To: Chino Basin Watermaster
   Advisory Committee
   Chino Basin Watermaster Board

From: Overlying (Agricultural) Pool Committee
   Chair Bob Feenstra
   Vice Chair Jeff Pierson

Date: January 2, 2020

Re: Overlying (Agricultural) Pool Committee’s Amendment to its July 12, 2018 Consolidated and Amended Contest to Applications for Storage Agreements and Sale or Transfer

OVERLYING (AGRICULTURAL) POOL COMMITTEE’S AMENDMENT TO ITS JULY 12, 2018 CONSOLIDATED AND AMENDED CONTEST TO APPLICATIONS FOR STORAGE AGREEMENTS AND SALE OR TRANSFER

On July 12, 2018, and pursuant to Watermaster Rules and Regulations section 10.13, the Overlying (Agricultural) Pool Committee (Ag Pool) filed its consolidation of, and amendment to, its May 3, 2017 and May 17, 2017 Contests to the Applications for Storage Agreements and Sale or Transfer in response to the Chino Basin Watermaster’s notices of the applications received (July 12, 2018 Consolidated and Amended Contest).\(^1\) The Ag Pool now respectfully submits this amendment to its July 12, 2018 Consolidated and Amended Contest.

Prior Applications for Water Transactions

On February 3, 2017 Watermaster provided notice of consideration of the following applications for Local Storage Agreements:

- Storage of Excess Carryover Water by members of the Overlying (Non-Agricultural) Pool in amounts as shown in the Assessment Package Approved November 17, 2016.
- Storage of Supplemental Water by members of the Overlying (Non-Agricultural) Pool in amounts as shown in the Assessment Package Approved November 17, 2016.

\(^1\) The Ag Pool's July 12, 2018 Consolidated and Amended Contest—including Exhibits—is available on the Chino Basin Watermaster’s FTP website at https://cbwm.syncedtool.com/shares/folder/e83081106c3072/?folder_id=1399 [Last viewed on December 20, 2019.]
• Storage of Excess Carryover Water by members of the Appropriative Pool in amounts as shown in the Assessment Package Approved November 17, 2016.

• Storage of Supplemental Water by members of the Appropriative Pool in amounts as shown in the Assessment Package Approved November 17, 2016.

On May 4, 2017 Watermaster provided two notices of consideration of the following applications for water transactions:

• “Notice of Sale or Transfer – The purchase of 4,000,000 acre-feet of water from the City of Pomona by Cucamonga Valley Water District. This purchase is made from the City of Pomona’s Excess Carryover Account.” Date of application: May 3, 2017.

• “Notice of Sale or Transfer – The purchase of 500,000 acre-feet of water from West Valley Water District by Cucamonga Valley Water District. This purchase is made from West Valley Water District’s Excess Carryover Account.” Date of application: May 3, 2017.

• “Notice of Sale or Transfer – The purchase of 3,000,000 acre-feet of water from Cucamonga Valley Water District by Fontana Water Company. This purchase is made from Cucamonga Valley Water District’s Annual Production Right/Operating Safe Yield first, then any additional from storage.” Date of application: May 3, 2017.

• “Notice of Sale or Transfer – The purchase of 4,000,000 acre-feet of water from Cucamonga Valley Water District by Fontana Water Company. This purchase is made from Cucamonga Valley Water District’s Annual Production Right/Operating Safe Yield first, then any additional from storage.” Date of application: May 3, 2017.

• “Notice of Sale or Transfer – The purchase of 399.260 acre-feet of water from the City of Chino by the City of Ontario. This purchase is made from the City of Chino’s Excess Carryover Account.” Date of application: May 2, 2017.

On June 8, 2018 Watermaster provided notice of the two following applications for water transactions:

• Notice of Sale or Transfer – The transfer of 80.000 acre-feet of water from West End Consolidated Water Company by Golden State Water Company. This transfer is made from West End Consolidated Water Company’s Annual Production Right/Operating Safe Yield first, then any additional from Excess Carryover. Golden State Water Company is utilizing this transaction to produce its West End Consolidated Water Company shares.

