Attachment 1

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UNITED STATES DISTRICT COURT

SOUTHERN DISTRICT OF CALIFORNIA

UNITED STATES OF AMERICA, Plaintiff, vs. FALLBROOK PUBLIC UTILITY DISTRICT, et al., Defendants.	CASE NO. 51cv1247-GPC(RBB) **SETTLEMENT AGREEMENT**

SANTA MARGARITA RIVER CONJUNCTIVE USE PROJECT SETTLEMENT AGREEMENT

This Santa Margarita River Conjunctive Use Project Settlement Agreement ("Settlement"), effective as of the Effective Date, is entered into by and between Fallbrook Public Utility District, a California municipal utility district ("FPUD"), and the United States of America ("United States"), acting on behalf of and binding, as well as acting by and through, its Department of the Navy, and the United States Marine Corps, for the benefit of the Marine Corps Base, Camp Pendleton ("MCB CPEN"). FPUD and the United States, including without limitation its

subsidiaries the Department of the Navy, the United States Marine Corps, and MCB CPEN, are sometimes hereinafter referred to each as a "Party" and collectively as the "Parties." Terms not defined herein shall be as defined in Exhibit 1 hereto. The form of the order the Parties shall request the Court to enter approving this Settlement and dismissing all claims as between the Parties is attached as Exhibit 2.

RECITALS

A. MCB CPEN, a military facility established in 1942, is one of the largest U.S. military bases, encompassing approximately 125,000 acres and 200 square miles in San Diego County, is the only amphibious military base on the West coast, and is part of a larger Naval Enclave, which includes the Marine Corps Air Station Camp Pendleton, the United States Naval Hospital Camp Pendleton, and the Naval Weapons Station, Seal Beach Detachment, Fallbrook ("NWS Fallbrook") (collectively, "Naval Enclave").

B. MCB CPEN, as part of the Naval Enclave, employs military and civilian personnel, provides housing and training facilities for units of the United States Armed Forces, and provides the full spectrum of logistic support to units of the United States Marine Corps.

C. FPUD, a public entity formed in 1922 under California Public Utilities Code, Division 7, has its principal place of business in the community of Fallbrook, which is contained within the unincorporated area of northern San Diego County.

D. FPUD provides water and wastewater services to its residents and businesses in the FPUD service area as it changes from time to time, in and around the community of Fallbrook ("FPUD Service Area").

E. The Santa Margarita River is formed at the confluence of Murrieta Creek and Temecula Creek at a location referred to as the "Gorge," which separates the Upper Basin from the Lower Basin of the Santa Margarita River Watershed. MCB CPEN and FPUD are the last significant water users on the lower Santa Margarita River and both entities are located in part within the lower end of the watershed. A vicinity map depicting the FPUD Service Area and the southern portion of MCB CPEN along the Santa Margarita River is attached as Exhibit 3 hereto.

F. MCB CPEN, the furthest downstream water user on the Santa Margarita River, occupies lands encompassing the lower Santa Margarita River and its tributaries from the mouth of the river upstream towards Fallbrook, and relies on the natural aquifer system associated with the Santa Margarita River to satisfy the majority of its water requirements for the southern portion of MCB CPEN (see Exhibit 3).

G. FPUD is located immediately upstream of the Naval Enclave, and relies almost entirely upon imported water from the San Diego County Water Authority ("SDCWA") to satisfy its water requirements.

H. There has been longstanding litigation in the above-captioned matter between the United States and FPUD over the rights to use the water of the Santa Margarita River. On January 25, 1951, the United States filed Complaint No. 1247 in the U.S. District Court for the Southern District of California to seek a judicial determination of all respective water rights within the Santa Margarita River Watershed (the "Litigation"). In addition to FPUD, there are numerous other defendants named in the Litigation. A Final Judgment and Decree was entered in the Litigation on May 8, 1963, and appealed to the U. S. Court of Appeals. A Modified Final Judgment and Decree was entered on April 6, 1966 ("1966 Modified Final Judgment and Decree"). Among other things, the 1966 Modified Final Judgment and Decree provided that the Court:

> . . . retains continuing jurisdiction of this cause as to the use of all surface waters within the watershed of the Santa Margarita River and all underground or sub-surface waters within the watershed of the Santa Margarita River, which are determined in any of the constituent parts of this Modified Final Judgment to be part of the sub-surface flow of any specific river or creek, or which are determined in any of the constituent parts of this Modified Final Judgment to add to, contribute to, or support the Santa Margarita River stream system.

I. In March 1989, the Court issued an Order appointing a Watermaster (the "Watermaster") to administer and enforce the provisions of the 1966 Modified Final Judgment and Decree and subsequent orders of the Court. The appointing Order described the Watermaster's powers and duties as well as procedures for funding and operating the Watermaster's office.

J. This Settlement applies to and resolves all of the currently pending claims in the Litigation between the United States on one hand and FPUD on the other hand (this subset of the Litigation is referred to herein as the "Resolved Claims"), but not claims by the other parties to

the Litigation or by the United States or FPUD against other parties to the Litigation.

K. It is in the best interests of both the United States and FPUD to reach settlement and resolve these claims in the manner set forth herein.

L. The Parties desire to settle the Resolved Claims, and to develop a project that builds on and enhances the existing Santa Margarita River diversion, extraction, storage and delivery facilities, including the storage provided by the Santa Margarita River related aquifers underlying MCB CPEN. This project will provide a local water supply, as well as additional benefits, to both Parties.

M. The Santa Margarita River Conjunctive Use Project, as described herein ("CUP" or "Project"), is the "physical solution" to the Litigation over the rights to use the water of the Santa Margarita River. The United States and FPUD acknowledge that the Santa Margarita River is a Southern California river typified by long dry periods and short wet periods, that the river, with and without the Project, does not provide a sufficient supply of water to fully satisfy both Parties' requirements, and that this settlement will improve, but not entirely resolve, that circumstance. The Project is designed to increase the capacities and capabilities of existing facilities, to construct new facilities, and to enhance the ability to divert, store, and deliver water from the lower Santa Margarita River for the benefit of both Parties.

N. FPUD desires to reduce its reliance on imported water supplies by the development of additional local water supply, which supply can be afforded via the CUP. FPUD has for decades contributed imported water return flow to the water supply diverted and used by MCB CPEN. FPUD anticipates that it will continue to purchase imported water for use in the FPUD Service Area. Return flow from this imported water that is tributary to the lower Santa Margarita River flow into MCB CPEN will contribute to the water supply of the CUP.

O. SDCWA annexed the majority of the area of MCB CPEN into its service area which conferred to MCB CPEN (with certain geographic exceptions) an entitlement to imported water from the SDCWA, but MCB CPEN lacks an adequate means for delivery of its imported water to MCB CPEN, and desires a usable connection to the SDCWA imported water aqueduct system, through FPUD's water delivery system, to enable MCB CPEN to access imported water

for improved drought protection when needed by MCB CPEN.

P. MCB CPEN and FPUD each have water rights to the Santa Margarita River, and intend, as described herein, to exercise those rights for purposes of providing the water supplies to the Parties as set forth herein, and to share title to the water rights to align their interests, avoid competition between the Parties, and facilitate efficient Project development and operation on a long term basis.

Q. The United States' Marine Corps Headquarters and MCB CPEN desire to maintain autonomy in owning and operating water diversion, treatment, storage, and delivery facilities on the Naval Enclave. In order to satisfy this goal, while sharing the Project Yield diverted in reliance on both Parties' water rights, the Parties have agreed to a CUP design wherein each Party is responsible for separate ownership, operation, and all other aspects of the facilities in their respective jurisdictions, and wherein MCB CPEN will operate the Project facilities on MCB CPEN to provide water to the southern portion of MCB CPEN, and to reliably deliver to FPUD a base amount of the water produced by the Project, plus excess water when available, as more fully set forth below. The base amount to be delivered to FPUD will vary by hydrologic year type, as described in Article 3, including Tables A, B-1 and B-2, and Appendix A. The United States' Marine Corps Headquarters and MCB CPEN's goal of maintaining autonomy on the Naval Enclave, in lieu of the Parties' joint operation of a project on the Naval Enclave as previously contemplated, resulted in the structure of this Settlement, and its focus on water deliveries to FPUD from facilities owned and operated by MCB CPEN on the Naval Enclave. MCB CPEN will be entitled to all water produced by the Project other than that required to meet the delivery obligations to FPUD.

R. Because imported water is available to FPUD and storage in underground aquifers is available to MCB CPEN, and because the Parties have agreed to a delivery schedule based on the hydrologic year type, the Parties have further agreed to a water banking system ("Water Bank" or "Bank") that enhances MCB CPEN's ability to satisfy its water requirements under the Project and meet its delivery obligations to FPUD while managing and protecting the health of the underground aquifer. The Water Bank provides MCB CPEN with additional

flexibility by creating another tool, in addition to the purchase of imported water, to satisfy its delivery obligations when the delivery of Project Water is constrained. The Parties acknowledge that each will need to obtain funding to perform its obligations under this Settlement.

S. An Environmental Impact Statement and Report ("EIS/EIR") under the National Environmental Policy Act ("NEPA") and the California Environmental Quality Act ("CEQA") has been prepared for the CUP. As the CEQA lead agency, FPUD completed environmental review pursuant to CEQA, and certified the Environmental Impact Report. The Department of the Navy and the Department of the Interior, Bureau of Reclamation ("BUREC"), acting as co-lead agencies under NEPA, completed environmental review in accordance with their respective procedures. The requisite Records of Decision have been issued.

T. The United States and FPUD intend the CUP to be the permanent solution to their longstanding dispute over their respective rights to use the waters of the Santa Margarita River and its tributaries, and desire to use the dispute resolution processes described herein to further the long term success of the CUP and to perpetuate the beneficial sharing of the Project Yield in the manner set forth herein.

U. The 1966 Modified Final Judgment and Decree provides, among other things, that the Court shall reserve continuing jurisdiction of the matters stated therein. Consistent with this, the Parties intend that to the maximum extent allowed by law, the Court in the Litigation shall retain indefinite subject matter and personal jurisdiction to enforce this Settlement and any disputes pertaining to the Settlement, and that in the event the Court fails or declines for any reason whatsoever to accept or assert jurisdiction to enforce this Settlement, any Party shall have the remedy to file a new action in the above Court to specifically enforce this Settlement as set forth below.

STIPULATION OF SETTLEMENT

NOW, THEREFORE, in consideration of the mutual promises of the Parties and the terms and conditions set forth in this Settlement, the Parties hereto agree as follows:

ARTICLE 1

INCORPORATION OF RECITALS AND TERM OF SETTLEMENT

1.1. Incorporation of Recitals. The above preamble and Recitals are incorporated herein by reference.

1.2. Term. This Settlement shall commence as of the Effective Date and shall only be terminated in accordance with the provisions of Article 8.

ARTICLE 2

PROJECT FACILITIES

2.1. Project Description. The Parties have agreed upon the Santa Margarita Conjunctive Use Project, a proposed project that will enhance the yield of the Santa Margarita River's Lower Basin. The Project is being designed cooperatively by the Parties. BUREC and the Parties have also developed an EIS/EIR for the CUP, which describes the Project and alternatives thereto. A list of the primary Project Facilities needed, and figures depicting the approximate locations thereof, are contained in Exhibit 4 hereto.

2.2. MCB CPEN Project Facilities.

2.2.1. MCB CPEN shall be fully responsible for the ownership, construction, operation, maintenance, repair, replacement, costs, liabilities, and Regulatory compliance of all Project facilities and features located on the Naval Enclave (excluding any Project facilities FPUD may construct on NWS Fallbrook to deliver water from the FPUD Point of Delivery to the FPUD Service Area), to the FPUD Point of Delivery, as necessary and convenient to divert, store, and deliver to FPUD the FPUD Entitlement ("MCB CPEN Project Facilities"). A non-exhaustive description of the MCB CPEN Project Facilities is contained in Exhibit 4 hereto. Some of the MCB CPEN Project Facilities required for the Project are also required to support the southern portion of MCB CPEN's existing and on-going water operations and water use, including, but not limited to: new inflatable type weir, O'Neill diversion ditch improvements, Recharge Ponds 6 and 7 rehabilitation, Lake O'Neill rehabilitation, and additional and refurbished groundwater wells. Installation of a stream flow gage at the Point of Diversion, meeting industry standards, for the

purpose of enabling actual measurements of flow, and calibrating the 50-year data to actual data, is part of MCB CPEN's Project Facilities and installation of this gage shall occur as soon as practicable. The stream flow gage will measure: flow over the weir, diversions to the ditch, and bypass flows. The flow measurement device shall be calibrated at least annually by a qualified third party, and a copy of the certificate of verification provided to both Parties. Additional MCB CPEN Project Facilities required include transmission piping and pump stations from the well field to and including the FPUD Turnout in Haybarn Canyon, and to the FPUD Point of Delivery.

2.2.2. MCB CPEN and FPUD shall each perform its obligations hereunder in a diligent manner consistent with Prudent Utility Practice.

2.2.3. MCB CPEN shall provide to FPUD notice that will afford FPUD the timely and reasonable opportunity for FPUD input regarding design and construction of those MCB CPEN Project Facilities for which FPUD will pay any of the costs of operation and maintenance ("O&M"), and repair and replacement ("R&R") (these are also referred to as the "FPUD Delivery Facilities"). This provision of notice and input shall not be interpreted to reduce or otherwise alter MCB CPEN's obligations under this Settlement. Both Parties shall endeavor to coordinate notice and input in a manner which will avoid any delay to construction.

2.3. FPUD Project Facilities. FPUD shall be fully responsible for the construction, operation, maintenance, repair, replacement, costs, liabilities, and Regulatory compliance of all Project Facilities located within the FPUD Service Area, as necessary and convenient to accept delivery of, treat, and distribute for use the FPUD Entitlement described below (collectively, "FPUD Project Facilities"). A non-exhaustive description of the FPUD Project Facilities is contained in Exhibit 4 hereto. The Parties acknowledge and agree that FPUD's ability to proceed with the Project and perform under this Settlement is contingent upon the availability of financing for capital related expenses including construction costs. FPUD may, at its election, receive Project Water deliveries using existing FPUD facilities and/or limited additional FPUD facilities. To the extent that FPUD's capacity to accept deliveries of Project Water called for by this Settlement is limited, as described in Section 2.6.1, MCB CPEN's obligation to deliver shall be correspondingly reduced for so long as the FPUD capacity restriction exists, and MCB CPEN shall not incur any

obligation to make-up or otherwise pay for water that cannot be delivered to FPUD as a result of such capacity restriction.

2.4. Real Property. Each Party represents and warrants that it has or will timely obtain any real property interests necessary to carry out its duties and responsibilities under this Settlement.

2.5. Use of FPUD Facilities to Convey Water from the SDCWA for MCB CPEN.

2.5.1. Request and Consent. Upon reasonable advance notice to FPUD, MCB CPEN may request use of unused capacity in certain FPUD facilities ("FPUD Wheeling Facilities," further described in Section 2.5.4 below) to convey to the boundary between FPUD and the NWS Fallbrook to MCB CPEN facilities at the Point of Delivery, without going through or receiving treatment at the FPUD treatment plant, imported water from SDCWA necessary for MCB CPEN to meet demand that cannot otherwise be met due to drought, a Force Majeure Event, or other on-Base need reasonably identified by MCB CPEN. Such water shall be purchased by MCB CPEN from SDCWA using MCB CPEN's rights to SDCWA imported water supplies, which include but are not limited to delivery, allocation and preferential rights ("MCB CPEN SDCWA Rights"). FPUD shall make all reasonable good faith efforts to provide such capacity to convey imported water to MCB CPEN through the FPUD Wheeling Facilities, provided that there is no adverse effect to FPUD operations or deliveries of water within the FPUD Service Area. In the event FPUD does not deliver imported water to MCB CPEN as requested because of an adverse impact on FPUD operations or deliveries of water within the FPUD Service Area, FPUD will endeavor to manage its system in a manner that will allow it to make capacity available for delivery of imported water to MCB CPEN at the soonest opportunity, provided that such delivery shall not be required if it would cause any adverse impact to FPUD operations or deliveries of water to the FPUD Service Area, as reasonably determined by FPUD. MCB CPEN shall ensure that the proposed conveyance of water from the SDCWA to MCB CPEN is in compliance with all applicable laws and this Settlement. Upon consent, the Parties shall cooperate in scheduling and each Party will operate its respective facilities to effect such conveyance in accordance with this Section 2.5.

2.5.2. Regulatory Compliance, Liabilities. MCB CPEN shall be solely responsible

for Regulatory compliance with all applicable laws, water quality, liabilities, costs, expenses, and arrangements with the SDCWA and any other third parties, including scheduling and payment for the water delivered or to be delivered pursuant to this Section 2.5.

2.5.3. Payment. MCB CPEN shall pay to FPUD O&M and R&R for FPUD Wheeling Facilities used, plus a 15% administration surcharge on O&M, plus any additional costs or expenses actually incurred by or to FPUD, for each acre foot of SDCWA water wheeled to MCB CPEN. The O&M and R&R for wheeling shall be determined in a manner similar to the method used for the FPUD Delivery Facilities O&M and R&R (see Exhibit 5 hereto), except that all FPUD costs and expenses associated with such conveyance of water to MCB CPEN shall be reimbursed by MCB CPEN. Payments shall be made in accordance with Section 3.2.3 hereof.

2.5.4. FPUD Wheeling Facilities. FPUD Wheeling Facilities are those FPUD facilities, of whatever capacity, that exist at the time the water conveyance is needed and that are necessary and capable of conveying water from the SDCWA FPUD turnout(s) to the Point of Delivery. Those facilities include certain existing facilities as well as some FPUD Project Facilities, to the extent constructed and operable, and exclude treatment and storage facilities. FPUD shall have no obligation to construct additional facilities or other infrastructure, or to treat or store any water, pursuant to this Settlement for purposes of this MCB CPEN use. The Parties acknowledge that such wheeling will not be possible until the FPUD Delivery Facilities (which are MCB CPEN Project Facilities) are constructed, and will be limited unless and until the proposed pipeline from the FPUD CUP water treatment plant ("FPUD CUP WTP") to Red Mountain Reservoir, as well as infrastructure to convey water from the SDCWA FPUD turnout(s) to the Point of Delivery, without going through the FPUD CUP WTP, are constructed and/or installed and in operation. This particular pipeline and infrastructure are FPUD Project Facilities that FPUD intends to construct or have constructed as part of FPUD Project development.

2.5.5. FPUD-NWS Fallbrook Agreement. The Parties recognize and agree that, absent NWS Fallbrook's agreement otherwise, FPUD's conveyance of water to NWS Fallbrook in accordance with the existing contract dated March 20, 1984, between the United States and FPUD for water transportation service, as it may be amended from time to time, takes precedence over

any conveyance of water pursuant to Section 2.5.

2.6. Construction Delay or Interruption in Performance. The Parties acknowledge that there may be complexities regarding construction of the Project Facilities, including for example delays caused by problems obtaining funding. The Parties' intent is that the Project Facilities be in place and operational by January 1, 2021 (see Section 3.2.6). This Section 2.6 addresses the possibility that in spite of diligent good faith efforts, which the Parties are obligated to make, one or both Parties are not able to fully construct their respective Project Facilities. Except where Section 10.3 ("Force Majeure") applies, this Section 2.6 also applies in the event of a substantial interruption in making or receiving deliveries by the Parties.

2.6.1. FPUD. If FPUD is not able to construct all or a portion of the FPUD Project Facilities, or otherwise perform, in a manner that impairs its ability to take delivery of its full FPUD Entitlement as contemplated in this Settlement ("Limited FPUD Capacity"), then during the pendency and to the extent of such Limited FPUD Capacity:

(a) MCB CPEN is entitled to use the Project Water that would otherwise have been, but cannot be, delivered to FPUD in accordance with Article 3;

(b) MCB CPEN incurs no obligation to make up or otherwise pay for deliveries that cannot be made due to Limited FPUD Capacity; and

(c) The provisions for conveyance of SDCWA water to MCB CPEN shall remain in force, as set forth in Section 2.5 hereof.

2.6.2. MCB CPEN. If MCB CPEN is not able to construct or otherwise perform so as to enable it to deliver the full FPUD Entitlement to FPUD when such deliveries are due pursuant to Section 3.2.6, then to the extent that FPUD is capable of taking delivery, and to the extent of the shortfall in delivery of Project Water to satisfy the FPUD Entitlement, MCB CPEN will provide in lieu SDCWA water to FPUD in accordance with Section 3.2.5 below.

2.6.3. Construction Coordination. The Parties shall coordinate to keep each other apprised of the status of their efforts to obtain funding and to construct facilities as contemplated in this Settlement. Information regarding any phasing of construction, and construction schedules, shall be shared between the Parties.

ARTICLE 3

ALLOCATION OF PROJECT YIELD

3.1. MCB CPEN Entitlement. MCB CPEN shall be entitled to all Project Yield other than the water needed to satisfy the FPUD Entitlement. This is referred to herein as the "MCB CPEN Entitlement."

3.2. FPUD Entitlement. The FPUD Entitlement consists of the FPUD Base Entitlement and Excess Water as to which FPUD exercises the FPUD First Right to Purchase Excess Water. MCB CPEN determines whether there is any Excess Water, and the amount of that Excess Water, in accordance with Section 3.2.2 and other applicable provisions of this Settlement.

3.2.1. FPUD Base Entitlement. The Parties have agreed that the volume of water to be delivered to FPUD as its Base Entitlement will be determined based upon the hydrologic year type, as more fully set forth below, including Tables A, B-1, and B-2 (hereafter the "FPUD Base Entitlement"). This FPUD Base Entitlement is predicated on the agreed upon long-term average annual delivery of 3,100 acre feet per year ("AFY"), assuming the hydrology of the 50-year Period of Record (water years 1952 through 2001). The actual amount of each year's FPUD Base Entitlement will vary depending upon that year's hydrologic condition. The long-term average annual amount may also vary from 3,100 AFY as a result of variation, if any, between the future hydrology and the hydrology of the Period of Record. The Parties acknowledge and assume the respective risk that the agreed upon amounts may vary annually and cumulatively from what they would have been during the Period of Record, whether less or more.

MCB CPEN shall deliver the FPUD Base Entitlement to FPUD at the Point of Delivery. The FPUD Base Entitlement shall be determined as follows:

(a) FPUD's annual Base Entitlement will be based on the previous October 1 through April 30 total stream flow at the Point of Diversion, before any diversions, extractions, or bypasses at the Point of Diversion have occurred. This volume is referred to as "Winter Flow." The Winter Flow is calculated (or measured in the future when measurement facilities are in place), and used to determine each year's "Hydrologic Condition" (or "Year Type")

as one of the following: Very Wet ("VW"), Above Normal ("AN"), Below Normal ("BN"), Very Dry ("VD"), or Extreme Drought ("ED").

The following Table A describes the relationship between Winter Flow at the Point of Diversion and Hydrologic Condition.

TABLE A

HYDROLOGIC CONDITION

Range of Winter Flow (AF)	**Hydrologic Condition (Year Type)**	**Number of Years Hydrologic Condition Occurred During MY 1- 50**
> 57,700	VW - Very Wet	9
57,699 to 14,700	AN - Above Normal	15
14,699 to 7,600	BN - Below Normal	14
< 7,599	VD - Very Dry	5
2 or more Very Dry Years in a row	ED – Extreme Drought	7

The "Extreme Drought" condition only occurs following the second consecutive Very Dry year. While there is a volumetric range for the Very Wet, Above Normal, Below Normal, and Very Dry Year Types, there is an antecedent condition (an immediately preceding Very Dry Year Type) required for the Extreme Drought Year Type.

