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ENGINEER'S REPORT

GROUNDWATER REPLENISHMENT AND ASSESSMENT PROGRAM FOR THE MISSION CREEK SUBBASIN

DESERT WATER AGENCY 2014/2015

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EXECUTIVE SUMMARY

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If groundwater replenishment with imported water (artificial recharge) is excluded, annual groundwater overdraft (groundwater extractions or water production in excess of natural groundwater replenishment or recharge) within the Mission Creek Subbasin of the Upper Coachella Valley Groundwater Basin (see **Figure 1**) is currently estimated to range between 2,000 and 4,000 acre feet per year (AF/Yr), depending upon actual non-consumptive return flows. Supplementing natural groundwater replenishment resulting from rainfall runoff with artificial recharge is therefore necessary to reduce annual and cumulative overdraft.

Increases in cumulative overdraft, without artificial recharge, will result in declining groundwater levels and increasing pump lifts, thereby increasing energy consumption for groundwater extraction. Extreme cumulative overdraft has the potential of causing ground surface settlement, and could also have an adverse impact upon groundwater quality and storage volume. Artificial recharge offsets annual groundwater overdraft and the concerns associated therewith and arrests or reduces the effects of cumulative groundwater overdraft.

Since 1973, Coachella Valley Water District (CVWD) and Desert Water Agency (DWA) have been using Colorado River water exchanged for State Water Project water to replenish groundwater in the Whitewater River Subbasin of the Upper Coachella Valley Groundwater Basin; and since 2002, they have been using Colorado River water exchanged for State Water Project water to replenish groundwater in the Mission Creek Subbasin of the Upper Coachella Valley Groundwater Basin.

The Area of Benefit for DWA's portion of the groundwater replenishment program is that portion of the Mission Creek Subbasin and upstream tributaries--either subbasins or streams--which lie within the boundaries of DWA (**Figure 2**). The costs involved in carrying out DWA's groundwater replenishment program are essentially recovered through water replenishment assessments applied to all groundwater and surface water production within the Area of Benefit, aside from specifically exempted production. Production is defined as either extraction of groundwater from the Mission Creek Subbasin and upstream tributaries, or diversion of surface water that would otherwise naturally replenish the Mission Creek Subbasin and upstream tributaries, all within the Area of Benefit.

The following producers are specifically exempted from assessment: producers extracting groundwater from the Mission Creek Subbasin and upstream tributaries at rates of 10 AF/Yr or less; and producers diverting surface water without diminishing stream flow and groundwater recharge of the Mission Creek Subbasin and upstream tributaries by 10 AF/Yr or less.

Because groundwater production continues to exceed groundwater replenishment, and groundwater overdraft persists within the Mission Creek Subbasin, continued artificial recharge is necessary to either eliminate or reduce the effects of annual and cumulative overdraft, and reduce the resultant threat to the groundwater supply.

DWA has requested its maximum 2014 Table A State Water Project water allocation (formerly known as "entitlement") of 55,750 AF pursuant to its State Water Project Contract, which was increased from 38,100 AF in 2004 to 50,000 AF in 2005 and to 55,750 in 2010, for the purpose of groundwater replenishment. CVWD plans to do the same with its maximum 2014 Table A water allocation, which was increased in quantity from 23,100 AF in 2003 to 33,000 AF in 2004, to 121,100 AF in 2005, and to 138,350 AF in 2010.

By virtue of the 2003 Exchange Agreement, The Metropolitan Water District of Southern California (MWD) assigned 11,900 AF of its annual Table A allocation to DWA and 88,100 AF of its annual Table A allocation to CVWD; however, MWD retained the option to call-back or recall the assigned annual Table A water allocations, in accordance with specific conditions, in any year. In implementing the 2003 Exchange Agreement, MWD advised CVWD and DWA that it would probably recall the 100,000 AF assigned to the two Coachella Valley agencies from 2005 through 2009. In fact, it did recall 100,000 AF in 2005, but it has not recalled any water since then. According to communications with MWD staff, it is unlikely that MWD will recall any water in 2014.

According to current (as of January 31, 2014) projections for 2014, California Department of Water Resources (CDWR) will not deliver any Table A water allocation requests, resulting in deliveries of 0 AF of Table A water to the Coachella Valley agencies. The state's historic drought condition and lower than normal reservoir levels are the reasoning behind CDWR's decision. Ordinarily, DWA requests State Water Project surplus water under the Turn-Back Water Pool Program (Pool A and Pool B) in March of each year, but with no Table A allocations for 2014 there will be no surplus water available. It is possible that surplus water may be available to the Coachella Valley agencies for the 2014 calendar year

if Table A allocations are increased, although it is unlikely. In addition, the actual availability of water under the Yuba River Accord is uncertain for 2014.

The maximum replenishment assessment rate permitted by Desert Water Agency Law for Table A water for the 2014/2015 fiscal year is $159.49/AF. The $159.49 rate is based on estimated Applicable State Water Project Charges of $7,811,771 see **Table 3** for DWA applicable charges for 2014 and 2015) and estimated combined assessable production of 48,980 AF for the Whitewater River and Mission Creek Subbasins (38,900 AF within the Whitewater River Subbasin and 10,080 AF within the Mission Creek Subbasin).

The effective replenishment assessment rate is based on DWA's estimated State Water Project allocated charges for the current year (based on CDWR's projections for the assessment period) divided by the estimated assessable production for the assessment period (based on the assessable production for the previous calendar year), as set forth in **Table 4**.

For the 2012/2013 fiscal year, DWA's effective replenishment rate was based on the actual payments made to the State Water Project by DWA for the previous calendar year divided by the assessable production for that calendar year. This change was made due to a history of variability in the estimated charge projections prepared by CDWR in Appendix B of the Bulletin 132, which have occasionally diverged significantly from the amounts actually assessed by CDWR. However, due to significant quantities of surplus and carryover water from 2011 delivered in 2012, DWA paid significantly higher State Water Project charges in 2012 than in 2011. It became clear that the variability in the actual payment of effective replenishment rates was no less than the variability previously observed in CDWR's estimated charge projections. Therefore, CDWR's estimated effective replenishment rate used from 2013/2014 on will again be used, since carryover and surplus water quantities cannot be projected.

Pursuant to the terms of the Water Management Agreement between CVWD and DWA, and based DWA's allocated State Water Project charges amount to $5,214,242 and estimated assessable production of 48,980 AF for the 2013 calendar year (shown in **Table 4** as the estimated assessable production for the 2014/2015 fiscal year), the effective replenishment assessment rate component for Table A water is $106/AF for the 2014/2015 fiscal year.

DWA completed construction of the Mission Creek Recharge Basin facilities in June 2002, at a construction cost of $3,978,850, with DWA's allocated share being $2,731,807. Beginning in 2004/2005, DWA began to recover said costs through a replenishment assessment rate component of $12.00/AF, applicable to users within the Mission Creek Subbasin (said rate component was suspended in 2007/2008 due to Proposition 218 concerns). DWA's allocated share of the facilities construction cost is shown as a deficit (see **Table 5**).

DWA has elected to set the replenishment assessment rate at $102.00 for the 2014/2015 fiscal year (based on Proposition 218 proceedings). At that rate, Mission Springs Water District's replenishment assessment for the Mission Creek Subbasin will be about $829,260 for other producers in the Mission Creek Subbasin; it will be about $189,900. Based on the aforementioned replenishment assessment rate and estimated assessable production of 10,080 AF for the Mission Creek Subbasin, DWA will bill approximately $1,028,160 through the replenishment assessment. As a result, the cumulative deficit will increase from about $8,302,605 to about $8,347,527 (see **Table 5**).

In summary, the Mission Creek Subbasin is in a condition of overdraft even though the decline of groundwater levels has been attenuated (cumulative overdraft offset by artificial recharge is estimated to be roughly 100,000 AF); thus, there is a continuing need for groundwater replenishment. Even though DWA has requested of the CDWR its full State Water Project Table A allocation of 55,750 AF, the CDWR expects to deliver none of this allocation during the coming year, and DWA has elected to set the groundwater replenishment assessment rate for 2014/2015 at $102.00/AF.

CHAPTER II
INTRODUCTION

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INTRODUCTION

Desert Water Agency's Groundwater Replenishment and Assessment Program was established to augment groundwater supplies and arrest or retard declining water table conditions within the Upper Coachella Valley, specifically within the Mission Creek Subbasin of the Upper Coachella Valley Groundwater Basin (see **Figure 1**).

The Mission Creek Subbasin is one of five subbasins (Whitewater River, Mission Creek, San Gorgonio Pass, Desert Hot Springs, and Garnet Hill) within the Coachella Valley Groundwater Basin (USGS 1974). The San Andreas Fault drives a complex pattern of branching faults which define the boundaries of the subbasins (CDWR 2003). CDWR Bulletin No. 108 (1964) describes the hydrologic components of the Upper Coachella Valley Groundwater Basin differently than the USGS. For purposes of this report, the more recent USGS subbasin identifications are used.

A. WATER MANAGEMENT AGREEMENTS

The Program was implemented pursuant to a joint Water Management Agreement (executed April 8, 2003) between the Coachella Valley Water District (CVWD) and the Desert Water Agency (DWA). Previously, a similar program had been implemented within the Whitewater River Subbasin pursuant to a similar Water Management Agreement.

CVWD and DWA entered into a Settlement Agreement with the Mission Springs Water District (MSWD) in December 2004, which affirmed the water allocation procedure that had been established earlier by CVWD and DWA, and which established a Management Committee, consisting of the General Managers of CVWD, DWA, and MSWD, to review production and recharge activities. An Addendum to the Settlement Agreement states that the water available for recharge each year shall be divided among the management areas proportionate to the previous year's production from within each management area (see **Appendix B**).

The Water Management Agreements call for maximum importation of State Water Project Contract Table A water allocations (formerly entitlements) by CVWD and DWA for replenishment of groundwater basins or subbasins within defined Water Management Areas.

The Agreements also require collection of data necessary for sound management of all water resources within these same Water Management Areas.

B. GROUNDWATER OVERDRAFT

The Water Management Agreements were developed following numerous investigations regarding the groundwater supply within the Coachella Valley; said investigations are addressed in DWA's previous reports (*Engineer's Report on Groundwater Replenishment and Assessment Program for the Whitewater River Subbasin* for years 1978/1979 through 1983/1984). These investigations all concluded that groundwater overdraft (groundwater extractions or water production in excess of natural groundwater replenishment or recharge) existed within the Upper Coachella Valley Groundwater Basin and its subbasins.

Groundwater overdraft within the Mission Creek Subbasin (excluding artificial recharge) is now estimated to have averaged up to 9,000 AF/Yr (14,000 AF water produced - 5,000 AF non-consumptive return = 9,000 AF of groundwater overdraft) during the last five years. Cumulative overdraft offset by artificial recharge is estimated to be roughly 100,000 AF.

C. GROUNDWATER REPLENISHMENT

Since 1973, CVWD and DWA have been using Colorado River water exchanged for State Water Project water (Table A water allocations and supplemental water as available) to replenish groundwater in the Water Management Area for the Whitewater River Subbasin of the Upper Coachella Valley Groundwater Basin. The two agencies are permitted by law to replenish groundwater basins and to levy and collect water replenishment assessments from any groundwater extractor or surface water diverter (aside from exempt producers) within their jurisdictions who benefits from replenishment of groundwater.

DWA obtains groundwater from the Whitewater River Subbasin; however, its jurisdiction extends across portions of the Garnet Hill and Mission Creek Subbasins, located northerly of the Whitewater River Subbasin. Due to declining groundwater levels in the Mission Creek Subbasin, DWA began constructing facilities to replenish the Mission Creek Subbasin in October 2001. Facilities were essentially completed in June 2002, at a construction cost of $3,975,850.

Recharge activities commenced in November 2002. During 2002, approximately 4,733 AF were recharged using the Mission Creek Recharge Facilities. Recharge quantities for subsequent years are set forth in **Exhibit 7**.

Prior to recharge activities in the Mission Creek Subbasin, DWA constructed the Mission Creek Monitoring Well, to monitor the groundwater condition. Water levels declined steadily until recharge activities in the Mission Creek Subbasin commenced in the early 2000s. Groundwater levels were and are measured monthly and have responded rapidly and favorably to the recharge activities in the Mission Creek spreading grounds. As shown in **Exhibit 7**, water levels measured at the Mission Creek Monitoring Well rose substantially after the following two large recharge events:

- 2004 - 2006: 50,200 AF Recharged
- 2010 - 2012: 75,600 AF Recharged

Water levels at the Mission Creek Monitoring Well rose nearly 300 feet, indicating an increase in the quantity of groundwater in storage through 2012. Low recharge in 2013 resulted in a drop in water level of approximately 110 feet.

Mission Springs Water District also reads groundwater levels monthly at each of its wells within the Mission Creek Subbasin.

Exhibit 7 includes hydrographs for a collection of Mission Springs Water District's groundwater wells and the Mission Creek Monitoring Well within the Mission Creek Subbasin in comparison with the total annual quantities of water delivered to the Mission Creek spreading grounds. This comparison clearly indicates that the recharge program has benefitted the wells within the subbasin.

The most significant response to groundwater recharge in the Mission Creek Subbasin is observed in the wells located closest to the spreading grounds. The degree of benefit observed from recharge decreases the further the well is from the spreading grounds. Well locations are shown on **Figure 2**.

CPV Sentinel Energy, LLC (CPV Sentinel) has constructed a natural gas-fired, 850-megawatt (MW) electrical generating facility within the Mission Creek Subbasin, which became operational in May 2013. The facility requires an average of 550 AF/Yr of water for cooling purposes (maximum 1,100 AF in any calendar year). CPV Sentinel has made satisfactory arrangements with DWA to import sufficient water for recharge via the Mission Creek Spreading Grounds to meet the demands of their proposed facility.

D. REPLENISHMENT ASSESSMENT

For the Whitewater River Subbasin, DWA began its groundwater assessment program in fiscal year 1978/1979 and CVWD began its groundwater assessment program in fiscal year 1980/1981. For the Mission Creek Subbasin, the two agencies initiated their groundwater assessment programs simultaneously in fiscal year 2004/2005. The two agencies are not required to implement the assessment procedure jointly or identically; however, they have each continuously levied an annual assessment on water produced within their respective jurisdictions since inception of their groundwater assessment programs.

Desert Water Agency Law requires the filing of an Engineer's Report regarding the replenishment program before DWA can levy and collect groundwater replenishment assessments. The report must address the condition of groundwater supplies, the need for groundwater replenishment, the Area of Benefit, water production within said area, and replenishment assessments to be levied upon said water production. It must also contain recommendations regarding the Replenishment Program.

E. WATER MANAGEMENT AREA

Pursuant to the Water Management Agreement between CVWD and DWA, the Water Management Area encompasses the entire Mission Creek Subbasin (see **Figure 1**).

F. AREA OF BENEFIT

The Area of Benefit for DWA's replenishment program consists of the northwesterly portion of the Mission Creek Subbasin, and tributaries thereto, situated within DWA's boundaries (see

Figure 2). The Area of Benefit for CVWD's replenishment program consists of the southeasterly portion of the Mission Creek Subbasin situated within CVWD's boundaries. MSWD, which extracts groundwater to serve its customers, is situated essentially within DWA's Area of Benefit.

Within DWA's Area of Benefit, there are no known active stream diversions on tributaries to the Mission Creek Subbasin.

