

OFFICE OF THE MAYOR

July 21, 2003

TO: CITY COUNCIL

FROM: CITY MANAGER

**SUBJECT: Comments to Report by Philip Williams & Associates - Flood Hazard, Sediment Management, and Water Feature Analyses, Hahamongna Watershed Park**

In January, 2000, Philip Williams Associates (PW&A) prepared a study for Hahamongna Watershed Park entitled, "*Flood Hazard, Sediment Management and Water Feature Analyses for HWP.*" The study was not further considered as a proposal for the HWP master plan because staff strongly felt it did not meet some very basic master plan goals and objectives, nor did it adequately address the operational constraints of the involved water agencies, including Pasadena Water and Power.

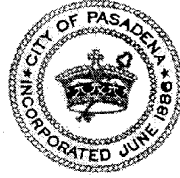
The study was presented to the Municipal Services Committee with representatives present from the Utility Advisory Commission, the Raymond Basin Management Board and the Metropolitan Water District (MWD) Board. A copy of the report was distributed to City Council on June 6, 2003. It is being presented to City Council to allow an opportunity for questions to be answered by the author of the report, Mr. Aaron Mead, who will be present for the discussion.

The PW&A Report refers to water spreading in the natural streambed, in the Devil's Gate Reservoir, and behind the Devil's Gate Dam in lieu of spreading it the existing Arroyo Seco Spreading Basins. These proposals, however, do not consider the constraints of the 1974 judgement regarding surface water rights and water spreading options. Staff believes it is in the City's best interest not to ask that this judgement be reopened and to continue to comply with the existing judgement. A detailed analysis of staff's concerns is attached.

Respectfully submitted,

Cynthia J. Kurtz  
City Manager

7/21/2003  
7.A.1.



PASADENA WATER AND POWER

## INTERDEPARTMENTAL LETTER

July 21, 2003

To: Martin Pastucha  
Director of Public Works

From: Phyllis E. Currie  
General Manager

Subject: **Comments to Report by Philip Williams & Associates - Flood Hazard, Sediment Management, and Water Feature Analyses, Hahamongna Watershed Park (PWA Ref. #1310), January 17, 2000**

Pasadena Water and Power (PWP) staff has reviewed the PWA Report on more than one occasion and now note these comments for your record. Included in this letter is background information that supports staff comments.

First of all, I want to clarify that in reviewing the PWA Report, staff expended most of its energies on the subjects of sediment management and groundwater recharge. Regarding sediment management, staff concludes the PWA Report is generally sound. There are minor errors that require correction but are inconsequential to the overall points in the PWA Report. The expertise of PWP staff is not sediment management, so our limited comments regarding this subject matter should not be construed as an indication that the PWA Report is complete and accurate without fault. Our comments are predominantly on the issue of groundwater recharge.

### GROUNDWATER RECHARGE

#### Background

Prior to 1972, PWP diverted surface water from the Arroyo Seco Stream for direct take to the water system. Treatment was limited to debris removal and disinfectant. In the early 1970s (~1972), there were concerns by water diverters that the California Department of Health Services would impose tougher water quality standards thereby preventing the direct take of surface water if diverters lacked adequate treatment. PWP was no exception to this concern.

Under the directions of the Raymond Basin Management Board, a study on alternative uses for surface water was proposed, and an agreement was signed on May 23, 1972 that a study would be undertaken by the California Department of Water Resources.

The underlying intent of the study was to determine the effects if parties having surface water rights were allowed to spread and recapture the groundwater in lieu of direct take. The conclusion of the study, following numerous deliberations among members of the Raymond Basin, was the recommendation to revise the Judgment and incorporate a spreading provision. The Judgment is a legal document that governs the activities of water purveyors in the Raymond Basin. On January 17, 1974, the Judgment was revised allowing parties having surface water rights the option to spread the water, as an alternative to direct take, surface water and recapture a percentage thereof by pumping. Since 1974, PWP has been actively participating in spreading operations.

In the Judgment, spreading provisions clearly stipulate what members of the Raymond Basin must abide by for the intent of increasing groundwater rights. The spreading provisions delineate each of the party's surface water rights, the hierarchy of water, and the procedures that must be taken to receive spreading credits.