"MY" as used herein means model year, and refers to modeled future conditions based upon the 50-year Period of Record used for this Project. A more detailed description of the modeling upon which this is based, entitled "*Surface Water Modeling Supporting the MCB Camp Pendleton-Fallbrook Public Utility District Settlement Agreement*," is contained in Appendix A to this Settlement.

(i) The Hydrologic Condition established based upon the October 1 through April 30 Winter Flow determines the FPUD Base Entitlement delivery schedule for the immediately following twelve month period, May 1 through April 30 ("Delivery Year"), in

accordance with Table B-1. The monthly Base Entitlement delivery volume measured at the Point of Delivery ranges from 0 up to 740 acre feet per month. MCB CPEN shall equalize the daily deliveries of FPUD Base Entitlement to the maximum extent feasible, in accordance with Table B-2.

TABLE B-1

MONTHLY DELIVERIES OF BASE ENTITLEMENT TO FPUD AT THE POINT OF DELIVERY

(ACRE FEET PER MONTH)

Month	ED	VD	BN	AN	VW
May	0	0	60	600	740
June	0	0	60	600	650
July	0	0	60	500	550
August	0	0	60	400	450
September	0	0	60	300	350
October	0	0	150	230	350
November	0	0	150	230	400
December	0	115	150	360	500
January	0	115	150	450	550
February	0	115	150	455	590
March	0	115	150	495	590
April	0	120	100	500	600
Annual Total	0	580	1,300	5,120	6,320

TABLE B-2

DAILY BASE ENTITLEMENT DELIVERIES (MILLION GALLONS PER DAY)

Month	ED	VD	BN	AN	VW
May	0	0	0.6	6.3	7.8
June	0	0	0.7	6.5	7.1
July	0	0	0.6	5.3	5.8
August	0	0	1.6	4.2	4.7
September	0	0	1.6	3.3	3.8
October	0	0	1.6	2.4	3.7
November	0	0	1.6	2.5	4.3
December	0	1.2	1.6	3.8	5.3
January	0	1.2	1.6	4.7	5.8
February	0	1.3	1.7	5.3	6.9
March	0	1.2	1.6	5.2	6.2
April	0	1.3	1.1	5.4	6.5

(ii) If in the future, upon recommendation by the Technical Committee and approval by the Management Committee, it is determined that any changes should be made to the range of winter-time stream flow for any or all Year Types, e.g., due to model calibration (see Appendix A), the number of years each Hydrologic Condition occurs, and the volume of water to be delivered to FPUD during those Year Types, must remain the same so as to be consistent with the Parties' agreement that the Base Entitlement to be delivered to FPUD is on average 3,100 AFY based upon the hydrology of the Period of Record.

(iii) MCB CPEN is developing, as part of the MCB CPEN Project Facilities, and will implement as part of its responsibility to manage the aquifers, an adaptive management plan ("AMP") to monitor stream flow, habitat, groundwater levels, and pumping rates

in order to determine how environmental and riparian conditions are being met. MCB CPEN will consult and coordinate with FPUD and keep FPUD fully apprised of the AMP and any proposed changes thereto, and will promptly provide FPUD with copies of all AMP reports, correspondence and other communications and documents. In a manner consistent with other provisions of this Settlement, MCB CPEN will use the AMP and other tools available to it to take actions as needed to maintain the aquifers and associated environment in good condition, and to facilitate MCB CPEN's ability to meet its resource stewardship and environmental compliance obligations. As part of this undertaking, based upon the model described in Appendix A hereto, and the AMP, MCB CPEN may periodically propose to FPUD adjustments to the total groundwater pumping from the aquifer that would shift the volume of water delivered to FPUD in one or more months to one or more other months, or one or more days to other days without reducing the annual Base Entitlement delivered or exceeding FPUD's capacity to take delivery of, store, and use the delivered water. The Parties shall coordinate regarding any such proposed delivery schedule changes, which FPUD shall endeavor to accommodate whenever reasonably feasible without adverse impact to FPUD or its customers. MCP CPEN and FPUD shall coordinate to accommodate reasonable maintenance and repair activities. In the event that MCB CPEN makes CUP Water available to FPUD in accordance with the agreed upon Base Entitlement delivery schedules set forth in Tables B-1 and B-2, and FPUD chooses not to take delivery in satisfaction of its Base Entitlement for reasons other than technical infeasibility (which infeasibility shall include maintenance and repair), MCB CPEN shall receive credit toward FPUD's Base Entitlement as if FPUD had accepted delivery.

(b) Payment.

(i) Payment Rate A for O&M and R&R. For each acre foot of FPUD Base Entitlement delivered to FPUD, FPUD shall pay to MCB CPEN the FPUD Delivery O&M rate, the administrative surcharge, and the FPUD Delivery R&R rate described in subsections (1) - (3) below, for use of the FPUD Delivery Facilities (which are the MCB CPEN Project Facilities from the FPUD Turnout to the FPUD Point of Delivery). This payment rate is sometimes referred to in this Settlement as Payment Rate A. Exhibit 5 hereto provides more detail regarding

the manner in which Payment Rate A is determined.

(1) The O&M rate shall be the reasonable and actual operation and maintenance costs for the FPUD Delivery Facilities, based upon actual Project Water deliveries to FPUD.

(2) FPUD shall pay an additional 15% of the above O&M payment, in payment of its portion of administrative costs.

(3) The R&R rate is based upon the capital cost of the FPUD Delivery Facilities divided by their expected useful life, divided by the projected average annual volume of FPUD Base Entitlement plus the projected average annual volume of imported water wheeled to MCB CPEN for those facilities that will be used for wheeling pursuant to Section 2.5. The R&R Rate for FPUD Delivery Facilities required to lift or pump Project Water is based on an average annual delivery of 3,100 AFY. The R&R Rate for FPUD Delivery Facilities used to convey both Project Water and imported water between the FPUD Turnout and the Point of Delivery is based on an average annual delivery of 3,350 AFY. (See Exhibit 5). This denominator will be re-evaluated every ten (10) years commencing on the Effective Date, or more frequently as determined by the Technical Committee, to ensure that it roughly approximates the actual use of these facilities. This rate is not based upon actual R&R costs, which will be paid by MCB CPEN regardless of whether they are lesser or greater than the R&R paid by FPUD.

(4) No other Project (or non-Project) costs shall be included in Payment Rate A.

(ii) Payments shall be made annually in accordance with Section 3.2.3.

3.2.2. FPUD First Right to Purchase Excess Water. Water that is or could be produced by the Project each year in excess of the sum of MCB CPEN Annual Demand, plus FPUD Base Entitlement, shall be declared as Excess Water. MCB CPEN shall reasonably determine the amount of Excess Water, if any. FPUD has an exclusive First Right to purchase Excess Water as set forth herein. The Parties will cooperate in good faith to enable exercise of this right for purchase and delivery of Excess Water to FPUD.

(a) Availability and Delivery of Excess Water. The Parties shall coordinate to ascertain at the earliest time reasonably possible the amount of Excess Water that will be available in a given month, and whether and to what extent FPUD will exercise its First Right to purchase that Excess Water.

(i) Projections for Planning Purposes. At least thirty (30) days in advance of the beginning of each Delivery Year, MCB CPEN shall provide notice to FPUD of MCB CPEN's good faith estimate of the amount and timing of Excess Water it anticipates will be available, including the basis therefor. FPUD shall respond to MCB CPEN identifying whether FPUD anticipates that it will want to purchase some or all of that water, and the probable volume and timing thereof. This coordination effort does not bind either Party, but furthers necessary planning for both. The Parties shall update this information periodically during the Delivery Year.

(ii) FPUD Exercise of First Right to Purchase Excess Water. When MCB CPEN proposes to deliver Excess Water to FPUD, it shall make an advance request for a change in the delivery schedules set forth herein (Tables B-1 and B-2), in accordance with Section 3.2.8, to allow delivery of amounts greater than the Base Entitlement Amounts. MCB CPEN shall specify in its request that it is proposing to deliver Excess Water to FPUD, and to the extent reasonably possible, MCB CPEN shall send such request sufficiently far in advance to enable FPUD to adjust its operations and prepare its facilities for such Excess Water. FPUD may exercise or decline to exercise its First Right to Excess Water, in whole or in part, in its response to such request without prejudice to its rights to do so in the future. FPUD shall timely notify MCB CPEN of its response. The Parties anticipate that to a lesser extent, Excess Water may also be determined during the end of year accounting, if the amount of water delivered to and accepted by FPUD exceeds the amount of Base Entitlement for that Delivery Year.

(iii) Delivery. MCB CPEN shall deliver the Excess Water as to which FPUD has exercised its First Right on a delivery schedule agreed to by the Parties and in a manner that does not interfere with FPUD Base Entitlement deliveries. MCB CPEN shall equalize the daily volumes of water delivered to the extent feasible.

(b) FPUD Payment for Delivered Excess Water.

(i) Payment Rate A shall apply to (1) the first 400 acre feet of Excess Water in each year, or the full amount of Excess Water in that year if less than 400 acre feet, as to which FPUD exercises its First Right; and (2) all water that is credited to the Bank per Section 3.2.4.

(ii) Payment Rate B shall apply to each acre foot of Excess Water delivered to FPUD that is not subject to Payment Rate A. The method set forth in subsection (1) below shall be used to determine Payment Rate B, absent agreement of the Parties in accordance with (2) below.

(1) An amount halfway between:

(a) The SDCWA Treated Water Rate, minus the sum of the following: FPUD's O&M cost to treat Project Water, plus any FPUD capital obligation for FPUD Project Facilities, plus FPUD's O&M cost of pumping and conveying this water to Red Mountain Reservoir; and

(b) MCB CPEN's O&M cost of production and delivery of Project Water to the FPUD Point of Delivery.

Using the amounts defined in (a) and (b) in this subsection, Payment Rate B = ((a) + (b))/2. (See also Exhibit 6 hereto.)

Capital and R&R costs other than the capital obligation referenced above are considered to be sunk costs, and have been intentionally omitted by the Parties. Administrative costs of both Parties are omitted from this calculation for simplicity.

(2) A different amount agreed to by the Parties in writing, which amount provides a financial benefit to MCB CPEN to sell and a financial benefit to FPUD to buy this category of Project Water.

(c) Payments. Payments shall be made annually in accordance with Section 3.2.3.

3.2.3. Annual Accounting and Payments. At the end of each Delivery Year, the total deliveries to FPUD will be compared by the Technical Committee to FPUD Entitlements for that year, actual MCB CPEN Demand, deliveries of imported water to MCB CPEN, Excess Water,

Bank debits and credits, and any other relevant information or categories. The volumes in each category, and the amounts owed by each Party to the other Party, shall be determined in accordance with this Settlement. The foregoing information, including the proposed payments and reasonable back up documentation therefor, shall be reviewed, approved, and reported by the Technical Committee. The resulting Technical Committee Delivery Year Report pursuant to Section 6.1.4, shall be provided to the Management Committee within thirty (30) days after the end of the Delivery Year. Within sixty (60) days after the date that the report is provided to the Management Committee, the Parties shall make payments to each other sufficient to reconcile these accounts and bring the balances to zero. The Parties may agree to a different payment schedule, if such different schedule has been reduced to writing and signed by both Parties. Several examples of water delivery accounting are provided in Exhibit 7 hereto.

(a) MCB CPEN shall make payments to FPUD in cash or cash equivalent, timely delivered to FPUD at its administrative headquarters located at 990 East Mission Road, Fallbrook, CA 92088, or other address as FPUD may identify from time to time.

(b) FPUD shall make payments to MCB CPEN in one of the three following methods:

(i) By check or postal money order made payable to the United States Treasury and mailed or delivered to the following address: AC/S Comptroller, Attn: Budget Office, Box 555011 Bldg. 1160 Room 273, MCB Camp Pendleton, CA 92055-5011; or

(ii) By deposit to an account clearly and sufficiently identified by MCB CPEN, upon advance notice to FPUD requesting that any or all FPUD payments under this Settlement be deposited to that account, where:

(1) FPUD agrees to create and maintain such account, provided that all costs of such account shall be borne by MCB CPEN; and

(2) Upon notice to the Management Committee, funds held in such account may be withdrawn by FPUD and used to satisfy any MCB CPEN financial obligation to FPUD under this Settlement, including but not limited to the purchase of in lieu SDCWA water pursuant to Section 3.2.5 hereof; and FPUD shall be entitled to any interest

generated by this account; or

(iii) By the provision of in kind services in accordance with subsection (c) below.

(c) MCB CPEN anticipates that FPUD can, directly or by third party contract, provide certain water utility services in a relatively cost effective and proficient manner that will directly benefit MCB CPEN by minimizing the expenditure of appropriated funds to support the installation's water infrastructure, serve the public interest, and further the national defense mission of MCB CPEN and the Department of the Navy. In lieu of any other form of payment by FPUD to MCB CPEN pursuant to this Settlement, MCB CPEN may request that FPUD provide: (1) maintenance, protection, alteration, repair, improvement, replacement, or restoration (including environmental restoration) of property or facilities at the Naval Enclave as defined in this Scttlcment; (2) construction of new facilities at the Naval Enclave as defined in this Settlement; (3) provision of facilities for use by the Naval Enclave as defined in this Settlement; (4) facilities operation support for the Naval Enclave as defined in this Settlement; or (5) provision of such other services at the Naval Enclave as defined in this Settlement as the Secretary of the Navy deems appropriate with the priority of such services for MCB CPEN Project Facilities, or any MCB CPEN water system facilities on the southern portion of MCB CPEN. MCB CPEN shall make any such request in writing with the scope, timing, and other relevant factors clearly specified. FPUD will determine in its sole discretion whether to provide requested services; and if it decides to provide those services, whether it will do so itself, or it will do so by contract with another service provider, in whole or in part.

(i) Where FPUD and MCB CPEN agree that FPUD will provide certain services, the scope, value, and all other required information shall be set forth in writing and agreed to by the Parties. Authorization to proceed by MCB CPEN will occur only through written approval from the designated responsible MCB CPEN official. A "not to exceed cost ceiling" will be established in the written approval. Upon completion of all or any portion of the services, MCB CPEN shall promptly inspect and accept the services if performed in accordance with prudent utility practices, taking into account the circumstances. A MCB CPEN representative

may inspect the work while it is in progress for the benefit of MCB CPEN. The Parties shall cooperate in furtherance of successful completion of the services.

(ii) If, and to the extent FPUD provides such services:

(1) FPUD shall assign to MCB CPEN, on a non-exclusive basis, all representations, warranties, and potential liability that FPUD's contractors may have in connection with the performance of such services. In that regard FPUD shall serve as a conduit for such liability, and shall not have any independent or direct liability as a result of the performance of such services.

(2) With respect to services performed by FPUD personnel directly, FPUD's maximum liability shall be limited to the extent of FPUD's insurance coverage for such liability.

(3) The Parties may use the Technical Committee to assist in reaching agreement upon, coordinating, and resolving any issues which may arise with respect to such in kind services. In kind services may be provided to satisfy FPUD payment obligations to MCB CPEN which have accrued in accordance with this Settlement. In no case will in kind services be performed that have a value that exceeds the amount owed to MCB CPEN pursuant to this Settlement at the time agreement is reached by the Parties regarding in kind services to be provided by FPUD. A running account including in kind services will be maintained by the Technical Committee, and reflected in its report(s).

(4) The sufficiency of the in kind services provided, or the amount of the incurred cost of performing those services, will be subject to inspection by the Technical Committee upon request by either Party or as determined to be reasonably necessary by the Technical Committee. Any disagreement over sufficiency or cost will be reviewed by the Technical Committee, and subject to the dispute resolution provisions of this Settlement.

3.2.4. Water Banking. The Water Bank is for the purpose of providing to MCB CPEN a measure of flexibility by providing an alternative method for MCB CPEN to meet its Base Entitlement delivery obligation to FPUD, in addition to Santa Margarita River water obtained by operation of the Project ("Project Water") or in-lieu SDCWA water in accordance with Section

3.2.5. The Water Bank operates as an accounting tool that tracks the quantity of credits and debits. The balance of the Water Bank is a cumulative running total from year-to-year of those credits and debits. Credits to the Water Bank (positive value) accrue when Project Water is delivered to FPUD in excess of the sum of the FPUD Base Entitlement plus the first 200 acre feet of Excess Water. Debits (negative value) are deducted when MCB CPEN does not meet its annual obligation to deliver FPUD Base Entitlement in the form of Project Water or Section 3.2.5 in lieu SDCWA water. The Water Bank does not entail any accrual or exchange of money between the Parties. All allowable credits and debits to the Bank, within the limits defined herein, are made through the delivery of or retention of Project Water. Decreases in required deliveries of FPUD Base Entitlement can occur pursuant to this Settlement only if and to the extent that (i) Bank debits are made in accordance with this Section 3.2.4, or (ii) MCB CPEN makes in lieu SDCWA water deliveries sufficient to timely provide the full FPUD Base Entitlement in accordance with Section 3.2.5 of this Settlement.

(a) Bank Capacity. The maximum permitted Bank negative balance at any time is negative 3,600 acre feet (-3,600 AF). The maximum permitted Bank positive balance at any time is positive 3,000 acre feet (+3,000 AF).

(b) True Up. The Bank balance shall be no less than zero at least once every fifteen (15) years. In order to effect this true-up, MCB CPEN shall deliver to FPUD either Project Water or Section 3.2.5 in lieu SDCWA water in an amount equal to the negative Bank balance. This delivery shall be in addition to other deliveries called for pursuant to this Settlement, and shall be completed on a mutually agreeable schedule during the fifteen (15) years, except where a different delivery schedule is agreed to by the Parties.

(c) Bank Credits. In a given Delivery Year, credits to the Bank are accrued, up to the maximum permitted balance, after MCB CPEN's delivery of FPUD Base Entitlement is met and the first 200 acre feet of Excess Water has been delivered to FPUD. Credits are based upon additional (greater than the first 200 acre feet) Excess Water deliveries to FPUD. In a given Delivery Year, the Bank will be credited based on the amount by which the total volume of water delivered to FPUD exceeds the sum of the FPUD Base Entitlement plus the first 200 acre

feet of Excess Water. Once the maximum Bank balance is reached based on this calculation, Excess Water Deliveries may not be accrued as Water Bank credits.

(d) Bank Debits.

(i) Debits to the Water Bank balance may occur only when and to the extent that the Water Bank balance is greater than the minimum Water Bank balance, and MCB CPEN determines that there are aquifer, environmental, or operational constraints that prevent the delivery of the full amount of the FPUD Base Entitlement in the form of Project Water, and MCB CPEN elects to use the Water Bank instead of providing in-lieu water pursuant to Section 3.2.5. If the Water Bank is used in whole or in part to meet MCB CPEN's obligation to deliver the FPUD Base Entitlement, the debit from the Water Bank balance will be calculated as the amount by which the FPUD Base Entitlement exceeds the Project and Section 3.2.5 in-lieu water delivered to FPUD during that Delivery Year, provided that the Water Bank cannot be debited below the minimum Water Bank balance. After the debit is applied to the Water Bank Balance, and provided that that debit plus the Project and the Section 3.2.5 in lieu SDCWA water delivered to FPUD during the relevant Delivery Year at least equal the FPUD Base Entitlement, MCB CPEN has no further financial or other obligation to provide water to FPUD in fulfillment of MCB CPEN's obligation to provide that Delivery Year's FPUD Base Entitlement.

(ii) MCB CPEN shall request that the Technical Committee adjust the delivery schedule in accordance with Section 3.2.8 to accommodate Water Bank debits, and shall inform the Technical Committee and the Management Committee of its intent to debit the Water Bank, the existing and projected Water Bank balances, and the resulting proposed reductions in Project Water deliveries to FPUD. The Technical Committee shall approve the request and make the appropriate adjustments provided that they are consistent with this Settlement.

(e) Annual Accounting. The Parties shall perform, or have performed, an annual accounting of the Water Bank to document and to reconcile Water Bank transactions as part of the accounting described in Section 3.2.3 above. This accounting shall be included in the Technical Committee's Delivery Year Report pursuant to Section 6.1.4. Credits and debits, and the balance, of the Water Bank are expressed in acre feet (or fraction thereof, as determined by the

Technical Committee) of water and are not based on the value of water or the transfer of money.

3.2.5. MCB CPEN Provision of In Lieu SDCWA Water. If and to the extent that MCB CPEN cannot meet its delivery obligations to FPUD using Project Water, and there is no capacity in the Bank for further debits (i.e., the Bank is at - 3600 AF), MCB CPEN shall purchase from SDCWA water using MCB CPEN SDCWA Rights, in an amount equal to the amount of unmet FPUD Entitlement delivery obligation, and shall have that water delivered to FPUD at the SDCWA point of delivery to FPUD at the turnout that supplies Red Mountain Reservoir. Delivery shall be made no later than one month after the end of the Delivery Year within which the water would otherwise have been delivered to FPUD from the CUP, on a schedule selected by FPUD, with MCB CPEN consent, which consent shall not be unreasonably withheld. MCB CPEN shall pay the SDCWA raw water rate for such water including delivery to Red Mountain Reservoir, and FPUD shall pay any SDCWA treatment surcharge for such water. MCB CPEN shall provide to FPUD at least sixty (60) days advance notice of its need to provide SDCWA water in lieu of Project Water. The Parties may agree to a shorter notice period. Once the CUP is fully operational, the Parties intend that such provision of SDCWA water to fulfill the FPUD Delivery Entitlement shall be the exception rather than the normal practice. Such provision of in lieu SDCWA water to FPUD shall not be required if it would cause any harm to FPUD, as reasonably determined by FPUD.

(a) SDCWA Allocations. Each Party shall use its own SDCWA allocation to meet its respective water demands and any other applicable obligations (e.g., obligation to deliver water) of that Party pursuant to this Settlement. Either Party may request use of the other Party's SDCWA allocation, which use shall be allowed provided that (i) the other Party consents to such use in writing, as determined in its sole discretion, and (ii) such use is allowed under all applicable rules and requirements, including those administered by the SDCWA.

3.2.6. Initiation of Deliveries. Commencing within thirty (30) days of the date of FPUD notice to MCB CPEN that FPUD is ready to accept deliveries, but no earlier than the earlier of (i) the date MCB CPEN has completed sufficient construction to enable the FPUD Entitlement deliveries, or (ii) January 1, 2021, MCB CPEN shall commence deliveries to FPUD, at the FPUD Point of Delivery, of the FPUD Entitlement. MCB CPEN shall promptly provide notice to FPUD

if and when it completes sufficient construction to enable the FPUD Entitlement deliveries in advance of the deadline set forth in Section 3.2.6(ii) above.

3.2.7. Point of Delivery. The "FPUD Point of Delivery" (or "Point of Delivery") is a point on the boundary between the NWS Fallbrook property and the FPUD CUP WTP property, at a location as close as is feasible to the FPUD CUP WTP, as depicted in Exhibit 8 hereto. The exact location will be determined by the Parties' mutual agreement during the design phase. MCB CPEN will construct the pipeline and associated facilities from the FPUD Turnout to this Point of Delivery, and FPUD will be responsible for construction of facilities for treatment and distribution of Project Water from that Point of Delivery. This point will serve as the Point of Delivery for Project Water delivered by MCB CPEN to FPUD, as well as for SDCWA water conveyed by FPUD to MCB CPEN pursuant to Section 2.5. Except as otherwise provided in this Settlement, possession and control of, and responsibility for, the water being delivered or conveyed transfers to the receiving entity at the Point of Delivery.

