

RESOLUTION NO. 2014-01

BOARD OF DIRECTORS OF MISSION SPRINGS WATER DISTRICT ADOPTING THE MISSION CREEK/GARNET HILL WATER MANAGEMENT PLAN DATED JANUARY 2013, TOGETHER WITH POSITION PAPERS TITLED RETURN FLOW CREDIT, ARTIFICIAL RECHARGE DISTRIBUTION AND REPLENISHMENT ASSESSMENT AMENDMENT, AND PLAN IMPLEMENTATION COMMITMENT

WHEREAS, on or about October 3, 2003, Mission Springs Water District filed an action against Desert Water Agency in the Superior Court of the State of California, for the County of Riverside, seeking in part (i) a writ of mandate, (ii) declaratory relief for prescription and appropriative water rights, and (iii) declaratory and injunctive relief for a physical solution for the groundwater basin;

WHEREAS, on or about December 7, 2004, Mission Springs Water District, Desert Water Agency, and Coachella Valley Water District executed a Settlement Agreement;

WHEREAS, the Settlement Agreement requires Mission Springs Water District, Desert Water Agency, and Coachella Valley Water District to jointly prepare a water management plan for the Mission Creek and Garnet Hill Subbasins;

WHEREAS, the Settlement Agreement further specifies that the Parties (MSWD, DWA, and CVWD) agree to cooperate with one another in completing any actions necessary to obtain approval of the Plan; and

WHEREAS, the Plan has been completed; however, Staff maintains concerns regarding various issues related to the Plan. These concerns are documented in the position papers. Agreement has not been reached between the parties to the Settlement Agreement and the Plan on the issues addressed in the position papers.

NOW, THEREFORE, BE IT RESOLVED by the Board of Directors of the Mission Springs Water District hereby adopts the Mission Creek/Garnet Hill Water Management Plan dated January 2013, together with Position Papers titled Return Flow Credit, Artificial Recharge Distribution and Replenishment Assessment Amendment, and Plan Implementation Commitment. Mission Springs Water District reserves all rights with respect to the unresolved issues addressed in the position papers.

ADOPTED this 21st day of January 2014, by the following vote:

Ayes: Bowman, Brown, Furbee, Martin, Wright
Noes:
Abstain:



Russ Martin
President of Mission Springs Water District
and its Board of Directors

ATTEST:



Arden Wallum
Secretary of Mission Springs Water District
and its Board of Directors

CERTIFICATION OF ADOPTION

STATE OF CALIFORNIA)
)
COUNTY OF RIVERSIDE)

I, Arden Wallum, Secretary of the Board of Directors of Mission Springs Water District, certify that the foregoing is a full, true and correct copy of Resolution No. **2014-01**, which was adopted by the Board of Directors of said District at its regular meeting held, January 21, 2014.

It has not been amended or repealed.

Dated January 22, 2014



Secretary of Mission Springs Water District
and its Board of Directors



**Mission Springs Water District
Return Flow Credit
Position Paper
January 16, 2014**

1. Introduction

Mission Springs Water District (MSWD) requests that it receive credits for the ever increasing return flows that are significant portions of the Mission Creek Subbasin water budget. Currently, these return flows do not receive any consideration; however, it has significant value and it should be considered as supplemental water.

In October 2003, MSWD filed action in the Superior Court of the State of California against Desert Water Agency (DWA) and Coachella Valley Water District (CVWD) related to management of the Mission Creek and Garnet Hill Subbasins. Generally, MSWD sought adjudication of the Mission Creek Subbasin (MCSB), challenged the validity of the replenishment assessments in the MCSB and objected to the quality of imported Colorado River Aqueduct water. The Parties reached a Settlement Agreement dated December 7, 2004. Unfortunately, this return flow issue was not addressed in the Settlement Agreement.¹ The reference to return flow presented in the Settlement Agreement specifically eliminates the right to recapture imported water recharged and does not address wastewater effluent or other return flow components.

During Management Committee meetings, MSWD presented arguments related to return flow credits. Responses received during these meetings concluded that the issue was in dispute. The December 7, 2004 settlement agreement sets forth a specific process to address disputes between the parties to the settlement agreement. Section 8(b) provide as follows: "The Parties hereby agree to cooperate and use all reasonable efforts to accomplish the terms of this Agreement. Accordingly, the Parties agree, in good faith, to undertake the resolution of all disputes in an equitable and timely manner, provided that if any matter is not resolved within ninety (90) days (as extended by mutual agreement of the Parties), and Party is then free to pursue all legal or equitable remedies; provided, however, when a dispute occurs under this Agreement, the Party claiming the dispute will give notice to the nondisputing Parties of the occurrence of the dispute. The notice shall include a detailed explanation of the nature of the dispute. Within seven (7) days after receipt of the notice (or such longer time as shall be agreed by the Parties) the designated Representatives shall use their best efforts to meet and confer to resolve the dispute." In accordance with the Settlement Agreement, Section 8 (a) and (b), MSWD (claiming party) hereby notifies DWA and CVWD (nondisputing Parties) of a dispute over the issues addressed in this position paper and requests that DWA and CVWD meet and confer to work toward resolution of

¹ MSWD, DWA, and CVWD Settlement Agreement, December 7, 2004, and Addendum to Settlement Agreement, Management Area Deliveries, undated.

this dispute. MSWD reserves all rights that it has related to this dispute and under the settlement agreement.

2. Background

The MCSB water budget includes both inflows and outflows. Inflows include infiltration from direct precipitation, surface water infiltration, subsurface flows into the basin, deep percolation of applied water and artificial recharge. Outflows include groundwater pumping, flow to surface water, subsurface flows from the basin, and evapotranspiration.²

Regarding groundwater pumping, MSWD, CVWD, and private pumpers produce water from the MCSB. Consistent annual groundwater production within MCSB has resulted in cumulative long-term overdraft.³ Groundwater overdraft in the MCSB is now estimated to have averaged up to 10,000 AFY (excluding artificial recharge, 15,000 AF of production less 5,000 AF non-consumptive return) during the last five years.⁴

Regarding deep percolation of applied water (return flow), MSWD, CVWD and private pumpers return water to the MCSB. Return flows are the amount of water applied for irrigation not used by plants to satisfy their evapotranspiration requirements and other water returned to the groundwater basin following domestic usage.⁵ These return flows are identified as a key component of the water budget in the annual Engineer's Reports.⁶

Regarding artificial recharge, DWA and CVWD have imposed Groundwater Replenishment and Assessment Programs to augment groundwater supplies and arrest or retard declining water levels within the Mission Creek Subbasin. The two agencies are permitted by law to replenish groundwater basins and to levy and collect water replenishment assessments from any groundwater extractor within their jurisdictions who benefit from replenishment of groundwater. The replenishment assessment rate is comprised of two components: (1) the Allocated State Water Project charges attributable to the estimated annual Table A allocation, and (2) certain other charges or costs related to groundwater recharge or for construction and operation of facilities for groundwater recharge.⁷

² Mission Creek/Garnet Hill Water Management Plan, Final Report, January 2013, Section 4 – Water Resources, Water Budget, page 4-4.

