

AGENDA
 IRVINE RANCH WATER DISTRICT
 SUPPLY RELIABILITY PROGRAMS COMMITTEE
 THURSDAY, OCTOBER 15, 2020

Due to COVID-19, this meeting will be conducted as a teleconference pursuant to the provisions of the Governor's Executive Orders N-25-20 and N-29-20, which suspend certain requirements of the Ralph M. Brown Act. Members of the public may not attend this meeting in person.

Participation by members of the Committee will be from remote locations. Public access and participation will only be available telephonically/electronically.

To virtually attend the meeting and to be able to view any presentations or additional materials provided at the meeting, please join online via Webex using the link and information below:

Via Web:
<https://irwd.my.webex.com/irwd.my/j.php?MTID=m519b5e7ef60319dbcfa228795821f0e8>
 Meeting Number (Access Code): 126 013 8547
 Meeting Password: X4MfRivFU52

After joining the meeting, in order to ensure all persons can participate and observe the meeting, please select the "Call in" option and use a telephone to access the audio for the meeting by using the call-in information and attendee identification number provided.

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 3:00 p.m.

ATTENDANCE Committee Chair: Peer Swan _____
 Member: Douglas Reinhart _____

ALSO PRESENT Paul Cook _____ Paul Weghorst _____
 Rob Jacobson _____ Fiona Sanchez _____
 Kellie Welch _____ Christine Compton _____
 Ray Bennett _____ Jo Ann Corey _____
 Natalie Palacio _____ _____ _____
 _____ _____ _____ _____

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. You may also submit a public comment in advance of the meeting by emailing comments@irwd.com before 12:00 p.m. on Thursday, October 15, 2020.

ALL VOTES SHALL BE TAKEN BY A ROLL CALL VOTE.

COMMUNICATIONS

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.

INFORMATION

- | | |
|---|--|
| <p>5. <u>WATER BANKING PROJECT FACILITIES, CAPACITIES, OPERATIONS AND PROGRAMS – PALACIO / WELCH / SANCHEZ / WEGHORST</u></p> | |
|---|--|

Recommendation: Receive and file.

ACTION

- | | |
|---|--|
| <p>6. <u>UPDATED TERMS FOR A PILOT EXCHANGE PROGRAM WITH MOJAVE WATER AGENCY – WELCH / SANCHEZ / WEGHORST</u></p> | |
|---|--|

Recommendation: That the Committee approve the updated terms to be used in amending IRWD’s existing agreement with Mojave Water Agency.

ACTION – Continued

7. PLANNING AND ENVIRONMENTAL REVIEW OF DELTA CONVEYANCE PROJECT – WELCH / SANCHEZ / WEGHORST

Recommendation: That the Committee concur with staff sending an updated letter of intent to Rosedale-Rio Bravo Water Storage District to cooperate in performing due diligence investigations for participating in the DCP and committing IRWD to pay DCP planning and environmental costs associated with 2,000 acre-feet of base Table A in the amount of \$198,000.

OTHER BUSINESS

8. CLOSED SESSION CONFERENCE WITH LEGAL COUNSEL – ANTICIPATED LITIGATION – Pursuant to Government Code Section 54956.9 (d)(4): initiation of litigation (*one potential case*).

9. Open Session

10. Directors’ Comments

11. Adjourn

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.

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October 15, 2020

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 the 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". 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 a column that provides totals for each water type and storage location. There are no changes to Exhibits "B" and "C" this month.

Exhibit "D" graphically depicts how storage of State Water Project (SWP) and non-SWP water has changed in the Strand and Stockdale Integrated Banking Projects through time. The table provided as Exhibit "E" 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" and "E", as well as the figure provided as Exhibit "D", 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 "F", "G" and "H", 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 Water District and Metropolitan Water District of Southern California. These diagrams are provided as Exhibits “I”, “J”, “K”, “L”, “M” and “N”, as described in the List of Exhibits.

Water Supply Opportunities:

IRWD has been pursuing additional opportunities to secure water for recharge at IRWD’s water banking projects. At the Committee meeting, staff will provide an update on efforts to secure water from:

- Antelope Valley-East Kern Water Agency, and
- Mojave Water Agency.

Staff will also provide an update on efforts to implement a mutually beneficial exchange with Rosedale-Rio Bravo Water Storage District.

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” – Historic Water Storage in Strand and Stockdale Projects
- Exhibit “E” – Dedicated Capacities of Current Water Banking Projects
- Exhibit “F” – Map of Water Banking Project Wells and Pipelines
- Exhibit “G” – Map of Water Banking Recharge Basins and Cross Valley Canal Turnout Facilities

- Exhibit “H” – Map of Water Banking Recharge Rates
- Exhibit “I” – Diagram of IRWD-Rosedale Water Banking and Exchange Program Agreements
- Exhibit “J” – Diagram of Long-Term Water Exchange Program with BVWSD and Diagram of One-Year Program to Augment Recharge Using Stockdale West Recharge Facilities with BVWSD
- Exhibit “K” – Diagram of Unbalanced Exchange Program Diagram with DRWD
- Exhibit “L” – Diagram of Coordinated Operating, Water Storage, Exchange and Delivery Agreement with Metropolitan Water District
- Exhibit “M” – Diagram of Template Wheeling Agreement with Metropolitan Water District
- Exhibit “N” – Diagram of Dudley Ridge Water District One-For-One Exchange

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Exhibit "A"

TABLE 1
Current and Anticipated Water Banking Project
Recharge, Storage and Recovery Capacities
October 15, 2020

WATER BANKING PROJECT	OWNERSHIP AND WELL INFO			ALLOCATED CAPACITY (AF)					1 ST PRIORITY RECOVERY CONDITIONS (CFS)		2 ND PRIORITY RECOVERY CONDITIONS (CFS)	
	IRWD OWNED	WELLS EXISTING	WELLS PROPOSED OR UNDER CONST.	TOTAL STORAGE CAPACITY	ANNUAL RECHARGE 1 ST PRIORITY	ANNUAL RECHARGE 2 ND PRIORITY	ANNUAL RECOVERY 1 ST PRIORITY	ANNUAL RECOVERY 2 ND PRIORITY	RECOVERY CAPACITY AS PLANNED ¹	ESTIMATED RECOVERY CAPACITY (APR. 2019 CONDITIONS) ²	RECOVERY CAPACITY AS PLANNED	RECOVERY CAPACITY CURRENT CONDITIONS
Strand Ranch	Yes	7	-	50,000	17,500	-	17,500	-	40.0	40.0	-	-
Stockdale West	Yes	3	-	26,000	27,100	-	11,250	-	15.0	15.0	-	-
Stockdale East	No	-	2	-	-	19,000	-	7,500	-	-	10.0	-
IRWD Acquired Storage Account ³	No	-	-	50,000	-	-	-	-	-	-	-	-
Drought Relief Project Wells ³	No	3	-	-	-	-	-	-	15.0	15.0	-	-
Kern Water Bank Storage Account ⁵	No	-	-	9,495	3,200	-	6,330	-	-	-	-	-
TOTALS		13	2	126,000	44,600	19,000	28,750	7,500	70.0	70.0	10.0	0.0
Partner Capacities ⁴				38,000	22,300	9,500	10,850	0	35.5	25.0	-	-
IRWD 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	-	-
TOTALS (AF)									17,900	15,733	-	-
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	
¹ 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. ² SUP-1, SWEX-2, and SREX-6 are currently down. ³ IRWD has use of Acquired Storage and Drought Relief Project wells until January 12, 2039, unless the term of the agreement is extended. ⁴ One half of storage capacity at Stockdale West and Strand Ranch will be allocated for partners. ⁵ 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. Not included in storage capacity, recharge, and recovery totals to match IRWD's Water Banking Policy Position Paper.												

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Exhibit "B"

TABLE 2
IRWD's Water Banking Storage, Recharge and Recovery Operations - BEFORE LOSSES
 October 15, 2020

TRANSACTIONS	WATER BANKING ENTITY					TOTAL BY WATER TYPE AND STORAGE LOCATION
	IRWD		BUENA VISTA (BVWSD)	CENTRAL COAST (CCWA)	DUDLEY RIDGE WATER DISTRICT (DRWD) ³	
	SWP ¹	NON-SWP ²	NON-SWP	SWP	SWP	
BEGINNING WATER IN STORAGE 2019 (AF)						
Total Kern Water Bank	-	4,656	-	-	-	4,656
Total MWD System ⁴	8,349	-	-	-	879	9,228
Total Kern County	3,567	17,704	5,202	289	2,698	29,460
TOTAL STORED WATER (1/1/2019)	11,916	22,360	5,202	289	3,577	43,344
(RECOVERY) AND RECHARGE IN 2019 (AF)						
MWD Water to Jackson Ranch ⁵	-	-	-	-	(440)	(440)
Kern Water Bank Deliveries ⁶	-	97	-	-	-	97
2019 SWP Allocation (75%) ³	656	-	-	-	656	1,311
Kern River Water	-	5,975	5,975	-	-	11,949
SWP Table A (CCWA 2019 Exch.)	347	-	-	347	-	694
TOTAL 2019 TRANSACTIONS	1,003	6,072	5,975	347	216	13,611
Total Kern Water Bank	-	4,753	-	-	-	4,753
Total MWD System	8,349	-	-	-	439	8,788
Total Kern County	4,570	23,679	11,177	636	3,354	43,414
TOTAL STORED WATER (1/1/2020)	12,919	28,432	11,177	636	3,793	56,955
(RECOVERY) AND RECHARGE IN 2020 (AF)						
MWD Water to Jackson Ranch (estimated)	-	-	-	-	-	-
Kern Water Bank Deliveries	-	-	-	-	-	-
2020 SWP Allocation (20%) ³	175	-	-	-	175	350
Kern River Water	-	-	(7,500)	-	-	(7,500)
TOTAL ESTIMATED 2020 TRANSACTIONS	175	-	(7,500)	-	175	(7,150)
ESTIMATED WATER IN STORAGE 2020 (AF)						
Total Kern Water Bank	-	4,753	-	-	-	4,753
Total MWD System	8,349	-	-	-	439	8,788
Total Kern County	4,745	23,679	3,677	636	3,529	36,264
TOTAL ESTIMATED STORED WATER TO DATE	13,094	28,432	3,677	636	3,968	49,805

NOTES:

-MWD = Metropolitan Water District of Southern California.