3.2.8. Delivery Schedule. The FPUD Base Entitlement shall be delivered on a monthly schedule, measured at the Point of Delivery, in accordance with the schedule set forth in Tables B-1 and B-2. The Parties may agree to a different schedule for any given period of time. Such agreement shall be made in advance and shall be in writing. Requests to change the delivery schedule made at least sixty (60) days in advance of the proposed change are the most likely to be able to be accommodated. If the volume of the change in delivery is minor (e.g., less than 20 acre feet in a month), shorter notice may be feasible. The Parties shall coordinate with each other, using the Technical Committee and other resources as needed, to facilitate deliveries and scheduling thereof in compliance with this Settlement.

3.3. Water Quality. Project Water used to meet the FPUD Entitlement shall consist solely of water extracted by wells tapping the underground aquifers. No treatment of this water by MCB CPEN is required; however, MCB CPEN shall ensure that the quality of Project Water delivered to FPUD at the Point of Delivery shall be no less than the quality of the raw water used on the southern portion of MCB CPEN for domestic purposes, before treatment, in every respect. MCB CPEN shall operate the wells and other Project facilities so as to deliver to FPUD water of a quality

consistent with this Section. Provided the MCB CPEN is in compliance with this section 3.3, FPUD shall be responsible for any water treatment needed before distribution to FPUD customers.

3.4. Place and Purpose of Use.

The Parties may use the water to which they are entitled under this Settlement in any location and in any manner allowed by this Settlement and applicable law.

3.5. Generation and Protection of Project Yield.

3.5.1. Each year MCB CPEN shall produce as much water from the Project as feasible, in light of relevant factors, including but not limited to aquifer conditions, sound water utility management practices, Regulatory constraints, MCB CPEN Annual Demand, and FPUD Entitlement.

3.5.2. The Parties shall take all measures reasonably necessary or convenient to protect Project Yield, and except as required by law and in accordance with Article 5, shall not take any actions that would be reasonably expected to adversely affect that Project Yield, as determined by the Technical Committee and approved by the Management Committee. The Parties shall keep each other informed of anything they become aware of that could potentially decrease Project Yield.

3.5.3. The Parties may, in their sole discretion, take actions to enhance Project Yield. If such action results in a measurable material increase in Project Yield, as determined by the Technical Committee and approved by the Management Committee, the Party whose action caused such increase shall be accorded the benefits of that increase, provided that there is no cost to the other Party. The Parties shall reasonably cooperate in furtherance of such increase. Before either Party initiates any action that will or could enhance Project Yield, it shall offer to the other Party the opportunity to participate on an equal (50:50) basis, or otherwise as agreed by the Parties, and other reasonable terms. The Party to whom this offer is made may, but is not required to, accept, in whole or in part. The Parties agree to negotiate the terms of such participation in good faith.

ARTICLE 4

WATER RIGHTS

4.1. Definition of Water Rights. "Water Rights" shall mean the Riparian Rights, the Pre-1914 Rights, Permit 8511, Permit 11357, License 10494, Permit 15000B and any extensions, amendments, replacements, successors, modifications or renewals of such rights, permits, or licenses necessary or useful for construction, completion, operation, or maintenance of the Project. The foregoing Water Rights are listed in order of their seniority, the most senior first. "Water Rights" excludes water right Permit 11356 as it may change from time to time, and any license issued pursuant thereto.

4.2. Reporting Requirements; Annual Fees.

4.2.1. SWRCB and Watermaster Reporting Requirements. The Parties are subject to certain reporting requirements to the State Water Resources Control Board ("SWRCB") and to the Watermaster with respect to California State and local laws, rules, and regulations governing the Parties' exercise of the Water Rights ("Reporting Requirements"). The Parties agree that they will satisfy all Reporting Requirements and report to the SWRCB and the Watermaster the diversion and use of the Water Rights in order of priority of those rights, with the senior Water Rights being exercised and water allocated to them first, except as otherwise jointly determined by the Parties to best serve Project purposes. MCB CPEN shall ensure that such reporting is duly accomplished, with the assistance of and in cooperation with the Technical Committee.

4.2.2. Use and Reporting of Riparian Rights. MCB CPEN's use and reporting of Riparian Rights shall not exceed the following:

(a) The annual amounts of "makeup water" Rancho California Water District is required to provide under the Cooperative Water Resource Management Agreement between Rancho California Water District and the United States dated March 26, 2002, as approved in the above-captioned matter by Court order filed August 20, 2002, which protection for MCB CPEN is also substantially reflected in conditions on Rancho California Water District's water right Permit 7032 (including any license issued pursuant thereto), pursuant to SWRCB Order Approving Changes in Purpose of Use, Place of Use, Points of Rediversion and Denying Extension of Time and amending the Permit dated April 22, 2009 (the Cooperative Water Resource Management

Agreement and Permit 7032 conditions collectively referred to herein as "CWRMA");

(b) If neither the CWRMA nor the relevant Permit 7032 conditions apply, the actual amount of MCB CPEN valid use of Riparian Rights; and

(c) The total amount of Riparian Rights used and reported under Sections 4.2.2 (a) and (b) shall not exceed on a cumulative basis 4,000 AFY.

(d) Water provided under CWRMA which reaches any diversion facility that is part of the MCB CPEN Project Facilities shall be diverted and used for the Project and in accordance with this Settlement.

(e) Use of the CWRMA in this Settlement neither characterizes nor changes the CWRMA itself.

4.2.3. Use and Reporting of Pre-1914 Rights. MCB CPEN's use and reporting of the Pre-1914 Rights shall be as follows:

(a) The rights to and the use of the Pre-1914 Rights shall be in accordance with the terms and conditions specified in Interlocutory Judgments 24 and 24A in the Litigation, provided that the use of the water diverted under the Pre-1914 Rights shall be as set forth in this Settlement.

(b) The volume of Pre-1914 Rights used and reported as delivered to Lake O'Neill shall not exceed 1,100 AFY, plus any refill to replace losses during the irrigation season due to evaporation and seepage, provided that an additional amount not to exceed 100 AFY may be delivered to Lake O'Neill for purposes of maintaining dead storage, all as more specifically described in Interlocutory Judgment 24. Any refill of Lake O'Neill for other purposes shall be an exercise of and reported on the next senior Water Right.

(c) MCB CPEN shall make reasonable good faith efforts to operate Lake O'Neill in the most efficient and productive manner with minimal losses.

4.3. Holder of Title Interest in Water Rights.

4.3.1. Riparian and Pre-1914 Rights.

(a) The Department of the Navy shall retain sole holder status of its Riparian Rights and its Pre-1914 Rights provided, however, that its rights to riparian water shall be

subject to Section 4.2.2 and its rights to the Pre-1914 Rights use shall be subject to Section 4.2.3.

(b) The Parties agree and acknowledge that the Department of the Navy's sole holder status of the Riparian Right and the Pre-1914 Rights set forth above in Section 4.3.1(a) is not intended, nor shall be interpreted, in any way to adversely affect any of FPUD's rights, including but not limited to its rights to water deliveries (the FPUD Entitlement), as set forth in this Settlement, based upon exercise of all of the Water Rights.

4.3.2. All Other Water Rights. The Parties agree that title to Permit 8511, Permit 11357, Permit 15000B, License 10494 and all other Water Rights obtained for the Project shall be held jointly by the Department of the Navy and FPUD (70% Department of the Navy and 30% FPUD). The Department of the Navy has transferred to FPUD a 30% interest in License 10494 and the Parties also now hold the three permits in that ratio. The Parties shall take all further acts to effect such change in ownership to conform to the foregoing ownership ratio as are reasonably required.

4.4. Credits for Non-Use and Parties' Respective Interests in Water Rights. Credits under California Water Code sections 1011 and 1011.5, and any other similar provision protecting the Water Rights from loss by nonuse due to reduction in use due to *inter alia* water conservation and recycled water use, shall be allocated among the State issued permits and licenses in a manner that best preserves the water rights to be exercised for the CUP for the benefit of both Parties. The starting presumption is that credits should be allocated to the most senior appropriative State issued Water Rights first, unless doing so in another manner will better preserve the Water Rights or is preferable for Project purposes, as agreed by the Parties' respective interests.

The Parties' respective interests in the Water Rights shall be as set forth in this Settlement. While there are variations as set forth herein, generally speaking, the respective interests are FPUD 30% and Department of the Navy 70%. The Parties intend that this Settlement be interpreted to the maximum extent possible to reflect the Parties' joint ownership of the Water Rights as set forth herein.

4.4.1. Excepting fees from which the United States is immune, for which FPUD shall not be liable, water right permitting and licensing fees and costs not otherwise allocated by

this Settlement shall be shared in accordance with this 30%/70% ratio where they are for the benefit of both Parties. Fees and costs for the benefit of one Party shall be borne by that Party.

4.4.2. (a) If and to the extent a single Party is designated as the primary holder, or otherwise as the single Party to receive correspondence (for example, as presently required by the SWRCB pursuant to 23 California Code of Regulations section 691), that Party shall be the Department of the Navy. The Department of the Navy shall be responsible for and shall competently perform the functions required by this Article 4 and the SWRCB. Otherwise, such designation shall have no effect on the Parties' rights and obligations as set forth in this Settlement. Any Party receiving or sending correspondence, notices, or information of any kind from or to the SWRCB or other regulatory agency pertaining to the Water Rights shall immediately provide a full copy thereof to, or if not in writing will otherwise effectively, fully, and timely share it with, the other Party. Except as otherwise provided in this Settlement, the Parties shall coordinate via the Technical Committee or other appropriate Party representatives regarding any such correspondence.

(b) If and to the extent that any of the Water Rights are subject to fees or expenses pursuant to State law, the Department of the Navy shall provide timely notice thereof to FPUD, and to the extent such fees or expenses are attributable to FPUD's 30% interest in the Water Rights, FPUD shall make such payment directly to the State (with notice to the Department of the Navy) or shall send such payment to MCB CPEN for it, as primary right holder, to duly forward to the State. FPUD shall not be liable for any fees or expenses attributable to the Department of the Navy's 70% interest in the Water Rights, for which the Department of the Navy may be immune. (*See, e.g.*, Water Code Sections 1540 and 1560.) The Department of the Navy shall bear all costs and liabilities, if any, associated with asserting its claims of sovereign immunity, and exercising any such immunity. The Department of the Navy's assertion of its claims of sovereign immunity and the exercise of any such immunity shall not adversely affect FPUD, including but not limited to FPUD's Water Rights and water supply. The Parties shall cooperate in good faith to avoid the unnecessary payment of fees.

4.5. New Applications, Permits, and Licenses. Any new applications, permits, or licenses

applied for or issued as a result of this Settlement or as necessary for the construction, completion, operation, or maintenance of the Project, shall be applied for, issued to and held by the Department of the Navy and FPUD jointly, in the proportions described in Section 4.4 above.

4.6. Maintenance of Water Rights. Both Parties shall diligently maintain the Water Rights as appropriate in their respective jurisdictions, and as necessary for purposes set forth in this Settlement. The Parties shall coordinate in good faith to comply with this provision.

4.7. Permit 11356. FPUD holds Permit 11356 as it may change from time to time, and any license issued pursuant thereto, separately and independently; that water right is not part of the CUP. FPUD agrees not to relocate the point of diversion of Permit 11356 without the consent of the Department of the Navy if such relocation would materially adversely impact the volume or quality of water to which the Department of the Navy is entitled. The Department of the Navy agrees not to unreasonably withhold such consent. If there is such material adverse impact, FPUD may mitigate for any such impact, and thus allow for relocation.

ARTICLE 5

REGULATORY COMPLIANCE

5.1. Geographic Allocation. Except as set forth in Section 2.5.2, each Party shall be responsible for Regulatory compliance within its jurisdiction, including any costs thereof. The MCB CPEN jurisdiction includes all facilities and operations on the Naval Enclave, including on MCB CPEN and northerly through NWS Fallbrook to the Point of Delivery. The FPUD jurisdiction commences at the northerly side of the Point of Delivery and includes all FPUD facilities and operations from that point to and including the FPUD Service Area, excepting any conveyance pursuant to Section 2.5.

5.2. Regulatory Compliance Contingency.

5.2.1. In the event that the Project Yield is materially reduced by a lawful mandatory Regulatory restriction imposed by a federal, state, or local agency other than the Parties hereto, which restriction was not caused by a Party or the Parties, and could not be avoided or mitigated as set forth below, FPUD Base Entitlement will be reduced by 30% of the amount of that

yield reduction, when and for as long as that reduction applies. Documentation sufficient to demonstrate such reduction and the cause therefor shall be provided by either Party or the Technical Committee to the Parties, the Technical Committee, and the Management Committee. Entitlement reduction shall be implemented only after final approval thereof, whether by the Technical Committee, the Management Committee, or the conclusion of any dispute resolution.

5.2.2. The Parties shall make all diligent and reasonable efforts to avoid, and if unavoidable, to mitigate, any such restriction. The Party within whose jurisdiction the restriction applies shall be responsible for such efforts. The other Party shall reasonably cooperate with such efforts as needed. Each Party shall bear its own costs except as otherwise provided in subsection (b)(i) below.

(a) Avoidance: The Party within whose jurisdiction the restriction applies shall be responsible for all diligent and reasonable efforts to avoid and to mitigate such restriction, except as provided in subsection (b) below. The other Party shall reasonably cooperate as needed.

(b) Mitigation: If the restriction is not avoidable and it materially reduces Project Yield, and if mitigation is required to restore and capable of restoring the Project Yield in whole or material part, then:

(i) The Parties shall cooperate to determine and agree upon reasonable mitigation measures and reasonable costs thereof. The agreed upon mitigation costs shall be shared in the following ratio: 30% FPUD and 70% MCB CPEN. The Party in whose jurisdiction the mitigation must be implemented shall effect such mitigation.

(ii) If the mitigation is to be effected in MCB CPEN's jurisdiction, MCB CPEN may elect to solely determine and pay for the mitigation in order to retain its autonomy (see Recital Q).

(iii) Upon mitigation, the Parties' rights to and share of Project Yield shall remain as set forth in Article 3 of this Settlement.

ARTICLE 6

TECHNICAL AND MANAGEMENT COMMITTEES

6.1. Technical Committee.

6.1.1. Function. The Technical Committee shall serve as a forum for discussion and cooperation between the Parties regarding technical aspects of performance of the Project and this Settlement. It shall have the duties set forth in this Settlement, and others as assigned from time to time by the Management Committee. Examples of Technical Committee functions shall include determining the Year Type and scheduling deliveries in accordance with Article 3, preparation of the Technical Committee Delivery Year Report, Water Bank accounting, and technical aspects of other provisions of this Settlement. It shall make technical decisions, and where appropriate, recommendations to the Management Committee on technical matters. The Technical Committee shall, with the approval of the Parties with respect to any required funding, request the participation of one or more persons with relevant expertise, including but not limited to the Watermaster and representatives of the U.S. Geological Survey, to address technical issues within such persons' expertise, and assist in resolving technical disputes within the Technical Committee. Unresolved disputes shall be promptly reported by the Technical Committee, or either member of the Technical Committee, to the Management Committee, with supporting documentation and explanation as appropriate.

6.1.2. Composition. The Technical Committee shall be comprised of one technical representative on behalf of each Party. The Parties shall at all times have an appointed Technical Committee representative, notice of which shall be provided to the Management Committee members. The Parties may change their representative at any time upon notice to the Management Committee members. Other Party representatives may attend Technical Committee meetings, but shall not have the ability to vote and must conduct themselves in a manner consistent with the ability of the Technical Committee to function competently.

6.1.3. Meetings. The Technical Committee shall meet at least twice annually: (1) at the close of the Delivery Year, on or about April 30, and (2) in October prior to the advent of the winter season to evaluate the status of the groundwater levels at the end of peak pumping, determine whether and how much Excess Water is available, and recommend any needed adjustments to pumping or other operations. Additional meetings shall be held as reasonably needed. The

Watermaster shall be afforded notice of and opportunity to attend Technical Committee meetings.

6.1.4. Reports. The Technical Committee shall prepare at minimum four reports per year to update the Parties regarding Project operations, yield, and issues, if any. These reports are the Delivery Year Report and three other quarterly reports. The reports shall be timely prepared by the Technical Committee and submitted to the Management Committee.

6.2. Management Committee.

6.2.1. Function. The Management Committee is established for the purpose of overseeing Project operations and matters relating thereto, and addressing any issues that arise. The primary goal of the Management Committee shall be to maintain Project operations in a manner that perpetuates the benefits of the Project to both Parties, and the allocation of burdens of the Project, as reflected in this Settlement. Among other functions, after its deliberations thereon, the Management Committee shall timely submit the Delivery Year Report to the Watermaster.

6.2.2. Composition. The Management Committee shall be comprised of one representative of each Party. Each Party's Management Committee member shall be authorized to act on behalf of the Party that member represents. The Parties shall at all times have one appointed representative to the Management Committee, and shall provide notice of that representative's name and contact information to the other Party. The Parties may change their representatives at any time upon notice to the other Party.

6.2.3. Periodic Meetings. The Management Committee shall meet at least once every two months from the Effective Date until the end of the first year of Project operations. Thereafter, the Management Committee shall meet no less than two times per year. Meetings may be conducted by conference call. Meetings may be called by either Management Committee member upon no less than twenty (20) days advance notice, and shall be scheduled cooperatively between the Parties, and the Watermaster to the extent feasible. Management Committee members may agree to a shorter notice period.

6.2.4. Voting Rules. Decisions of the Management Committee shall be made by the affirmative vote of both members of the Management Committee. Any decision so made shall constitute the decision of the Management Committee.

6.2.5. Dispute Resolution. Decisions and disputes of the Management Committee shall be subject to the Dispute Resolution provisions of this Settlement.

ARTICLE 7

PROJECT COSTS

7.1. Allocation.

7.1.1. Costs. Except to the extent any Party is required to make payments to the other Party as set forth in this Settlement, FPUD and MCB CPEN shall each be independently responsible for all costs, expenses, and liabilities, including but not limited to capital costs and operating and maintenance costs of their respective FPUD Facilities and MCB CPEN Facilities.

7.2. Anti-Deficiency Act. The Parties recognize and acknowledge that any payment obligations of the United States pursuant to this Settlement can only be paid from appropriated funds legally available for such purpose. Nothing in this Settlement shall be interpreted as a commitment or requirement that the United States obligate funds or pay costs in contravention of the Anti-Deficiency Act, 31 U.S.C. §§ 1301, 1341, or any other applicable provision of law. The United States' payments under Article 3 will not exceed $20,000,000.00 in any given water year.

7.2.1. Notwithstanding the foregoing, the United States shall make its payment obligations wherever possible from appropriate MCB CPEN utilities accounts, and the inadequacy or absence of funding to meet those payment obligations shall not reduce nor eliminate them. Payment shall be made as soon as reasonably possible. FPUD may offset its payment obligations when and to the extent that the United States is not meeting its payment obligations under this Settlement.

ARTICLE 8

TERMINATION

8.1. In the event that the necessary regulatory permits and approvals cannot reasonably be obtained for the Project Facilities despite the best efforts of the Parties, and as a result the purpose and benefits of this Settlement are not reasonably possible, either Party may petition the Court to

terminate this Settlement. Termination shall occur only upon order of the Court.

ARTICLE 9

SETTLEMENT OF RESOLVED CLAIMS

9.1. Settlement and Dismissal of Resolved Claims. This Settlement shall resolve all of the Resolved Claims. The Parties expressly agree that the Court shall retain indefinite subject matter and personal jurisdiction pursuant to Section 11.1 below, to enforce this Settlement and resolve any disputes pertaining to the Settlement. As soon as practicable after the full execution of this Settlement, the Parties shall execute and file a joint petition or motion for approval of this Settlement and dismissal of all claims as between these Parties by entry of an order substantially in the form of Exhibit 2. The [Proposed] Order Approving Settlement Agreement shall expressly incorporate this Settlement into the 1966 Modified Final Judgment and Decree as modified and amended, and expressly provide that the Court shall retain jurisdiction to enforce this Settlement and resolve any disputes pertaining to it. Additional briefing and/or declarations in support of the Court approval of the Settlement and entry of the [Proposed] Order Approving Settlement Agreement, as agreed by the Parties or requested or ordered by the Court, shall be in a form mutually agreed by the Parties.

9.2. Inconsistent Provisions. To the extent this Settlement is inconsistent with all or any portion of the 1966 Modified Final Judgment and Decree as modified and amended, or any other Court order, decree, judgment, interlocutory judgment, or ruling previously entered in the Litigation concerning the rights and obligations of the Parties as to one another, and for so long as this Settlement is in effect, this Settlement shall supersede any such inconsistent provisions.

9.3. Mutual Releases. Excepting the duties and obligations imposed by this Settlement as set forth herein, each Party does hereby and for its elected officials, directors, officers, shareholders, employees, agents, attorneys, accountants, expert witnesses, representatives, successors, and assigns, release and acquit and forever discharge each other Party and its elected officials, directors, officers, shareholders, employees, agents, attorneys, accountants, expert witnesses, representatives, successors, and assigns from any and all claims, actions, causes of

action, demands, rights, damages, fees, costs, expenses, and compensation whatsoever, relating to the Resolved Claims.

9.4. No Admissions of Liability. This Settlement effects settlement of the Resolved Claims and nothing contained herein shall be construed as an admission by a Party of liability to another. Each Party denies any liability and intends merely to avoid further litigation.

ARTICLE 10

BREACH

10.1. Breach Defined. "Breach" shall mean an uncured failure of a Party to perform its obligations under this Settlement. A Party (the "Breaching Party") shall not be in Breach until the other Party ("Non-Breaching Party") has first delivered to the Breaching Party thirty (30) days written notice (the "Cure Period") describing the alleged default, and

(a) for a monetary obligation, the Breaching Party fails to fully perform during the Cure Period; or

(b) for a non-monetary obligation or such other obligation or default not reasonably practicable to fully cure during the Cure Period, the Breaching Party fails to commence within the Cure Period the work of curing the default and carrying it to completion with reasonable diligence.

10.2. Remedies for Breach. The Non-Breaching Party shall be entitled to exercise such rights and remedies as may now or hereafter be provided by law and in equity with respect to any Breach.

10.3. Force Majeure. If a Party's performance of any of its obligations pursuant to this Settlement is prevented, hindered or delayed by fire, flood, earthquake, or acts of God, acts of war (declared and undeclared), riots, rebellions, revolutions or terrorism, which directly and unavoidably result in physical damage or destruction to the Project, thereby reducing Project Yield, whether foreseeable or unforeseeable, the effects of which were not caused by that Party and could not be prevented or avoided by the exercise of due care or foresight of that Party (each, a "Force Majeure Event"), that Party shall use reasonable efforts, consistent with Prudent Utility Practice, to

recommence performance whenever and to whatever extent possible without delay, including through the use of alternate sources, workaround plans or other means. The lack of funding shall not constitute a Force Majeure Event. To the extent a Party's performance of any of its obligations pursuant to this Settlement is prevented, hindered or delayed by a Force Majeure Event and such nonperformance, hindrance or delay could not have been prevented, then the non performing, hindered or delayed Party shall be excused for such nonperformance, hindrance or delay, as applicable, of those obligations affected by the Force Majeure Event for as long as the Force Majeure Event continues and such Party continues to use reasonable efforts consistent with Prudent Utility Practice to recommence performance pursuant to the foregoing sentence. The Party whose performance is prevented, hindered, or delayed by a Force Majeure Event shall immediately notify the other Party in writing of the occurrence of the Force Majeure Event and describe in reasonable detail the nature of the Force Majeure Event. This Force Majeure provision shall not apply to excuse non-delivery of all or any portion of the FPUD Entitlement if MCB CPEN is delivering water from the Project for on-Base use, unless and to the extent that the Force Majeure Event reduced the Project Facilities' capacity to make or receive deliveries of Project Water to FPUD. If the Project Yield is reduced, but not eliminated, during the pendency of a Force Majeure Event, such reduction shall be shared by the Parties on a pro rata basis (30% FPUD; 70% MCB CPEN). In the event of and during the pendency of such Force Majeure Event-caused reduction, in order to keep 100% of the reduced supply on MCB CPEN, MCB CPEN shall have the option in its sole discretion of providing to FPUD SDCWA water purchased by MCB CPEN in accordance with Section 3.2.5, in lieu of providing to FPUD its 30% share of available Project Water.