While the replenishment assessments outlined on the following pages are based on and limited to water production within DWA's Area of Benefit, available water supply, estimated water requirements, and groundwater replenishment are referenced herein to the entire Mission Creek Subbasin. The Mission Creek Subbasin is utilized jointly by CVWD and DWA for water supply purposes, and the two agencies jointly manage said Subbasin's water supplies.

CHAPTER III
WATER SUPPLY

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WATER SUPPLY

A. GROUNDWATER PRODUCTION

Annual water production (groundwater extractions) within the Mission Creek Subbasin increased from an average of approximately 500 AF/Yr in the late 1950s and 1960s to approximately 2,300 AF/Yr in 1978. It has increased relatively steadily since then to approximately 17,400 AF/Yr in 2006, then dropping slightly as a result of declining economic conditions to about 16,400 AF/Yr in 2007, and 15,800 AF/Yr in 2008, 15,100 AF/Yr in 2009, 14,300 in 2010, and 14,200 in 2011. Consistent annual groundwater production within the Mission Creek Subbasin has resulted in cumulative long-term groundwater overdraft, as evidenced by the steady decline of groundwater levels within the Mission Creek Subbasin.

During the past five calendar years (2009 through 2013), average annual water production within the Mission Creek Subbasin has been about 14,000 AF/Yr; approximately one-third within CVWD and approximately two-thirds within DWA. Records of historic pumpage by private pumpers are not available; therefore, current pumpage by private pumpers is estimated at approximately 1,948 AF/Yr within DWA's Area of Benefit (see **Table 6**). Historic water production data for the Mission Creek Subbasin is set forth in **Exhibit 1** in **Appendix A**.

B. NATURAL RECHARGE

As discussed in past reports, it is currently estimated that natural inflow and surface recharge of the Mission Creek Subbasin has averaged approximately 3,500 to 10,800 AF/Yr over the long term. Most estimates of natural outflow from the Mission Creek Subbasin equal or exceed the corresponding estimates of natural inflow.

The most recent estimate for natural inflow into the Mission Creek Subbasin was prepared by Psomas for the Mission Creek/Garnet Hill Water Management Plan prepared by Montgomery Watson Harza (MWH) in January 2013. Psomas estimated said natural inflow at approximately 9,340 AF/Yr, consisting of approximately 7,500 AF/Yr from mountain front runoff and precipitation under average conditions and approximately 1,840 AF/Yr from flows across the

Mission Creek Fault from the Desert Hot Springs Subbasin. This estimate falls within the range of average natural inflow previously cited herein.

Psomas estimated natural outflow at approximately 6,000 AF/Yr, consisting of 4,000 AF/Yr of subsurface flow from the Banning Fault to the Garnet Hill Subbasin, 900 AF/Yr of evapotranspiration, and 1,100 AF/Yr of flow through semi-water bearing rocks, known as the Indio Hills, at the southeastern end of the Mission Creek Subbasin.

C. NON-CONSUMPTIVE RETURN

Consumptive use in the Upper Coachella Valley is estimated to be about 65% of total water production (per USGS Water Resources Investigation No. 91-4142). Annual production in the Mission Creek Subbasin has averaged 14,000 AF/Yr for the past five years, resulting in average consumptive use of about 9,000 AF/Yr and average non-consumptive return of about 5,000 AF/Yr during the same period.

Non-consumptive return is water returned to the aquifer after use (for example, irrigation water, and treated wastewater discharged to percolation ponds, infiltrating and percolating into the ground) or water used for public parks or golf course irrigation (wastewater recycled for irrigation use). Although non-consumptive return in the Upper Coachella Valley has been estimated at approximately 35% (per USGS Water Resources Investigation No. 91-4142), there is some evidence that non-consumptive return may be higher than 35%.

D. GROUNDWATER IN STORAGE

Recent average annual production of 14,000 AF has been met with 5,000 AF of non-consumptive return (minimum), and 9,000 AF (the balance) from a combination of artificial recharge and groundwater in storage. If non-consumptive return is actually greater, in the range of 40% to 50%, groundwater from storage would be 700 AF to 2,100 AF less. Average annual reduction in stored groundwater was 3,200 AF/Yr from 1955 through 2013, and 600 AF/Yr from 1998 through 2013 (see **Exhibit 6**). Annual metered production and non-consumptive return are plotted on **Figure 3**, which provides an indication of consumptive use and cumulative overdraft.

E. ARTIFICIAL RECHARGE

1. Historic

From 1973 through 2013, CVWD and DWA have replenished the Whitewater River and Mission Creek Subbasins with approximately 2,630,572 AF (2,493,239 AF to Whitewater River Subbasin and 137,333 AF to Mission Creek Subbasin) of exchange deliveries (Colorado River water exchanged for State Water Project water, including advance deliveries converted to exchange deliveries, but excluding advance deliveries not yet converted to exchange deliveries). Including advance deliveries not yet converted to exchange deliveries, artificial recharge with Colorado River water (exchange and advance deliveries) has approximated 3,017,423 AF (approximately 2,880,090 AF delivered to the Whitewater River Subbasin and approximately 137,333 AF delivered to the Mission Creek Subbasin). See **Exhibits 3, 4, 5, 8, and 9** in **Appendix A**.

DWA and CVWD completed construction of the Mission Creek Recharge Facilities in June 2002, and recharge activities commenced in November 2002. Annual recharge quantities since then are set forth in **Exhibit 9**.

2. Table A Water Allocations and Deliveries

State Water Project Table A water allocations are based primarily on hydrologic conditions and legal constraints and vary considerably from year to year. In 2013, Table A water deliveries were approximately 35% of maximum Table A allocations. As of January 31, 2014, Table A water deliveries in 2014 are projected to be 0% of maximum Table A allocations due to historic drought conditions in the state. Long-term average Table A allocations are currently predicted to be approximately 58% of maximum Table A allocations.

Even though CVWD and DWA have requested and will continue to request their maximum annual Table A allocations, the "Probable Table A Water Allocations" and "Probable Table A Water Deliveries" have been adjusted herein for long-term-reliability

for estimating purposes. The Probable Table A Water Allocations are herein assumed to be equal to the Maximum Table A Water Allocations with the MWD transfer portion reduced to 35% to represent a long-term average transfer quantity with probable recalls by MWD pursuant to the 2003 Exchange Agreement and its implementation, and "Probable Table A Water Deliveries" are herein assumed to be 58% of the aforementioned Probable Table A Water Allocations.

From 1973 through 2003, CVWD and DWA had State Water Project maximum annual Table A allocations of 23,100 AF and 38,100 AF, respectively. To meet projected water demands and to alleviate cumulative overdraft conditions, CVWD and DWA have secured additional State Water Project Table A water allocations, increasing their combined maximum Table A water allocations from 61,200 AF/Yr in 2003 to 194,100 AF/Yr beginning in 2010. CVWD and DWA's current Table A allocations are described in additional detail in the following paragraphs.

a. Tulare Lake Purchase

CVWD obtained an additional 9,900 AF/Yr of Table A water allocation from Tulare Lake Basin Water Storage District, another State Water Project contractor, thus increasing its annual Table A water allocation to 33,000 AF/Yr, effective January 1, 2004.

b. 2003 Exchange Agreement

In 2003, CVWD and DWA obtained a further 100,000 AF/Yr (88,100 AF/Yr for CVWD and 11,900 AF/Yr for DWA) of Table A water allocation through a new exchange agreement (the 2003 Exchange Agreement) among CVWD, DWA, and MWD, all State Water Project contractors. The new exchange contract, which became effective January 1, 2005, permits MWD to call-back or recall the assigned annual Table A water allocation of 100,000 AF/Yr in 50,000 AF/Yr increments during periods of constrained, limited, or low water supply conditions; however, it gives CVWD and DWA the opportunity to secure increased quantities of surplus water in addition to increased quantities of

Table A water during normal or high water supply conditions. MWD must notify CVWD and DWA of its intentions regarding call-back or recall of the 100,000 AF or 50,000 AF increment thereof.

In implementing the 2003 Exchange Agreement, MWD advised CVWD and DWA that it would probably recall the 100,000 AF/Yr assigned to the two Coachella Valley agencies from 2005 through 2009. In fact, it did recall the full 100,000 AF/Yr in 2005, but it has not recalled any water since then. According to communications with MWD staff, it is unlikely that MWD will recall any water in 2014.

c. Kern County/Tulare Lake Purchase

In 2010, CVWD and DWA negotiated transfer of an additional 16,000 AF/Yr (12,000 AF/Yr for CVWD and 4,000 AF/Yr for DWA) of Table A water allocation from Kern County Water Agency and an additional 7,000 AF/Yr (5,250 AF/Yr for CVWD and 1,750 AF/Yr for DWA) from Tulare Lake Basin Water Storage District, both State Water Project contractors.

3. Supplemental Water

Any surplus water secured by CVWD and DWA is exchanged for a like quantity of Colorado River Water. Charges for surplus water are allocated between CVWD and DWA in accordance with the terms of the Water Management Agreement. DWA secures funds for its allocated charges for surplus water payments from its Unscheduled State Water Project Deliveries Reserve Account, and since 2004/2005 has occasionally levied an assessment component for reimbursement.

a. Turn-Back Water Pool Water

From 1997 through 2013, CVWD and DWA jointly obtained 296,710 AF of water under California Department of Water Resources (CDWR)'s Turn-Back

Water Pool Program, which water was exchanged for a like quantity of Colorado River Water and delivered to the Whitewater River Recharge Basins.

Turn-Back Water Pool water was originally Table A water scheduled for delivery to other State Water Contractors, but those Contractors subsequently determined the water to be surplus to their needs. Surplus water in the Turn-Back Water Pool Program is allocated between two pools based on time: Pool A water must be secured by March 1 of each year and Pool B water must be secured between March 1 and April 1 of each year. The charge for Pool A water is higher than the charge for Pool B water.

Since fiscal year 1999/2000, requests for Turn-Back Water Pool water have exceeded water available. Quantities of Pool A and Pool B water purchased by CVWD and DWA are shown in **Exhibit 9**.

For 2014/2015, DWA and CVWD have been allocated 0 AF of State Water Project surplus water under the Turn-Back Water Pool Program (Pool A and Pool B). Based on current projections, CVWD and DWA do not expect to receive any Pool A or Pool B water.

b. Flood Water

In 1997 and 1998, CVWD and DWA also jointly obtained 47,286 AF of Kaweah River, Tule River, and Kings River flood flow water, which water was also exchanged for a like quantity of Colorado River water delivered to the Whitewater River Recharge Basins. Currently, availability of flood water in 2014 is uncertain and unlikely, and no decision to purchase flood water has been made as of the date of this report.

c. Article 21 Surplus Water

From 2000 through 2013, CVWD and DWA obtained 42,272 AF of Article 21 surplus water and, similarly, that water was also exchanged for a like quantity of Colorado River water which was delivered to the Whitewater River Recharge Basins. Currently, availability of Article 21 water in 2014 is uncertain and unlikely, and no decision to purchase Article 21 water has been made as of the date of this report.

d. Yuba River Accord and Other Water

In 2008, CVWD and DWA obtained 1,836 AF of water under the terms of the then newly-ratified Yuba River Accord. In 2009 and 2012, CVWD and DWA obtained 3,482 AF and 1,188 AF, respectively, of water under the Yuba River Accord and other conservation/transfer agreements. No water was obtained in 2010 and 2011 under the Yuba River Accord. In 2013, CVWD and DWA obtained 2,713 AF of water under the Yuba River Accord. Currently, availability of water under the Yuba River Accord in 2014 is uncertain and unlikely, and no decision to purchase Yuba River water has been made as of the date of this report.

4. CPV Sentinel

CPV Sentinel completed construction of a natural gas-fired, 850-megawatt (MW) electrical generating facility within the Mission Creek Subbasin in May 2013. The facility requires an average of 550 AF/Yr of water for cooling purposes (maximum 1,100 AF in any calendar year). CPV Sentinel made arrangements with DWA and MWD to import sufficient water to meet its own demands. CPV's initial quantity of water deliveries; 8,350 AF purchased from the North Kern Water Storage District in 2008, has been delivered in total as of 2011. MWD delivered 0 AF of water for CPV Sentinel via the Mission Creek Spreading Basin in 2012 and 2013. DWA and CPV will continue to work together to exchange additional North Kern Water Storage District water for CPV's use per the conditions of their agreement.

CPV Sentinel's exchange agreement with MWD is separate from the 2003 Exchange Agreement between MWD, DWA, and CVWD, and waters transferred in accordance therewith have no effect on the balance of the advance delivery account. CPV Sentinel's agreement with DWA stipulates that CPV cannot extract any quantity of water from the Mission Creek Subbasin that it has not already replenished, and that, despite the replenishment, CPV will pay DWA's replenishment assessment charge for waters it extracts from the Mission Creek Subbasin. Since the proposed facility's demands are almost entirely consumptive, waters imported for replenishment by CPV do not affect the advance delivery account, and CPV Sentinel's demands must be met in advance by water imported for replenishment by CPV, the quantities of water replenished by CPV to date have not been included in the detailed calculations herein.

CPV Sentinel began making replenishment assessment payments to DWA in 2011/2012 for production in accordance with the exchange agreement.

5. Past Year

Total artificial recharge (both Whitewater River and Mission Creek Subbasins) for 2013 was 28,998 AF (including CVWD's DMB Pacific and MWD QSA purchases, not including CPV Sentinel deliveries). Of that amount, 2,379 AF of the artificial recharge delivered in 2013 was delivered to the Mission Creek Subbasin (see **Exhibit 9**).

6. Current Year

No Table A or Turn Back Pool water will be available for artificial recharge in the Upper Coachella Valley during 2014.

7. Meeting Future Water Requirements

Historic and projected water supplies and water requirements for the Mission Creek Subbasin are set forth in **Figure 3**. Available water supplies are projected to approximate the "water supply" curves (depending on future reliability of State Water

Project supplies as described in the Draft *State Water Project Reliability Report* and *Technical Addendum to The State Water Project Reliability Report 2013,* dated December 2013, and on the actual fraction of consumptive use), and anticipated water requirements are expected to approximate the "water requirements" curve (based on a moderate growth trend established by linear regression for the past ten years), both as shown in **Figure 3**. Due to decreased production from 2009 through 2013, the water supply and requirements curves are expected to decline in the coming years.

Projected water supplies available for the Mission Creek Subbasin (shown in **Figure 3**) consist of constant (long-term average) natural inflow less constant (long term average) natural outflow (essentially zero), continuing artificial recharge, increasing non-consumptive return, and groundwater in storage, if necessary. As water production and water use increase, non-consumptive return increases.

Two projected water supply curves are shown in **Figure 3**, both based on the 2013 reliability projections: one (worst case) reflecting consumptive use at 65% based on 1992 USGS estimates and excluding all potential surplus water deliveries which may become available during any particular year, and one (probable case) reflecting a slightly less conservative consumptive use estimate of 60% and an estimated annual surplus water delivery equal to 10% of the Table A allocated water delivery.

Projected water requirements (demands) for the Mission Creek Subbasin (also shown in **Figure 3**) are based on statistical analysis of historic data for the most recent ten years extrapolated through 2035. The projected requirement is based on the most recent ten years of metered production data within the Mission Creek Subbasin, and indicates an decrease in net demand (consumptive use) of about 111 AF/Yr.