³ Desert Water Agency, Engineer's Report, Groundwater Replenishment and Assessment Program for the Mission Creek Subbasin, 2013/2014, dated April 2013, page III-1.

⁴ Desert Water Agency, Engineer's Report, Groundwater Replenishment and Assessment Program for the Mission Creek Subbasin, 2013/2014, dated April 2013, page II-2.

⁵ Mission Creek/Garnet Hill Water Management Plan, Final Report, January 2013, Section 4 – Water Resources, Water Budget, Inflows, pages 4-7 through 4-9.

⁶ Desert Water Agency, Engineer's Report, Groundwater Replenishment and Assessment Program for the Mission Creek Subbasin, Desert Water Agency, 2013/2014, dated April 2013, Chapter III, Water Supply.

⁷ Desert Water Agency, Engineer's Report, Groundwater Replenishment and Assessment Program for the Mission Creek Subbasin, Desert Water Agency, 2013/2014, dated April 2013, page IV-2.

3. Analysis

The MSWD and CVWD benefit area production from the Mission Creek Management Area is documented in annual engineer reports. Between 1978 and 2010, water produced in the MSWD service area averages approximately 70% of total production.⁸ Of this 70%, essentially all of the water is served in areas overlying the Desert Hot Springs and Mission Creek Subbasins while CVWD predominately serves the water it produces beyond the limits of the Mission Creek Subbasin. MSWD returns to the MCSB over one-third of the water it produces while CVWD returns approximately 12.5% of its production. More than 86% of the return flow is occurring in MSWD's benefit area.⁹ Currently, return flows are estimated to total 4,400 AFY of which MSWD's portion is approximately 3,800 AFY and CVWD portion is 600 AFY.

However, MSWD is aggressively implementing sewer improvement programs. As shown on Attachment 2, additional areas will be connected to the wastewater collection system that currently convey septic return flows to the Desert Hot Springs Subbasin and those flows will be delivered to the Horton WWTP, treated and recharged in the MCSB. It is estimated that wastewater flows will increase by 40%, or 569 AFY for a total return flow of 4,964 AFY.

Without these return flows, DWA and CVWD would be required to purchase an additional 4,964 AFY of imported water supplies at an estimated cost of \$23.9 million of SWP Table A amount together with an annual SWP delivery cost of \$1.3 million.¹⁰

4. Conclusion

MSWD has requested that it receive credits for the ever increasing return flows that are significant portions of the Mission Creek Subbasin water budget. Currently, these return flows do not receive any consideration; however, it has significant value and it should be considered as supplemental water. DWA and CVWD have rejected MSWD's requests to receive credit for its return flows. As such, no agreement has been reached on this issue and it remains unresolved. MSWD expressly reserves all rights with respect to this issue.

Attachments: 1 – Production and Return Flow Analysis
 2 – Regional Sewer Program
 3 – Return Flow Increase

⁸ Coachella Valley Water District, Engineer's Report on Water Supply and Replenishment Assessment, Mission Creek Subbasin Area of Benefit 2013-2014, Table 2 and calculations presented in Attachment 1.

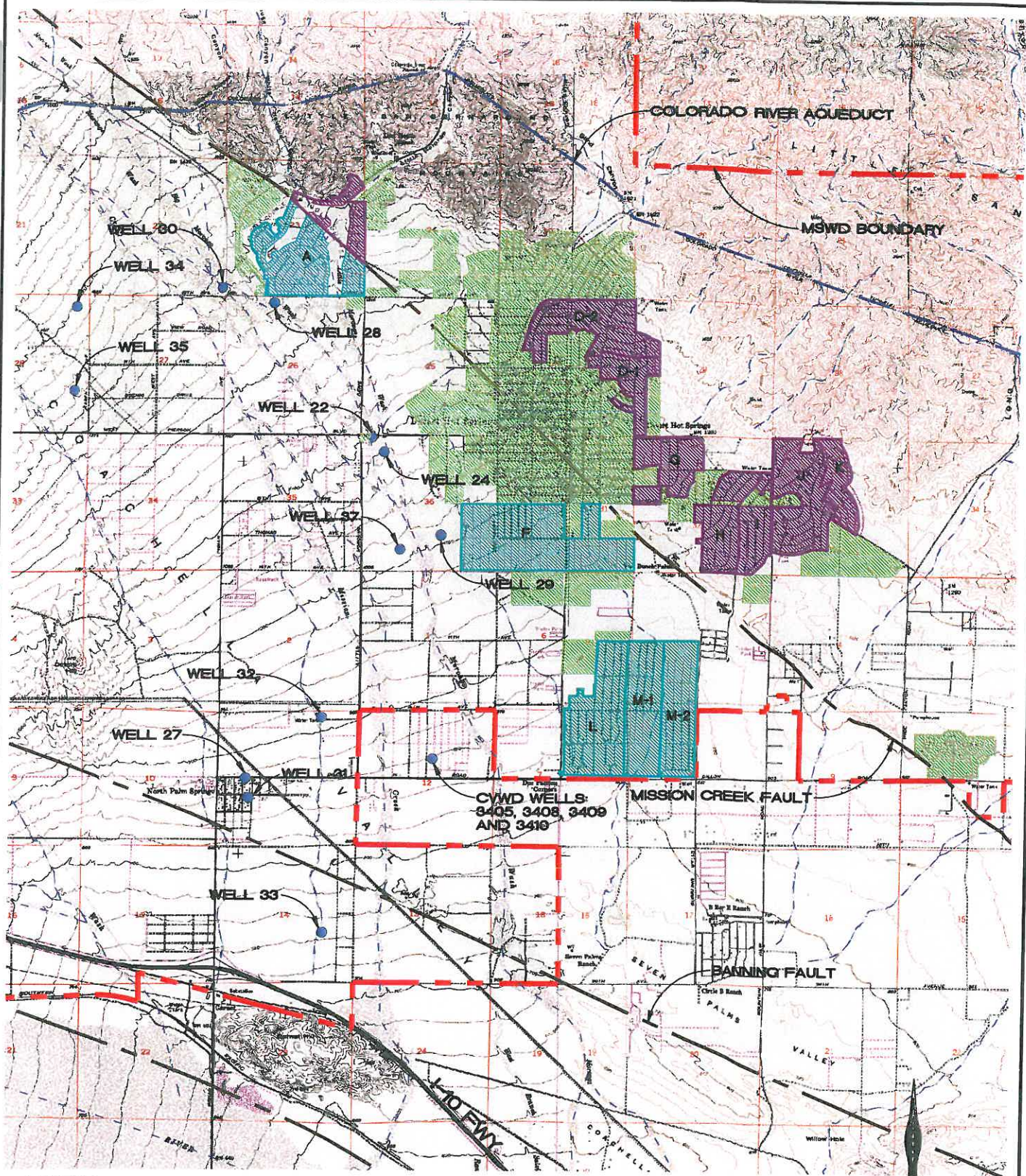
⁹ Mission Creek/Garnet Hill Water Management Plan, Final Report, January 2013, Table 4-1, Estimated Return Flows in the Mission Creek Subbasin (1978-2010) and calculations presented in Attachment 1.

