WITNESS WHEREOF, the parties have caused this Amendment to be executed as of the Effective Date.

Nellor Environmental Associates, Inc., ("CONSULTANT")

Signature

Print Name

Title

**WATER REPLENISHMENT DISTRICT OF
SOUTHERN CALIFORNIA**

Signature

Sergio Calderon

Print Name

President, Board of Directors

Title

Signature

Robert Katherman

Print Name

Secretary, Board of Directors

Title

Approved As To Form
Leal & Trejo, LLP

Francisco Leal, District Counsel



MEMORANDUM

ITEM NO. 8

Prepared by: Everett Ferguson

Reviewed by: Ted Johnson

Approved by: Robb Whitaker

DATE: JANUARY 17, 2012

TO: WATER RESOURCES COMMITTEE

FROM: ROBB WHITAKER, GENERAL MANAGER

SUBJECT: AGREEMENT WITH THE LOS ANGELES COUNTY FLOOD CONTROL DISTRICT FOR ALAMITOS BARRIER OBSERVATION WELLS

Proper functioning of the Alamitos Barrier is critical to the health of the Central Basin and Orange County Basin by preventing seawater intrusion. The Los Angeles County Flood Control District (LACFCD) owns and operates the Alamitos Barrier, with WRD purchasing the recycled and imported injection water on the Los Angeles County side and Orange County Water District purchasing injection water on the Orange County side from the City of Long Beach and the Leo J. VanderLans Advance Water Treatment Facility.

Based on the results of recent investigations and modeling of the Barrier effectiveness, LACFCD and WRD seek to install eight (8) new nested observation wells in the Los Angeles County side of the Barrier. The scope of work will include the drilling and installation of nested observation wells within the various aquifers in this area to further assess seawater intrusion and fill in potential data gaps identified by the numerical modeling of the entire Barrier system. Hydraulic modeling identified areas where seawater may be entering around the western end of the Barrier or through the middle of the Barrier. LACFCD has requested that WRD share in the cost for these additional observation wells since WRD is a direct beneficiary of the information to be gained from the observation wells.

LACFCD will be the lead agency for the work, will issue the Request for Bids and will manage the construction contract. WRD will provide review and input on the entire project. An "Agreement to Jointly Fund the Construction of eight new observation wells within the Alamitos Barrier Project" has been drafted and is being reviewed by legal counsel.

FISCAL IMPACT

Under the terms of the Agreement, WRD would reimburse LACFCD up to half of the cost of the well construction project, or \$300,000, whichever is less. This project would be budgeted under Project 023 (Replenishment Operations) in the upcoming fiscal year 12-13.

STAFF RECOMMENDATION

Enter into an Agreement with the Los Angeles County Flood Control District, subject to approval to form by District Counsel, to construct new observation wells within the Alamitos Barrier Project for a cost to WRD not to exceed \$300,000.



MEMORANDUM

ITEM NO. 9

Prepared by: Ted Johnson
Reviewed by: Everett Ferguson
Approved by: Robb Whitaker

DATE: JANUARY 17, 2012

TO: WATER RESOURCES COMMITTEE

FROM: ROBB WHITAKER, GENERAL MANAGER

SUBJECT: NO COST TIME EXTENSION FOR HYDROGEOLOGIC, WATER QUALITY,
AND GROUNDWATER MODELING RESEARCH WITH THE UNITED STATES
GEOLOGICAL SURVEY

SUMMARY

WRD is currently under a cooperative agreement with the U.S. Geological Survey (USGS) for hydrogeologic, water quality, and groundwater modeling research of the Central Basin and West Coast Basin. The term of the Agreement expired on December 31, 2011, but there is still work to be done under the Agreement. Therefore, the USGS has requested a no-cost time extension through June 30, 2012. Staff concurs with the USGS request for a time extension.

FISCAL IMPACT

No additional cost. This is a time extension only.

STAFF RECOMMENDATION

Extend the expiration date of USGS Contract No. 07W4CAD21710 for hydrogeologic and modeling research to June 30, 2012, at no cost to the District.



MEMORANDUM

ITEM NO. 10

*Prepared by: Cathy Chang
Reviewed by: Ted Johnson
Approved by: Robb Whitaker*

DATE: JANUARY 17, 2012

TO: WATER RESOURCES COMMITTEE

FROM: ROBB WHITAKER, GENERAL MANAGER

SUBJECT: WATEREUSE RESEARCH FOUNDATION 2012 MEMBERSHIP RENEWAL

SUMMARY

The WateReuse Association is a nonprofit organization with international, national, state, and local activities whose mission is to advance the beneficial and efficient uses of high-quality, locally produced, sustainable water sources for the betterment of society and the environment through advocacy, education, outreach, research, and membership. WRD has been a strong supporter of the Association and is on the Board of Directors for the California Section.