ARTICLE 11

DISPUTE RESOLUTION

11.1. Court's Retained Jurisdiction. The Parties specifically and expressly agree that to the maximum extent allowed by law, the Court in the Litigation shall retain indefinite subject matter and personal jurisdiction to enforce this Settlement and any disputes pertaining to the Settlement.

11.2. Informal Resolution. Prior to seeking relief from the Court, the Parties shall first

communicate and meet in good faith to resolve potential disputes informally and promptly. This shall occur at the Management Committee, with the input and recommendations of the Technical Committee where appropriate. If, in spite of the foregoing efforts, a dispute persists, either Party may submit a written Statement to the other Party at the earliest practicable time that the dispute is identified (the "Initial Statement"). The Initial Statement shall set forth that Party's position with respect to the dispute, and shall: (i) be fully supported by detailed factual information; (ii) state the specific provisions of the Settlement on which the Initial Statement is based; (iii) if the Initial Statement involves monetary damages, state the exact amount based on best available information of the damages; and (iv) if the Initial Statement involves specific performance, state the exact performance requested based on best available information. The Initial Statement shall be accompanied by all records supporting such Initial Statement and items (i) through (iv) above. The Initial Statement shall include a written statement signed by an authorized person indicating that the Initial Statement is made in good faith, that the supporting data are accurate and as complete as feasible, and that any monetary amount or quantity of water requested accurately reflects the adjustment for which the submitting Party believes the other Party is responsible. To assist the other Party in its review of the Initial Statement, the submitting Party shall comply with reasonable requests for additional information. Within forty-five (45) days after receipt of an Initial Statement, the Parties shall meet and confer in a good faith effort to resolve the dispute. Within sixty (60) days of receipt of the Initial Statement, or a shorter time if required by the circumstances and agreed to by the Parties, the receiving Party shall provide a written response (the "Responsive Statement") to the Initial Statement, setting forth the receiving Party's position, including the same type of information as must be contained in an Initial Statement ((i) through (iv) above), and stating the receiving Party's decision as to whether the receiving Party accepts or rejects the remedies requested in the Initial Statement, in whole or in part. The receiving Party may propose alternative remedies. Failure by the receiving Party to provide such a Responsive Statement shall be deemed a decision by the receiving Party constituting a rejection of the Initial Statement.

11.2.1. Third Party Neutral. If the dispute remains unresolved, the Parties by mutual consent may, but are not required to, select a third party neutral to assist the Parties in

resolving the dispute. The Parties shall first consult with the Watermaster regarding the need for such third party neutral, to ascertain whether the Watermaster could serve that function in lieu of a third party neutral, and to ensure that the use of a third party neutral does not interfere with the jurisdiction of the Court. If the services of a third party neutral are deemed acceptable, the Parties shall proceed as follows. The function of the third party neutral shall be as determined by the Parties, e.g., to evaluate and render an opinion, or to act as a facilitator, or otherwise. In such event the Parties shall share the reasonable costs of such third party neutral on a pro rata basis (30% FPUD 70% MCB CPEN). Any proceedings before the third party neutral shall be commenced as expeditiously as possible, and shall not involve any discovery. Either Party may in good faith elect to terminate such proceedings and proceed to invoke the jurisdiction of the Court as provided in Section 11.1 of this Settlement.

11.3. Judicial Resolution of Dispute. In the event that the Parties have not resolved a dispute arising under this Settlement by means of the informal or formal procedures provided in Section 11.2 above within sixty (60) days of receipt of the date the Responsive Statement was due under Section 11.2, either Party may thereafter invoke, in the manner provided herein, or as otherwise allowed by law, the jurisdiction of the Court to resolve such dispute.

11.3.1. The complaining Party shall notice a motion, in accordance with the Local Rules of Court, requesting judicial resolution of the dispute. The Parties may, by stipulation approved by the Court, alter the time table for briefing the motion; otherwise, briefing shall proceed as set forth in the Local Rules.

11.3.2. A Party may conduct discovery as to the matter in dispute upon a showing of good cause that discovery is merited, which showing has been approved by the Court.

11.3.3. In resolving the dispute, the Court shall review the Parties' respective positions and supporting data, analysis, and such other information as the Parties may seek to submit.

11.4. The Parties expressly agree that in the event the Court fails or declines for any reason whatsoever to accept or assert jurisdiction to enforce this Settlement, or at any point terminates its continued jurisdiction to enforce this Settlement (including, but not limited to, reasons pertaining

to the discretion of the Court, a change in procedural or substantive law, or the passage of time), any Party shall have the remedy to file a new action in the above Court to enforce this Settlement.

11.5. Attorneys' Fees Incurred in Judicial Resolution of Dispute. In the event of any dispute involving the Parties to this Settlement to enforce any provision of this Settlement, to enforce any remedy available upon default under this Settlement, or seeking a declaration of the rights of either Party under this Settlement, that entails judicial resolution of any such dispute, enforcement, or declaration of rights, the prevailing Party shall be entitled to seek recovery from the other Party such attorneys' fees and costs as may be reasonably incurred, including the costs of reasonable investigation, preparation and professional or expert consultation incurred by reason of such dispute, provided that such fees and costs may be recovered only to the extent provided by law. Except as set forth above, all attorneys' fees and costs incurred prior to the execution of this Settlement and all prospective attorneys' fees and costs relating to this Settlement and the transactions contemplated hereby shall be borne by the Party incurring the same.

ARTICLE 12

MISCELLANEOUS PROVISIONS

12.1. Notices. All notices, demands or other communications given hereunder shall be in writing and shall be sufficiently given if delivered by overnight delivery service, sent by registered or certified mail, first class, postage prepaid or by facsimile with confirmation of receipt and the original mailed same day first class, postage prepaid, addressed as follows, or by electronic mail provided confirmation of receipt is received by electronic mail or telephone within one business day.

If to the FPUD:

General Manager
Fallbrook Public Utility District
990 East Mission Road
Fallbrook, CA 92088

With a copy to:

Fallbrook Public Utility District General Counsel
c/o Fallbrook Public Utility District
990 East Mission Road

Fallbrook, CA 92088

If to the United States, the Department of the Navy, the United States Marine Corps, and MCB CPEN, or any of them:

Director, Water Resources Division
Box 555013
Bldg. 220105T
Camp Pendleton, CA 92055-5013

With a copy to:

Commanding General
Attn: AC/S G-F
MCIWest-MCB
Box 555010
Camp Pendleton, CA 92055-5010

Counsel, Western Area
Western Area Counsel Office
Box 555231
Bldg. 1254
Camp Pendleton, CA 92055-5231

or such other address with respect to any Party hereto as such Party may from time to time notify (as provided above) the other Party hereto. Any notice, demand, or communication pursuant to this Section shall be deemed to have been given upon delivery provided the delivering Party receives requisite confirmation of delivery.

12.2. Assignment, Successors, and Assigns. Subject to the remaining provisions of this Section 12.2, this Settlement shall be binding upon and inure to the benefit of the Parties hereto and their respective successors, heirs and administrators, and assigns. Except as provided in the following sentence, no Party shall assign any of its rights or obligations hereunder without the prior written consent of the other Party, which the other Party shall not unreasonably withhold, delay, or condition. Notwithstanding the foregoing, each Party shall have the right, without the consent of the other, to transfer its rights and obligations under this Settlement pursuant to a governmental change in organization or reorganization under California or Federal law, including but not limited to any of the following circumstances: (a) to the surviving entity in a change of organization, reorganization, or merger; (b) to an entity which acquires all of the assets of FPUD or MCB CPEN; (c) where the transfer occurs pursuant to operation of law.

12.3. Further Assurances. The United States, Department of the Navy, United States

Marine Corps, MCB CPEN and FPUD each agree to perform such other acts, and to execute, acknowledge and deliver, subsequent to the Effective Date, such other instruments, documents and other materials as the other may reasonably request and as shall be reasonably necessary in order to implement this Settlement, provided that such act and that execution, acknowledgement, and delivery of such instruments, documents and other materials do not contravene any applicable provision of law.

12.4. Reasonableness Requirement. Where the provisions of this Settlement provide for the opinion, judgment, decision, approval, review, agreement, or determination of any Party, such provisions are to be construed as requiring that such opinion, judgment, decision, approval, review, agreement, or determination be reasonable.

12.5. Independent Responsibilities. Except as specifically set forth herein, each Party is separately and independently responsible for its water supply, and associated treatment, discharges, deliveries, water quality, financing, facilities, and otherwise.

12.6. Entire Agreement. This Settlement, together with all schedules, enclosures, and exhibits attached hereto and thereto, constitutes the entire agreement between the Parties, all oral agreements being merged herein, and supersedes all prior representations. No other documents, representations, agreements, arrangements, or understandings, oral or written, between the Parties relating to the subject matter of this Settlement constitute any part of this Settlement or the settlement it represents, nor shall they be used in construing this Settlement.

12.7. Calendar Days. All references in the Settlement to "days" shall mean calendar days unless stated otherwise.

12.8. Amendments and Waivers. Subject to Article 8 (Termination), no term or provision of this Settlement may be amended, waived, discharged or terminated orally, but only by an instrument in writing signed by the Party against whom the enforcement of such amendment, waiver, discharge, or termination is sought. Any waiver shall be effective only in accordance with its express terms and conditions.

12.9. Headings. The headings in the sections of this Settlement are inserted for convenience only and shall not constitute a part hereof or affect the meaning or interpretation

hereof.

12.10. Construction. Each Party acknowledges that (a) it has been represented by legal counsel throughout the negotiations that preceded execution of this Settlement, and (b) it has executed this Settlement in consideration of the advice of such legal counsel. No provision of this Settlement shall be construed against any Party on the ground that such Party or its counsel drafted the provision.

12.11. Counterparts. This Settlement may be executed in two or more counterparts including by facsimile signature, each of which shall be deemed an original, but all of which together shall constitute one and the same document.

12.12. Time of Essence. Time is of the essence.

12.13. No Third-party Beneficiaries. This Settlement, and the obligations, responsibilities and goals set forth herein, are solely for the benefit of FPUD and MCB CPEN. Notwithstanding any provision herein, the Parties do not intend to create, expand or otherwise imply rights of any nature to or for the benefit of any person, state, agency or entity not a named Party hereto.

12.14. Cooperation. In the event of any action or proceeding by third parties to challenge the terms and conditions of this Settlement, the Parties to this Settlement agree to cooperate with each other in a vigorous defense of such action as necessary.

12.15. Federal Entities. The federal entities referenced in this Settlement, the United States, its Department of the Navy, the United States Marine Corps, and MCB CPEN, are related entities which perform different functions. Any obligation undertaken, representation made, or other reference made herein to one of these federal entities is fully binding on all of these federal entities.

12.16. No effect on tribal water rights. This Settlement is entered into by the United States solely on behalf of the Department of the Navy, the United States Marine Corps, and MCB CPEN, and not on behalf of any other federal agency or in any other capacity, including, but not limited to, its capacity as trustee for any Indian tribe, band or community. Nothing in this Settlement quantifies or alters any water right or water right claim of the Pechanga Band of Luiseño Mission Indians, the Ramona Band of Cahuilla Indians, or the Cahuilla Band of Indians in this Litigation.

12.17. No Partnership or Joint Venture. The Parties are not partners or joint venturers, and nothing in this Settlement shall be construed as to create a partnership or joint venture between the Parties.

12.18. Authority to Execute Agreement. Each person whose signature appears hereon represents, warrants, and guarantees that she or he has been duly authorized and has full authority to execute this Agreement on behalf of the Party for whom such signature is made.

Signatures to immediately follow on next page.

FALLBROOK PUBLIC UTILITY DISTRICT

Dated: FEB 25 2019 BY: _____
President of the Board of Directors

LENNIHAN LAW

Dated: February 22, 2019 BY: _____
MARTHA H. LENNIHAN
Attorney for Defendant,
Fallbrook Public Utility District

UNITED STATES OF AMERICA

Dated: 2/21/19 BY: JEAN E. WILLIAMS
Deputy Assistant Attorney General
Environment and Natural Resources Division

_____
BRUCE D. BERNARD
UNITED STATES DEPARTMENT OF JUSTICE
Environment and Natural Resources Division
Natural Resources Section

Attorneys for Plaintiff,
United States of America

INDEX OF EXHIBITS AND APPENDICES

TO

SETTLEMENT AGREEMENT

EXHIBIT 1

TO

SETTLEMENT AGREEMENT

Definitions

"AMP" means the Adaptive Management Plan developed by MCB CPEN.

"Bank" or "Water Bank" means the CUP Water Bank discussed in Section 3.2.4 of this Settlement.

"Breach" shall have the meaning as set forth in Section 10.1 of this Settlement.

"BUREC" means the United States Department of the Interior, Bureau of Reclamation.

"Court" means the United States District Court for the Southern District of California.

"CUP" or "Project" means the Santa Margarita River Conjunctive Use Project as described in this Settlement. It includes all MCB CPEN water production facilities in the Santa Margarita River Watershed, as those facilities may be rehabilitated, replaced, and/or expanded, subject to Section 3.5 and other provisions of this Settlement. MCB CPEN is separately and independently responsible for the Lower Ysidora sub-basin wells, including but not limited to water rights reporting. This in no way affects the Parties' other rights and responsibilities under this Settlement.

"CUP Water" or "Project Water" means water from the Santa Margarita River system diverted and/or extracted using Project Facilities.

"CWRMA" means the Cooperative Water Resource Management Agreement, dated March 26, 2002, as approved by Court order filed August 20, 2002, together with Permit 7032 conditions.

"Days" shall have the meaning as set forth in Section 12.7 of this Settlement.

"Delivery Year" or "Water Delivery Year" is May 1 to and including April 30.

"Effective Date" shall be the date of final Court approval of this Settlement.

"Excess Water" shall have the meaning as set forth in Section 3.2.2 of this Settlement.

"Force Majeure Event" shall have the meaning as set forth in Section 10.3 of this Settlement.

"FPUD Base Entitlement" shall be as determined under Article 3, Sections 3.2 *et seq.* of

this Settlement.

"FPUD Delivery Facilities" means the MCB CPEN facilities from the FPUD Turnout to the Point of Delivery, for which FPUD pays O&M and R&R rates for Project Water delivered to FPUD as otherwise set forth in this Settlement. These facilities will include one or more flow meters to measure water deliveries to each Party.

"FPUD Entitlement" shall mean FPUD Base and Excess Entitlement. Those terms or either of them may also sometimes be referred to as "delivery" entitlement.

"FPUD Excess Entitlement" means water as to which FPUD has exercised the FPUD First Right to Purchase Excess Water.

"FPUD First Right to Purchase Excess Water" or "First Right" shall have the meaning set forth in Section 3.2.2, and otherwise in this Settlement.

"FPUD Point of Delivery" or "Point of Delivery" shall have the meaning as set forth in Section 3.2.7 of this Settlement.

"FPUD Project Facilities" means those Project Facilities located within the FPUD Service Area, as more fully described in Section 2.3 of this Settlement, including water treatment facilities at the proposed FPUD water treatment plant adjacent to the Point of Delivery ("FPUD CUP WTP"), including any brine disposal facilities; conveyance facilities from the FPUD CUP WTP to the Gheen Reservoir site, including a booster pump station, and from the Gheen Reservoir site to Red Mountain Reservoir, including a booster pump station.

"FPUD Service Area" shall have the meaning as set forth in Recital D of this Settlement.

"FPUD Turnout" means the turnout constructed by MCB CPEN on the pipeline that delivers Project Water to the MCB CPEN advanced water treatment plant ("MCB CPEN WTP") (Building number 2470). The FPUD Turnout will be located at a point in the pipeline prior to the pipeline's connection to the MCB CPEN WTP. Project Water for delivery to FPUD is diverted into the FPUD Turnout and conveyed to the FPUD Point of Delivery, and water for delivery to MCB CPEN continues in the pipeline to the MCB CPEN WTP for treatment. All water which goes into the FPUD Turnout is delivered to FPUD, excepting any deliveries of water to MCB CPEN conveyed through FPUD Wheeling Facilities in accordance with Section 2.5 of this Settlement.

"FPUD Wheeling Facilities" shall have the meaning as set forth in Section 2.5.4 of this Settlement.

"Hydrologic Year" means May 1 through April 30.

"License 10494" means appropriative water rights license number 10494 issued by the State Water Resources Control Board.

"Limited FPUD Capacity" shall have the meaning set forth in Section 2.6.1 of this Settlement. It does not apply in the context of ordinary day to day and monthly scheduling or temporary outages.

"Litigation" shall have the meaning as set forth in Recital H of this Settlement.

"Management Committee" shall have the meaning set forth in Section 6.2 of this Settlement.

"MCB CPEN Annual Demand" means on-Base, offstream potable water demand served by MCB CPEN. The northern portion of MCB CPEN has historically been served with water from resources other than the Santa Margarita River; the Santa Margarita River is used to meet the southern portion of MCB CPEN demands. A pipeline is being constructed by MCB CPEN to allow water deliveries between the northern and southern portions of MCB CPEN. MCB CPEN shall be allowed to use this pipeline to deliver its allocation of CUP Water per this Settlement to meet northern portion of MCB CPEN demands in the event of and for the duration of an emergency interrupting the other sources of supply to that portion of MCB CPEN. Otherwise, MCB CPEN Annual Demand shall be the southern portion of MCB CPEN demand. MCB CPEN shall not use CUP Water in lieu of other sources of supply that can reasonably be used to serve the northern portion of MCB CPEN demand.

"MCB CPEN Project Facilities" means those Project Facilities located within MCB CPEN, as more fully described in Section 2.2 of this Settlement. MCB CPEN facilities include the following: groundwater recharge facilities including a diversion structure, conveyance canal and recharge ponds; extraction facilities including groundwater wells and conveyance piping; delivery facilities including conveyance from the wells to the MCB CPEN WTP and to the FPUD boundary near the FPUD CUP WTP, including booster pump stations.

"MCB CPEN SDCWA Rights" means any and all of MCB CPEN rights to water from the San Diego County Water Authority, whatever those rights may be, and including but not limited to the normal delivery of water, allocation of water during shortages, and the preferential right.

"Model Year" means the modeled future conditions based upon the 50-year Period of Record used for this Project (see Appendix A).

"Naval Enclave" shall be as defined in Recital A of this Settlement.

"1966 Modified Final Judgment and Decree" shall have the meaning as referred to in Recital H of this Settlement.

"NWS Fallbrook" means Naval Weapons Station, Seal Beach Detachment, Fallbrook.

"O&M" means reasonable and actual routine operations and maintenance (excluding repair and replacement). O&M is the actual labor and materials cost for the pump station and pipeline for the specified facilities, e.g., for the delivery of water to FPUD, the pipeline and pump stations located between the FPUD Turnout and the FPUD Point of Delivery. O&M costs are for operations and maintenance personnel to operate and maintain facilities. O&M costs include but are not limited to valve operation, pump operation and maintenance and pipeline inspection. O&M includes all planned operations and maintenance, and excludes all unplanned items such as repair of unanticipated leaks, which shall be R&R. See also Exhibit 5 to this Settlement.

"Parties" means FPUD and MCB CPEN, collectively.

"Party" means individually FPUD or MCB CPEN, as applicable.

"Period of Record" means the 50-year hydrologic period of record, consisting of water years 1952 through 2001, as described in this Settlement, including Appendix A.

"Permit 8511" means appropriative water rights permit number 8511 issued by the State Water Resources Control Board pursuant to application number 11587, as it may be amended from time to time, and any license issued based on that permit.

"Permit 11357" means appropriative water rights permit number 11357 issued by the State Water Resources Control Board pursuant to application number 12129, as it may be amended from time to time, and any license issued based on that permit.

"Permit 15000B" means appropriative water rights permit number 15000B issued by the

State Water Resources Control Board pursuant to application number 21471B, as it may be amended from time to time, and any license issued based on that permit.

"Point of Delivery" or "FPUD Point of Delivery" shall have the meaning as set forth in Section 3.2.7 of this Settlement.

"Point of Diversion" means the location of the existing MCB CPEN diversion structure on the Santa Margarita River at the head gate of the O'Neill diversion ditch.

"Pre-1914 Rights" means MCB CPEN's pre-1914 appropriative water rights, the use and application of which are further described in Interlocutory Judgments 24 and 24a entered in the Litigation.

"Project" or "CUP" means the Santa Margarita River Conjunctive Use Project as described in this Settlement, including as "CUP" is defined above.

"Project Facilities" means those facilities and equipment associated with the Project. A list of primary Project Facilities is contained in Exhibit 4 to this Settlement.

"Project Water" or "CUP Water" means water from the Santa Margarita River system diverted and/or extracted using Project Facilities.

"Project Yield" means the amount of water produced, without limitation, from the water system supporting the southern portion of MCB CPEN, including wells in the Chappo, Upper and Lower Ysidora sub-basins, and completion of all CUP Project Facilities, with yield estimates quantified as set forth in Appendix A.

"Prudent Utility Practice" shall mean a Party's diligent construction, operation, maintenance, repair and replacement of the Project or Project components, excepting the facilities and functions for which the other Party is responsible, in a prudent and reasonable manner so as to provide efficient and reliable water deliveries.

"R&R" or "Repair and Replacement" shall have the meaning set forth in Section 3.2.1(b) and Exhibit 5 of this Settlement.

"Regulatory" means all requirements of applicable law, including without limitation administrative, judicial, and legislative requirements in all of their forms.

"Reporting Requirements" shall have the meaning as set forth in Section 4.2 of this

Settlement.

"Resolved Claims" shall have the meaning as set forth in Recital J of this Settlement.

"Riparian Rights" means MCB CPEN's riparian water rights, the use and application of which are further described in Interlocutory Judgment 37 entered in the above-captioned matter.

"Settlement" means the Santa Margarita River Conjunctive Use Project Agreement and Stipulation of Settlement.

"SDCWA" means San Diego County Water Authority.

"SDCWA Allocations," as used in Section 3.2.5(a) of this Settlement, means the allocations as they existed at the time of execution of this Settlement and any subsequent mechanisms by which SDCWA makes water available to its members that serve the same or similar purpose. At the time of execution of this Settlement, where there is a shortage of water, SDCWA makes water available to its members on an "allocation" basis. There are at least two types of allocations: a "loss of local supply" allocation, and a general allocation.

"SDCWA Treated Water Rate" shall mean the total amount FPUD would be required to pay to SDCWA to purchase treated water delivered to Red Mountain Reservoir, as that amount may change from time to time. Offsets, such as credits for water diverted under Permit 11356, which would reduce this total amount, are not included.

