

AGENDA  
IRVINE RANCH WATER DISTRICT  
SUPPLY RELIABILITY PROGRAMS COMMITTEE  
THURSDAY, JULY 18, 2024

This meeting will be held in-person at the District’s headquarters located at 15600 Sand Canyon Avenue, Irvine, California. The meeting will be held in the second floor SC Committee room. The meeting will also be broadcasted via Webex for those wanting to observe the meeting virtually.

To observe this meeting virtually, please join online using the link and information below:

Via Web: <https://irwd.webex.com/irwd/j.php?MTID=m4fd1880315c0b5f8b2e94d9c93122f9d>  
Meeting Number (Access Code): 2489 978 3480  
Meeting Password: M3RacpmX3b3

*As courtesy to the other participants, please mute your device when you are not speaking.*

**PLEASE NOTE:** Participants joining the meeting will be placed into the Webex lobby when (if) the Committee enters Closed Session. Participants who remain in the “lobby” will automatically be returned to the open session of the Committee once the closed session has concluded. Participants who join the meeting while the Committee is in closed session will receive a notice that the meeting has been locked. They will be able to join the meeting once the Closed Session has concluded.

CALL TO ORDER    1:30 p.m.

ATTENDANCE        Committee Chair:    Doug Reinhart \_\_\_\_\_  
                             Committee Member: Peer Swan        \_\_\_\_\_

ALSO PRESENT    Paul Cook                                \_\_\_\_\_                                Paul Weghorst                                \_\_\_\_\_  
                             Neveen Adly                                \_\_\_\_\_                                Fiona Sanchez                                \_\_\_\_\_  
                             Kellie Welch                                \_\_\_\_\_                                Robert Huang                                \_\_\_\_\_  
                             Natalie Palacio                                \_\_\_\_\_                                Marina Lindsay                                \_\_\_\_\_  
                             \_\_\_\_\_                                \_\_\_\_\_                                \_\_\_\_\_                                \_\_\_\_\_  
                             \_\_\_\_\_                                \_\_\_\_\_                                \_\_\_\_\_                                \_\_\_\_\_

PUBLIC COMMENT NOTICE

If you wish to address the Committee on any item, please submit a request to speak via the “chat” feature available when joining the meeting virtually. Remarks are limited to three minutes per speaker on each subject. Public comments are limited to three minutes per speaker on each subject. You may also submit a public comment in advance of the meeting by emailing [comments@irwd.com](mailto:comments@irwd.com) before 8:00 a.m. on July 18, 2024.

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**COMMUNICATIONS**

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1. Notes: Weghorst
2. Public Comments
3. Determine the need to discuss and/or take action on item(s) introduced that came to the attention of the District subsequent to the agenda being posted.
4. Determine which items may be approved without discussion.

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**INFORMATION**

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5. <u>WATER BANKING PROJECT FACILITIES, CAPACITIES, OPERATIONS AND PROGRAMS – PALACIO / WELCH / SANCHEZ / WEGHORST</u>	
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Recommendation: Receive and file.

6. <u>KERN FAN GROUNDWATER STORAGE PROJECT UPDATE – SANCHEZ / WEGHORST</u>	
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Recommendation: Receive and file.

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**OTHER BUSINESS**

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7. Receive Oral Updates from District’s liaison to Dudley Ridge Water District and provide information on relevant activities.
8. Directors’ Comments
9. Adjourn

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 Availability of agenda materials: Agenda exhibits and other writings that are disclosable public records distributed to all or a majority of the members of the above-named Committee in connection with a matter subject to discussion or consideration at an open meeting of the Committee are available for public inspection in the District’s office, 15600 Sand Canyon Avenue, Irvine, California (“District Office”). If such writings are distributed to members of the Committee less than 72 hours prior to the meeting, they will be available from the District Secretary of the District Office at the same time as they are distributed to Committee Members, except that if such writings are distributed one hour prior to, or during, the meeting, they will be available electronically via the Webex meeting noted. Upon request, the District will provide for written agenda materials in appropriate alternative formats, and reasonable disability-related modification or accommodation to enable individuals with disabilities to participate in and provide comments at public meetings. Please submit a request, including your name, phone number and/or email address, and a description of the modification, accommodation, or alternative format requested at least two days before the meeting. Requests should be emailed to comments@irwd.com. Requests made by mail must be received at least two days before the meeting. Requests will be granted whenever possible and resolved in favor of accessibility.

July 18, 2024

Prepared by: N. Palacio / K. Welch

Submitted by: F. Sanchez / P. Weghorst

Approved by: Paul A. Cook 

## SUPPLY RELIABILITY PROGRAMS COMMITTEE

### WATER BANKING PROJECT FACILITIES, CAPACITIES, OPERATIONS, AND PROGRAMS

#### SUMMARY:

Staff has prepared information related to IRWD’s water banking facilities, capacities, operations, and exchange programs. The information is regularly updated to reflect changes in the status of IRWD’s projects, programs, and operations. At the Committee meeting, staff will review this information and provide an overview of IRWD’s forecasted monthly recharge operations for 2024.

#### BACKGROUND:

Staff has prepared reference materials in tabular, map, and schematic formats to describe IRWD’s water banking facilities, capacities, operations, storage, and exchange programs. These reference materials are updated regularly to reflect changes in the status of the projects, programs, and operations. The following is an overview of the reference materials as well as forecasted recharge operations for calendar year 2024 at the IRWD Water Bank.

#### Capacity and Operations Tables:

A table presenting storage, recharge, and recovery capacities of existing and planned IRWD water banking projects, including capacities available to IRWD in the Kern Water Bank (KWB), is provided as Exhibit “A”. Exhibits “B” and “C” provide an update on water banking recovery and recharge operations as well as the balance of the water stored in the Kern Water Bank. Exhibit “B” provides before-loss estimates of water recharged and in storage at the water banking projects, and Exhibit “C” provides after-loss estimates of water recharged and in storage at the projects. Based on the final reconciliation with the Kern County Water Agency, IRWD’s final deliveries to the Strand and Stockdale Integrated Water Banks, for 2023, totaled 40,156 acre-feet, excluding 2020 Reserve Water and KWB deliveries. Changes to Exhibits “B” and “C” include adjustments to the 2023 deliveries for the State Water Project (SWP) Allocation, Buena Vista Water Storage District (Buena Vista) long term and one-year programs, Antelope Valley East-Kern Water Agency (AVEK) long term exchange program, and Dudley Ridge Water District 1-for-1 long term exchange program. Adjustments to the 2023 deliveries resulted in an overall decrease of approximately 200 AF of water delivered to the IRWD Water Bank.

#### Summary of Programs:

A table summarizing IRWD’s water purchase and exchange programs is presented as Exhibit “D”. This table lists each water purchase and exchange program IRWD has entered into and presents information related to the type of exchange, year executed, agreement type, and water type. IRWD and partner shares are listed, and the table shows the total amount of water included in each program. The balances listed for IRWD and its partners show the amount of

water remaining in storage, with IRWD's balances specifying whether the water is stored in Metropolitan Water District's system, Kern County, or owed to IRWD by Dudley Ridge. The table also provides details related to the exportability of IRWD's supplies. Changes shown in red on Exhibit "D" correspond with the changes made to Exhibits "B" and "C".

Exhibit "E" graphically depicts how storage of SWP and non-SWP water has changed annually in the Strand and Stockdale Integrated Banking Projects. Exhibit "E" also depicts the balance of water owed to IRWD by Dudley Ridge (shown as credits). The table provided as Exhibit "F" shows how capacities in the water banking projects have been dedicated to IRWD's existing and proposed exchange programs. Changes shown in red on Exhibit "F" depict leased storage capacity allocated to proposed exchange programs, and the remaining first-priority recharge and recovery capacity allocated to IRWD. Exhibit "F" has also been updated to include a table that depicts the minimum recharge and recovery capacity that would be available to proposed programs if IRWD is not using capacity for itself and existing exchange partners.

#### Project Maps:

To support the tables and figures provided as Exhibits "A", "B", "C", "D", "E", and "F", staff has prepared maps depicting project wells, pipelines, recharge basins, and Cross Valley Canal turnout locations, along with the most current recharge rates. These maps are provided as Exhibits "G", "H", and "I", respectively. Exhibit "I" includes the most recent recharge rates at the IRWD Water Bank. The facilities shown on the maps are associated with the Strand Ranch, Stockdale West, Stockdale East, and Drought Relief Projects.

#### Program Agreement Diagrams:

Schematic diagrams have been prepared that depict IRWD water banking and exchange programs with Rosedale-Rio Bravo Water Storage District, Buena Vista Water Storage District, Dudley Ridge, Metropolitan, and AVEK. These diagrams are provided as Exhibits "J", "K", "L", "M", "N", "O", and "P" as described in the List of Exhibits.

#### Cost of Water Table:

A table presenting a summary of the costs of water from each of IRWD's unbalanced exchange partnerships through the year 2021 is provided as Exhibit "Q". The table lists each of IRWD's unbalanced exchange partnerships and presents information related to the period over which water was acquired, water type, IRWD's share of water, and various cost components as well as the total cost of water delivered to IRWD's service area. Cost components include fixed and variable operating costs, estimated future IRWD recovery costs, the 2024 Metropolitan Full Service Untreated Tier-1 Rate, and a capital cost of water. The variable costs include an administrative fee issued by the Kern County Water Agency for staff time related to processing Transaction Request Forms. The costs of water are presented on a dollar per acre-foot basis. Exhibit "Q" will be updated to reflect 2022 and 2023 operations once all invoices have been received from Rosedale.

IRWD's Coordinated Agreement with Metropolitan:

An overview of IRWD's Coordinated Operating, Water Storage, Exchange, and Delivery Agreement with Metropolitan and Municipal Water District of Orange County (Coordinated Agreement) is provided as Exhibit "R". The benefits to IRWD are foundational to the success of IRWD's water banking project and programs.

Forecasted 2024 Water Recharge Activities:

Projected deliveries to IRWD's Water Bank in 2024 are depicted in Exhibit "S". Staff will update the forecasted delivery amounts shown in Exhibit "S" as more information becomes available. Anticipated water bank deliveries in 2024 are as follows:

- AVEK Unbalanced Exchange Program: Earlier this year, AVEK informed staff that it may deliver up to 13,000 acre-feet (AF) of SWP Table A water to the IRWD Water Bank but later determined that it would not have excess water to deliver. Deliveries from AVEK have been removed from Exhibit "S".
- Homer Capacity Exchange Program: In 2023, IRWD recharged approximately 1,800 AF of water into storage at the IRWD Water Bank using Homer's Cross Valley Canal capacity. Consistent with the terms of the Pilot Capacity Exchange Program, Homer can use recharge capacity at the IRWD Water Bank to recharge an equal amount of its supplies in 2024. An estimated 1,800 AF of recharge has been included in Exhibit "S" for Homer in 2024.
- Silvertip Unbalanced Exchange Program: Staff estimates that Silvertip may deliver up to 4,000 AF of SWP supplies to the IRWD Water Bank in 2024. A draft agreement will be submitted to Silvertip for review this month. The preparation of the necessary DWR agreement and securing the approval of Metropolitan and the Kern County Water Agency will need to occur over the next several months.
- Valley Water Unbalanced Exchange Program: Santa Clara Valley Water District (Valley Water) informed staff that it expects to have at least 5,000 AF of SWP Table A Water available for delivery to the IRWD Water Bank in 2024. Staff anticipates that the necessary DWR agreements and approvals will be secured over the next few months.
- IRWD's SWP Table A Allocation: The 2024 SWP Table A allocation is 40%. IRWD will take delivery of its 700 AF of Table A water from Dudley Ridge into the Strand Ranch.
- Metropolitan Deliveries: In 2021 and 2022, Metropolitan took direct delivery of IRWD's Dudley Ridge SWP Table A water. Metropolitan has notified staff that they would like to return the water in the amount of 157 AF to IRWD this year. Metropolitan will deliver 50% of the water to IRWD's Water Bank and the remaining 50% of water to Dudley Ridge for use on the Jackson Ranch.

At the meeting, staff will update the Committee on water supply conditions in California.

FISCAL IMPACTS:

None.

ENVIRONMENTAL COMPLIANCE:

Not applicable.

RECOMMENDATION:

Receive and file.

LIST OF EXHIBITS:

- Exhibit “A” – Recharge, Storage and Recovery Capacities of Current and Anticipated Water Banking Projects
- Exhibit “B” – Water Banking Storage, Recharge, and Recovery Operations before Losses
- Exhibit “C” – Water Banking Storage, Recharge, and Recovery Operations after Losses
- Exhibit “D” – Status of IRWD Purchase and Exchange Programs
- Exhibit “E” – Historic Water Storage in Strand and Stockdale Projects
- Exhibit “F” – Dedicated Capacities of Current Water Banking Projects
- Exhibit “G” – Map of Water Banking Project Wells and Pipelines
- Exhibit “H” – Map of Water Banking Recharge Basins and Turnout Facilities
- Exhibit “I” – Map of Water Banking Recharge Rates
- Exhibit “J” – Diagram of IRWD-Rosedale Water Banking and Exchange Program Agreements
- Exhibit “K” – Diagram of Long-term Water Exchange Program with Buena Vista Water Storage District and Diagram of One-year Program to Augment Recharge Using Stockdale West Recharge Facilities with Buena Vista Water Storage District
- Exhibit “L” – Diagram of Unbalanced Exchange Program Diagram with Dudley Ridge
- Exhibit “M” – Diagram of Coordinated Operating, Water Storage, Exchange, and Delivery Agreement with Metropolitan
- Exhibit “N” – Diagram of Template Wheeling Agreement with Metropolitan
- Exhibit “O” – Diagram of Dudley Ridge One-for-One Exchange
- Exhibit “P” – Diagram of Long-term Water Exchange Program with Antelope Valley-East Kern
- Exhibit “Q” – Cost of Water Tables
- Exhibit “R” – Summary of IRWD’s Coordinated Operating, Water Storage, Exchange and Delivery Agreement with Metropolitan and MWDOC (updated 8 Feb 2024)
- Exhibit “S” – Actual and Forecasted 2024 Recharge Operations

# Exhibit "A"

**TABLE 1**  
**Current and Anticipated Water Banking Projects**  
**Recharge, Storage and Recovery Capacities**  
 July 18, 2024