Based on the same production relationship between the Whitewater River Subbasin and the Mission Creek Subbasin as it exists today, about 8% of future imported water deliveries will be directed to the Mission Creek Subbasin.

8. Effect on Overdraft

Due to the lack of adequate natural recharge, and a suspected natural deficit, the entire quantity of the consumptive use portion of the projected water requirements should be considered as overdraft. **Figure 3** shows that annual overdraft within the Mission Creek Subbasin is expected to continue to increase for the foreseeable future, unless water requirements decrease significantly.

Several studies performed at the request of MSWD have verified that the Mission Creek Subbasin is in a condition of overdraft. A preliminary water balance for the Subbasin was performed by Psomas in 2004, which included such inputs as direct precipitation, surface water inflow, subsurface inflow, and non-consumptive return flows, concluded that the subbasin was in overdraft by approximately 3,900 AF/Yr. According to the *Draft Program Environmental Impact Report for the Mission Springs Water District Water Master Plan Project*, prepared by Tom Dodson & Associates in February 2008, a study performed by the consulting firm GSI included groundwater contours showing the drop in groundwater levels between 1991 and 2004, which were used to estimate an overdraft of about 4,400 AF/Yr. Psomas also prepared a groundwater flow model for the Mission Creek Subbasin in 2007, which predicted a continued drop in groundwater levels of approximately three feet per year.

Increases in cumulative overdraft without artificial recharge will result in declining groundwater levels and increasing pump lifts, necessitating the lowering of pump bowls in existing wells, thereby increasing energy consumption for groundwater extraction, with extreme cumulative overdraft having the potential of causing ground surface settlement, and adversely impacting groundwater quality. Supplementing natural groundwater replenishment resulting from rainfall runoff with artificial recharge is therefore necessary to reduce the impacts of annual and cumulative overdraft.

The effectiveness of the replenishment effort can be assessed by monitoring water levels in wells downstream of the recharge basins. As shown in **Exhibit 7**, water levels in MSWD's Production Well 30 declined approximately 23 feet from 1998 through 2003. The major replenishment effort commencing in late 2004 and extending through 2006

was coincident with a rise in Well 30 static water levels of roughly 15 feet. Likewise, the replenishment effort commencing in late 2009 and extending through 2010 was coincident with a rise in Well 30 static water levels of approximately 8 feet.

Replenishment efforts in 2013 resulted in a decline in Well 30 static water levels of approximately 5 feet. The increase in replenishment quantities recharged earlier in the year contributed to the increase of the static water level at Well 30 to its highest elevation on record, measured on March 6, 2013. However, the reduction of SWP allocations delivered to contractors, which were 35% of the total annual State Water Project allocation for 2013, is observed in the water level decline over the remainder of 2013 after water deliveries to the Mission Creek spreading grounds ceased following deliveries in February 2013.

9. Adequacy of Current Supplies and Future Prospects

CVWD's and DWA's maximum Table A water allocations currently stand at 138,350 AF/Yr and 55,750 AF/Yr, respectively, for a combined total of 194,100 AF/Yr (71% CVWD and 29% DWA). With full deliveries of these Table A water allocations (with no MWD call-back or recall, and with no CDWR reduced Table A deliveries), plus natural supply and non-consumptive return flow, annual water supply will be significantly greater than annual water requirements. With prolonged reduced deliveries of Table A water allocations (in combination with any MWD call-back or recall), annual water supply may be insufficient to meet annual water requirements without groundwater from storage.

Continuous availability of maximum Table A allocations will require complete development of the State Water Project, which currently has only about half of the water supply capacity needed to meet maximum Table A allocation obligations during droughts; available water supplies are being further threatened by new and increasing constraints on the development of new water supply facilities and on the operation of existing facilities.

In particular, the Wanger decisions regarding protection of the delta smelt, concerns about reliability of the delta levees, and other concerns led the CDWR to issue a revision in June 2012 of *The State Water Project Reliability Report 2009* dated August 2010, wherein the long-term reliability of State Water Project supplies was determined to be reduced to approximately 60% of maximum allocations. Without the construction of additional Sacramento-San Joaquin Delta facilities and certain water storage reservoirs, the water supply capability of the State Water Project will remain limited and State Water Contractors will have to share reduced quantities of available supplies, especially during droughts. The long-term reliability of State Water Project supplies is currently estimated at 58% of maximum Table A allocations through 2033 per the Draft *State Water Project Reliability Report 2013* dated December 2013.

With continued progress in the completion of the Bay Delta Conservation Plan (BDCP), the balance between more reliable State Water Project water supplies and ecosystem restoration will be increased. The BDCP is a long-term conservation strategy designed to set forth actions required for a healthy Delta that will be implemented over the next 50 years. The cost for implementation of the BDCP is currently estimated at about $20 billion. Eventually, State Water Project water supply reliability, quality, and delivered quantities and the overall health of the Delta may improve; however, it is unlikely that the costs for Delta improvements will be allocated to the State Water Contractors before 2020.

In conclusion, the Mission Creek Subbasin is in an overdraft condition and will remain so, even with the importation and exchange of available State Water Project water, until a higher proportion of the maximum State Water Project Table A allocations becomes available. With maximum Table A allocations, recharge in the Mission Creek Subbasin would offset the current annual overdraft, although overdraft in future years is virtually unpredictable, due to the difficulty of projecting long-term growth and reliability of State Water Project supplies.

F. PRECIPITATION

The climate in the Coachella Valley is very dry and warm with an average annual precipitation of approximately 5 inches. The low rainfall is inadequate to supply sufficient water supply for the valley, thus the need for the importation of Colorado River water.

Precipitation data recorded at nine rain gauge stations in the Upper Coachella Valley by the Riverside County Flood Control and Water Conservation District is included in **Appendix C**.

CHAPTER IV
REPLENISHMENT ASSESSMENT

CHAPTER IV
REPLENISHMENT ASSESSMENT

Desert Water Agency Law, in addition to empowering DWA to replenish groundwater basins and to levy and collect water replenishment assessments within its area of jurisdiction, defines production and producers for groundwater replenishment purposes as follows:

> Production: The extraction of groundwater by pumping or any other method within the Agency, or the diversion within the Agency of surface supplies which naturally replenish the groundwater supplies within the Agency and are used therein.
>
> Producer: Any individual, partnership, association, group, lessee, firm, private corporation, public corporation, or public agency including, but not limited to, the DWA, that extracts or diverts water as defined above.

Producers that extract or divert 10 AF of water or less in any one year are considered minimal producers, and their production is exempt from assessment.

Desert Water Agency Law also states that assessments may be levied upon all water production within an Area of Benefit, provided assessment rates are uniform throughout. Pursuant to Desert Water Agency Law, the amount of any replenishment assessment cannot exceed the sum of certain State Water Project charges, specifically the Delta Water Charge, the Variable Component of the Transportation Charge, and the Off-Aqueduct Power Component of the Transportation Charge, pursuant to the Contract between DWA and the State of California. The aforesaid charges are set forth in each year's CDWR *Bulletin on the State Water Project* (CDWR Series 132, Appendix B, Tables B-16B, B-18, and B-21).

Prior to 2002, groundwater replenishment with Colorado River Water (exchanged for State Water Project water) had been limited to recharge of the Whitewater River Subbasin. In 2002, DWA and CVWD commenced recharge activities in the Mission Creek Subbasin, in addition to continuing their ongoing activities in the Whitewater River Subbasin. The Area of Benefit for Groundwater Replenishment and Assessment herein is defined as that portion of the Mission Creek Subbasin and tributaries thereto lying within DWA's boundaries (**Figure 2**).

The groundwater replenishment assessment and the replenishment assessment rate for 2014/2015 are based on the following:

1. All groundwater production within DWA, with certain exceptions, is metered. All groundwater production by MSWD is metered. There is no surface water diversion within the Mission Creek watershed within DWA.

2. The State Water Project Delta Water Charge (Delta Water Charge), the Variable Component of the State Water Project Transportation Charge (Variable Transportation Charge), and the Off-Aqueduct Power Component of the State Water Project Transportation Charge (Off-Aqueduct Power Charge), as set forth in Appendix B of CDWR Bulletin 132 and hereafter referred to as Applicable State Water Project Charges.

3. The proportionate share of the Applicable State Water Project Charges allocable to CVWD and DWA in accordance with the Water Management Agreement (executed April 8, 2003) between CVWD and DWA, hereafter referred to as Allocated State Water Project Charges. The applicable charges are essentially apportioned between CVWD and DWA in accordance with relative water production within those portions of each entity lying within the Water Management Area.

4. Certain charges or costs other than those derived pursuant to items 1, 2, and 3 above. Beginning in 2004/2005, DWA began to levy a separate charge within the Mission Creek Area of Benefit to recover DWA's share of the cost of construction of the Mission Creek Recharge Basins. Said rate component was suspended in 2007/2008 due to Proposition 218 concerns. Such additional charges may be offset from time to time by discretionary reductions.

The replenishment assessment rate comprises 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, such as reimbursement for past surplus water charges for which assessments had not been levied, or for construction and operation of facilities necessary for groundwater recharge.

The replenishment assessment rate, when applied to estimated assessable production (all production, excluding that which is exempt, within the Area of Benefit), results in a replenishment assessment which must not exceed the maximum permitted by Desert Water Agency Law (the Applicable State Water Project Charges). Due to the interdependent nature of the imported water supply for the Whitewater River and Mission Creek Subbasins, the Allocated State Water Project charges component of the replenishment assessment rate is uniform throughout the Whitewater River and Mission Creek Areas of Benefit; however, due to the independent and separate nature of various other aspects of the groundwater replenishment program within the Whitewater River and Mission Creek Subbasins, the Other Charges and Costs component need not be uniform; it is specific to each subbasin.

A. ESTIMATED ASSESSABLE WATER PRODUCTION

Estimated assessable groundwater production within DWA's Mission Creek Subbasin Area of Benefit consists of groundwater extractions from the Mission Creek Subbasin, and is based on the prior calendar year's water production. MSWD production is metered and recorded by MSWD staff. During the last half of 2003, meters were installed at the production facilities of three major resorts in the Area of Benefit; DWA staff read and record metered water production quantities registered by these meters. Estimated assessable water production is set forth in **Table 6**.

In 2013, production within DWA's Area of Benefit within the Mission Creek Subbasin was about 2.3 times that within CVWD's Area of Benefit, 10,080 AF versus 4,415 AF, whereas production within CVWD's Area of Benefit within the Whitewater River Subbasin is about 3.7 times that within DWA's Area of Benefit, 143,108 AF versus 38,900 AF. Of the total production within the Whitewater River and Mission Creek Subbasins, 197,135 AF, 25.0% has occurred within DWA.

B. WATER REPLENISHMENT ASSESSMENT RATE

The water replenishment assessment rate consists of two components, one being attributable to State Water Project annual Table A water allocations and the other being attributable to other charges or costs necessary for groundwater replenishment. Each component is discussed below.

1. Component Attributable to State Water Project Table A Water Allocation Charges

In accordance with the current Water Management Agreements, CVWD and DWA combine their State Water Project Table A allocations, exchange them for Colorado River water, and replenish the Mission Creek and Whitewater River Subbasins with exchanged Colorado River water. CVWD and DWA each assume the full burden for portions of their respective Fixed State Water Project Charges (Capital Cost Component and Minimum Operating Component of Transportation Charge); however, the two agencies share their Applicable State Water Project Charges (Delta Water, Variable Transportation, and Off-Aqueduct Power Charges) on the basis of relative production.

Although DWA could base its replenishment assessment rate on its Applicable State Water Project Charges, it only needs to recover its share (based on relative production) of the combined Applicable State Water Project Charges for both CVWD and DWA (i.e. its Allocated State Water Project Charges). CVWD makes up the difference in accordance with the Water Management Agreement.

The Applicable State Water Project Charges for CVWD and DWA for Table A water are set forth in **Tables 1 and 2**, respectively. Unit Charges for Delta Water, Variable Transportation, and Off-Aqueduct Power Charges are based on estimates presented in Appendix B of CDWR Bulletin 132-13.

Since MWD can call-back or recall the 100,000 AF of Table A allocation it transferred to CVWD and DWA and since the CDWR has been unable to deliver maximum Table A allocations for eleven of the past twelve years, the amounts of the Applicable State Water Project Charges for 2014/2015 and future years are being computed based on long-term reliability factors; effectively 58% of maximum State Water Project

allocations with the MWD transfer portion being further reduced to 35% to account for possible future recalls pursuant to the 2003 Exchange Agreement.

The derivations of the Applicable State Water Project charges are set forth in **Tables 1 and 2**. The "Maximum Table A Water Allocation" shown in **Tables 1 and 2** is the currently existing Table A Water Allocation per CDWR Bulletin 132-13 Appendix B, Table B-4 (contractual quantities based on requests for same by CVWD and DWA) with no reliability factors being applied. The "Probable Table A Water Allocation" is the currently existing Table A Water Allocation with the MWD transfer portion reduced to 35% to reflect the long-term average with probable recalls by MWD, pursuant to the 2003 Exchange Agreement and its implementation. The "Probable Table A Water Delivery" is based on 58% reliability of the Probable Table A Water Allocation including MWD transfer reduced to 35% for long-term average pursuant to the 2003 Exchange Agreement and its implementation.

Applicable State Water Project Charges proportioned in accordance with the Water Management Agreements, more particularly in accordance with relative production within CVWD and DWA, yield Allocated State Water Project Charges. Over the past five years, 2009 through 2013, DWA has been responsible for approximately 68.21% of the water produced from the Mission Creek Subbasin, including 69.54% in 2013.

In the past, Allocated State Water Project Charges have been apportioned to DWA and CVWD based on production from the Whitewater River Subbasin Management Area. Since 2003/2004, Allocated State Water Project Charges have been apportioned to DWA and CVWD based on production from the combined Mission Creek Subbasin and Whitewater River Subbasin Management Areas. In 2013, DWA was responsible for approximately 25.0% of the combined water production from the Whitewater River and Mission Creek Subbasins. On the assumption that DWA's relative production for 2014 and thereafter will be about the same as for 2013, DWA's share of the combined Applicable State Water Project Charges (i.e. Allocated Charges) will be as set forth in **Table 3**.

Table 3 shows that DWA's estimated Allocated Charges (its share of combined Applicable Charges for Table A water) are anticipated to decrease by about 3% between 2014 and 2015 decrease by about 12% between 2015 and 2016 and decrease by about 3% between 2016 and 2017. DWA's estimated Allocated Charges will change as estimates presented in future annual editions of CDWR Bulletin 132 change.

Table 3 also shows that DWA's estimated 2014 Allocated Charges are about 66% of DWA's estimated Applicable Charges. Since water replenishment assessments must be used for groundwater replenishment purposes only, implementation of the maximum permissible replenishment assessment rate based on DWA's Applicable Charges would result in the collection of excess funds that would have to be applied to replenishment charges during subsequent years.

Rather than collect excess funds one year and apply the excess funds to replenishment charges in subsequent years, DWA attempts to establish from year to year the replenishment assessment rate that will result in collection of essentially the funds necessary to meet its annual groundwater replenishment charges. DWA therefore bases the Table A portion of its replenishment assessment on estimated Allocated Charges, rather than estimated Applicable Charges.

Pursuant to current Desert Water Agency Law, the maximum permissible replenishment assessment rate that can be established for fiscal year 2014/2015 is $159.49/AF, based on DWA's estimated Applicable Charges (Delta Water Charge, Variable Transportation Charge, and Off-Aqueduct Power Charge) of $7,811,771 (average of estimated 2014 and 2015 Applicable Charges) and estimated 2014/2015 combined assessable production of 48,980 AF within the Whitewater River and Mission Creek Subbasins.