"SWRCB" means the State Water Resources Control Board.

"Technical Committee" shall have the meaning set forth in Section 6.1 of this Settlement.

"United States" means the United States of America. References in this Settlement to the United States, the Department of the Navy, the United States Marine Corps, and MCB CPEN, or each of them, may reflect these federal entities' different roles, but shall be construed as inclusive of all these federal entities.

"Water Bank" or "Bank" means the CUP Water Bank discussed in Section 3.2.4 of this Settlement.

"Water Delivery Year" or "Delivery Year" is May 1 to and including April 30.

"Water Rights" shall have the meaning as set forth in Section 4.1 of this Settlement.

"Watermaster" means the Watermaster appointed by the Court in the above-captioned

matter.

"Winter Flow" means the October 1 through April 30 total stream flow at the Point of Diversion, before any diversions, extractions, or bypasses at the Point of Diversion have occurred (see Appendix A).

"WTP" means water treatment plant.

EXHIBIT 2

TO

SETTLEMENT AGREEMENT

Form of [Proposed] Order Approving Settlement Agreement

UNITED STATES DISTRICT COURT

SOUTHERN DISTRICT OF CALIFORNIA

UNITED STATES OF AMERICA, Plaintiff, vs. FALLBROOK PUBLIC UTILITY DISTRICT, *et al.*, Defendants.	CASE NO. 51cv1247-GPC(RBB) **[PROPOSED] ORDER APPROVING SETTLEMENT AGREEMENT** Hon. Gonzalo P. Curiel

1. On _____, 2019, Plaintiff the United States of America, acting by and through the Department of the Navy and the United States Marine Corps, for the benefit of the Marine Corps Base, Camp Pendleton ("Camp Pendleton"), and Defendant Fallbrook Public Utility District ("Fallbrook") (Camp Pendleton and Fallbrook sometimes referred to as the "Parties") filed a joint motion for approval of the Santa Margarita River Conjunctive Use Settlement Agreement ("Settlement Agreement"). A copy of the Settlement Agreement is attached to this Order.

2. The Santa Margarita River water disputes between Camp Pendleton and Fallbrook and their predecessors have a lengthy and complex history. The present case was filed in 1951, when the United States sued to quiet title to the use of water on the River, and enjoin others' interference therewith. *United States v. Fallbrook Pub. Util. Dist.*, 347 F.2d 48, 51 (9th Cir. 1965). A significant catalyst for the litigation between Camp Pendleton and Fallbrook was their dispute over the character and relative priority of their water rights. The case subsequently expanded to include all water users within the Santa Margarita Watershed.

3. In 1963, the Court finalized a number of Interlocutory Judgments and issued a final judgment and decree, whereby the Interlocutory Judgments or Orders were listed and, together

with the Findings of Fact and Conclusions of Law attached to those Interlocutory Judgments or Orders, were adopted as the final Findings of Fact, Conclusions of Law, and Judgment and Decree of the Court. (Doc. No. 4489). This 1963 Final Judgment and Decree was appealed to the United States Court of Appeals for the Ninth Circuit. Upon remand, in 1966 this Court entered its Findings of Fact, Conclusions of Law, and Modified Final Judgment and Decree (Doc. No. 4768) ("Fallbrook Decree").

4. This litigation resulting in the Fallbrook Decree resolved the central issue of the existence and priority of Camp Pendleton's water rights relative to those of Fallbrook. However the question of how these Parties would perfect and exercise those rights and to what extent each Party's use of its water rights would interfere with the other Party's water use was left open. Since that time, Camp Pendleton and Fallbrook—with the urging of the Court—have explored the development of a physical solution that would provide for the exercise of the Parties' water rights in a manner that would minimize the conflict between their rights and provide a more secure water supply for both Parties.

5. After many unsuccessful attempts and decades of conflict, Camp Pendleton and Fallbrook have now reached a good faith, arms-length negotiated agreement on a physical solution to their long-standing water right dispute—the Santa Margarita River Conjunctive Use Project. This Settlement Agreement establishes the Parties' rights and obligations concerning the Santa Margarita River Conjunctive Use Project and replaces the 1968 Memorandum of Understanding and Agreement between these Parties that addressed the then-proposed construction and operation of two dams, referred to as the "Two-Dam Project." That 1968 Agreement was approved by the Court and incorporated into the Fallbrook Decree. *See* Petition for Approval of Memorandum of Understanding and Agreement and for Order Amending Modified Final Judgment and Decree, May 22, 1968 (Doc. No. 4770), with attached March 4, 1968 Memorandum of Understanding and Agreement ("1968 MOU"); Order Approving Memorandum of Understanding and Agreement and Amending Modified Final Judgment and Decree, June 27, 1968 (Doc. No. 4773) ("Order Approving 1968 MOU").

6. A court's decision to approve or reject a settlement should be based on the court's determination that the settlement is "the product of good faith, arms-length negotiations," *United States v. Oregon*, 913 F.2d 576, 581 (9th Cir. 1990), "is not the product of fraud or overreaching by, or collusion between, the negotiating parties," and "is fair, reasonable and adequate to all concerned." *Hanlon v. Chrysler Corp.*, 150 F.3d 1011, 1027 (9th Cir. 1998) (quoting *Officers for Justice v. Civil Serv. Comm'n*, 688 F.2d 615, 625 (9th Cir. 1982)). The court should approve the settlement if the court decides that "it is fair, reasonable and equitable and does not violate the law or public policy." *Sierra Club, Inc. v. Elec. Controls Design, Inc.*, 909 F.2d 1350, 1355 (9th Cir. 1990).

7. The Settlement Agreement embodies a creative means of resolving the Parties' longstanding water use conflict in a manner consistent with the urging of the Court and the authorizations and appropriations already made by Congress. The Santa Margarita River Conjunctive Use Project will ensure a reliable local water supply for the benefit of both Parties. It will reduce the demand for imported water from the Sacramento San Joaquin Bay-Delta and the Colorado River, thus furthering an important statewide interest. The Project is designed to avoid the significant environmental impacts associated with on-channel surface water reservoirs, in favor of the largely environmentally benign subterranean storage using existing natural aquifers and the shared use of water so stored.

8. The Settlement Agreement has Congressional support through the National Defense Authorization Act for Fiscal Year 2016, State support via Proposition 50 funding and the State Revolving Fund, and regional support consistent with the San Diego Integrated Regional Management Plan.

9. Finally, the Settlement Agreement allows the Parties to finally and completely resolve remaining claims against one another in this litigation and to focus their efforts going forward on cooperative use of the resource in a manner that benefits both communities.

10. The Settlement Agreement conforms to all applicable federal law and complies with the framework of the Fallbrook Decree and the Interlocutory Judgments incorporated into that Decree.

NOW THEREFORE, it is hereby ordered as follows:

1. The Settlement Agreement, including all the Exhibits thereto, is hereby approved.

2. This Order Approving Settlement Agreement supersedes and replaces the Order Approving 1968 MOU, which amended the Fallbrook Decree by incorporation of the 1968 MOU into that Decree.

3. The Settlement Agreement, including all the Exhibits thereto, is hereby incorporated into the Fallbrook Decree as modified and amended, and supersedes and replaces the 1968 MOU which had been incorporated into the Fallbrook Decree by the Order Approving 1968 MOU, and which 1968 MOU subsequently expired by its own terms.

4. Pursuant to the Settlement Agreement, all pending claims between these two Parties in this action are hereby dismissed.

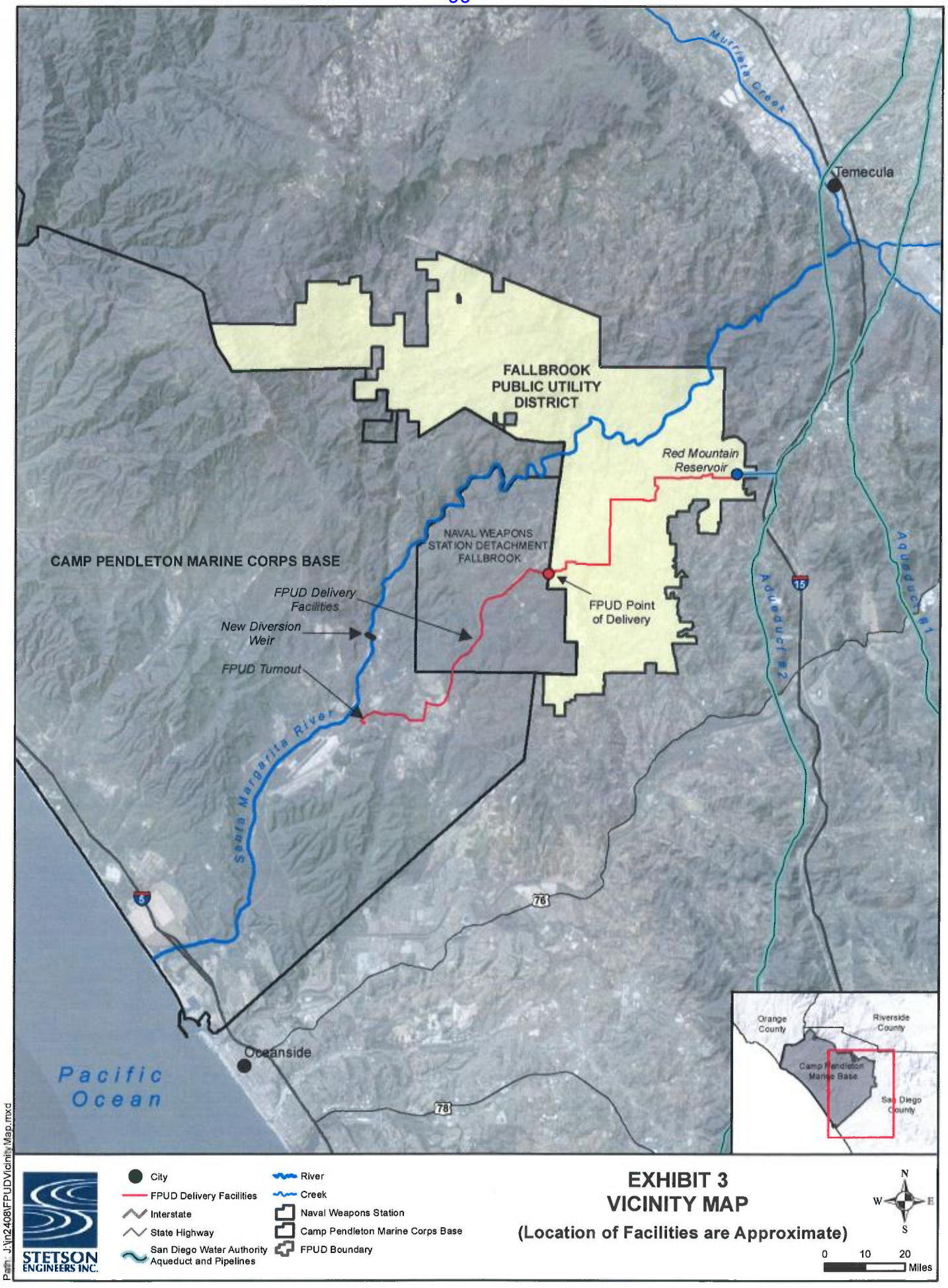
5. The Court retains jurisdiction to enforce the Settlement Agreement and resolve any disputes pertaining to the Settlement Agreement.

6. In the event the Court's continued jurisdiction to enforce the Settlement Agreement is terminated, these two Parties or either of them shall have the remedy to file a new action in the above Court to enforce the Settlement Agreement consistent with its terms.

IT IS SO ORDERED.

Dated: _____

_____
Hon. Gonzalo P. Curiel
United States District Judge


Murrieta Creek
Temecula
FALLBROOK PUBLIC UTILITY DISTRICT
Red Mountain Reservoir
NAVAL WEAPONS STATION DETACHMENT FALLBROOK
CAMP PENDLETON MARINE CORPS BASE
FPUD Delivery Facilities
New Diversion Weir
FPUD Turnout
FPUD Point of Delivery
Aqueduct #2
Aqueduct #1
Santa Margarita River
15
5
76
78
Oceanside
Pacific Ocean
Orange County
Riverside County
Camp Pendleton Marine Base
San Diego County
City
FPUD Delivery Facilities
Interstate
State Highway
San Diego Water Authority Aqueduct and Pipelines
River
Creek
Naval Weapons Station
Camp Pendleton Marine Corps Base
FPUD Boundary
STETSON ENGINEERS INC.
EXHIBIT 3
VICINITY MAP
(Location of Facilities are Approximate)
N
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Miles
Path: J:\jn2408\FPUDVicinityMap.mxd

EXHIBIT 4

TO SETTLEMENT AGREEMENT

MCB CPEN and Fallbrook Public Utility District

SMR CUP Project Facilities

(non-exhaustive)

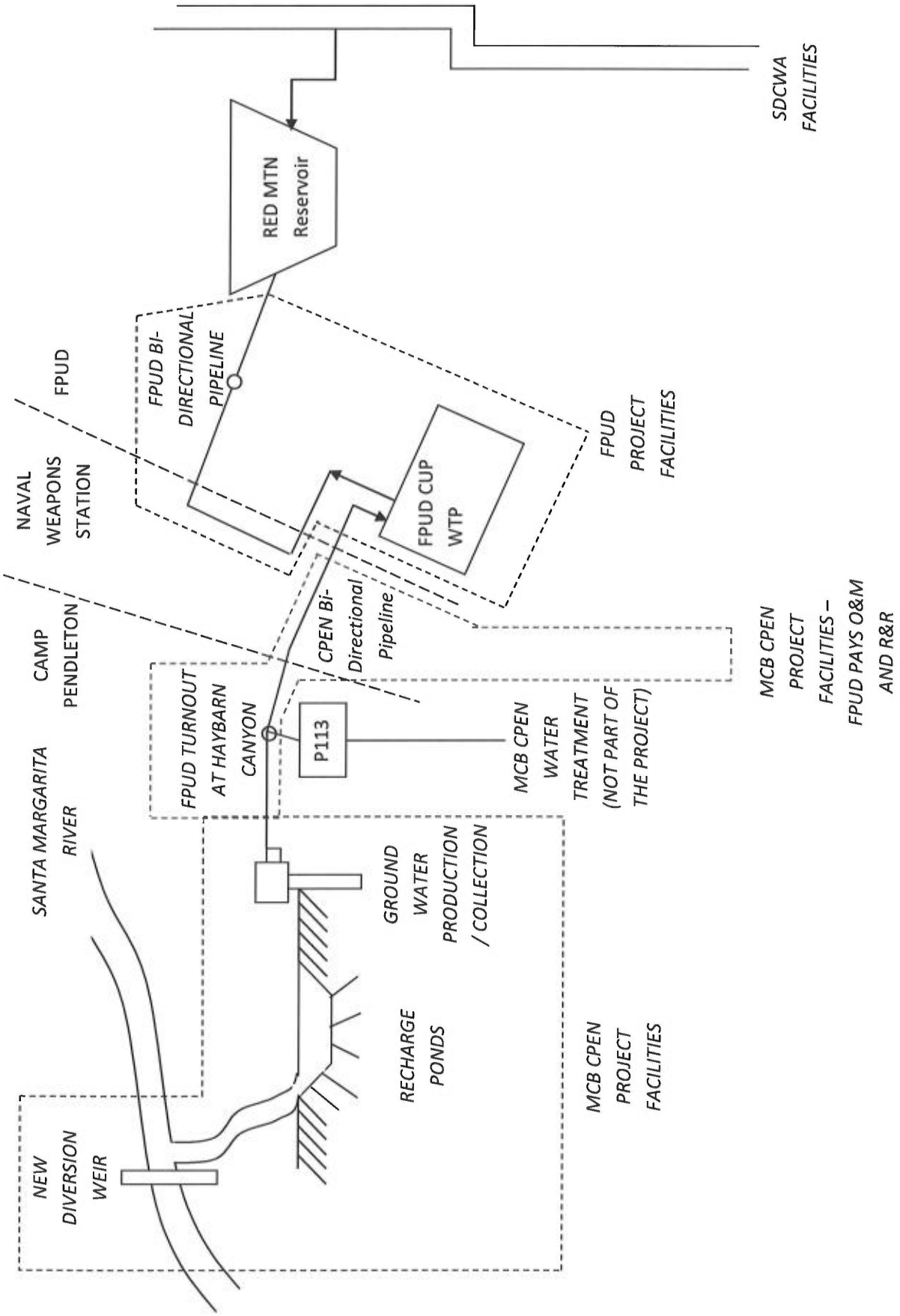
The Project includes construction of facilities on CPEN and NWS Fallbrook by MCB CPEN, and construction of facilities within FPUD by FPUD. The only exception to this geographic division of responsibility for Project Facilities is that FPUD may construct certain conveyance facilities on the Fallbrook Naval Weapons Station (NWS Fallbrook), as noted below and as shown on Exhibit 3. Existing facilities will also be used for the Project, such as the existing groundwater production wells and water system facilities on MCB CPEN that will be used to produce and deliver water to FPUD as well as to produce and deliver water for use by MCB CPEN.

CPEN Project Facilities include the following:

- Modification of the existing diversion structure on the Santa Margarita River and an associated diversion ditch to remove the existing constraint on diversion capacity resulting from a roadway, and increasing the headworks diversion capacity from 100 cfs to 200 cfs;
- Rehabilitation of existing groundwater recharge ponds located on Camp Pendleton property.
- Installation of new groundwater production wells within the Upper Ysidora Sub-basin and the Chappo Sub-basin;
- New groundwater delivery facilities from CPEN to FPUD including modifications to existing conveyance from the wells to Haybarn canyon, where the FPUD Turnout will be located, and new conveyance facilities from the FPUD Turnout to the Point of Delivery at the FPUD boundary at the existing Fallbrook WWTP site, including booster pump stations
- Existing and upgraded groundwater production facilities, storage and delivery system

FPUD Project Facilities include the following:

- Groundwater treatment facilities to treat Project water at the existing Fallbrook WWTP site (FPUD CUP WTP), including any brine disposal facilities
- Bi-directional pipeline for conveyance of untreated Project water from the FPUD Turnout on MCB CPEN to the FPUD Point of Delivery, and for conveyance of treated water supplies imported from SDCWA to MCB CPEN. The facilities will provide conveyance of Project water from the FPUD CUP WTP to FPUD's Gheen reservoir site, including a booster pump station, and conveyance facilities from the Gheen reservoir site to FPUD's Red Mountain Reservoir, including a booster pump station. A portion of the conveyance facilities from the FPUD CUP WTP to Gheen Reservoir may be constructed by FPUD on NWS Fallbrook.


SDCWA FACILITIES
RED MTN Reservoir
FPUD BI-DIRECTIONAL PIPELINE
FPUD
NAVAL WEAPONS STATION
FPUD CUP WTP
FPUD PROJECT FACILITIES
CPEN Bi-Directional Pipeline
CAMP PENDLETON
MCB CPEN PROJECT FACILITIES – FPUD PAYS O&M AND R&R
FPUD TURNOUT AT HAYBARN CANYON
P113
MCB CPEN WATER TREATMENT (NOT PART OF THE PROJECT)
SANTA MARGARITA RIVER
GROUND WATER PRODUCTION / COLLECTION
RECHARGE PONDS
MCB CPEN PROJECT FACILITIES
NEW DIVERSION WEIR

2

EXHIBIT 5

TO SETTLEMENT AGREEMENT

MCB CPEN and Fallbrook Public Utility District

General Description of Operation, Maintenance, Repair, Replacement, and Administrative Costs for FPUD Delivery Facilities and FPUD Wheeling Facilities

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1.0 CERTAIN PROJECT RATES

This Exhibit 5 provides additional detail regarding Payment Rate A, the "wheeling" rate, and other costs.

Payment Rate A is comprised of: (1) the FPUD Delivery Operation and Maintenance (O&M) Rate; (2) a 15% administrative surcharge on the O&M Rate; and (3) the FPUD Delivery Repair and Replacement (R&R) Rate discussed in the Settlement Agreement (Settlement). The FPUD Delivery Facilities are the MCB CPEN Project Facilities from the FPUD Turnout on the raw water conveyance line near Haybarn Canyon to the FPUD Point of Delivery. Delivered water is Project Water delivered by MCB CPEN to the FPUD Point of Delivery.

This exhibit also describes the FPUD wheeling rate which applies when SDCWA imported water is delivered by FPUD through FPUD Wheeling Facilities to MCB CPEN at the MCB CPEN side of the FPUD Point of Delivery. These rates, and any additional costs as described in the Settlement, are paid by MCB CPEN to FPUD on a per acre foot of water basis.

This exhibit is to provide further detail regarding the foregoing rates and associated costs, as well as some of the costs that are intentionally not being incorporated into the rates. It is supplementary to the Settlement. In the event of conflict, the Settlement prevails.

1.1 FPUD DELIVERY O&M RATE

The FPUD Delivery O&M Rate is based on actual costs incurred by MCB CPEN for FPUD Delivery Facilities during the operation of those facilities to make deliveries to FPUD. It is charged to FPUD annually based on a per acre foot of delivered water basis. MCB CPEN will document and summarize all O&M costs for each month during the delivery year, and include this documentation with the final invoice for payment. The intent of the FPUD Delivery O&M Rate is for FPUD to pay its fair share of costs associated with variable or recurring annual costs such as labor, maintenance, monitoring, consumption of material and energy, and other variable costs associated with the operation and maintenance of FPUD Delivery Facilities. This O&M Rate will exclude all administrative costs. FPUD will pay for administrative costs via the fifteen percent (15%) administrative surcharge on the O&M payment.

1.2 FPUD DELIVERY R&R RATE

The FPUD Delivery R&R Rate is a calculated amount based on the estimated life of the FPUD Delivery Facilities (without regard to actual R&R costs, whether less or more.) It is charged to FPUD annually based on a per acre-foot of delivered water basis. The actual costs will be paid by MCB CPEN regardless of whether or not the costs are more or less than the amount paid by FPUD. The intent of FPUD Delivery R&R Rate is for FPUD to pay a calculated unit cost that represents its share to maintain facilities due to normal wear and tear over their useful life. A calculated amount has been intentionally chosen in lieu of actual costs in order to allow CPEN to maintain autonomy of facilities within the Naval Enclave.

1.3 Other Costs and Rates

The Settlement introduces costs and rates that address the parties' financial responsibility for General and Administrative costs, Technical Committee costs, and FPUD facilities wheeling costs for imported water. While the General and Administrative costs are based on a 15% overhead fee levied against the FPUD Delivery O&M Rate, each parties' share of the Technical Committee is the responsibility of the party that incurs that cost. Finally, the FPUD Facilities Wheeling cost for delivery of imported water to MCB CPEN is based on administrative, O&M, and R&R costs incurred by FPUD to operate facilities required to deliver imported water to the FPUD Point of Delivery as described in Section 2.5.4 of the Settlement.

2.0 FPUD Delivery O&M Costs

The FPUD Delivery O&M costs account for water delivered from MCB CPEN at the Turnout Point to the FPUD Point of Delivery. These costs do not account for delivery of imported water from the FPUD Point of Delivery to MCB CPEN since the Base will be responsible for O&M of the pipeline. Other costs associated with the delivery of imported water through the FPUD Wheeling Facilities and the R&R costs for the use of the FPUD Delivery Facilities are discussed in the appropriate section.