WATER BANKING PROJECT	OWNERSHIP AND WELL INFO		ALLOCATED CAPACITY (AF)					1 <sup>ST</sup> PRIORITY RECOVERY CONDITIONS (CFS)		2 <sup>ND</sup> PRIORITY RECOVERY CONDITIONS (CFS)	
	IRWD OWNED	WELLS EXISTING	TOTAL STORAGE CAPACITY	ANNUAL RECHARGE 1 <sup>ST</sup> PRIORITY	ANNUAL RECHARGE 2 <sup>ND</sup> PRIORITY	ANNUAL RECOVERY 1 <sup>ST</sup> PRIORITY	ANNUAL RECOVERY 2 <sup>ND</sup> PRIORITY	RECOVERY CAPACITY AS PLANNED <sup>1</sup>	RECOVERY CAPACITY (Average Daily Production 1/1/2021 - 7/31/2022)	RECOVERY CAPACITY AS PLANNED	RECOVERY CAPACITY CURRENT CONDITIONS
Strand Ranch	Yes	7	50,000	17,500	-	17,500	-	40.0	20.5	-	-
Stockdale West	Yes	3	26,000	27,100	-	11,250	-	15.0	11.6	-	-
Stockdale East	No	2	-	-	19,000	-	7,500	-	-	10.0	9.0
IRWD Acquired Storage Account <sup>2</sup>	No	-	50,000	-	-	-	-	-	-	-	-
Drought Relief Project Wells <sup>2</sup>	No	3	-	-	-	-	-	15.0	16.5	-	-
Kern Water Bank Storage Account <sup>4</sup>	No	-	9,495	3,200	-	1,520	<5,000	-	-	-	-
<b>TOTALS</b>		<b>15</b>	<b>135,495</b>	<b>47,800</b>	<b>19,000</b>	<b>30,270</b>	<b>12,500</b>	<b>70.0</b>	<b>48.6</b>	<b>10.0</b>	<b>9.0</b>
Partner Capacities <sup>3</sup>			38,000	22,300	9,500	10,850	0	35.5	25.0	-	-
IRWD Capacities (does not include Kern Water Bank capacities)			88,000	22,300	9,500	17,900	7,500	34.5	25.0	-	-
IRWD's recovery <i>during</i> 6 month partner recovery period (AF)								12,420	9,000	-	-
IRWD's recovery <i>after</i> 6 month partner recovery period (AF)								5,480	6,733	-	-
<b>TOTALS (AF)</b>								<b>17,900</b>	<b>15,733</b>	<b>-</b>	<b>-</b>
Number of months needed to recover IRWD's total AF after partners' recovery (Assumes IRWD has use of total recovery capacity after partners' recovery)								8.6	10.2	-	-
Strand Ranch monthly recharge amount assuming 0.3 ft/day average recharge rate (AF)										4,518	
Stockdale West monthly recharge amount assuming 0.3 ft/day average recharge rate (AF)										2,331	
<p><sup>1</sup> Based on designed Strand recovery capacity assuming 370' bgs. Assumes 5 cfs for each of the Stockdale West and Drought Relief wells in order to meet IRWD's Water Banking, Transfers, and Wheeling policy position. Assumes partners' water is recovered over 6 months.</p> <p><sup>2</sup> IRWD has use of Acquired Storage and Drought Relief Project wells until January 12, 2039, unless the term of the agreement is extended.</p> <p><sup>3</sup> One half of storage capacity at Stockdale West and Strand Ranch will be allocated for partners.</p> <p><sup>4</sup> Kern Water Bank capacities based on 6.58% of Dudley Ridge Water District's 9.62% share of the Kern Water Bank. Annual recharge amount is based on an average of recharge rates for high and low groundwater level conditions. 5,000 AF of recovery capacity may be available for second priority use.</p>											

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## Exhibit "B"

**TABLE 2**  
**IRWD's Water Banking Storage, Recharge and Recovery Operations - BEFORE LOSSES**  
 July 18, 2024

TRANSACTIONS	WATER BANKING ENTITY							TOTAL BY WATER TYPE AND STORAGE LOCATION
	IRWD		BUENA VISTA (BVWSD)	CENTRAL COAST (CCWA)	ANTELOPE VALLEY- EAST KERN (AVEK)	SILVERTIP	DUDLEY RIDGE WATER DISTRICT (DRWD) <sup>3</sup>	
	SWP <sup>1</sup>	NON-SWP <sup>2</sup>	NON-SWP	SWP	SWP	SWP	SWP	
<b>BEGINNING WATER IN STORAGE 2023 (AF)</b>								
Total Kern Water Bank <sup>4</sup>	-	3,751	-	-	-	-	-	3,751
Total MWD System	12,033	-	-	-	-	-	43	12,076
Total Kern County	1,383	9,641	225	-	-	-	-	11,249
Total DRWD 1-for-1 Long Term Exchange Credit <sup>5</sup>	16,500	-	-	-	-	-	-	16,500
<b>TOTAL STORED WATER (1/1/2023)</b>	<b>29,916</b>	<b>13,392</b>	<b>225</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>43</b>	<b>43,576</b>
<b>(RECOVERY) AND RECHARGE IN 2023 (AF)</b>								
KWB Recovery for use on Jackson Ranch <sup>6</sup>	-	(232)	-	-	-	-	-	(232)
KWB Deliveries <sup>7</sup>	-	803	-	-	-	-	-	803
2023 SWP Allocation (100%)	873	-	-	-	-	-	872	1,745
2020 Reserve Water	13	-	-	-	-	-	-	13
BV Long Term Program Kern River Water	-	8,713	8,713	-	-	-	-	17,426
BV 2023 Recharge Kern River Water	-	2,244	2,243	-	-	-	-	4,487
CCWA 2023 Short Term Exchange	225	-	-	225	-	-	-	450
AVEK Long Term Exchange Est.	3,537	-	-	-	3,536	-	-	7,073
DRWD 1-for-1 Long Term Exchange (Recharge) Est.	8,975	-	-	-	-	-	-	8,975
<b>TOTAL 2023 TRANSACTIONS</b>	<b>13,623</b>	<b>11,528</b>	<b>10,956</b>	<b>225</b>	<b>3,536</b>	<b>-</b>	<b>872</b>	<b>40,740</b>
Total Kern Water Bank <sup>4</sup>	-	4,322	-	-	-	-	-	4,322
Total MWD System	12,033	-	-	-	-	-	43	12,076
Total Kern County	15,006	20,598	11,181	225	3,536	-	872	51,418
Total DRWD 1-for-1 Long Term Exchange Credit <sup>5</sup>	7,525	-	-	-	-	-	-	7,525
<b>TOTAL STORED WATER (1/1/2024)</b>	<b>34,564</b>	<b>24,920</b>	<b>11,181</b>	<b>225</b>	<b>3,536</b>	<b>-</b>	<b>915</b>	<b>71,805</b>
<b>(RECOVERY) AND RECHARGE IN 2024 (AF)</b>								
KWB Recovery for use on Jackson Ranch <sup>6</sup> Est.	-	-	-	-	-	-	-	-
2024 SWP Allocation (30%)	-	-	-	-	-	-	-	-
BV Long Term Program Kern River Water Est.	-	-	-	-	-	-	-	-
AVEK Long Term Exchange Est.	-	-	-	-	-	-	-	-
Silver Tip 2023 Short Term Exchange	-	-	-	-	-	-	-	-
DRWD 1-for-1 Long Term Exchange (Recharge) Est.	2,200	-	-	-	-	-	-	2,200
<b>TOTAL ESTIMATED 2024 TRANSACTIONS</b>	<b>2,200</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>2,200</b>
<b>ESTIMATED WATER IN STORAGE 2024 (AF)</b>								
Total Kern Water Bank <sup>4</sup>	-	4,322	-	-	-	-	-	4,322
Total MWD System	12,033	-	-	-	-	-	43	12,076
Total Kern County	17,206	20,598	11,181	225	3,536	-	872	53,618
Total DRWD 1-for-1 Long Term Exchange Credit <sup>5</sup>	5,325	-	-	-	-	-	-	5,325
<b>TOTAL ESTIMATED STORED WATER TO DATE</b>	<b>34,564</b>	<b>24,920</b>	<b>11,181</b>	<b>225</b>	<b>3,536</b>	<b>-</b>	<b>915</b>	<b>75,341</b>

**NOTES:** MWD = Metropolitan Water District of Southern California.

<sup>1</sup> IRWD's SWP includes 295 AF from CVWD that stays in Kern County.

<sup>2</sup> IRWD's Non-SWP total includes 2,403 AF, net of losses, of Kern County Water Agency Article 21 Water.

<sup>3</sup> DRWD water supply will be returned by MWD or IRWD's Strand Ranch to IRWD's Jackson Ranch. MWD took delivery of IRWD's 2022 SWP allocation in June 2022.

<sup>4</sup> IRWD's KWB Account balance includes SWP, Friant and Kern River water. The KWB account balance is included in the Non-SWP column because it is not exportable to IRWD's service area.

<sup>5</sup> Per the DRWD Long-Term 1-for-1 Exchange Program, Non-SWP water delivered to DRWD landowners will be returned to IRWD as SWP water at a later date. To account for the SWP water that will be returned at a later date, the amount of water owed will be shown as a credit. Total assumes all water is returned to IRWD Water Bank which adds in a 10% loss factor.

<sup>6</sup> Water recovered from IRWD's Kern Water Bank account for use on Jackson Ranch.

<sup>7</sup> A portion of IRWD's 2023 SWP deliveries from DRWD include 803 AF of Article 21 water, which was delivered to the Kern Water Bank.

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# Exhibit "C"

**TABLE 3**  
**IRWD's Water Banking Storage, Recharge and Recovery Operations - AFTER LOSSES**  
 July 18, 2024

TRANSACTIONS	WATER BANKING ENTITY						TOTAL BY WATER TYPE AND STORAGE LOCATION	
	IRWD		BUENA VISTA (BVWSD)	CENTRAL COAST (CCWA)	ANTELOPE VALLEY-EAST KERN (AVEK)	SILVERTIP		DUDLEY RIDGE WATER DISTRICT (DRWD) <sup>3</sup>
	SWP <sup>1</sup>	NON-SWP <sup>2</sup>	NON-SWP	SWP	SWP	SWP		SWP
<b>BEGINNING WATER IN STORAGE 2023 (AF)</b>								
Total Kern Water Bank <sup>4</sup>	-	3,751	-	-	-	-	3,751	
Total MWD System	12,033	-	-	-	-	43	12,076	
Total Kern County	344	5,705	225	-	-	-	6,274	
Total DRWD 1-for-1 Long Term Exchange Credit <sup>5</sup>	15,000	-	-	-	-	-	15,000	
<b>TOTAL STORED WATER (1/1/2023)</b>	<b>27,377</b>	<b>9,456</b>	<b>225</b>	<b>-</b>	<b>-</b>	<b>43</b>	<b>37,101</b>	
<b>(RECOVERY) AND RECHARGE IN 2023 (AF)</b>								
KWB Recovery for use on Jackson Ranch <sup>6</sup>	-	(232)	-	-	-	-	(232)	
KWB Deliveries <sup>7</sup>	-	723	-	-	-	-	723	
2023 SWP Allocation (100%)	748	-	-	-	-	748	1,496	
2020 Reserve Water	12	-	-	-	-	-	12	
BV Long Term Program Kern River Water	-	7,470	7,863	-	-	-	15,333	
BV 2023 Recharge Kern River Water	-	1,923	2,025	-	-	-	3,948	
CCWA 2023 Short Term Exchange	193	-	-	193	-	-	386	
AVEK Long Term Exchange	3,032	-	-	-	3,032	-	6,064	
DRWD 1-for-1 Long Term Exchange (Recharge)	7,694	-	-	-	-	-	7,694	
<b>TOTAL 2023 TRANSACTIONS</b>	<b>11,679</b>	<b>9,884</b>	<b>9,888</b>	<b>193</b>	<b>3,032</b>	<b>-</b>	<b>35,424</b>	
Total Kern Water Bank	-	4,242	-	-	-	-	4,242	
Total MWD System	12,033	-	-	-	-	43	12,076	
Total Kern County	12,023	15,098	10,113	193	3,032	748	41,207	
Total DRWD 1-for-1 Long Term Exchange Credit	7,306	-	-	-	-	-	7,306	
<b>TOTAL STORED WATER (1/1/2024)</b>	<b>31,362</b>	<b>19,340</b>	<b>10,113</b>	<b>193</b>	<b>3,032</b>	<b>-</b>	<b>64,831</b>	
<b>(RECOVERY) AND RECHARGE IN 2024 (AF)</b>								
KWB Recovery for use on Jackson Ranch <sup>6</sup> Est.	-	-	-	-	-	-	-	
2024 SWP Allocation (30%)	-	-	-	-	-	-	-	
BV Long Term Program Kern River Water Est.	-	-	-	-	-	-	-	
AVEK Long Term Exchange Est.	-	-	-	-	-	-	-	
Silver Tip 2023 Short Term Exchange	-	-	-	-	-	-	-	
DRWD 1-for-1 Long Term Exchange (Recharge) Est.	1,886	-	-	-	-	-	1,886	
<b>TOTAL ESTIMATED 2024 TRANSACTIONS</b>	<b>1,886</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>1,886</b>	
<b>ESTIMATED WATER IN STORAGE 2024 (AF)</b>								
Total Kern Water Bank	-	4,242	-	-	-	-	4,242	
Total MWD System	12,033	-	-	-	-	43	12,076	
Total Kern County	13,909	15,098	10,113	193	3,032	748	43,093	
Total DRWD 1-for-1 Long Term Exchange Credit	5,420	-	-	-	-	-	5,420	
<b>TOTAL ESTIMATED STORED WATER TO DATE</b>	<b>31,362</b>	<b>19,340</b>	<b>10,113</b>	<b>193</b>	<b>3,032</b>	<b>-</b>	<b>64,831</b>	

**NOTES:** Water in storage has been adjusted to account for losses. IRWD's water stored in Kern County is adjusted 15% for losses (5% for out of county loss, 6% surface loss, and 4% reserve loss); Water stored for BVWSD in Kern County is adjusted 10% (6% for surface loss and 4% for reserve loss); no losses for water directly delivered to MWD system.

MWD = Metropolitan Water District of Southern California.

<sup>1</sup> IRWD's SWP includes 251 AF from CVWD that stays in Kern County.

<sup>2</sup> IRWD's Non-SWP total includes 2,403 AF of Kern County Water Agency Article 21 Water.

<sup>3</sup> DRWD water will be returned by MWD or IRWD's Strand Ranch to IRWD's Jackson Ranch. MWD took delivery of IRWD's 2022 SWP allocation in June 2022. MWD will not take delivery of IRWD's 2023 SWP Allocation.

<sup>4</sup> IRWD's KWB Account balance includes SWP, Friant and Kern River water. The KWB account balance is included in the Non-SWP column because it is not exportable to IRWD's service area. The 2022 beginning KWB balance was revised by DRWD based on KCWA 2021 end of year balances.

<sup>5</sup> Per the DRWD Long-Term 1-for-1 Exchange Program, Non-SWP water delivered to DRWD landowners will be returned to IRWD as SWP water at a later date. To account for the SWP water that will be returned at a later date, the amount of water owed will be shown as a credit. Total assumes all water is returned to IRWD Water Bank which adds in a 10% loss factor. Final amounts may be subject to additional CVC losses.

<sup>6</sup> Water recovered from IRWD's Kern Water Bank account for use on Jackson Ranch.

<sup>7</sup> A portion of IRWD's 2023 SWP Deliveries from DRWD include 723 AF of Article 21, after losses, which was delivered to the Kern Water Bank.

