

AGENDA  
IRVINE RANCH WATER DISTRICT  
SUPPLY RELIABILITY PROGRAMS COMMITTEE  
THURSDAY, JANUARY 17, 2019

CALL TO ORDER     3:00 p.m., Committee Room, Second Floor, District Office  
15600 Sand Canyon Avenue, Irvine, California

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

|                     |               |       |                   |       |
|---------------------|---------------|-------|-------------------|-------|
| <u>ALSO PRESENT</u> | Paul Cook     | _____ | Kellie Welch      | _____ |
|                     | Rob Jacobson  | _____ | Christine Compton | _____ |
|                     | Ray Bennett   | _____ | Paul Weghorst     | _____ |
|                     | Jo Ann Corey  | _____ | Dane Johnson      | _____ |
|                     | Fiona Sanchez | _____ | _____             | _____ |
|                     | _____         | _____ | _____             | _____ |

NOTICE

If you wish to address the Committee on any item, please file your name with the Committee. Forms are provided on the table outside of the Committee Room. Remarks are limited to three minutes per speaker on each subject.

---

**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. WATER BANKING PROJECT FACILITIES, CAPACITIES, OPERATIONS, AND PROGRAMS – JOHNSON / WELCH / SANCHEZ/ WEGHORST

Recommendation: Receive and file.

---

## ACTION

---

6. DRAFT TERMS FOR A SHORT-TERM EXCHANGE PROGRAM WITH  
MOJAVE WATER AGENCY – WELCH / SANCHEZ / WEGHORST

Recommendation: That the Committee provide input on the proposed terms for a short-term exchange program with Mojave Water Agency, which will be used to prepare an agreement for consideration by the IRWD Board of Directors.

7. CONCEPTS TO OPTIMIZE ORANGE COUNTY GROUNDWATER BASIN  
USING PRODUCER EXCHANGE PROGRAMS – WEGHORST / COOK

Recommendation: That the Committee provide input on draft goals and actions for optimizing storage in the Orange County Groundwater Basin and on the proposed concepts for implementing exchanges for the benefit of the Groundwater Producing Agencies.

---

## OTHER BUSINESS

---

8. Directors' Comments

9. 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 at the entrance of the meeting room at the District Office. The Irvine Ranch Water District Committee Room is wheelchair accessible. If you require any special disability-related accommodations (e.g., access to an amplified sound system, etc.), please contact the District Secretary at (949) 453-5300 during business hours at least seventy-two (72) hours prior to the scheduled meeting. This agenda can be obtained in an alternative format upon written request to the District Secretary at least seventy-two (72) hours prior to the scheduled meeting.

January 17, 2019

Prepared by: D. Johnson / K. Welch

Submitted by: F. Sanchez / P. Weghorst *PMW*

Approved by: Paul A. Cook *[Signature]*

## 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 that may serve as reference during the Committee meeting. The information is presented in a format that can be updated as necessary to reflect changes in IRWD's projects, programs and operations. At the Committee meeting, staff will review this information and provide an update on ongoing efforts to secure additional water for recharge at IRWD's water banking projects. Staff will also provide an overview of 2018 recharge operations on the Strand and Stockdale West projects.

#### BACKGROUND:

To assist with the facilitation of Committee meeting discussions, staff has prepared reference materials in tabular, map and schematic formats that describe IRWD's water banking facilities, capacities, operations and exchange programs. The reference materials will be updated, as needed, to reflect changes to the projects, programs and operations. Following is an overview of the reference materials provided, including information regarding 2018 recharge operations on Strand and Stockdale West projects. At the Committee meeting, staff will provide an update on ongoing efforts to secure additional water for recharge at IRWD's water banking projects.

#### 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 attached 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. Exhibit "D" provides an overview of dedicated storage, recharge and recovery capacities at IRWD's Strand Ranch and Stockdale West projects. Changes have been made to the capacity and operations tables to reflect the initial water allocation of 10 percent for the State Water Project (SWP) contractors for the 2019 calendar year.

#### 2018 Recharge on Strand and Stockdale

Strand Ranch recharge facilities were used during the first and fourth quarters of 2018. Based on information received from Rosedale-Rio Bravo Water Storage District, a total of 11,563 acre-feet (AF) was recharged at the Strand Ranch during 2018. Of the 11,563 AF, 10,944 AF was recharged for Rosedale and 619 AF was recharged for IRWD. IRWD use of the recharge capacity was for IRWD's 2018 SWP allocation from Dudley Ridge Water District.

Recharge Opportunities:

Staff has been pursuing additional opportunities to secure water for recharge. At the Committee meeting, staff will provide an update on efforts to secure water from:

- Dudley Ridge Water District;
- Carpinteria Valley Water District;
- Antelope Valley-East Kern Water Agency; and
- Other

Project Maps:

To support the tables provided as Exhibits “A”, “B”, “C”, and “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 “E”, “F”, and “G”, respectively. The facilities shown on the maps are associated with the Strand Ranch, Stockdale West, Stockdale East and Rosedale Drought Relief Projects.

Program Agreement Diagrams:

Schematic diagrams have been prepared that depict the IRWD water banking and exchange programs with Rosedale, Buena Vista Water Storage District (BVWSD), Dudley Ridge Water District, and Metropolitan Water District. These diagrams are provided as Exhibits “H”, “I”, “J”, “K” and “L”, as described in the List of Exhibits.

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” – Dedicated Capacities of Current Water Banking Projects  
Exhibit “E” – Map of Water Banking Project Wells and Pipelines

- Exhibit “F” – Map of Water Banking Recharge Basins and Cross Valley Canal Turnout Facilities
- Exhibit “G” – Map of Water Banking Recharge Rates
- Exhibit “H” – Diagram of IRWD-Rosedale Water Banking and Exchange Program Agreements
- Exhibit “I” – 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 “J” – Diagram of Unbalanced Exchange Program Diagram with DRWD
- Exhibit “K” – Diagram of Coordinated Operating, Water Storage, Exchange and Delivery  
Agreement with Metropolitan Water District
- Exhibit “L” – Diagram of Template Wheeling Agreement with Metropolitan Water District

# Exhibit "A"

**TABLE 1**  
**Current and Anticipated Water Banking Projects**  
**Recharge, Storage and Recovery Capacities**  
 January 17, 2019

| WATER BANKING PROJECT                                                                                                                                     | OWNERSHIP AND WELL INFO |                |                                | ALLOCATED CAPACITY (AF) |                                          |                                          |                                          |                                          | 1 <sup>ST</sup> PRIORITY RECOVERY CONDITIONS (CFS) |                                                                 | 2 <sup>ND</sup> PRIORITY RECOVERY CONDITIONS (CFS) |                                      |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|----------------|--------------------------------|-------------------------|------------------------------------------|------------------------------------------|------------------------------------------|------------------------------------------|----------------------------------------------------|-----------------------------------------------------------------|----------------------------------------------------|--------------------------------------|
|                                                                                                                                                           | IRWD OWNED              | WELLS EXISTING | WELLS PROPOSED OR UNDER CONST. | TOTAL STORAGE CAPACITY  | ANNUAL RECHARGE 1 <sup>ST</sup> PRIORITY | ANNUAL RECHARGE 2 <sup>ND</sup> PRIORITY | ANNUAL RECOVERY 1 <sup>ST</sup> PRIORITY | ANNUAL RECOVERY 2 <sup>ND</sup> PRIORITY | RECOVERY CAPACITY AS PLANNED <sup>1</sup>          | ESTIMATED RECOVERY CAPACITY (DEC. 2016 CONDITIONS) <sup>2</sup> | RECOVERY CAPACITY AS PLANNED                       | RECOVERY CAPACITY CURRENT CONDITIONS |
| Strand Ranch                                                                                                                                              | Yes                     | 7              | -                              | 50,000                  | 17,500                                   | -                                        | 17,500                                   | -                                        | 40.0                                               | 35.0                                                            | -                                                  | -                                    |
| 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 <sup>3</sup>                                                                                                                | No                      | -              | -                              | 50,000                  | -                                        | -                                        | -                                        | -                                        | -                                                  | -                                                               | -                                                  | -                                    |
| Drought Relief Project Wells <sup>3</sup>                                                                                                                 | No                      | -              | 3                              | -                       | -                                        | -                                        | -                                        | -                                        | 15.0                                               | -                                                               | -                                                  | -                                    |
| Kern Water Bank Storage Account <sup>5</sup>                                                                                                              | No                      | -              | -                              | 9,495                   | 3,200                                    | -                                        | 6,330                                    | -                                        | -                                                  | -                                                               | -                                                  | -                                    |
| <b>TOTALS</b>                                                                                                                                             |                         | <b>10</b>      | <b>5</b>                       | <b>126,000</b>          | <b>44,600</b>                            | <b>19,000</b>                            | <b>28,750</b>                            | <b>7,500</b>                             | <b>70.0</b>                                        | <b>50.0</b>                                                     | <b>10.0</b>                                        | <b>0.0</b>                           |
| Partner Capacities <sup>4</sup>                                                                                                                           |                         |                |                                | 36,000                  | 22,300                                   | 9,500                                    | 12,000                                   | 0                                        | 35.5                                               | 25.0                                                            | -                                                  | -                                    |
| IRWD Capacities                                                                                                                                           |                         |                |                                | 90,000                  | 22,300                                   | 9,500                                    | 16,750                                   | 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)                                                                                         |                         |                |                                |                         |                                          |                                          |                                          |                                          | 4,330                                              | 6,733                                                           | -                                                  | -                                    |
| <b>TOTALS (AF)</b>                                                                                                                                        |                         |                |                                |                         |                                          |                                          |                                          |                                          | <b>16,750</b>                                      | <b>15,733</b>                                                   | <b>-</b>                                           | <b>-</b>                             |
| Number of months needed to recover IRWD's total AF after partners' recovery<br>(Assumes IRWD has use of total recovery capacity after partners' recovery) |                         |                |                                |                         |                                          |                                          |                                          |                                          | 8.1                                                | 9.7                                                             | -                                                  | -                                    |
| Strand Ranch monthly recharge amount assuming 0.3 ft/day average recharge rate (AF)                                                                       |                         |                |                                |                         |                                          |                                          |                                          |                                          |                                                    |                                                                 | 4,518                                              |                                      |
| Stockdale West monthly recharge amount assuming 0.3 ft/day average recharge rate (AF)                                                                     |                         |                |                                |                         |                                          |                                          |                                          |                                          |                                                    |                                                                 | 2,331                                              |                                      |

<sup>1</sup> Based on designed Strand recovery capacity assuming 370' bgs. Assumes 5 cfs for each of the Stockdale West and Drought Relief wells in order to meet IRWD's Water Banking, Transfers, and Wheeling policy position. Assumes partners' water is recovered over 6 months.

<sup>2</sup> Strand Ranch and Stockdale West wells currently idle.

<sup>3</sup> IRWD has use of Acquired Storage and Drought Relief Project wells until January 12, 2039, unless the term of the agreement is extended.

