

AGENDA  
IRVINE RANCH WATER DISTRICT  
SUPPLY RELIABILITY PROGRAMS COMMITTEE  
THURSDAY, AUGUST 18, 2022

This meeting will be held in-person at the District's headquarters located at 15600 Sand Canyon Avenue, Irvine, California. 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=m93de81a78cbbb21fbc6b186cef7662a2>

Meeting Number (Access Code): 2497 039 7296

Meeting Password: YWuKgpPA438

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

**PLEASE NOTE:** Participants joining the meeting will be placed into the Webex lobby when 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: Douglas Reinhart      \_\_\_\_\_  
Member: Peer Swan      \_\_\_\_\_

<u>ALSO PRESENT</u>	Paul Cook	_____	Paul Weghorst	_____
	Rob Jacobson	_____	Fiona Sanchez	_____
	Kellie Welch	_____	Christine Compton	_____
	Natalie Palacio	_____	Marina Lindsay	_____
	Robert Huang	_____	_____	_____
	_____	_____	_____	_____

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 9:00 a.m. on Thursday, August 18, 2022.

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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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## PRESENTATION

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|---|--|
| 5. <u>UPDATE ON DUDLEY RIDGE WATER DISTRICT ACTIVITIES</u><br><br>Patrick O'Dowd will provide the Committee an update on activities of interest at the Dudley Ridge Water District. |  |
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## INFORMATION

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| 6. <u>WATER BANKING PROJECT FACILITIES, CAPACITIES, OPERATIONS AND PROGRAMS – PALACIO / WELCH / SANCHEZ / WEGHORST</u><br><br>Recommendation: Receive and file.                        |  |
| 7. <u>DRAFT TERMS FOR PILOT EMERGENCY WATER STORAGE PROGRAM WITH LAS VIRGENES MUNICIPAL WATER DISTRICT – WELCH / SANCHEZ / WEGHORST</u><br><br>Recommendation: Receive and file.       |  |
| 8. <u>REVISED PRINCIPLES FOR COOPERATIVE WATER SUPPLY PROGRAM WITH ROSEDALE-RIO BRAVO WATER STORAGE DISTRICT – WELCH / SANCHEZ / WEGHORST</u><br><br>Recommendation: Receive and file. |  |

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## OTHER BUSINESS

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9. Directors' Comments
10. 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.

August 18, 2022

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 update on efforts to secure additional water for recharge at IRWD's water banking projects.

#### BACKGROUND:

To facilitate discussion with the Committee, staff has prepared reference materials in tabular, map, and schematic formats to describe IRWD's water banking facilities, capacities, operations, storage, and exchange programs. The 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.

#### 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, is provided as Exhibit "A". The values shown in red on Exhibit "A" reflect current groundwater production rates through July 31, 2022.

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 at the water banking projects, and Exhibit "C" provides after-loss estimates of water recharged at the projects. Both Exhibits "B" and "C" include columns that provide totals for each water type and storage location. Changes shown in red on Exhibits "B" and "C" depict the recovery of 5,000 AF of Kern River Water for Dudley Ridge under the Long-Term 1-for-1 Exchange Agreement. Recovery under this Water Exchange Program is complete for 2022.

#### Summary of Programs:

A table presenting a summary of IRWD's water purchase and exchange programs is presented as Exhibit "D". The table lists each purchase and exchange program that IRWD has entered and presents information related to the type of exchange, year executed, agreement type, and water type. IRWD and partner shares are listed and show 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'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 in Exhibit "D" correspond with changes made to Exhibits "B" and "C". Exhibit "E" graphically depicts how storage of SWP and non-SWP water has changed in the Strand and Stockdale Integrated Banking Projects through time. 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.

#### Project Maps:

To support the tables provided as Exhibits "A", "B", "C", "D" and "F", as well as the figure provided as Exhibit "E", staff has prepared maps that depict project wells and 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. 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 and Metropolitan. These diagrams are provided as Exhibits "J", "K", "L", "M", "N", and "O", 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 is provided as Exhibit "P". 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, 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 2022 Metropolitan Full Service Untreated Tier-1 Rate and a capital cost of water. The costs of water are presented on a dollar per acre-foot basis.

The Kern County Water Agency (KCWA) started issuing fees for staff time related to processing Transaction Request Forms (TRF). An administrative fee of \$3,000 is issued each time KCWA processes a TRF for IRWD. Changes shown in red on Exhibit "P" reflect the addition of KCWA TRF fees to the Buena Vista and Dudley Ridge water variable costs. All other KCWA TRF fees that have been issued to IRWD will be paid by IRWD's water banking partners.

#### Other Program Opportunities:

IRWD has been pursuing additional opportunities to secure water for recharge. At the Committee meeting, staff will provide an update on efforts to enter into an unbalanced exchange partnership with Santa Clarita Valley Water Agency.



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 Cross Valley Canal 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” – Cost of Water Table

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# Exhibit "A"

**TABLE 1**  
**Current and Anticipated Water Banking Projects**  
**Recharge, Storage and Recovery Capacities**  
**August 18, 2022**

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	

<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.

<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.

<sup>3</sup>One half of storage capacity at Stockdale West and Strand Ranch will be allocated for partners.

<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.

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# Exhibit "B"

TABLE 2

IRWD's Water Banking Storage, Recharge and Recovery Operations - BEFORE LOSSES

August 18, 2022

TRANSACTIONS	WATER BANKING ENTITY					TOTAL BY WATER TYPE AND STORAGE LOCATION
	IRWD		BUENA VISTA (BVWSD)	CENTRAL COAST (CCWA)	DUDLEY RIDGE WATER DISTRICT (DRWD) <sup>3</sup>	
	SWP <sup>1</sup>	NON-SWP <sup>2</sup>	NON-SWP	SWP	SWP	
BEGINNING WATER IN STORAGE 2021 (AF)						
Total Kern Water Bank <sup>9</sup>	-	5,015	-	-	-	5,015
Total MWD System <sup>4</sup>	8,027	-	-	-	200	8,227
Total Kern County	5,210	24,855	3,935	647	3,761	38,408
TOTAL STORED WATER (1/1/2021)	13,237	29,870	3,935	647	3,961	51,650
(RECOVERY) AND RECHARGE IN 2021 (AF)						
KWB Recovery for use on Jackson Ranch <sup>5</sup>	-	(388)	-	-	-	(388)
SWP Table A	-	-	-	(556)	-	(556)
2021 SWP Allocation (5 %) <sup>3, 6</sup>	35	-	-	-	35	70
Kern River Water	-	(10,000)	(2,681)	-	-	(12,681)
SWP Water Sale to DRWD Landowners <sup>7</sup>	-	(439)	-	-	(3,468)	(3,907)
2018 Reserve Water	12				12	24
DRWD 1-for-1 Long Term Exchange Credit <sup>8</sup>	10,000	-	-	-	-	10,000
TOTAL 2021 TRANSACTIONS	10,047	(10,827)	(2,681)	(556)	(3,421)	(7,438)
Total Kern Water Bank <sup>9</sup>	-	4,627	-	-	-	4,627
Total MWD System	8,062	-	-	-	-	8,062
Total Kern County	5,222	14,416	-	-	12	19,650
Total DRWD 1-for-1 Long Term Exchange Credit	10,000	-	-	-	-	10,000
TOTAL STORED WATER (1/1/2022)	23,284	19,043	-	-	12	42,339
(RECOVERY) AND RECHARGE IN 2022 (AF)						
KWB Recovery for use on Jackson Ranch <sup>5</sup> (estimated)	-	(235)	-	-	-	(235)
2022 SWP Allocation (5 %)	44	-	-	-	44	87
Kern River Water (estimated)		(5,000)				(5,000)
DRWD 1-for-1 Long Term Exchange Credit	5,000					5,000
Recovery of Banked SWP Water for MWD	(3,927)	-	-	-	-	(3,927)
MWD Credit for SWP Water	3,927	-	-	-	-	3,927
TOTAL ESTIMATED 2022 TRANSACTIONS	5,044	(5,235)	-	-	44	(148)
ESTIMATED WATER IN STORAGE 2022 (AF)						
Total Kern Water Bank <sup>9</sup>	-	4,392	-	-	-	4,392
Total MWD System	12,032	-	-	-	44	12,076
Total Kern County	1,295	9,416	-	-	12	10,723
Total DRWD 1-for-1 Long Term Exchange Credit	15,000	-	-	-	-	15,000
TOTAL ESTIMATED STORED WATER TO DATE	28,327	13,808	-	-	56	42,191

## 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 2,842 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. IRWD's 2013-2021 SWP allocation amounts are stored in the MWD system. Half of IRWD's 2021 SWP Allocation was delivered to DRWD as part of the SWP Water Sale to DRWD landowners. MWD took delivery of IRWD's 2022 SWP allocation in June 2022.

<sup>4</sup> Beginning balance of water stored in MWD system includes: 4,000 AF from 2014 Exchange, 2,853 AF of 2014 borrowed SWP, 1,186 AF of IRWD's 2013-2016 SWP allocations through DRWD.

<sup>5</sup> Water recovered from IRWD's Kern Water Bank account for use on Jackson Ranch.

<sup>6</sup> 17 AF of IRWD's 2021 SWP Allocation was used to fulfill an obligation to Pastoria.

<sup>7</sup> Kern County Water Agency approved the recovery of 3,672 AF for the SWP Water Sale to DRWD landowners. In order to make up the difference between the approved amount of 3,672 AF and the amount after losses (3,233 AF), IRWD was able to use 439 AF from its Article 21 water acquired from Semitropic as part of the sale.

<sup>8</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.

<sup>9</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.

