

AGENDA
IRVINE RANCH WATER DISTRICT
SUPPLY RELIABILITY PROGRAMS COMMITTEE
THURSDAY, OCTOBER 20, 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 before 9:00 a.m. on Thursday, October 20, 2022.

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

- | | |
|--|--|
| 5. <u>WATER BANKING PROJECT FACILITIES, CAPACITIES, OPERATIONS AND PROGRAMS – PALACIO / WELCH / SANCHEZ / WEGHORST</u> | |
| Recommendation: Receive and file. | |
| 6. <u>IMPLEMENTATION OF KERN FAN GROUNDWATER STORAGE PROJECT – SANCHEZ / WEGHORST</u> | |
| Recommendation: Receive and file. | |

OTHER BUSINESS

7. Directors' Comments
8. 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.

October 20, 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".

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" reflect credits to IRWD's account for unpurchased reserve (migration) water that was banked in 2018 and 2019.

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 into 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 shown in red on 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 variable costs include an administrative fee issued by the Kern County Water Agency (KCWA) for staff time related to processing Transaction Request Forms. The costs of water are presented on a dollar per acre-foot basis.

IRWD's Coordinated Agreement with Metropolitan:

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

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
- Exhibit “Q” – Summary of IRWD’s Coordinated Operating, Water Storage, Exchange and Delivery Agreement with Metropolitan and MWDOC

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Exhibit "A"

TABLE 1
Current and Anticipated Water Banking Projects
Recharge, Storage and Recovery Capacities
October 20, 2022

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	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	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 ²	No	-	50,000	-	-	-	-	-	-	-	-
Drought Relief Project Wells ²	No	3	-	-	-	-	-	15.0	16.5	-	-
Kern Water Bank Storage Account ⁴	No	-	9,495	3,200	-	1,520	<5,000	-	-	-	-
TOTALS		15	135,495	47,800	19,000	30,270	12,500	70.0	48.6	10.0	9.0
Partner Capacities ³			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	-	-
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 IRWD has use of Acquired Storage and Drought Relief Project wells until January 12, 2039, unless the term of the agreement is extended.

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

⁴ 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

October 20, 2022

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 2021 (AF)						
Total Kern Water Bank ⁹	-	5,015	-	-	-	5,015
Total MWD System ⁴	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 ⁵	-	(388)	-	-	-	(388)
SWP Table A	-	-	-	(556)	-	(556)
2021 SWP Allocation (5 %) ^{3, 6}	35	-	-	-	35	70
Kern River Water	-	(10,000)	(2,681)	-	-	(12,681)
SWP Water Sale to DRWD Landowners ⁷	-	(439)	-	-	(3,468)	(3,907)
2018 Reserve Water	24					24
DRWD 1-for-1 Long Term Exchange Credit ⁸	10,000	-	-	-	-	10,000
TOTAL 2021 TRANSACTIONS	10,059	(10,827)	(2,681)	(556)	(3,433)	(7,438)
Total Kern Water Bank ⁹	-	4,627	-	-	-	4,627
Total MWD System	8,062	-	-	-	-	8,062
Total Kern County	5,234	14,416	-	-	-	19,650
Total DRWD 1-for-1 Long Term Exchange Credit	10,000	-	-	-	-	10,000
TOTAL STORED WATER (1/1/2022)	23,296	19,043	-	-	-	42,339
(RECOVERY) AND RECHARGE IN 2022 (AF)						
KWB Recovery for use on Jackson Ranch ⁵ (estimated)	-	(235)	-	-	-	(235)
2022 SWP Allocation (5 %)	44	-	-	-	44	87
2019 Reserve Water	76	225	225			526
Kern River Water		(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	5,120	(5,010)	225	-	44	378
ESTIMATED WATER IN STORAGE 2022 (AF)						
Total Kern Water Bank ⁹	-	4,392	-	-	-	4,392
Total MWD System	12,032	-	-	-	44	12,076
Total Kern County	1,383	9,641	225	-	-	11,249
Total DRWD 1-for-1 Long Term Exchange Credit	15,000	-	-	-	-	15,000
TOTAL ESTIMATED STORED WATER TO DATE	28,415	14,033	225	-	44	42,717

NOTES:

-MWD = Metropolitan Water District of Southern California.

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

² IRWD's Non-SWP total includes 2,842 AF, net of losses, 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 2013-2021 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.

⁴ 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.

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

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

⁷ 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.

⁸ 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.

⁹ 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

October 20, 2022

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 2021 (AF)						
Total Kern Water Bank ⁹	-	5,015	-	-	-	5,015
Total MWD System ⁴	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 ⁵	-	(388)	-	-	-	(388)
SWP Table A	-	-	-	(556)	-	(556)
2021 SWP Allocation (5%) ^{3, 6}	35	-	-	-	35	70
Kern River Water	-	(10,000)	(2,681)	-	-	(12,681)
SWP Water Sale to DRWD Landowners ⁷	-	(439)	-	-	(3,468)	(3,907)
2018 Reserve Water	22					22
DRWD 1-for-1 Long Term Exchange Credit ⁸	10,000	-	-	-	-	10,000
TOTAL 2021 TRANSACTIONS	10,057	(10,827)	(2,681)	(556)	(3,433)	(7,440)
Total Kern Water Bank ⁹	-	4,627	-	-	-	4,627
Total MWD System	8,062	-	-	-	-	8,062
Total Kern County	4,199	10,492	-	-	-	14,691
Total DRWD 1-for-1 Long Term Exchange Credit	10,000	-	-	-	-	10,000
TOTAL STORED WATER (1/1/2022)	22,261	15,119	-	-	-	37,380
(RECOVERY) AND RECHARGE IN 2022 (AF)						
KWB Recovery for use on Jackson Ranch ⁵ (estimated)	-	(235)	-	-	-	(235)
2022 SWP Allocation (5 %)	44	-	-	-	44	87
2019 Reserve Water	72	213	213			498
Kern River Water		(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	5,115	(5,022)	213	-	44	350
ESTIMATED WATER IN STORAGE 2022 (AF)						
Total Kern Water Bank ⁹	-	4,392	-	-	-	4,392
Total MWD System	12,032	-	-	-	44	12,076
Total Kern County	344	5,705	213	-	-	6,262
Total DRWD 1-for-1 Long Term Exchange Credit	15,000	-	-	-	-	15,000
TOTAL ESTIMATED STORED WATER TO DATE	27,376	10,097	213	-	44	37,730

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.

¹ IRWD's SWP includes 251 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 2013-2021 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

⁴ 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.

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

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

⁷ 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.

⁸ 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.

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Exhibit "D"

TABLE 4

Status of IRWD Purchase and Exchange Programs (AFTER LOSSES)

October 20, 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 ¹	2-for-1	2010	Pilot	Kern River	4,108	-	3,903								Yes
	2-for-1	2011	Long-Term	Kern River	21,461	213	20,399		3,302		3,302		3,302		
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 ² (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 ³	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	1,055	44	1,123	1,055	69		1,123	1,123		44	Yes
Central Coast Water Agency	2-for-1	2017	Short-Term	SWP Table A	258	-	258	258			258	258			No
Dudley Ridge Water District ⁴	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		323	298	25		323	298			No
Total:					33,739	257	54,520	12,033	6,049	15,000	33,081	27,101	5,955	44	

¹ 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.