• Notice of Sale or Transfer – The transfer of 853.677 acre-feet of water from West End Consolidated Water Company by City of Upland. This transfer is made from West End Consolidated Water Company’s Annual Production Right/Operating Safe Yield first, then any additional from Excess Carryover. The City of Upland is utilizing this transaction to produce its West End Consolidated Water Company shares.

Applications for Local Storage

On December 6, 2019 Watermaster provided notice of the following application for local storage:

• Notice of Application for a Local Storage Agreement – Storage of Excess Carryover and Local Supplemental Water by members of the Appropriative Pool. This application is made

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2 See Exhibit 1: December 6, 2019 Notice of Application for Local Storage Agreement
for excess carry over and local supplemental or imported water for various Appropriative Pool Parties.

Ag Pool’s Contests

Pursuant to Chino Basin Watermaster Rules and Regulations section 10.13, the Ag Pool timely submitted three Contests to prior applications for water transactions identified above. Through the execution of four Tolling Agreements, the Ag Pool and Appropriative Pool agreed to have the Ag Pool’s May 3, 2017, May 17, 2017 and July 12, 2018 Contests consolidated for hearing, and for the Ag Pool to toll the Contests and not to oppose any Appropriative Pool member’s applications for storage agreements or transfers of stored water for the term of the Fourth Tolling Agreement. (See Exhibit 2: Fourth Tolling Agreement.) The Tolling Agreement also affirms the parties’ agreement to continue the open and transparent storage management planning process initiated under the First Tolling Agreement. Since the execution of the Fourth Tolling Agreement, a 2020 Draft Storage Management Plan has been developed for inclusion in the 2020 Optimum Basin Management Program (OBMP) Update. Wildermuth Environmental, Inc. has prepared a 2020 Storage Management Plan Final Report; however, no management plan has yet been adopted and implemented to address storage. Accordingly, and as a result of the termination of the Fourth Tolling Agreement on December 31, 2019, the Ag Pool hereby submits this Amendment to its July 12, 2018 Consolidated and Amended Contest to include the application for local storage agreements noticed by the Watermaster on December 6, 2019.

Contest Requirements and Rules

The Ag Pool submits this Amendment to its July 12, 2018 Consolidated and Amended Contest with the intention of protecting the Chino Basin from Material Physical Injury (MPI) and also acting to preserve its previous Contests. All of the Ag Pool’s previous Contests and this Amendment are filed to preserve the groundwater resources of the Chino Basin and all those who rely upon them (including but not limited to the Ag Pool). Through this Amendment to the July 12, 2018 Consolidated and Amended Contest, the Pool again expresses its concern regarding water storage that has been accumulating and used without adequate storage management.

Basis for Contest

The Ag Pool hereby preserves arguments made in its May 3, 2017, May 17, 2017 and July 12, 2018 Contests and incorporates those arguments herein by reference. (See July 12, 2018 Consolidated and Amended Contest.) Although the Ag Pool agreed to toll its opposition to the Applications for Storage Agreement and Sale or Transfer identified above through the Tolling Agreement terms and those applications were subsequently approved by the Advisory Committee on June 15, 2017 and Watermaster Board on August 23, 2018, the Ag Pool again expresses a concern that water storage and production has the potential to cause MPI to the Basin due to the manner in which this storage was accumulated and the absence of a storage management plan.

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3 “Material Physical Injury” means material injury that is attributable to the Recharge, Transfer, storage and recovery, management, movement or Production of water, or implementation of the OBMP, including, but not limited to, degradation of water quality, liquefaction, land subsidence, increases in pump lift (lower water levels) and adverse impacts associated with rising groundwater. Material Physical Injury does not include “economic injury” that results from other than physical causes. (Peace Agreement, § 1.1(y).)