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# Exhibit "C"

TABLE 3  
IRWD's Water Banking Storage, Recharge and Recovery Operations - AFTER LOSSES  
August 18, 2022

TRANSACTIONS	WATER BANKING ENTITY					TOTAL BY WATER TYPE AND STORAGE LOCATION
	IRWD		BUENA VISTA (BVWSD)	CENTRAL COAST (CCWA)	DUDLEY RIDGE WATER DISTRICT (DRWD) <sup>3</sup>	
	SWP <sup>1</sup>	NON-SWP <sup>2</sup>	NON-SWP	SWP	SWP	
BEGINNING WATER IN STORAGE 2021 (AF)						
Total Kern Water Bank <sup>9</sup>	-	5,015	-	-	-	5,015
Total MWD System <sup>4</sup>	8,027	-	-	-	200	8,227
Total Kern County	4,177	20,931	2,681	556	3,233	31,578
TOTAL STORED WATER (1/1/2021)	12,204	25,946	2,681	556	3,433	44,820
(RECOVERY) AND RECHARGE IN 2021 (AF)						
KWB Recovery for use on Jackson Ranch <sup>5</sup>	-	(388)	-	-	-	(388)
SWP Table A	-	-	-	(556)	-	(556)
2021 SWP Allocation (5%) <sup>3, 6</sup>	35	-	-	-	35	70
Kern River Water	-	(10,000)	(2,681)	-	-	(12,681)
SWP Water Sale to DRWD Landowners <sup>7</sup>	-	(439)	-	-	(3,468)	(3,907)
2018 Reserve Water	11	-	-	-	11	22
DRWD 1-for-1 Long Term Exchange Credit <sup>8</sup>	10,000	-	-	-	-	10,000
TOTAL 2021 TRANSACTIONS	10,046	(10,827)	(2,681)	(556)	(3,422)	(7,440)
Total Kern Water Bank <sup>9</sup>	-	4,627	-	-	-	4,627
Total MWD System	8,062	-	-	-	-	8,062
Total Kern County	4,188	10,492	-	-	11	14,691
Total DRWD 1-for-1 Long Term Exchange Credit	10,000	-	-	-	-	10,000
TOTAL STORED WATER (1/1/2022)	22,250	15,119	-	-	11	37,380
(RECOVERY) AND RECHARGE IN 2022 (AF)						
KWB Recovery for use on Jackson Ranch <sup>5</sup> (estimated)	-	(235)	-	-	-	(235)
2022 SWP Allocation (5 %)	44	-	-	-	44	87
Kern River Water (estimated)		(5,000)				(5,000)
DRWD 1-for-1 Long Term Exchange Credit	5,000					5,000
Recovery of Banked SWP Water for MWD	(3,927)	-	-	-	-	(3,927)
MWD Credit for SWP Water	3,927	-	-	-	-	3,927
TOTAL ESTIMATED 2022 TRANSACTIONS	5,044	(5,235)	-	-	44	(148)
ESTIMATED WATER IN STORAGE 2022 (AF)						
Total Kern Water Bank <sup>9</sup>	-	4,392	-	-	-	4,392
Total MWD System	12,032	-	-	-	44	12,076
Total Kern County	261	5,492	-	-	11	5,764
Total DRWD 1-for-1 Long Term Exchange Credit	15,000	-	-	-	-	15,000
TOTAL ESTIMATED STORED WATER TO DATE	27,293	9,884	-	-	55	37,232

## 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 2,842 AF 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. IRWD's 2013-2021 SWP allocation amounts are stored in the MWD system. Half of IRWD's 2021 SWP allocation was delivered to DRWD as part of the SWP Water Sale to DRWD landowners. MWD took delivery of IRWD's 2022 SWP allocation in June 2022.

<sup>4</sup> Beginning balance of water stored in MWD system includes 4,000 AF of 2014 Exchange, 2,853 AF of 2014 borrowed SWP, 1,186 AF of IRWD's 2013-2016 SWP allocations through DRWD.

<sup>5</sup> Water recovered from IRWD's Kern Water Bank account for use on Jackson Ranch.

<sup>6</sup> 17 AF of IRWD's 2021 SWP Allocation was used to fulfill an obligation to Pastoria.

<sup>7</sup> Kern County Water Agency approved the recovery of 3,672 AF for the SWP Water Sale to DRWD landowners. In order to make up the difference between the approved amount of 3,672 AF and the amount after losses (3,233 AF), IRWD was able to use 439 AF from its Article 21 water acquired from Semitropic as part of the sale.

<sup>8</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.

<sup>9</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.

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# Exhibit "D"

TABLE 4

## Status of IRWD Purchase and Exchange Programs (AFTER LOSSES)

August 18, 2022

PARTNER	EXCHANGE RATIO	YEAR EXECUTED	AGREEMENT TYPE	WATER TYPE	PARTNER WATER		IRWD WATER								
					PARTNER SHARE (AF)	PARTNER BALANCE (AF)	IRWD SHARE (AF)	IRWD BALANCE				EXPORTABILITY			SELLABLE (Y/N)
								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)	
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	21,248		20,186		3,089		3,089		3,089		
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 <sup>2</sup> (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>3</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	1,066	55	1,066	1,055	11		1,066	1,066		55	Yes
Central Coast Water Agency	2-for-1	2017	Short-Term	SWP Table A	258	-	258	258			258	258			No
Dudley Ridge Water District <sup>4</sup>	1-for-1	2017	Long-Term	SWP Table A	-	-	15,000			15,000	15,000	15,000			No
Central Coast Water Agency	2-for-1	2019	Short-Term	SWP Table A	298	-	298	298	-		298	298			No
<b>Total:</b>					<b>33,537</b>	<b>55</b>	<b>54,225</b>	<b>12,033</b>	<b>5,753</b>	<b>15,000</b>	<b>32,786</b>	<b>27,044</b>	<b>5,742</b>	<b>55</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.

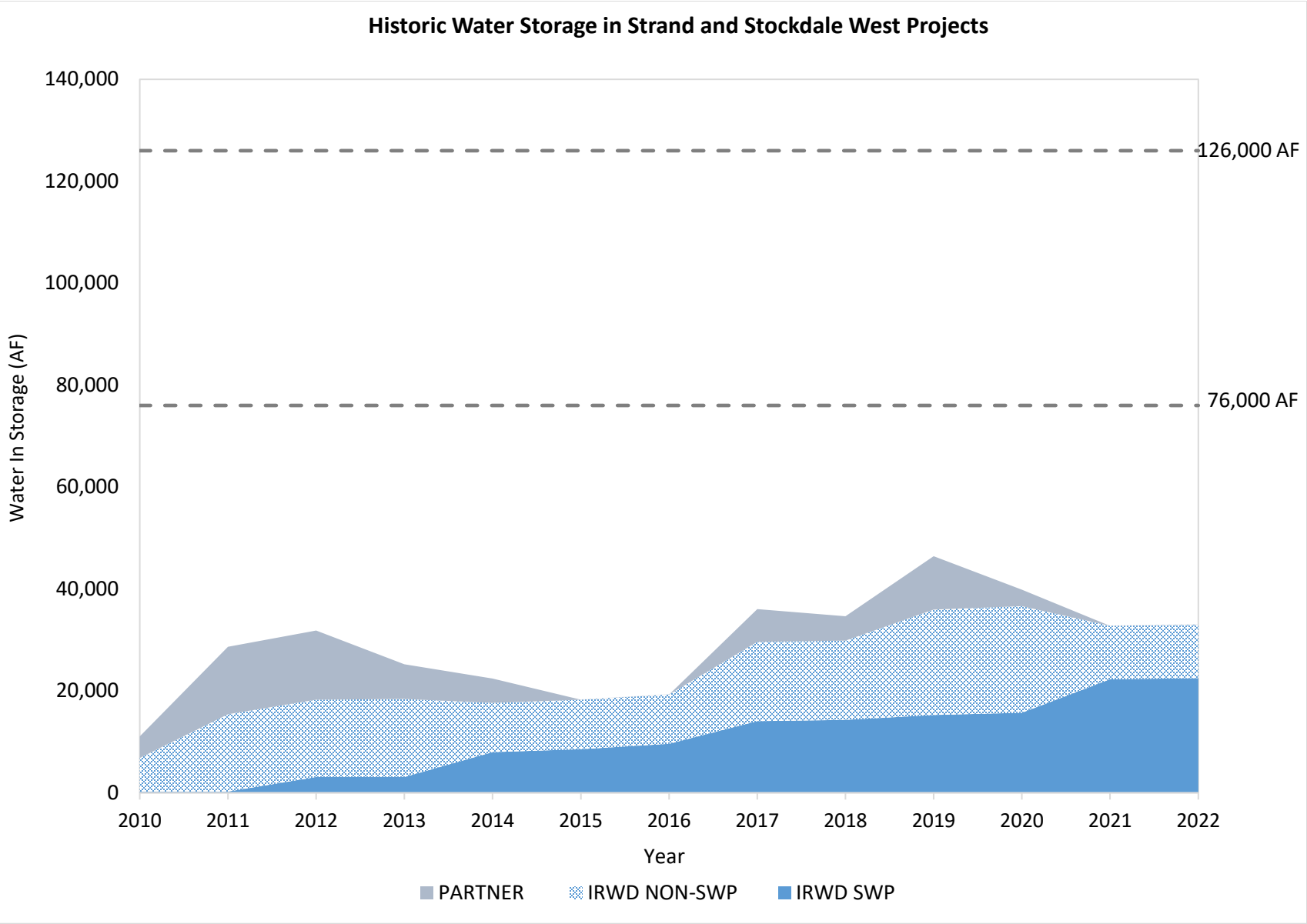
<sup>2</sup> Only the portion of water stored for use on Jackson Ranch in DRWD is sellable.

<sup>3</sup> Source of water was Buena Vista Water Storage District Kern River high flow water.

<sup>4</sup> Estimated amount of Table A to be returned to IRWD from Dudley Ridge Water District under the 1-for-1 exchange program.

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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 21, 2022

### 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	-	-	-
DRWD	10,000	-	-	-
AVEK	-	20,000	-	-
Total Dedicated	50,000	20,000	-	-
Total Remaining	-	6,000	50,000	9,495

### 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	-	-	-
DRWD	-	-	-	-
AVEK	-	20,000	-	-
Total Dedicated	17,500	20,000	-	-
Total Remaining	-	7,100	-	3,200

### 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	7,084	-	1,520
Total Dedicated	17,500	10,417	-	1,520
Total Remaining	-	833	-	-

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# Exhibit "G"