<sup>4</sup> One half of storage capacity at Stockdale West and Strand Ranch will be allocated for partners.

<sup>5</sup> Kern Water Bank capacities based on 6.58% of Dudley Ridge Water District's 9.62% share of the Kern Water Bank. Annual recharge amount is based on an average of recharge rates for high and low groundwater level conditions. Not included in storage capacity, recharge, and recovery totals to match IRWD's Water Banking Policy Position Paper.

# Exhibit "B"

**TABLE 2**  
**IRWD's Water Banking Storage, Recharge and Recovery Operations - BEFORE LOSSES**  
January 17, 2019

| TRANSACTIONS                            | WATER BANKING ENTITY |                      |                     |                      |                                                    | TOTAL BY WATER TYPE<br>AND STORAGE<br>LOCATION |
|-----------------------------------------|----------------------|----------------------|---------------------|----------------------|----------------------------------------------------|------------------------------------------------|
|                                         | IRWD                 |                      | BUENA VISTA (BVWSD) | CENTRAL COAST (CCWA) | DUDLEY RIDGE WATER<br>DISTRICT (DRWD) <sup>3</sup> |                                                |
|                                         | SWP <sup>1</sup>     | NON-SWP <sup>2</sup> | NON-SWP             | SWP                  | SWP                                                |                                                |
| BEGINNING WATER IN STORAGE 2018 (AF)    |                      |                      |                     |                      |                                                    |                                                |
| Total Kern Water Bank                   | -                    | 4,656                | -                   | -                    | -                                                  | 4,656                                          |
| Total MWD System <sup>4</sup>           | 8,873                | -                    | -                   | -                    | 1,174                                              | 10,047                                         |
| Total Kern County                       | 3,257                | 17,704               | 6,869               | 289                  | 2,388                                              | 30,507                                         |
| TOTAL STORED WATER (1/1/2018)           | 12,130               | 22,360               | 6,869               | 289                  | 3,562                                              | 45,210                                         |
| (RECOVERY) AND RECHARGE IN 2018 (AF)    |                      |                      |                     |                      |                                                    |                                                |
| Kern Water Bank Deliveries              | -                    | -                    | -                   | -                    | -                                                  | -                                              |
| 2018 SWP Allocation (35%) <sup>3</sup>  | 310                  | -                    | -                   | -                    | 310                                                | 620                                            |
| High Flow Kern River                    | -                    | -                    | (1,667)             | -                    | -                                                  | (1,667)                                        |
| MWD Water to Jackson Ranch <sup>6</sup> | -                    | -                    | -                   | -                    | (295)                                              | -                                              |
| TOTAL 2018 TRANSACTIONS                 | 310                  | -                    | (1,667)             | -                    | 15                                                 | (1,342)                                        |
| Total Kern Water Bank                   | -                    | 4,656                | -                   | -                    | -                                                  | 4,656                                          |
| Total MWD System                        | 8,873                | -                    | -                   | -                    | 1,174                                              | 10,047                                         |
| Total Kern County                       | 3,567                | 17,704               | 5,202               | 289                  | 2,403                                              | 29,165                                         |
| TOTAL STORED WATER (1/1/2019)           | 12,440               | 22,360               | 5,202               | 289                  | 3,577                                              | 43,868                                         |
| (RECOVERY) AND RECHARGE IN 2019 (AF)    |                      |                      |                     |                      |                                                    |                                                |
| Kern Water Bank Deliveries              | -                    | -                    | -                   | -                    | -                                                  | -                                              |
| 2019 SWP Allocation (10%) <sup>3</sup>  | 87                   | -                    | -                   | -                    | 87                                                 | 175                                            |
| TOTAL ESTIMATED 2019 TRANSACTIONS       | 87                   | -                    | -                   | -                    | 87                                                 | 175                                            |
| ESTIMATED WATER IN STORAGE 2019 (AF)    |                      |                      |                     |                      |                                                    |                                                |
| Total Kern Water Bank                   | -                    | 4,656                | -                   | -                    | -                                                  | 4,656                                          |
| Total MWD System                        | 8,873                | -                    | -                   | -                    | 1,174                                              | 10,047                                         |
| Total Kern County                       | 3,654                | 17,704               | 5,202               | 289                  | 2,490                                              | 29,340                                         |
| TOTAL ESTIMATED STORED WATER TO DATE    | 12,527               | 22,360               | 5,202               | 289                  | 3,664                                              | 44,043                                         |

**NOTES:**

-MWD = Metropolitan Water District of Southern California.

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

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

<sup>3</sup> DRWD water supply will be returned by MWD or IRWD's Strand Ranch to IRWD's Jackson Ranch. IRWD's 2013-2016 SWP allocation amounts are stored in the MWD system. IRWD's 2017 and 2018 SWP allocation water is stored in Kern County; assumes 2019 SWP water will be stored in Kern County.

<sup>4</sup> 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.

<sup>5</sup> Article 21 was delivered to Strand Ranch/Stockdale West from 3/8/17 - 3/22/17. Deliveries made pursuant to the DRWD/MWD Unbalanced Exchange Program.

<sup>6</sup> Water returned to DRWD by MWD for use on IRWD's Jackson Ranch.

# Exhibit "C"

**TABLE 3**  
**IRWD's Water Banking Storage, Recharge and Recovery Operations - AFTER LOSSES**  
January 17, 2019

| TRANSACTIONS                                   | WATER BANKING ENTITY |                      |                     |                      |                                                 | TOTAL BY WATER TYPE AND STORAGE LOCATION |
|------------------------------------------------|----------------------|----------------------|---------------------|----------------------|-------------------------------------------------|------------------------------------------|
|                                                | IRWD                 |                      | BUENA VISTA (BVWSD) | CENTRAL COAST (CCWA) | DUDLEY RIDGE WATER DISTRICT (DRWD) <sup>3</sup> |                                          |
|                                                | SWP <sup>1</sup>     | NON-SWP <sup>2</sup> | NON-SWP             | SWP                  | SWP                                             |                                          |
| BEGINNING WATER IN STORAGE 2018 (AF)           |                      |                      |                     |                      |                                                 |                                          |
| Total Kern Water Bank                          | -                    | 4,233                | -                   | -                    | -                                               | 4,233                                    |
| Total MWD System <sup>4</sup>                  | 7,917                | -                    | -                   | -                    | 1,174                                           | 9,091                                    |
| Total Kern County                              | 2,782                | 15,564               | 6,199               | 246                  | 2,131                                           | 26,921                                   |
| TOTAL STORED WATER (1/1/2018)                  | 10,699               | 19,797               | 6,199               | 246                  | 3,305                                           | 40,245                                   |
| (RECOVERY) AND RECHARGE IN 2018 (AF)           |                      |                      |                     |                      |                                                 |                                          |
| Kern Water Bank Deliveries                     | -                    | -                    | -                   | -                    | -                                               | -                                        |
| 2018 SWP Allocation (35%) <sup>3</sup>         | 264                  | -                    | -                   | -                    | 264                                             | 528                                      |
| High Flow Kern River                           | -                    | -                    | (1,667)             | -                    | -                                               | (1,667)                                  |
| MWD Water to Jackson Ranch <sup>6</sup>        | -                    | -                    | -                   | -                    | (295)                                           | (295)                                    |
| TOTAL 2018 TRANSACTIONS                        | 264                  | -                    | (1,667)             | -                    | (31)                                            | (1,434)                                  |
| Total Kern Water Bank                          | -                    | 4,233                | -                   | -                    | -                                               | 4,233                                    |
| Total MWD System                               | 7,917                | -                    | -                   | -                    | 1,174                                           | 9,091                                    |
| Total Kern County                              | 3,046                | 15,564               | (1,667)             | 246                  | 2,100                                           | 19,289                                   |
| TOTAL STORED WATER (1/1/2019)                  | 10,963               | 19,797               | 4,532               | 246                  | 3,274                                           | 38,812                                   |
| (RECOVERY) AND RECHARGE IN 2019 (AF)           |                      |                      |                     |                      |                                                 |                                          |
| Kern Water Bank Deliveries                     | -                    | -                    | -                   | -                    | -                                               | -                                        |
| 2019 SWP Allocation (10%) <sup>3</sup>         | 74                   | -                    | -                   | -                    | 74                                              | 149                                      |
| High Flow Kern River                           | -                    | -                    | -                   | -                    | -                                               | -                                        |
| TOTAL ESTIMATED 2019 TRANSACTIONS <sup>7</sup> | 74                   | -                    | -                   | -                    | 74                                              | 149                                      |
| ESTIMATED WATER IN STORAGE 2019 (AF)           |                      |                      |                     |                      |                                                 |                                          |
| Total Kern Water Bank                          | -                    | 4,233                | -                   | -                    | -                                               | 4,233                                    |
| Total MWD System                               | 7,917                | -                    | -                   | -                    | 1,174                                           | 9,091                                    |
| Total Kern County                              | 3,120                | 15,564               | 4,532               | 246                  | 2,174                                           | 25,636                                   |
| TOTAL ESTIMATED STORED WATER TO DATE           | 11,037               | 19,797               | 4,532               | 246                  | 3,348                                           | 38,960                                   |

**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.

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

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

<sup>3</sup> DRWD water supply will be returned by MWD or IRWD's Strand Ranch to IRWD's Jackson Ranch. IRWD's 2013-2016 SWP allocation amounts are stored in the MWD system. IRWD's 2017 and 2018 SWP allocation water is stored in Kern County; assumes 2019 SWP water will be stored in Kern County.

<sup>4</sup> 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.

<sup>5</sup>Article 21 was delivered to Strand Ranch/Stockdale West from 3/8/17 - 3/22/17. Deliveries made pursuant to the DRWD/MWD Unbalanced Exchange Program. 9 AF of additional CVC losses, split among IRWD and DRWD, are reflected in these amounts.

<sup>6</sup>Water returned to DRWD by MWD for use on IRWD's Jackson Ranch.

<sup>7</sup>2019 transactions may be adjusted for conveyance losses in CVC.



