

Attachment 4

To: Trish Rhay and Steve Bucknam
From: Harvey R. Gobas, PE
Date: February 19, 2015
Subject: Comparison of Ten-Year Estimated Costs for Nine Shortlisted Alternatives with MWD Water Purchases in Lieu of Implementing those Alternatives

In response to questions from the Public Works Commission, we have utilized information originally presented in our Technical Memorandum No. 4 (Ten-Year Estimated Costs for Nine Shortlisted Alternatives) and compared those costs to MWD water purchases that would need to be made in lieu of implementing those recommended alternatives.

All assumptions stated in TM No. 4 still apply for each of the designated alternatives. The overall 10-Year escalated costs developed for each of the proposed portfolio scenarios, as originally presented in TM No. 4, are repeated below in Table 1.

**Table 1
Summary of 10-Year Escalated Costs for Proposed Portfolio Scenario Alternatives**

Proposed Portfolio Scenario	Sum of 10-Year Escalated Costs (Rounded)
Water Conservation (including Water Conservation Coordinator)	\$3,700,000
Water Banking	\$7,800,000
Groundwater Development (La Brea Sub-Basin)	\$37,900,000
MWD Water Purchases (for remaining 75% of Supply excluding HB)	\$105,700,000
Staffing	\$12,900,000
Subtotal of Proposed Portfolio Scenario	\$168,000,000
Subtotal Less MWD and Staffing	\$49,400,000
Low Range Cost (-30% except for MWD and Staffing)	\$153,200,000
High Range Cost (+50% except for MWD and Staffing)	\$192,700,000

Comparison of 10-Year Alternative Costs with MWD Water Purchase Costs

At the request of the Public Works Commission, we compared the 10-Year Costs of each of the three proposed alternatives (water conservation, water banking and groundwater development of the La Brea Sub-Basin) with the cost of purchasing MWD water in lieu of implementing these individual alternatives. These comparisons are based on the costs derived in TM No. 4 for Water Conservation (refer to page 3 of TM No. 4), Water Banking (refer to page 4 of TM No. 4) and Groundwater Development of the La Brea Sub-Basin (refer to the upper portion of page 8 of TM No. 4). These costs were then compared with the cost of purchasing the same amount of MWD water (based on the factors presented on page 10 of TM No. 4).

The actual cost the City would have to pay for this additional MWD water is subject to possible wide fluctuation. A relatively low cost would apply if MWD’s Tier 1 rates were in effect at the time of the purchase. However, it is unlikely that the City would be in a position to pay Tier 1 rates during times of drought and possible allocations. It is more likely, at least during some of these years, the City would have to pay MWD’s penalty rate.¹ With that in mind, we have estimated both low and high ranges for the MWD purchase costs based on the Tier 1 rate (the low range) and the penalty rate (the high range). These calculations are presented in the attached Tables 2, 3, 4 and 5. The only thing we can state with any certainty is the actual cost paid for additional MWD water purchased in place of implementing the given alternative, would lie somewhere between the low and high ends of the range.

We also calculated the cost of additional MWD purchases that would be required if the City’s four existing Hollywood Basin (HB) wells were shut down and the two newly proposed shallow groundwater wells were not developed. In these latter instances involving the HB wells, we do not have any baseline costs from which to compare the additional MWD purchase.²

Table 6 below summarizes the costs for purchasing additional MWD water at both Tier 1 and penalty rates, if such water had to be purchased in lieu of implementing the designated alternative.