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## Exhibit "D"

**TABLE 4**  
**Status of IRWD Purchase and Exchange Programs (AFTER LOSSES)**  
 July 18, 2024

PARTNER	EXCHANGE RATIO	YEAR EXECUTED	AGREEMENT TYPE	WATER TYPE	PARTNER WATER		IRWD WATER									SELLABLE (Y/N)
					PARTNER SHARE (AF)	PARTNER BALANCE (AF)	IRWD SHARE (AF)	IRWD BALANCE			EXPORTABILITY					
								IN MWD SYSTEM (AF)	STORED IN KERN (AF)		OWED BY DUDLEY RIDGE WD	TOTAL (AF)	EXPORTABLE TO IRWD (AF)	NON-EXPORTABLE (AF)	FOR USE ON JACKSON RANCH (DRWD)	
							Strand and Stockdale	Kern Fan (W.Enos)								
Semitropic Water Storage District	NA	2008	Purchase	SWP Article 21	NA	NA	2,842		2,403			2,403		2,403		Yes
Carpinteria Valley Water District	2-for-1	2008	Short-Term	SWP Table A	277		250		250			250		250		Yes
Buena Vista Water Storage District <sup>1</sup>	2-for-1	2010	Pilot	Kern River	4,108		3,903									Yes
	2-for-1	2011	Long-Term	Kern River	29,336	8,088	27,869		10,772			10,772		10,772		
Antelope Valley East Kern Water Agency	2-for-1	2011	Pilot	SWP Table A	2,229		2,337	2,337				2,337	2,337			No
Carpinteria Valley Water District	2-for-1	2011	Pilot	SWP Table A	624		655	655				655	655			No
Dudley Ridge Water District (SWPAO #13012)	2-for-1	2013	SWPAO	SWP Table A	1,876		1,876	1,876				1,876	1,876			Yes
				SWP Article 21	1,553		1,554	1,554			1,554	1,554			Yes	
Metropolitan Water District <sup>2</sup>	1-for-1	2014	Short-Term	SWP Table A	NA	NA	4,000	4,000				4,000	4,000			No
Dudley Ridge Water District (SWPAO #17030)	2-for-1	2018	SWPAO	SWP Table A	1,802	791	1,885	1,055	829			1,885	1,885		791	Yes
Central Coast Water Authority (SWPAO #17001)	2-for-1	2017	Short-Term	SWP Table A	258		258	258				258	258			No
Dudley Ridge Water District <sup>3</sup> (SWPAO #19001)	1-for-1	2017	Long-Term	SWP Table A	NA	NA	9,580		9,580			9,580	15,000			No
				Credit	NA	NA	5,420			5,420	5,420				No	
Central Coast Water Authority (SWPAO #19031)	2-for-1	2019	Short-Term	SWP Table A	298		323	298	25			323	323			No
Buena Vista Water Storage District <sup>1</sup>	2-for-1	2023	Short-Term	Kern River	2,025	2,025	1,923		1,183	741		1,923		1,923		Yes
Central Coast Water Authority (SWPAO #23012)	2-for-1	2023	Short-Term	SWP Table A	193	193	193			193		193	193			No
Antelope Valley East Kern Water Agency	2-for-1	2018	Long-Term	SWP Table A	3,032	3,032	3,032		2,461	571		3,032	3,032			No
<b>Total:</b>					<b>47,610</b>	<b>14,128</b>	<b>67,899</b>	<b>12,033</b>	<b>27,503</b>	<b>1,504</b>	<b>5,420</b>	<b>46,460</b>	<b>31,112</b>	<b>15,348</b>	<b>791</b>	<b>NA</b>

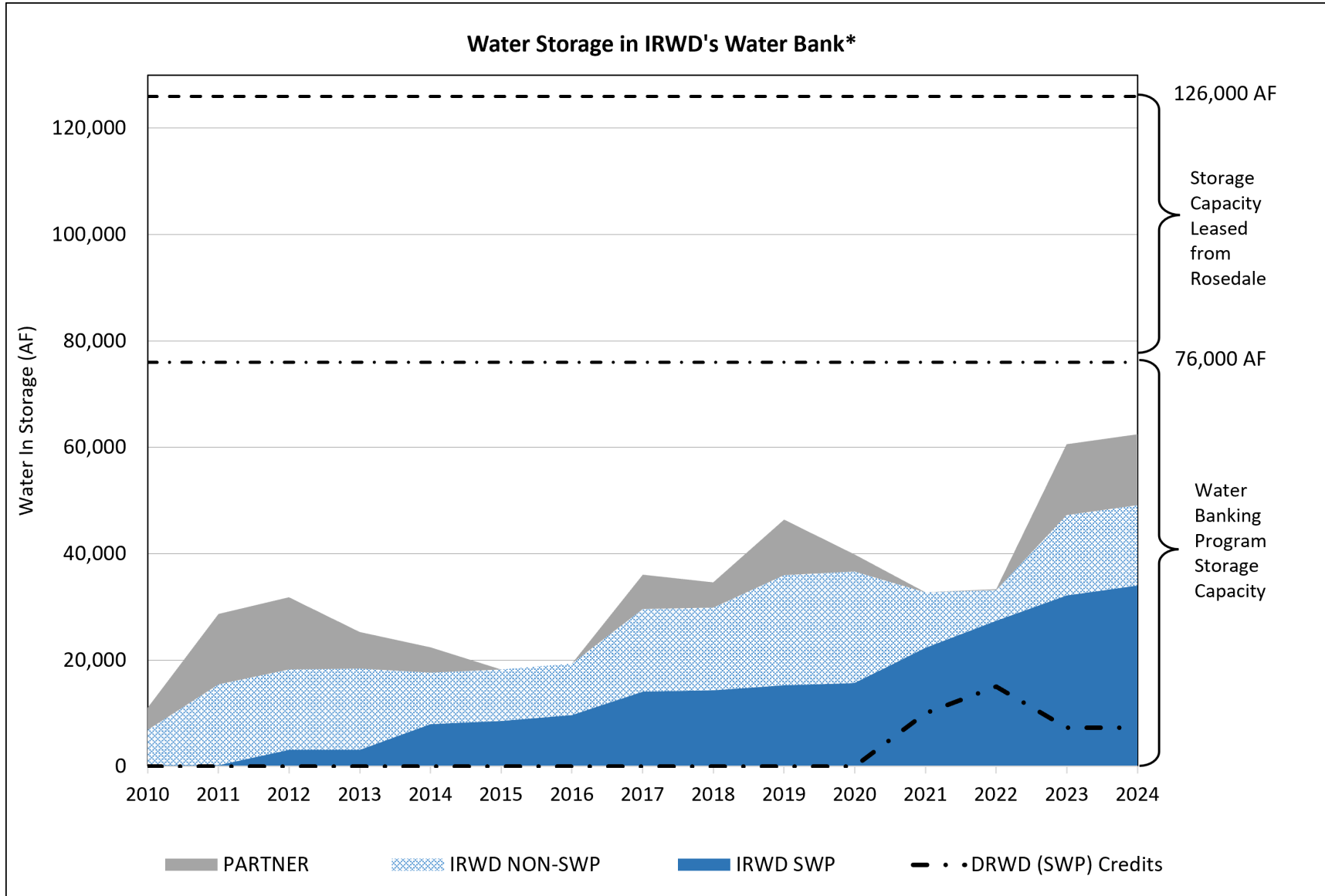
<sup>1</sup> Water acquired through BVWSD will be exportable after it is exchanged for SWP Table A through 1-for-1 exchange with Dudley Ridge Water District.

<sup>2</sup> Source of water was Buena Vista Water Storage District Kern River high flow water.

<sup>3</sup> To account for the SWP water that will be returned to IRWD, the amount of water owed is shown as a credit. The total net of losses is 15,000 AF.

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# Exhibit "E"



\*After losses

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Exhibit "F"

TABLE 5

IRWD Dedicated Water Banking Capacities for Existing and Proposed Exchange Programs

July 18, 2024

STORAGE CAPACITY

Program	Dedicated Storage Capacity Strand Ranch (AF)	Dedicated Storage Capacity Stockdale West (AF)	Dedicated Storage Capacity Leased Storage Account (AF)	Kern Water Bank Storage Capacity (AF)
Total Capacity	50,000	26,000	50,000	9,495
BVWSD	40,000	-	-	-
IRWD/DRWD	10,000	6,000	-	-
AVEK	-	20,000	-	-
<i>Proposed Programs:</i>				
Santa Clara	-	-	20,000	-
Silvertip LLC	-	-	8,000	-
Homer LLC	-	-	8,000	-
Total Dedicated	50,000	26,000	36,000	-
Total Remaining	-	-	14,000	9,495

FIRST-PRIORITY RECHARGE CAPACITY

Program	Dedicated Recharge Capacity Strand Ranch (AF)	Dedicated Recharge Capacity Stockdale West (AF)	Dedicated Recharge Capacity Leased Storage Account (AF)	Kern Water Bank Recharge Capacity (AF)
Total Capacity	17,500	27,100	-	3,200
BVWSD	17,500	-	-	-
IRWD/DRWD	-	7,100	-	-
AVEK	-	20,000	-	-
Total Dedicated	17,500	27,100	-	-
Total Remaining	-	-	-	3,200

FIRST-PRIORITY RECOVERY CAPACITY

Program Partner	Dedicated Recovery Capacity Strand Ranch (AF)	Dedicated Recovery Capacity Stockdale West (AF)	Dedicated Recovery Capacity Leased Storage Account (AF)	Kern Water Bank Recovery Capacity (AF)
Total Capacity	17,500	11,250	-	1,520
BVWSD	6,667	-	-	-
DRWD	-	-	-	-
AVEK	-	3,333	-	-
IRWD	10,833	7,917	-	1,520
Total Dedicated	17,500	11,250	-	1,520
Total Remaining	-	-	-	-

**TABLE 6**

**Second-Priority Recharge and Recovery Capacity Available after Annual Scheduling of Dedicated First-Priority Recharge and Recovery Allocated to Existing Programs**

July 18, 2024

**SECOND-PRIORITY RECHARGE CAPACITY**

<b>Program</b>	<b>Dedicated Recharge Capacity Strand Ranch and Stockdale West (AF)</b>	<b>Minimum Program Share for Second-Priority <sup>1</sup></b>	<b>Available Minimum Recharge Capacity if not used by Existing Programs (AF)</b>	<b>Total Program Recharge Capacity (AF)</b>
Total Capacity	44,600		44,600	
Existing Programs	44,600		-	44,600
<i>Proposed Programs:</i>				
Santa Clara	-	40%	17,840	20,000
Silvertip LLC	-	16%	7,136	8,000
Homer	-	16%	7,136	8,000
Total Dedicated	44,600	72%	32,112	
Total Remaining	-		12,488	

**SECOND-PRIORITY RECOVERY CAPACITY**

<b>Program Partner</b>	<b>Dedicated Recovery Capacity Strand Ranch and Stockdale West (AF)</b>	<b>Minimum Program Share for Second Priority <sup>1</sup></b>	<b>Minimum Available Recovery Capacity if not used by Existing Programs (AF)</b>	<b>Total Program Recovery Capacity (AF)</b>
Total Capacity	28,750		28,750	
Existing Programs	28,750		-	2,750
<i>Proposed Programs:</i>				
Santa Clara	-	40%	3,333	3,333
Silvertip LLC	-	16%	1,333	1,333
Homer LLC	-	16%	1,333	1,333
Total Dedicated	28,750	72%	6,000	
Total Remaining	-		22,750	

<sup>1</sup> Second-priority recharge and recovery capacity allocated to programs on a pro-rata share based on share of leased storage capacity.

For example:

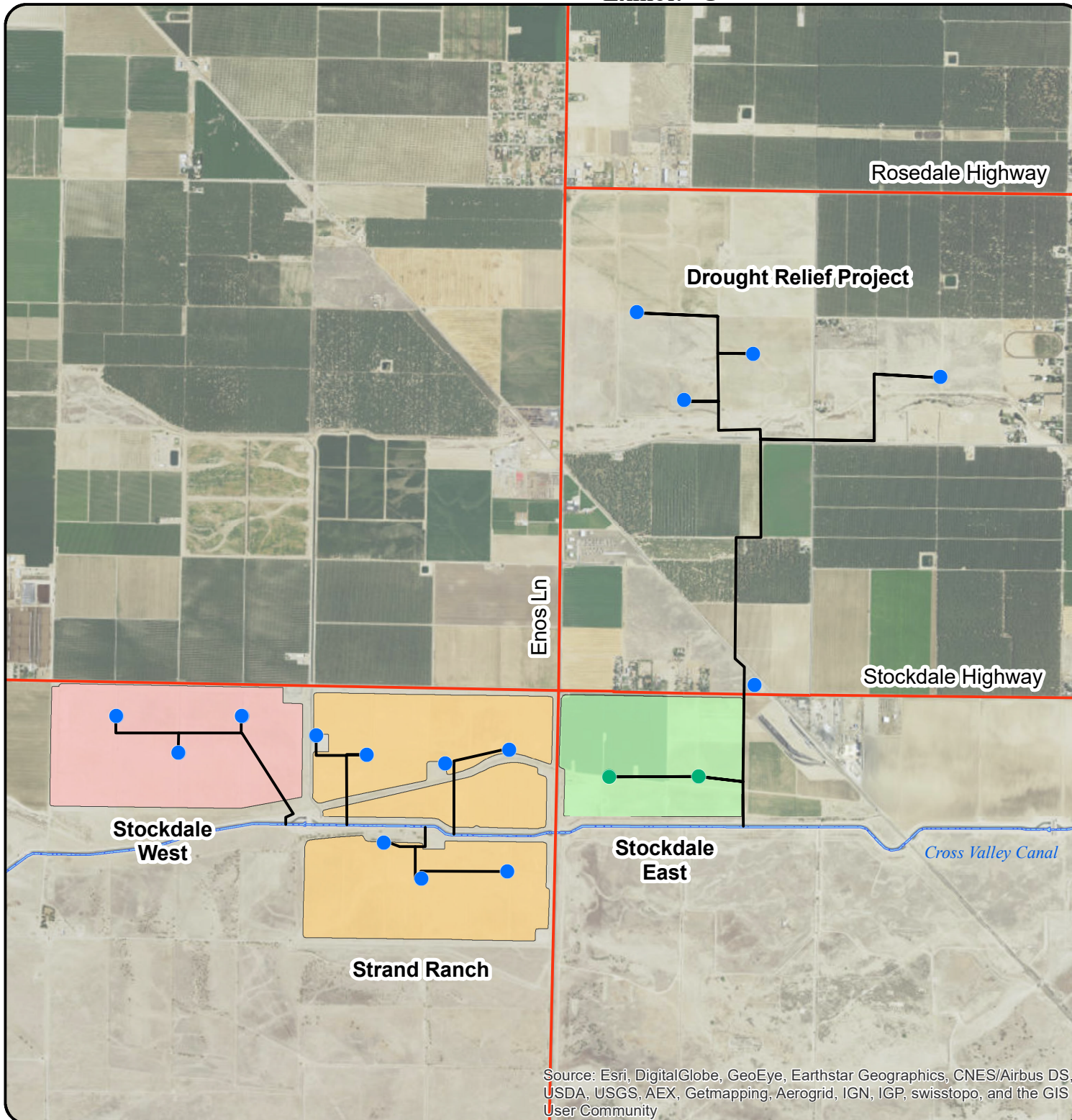
Santa Clara Share: 20,000 AF of 50,000 AF leased storage (40%)

Silvertip LLC Share: 8,000 AF of 50,000 AF leased storage (16%)

Homer LLC Share: 8,000 AF of 50,000 AF leased storage (16%)



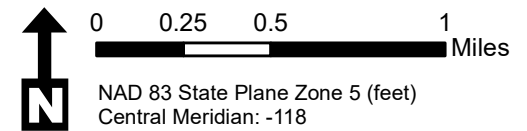
### Location Map: IRWD Water Banking Projects Wells and Turnin Pipelines



#### MAP FEATURES

- Extraction Well
- Extraction Well
- Well Discharge Pipelines
- Stockdale East
- Stockdale West
- Strand Ranch

This figure shows the location of IRWD's water banking project sites and extraction wells.