¹⁰ Calculations presented in Attachment 3.

**Attachment 1
Production and Return Flow Analysis**

Year	Coachella Valley Water District									Mission Springs Water District									
	Production ^{1.)}		Septic Return Flow ^{2.)}	Outdoor Irrigation Return Flow ^{2.)}	Other Return Flow ^{2.)}	Total Return Flow	% Return Flow v. Production	% of Total Production	% of Total Return Flow	Production ^{1.)}		Septic Return Flow ^{2.)}	Outdoor Irrigation Return Flow ^{2.)}	Other Return Flow ^{2.)}	Wastewater Percolation	Total Return Flow	% Return Flow v. Production	% of Total Production	% of Total Return Flow
	AFY	AFY	AFY	AFY	AFY	%	%	%	%	AFY	AFY	AFY	AFY	AFY	AFY	AFY	%	%	%
1978	854	57	18	0	75	8.8%	37.9%	9.6%	1,399	157	61	352	137	707	50.5%	62.1%	90.4%		
1979	1,001	67	21	0	88	8.8%	28.1%	9.5%	2,564	208	84	352	190	834	32.5%	71.9%	90.5%		
1980	1,107	74	23	0	97	8.8%	27.5%	9.7%	2,914	232	95	352	224	903	31.0%	72.5%	90.3%		
1981	1,421	95	30	0	125	8.8%	33.1%	11.7%	2,878	225	96	352	267	940	32.7%	66.9%	88.3%		
1982	1,302	87	27	0	114	8.8%	33.1%	10.8%	2,630	205	92	352	296	945	35.9%	66.9%	89.2%		
1983	1,442	97	30	0	127	8.8%	32.6%	10.3%	2,979	237	115	352	397	1101	37.0%	67.4%	89.7%		
1984	1,915	128	40	0	168	8.8%	33.9%	12.0%	3,740	321	142	352	413	1228	32.8%	66.1%	88.0%		
1985	2,148	144	45	0	189	8.8%	37.6%	13.5%	3,559	333	144	352	381	1210	34.0%	62.4%	86.5%		
1986	2,159	145	45	0	190	8.8%	33.5%	12.8%	4,278	424	169	352	346	1291	30.2%	66.5%	87.2%		
1987	2,234	150	47	0	197	8.8%	33.3%	11.3%	4,483	504	209	420	416	1549	34.6%	66.7%	88.7%		
1988	2,302	83	26	212	321	13.9%	32.3%	16.4%	4,834	587	245	342	458	1632	33.8%	67.7%	83.6%		
1989	2,606	104	32	212	348	13.4%	31.4%	15.7%	5,690	695	291	342	541	1869	32.8%	68.6%	84.3%		
1990	2,512	97	30	212	339	13.5%	30.3%	14.4%	5,790	670	307	342	692	2011	34.7%	69.7%	85.6%		
1991	2,292	83	26	212	321	14.0%	29.5%	14.0%	5,486	608	294	342	726	1970	35.9%	70.5%	86.0%		
1992	2,188	76	24	212	312	14.3%	26.1%	11.4%	6,187	684	318	663	761	2426	39.2%	73.9%	88.6%		
1993	2,528	98	31	212	341	13.5%	28.5%	13.4%	6,333	697	341	313	858	2209	34.9%	71.5%	86.6%		
1994	2,863	121	38	212	371	13.0%	29.6%	13.6%	6,813	856	390	313	801	2360	34.6%	70.4%	86.4%		
1995	2,865	121	38	212	371	12.9%	28.4%	13.7%	7,237	877	387	313	756	2333	32.2%	71.6%	86.3%		
1996	2,838	119	37	212	368	13.0%	26.9%	13.1%	7,724	958	414	313	755	2440	31.6%	73.1%	86.9%		
1997	2,104	70	22	212	304	14.4%	21.3%	11.1%	7,795	919	408	313	799	2439	31.3%	78.7%	88.9%		
1998	2,757	114	36	212	362	13.1%	26.8%	12.5%	7,534	934	425	313	859	2531	33.6%	73.2%	87.5%		
1999	3,004	130	41	212	383	12.7%	27.4%	12.7%	7,970	973	446	313	907	2639	33.1%	72.6%	87.3%		
2000	3,433	159	50	212	421	12.3%	29.0%	13.3%	8,405	974	462	313	1004	2753	32.8%	71.0%	86.7%		
2001	3,929	192	60	212	464	11.8%	31.8%	14.4%	8,421	960	461	313	1028	2762	32.8%	68.2%	85.6%		
2002	4,371	222	69	212	503	11.5%	31.3%	15.0%	9,597	996	479	313	1063	2851	29.7%	68.7%	85.0%		
2003	4,425	231	72	315	618	14.0%	30.5%	16.8%	10,073	997	506	316	1233	3052	30.3%	69.5%	83.2%		
2004	4,628	236	71	331	638	13.8%	28.0%	15.3%	11,920	1,247	594	391	1296	3528	29.6%	72.0%	84.7%		
2005	4,247	198	63	480	741	17.4%	26.0%	15.7%	12,060	1,549	707	337	1385	3978	32.9%	74.0%	84.3%		
2006	4,757	217	77	490	784	16.5%	27.4%	15.8%	12,608	1,366	973	318	1528	4185	33.2%	72.6%	84.2%		
2007	4,547	209	77	458	744	16.4%	27.7%	16.4%	11,862	1,285	651	371	1493	3800	32.0%	72.3%	83.6%		
2008	4,543	207	70	474	751	16.5%	28.8%	17.2%	11,232	1,192	613	376	1442	3623	32.3%	71.2%	82.8%		
2009	4,813	240	80	421	741	15.4%	31.9%	17.8%	10,295	1,156	595	275	1399	3425	33.3%	68.1%	82.2%		
2010	4,484	208	70	432	710	15.8%	31.4%	18.1%	9,819	1,054	542	341	1275	3212	32.7%	68.6%	81.9%		
	Average:					12.5%	30.1%	13.6%	Average:						33.7%	69.9%	86.4%		

Notes:
1.) Coachella valley Water District, Engineer's Report on Water Supply and Replenishment Assessment, Mission Creek Subbasin Area of Benefit, 2013-2014, prepared April 2013, Table 2.
2.) Mission Creek and Garnet Hill Subbasins Water Management Plan, Administrative Draft, prepared April 2012, Table 4-1.