¹ IRWD's SWP includes 437 AF from CVWD that stays in Kern County.

² IRWD's Non-SWP total includes 3,158 AF of Kern County Water Agency Article 21 Water.

³ DRWD water supply will be returned by MWD or IRWD's Strand Ranch to IRWD's Jackson Ranch. IRWD's 2013-2016 SWP allocation amounts are stored in the MWD system. IRWD's 2017 through 2019 SWP allocation water is stored in Kern County. It is assumed that IRWD's 2020 SWP allocation will be stored in Kern County.

⁴ Beginning balance of water stored in MWD system includes: 4,494 AF from 2014 Exchange, 3,206 AF of 2014 borrowed SWP, 649 AF of IRWD's 2013-2016 SWP allocations through DRWD.

⁵ Water returned to DRWD by MWD for use on IRWD's Jackson Ranch.

⁶ A portion of IRWD's 2019 SWP deliveries from DRWD include 97 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

October 15, 2020

TRANSACTIONS	WATER BANKING ENTITY					TOTAL BY WATER TYPE AND STORAGE LOCATION
	IRWD		BUENA VISTA (BVWSD)	CENTRAL COAST (CCWA)	DUDLEY RIDGE WATER DISTRICT (DRWD) ³	
	SWP ¹	NON-SWP ²	NON-SWP	SWP	SWP	
BEGINNING WATER IN STORAGE 2019 (AF)						
Total Kern Water Bank	-	4,233	-	-	-	4,233
Total MWD System ⁴	7,393	-	-	-	879	8,272
Total Kern County	3,046	15,564	4,532	246	2,395	25,783
TOTAL STORED WATER (1/1/2019)	10,439	19,797	4,532	246	3,274	38,288
(RECOVERY) AND RECHARGE IN 2019 (AF)						
MWD Water to Jackson Ranch ⁵	-	-	-	-	(440)	(440)
Kern Water Bank Deliveries ⁷	-	87	-	-	-	87
2019 SWP Allocation (75%) ³	557	-	-	-	557	1,114
Kern River Water	-	5,078	5,377	-	-	10,455
SWP Table A (CCWA 2019 Exch.)	298	-	-	298	-	595
TOTAL 2019 TRANSACTIONS	855	5,166	5,377	298	117	11,812
Total Kern Water Bank	-	4,320	-	-	-	4,320
Total MWD System	7,393	-	-	-	439	7,832
Total Kern County	3,901	20,642	9,909	543	2,952	37,947
TOTAL STORED WATER (1/1/2020)	11,294	24,963	9,909	543	3,391	50,100
(RECOVERY) AND RECHARGE IN 2020 (AF)						
MWD Water to Jackson Ranch (estimated)	-	-	-	-	-	-
Kern Water Bank Deliveries	-	-	-	-	-	-
2020 SWP Allocation (20%) ³	150	-	-	-	150	300
Kern River Water	-	-	(7,500)	-	-	(7,500)
TOTAL ESTIMATED 2020 TRANSACTIONS⁶	150	-	(7,500)	-	150	(7,200)
ESTIMATED WATER IN STORAGE 2020 (AF)						
Total Kern Water Bank	-	4,320	-	-	-	4,320
Total MWD System	7,393	-	-	-	439	7,832
Total Kern County	4,051	20,642	2,409	543	3,102	30,747
TOTAL ESTIMATED STORED WATER TO DATE	11,444	24,963	2,409	543	3,541	42,900

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 DRWD and BVWSD in Kern County is adjusted 10% (6% for surface loss and 4% for reserve loss); KWB losses are 10%; no losses for water directly delivered to MWD system.

-MWD = Metropolitan Water District of Southern California.

¹ IRWD's SWP includes 389 AF from CVWD that stays in Kern County.

² IRWD's Non-SWP total includes 2,842 AF of Kern County Water Agency Article 21 Water.

³ DRWD water supply will be returned by MWD or IRWD's Strand Ranch to IRWD's Jackson Ranch. IRWD's 2013-2016 SWP allocation amounts are stored in the MWD system. IRWD's 2017 through 2019 SWP allocation water is stored in Kern County. It is assumed that IRWD's 2020 SWP allocation will be stored in Kern County.

⁴ Beginning balance of water stored in MWD system includes (net of CVC losses): 3,920 AF of 2014 Exchange, 2,824 AF of 2014 borrowed SWP, 649 AF of IRWD's 2013-2016 SWP allocations through DRWD.

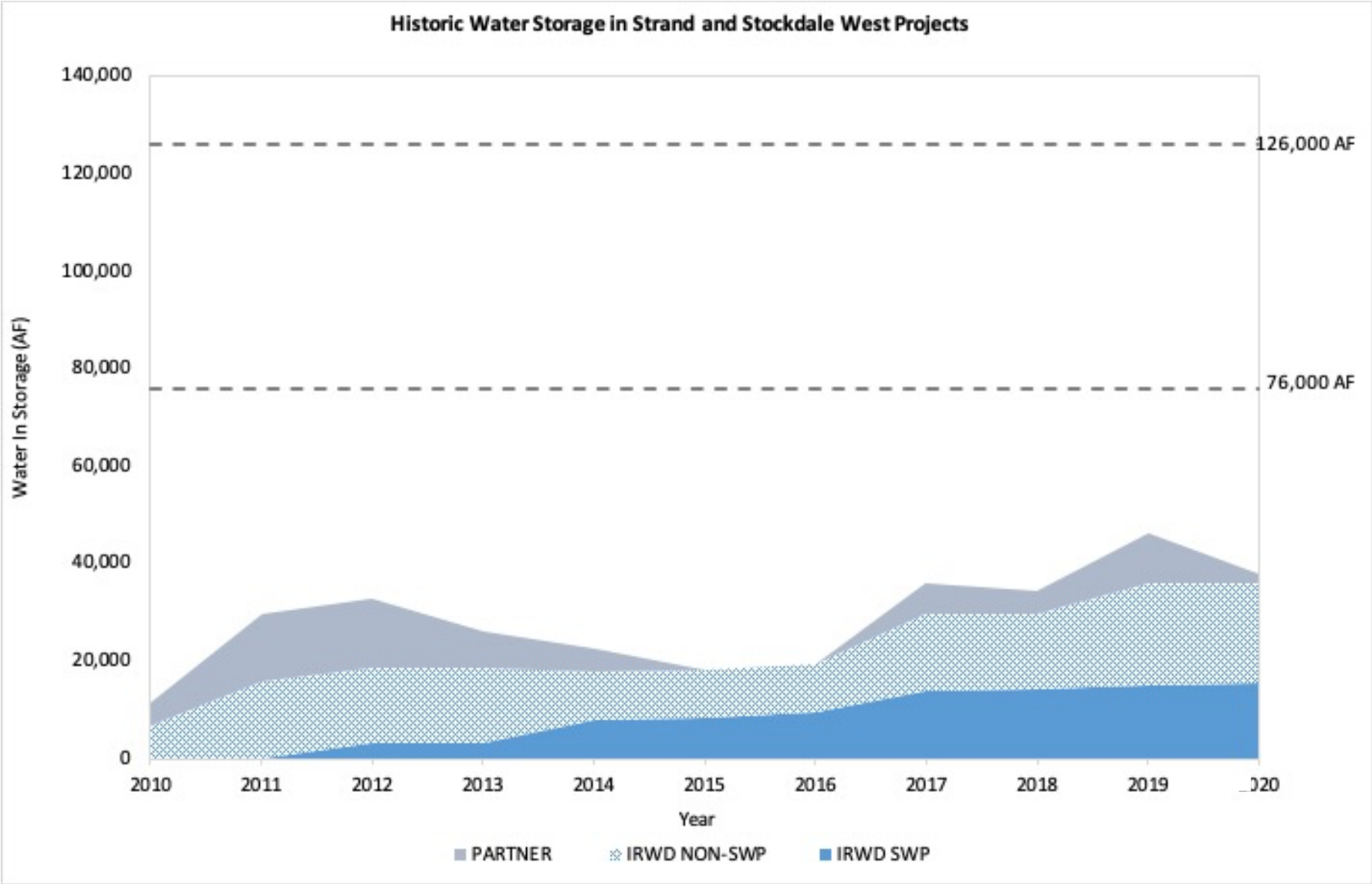
⁵ Water returned to DRWD by MWD for use on IRWD's Jackson Ranch.

⁶ 2020 transactions may be adjusted for conveyance losses in CVC.

⁷ A portion of IRWD's 2019 SWP deliveries from DRWD include 97 AF of Article 21 water, which was delivered to the Kern Water Bank.