### **Philip Williams' Proposal**

The general theme proposed in the PWA Report is the concept of spreading in the natural streambed, in the Devil's Gate Reservoir, and behind the Devil's Gate Dam in lieu of spreading in the existing Arroyo Seco Spreading Basins. The following excerpts from the PWA Report are highlighted as examples of this theme.

- Page 146, 2<sup>nd</sup> ¶, 4<sup>th</sup> sentence - "This pool could serve as an enlarged groundwater recharge/percolation pond, potentially enhancing groundwater recharge in the park.";
- Page 149, 1<sup>st</sup> ¶, 1<sup>st</sup> sentence - "The results of this analysis of stream-bed percolation and percolation of water behind Devil's Gate Dam indicate that significant increases in groundwater recharge might be realized if natural flows are restored to Arroyo Seco below the JPL bridge and if water is held behind Devil's Gate Dam."
- Page 150, 4<sup>th</sup> ¶, 3<sup>rd</sup> sentence - "Therefore, temporarily holding water behind the dam following significant flood events may be the most reasonable method of increasing groundwater percolation in the basin.";
- Page 151, 2<sup>nd</sup> ¶, 1<sup>st</sup> sentence - "Furthermore, it should be emphasized that if natural flows were restored to the Arroyo Seco channel through the Hahamongna Watershed Park – specifically flows up to 25 cfs that are currently diverted and spread by the City at the Arroyo Seco Spreading Grounds – data suggest that virtually all of these flows would naturally percolate into the groundwater along the riparian corridor without significant ponding or flowthrough at the dam."
- Page 151, 2<sup>nd</sup> ¶, 2<sup>nd</sup> sentence - "This suggests that, together, restoring natural flows to the Arroyo Seco channel through the park and holding water temporarily behind the dam following flood events could provide groundwater recharge quantities that exceed current amounts, without the use of the Arroyo Seco Spreading Grounds";
- Page 151, 3<sup>rd</sup> ¶, 1<sup>st</sup> sentence - "If natural flows were restored to the Arroyo Seco channel through the Hahamongna Watershed Park and a temporary seasonal water feature were implemented behind Devil's Gate Dam, the main implication for water supply in the basin is that the City would likely be able to increase the amount of

groundwater recharge credit they obtain from the Raymond Basin Management Board (RBMB).”

- Page 151, 3<sup>rd</sup> ¶, 2<sup>nd</sup> sentence – “The RBMB strongly supports the concept of holding water at the dam more frequently (per. comm. Ron Palmer, RBMB) as they believe this management strategy would bring increases to groundwater recharge in the Monk Hill aquifer.”

By doing so, Philip Williams concludes PWP would have no reason to continue spreading in the existing spreading basins or construct additional basins, would restore to some degree the Hahamongna area to a more natural habitat, and would increase its groundwater rights.

**PWP Comments:**

- A. The PWA Report fails to differentiate spreading for recapture and spreading for the general benefit. The report is vague by combining both spreading activities as one event. Years prior to incorporating the spreading provision in the Judgment, the Los Angeles County Flood Control District (LACFCD) had spread unappropriated waters in the existing Arroyo Seco Spreading Basins for general benefit. This was in addition to water that naturally recharged the aquifer in the streambed and behind the dam. Spreading for general benefit is the mechanism to make the most beneficial use of water that would have normally gone to waste.

In the Arroyo Seco, LACFCD has never spread water that was the property of a diverter. The surface water that LACFCD diverted was either above and beyond diverters' water rights or downstream from diverters' intakes. It is transparent in the Judgment and during the authoring of the spreading provision that spreading for recapture is subordinate to conservation of natural flows.

Although LACFCD no longer spreads for the general benefit, with the exception of water held behind Devil's Gate Dam, diverters are restricted from pumping 100% of water spread. The difference between the amount spread and the amount permitted for recapture continues the general benefit goal.

- B. Source: Judgment, page 13, lines 3 to 9 - Parties to the Raymond Basin having diversion rights shall have in its discretion the right to spread its surface water rights and recapture a percentage thereof by pumping.

The Judgment is specific as to which parties are entitled diversion rights and the discretion it holds in its powers. The City has the right to divert not to exceed 25 cubic feet per second in the Arroyo Seco. If the City's surface water rights are held behind Devil's Gate Dam with the sole intention of increasing groundwater rights, the LACFCD as owners of the dam may be construed a spreader. The LACFCD is neither a party to the Raymond Basin Judgment nor does it hold water rights.