LEGEND:

- MSWD SERVICE AREA
- COLORADO RIVER AQUEDUCT
- FAULT LINES
- USGS BLUE LINE STREAM
- SEWERED AREAS (3,546 ACRES)
- DESERT HOT SPRINGS SUBBASIN SEWER CONVERSION PROJECTS
- MISSION CREEK SUBBASIN SEWER CONVERSION PROJECTS

SCALE: N.T.S.



TKE ENGINEERING, INC.
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MISSION SPRINGS WATER DISTRICT

ATTACHMENT 2
REGIONAL SEWER PROGRAM

Attachment 3 Return Flow Increase

Return Flow Quantity Increase		
[1]	Existing Sewered Area (Acre):	2,314
[2]	Wastewater Percolation Total (AFY) ^{1.)} :	1,427
[3]	Wastewater Percolation (AF/Acre) ^{2.)} :	0.62
[4]	Desert Hot Springs Subbasin Future Sewered Area (Acre):	922
[5]	Additional Wastewater Percolation Total from DHS Subbasin (AFY) ^{3.)} :	569
[6]	Total Return Flow (AFY) ^{1.)} :	4,395
[7]	Total Return Flow with Additional DHS Subbasin (AFY) ^{4.)} :	4,964

Return Flow Cost		
[8]	Average Unit Cost to Purchase Import Water Rights ^{5.)} :	\$ 4,810
[9]	Average State Water Project Charges (2011-2017)(\$/AF) ^{6.)} :	\$ 255.66
[10]	SWP Table A Amount Cost ^{7.)} :	\$ 23,874,569
[11]	SWP Table A Delivery Cost ^{8.)} :	\$ 1,268,976

Notes:

- 1.) 5-Year Average from Attachment 1, Production and Return Flow Analysis.
- 2.) [3] = [2]/[1]
- 3.) [5] = [3]*[4]
- 4.) [7] = [5]+[6]
- 5.) Coachella Valley Water District 2009 Water System Backup Facilities Charge Study.
- 6.) Desert Water Agency, Engineer's Report, Groundwater Replenishment and Assessment Program for the Mission Creek Subbasin, 2013/2014, dated April 2013, Table 1.
- 7.) [10] = [7]*[8]
- 8.) [11] = [7]*[9]



**Mission Springs Water District
Artificial Recharge Distribution and Replenishment Assessment
Amendment
Position Paper
January 16, 2014**

1. Introduction

Mission Springs Water District (MSWD) requests that artificial recharge proportionate distribution between the Whitewater and Mission Creek Management Areas be determined based on "sound management"¹ and that DWA and CVWD commit that recharge at the Mission Creek Recharge Facilities will continue to occur when water supplies are available. MSWD further requests that replenishment assessments are collected at a tiered rate structure to encourage conservation. Currently, recharge distribution is based solely on production within management areas and to balance the water distribution, Mission Creek Recharge Facilities may not receive water for more than seven years. In addition, the replenishment assessment rate is distributed evenly throughout the management area without considering conservation.

In October 2003, MSWD filed action in the Superior Court of the State of California against Desert Water Agency (DWA) and Coachella Valley Water District (CVWD) related to management of the Mission Creek and Garnet Hill Subbasins. Generally, MSWD sought adjudication of the Mission Creek Subbasin (MCSB), challenge the validity of the replenishment assessments in the MCSB and questioned the quality of imported Colorado River Aqueduct water. The Parties reached a Settlement Agreement dated December 7, 2004.

To ensure that the Mission Creek Recharge Basin receives its proportionate share of imported water recharge, the Settlement Agreement Addendum² includes:

- a. Each year CVWD and DWA shall calculate the combined total quantity of water produced during the previous year from the Whitewater River Management Area and the Mission Creek Management Area, and from sources tributary to those Management Areas, and shall determine from that the percentages of the total production from those Management Areas and their sources.
- b. Water supplies available to CVWD and DWA each year, through their respective State Water Project Contracts, for the replenishment of those Management Areas will be allocated and delivered to the Management Areas for groundwater replenishment in the same

¹ DWA Engineer's Report, Groundwater Replenishment and Assessment Program for the Mission Creek Subbasin, Desert Water Agency 2013/2014, April 2013, Introduction.

² MSWD, DWA, and CVWD Settlement Agreement, December 7, 2004, and Addendum to Settlement Agreement, Management Area Deliveries, undated.



- percentages, subject to delivery capability and operational constraints in any particular year.
- c. Cumulative water deliveries between or among management areas shall be balanced as and when determined by the Management Committee, but no later than 20 years from the date of the settlement agreement and each 20 years thereafter.

During Management Committee meetings, MSWD presented arguments related to artificial recharge distribution and replenishment assessment amendment. Responses received during these meetings concluded that the issue was in dispute. The December 7, 2004 settlement agreement sets forth a specific process to address disputes between the parties to the settlement agreement. Section 8(b) provide as follows: "The Parties hereby agree to cooperate and use all reasonable efforts to accomplish the terms of this Agreement. Accordingly, the Parties agree, in good faith, to undertake the resolution of all disputes in an equitable and timely manner, provided that if any matter is not resolved within ninety (90) days (as extended by mutual agreement of the Parties), and Party is then free to pursue all legal or equitable remedies; provided, however, when a dispute occurs under this Agreement, the Party claiming the dispute will give notice to the nondisputing Parties of the occurrence of the dispute. The notice shall include a detailed explanation of the nature of the dispute. Within seven (7) days after receipt of the notice (or such longer time as shall be agreed by the Parties) the designated Representatives shall use their best efforts to meet and confer to resolve the dispute." In accordance with the Settlement Agreement MSWD, DWA, and CVWD, Section 8 (a) and (b), MSWD (claiming party) hereby notifies DWA and CVWD (nondisputing Parties) of an artificial recharge distribution and replenishment assessment amendment dispute, a dispute over the issues addressed in this position paper and requests that DWA and CVWD meet and confer to work toward resolution of this dispute. MSWD reserves all rights that it has related to this dispute and under the settlement agreement.

2. Background

Two management areas exist: the Upper Whitewater River and the Mission Creek Management Areas.³ Prior to 2003, recharge facilities were limited to the Whitewater Recharge Facilities. Upon completion of the Mission Creek Recharge Facilities in 2003, recharge facilities were then located in both management areas.