# Exhibit "D"

**TABLE 4**  
**IRWD Dedicated Water Banking Capacities for Existing and Proposed Exchange Programs**  
 January 17, 2019

## STORAGE CAPACITY

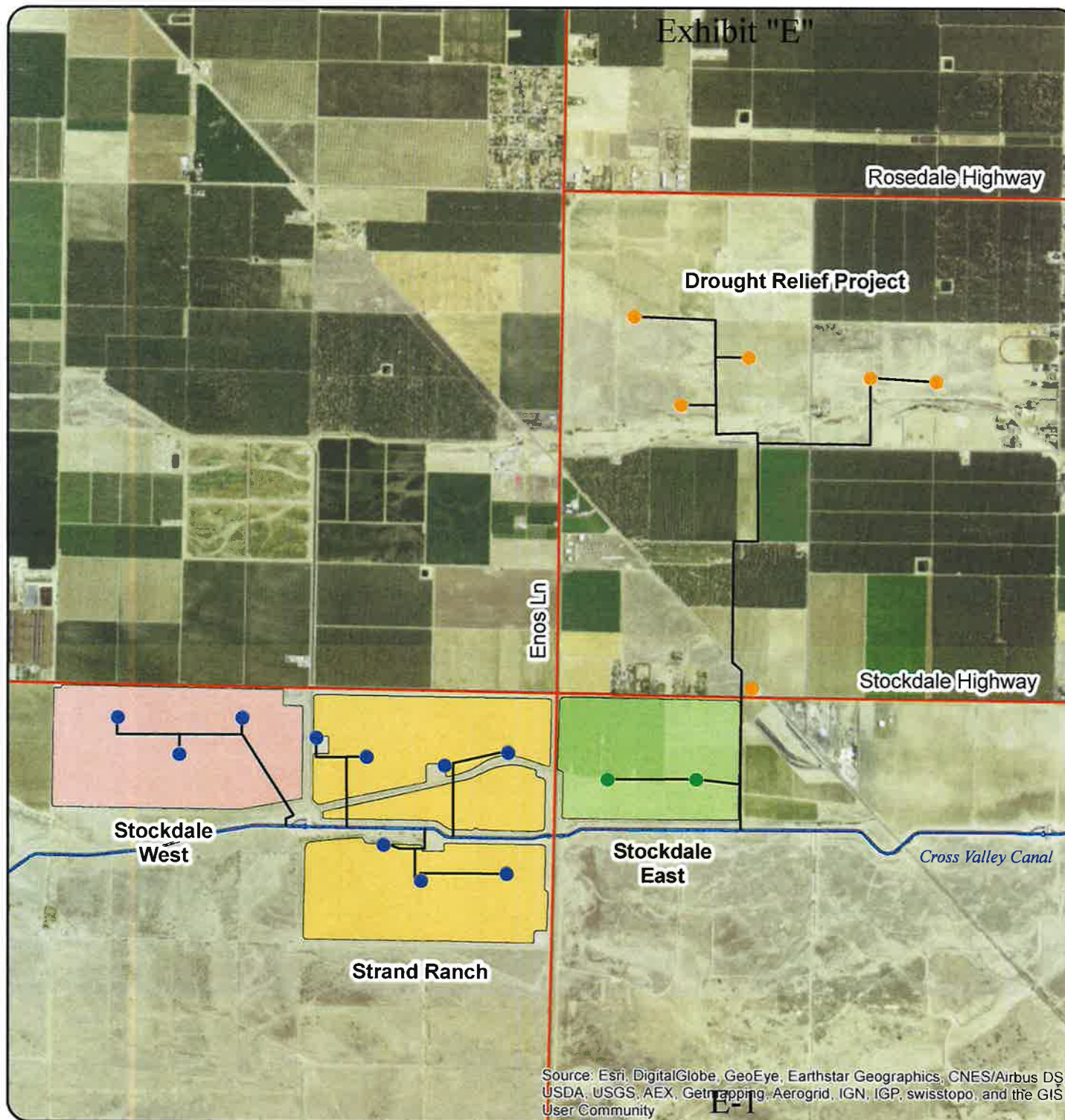
| <b>Program</b>  | <b>Dedicated Storage Capacity Strand Ranch (AF)</b> | <b>Dedicated Storage Capacity Stockdale West (AF)</b> | <b>Dedicated Storage Capacity Leased Storage Account (AF)</b> | <b>Kern Water Bank Storage Capacity (AF)</b> |
|-----------------|-----------------------------------------------------|-------------------------------------------------------|---------------------------------------------------------------|----------------------------------------------|
| 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

| <b>Program</b>  | <b>Dedicated Recharge Capacity Strand Ranch (AF)</b> | <b>Dedicated Recharge Capacity Stockdale West (AF)</b> | <b>Dedicated Recharge Capacity Leased Storage Account (AF)</b> | <b>Kern Water Bank Recharge Capacity (AF)</b> |
|-----------------|------------------------------------------------------|--------------------------------------------------------|----------------------------------------------------------------|-----------------------------------------------|
| 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

| <b>Program Partner</b> | <b>Dedicated Recovery Capacity Strand Ranch (AF)</b> | <b>Dedicated Recovery Capacity Stockdale West (AF)</b> | <b>Dedicated Recovery Capacity Leased Storage Account (AF)</b> | <b>Kern Water Bank Recovery Capacity (AF)</b> |
|------------------------|------------------------------------------------------|--------------------------------------------------------|----------------------------------------------------------------|-----------------------------------------------|
| 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        | -                                                    | -                                                      | -                                                              | -                                             |



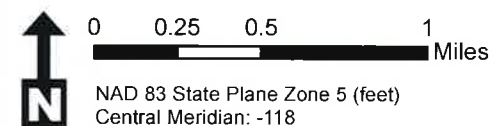
Irvine Ranch  
WATER DISTRICT

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

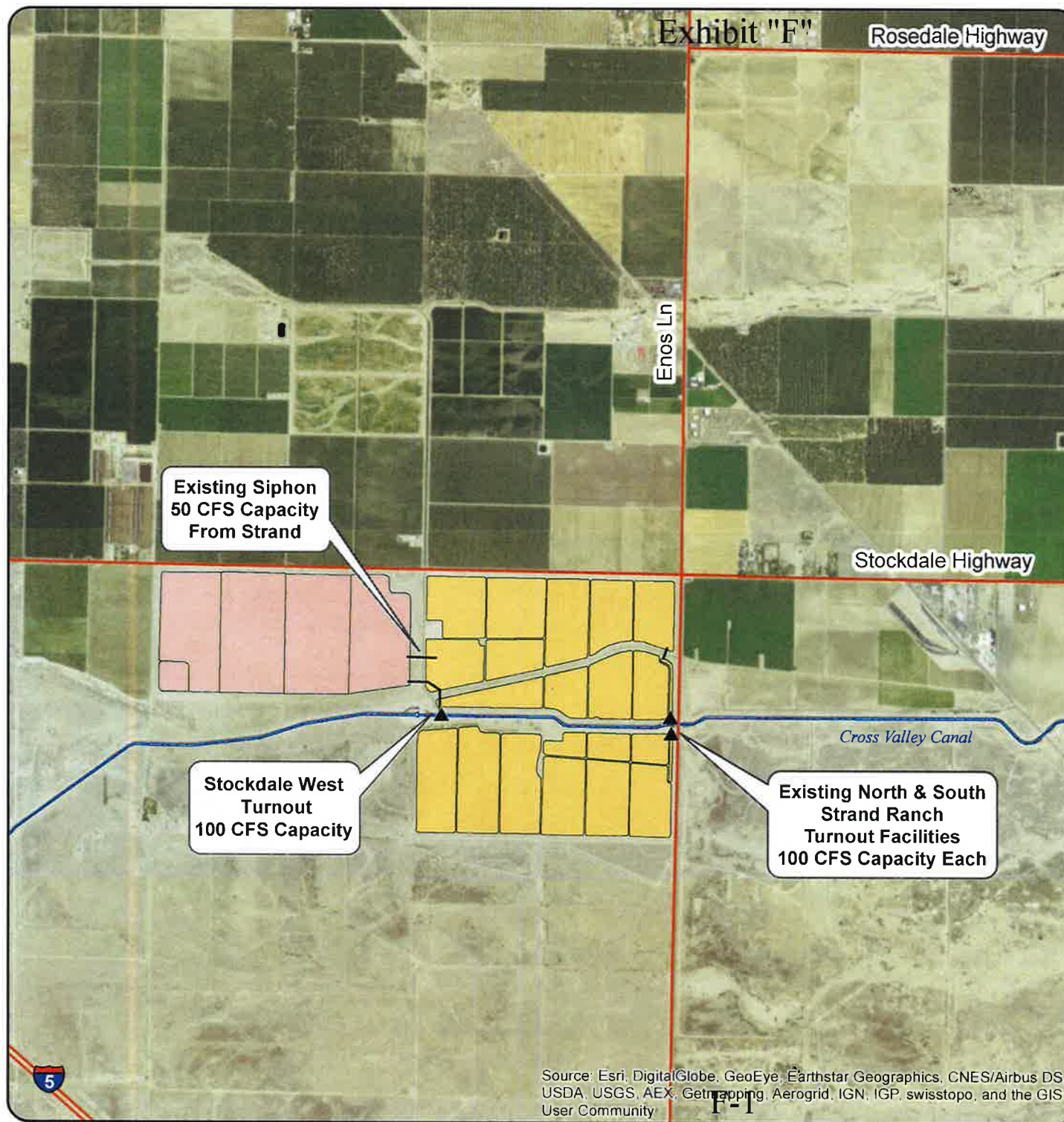
## **MAP FEATURES**

- Existing Extraction Well
- Planned Extraction Well
- Well Under Construction
- Well Discharge Pipelines
- Stockdale East
- Stockdale West
- Strand Ranch