The effective replenishment rate is based on DWA's estimated State Water Project allocated charges for the current year, as computed using CDWR's projected applicable State Water Project Charges, divided by the estimated assessable production for the assessment period (based on the assessable production for the previous calendar year), as set for in **Table 4**.

According to the terms of the Water Management Agreement between DWA and CVWD, and based on DWA's estimated 2014/2015 allocated charges of $5,214,242 and 2012 calendar year assessable production (shown in **Table 4** as estimated 2014/2015 assessable production) of 48,980 AF within the Whitewater River and Mission Creek Subbasins, the effective replenishment assessment rate component for Table A water for the 2014/2015 fiscal year is $106/AF.

2. Component Attributable to Other Charges and Costs Necessary for Groundwater Replenishment

Charges and costs necessary for groundwater replenishment could include the costs for construction, operation, maintenance, and repair of groundwater recharge facilities, reimbursement for past State Water Project Table A water allocations and surplus water allocations for which insufficient assessments had been levied, acquisition or purchases of water from sources other than the State Water Project, the cost of importing and recharging water from sources other than the State Water Project, and the cost of treatment and distribution of reclaimed water.

Currently, other charges and costs for the Mission Creek Subbasin are limited to past costs for the construction of the Mission Creek Recharge Basins. DWA and CVWD began constructing the Mission Creek Recharge Basin facilities in October 2001. Facilities were essentially completed in June 2002, at a construction cost of over $3,975,850. DWA's allocated share of the cost for constructing the facilities is $2,731,807. DWA began recovering some of said costs in 2004/2005 through a $12/AF component of the replenishment assessment rate (see **Table 5**) applicable to users within the Mission Creek Subbasin (see **Table 5**); however, said cost recovery efforts were suspended in 2007/2008 to accommodate Proposition 218 concerns.

3. Proposed 2013/2014 Replenishment Assessment Rate

Proposition 218 Proceedings

DWA held Proposition 218 proceedings on October 19, 2010. During this public hearing, the proposed replenishment assessment rate that can be established for fiscal year 2012/2013 and 2013/2014 was $92/AF, and $102 beginning fiscal year 2014/2015. The motivation behind the assessment rate increases came as a result of increased costs in conveying and delivering Colorado River Aqueduct water, exchanged for State Water Project water supplies, to the Coachella Valley. Based on the results of these Proposition 218 proceedings, the proposed replenishment assessment rate for the 2014/2015 fiscal year is $102/AF.

As shown in **Table 5**, the replenishment assessment rate proposed for 2014/2015 is $102.00/AF. Anticipated replenishment assessment rates for 2015/2016 through 2016/2017 are also shown. Historic replenishment assessment rates for DWA and CVWD within the Mission Creek Subbasin are set forth in **Exhibit 2** in **Appendix A**.

C. ESTIMATED WATER REPLENISHMENT ASSESSMENT FOR 2014/2015

The maximum replenishment charges that can be assessed by DWA for combined estimated production of 48,980 AF within Whitewater River and Mission Creek Subbasins is approximately $4,992,960 (see **Table 6**).

Estimated water replenishment assessments for 2014/2015, based on a replenishment assessment rate of $102.00/AF and estimated assessable water production of 10,080 AF within the Mission Creek Subbasin, will amount to approximately $1,028,160 (see **Tables 5 and 6**). The adjusted assessment is expected to result in an increase of the replenishment assessment account deficit from about $8,302,605 to about $8,347,527.

MSWD will be the major producer within the Mission Creek Subbasin Area of Benefit, with assessable production of approximately 8,129 AF; three other producers will be responsible for the remaining 1,948 AF of estimated assessable production. MSWD will also be the major

assessee with an estimated replenishment assessment of $829,260. The three other producers will be responsible for the remaining $198,900.

MSWD will be responsible for approximately 81% of both the estimated assessable water production and the estimated replenishment assessment in the Mission Creek Subbasin Area of Benefit; the other three producers will be responsible for the remaining 19%.

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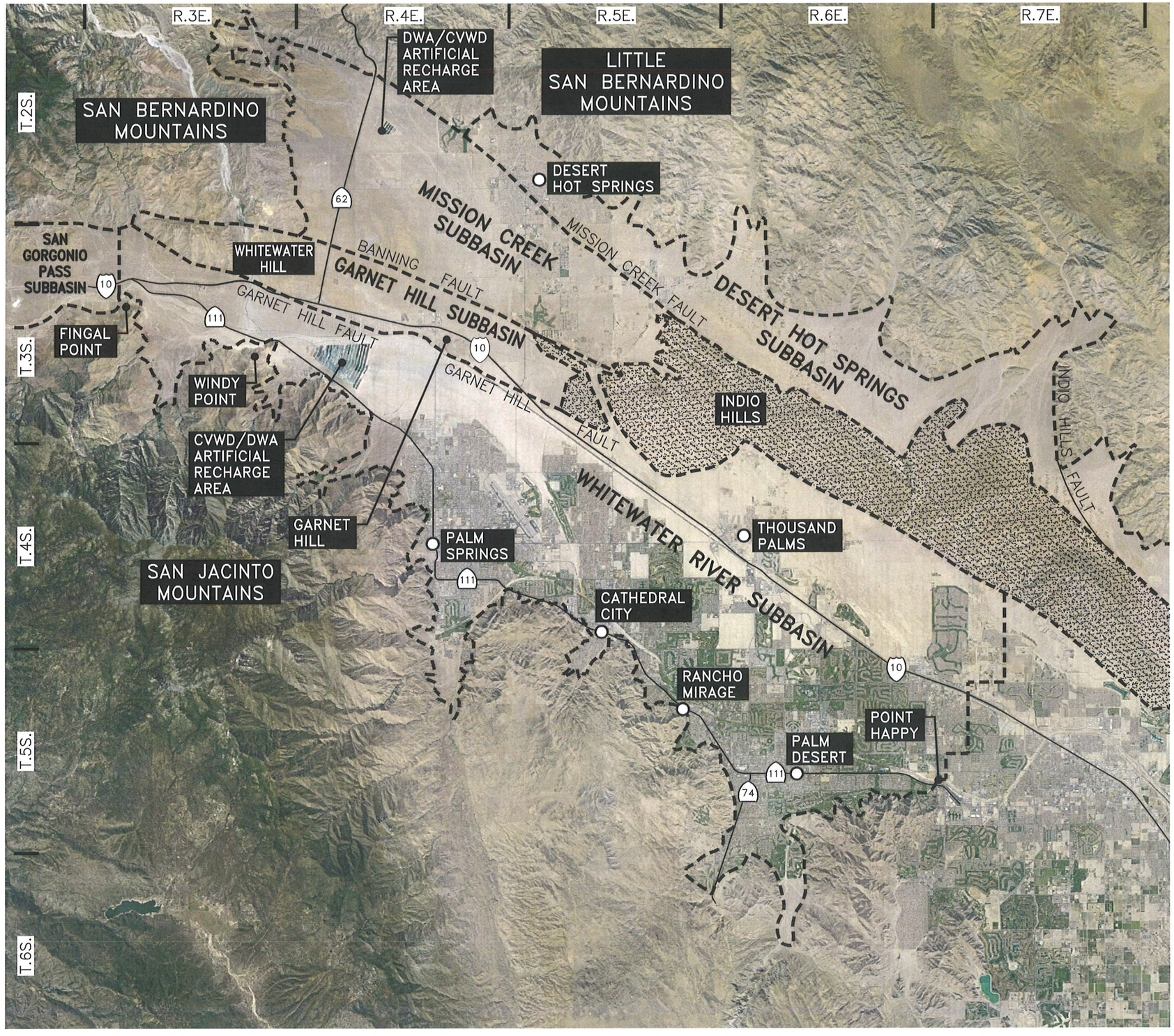
FIGURES



DESERT WATER AGENCY

GROUNDWATER REPLENISHMENT AND ASSESSMENT PROGRAM

2014–2015

GROUNDWATER SUBBASIN MAP
SHOWING
PORTION OF UPPER COACHELLA VALLEY
GROUNDWATER BASIN
AND
SUBBASINS THEREIN

LEGEND

- SEMICONSOLIDATED DEPOSITS
- SUBBASIN BOUNDARY

SCALE: 1"=3 MILES

NOTE:

THE MANAGEMENT AREAS WITHIN THE UPPER COACHELLA VALLEY GROUNDWATER BASIN ARE DEFINED BY THE SUBBASIN BOUNDARIES SHOWN HEREON FOR THE WHITEWATER RIVER, MISSION CREEK, AND GARNET HILL SUBBASINS.

MAP SOURCE:

2014 DIGITALGLOBE (AERIAL PHOTOGRAPHY), MISSION CREEK AND GARNET HILL SUBBASINS WATER MANAGEMENT PLAN FINAL REPORT, JANUARY 2013 (SUBBASIN BOUNDARIES)

Figure 1

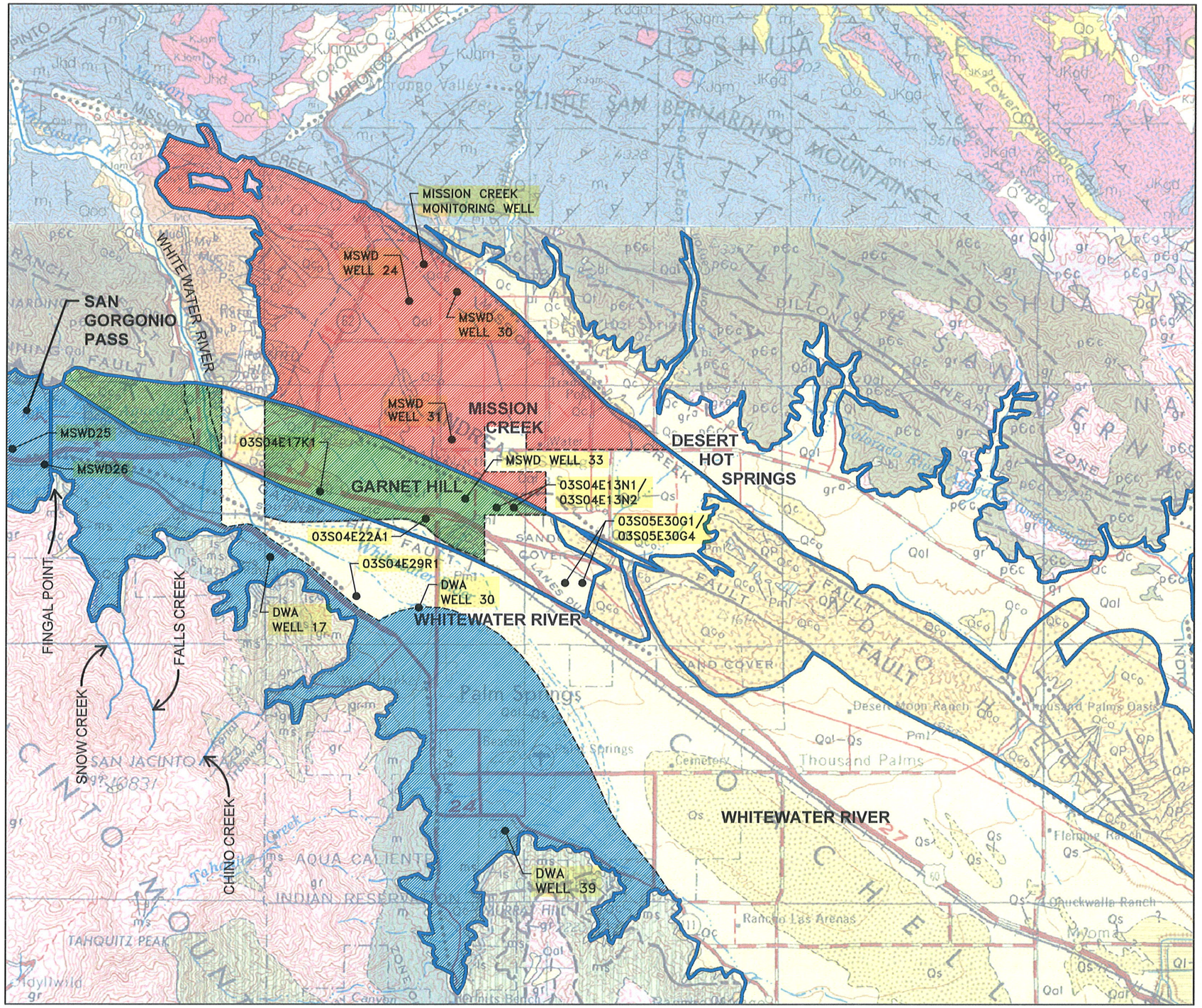
101-57p12-P1.dwg

DESERT WATER AGENCY

GROUNDWATER REPLENISHMENT AND ASSESSMENT PROGRAM

2014–2015

GROUNDWATER SUBBASIN MAP
SHOWING
GROUNDWATER RECHARGE AREAS OF BENEFIT
(EITHER DIRECT OR INDIRECT)
AND
SELECTED GROUNDWATER WELLS



LEGEND

- UPPER COACHELLA VALLEY GROUNDWATER SUBBASIN BOUNDARY

UPPER COACHELLA VALLEY GROUNDWATER SUBBASIN AREAS OF BENEFIT WITHIN DWA

- MISSION CREEK
- GARNET HILL
- WHITEWATER RIVER
- GROUNDWATER WELL

N W E S

0 0.5 1 2 3 4 5 Miles

State Plane NAD 83 Zone 6

MAP SOURCE: MISSION CREEK AND GARNET HILL SUBBASINS WATER MANAGEMENT PLAN FINAL REPORT, JANUARY 2013

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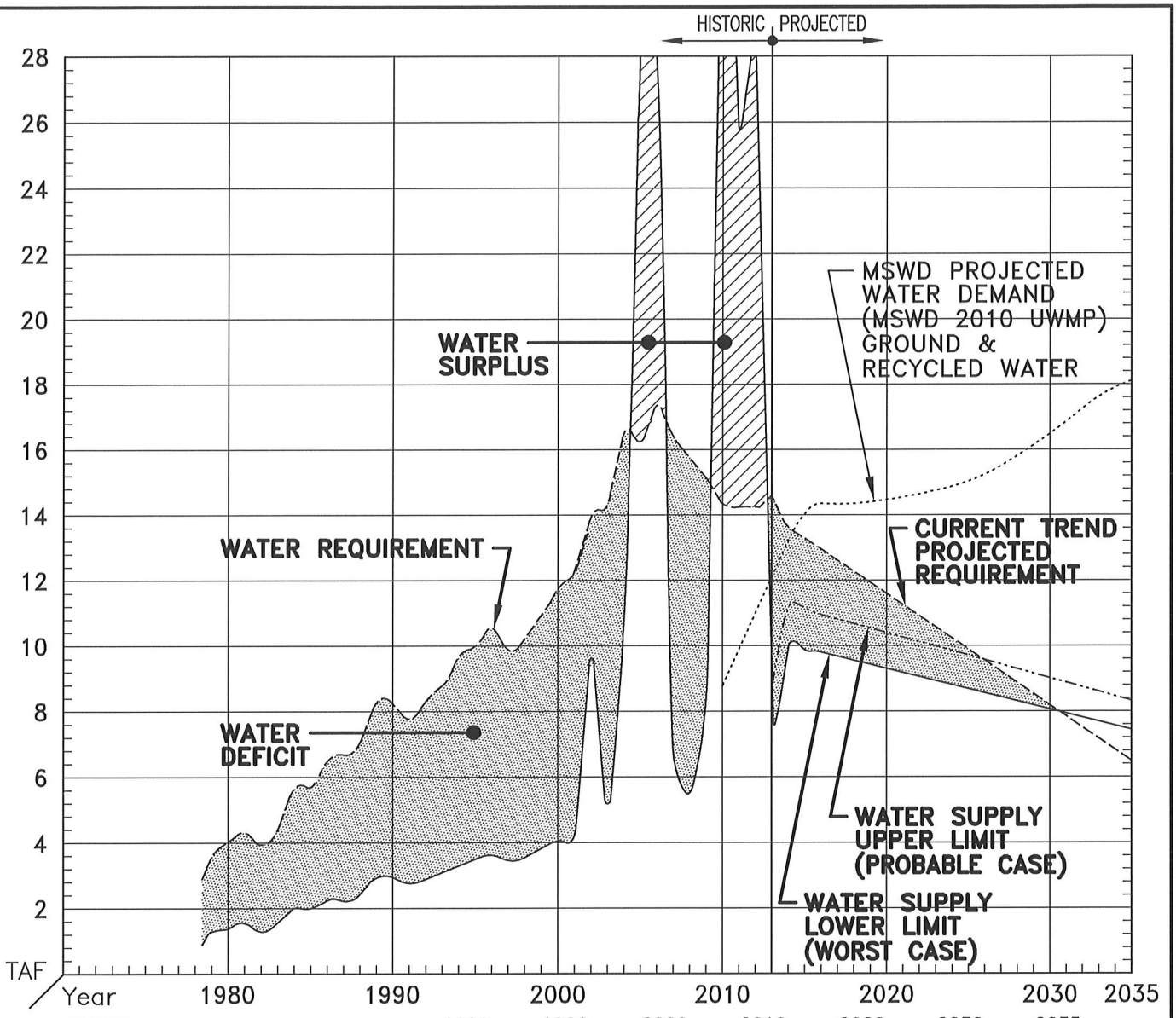
Figure 2