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Exhibit "D"



*After losses

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Exhibit "E"

TABLE 1
IRWD Dedicated Water Banking Capacities for
Existing and Proposed Exchange Programs
October 15, 2020

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	-	-
CVWD	-	5,000	-	-
Total Dedicated	50,000	25,000	-	-
Total Remaining	-	1,000	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	-	-
CVWD	-	5,000	-	-
Total Dedicated	17,500	25,000	-	-
Total Remaining	-	2,100	-	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	-	6,330
BVWSD	6,667	-	-	-
DRWD	-	-	-	-
AVEK	-	3,333	-	-
CVWD	-	833	-	-
IRWD	10,833	7,084	-	6,330
Total Dedicated	17,500	11,250	-	6,330
Total Remaining	-	-	-	-

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Exhibit "F"

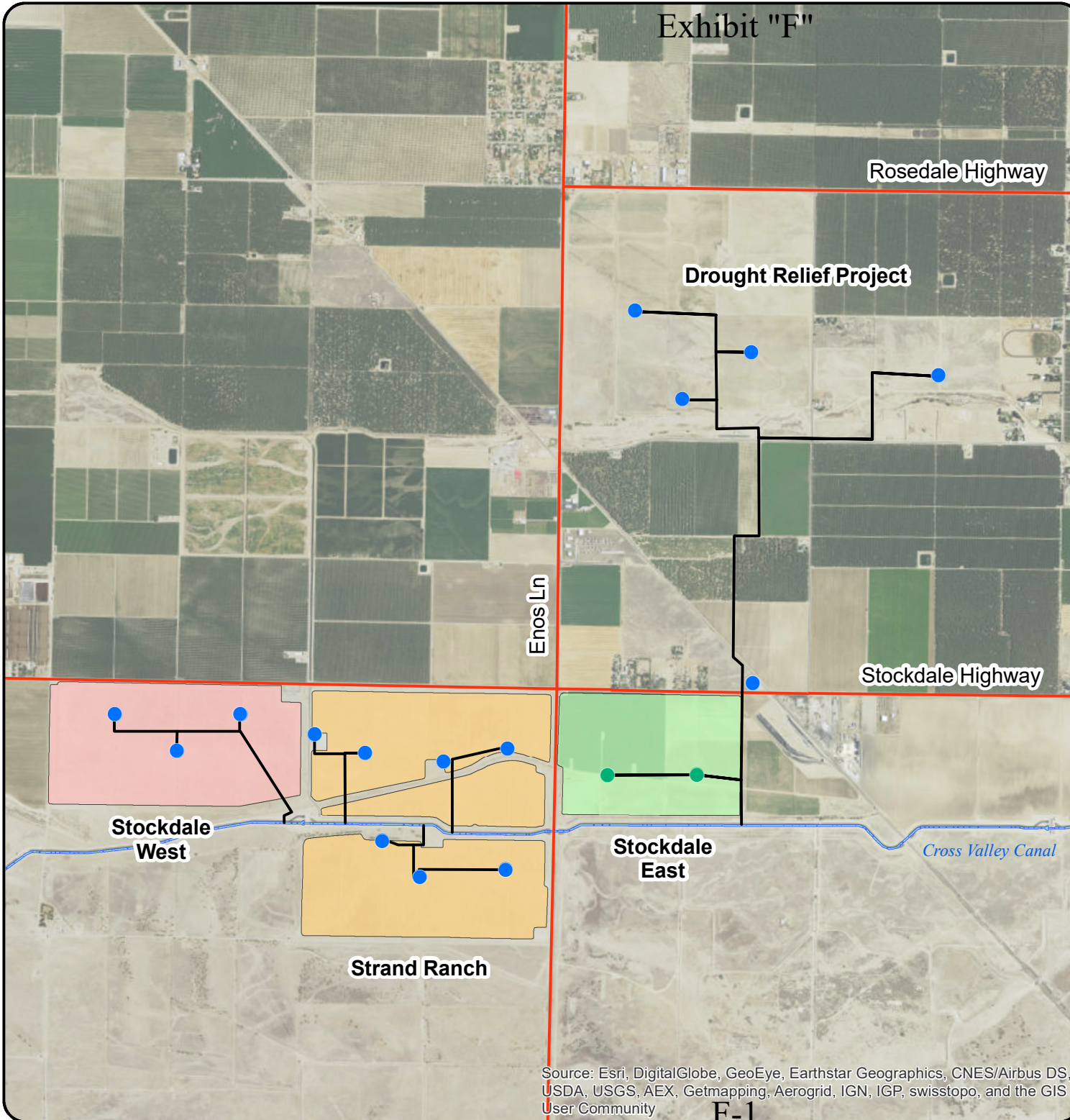


Location Map: IRWD Water Banking Projects Wells and Turnin Pipelines

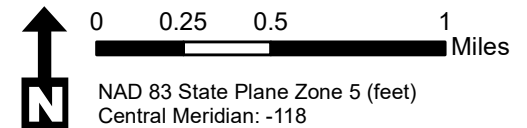
MAP FEATURES

- 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.



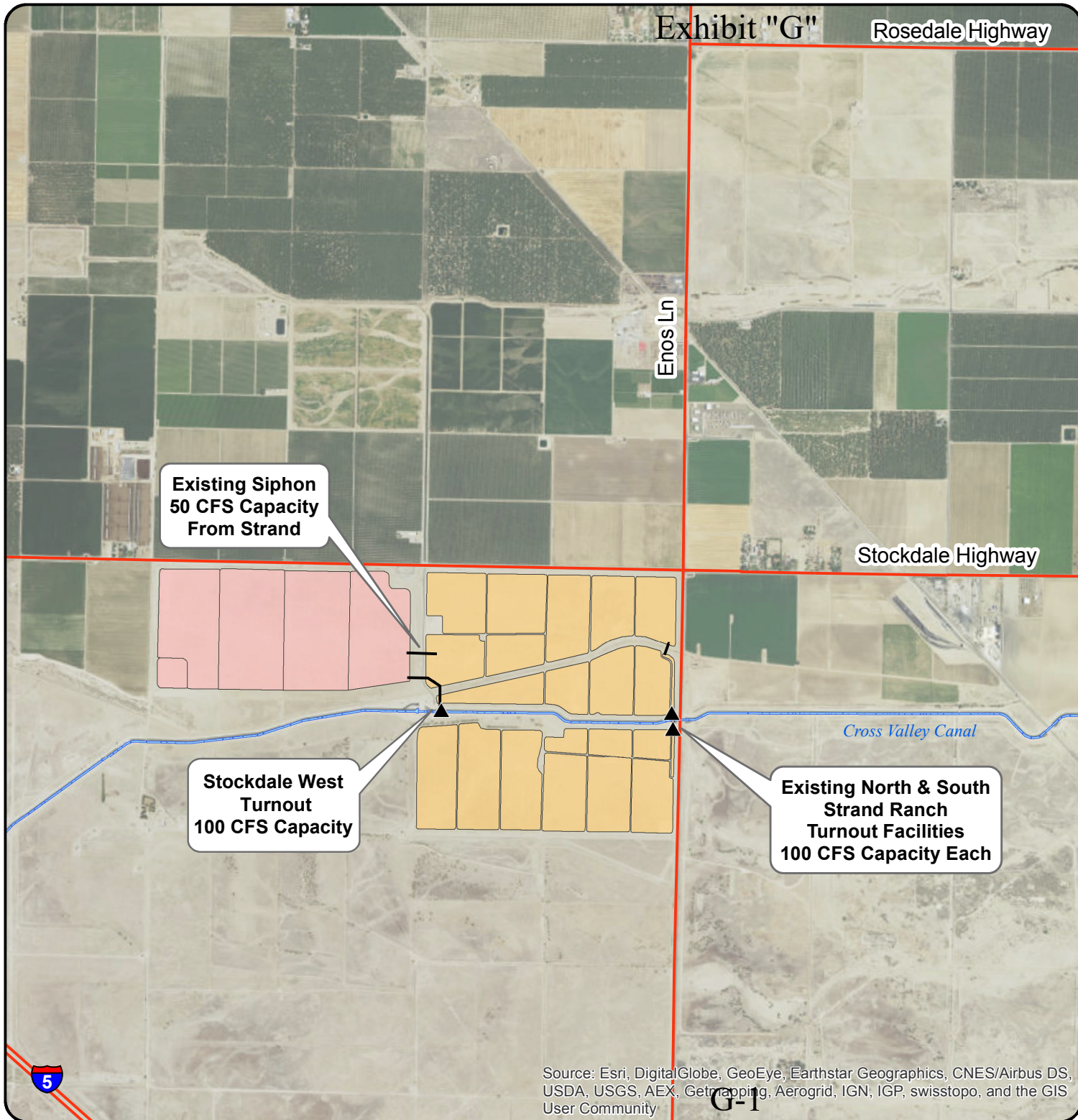
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community



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



**Existing Siphon
50 CFS Capacity
From Strand**

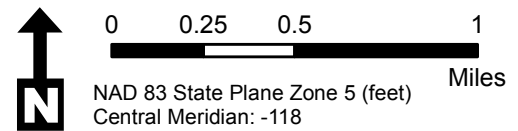
**Stockdale West
Turnout
100 CFS Capacity**