- C. Source: Judgment, page 13, lines 10 to 18 – For a diverter to receive spreading credits, the diverted water must percolate in the existing water conservation facilities of the LACFCD (i.e. Arroyo Seco Spreading Basins), in additional spreading grounds the diverter acquires, or in any natural stream channels leading to existing or future spreading grounds.

The Philip Williams' proposal to spread in the natural streambed fails to recognize the Judgment's provision that the streambed must lead to spreading basins. The Judgment had not intended for diverters to use the reservoir or area behind the dam as a spreading ground to increase pumping rights.

- D. Source: Judgment, page 13, lines 19 to 22 – A metering device is required by each diverting party to measure the amount of water spread for recapture.

Source: Judgment, page 14, lines 3 to 12 – If a party diverts water for spreading and the spreading grounds of the LACFCD is fully utilized for the conservation of natural flows and water escapes therefrom, the amount of water escaping will be deducted against the diverters in proportion to the amount they diverted.

PWP and Lincoln Avenue Water Company are two spreaders in the Arroyo Seco. Both parties measure the water it diverts for spreading. The Arroyo Seco has numerous water sources entering the Hahamongna Watershed Park area. The sources include storm drains, storm runoff, tributary streams, etc. None of these sources are measured. If spreading should occur in the streambed, in the reservoir area, and behind the dam, and the LACFCD releases water for reasons of flood control, a question of ownership arises. Which of the water sources were released? How does the Raymond Basin Watermaster, the authority for reporting and documenting the accounting of spreading credits, differentiate water rights that PWP and Lincoln had diverted and measured for intent of recapturing versus other water sources that flow arbitrary into the reservoir? For this reason, spreading is isolated to basins to prevent diverted water from commingling with different water sources from storm events.

- E. Source: Judgment, page 15, lines 24 to 26 – The provisions concerning the right to spread and recapture by pumping remain subject to the continuing jurisdiction of the Court.

To move forward with Philip Williams' proposal would require the Judgment to be "opened, modified, and restated." The legal procedure would require a unanimous vote from all 16 members of the Raymond Basin. The Raymond Basin Watermaster may require that an engineering study conclude that the proposal does not negatively impact any party to the Raymond Basin and the safe yield of the basin is maintained or improved. The cost and time associated with this legal procedure is expensive and time consuming. The proof is exemplified in the amount of times the Judgment was revised – a total of three revisions over a 59 year span.

To reiterate this statement, a quote from the PWA Report is highlighted (page 53, 1<sup>st</sup> ¶, 2<sup>nd</sup> and 3<sup>rd</sup> sentences) – “Furthermore, it should be understood that any recommended significant changes to the way the City uses this water right and gains groundwater credit may necessitate a re-negotiation of the City’s original adjudicated agreement, which could be a lengthy and difficult process. These water rights issues act as constraints on the recommendations of this study.”

- F. A concern of PWP of utilizing the area behind the Devil’s Gate Reservoir is the potential conflict between PWP’s goal of maximizing its surface water rights by spreading and the LACFCD’s mission of flood control and sediment removal. If PWP diverts water behind the dam and the LACFCD releases water for flood control reasons, a deduction will be made against PWP because natural flows take precedence to spreading for recapture. In order for the City to best utilize its surface water rights and ensure the highest reliability of this goal, parties having conflicting interest should limit its participating role in spreading for recapture.

### **Conclusion**

In the PWA Report, it proposes that the City has an alternative for utilizing its surface water rights by spreading in the natural streambed, in the Devil’s Gate Reservoir, and behind the Devil’s Gate Dam in lieu of spreading in the existing Arroyo Seco Spreading Basins. The PWA Report states that the efficiencies for spreading could be greater than the current practices of PWP. However, the proposal fails to emphasize the difference between spreading for recapture, which is a mission of PWP, and spreading for general benefit.

PWP agrees that spreading for general benefit may increase when implementing Philip Williams’ proposal. PWP supports the concept of spreading water in the streambed or Devil’s Gate Reservoir that typically would go to waste down the concrete flood control channel. After all, this is surface water that no parties to the Raymond Basin are allowed to divert including the City. However, the spreading provisions in the Judgment are clearly defined. In complying with the Judgment, the City will continue benefiting by gaining additional groundwater rights as long as PWP spreads the City’s surface water rights in the Arroyo Seco Spreading Basins.