

Los Angeles



Department of Water & Power

ERIC GARCETTI  
*Mayor*

Commission  
MEL LEVINE, *President*  
WILLIAM W. FUNDERBURK JR., *Vice President*  
JILL BANKS BARAD  
MICHAEL F. FLEMING  
CHRISTINA E. NOONAN  
BARBARA E. MOSCHOS, *Secretary*

RONALD O. NICHOLS  
*General Manager*

January 14, 2014

The Honorable City Council  
c/o Office of the City Clerk  
Room 395, City Hall  
Mail Stop 160

Attention: Councilmember Felipe Fuentes  
Chair, Energy and Environment Committee

Honorable Members:

Subject: Council File No. 13-1385 – Los Angeles Groundwater Replenishment (GWR)  
Project and San Fernando Groundwater Basin (SFGB) Remediation

In response to the Los Angeles City (City) Council Motion 13-1385 (Council File enclosed)  
adopted October 18, 2013, requesting the Los Angeles Department of Water and Power  
(LADWP) to report on the status of the following:

1. Proposed GWR Project in the San Fernando Basin (SFB)
2. SFGB Remediation Initiative
3. Other key components of the Urban Water Management Plan (UWMP)
4. Viability of requesting assistance from the Water Research Foundation to assess the San Fernando Groundwater Projects

#### **1. Proposed Groundwater Replenishment Project in SFB**

##### Replenishing Local Groundwater Supplies

The City is developing a joint project between LADWP and the Department of Public Works, Bureau of Sanitation to replenish the SFGB with up to 30,000 acre-feet per year (AFY) of purified recycled water. This locally-controlled water GWR project will move the City toward its goal of reducing dependence on imported water supplies and help secure a more reliable and sustainable water supply for future generations.

**Los Angeles Aqueduct Centennial Celebrating 100 Years of Water 1913-2013**

111 N. Hope Street, Los Angeles, California 90012-2607 Mailing address: Box 51111, Los Angeles, CA 90051-5700  
Telephone: (213) 367-4211 www.LADWP.com

Advanced water purification facilities proposed under the GWR Project will produce high quality purified water at lower costs, using less energy and generating fewer greenhouse gases than water purchased from Metropolitan Water District of Southern California (MWD).

A series of advanced treatment processes will be added to the City's Donald C. Tillman Water Reclamation Plant (DCTWRP) in Van Nuys to produce purified recycled water that is very close to the purity of distilled water. This water will then be conveyed through existing and new pipelines to the Hansen and Pacoima Spreading Grounds in the East Valley. This recycled water will be added to the spreading grounds or injection wells where it will flow through the soil to replenish the aquifers in the SFGB. This natural subsurface treatment of the water will continue until it is pumped out by existing groundwater wells miles away to supplement our local drinking water supplies.

#### Reliability and Safety of the GWR Project

Same water purification technologies the City proposes for its GWR Project have been used for years by water agencies worldwide. One example is Orange County's Groundwater Replenishment System, which has produced over 120 billion gallons of purified recycled water since 2008.

To ensure effectiveness of the proposed advanced treatment process technologies on DCTWRP water, a City team of scientific experts ran the proposed system through 16 months of rigorous pilot testing. Thousands of water quality samples were collected and analyzed for more than 300 chemical compounds. The process produced high-quality purified water that exceeded all state and federal drinking water standards.

#### Costs and Schedule

Over the long term, the GWR Project will cost less than the projected cost of purchasing imported water from MWD. Preliminary cost estimate for the GWR Project is \$379M to \$415M with annual operations and maintenance of \$17M to \$18M. The City plans to meet the 30,000 AFY goal by 2035, or sooner if wastewater flows in the DCTWRP service area increase.

#### GWR Project Status

After several years of community engagement and participation, the City launched the environmental impact review process for the GWR Project. On September 6, 2013, an Initial Study and Notice of Preparation (IS/NOP) of a draft Environmental Impact Report (EIR) were issued. Three public scoping meetings were held to receive comments and

input from the community about environmental aspects of the proposed GWR Project for consideration in the EIR. Scoping meetings were held in Encino, Arleta, and at LADWP's downtown headquarters. The comment period for the IS/NOP closed on October 21, 2013. Following the guidelines of the California Environmental Quality Act (CEQA), a draft and final EIR will be completed within the next two years.

As part of continued stakeholder outreach, the City will seek participation from Neighborhood Councils, environmental organizations, and community stakeholders throughout the environmental review process.

## **2. SFGB Remediation Initiative**

### Background

Eastern portion of SFGB is contaminated primarily due to improper handling and disposal of solvents since the 1940s. This contamination has severely impaired the SFGB and reduced LADWP's ability to pump its adjudicated right of 87,000 AFY of water. Therefore, remediation of SFGB is necessary to restore the environment and provide public benefit.

There are many legal and regulatory requirements that must be met to in order to remediate SFGB. One of the key regulatory requirements is Policy 97-005 issued by the California Department of Public Health (Public Health). This policy requires ten steps to approve a project, including but not limited to a raw water quality characterization, risk analysis, and environmental documentation.