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

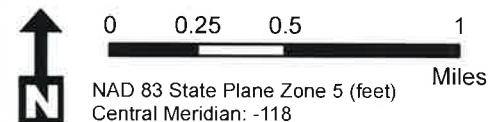




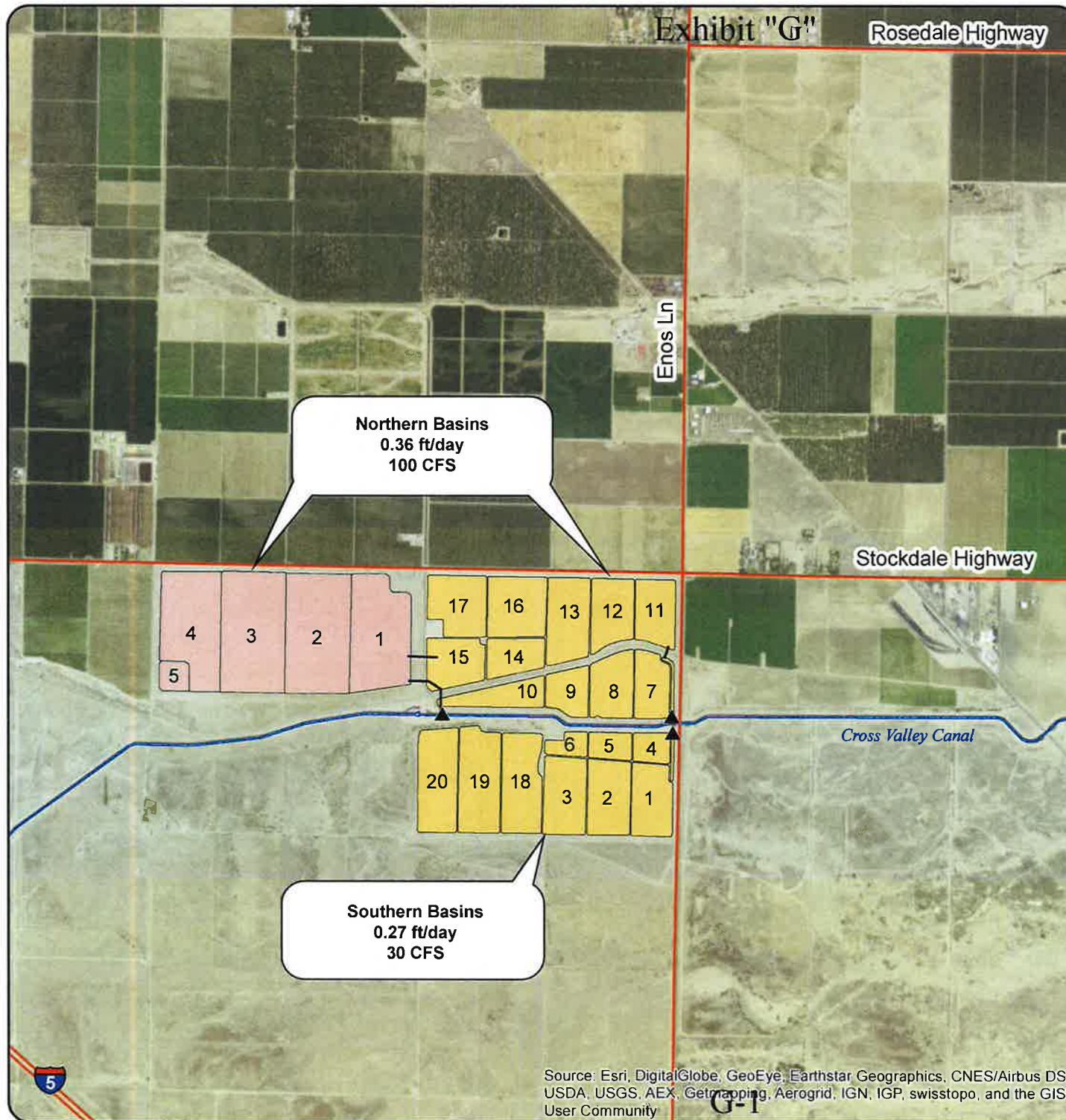


**Location Map:  
IRWD Water Banking Projects  
Recharge Basins & Turnout  
Facilities**

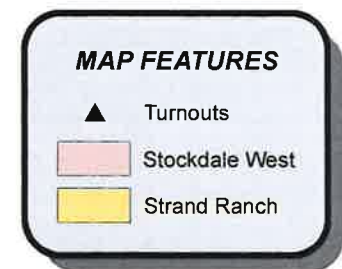
This figure shows the location of recharge basins as well as existing and anticipated pipelines and turnout facilities.



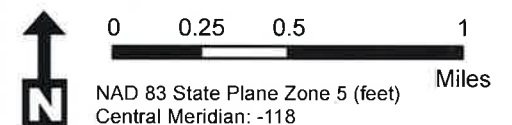




## Location Map: IRWD Water Banking Projects Recharge Rates



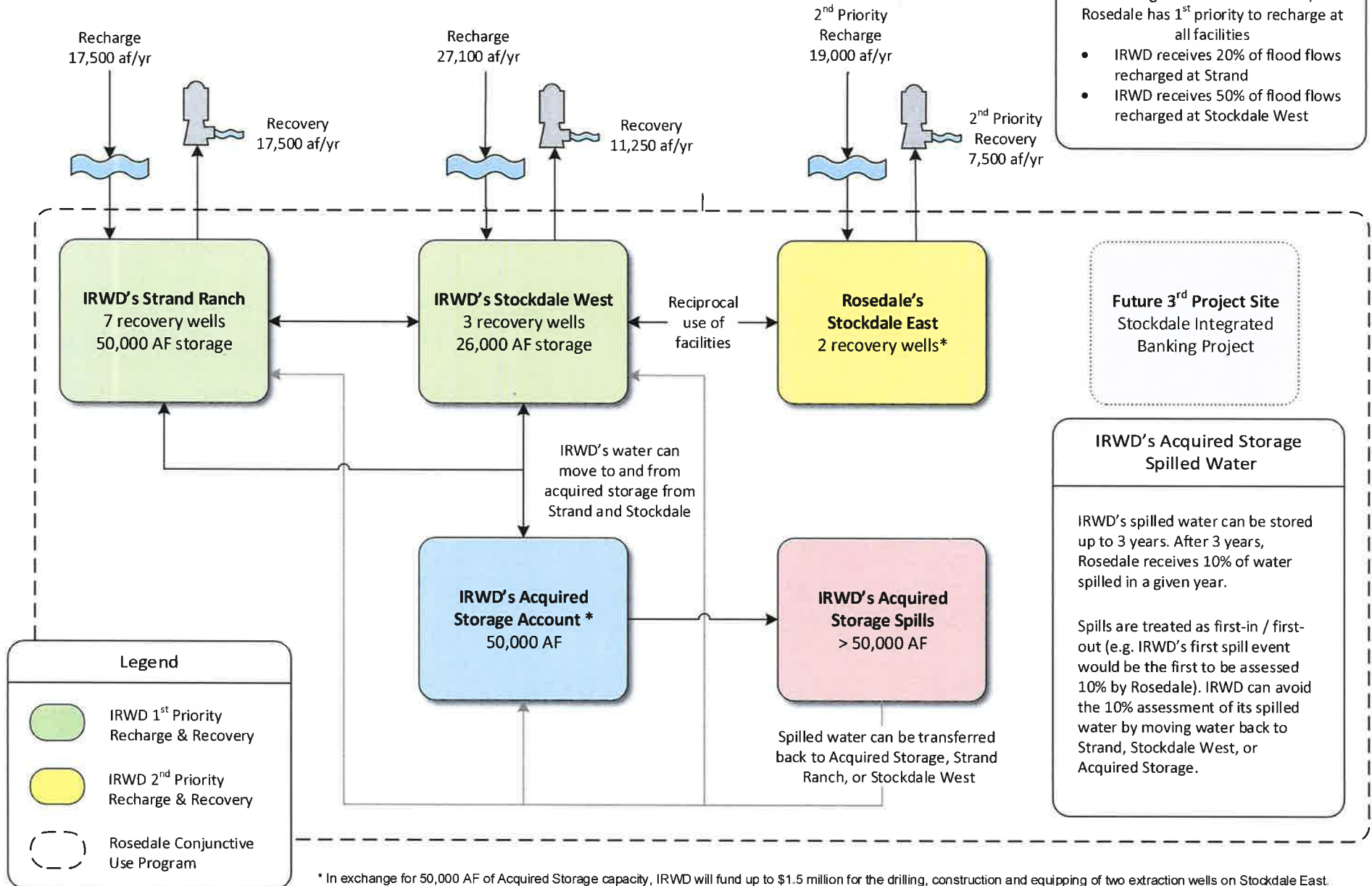
This figure shows the location of recharge basins and their associated recharge rates as of December 2017. Recharge rates will be updated if rates change in 2019.



# Exhibit "H"

## 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)

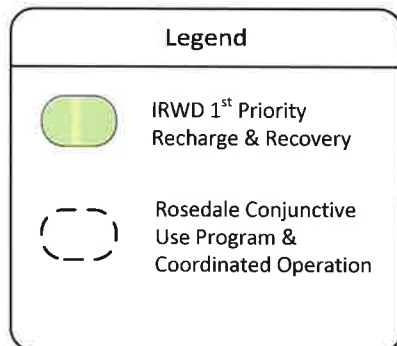
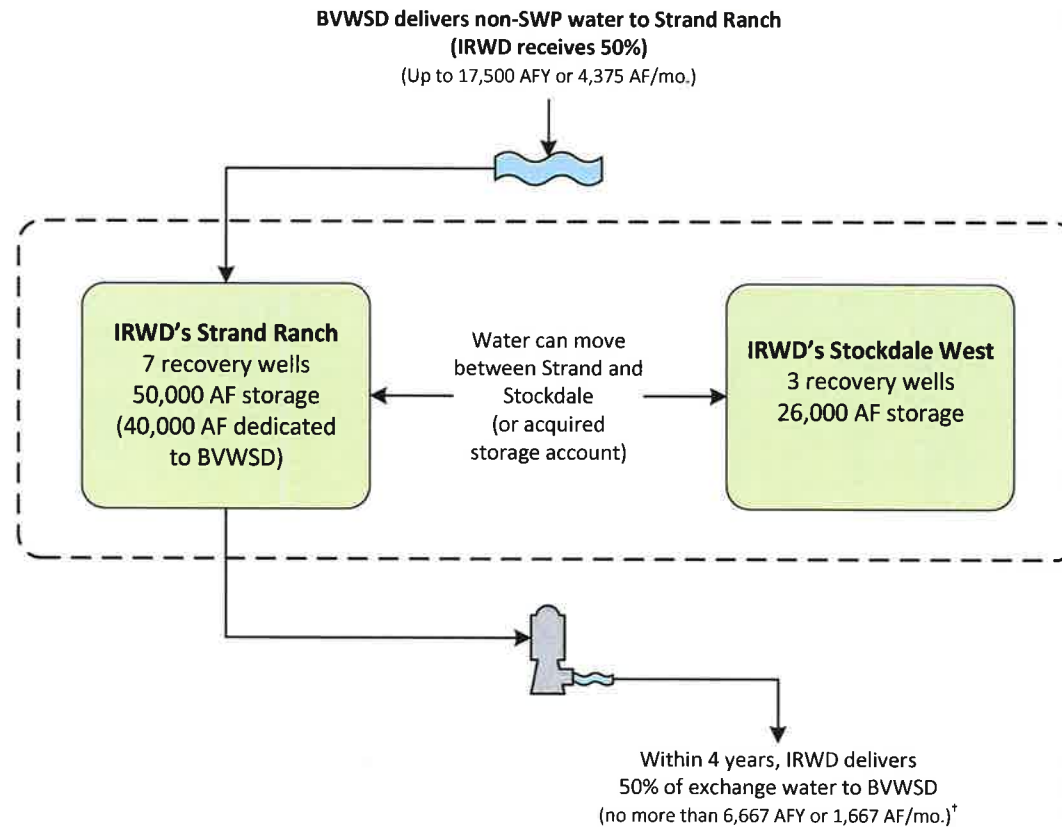


\* In exchange for 50,000 AF of Acquired Storage capacity, IRWD will fund up to \$1.5 million for the drilling, construction and equipping of two extraction wells on Stockdale East.