2.1.1 Source of Supply (SOS)

The FPUD Delivery SOS O&M includes labor, supervision, engineering, materials, supplies, and other recurring expenses incurred in the operation and maintenance of collecting, impounding, diverting, rediverting, and conveying of water from the inflatable weir to Haybarn Canyon. SOS facilities include: inflatable weir, O'Neill ditch, turnout and control structures, recharge ponds, Lake O'Neill, groundwater recovery wells, raw water conveyance pipelines, and supporting appurtenant facilities.

FPUD Delivery SOS O&M costs include electricity and consumable materials required to pump groundwater from the Santa Margarita River basin aquifer and deliver it to the FPUD Turnout.

Allocation of SOS Costs:
CPEN: 100%
FPUD: 0%

2.1.2 Transmission

The FPUD Delivery Transmission O&M includes the cost of labor, supervision, engineering, materials, supplies, meters, and other expenses incurred in the operating and maintenance cost of transmitting water through the FPUD Delivery Facilities. FPUD Delivery Transmission O&M facilities include the bi-directional pipeline and storage reservoirs, if any,

required to support the conveyance of water from the FPUD Turnout to the FPUD Point of Delivery.

FPUD Transmission O&M costs from the FPUD Turnout to the FPUD Point of Delivery are calculated by summing the actual annual costs incurred by MCB CPEN divided by the total quantity of water delivered.

Allocation of Transmission Costs:
CPEN: 0%
FPUD: 100%

2.1.3 PUMPING

The FPUD Delivery Pumping O&M includes labor, supervision, engineering, materials, supplies, meters, electricity, consumable and other expenses incurred in the recurring cost of pumping water through the FPUD Delivery Facilities from the FPUD Turnout to the FPUD Point of Delivery.

FPUD Pumping O&M costs from the FPUD Turnout to the FPUD Point of Delivery are calculated by summing the actual annual costs incurred by MCB CPEN divided by the total quantity of water delivered.

Allocation of Pumping Costs:
CPEN: 0%
FPUD: 100%

2.1.4 TREATMENT

There are no treatment facilities included in the Fallbrook Delivery O&M costs.

3.0 FPUD DELIVERY R&R COSTS

FPUD Delivery R&R costs are not calculated individually for either the repair or replacement portion; rather they have been lumped as one cost using industry standards. Minor repair performed on the system is included in the costs identified as O&M discussed above. FPUD Delivery R&R costs account for the delivery of Project Water to FPUD and imported water to CPEN, when appropriate. Major repair is likely to include replacement of major components and is included in the R&R costs described below. This R&R Rate will not include any administrative costs nor incur an administrative surcharge. FPUD will pay for administrative costs via the fifteen percent (15%) administrative surcharge on the O&M Rate.

The calculation of the FPUD Delivery R&R costs differs from the calculation of FPUD Delivery O&M costs because they are based on long-term average annual use and not actual

annual costs. FPUD Delivery R&R costs are calculated using 3,350 AFY based on the historical 50-year long-term average annual delivery of FPUD Base Entitlement (3,100 AFY) and the estimated MCB CPEN average annual import water requirement (250 AFY). Additional water delivered to either FPUD or MCB CPEN through the FPUD Delivery Facilities does not incur R&R Costs.

3.1.1 R&R Costs

The FPUD Delivery R&R unit cost is calculated based on the actual capital cost of the component divided by the expected useful life divided by the projected average annual delivery of both project, and if applicable, imported water. The R&R cost for the FPUD Delivery Facilities required to lift or pump project water is based on an average annual delivery of 3,100 AFY. The R&R cost for FPUD Delivery Facilities used to convey both project water and imported water between the Fallbrook Turnout and the FPUD Point of Delivery is based on an average annual delivery of 3,350 afy. The 50-year long-term estimated requirement of imported water from the SDCWA to MCB CPEN is anticipated to be 250 afy[1].

R&R costs will be calculated based on actual capital costs following completion of construction of the FPUD Delivery Facilities and initiation of deliveries to FPUD. After the first year of full deliveries, FPUD Delivery R&R costs would then be escalated annually based on an appropriate index such as the Engineering News Record Construction Cost Index (CCI), the Consumer Price Index (CPI), the Handy Whitman index or otherwise agreed to published escalation factor(s) by the Parties, to reflect actual costs incurred by MCB CPEN.

FPUD R&R Costs are collected so that MCB CPEN may perform major repairs and maintenance to the FPUD Delivery Facilities so they remain in good working order. R&R costs are escalated annually so that the present value of repair and replacement is maintained throughout the life of the project. The annual reporting of costs should include applicable escalation factor(s) and an estimate of the present value of to replace facilities as if new. If the cost to replace facilities as new are not consistent with the R&R unit cost or each parties' use of the pipeline is not consistent with the original estimate based on the 50-year historic record; the Technical Committee should review discrepancies and provide recommendations to the Management Committee for action.

Allocation of R&R Costs:

CPEN: 0% (except for delivery of imported water to MCB CPEN))
FPUD: 100% (except for delivery of imported water to MCB CPEN))

[1] MCB CPEN made this determination based on the 50-year model for Run 16a, which showed that MCB CPEN will require an average of 500 afy to meet an assumed demand of 7,822 afy. Because the demand may be met by severe drought demand measurements or other conservation measures, MCB CPEN believes that only 250 afy (roughly ½) would be required from imported water supplies. Actual import water deliveries to MCB CPEN are expected to occur during Extreme Drought and Below Normal hydrologic conditions; and may exceed 1,500 afy during these periods.

While FPUD is responsible for contributing to R&R expenses as set forth in this exhibit and the Settlement Agreement, MCB CPEN has the responsibility of performing and paying for R&R. The FPUD Delivery R&R payment rate from FPUD to MCB CPEN is calculated on a per acre foot unit cost as shown in the attached table based on estimated 3,100 AFY FPUD Base Entitlement delivered to FPUD; plus a projected 250 AFY of SDCWA water delivered to MCB CPEN through non-pumping related facilities. The average annual conveyance of water through the FPUD Delivery Facilities is estimated to be 3,350 AFY; of which only 3,100 is conveyed through the pumping facilities. The R&R costs attributed with delivery of imported water to MCB CPEN will be the responsibility of MCB CPEN and reduce the overall R&R Rate to be paid by FPUD for non-pumping related FPUD Delivery Facilities.

4.0 OTHER RATES

The following sections of this exhibit describe other rates that are discussed in the Settlement.

4.1 ADMINISTRATIVE AND GENERAL EXPENSES

MCB CPEN recovers all administrative and general expenses based on a 15% overhead fee levied against the FPUD Delivery O&M Rate; not on item-by-item methodology used for O&M and R&R. The following section addresses various overhead costs which will be incurred by MCB CPEN to maintain the maximum sustainable yield of the Lower Santa Margarita River Basin.

4.1.1 ADAPTIVE MANAGEMENT AND OPERATIONS PLANS

The annual recurring expenses related to the Adaptive Management and Operations Plans consists of all costs related to operation of the groundwater model, Adaptive Management Plan (AMP), and Operation Plan (OP). Facilities included in the AMP and OP include monitoring, telemetry, and recording instrumentation required to monitor streamflow, groundwater levels, and environmental parameters that impact the diversion and rediversion of water for the CUP. The cost of these plans is in part recovered by MCB CPEN through FPUD's contribution of the 15% fee levied on the FPUD Delivery O&M cost.

Allocation of AMP and OP Costs:
CPEN: 100% (except as recovered by the 15% fee referenced above)
FPUD: 0% (except as recovered by the 15% fee referenced above)

4.1.2 CUP ADMINISTRATIVE AND GENERAL (AG)

The CUP Administrative and General costs include all office, reporting, accounting, and similar expenses related to the regulatory and statutory reporting requirements. The cost of AG services is in part recovered by MCB CPEN by FPUD's contribution of the 15% fee levied on the FPUD Facilities O&M cost.

Allocation of AG Costs:
CPEN: 100% (except as recovered by the 15% fee referenced above)
FPUD: 0% (except as recovered by the 15% fee referenced above)

4.2 TECHNICAL COMMITTEE (TC)

Technical Committee costs include administrative, office, and the Parties' staff and consultant services regarding all aspects of the performance of the project. Each party will pay their share of TC services; these costs are not included in the 15% fee levied on the FPUD Facilities O&M cost.

Allocation of TC Costs:
CPEN: Each Party Pays Their Share
FPUD: Each Party Pays Their Share

In the event that the Technical Committee requests and obtains approval for participation of one or more persons with relevant expertise as set forth in Section 6.1.1 of the Settlement, costs of those outside services shall be allocated 30% FPUD and 70% MCB CPEN.

4.3 FPUD WHEELING FACILITIES COSTS

The FPUD Wheeling Facilities costs include all administrative, O&M and R&R costs associated with MCB CPEN's use of FPUD Wheeling Facilities for delivering water from SDCWA to the FPUD Delivery Facilities at the FPUD Point of Delivery. If there are any additional costs or expenses incurred by or to FPUD in connection with such wheeling they will be paid by MCB CPEN in accordance with the Settlement. FPUD will document and summarize all FPUD Wheeling Facilities costs for each year and include this documentation with a final invoice for payment.

4.3.1 FPUD ADMINISTRATIVE COSTS

The FPUD Administrative costs include all office, reporting, accounting, and similar expenses related to the purchase of SDCWA imported water to MCB CPEN.

4.3.2 FPUD O&M COSTS

FPUD O&M costs include the cost of labor, supervision, engineering, materials, supplies, meters, and other expenses incurred in the operating and maintenance cost of transmitting water through the FPUD Wheeling Facilities. FPUD Wheeling O&M facilities include the bi-directional pipeline and storage reservoirs required to support the conveyance of water from the FPUD's turnout with SDCWA to the FPUD Point of Delivery.

4.3.3 FPUD R&R Costs

FPUD Wheeling Facilities R&R Costs will be based on a similar methodology used to determine the FPUD Delivery R&R Costs described in Section 3.1.1. of this Exhibit. FPUD Wheeling Facilities R&R costs are based on conveyance pipeline facilities and do not include pumping station related costs because the delivery of imported water to MCB CPEN will be entirely by gravity.

Allocation of FPUD Wheeling Facilities Costs:
CPEN: 100%
FPUD: 0%

5.0 Exemplary Operation, Maintenance, Repair, and Replacement Activities

5.1 Operations activities would include:

- Scheduling deliveries and turn on and off pumps or adjust pump operation based on delivery requirements.
- Coordination with FPUD on delivery timing and changes.
- Time associated with operating and controlling any valves to facilitate delivery.
- Power costs for pump station operation to boost water from Haybarn Canyon to FPUD for actual water delivered.

5.2 Maintenance activities would include:

- Regular valve exercising.
- Labor and material for regular maintenance of valves such as lubrication and adjusting/replacing seats and seals.
- Labor and material for regular pump and motor maintenance such as balancing impellors, maintaining fluids, and painting.
- Regular inspection of pipeline and appurtenances.
- Testing, inspection, and calibration of field instruments.
- Minor repairs for regular schedule service replacement items such as replacing seals, fluids, touch up painting, fuses, indicator lights and minor field instruments.

- Support, maintenance, and upgrades to CUP SCADA and related computer systems (as with all costs, this is to the extent applicable to FPUD Delivery Facilities.)

5.3 REPAIR ACTIVITIES WOULD INCLUDE:

- Servicing leaks in pipe, valves or pumps.
- Removing Pumps for service for replacement of parts such as impellors, casings, or bearings.
- Unplanned failures of valves or pumps that required immediate on-site modifications.
- Fixing wiring or shorts on electrical components.

5.4 REPLACEMENT ACTIVITIES WOULD INCLUDE:

- Replacement of Entire Pump.
- Replacement of Pump Motor.
- Replacement of Valves.
- Replacement of Sections of Pipeline.
- Replacement of electrical gear such as motor control centers.

6.0 EXEMPLARY O&M AND R&R COST CALCULATION

See attached spreadsheet. The numbers are exemplary only.

EXHIBIT 5 SUPPORTING TABLE
EXAMPLES OF TYPCIAL OPERATION, MAINTENANCE, AND REPAIR/REPLACEMENT COSTS
(All values shown are for Example Purposes Only)

Item	Annual Operation and Maintenance	Annual Flow	Annual CPEN Cost	CPEN Allocation	FPUD Allocation	Cost Attrib to CPEN	Cost Attrib to FPUD	CPEN AF Unit Cost	FPUD AF Unit Cost	
1	Operation of Weir and Diversion	10,800	20,000	100%	0%	20,000	-	2	-	SOS Cost
2	Operation of O'Neill Ditch	10,800	10,000	100%	0%	10,000	-	1	-	SOS Cost
3	Ditch Monitoring and Reporting	10,800	40,000	100%	0%	40,000	-	4	-	SOS Cost
4	Electricity for Obermeyer	10,800	2,000	100%	0%	2,000	-	0	-	SOS Cost
5	Operation of Lake O'Neill	1,200	5,000	100%	0%	5,000	-	4	-	SOS Cost
6	Dredging Lake O'Neill	1,200	100,000	100%	0%	100,000	-	83	-	SOS Cost
7	Lake O'Neill Monitoring and Reporting	1,200	5,000	100%	0%	5,000	-	4	-	SOS Cost
8	Operation of Groundwater Wells	10,800	2,500,000	100%	0%	2,500,000	-	231	-	SOS Cost
9	Groundwater well monitoring	10,800	30,000	100%	0%	30,000	-	3	-	SOS Cost
10	Electricity for Groundwater Pumping	10,800	1,000,000	100%	0%	1,000,000	-	93	-	SOS Cost
11	Replacement of Well Pump	10,800	80,000	100%	0%	80,000	-	7	-	SOS Cost
12	Operation of Raw Water Conveyance	10,800	500,000	100%	0%	500,000	-	46	-	SOS Cost
13	Operation of FPUD Turnout	3,100	5,000	0%	100%	-	5,000	-	2	Transmission Cost
14	O&M of FPUD Delivery Facilities	3,100	100,000	0%	100%	-	100,000	-	32	Transmission Cost
15	Cars, trucks, yard expenses for FPUD Delivery Fac	3,100	Item 19	0%	100%	Item 19	Item 19	Item 19	Item 19	Transmission Cost
16	O&M of FPUD Pumping Plants (FPUD Delivery Fac)	3,100	100,000	0%	100%	-	100,000	-	32	Pumping Cost
17	Elec for Pumping Haybarn to Booster (el 90 to 3XX)	3,100	250,000	0%	100%	-	250,000	-	81	Pumping Cost
18	Elec for Pumping Booster to FPUD (el 3XX to 7XX)	3,100	250,000	0%	100%	-	250,000	-	81	Pumping Cost
19	Exercise FPUD Delivery Facilities Valves	3,100	5,000	0%	100%	-	5,000	-	2	Transmission Cost
20	Replace Pump Motor at Booster Sta.	3,100	55,000	100%	0%	55,000	-	18	-	Replacement cost
21	Replace Air Release Valve on FPUD Delivery Fac	3,100	8,000	100%	0%	8,000	-	3	-	Replacement cost
22	Repair Air Release Valve on FPUD Delivery Fac	3,100	3,000	100%	0%	3,000	-	1	-	Repair cost
23	Repair FPUD Delivery Fac	3,100	45,000	100%	0%	45,000	-	15	-	Repair cost
24	Repair FPUD Delivery Fac Check Valves	3,100	100,000	100%	0%	100,000	-	32	-	Repair cost
25	Maintenance and inspection of valves	3,100	10,000	0%	100%	-	10,000	-	3	Transmission Cost
26	FPUD Delivery Fac Monitoring and Reporting	3,100	3,000	0%	100%	-	3,000	-	1	Transmission Cost
27	FPUD Delivery Fac Telemetry and Monitoring	3,100	5,000	0%	100%	-	5,000	-	2	Transmission Cost
28	FPUD Admin Cost for Wheeling Import	1,200	12,000	100%	0%	12,000	-	10	-	FPUD Admin Cost
29	Watershed Protection Plan	10,800	100,000	100%	0%	100,000	-	9	-	CUP Administrative and General Cost
30	Salt Nutrient Management Plan Update	10,800	150,000	100%	0%	150,000	-	14	-	CUP Administrative and General Cost
31	Adaptive Management Plan and Operation Plan	10,800	100,000	100%	0%	100,000	-	9	-	Adaptive Management and Operation Plan Cost
32	Groundwater Model Maintenance	10,800	100,000	100%	0%	100,000	-	9	-	Adaptive Management and Operation Plan Cost
33	SCADA Telemetry equipment for monitoring wells	10,800	50,000	100%	0%	50,000	-	5	-	Adaptive Management and Operation Plan Cost
34	New monitoring well	10,800	40,000	100%	0%	40,000	-	4	-	Adaptive Management and Operation Plan Cost
35	CPEN Related Technical Committee Cost	10,800	30,000	100%	0%	30,000	-	3	-	Technical Committee Cost
36	FPUD Related Technical Meeting Cost	10,800	15,000	0%	100%	-	15,000	-	1	Technical Committee Cost
37	SCADA Diversion and Groundwter Pumping	10,800	100,000	100%	0%	100,000	-	9	-	SOS Cost
38	SCADA for Bi-Directional Pipeline	3,350	35,000	0%	100%	-	35,000	-	10	Transmission Cost
39	Cost of USGS to Support Technical Committee	10,800	30,000	50%	50%	15,000	15,000	1	1	Technical Committee Cost
40	**Annual OM RR&AG Cost**		**5,993,000**			**5,200,000**	**793,000**	**620**	**248**	

NOTE: Annual Flow reflects the actual water pumped and/or delivered to the FPUD Point of Delivery. Long-term average annual values used for example only.

EXHIBIT 5 SUPPORTING TABLE
EXAMPLES OF TYPCIAL OPERATION, MAINTENANCE, AND REPAIR/REPLACEMENT COSTS
(All values shown are for Example Purposes Only)

Item	Annual Repair and Replacement Facilities	Annual Flow	Annual CPEN Cost	Useful Life	CPEN Allocation	Cost Attrib to CPEN	Cost Attrib to FPUD	CPEN AF Unit Cost	FPUD AF Unit Cost	Capital Cost
39	Haybarn Pumping Plant									2,400,000
39a	Pump Structures and Improvements	3,100	16,000	100	100%	0	16,000	-	5	1,600,000
39b	Pump Equipment	3,100	32,000	25	100%	0	32,000	-	10	800,000
40	Booster Pumping Plant									2,400,000
40a	Pump Structures and Improvements	3,100	16,000	100	100%	0	16,000	-	5	1,600,000
40b	Pump Equipment	3,100	32,000	25	100%	0	32,000	-	10	800,000
41	Pipeline Valves	3,350	20,000	25	100%	0	20,000	-	6	500,000
42	Pipeline	3,350	140,000	100	100%	0	140,000	-	42	14,000,000
43	Electrical Gear	3,100	66,667	15	100%	0	66,667	-	22	1,000,000
44	Instrumentation	3,350	20,000	10	100%	0	20,000	-	6	200,000
45	**Annual R&R Cost**		**342,667**			**-**	**342,667**	**-**	**106**	
46	**Total O&M and R&R Costs**		**6,335,667**			**5,200,000**	**1,135,667**	**620**	**354**	

NOTE: Items 41, 42, 44 include Imported Water Deliveries of 250 afy
3,100 AFY reflects estimated FPUD Base Entitlement based on 50-year hydrology (1952-2001)
3,350 AFY reflects estimated FPUD Base Entitlement (3,100 AF) + Annual CWA Deliveries to CPEN (250 AFY)

EXHIBIT 6

Payment Rate B

(All Costs Shown are For Example Only)

CPEN O&M COSTS to FPUD POINT OF DELIVERY

CPEN GW O&M	+	FPUD Delivery Fac. O&M	=	CPEN Cost
$430		$46		$476

Comments

CPEN O&M Cost of producing and conveying project water to FPUD POD.

FPUD TOTAL COSTS to RMR

FPUD Treat O&M	+	FPUD Convey O&M	+	FPUD Capital for Project Facilities, if any	=	FPUD Cost
$158		$50		Unknown		$208

FPUD Cost of treating and conveying project water from FPUD POD to RMR

Calculate Rate B

CALCULATE EQUIVALENT COST OF IMPORT AT POINT OF DELIVERY

Cost of SDCWA Treated Imported Water to RMR	-	FPUD Cost	=	Equivalent Import at POD
$1,073		$208		$865

Equivalent Cost of Import at POD is the cost of imported water delivered to RMR minus the cost to treat and convey project water to RMR

CALCULATE RATE B MARGIN

Equivalent Import at POD	-	CPEN Cost	=	Rate B Margin
$865		$476		$389

Rate B Margin

CALCULATE RATE B

CPEN O&M Cost	+	1/2	Rate B Margin	=	Rate B
$476			$195		$671

Rate B is the CPEN O&M Cost plus 1/2 the Rate B Margin

Notes: CPEN = MCB Camp Pendleton
RMR = FPUD's Red Mountain Reservoir
O&M costs are determined in accordance with the Settlement Agreement.
In the event of conflict, the Settlement Agreement Governs.

EXHIBIT 7

TO SETTLEMENT AGREEMENT

MCB CPEN and Fallbrook Public Utility District

Examples of Water Delivery Accounting

Example: Below Normal Year, Banked Excess Delivery, starting bank balance = 0.

Year Type: BN

Month	Required Entitlement Delivery	Actual Delivery	Ending Bank Balance	Rate A Excess (<400 AF)	Rate B Excess (>400 AF)	SDCWA in-lieu water delivered
May	60	70				
June	60	70				
July	60	50				
August	60	50				
September	60	60				
October	150	150				
November	150	200				
December	150	250				
January	150	150				
February	150	200				
March	150	150				
April	100	150				
Annual Total	**1300**	**1550**	**50**	**200**	**0**	**0**

Example: Below Normal Year, Rate B Excess Delivery, starting bank balance = 0.