YEARS	1980	1990	2000	2010	2020	2030	2035
NET INFLOW (ACRE FEET)	1,400	2,900	4,100	36,500	9,200	8,000	7,400
NONCONSUMPTIVE RETURN	1,400	2,900	4,100	5,000	4,000	2,800	2,200
ARTIFICIAL RECHARGE	0	0	0	31,500	5,200	5,200	5,200
NATURAL INFLOW	5,500	5,500	5,500	5,500	5,500	5,500	5,500
NATURAL OUTFLOW	(5,500)	(5,500)	(5,500)	(5,500)	(5,500)	(5,500)	(5,500)

NOTES:

1. PROJECTED WATER REQUIREMENTS ARE BASED ON OVERALL TREND (LINEAR REGRESSION BASED ON PAST 10 YEARS).
2. NONCONSUMPTIVE RETURN IS BASED ON 65% CONSUMPTIVE USE AND 35% NONCONSUMPTIVE RETURN FOR ALL EXTRACTED WATER.
3. PROJECTED ARTIFICIAL RECHARGE IS BASED ON PROBABLE DELIVERIES ESTIMATED USING 60% RELIABILITY OF STATE WATER PROJECT WATER BASED ON DRAFT 2009 STATE WATER PROJECT RELIABILITY REPORT AND 35% LONG-TERM AVERAGE OF MWD TRANSFERS PURSUANT TO THE 2003 EXCHANGE AGREEMENT AND ITS IMPLEMENTATION.
4. WATER SUPPLY LOWER LIMIT (WORST CASE) IS BASED ON 35% NON CONSUMPTIVE RETURN AND PROBABLE DELIVERIES DESCRIBED ABOVE; WATER SUPPLY UPPER LIMIT (PROBABLE CASE) IS BASED ON 40% NON CONSUMPTIVE RETURN AND SURPLUS WATER EQUAL TO 10% OF ALLOCATION WATER, THE AVERAGE FOR THE PAST TEN YEARS.

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DESERT WATER AGENCY

HISTORIC AND PROJECTED WATER REQUIREMENTS AND WATER SUPPLIES FOR THE MISSION CREEK SUBBASIN

FIGURE 3

SCALE: N/A DATE: 02/21/14 DRAWN BY: MRN CHECKED BY: DFS W.O.: 101-57.12

101-57p12f3.dwg

TABLES

TABLE 1
COACHELLA VALLEY WATER DISTRICT
APPLICABLE STATE WATER PROJECT CHARGES (1)

	Table A Water Allocation		Probable Table A Water	Delta Water Charge		Variable Transportation Charge		Off-Aqueduct Power Charge		CVWD Applicable Table A Charges	
Year	Maximum AF	Probable (2) AF	Delivery (3) AF	Amount (4) $	Unit $/AF	Amount (5) $	Unit $/AF	Amount (6) $	Unit $/AF	Amount $	Unit (7) $/AF
2013	138,350	81,085	47,029	3,565,307	43.97	10,527,442	223.85	2,963,297	63.01	17,056,046	362.67
2014	138,350	81,085	47,029	3,565,307	43.97	8,524,947	181.27	915,184	19.46	13,005,439	276.54
2015	138,350	81,085	47,029	3,565,307	43.97	8,870,610	188.62	367,296	7.81	12,803,214	272.24
2016	138,350	81,085	47,029	3,565,307	43.97	7,402,835	157.41	235,615	5.01	11,203,758	238.23
2017	138,350	81,085	47,029	3,565,307	43.97	7,108,433	151.15	231,383	4.92	10,905,123	231.88
2018	138,350	81,085	47,029	3,565,307	43.97	7,535,927	160.24	91,707	1.95	11,192,941	238.00
2019	138,350	81,085	47,029	3,565,307	43.97	7,200,610	153.11	91,707	1.95	10,857,624	230.87

(1) As set forth in CDWR Bulletin 132-13, Appendix B (Appendix B).

(2) Probable Table A water allocation is based on currently existing CVWD allocation augmented by TLBWSD, KCWA, and MWD transfers, the latter reduced to 35% to reflect long-term average pursuant to the 2003 Exchange Agreement and its implementation.

(3) Probable Table A water delivery is based on 60% reliability of CVWD allocation augmented by TLBWSD, KCWA, and MWD transfers, the latter reduced to 35% for long-term average, pursuant to the 2003 Exchange Agreement and its implementation.

(4) Amount is based on probable Table A water allocation and Delta Water Charge per Table B-20 (A & B) of Appendix B.

(5) Amount is based on probable Table A water delivery and applicable Variable Transportation Unit Charge per Table B-17 of Appendix B.

(6) Amount is based on probable Table A water delivery and Off-Aqueduct Power Unit Charge derived by dividing data in Table B-16B by data in Table B-5B of Appendix B.

(7) Amount of applicable Table A charges divided by probable Table A water delivery.

TABLE 2
DESERT WATER AGENCY
APPLICABLE STATE WATER PROJECT CHARGES (1)

	Table A Water Allocation		Probable Table A Water	Delta Water Charge		Variable Transportation Charge		Off-Aqueduct Power Charge		DWA Applicable Table A Charges	
Year	Maximum AF	Probable (2) AF	Delivery (3) AF	Amount (4) $	Unit $/AF	Amount (5) $	Unit $/AF	Amount (6) $	Unit $/AF	Amount $	Unit (7) $/AF
2013	55,750	48,015	27,849	2,111,220	43.97	6,233,999	223.85	2,175,564	78.12	10,520,782	377.78
2014	55,750	48,015	27,849	2,111,220	43.97	5,048,188	181.27	882,535	31.69	8,041,943	288.77
2015	55,750	48,015	27,849	2,111,220	43.97	5,252,878	188.62	217,501	7.81	7,581,599	272.24
2016	55,750	48,015	27,849	2,111,220	43.97	4,383,711	157.41	139,523	5.01	6,634,454	238.23
2017	55,750	48,015	27,849	2,111,220	43.97	4,209,376	151.15	137,017	4.92	6,457,613	231.88
2018	55,750	48,015	27,849	2,111,220	43.97	4,462,524	160.24	54,306	1.95	6,628,049	238.00
2019	55,750	48,015	27,849	2,111,220	43.97	4,263,960	153.11	54,306	1.95	6,429,485	230.87

(1) As set forth in CDWR Bulletin 132-13, Appendix B (Appendix B).
(2) Probable Table A water allocation is based on currently existing CVWD allocation augmented by TLBWSD, KCWA, and MWD transfers, the latter reduced to 35% to reflect long-term average pursuant to the 2003 Exchange Agreement and its implementation.
(3) Probable Table A water delivery is based on % reliability of CVWD allocation augmented by TLBWSD, KCWA, and MWD transfers, the latter reduced to 35% for long-term average, pursuant to the 2003 Exchange Agreement and its implementation.
(4) Amount is based on probable Table A water allocation and Delta Water Charge per Table B-20 (A & B) of Appendix B.
(5) Amount is based on probable Table A water delivery and applicable Variable Transportation Unit Charge per Table B-17 of Appendix B.
(6) Amount is based on probable Table A water delivery and Off-Aqueduct Power Unit Charge derived by dividing data in Table B-16B by data in Table B-5B of Appendix B.
(7) Amount of applicable Table A charges divided by probable Table A water delivery.

TABLE 3
DESERT WATER AGENCY
ESTIMATED ALLOCATED STATE WATER PROJECT CHARGES FOR TABLE A WATER
(PROPORTIONED APPLICABLE CHARGES) (1)

Year	CVWD Applicable Table A Charges $	DWA Applicable Table A Charges $	Combined Applicable Table A Charges $	CVWD Allocated Table A Charges $	DWA Allocated Table A Charges $	DWA Incremental Increase/(Decrease) $	DWA Incremental Increase/(Decrease) %
2012	11,938,821	7,146,040	19,084,861	14,281,202	4,803,660		
						2,137,428	44
2013	17,056,046	10,520,782	27,576,828	20,635,741	6,941,088		
						(1,643,462)	(24)
2014	13,005,439	8,041,943	21,047,381	15,749,755	5,297,626		
						(166,769)	(3)
2015	12,803,214	7,581,599	20,384,813	15,253,955	5,130,857		
						(640,979)	(12)
2016	11,203,758	6,634,454	17,838,212	13,348,334	4,489,878		
						(119,677)	(3)
2017	10,905,123	6,457,613	17,362,736	12,992,536	4,370,201		
						115,342	3
2018	11,192,941	6,628,049	17,820,990	13,335,447	4,485,543		
						(134,377)	(3)
2019	10,857,624	6,429,485	17,287,110	12,935,944	4,351,166		

(1) Proportioned in accordance with 2013 Water Management Area production percentages; CVWD is responsible for 74.83% and DWA is responsible for 25.17% of combined production within the Whitewater River and Mission Creek Subbasins (see Exhibit 1 in the Appendix).

TABLE 4
DESERT WATER AGENCY
PROJECTED REPLENISHMENT ASSESSMENT RATES
PURSUANT TO WATER MANAGEMENT AGREEMENT
BETWEEN
COACHELLA VALLEY WATER DISTRICT AND DESERT WATER AGENCY

Year	DWA Allocated Table A Charges $	Estimated Assessable Production (1) AF	Estimated Effective Table A Assessment Rate Fiscal Year $/AF (2)	Rounded Table A Assessment Rate $/AF
2014/2015	5,214,242	48,980	106.46	106.00
2015/2016	4,810,368	48,057	100.10	100.00
2016/2017	4,430,040	47,151	93.95	94.00
2017/2018	4,427,872	46,246	95.75	96.00
2018/2019	4,418,355	45,340	97.45	97.00
2019/2020	4,368,034	44,435	98.30	98.00
2020/2021	4,403,089	43,529	101.15	101.00
2021/2022	4,406,199	42,623	103.38	103.00
2022/2023	4,427,967	41,718	106.14	106.00
2023/2024	4,414,009	40,812	108.15	108.00
2024/2025	4,362,463	39,907	109.32	109.00
2025/2026	4,350,600	39,001	111.55	112.00
2026/2027	4,329,397	38,096	113.64	114.00
2027/2028	4,325,063	37,190	116.30	116.00
2028/2029	4,405,539	36,285	121.41	121.00
2029/2030	4,377,645	35,379	123.74	124.00
2030/2031	4,429,474	34,473	128.49	128.00
2031/2032	4,399,696	33,568	131.07	131.00
2032/2033	4,401,770	32,662	134.77	135.00
2033/2034	4,411,853	31,757	138.93	139.00
2034/2035	4,627,460	30,851	149.99	150.00

(1) Projections based on growth trend of past 10 years.

(2) Necessary to pay DWA's estimated Allocated Table A Charges.

TABLE 5
DESERT WATER AGENCY
MISSION CREEK SUBBASIN
HISTORIC, PROPOSED, AND PROJECTED REPLENISHMENT ASSESSMENT RATES, COLLECTIONS, PAYMENTS, AND ACCOUNT BALANCE

	Assessment Rate			Assessments				Proportionate Share of State Project Payments Made	Proportionate Share of Recharge Basin			Assessments Collected Less State Project Payments Made	
	Table A	Other Charges								Cost Reimbursed		Surplus (Deficit)	
Fiscal Year	Allocation $/AF	or Costs (1) $/AF	Total $/AF	Estimated (2) $	Levied (3) $	Collected (4) $	Delinquent (5) $	Table A $	Cost $	$	%	Annual $	Cumulative (6) $
03/04	35.00	0.00	35.00	336,000	397,708	397,708	0	699,954	2,731,807	0	0%	(3,034,052)	N/A
04/05	34.00	12.00	46.00	464,140	529,108	529,108	0	685,385	--	120,876	4%	(156,277)	(3,190,329)
05/06	38.00	12.00	50.00	596,000	635,562	635,562	0	1,105,159	--	263,916	10%	(469,597)	(3,659,926)
06/07	51.00	12.00	63.00	761,040	789,471	789,471	0	1,213,107	--	408,876	15%	(423,636)	(4,083,562)
07/08	80.00	(34.00)	63.00	794,430	720,025	720,025	0	1,802,251	--	0	0%	(1,082,226)	(5,165,788)
08/09	65.00	(6.00)	72.00	876,240	778,029	778,029	0	1,305,870	--	0	0%	(527,841)	(5,693,629)
09/10	72.00	0.00	72.00	802,800	718,452	718,452	0	1,206,725	--	0	0%	(488,273)	(6,181,902)
10/11	99.00	(17.00)	82.00	828,200	616,632	616,632	0	805,992	--	0	0%	(189,360)	(6,371,262)
11/12	115.00	(33.00)	82.00	805,240	820,179	820,179	0	1,373,320	--	0	0%	(553,141)	(6,924,403)
12/13	117.00	(25.00)	92.00	878,600	888,405	888,405	0	1,540,187	--	0	0%	(651,783)	(7,576,186)
13/14	111.00	(19.00)	92.00	874,000	415,970	415,970	0	1,142,389	--	0	0%	(726,419)	(8,302,605)
14/15	106.00	(4.00)	102.00 (7)	1,028,160 (8)	1,028,160 (9)	1,028,160 (9)	0 (10)	1,073,082 (11)	--	0	0%	(44,922)	(8,347,527)
15/16	100.00	2.00	102.00	1,008,779	1,008,779	1,008,779	0	989,965	--	529,836	19%	18,814	(8,328,713)

(1) Includes charge for DWA's proportionate share of recharge basin cost amortized at zero interest over 20 years, and discretionary reductions.
(2) Assessments Estimated are based on applicable assessment rate and estimated assessable production from annual report for that year.
(3) Assessments Levied are based on applicable assessment rate and actual assessable production, except for the previous year, current year, and subsequent years where amounts remain estimated.
(4) Assessments Collected are based on payments made for Assessments Levied, except for the previous year, current year, and subsequent years where amounts remain estimated.
(5) Assessments Delinquent are based on Assessments Levied less payments made.
(6) Cumulative assessment balance to be used for future Delta improvements. Estimates of future assessment rates may need to be adjusted in the furure to accommodate unknown charges or expanded State Water Project facilities.
(7) Proposed assessment rate based on two components: 1) State Water Project Table A water, and 2) Other Charges and Costs (see note 1).
(8) For 2014/2015, Assessments Estimated are based on Proposed Assessment Rate and Estimated Assessable Production for Mission Creek Subbasin.
(9) Assessments Levied and Collected are estimated based on first, second and third quarters of assessment period.
(10) Delinquent assessment is estimated based on first, second and third quarters of assessment period.
(11) For 2014/2015 and beyond, Payments Made are estimated based on estimated allocated Table A charges, proportioned to Estimated Assessable Production for Mission Creek Subbasin.