# Exhibit "I"

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

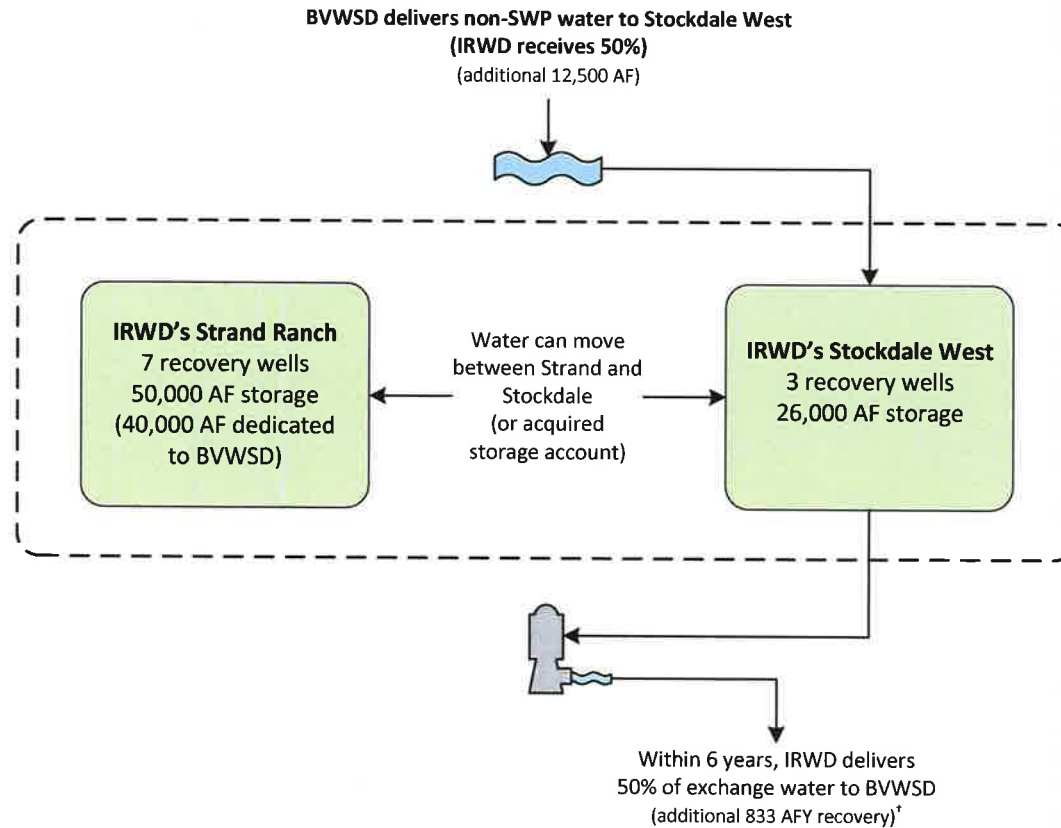
Effective 1/1/2011 through 1/12/2039



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

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

# Buena Vista Water Storage District One-Year Program to Augment Recharge Using Stockdale West Recharge Facilities Effective 4/1/2017 through 3/30/2018



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

\*IRWD shall remit one-half of the exchanged supply less one-half of reasonable losses back to BV no later than December 31<sup>st</sup> of the 6<sup>th</sup> year following the associated recharge event. IRWD pays for recovery of water returned to BV. Water to be remitted back to BV may remain in storage at Strand Ranch beyond the 6<sup>th</sup> year, in exchange for a greater percent being transferred to IRWD as compensation per the table shown to the right:

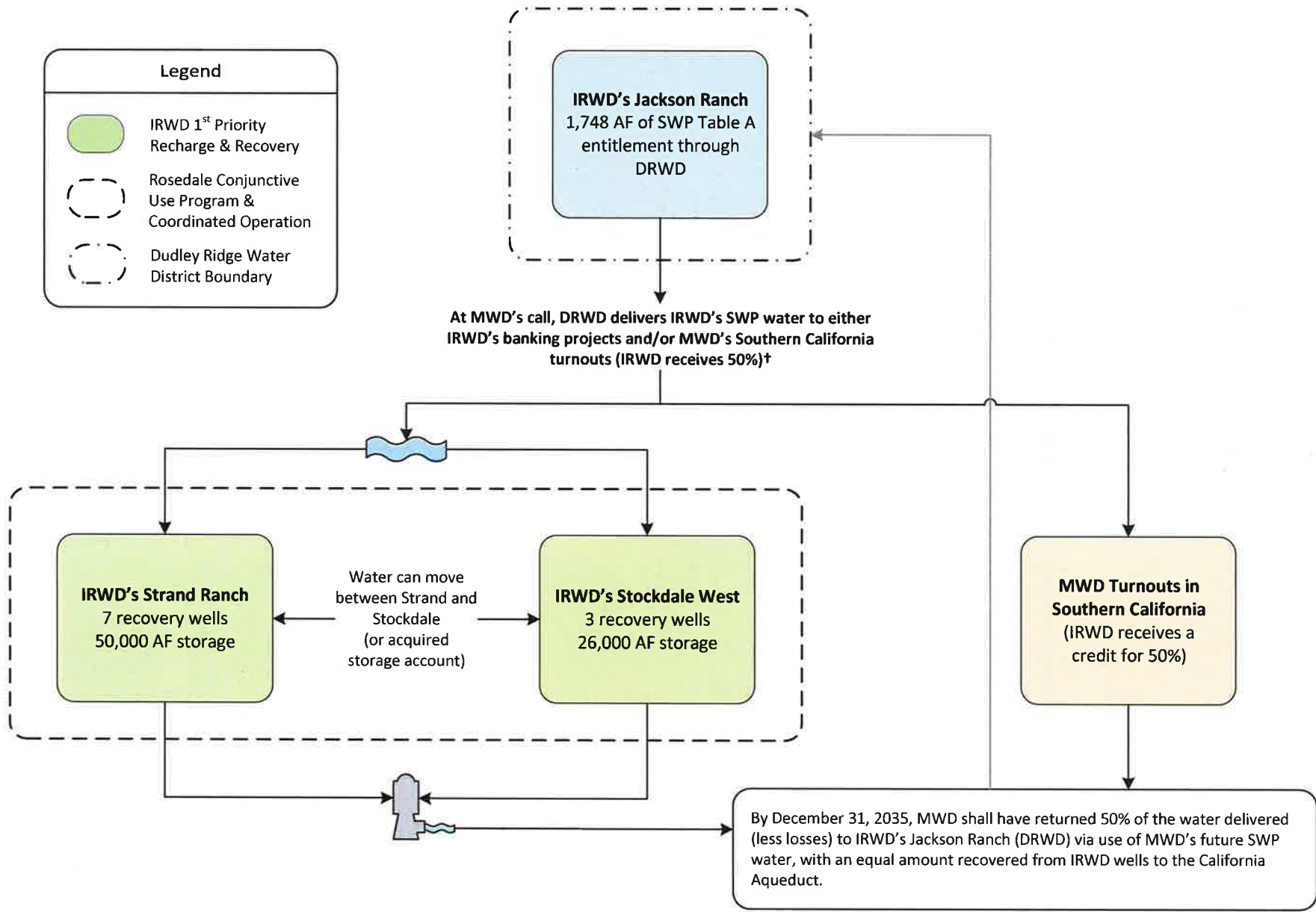
| Year Following Recharge Event | Percent Transferred to IRWD | Percent Returned to BV During or Before Indicated Year |
|-------------------------------|-----------------------------|--------------------------------------------------------|
| 1                             | 50%                         | 50%                                                    |
| 2                             | 50%                         | 50%                                                    |
| 3                             | 50%                         | 50%                                                    |
| 4                             | 50%                         | 50%                                                    |
| 5                             | 50%                         | 50%                                                    |
| 6                             | 50%                         | 50%                                                    |
| 7                             | 75%                         | 25%                                                    |
| 8                             | 100%                        | 0%                                                     |
| 9                             | 100%                        | 0%                                                     |



# Exhibit "J"

## Dudley Ridge Water District (DRWD) Unbalanced Exchange Program

Up to 12,240 AF delivered from 6/7/2018 through 12/31/2017



†Consistent with IRWD-MWD coordinated operating agreement.



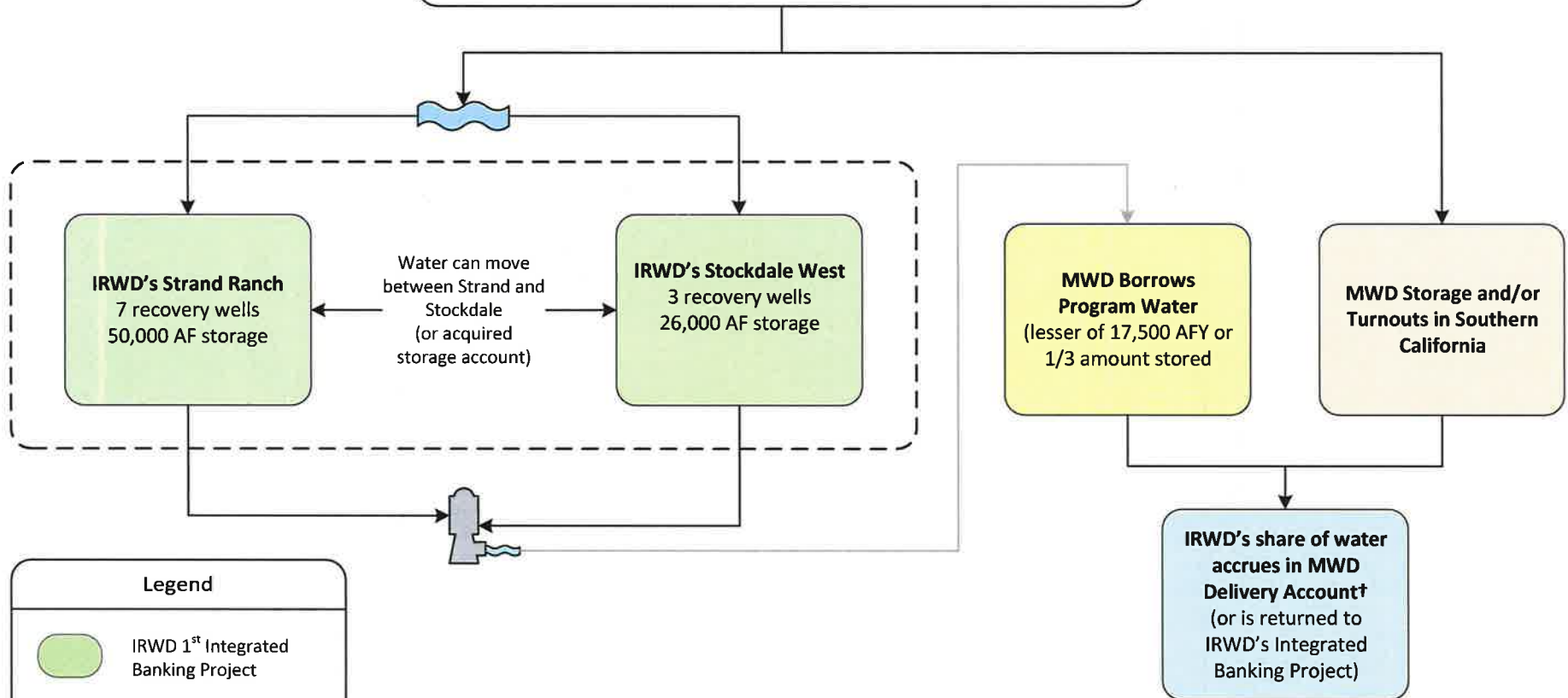
# Exhibit "K"