### Current Status

LADWP is currently in the initial phases of Public Health's approval process by developing the water quality information required to proceed with regulatory review.

Since 2009, LADWP has been moving forward with a \$34 million Groundwater System Improvement Study (GSIS) to fully characterize the SFGB as necessary to develop conceptual plans for short- and long-term strategies for remediation, containment, clean-up and removal of the contaminated groundwater. One aspect of the GSIS is the development of an additional 25 monitoring wells necessary to complete the raw water quality characterization. These wells are currently under development and are expected to be completed in February 2014.

An on-going parallel activity is the conceptual planning of potential remediation facilities for the groundwater cleanup. A high-level concept plan and cost estimate was developed for the remediation facilities necessary to clean-up 123,000 acre-feet of contaminated

groundwater per year. Conceptual estimate is \$600-900 million. LADWP will be refining this estimate as the information from the GSIS is finalized, and again as any remediation facility projects progress through the final planning and design phases. Development of this facility has to be accomplished in accordance with the requirements of CEQA and other laws, rules, and regulations.

A third parallel activity now in progress is contracting with an outside independent expert to act as LADWP's Owner's Agent (Owner's Agent) throughout the remaining development of the SFGB Initiative. Owner's Agent is responsible for advising LADWP throughout the permitting processes; developing conceptual and preliminary design of remediation facilities; supporting LADWP through construction, testing, start-up, commissioning, and close out of facilities; and identifying additional funding mechanisms. LADWP has completed the review of information submitted by a number of firms in response to a Request for Information. LADWP expects to issue the Request for Proposal in December 2013 with a goal of awarding the contract in the Fall of 2014. Contract duration is expected to be approximately eight years. LADWP is also working with the City Attorney's Office to identify Potentially Responsible Parties (PRP) who may have caused or contributed to groundwater contamination in the SFGB in order to seek cost recovery from such PRPs.

Overall goal is to have remediation facilities in operation by approximately the year 2022. Full remediation of SFGB will require operating these facilities for a number of years.

### **3. Other Key Components of the UWMP**

As part of the 2010 UWMP, LADWP set ambitious goals to develop local water supplies in Water Conservation, Water Recycling, and Stormwater Capture. Long term goals for these local water supplies were projected up to 2035. The 2010 UWMP also discussed the importance of remediating the groundwater contamination in the San Fernando Basin.

On October 4, 2012, the Board of Water and Power Commissioners (Board) adopted the Board Resolution, "LADWP Guiding Principles for the Development and Implementation of the Local Water Supply Program," which called for LADWP to generate a plan to accelerate local water supply development and remediate contamination in SFB. As a result of this Board Resolution, LADWP began developing the initiative entitled LA's Water Reliability 2025.

LADWP is currently finalizing the first draft report of LA's Water Reliability 2025. Preliminary findings show that LADWP can potentially meet its 2010 UWMP goals for local water resource development approximately ten years early by accelerating plans to implement specific stormwater capture, water conservation, and recycled water projects and programs.

#### **4. Viability of requesting assistance from the Water Research Foundation to assess the San Fernando Groundwater Projects**

##### Research Support and Analysis for the SFGB Remediation Initiative

As a subscriber to the Water Research Foundation (Foundation), LADWP has the ability to work with the Foundation on topics related to the SFGB Remediation Project either through participation in projects in specific focus areas solicited by the Foundation or by proposing a "Tailored Collaboration" or a "Facilitated Research" project. Depth of the involvement in the SFB Remediation would be limited in scope as the Foundation does not work on detailed facility design but on issues such as technology efficiency and concept development.

LADWP is currently participating on two solicited projects related to carcinogenic volatile organic compounds (cVOCs), including trichloroethylene and tetrachloroethylene, which are directly applicable to the SFGB remediation of the SFB. These projects are: 1) Evaluation of Cariogenic Volatile Organic Compounds Removal Efficiencies by Various Technologies; and 2) Survey of Existing Volatile Organic Compounds Treatment Installations. Both have potential to help increase efficiency of the remediation process for the cVOCs, which in turn would reduce capital and operating costs.

LADWP could also propose a research project to the Foundation, for example pilot testing a new remediation technology such as biological-remediation, or performing a literature search of best and emerging technologies. Under a Tailored Collaboration Project, the Foundation will match funding supplied by the project participant (or group of participants) up to \$100,000. Under a Facilitated Research Project, the project is fully funded by the specific utility or group of utilities. Project participants benefit directly from independent management of research and tailored communication of results.

Participation by Foundation on the remediation project would be valuable, but its success would depend upon the timeliness of the Facilitated Research Project as compared to the schedule of the remediation project. Research would need to be completed early enough in the remediation project schedule to be incorporated into the remediation process design.

##### Research Support and Independent Analysis for the GWR Project

At this time, Foundation is not providing independent technical review for the proposed GWR Project. However, since 2010, LADWP has solicited the services of the National Water Research Institute (NWRI) to assemble and coordinate an Independent Advisory

Panel (Panel) process to provide independent third-party review of the technical and regulatory aspects of the GWR Project.