4 See Exhibit 3: June 15, 2017 Advisory Committee Meeting Minutes.

5 See Exhibit 4: August 23, 2018 Watermaster Board Meeting Minutes.
The May 3, 2017 Contest properly presents evidence of the projected MPI that will result through pumping of stored water. The May 17, 2017 Contest properly presents evidence from the Watermaster Engineer Mark Wildermuth that storage management is a critical component of groundwater management. The July 12, 2018 Consolidated and Amended Contest properly presents further evidence from the Watermaster Engineer Mark Wildermuth that the existing and planned storage within Chino Basin decreases the safe yield. Additionally, through the process of developing a Draft Storage Management Plan, the Watermaster Engineer has provided additional evidence of the impact of storage on the Safe Yield of the Basin and this evidence will be relied upon to further support and supplement this contest. Therefore, the Ag Pool again formally contests any new or pending Applications for Storage Agreement and requests all use of storage (sales or transfers) be halted until a process for storage management is finalized and approved.

**Watermaster Rules and Regulations §10.14 Contents of a Contest**

(a) This Amendment to July 12, 2018 Consolidated and Amended Contest is filed by the Overlying (Agricultural) Pool of the Chino Basin Watermaster (Contestant). The address of the Contestant is as follows:

Chair Bob Feenstra, Overlying (Agricultural) Pool  
Chino Basin Watermaster  
9641 San Bernardino Road  
Rancho Cucamonga, CA 91730.  
Electronic Mail: bobfeenstra@gmail.com.

Notices and correspondence regarding this Amendment to July 12, 2018 Consolidated and Amended Contest should also be directed to counsel for the Ag Pool:

Tracy Egoscue, Esq.  
Egoscue Law Group, Inc.  
3834 Pine Ave.  
Long Beach, CA 90807  
Electronic Mail: tracy@egoscuelaw.com.

The Contestant has read the applications and the related notices.

(b) This Amendment to July 12, 2018 Consolidated and Amended Contest is based upon an allegation and evidence that the proposed actions will result in MPI to both a party to the Judgment (Ag Pool) and the Basin. The allegations of the specific injuries to both the Ag Pool and the Basin and available evidence to support the allegations are set forth in the July 12, 2018 Consolidated and Amended Contest.

All documentary evidence is from Watermaster documents and files and has been referenced to and/or provided in the Ag Pool’s May 3, 2017, May 17, 2017 Contests, and July 12, 2018 Consolidated and Amended Contest; therefore, there is no need to specially serve such evidence. Additional evidence has been prepared as part of the development of the storage management plan and is available from Watermaster documents and files. Watermaster will serve notice of this Amendment to July 12, 2018 Consolidated and Amended Contest. The Ag Pool reserves its right to provide rebuttal evidence (including expert witnesses) to any new evidence presented in response to this Amendment to July 12, 2018 Consolidated and
Amended Contest.

(c) This Amendment to July 12, 2018 Consolidated and Amended Contest asserts a claim that the accumulation and use of water held in storage may result in MPI, and further supports assertions made in Ag Pool's May 3, 2017, May 17, 2017 and July 12, 2018 Consolidated and Amended Contests.

Although a 2020 Draft Storage Management Plan and 2020 Storage Management Plan Final Report have been developed, no storage management plan or mitigation is currently in effect to protect the Basin from potential MPI. The 2020 Storage Management Plan Final Report notes that storage space used by the Parties is projected to exceed the amount of managed storage space available for use by the Parties pursuant to the 2010 Peace II Project Subsequent Environmental Impact Report and its 2017 Addendum by 120,000 acre-feet by 2030. And, as articulated in the July 12, 2018 Consolidated and Amended Contest, approval of storage agreements without mitigation conditions or a storage management plan can result in decreases in the safe yield. (See July 12, 2018 Consolidated and Amended Contest, at pp. 5-4.)

(d) The development, Watermaster approval/adoption, and implementation of a comprehensive storage management plan would likely result in withdrawal of the Contest.