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

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

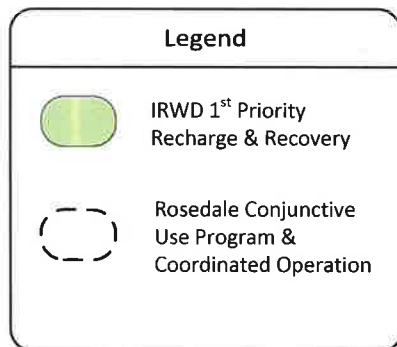
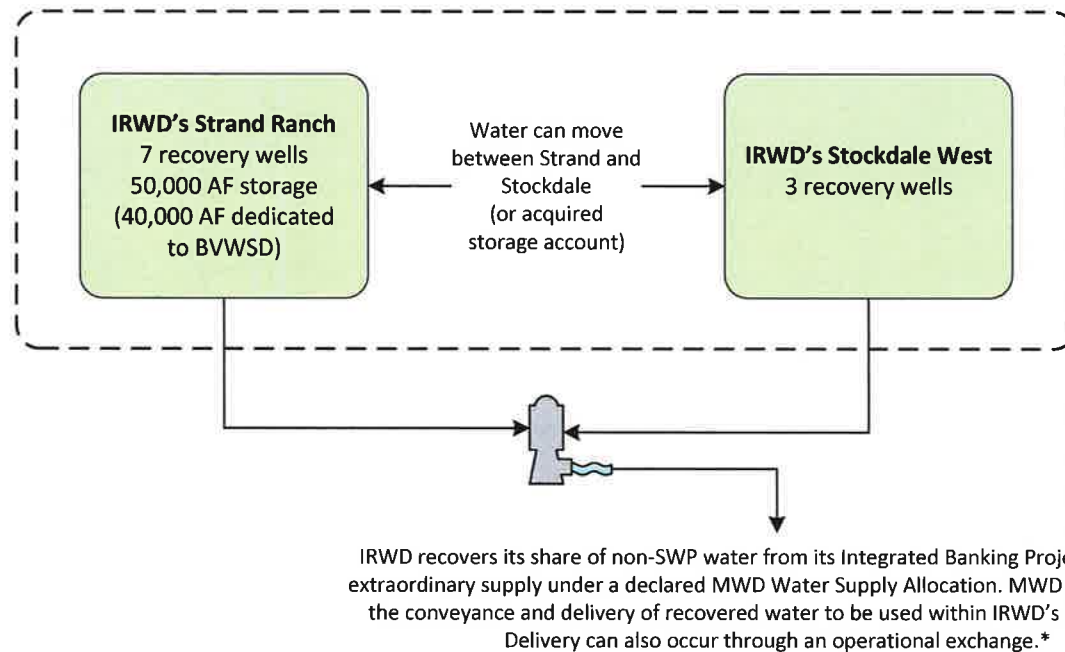
MWD has three options for the use and storage of Program Water:

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



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

**Exhibit "L"**  
**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.

January 17, 2019

Prepared by: K. Welch

Submitted by: F. Sanchez / P. Weghorst

Approved by: Paul A. Cook



## SUPPLY RELIABILITY PROGRAMS COMMITTEE

### DRAFT TERMS FOR A SHORT-TERM EXCHANGE PROGRAM WITH MOJAVE WATER AGENCY

#### SUMMARY:

In November 2018, staff from IRWD and the Mojave Water Agency met to discuss implementing a mutually beneficial short-term exchange program. As a follow up to the meeting, staff has prepared draft terms for a short-term exchange program that would allow Mojave to deliver State Water Project (SWP) water into storage at the Strand and Stockdale Integrated Banking Projects (IRWD Water Bank) on a 2-for-1 basis. The exchange program would provide a water supply to IRWD that could be scheduled around existing exchange program deliveries while helping Mojave prepare for additional opportunities that will be available under an anticipated future amendment to its State Water Project Water Supply Contract (SWP Contract). Staff recommends that the Committee provide input on the proposed draft terms for a short-term exchange program with Mojave, which will be used to prepare an agreement for consideration by the IRWD Board of Directors.

#### BACKGROUND:

Mojave Water Agency is an SWP Contractor that currently has Table A water supplies in excess of demands. These supplies also exceed the storage capacity of Mojave's water banking capacities that were developed through its Mojave Basin Conjunctive Use program. On November 28, 2018, staff met with the General Manager and other staff from Mojave to discuss implementing a mutually beneficial short-term exchange program that would allow Mojave to deliver SWP into storage at the IRWD Water Bank on a 2-for-1 basis. Mojave expressed to IRWD that its main objective of participating in such a program would be to store water that could later be recovered and transferred to another SWP Contractor consistent with an anticipated amendment to its SWP Contract.

Currently, the SWP Contracts that are administered by the Department of Water Resources (DWR) do not allow transfers of water between SWP Contractors other than through participation in the Turn-back Pool program, which has limitations and only provides partial compensation to SWP Contractors for transferred water. During the period 2013 through 2016, DWR administered a multi-year demonstration program that allowed SWP Contractors to participate as a buyer or seller of transferred SWP water. DWR still imposed certain limitations on SWP Contractors for transferred water under the multi-year demonstration program. Since then, the SWP Contractors and DWR have been in a negotiation process for amending the SWP Contracts that are set to expire in 2035. The amendment would include, among other things, provisions for enhanced water management that would provide flexibility to implementing transfers.

SWP Water Supply Contract Amendment:

In October 2018, DWR released a draft Environmental Impact Report (EIR) for SWP Water Supply Contract Amendments for Water Management and California WaterFix. The EIR analyzes the impacts of DWR implementing proposed amendments to certain provisions of the SWP Contracts it holds with the SWP Contractors. These contracts expire in 2035. The amendments will address water management flexibility, including transfers and exchanges. It also will allocate costs for the California WaterFix among the existing SWP Contractors. It is expected that the SWP Contract Amendments would be adopted by DWR in the latter part of 2019. Implementation of the amendments could take several additional years.

Based on discussions with Mojave, the proposed SWP Contract amendments will provide greater flexibility in implementing water transfers, which could further enhance the benefits to Mojave of implementing a short-term exchange program with IRWD. With the more flexible water management options that are proposed in the SWP Contract amendments, staff expects that Mojave will have an incentive to store water in the IRWD Water Bank in 2019.

Overview of Draft Terms for Short-Term Exchange Program:

Staff has prepared draft terms for a short-term unbalanced exchange program with Mojave, which is intended to serve as a bridge program until the SWP Contract Amendments are in place. These draft terms are provided as Exhibit "A" and are similar to the terms of other short-term exchange programs the District has implemented. The proposed draft terms would allow Mojave to deliver schedulable excess SWP water for recharge at the IRWD Water Bank on a 2-for-1 basis during times when recharge capacity is not used for other IRWD exchange programs. Up to 10,000 AF of water (after losses) could be delivered by Mojave within the first year of the execution of the program agreement with IRWD and the associated DWR agreements. One half of the water would be transferred to IRWD.

Mojave's share of the water recharged and stored could not remain in storage beyond the end of the fifth calendar year after the delivery of water into storage in the IRWD Water Bank. For example, if 10,000 AF of water (after losses) is delivered by Mojave into storage in year one, then Mojave's 5,000 AF share must be returned by the end of year six. IRWD would return Mojave's share of the water less a proportional share of losses to Mojave at an annual rate of not more than one-third of Mojave's storage account, or 1,667 AF per year.

At the Committee meeting, staff will present additional details associated with the terms for the proposed short-term exchange program with Mojave. Staff recommends that the Committee provide input on the proposed draft terms.

FISCAL IMPACTS:

It is expected that IRWD would pay approximately \$42 per AF for the recharge of its share of the SWP water delivered into storage by Mojave. Recovery of IRWD's share of the water would cost approximately \$79 per AF. IRWD and Mojave would equally share the cost of administration fees charged by the Kern County Water Agency, which are expected to be \$5 per AF for the water delivered into storage.

ENVIRONMENTAL COMPLIANCE:

Final EIRs 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, 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 provide input on the proposed terms for a short-term exchange program with Mojave Water Agency, which will be used to prepare an agreement for consideration by the IRWD Board of Directors.

LIST OF EXHIBITS:

Exhibit "A" – Proposed Terms for a Short-Term Unbalanced Exchange Program Between Irvine Ranch Water District and Mojave Water Agency



# EXHIBIT “A”

## DRAFT

Proposed Terms for a Short-Term Unbalanced Exchange Program  
Between Irvine Ranch Water District and  
Mojave Water Agency  
January 17, 2019

|                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Parties</b>          | The Irvine Ranch Water District and the Mojave Water Agency                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Description</b>      | IRWD and Mojave would implement a Short-Term Unbalanced Exchange Program (Exchange Program) that would allow Mojave to schedule and deliver its State Water Project (SWP) water into storage at IRWD’s Strand and Stockdale Integrated Banking Projects (IRWD Water Bank) on a 2-for-1 basis. 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.                                                                                                                                                                                                                                                                                                                                     |
| <b>Term</b>             | Six years from the later of the effective date of the Exchange Program Agreement or the associated Department of Water Resources (DWR) Agreements that are necessary to implement the Exchange Program or as mutually extended by the parties.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Storage Capacity</b> | Up to 10,000 AF of storage capacity in the IRWD Water Bank and associated leased capacity, would be dedicated to the Exchange Program. The maximum account balance to be allocated for the storage of Mojave’s share of the water stored in the IRWD Water Bank would be 5,000 AF.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Exchange Water</b>   | Mojave will schedule and deliver SWP water to the IRWD Water Bank available to Mojave through its SWP Contract with DWR. Up to 10,000 AF (after losses) of Exchange Water may be delivered to the IRWD Water Bank by Mojave within the first year of the term of the Exchange Program Agreement. Water will be delivered for recharge at the IRWD Water Bank during times when recharge capacity is available on a second priority basis to water deliveries associated with other IRWD exchange programs. One-half of the Exchange Water delivered into storage would be deemed transferred to IRWD.                                                                                                                                                                                                              |
| <b>Return Water</b>     | <p>Water shall be returned, when requested by Mojave, at an annual rate of no more than one-third of the maximum account balance allocated to Mojave, after losses and not to exceed 1,667 AF per year. IRWD could 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>Mojave’s share of the water recharged and stored may not remain in storage beyond the end of the fifth calendar year after the delivery of water into storage in the IRWD Water Bank. For example, if 10,000 AF of water (after losses) is delivered by Mojave into storage in Year 1, then Mojave’s 5,000 AF share must be returned by the end of Year 6.</p> |
| <b>Losses</b>           | Water banking losses shall be shared equally between IRWD and Mojave (between 11 and 15%). Mojave and IRWD each may incur additional conveyance losses of 1% to 2% in the Cross Valley Canal (CVC) for conveyance of each agency’s share of the water, as measured and assessed by Kern County Water Agency (KCWA).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