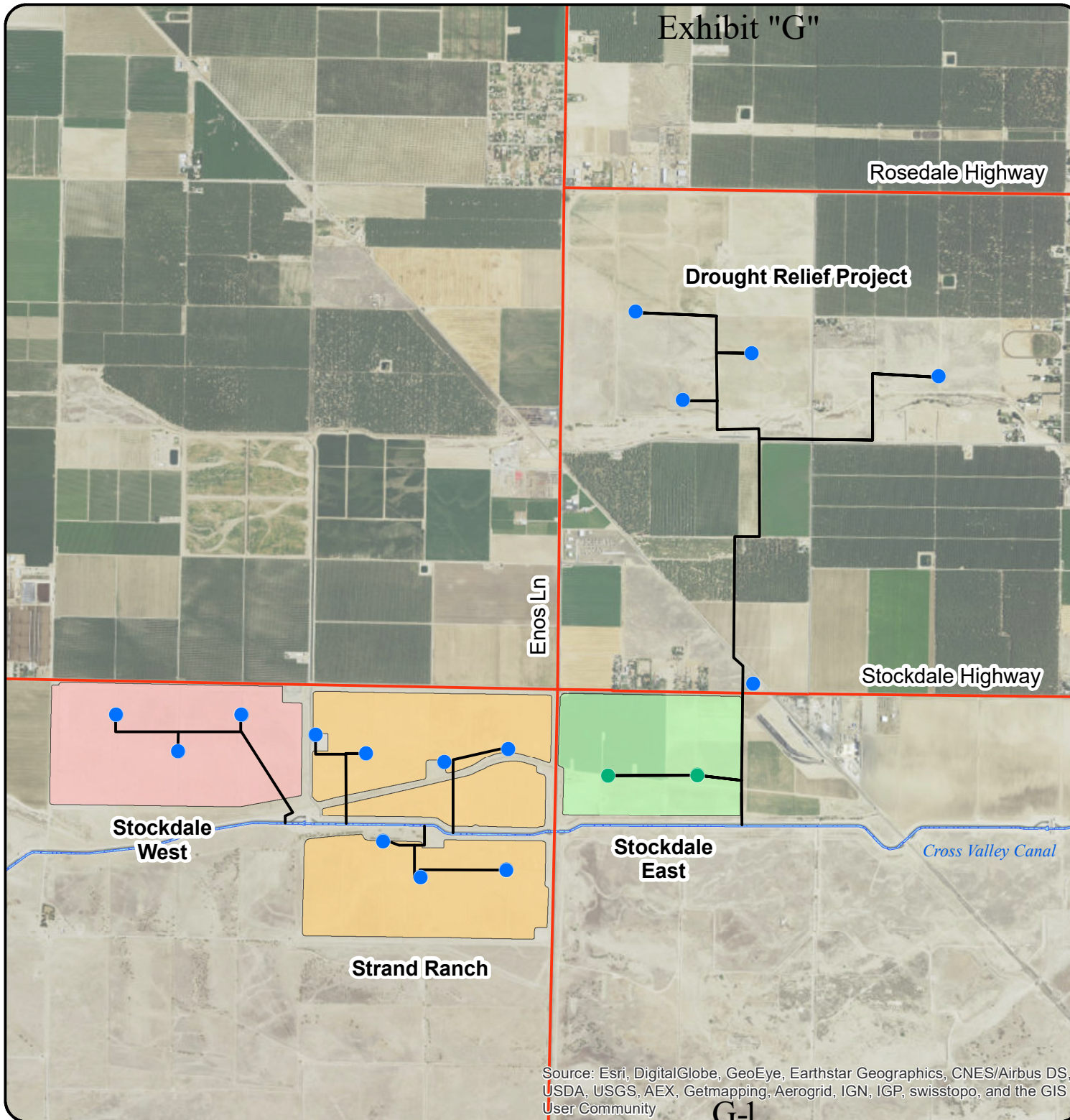
Irvine Ranch  
WATER DISTRICT

## 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

G-1



0 0.25 0.5 1 Miles

NAD 83 State Plane Zone 5 (feet)  
Central Meridian: -118

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# Exhibit "H"

Rosedale Highway



Irvine Ranch  
WATER DISTRICT

## 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.

Existing Siphon  
50 CFS Capacity  
From Strand

Stockdale West  
Turnout  
100 CFS Capacity

Existing North & South  
Strand Ranch  
Turnout Facilities  
100 CFS Capacity Each

Cross Valley Canal

Enos Ln

Stockdale Highway

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

User Community



0 0.25 0.5 1  
Miles

NAD 83 State Plane Zone 5 (feet)  
Central Meridian: -118

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# Exhibit "I"

Rosedale Highway



## Location Map: IRWD Water Banking Projects Recharge Rates

### MAP FEATURES

- ▲ Turnouts
- Stockdale West
- Strand Ranch

Stockdale West  
0.11 feet/day  
15 CFS

Strand Ranch North  
0.29 feet/day  
40 CFS

Stockdale Highway

Cross Valley Canal

Strand Ranch South  
0.13 feet/day  
15 CFS

This figure shows the location of recharge basins and their associated recharge rates as of June 18, 2019.



0 0.25 0.5 1  
Miles

NAD 83 State Plane Zone 5 (feet)  
Central Meridian: -118

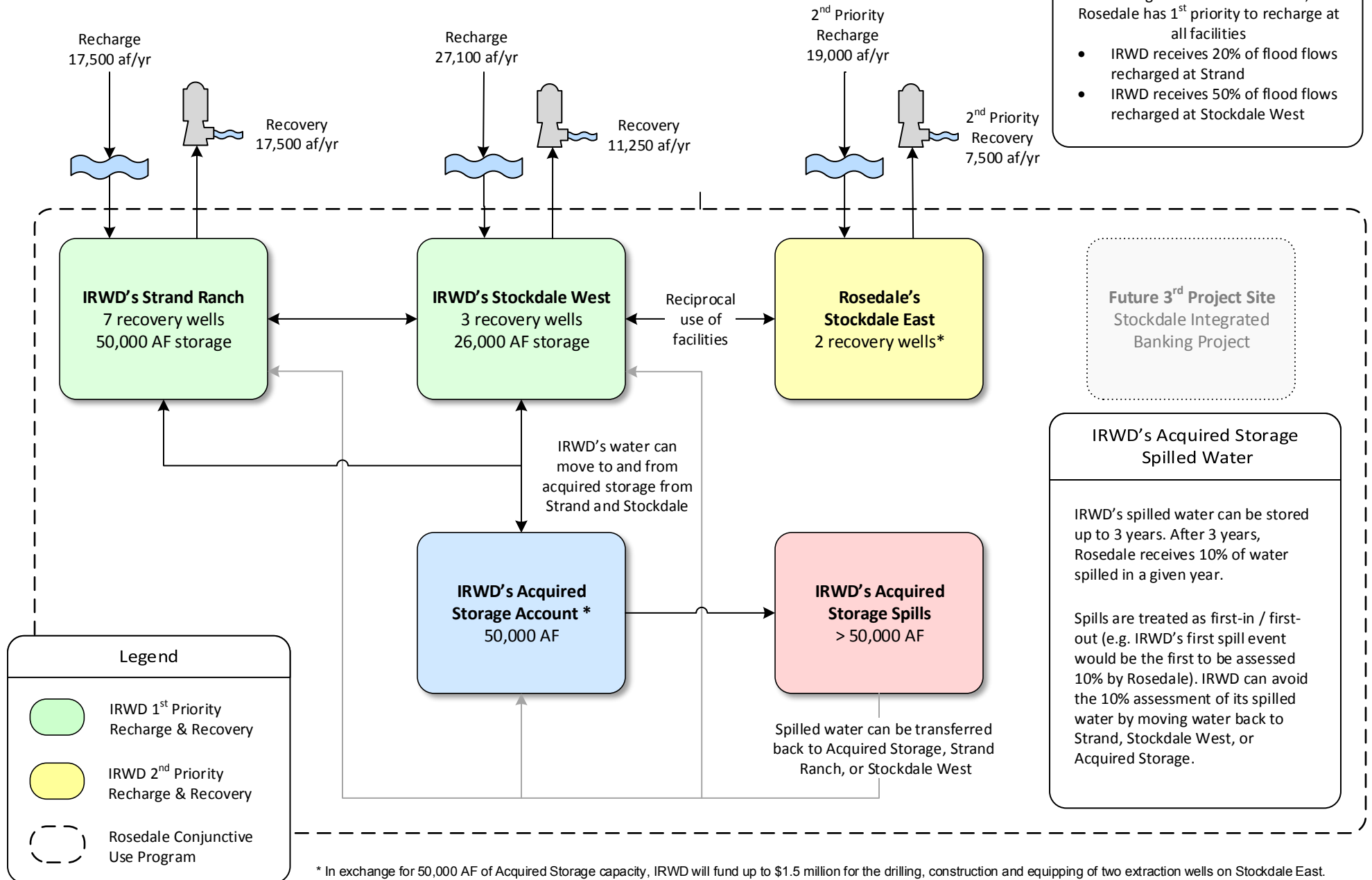
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

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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)



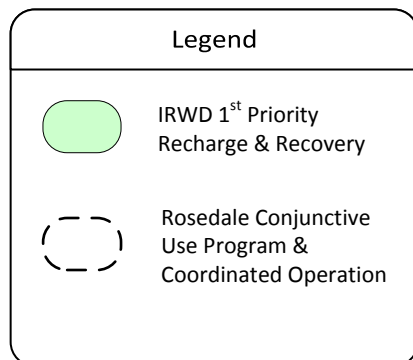
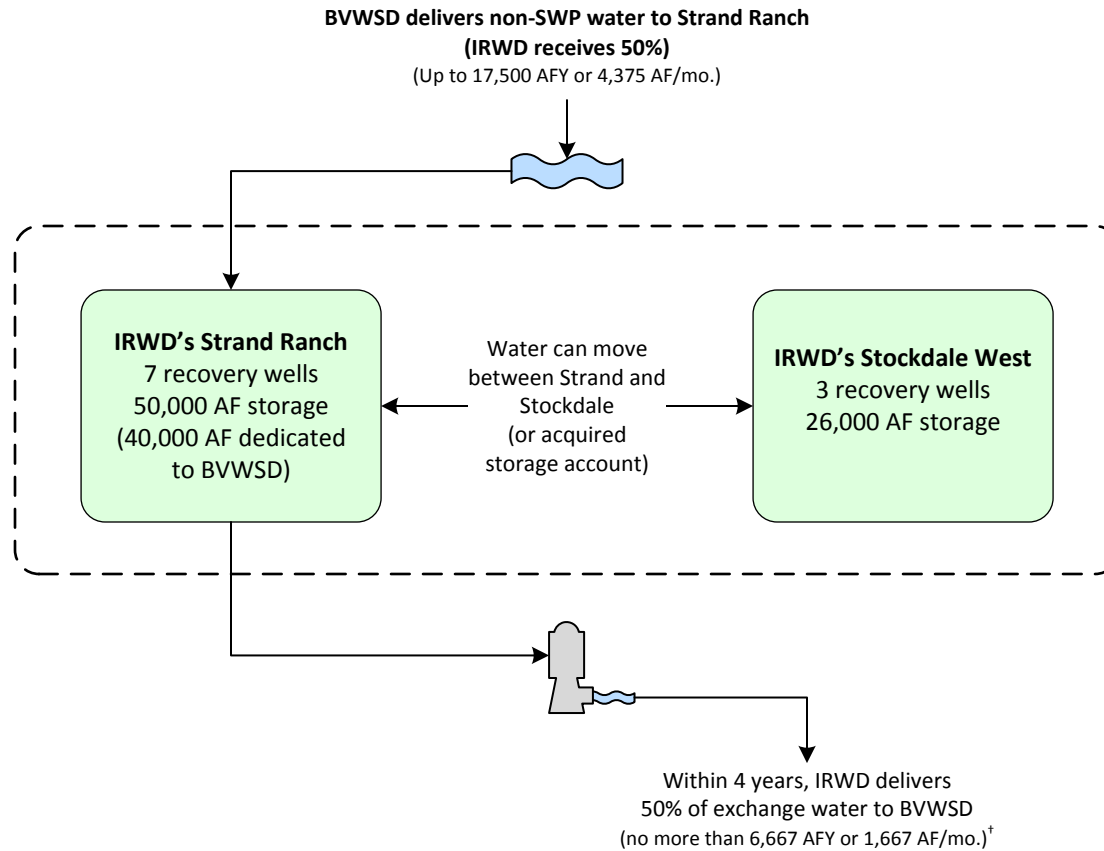
\* In exchange for 50,000 AF of Acquired Storage capacity, IRWD will fund up to \$1.5 million for the drilling, construction and equipping of two extraction wells on Stockdale East.