Conclusion

Any potential or threatened MPI to any Party or the Basin caused by the storage agreements and sale or transfers of water must be reasonably and fully mitigated as a condition of approval. In the event the MPI cannot be mitigated, the application must be denied. (Peace Agreement § 5.3(a).) As explained above and in the Ag Pool's May 3, 2017, May 17, 2017, and July 12, 2018 Consolidated and Amended Contests, absent mitigation, pumping stored water will cause MPI and the lack of storage management decreases the safe yield. Accordingly, continued approval of the Applications for Storage Agreements and Sales or Transfers of storage should be denied until a storage management plan or other appropriate mitigation is developed, approved and implemented to ensure that the there is no MPI to the Ag Pool or the Basin.

Respectfully submitted.

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Exhibit 1:
December 6, 2019 Notice of Application for Local Storage Agreement
Chino Basin Watermaster
9641 San Bernardino Road, Rancho Cucamonga, CA 91730

Date: December 6, 2019

TRANSMITTAL

To: Watermaster Interested Parties

From: Janine Wilson
Chino Basin Watermaster
9641 San Bernardino Road
Rancho Cucamonga, CA 91730

Mail

Email: See list attached

Phone: 909.484.3888
Fax: 909.484.3890

File: Local Storage Agreements

REMARKS:

Enclosed x For your review Per Your Request Please comment

Attached please find the following Application(s) for a Local Storage Agreement:

- Notice of Application for a Local Storage Agreement – Storage of Excess Carryover and Local Supplemental Water by members of the Appropriative Pool.

This matter will come before the Pool Committees in December 2019 and the Advisory Committee and Watermaster Board in January 2020.

THIS TRANSMISSION IS INTENDED ONLY FOR THE PARTY TO WHOM IT IS ADDRESSED AND MAY CONTAIN PRIVILEGED AND CONFIDENTIAL INFORMATION. If you are not the intended recipient, you are hereby notified that any use, dissemination or copying of this transmission is strictly prohibited. If you have received this transmission in error, please notify us by telephone immediately.
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Arthur Kidman
Catharine Irvine
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Ashok Dhingra
Ben Lewis
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Bob DiPrimio
Bob Feenstra
Bob Kuhn
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Nadia Aguirre
Nadia Loukeh
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Nathan deBoom
Neetu Gupta
Nicole Escalante
Noah Golden-Krasner
Paul Deutsch
Paul Hofer
Paul Hofer
Paul S. Leon
Penny Alexander-Kelley
Pete Hall
Pete Hall
Pete Vicario
Peter Hettinga
Peter Kavounas
Peter Rogers
Praseetha Krishnan
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Rachel Ortiz
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CHINO BASIN WATERMASTER

NOTICE

OF

APPLICATION(S)

RECEIVED FOR

LOCAL STORAGE AGREEMENT

Date of Notice:

December 6, 2019

This notice is to advise interested persons that the attached application(s) will come before the Watermaster Board on January 23, 2020.
NOTICE OF APPLICATION(S) RECEIVED

Date of Application:  December 3, 2019  Date of this notice:  December 6, 2019

Please take notice that the following Application has been received by Watermaster:


This Application will first be considered by each of the respective pool committees on the following dates:

- Appropriative Pool:  December 12, 2019
- Non-Agricultural Pool:  December 12, 2019
- Agricultural Pool:  December 12, 2019

This Application will be scheduled for consideration by the Advisory Committee no earlier than thirty days from the date of this notice and a minimum of twenty-one calendar days after the last pool committee reviews it.

After consideration by the Advisory Committee, the Application will be considered by the Board.

Unless the Application is amended, as Contests must be submitted a minimum of fourteen (14) days prior to the Advisory Committee’s consideration of an Application, parties to the Judgment may file Contests to the Application with Watermaster within seven calendar days of when the last pool committee considers it. Any Contest must be in writing and state the basis of the Contest.