Table 6
Comparison of 10-Year Escalated Alternative Costs with MWD Water Purchases

Proposed Portfolio Scenario	Annual Water Volume	Sum of 10-Year Escalated Costs (Rounded) for Implementing the Noted Alternative	10-Year MWD Purchase Cost Based on Tier 1 Rates (Rounded)	10-Year MWD Purchase Cost Based On Penalty Rates (Rounded)
Water Conservation (including Water Conservation Coordinator Salary)	Increases from 195 AFY in Year 1 to 1,180 AFY in Years 6-10 (Refer to Supporting Tables)	\$3,700,000	\$10,700,000	\$34,100,000
Water Banking	1,700 AFY in Years 8 and 9 only	\$7,800,000	\$4,000,000	\$12,800,000
Groundwater Development (La Brea Sub-Basin)	0 AFY in the first seven years; 1,708 AFY in years 8-10	\$37,900,000	\$6,200,000	\$19,700,000
Continued Use of the Hollywood Basin	800 and 400 AFY in Years 1 & 2; 1,120 AFY in Years 3-10	Costs Indeterminate (Not Included in Previous WEP Studies) ³	\$11,100,000	\$35,200,000

¹ Set at \$2,960/AF, per MWD Board Action Memorandum dated 12/9/2014; we have assumed this penalty rate will escalate over the next 10 years at the same rate as MWD’s Tier 1 projected rates (refer to Tables 2, 3, 4 and 5).

² The current operating costs for the four existing Hollywood Basin Wells, the two newly proposed shallow groundwater wells and the existing reverse osmosis treatment plant have been excluded from all previous WEP studies. There is therefore no basis on which to compare the additional MWD purchase costs presented in Table 6. We defer to City staff and to their consultants (Hazen and Sawyer and GHD) for a more accurate assessment of those HB groundwater production and treatment costs.

³ See Footnote 2

Please note the costs presented in Table 6 assume only the noted portfolio option is eliminated and replaced with MWD purchased water (e.g., water conservation is eliminated and replaced with MWD purchases). There are actually 24 separate permutations that would be possible given the designated four alternatives. We believe presenting costs for each of those permutations extends well beyond the scope of the Commission's request and have therefore not included that level of detail in this TM.

Summary of Findings

It is important to keep in mind the primary intent of the Water Enterprise Plan, i.e., to identify potential alternative water supply sources to increase the overall reliability of the City's water system. Over the years, MWD has always been a reliable source of supply for the City, but given the on-going drought and the potential for future allocations, it is in the City's best interests to continue to seek alternatives for reducing the amount of water currently imported from MWD (approximately 90% of the City's total water supply over the past four decades).

Given the potential for future drought allocations, the actual dollar amount the City would have to pay to purchase additional water from MWD is uncertain at best. In plentiful times, Tier 1 rates would be in effect, but in water scares times, penalty rates would apply. As noted in Table 6, these costs could vary from a low of \$4 M to a high of \$35.2 M, depending on the alternative evaluated and the actual MWD rate in effect at the time of purchase.

Table 2 - Additional MWD Purchase Costs Assuming No Water Conservation - Based on Tier 1 Rates and on Penalty Rates

	FISCAL YEAR										Total
	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	
Water Supply Breakdown											
Addl MWD Supply Req'd if No WC (AF)	195	630	850	1,010	1,140	1,180	1,180	1,180	1,180	1,180	
MWD Tier 1 Treated Rate (\$/AF) ¹	\$933	\$958	\$986	\$1,013	\$1,048	\$1,089	\$1,127	\$1,167	\$1,211	\$1,256	
MWD Penalty Rate ²	\$2,960	\$3,039	\$3,130	\$3,216	\$3,327	\$3,455	\$3,577	\$3,704	\$3,842	\$3,986	
MWD Purchase Cost Assuming Tier 1 Rate	\$ 181,838	\$ 603,225	\$ 838,100	\$ 1,023,130	\$ 1,194,720	\$ 1,284,430	\$ 1,329,860	\$ 1,377,060	\$ 1,428,390	\$ 1,481,633	\$ 10,742,386
MWD Purchase Cost Assuming MWD Penalty Rate	\$ 577,200	\$ 1,914,795	\$ 2,660,350	\$ 3,247,683	\$ 3,792,355	\$ 4,077,118	\$ 4,221,325	\$ 4,371,150	\$ 4,534,085	\$ 4,703,093	\$ 34,099,155