Approximately 7% of the Upper Coachella Valley Groundwater Basin water supply production is occurring in the Mission Creek Subbasin.⁴ Therefore, to comply with Settlement Agreement requirements, 7% of imported water must be recharged at

³ Water Management Agreement between DWA and CVWD dated July 1, 1976, Exhibit A and MSWD, DWA, and CVWD Settlement Agreement, December 7, 2004, Exhibit A.

⁴ Mission Creek/Garnet Hill Water Management Plan, Final Report, January 2013, Table 4-6, SWP Availability for CVWD and DWA.



the Mission Creek Recharge Facilities. Mission Creek Recharge Facilities should receive 8,153 AFY.⁵ These estimated amounts are determined using a total Table A allotment of 194,100 AFY together with a SWP reliability of 60%.

In addition to SWP allocations, DWA and CVWD have agreed to permit Metropolitan Water District of Southern California to make advance deliveries of Colorado River Water.⁶ DWA and CVWD manage these deliveries either placing them at the Mission Creek Recharge Facilities or at the Whitewater Recharge Facilities. Approximately 143,438 AF has been recharged in the Mission Creek Recharge Facilities⁷ from 2002 to 2012. That amount together with recharge during the first two quarters of 2013 of 2,379 AF⁸ totals 145,817 AF.

The Settlement Agreement also required MSWD, CVWD and DWA to develop a Water Management Plan for the Mission Creek and Garnet Hill Subbasins (Plan). The agencies retained MWH and Psomas to prepare the Plan. Psomas was tasked to prepare a groundwater model for the Mission Creek Management Area and portions of the Upper Whitewater Management Area. The modeling indicates that outflow to the Upper Whitewater Subbasin is variable depending on basin conditions including production and recharge.

Production in both Upper Whitewater and Mission Creek and artificial recharge influence the amount of water that flows from the Mission Creek Subbasin to Garnet Hill Subbasin and then to the Upper Whitewater Subbasin. Between 1936 and the early 1980's, groundwater production in the Upper Whitewater Subbasin increased outflows by almost 1,000 AFY. Thereafter, outflows have fallen from over 7,000 AFY to approximately 4,000 AFY which is primarily attributable to increased production in the Mission Creek Subbasin by both MSWD and CVWD.⁹ Historic production in the Mission Creek Subbasin reached a high of 17,365 AFY in 2006 but has decreased to 14,075 AFY in 2012.¹⁰ Growth projections indicate a steady increase in water use reaching over 36,423 AFY by 2045.¹¹

⁵ Mission Creek/Garnet Hill Water Management Plan, Final Report, January 2013, Table 4-6, SWP Availability for CVWD and DWA.

⁶ MWD, CVWD, and DWA Exchange Agreements, July 7, 1983, amended October 24, 2003.

⁷ CVWD's Engineer's Report on Water Supply and Replenishment Assessment, Mission Creek Subbasin Area of Benefit 2013-2014, April 2013, Table 5, Colorado River Exchange Water Delivered to the Mission Creek Recharge Facility.

⁸ 2013 2nd Quarter Summary of Water Deliveries, July 24, 2013 (Draft).

⁹ Mission Creek and Garnet Hill Water Management Plan, Groundwater Flow Model of the Mission Creek and Garnet Hill Subbasins and the Palm Springs Subarea, Riverside County, California, Psomas, January 2013, Table E-1.

¹⁰ CVWD's Engineer's Report on Water Supply and Replenishment Assessment, Mission Creek Subbasin Area of Benefit 2013-2014, April 2013, Table 2, Production within the Mission Creek Management Area in Acre Feet.

¹¹ Mission Creek/Garnet Hill Water Management Plan, Final Report, January 2013, Table 3-10, Summary of Water Use Projections (Projected Growth Scenario).



Recharge activities during 2011 and 2012 have impacted water levels throughout the Mission Creek Subbasin. In particular, Well 34's (the well closest to the recharge facilities) static water level increased approximately 200 feet during the recharge operations but immediately decreased more than 90 feet after operations ended in late 2012. Other Mission Creek Subbasin wells further from the recharge facilities have also shown a response to the recharge operations. The furthest Mission Creek Subbasin well, Well 31, static water level has increased approximately 10 feet.¹² Influence from the recharge activity was observed at Well 31 within 6 to 9 months.

Water conservation is a key component of groundwater management. MSWD's water use is approximately 222.5 gallons per capita per day (gpcd). CVWD's is approximately 402.1 gpcd.¹³ MSWD and the City of Desert Hot Springs have adopted stringent landscape ordinance for new development. In addition, MSWD is effectively coordinating with top private producers to assess their water use practices and develop programs to encourage greater conservation. For MSWD customers, rates impact water use. After rate increase, reduced water consumption is observed. Many water agencies are adopting tiered rates to encourage greater conservation.

3. Analysis

Based on historic and final 2013 allocations¹⁴, the total amount of water that should have been delivered to the Mission Creek Recharge Facilities is 94,563 AF. Therefore, 51,254 AF in advanced deliveries have occurred at the Mission Creek Recharge Facilities. Considering historic reliability and assuming 60% reliability between 2014 and 2021, the Mission Creek Recharge Facility should receive approximately 145,408 AF through 2021.¹⁵ Mission Creek Recharge Facilities have already received 100% of 20 year water supplies with more than 7 years left in the 20 year reconciliation term. If these critical recharge activities are curtailed over the next 7 years, impacts to the MCSB may be catastrophic creating pumping water level decline beyond the limits of MSWD's production infrastructure.

Recharge activities, in particular activities similar to the 2010 to 2012 recharge, influences groundwater flow. Both modeling and data collection indicate that the advanced deliveries create conditions that increase outflow across the Banning Fault within approximately 6 to 9 months; however, the precise amount is difficult

¹² General Manager's Meeting Static Water Level Report, July 24, 2013.

¹³ Mission Creek/Garnet Hill Water Management Plan, Final Report, January 2013, Section 5, Issues, Strategies, and Plan Evaluation, Conservation, page 5-15.

¹⁴ Mission Creek/Garnet Hill Water Management Plan, Final Report, January 2013, Table 4-5, Historic SWP Table A Allocations (1988-2011) and 2013 2nd Quarter Summary of Water Deliveries, July 24, 2013 (Draft).

¹⁵ Calculations are presented in Attachment 1.



to determine. By incorporation of advanced deliveries and the absence of growth, outflows are estimated to increase about 1,000 AFY to approximately 5,000 AFY.¹⁶

4. Conclusion

MSWD requests that artificial recharge proportionate distribution between the Whitewater and Mission Creek Management Areas be determined based on "sound management" and that DWA and CVWD commit that recharge at the Mission Creek Recharge Facilities will continue to occur when water supplies are available. Also, MSWD requests that replenishment assessments be collected at a tiered rate structure to encourage conservation.