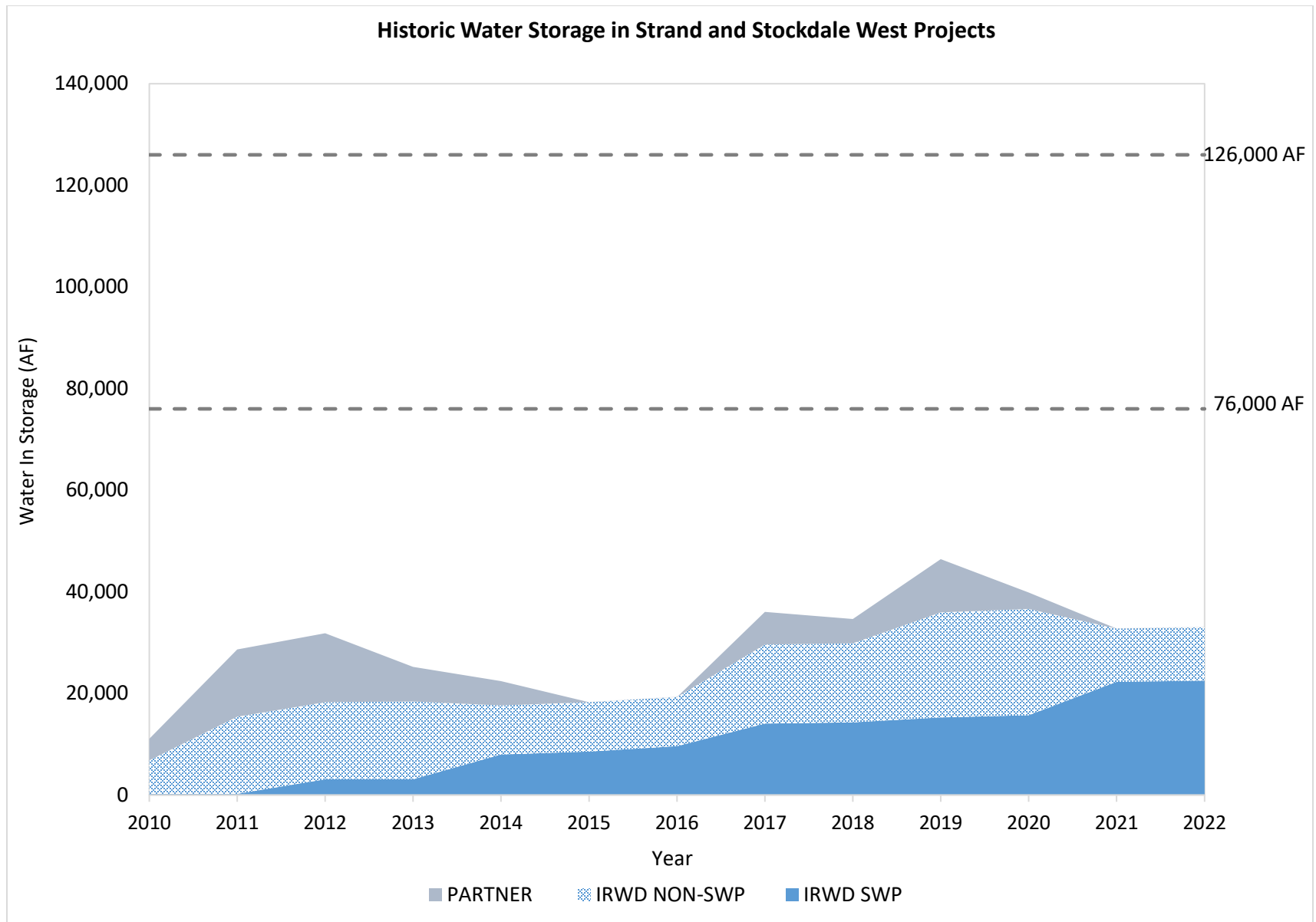
² Only the portion of water stored for use on Jackson Ranch in DRWD is sellable.

³ Source of water was Buena Vista Water Storage District Kern River high flow water.

⁴ 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

October 20, 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

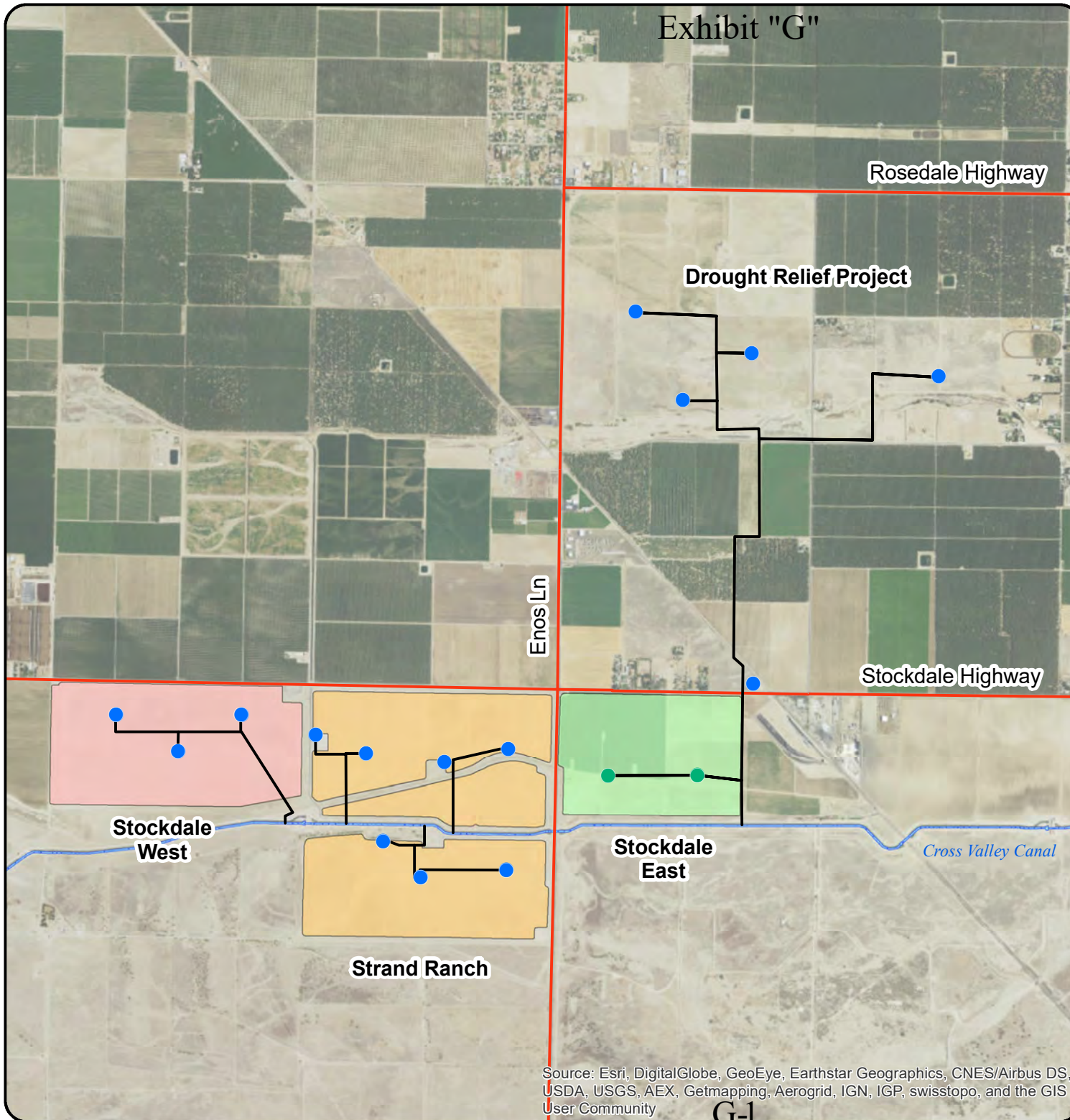
RECHARGE CAPACITY

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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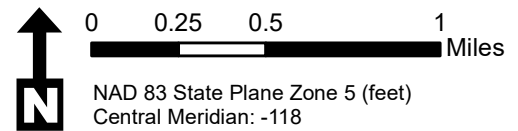


**Location Map:
IRWD Water Banking Projects
Wells and Turnin Pipelines**

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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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... 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.