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

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

Stockdale West
0.11 feet/day
15 CFS

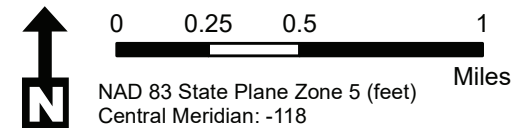
Strand Ranch North
0.29 feet/day
40 CFS

Strand Ranch South
0.13 feet/day
15 CFS

Stockdale Highway

Cross Valley Canal

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

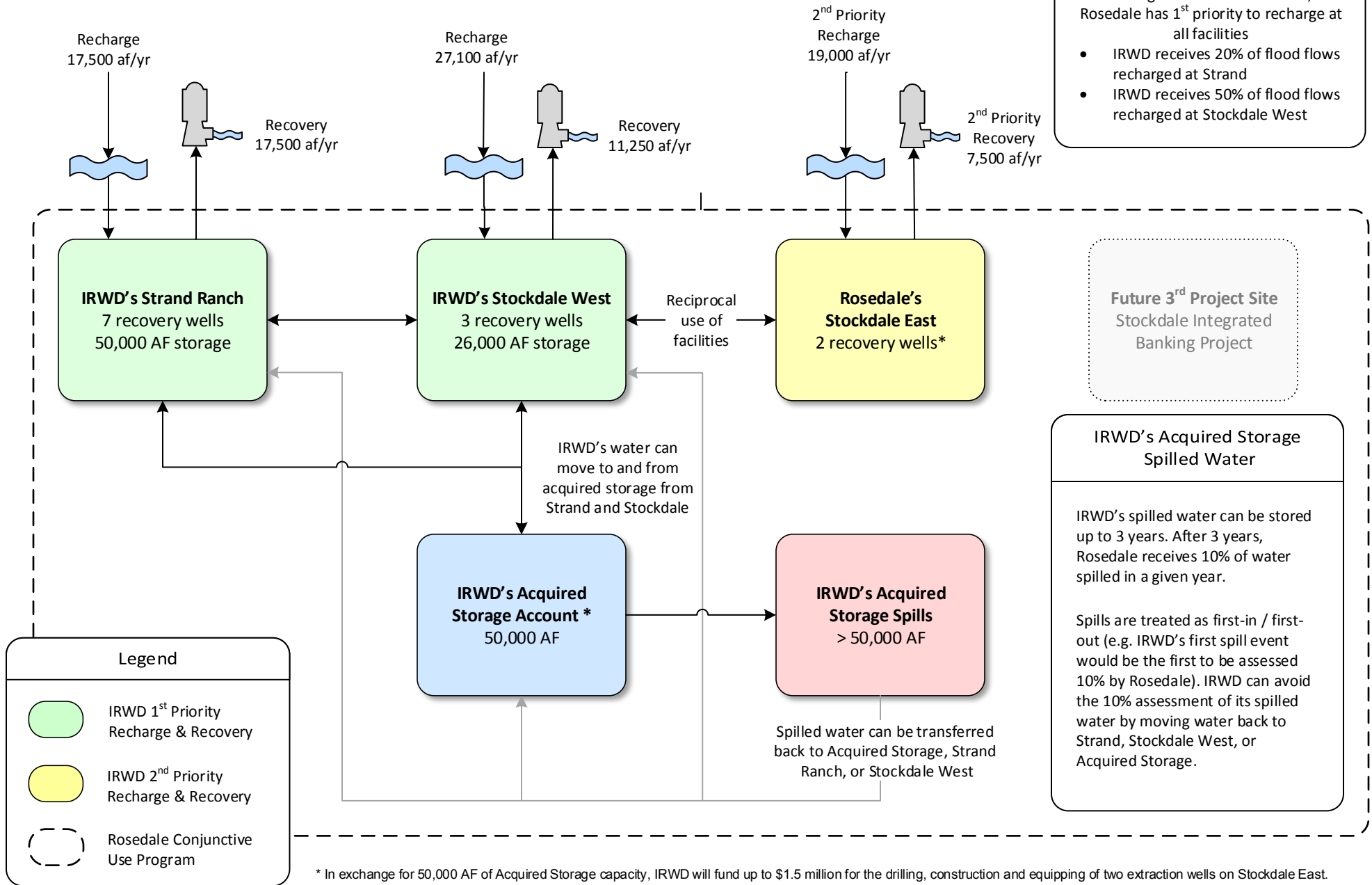


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Exhibit "I"

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)

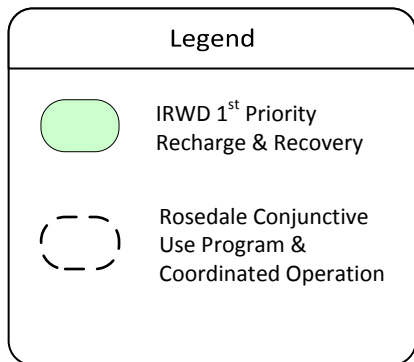
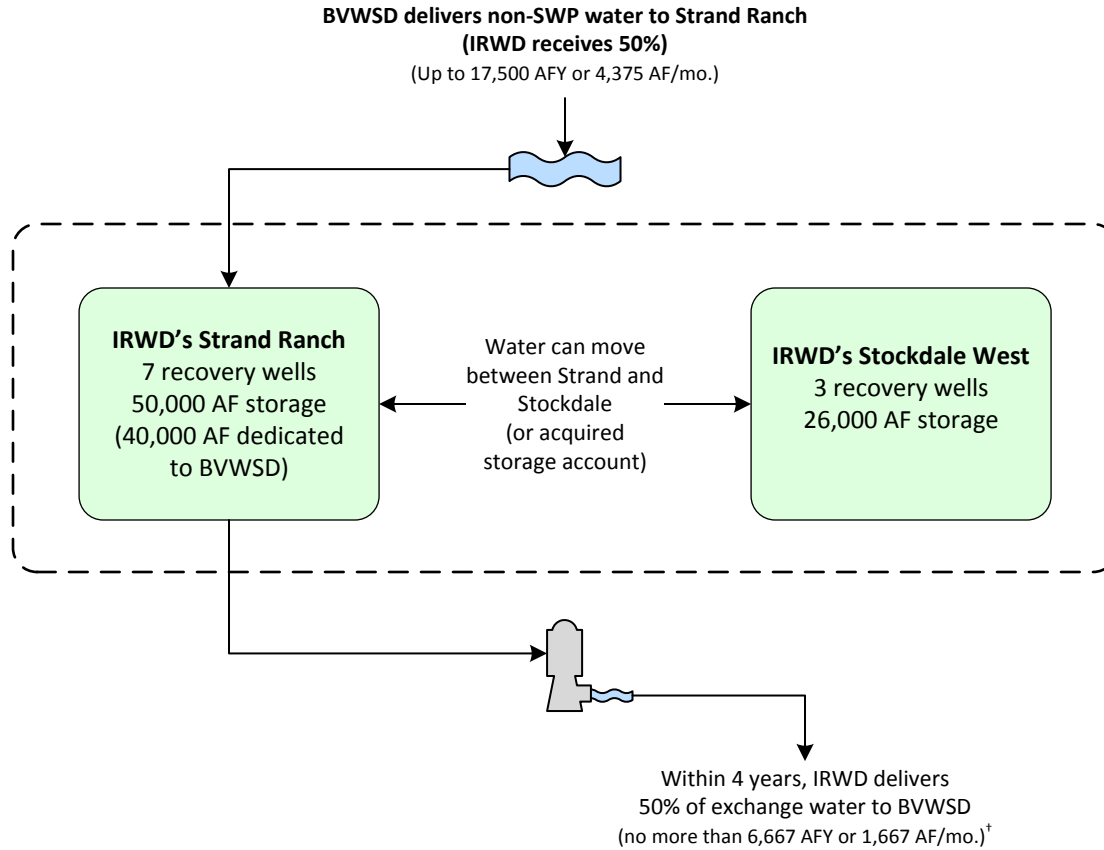


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Exhibit "J"