The WaterReuse Research Foundation (Foundation) is the research wing of the WateReuse Association and serves as a centralized organization for the water and wastewater community across the United States to advance the science of water reuse, recycling, reclamation and desalination. The Foundation conducts applied research that covers safety and reliability of reclaimed and recycled water, detection and occurrence of contaminants, treatment technologies, salinity management, public perception, economics and marketing.

Much of the research the Foundation conducts has direct applicability to the District's recycled water projects and programs. For example, in recent years the Foundation has conducted or sponsored research projects of particular relevance to WRD, including:

- Best practices for developing indirect potable reuse projects including groundwater recharge projects,
- Reclaimed water aquifer storage and recovery potential,
- Fate and transport of nitrosodimethylamine (NDMA),
- Relative risk assessment when comparing water quality impacts of recycled water and drinking water,
- Indicators and surrogates for chemicals of emerging concern,
- Selection and testing of tracers for measuring travel times in groundwater aquifers augmented with reclaimed water, and
- Membrane treatment effectiveness with nanofiltration,

Membership gives the District access to and participation in state-of-the-art research developments in the recycled water industry, and also maximizes leverage of pooling resources for mutually beneficial projects and investigations. Being a member of the

Foundation also provides an opportunity to sit on Project Advisory Committee (PAC) panels, which provides technical review and guidance to their research projects. Recently, WRD staff has participated on PAC panels related to relative health risk assessments, salinity management, and estimating groundwater quality impacts of nonpotable uses of recycled water. Sitting on the PAC panels provides the opportunity to guide the research project to areas directly related and pertinent to the District's activities.

Research is funded through subscriber membership fees, which are typically based on the annual amount of water delivered or served to customers. WRD has been a subscriber since 2006.

FISCAL IMPACT

For the calendar year 2012, the membership fee is \$12,000. It has been included in the current year 2011-12 budget under Project 004000.

STAFF RECOMMENDATION

Renew membership with the WateReuse Research Foundation in the amount of \$12,000 for calendar year 2012.

MEMORANDUM

ITEM NO. 11

Prepared by: Cathy Chang

Reviewed by: Ted Johnson

Approved by: Robb Whitaker

DATE: JANUARY 17, 2012

TO: WATER RESOURCES COMMITTEE

FROM: ROBB WHITAKER, GENERAL MANAGER

**SUBJECT: LOS ANGELES BASIN STORMWATER CONSERVATION STUDY BY
LOS ANGELES COUNTY FLOOD CONTROL DISTRICT AND
BUREAU OF RECLAMATION**

SUMMARY

On December 19, 2011, staff received a copy of the *Plan of Study for the Los Angeles Basin Stormwater Conservation Study* (Basin Study) prepared jointly by the U.S. Department of the Interior - Bureau of Reclamation (Reclamation) and the Los Angeles County Flood Control District (LACFCD). Following is a brief overview of the planned study and the request for the District's involvement in the Basin Study.

The Basin Study will help better define opportunities for increased stormwater conservation in order to meet current and future water demands in the Los Angeles Basin, in the face of climate variability and other challenges by:

- ✓ Examining and determining where imbalances in supply and demand exist or are projected;
- ✓ Identifying issues where changes to the operation of water supply systems, modifications to existing facilities, development of new facilities, or non-structural changes by the LACFCD and its partners could help address water supply issues; and
- ✓ Developing recommendations for optimizing stormwater capture and recharge potential by the LACFCD and other water entities in the Ballona Creek, Los Angeles River, and San Gabriel River Watersheds.

The Basin Study will be conducted over a two year period, beginning in August 2012 and producing a final report by September 2014. It will cost approximately \$2.2 million with an equal cost-share of 50 percent each between the LACFCD and Reclamation, with a maximum of \$1 million Federal funding in in-kind services. Participation from a total of 31 water agencies, planning and regulatory agencies, as well as non-profit organizations is expected, as part of the stakeholder technical advisory committee (STAC) of this study.