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



0 0.25 0.5 1
Miles

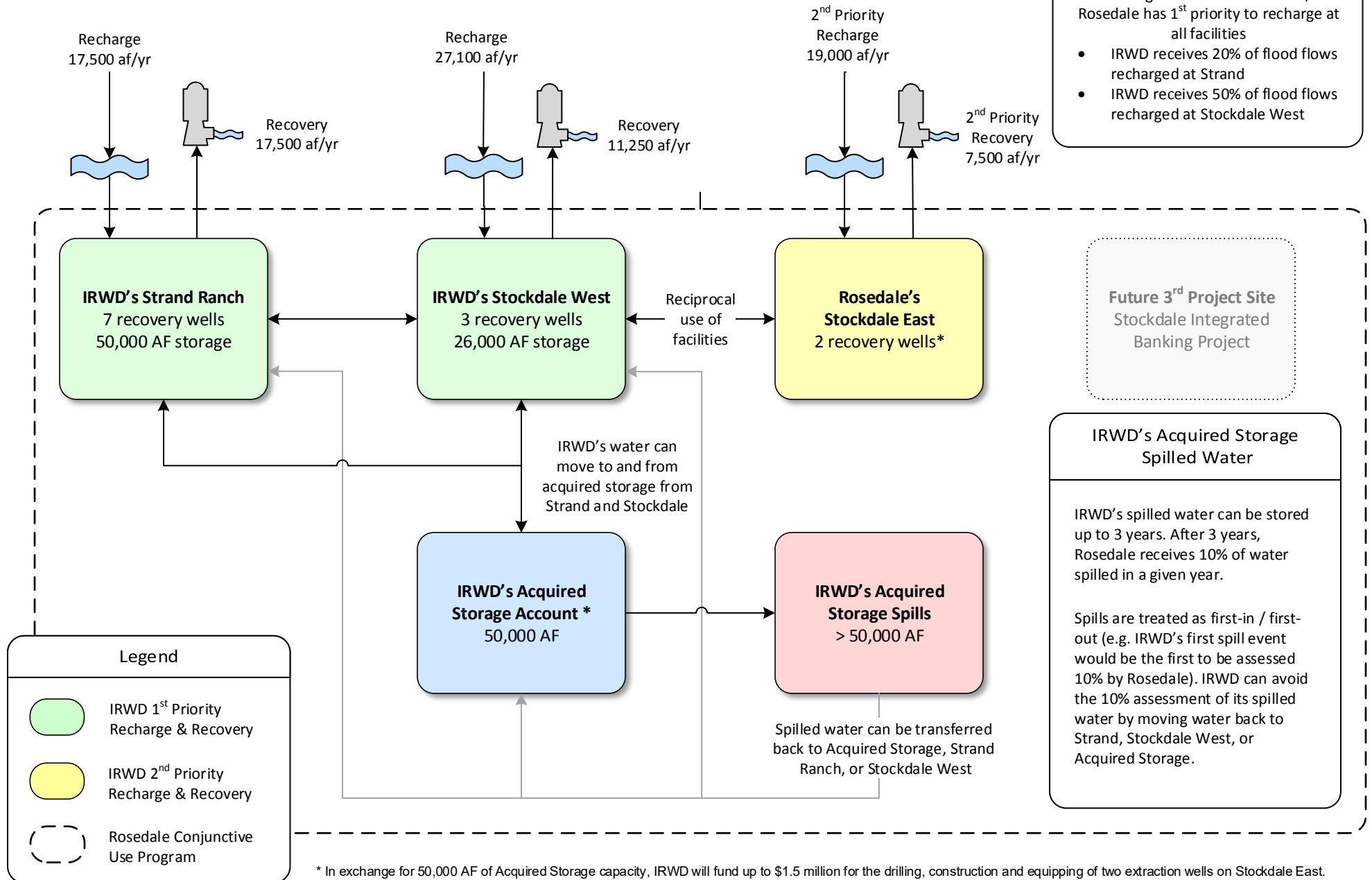
NAD 83 State Plane Zone 5 (feet)
Central Meridian: -118

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Exhibit "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)



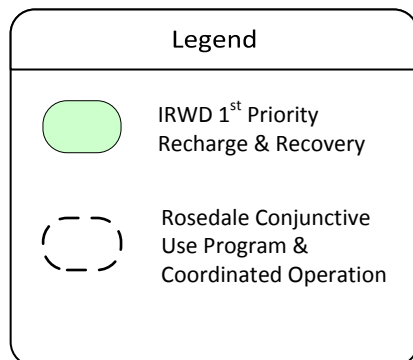
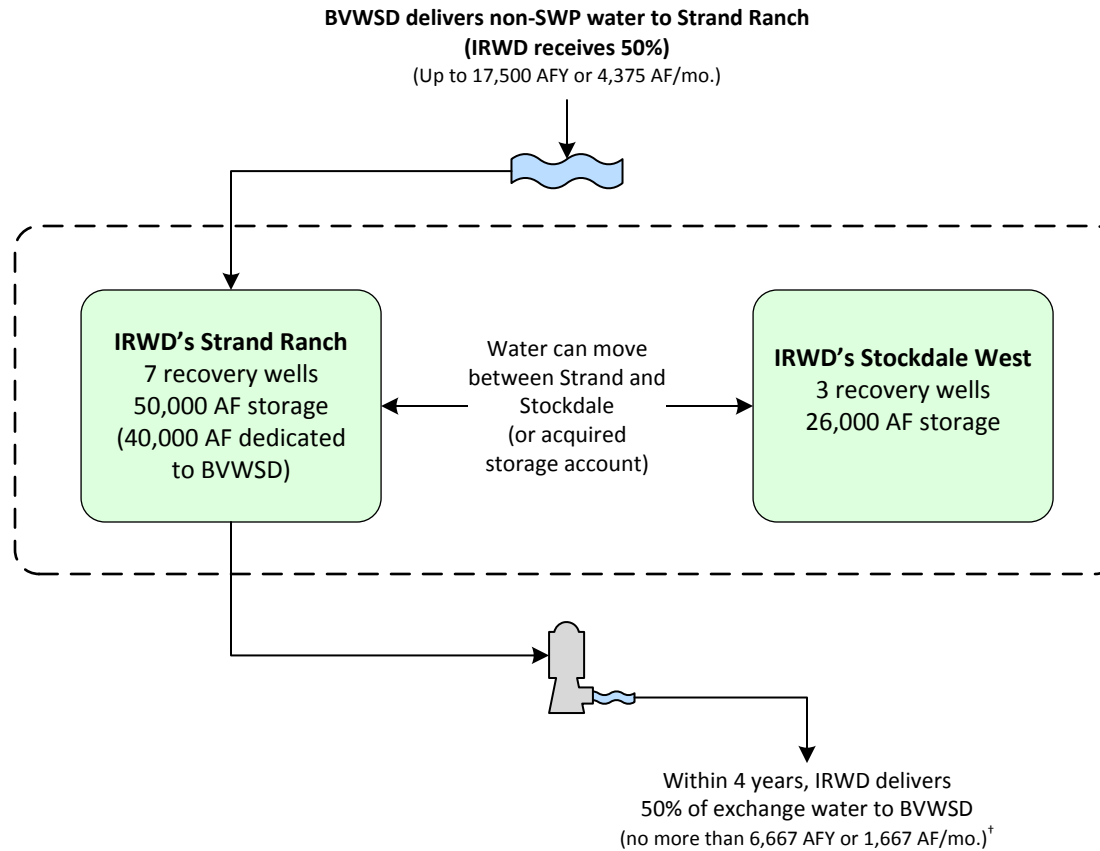
* In exchange for 50,000 AF of Acquired Storage capacity, IRWD will fund up to \$1.5 million for the drilling, construction and equipping of two extraction wells on Stockdale East.

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Exhibit "K"