Similar to the panels used by the Orange County Water District and the City of San Diego, this Panel of experts consists of academics, public agency representatives, independent consultants, and water industry representatives who are experts in the following fields:

1. Chemist (Contaminants of Emerging Concern, Fate and Transport, and Advanced Oxidation)
2. Soil Chemistry
3. Microbiologist (Pathogens, Infectivity, Occurrence, etc.)
4. Treatment Engineer
5. Operations Engineer
6. Water Reuse Regulatory Criteria and Public Health
7. Hydrogeologist
8. Toxicologist
9. Public Outreach
10. Water Utility Representative
11. Economist and Social Scientist
12. Risk Assessor


NWRI has and continues to provide assistance and analysis necessary to ensure GWR Project is sound, cost-effective, and best to meet the City's water supply needs through this Panel. In addition, NWRI assists the Panel process by continuing to develop and revise a detailed scope and approach for the Panel's review, coordinating and facilitating meetings, providing background materials, and preparing Panel reports. NWRI formed the Panel to provide expert peer review of the technical, scientific, regulatory, and policy aspects of the GWR Project, pilot project testing, and other potential GWR or indirect potable reuse projects to maximize reuse. Panel is considering findings by other concurrent expert panels (e.g., State Board's Blue Ribbon Panel on Chemicals of Emerging Concern, project-specific panels established for local GWR Projects, etc.) to develop the most informed recommendations for LADWP's GWR projects.

LADWP believes the primary intent of Council File 13-1385 to have independent review of the GWR Project is fulfilled with the current Panel review under NWRI.

The Honorable City Council  
Page 7  
January 14, 2014

If you have any questions or require further information, please contact me at (213) 367-1338, or have a member of your staff contact Ms. Winifred J. Yancy, Director of Intergovernmental Affairs and Community Relations, at (213) 367-0025.

Sincerely,



Ronald O. Nichols  
General Manager

JL/SH:yrq

Enclosures

c/enc: Councilmember Bob Blumenfield, Vice-Chair, Energy and Environment  
Committee  
Councilmember Tom LaBonge, Member  
Councilmember Jose Huizar, Member  
Councilmember Paul Koretz, Member  
Mr. Adam R. Lid, Legislative Assistant  
Mr. Miguel A. Santana, City Administrative Officer  
Mr. Gerry F. Miller, Chief Legislative Analyst  
Ms. Winifred J. Yancy

13-1385  
related CE 08-3340

ENERGY & ENVIRONMENT

MOTION

OCT 18 2013

The Department of Water and Power (DWP) recently announced that it will be soliciting public input for its proposed Groundwater Replenishment Project which plans to use highly purified water from the Donald C. Tillman Water Reclamation Plant to replenish the San Fernando Groundwater Basin. The project seeks to replenish local drinking water supplies and help reduce the City's reliance on imported water. The project is expected to be complete and operational by 2022.

In addition to this, the DWP plans to initiate the development of groundwater remediation facilities in the San Fernando Basin to clean up existing groundwater supplies. These facilities are expected to treat up to 123,000 acre feet of groundwater per year; thereby expanding the City's local water supply and further reducing the region's need for imported water. The DWP plans to have the groundwater remediation facilities in place and operational by 2022.

These groundwater projects are considered to be essential components of the DWP's Urban Water Management Plan which seeks to implement a sustainable local drinking water supply strategy. In order to learn more about these projects and their ability to provide safe and reliable water from the Basin, the DWP should provide a report to the Council regarding these projects including other components of the Urban Water Management Plan.

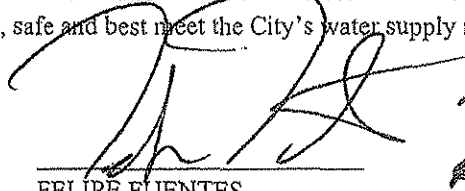
The DWP recently requested authority to execute a membership agreement with the Water Research Foundation which conducts research related to water quality/treatment and water infrastructure development. Its key objective is to assist water providers and suppliers with providing safe and affordable drinking water.

As the DWP pursues the development of major groundwater projects in the San Fernando Basin, it should consider the assistance and analysis of the Water Research Foundation in order to ensure these projects are sound, cost-effective and best meet the City's water supply needs.

I THEREFORE MOVE that the Department of Water and Power (DWP) report to the Energy and Environment Committee in 30 days on the status of its proposed San Fernando Basin Groundwater Replenishment Project and the Groundwater Remediation Project; and other key components of its Urban Water Management Plan.

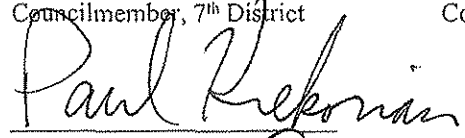

I FURTHER MOVE that the DWP report as to the viability of requesting assistance and analysis from the Water Research Foundation in order to assess that the San Fernando Groundwater projects are sound, cost-effective, safe and best meet the City's water supply needs.

PRESENTED BY:

  
FELIPE FUENTES  
Councilmember, 7<sup>th</sup> District

  
BOB BLUMENFIELD  
Councilmember, 3<sup>rd</sup> District

SECONDED BY:

ORIGINAL

OCT 18 2013