Since numerous variables exist related to water movement in the Management Areas, MSWD requests that the artificial recharge distribution accounting change to achieve greater effective management of the Subbasin. Recharge proportionate share should be based on static water levels **not** pumping. The area that indicates greater need should receive greater recharge to improve overall water management. At a minimum, during any recharge activities a portion of the water shall be recharged at the Mission Creek Recharge Facilities.

To improve basin management and regional water use efficiency, enhanced conservation is vital. Currently, MSWD's conservation programs are generating greater effective management. However, the most effective management strategy is tiered water rates. MSWD requests that a tiered replenishment assessment rate structure be implemented to incentivize greater conservation.

Attachment: 1 – Artificial Recharge Proportionate Share Analysis Table

¹⁶ Mission Creek/Garnet Hill Water Management Plan, Final Report, January 2013, Figure 5-6.

**Attachment 1
Artificial Recharge Proportionate Share Analysis**

Year	Table A Amount	Actual/Assumed SWP Reliability ^{3.)}	Actual/Projected SWP Delivery	Less MWD Call-Back	Average Net SWP Supply	Cummulative SWP Total	MCRB Share	MCRB Portion	Actual MCRB Portion	Cummulative Total
	AF	%	AF	AF	AF	AF	%	AF	AF	AF
2002	194,100	70%	135,870	-	135,870	135,870	7%	9,511	4,733	4,733
2003	194,100	90%	174,690	-	174,690	310,560	7%	12,228	59	4,792
2004	194,100	65%	126,165	-	126,165	436,725	7%	8,832	5,564	10,356
2005	194,100	90%	174,690	(100,000) ^{1.)}	74,690	511,415	7%	5,228	24,723	35,079
2006	194,100	100%	194,100	-	194,100	705,515	7%	13,587	19,901	54,980
2007	194,100	60%	116,460	-	116,460	821,975	7%	8,152	1,011	55,991
2008	194,100	35%	67,935	-	67,935	889,910	7%	4,755	503	56,494
2009	194,100	40%	77,640	-	77,640	967,550	7%	5,435	4,090	60,584
2010	194,100	50%	97,050	-	97,050	1,064,600	7%	6,794	33,210	93,794
2011	194,100	80%	155,280	-	155,280	1,219,880	7%	10,870	26,238	120,032
2012	194,100	65%	63,083	-	63,083	1,282,963	7%	4,416	23,406	143,438
2013	194,100	35%	67,935	-	67,935	1,350,898	7%	4,755	2,379	145,817
2014	194,100	5%	9,705	-	9,705		7%	679		
2015	194,100	60%	116,460	(32,856) ^{2.)}	83,604		7%	5,852		
2016	194,100	60%	116,460		116,460		7%	8,152		
2017	194,100	60%	116,460		116,460		7%	8,152		
2018	194,100	60%	116,460	(32,856) ^{2.)}	83,604		7%	5,852		
2019	194,100	60%	116,460		116,460		7%	8,152		
2020	194,100	60%	116,460		116,460		7%	8,152		
2021	194,100	60%	116,460	(32,856) ^{2.)}	83,604		7%	5,852		

To Date: 94,563
Projected: 50,845
Total: 145,408
Total Delivered to Date (%): 100%

Notes:

- 1.) MWD Call-Back = 100,000 AF per DWA Engineer's Report, Groundwater Replenishment and Assessment Program for the Mission Creek Subbasin, 2012/2013, Dated April 2013
- 2.) Average Callback in 4 Wet Years during a 10-Year Period, per Mission Creek/Garnet Hill Water Management Plan, Final Report, January 2013, Table 4-6, SWP Availability for CVWD and DWA.
- 3.) Assumed Reliability per Mission Creek/Garnet Hill Water Management Plan, Final Report, January 2013, Table 4-6, SWP Availability for CVWD and DWA.



**Mission Springs Water District
Plan Implementation Commitment
Position Paper
January 16, 2014**

1. Introduction

In order to implement the Mission Creek/Garnet Hill Water Management Plan (WMP), Management and Technical Committee meetings must continue and a detailed financing plan must be developed. Currently, since completion of the WMP, agency managers have met only twice to discuss implementation and the technical committee has conferenced only a few times. The WMP identifies numerous projects/programs that will require extensive coordination to implement. Specific funding sources for these projects/programs are undefined.

In October 2003, MSWD filed action in the Superior Court of the State of California against Desert Water Agency (DWA) and Coachella Valley Water District (CVWD) related to management of the Mission Creek and Garnet Hill Subbasins. Generally, MSWD sought adjudication of the Mission Creek Subbasin (MCSB), challenged the validity of the replenishment assessments in the MCSB and questioned the quality of imported Colorado River Aqueduct water. The Parties reached a Settlement Agreement in dated December 7, 2004. The Settlement Agreement requires that the three agencies cooperatively develop the WMP. It does not adequately address obligations to implement the WMP.¹

Over the past year, it has become increasingly clear that WMP implementation may not be a priority for DWA and CVWD. Therefore, MSWD concludes that appropriate plan implementation level of effort and support is in dispute. The December 7, 2004 settlement agreement sets forth a specific process to address disputes between the parties to the settlement agreement. Section 8(b) provide as follows: "The Parties hereby agree to cooperate and use all reasonable efforts to accomplish the terms of this Agreement. Accordingly, the Parties agree, in good faith, to undertake the resolution of all disputes in an equitable and timely manner, provided that if any matter is not resolved within ninety (90) days (as extended by mutual agreement of the Parties), and Party is then free to pursue all legal or equitable remedies; provided, however, when a dispute occurs under this Agreement, the Party claiming the dispute will give notice to the nondisputing Parties of the occurrence of the dispute. The notice shall include a detailed explanation of the nature of the dispute. Within seven (7) days after receipt of the notice (or such longer time as shall be agreed by the Parties) the designated Representatives shall use their best efforts to meet and confer to resolve the dispute." In accordance with the Settlement Agreement, Section 8 (a) and (b), MSWD (claiming party) notifies DWA and CVWD (nondisputing Parties) of a dispute over the issues addressed in this position paper and requests that DWA and CVWD meet and confer

¹ MSWD, DWA, and CVWD Settlement Agreement, December 7, 2004, and Addendum to Settlement Agreement, Management Area Deliveries, undated.



to work toward resolution of this dispute. MSWD reserves all rights that it has related to this dispute and under the settlement agreement.²

2. Background

The WMP comprehensively presents water management issues.³ From those presented, the issues of greatest concern to MSWD include water demand, water supplies, water quality, and costs and economics.