Buena Vista Water Storage District Long Term Water Exchange Program

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

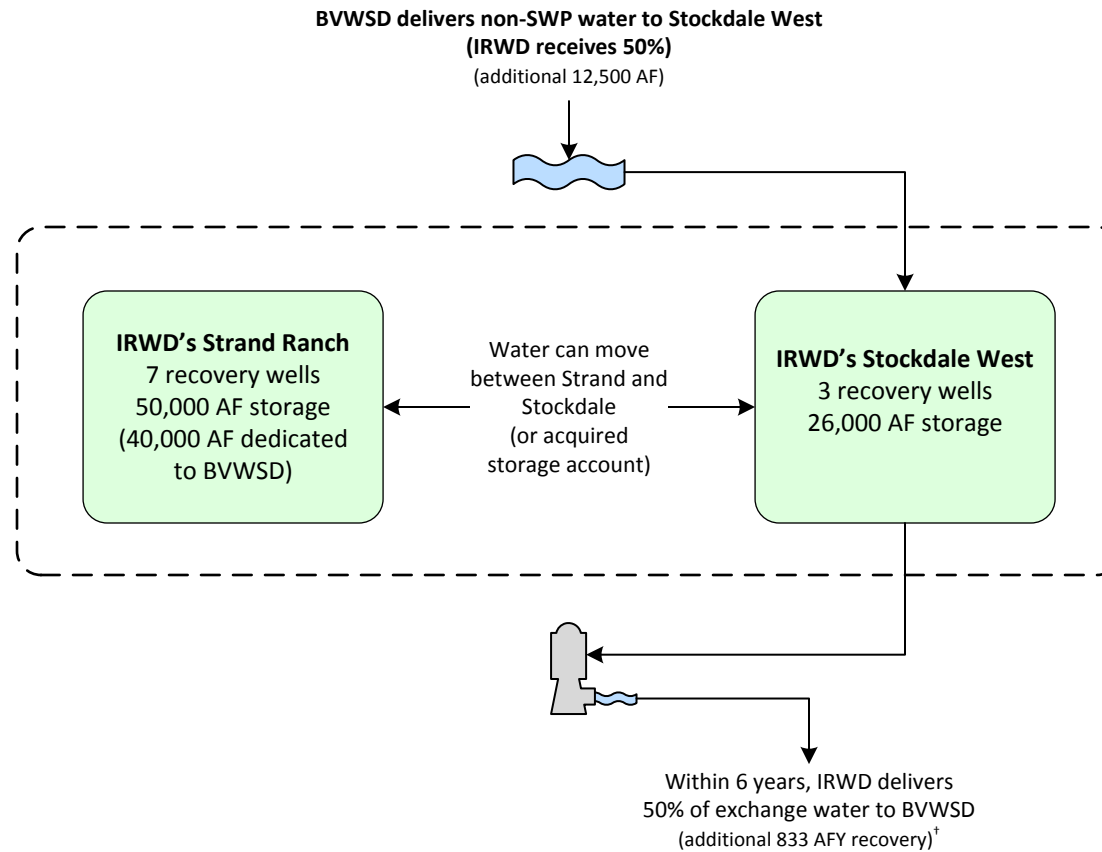


[†]IRWD shall remit one-half of the exchanged supply less one-half of reasonable losses back to BV no later than December 31st of the 4th year following the associated recharge event. IRWD pays for recovery of water returned to BV. Water to be remitted back to BV may remain in storage at Strand Ranch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

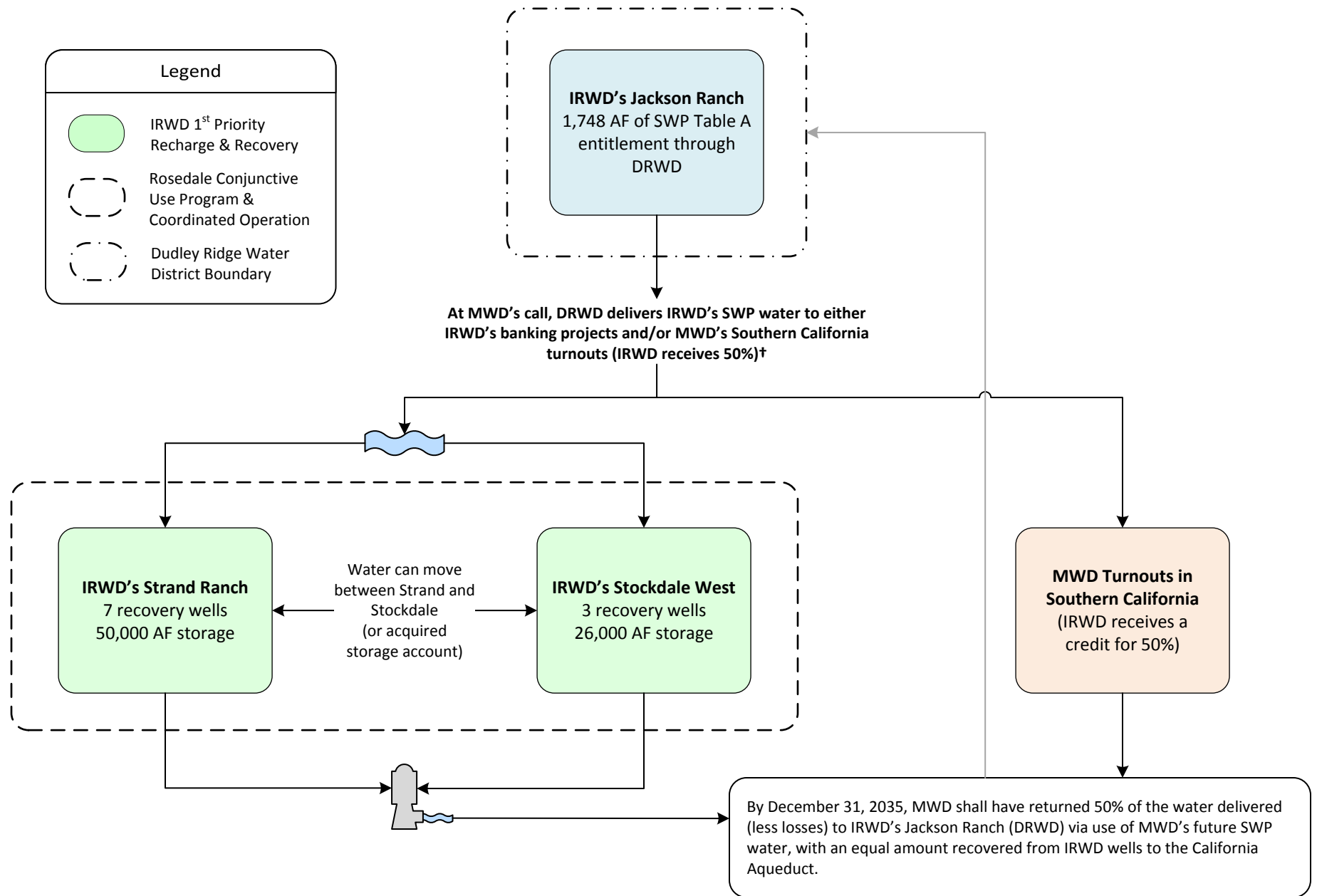


Legend	
	IRWD 1 st Priority Recharge & Recovery
	Rosedale Conjunctive Use Program & Coordinated Operation

[†]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 "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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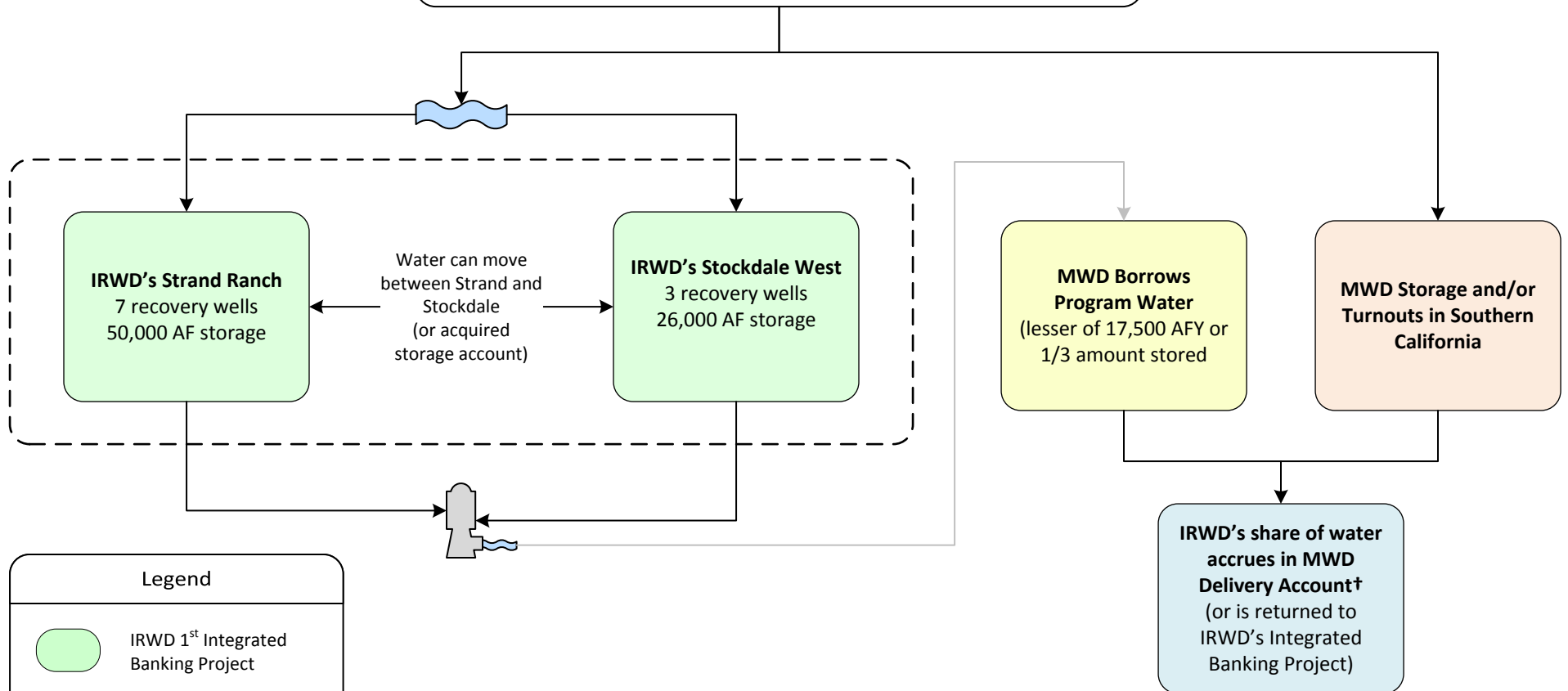
Exhibit "M"