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# Exhibit "K"

## Buena Vista Water Storage District Long Term Water Exchange Program

Effective 1/1/2011 through 1/12/2039

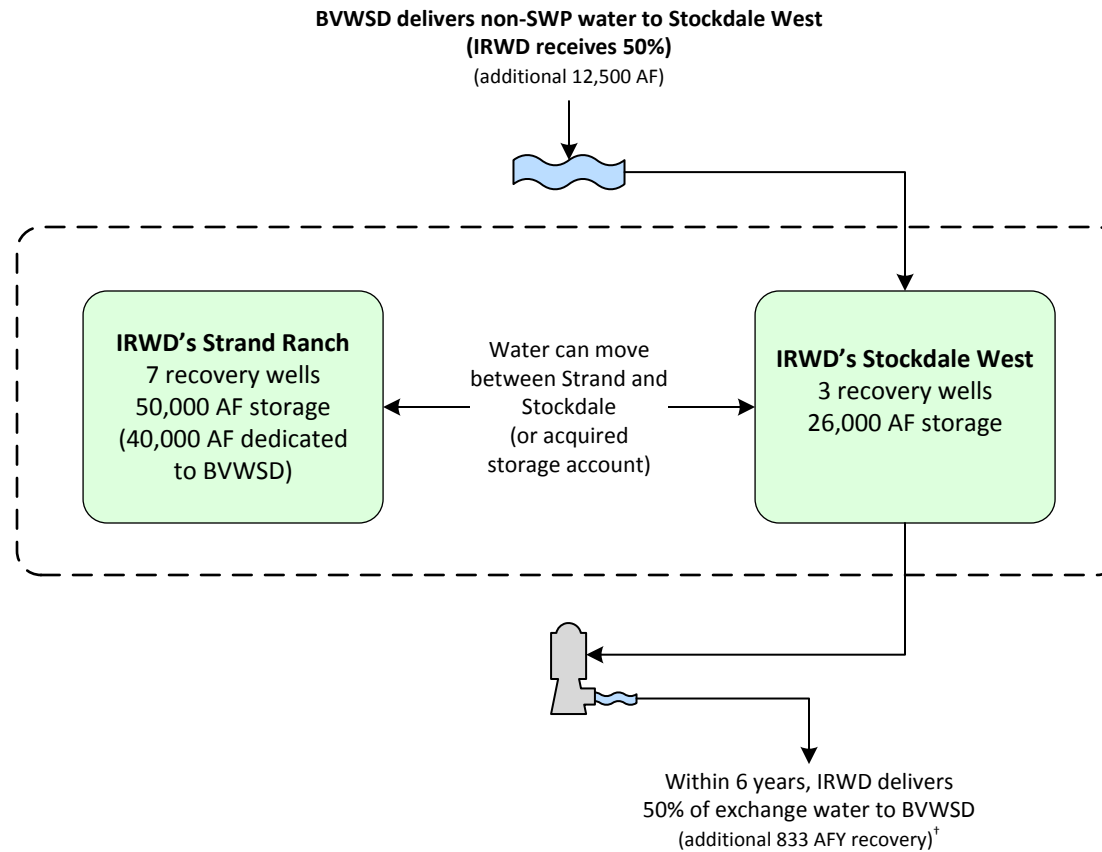




<sup>†</sup>IRWD shall remit one-half of the exchanged supply less one-half of reasonable losses back to BV no later than December 31<sup>st</sup> of the 4<sup>th</sup> year following the associated recharge event. IRWD pays for recovery of water returned to BV. Water to be remitted back to BV may remain 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 4/1/2017 through 3/30/2018



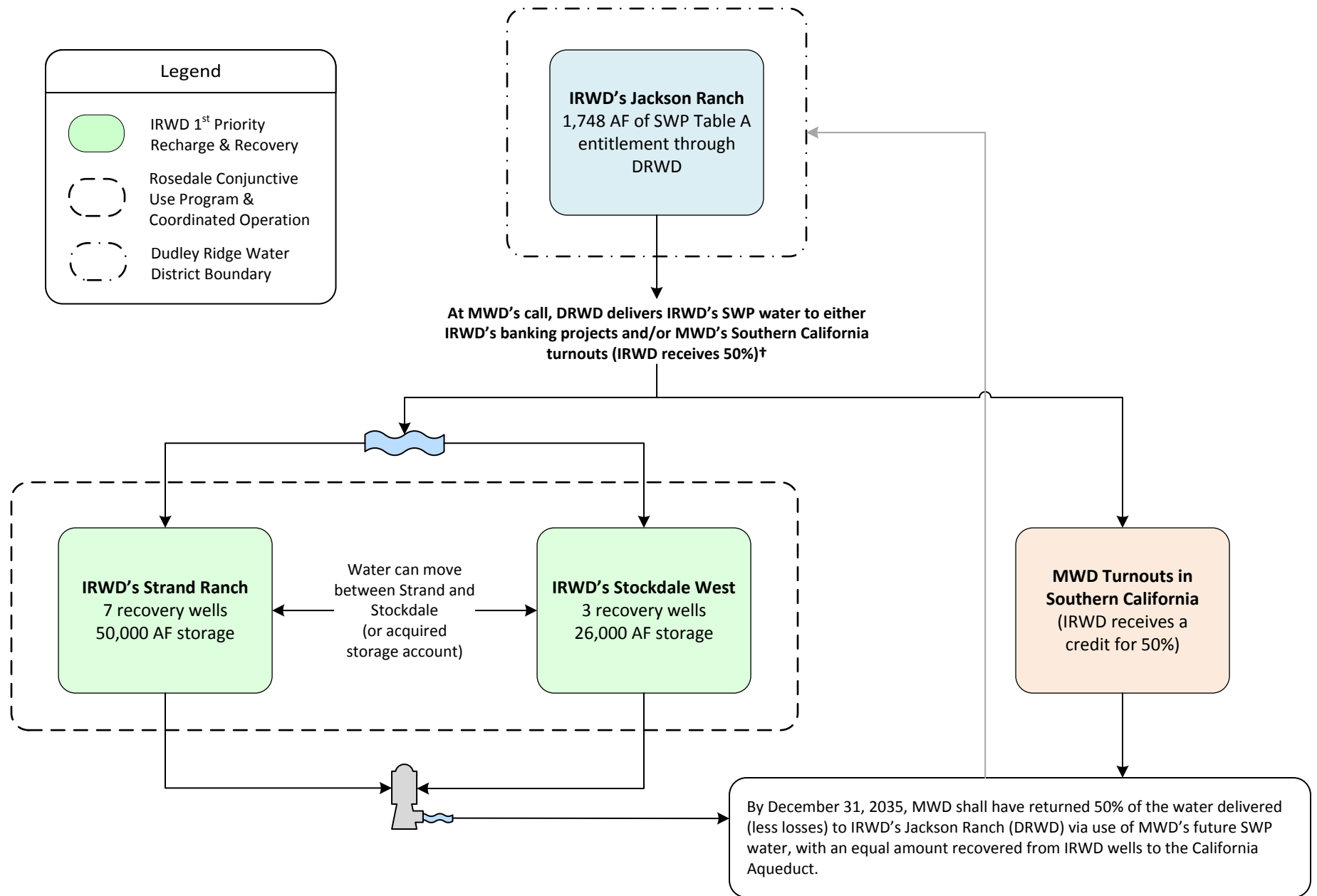
Legend	
	IRWD 1 <sup>st</sup> Priority Recharge & Recovery
	Rosedale Conjunctive Use Program & Coordinated Operation

<sup>†</sup>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 6<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 6<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	50%	50%
6	50%	50%
7	75%	25%
8	100%	0%
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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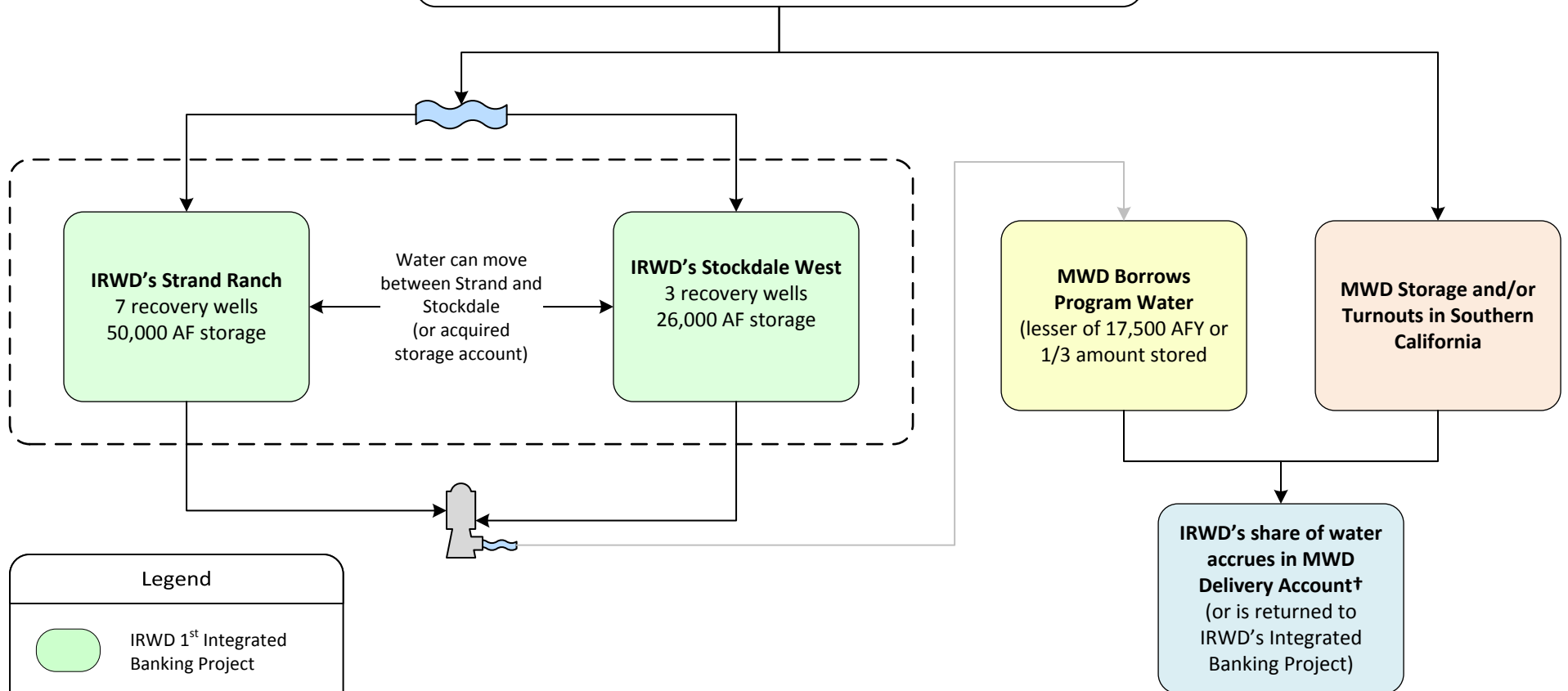
# Exhibit "M"