Year Type: BN

Month	Required Entitlement Delivery	Actual Delivery	Ending Bank Balance	Rate A Excess (<400 AF)	Rate B Excess (>400 AF)	SDCWA in-lieu water delivered
May	60	400				
June	60	400				
July	60	400				
August	60	400				
September	60	400				
October	150	400				
November	150	400				
December	150	400				
January	150	400				
February	150	400				
March	150	400				
April	100	800				
Annual Total	**1300**	**5200**	**3000**	**400**	**500**	**0**

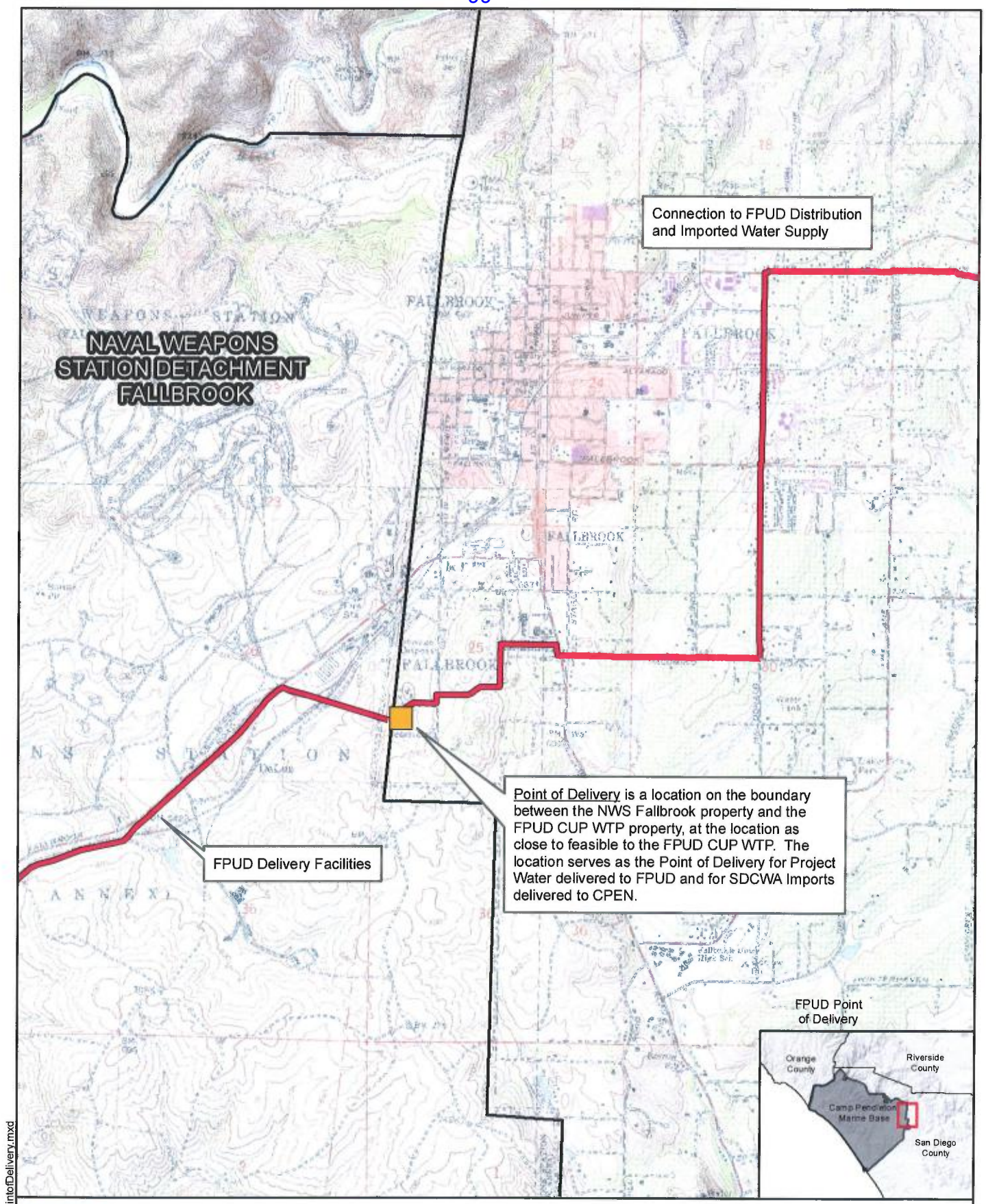
Example: Very Wet Year, Required SDCWA in-lieu water Delivery, **starting bank balance = 300.**

Year Type: VW

Month	Required Entitlement Delivery	Actual Delivery	Ending Bank Balance	Rate A Excess (<400 AF)	Rate B Excess (>400 AF)	SDCWA in-lieu water delivered
May	740	400				
June	650	400				
July	550	400				
August	450	50				
September	350	50				
October	350	0				
November	400	0				
December	500	0				
January	550	0				
February	590	0				
March	590	0				
April	600	400				
Annual Total	6320	1700	-3000	0	0	1320

Note: Additional examples showing project conditions and use of the bank during a simulation of 50-year project conditions if the 50-year hydrology (1952-2001) were repeated are shown in Appendix A.

This exhibit and Appendix A augments the Settlement Agreement. In the event of conflict, the body of the Settlement Agreement shall prevail.


NAVAL WEAPONS STATION DETACHMENT FALLBROOK
Connection to FPUD Distribution and Imported Water Supply
FPUD Delivery Facilities
Point of Delivery is a location on the boundary between the NWS Fallbrook property and the FPUD CUP WTP property, at the location as close to feasible to the FPUD CUP WTP. The location serves as the Point of Delivery for Project Water delivered to FPUD and for SDCWA Imports delivered to CPEN.
FPUD Point of Delivery
Orange County
Riverside County
Camp Pendleton Marine Base
San Diego County
Path: J:\n2408\FPUD_PointofDelivery.mxd
STETSON ENGINEERS INC.
Exhibit 8
Point of Delivery
(Location of Facilities are Approximate)
N
0 10 20
Miles

APPENDIX A

Surface and Groundwater Modeling Supporting the MCB Camp Pendleton-Fallbrook Public Utility District Settlement

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List of Tables

EXECUTIVE SUMMARY AND INTRODUCTION

The purpose of this Appendix A is to describe the surface and groundwater modeling upon which the Marine Corps Base, Camp Pendleton (MCB CPEN)-Fallbrook Public Utility District (Fallbrook PUD) settlement is predicated[1]. The modeling was done, and Appendix A was prepared, by Stetson Engineers Inc., hydrologic consultant to MCB CPEN. Surface water modeling was performed in order to estimate the water availability at the Santa Margarita River Conjunctive Use Project's (CUP) point of diversion (POD) located at the existing sheet-pile weir on MCB CPEN. Groundwater modeling was used to estimate the groundwater yield from the aquifers on MCB CPEN in order to estimate a monthly delivery schedule to Fallbrook PUD. The delivery schedule developed from the surface and groundwater models is, in part, the basis for allocation of project yield identified in Article 3 of the Stipulation of Settlement.

Surface water modeling to reconstruct historical flow that would have occurred at the POD if a streamflow gage had existed at that location was performed. Flow at the POD is defined as the quantity of flow immediately before any diversions, extractions, or bypasses. Based on the reconstructed historical flow, future streamflows expected to occur during CUP project operations were estimated so project yield could be determined. Project yield and the related delivery schedule to Fallbrook PUD was developed using future streamflow and the Lower Santa Margarita River Groundwater Model (LSMR Model). The result of combing future streamflow and CUP operations in the LSMR Model was a monthly water delivery schedule that relies on actual hydrologic conditions occurring in the Santa Margarita River Watershed.

A Reservoir Operations Model (ROM) was developed to account for surface water diverted from the Santa Margarita River to either Lake O'Neill or the recharge ponds. External to both the surface water model and the LSMR Model, the ROM optimizes diversions in order to meet bypass, water supply, and water rights requirements. The ROM accounts for rainfall and evaporation on Lake O'Neill, as well as spills and releases from the lake that are simulated by the LSMR Model as either streamflow or recharge to the groundwater system.

This Appendix A addresses the available data and methodologies used to develop the models and perform simulations for establishing the delivery schedule to Fallbrook PUD. Generally, 50 years of historical climatic conditions from water year (WY) 1952 through 2001 were used to estimate future yield during CUP operations. The 50-year record was chosen based on its representation of various hydrologic conditions, from extended drought to very wet cycles,

[1] This appendix augments the Settlement. In the event of conflict, the text of the Settlement shall prevail.

which determine the streamflow hydrology in the Santa Margarita River Watershed. Future changes in streamflow conditions that could affect project yield are expected to occur, whether related to global climate change or anthropogenic impacts, within the 50-year hydrology chosen to develop the delivery schedule to the Fallbrook PUD. Based on these data and assumptions, measured flow at the POD is used to determine each year's hydrologic condition as Very Wet (VW), Above Normal (AN), Below Normal (BN), Very Dry (VD), or Extended Drought (ED). The hydrologic condition determines the groundwater delivery obligation from the aquifers on the MCB CPEN to Fallbrook PUD, which obligation ranges from 0 up to 740 acre-feet per month (afm).

The April 2012 Technical Memorandum 1.1 update to the United States Bureau of Reclamation's (Reclamation) "Final Technical Memorandum No. 1.0: Statistical Analysis of Santa Margarita River Surface Water Availability at the CUP's Point of Diversion" is the basis for estimating the flow at the POD. The estimate of streamflow at the POD is based on all available historical and current hydrological related data including, but not limited to, United States Geological Survey (USGS) streamflow gaging stations; precipitation stations; diversion records; and stream augmentation and related legal agreements. Future impacts due to global or regional climate change, land use changes, and economically driven water use and conservation behavior is not specifically simulated in the modeling. Although impact from these stressors was considered when the 50-year hydrologic record was chosen, adequate data does not exist to develop a basis for simulation in the surface water model.

SURFACE WATER HYDROLOGY

The 744-square-mile Santa Margarita River Basin lies within the counties of San Diego and Riverside in southern California. Hydrological conditions in the Santa Margarita River Basin are controlled by wintertime tropical and northern Pacific storm events, and to a minor degree, summer monsoon events. While most of the precipitation occurs as rainfall throughout the watershed, snowfall may occur in the higher mountain ranges located in the upper reaches of the watershed, influencing springtime baseflow above the Vail Dam. Typical of many southwestern United States stream systems, extreme peak flows often occur during winter rain events, while minimum baseflows occur during the dry summer months. The flashy nature of the Santa Margarita River and the daily streamflow variability were considered to statistically describe the volume of annual quantity of water available at the POD.

The Santa Margarita River Watershed is divided into two distinct subwatersheds referred to as the Upper Watershed and Lower Watershed (Figure 1). The Upper Watershed includes the watershed and drainage area located above the confluence of Murrieta and Temecula Creeks, a

point referred to as the Gorge; and where streamflow is measured by a USGS gage (USGS Station ID 11044000.) The Lower Watershed includes the drainage area downstream of the Gorge to the Pacific Ocean. Major tributaries in the Lower Watershed include De Luz, Sandia, and Rainbow Creeks, which all are monitored and recorded by the USGS. For the purpose of simulating water availability at the POD, all streamflow from the Upper Watershed was assumed to be measured at the USGS streamflow gage at the Gorge; hence, no other streamflow gages in the Upper Watershed were considered in this analysis.

The groundwater basins in the Santa Margarita River Watershed also may be divided into the Upper and Lower Basins. The Upper Basin commonly refers to the Murrieta-Temecula groundwater basin located up-gradient of the Gorge; additionally, the Anza Basin, separate from the Murrieta-Temecula basin, is also located up-gradient of the Gorge. The Lower Basin addresses the groundwater basin located entirely on MCB CPEN and includes the Upper Ysidora, Chappo, and Lower Ysidora Sub-basins. Neither the Upper Basin nor the Anza Basin was directly considered during the reconstruction of streamflow or the estimated future water availability at the POD.

1.1 Reconstruction of Historical Streamflow at the Point of Diversion

The purpose of reconstructing historical streamflow at the POD is to estimate future water availability in order to determine the amount of water that may be diverted from the river and subsequently delivered to either Lake O'Neill or the recharge ponds. Based on the quantity of total diversions and the amount of water that remains in the river, the LSMR Model is used to estimate the groundwater yield from the aquifers on MCB CPEN. A methodology of examining historical, current, and future surface and groundwater flows was employed in order to estimate future sustained yield.

Historical streamflow at the POD was reconstructed for the period WY 1925 through WY 2009. Due to information gaps in the historical record, multiple hydrologic principles and methods were used to reconstruct the streamflow for the entire 85-year period. In addition to reflecting changes in streamflow at the POD due to varying hydrologic conditions, reconstructed historical streamflow includes anthropogenic impacts from urbanization and water development projects that occurred during the historical period.

Figure 1 depicts the location of USGS streamflow gages used to reconstruct flow at the point of diversion. The accuracy of each gage varies depending on its location and flow and is described in the annual USGS publications for each station. The Santa Margarita River at Ysidora gage (USGS 11046000), used as a reference, is located approximately 2.3 miles

downstream of the POD and is influenced by surface diversions, groundwater pumping, and releases from Lake O'Neill. Prior to 1980, the Ysidora gage was located at multiple sites downstream from MCB CPEN's airfield. While the Ysidora gage may be the closest gage, it was not used to determine historical streamflow at the POD. All other streamflow gages on the Santa Margarita River are located upstream of the POD and were used to reconstruct historical streamflow for the period of record WY's 1925 to 2009 (Table 1).

TABLE 1. STREAM GAGING STATIONS USED TO RECONSTRUCT STREAMFLOW IN THE SANTA MARGARITA RIVER AT THE POINT OF DIVERSION

Station Name	USGS Station ID No.	Operating Agency	Period of Record	Drainage Area (mi^2)[1]
Santa Margarita River near Temecula (Gorge)	11044000	USGS	2/23-Present	588.0
Santa Margarita River at FPUD Sump	11044300	USGS	10/89-Present	620.0
Sandia Creek near Fallbrook	11044350	USGS	10/89-Present	21.1
Santa Margarita River near Fallbrook	11044500	USGS	10/24-9/80	644.0
De Luz Creek near De Luz	11044800	USGS	10/92-Present	33.0
De Luz Creek near Fallbrook	11044900	USGS	10/51-9/67	47.5
Santa Margarita River at Ysidora (various locations)	11046000	USGS	3/23-Present	723.0

[1] mi^2 = square miles.

Three precipitation gages to estimate rainfall were relied on in the Lower Watershed (Table 2) to develop estimated runoff factors where streamflow gages were unavailable. The Lake O'Neill precipitation station has the longest period of record (1876 to present).

TABLE 2. PRECIPITATION STATIONS USED TO RECONSTRUCT STREAMFLOW IN THE SANTA MARGARITA RIVER AT THE POINT OF DIVERSION

Station Name	Operating Agency	Elevation[1] (ft above MSL)	Latitude[2]	Longitude[2]	Data Format	Period of Record From	Period of Record To
Ammo Dump	OWR	1,068	33°22'53"	-117°17'08"	Daily	7/2002	Present
Lake O'Neill	OWR	120	33°19'46"	-117°19'10"	Daily[3]	7/1876	Present
Oceanside Marina	NWS	100	33°12'35"	-117°23'42"	Daily	12/1943	Present

[1] Elevation referenced to National Geodetic Vertical Datum of 1929 (NGVD29).

[2] Latitude and Longitude referenced to North American Datum of 1927 (NAD27), except Oceanside Marina which is referenced to North American Datum of 1983 (NAD83).

[3] Lake O'Neill records are monthly from 1876-1913 and daily thereafter.

Long-term USGS gage data does not exist at the POD, therefore, data from the USGS gages listed in Table 1 and precipitation data shown in Table 2 were used to develop a

streamflow hydrograph. Historical daily streamflow observed at these gage sites was used to simulate an 85-year period of record. Missing data from streamflow gages with incomplete periods of record were reconstructed and calibrated using established hydrologic methods and available data.

A spreadsheet model was developed to reconstruct the probable historical streamflow at the POD. The development of reconstructed streamflow at the POD is based on observed daily streamflow recorded by the USGS and precipitation data from NOAA and MCB CPEN. The hydrologic record is described by three (3) time-periods defined by the date when streamflow gages in the lower Santa Margarita River Watershed were in operation.

- **Water Years 1925 to 1980**: The total streamflow at the POD was calculated based on adding streamflow from the Santa Margarita River near Fallbrook gage (USGS #11044500) to streamflow from De Luz Creek, plus estimated accretion between the downstream gages and the POD based on precipitation records. The contribution from Sandia Creek was included in the Santa Margarita River near Fallbrook gage during this period since the former gage was located downstream from their confluence.

- **Water Years 1981 to 1989**: The streamflow records at the Santa Margarita River near Fallbrook gage were missing due to a 1980 flood event. To reconstruct streamflow at the POD, the contribution of streamflow from the Santa Margarita River near Temecula gage (USGS #11044000) was added to contributions from below the Gorge estimated using the Soil Conservation Service (SCS) Curve Number method for peak flows and an area-based portion of Cooperative Water Resource Management Agreement (CWRMA) flows to estimate base flows.

- **Water Years 1990 to 2009**: Streamflow at the POD for the most recent period was developed by summing historical streamflow data from the Santa Margarita River at the FPUD Sump (USGS #11044300), Sandia Creek (USGS #11044350), and De Luz Creek near De Luz (USGS #11044800) gages, plus estimated accretion between the downstream gages and the POD.

Figure 2 depicts an estimate of daily streamflow at the POD for WY's 1925 through 2009 based on the methodology described above. The streamflow reflects variability due to both natural hydrologic and anthropogenic changes that occurred during the 85-year period of record and does not necessarily reflect future water availability. Following reconstruction of historical streamflow, known historical water management practices were examined to determine their

influence on future water availability at the POD. Historical impacts that were reviewed and examined included: land use changes, the two (2) million gallon-per-day (MGD) live stream demonstration project, and the 1940 Stipulated Judgment releases. Future known impacts to the availability of streamflow were also reviewed and considered, including land use changes and the CWRMA. Adjustments to the reconstructed streamflow record were made for diversions and augmentation in order to determine the future availability of water, however; no adjustments were made for changes in land use or the importation of water to the Upper Watershed.

1.2 Establishing Hydrologic Conditions

Annual hydrologic conditions were delineated in order to develop a method for managing the Santa Margarita River Groundwater Basin. Similar to the technique previously used to develop hydrologic conditions for the CWRMA, a graphical method was used to separate the entire period of record into four different hydrologic conditions: Very Wet (VW), Above Normal (AN), Below Normal (BN), and Very Dry (VD).

The frequency distribution of October through April wintertime streamflow at the POD was used to define the upper and lower boundary of each hydrologic condition. The wintertime streamflow frequency curve is divided into four parts, established by graphical slope breaks. These slope breaks allow each WY in the 85-year period of record to be categorized by a hydrologic condition based on the total volume of wintertime streamflow. Based on the 85-year period of record, 42 years (50%) were identified to be greater than the median wintertime flow, one year equal to the median flow, and 42 years (50%) less than the median flow. Those years greater than the 50% median flow were then broken into VW and AN based on a natural break-point on the graph while those years below the median were divided between BN and VD (Table 3 and Figure 3).

TABLE 3. DELINEATION OF HISTORICAL HYDROLOGIC CONDITION BASED ON 85-YEAR RECONSTRUCTED STREAMFLOW AT THE POINT OF DIVERSION

Range of Winter-time Streamflow (AF)	Hydrologic Condition	Range of Winter-Time Streamflow Time Exceedance (%)
> 55,600	VW - Very Wet	1-19
12,800 to 55,600	AN - Above Normal	20-50
5,000 to 12,799	BN - Below Normal	51-75
< 5,000	VD - Very Dry	76-100

Note: Winter-time streamflow calculated as the total October through April Santa Margarita River streamflow at the point of diversion.

1.3 Determination of Balanced Hydrologic Period

Due to the hydrologic variability of the Santa Margarita River, the surface water and groundwater analysis for the CUP required the development of a period of record, representative of the historical variability of hydrologic conditions, which can be used for estimating future project yield. A 50-year period of record that captures antecedent conditions over extended dry and wet periods was chosen to best represent future hydrology to determine basin yield during CUP operations. The 50-year period was chosen to begin in the 1950s, thereby excluding the "natural" conditions that existed prior to 1950, which will not be repeated in the future.

Stetson Engineers collaborated with Reclamation staff in March and April of 2006 to determine the most appropriate 50-year period to represent a hydrologic record that could be used to determine the basin yield during proposed CUP operations. Based on both reconstructed winter-time streamflow at the POD and historical precipitation at Lake O'Neill, hydrologic conditions that occurred from WY 1952 through WY 2001 were chosen to represent future hydrology. Figure 4 shows the cumulative departure from mean for the period of record WY's 1925 through 2009. The 50-year period from WY's 1952 through 2001 exhibits a balanced period, representing both extended wet and dry hydrologic conditions.

1.4 Estimating Future Water Availability at the P-OD

The WY 1952 to 2001 reconstructed streamflow at the POD was corrected for historical diversions and augmentation to estimate future water availability and to determine future streamflow for future model years (MY) 1 through 50 (MY refers to modeled future conditions based upon the historical period of record). Augmentation made during enforcement of the 1940 Stipulated Judgment was "subtracted" from the historical record since these flows will be

replaced in the future by CWRMA releases. Subsequently, streamflow augmentation prescribed in the CWRMA was "added" to the reconstructed flow record to account for future releases. Although releases made during the 2 MGD project at the Santa Rosa Wastewater Treatment Facility were reviewed, their contribution to flow at the Gorge was determined to be minimal due to losses; therefore, no corrections were made for the 2 MGD live stream discharge to Murrieta Creek. Other corrections for land use changes and Upper Watershed water use practices were not accounted for in the estimate of future water availability due to insufficient specific data to support addition or subtraction to the reconstructed record. The following corrections were made to the historical flow record with the purpose of estimating future streamflow availability at the POD for MYs 1 through 50.

- **1940 Stipulated Judgment Augmentation at the Gorge**: The Rancho California Water District (RCWD) augmented streamflow at the Gorge (USGS #11044000) from October 1989 to December 2002 to maintain a 3-cfs minimum flow requirement at the Gorge as specified in the 1940 Stipulated Judgment. Releases made to augment the flow at the Gorge were subtracted from the historical reconstructed record to simulate future streamflow.

- **CWRMA Augmentation at the Gorge**: The RCWD will augment streamflow at the Gorge (USGS #11044000) to maintain the minimum flows as agreed upon in the CWRMA. Minimum flows are based on hydrologic conditions and vary seasonally to mimic the natural variability. CWRMA releases augment the flow at the Gorge and were added to the historical reconstructed record to simulate future streamflow. Natural evaporative losses between the point of release and the POD were accounted for to determine future available flow.

Figure 5 depicts future streamflow at the POD for MY 1 through 50 based on the correction for historical and future diversions and augmentations previously described. Estimated MY 1 through 50 streamflow will occur only if hydrologic conditions similar to those that occurred between WY's 1952 and 2001 repeat in the future. Future hydrologic conditions may be different due to impacts from global climate change and changes in weather patterns; or, if the 1952 to 2001 hydrologic period is not representative of long-term hydrology.

Annual hydrologic conditions for each of the 50 future water years were delineated based on the criteria established for the 85-year historical period to assure the shorter interval represented a balanced period. Results of this comparison revealed that 24 of the 50 years were AN or VW and 26 years were BN or VD. Optimization of the yield from the MCB CPEN's aquifers using the LSMR Model indicated that while there were originally only four hydrologic

conditions, a fifth category was required to account for Extreme Drought (ED) conditions. Hence, the VD category was subdivided into the VD and ED categories in order to account for these extreme conditions.

Table 4 provides a summary of the delineation of hydrologic conditions based on future (MY 1-50) winter-time streamflow at the POD. The winter-time streamflow that defines the breaks between hydrologic conditions is greater for the 50-year period of record when compared to those that define the breaks of the 85-year historical reconstruction as shown in Table 3. For example, a winter-time streamflow less than 5,781 AF will define a VD year during future conditions while a historical flow of less than 5,000 AF (Table 3) defines VD conditions. The difference can be attributed to the correction for diversions and augmentations used to determine availability of future water supply at the POD.

TABLE 4. DELINEATION OF FUTURE HYDROLOGIC CONDITION BASED ON WINTER-TIME STREAMFLOW FOR THE 50-YEAR MODEL PERIOD

Range of Winter-time Streamflow (AF)	Hydrologic Condition	Number of Years Hydrologic Condition Occurs During MY 1- 50
> 58,032	VW - Very Wet	9
15,958 to 58,032	AN - Above Normal	15
5,781 to 15,957	BN - Below Normal	14
< 5,781	VD - Very Dry	5
2 or more Very Dry Years in a row	ED – Extreme Drought	7

Note 1: Winter-time streamflow calculated as the total from October 1 through April 30. Santa Margarita River streamflow at the point of diversion. This hydrologic condition is based on future streamflow, including corrections for diversions and augmentations.

Note 2: The "Extreme Drought" condition only occurs following the second consecutive Very Dry year. Whereas there is a volume cut off for VW, AN, BN, and VD, there is an antecedent condition required for the Extreme Drought condition.