Coordinated Operating, Water Storage, Exchange and Delivery Agreement Between MWD, MWDOC and IRWD Effective 4/21/2011 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:

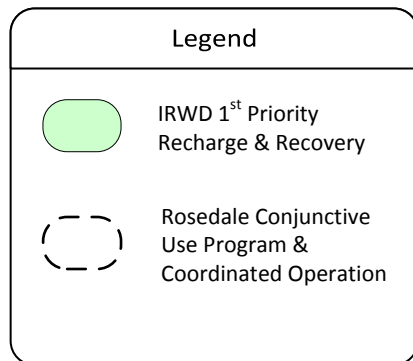
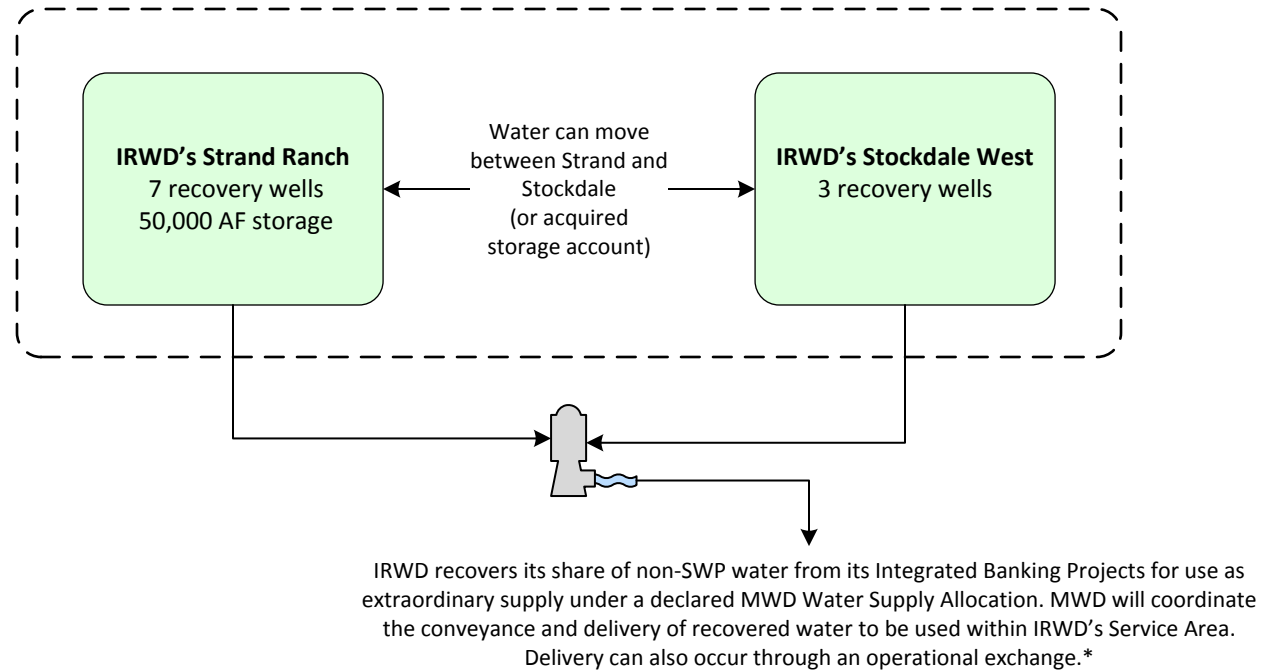
- Storage of water in IRWD's Integrated Banking Project
- Delivery to Southern California for immediate use and/or storage in MWD system
- Borrow a portion of Program water, with accrual in MWD Delivery Account



- 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"

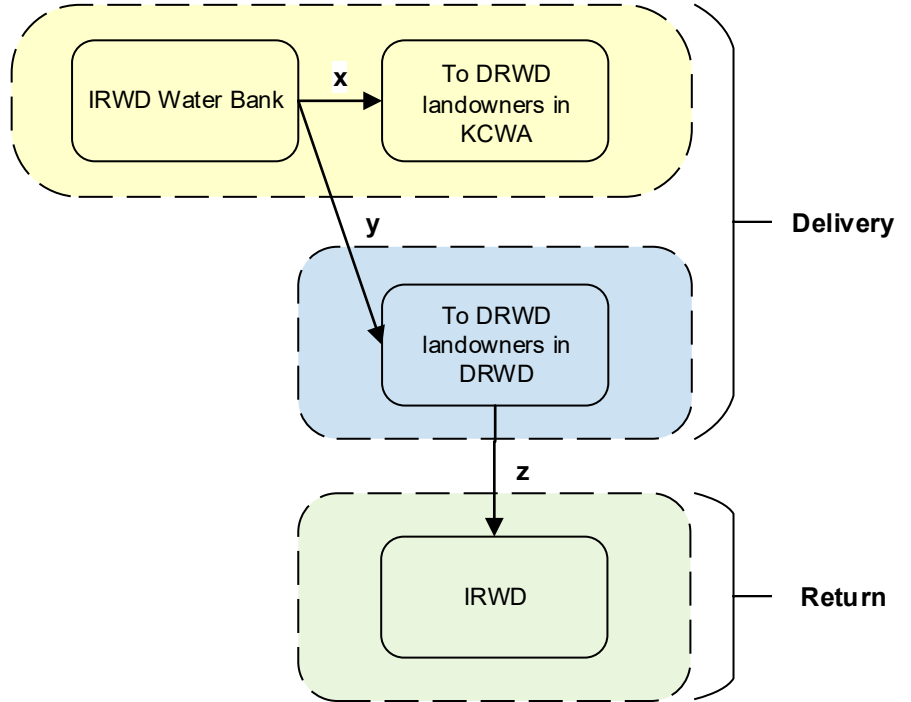
Dudley Ridge Water District Long Term 1-for-1 Water Exchange Program Effective 5/31/2017 through 11/4/2035

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

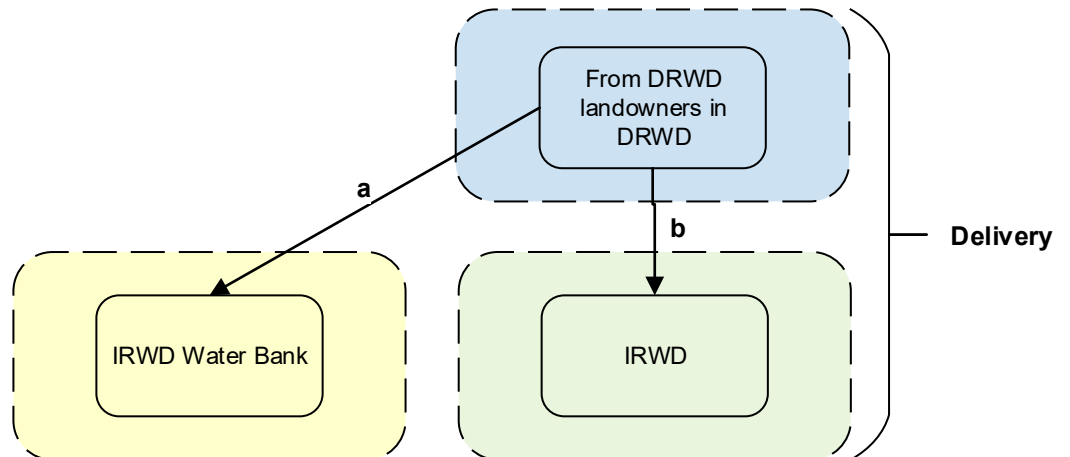
Per Section 4.1.3, z can be delivered to IRWD via in-ground transfer to IRWD, SWP delivery to IRWD banking facilities, or SWP delivery to MWDSC