TABLE 6
DESERT WATER AGENCY
GROUNDWATER REPLENISHMENT AND ASSESSMENT PROGRAM
ESTIMATED MISSION CREEK SUBBASIN MANAGEMENT AREA WATER PRODUCTION
AND
ESTIMATED WATER REPLENISHMENT ASSESSMENTS
2014/2015

ESTIMATED COMBINED MANAGEMENT AREA ASSESSABLE WATER PRODUCTION AND WATER REPLENISHMENT ASSESSMENTS

Management Area	Estimated Assessable Water Production AF	Water Replenishment Assessment Rate $/AF	Water Replenishment Assessment $	Water Replenishment Assessment Percent
Mission Creek Subbasin	10,080	102	1,028,160	21%
Whitewater River Subbasin	38,900	102	3,967,800	79%
Combined Subbasins	48,980		4,995,960	100%

ESTIMATED MISSION CREEK SUBBASIN MANAGEMENT AREA WATER PRODUCTION AND WATER REPLENISHMENT ASSESSMENTS

Producer	2013 Water Production Groundwater Extraction AF	2013 Water Production Surface Water Diversion AF	2013 Water Production Combined Water Production AF	Estimated 2014/2015 Assessable Water Production AF (1)	Estimated Water Replenishment Assessment @ $102/AF $	Estimated Water Replenishment Assessment @ $102/AF Percent
Mission Creek Subbasin						
Mission Springs Water District (Producer 1)	8,129	0	8,129	8,130	829,260	81%
Producer 2	351	0	351	350	35,700	3%
Producer 3	1,108	0	1,108	1,110	113,220	11%
Producer 4	489	0	489	490	49,980	5%
Total	10077	-	10,077	10,080	1,028,160	100%

(1) Rounded to nearest 10 Acre Feet.

APPENDIX A

EXHIBIT 1
DESERT WATER AGENCY
HISTORIC WATER PRODUCTION
FOR REPLENISHMENT ASSESSMENT FOR
DESERT WATER AGENCY AND COACHELLA VALLEY WATER DISTRICT
MISSION CREEK SUBBASIN (MCS) AND WHITEWATER RIVER SUBBASIN (WRS) WATER MANAGEMENT AREAS

	CVWD PRODUCTION		DWA PRODUCTION				COMBINED CVWD & DWA PRODUCTION				MCS PRODUCTION PERCENTAGES		COMBINED WRS & MCS PRODUCTION PERCENTAGES	
	GWE		GWE		SWD		GWE		SWD					
	WRS	MCS	WRS	MCS	WRS	COMB	WRS	MCS	WRS	COMB				
YEAR	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	CVWD	DWA	CVWD	DWA
2002	163,185	4,371	46,004	9,597	4,221	59,822	209,189	13,968	4,221	227,378	31.29	68.71	73.69	26.31
2003	156,185	4,425	43,463	10,073	4,627	58,163	199,648	14,498	4,627	218,773	30.52	69.48	73.41	26.59
2004	159,849	4,628	48,093	11,920	4,758	64,771	207,942	16,548	4,758	229,248	27.97	72.03	71.75	28.25
2005	153,462	4,247	46,080	12,080	4,799	62,959	199,542	16,327	4,799	220,668	26.01	73.99	71.47	28.53
2006	160,239	4,757	48,967	12,608	4,644	66,219	209,206	17,365	4,644	231,215	27.39	72.61	71.36	28.64
2007	157,487	4,547	50,037	11,862	3,490	65,389	207,524	16,409	3,490	227,423	27.71	72.29	71.25	28.75
2008	161,695	4,543	45,405	11,232	3,593	60,230	207,100	15,775	3,593	226,468	28.80	71.20	73.40	26.60
2009	155,793	4,813	41,913	10,295	1,443	53,651	197,706	15,108	1,443	214,257	31.86	68.14	74.96	25.04
2010	141,481	4,484	39,352	9,820	1,582	50,754	180,833	14,304	1,582	196,719	31.35	68.65	74.20	25.80
2011	141,028	4,653	40,071	9,550	1,724	51,345	181,099	14,203	1,724	197,026	32.76	67.24	73.94	26.06
2012	141,379	4,582	39,507	9,500	2,222	51,229	180,886	14,082	2,222	197,190	32.54	67.46	74.02	25.98
2013	143,108	4,415	37,730	10,080	1,802	49,612	180,838	14,495	1,802	197,135	30.46	69.54	74.83	25.17

Abbreviations:

GWE = Groundwater Extractions
SWD = Surface Water Diversions
COMB = Combined

/KJL
101-57P12-TBLS.xlsx/Exhibit1 (2/19/2014)

EXHIBIT 2
DESERT WATER AGENCY
COMPARISON OF
HISTORIC AND PROPOSED GROUNDWATER REPLENISHMENT ASSESSMENT RATES
FOR THE MISSION CREEK SUBBASIN MANAGEMENT AREA
DESERT WATER AGENCY AND COACHELLA VALLEY WATER DISTRICT

	DWA		CVWD		DWA
YEAR	$/AF	% INCREASE	$/AF	% INCREASE	MORE OR (LESS) THAN CVWD
03/04	$35.00	N/A	$59.80	N/A	($24.80)
04/05	$46.00	31%	$59.80	0%	($13.80)
05/06	$50.00	9%	$59.80	0%	($9.80)
06/07	$63.00	26%	$65.78	10%	($2.78)
07/08	$63.00	0%	$72.36	10%	($9.36)
08/09	$72.00	14%	$76.60	6%	($4.60)
09/10	$72.00	0%	$87.56	14%	($15.56)
10/11	$82.00	14%	$89.75	3%	($7.75)
11/12	$82.00	0%	$98.73	10%	($16.73)
12/13	$92.00	12%	$98.73	0%	($6.73)
13/14	$92.00	0%	$98.73	0%	($6.73)
14/15	$102.00 *	11%	$98.73 *	0%	$3.27

* Proposed Replenishment Assessment Rate

EXHIBIT 3
METROPOLITAN WATER DISTRICT/COACHELLA VALLEY WATER DISTRICT/DESERT WATER AGENCY
WATER EXCHANGE AGREEMENT AND ADVANCE DELIVERY AGREEMENT
SUMMARY OF EXCHANGE AND ADVANCE DELIVERIES, JULY 1973 THROUGH DECEMBER 1999 (1)

A. JULY 1973 THROUGH JUNE 1984

YEAR	COMBINED CVWD/DWA SWP ENTITLEMENT	CVWD/DWA DELIVERIES TO MWD (SWP)	MWD DELIVERIES TO CVWD/DWA (SPREADING GROUNDS)	ANNUAL MWD DELIVERY SURPLUS (DEFICIT)	CUMULATIVE MWD DELIVERY SURPLUS (DEFICIT)
1973 (JUL-DEC)	14,800	14,800	7,475	(7,325)	(7,325)
1974	16,400	16,400	15,396	(1,004)	(8,329)
1975	18,000	18,000	20,126	2,126	(6,203)
1976	19,600	19,600	13,206	(6,394)	(12,597)
1977	21,421	0	0	0	(12,597)
1978	23,242	25,384	0	(25,384)	(37,981)
1979	25,063	25,063	25,192	129	(37,852)
1980	27,884	27,884	26,341	(1,543)	(39,395)
1981	31,105	31,105	35,251	4,146	(35,249)
1982	34,326	34,326	27,020	(7,306)	(42,555)
1983	37,547	37,547	53,732	16,185	(26,370)
1984 (JAN-JUN) (2)	N/A	25,849	50,912	25,063	(1,307)
TOTALS:	269,388	275,958	274,651		

B. JULY 1984 THROUGH DECEMBER 1999

YEAR	COMBINED CVWD/DWA SWP ENTITLEMENT DELIVERY	TOTAL CVWD/DWA DELIVERY TO MWD (SWP)	MWD DELIVERY TO CVWD/DWA (SPREADING GROUNDS)	MWD ADVANCE DELIVERY	MWD ADVANCE DELIVERY CONVERTED TO EXCHANGE DELIVERY
1984 (JUL-DEC) (3)	40,768	14,919	32,796	16,570	---
1985	43,989	43,989	251,994	208,005	---
1986	47,210	47,210	298,201	240,991	---
1987	50,931	50,931	104,334	53,403	---
1988	54,652	54,652	1,096	---	53,556
1989	58,373	58,374	12,478	---	45,896
1990	61,200	61,200	31,721	---	29,479
1991	61,200	18,360	14	---	19,111
1992	61,200	27,624	40,870	13,330	---
1993	61,200	61,200	60,153	---	1,047
1994	61,200	37,359	36,763	---	596
1995	61,200	61,200	61,318	118	---
1996 (4)	61,200	164,841	138,266	---	26,575
1997 (5)	61,200	138,330	113,677	---	24,653
1998 (6)	61,200	156,356	132,455	---	23,901
1999 (7)	61,200	108,580	90,601	---	17,979
TOTALS:	907,923	1,105,125	1,406,737	532,417	242,793

(1) AS REPORTED BY METROPOLITAN WATER DISTRICT IN ITS MONTHLY "EXCHANGE WATER DELIVERY IN ACRE-FEET" REPORTS.

(2) ADVANCE DELIVERY AGREEMENT BETWEEN MWD AND CVWD/DWA BECAME EFFECTIVE 7/1/84; DISCREPANCIES IN EXCHANGE DELIVERIES BETWEEN MWD AND CVWD/DWA AFTER 7/1/84 ADJUSTED PER SAID AGREEMENT

(3) EFFECTIVE DATE OF ADVANCE DELIVERY AGREEMENT BETWEEN MWD AND CVWD/DWA WAS 7/1/84; 16,570 AF ADVANCE DELIVERY FIGURE REFLECTS 7/84 - 12/84 DELIVERIES TO MWD OF 14,919 AF AND 7/84 - 12/84 DELIVERIES TO CVWD/DWA OF 32,796 AF, LESS CUMULATIVE MWD DELIVERY DEFICIENCY OF 1,307 AF AS OF 7/1/84.

(4) 1996 COMBINED CVWD/DWA ENTITLEMENT AND EXCHANGE DELIVERIES INCREASED BY PURCHASE OF 103,641 AF THROUGH DWR'S 1996 TURN-BACK WATER POOL PROGRAM (SPECIFICALLY POOL B WATER).

(5) 1997 COMBINED CVWD/DWA ENTITLEMENT AND EXCHANGE DELIVERIES INCREASED BY PURCHASE OF 50,000 AF THROUGH DWR's 1997 TURN-BACK WATER POOL PROGRAM (SPECIFICALLY POOL B WATER) AND BY PURCHASE OF 27,130 AF OF KAWEAH RIVER AND TULE RIVER FLOOD FLOW WATER.

(6) 1998 COMBINED CVWD/DWA ENTITLEMENT AND EXCHANGE DELIVERIES INCREASED BY PURCHASE OF 75,000 AF THROUGH DWR's 1998 TURN-BACK WATER POOL PROGRAM (SPECIFICALLY POOL B WATER) AND BY PURCHASE OF 20,156 AF OF KAWEAH, TULE, AND KINGS RIVERS RIVER FLOOD FLOW WATER.

(7) 1999 COMBINED CVWD/DWA ENTITLEMENT AND EXCHANGE DELIVERIES INCREASED BY PURCHASE OF 47,380 AF THROUGH DWR's 1999 TURN-BACK WATER POOL PROGRAM (SPECIFICALLY POOL B WATER).

NOTE: ALL FIGURES ARE IN ACRE FEET

EXHIBIT 4
METROPOLITAN WATER DISTRICT/COACHELLA VALLEY WATER DISTRICT/DESERT WATER AGENCY
WATER EXCHANGE AGREEMENT AND ADVANCE DELIVERY AGREEMENT
SUMMARY OF EXCHANGE AND ADVANCE DELIVERIES, JANUARY 2000 THROUGH DECEMBER 2011 (1)

YEAR	TOTAL CVWD/DWA EXCHANGE DELIVERY TO MWD (SWP) AF	MWD EXCHANGE DELIVERY TO CVWD/DWA RECHARGE BASINS AF	MWD ADVANCE DELIVERY TO CVWD/DWA RECHARGE BASINS AF	MWD ADVANCE DELIVERY CONVERTED TO EXCHANGE DELIVERY TO CVWD/DWA AF
2000 (2)	100,557	72,450	---	28,107
2001 (3)	24,110	707	---	23,403
2002 (4)	44,395	38,168	---	6,227
2003 (5)	38,262	961	---	37,301
2004 (6)	36,655	18,788	---	17,867
2005 (7)	91,608	190,277	98,669	0
2006 (8)	171,100	118,860	---	52,240
2007 (9)	103,462	17,020	---	102,442
2008 (10)	64,872	0	---	64,872
2009 (11)	64,285	52,368	---	11,917
2010 (12)	108,382	241,404	133,022	0
2011 (13)	132,458	148,102	25,644	0
TOTALS:	980,146	899,105	257,335	344,376
			CUMULATIVE MWD ADVANCE DELIVERIES, 7/84 THROUGH 12/11:	789,752
			CUMULATIVE MWD ADVANCE DELIVERIES CONVERTED TO EXCHANGE DELIVERIES, 7/84 THROUGH 12/11:	587,169

(1) AS REPORTED BY METROPOLITAN WATER DISTRICT IN ITS MONTHLY "EXCHANGE DELIVERY SUMMARY IN ACRE-FEET" REPORTS AND ANNUAL SCHEDULES OF WATER DELIVERED TO DWA AND CVWD.

(2) 2000 CVWD/DWA EXCHANGE DELIVERY TO MWD CONSISTS OF 55,080 AF OF TABLE A WATER (90% ALLOCATION), 9,837 AF OF DWR'S 2000 TURN-BACK WATER POOL PROGRAM (SPECIFICALLY POOL B) WATER AND 35,640 AF OF INTERRUPTIBLE (ARTICLE 21) WATER.