The District staff has been asked to participate in the Basin Study by serving on the STAC and the Study Technical Team, for a contribution of approximately 80 hours of in-kind services over two years, consisting of technical reviews and analyses and development of recommendations for the study. Apart from the in-kind services, no financial contributions will be requested of the participating agencies and organizations. Also, the Basin Study

proponents have requested comments on the Plan of Study by January 5, 2012, and a letter of support, if any, by January 24, 2012.

Staff believes that the District's participation in the study will be worthwhile as the goals of the Basin Study are closely aligned with the Water Independence Now (WIN) program, a cornerstone of the District's planning to seek complete elimination of our dependence on imported water, towards developing sustainable local groundwater resources. The study also effectively complements the District's Stormwater Recharge Feasibility Study (approved by the Board in February 2011 and is currently underway) that seeks to identify regional and parcel-based locations and pilot project concepts and their respective costs and benefits either within the Montebello Forebay or District-wide to achieve maximum stormwater capture and recharge for water supply and water quality benefit.

FISCAL IMPACT

None at this time.

STAFF RECOMMENDATION

For information.



MEMORANDUM

ITEM NO. 12

Prepared by: Ted Johnson

Reviewed by: Everett Ferguson

Approved by: Robb Whitaker

DATE: JANUARY 17, 2012
TO: WATER RESOURCES COMMITTEE
FROM: ROBB WHITAKER, GENERAL MANAGER
SUBJECT: HYDRAULIC FRACTURING

SUMMARY

Hydraulic fracturing or "fracking" is term given to a petroleum practice used in the recovery and production of natural gas from shale (a sedimentary source rock). It is a process of injecting fluids (water and/or chemical mixtures) into a well bore at high enough pressures to break apart and fracture the rock, thus releasing the trapped natural gas. Sand is often injected along with the fluids so that the fractures remain open and increases the permeability of the formation and the production of the resource.

Fracking is normally done in the petroleum reservoirs which are located beneath the fresh groundwater aquifers. However, there has been considerable state and national attention given to fracking lately due to its real or perceived potential to contaminate the overlying groundwater. The USEPA has undertaken a national study to understand the potential impacts of fracking on drinking water resources. The study will include a review of published literature, analysis of existing data, scenario evaluation and modeling, laboratory studies, and case studies. USEPA will release initial study results in a 2012 report.

In California, the Division of Oil, Gas, and Geothermal Resources (DOGGR) has the statutory authority to regulate fracking under Section 3106 of the Public Resources Code. According to DOGGR, fracking is mostly done in the eastern United States where gas shale exists. Fracking is not widely performed in California since more than 90% of non-associated natural gas production (gas extracted by itself – not along with oil) occurs north of Stockton from sand formations rather than shale, and sand does not respond well to fracking. DOGGR also issues permits for Class II injection wells in the state, which allow for injection of non-hazardous fluids produced in the course of oil and natural gas production operations. However, fracking operations are excluded from regulation under the federal Safe Drinking Water Act. Staff has been monitoring hydraulic fracturing discussions and will provide an update to the Committee.

FISCAL IMPACT

None.

STAFF RECOMMENDATION

For information.



MEMORANDUM

ITEM NO. 13

<i>Prepared by:</i>	Everett Ferguson
<i>Reviewed by:</i>	Ted Johnson
<i>Approved by:</i>	Robb Whitaker

DATE: JANUARY 17, 2012

TO: WATER RESOURCES COMMITTEE

FROM: ROBB WHITAKER, GENERAL MANAGER

SUBJECT: SPREADING GROUNDS OPERATION DISCUSSION

SUMMARY

At the request of a Committee Member, this item was added to the agenda to discuss operations of the spreading grounds that could provide cost benefits to the groundwater community. Staff will be prepared to discuss this item at the Committee meeting.

FISCAL IMPACT

None at this time.

STAFF RECOMMENDATION

For discussion.



MEMORANDUM

ITEM NO. 14

*Prepared by: Jim McDavid
Reviewed by: Ted Johnson
Approved by: Robb Whitaker*

DATE: JANUARY 17, 2012

TO: WATER RESOURCES COMMITTEE

FROM: ROBB WHITAKER, GENERAL MANAGER

**SUBJECT: GROUNDWATER RELIABILITY IMPROVEMENT PROGRAM (GRIP)
UPDATE**

SUMMARY

GRIP is an ongoing program to evaluate alternative replenishment water sources for the Montebello Forebay. Staff will provide an update of any new information regarding GRIP at the Committee meeting.

FISCAL IMPACT

None at this time.

STAFF RECOMMENDATION

For information.