Scenario B

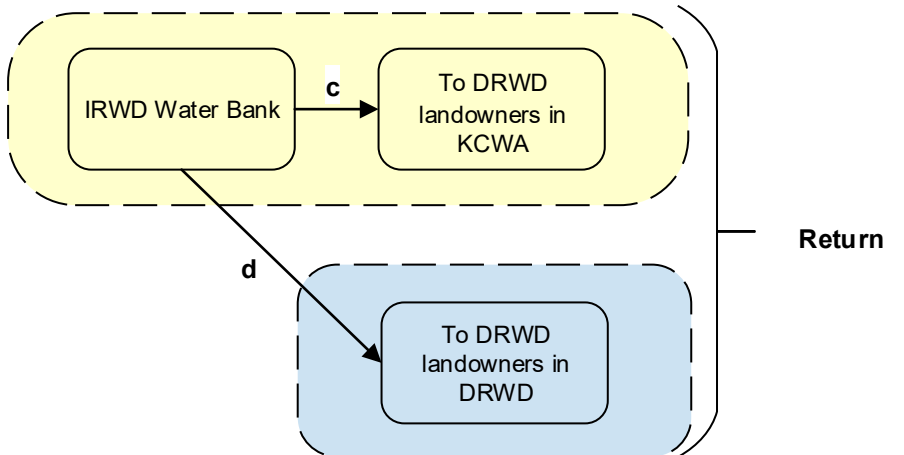
(Per Sections 2, 3, and 4.1.2)

$a + b = c + d$
(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
October 20, 2022

Program Partner	Time Period	Water Type	IRWD Amount (AF)	Variable costs ² (\$/AF) (A)	Fixed Cost Component ³ (\$/AF) (B)	Fixed & Variable (\$/AF) (C)	Capital Component ⁴ (\$/AF) (D)	Cost of Water (\$/AF) (E)	Estimated Recovery of Water (\$/AF) (F)	2022 MWD Tier 1 Untreated Rate + SAC Surcharge ⁵ (\$/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 ¹	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 ⁶	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 ⁶	2010-2015	SWP Table A	31	\$ 27.04	\$ 48.36	\$ 75.40	\$ 190.00	\$ 265.40	\$ -	\$ 799.97	\$ 1,065.37
Central Coast ⁶	2017-2021	SWP Table A	556	\$ 30.34	\$ 48.36	\$ 78.70	\$ 190.00	\$ 268.70	\$ -	\$ 799.97	\$ 1,068.67
DRWD ⁶	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											

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

² 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)

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

⁴ Capital component does not include land costs.

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

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

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Exhibit “Q”

Summary of IRWD’s Coordinated Operating, Water Storage, Exchange and Delivery Agreement with Metropolitan Water District and Municipal Water District of Orange County (MWDOC)

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

Summary of Benefits to IRWD:

1. IRWD benefits from all State Water Project (SWP) water IRWD secures; Metropolitan’s borrowing of this water is temporary.
2. On behalf of IRWD, Metropolitan uses its SWP exchange and conveyance capacities to move IRWD’s water for banking.
3. IRWD can “store” water in Metropolitan’s system as a credit, freeing up space in IRWD’s Water Bank with the water stored closer to the IRWD service area.
4. IRWD does not incur conveyance or evaporation losses on its water that is conveyed in Metropolitan’s system and stored in Metropolitan’s reservoirs.
5. IRWD avoids groundwater recovery (pumping) costs when Metropolitan issues a credit for IRWD’s SWP supplies in Southern California (currently \$122/AF¹).
6. IRWD pays Metropolitan’s melded system power rate – currently \$167/AF, not DWR’s current power costs of \$395/AF² (\$228/AF savings).
7. Deliveries are on-demand to IRWD at its service connections in Orange County, which are not subject to lower priorities for wheeling.
8. Metropolitan pays all SWP costs, including variable OMP&R supply costs, associated with SWP water secured by IRWD³.
9. IRWD pays Metropolitan’s Full-Service Tier-1 Untreated Rate, which is currently \$799/AF, for deliveries at its service connections allowing IRWD to avoid higher Metropolitan wheeling charges currently estimated at \$856/AF⁴.
10. IRWD only pays once for supply at the current Tier-1 Supply Rate of \$243/AF.
11. Deliveries to IRWD’s service area qualify as Extraordinary Supply during a Water Supply Allocation, allowing IRWD to avoid Metropolitan’s Allocation Surcharge of between \$1,480/AF and \$2,960/AF.
12. IRWD increases local water supply reliability for its ratepayers.

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

² Melded system and actual power costs were taken from Metropolitan’s April 2022 Bi-Annual Budget Report and 2022 Cost of Service Study.

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

⁴ The Coordinated Agreement requires IRWD to pay Metropolitan its Full-Service Tier 1 Rate for exchange deliveries at IRWD service connections. IRWD is expected to take delivery of such deliveries to the Baker Water Treatment Plant. Metropolitan’s current Tier-1 Untreated Rate = \$799/AF. Current Metropolitan wheeling charges of \$856/AF are estimated using Metropolitan’s current System Access Rate (\$389/AF), estimated demand management charge (\$72/AF), and actual power costs (\$395/AF).

Summary of Benefits to MWD:

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

October 20, 2022
Prepared and
Submitted by: F. Sanchez / P. Weghorst
Approved by: Paul A. Cook 

SUPPLY RELIABILITY PROGRAMS COMMITTEE

IMPLEMENTATION OF KERN FAN GROUNDWATER STORAGE PROJECT

SUMMARY:

The Groundwater Banking Joint Powers Authority (GBJPA) is planning, designing, and preparing to construct the Kern Fan Groundwater Storage Project (Kern Fan Project) in two concurrent phases. Phase 1 involves construction of recharge and recovery facilities on properties previously secured for the project. Phase 2 will involve construction of additional recharge and recovery facilities as well as conveyance features to connect the project to the State Water Project (SWP). Construction and operation of the conveyance facilities will require agreements with several state agencies and participating SWP contractors. At the meeting, staff will present an overall project schedule, the status of both phases, and an overview of concurrent work to develop key project agreements. Staff will also describe efforts by the California Department of Water Resources (DWR) to perform subsidence repairs on the California Aqueduct.

BACKGROUND:

The Water Quality, Supply, and Infrastructure Improvement Act of 2014, also known as Proposition 1 (Prop 1), provides \$2.7 billion for public benefits associated with water storage projects that will provide public and ecosystem benefits. The California Water Commission (CWC), which is administering the Prop 1 grant funding, has conditionally awarded \$89.1 million in funding to the Kern Fan Project. The project is being planned, designed, and constructed by the GBJPA to which IRWD is a member.

Project Implementation:

The Kern Fan Project is being implemented in two phases concurrently with ongoing work to develop agreements with California agencies and with DWR making necessary subsidence repairs to the California Aqueduct. A preliminary location map for the Kern Fan Project is provided as Exhibit “A”. Exhibit “B” provides an overall schedule for the project.

The implementation of the Kern Fan Project requires the development and execution of the following agreements:

1. Exchange and turnout agreements with DWR;
2. Public benefit agreements with the California Department of Fish and Wildlife and DWR;
3. Participation agreements with the Kern County Water Agency (KCWA) and Dudley Ridge Water District as well as other potential SWP Contractors (e.g., Metropolitan Water District); and
4. Funding agreement with the CWC.

Implementation of the project will require the completion of the following major tasks—some of which are dependent upon work being performed by DWR:

1. Land acquisition for recharge and recovery facilities;
2. Environmental compliance work;
3. Securing rights-of-way for conveyance related facilities;
4. Obtaining project permits;
5. Completion of a DWR study on potential limitations in Pool 28 of the California Aqueduct where the Kern Fan Project turnout will be constructed;
6. DWR subsidence related repairs in the aqueduct upstream of Pool 28;
7. Preliminary engineering work which will provide the basis for design of Kern Fan Project facilities;
8. Design, bidding, and construction of Phase 1 facilities; and
9. Design, bidding, and construction of Phase 2 facilities.