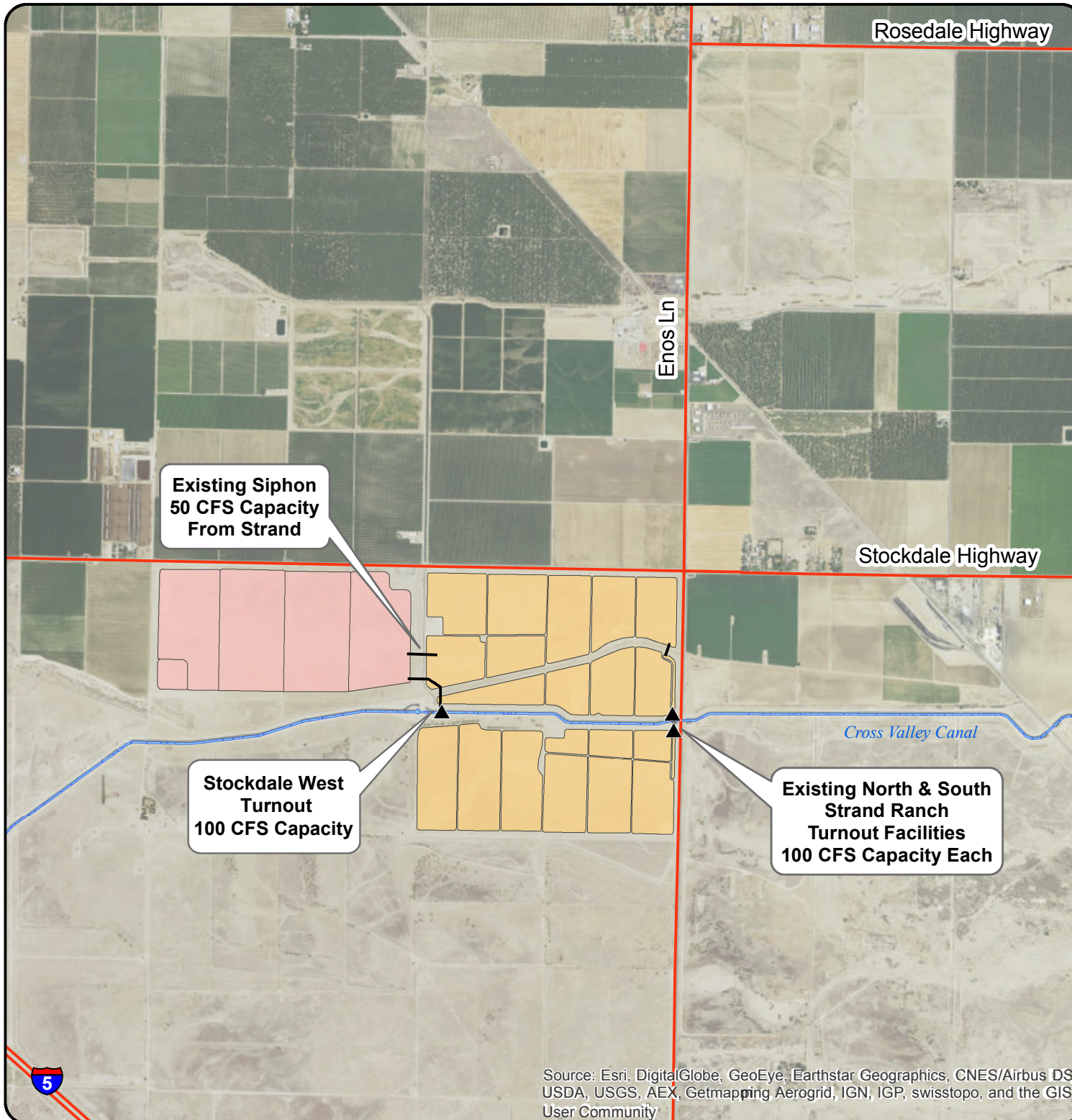


Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

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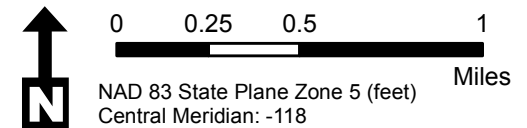
**Location Map:  
IRWD Water Banking Projects  
Recharge Basins & Turnout  
Facilities**



**MAP FEATURES**

- ▲ Turnouts
- Stockdale West
- Strand Ranch

This figure shows the location of recharge basins, pipelines and turnout facilities.

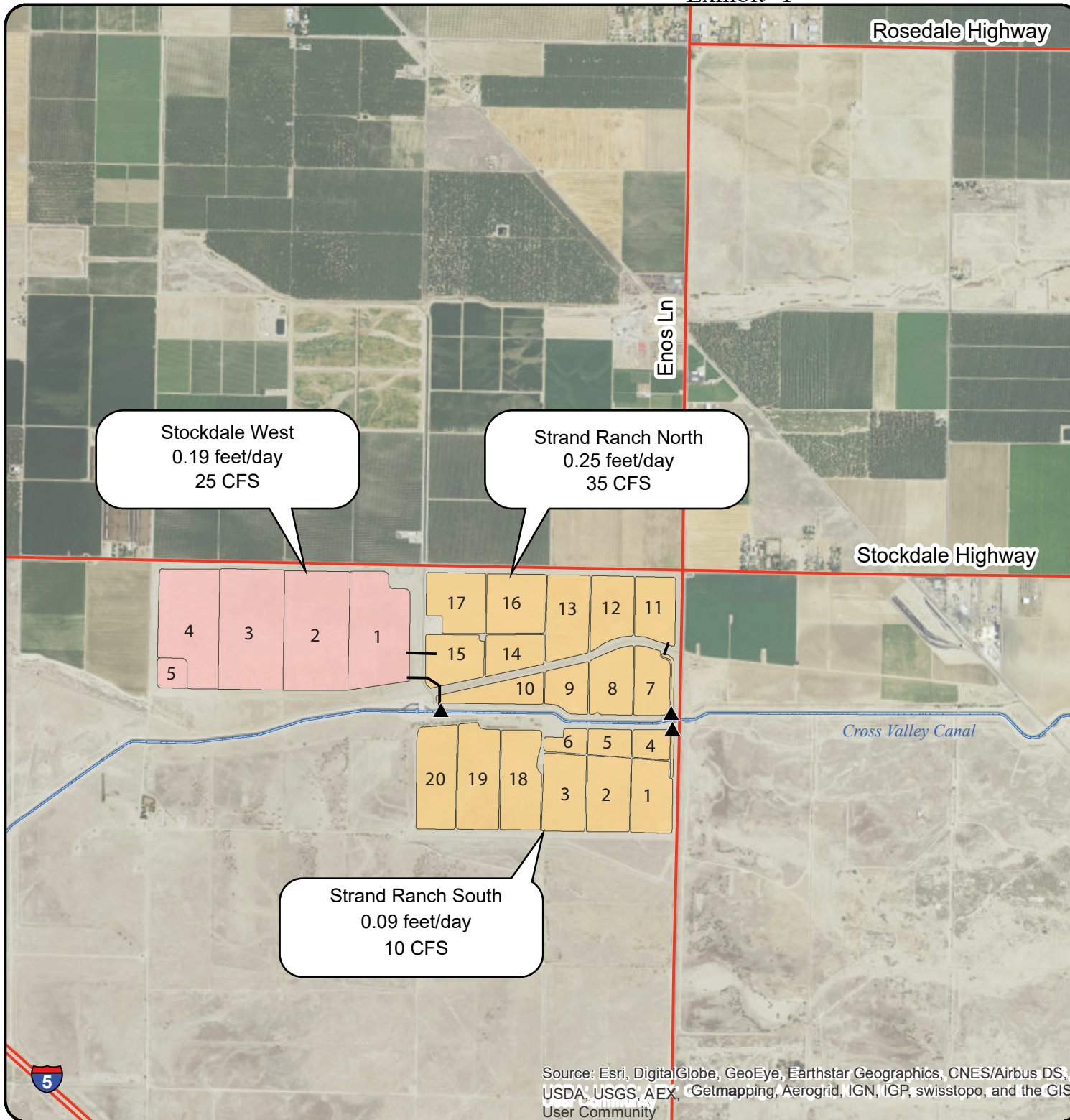


Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping AeroGrid, IGN, IGP, swisstopo, and the GIS User Community

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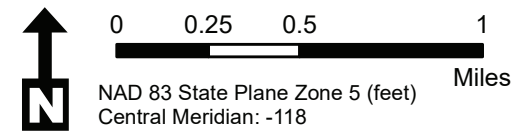
### Location Map: IRWD Water Banking Projects Recharge Rates



**MAP FEATURES**

- ▲ Turnouts
- Stockdale West
- Strand Ranch

This figure shows the location of recharge basins and their associated recharge rates as of January 4, 2024



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

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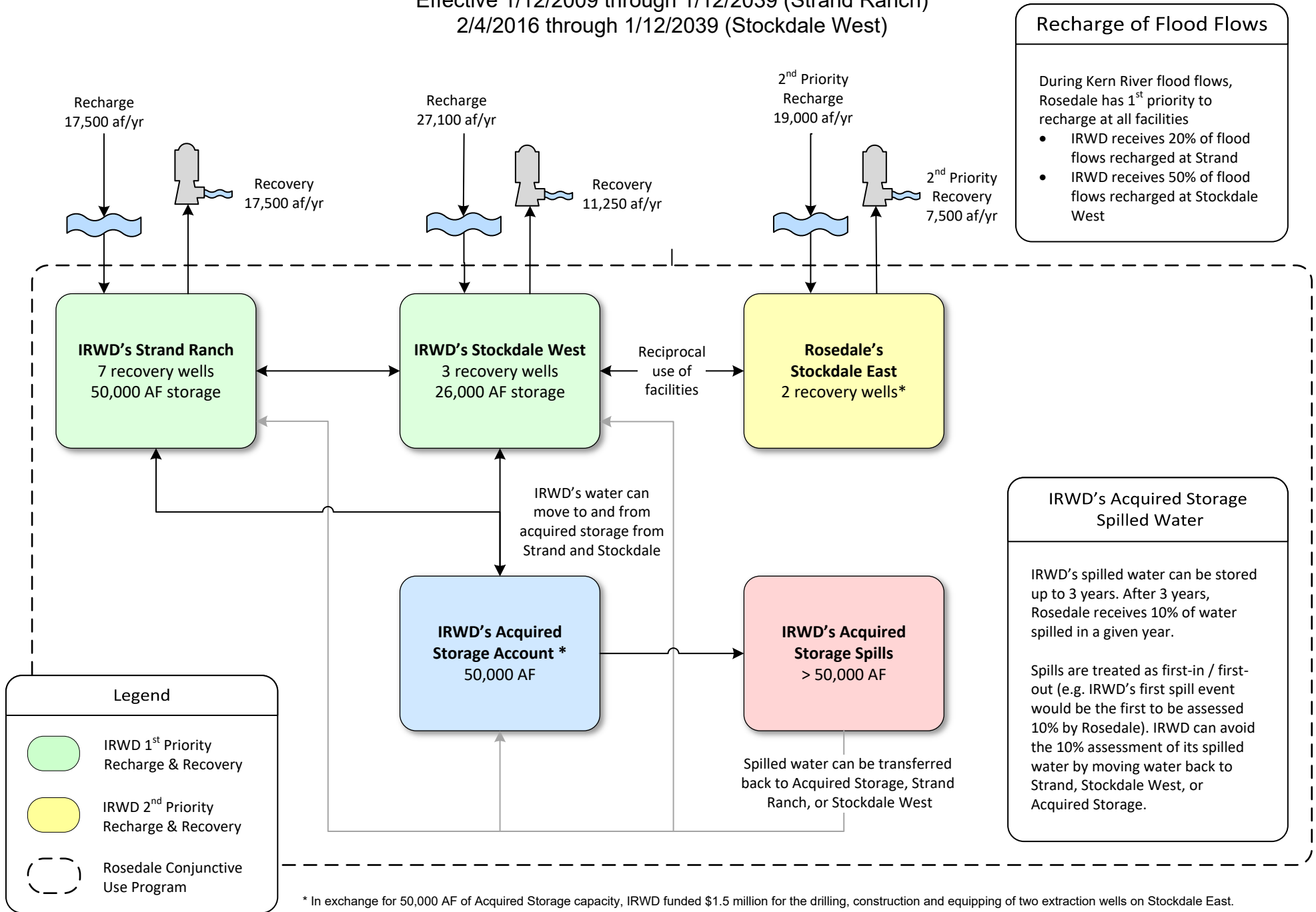


# Exhibit "J"

## IRWD-Rosedale Water Banking and Exchange Program Agreements

Effective 1/12/2009 through 1/12/2039 (Strand Ranch)

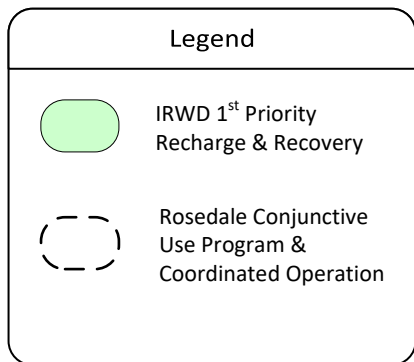
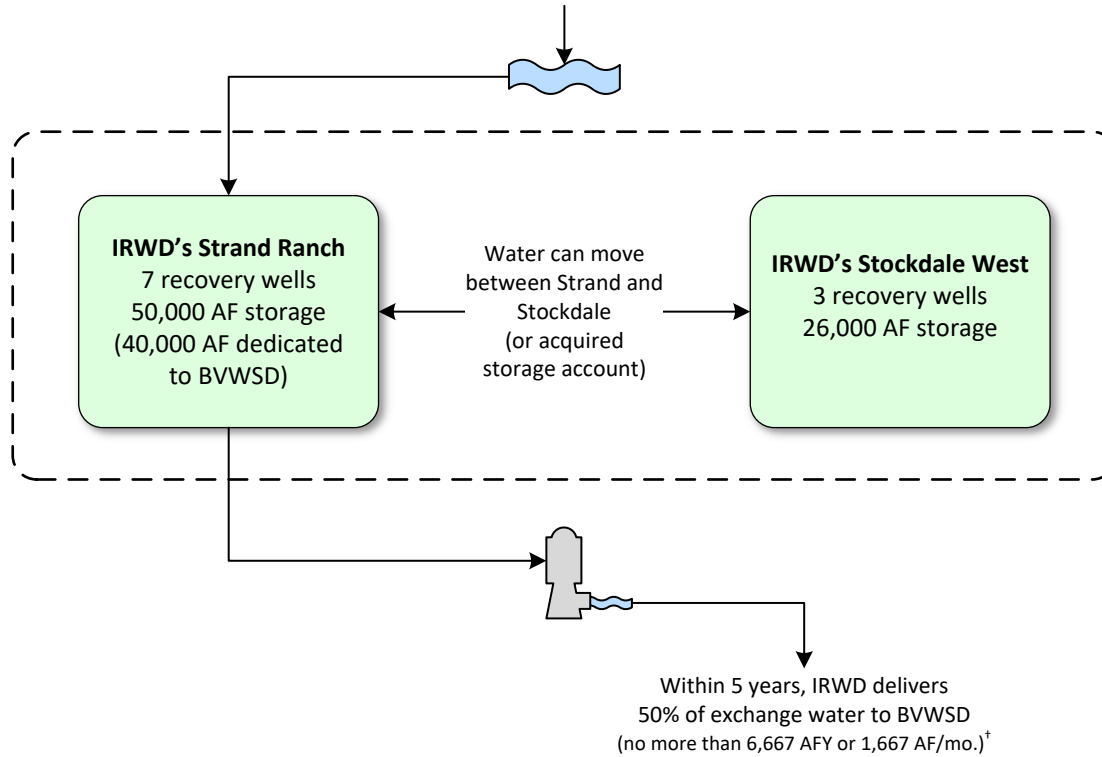
2/4/2016 through 1/12/2039 (Stockdale West)



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**Buena Vista Water Storage District Long Term Water Exchange Program**  
 Effective 1/1/2011 through 1/12/2039

BVWSD delivers non-SWP water to Strand Ranch  
 (IRWD receives 50%)  
 (Up to 17,500 AFY or 4,375 AF/mo.)