Buena Vista Water Storage District Long Term Water Exchange Program

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

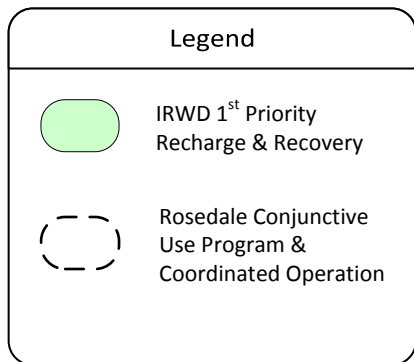
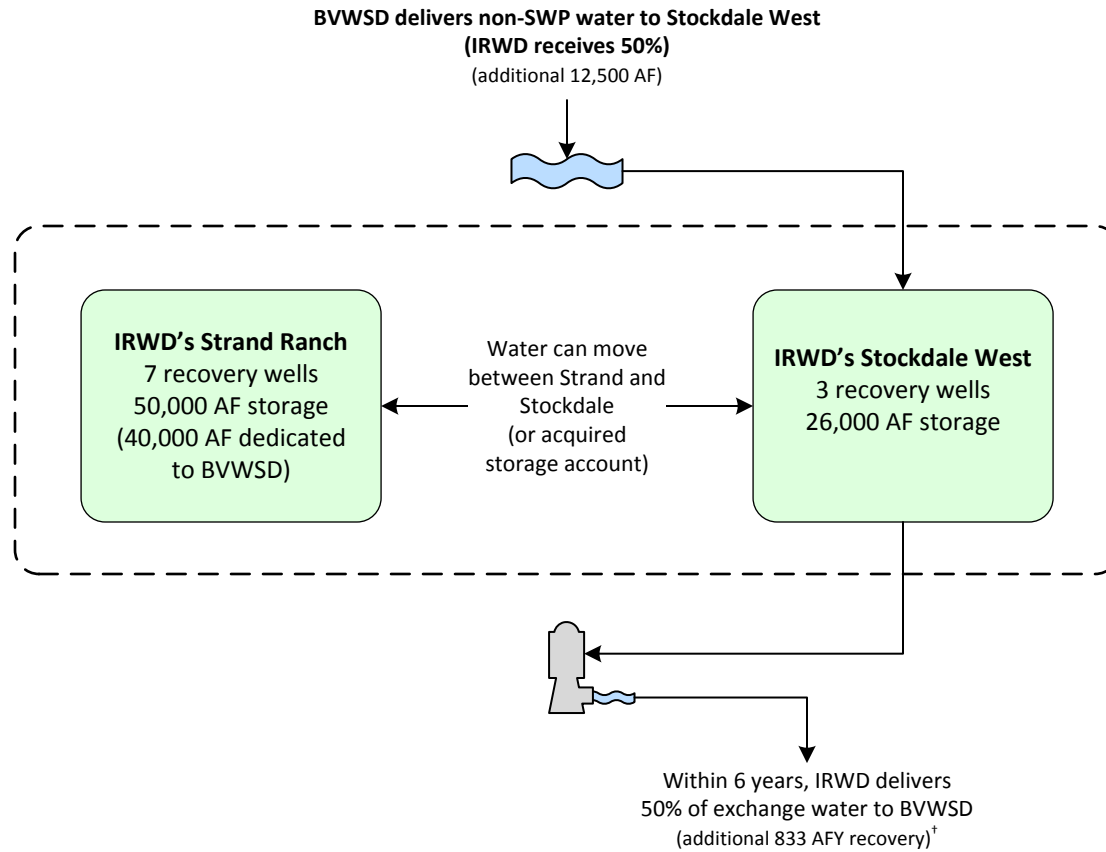


[†]IRWD shall remit one-half of the exchanged supply less one-half of reasonable losses back to BV no later than December 31st of the 4th year following the associated recharge event. IRWD pays for recovery of water returned to BV. Water to be remitted back to BV may remain in storage at Strand Ranch beyond the 4th 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



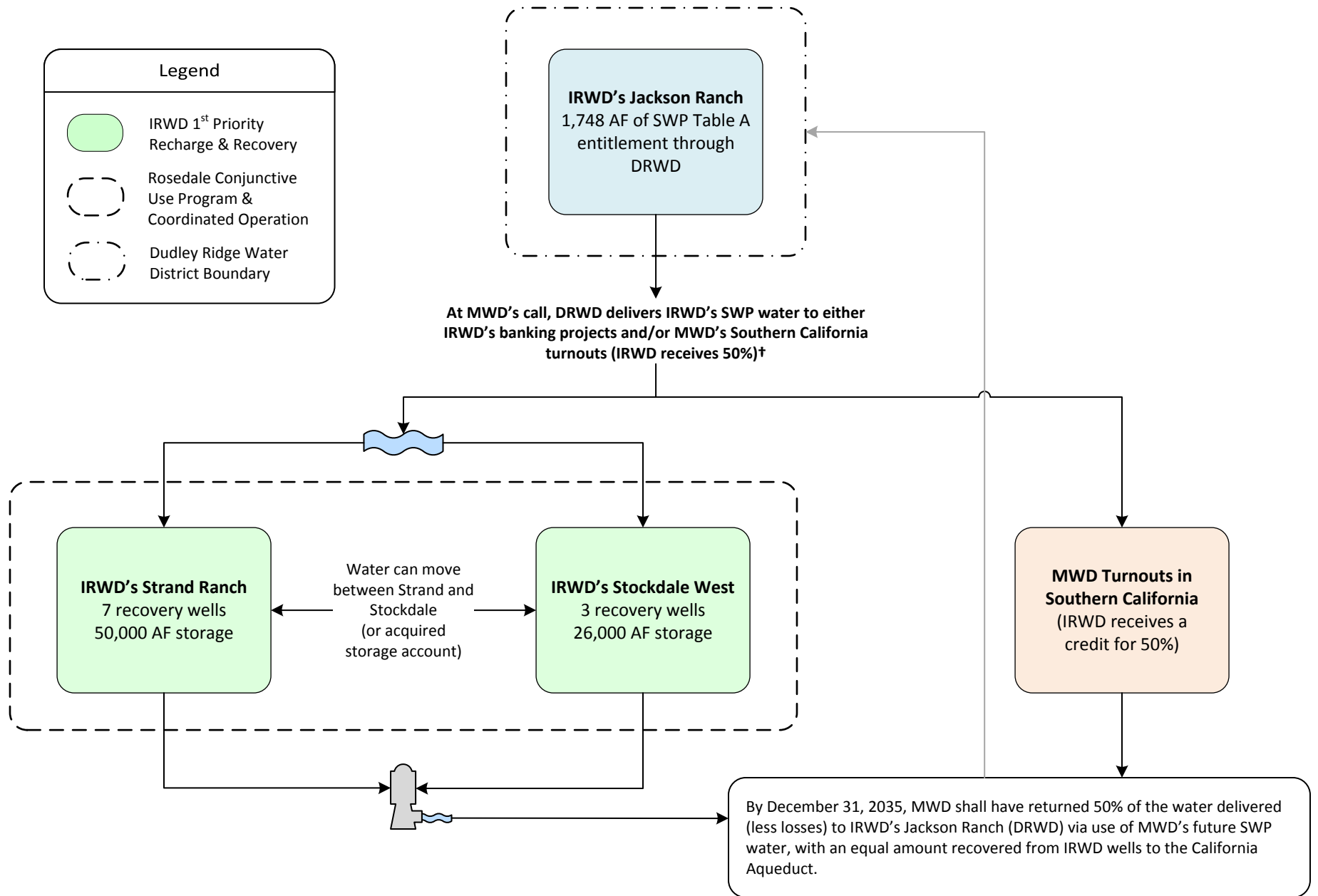
[†]IRWD shall remit one-half of the exchanged supply less one-half of reasonable losses back to BV no later than December 31st of the 6th year following the associated recharge event. IRWD pays for recovery of water returned to BV. Water to be remitted back to BV may remain in storage at Strand Ranch beyond the 6th 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 "K"

Dudley Ridge Water District (DRWD) Unbalanced Exchange Program

Up to 12,240 AF delivered from 6/7/2018 through 12/31/2027



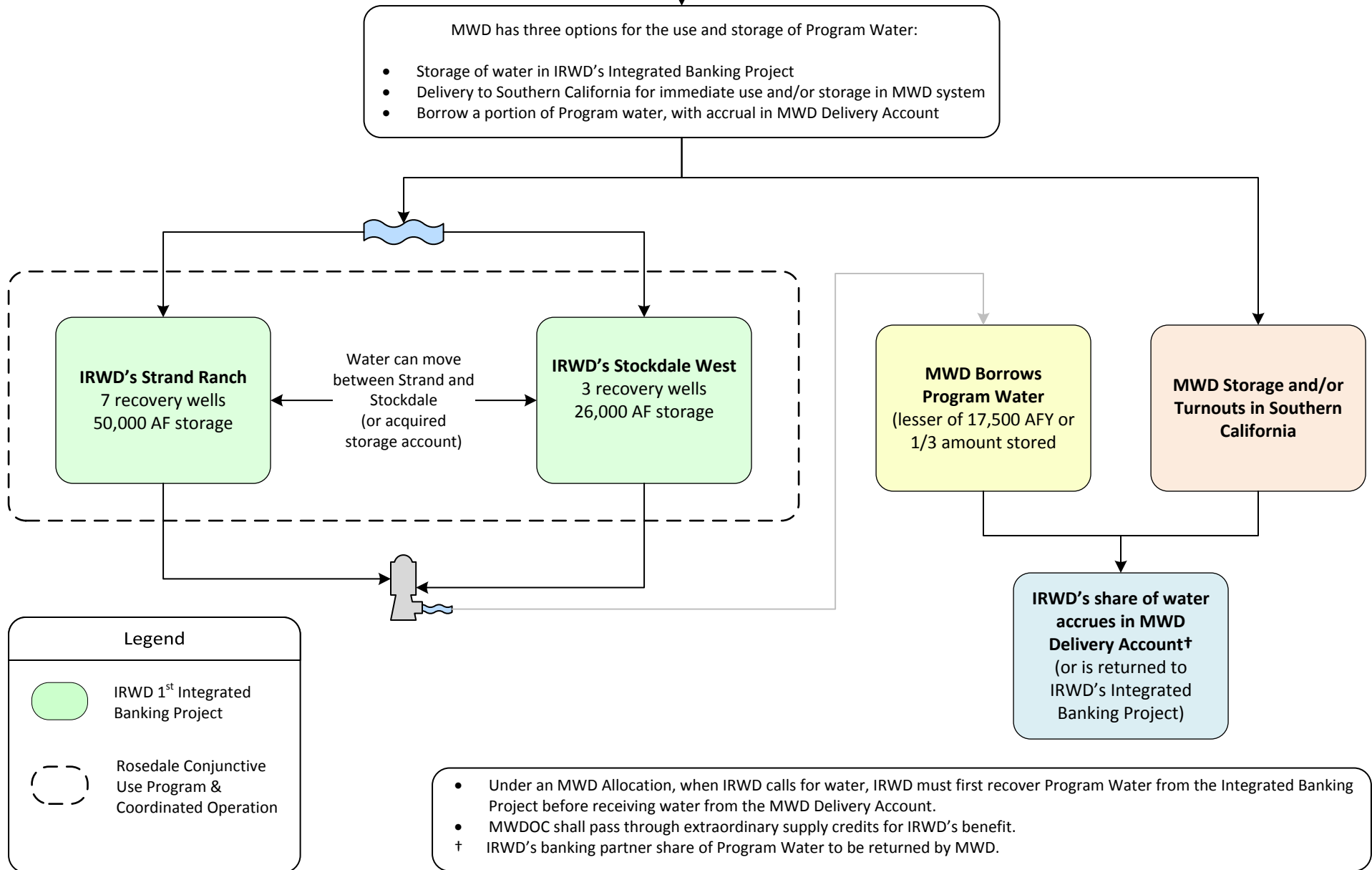
†Consistent with IRWD-MWD coordinated operating agreement.