Agreements with State Agencies:

In May and June 2022, staff presented an overview of the various agreements that will be required for the construction and operation of the Kern Fan Project as described above. The negotiation of the agreements is ongoing and at differing levels of progress.

The turnout agreement with DWR will facilitate the construction of a diversion structure on the California Aqueduct. This agreement is expected to be similar to agreements recently executed for construction of other turnouts on the aqueduct. The exchange agreement with DWR will facilitate the diversion of Dudley Ridge and KCWA Article 21 water to the project and the implementation of exchanges of water that will result in pulse flow releases from Lake Oroville. The pulse flows will result in public benefits funded by the CWC. The GBJPA is expecting to receive a draft of the exchange agreement in the next few months.

The public benefits agreements with CDFW and DWR will establish expectations for the performance of the Kern Fan Project in providing water for the public benefits estimated in the Prop 1 grant funding process. The negotiation of the public benefits agreement is in the initial stages.

A draft funding agreement with the CWC is expected to be developed as the GBJPA gets closer to securing the necessary permits to construct and operate the Kern Fan Project.

Agreements with SWP Contractors:

IRWD and Dudley Ridge will need to execute a participation agreement that will facilitate Dudley Ridge's use of water from the Kern Fan Project in-lieu of Table A water during periods when pulse flows are made from Lake Oroville. Rosedale-Rio Bravo Water Storage District (Rosedale) will need to execute a participation agreement with KCWA that will facilitate Rosedale's use of water from the Kern Fan Project when pulse flows are made from Lake Oroville. The negotiation of these agreements will be dependent on the exchange agreement with DWR.

Developing Phase 1 Facilities:

In Phase 1, the GBJPA will develop approximately 350 acres of previously acquired land. The work will involve the construction of recharge basins, recovery facilities, pipelines, and interconnections to existing IRWD and Rosedale projects. In May 2022, the GBJPA awarded contracts with Meyer Civil Engineering, Inc and Zeiders Consulting for the design of Phase 1 recharge and recovery facilities. Construction could begin in mid-2023. Staff is pursuing an agreement with Rosedale to clarify the benefits that IRWD would receive from the operation of the Phase 1 facilities prior to completion of the Phase 2 connections to the SWP.

Developing Phase 2 Facilities:

Phase 2 includes constructing a turnout from the California Aqueduct as well as a canal and lift stations to connect the project, including the Phase 1 facilities (either directly or indirectly), to the SWP. Phase 2 will also involve the construction of additional recharge and recovery facilities. The connection of the project to the SWP adds additional complexity that will require the agreements with state agencies as described above. Phase 2, therefore has a longer implementation schedule than Phase 1. Design for Phase 2 began in May 2022 and construction could begin in late 2024.

In May 2022, the GBJPA approved entering into an agreement with the team of Stantec, Provost & Pritchard and Dahl Consultants to evaluate California Aqueduct turnout locations, conveyance configurations, and alignments. The work includes conceptual evaluation of a Joint Works Project that could be a cost-effective alternative to constructing a new turnout from the California Aqueduct. Implementation of a Joint Works Project would make use of the existing Cross Valley Canal (CVC) turnouts to accommodate Kern Project Diversions from the California Aqueduct while also addressing capacity issues in the CVC.

Repairs to the California Aqueduct:

The overall project will be dependent on DWR completing subsidence repairs on the California Aqueduct upstream of Pool 28. DWR is currently planning repairs based on its *March 2019 California Aqueduct Subsidence Study Supplemental Report*. The areas of subsidence where repairs are needed are shown on Exhibit “C”. In January 2020, staff reviewed the results of DWR’s study with the Committee.

DWR has conducted hydraulic studies for the Kern Fan Project that demonstrate that subsidence repairs will be necessary for the project to be feasible. Without the repairs, there will not be adequate capacity to convey Article 21 water to Pool 28 where water would be diverted to the Kern Fan Project. DWR has not yet published a schedule for the subsidence repairs. However, DWR understands that the execution of turnout and exchange agreements for the Kern Fan Project will be dependent on a commitment for the repairs to be completed by the time construction is completed on the Kern Fan Project.

DWR is currently conducting a study of Pool 28 in the aqueduct to evaluate potential hydraulic limitations that could be impairing operations in the CVC. It is expected that Pool 28 will not need significant alterations. The Joint Works Project outlined above may alleviate the need to make such alterations.

FISCAL IMPACTS:

The CWC has been awarded conditional funding to the Kern Fan Project in the amount of \$89.1 million. Staff has submitted a Feasibility Study for the Phase 1 facilities to the Bureau of Reclamation. Reclamation approval of the study is needed prior to submitting a Small Storage Project grant application for up to \$9.8 million. The grant application is due by the end of December 2022. IRWD and Rosedale will fund the remaining cost of the Kern Fan Project.

ENVIRONMENTAL COMPLIANCE:

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

RECOMMENDATION:

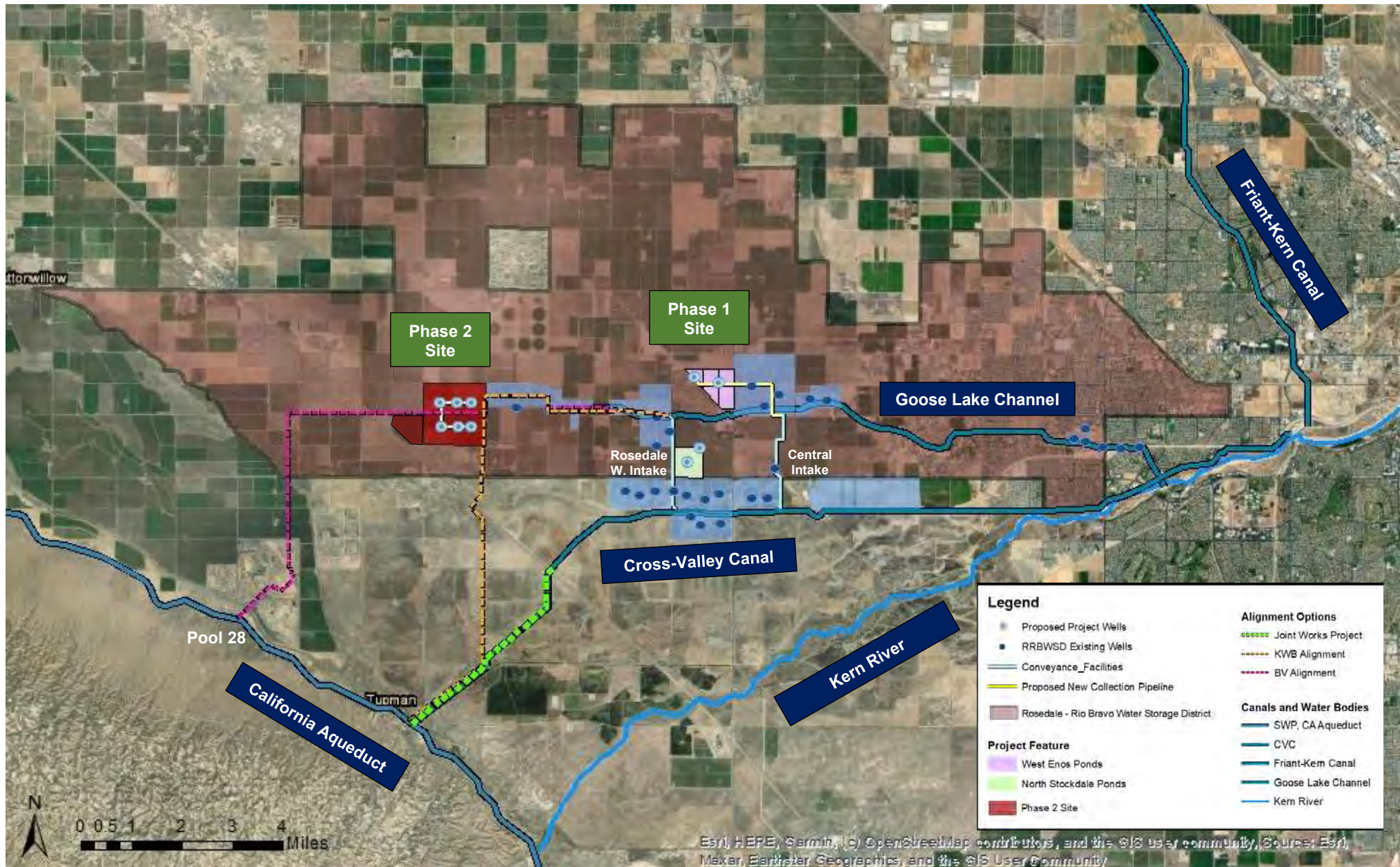
Receive and file.