MSWD concurs with the WMP objectives consisting of meeting current and future demands with a 10% buffer; eliminating long-term groundwater overdraft; managing and protecting water quality; minimizing adverse environmental impacts; complying with State and Federal laws and regulations, and managing future costs.⁴

MSWD's service area has significant potential for growth, as the current population is estimated to be only 30 percent of build-out.⁵ Total water requirements are currently estimated to be 15,100 AFY and are projected to reach 37,689 AFY by 2045.⁶ With climate change consideration, overall demand may be even greater since higher temperatures may increase irrigation demands and it may affect both local and SWP supply reliability.⁷

Currently, groundwater pumping is about 4,000 AFY greater than estimated natural recharge and current average annual artificial recharge activities.⁸ Greater quantities of imported water will be needed to meet existing demand and to accommodate growth. Additional supplies may be acquired by purchase of additional Table A amounts or by transfers and exchanges.⁹

The WMP presents a number of water quality issues. MSWD primary constituents of concern are Nitrates and TDS. Nitrate concentrations in certain areas are trending upward. Septic tanks for waste disposal are a primary contributor of high nitrates

² MSWD, DWA, and CVWD Settlement Agreement, December 7, 2004, Sections 8 (a) and 8 (b), page 6.

³ Mission Creek/Garnet Hill Water Management Plan, Final Report, January 2013, Section 5 – Issues, Strategies, and Plan Evaluation, Table 5-1, Water Management Objectives.

⁴ Mission Creek/Garnet Hill Water Management Plan, Final Report, January 2013, Section 6 – Water Management Objectives, pages 6-1 thru 6-4.

⁵ Mission Creek/Garnet Hill Water Management Plan, Final Report, January 2013, Section 5, Issues, Strategies, and Plan Evaluation, Population Growth, page 5-15.

⁶ Mission Creek/Garnet Hill Water Management Plan, Final Report, January 2013, Section 3- Water Requirements, Table 3-10, Summary of Water Use Projections (Projected Growth Scenario).

⁷ Mission Creek/Garnet Hill Water Management Plan, Final Report, January 2013, Section 5 – Issues, Strategies, and Plan Evaluation, Climate Change, page 5-1 and 5-3.

⁸ Mission Creek/Garnet Hill Water Management Plan, Final Report, January 2013, Section 5 – Issues, Strategies, and Plan Evaluation, Groundwater Overdraft, page 5-5.

⁹ Mission Creek/Garnet Hill Water Management Plan, Final Report, January 2013, Section 5 – Issues, Strategies, and Plan Evaluation, Transfers and Exchanges, page 5-8.

to the groundwater.¹⁰ Primary contributors of TDS to groundwater are septage from waste disposal, saline from the Desert Hot Springs Subbasin, imported water recharged at the Mission Creek Recharge Facility, and percolation from treated wastewater.¹¹

In response to these issues, and other issues presented in the WMP, the WMP recommends continuation of existing programs and implementation of new programs (summary of projects is presented in Attachment 1) together with development of potential programs requiring further investigation and potential future programs.¹²

Regarding existing programs, MSWD has already received \$1 million for the Groundwater Protection Program (GWPP) through Proposition 84's Integrated Regional Water Management Program, Round 1, and are anticipating another \$1.8 million in Round 2.

3. Analysis

a. Water Demand

SBX7-7 requires all agencies to reduce demand by 20 percent by 2020. The Coachella Valley Regional Water Management Group (CVRWMG) is pursuing appropriate programs Valley wide to meet the 20 percent by 2020 requirements; however, it may not affect production impacts in the Mission Creek Subbasin. MSWD per capita use is already below the target amount and program implementation will likely generate modest results.¹³ CVWD conservation program implementation may generate more effective results; however, it does not appear that CVWD intends to reduce pumping from the Mission Creek Subbasin. In fact, CVWD has indicated that greater production in the MCSB may be pursued to meet growth needs.

In addition to conservation, source substitution may also reduce demand met through groundwater production by delivering an alternative source of water supply to private pumpers using groundwater for irrigation. Potential source substitution water supplies include recycled water¹⁴ and raw imported water. Although such opportunities are limited in the MCSB area, greater

¹⁰ Mission Creek/Garnet Hill Water Management Plan, Final Report, January 2013, Section 5 – Issues, Strategies, and Plan Evaluation, Nitrate, page 5-10 and 5-11.

¹¹ Mission Creek/Garnet Hill Water Management Plan, Final Report, January 2013, Section 5 – Issues, Strategies, and Plan Evaluation, Total Dissolved Solids, page 5-11 and 5-12.

¹² Mission Creek/Garnet Hill Water Management Plan, Final Report, January 2013, Section 7 – Water Management Plan, pages 7-18 through 7-24.

¹³ Mission Creek/Garnet Hill Water Management Plan, Final Report, January 2013, Section 5 – Issues, Strategies, and Plan Evaluation, Conservation, page 5-15.

¹⁴ Mission Creek/Garnet Hill Water Management Plan, Final Report, January 2013, Section 5 – Issues, Strategies, and Plan Evaluation, Source Substitution via Recycled Water, pages 5-6 and 5-7.



opportunities may exist that are beyond the boundaries of MCSB curtailing the need for production in the MCSB. With the implementation of MSWD's Groundwater Protection Program, greater quantities of recycled water will be available in the future as well for use as source substitution.

b. Water Supplies

Since insufficient supplies exist and since additional supplies are needed to accommodate growth, DWA and CVWD should actively pursue, for recharge at the Mission Creek Recharge Facility, additional SWP water (Table A amounts or wet water transfers), non-SWP water supplies, Delta conveyance facilities, East Valley drain water desalination, seawater desalination, or additional exchange/transfer opportunities such as: the Delta Wetlands Project, Sacramento Valley irrigation water transfers, Cadiz Valley Water Conservation and Storage Recovery Project, and similar projects.¹⁵

c. Water Quality

For existing programs and development of other projects, MSWD has aggressively pursued funding to match locally approved funding for the GWPP. MSWD has developed Assessment Districts (AD) to raise funds for implementation of the projects. These funds can only be used when matching funds are secured. MSWD has and will continue to endeavor to acquire both Federal and State grant funds to match AD funds for implementation of the programs.

MSWD has already successfully acquired \$19.5 million through the US EPA, US Army Corps of Engineers, State's Propositions 13, 40 and 84, and the State's SRF Program. By matching these grant funds with AD funds, MSWD has and/or will successfully complete \$39 million of sewer conversion improvements. Although MSWD has made significant progress, the program is in need of additional funding of approximately \$20 million to complete its implementation, half of which will be matched with AD funds provided it is completed prior to the end of 2014. In addition, MSWD is planning for construction of the Regional Wastewater Treatment Plant (RWWTWP) to supplement the GWPP and treat water supplies to higher quality prior to recharge in the Mission Creek Subbasin.