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Exhibit "L"

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

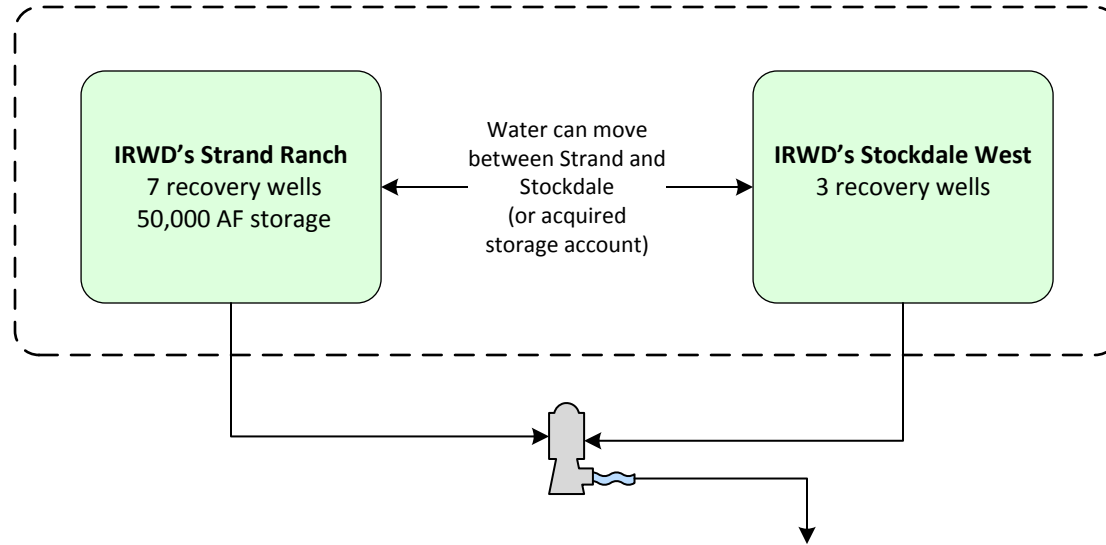


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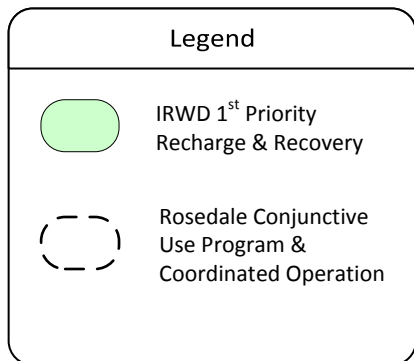
Exhibit "M"

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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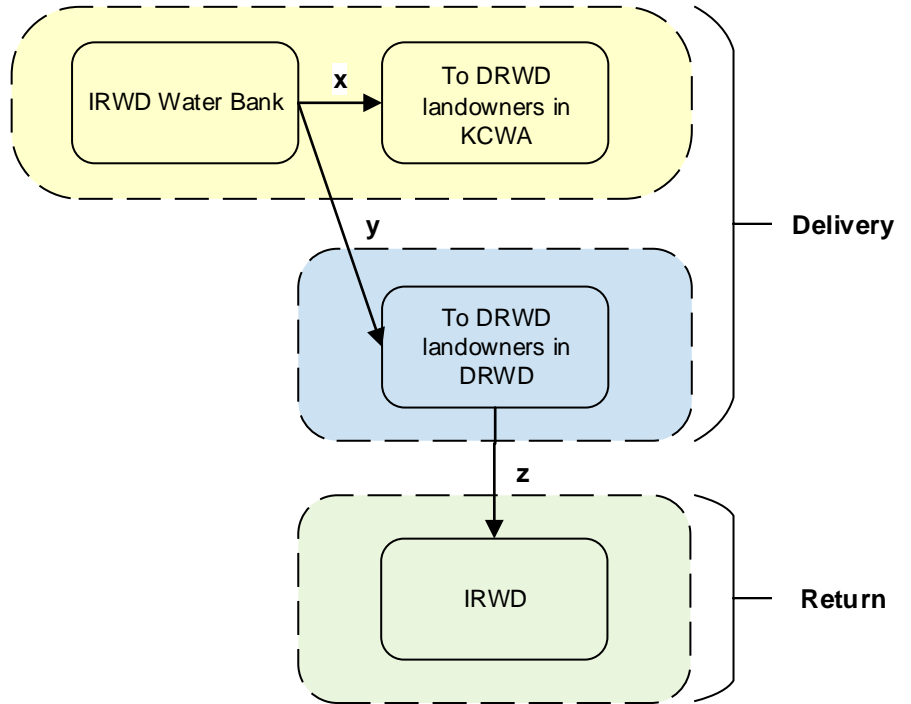
Exhibit "N"

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)

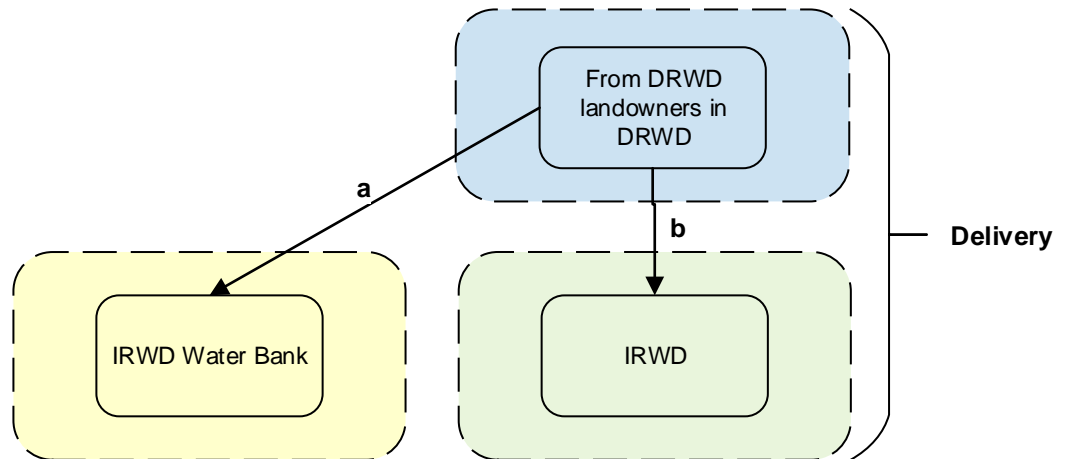
x= Non-Project Water required to stay in Kern County
 y= Non-Project Water allowed to leave Kern County
 z= DRWD Table A Water equal to x+y less applicable losses, if any

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



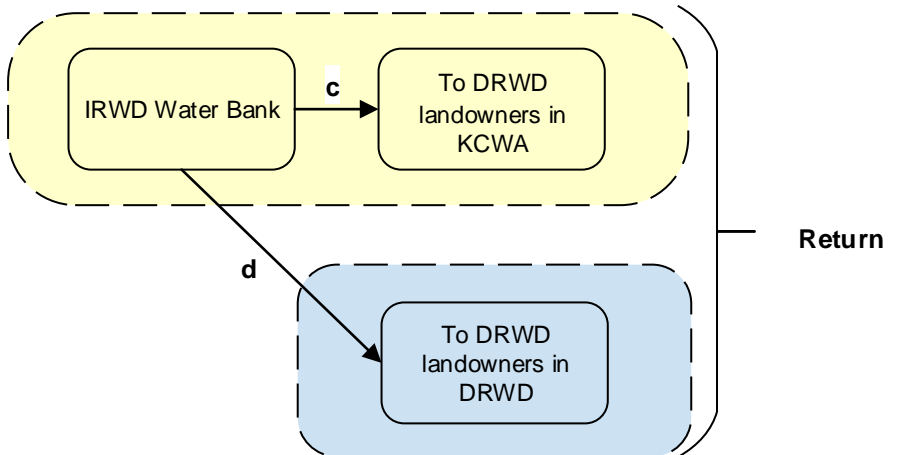
Scenario B
(Per Sections 2, 3, and 4.1.2)

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



Legend

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



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October 15, 2020
Prepared by: K. Welch
Submitted by: F. Sanchez / P. Weghorst
Approved by: Paul A. Cook



SUPPLY RELIABILITY PROGRAMS COMMITTEE

UPDATED TERMS FOR A PILOT EXCHANGE PROGRAM WITH MOJAVE WATER AGENCY

SUMMARY:

Mojave Water Agency has expressed interest in amending the 4-for-1 Pilot Exchange Agreement that was executed with IRWD in 2019. Prior to execution, the IRWD Board approved the agreement terms subject to substantive changes approved by the Supply Reliability Programs Committee. Mojave has expressed interest in amending the terms of the agreement to allow it to deliver water to the IRWD Water Bank by the end of 2022 instead of 2021. Staff recommends the Committee approve this substantive change.