(3) 2001 CVWD/DWA EXCHANGE DELIVERY TO MWD CONSISTS OF 23,868 AF OF TABLE A WATER (39% ALLOCATION), AND 242 AF OF DWR'S 2001 TURN-BACK WATER POOL PROGRAM (SPECIFICALLY POOL B) WATER.

(4) 2002 CVWD/DWA EXCHANGE DELIVERY TO MWD CONSISTS OF 42,840 AF OF TABLE A WATER (70% ALLOCATION), 1,255 AF OF DWR's 2002 TURN-BACKWATER POOL PROGRAM (436 AF OF POOL A AND 819 AF OF POOL B) WATER, AND 300 AF OF ARTICLE 21 WATER.

(5) 2003 CVWD/DWA EXCHANGE DELIVERIES TO MWD CONSIST OF 37,213 AF OF TABLE A WATER (90% ALLOCATION = 55,080 AF. LESS 17,867 NOT DELIVERED BY MWD AND CREDITED TO DWA AND CVWD IN 2004), 515 AF OF DWR'S 2003 TURN-BACK WATER POOL PROGRAM (457 AF OF POOL A AND 58 AF OF POOL B) WATER, AND 532 AF OF ARTICLE 21 WATER.

(6) 2004 CVWD/DWA EXCHANGE DELIVERIES TO MWD CONSIST OF 18,597 AF OF TABLE A WATER (30% ALLOCATION), 191 AF OF DWR'S 2004 TURN-BACK WATER POOL PROGRAM WATER (ALL FROM POOL B). 17,867 AF CREDITED TO DWA/CVWD FOR QUANTITY NOT DELIVERED BY MWD IN 2003.

(7) 2005 CVWD/DWA EXCHANGE DELIVERIES TO MWD CONSIST OF 87,770 AF OF TABLE A WATER (50% ALLOCATION), AND 3,838 AF OF DWR'S 2005 TURN-BACK WATER POOL PROGRAM (585 AF OF POOL A AND 3,253 AF OF POOL B) WATER.

(8) 2006 CVWD/DWA EXCHANGE DELIVERIES TO MWD CONSIST OF 171,100 AF OF TABLE A WATER (100% ALLOCATION).

(9) 2007 CVWD/DWA EXCHANGE DELIVERIES TO MWD CONSIST OF 102,660 AF OF TABLE A WATER (60% ALLOCATION), AND 802 AF OF DWR'S 2007 TURN-BACK WATER POOL PROGRAM WATER (ALL FROM POOL A). MWD DELIVERED AN ADDITIONAL 16,000 AF TO THE WHITEWATER SPREADING BASINS PER ITS 12/23/03 QUANTIFICATION SETTLEMENT WITH CVWD.

(10) 2008 CVWD/DWA EXCHANGE DELIVERIES TO MWD CONSIST OF 59,885 AF OF TABLE A WATER (35% ALLOCATION), AND 151 AF OF DWR'S 2007 TURN-BACK WATER POOL PROGRAM WATER (ALL FROM POOL A), 3,000 AF OF WATER PURSUANT TO THE GLORIOUS LAND AGREEMENT BETWEEN MWD AND CVWD, AND 1,836 AF OF WATER PURSUANT TO THE YUBA ACCORD. MWD DELIVERED 8,008 AF OF WATER TO THE WHITEWATER SPREADING BASINS PURSUANT TO CVWD'S PVID CREDIT AND 503 AF OF WATER TO THE MISSION CREEK SPREADING BASIN PURSUANT TO THE CPV-SENTINEL AGREEMENT, NEITHER OF WHICH PERTAIN TO THE DWCV ADVANCE DELIVERY ACCOUNT.

(11) 2009 CVWD/DWA EXCHANGE DELIVERIES TO MWD CONSIST OF 57,710 AF OF TABLE A WATER (34% ALLOCATION), AND 93 AF OF DWR'S 2009 TURN-BACK WATER POOL PROGRAM WATER (35 AF OF POOL A AND 58 AF OF POOL B), 3,000 AF OF WATER PURSUANT TO THE GLORIOUS LAND AGREEMENT BETWEEN MWD AND CVWD, AND 3,482 AF OF WATER PURSUANT TO THE YUBA ACCORD AND OTHERS. MWD DELIVERED 7,992 AF OF WATER TO THE WHITEWATER SPREADING BASINS PURSUANT TO CVWD'S PVID CREDIT AND 754 AF OF WATER TO THE MISSION CREEK SPREADING BASIN PURSUANT TO THE CPV-SENTINEL AGREEMENT, NEITHER OF WHICH PERTAIN TO THE ADVANCE DELIVERY ACCOUNT AND ARE THEREFORE NOT INCLUDED HEREIN.

(12) 2010 CVWD/DWA EXCHANGE DELIVERIES TO MWD CONSIST OF 97,050 AF OF TABLE A WATER (57% ALLOCATION), 10,730 AF OF CARRYOVER WATER FROM 2009, AND 602 AF OF DWR'S 2010 TURN-BACK WATER POOL PROGRAM WATER (66 AF OF POOL A AND 536 AF OF POOL B). MWD DELIVERED 18,393 AF OF WATER TO THE WHITEWATER SPREADING BASINS PURSUANT DMB PACIFIC LLC AND MWD QSA PURCHASES, AND 1,743 AF OF WATER TO THE MISSION CREEK SPREADING BASIN PURSUANT TO THE CPV-SENTINEL AGREEMENT, NONE OF WHICH PERTAIN TO THE ADVANCE DELIVERY ACCOUNT AND ARE THEREFORE NOT INCLUDED HEREIN.

(13) 2011 CVWD/DWA EXCHANGE DELIVERIES TO MWD CONSIST OF 132,468 AF OF TABLE A WATER (64% ALLOCATION), 0 AF OF CARRYOVER WATER FROM 2010, AND 2,502 AF OF DWR'S 2011 TURN-BACK WATER POOL PROGRAM WATER (836 AF OF POOL A AND 1,666 AF OF POOL B), AND 5,800 AF OF ARTICLE 21 WATER. MWD DELIVERED 105,000 AF OF WATER TO THE WHITEWATER SPREADING BASINS PURSUANT TO THE DMB PACIFIC LLC AND MWD QSA PURCHASES, AND 5,350 AF OF WATER TO THE MISSION CREEK SPREADING BASIN PURSUANT TO THE CPV-SENTINEL AGREEMENT, NONE OF WHICH PERTAIN TO THE ADVANCE DELIVERY ACCOUNT AND ARE THEREFORE NOT INCLUDED HEREIN.

EXHIBIT 5
METROPOLITAN WATER DISTRICT/COACHELLA VALLEY WATER DISTRICT/DESERT WATER AGENCY
WATER EXCHANGE AGREEMENT AND ADVANCE DELIVERY AGREEMENT
SUMMARY OF EXCHANGE AND ADVANCE DELIVERIES, JANUARY 2000 THROUGH DECEMBER 2013 (1)

YEAR	TOTAL CVWD/DWA EXCHANGE DELIVERY TO MWD (SWP) AF	MWD EXCHANGE DELIVERY TO CVWD/DWA RECHARGE BASINS AF	MWD ADVANCE DELIVERY TO CVWD/DWA RECHARGE BASINS AF	MWD ADVANCE DELIVERY CONVERTED TO EXCHANGE DELIVERY TO CVWD/DWA AF
2012 (2)	158,909	280,539	117,764	0
2013 (3)	70,879	28,998	0	60,889
TOTALS:	229,788	309,537	117,764	60,889

CUMULATIVE MWD ADVANCE DELIVERIES, 7/84 THROUGH 12/13	907,516
CUMULATIVE MWD ADVANCE DELIVERIES CONVERTED TO EXCHANGE DELIVERIES, 7/84 THROUGH 12/13:	648,058
BALANCE OF MWD ADVANCE DELIVERIES AVAILABLE TO BE CONVERTED TO EXCHANGE DELIVERIES:	259,458
ARTIFICIAL RECHARGE THROUGH EXCHANGE DELIVERIES AND ADVANCE DELIVERIES SINCE 1973:	2,890,030
ARTIFICIAL RECHARGE THROUGH EXCHANGE DELIVERIES SINCE 1973:	2,630,572

(1) AS REPORTED BY METROPOLITAN WATER DISTRICT IN ITS MONTHLY "EXCHANGE DELIVERY SUMMARY IN ACRE-FEET" REPORTS AND ANNUAL SCHEDULES OF WATER DELIVERED TO DWA AND CVWD.

(2) 2012 CVWD/DWA EXCHANGE DELIVERIES TO MWD CONSIST OF 126,166 AF OF TABLE A WATER (65% ALLOCATION), 31,124 AF OF CARRYOVER WATER FROM 2011, AND 431 AF OF DWR'S 2011 TURN-BACK WATER POOL PROGRAM WATER (431 AF OF POOL A AND 0 AF OF POOL B), 0 AF OF ARTICLE 21 WATER, 4,000 AF OF WATER PURSUANT TO THE GLORIOUS LAND AGREEMENT BETWEEN CVWD AND MWD, AND 1,188 AF OF WATER PURSUANT TO THE YUBA ACCORD AND OTHERS. MWD DELIVERED 134 AF OF WATER TO THE MISSION CREEK SPREADING BASIN PURSUANT TO THE CPV-SENTINEL AGREEMENT, WHICH DOES NOT PERTAIN TO THE ADVANCE DELIVERY ACCOUNT AND IS THEREFORE NOT INCLUDED HEREIN.

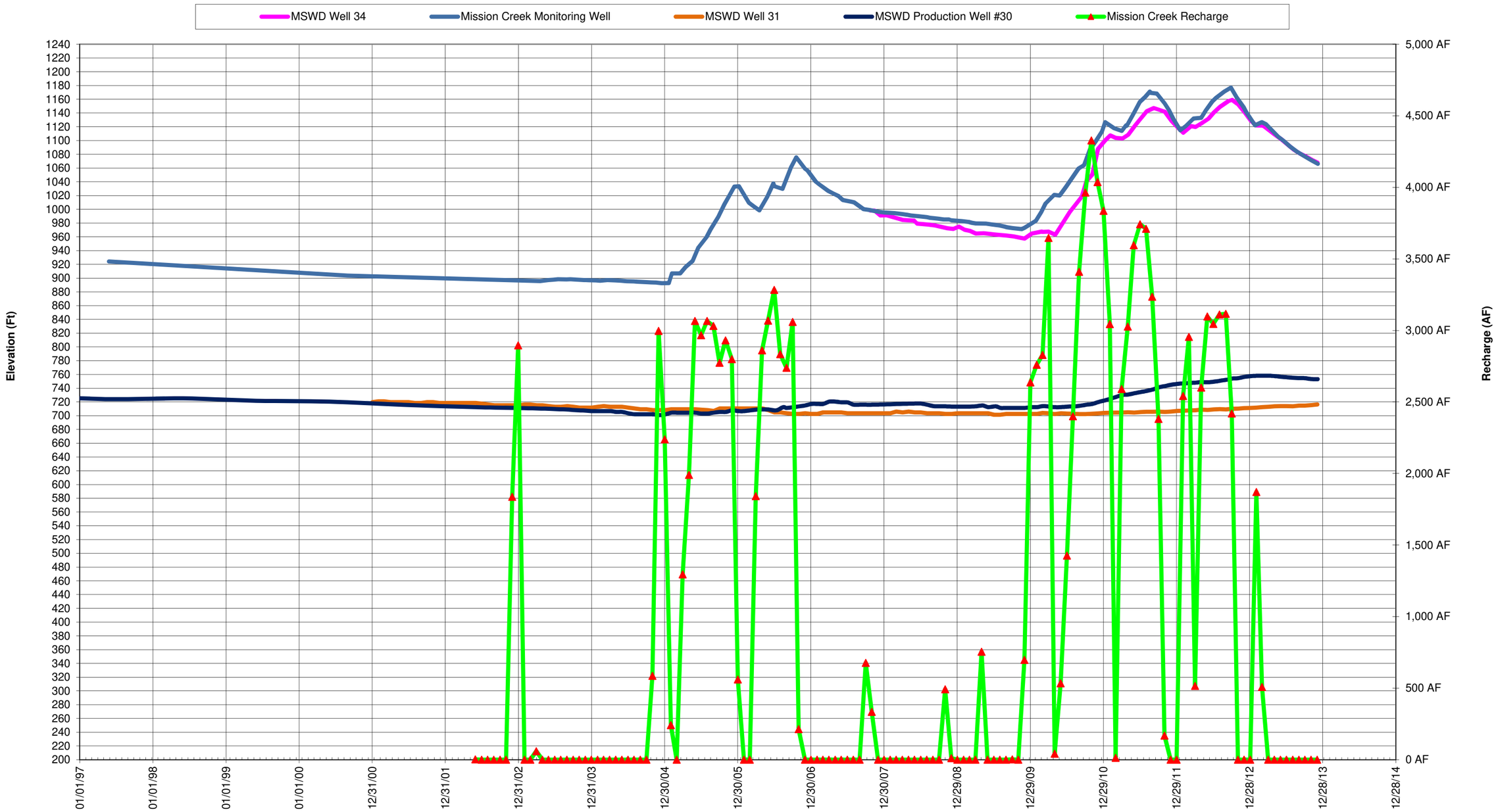
(3) 2013 CVWD/DWA EXCHANGE DELIVERIES TO MWD CONSIST OF 26,824 AF OF TABLE A WATER (35% ALLOCATION), 0 AF OF CARRYOVER WATER FROM 2012, AND 230 AF OF DWR'S 2013 TURN-BACK WATER POOL PROGRAM WATER (230 AF OF POOL A AND 0 AF OF POOL B), 0 AF OF ARTICLE 21 WATER, 16,500 AF OF WATER PURSUANT TO THE GLORIOUS LAND AGREEMENT BETWEEN CVWD AND MWD, 2,508 AF OF THE SECOND SUPPLEMENT AGREEMENT BETWEEN CVWD AND MWD, AND 2,713 AF OF WATER PURSUANT TO THE YUBA ACCORD AND OTHERS. MWD DELIVERED 0 AF OF WATER TO THE MISSION CREEK SPREADING BASIN PURSUANT TO THE CPV-SENTINEL AGREEMENT, WHICH DOES NOT PERTAIN TO THE ADVANCE DELIVERY ACCOUNT AND IS THEREFORE NOT INCLUDED HEREIN.