Table 3 - Additional MWD Purchase Costs Assuming No Water Banking - Based on Tier 1 Rates and on Penalty Rates

	FISCAL YEAR										Total
	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	
Water Supply Breakdown											
Addl MWD Supply Req'd if No Water Banking (AF)								1,700	1,700		
MWD Tier 1 Treated Rate (\$/AF) ¹	\$933	\$958	\$986	\$1,013	\$1,048	\$1,089	\$1,127	\$1,167	\$1,211	\$1,256	
MWD Penalty Rate ²	\$2,960	\$3,039	\$3,130	\$3,216	\$3,327	\$3,455	\$3,577	\$3,704	\$3,842	\$3,986	
MWD Purchase Cost Assuming Tier 1 Rate	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,983,900	\$ 2,057,850	\$ -	\$ 4,041,750
MWD Purchase Cost Assuming MWD Penalty Rate	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 6,297,420	\$ 6,532,157	\$ -	\$ 12,829,576

Table 4 - Additional MWD Purchase Costs Assuming No Groundwater Development in the La Brea Sub-Basin - Based on Tier 1 Rates and on Penalty Rates

	FISCAL YEAR										Total
	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	
Water Supply Breakdown											
Addl MWD Supply Req'd if No CB GW Devel (AF)								1,708	1,708	1,708	
MWD Tier 1 Treated Rate (\$/AF) ¹	\$933	\$958	\$986	\$1,013	\$1,048	\$1,089	\$1,127	\$1,167	\$1,211	\$1,256	
MWD Penalty Rate ²	\$2,960	\$3,039	\$3,130	\$3,216	\$3,327	\$3,455	\$3,577	\$3,704	\$3,842	\$3,986	
MWD Purchase Cost Assuming Tier 1 Rate	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,993,236	\$ 2,067,534	\$ 2,144,601	\$ 6,205,371
MWD Purchase Cost Assuming MWD Penalty Rate	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 6,327,055	\$ 6,562,896	\$ 6,807,529	\$ 19,697,479

Table 5 - Additional MWD Purchase Costs Assuming No Water Production in the Hollywood Basin - Based on Tier 1 Rates and on Penalty Rates

	FISCAL YEAR										Total
	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	
Water Supply Breakdown											
Addl MWD Supply Req'd if No HB GW Devel (AF)	800	400	1,120	1,120	1,120	1,120	1,120	1,120	1,120	1,120	
MWD Tier 1 Treated Rate (\$/AF) ¹	\$933	\$958	\$986	\$1,013	\$1,048	\$1,089	\$1,127	\$1,167	\$1,211	\$1,256	
MWD Penalty Rate ²	\$2,960	\$3,039	\$3,130	\$3,216	\$3,327	\$3,455	\$3,577	\$3,704	\$3,842	\$3,986	
MWD Purchase Cost Assuming Tier 1 Rate	\$ 746,000	\$ 383,000	\$ 1,104,320	\$ 1,134,560	\$ 1,173,760	\$ 1,219,120	\$ 1,262,240	\$ 1,307,040	\$ 1,355,760	\$ 1,406,296	\$ 11,092,096
MWD Purchase Cost Assuming MWD Penalty Rate	\$ 2,368,000	\$ 1,215,743	\$ 3,505,402	\$ 3,601,392	\$ 3,725,823	\$ 3,869,807	\$ 4,006,681	\$ 4,148,888	\$ 4,303,538	\$ 4,463,953	\$ 35,209,227

¹ MWD rate is average of calendar year Full Service Tier 1 Treated Volumetric Cost (\$/AF) from Attachment 10 to 4/8/2014 MWD Board Meeting Package. Inflation built into these rates.

² MWD Penalty Rate (\$/AF) is based on information included in MWD Board of Directors Board Action dated 12/9/2014.