## 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:

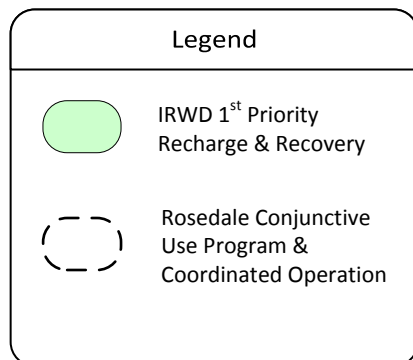
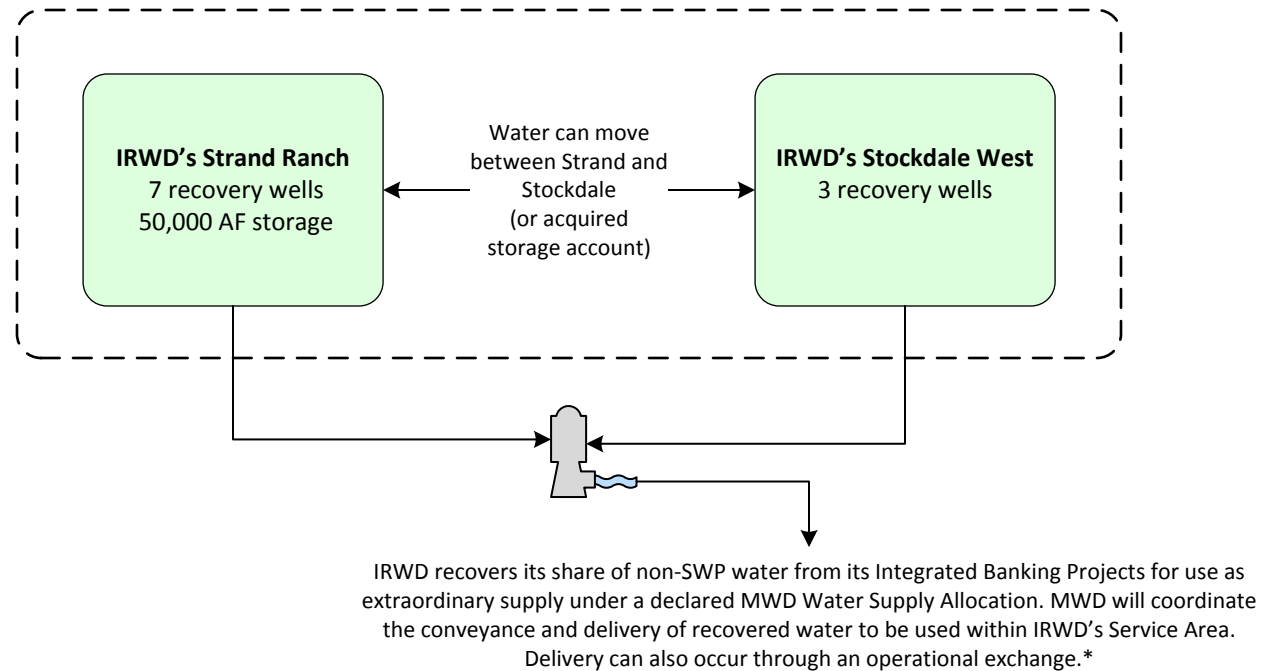
- Storage of water in IRWD's Integrated Banking Project
- Delivery to Southern California for immediate use and/or storage in MWD system
- Borrow a portion of Program water, with accrual in MWD Delivery Account



- 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



\*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"

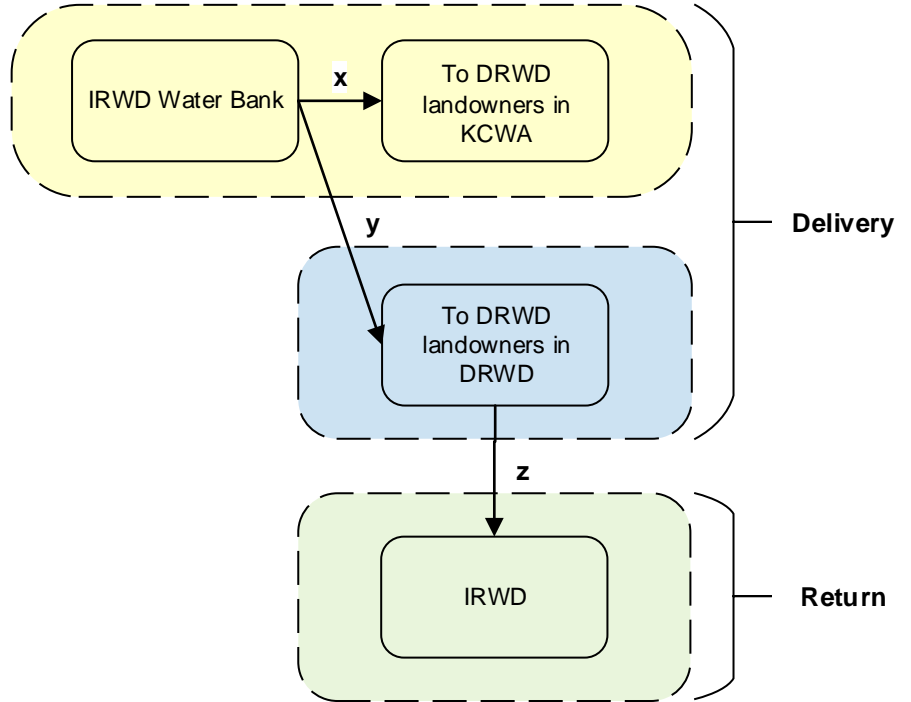
## Dudley Ridge Water District Long Term 1-for-1 Water Exchange Program Effective 5/31/2017 through 11/4/2035

### Scenario A

(Per Sections 2, 3, 4.1.1, and 4.1.3)

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

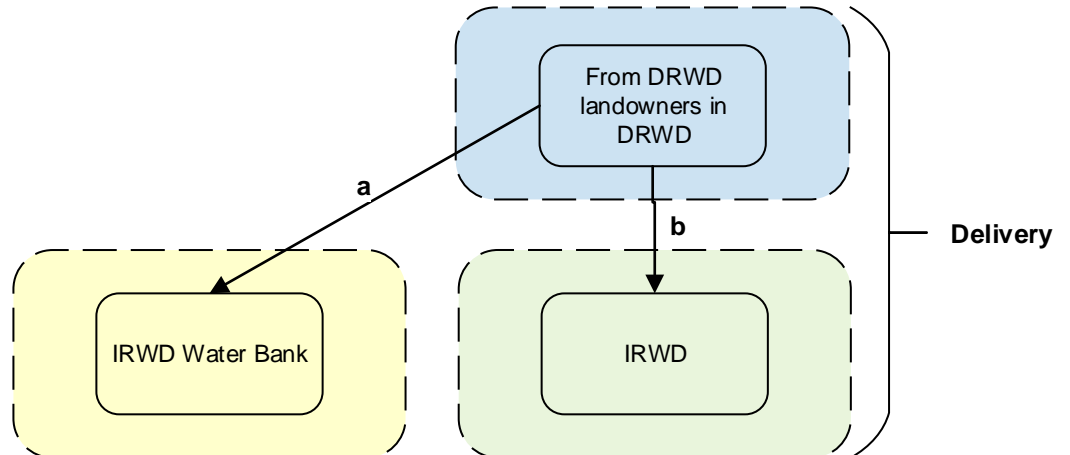
Per Section 4.1.3, z can be delivered to IRWD via in-ground transfer to IRWD, SWP delivery to IRWD banking facilities, or SWP delivery to MWDSC



### Scenario B

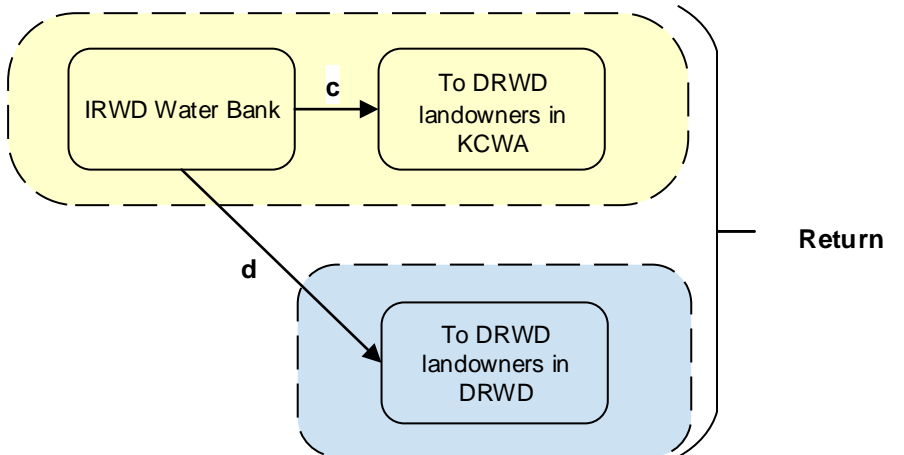
(Per Sections 2, 3, and 4.1.2)

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



### Legend

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



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# Exhibit "P"

TABLE 6

## IRWD Water Banking Program Costs of Water Summary

August 18, 2022

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 (\$/AF) (F)	2022 MWD Tier 1 Untreated Rate + SAC Surcharge <sup>5</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	\$ 100.00	\$ 799.97	\$ 1,214.31
Buena Vista <sup>1</sup>	2017-2021	Kern River	11,256	\$ 159.16	\$ 48.36	\$207.52	\$ 190.00	\$ 397.52	\$ 100.00	\$ 799.97	\$ 1,297.49
AVEK	2012-2014	SWP Table A	2,229	\$ 11.70	\$ 48.36	\$ 60.06	\$ 190.00	\$ 250.06	\$ 100.00	\$ 799.97	\$ 1,150.03
AVEK <sup>6</sup>	2012-2014	SWP Table A	108	\$ 11.70	\$ 48.36	\$ 60.06	\$ 190.00	\$ 250.06	\$ -	\$ 799.97	\$ 1,050.03
Carpinteria	2010-2015	SWP Table A	874	\$ 27.04	\$ 48.36	\$ 75.40	\$ 190.00	\$ 265.40	\$ 100.00	\$ 799.97	\$ 1,165.37
Carpinteria <sup>6</sup>	2010-2015	SWP Table A	31	\$ 27.04	\$ 48.36	\$ 75.40	\$ 190.00	\$ 265.40	\$ -	\$ 799.97	\$ 1,065.37
Central Coast <sup>6</sup>	2017-2021	SWP Table A	556	\$ 30.34	\$ 48.36	\$ 78.70	\$ 190.00	\$ 268.70	\$ -	\$ 799.97	\$ 1,068.67
DRWD <sup>6</sup>	2014-2021	SWP Table A /Article 21	4,452	\$ 374.48	\$ 48.36	\$422.84	\$ 190.00	\$ 612.84	\$ -	\$ 799.97	\$ 1,412.81

32,338

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

<sup>2</sup> Variable Costs include Rosedale variable operating costs, Rosedale administration fees, CVC pumping, operating and stand-by fees, and KCWA fees. (Net of partner payments to IRWD for their share of water)

<sup>3</sup> Fixed costs include Rosedale fixed operating costs, property taxes, PG&E standby costs, GSP fees, CVC expansion costs and other minor fix costs

<sup>4</sup> Capital component does not include land costs.