Watermaster address:

Chino Basin Watermaster  Tel: (909) 484-3888
9641 San Bernardino Road  Fax: (909) 484-3890
Rancho Cucamonga, CA 91730
CHINO BASIN WATERMASTER

NOTICE
OF
APPLICATION FOR A LOCAL STORAGE AGREEMENT

Notification Dated: December 6, 2019

A party to the Judgment has submitted a proposed Application for a Local Storage Agreement for Watermaster approval. Unless contrary evidence is presented to Watermaster that overcomes the rebuttable presumption provided in Section 5.2(b)(v) of the Peace Agreement, Watermaster must find that there is “no material physical injury” and approve the storage agreement. Watermaster staff is not aware of any evidence to suggest that this storage agreement would cause material physical injury and hereby provides this notice to advise interested persons that this storage agreement will come before the Watermaster Board on January 23, 2020. The attached staff report will be included in the meeting package at the time the storage agreement begins the Watermaster process (comes before Watermaster).
STAFF REPORT

DATE: December 12, 2019
TO: AP/ONAP/OAP Members
SUBJECT: Consideration of Application for Local Storage Agreements – Appropriate Pool
(Consent Calendar Item I.E)

SUMMARY

Issue: Consideration of Application for Local Storage Agreements – Storage of Excess Carryover and Local Supplemental Water by members of the Appropriate Pool.

Recommendation: Recommend to the Advisory Committee to recommend to the Watermaster Board to approve the application for local storage agreements as presented.

Financial Impact: None

Future Consideration
Appropriate Pool – December 12, 2019: Recommend to the Advisory Committee to recommend that Watermaster Board approves the application for storage agreements as presented.
Non-Agricultural Pool – December 12, 2019: Recommend to the Advisory Committee to recommend that Watermaster Board approves the application for storage agreements as presented.
Agricultural Pool – December 12, 2019: Recommend to the Advisory Committee to recommend that Watermaster Board approves the application for storage agreements as presented.
Advisory Committee – January 16, 2020: Recommend to the Watermaster Board to approve the application for storage agreements as presented.
Watermaster Board – January 23, 2020: Approve the application and authorize the General Manager to execute the necessary storage agreements.

ACTIONS:
Appropriate Pool – December 12, 2019:
Non-Agricultural Pool – December 12, 2019:
Agricultural Pool – December 12, 2019:
Advisory Committee – January 16, 2020:
Watermaster Board – January 23, 2020:

Watermaster’s function is to administer and enforce provisions of the Judgment and subsequent orders of the Court, and to develop and implement an Optimum Basin Management Program.
BACKGROUND

The Court approved the Peace Agreement, the Optimum Basin Management Program (OBMP) Implementation Plan and the goals and objectives identified in the OBMP Phase I Report on July 13, 2000, and ordered Watermaster to proceed in a manner consistent with the Peace Agreement. Under the Peace Agreement, Watermaster approval is required for applications to store, recapture, recharge or transfer water, as well as for applications for credits or reimbursements and storage and recovery programs.

Where there is no material physical injury, Watermaster must approve the transaction. Where the request for Watermaster approval is submitted by a party to the Judgment, there is a rebuttable presumption that most of the transactions do not result in Material Physical Injury to a party to the Judgment or the Basin (Storage and Recovery Programs do not have this presumption).

Pursuant to the Peace Agreement §5.2; Restated Judgment, Exhibit G, Non-Agricultural Pool Pooling Plan ¶17; Restated Judgment Exhibit H, and Appropriative Pool Pooling Plan ¶12 parties are required to have approved Local Storage Agreements for the amounts in their stored water accounts.

DISCUSSION

The Appropriative Pool has submitted an Application for Local Storage Agreement (Attachment 1) on behalf of all its members for their Excess Carry Over and Local Supplemental accounts. The application was noticed on December 6, 2019 (Attachment 2).

The 500,000 ac-ft Safe Storage Capacity threshold analyzed in the OBMP Implementation Plan PEIR has been re-examined and revised to 600,000 ac-ft, through June 30, 2021. The total water in stored water accounts as of June 30, 2019 is 549,243.3 acre-feet.

The storage applications to be considered at this time are for the Excess Carry Over and Local Supplemental accounts of the members of the Appropriative Pool.