BACKGROUND:

In November 2019, the Board authorized the General Manager to execute an agreement for a 4-for-1 Pilot Exchange Program with Mojave based on terms that would allow Mojave to deliver State Water Project (SWP) Table A water supplies to the IRWD Water Bank before the end of 2021. The Board's approval was subject to substantive changes to the agreement terms approved by the Supply Reliability Programs Committee.

Subsequent to Board approval, IRWD and Mojave executed an agreement to allow delivery of Mojave's 2020 Table A supplies. IRWD would receive three acre-feet (AF) for every four AF of SWP water that Mojave delivered into storage at the IRWD Water Bank, with Mojave receiving compensation for the water through a separate agreement. The terms would allow Mojave to deliver up to 20,000 AF of its 2020 Table A water to the IRWD Water Bank through the end of 2021. The pilot was not implemented in 2020 because as the water year progressed, Mojave determined that it did not have sufficient 2020 supplies for a 4-for-1 exchange with IRWD.

Updated Pilot Exchange Program Terms:

Mojave has expressed interest in amending the exchange agreement with IRWD under the same terms in the event that Mojave has adequate Table A supplies in year 2021. The only substantive change to be made to the agreement terms is to allow Mojave to deliver its supplies before the end of the 2022 instead of 2021. Staff has updated the agreement terms to reflect this change as highlighted in Exhibit "A". Staff recommends the Committee approve the updated terms to be used in amending the existing agreement with Mojave.

FISCAL IMPACTS:

In November 2019, the Board approved compensating Mojave with \$177 per AF for the SWP water it delivers into storage at IRWD's Water Bank. IRWD will also pay the costs associated with recharging the water and recovering Mojave's share of the water using IRWD's water bank

wells. Mojave would pay for all costs associated with the use of its capacities in the SWP to deliver water for recharge and to convey recovered return water to Mojave's service area. The effective cost of the water to IRWD would be consistent with the cost of water from IRWD's programs in Dudley Ridge. The source of funds for providing the \$177 per AF compensation would be IRWD's over-allocation revenue.

ENVIRONMENTAL COMPLIANCE:

Final Environmental Impact Reports for the Strand Ranch and Stockdale Integrated Banking Project were prepared, certified and approved in compliance with the 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. Rosedale-Rio Bravo Water Storage District, as lead agency, filed Notice of Determinations for both the Strand Ranch and Stockdale Integrated Banking Projects with the County of Kern. IRWD, as a responsible agency, filed Notice of Determinations with the County of Orange and with the County of Kern.

RECOMMENDATION:

That the Committee approve the updated terms to be used in amending IRWD's existing agreement with Mojave Water Agency.

LIST OF EXHIBITS:

Exhibit "A" – Updated Terms for a 4-for-1 Pilot Exchange Program between Irvine Ranch Water District and Mojave Water Agency

Exhibit "A"

Terms for a 4-For-1 Pilot Exchange Program Between Irvine Ranch Water District and Mojave Water Agency

~~December 12, 2019~~ **October 8, 2020**

Parties	The Irvine Ranch Water District (IRWD) and the Mojave Water Agency (Mojave)
State Contractors	<p>Mojave Water Agency (Mojave) has a long-term water supply contract with the Department of Water Resources (DWR) that permits Mojave to receive water supply, storage and conveyance services from the State Water Project (SWP).</p> <p>Metropolitan Water District of Southern California (Metropolitan) has a long-term water supply contract with the DWR. IRWD receives SWP supplies from Municipal Water District of Orange County, a member unit of Metropolitan.</p>
Description	<p>IRWD and Mojave would implement a Pilot Exchange Program (Exchange Program) that would allow Mojave to schedule unused SWP water to Metropolitan on IRWD's behalf on a 4-to-1 exchange ratio basis. As part of the exchange, the water may be temporarily managed in IRWD's Strand and Stockdale Integrated Banking Projects (IRWD Water Bank). The Exchange Program would manage unused SWP supplies for Mojave and would provide increased water supply for both Mojave and Metropolitan including IRWD as a sub-agency of Metropolitan.</p> <p>Recharge and recovery facilities at both the Strand Ranch and Stockdale Integrated Banking Projects could be used to deliver water in and out of storage at the IRWD Water Bank.</p>
Term	Ten years from the effective date of the Exchange Program Agreement. Delivery of the water into storage would be accomplished prior to the end of calendar year 2024. Upon mutual agreement, the term may be extended as described under Return Water below.
IRWD's Water Bank	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 except for when the Kern River Watermaster offers water to all takers willing to sign a notice/order or the Kern River Watermaster offers Kern River water to the California Aqueduct/Kern River Intertie. Under such conditions, Rosedale has first priority right to the use of the recharge facilities.
Quantity	Up to 20,000 acre-feet (AF) of Mojave's SWP water supplies may be delivered to Metropolitan at the IRWD Water Bank for storage. The storage account balance to be allocated to Mojave would be equal to twenty-five percent (25%) of the amount of water delivered into storage (i.e., if 20,000 AF is delivered, 5,000 AF will be owed to Mojave Water Agency in return). Seventy-five percent (75%) of the water delivered into storage would be available to Metropolitan and IRWD at the time the water has been recharged at the IRWD Water Bank.

Exchange Water	Mojave expects to supply the specified Quantity of its SWP water supplies to the IRWD Water Bank by the end of 2020 (Exchange Water). The Parties would cooperate in scheduling the Exchange Water deliveries with deliveries associated with other IRWD exchange programs. The recharge of Exchange Water would be subject to available recharge capacity, as well as provisions of IRWD's Coordinated Operating, Water Storage, Exchange and Delivery Agreement with Metropolitan and the Municipal Water District of Orange County (Coordinated Agreement). Within 30 days of DWR's approval of Mojave's delivery schedule, Mojave shall prepare an invoice for compensation by IRWD in an amount per AF as defined under separate agreement between the Parties.
Return Water	<p>Water shall be returned, when requested by Mojave, by the end of the tenth calendar year after the delivery of Exchange Water. Returns from the IRWD Water Bank would be at an annual rate of no more than one-third of the amount delivered into storage allocated to Mojave, after losses and not to exceed 1,650 AF per year. IRWD may allow Mojave to recover more water in a year, should IRWD determine that the use of additional recovery capacity by Mojave would not infringe on IRWD's ability to recover water for itself and/or IRWD's other partners.</p> <p>The Return Water delivered to Mojave shall be by recovery and exchange of water from the IRWD Water Bank with subsequent delivery through the Cross Valley Canal (CVC) and California Aqueduct or shall be from Metropolitan's future approved SWP Table A water. IRWD shall use its first priority recovery well capacity in the IRWD Water Bank to recover Return Water for Mojave after meeting IRWD's own water supply needs. Upon mutual agreement, the Term of this Exchange Program may be extended for an additional 10 years or up to the current term of Mojave's contract with DWR, whichever is shorter, should the return water not be returned for reasons such as hydrologic conditions, allocation percentages, capacity/conveyance limitations, economic hardships, health and safety issues, etc.</p>
Quality	The quality of Exchange Water and Return Water will be limited as follows: If and 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.
Delivery Points	Mojave will deliver Exchange Water to the IRWD point of delivery (IRWD POD) which will be the Strand Ranch and/or Stockdale West Turnouts on the CVC, other Rosedale diversion locations as specified by Rosedale, or as directed by Metropolitan. IRWD will use IRWD Water Bank wells to extract Return Water for delivery to the pump-in location at Reach 12E of the California Aqueduct. Mojave shall coordinate with DWR for delivery to the Mojave point of delivery (Mojave POD) which will be Check 22B of the California Aqueduct or to another delivery point as determined by Mojave.
Losses	IRWD will assume all water banking losses.
Recharge Costs	IRWD will pay all costs assessed to IRWD by Rosedale for recharging water at the IRWD Water Bank. Costs are assessed by Rosedale 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 of about \$3 per acre-foot (AF), charges assessed by the Kern County Water Agency (KCWA) of \$5 per AF, CVC Standby, applicable CVC pumping and O&M

	costs of about \$12 per AF, and applicable fixed and variable O&M Water Bank costs of about \$3 per AF.
Recovery Costs	IRWD will pay actual costs to recover Return Water from the IRWD Water Bank through pumping of IRWD Water Bank wells or by exchange as assessed by Rosedale. Recovery costs associated with extraction are estimated at \$79 per AF and are comprised of average groundwater pumping costs of \$68 per AF, Rosedale's administrative charge of about \$3 per AF, CVC Standby, O&M, and applicable CVC pumping costs of about \$4 per AF, and applicable fixed and variable O&M Water Bank costs of about \$4 per AF. IRWD will also pay any costs assessed by Rosedale under its Long Term Operations Plan for implementing provisions of the MOUs to prevent impacts from operations. It is expected that banking projects, such as the IRWD Water Bank, may be required to contribute \$2 per AF for recovered water to a fund, which may be used to meet mitigation obligations.
SWP Costs	Metropolitan will pay all DWR Variable Operation, Maintenance, Power, and Replacement (OMP&R) charges estimated at \$30 per AF associated with the delivery of Exchange Water to IRWD POD consistent with the Coordinated Operating, Water Storage, Exchange and Delivery Agreement dated April 21, 2011. For delivery of Return Water to Mojave POD, Mojave will pay all DWR Variable OMP&R charges from the pump-in location at Reach 12E to Mojave Water Agency's turnout at Reach 22B.
Agency Coordination	IRWD and Mojave would cooperate with DWR, KCWA and Metropolitan in preparing all necessary agreements to facilitate the Exchange Program. IRWD and Mojave shall each be responsible for their own costs associated with such coordination.
Environmental Compliance	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 Exchange 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 Determinations were filed by both Rosedale and IRWD. IRWD and Mojave will share equally any additional costs associated with environmental review or permitting deemed necessary for delivering Mojave water into storage (however, none are expected). Both IRWD and Mojave shall each be responsible for any other environmental review or permitting necessary to implement the Exchange Program within their own respective service areas.
Water Rights	It is expressly agreed, understood, and acknowledged by IRWD and Mojave that any existing or future delivery of Exchange Water to the IRWD Water Bank by Mojave will not result in or be considered a sale or transfer of Mojave's contractual rights to SWP water or a sale or transfer of IRWD's ownership in the IRWD Water Bank.
General Expenses	Each Party would be responsible for its own fees and expenses arising out of the negotiation and execution of the Exchange Program Agreement, obtaining necessary approvals, and the like.