<sup>5</sup> Assumes IRWD would take delivery as extraordinary supply through Irvine Lake to the Baker Water Treatment Plant.

<sup>6</sup> No recovery costs for DRWD water delivered in 2014-2016 and water recovered in 2022 as part of MWD borrowing.


**\*Changes from last update (Feb 2022) include the addition of KCWA TRF Fees:**

\$1400 for 2020 Buena Vista Recovery

\$3000 for 2021 Buena Vista recovery

\$3000 for 2020 DRWD Recharge

Remaining TRF Fees (\$18,000) paid by partners

August 18, 2022  
Prepared by: K. Welch  
Submitted by: F. Sanchez / P. Weghorst  
Approved by: Paul A. Cook 

## SUPPLY RELIABILITY PROGRAMS COMMITTEE

### DRAFT TERMS FOR PILOT EMERGENCY WATER STORAGE PROGRAM WITH LAS VIRGENES MUNICIPAL WATER DISTRICT

#### SUMMARY:

On July 25, Las Virgenes Municipal Water District (LVMWD) submitted a briefing sheet to Metropolitan Water District on how IRWD and LVMWD could potentially cooperate in the development of a mutually beneficial water banking program. The briefing sheet was submitted to Metropolitan in response to a request for ideas to help provide water supply assistance to the State Water Project (SWP) dependent areas of Metropolitan's service area. Staff has prepared draft terms for a Pilot Emergency Water Storage Program that are consistent with the briefing sheet submitted to Metropolitan. The proposed program would increase water supply reliability to LVMWD and IRWD and enhanced regional reliability to Metropolitan. Staff recommends that the Committee provide input on the draft terms.

#### BACKGROUND:

Metropolitan is currently evaluating ideas on how its member agencies can provide water supply assistance to the SWP dependent areas of Metropolitan's service area. On July 25, LVMWD submitted a briefing sheet to Metropolitan on how IRWD and LVMWD could cooperate in the development of a mutually beneficial banking program. Staff coordinated with LVMWD in the preparation of the briefing sheet, which is attached as Exhibit "A". Staff has prepared draft terms for a Pilot Emergency Water Storage Program that are consistent with the briefing sheet submitted to Metropolitan. These draft terms are provided in Exhibit "B".

The Pilot Program would provide improved water management by storing supplies available from Metropolitan for use during emergencies and when Metropolitan is implementing its Water Supply Allocation Plan. The program would increase water supply reliability to LVMWD and IRWD and enhanced regional reliability to Metropolitan.

#### Overview of Proposed Pilot Program Terms:

The draft terms for the proposed Pilot Program would allow LVMWD to purchase and store up to 5,000 acre-feet (AF) of Tier-1 Untreated Water from Metropolitan for delivery to and storage in the IRWD Water Bank. IRWD would recover this water (less losses) for LVMWD within the next ten years for use during a Metropolitan Water Supply Allocation or during an emergency. In exchange for using IRWD's facilities, LVMWD would provide funding to IRWD in an amount to allow IRWD to purchase 5,000 AF of Metropolitan's Tier 1 Untreated Water. IRWD would purchase its water through Municipal Water District of Orange County (MWDOC) and store it in the IRWD Water Bank for the benefit of IRWD.

At the meeting, staff will provide an overview of the terms presented in Exhibit “B”. Staff recommends that the Committee provide input on the information presented. Staff will return to the Committee with final terms for the proposed program once LVMWD has submitted comments on the document.

FISCAL IMPACTS:

None.

ENVIRONMENTAL COMPLIANCE:

An Environmental Impact Reports for the Strand Ranch Integrated Banking Project and the Stockdale Integrated Banking Project were prepared, certified and approved in compliance with the California Environmental Quality Act (CEQA) of 1970 (as amended). Notices of Determinations were filed in both the County of Orange and the County of Kern.

RECOMMENDATION:

Receive and File.

LIST OF EXHIBITS:

Exhibit “A” – Briefing Sheet for a Water Banking Partnership Between IRWD, LVMWD, and MWD

Exhibit “B” – Conceptual Terms for a Pilot Emergency Water Storage Program Between IRWD and LVMWD

# Water Banking Partnership Between LVMWD, MWD, and Irvine Ranch Water District

## Summary

The existing Irvine Ranch Water District (IRWD) Water Bank is made up of the Strand Ranch and Stockdale West Integrated Banking Projects, which are situated on recharge lands that overlie the Kern County groundwater basin located west of Bakersfield. At its Water Bank, IRWD maintains the right to store up to 126,000 AF of water in the aquifer, to recharge a minimum of 44,600 AF of water per year and to recover a minimum of 28,000 AF of water per year from the aquifer. The Water Bank is located adjacent to the Cross Valley Canal, which provides the ability to move water to and from the California Aqueduct. Potential future mutually beneficial program agreements involving IRWD's Water Bank could be negotiated and executed between IRWD and Las Virgenes Municipal Water District (LVMWD) that would allow LVMWD to store water purchased from Metropolitan Water District (MWD) in IRWD's Water Bank in return for certain consideration/compensation. Compensation received by IRWD could be used to purchase MWD water through MWDOC for delivery to and storage in IRWD's Water Bank. The program would ensure the MWD is financially whole and would not impact MWD's other member agencies.

## Quick Facts

**SWP Savings:** To be determined based on program terms.

**Related Projects/Initiatives:** IRWD Strand Ranch and Stockdale Integrated Water Banks.

**Dependencies/Constraints:** IRWD's existing Coordinated Operating Agreement with MWD and MWDOC allows IRWD to secure SWP water from SWP Contractors. IRWD has implemented several unbalanced exchange programs with State Water Project Contractors that allow the contractors to deliver SWP water to IRWD's Water Bank on a 2-for-1 unbalanced exchange basis. MWD has consented to IRWD's programs with these contractors and has borrowed most of IRWD's supplies.

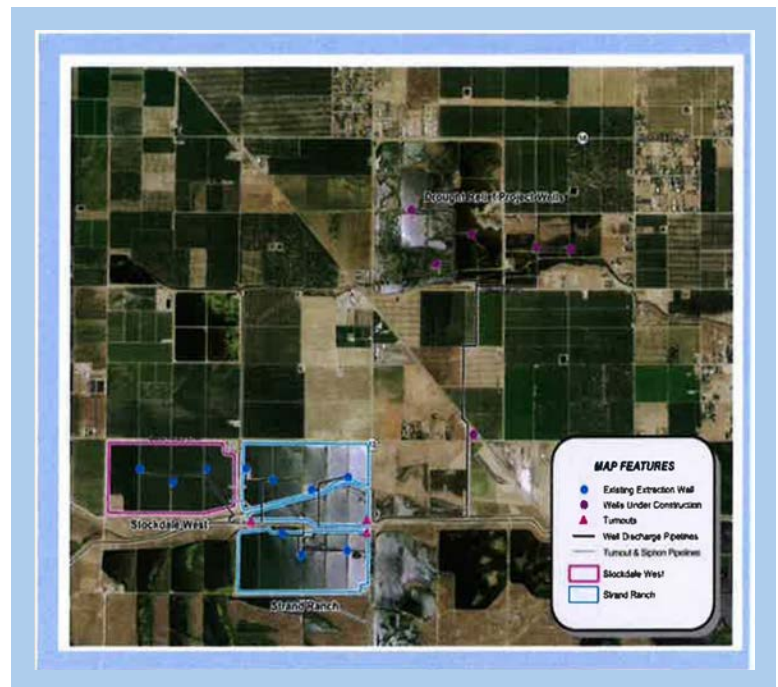
The Coordinated Agreement does not allow MWD to store its own water in the IRWD Water Bank. There exist opportunities for IRWD and MWD to negotiate and execute a mutually beneficial agreement that would allow MWD to store water in IRWD's Water Bank in return for water supply reliability benefits and/or other compensation..

A SWPAO point of delivery and exchange agreement would be needed between DWR, MWD and KCWA for MWD to deliver its supplies to IRWD's Water Bank. MWD approval would be required for LVMWD and IRWD to store water purchased from MWD in IRWD's Water Bank. IRWD would purchase its water through MWDOC. IRWD Board approval would also be needed.

**Current Status:** IRWD's Water Bank is fully Operational.

**Proposed Terms & Estimated Cost:** \$ TBD

**Contact People:** Paul Weghorst IRWD



## Pros/Benefits

- Potential future water banking and exchange opportunities for MWD South of Delta.
- Increased reliability for LVMWD, IRWD and MWD.

## Initial Assessment:

- ▶ Must do - X
- ▶ Should be considered -
- ▶ Shelf for later -

## Cons/Risks

- The movement of MWD Article 21 water into IRWD's Water Bank could be constrained. MWD would likely need to schedule Table A water purchased by LVMWD and IRWD/MWDOC for delivery to the Water Bank.

## Background

IRWD's existing Water Bank is located in Kern County. The Water Bank is made up of the Strand Ranch and Stockdale West Integrated Banking Projects, which are situated on recharge lands that overlie the Kern County groundwater basin located west of Bakersfield. IRWD has entered into a long-term partnership with Rosedale-Rio Bravo Water Storage District (Rosedale) that provides Rosedale access to the use of IRWD's water banking facilities when IRWD is not using them for itself or its exchange partners. In exchange, Rosedale serves as IRWD's Water Bank operator. At its Water Bank, IRWD maintains the right to store up to 126,000 AF of water in the aquifer, to recharge a minimum of 44,600 AF of water per year and to recover a minimum of 28,000 AF of water per year from the aquifer. IRWD's Water Bank includes about 800 acres of recharge basins and 13 operating groundwater wells. The Water Bank is located adjacent to the Cross Valley Canal, which provides the ability to move water to and from the California Aqueduct.