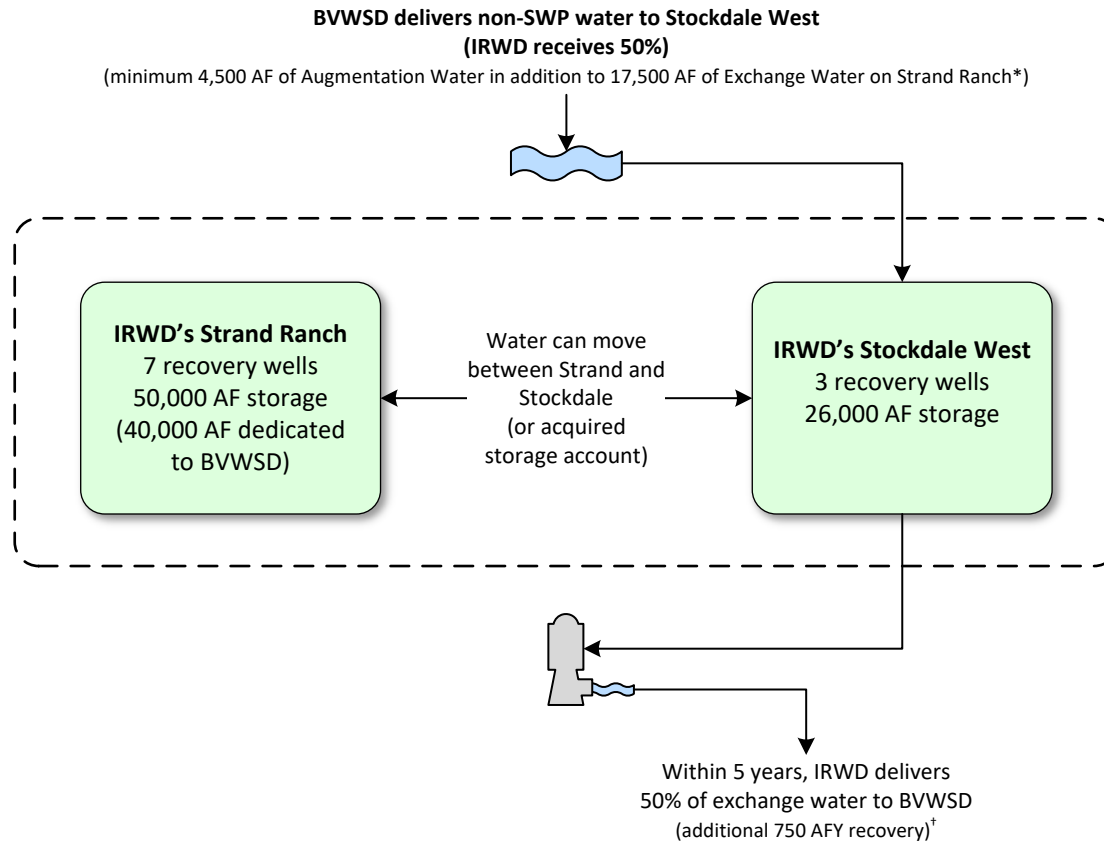




†IRWD shall remit one-half of the exchanged supply less one-half of reasonable losses back to BV no later than December 31<sup>st</sup> of the 4<sup>th</sup> year following the associated recharge event. IRWD pays for recovery of water returned to BV. Water to be remitted back to BV may remain in storage at Strand Ranch beyond the 4<sup>th</sup> year, in exchange for a greater percent being transferred to IRWD as compensation per the table shown to the right:

Year Following Recharge Event	Percent Transferred to IRWD	Percent Returned to BV During or Before Indicated Year
1	50%	50%
2	50%	50%
3	50%	50%
4	50%	50%
5	60%	40%
6	70%	30%
7	80%	20%
8	90%	10%
9	100%	0%

# Buena Vista Water Storage District One-Year Program to Augment Recharge Using Stockdale West Recharge Facilities

Effective 6/28/2023 through 12/31/2023



Legend	
	IRWD 1 <sup>st</sup> Priority Recharge & Recovery
	Rosedale Conjunctive Use Program & Coordinated Operation

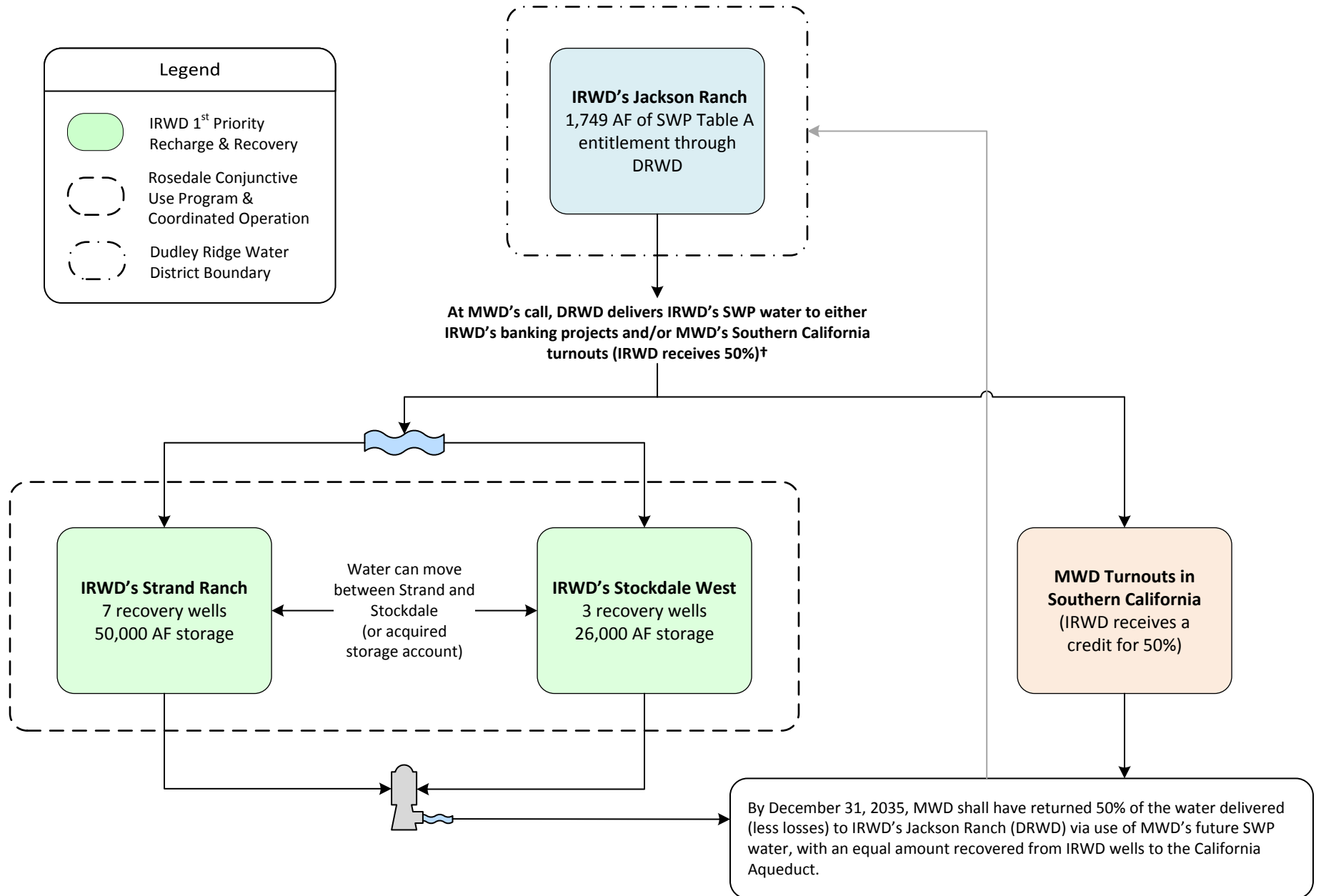
\* IRWD agrees to pay BV \$25 per AF for IRWD's share of the Augmentation Water and Exchange Water

† IRWD shall remit one-half of the exchanged supply less one-half of reasonable losses back to BV no later than December 31<sup>st</sup> of the 4<sup>th</sup> year following the associated recharge event. BV pays for recovery of its share of Augmentation Water. Water to be remitted back to BV may remain in storage at Strand Ranch beyond the 4<sup>th</sup> year, in exchange for a greater percent being transferred to IRWD as compensation per the table shown to the right:

Year Following Recharge Event	Percent Transferred to IRWD	Percent Returned to BV During or Before Indicated Year
1	50%	50%
2	50%	50%
3	50%	50%
4	50%	50%
5	60%	40%
6	70%	30%
7	80%	20%
8	90%	10%
9	100%	0%

# Exhibit "L"

## Dudley Ridge Water District (DRWD) Unbalanced Exchange Program Up to 12,240 AF delivered from 6/7/2018 through 12/31/2027



†Consistent with IRWD-MWD coordinated operating agreement.

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# Exhibit "M"

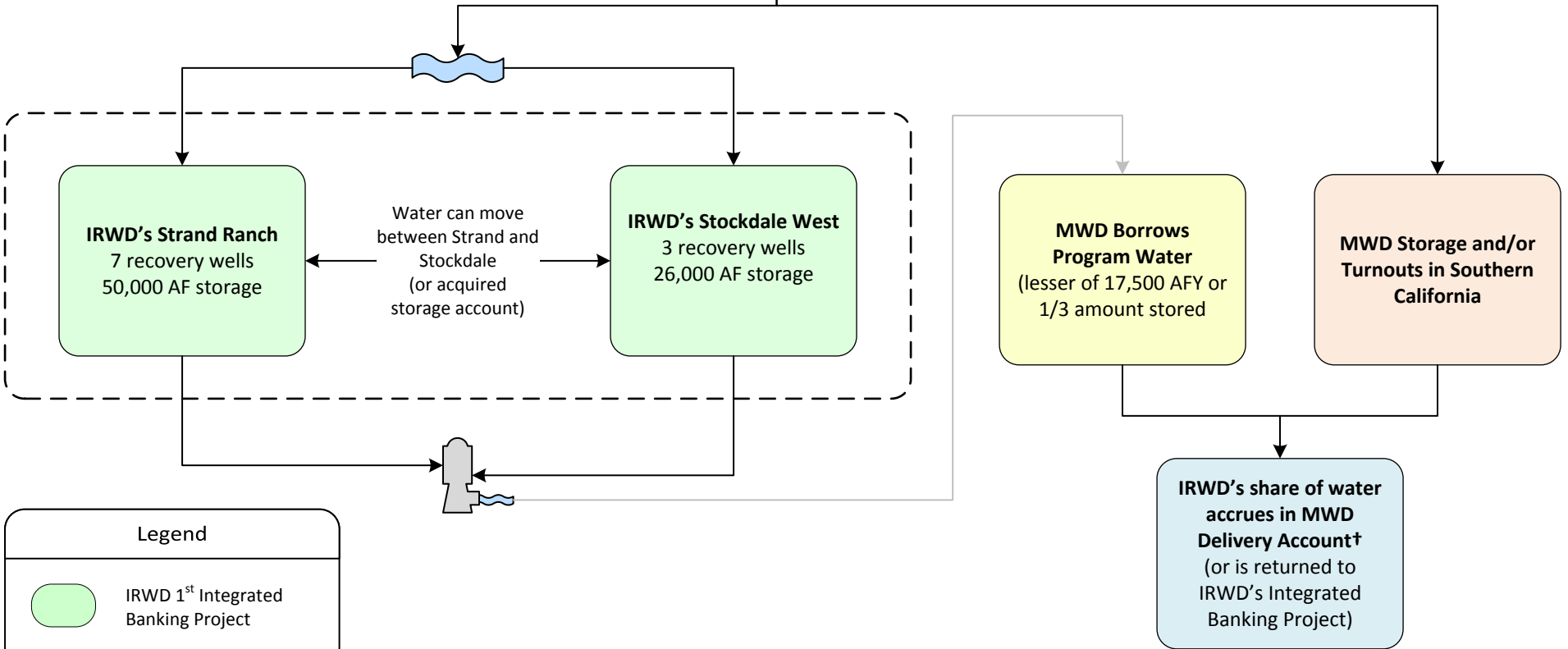
## Coordinated Operating, Water Storage, Exchange and Delivery Agreement Between MWD, MWDOC and IRWD Effective 5/1/2011 through 11/4/2035

With MWD's consent, IRWD secures SWP water (Program Water) through exchanges with IRWD Banking Partners for use as extraordinary supply under MWD Water Supply Allocation Plan



MWD has three options for the use and storage of Program Water:

- Storage of water in IRWD's Integrated Banking Project
- Delivery to Southern California for immediate use and/or storage in MWD system
- Borrow a portion of Program water, with accrual in MWD Delivery Account



**Legend**

- IRWD 1<sup>st</sup> Integrated Banking Project
- Rosedale Conjunctive Use Program & Coordinated Operation

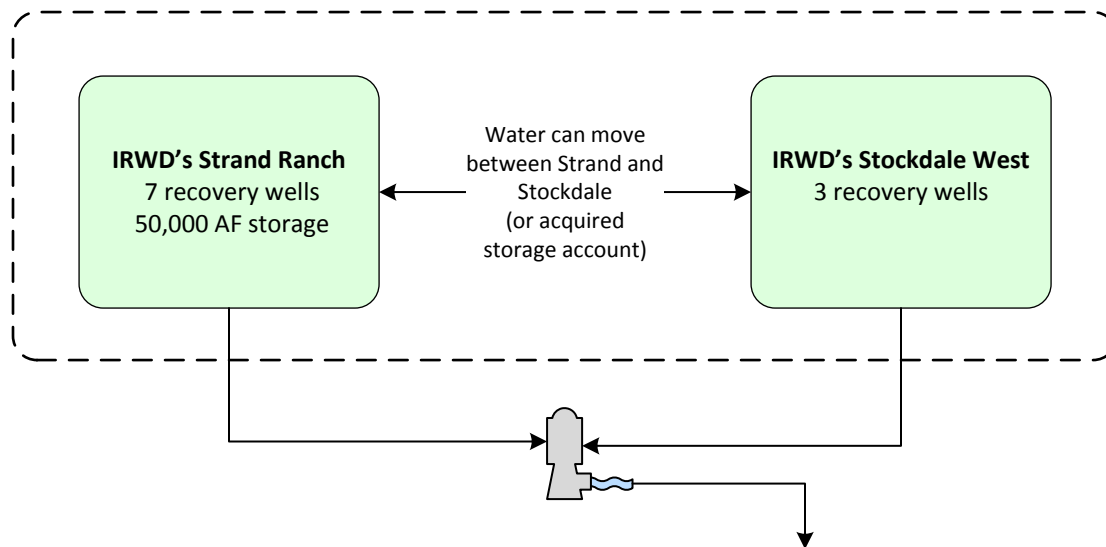
- Under an MWD Allocation, when IRWD calls for water, IRWD must first recover Program Water from the Integrated Banking Project before receiving water from the MWD Delivery Account.
- MWDOC shall pass through extraordinary supply credits for IRWD's benefit.
- † IRWD's banking partner share of Program Water to be returned by MWD.