Installation of a streamflow gage at the POD will aid in calibrating the model to actual data. Both the model-generated and measured streamflow at the POD should then be collected for a minimum of 10 years, or until there is a representative sample of very dry and very wet condition streamflows, in order to compare modeled versus measured data. If it is determined that any changes should be made to the range of winter-time streamflow for a given hydrologic year type, the number of years each hydrologic condition occurs, and the volume of water to be delivered to Fallbrook PUD during those year types, must remain the same to remain consistent with the settlement so that the base entitlement to be delivered to Fallbrook PUD is on average

3,100 afy, based on the historic 50-year period of record being repeated going forward. Actual future base entitlement deliveries to Fallbrook PUD will be based on the measured hydrologic conditions and may not average 3,100 afy unless hydrologic conditions, identical to the 1952-2001 period of record, is repeated during future project conditions.

ROM AND LSMR MODEL DEVELOPMENT

A ROM and LSMR Model were developed in order to manage surface diversions and estimate future groundwater basin yield, respectively. The ROM simulates the physical limitations of the diversion facilities and the restrictions attached to available water rights to estimate flows to the recharge ponds and Lake O'Neill based on daily streamflow data. The output from the ROM determines a large portion of recharge and inflow to the LSMR Model, including: streamflow passing the POD; infiltration at the seven recharge ponds; and spill and releases from Lake O'Neill and Fallbrook Creek. The LSRM Model simulates changes in groundwater levels and streamflow through MCB CPEN's aquifers based on monthly data provided from the ROM and other hydrologic datasets. The LSMR Model was used to determine sustainable basin yield based on the 50-year reconstructed streamflow at the POD and provide a schedule for delivery of groundwater to Fallbrook PUD.

Results and conclusions from the modeling were based on comparing hydrologic baseline conditions to those conditions resulting from future alternative management operations. Baseline conditions were established using the 50-year future reconstructed streamflow at the POD to represent existing conditions. Hydrologic conditions during future management operations were also based on the future reconstructed streamflow at the POD so that the impact of new facilities could be compared to those of existing or Baseline conditions. Future reconstructed streamflow was used to simulate hydrologic conditions during all ROM and LSMR Modeling simulations so that no impacts would be due to differences in hydrologic conditions.

More than 20 different management scenarios were simulated to optimize sustainable groundwater yield from the Lower Santa Margarita River Basin (Reclamation, 2007; Stetson, 2008, 2016). This Appendix A describes results from the Recent Management Baseline simulation and Model Run RPM7, which is described in the Santa Margarita River CUP EIS/EIR as Alternative 1. Model Run 13A was created to simulate EIS/EIR Alternative 2 facilities, including the operation of four gallery wells, and is discussed below for comparison to the Alternative 1 groundwater well only alternative that is the foundation for this settlement.

2.1 LOWER SANTA MARGARITA RIVER BASIN ROM

The Lower Santa Margarita River Basin ROM was developed to account for diversions from the Santa Margarita River to Lake O'Neill and the recharge ponds based on daily streamflow and available water rights. The ROM is an independent model that relies on measured values of precipitation, evaporation, infiltration, and conveyance capacities that accurately estimate the daily diversions within the boundaries of available water rights. The diversion and bypass results from the ROM are used as input to the LSMR Model so that the daily operations associated with highly variable flows in the river can be accounted for in the monthly stress periods simulated in the groundwater model. In addition to calculating diversion and bypass rates for various management scenarios, the ROM estimates daily release and spill rates from Lake O'Neill, which provides surface flow and recharge values to the LSMR Model.

Multiple management scenarios that identified specific diversion operations were simulated using the ROM. The goal was to optimize the amount of water diverted from the Santa Margarita River under the permitted water rights, while simultaneously maintaining bypass requirements for downstream habitat maintenance. Simulated diversions from the Santa Margarita River to Lake O'Neill and the recharge ponds were estimated based on the terms of the existing pre-1914 water right, the 4,000-afy license, and the permits. Physical limitations related to existing or future diversion structures, road crossing, or ditch capacities were adjusted according the management scenario being investigated.

The ROM simulated Baseline conditions assuming five of the seven recharge ponds were operable and the capacity of Lake O'Neill was 1,680 AF. The Baseline simulation assumed no new diversion or conveyance facilities, thus limiting the maximum diversion from the Santa Margarita River to 60 cfs. Daily precipitation and evaporation data from Oceanside and Lake O'Neill were used to mass balance reservoir operations at both the recharge ponds and Lake O'Neill. Streamflow from Fallbrook Creek was based on USGS gages and were simulated as flowing unimpeded through Lake O'Neill.

The ROM simulated future project conditions assuming all seven recharge ponds were operable and the capacity of Lake O'Neill was 1,680 AF. The future model simulations assumed construction of an inflatable weir, new headgate, and conveyance improvements that resulted in a maximum daily diversion rate of 200 cfs. Daily precipitation and evaporation data from Oceanside and Lake O'Neill were used to mass balance reservoir operations at both the recharge ponds and Lake O'Neill. Streamflow from Fallbrook Creek was based on USGS gages and were simulated as flowing unimpeded through Lake O'Neill.

ROM simulations of Baseline and future project conditions resulted in streamflow and recharge pond infiltration values used by the LSMR Model. When appropriate, the ROM was managed to allow for additional bypass of streamflows below the POD to meet environmental requirements or the demand of other facilities such as gallery wells that pump directly from the gravels of the Santa Margarita River.

2.2 LSMR Model

The LSMR Model was first developed in 2000 for analysis of water supply projects to support the development of Permit 15000 and related infrastructure requirements (Stetson, 2001). The LSMR Model was peer-reviewed by Reclamation and used to develop 10 of the original 16 alternatives for constructing and operating a conjunctive use project for the benefit of all parties (Reclamation, 2007). Field investigations, including new observation wells and aquifer tests, were performed throughout the 2007 to 2010 period in order to improve model accuracy with additional hydrogeologic data. The LSMR Model was last revised in 2010 to incorporate the USGS's MODFLOW-2005 (USGS, 2005) finite difference model code (Stetson, 2010). Additional model runs were constructed from 2010 through 2016 during environmental consultations with federal and state agencies to evaluate riparian conditions for endangered species (Stetson, 2016). In addition to supporting the CUP, the LSMR Model is updated and maintained to provide continued support for annual water management decisions on MCB CPEN.

The active model cells of the LSMR Model represent the water-bearing alluvium. The LSMR Model has 202 rows, 90 columns with 3,380 active cells (200 feet × 200 feet). The two LSMR Model layers represent the upper and lower alluvium. Figure 6 shows the extent of active cells for both layers of the LSMR Model. The number of active cells in Layer 1 represents the horizontal extent of the upper 50 to 80 feet of aquifer material. The active cell count and thickness of Layer 2 simulates the productive zone below the required 50-foot sanitary seal for production wells (Stetson, 2010).

The LSMR Model was calibrated using the refined geology, optimum parameters, updated MODFLOW code, and hydrologic conditions from 1980-2010 (29 years) to simulate surface and groundwater flow in the Lower Santa Margarita Basin. The simulated water levels were compared to the historical water levels to refine the calibration. The processes and steps used to calibrate the LSMR Model included non-linear parameter optimization using the USGS's UCODE and advanced statistical methods for further parameter refinement.

The LSMR Model describes the physical and environmental characteristics during varying hydrologic conditions that are typical in the Santa Margarita River watershed. The 50-year simulation period includes hydrologic conditions that are described as ED, VD, BN, AN, and VW. During the 50-year period, ED/VD conditions occurred for 12 years (24%), BN conditions for 14 years (28%), AN conditions for 15 years (30%), and VW conditions for 9 years (18%). Comparison of physical parameters, such as groundwater levels and streamflow quantities, during each of these five different hydrologic conditions allows for assessment of potential impacts between no-project and project alternatives.

The streamflow, groundwater production, environmental, and infrastructure parameters and constraints used for each of the three alternatives are described in Attachment A. The Baseline simulation was developed to establish physical parameters under existing conditions to which the project alternatives could be compared. The Baseline model run relies only on existing infrastructure to meet recent historical groundwater requirements on MCB CPEN. Alternatives 1 and 2 rely on improved diversion and conveyance facilities and additional production and gallery wells to increase sustained basin yield and meet the parties' demands. Operational constraints for Alternatives 1 and 2 limit pumping to prevent negative environmental impacts, including: no aquifer compaction; minimum riparian water levels; and minimum subsurface flow at the Lower Ysidora Narrows.

Infrastructure improvements for Alternatives 1 and 2 include the construction of a bi-directional pipeline that allows for an increase in sustained basin yield due the availability of an alternative water supply during prolonged drought conditions. Project operations under Alternatives 1 and 2 curtail groundwater pumping during dry hydrologic conditions to protect physical and environmental concerns and instead rely on imported water to meet the parties' water demands. Without a connection to an alternative water supply, groundwater pumping under Alternative 1 would be less than anticipated during all hydrologic conditions, resulting in a reduction in sustained basin yield.

The results of the LSMR Model analysis are described through review of the various inflow and outflow terms identified in the volumetric budget (Table 5). The average annual groundwater pumping under the Baseline model run is 6,600 afy, 2,200 afy less than the 8,800 afy allowed under existing water rights. Based on the environmental constraints and operational parameters that were used to develop each project alternative, increases in Alternatives 1 and 2 sustained basin yield above baseline yield were limited to 4,000 afy and 6,200 afy, respectively. Average annual imported water supplies necessary to meet sustained basin yield requirements for Alternatives 1 and 2 are 250 afy and 510 afy, respectively.

TABLE 5. SIMULATED AVERAGE ANNUAL WATER BUDGET FOR BASELINE AND TWO PROJECT ALTERNATIVES

	Recent Management Baseline	Groundwater Wells Only	Groundwater and Gallery Wells
Inflow (af/y)			
SMR Inflow	38,300	38,300	38,600
Subsurface Underflow	600	600	600
Lake O'Neill Spill and Release	1,100	1,100	1,500
Fallbrook Creek	1,200	1,200	1,200
Minor Tributary Drainages	2,400	2,400	2,400
Areal Precipitation	800	800	800
Total	**44,400**	**44,500**	**45,100**
Outflow (af/y)			
SMR Outflow	33,600	29,900	28,000
Subsurface Underflow	100	100	100
Groundwater Pumping	6,600	10,600[1]	9,900
Gallery Wells	-	-	3,000
Evapotranspiration	2,700	2,500	2,400
Diversions to Lake O'Neill	1,400	1,600	1,900
Total	**44,300**	**44,600**	**45,300**

Note: Values are rounded to the nearest 100 AF, which may result in a summation rounding error.

1. *Project yield value of 10,600 afy reflects final design (including 7.8 MGD pipeline constraints), which was subsequent to the EIR/EIS documents project yield value of 10,700 afy.*

Average annual evapotranspiration is an indirect indicator of the health of the phreatophytes in the riparian zone that rely on groundwater levels. As groundwater levels drop from near the surface to the extinction depth of the plant's roots, approximately 15 feet in the Lower Santa Margarita River Basin, potential evapotranspiration reduces linearly; thus resulting in increased stress to the phreatophytes and reduced "health" of the riparian zone along the Lower Santa Margarita River. The average annual simulate evapotranspiration is expected to decrease between 200 afy and 300 afy under the two project alternatives.

The ROM and LSMR Model show that diversions and recharge are optimized in order to support increased sustained basin yield. Increased diversion capacity from 60 cfs to 200 cfs allows the project to capture higher streamflow events that normally flow to the ocean. Generally, the increase in sustained basin yield from the aquifer results from increased surface diversions at the proposed inflatable weir, which are reflected by a decrease in Santa Margarita River outflow from the LSMR Model boundary.

APPLICATION OF HYDROLOGIC CONDITION TO DELIVERY SCHEDULE

The annual reconstructed streamflow at the POD may be characterized as winter-time and non-winter-time streamflow due to precipitation patterns in the region. The majority of annual flow volume in the Santa Margarita River occurs during winter-time storm events while minimal base flows occur for the remainder of the year during non-winter-time periods. Based on these streamflow patterns, the October 1st through April 30th winter-time storm flows dictate the annual water supply of the CUP and determine each year's basin yield. In order to adaptively manage the system and determine the amount of water that can be safely pumped from the groundwater basin, a relationship between flow at the POD, hydrologic condition, and water available for groundwater pumping has been established using the ROM and LSMR Model.

The sustained basin yield of the Lower Santa Margarita River Basin was optimized based on available water supply as determined by the 50-year future reconstructed streamflow. Through an iterative process, annual groundwater pumping rates were constrained in order to meet the environmental and physical constraints established for the project and described in Attachment A. Adjustments to annual pumping were performed based on winter-time streamflow quantities so that minimum water level requirements and groundwater flow conditions were met. The result of this iterative process is a schedule that outlines May 1st through April 30th groundwater pumping rates based on the previous October 1st through April 30th streamflow at the POD. The process resulted in a methodology where observed streamflow values are used to predict future pumping; not a process that relied on predicting future streamflow values in order to determine pumping. This methodology allows for incorporation of the LSMR Model into an Adaptive Management Plan that relies on measured values to prescribe future pumping rates, and not a methodology that predicts future streamflow.

Optimized annual groundwater pumping was then compared to hydrologic conditions for each of the model's 50 years in order to create a relationship between total groundwater pumping and ED/VD, BN, AN, and VW hydrologic conditions. MCB CPEN's water requirement, Fallbrook PUD's allocation, and total annual basin yield were optimized over the 50-year model period in order to meet the needs of each party within the constraints of the model assumptions (Attachment A). The results indicate that Fallbrook PUD's long-term average annual allocation of 3,100 afy would be met if hydrologic conditions during project operations were identical to those used in the 50-year model period. The annual allocation of groundwater basin yield between the parties was then determined through the negotiations process based on the five different hydrologic conditions and the development of a project water bank. During drier hydrologic conditions when groundwater is not available to meet MCB CPEN demands, no water is delivered to Fallbrook PUD. Conversely, during wetter conditions when total basin

groundwater yield exceeds MCB CPEN demands, the maximum amount of water available is provided to Fallbrook PUD. Because antecedent hydrologic conditions or operational constraints could restrict the groundwater pumping, a water bank was developed to meet annual delivery requirements. This negotiation process resulted in the proposed delivery schedule to Fallbrook PUD where average annual deliveries vary from 0 afy during ED conditions to 6,320 afy during VW conditions (Table 6). Adherence to the proposed delivery schedule to the Fallbrook PUD may be met through actual groundwater pumping or transfers from the water bank.

TABLE 6. PROPOSED DELIVERIES TO FALLBROOK PUD BASED ON THE 50-YEAR MODEL PERIOD (ACRE-FEET PER MONTH)

	ED	VD	BN	AN	VW
May	0	0	60	600	740
June	0	0	60	600	650
July	0	0	60	500	550
August	0	0	60	400	450
September	0	0	60	300	350
October	0	0	150	230	350
November	0	0	150	230	400
December	0	115	150	360	500
January	0	115	150	450	550
February	0	115	150	455	590
March	0	115	150	495	590
April	0	120	100	500	600
TOTAL	**0**	**580**	**1,300**	**5,120**	**6,320**

Note: The weighted average of the total annual deliveries to Fallbrook PUD is 3,100 afy based on 7 ED, 5, VD, 14 BN, 15 AN, and 9 VW years that occurred during the 50-year model run. Future hydrology during project operations may not repeat that used in the 50-year model.

The monthly delivery schedule is based on both MCB CPEN's and Fallbrook PUD's demands. Although excess water in the aquifer may be available during winter-time months of wetter hydrologic conditions, deliveries are limited to Fallbrook PUD's available surface storage capacity and demand. During the summer months when demand is greatest by both parties, the aquifers on MCB CPEN cannot meet peak water requirements; thus, MCB CPEN's demands are met first and Fallbrook PUD's deliveries are less than their demand. This limitation is represented in the delivery schedule set forth in Table 6.

During actual CUP operations and implementation of the delivery schedule, both antecedent and future conditions determine whether MCB CPEN will meet its water needs and delivery requirements. For example, it may be difficult to fulfill the delivery schedule with CUP groundwater during BN years if previous years were drier than normal and the following winter continues to be BN, VD, or ED. There are similar examples of when the delivery schedule may be difficult to meet with CUP produced groundwater, which are all based on not being able to predict future hydrologic conditions. A water bank that allows for deficits and surpluses in the delivery schedule was established through the negotiation process to account for the parties' inability to predict future weather patterns and streamflow. To further increase flexibility, the parties also agreed to provide the option of fulfilling the delivery schedule with imported water.

Project water deliveries to MCB CPEN and Fallbrook PUD that were simulated during the 50-year historical hydrologic conditions using the LSMR Model are summarized annually in Attachment B. The results shown in this attachment provided the technical basis for identifying the size and operation of the water bank; as well as quantifying the need for imported water deliveries to MCB CPEN and compliance with the Fallbrook PUD delivery schedule. If the 50-year historical hydrology were to repeat itself during project operations, the average annual delivery of project groundwater to MCB CPEN would be 7,160 afy as shown in column 7 (c7) of Attachment B. The 50-year average annual base entitlement delivery to FPUD would be 3,100 afy (c9), of which 2,920 afy (c10) would be delivered directly from the project and 180 afy (c12) from the groundwater bank or imported water. Additionally, on a long-term average annual basis, 100 afy (c13) would be available to Fallbrook PUD under its option to purchase the first 200 afy prior to MCB CPEN exercising its option to credit the groundwater bank. Finally, the LSMR Model simulation indicates that as much as 230 afy (c18) would be available for purchase by Fallbrook PUD after the groundwater bank reaches a maximum of 3,000 af (c16).

The CUP's ability to rely on banking, and to a limited extent on an alternative water supply, allows sustained basin yield to be optimized. Groundwater pumping rates that have been maximized during spring and summer months may require dramatic delivery reductions to both parties in subsequent months/years if winter-time streamflow does not replenish the aquifer. The LSMR Modeling results, based on the historic 50-year hydrologic conditions, indicate that MCB CPEN will require a 250 afy (c8) average annual delivery of imported water, ranging from 0 afy to a maximum of 1,700 afy (c8). Additionally, MCB CPEN will be required to purchase an average of 10 afy (c17) of imported water to meet the Fallbrook PUD delivery obligation when the water bank drops below minus 3,600 af.

During deficit conditions that result in reduced pumping, MCB CPEN may require delivery of imported water through the CUP's bi-directional pipeline. The bi-directional

pipeline, and the ability to delivery San Diego County Water Authority imported water from the aqueduct, was considered in the development of the delivery schedule described in Table 6. During surplus conditions, maximum deliveries through the bi-direction pipeline are restricted to 7.8 MGD. The maximum delivery constraint was based on agreement between the parties and is influenced by seasonal demand, facility capacity constraints, and the availability of storage.

SUMMARY

The results presented in this Appendix identify the long-term average annual yield of the Santa Margarita River CUP to be 10,600 afy if 1952 to 2001 hydrologic conditions are repeated in the future (Table 7). In order to meet the 50-year average annual delivery requirement of 3,100 afy to Fallbrook PUD, the groundwater bank is required in order to mitigate shortfalls in pumping due to antecedent conditions. The monthly delivery requirement to Fallbrook PUD shown in Table 6 reflects a negotiated settlement between the parties that may or may not be consistent with future hydrology. Unpredictable weather patterns in southern California will affect the condition of the aquifer and the availability of project water supply; hence, the ability to deposit and draw from the groundwater bank will assure MCB CPEN's compliance with the proposed schedule.

TABLE 7. CUP WATER BUDGET AND DELIVERY SCHEDULE BASED ON REPEAT OF 50-YEAR HYDROLOGIC CONDITION THAT OCCURRED BETWEEN 1952 AND 2001 (ACRE-FEET PER YEAR)

CUP Water Budget	50-year Average Annual	Attachment B Column
Groundwater Delivery to MCB CPEN	7,160	(7)
Groundwater Delivery To Fallbrook PUD	2,920	(10)
Water Bank/Import Delivery to Fallbrook PUD[1]	180	(12)
Fallbrook PUD Option to Purchase first 200 AF	100	(13)
Water Bank Credit	60	(17)
Excess Water For Purchase	230	(18)
Delivery met by Non-Project Import[2]	(10)	(17)
Total[3]	**10,600**	

Note 1: Import Delivery to Fallbrook PUD is estimated to be 10 afy (c17).

Note 2: Delivery met by non-project Import (10 afy) is subtracted so Total reflects CUP long-term groundwater yield based on 50-year historical hydrology.

Note 3: Total 50-year average annual long-term yield column is 10,600 afy due to rounding. Actual yield shown in Attachment B is 10,634 afy

While the results of the LSMR Model simulation of the future CUP operations is summarized in annual time periods throughout this appendix, monthly inflow and outflow data have been used in all simulations. The model developers have used every attempt to optimize the yield and available water supplies from the project; including maximizing groundwater pumping when hydrologic conditions change from those, which are expected. One component of the optimization process relied on maximizing up to 7.8 MGD of deliveries to Fallbrook PUD when increased streamflow and elevated groundwater levels would support additional groundwater pumping. The ability to provide excess water to Fallbrook PUD, or a third party, allows for MCB CPEN to meet its obligation and help mitigate impacts during drier than normal conditions.

The successful operation of the CUP will also employ an Adaptive Management Plan (AMP) to monitor streamflow, habitat, groundwater levels, and pumping rates. The AMP will assess physical and environmental stressors in order to determine annual quantities of groundwater pumping and how the parties' water requirements will be met in accordance with the settlement. A Facility Operation Plan (FOP), a subset of the AMP, will be developed to provide specific requirements for wells, surface diversions, and lake releases. The AMP will rely on updating, maintaining, and operating the LSMR Model using near real-time hydrologic data so that both water deliveries and environmental requirements are met.

ATTACHMENT A MODELING ASSUMPTIONS USED FOR ALTERNATIVE ANALYSIS

Operational Parameter \ Run	Recent Management Baseline	Alt 1 Groundwater Wells Only	Alt 2 Groundwater and Gallery Wells
Streamflow			
CWRMA	✓	✓	✓
3-cfs Bypass	✓	✓	✓
CWRMA Emergency Water	✓	✓	✓
Groundwater Production			
UY/CH Pumping	✓	✓	✓
Water Conservation during Droughts		✓	✓
Gallery Wells			✓
LY Pumping (Title 22)			
Historical Pumping Distribution	✓	✓	✓
Environmental Parameters			
VOC Constraint[1]	✓[1]	✓	✓
No Aquifer Compaction[2]		✓	✓
Riparian Water Level Constraint[3]		✓	✓
Subsurface Flow at LY Narrows		✓	✓
Infrastructure			
Existing Groundwater Wells	12[4]	12	12
New Groundwater Wells		4	4
New Gallery Wells			4
Recharge Ponds	5	7	7
Bi-Directional Pipeline		✓	✓
Minimum Basin Yield (AFY)	6,300	4,600	5,000
Maximum Basin Yield (AFY)	7,100	16,500	21,500
Average Basin Yield (AFY)	6,600	10.600	12,800

1. The VOC Constraint requires that water not be pumped from wells with known contamination. Groundwater from Well 26018 has shown TCE concentrations below the MCL and has been included in all model runs per discussions with the Base.
2. The potential for aquifer compaction is indicated by dewatering of areas with a higher percentage of clay sediments.
3. The Riparian Water Level Constraint requires that groundwater levels in the riparian corridor do not drop below historical measured water levels.
4. Recent Management Baseline also simulates additional agricultural wells pumping in the Lower Ysidora Subbasin during 2003-2014 historical conditions.