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October 15, 2020
Prepared by: Kellie Welch
Submitted by: F. Sanchez / P. Weghorst
Approved by: Paul A. Cook *P.A.C.*

SUPPLY RELIABILITY PROGRAMS COMMITTEE

PLANNING AND ENVIRONMENTAL REVIEW OF DELTA CONVEYANCE PROJECT

SUMMARY:

Participation in the proposed Delta Conveyance Project (DCP) would allow IRWD to secure water supplies from north of the San Joaquin-Sacramento Delta (Delta) and convey the water to IRWD's Strand and Stockdale Projects, as well as the Kern Fan Groundwater Storage Project (IRWD Water Banks), with fewer restrictions and reduced carriage losses. IRWD would also receive water supply benefits from the State Water Project (SWP). IRWD has the opportunity to participate in the DCP through Rosedale-Rio Bravo Water Storage District. Rosedale has requested that IRWD update its letter of interest in participating in the DCP to a letter of intent. Staff recommends the Committee concur with staff sending Rosedale a letter of intent to cooperate in performing due diligence investigations of participating in the DCP and committing IRWD to paying DCP planning and environmental costs associated with 2,000 acre-feet (AF) of base Table A in the amount of \$198,000.

BACKGROUND:

As originally proposed in 2009, the California WaterFix was the state's plan to upgrade outdated infrastructure in the Delta. The California Department of Water Resources withdrew permits for the WaterFix in May 2019 and initiated environmental review and planning of the smaller DCP that would be integrated into the SWP. The DCP would add new diversions in the north Delta and a 6,000 cubic feet per second (cfs) tunnel to promote a more resilient and flexible SWP in the face of the unstable future conditions. Measured participation in the DCP would allow IRWD to secure water supplies from north of the Delta and convey water to the IRWD Water Banks with fewer restrictions and reduced carriage losses, resulting in the ability to move water more frequently and in greater amounts. IRWD would also receive water supply benefits from the SWP.

Planning and Environmental Review of DCP:

In September 2020, the Supply Reliability Programs Committee concurred with sending non-binding letters to Dudley Ridge Water District and Rosedale indicating IRWD's interest in receiving an assignment of benefits from the DCP. Since that time, Rosedale has indicated the need to update the letter of interest to be a letter of intent to participate in the planning and environmental review of the project. By entering into an agreement with Rosedale, IRWD would pay a share of planning and environmental review costs and receive DCP benefits from a portion of the Kern County Water Agency member units that choose not to participate in the project. Similarly, should other landowners in Dudley Ridge decide not to participate in the DCP, it is expected that IRWD would have the opportunity to receive an assignment of a portion of DCP benefits from other landowners. IRWD's existing letter of interest to Dudley Ridge is all that is needed at this time.

Participation Through Dudley Ridge:

Dudley Ridge has decided to contribute to the DCP planning and environmental costs, but may withdraw from the project after the costs and benefits have been defined. Dudley Ridge landowners will pay for planning and environmental review costs through an assessment of a \$50 per AF charge on Table A deliveries over the next three years. IRWD will pay this charge until it has finished paying its \$166,000 share of Dudley Ridge's costs. This share in the costs is associated with IRWD's 1,749 AF of base Table A amounts in Dudley Ridge. If Dudley Ridge decides to continue participation in the project through construction, then IRWD will receive capacity in the DCP tunnel in the amount of 2.6 cfs. It is expected that IRWD would have the ability to use additional tunnel capacity when available. IRWD would also receive, which are yet to be determined, increases in Table A and Article 21 deliveries by participating in the DCP through Dudley Ridge. Should other landowners in Dudley Ridge choose not to participate in the DCP, IRWD could choose to pay at a later date a portion of the project costs and receive an assignment of the landowners' DCP benefits.

Participation Through Rosedale:

Should Dudley Ridge decide to withdraw from the DCP, then IRWD would not have access to capacity in the DCP conveyance facilities to move water from north of the Delta. It would experience significant carriage losses and pumping restrictions when moving water through the Delta to the IRWD Water Banks, making securing water north of the Delta risky. To reduce this risk, staff recommends the Committee concur with staff in sending a letter of intent to Rosedale to include paying DCP planning and environmental costs associated with 2,000 AF of base Table A in the amount of \$198,000 to receive benefits from the project. Staff estimates that it would receive 3.0 cfs of capacity in the DCP conveyance facilities by participating in the DCP through Rosedale. It is expected that IRWD would have the ability to use additional tunnel capacity when available.

By participating in the DCP, IRWD would also receive yet to be identified incremental Table A amounts of water and would have the opportunity to negotiate for corresponding Article 21 water deliveries. Provided as Exhibit "A" is the proposed updated letter of intent to be sent to Rosedale. At the meeting, staff will review the letter of intent with the Committee.

FISCAL IMPACTS:

At the time staff presents an agreement with Rosedale to the Board of Directors for IRWD's participation in the planning and environmental review of the DCP, staff will request an increase in the Fiscal Year 2020-21 Capital Budget to cover the \$198,000 in associated costs. Should IRWD decide to participate in the construction of the DCP facilities, staff estimates that IRWD's share of the planning and construction of the \$15.9 billion project would be \$8 million.

ENVIRONMENTAL COMPLIANCE:

This item is not a project as defined in the California Environmental Quality Act (CEQA), Code of Regulations, Title 14, Chapter 3, Section 15378.

RECOMMENDATION:

That the Committee concur with staff sending an updated letter of intent to Rosedale-Rio Bravo Water Storage District to cooperate in performing due diligence investigations for participating in the DCP and committing IRWD to pay DCP planning and environmental costs associated with 2,000 acre-feet of base Table A in the amount of \$198,000.

LIST OF EXHIBITS:

Exhibit "A" – Draft Letter of Intent to Participate in the Delta Conveyance Project Through
Rosedale

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Exhibit A

DRAFT

VIA ELECTRONIC MAIL

October 15, 2020

Mr. Eric Averett
General Manager
Rosedale-Rio Bravo Water Storage District
849 Allen Road
Bakersfield, CA 93314
eaverett@rrbwsd.com

Subject: Letter of Intent – Participation in Delta Conveyance Project

Eric:

The purpose of this letter is to establish the intent of Irvine Ranch Water District (IRWD) to participate in the planning and environmental review of the Delta Conveyance Project (DCP) through Rosedale-Rio Bravo Water Storage District (Rosedale), a member agency of the Kern County Water Agency (KCWA). IRWD's participation would correspond to 2,000 acre-feet (AF) of base amounts of Table A water. Participation in the DCP would allow IRWD to secure water supplies from north of the San Joaquin and Sacramento Delta for its Water Banking Projects in Kern County, upon which IRWD relies during major droughts and supply interruptions.

IRWD understands that through its participation in the DCP, IRWD would receive the benefit of the following:

1. An incremental annual increase in yield in Table A associated with 2,000 AF of base amounts of Table A water. The estimated increase in yield is not known at this time but is currently being evaluated.
2. Conveyance capacity in the DCP facilities in the amount of 3 cubic feet per second (cfs).

IRWD understands that the expected increase in Article 21 water supplies associated with the 2,000 AF of base Table A may not be provided to IRWD through its participation. IRWD is interested in negotiating with Rosedale for the increased Article 21 water or an equivalent amount of exportable water.

It is our understanding that payment for IRWD's share of the costs associated with DCP planning and environmental work would be based on a pro-rata share of KCWA's DCP planning and environmental costs associated with 2,000 AF of base Table A. The cost of IRWD's participation in the DCP planning and environment work is expected to be approximately

\$197,500 to be paid over four years. We also understand that after two years, IRWD would have an option to exit from further DCP participation.

This letter of intent does not contain all the material terms of IRWD's participation in the DCP planning and environmental work, and is not intended to, nor does it create, a binding agreement for IRWD's participation in the project. Neither IRWD nor Rosedale will have any obligation regarding IRWD's participation in the planning and environmental review work until an agreement has been executed. The agreement would also provide for IRWD and Rosedale to cooperate conducting due diligence investigations associated with participating in the DCP. The agreement would also provide IRWD first rights of refusal in any future phase of the DCP including construction and Project operations. Rosedale and IRWD staff as well as their respective legal counsels will develop the agreement that would be presented to Rosedale and IRWD's Boards of Directors for consideration.

IRWD looks forward to working with Rosedale and evaluating the DCP. If you have any questions, please contact Paul Weghorst of my staff at (949) 453-5632.

Sincerely,

Paul A. Cook
General Manager