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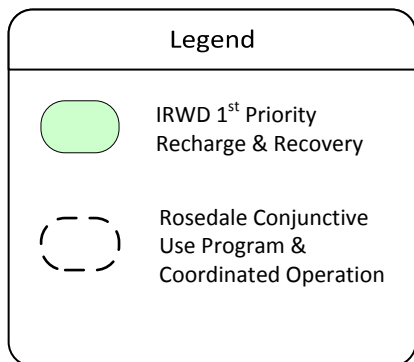


Exhibit "N"

**Agreement for Conveyance of Water Between MWD, MWDOC, and IRWD (Wheeling Agreement)**  
Template for future agreements



IRWD recovers its share of non-SWP water from its Integrated Banking Projects for use as extraordinary supply under a declared MWD Water Supply Allocation. MWD will coordinate the conveyance and delivery of recovered water to be used within IRWD's Service Area. Delivery can also occur through an operational exchange.\*



\*The recovered water must be used within IRWD's service area. IRWD to pay MWD wheeling charges, including system access rate, water stewardship rate, and treatment surcharge (if applicable), for each acre foot of recovered water wheeled by MWD. IRWD will pay the actual costs of power incurred by MWD to convey recovered water in the California Aqueduct to IRWD delivery points.

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# Exhibit "O"

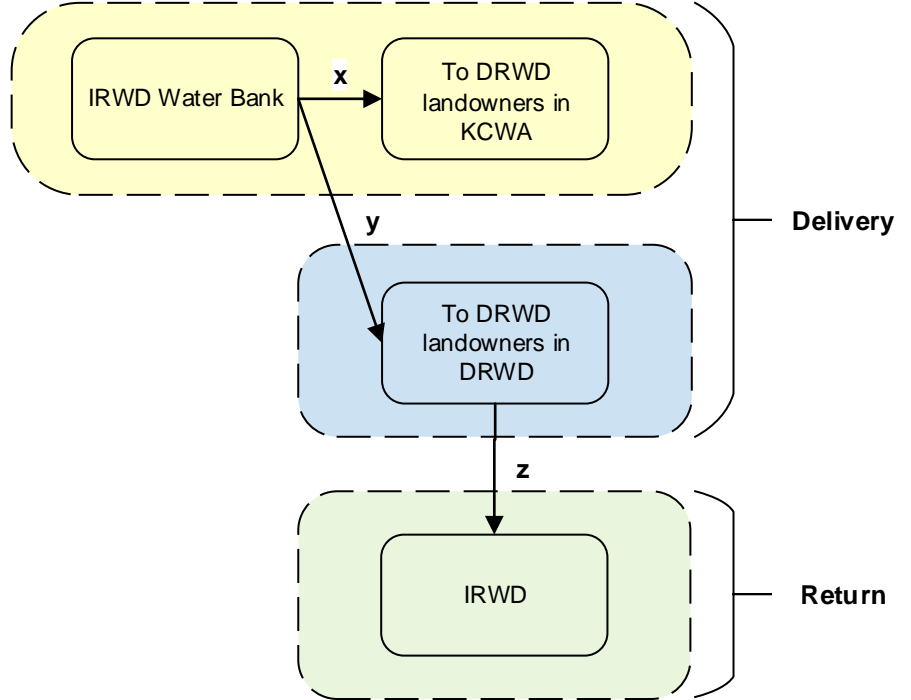
## Dudley Ridge Water District Long Term 1-for-1 Water Exchange Program Effective 5/31/2017 through 11/4/2035

**Scenario A**  
(Per Sections 2, 3, 4.1.1, and 4.1.3)

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x= Non-Project Water required to stay in Kern County  
 y= Non-Project Water allowed to leave Kern County  
 z= DRWD Table A Water equal to x+y less applicable losses, if any

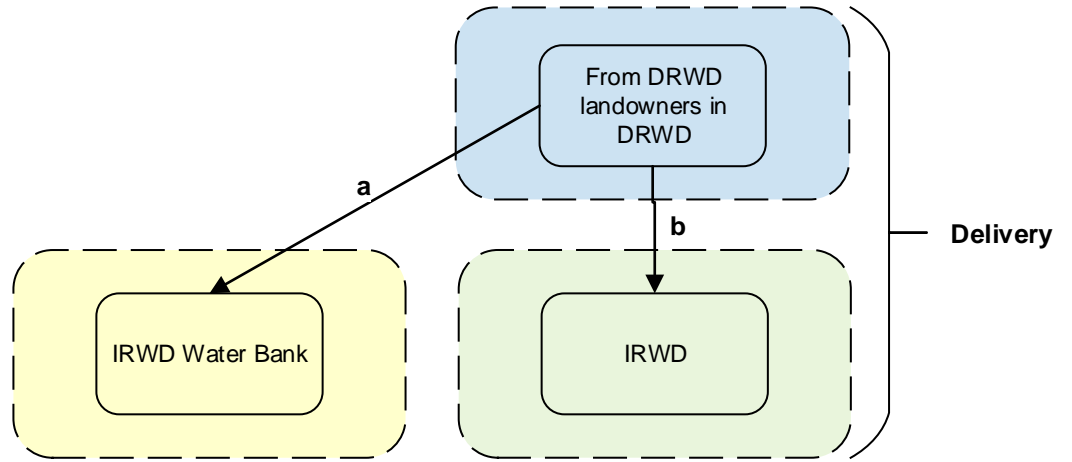
Per Section 4.1.3, z can be delivered to IRWD via in-ground transfer to IRWD, SWP delivery to IRWD banking facilities, or SWP delivery to MWDSC



**Scenario B**  
(Per Sections 2, 3, and 4.1.2)

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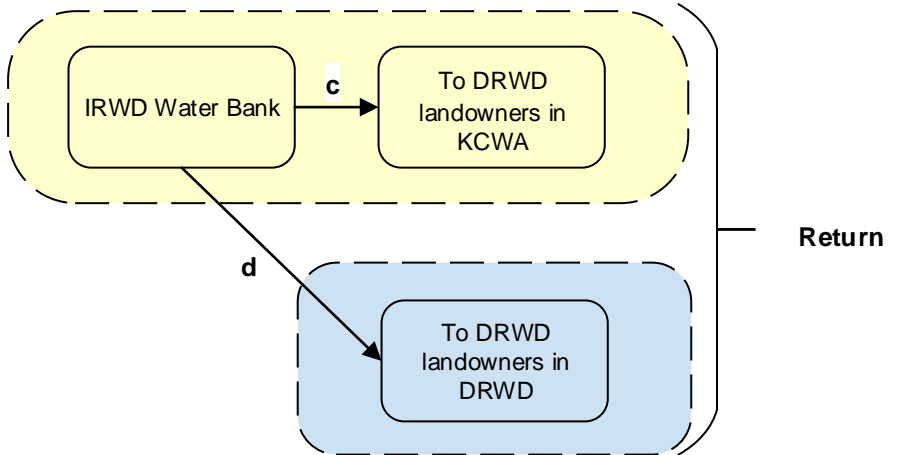
$a + b = c + d$   
(less applicable losses, if any)



**Legend**

---

- KCWA Service Area
- DRWD Service Area
- IRWD Service Area



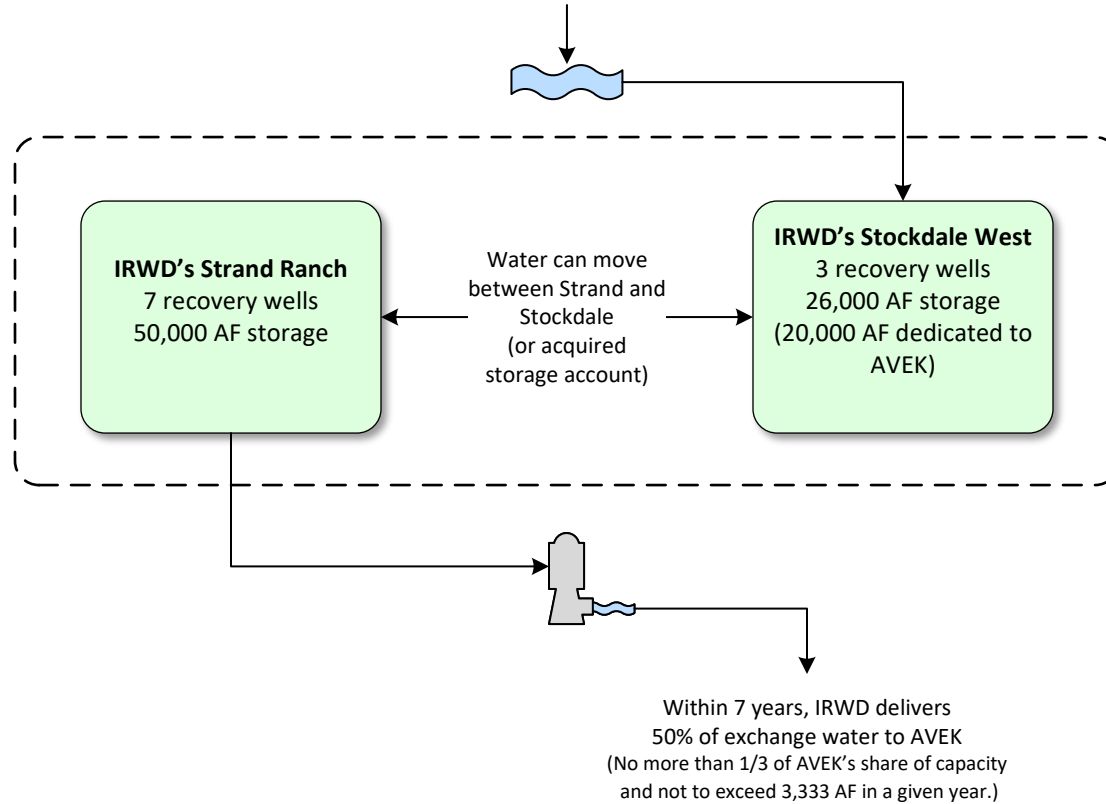
†The cost of water exchanged between IRWD and DRWD will be equalized

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Exhibit "P"

**Antelope Valley-East Kern Water Agency (AVEK) Long Term Water Exchange Program**  
 Effective 12/21/2018 through 12/31/2035

AVEK delivers SWP water to IRWD Water Bank  
 (IRWD receives 50%)  
 (Up to 20,000 AFY or 2,200 AF/mo.)\*



**Legend**

-  IRWD 1<sup>st</sup> Priority Recharge & Recovery
-  Rosedale Conjunctive Use Program & Coordinated Operation

\*Up to 20,000 AF per year of AVEK Exchange Water may be delivered to IRWD for recharge using recharge facilities at the Strand Ranch and Stockdale West for storage in the Stockdale West Bank. IRWD shall remit one-half of stored supplies less one half of losses back to AVEK no later than December 31<sup>st</sup> of the 7<sup>th</sup> year, following the associated recharge event.

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Exhibit "Q"

**TABLE 7**  
**IRWD Water Banking Program Costs of Water Summary**  
 July 18, 2024

Program Partner	Time Period	Water Type	IRWD Amount (AF)	Variable costs <sup>2</sup> (\$/AF) (A)	Fixed Cost Component <sup>3</sup> (\$/AF) (B)	Fixed & Variable (\$/AF) (C)	Capital Component <sup>4</sup> (\$/AF) (D)	Cost of Water (\$/AF) (E)	Estimated Recovery of Water <sup>5</sup> (\$/AF) (F)	2024 MWD Tier 1 Untreated Rate + SAC Surcharge <sup>6</sup> (\$/AF) (G)	Cost of Water in IRWD Service Area (\$/AF) (H)
						A+B		C+D			E+F+G
Buena Vista	2010-2015	Kern River	12,832	\$ 75.98	\$ 48.36	\$124.34	\$ 190.00	\$ 314.34	\$ 120.00	\$ 903.99	\$ 1,338.33
Buena Vista <sup>1</sup>	2017-2021	Kern River	11,256	\$ 159.16	\$ 48.36	\$207.52	\$ 190.00	\$ 397.52	\$ 120.00	\$ 903.99	\$ 1,421.51
AVEK	2012-2014	SWP Table A	2,229	\$ 11.70	\$ 48.36	\$ 60.06	\$ 190.00	\$ 250.06	\$ 120.00	\$ 903.99	\$ 1,274.05
AVEK <sup>7</sup>	2012-2014	SWP Table A	108	\$ 11.70	\$ 48.36	\$ 60.06	\$ 190.00	\$ 250.06	\$ -	\$ 903.99	\$ 1,154.05
Carpinteria	2010-2015	SWP Table A	874	\$ 27.04	\$ 48.36	\$ 75.40	\$ 190.00	\$ 265.40	\$ 120.00	\$ 903.99	\$ 1,289.39
Carpinteria <sup>7</sup>	2010-2015	SWP Table A	31	\$ 27.04	\$ 48.36	\$ 75.40	\$ 190.00	\$ 265.40	\$ -	\$ 903.99	\$ 1,169.39
Central Coast <sup>7</sup>	2017-2021	SWP Table A	556	\$ 30.34	\$ 48.36	\$ 78.70	\$ 190.00	\$ 268.70	\$ -	\$ 903.99	\$ 1,172.69
DRWD <sup>7</sup>	2014-2021	SWP Table A /Article 21	4,452	\$ 362.67	\$ 48.36	\$411.03	\$ 190.00	\$ 601.03	\$ -	\$ 903.99	\$ 1,505.02
<b>Total</b>			<b>32,338</b>								

<sup>1</sup> Water purchased in 2019 includes commodity charge of \$110/AF

<sup>2</sup> Variable Costs shown above are based on actual costs. The different components and average costs included in the variable cost are as follows: recharge variable operating costs (\$5.00/AF), Rosedale administration fees (\$3.00/AF), CVC pumping (\$9.00/AF), operating and stand-by fees (\$3.50/AF), and KCWA fees (\$5.00/AF) plus \$3,000 per transaction request. IRWD pays Buena Vista recovery costs. (Net of partner payments to IRWD for their share of water) DRWD variable costs include DWR fixed and variable costs for SWP Table A water.