|                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Recharge Costs</b>               | IRWD and Mojave would each be responsible for one-half of all costs assessed to IRWD by Rosedale-Rio Bravo Water Storage District for recharging water at the IRWD Water Bank. These costs may include Rosedale's administrative charge, charges assessed by the KCWA, Cross Valley Canal (CVC) Standby, applicable CVC pumping and O&M costs, and applicable fixed and variable O&M Water Bank costs. Mojave's share of the Recharge Costs would not be paid to IRWD until after Mojave's share of the water has been returned.                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>SWP Fixed and Variable Costs</b> | <p>IRWD and Mojave would each be responsible for one-half of all SWP related variable costs incurred with making the Exchange Water available for recharge at the IRWD Water Bank. Mojave's share of the variable costs would not be paid to IRWD until after Mojave's share of the water has been returned.</p> <p>Mojave shall pay all fixed SWP costs associated with making the water available for recharge, including water that will be allocated to IRWD.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Recovery Costs</b>               | <p>IRWD and Mojave would each be responsible for actual costs of recovery for each agency's respective share of the water either through well pumping or by exchange. These costs may include Rosedale's administrative charge, charges assessed by the KCWA, CVC Standby, O&amp;M, and applicable CVC pumping costs, and applicable fixed and variable O&amp;M Water Bank costs.</p> <p>Mojave will pay all conveyance costs in the Aqueduct associated with the delivery of recovered water to Mojave's service area or other delivery points as determined by Mojave.</p> <p>IRWD and Mojave would each share 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, will be required to contribute \$2.00 per AF for recovered water to a fund, which may be used to meet mitigation obligations.</p>                                          |
| <b>Agency Coordination</b>          | IRWD and Mojave would cooperate with DWR, KCWA and Metropolitan Water District of Southern California in preparing all necessary agreements to facilitate the Exchange Program.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Environmental Compliance</b>     | 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 and 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. |
| <b>General Expenses</b>             | 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.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

January 17, 2019

Submitted by: P. Weghorst

Approved by: Paul A. Cook



## SUPPLY RELIABILITY PROGRAMS COMMITTEE

### CONCEPTS TO OPTIMIZE ORANGE COUNTY GROUNDWATER BASIN USING PRODUCER EXCHANGE PROGRAMS

#### SUMMARY:

Orange County Water District (OCWD) is preparing to evaluate Orange County Groundwater Basin (Basin) optimization strategies and potential storage and exchange programs that could be implemented for the benefit of the Groundwater Producing Agencies (Producers). This work will likely occur in parallel to evaluating opportunities for assisting a non-producer agency (or agencies) in south Orange County. To assist with OCWD's efforts, staff has prepared draft goals and actions for optimizing storage in the Basin as well as concepts for implementing exchanges that would be implemented for the benefit of the Producers. Staff recommends that the Committee provide input on the draft goals, actions and exchange concepts presented.

#### BACKGROUND:

OCWD is currently contemplating allowing storage programs in the Basin for the benefit of a South County agency that does not overly the Basin. IRWD and the other 18 Producers have all informed OCWD in writing of their concern with the effort and have requested that OCWD first optimize use of storage in the Basin and implement storage programs for the benefit of the Producers. Only after these priorities are met can it be determined if capacity exists in the Basin to assist non-Producer agencies.

In response to the Producer's request, OCWD staff is preparing to evaluate Basin optimization strategies and potential storage and exchange programs that could be implemented for the benefit of the Producers. This evaluation could occur in parallel to evaluating programs that could benefit a non-Producer agency. Following is an overview of goals and actions that OCWD should consider for optimizing the Basin. Also provided is an overview of proposed exchange programs that could be implemented for the benefit of the Producers.

#### Optimizing Use of Storage:

To help guide OCWD's effort of evaluating Basin optimization strategies, staff has prepared draft goals and actions that should be considered for optimizing use of storage in the Basin. This list of goals and actions is provided as Exhibit "A". At the Committee meeting, staff will further describe the draft goals and actions. Staff recommends that the Committee provide input on the information provided in Exhibit "A".

#### Producer Exchange Programs:

An important goal for the optimization of the Basin would be to sustain water levels in the Basin with less than 150,000 acre-feet of accumulated overdraft while maintaining stability to OCWD's Replenishment Assessment (RA). Two possible actions that could be taken to fill the Basin while not financially affecting the RA would be to:

- Establish exchange programs that could make use of storage in the Basin for the benefit of the Producers using water purchased by the Producers from Metropolitan Water District, and
- Establish exchange programs that would provide Extraordinary Supplies using storage in the Basin for the benefit of the Producers using water secured by the Producers from sources other than Metropolitan. The Extraordinary Supplies would provide additional water to the Producers during periods when Metropolitan is implementing Water Supply Allocations.

Staff has developed concepts that could be implemented consistent with these types of exchanges. The first concept would involve implementing In-Lieu Exchanges as depicted in Exhibit “B”. The second would be to implement Santa Ana River Conservation and Conjunctive Use Program (SARCCUP) Supply Exchanges as depicted in Exhibit “C” that would provide Extraordinary Supplies to the Producers. At the Committee meeting, staff will provide an overview of both exchange concepts, which would help fill the Basin while not financially affecting the RA. Staff recommends that the Committee provide input on the provided exchange concepts.

#### FISCAL IMPACTS:

The costs associated with implementing In-Lieu Exchanges through the Basin are depicted in Exhibit “B”. Participating Producer agencies would pay Metropolitan’s Tier-1 Treated Supply Rate for water purchased in-lieu of pumping groundwater. In addition, the participating Producer agencies would pay the current OCWD RA as pre-payment for the recovery of an equivalent amount of water in the future. Implementation of the proposed In-lieu Exchange program would result in a hedge against future increases in the RA and Basin Equity Assessment. The cost of groundwater pumping would be paid by the participating Producers at the time water is returned from the Basin.

The costs associated with implementing SARCCUP Supply Exchanges would be dependent upon the source of each participating Producer agency’s supply of exchange water. The Producer agencies participating in the SARCCUP Supply Exchanges would also pay the current RA as pre-payment for the recovery of an equivalent amount of water in the future. Implementation of the proposed SARCCUP Supply Exchanges would also result in a hedge against future increases in the OCWD RA while providing Extraordinary Supply benefits. The cost of groundwater pumping would be paid by the participating Producers at the time water is returned from the Basin.

#### ENVIRONMENTAL COMPLIANCE:

The implementation of the proposed exchange programs would be subject to compliance with the California Environmental Quality Act (CEQA) of 1970 as amended and codified in the Public Resources Code. Implementation of the proposed In-Lieu Exchange Program is likely

already covered under previous environmental compliance documents. Implementation of SARCCUP Supply Exchanges would likely be subject to further environmental review.

RECOMMENDATION:

That the Committee provide input on draft goals and actions for optimizing storage in the Orange County Groundwater Basin and on the proposed concepts for implementing exchanges for the benefit of the Groundwater Producing Agencies.

LIST OF EXHIBITS:

Exhibit “A” – Goals and Actions to Consider for Optimizing Use of the Orange County Groundwater Basin to the Benefit of the Groundwater Producers

Exhibit “B” – Diagram for Using In-Lieu Exchanges as a Groundwater Basin Management Tool

Exhibit “C” – Diagram for Using SARCCUP Supply Exchanges as a Groundwater Basin Management Tool



## EXHIBIT "A"

### DRAFT

#### Goals and Actions to Consider for Optimizing Use of the Orange County Groundwater Basin to the Benefit of the Groundwater Producers

##### GOALS:

1. Establish Replenishment Assessment stability;
2. Be financially able to take advantage of water supplies when available;
3. Sustain water levels in the Basin with less than 150,000 AF of accumulated overdraft;
4. Eliminate losses from the Basin;
5. Protect water quality in the Basin;

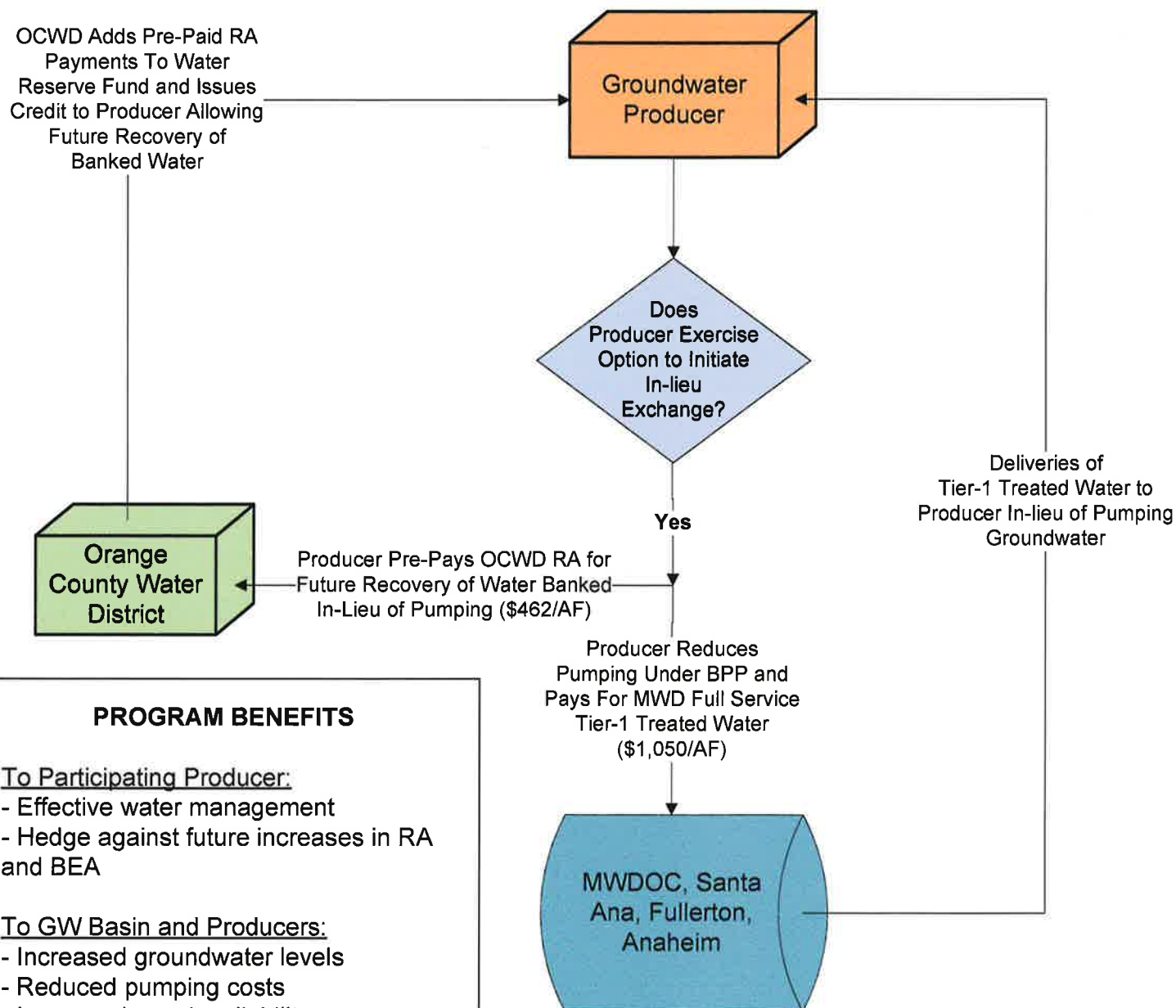
##### ACTIONS:

1. Establish programs to build and maintain Water Reserves that can be used to purchase water for direct and in-lieu recharge;
2. Secure additional land and construct additional recharge facilities;
3. Develop partnerships that result in additional recharge in the Basin;
4. Eliminate flows of groundwater into Los Angeles County through the construction and operation of wells or through negotiated replacements of water;
5. Establish Extraordinary Supply Programs that increase Basin water supplies available to the Producers during periods when Metropolitan Water District of Southern California (Metropolitan) implements Water Supply Allocations;
6. Establish mutually beneficial Groundwater Producer exchange programs that make use of storage and help fill the Basin during periods of significant accumulated Basin overdraft.
7. Increase recharge in the Santiago Pits during periods of low water levels;
8. Promote BEA exempt projects for treatment and use of groundwater contaminated with PFOS/PFAS; and
9. Work with Municipal Water District of Orange County (MWDOC) to establish a permanent in-lieu program with Metropolitan.

## Using In-Lieu Exchanges as Groundwater Basin Management Tool

Producers Provided Option to Reduce Pumping Under the BPP in Current Year  
In Exchange for Right to Pump Water Above BPP in Future Year

- Recharging Water -



### PROGRAM BENEFITS

#### To Participating Producer:

- Effective water management
- Hedge against future increases in RA and BEA

#### To GW Basin and Producers:

- Increased groundwater levels
- Reduced pumping costs
- Increased supply reliability

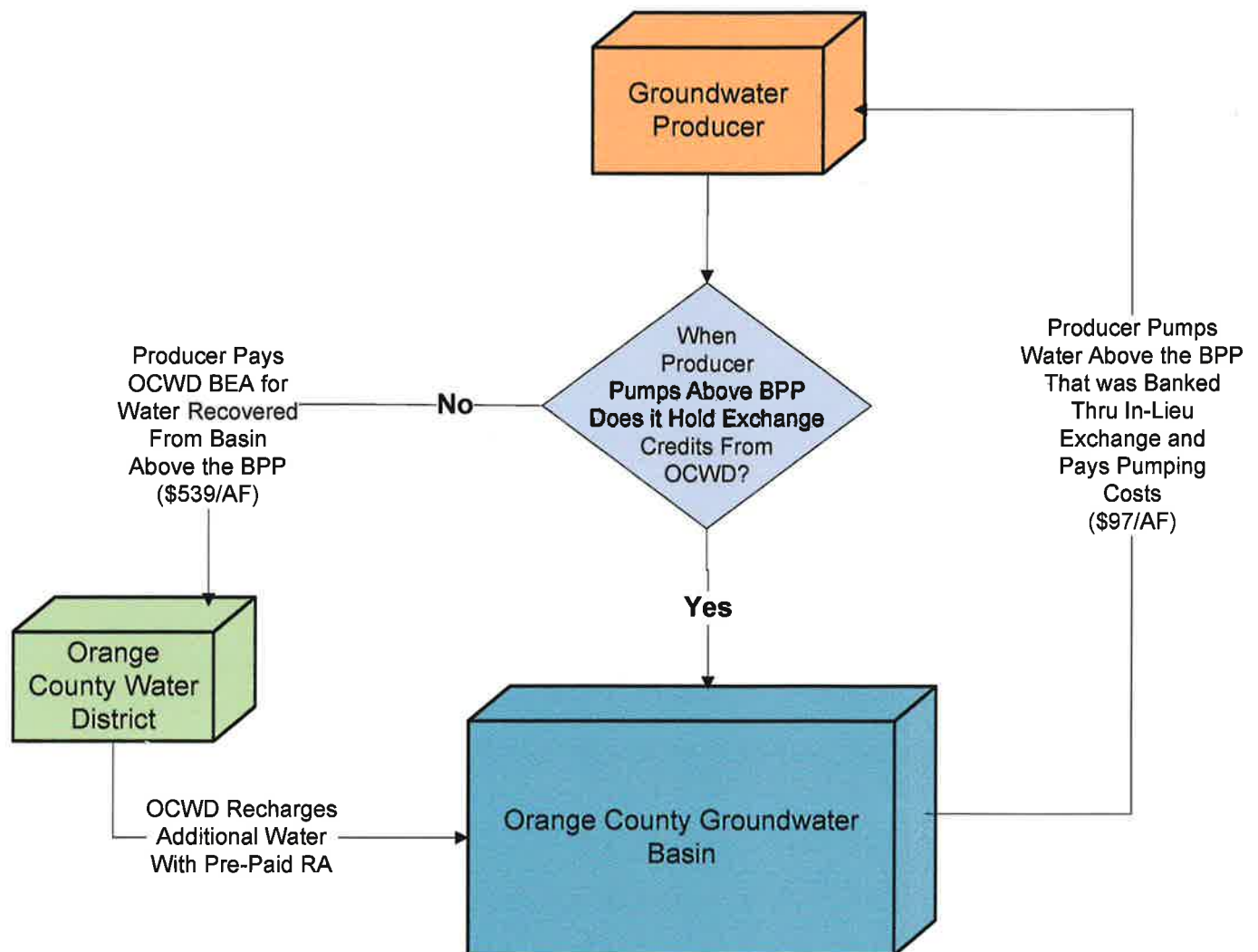
#### To OCWD:

- Revenue for Water Reserve Fund
- Flexibility in filling Basin

# Using In-Lieu Exchanges as Groundwater Basin Management Tool

Producers Provided Option to Reduce Pumping Under the BPP in Current Year  
In Exchange for Right to Pump Water Above BPP in Future Year

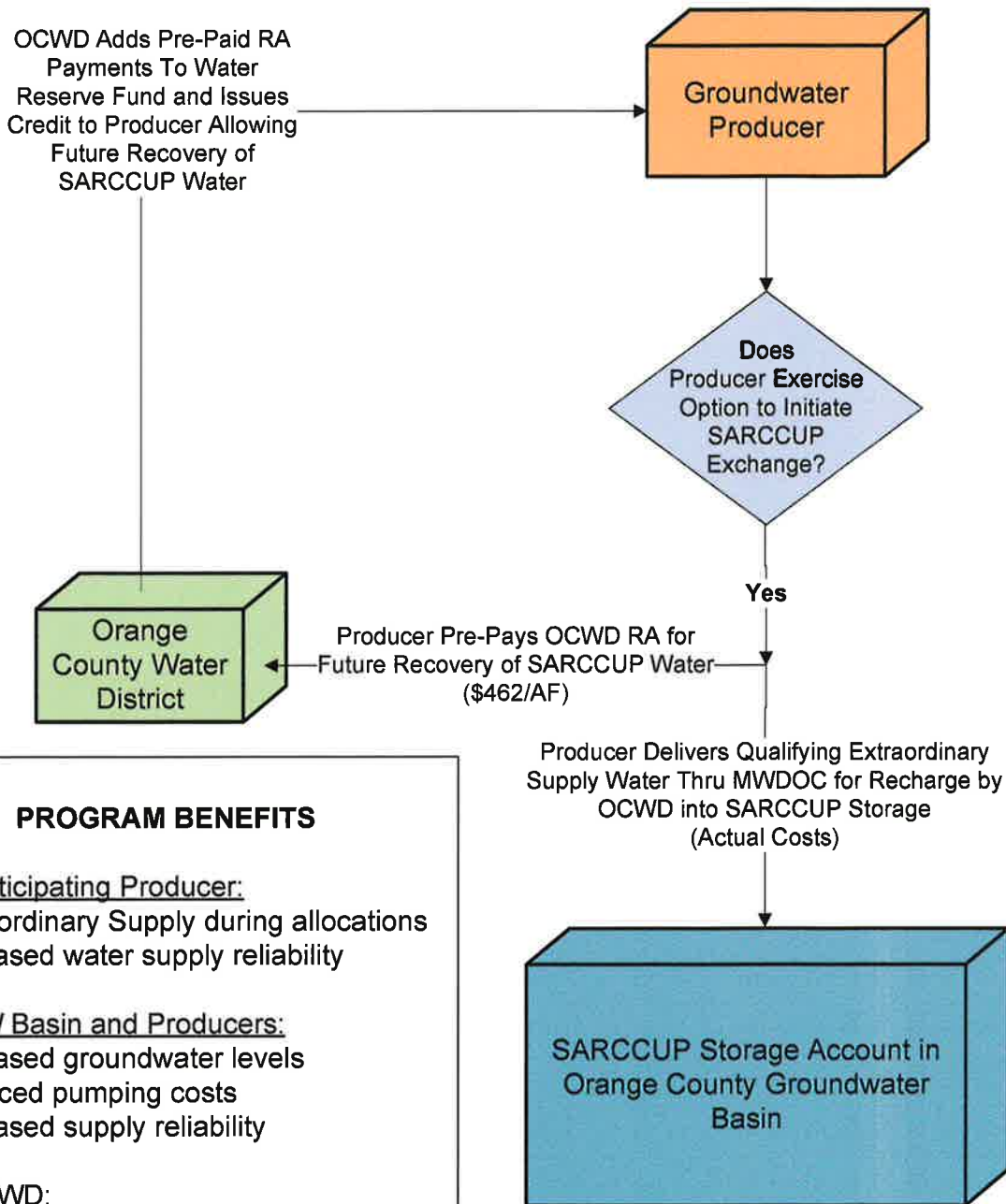
- Recovering Water -



## Using SARCCUP Supply Exchanges as Groundwater Basin Management Tool

Producers Provided Option to Deliver Water into SARCCUP Storage  
In Exchange for Equivalent Amount of Water During a Water Supply Allocation

- Recharging Water -



### PROGRAM BENEFITS

#### To Participating Producer:

- Extraordinary Supply during allocations
- Increased water supply reliability

#### To GW Basin and Producers:

- Increased groundwater levels
- Reduced pumping costs
- Increased supply reliability

#### To OCWD:

- Revenue for Water Reserve Fund
- Flexibility in filling Basin

# Using SARCCUP Supply Exchanges as Groundwater Basin Management Tool

Producers Provided Option to Deliver Water into SARCCUP Storage  
In Exchange for Equivalent Amount of Water During a Water Supply Allocation

- Recovering Water -