EXHIBIT 6
DESERT WATER AGENCY
MISSION CREEK SUBBASIN (1)
HISTORIC VOLUME OF GROUNDWATER IN STORAGE (2)

TIME PERIOD	PRE-1955	1955 - 1978	1979 - 1997	1998 - 2013	**1955 - 2013**
NUMBER OF YEARS		24	19	16	**59**
WATER LEVEL DECLINE, FT (3)		20	30	3	**53**
PERIOD REDUCTION IN STORAGE, AF		71,200	106,800	9,042	**187,042**
ANNUAL REDUCTION IN STORAGE, AF/Yr		3,000	5,600	600	**3,200**
CHANGE IN STORAGE		0.047	0.074	0.007	**0.124**
REMAINING STORAGE, AF	1,511,800	1,440,600	1,333,800	1,324,758	**1,324,758**

(1) NORTHWEST THREE-QUARTERS OF SUBBASIN: GTC (1979) & SLADE (2000)
(2) STORAGE LOSS OF 3,560 AF/FT OF WATER LEVEL DECLINE: GTC (1979) & SLADE (2000)
(3) MISSION SPRINGS WATER DISTRICT DATA

EXHIBIT 7
DESERT WATER AGENCY
MISSION CREEK SUBBASIN
RECHARGE QUANTITIES AND WATER WELL HYDROGRAPHS



DFS/kjl
101-57P12-TBLS.xlsx/Exhibit7 (4/8/2013)

EXHIBIT 8
DESERT WATER AGENCY
COMPARISON OF
WATER PRODUCTION AND GROUNDWATER REPLENISHMENT
WHITEWATER RIVER SUBBASIN (WRS) AND MISSION CREEK SUBBASIN (MCS)

PRODUCTION (1)

	WRS AF		MCS AF		TOTAL AF		RATIO: MCS/WRS	
YEAR	ANNUAL	CUMULATIVE	ANNUAL	CUMULATIVE	ANNUAL	CUMULATIVE	ANNUAL	CUMULATIVE
2002	213,410	213,410	13,968	13,968	227,378	227,378	6.5%	6.5%
2003	204,275	417,685	14,498	28,466	218,773	446,151	7.1%	6.8%
2004	212,700	630,385	16,548	45,014	229,248	675,399	7.8%	7.1%
2005	204,341	834,726	16,327	61,341	220,668	896,067	8.0%	7.3%
2006	213,850	1,048,576	17,365	78,706	231,215	1,127,282	8.1%	7.5%
2007	211,014	1,259,590	16,409	95,115	227,423	1,354,705	7.8%	7.6%
2008	210,693	1,470,283	15,775	110,890	226,468	1,581,173	7.5%	7.5%
2009	199,149	1,669,432	15,108	125,998	214,257	1,795,430	7.6%	7.5%
2010	182,415	1,851,847	14,304	140,302	196,719	1,992,149	7.8%	7.6%
2011	182,823	2,034,670	14,203	154,505	197,026	2,189,175	7.8%	7.6%
2012	183,108	2,217,778	14,082	168,587	197,190	2,386,365	7.7%	7.6%
2013	182,640	2,400,418	14,495	183,082	197,135	2,583,500	7.9%	7.6%

RECHARGE

	WRS AF		MCS AF		TOTAL AF		RATIO: MCS/WRS	
YEAR	ANNUAL	CUMULATIVE	ANNUAL	CUMULATIVE	ANNUAL	CUMULATIVE	ANNUAL	CUMULATIVE
2002	33,435	33,435	4,733	4,733	38,168	38,168	14.2%	14.2%
2003	902	34,337	59	4,792	961	39,129	6.5%	14.0%
2004	13,224	47,561	5,564	10,356	18,788	57,917	42.1%	21.8%
2005	165,554	213,115	24,723	35,079	190,277	248,194	14.9%	16.5%
2006	98,959	312,074	19,901	54,980	118,860	367,054	20.1%	17.6%
2007	16,009	328,083	1,011	55,991	17,020	384,074	6.3%	17.1%
2008	8,008	336,091	0	55,991	8,008	392,082	0.0%	16.7%
2009	60,024	396,115	3,336	59,327	63,360	455,442	5.6%	15.0%
2010	228,330	624,445	31,467	90,794	259,797	715,239	13.8%	14.5%
2011	232,214	856,659	20,888	111,682	253,102	968,341	9.0%	13.0%
2012	261,267	1,117,926	23,272	134,954	284,539	1,252,880	8.9%	12.1%
2013	26,619	1,144,545	2,379	137,333	28,998	1,281,878	8.9%	12.0%

(1) PRODUCTION IN BOTH DWA AND CVWD SERVICE AREAS.

/KJL
101-57P12-TBLS.xlsx/Exhibit8 (3/5/2014)

EXHIBIT 9
DESERT WATER AGENCY
SUMMARY OF DELIVERIES
TO METROPOLITAN WATER DISTRICT AND
TO GROUNDWATER RECHARGE BASINS (AF)

	DELIVERY TO MWD									DELIVERY TO RECHARGE BASINS		
	TABLE A	SURPLUS WATER										
YEAR	ALLOCATION	POOL A	POOL B	ARTICLE 21	FLOOD	YUBA	OTHER	TOTAL	TOTAL	WRS (1)	MCS (2)	TOTAL
1973	14,800								14,800	7,475		7,475
1974	16,400								16,400	15,396		15,396
1975	18,000								18,000	20,126		20,126
1976	19,600								19,600	13,206		13,206
1977	0								0	0		0
1978	25,384								25,384	0		0
1979	25,063								25,063	25,192		25,192
1980	27,884								27,884	26,341		26,341
1981	31,105								31,105	35,251		35,251
1982	34,326								34,326	27,020		27,020
1983	37,547								37,547	53,732		53,732
1984	40,768								40,768	83,708		83,708
1985	43,989								43,989	251,994		251,994
1986	47,210						10,000	10,000	47,210	298,201		298,201
1987	50,931								50,931	104,334		104,334
1988	54,652								54,652	1,096		1,096
1989	58,374								58,374	12,478		12,478
1990	61,200								61,200	31,721		31,721
1991	19,125								19,125	14		14
1992	27,540								27,540	40,870		40,870
1993	61,200								61,200	60,153		60,153
1994	37,359								37,359	36,763		36,763
1995	61,200								61,200	61,318		61,318
1996	61,200		103,641					103,641	164,841	138,266		138,266
1997	61,200		50,000		27,130			77,130	138,330	113,677		113,677
1998	61,200		75,000		20,156			95,156	156,356	132,455		132,455
1999	61,200		47,380					47,380	108,580	90,601		90,601
2000	55,080		9,837	35,640				45,477	100,557	72,450		72,450
2001	23,868		242					242	24,110	707		707
2002	42,840	436	819	300				1,555	44,395	33,435	4,733	38,168
2003	37,213	457	58	532				1,047	38,260	902	59	961
2004	36,464		191					191	36,655	13,224	5,564	18,788
2005	87,770	585	3,253					3,838	91,608	165,554	24,723	190,277
2006	171,100	0	0					0	171,100	98,959	19,901	118,860
2007	102,660	802	0					802	103,462	16,009	1,011	17,020
2008	59,885	151	0			1,836	3,000	4,987	64,872	0 (4)	0	0
2009	57,710	35	58			3,482	3,000	6,575	64,285	49,032 (5)	3,336	52,368
2010	107,780	66	536				18,393	18,995	126,775	228,330	31,467	259,797
2011	124,156	836	1,666	5,800			105,000	113,302	237,458	232,214	20,888	253,102
2012	157,290	431				1,188	4,000	5,619	162,909	261,267	23,272	284,539
2013	67,936	230				2,713	19,008	21,951	89,887	26,619	2,379	28,998
TOTAL (3)	2,190,209	4,029	292,681	42,272	47,286	9,219	162,401	557,888	2,738,097	2,880,090	137,333	3,017,423

NOTES:
(1) WHITEWATER RIVER SUBBASIN.
(2) MISSION CREEK SUBBASIN.
(3) SINCE 1973.

APPENDIX B

ADDENDUM TO SETTLEMENT AGREEMENT
MANAGEMENT AREA DELIVERIES

The Settlement Agreement between Coachella Valley Water District (CVWD), Desert Water Agency (DWA) and Mission Springs Water District (MSWD) dated December 7, 2004 shall be supplemented by the following Addendum, and thus shall be deemed a part thereof:

The Mission Creek Groundwater Replenishment Agreement provides for the delivery to the Mission Creek Subbasin, for groundwater replenishment, of a proportionate share of the imported water delivered to CVWD and DWA for replenishment of the Upper Coachella Valley Groundwater Basin. To ensure that the Mission Creek Subbasin receives its proportionate share of that water, as set forth in the Mission Creek Replenishment Agreement, and to provide for the monitoring thereof, the following procedures shall be applied:

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.

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 percentages, subject to delivery capability and operational constraints in any particular year.

In the event that additional subbasins benefit from recharge programs within CVWD and DWA boundaries, the respective production and recharge delivery percentages from those management areas in those subbasins shall be included in the above described calculations, allocations, and deliveries.

Production and recharge quantities shall be reviewed by the parties to the Management Committee (MSWD, CVWD and DWA) through the Management Committee process. CVWD and DWA will endeavor to accomplish annual proportionate management area deliveries; however, when constrained by operating limitations, they may over deliver or under deliver water to the management areas from year to year as necessary to obtain as much imported water as may be available. 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.

The provisions of this Addendum may be enforced by any party hereto.

IN WITNESS WHEREOF, The Parties have caused this Addendum to be executed by their duly authorized representatives on the date first above written.

MSWD:

Mission Springs Water District,
a California county water district

By _____

Its: President

By _____

Its: Vice President

DWA:

Desert Water Agency,
a public agency of the State of California

By _____

Its: President

By _____

Its: Vice President

CVWD:

Coachella Valley Water District,
a California county water district

By _____

Its: President

By _____

Its: Vice President

APPENDIX C

APPENDIX C
ANNUAL PRECIPITATION FOR NINE RAIN GAUGE STATIONS
IN THE UPPER COACHELLA VALLEY
(PERIODS OF RECORD, 1949 - 2013)

Calendar Year	Cathedral City (Stn 34)	Desert Hot Springs East (Stn 57)	Snow Creek (Stn 207)	Tachevah Dam (Stn 216)	Thousand Palms (Stn 222)	Tram Valley (Stn 224)	Whitewater North (Stn 233)	Edom Hill (Stn 436)	Palm Springs Sunrise (Stn 442)
1949	2.15	---	---	---	---	---	---	---	---
1950	0.68	---	---	---	---	---	---	---	---
1951	5.05	---	---	---	---	---	---	---	---
1952	8.41	---	---	---	---	---	---	---	---
1953	0.94	---	---	---	---	---	---	---	---
1954	4.40	---	---	---	---	---	---	---	---
1955	2.26	---	---	---	---	---	---	---	---
1956	0.78	---	---	---	---	---	---	---	---
1957	3.08	0.80	---	---	---	---	---	---	---
1958	4.74	6.05	---	---	---	---	---	---	---
1959	4.64	3.11	---	---	1.65	---	---	---	---
1960	2.28	0.69	---	---	0.48	---	---	---	---
1961	1.24	1.76	---	---	2.00	---	---	---	---
1962	2.13	0.00	---	---	0.00	---	---	---	---
1963	6.78	3.22	---	---	2.17	---	---	---	---
1964	2.85	0.00	---	---	0.93	---	---	---	---
1965	8.65	10.87	---	---	1.99	---	---	---	---
1966	2.95	3.70	---	3.61	0.39	---	---	---	---
1967	6.84	4.64	---	5.05	0.00	---	---	---	---
1968	2.50	2.64	---	2.20	0.63	---	---	---	---
1969	5.42	5.62	---	9.46	4.40	---	23.29	---	---
1970	4.02	4.87	---	5.65	3.87	---	14.42	---	---
1971	0.58	2.02	---	2.01	0.56	---	10.70	---	---
1972	1.79	2.82	---	2.46	1.53	---	8.76	---	---
1973	2.07	3.05	---	2.95	1.83	---	13.02	---	---
1974	4.33	6.90	---	7.12	4.15	---	14.23	---	---
1975	1.88	2.10	---	2.26	1.81	---	12.21	---	---
1976	8.59	8.08	---	10.24	8.22	---	14.36	---	---
1977	7.09	8.57	---	8.13	6.79	---	21.61	---	---
1978	9.10	10.82	---	11.88	8.70	26.27	27.64	---	---
1979	9.11	8.66	---	10.79	8.73	15.09	19.12	---	---
1980	9.34	12.57	---	15.81	8.36	27.18	34.17	---	---
1981	2.84	4.39	---	4.68	3.22	9.45	11.26	---	---
1982	6.67	7.54	---	12.61	4.77	24.36	23.45	---	---
1983	13.37	12.20	---	18.22	10.01	33.40	32.34	---	---
1984	5.43	4.63	---	5.60	3.17	12.63	10.02	---	---
1985	2.92	4.78	---	3.13	3.41	8.93	11.90	---	---
1986	4.88	4.39	---	5.86	4.61	12.64	14.93	---	---
1987	3.80	5.08	---	4.37	4.99	12.09	12.01	---	---
1988	5.09	3.97	---	4.43	3.92	10.54	11.75	---	---
1989	1.17	1.48	3.68	1.53	1.57	2.34	8.94	---	---
1990	1.63	2.15	7.19	2.41	1.07	3.82	9.90	---	---
1991	5.91	8.16	19.03	9.83	5.56	15.94	21.26	---	---
1992	7.29	9.68	15.68	10.38	6.52	18.76	19.41	---	---
1993	9.62	12.37	27.44	12.82	7.68	25.87	33.23	---	---
1994	2.46	3.69	12.52	3.56	1.92	9.27	13.33	---	---
1995	6.30	8.11	22.11	8.93	5.64	19.48	24.23	---	---
1996	1.31	2.74	12.48	1.99	1.14	7.75	10.35	---	---
1997	3.60	5.08	12.44	4.32	3.60	12.32	13.52	---	---
1998	2.12	6.07	19.78	5.40	2.12	12.72	21.36	---	---
1999	1.77	1.46	4.50	2.77	1.75	2.28	3.39	---	---
2000	0.75	2.40	11.38	2.43	0.74	6.10	8.98	---	---
2001	3.02	6.25	12.80	3.94	3.01	8.99	14.44	---	---
2002	0.69	0.90	6.29	0.76	0.36	3.13	9.24	---	---
2003	4.03	5.15	14.84	5.18	3.41	14.42	10.65	---	---
2004	5.04	7.35	24.05	7.40	4.65	20.26	14.06	---	---
2005	7.85	13.02	20.87	12.92	9.36	22.91	19.19	---	---
2006	1.34	2.17	14.63	2.36	0.94	8.50	10.84	---	---
2007	2.38	2.21	8.28	3.18	1.99	5.75	6.39	---	---

APPENDIX C
ANNUAL PRECIPITATION FOR NINE RAIN GAUGE STATIONS
IN THE UPPER COACHELLA VALLEY
(PERIODS OF RECORD, 1949 - 2013)

Calendar Year	Cathedral City (Stn 34)	Desert Hot Springs East (Stn 57)	Snow Creek (Stn 207)	Tachevah Dam (Stn 216)	Thousand Palms (Stn 222)	Tram Valley (Stn 224)	Whitewater North (Stn 233)	Edom Hill (Stn 436)	Palm Springs Sunrise (Stn 442)
2008	5.25	6.18	22.09	7.62	4.31	14.88	18.32	---	---
2009	2.03	2.64	12.10	3.29	1.68	7.84	9.13	2.01	---
2010	8.10	12.10	35.06	12.05	7.61	23.86	24.09	9.12	11.07
2011	1.80	3.21	20.00	3.78	1.65	8.70	10.23	2.15	3.37
2012	1.42	2.62	13.58	1.68	1.54	4.93	8.60	1.76	2.40
2013	1.50	1.16	10.65	1.96	1.18	5.64	5.92	1.08	2.14
Average	**4.15**	**5.07**	**15.34**	**6.06**	**3.42**	**13.31**	**15.34**	**3.22**	**4.75**
Maximum	**13.37**	**13.02**	**35.06**	**18.22**	**10.01**	**33.40**	**34.17**	**9.12**	**11.07**
Minimum	**0.58**	**0.00**	**3.68**	**0.76**	**0.00**	**2.28**	**3.39**	**1.08**	**2.14**

Note: Data provided by Riverside County Flood Control and Water Conservation District.