<sup>3</sup> Fixed costs include IRWD share of fixed operating costs (\$25.00/AF), annual property taxes (\$88,000), PG&E standby costs (up to \$5,000/year), GSP fees (\$8,450/year) and CVC expansion costs (\$28,000/year)

<sup>4</sup> Capital component does not include land costs, grants received, and revenue from DRWD water sold in 2021. Add \$60/AF to include these costs.

<sup>5</sup> Increased PG&E costs for recovering water.

<sup>6</sup> Assumes IRWD would take delivery as extraordinary supply through Irvine Lake to the Baker Water Treatment Plant. The SAC surcharge rate as of 6/30/2023 was \$0.99 per AF.

<sup>7</sup> No recovery costs for DRWD water delivered in 2014-2016 and water recovered in 2022 as part of MWD borrowing.

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## Exhibit "R"

### Summary of IRWD's Coordinated Operating, Water Storage, Exchange and Delivery Agreement with Metropolitan Water District and Municipal Water District of Orange County (MWDOC) (February 8, 2024)

Agreement approved (unanimously) by the IRWD Board on November 22, 2010;  
Agreement Term: April 21, 2011 to November 4, 2035

#### Summary of Benefits to IRWD:

1. IRWD benefits from all State Water Project (SWP) water IRWD secures; Metropolitan's borrowing of this water is temporary.
2. On behalf of IRWD, Metropolitan uses its SWP exchange and conveyance capacities to move IRWD's water for banking.
3. IRWD can "store" water in Metropolitan's system as a credit, freeing up space in IRWD's Water Bank with the water stored closer to the IRWD service area.
4. IRWD does not incur conveyance or evaporation losses on its water that is conveyed in Metropolitan's system and stored in Metropolitan's reservoirs.
5. IRWD avoids groundwater recovery (pumping) costs when Metropolitan issues a credit for IRWD's SWP supplies in Southern California (currently \$122/AF<sup>1</sup>).
6. IRWD pays Metropolitan's melded system power rate – currently \$182/AF, not DWR's current power costs of \$330/AF<sup>2</sup> (\$148/AF savings).
7. Deliveries are on-demand to IRWD at its service connections in Orange County, which are not subject to lower priorities for wheeling.
8. Metropolitan pays all SWP costs, including variable OMP&R supply costs, associated with SWP water secured by IRWD<sup>3</sup>.
9. IRWD pays Metropolitan's Full-Service Tier-1 Untreated Rate, which is currently \$903/AF, for deliveries at its service connections allowing IRWD to avoid higher Metropolitan wheeling charges.
10. IRWD only pays once for supply at the current Tier-1 Supply Rate of \$332/AF.
11. Deliveries to IRWD's service area qualify as Extraordinary Supply during a Water Supply Allocation, allowing IRWD to avoid Metropolitan's Allocation Surcharge of between \$1,480/AF and \$2,960/AF.
12. IRWD increases local water supply reliability for its ratepayers.

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<sup>1</sup> Estimated from IRWD's current groundwater pumping costs and Water Bank related operations costs. Metropolitan has the option to extinguish credits by returning water to the IRWD Water Bank. In recent borrowing letter agreement, Metropolitan agreed to waive its ability to return borrowed water to the Water Bank.

<sup>2</sup> Melded system and actual power costs were taken from Metropolitan's Fiscal Years 2022-23 and 2023-24 Biennial Budget Report and 2022 Cost of Service Study.

<sup>3</sup> Does not include fixed costs paid by IRWD's unbalanced exchange partners. In 2014 and 2017, Metropolitan's SWP costs were \$1,097/AF and \$359/AF, respectively.

Summary of Benefits to MWD:

1. Metropolitan maintains control of all SWP supplies entering its service area as required by its SWP Contract with California Department of Water Resources (DWR).
2. Metropolitan's investments in the SWP are protected by not causing a reduction in revenue received by Metropolitan for payment of SWP fixed charge obligations.
3. Metropolitan can temporarily borrow SWP water secured by IRWD.
4. Metropolitan is assured that IRWD is not competing for water supplies.
5. Increased regional water supply reliability.

Exhibit "S"


IRWD 2024 Recharge Operations- BEFORE LOSSES

July 18, 2024

Actual and Forecasted Amounts:

Month	IRWD Table A (AF)	DRWD 1:1 (AF)	MWD <sup>1</sup> (AF)	Buena Vista (AF)	AVEK (AF)	Homer (AF)	Valley Water (AF)	Silver Tip (AF)	Total (AF)	Status	Expected Recharge <sup>2</sup> (AF)	Expected Recharge Rate (CFS)
January	-	2,200	-	-	-	-	-	-	2,200	prelim	2,200	80
February	-	-	-	-	-	-	-	-	-	prelim	-	70
March	-	-	-	-	-	-	-	-	-	prelim	-	60
April	-	-	-	-	-	-	-	-	-	prelim	-	60
May	-	-	-	-	-	-	-	-	-	prelim	-	60
June	-	-	-	-	-	-	-	-	-	prelim	-	60
									2,200		2,200	
July	-	-	-	-	-	-	-	-	-		-	60
August	-	-	-	-	-	-	-	-	-		-	60
September	-	-	-	-	-	-	1,500	2,000	3,500		3,570	60
October	-	-	-	-	-	-	3,500	-	3,500		3,689	60
November	-	-	-	-	-	1,800	-	-	1,800		3,570	60
December	700	-	79	-	-	-	-	2,000	2,779		3,689	60
	700	2,200	79	-	-	1,800	5,000	4,000	13,779		16,719	
Recharge goal:	700	7,525	79	-	-	1,800	20,000	4,000	34,104			

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July 18, 2024  
Prepared and  
submitted by: F. Sanchez / P. Weghorst  
Approved by: Paul A. Cook 

## SUPPLY RELIABILITY PROGRAMS COMMITTEE

### KERN FAN GROUNDWATER STORAGE PROJECT UPDATE

#### SUMMARY:

The Groundwater Banking Joint Powers Authority (GBJPA) is planning, designing, and constructing the Kern Fan Groundwater Storage Project (Kern Fan Project). Construction is in progress on new recharge facilities at properties already secured for the project. Provided is an update on these construction activities, next phases of the project, the pursuit of new federal funding for the project, and efforts to maximize benefits and minimize costs.

#### BACKGROUND:

In the initial phase of the Kern Fan Project, the GBJPA is constructing water banking facilities on approximately 350 acres of previously acquired land known as the West Enos and North Stockdale properties. Ongoing work includes the construction of recharge basins, recovery facilities, pipelines, and interconnections to existing IRWD and Rosedale water banking facilities. A preliminary Location Map for the Kern Fan Project is provided as Exhibit “A”. Exhibit “B” provides an overall schedule for the project. The full project is expected to be operational by 2030.

#### Ongoing Construction:

Construction of recharge facilities at the West Enos location began in February 2024. The construction of recharge infrastructure (i.e., levees, turnouts, inter-basin structures) is expected to be completed by September 2024. The construction of recovery facilities at the West Enos property (i.e., wells, pumps, motors, electrical gear, pipelines) will begin at the end of 2024 and be completed by early 2026. Construction of recharge infrastructure at the North Stockdale property will begin in September 2024 and be completed in 2025. North Stockdale recovery facility construction will begin in 2025 and be completed in late 2026.

#### Next Phases of the Project:

Future design and construction work on the project will include a new turnout from the California Aqueduct as well as conveyance facilities (a canal and lift stations) to connect the project to the State Water Project’s California Aqueduct. Future work will also include the construction of additional recharge and recovery facilities. In May 2022, the GBJPA entered into an agreement with the team of Stantec, Provost & Pritchard, and Dahl Consultants to evaluate California Aqueduct turnout locations, conveyance configurations, and alignments. Alternative California Aqueduct turnout locations and water conveyance alignments are shown on Exhibit “A”. The design team determined that one of these alternatives, identified as the Joint Works Project, would likely be a preferred cost-effective alternative to constructing a new turnout and conveyance facilities from the California Aqueduct.

*Potential Joint Works Project:*

The California Department of Water Resources (DWR) has conducted hydraulic studies which demonstrate that the CVC cannot provide deliveries at its 1,422 cfs design capacity in its current configuration. The GBJPA's proposed Joint Works Project would make use of the existing Cross Valley Canal (CVC) turnouts to divert water from the California Aqueduct. The Joint Works Project would then convey these flows through a new canal constructed parallel to the CVC.

DWR's modeling has also demonstrated that the proposed Joint Works Project could deliver up to 450 cfs to the Kern Fan Project while augmenting flows in the CVC by up to 250 cfs. In addition to providing water to the Kern Fan Project, the augmented flows in the CVC would provide a regional benefit to the agencies that own capacity in the CVC (i.e., the Kern County Water Agency and its member agencies, including Rosedale, and other agencies provided access to conveyance through contract arrangements, such as IRWD's capacity exchange with Homer, LLC).

Kern Fan Project Funding:

The Water Quality, Supply, and Infrastructure Improvement Act of 2014, also known as Proposition 1, provides \$2.7 billion for public benefits associated with water storage projects that will provide public and ecosystem benefits. The California Water Commission (CWC), which is administering the grant funding, has conditionally awarded \$89.1 million to the Kern Fan Project. The project has also been awarded \$8.6 million in federal funding through the Bureau of Reclamation Small Surface Water and Groundwater Storage Program (Small Storage Program).

*New Federal Funding Opportunity:*

The GBJPA has been successful in securing two rounds of Small Storage Program funding, totaling \$8.6 M, for construction of the West Enos and North Stockdale facilities. Any new federal funding would need to be for separate and distinct facilities. Staff has identified separate and distinct facilities – referred to as the South Valley Project – that are expected to qualify for new federal funding. The South Valley Project would incorporate into the Kern Fan Project 300 acres of existing recharge facilities, 26,000 acre-feet of new storage, three new recovery wells, and conveyance infrastructure from the California Aqueduct. A schematic of how the South Valley Project, as well as future efforts would combine into the overall Kern Fan Project, is provided as Exhibit "C".

Staff is preparing a feasibility study for the South Valley Project that will be submitted to Reclamation by August 15, 2024. A feasibility study approved by Reclamation is an eligibility requirement for federal funding. Staff anticipates that Reclamation will release a new grant funding opportunity this fall that ultimately could provide up to \$10 million in additional federal funding for the South Valley Project.

Maximizing Project Benefits and Minimizing Costs:

At the time the Prop 1 funding application was submitted to the CWC in 2017, the estimated capital cost of the Kern Fan Project was \$171 million (in 2015 dollars). While the scope of the Kern Fan Project has not changed substantially since that time, project costs have increased significantly due

to significant increases in nearly all aspects of public works construction costs. The most recent capital cost estimate is \$269.5 million (in 2024 dollars). The original cost estimate and the current cost estimates are shown in Exhibit “D”, along with a summary of how the capital costs will be funded. Based on the anticipated grant funding awards, the project cost shares for IRWD and Rosedale have increased from approximately \$42 million to \$86 million each. Rosedale has indicated the higher costs present a significant challenge to Rosedale, and it is looking for opportunities to reduce the overall cost of the project and/or find other sources of funding for the project.

To reduce cost impacts, IRWD has already begun working with Rosedale to identify ways to cost share in the implementation of the Joint Works Project with other entities in Kern County that may have an interest in augmenting flows in the CVC and / or benefiting from conveyance capacity dedicated to the Kern Fan Project. Staff and Rosedale are also evaluating the potential benefits and cost savings associated with connecting the Kern Fan Project to existing water banking facilities already owned and operated by IRWD and Rosedale. At the Committee meeting, staff will provide further insights into these potential opportunities.

#### FISCAL IMPACTS:

The CWC has been awarded conditional funding to the Kern Fan Project in the amount of \$89.1 million, and \$8.6 million from the Bureau of Reclamation. Staff is preparing a Feasibility Study that will be submitted by the GBJPA in pursuit of up to \$10 million in additional federal funding. IRWD and Rosedale will fund the remaining cost of the Kern Fan Project.

#### ENVIRONMENTAL COMPLIANCE:

An Environmental Impact Report (EIR) for the Kern Fan Groundwater Storage Project was prepared, certified, and approved in compliance with California Environmental Quality Act (CEQA) of 1970 (as amended), codified at California Public Resources Code Sections 21000 et. seq., and the State CEQA Guidelines in the Code of Regulations, Title 14, Division 6, Chapter 3. The Groundwater Banking Joint Powers Authority, as lead agency, filed a Notice of Determination for the Kern Fan Groundwater Storage Project with the County of Kern. Rosedale, as a responsible agency, filed a Notice of Determination with the County of Kern. IRWD, as a responsible agency, filed Notices of Determination with the County of Orange and with the County of Kern.

#### RECOMMENDATION:

Receive and file.