Since TDS concentrations in the SWP Exchange water are higher than naturally occurring TDS in the Mission Creek Subbasin¹⁶, MSWD requests that DWA and CVWD explore opportunities to either treat Colorado River

¹⁵ Mission Creek/Garnet Hill Water Management Plan, Final Report, January 2013, Section 5 – Issues, Strategies, and Plan Evaluation, Imported Water Supplies, pages 5-32 and 5-33.

¹⁶ Mission Creek/Garnet Hill Water Management Plan, Final Report, January 2013, Section 5 – Issues, Strategies, and Plan Evaluation, Water Quality Issues, pages 5-11 and 5-12.



Aqueduct water or to deliver higher quality recharge water to the Mission Creek Recharge Facilities by any of the sources mentioned above.¹⁷

d. Costs and Economics

To implement the WMP, \$787.8 million is required through 2045.¹⁸ The WMP also presents financing opportunities¹⁹; but, does not provide any specifics. Attachment 1 presents the programs and projects shown in the WMP. Added to the table are proposed lead agency(ies) and all identified funding opportunities for each program/project. The table should be continuously updated during ongoing management and technical meetings. Additional opportunities have been developed and added to the matrix. Certain projects could be funded with sources not initially identified but where an opportunity is later identified.

4. Conclusion

MSWD requests DWA and CVWD cooperate with MSWD as the overall lead agency to implement the WMP. Jurisdictional boundaries should not hinder sound water management practices. Regional challenges related to demand, water supplies, water quality, costs and economics will only become more challenging. In response, continued and greater investment in the MCSB is critical to achieving WMP goals and objectives. The agencies must work together to support funding applications, in particular, IRWM Round 3 funding, to ensure MCSB investment continues.

In order to implement the most cost effective WMP programs/projects that will result in affordable water supplies, Management and Technical Committee meetings must continue, including Salt and Nutrient Management Plan (SNMP) development, and a detailed financing plan must be prepared. The WMP identifies numerous projects/programs that will require extensive coordination to implement. Funding sources for these projects/programs are undefined and must be determined.

Attachments: 1 – Implementation Program

¹⁷ Mission Creek/Garnet Hill Water Management Plan, Final Report, January 2013, Section 7 – Water Management Plan, Potential Future Programs, pages 7-24.

¹⁸ Mission Creek/Garnet Hill Water Management Plan, Final Report, January 2013, Section 7 – Water Management Plan, Table 7-2, Implementation Plan Costs.

¹⁹ Mission Creek/Garnet Hill Water Management Plan, Final Report, January 2013, Appendix F, Financing Options.

Attachment 1
Mission Springs Water District/Desert Water Agency/Coachella Valley Water District
Mission Creek/Garnet Hill Water Management Plan
Implementation Program

Programs	Capital Funding Sources						Lead Agencies	Development Related Fees												Grants				
	Short Term Implementation Costs (2012-2015)			Total Implementation Costs (2012-2048)				Revenue				Debt Financing				Development Related Fees				Grants				
	Capital (\$M)	O&M (\$M)	Total (\$M)	Capital (\$M)	O&M (\$M)	Total (\$M)		Pay-As-You-Go (Rates and Property Taxes)	Replenishment Assessment Charge	Drinking Water/WWRCB S&P Loan Program	GO Bonds	Revenue Bonds	Certification of Participation	Commercial Papers	Property Related Debt / Assessment District	Private Sector Equity	Developer Impact or Connection Fees	Water Recycling Funding Program	Drinking Water/WWRCB S&P PPP	EWMP Grants	Federal Funding	2014 Water Bond		
Continuation of Existing Programs																								
Municipal water conservation and track effectiveness of conservation measures (Update 5 Year Reporting)	0.0	0.4	0.4	0.0	3.0	3.0	CVRWHS	X												X				
Imported water replenishment program (Existing, No MWD Callback)	0.0	22.2	22.2	0.0	187.4	187.4	DWA & CVWD	X	X															
Conversion of septic to sewers in HSWD service area	34.0	1.4	35.4	34.0	11.6	45.6	HSWD							\$8m					\$5m	\$3m				
Expansion and Nitrogen removal at Hotlin WWTP	17.5	2.1	19.6	17.5	17.9	35.4	HSWD																	
Monitoring of existing public and private wells	0.0	0.1	0.1	0.0	0.9	0.9	CVWD	X																
Operations and Maintenance of existing recharge basins	0.0	0.5	0.5	0.0	4.1	4.1	DWA	X	X															
New Programs																								
Conservation	Construct Regional WWTP and percolate effluent in the Mission Creek subbasin at a suitable location that does not adversely effect existing production wells	0.0	0.0	0.0	62.5	63.8	126.3	HSWD & CVWD		X				X							X			
	Costs for future collection system expansion	-	-	-	74.0	25.1	99.1	HSWD & CVWD		X							X							
	Other water conservation services to private purveyors	0.0	0.2	0.2	0.0	1.6	1.6	DWA & CVWD	X											X				
	Develop recycled water for non-potable use to offset pumping	0.0	0.0	0.0	3.5	1.2	4.7	HSWD & CVWD									X	X						
	Imported water replenishment program (Due to future growth, No MWD Callback)	0.0	4.9	4.9	0.0	129.5	129.5	DWA & CVWD		X							X							
Supply	Costs to acquire additional imported water supplies to stabilize water levels (Growth conditions, No MWD Callback)	0.0	1.5	1.5	0.0	80.8	80.8	DWA & CVWD		X						X								
	Participate in the construction of the Bay Delta Conveyance facilities (Increase Water Rates)	-	-	-	25.0	40.8	65.8	DWA & CVWD		X														
	Implement cooperative program with Riverside County Environmental Health for locate and cap or destroy unused wells	0.0	0.0	0.0	0.0	0.3	0.3	CVRWHS													X			
Quality	Develop valley wide salt and nutrient management plan with CVRWHS	0.1	0.0	0.1	0.1	0.0	0.1	CVRWHS	X											X				
Investment	Review and update the groundwater model and combine with Whitewater model	1.0	0.0	1.0	1.0	0.0	1.0	HSWD, DWA, & CVWD												X		X		
	Incorporate additional wells in water level and quality monitoring program	0.0	0.0	0.0	0.0	0.3	0.3	HSWD, DWA, & CVWD	X															
	Costs for monitoring wells	-	-	-	1.6	0.0	1.6	HSWD, DWA, & CVWD														X		
	Install precision meters on any existing unmonitored private wells	0.0	0.0	0.0	0.0	0.2	0.2	DWA & CVWD	X															
	Install data loggers on selected existing wells to improve water level monitoring	0.0	0.0	0.0	0.0	0.2	0.2	HSWD, DWA, & CVWD	X															
Total Costs		\$2.6	\$3.3	\$5.9	\$10.2	\$98.7	\$67.0																	

Total Costs	\$2.6	\$3.3	\$5.9	\$19.2	\$68.7	\$87.9
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