LIST OF EXHIBITS:

Exhibit “A” – Preliminary Kern Fan Groundwater Storage Project Location Map
Exhibit “B” – Kern Fan Groundwater Storage Project Implementation Schedule
Exhibit “C” – DWR Study Location and Magnitude of Subsidence in California Aqueduct

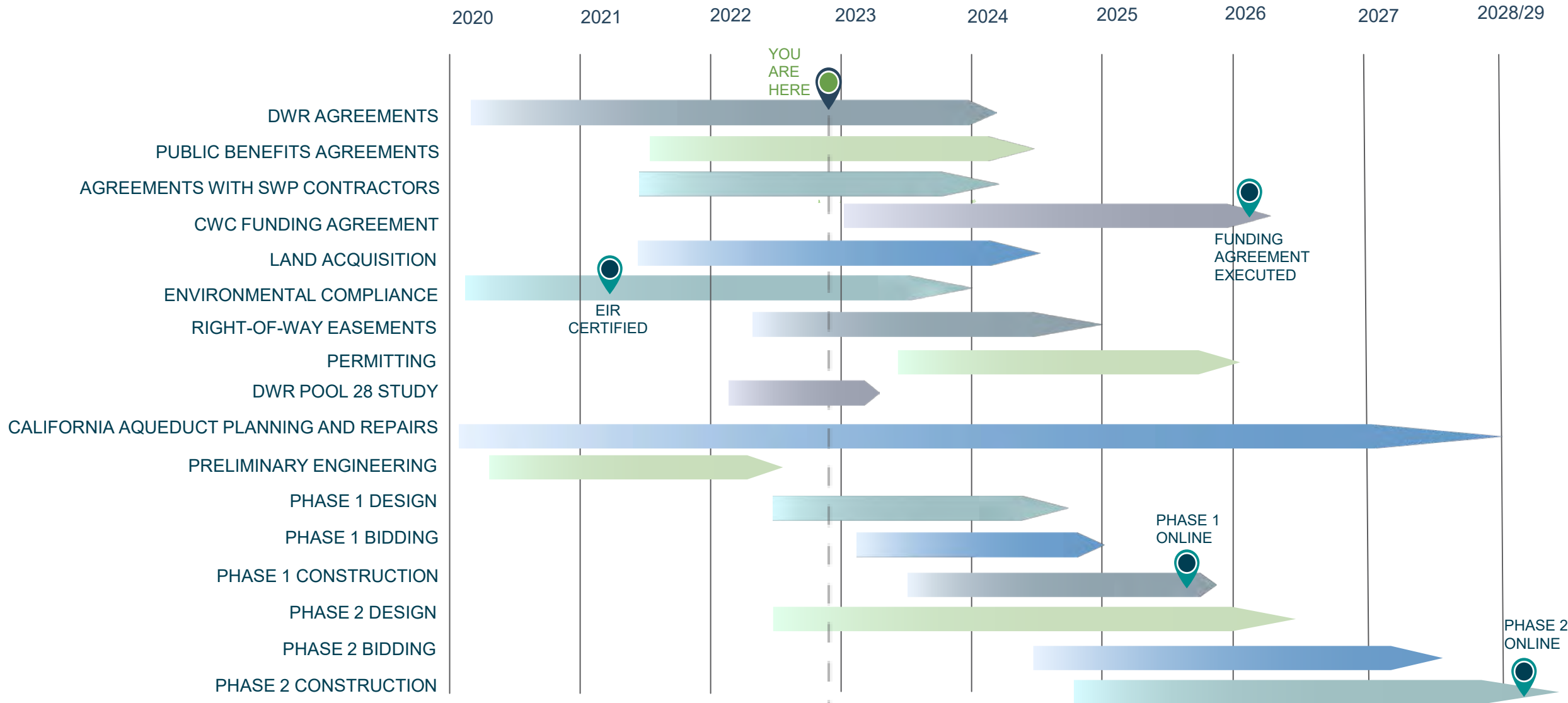
EXHIBIT "A"

Preliminary Kern Fan Groundwater Storage Project Location Map



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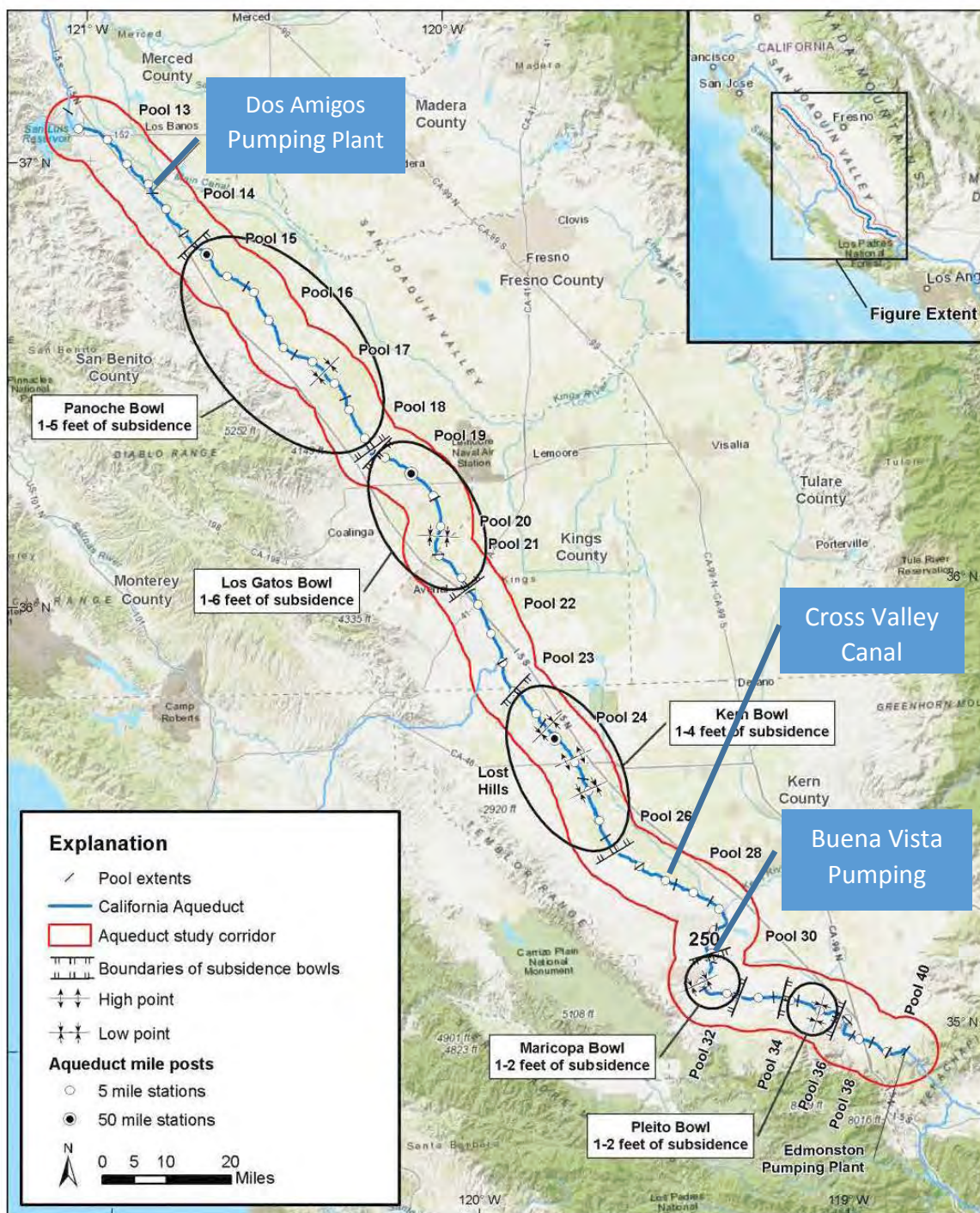
KERN FAN GROUNDWATER STORAGE PROJECT SCHEDULE



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Exhibit "C"

DWR Study Location and Magnitude of Subsidence



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