IRWD's existing Water Bank provides an important tool to augment imported water reliability and to safeguard IRWD customers and its partners from imported water shortages and major supply interruptions. This is accomplished by capturing low-cost water for underground storage during wet periods and recovering this water for later use and importation into the IRWD service area during critically dry periods or emergencies.

### Existing Coordinated Agreement:

IRWD has an existing Coordinating Operating, Water Storage, Exchange and Delivery Agreement (Coordinated Operating Agreement) with MWD and MWDOC that allows IRWD to secure SWP supplies for storage in its Water Bank and to recover this water and deliver it to its service area by exchange through MWD's system. This Coordinated Agreement specifies that IRWD's supplies are qualified as Extraordinary Supply during periods when MWD implements its Water Supply Allocation Plan. The agreement allows MWD to borrow SWP stored in IRWD's Water Bank when IRWD has above 17,500 AF of water in storage.

IRWD has implemented several unbalanced exchange programs with State Water Project Contractors that allow the contractors to deliver SWP water to IRWD's Water Bank on a 2-for-1 unbalanced exchange basis. MWD has consented to IRWD's programs with these contractors and has borrowed most of IRWD's supplies. The Coordinated Agreement does not allow MWD to store its own water in the IRWD Water Bank. There exist opportunities for IRWD and MWD to negotiate and execute a mutually beneficial agreement that would allow MWD to store water in IRWD's Water Bank in return for water supply reliability benefits and/or other compensation. IRWD has held discussions with MWD staff where different program concepts have been discussed.

### Potential LVMWD / MWD / IRWD Program:

IRWD has held informal discussions with LVMWD about a potential water banking partnership. The concept would involve the negotiation and execution of an agreement for IRWD to store up to 5,000 AF of SWP water at IRWD's Water Bank on behalf of LVMWD. During a wet year, LVMWD would request and pay for MWD water originating from the SWP at the then-current and applicable rates for delivery at the Water Bank. IRWD would accept delivery of the water and store it for the benefit of LVMWD. During dry years, LVMWD would have the right to call upon the water for delivery to its service area at which time it would be responsible for payment of the remainder of MWD's Full-Service Tier 1 water cost. LVMWD would compensate IRWD for the recharge, storage and recovery of LVMWD's water purchased from MWD. IRWD could use part of this compensation to purchase water at its discretion from MWD through MWDOC for delivery to IRWD's Water Bank. IRWD would also pay the then-current and applicable rates for delivery to the Water Bank and the remainder of MWD's Full-Service Tier 1 rate upon recovery and delivery to IRWD's service area. The program would ensure the MWD is financially whole and would not impact MWD's other member agencies. The program would also improve the water supply reliability of LVMWD, IRWD, MWDOC and MWD.

## Exhibit "B"

### DRAFT

Conceptual Terms for a Pilot Emergency Water Storage Program  
Between Irvine Ranch Water District and Las Virgenes Municipal Water District  
August 18, 2022

<b>Parties</b>	The Irvine Ranch Water District (IRWD), Las Virgenes Municipal Water District (LVMWD)
<b>Existing Water Banking Program</b>	The IRWD Water Bank, located in Kern County, is owned by IRWD and operated by Rosedale-Rio Bravo Water Storage District (Rosedale). IRWD holds first-priority rights to the use of the recharge and recovery facilities at the IRWD Water Bank.
<b>Purpose</b>	IRWD and LVMWD seek to establish a Pilot Emergency Supply Storage Program (Pilot Program) for the benefit of both agencies using the IRWD Water Bank. The Pilot Program will provide: <ul style="list-style-type: none"><li>a) Improved water management by storing available supplies for use during emergencies and when Metropolitan Water District of Southern California (Metropolitan) is implementing its Water Supply Allocation Plan;</li><li>b) Increased reliability to LVMWD and IRWD; and</li><li>c) Enhanced regional reliability to Metropolitan.</li></ul>
<b>Program Overview</b>	At IRWD's sole discretion, LVMWD may purchase and store up to 5,000 acre-feet (AF) of Tier 1 Untreated Water from Metropolitan for delivery to and storage in the IRWD Water Bank for later use during a Metropolitan Water Supply Allocation or during an emergency. In exchange for using IRWD's facilities, LVMWD would provide funding to IRWD in an amount allowing IRWD to purchase 5,000 AF of Metropolitan's Tier 1 Untreated Water through Municipal Water District of Orange County (MWDOC) and store it in the IRWD Water Bank for the benefit of IRWD.
<b>Term</b>	The term of the Pilot would be 10 years in duration with an option for an additional 5 years.
<b>Storage Capacity</b>	Up to 10,000 acre-feet (AF) of storage capacity in the IRWD Water Bank will be dedicated to the Pilot Program.
<b>Emergency Supply Water</b>	<p>LVMWD would purchase from and coordinate with Metropolitan up to 5,000 acre-feet (AF) of Tier 1 Untreated Water for delivery into the IRWD Water Bank. The water would be stored and later recovered for LVMWD. IRWD would purchase and store an equivalent amount of untreated water from Metropolitan (through MWDOC) in the IRWD Water Bank for the benefit of IRWD.</p> <p>IRWD's water would be deemed program water under the provisions of IRWD's Coordinated Operating, Water Storage, Exchange and Delivery Agreement with Metropolitan and MWDOC (Coordinated Agreement).</p>
<b>Recovered Water</b>	<p>LVMWD's Recovered Water shall be the water that IRWD recovers for LVMWD from the IRWD Water Bank utilizing capacity within the IRWD Water Bank. The Recovered Water would be delivered at a rate not to exceed 1,667 AF per year using IRWD's first priority to use of wells at the IRWD Water Bank. Additional water could be recovered from the IRWD Water Bank for LVMWD at IRWD's discretion subject to availability of capacity.</p> <p>LVMWD's Emergency Supply Water would need to be recovered and delivered to LVMWD within 10 years.</p>



	<p>Should a water supply allocation or emergency not be called by Metropolitan within that period, LVMWD may opt to extend storage of its water for an additional 5 years upon providing funding to IRWD for IRWD to purchase an additional 5,000 AF at Metropolitan's Tier 1 Untreated Rate and store it in the IRWD Water Bank for the benefit of IRWD.</p> <p>IRWD's Recovered Water shall be Emergency Supply Water that IRWD recovers for its own use.</p>
<b>Other Approvals</b>	<p>The Parties will cooperate in securing the necessary approvals from Metropolitan to deliver Tier-1 Untreated Water into storage at the IRWD Water Bank.</p> <p>The Parties will cooperate with Metropolitan, the California Department of Water Resources (DWR) and Kern County Water Agency (KCWA) in development of a change in point of delivery agreement and in scheduling the Emergency Supply Water deliveries, which would be subject to available recharge capacity in the IRWD Water Bank.</p> <p>LVMWD and IRWD shall each be responsible for their own costs associated with such coordination.</p>
<b>Quality</b>	<p>To the extent that either party delivers water to and into the California Aqueduct, the quality of water shall meet the water quality standards established by DWR for pump-in to the California Aqueduct.</p>
<b>Delivery Points</b>	<p>The Emergency Supply Water shall be conveyed to the Cross Valley Canal (CVC) and delivered into storage at turn ins to the IRWD Water Bank. IRWD shall be responsible for coordinating the use of the CVC for conveyance of the water.</p>
<b>Losses</b>	<p>Rosedale applies a 15 percent loss factor to all water recharged and stored in the IRWD Water Bank. IRWD and LVMWD each shall assume the losses associated with the delivery of their respective Emergency Supply Water. LVMWD and IRWD each may incur additional conveyance losses of 1% to 2% in the CVC for conveyance of the Emergency Supply Water, as measured and assessed by KCWA.</p>
<b>Water Storage Costs</b>	<p>IRWD and LVMWD shall each pay to Metropolitan the then-current applicable Metropolitan rate for Tier-1 Untreated water for their respective share of Emergency Supply Water delivered to the IRWD Water Bank.</p> <p>LVMWD and IRWD shall equally pay the costs assessed by Rosedale for the recharge of the Emergency Storage Water consistent with that certain Water Banking and Exchange Program Agreement between Rosedale and IRWD dated January 13, 2009. These estimated costs may include Rosedale's administrative charge, applicable fixed and variable O&amp;M water bank costs.</p> <p>Each shall be responsible for any costs associated with the use of CVC pumping or CVC capacity for the conveyance of its Emergency Supply Water.</p> <p>IRWD and LVMWD shall each pay their respective share of the third-party wheeling administration estimated at \$5.00 per AF and any other transaction fees for delivery of water to the IRWD Water Bank that may be assessed by KCWA.</p>



<b>Recovered Water Costs</b>	<p>LVMWD and IRWD shall each pay the respective costs assessed by Rosedale for their own share of Recovered Water utilizing capacities within the IRWD Water Bank including costs associated with groundwater pumping, administrative costs, other associated O&amp;M costs, and any costs assessed by the KCWA. Each will be responsible for any costs assessed by Rosedale under its Long-Term Operations Plan for implementing provisions to prevent impacts from operations. It is expected that banking projects, such as the IRWD Water Bank, may be required to contribute \$2.00 per AF for recovered water to a fund, which may be used to meet mitigation obligations. Each shall be responsible for any costs associated with the use of CVC pumping or CVC capacity for the conveyance of its Recovered Water.</p> <p>IRWD and LVMWD shall each pay their respective share of transaction fees for the recovered water from the IRWD Water Bank that may be assessed by KCWA.</p> <p>LVMWD and IRWD would pay Metropolitan's current treatment cost may apply for Recovered Water delivered into LVMWD or IRWD respective service area.</p>
<b>SWP Variable OMP&amp;R Costs</b>	<p>Metropolitan would be responsible for all DWR State Water Project (SWP) Variable OMP&amp;R charges associated with conveying Emergency Supply Water in the California Aqueduct. To the extent applicable, for delivery of IRWD's Emergency Supply Water, Metropolitan will pay all DWR Variable OMP&amp;R charges in accordance with the Coordinated Agreement.</p>
<b>Environmental Compliance</b>	<p>Both parties shall comply with California Environmental Quality Act (CEQA) and cooperate with one another with respect to CEQA compliance that may be required by the DWR for the proposed Pilot Program. IRWD has already conducted environmental review under CEQA for the Strand and Stockdale Integrated Banking Projects that takes into consideration the delivery, storage and recovery of SWP water. Rosedale certified and IRWD approved the CEQA documents for the Strand and Stockdale Integrated Banking Projects. Corresponding Notices of Determination were filed by both Rosedale and IRWD. Both IRWD and LVMWD shall each be responsible for any other environmental review or permitting necessary to implement the Pilot Program within their own respective service areas.</p>
<b>Water Rights</b>	<p>It is expressly agreed, understood, and acknowledged by IRWD and LVMWD that any delivery or recovery of water for LVMWD will not result in or be considered a sale or transfer of Metropolitan's contractual rights to SWP water or a sale or transfer of IRWD's ownership in the IRWD Water Bank.</p>
<b>General Expenses</b>	<p>Each Party would be responsible for its own fees and expenses arising out of the negotiation and execution of the Pilot Program Agreement, obtaining necessary approvals, and the like.</p>