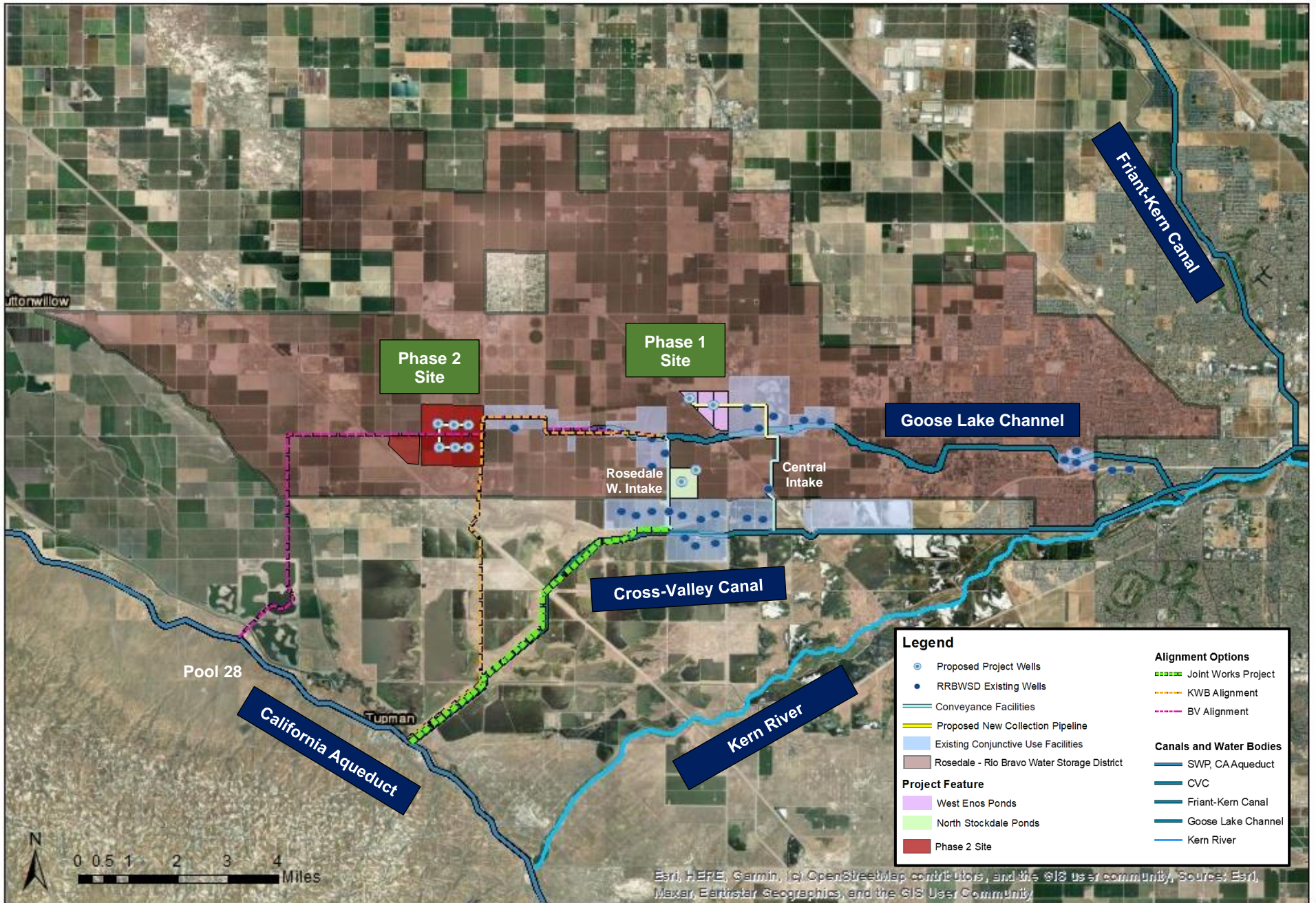
#### LIST OF EXHIBITS:

- Exhibit “A” – Kern Fan Groundwater Storage Project Location Map
- Exhibit “B” – Kern Fan Groundwater Storage Project Schedule
- Exhibit “C” – Kern Fan Project Schematic
- Exhibit “D” – Project Capital Costs and Funding Allocations

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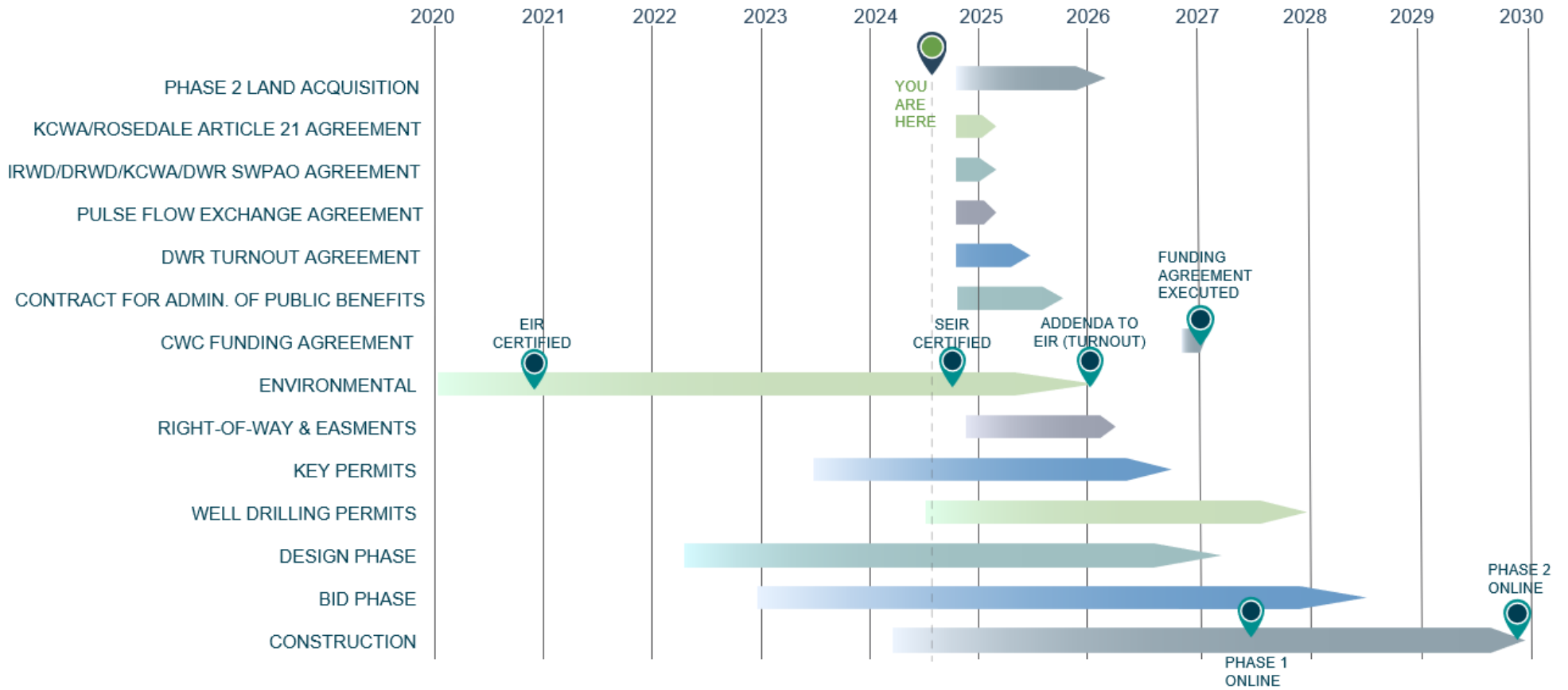
# Kern Fan Groundwater Storage Project Location Map



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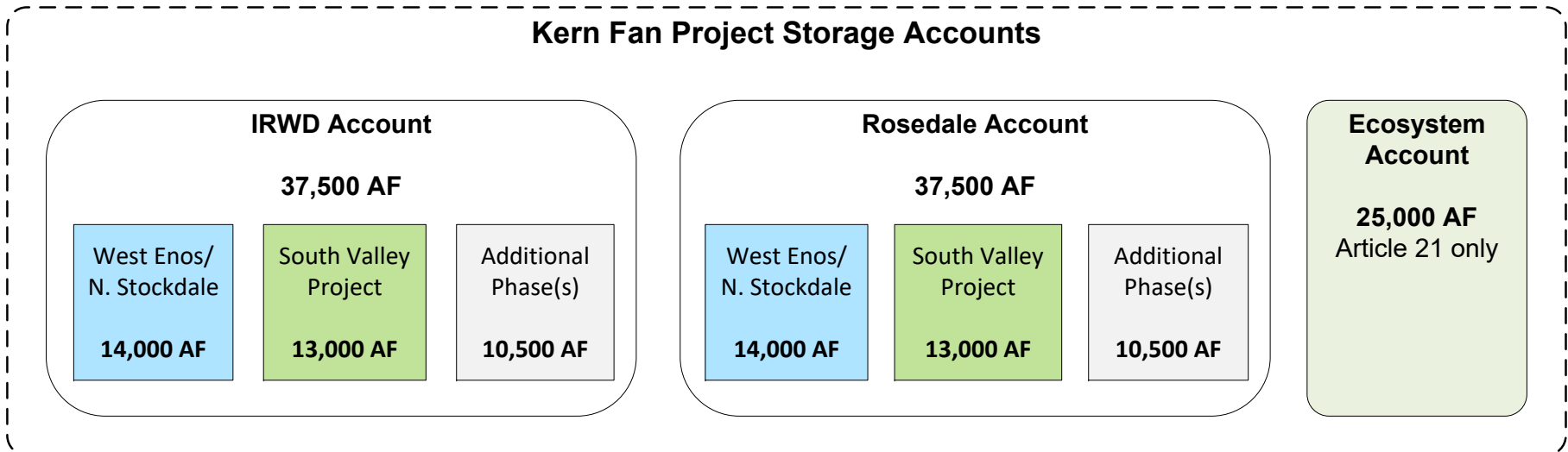
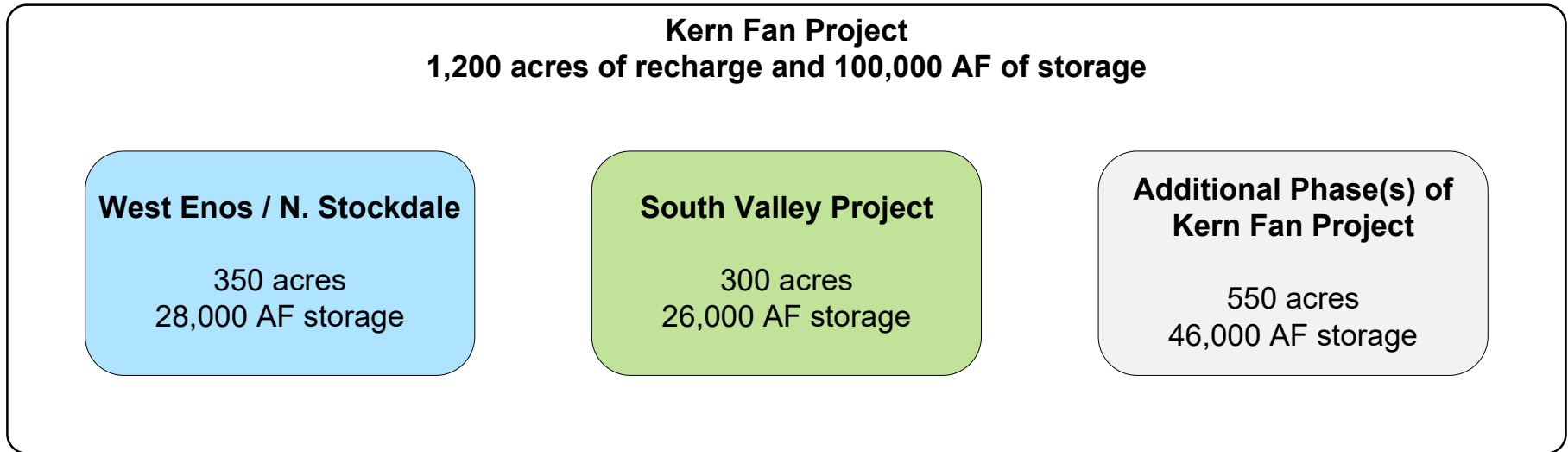
# Exhibit "B"

## Kern Fan Project Schedule



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### Kern Fan Project Schematic



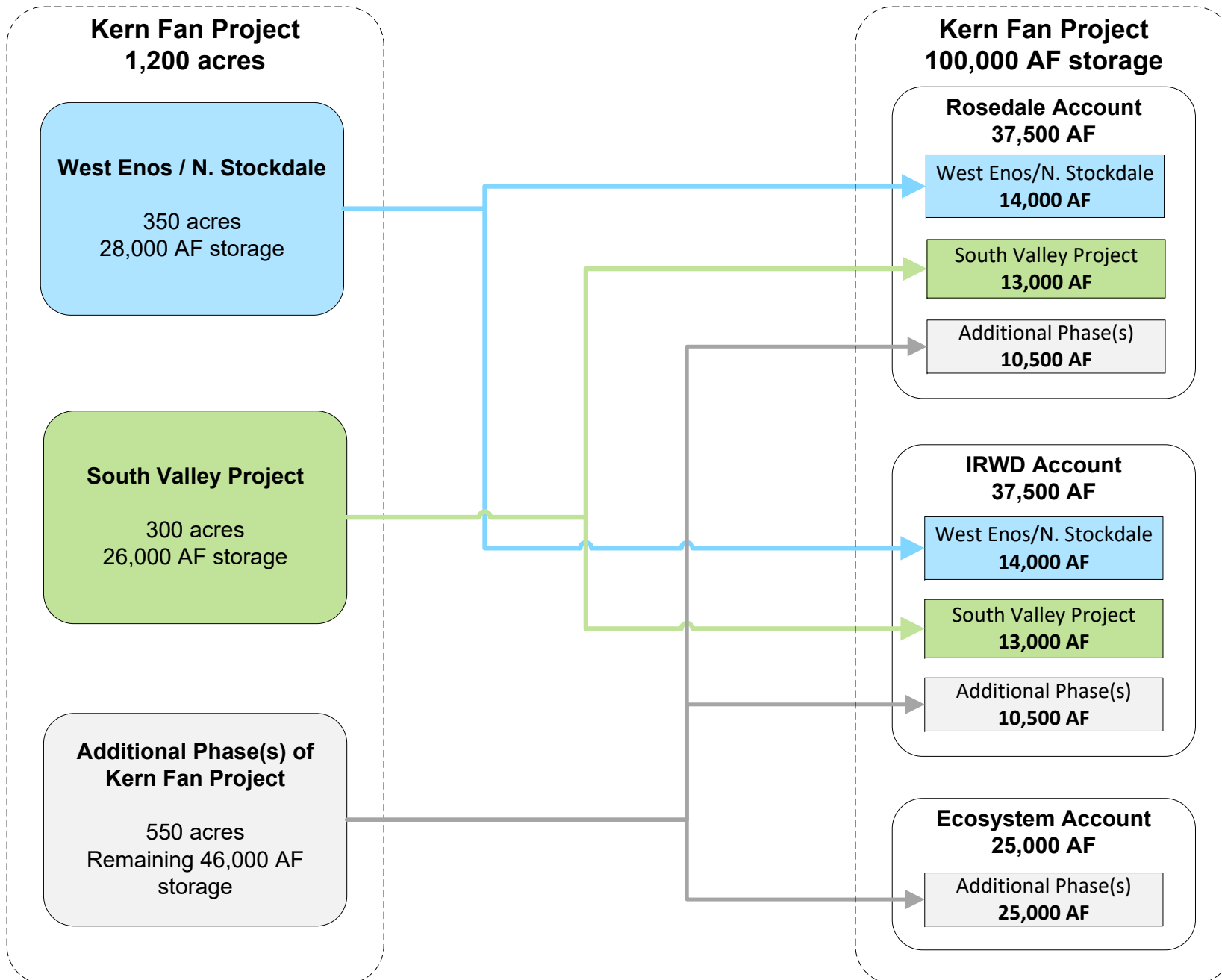


Exhibit “D”

**Kern Fan Project Capital Costs and  
Funding Allocations**

	<b>2017 Application (2015 \$M)</b>	<b>2021 Feasibility Study (2024 \$M)</b>
Capital	\$ 171.0	\$ 269.5
<b>Funding Allocations</b>		
CWC	\$ 87.8	\$ 89.1
USBR		\$ 8.6
IRWD	\$ 41.6	\$ 85.9
Rosedale	\$ 41.6	\$ 85.9
<b>Total:</b>	<b>\$ 171.0</b>	<b>\$ 269.5</b>

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