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August 18, 2022

Prepared by: K. Welch / F. Sanchez

Submitted by: F. Sanchez / P. Weghorst

Approved by: Paul A. Cook



## SUPPLY RELIABILITY PROGRAMS COMMITTEE

### REVISED PRINCIPLES FOR COOPERATIVE WATER SUPPLY PROGRAM WITH ROSEDALE-RIO BRAVO WATER STORAGE DISTRICT

#### SUMMARY:

Since 2006, IRWD and Rosedale-Rio Bravo Water Storage District have partnered on projects including the Strand Ranch and Stockdale Integrated Banking Projects. Currently the agencies are working together to develop the Kern Fan Groundwater Storage Project. Each of these projects create opportunities to enhance the partnership between IRWD and Rosedale through the development of cooperative water supply and exchange programs. Together with the Committee in July 2020, staff reviewed the Draft Principles for a Cooperative Water Supply Program with Rosedale. Rosedale has provided feedback to staff on the Draft Principles recommending an approach for revising the document. Based on the feedback received, staff has revised the Draft Principles. Staff recommends the Committee provide input on the revised Draft Principles.

#### BACKGROUND:

IRWD and Rosedale have a well-established track record of implementing mutually beneficial water banking projects. In 2006, IRWD and Rosedale initiated a successful partnership with the implementation of the Strand Ranch Interim Recharge Demonstration Project. Since then, IRWD and Rosedale have partnered on integrating IRWD's Strand Ranch and Stockdale West Banking Projects into Rosedale's Conjunctive Use Program as well as jointly pursuing the development of the Kern Fan Project. In addition, both agencies have successfully implemented water supply and exchange programs with other partners involving high-flow Kern River water and State Water Project water. These accomplishments provide opportunities to develop cooperative water supply programs between the two districts.

#### Draft Principles for a Cooperative Water Supply Program:

In July 2020, staff reviewed with the Committee Draft Principles for a Cooperative Water Supply Program with Rosedale. The 2020 Draft Principles are provided as Exhibit "A". The execution of an agreement based on these principles would require the two districts to regularly inform each other of their respective supply and exchange programs and to offer each other the ability to participate. Rosedale has completed its review of the Draft Principles and has provided feedback proposing an approach to revising the document.

#### *Rosedale's Proposed Approach:*

Instead of informing each other of all their respective water supply and exchange programs and offering opportunities to participate in each other's programs, Rosedale is proposing that the Draft Principles provide for:

- IRWD and Rosedale to regularly inform each other of water supply and exchange programs that could be mutually beneficial to both parties and to jointly develop any such program;
- Should one party decline to participate in the development of a mutual beneficial program, the declining party would not compete with the development of the program by the other party; and
- IRWD and Rosedale would not compete or negatively impact each other's ability to recover third-party groundwater supplies using capacities outlined in existing operational agreements.

Revised Draft Principles:

Based on the feedback received from Rosedale, staff has revised the Draft Principles as presented in Exhibit "B". A redline of the changes are provided as Exhibit "C". The General Principles remain the same as the July 2020 version, while the Program Principles are substantially revised. At the Committee meeting, staff will provide an overview of the revised principles. Staff recommends the Committee provide input on the revisions made. It is anticipated that once finalized, the principles would be further developed into detailed terms for a Cooperative Water Supply Program Agreement that will be reviewed with the Committee at a future meeting.

FISCAL IMPACTS:

None.

ENVIRONMENTAL COMPLIANCE:

Environmental Impact Reports for the Strand Ranch Integrated Banking Project, the Stockdale Integrated Banking Project, and the Kern Fan Groundwater Storage Project were prepared, certified, and approved in compliance with the California Environmental Quality Act (CEQA) of 1970 (as amended). Notices of Determinations were filed in both the County of Orange and the County of Kern.

RECOMMENDATION:

Receive and File.

LIST OF EXHIBITS:

- Exhibit "A" – Draft Principles for a Cooperative Water Supply Program with Rosedale-Rio Bravo Water Storage District (July 2020)
- Exhibit "B" – Proposed Revised Draft Principles for a Cooperative Water Supply Program with Rosedale-Rio Bravo Water Storage District (August 2022)
- Exhibit "C" – Redline Version of Revised Draft Principles for a Cooperative Water Supply Program with Rosedale-Rio Bravo Water Storage District (August 2022)

# Exhibit “A”

**DRAFT**

## Principles for Cooperative Water Supply Program Between Irvine Ranch Water District and Rosedale-Rio Bravo Water Storage District

July 16, 2020

### GENERAL PRINCIPLES:

1. Irvine Ranch Water District (IRWD) and Rosedale-Rio Bravo Water Storage District (Rosedale) both own water banking projects in the Kern Fan.
2. IRWD owns and Rosedale-Rio Bravo Water Storage District (Rosedale) operates the Strand Ranch and Stockdale West water banking projects, both of which have been integrated into Rosedale’s Conjunctive Use Program.
3. Rosedale separately owns and operates several water banking projects associated with its Conjunctive Use Program.
4. IRWD and Rosedale have each individually implemented programs with agencies involving high-flow Kern River water and supplies from the State Water Project, and the two agencies are interested in implementing programs in the future to their mutual benefit.
5. IRWD and Rosedale are jointly developing the Kern Fan Groundwater Storage Project that will provide the ability for each agency to establish additional water supply and exchange programs, while also providing environmental benefits to the State of California.
6. IRWD and Rosedale intend to enter into a Cooperative Water Supply Program Agreement that will facilitate cooperation in the implementation of new water supply and exchange programs based on principles articulated below.

### PROGRAM PRINCIPLES:

The implementation of the proposed Cooperative Water Supply Program would result in IRWD and Rosedale:

1. Regularly informing each other of water supply and exchange programs that they are pursuing.
2. Offering opportunities to participate in each other’s water supply and exchange programs as they are being developed.
3. Avoid competing or negatively impacting each other in the development of supply and exchange programs.

4. Pursue and support the development of mutually beneficial water supply and exchange programs.
5. Implement exchange opportunities designed to optimize each agency's water supply programs.

# Exhibit “B”

## **DRAFT**

### Revised Principles for Cooperative Water Supply Program Between Irvine Ranch Water District and Rosedale-Rio Bravo Water Storage District

August 18, 2022

#### GENERAL PRINCIPLES:

1. Irvine Ranch Water District (IRWD) and Rosedale-Rio Bravo Water Storage District (Rosedale) both own water banking projects in the Kern Fan.
2. IRWD owns and Rosedale-Rio Bravo Water Storage District (Rosedale) operates the Strand Ranch and Stockdale West water banking projects, both of which have been integrated into Rosedale’s Conjunctive Use Program.
3. Rosedale separately owns and operates several water banking projects associated with its Conjunctive Use Program.
4. IRWD and Rosedale have each individually implemented programs with agencies involving high-flow Kern River water and supplies from the State Water Project, and the two agencies are interested in implementing programs in the future to their mutual benefit.
5. IRWD and Rosedale are jointly developing the Kern Fan Groundwater Storage Project that will provide the ability for each agency to establish additional water supply and exchange programs, while also providing environmental benefits to the State of California.
6. IRWD and Rosedale intend to enter into a Cooperative Water Supply Program Agreement that will facilitate cooperation in the implementation of new water supply and exchange programs based on principles articulated below.

#### PROGRAM PRINCIPLES:

The implementation of the proposed Cooperative Water Supply Program would result in IRWD and Rosedale:

1. Regularly informing each other of water supply and exchange programs that they are pursuing and identifying those programs that could be mutually beneficial to both districts.
2. Cooperating in the analysis and development of mutually beneficial projects that are acceptable to both districts.

3. Not competing with or impeding each other in the development and implementation of independent supply and exchange programs.
4. Not impacting each other's first-priority rights to the use of capacities as described in existing operating agreements.
5. Implementing exchange opportunities designed to optimize each agency's water supply programs.



# Exhibit “C”

## DRAFT

Revised Principles for Cooperative Water Supply Program Between  
Irvine Ranch Water District and Rosedale-Rio Bravo Water Storage District

~~July 16, 2020~~August 18, 2022

### GENERAL PRINCIPLES:

1. Irvine Ranch Water District (IRWD) and Rosedale-Rio Bravo Water Storage District (Rosedale) both own water banking projects in the Kern Fan.
2. IRWD owns and Rosedale-Rio Bravo Water Storage District (Rosedale) operates the Strand Ranch and Stockdale West water banking projects, both of which have been integrated into Rosedale’s Conjunctive Use Program.
3. Rosedale separately owns and operates several water banking projects associated with its Conjunctive Use Program.
4. IRWD and Rosedale have each individually implemented programs with agencies involving high-flow Kern River water and supplies from the State Water Project, and the two agencies are interested in implementing programs in the future to their mutual benefit.
5. IRWD and Rosedale are jointly developing the Kern Fan Groundwater Storage Project that will provide the ability for each agency to establish additional water supply and exchange programs, while also providing environmental benefits to the State of California.
6. IRWD and Rosedale intend to enter into a Cooperative Water Supply Program Agreement that will facilitate cooperation in the implementation of new water supply and exchange programs based on principles articulated below.

### PROGRAM PRINCIPLES:

The implementation of the proposed Cooperative Water Supply Program would result in IRWD and Rosedale:

1. Regularly informing each other of water supply and exchange programs that they are pursuing and identifying those programs that could be mutually beneficial to both districts.
- 1.—
2. Cooperating in the analysis and development of mutually beneficial projects that are acceptable to both districts. Offering opportunities to participate in each other’s water supply and exchange programs as they are being developed.

- ~~3. Avoid Not competing competing with or negatively impactingimpeding each other in the development and implementation of independent supply and exchange programs.~~
- ~~4. Not Avoid impacting each other's first-priority rights to the use of capacities as described in existing operating agreements.~~
- ~~3. Pursue and support the development of mutually beneficial water supply and exchange programs.~~
- 4.5. Implementing exchange opportunities designed to optimize each agency's water supply programs.