ATTACHMENTS

1. Form 1 – Application for Local Storage Agreement
APPLICATION FOR
LOCAL STORAGE AGREEMENT

APPLICANT
Watermaster Appropriative Pool Parties with Stored Water Accounts - see attached Table A

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<thead>
<tr>
<th>Name of Party</th>
<th>December 3, 2019</th>
<th>Date Requested</th>
<th>Date Approved</th>
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<th>Amount Approved</th>
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<tr>
<th>City</th>
<th>CA</th>
<th>State</th>
<th>Zip Code</th>
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<tbody>
<tr>
<td>Various</td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

Telephone: Various Facsimile: Various

TYPE OF WATER TO BE PLACED IN STORAGE

[ ] Excess Carry Over  [ ] Local Supplemental or Imported  [x] Both

PURPOSE OF STORAGE - Check all that may apply

[x] Stabilize or recue future water costs/assessments.

[x] Facilitate utilization of other available sources of supply.

[x] Facilitate replenishment under certain well sites.

[x] Preserve pumping right for a changed future potential use.

Other, explain Any other approved purpose not listed above.

METHOD AND LOCATION OF PLACEMENT IN STORAGE - Check and attach all that may apply

[ ] Recharge (Form 2)

[ ] Transfer of Right to Water in Storage (Form 3)

[ ] Transfer from another party to the Judgment (Form 5)

METHOD AND LOCATION OF RECAPTURE FROM STORAGE - Check and attach all that may apply

[ ] Pump from my wells (Form 4)

[ ] Transfer to another party to the Judgment (Form 3)

WATER QUALITY AND WATER LEVELS

What is the existing water quality and what are the existing water levels in the areas that are likely to be affected?

The latest water quality and water levels throughout the basin are shown in the latest State of the Basin Report.

MATERIAL PHYSICAL INJURY

Is the Applicant aware of any potential Material Physical Injury to a party to the Judgment or the Basin that may be caused by the action covered by the application?  Yes [ ]  No [x]

If yes, what are the proposed mitigation measures, if any, that might reasonably be imposed to ensure that the action does not result in Material Physical Injury to a party to the Judgment or the Basin?
ADDITIONAL INFORMATION ATTACHED  
Yes [X]  No [ ]

Various

Applicant

TO BE COMPLETED BY WATERMASTER:

DATE OF APPROVAL FROM NON-AGRICULTURAL POOL: ______________________

DATE OF APPROVAL FROM AGRICULTURAL POOL: ______________________

DATE OF APPROVAL FROM APPROPRIATIVE POOL: ______________________

HEARING DATE, IF ANY: ______________________

DATE OF ADVISORY COMMITTEE APPROVAL: ______________________

DATE OF BOARD APPROVAL: ______________________  Agreement #______
## NEW STORAGE ACCOUNT BALANCES BY PARTY (APPROVED 2019/2020 ASSESSMENT PACKAGE)

<table>
<thead>
<tr>
<th>PARTY NAME</th>
<th>PARTY ADDRESS</th>
<th>CONTACT PERSON</th>
<th>EXCESS CARRYOVER</th>
<th>LOCAL SUPPLEMENTAL RECYCLED</th>
<th>LOCAL SUPPLEMENTAL IMPORTED</th>
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<td>Dave Clossley</td>
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<td>John Bosler</td>
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<td>2151 S. Haven Ave., Suite 202, Ontario, CA 91761</td>
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<td>Ben Lewis</td>
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<td>11201 Harel St, Mira Loma, Ca. 91752</td>
<td>Chris Berch</td>
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<td>Chad Elais</td>
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<td>San Bernardino County of (Shooting Park)</td>
<td>386 North Arrowhead Ave., 5th Floor, San Bernadino, CA 92415</td>
<td>Bob Page</td>
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<td>Santa Ana River Water Company</td>
<td>10630 54th Street, Jurupa Valley, CA 91722</td>
<td>Arnold Rodriguez</td>
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<td>PO Box 460, Upland, CA 91785-0460</td>
<td>Rosemary Hoering</td>
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<td>West End Consolidated Water Company</td>
<td>PO Box 460, Upland, CA 91785-0460</td>
<td>Rosemary Hoering</td>
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<td>Clarence Mansell</td>
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Exhibit 2:
Fourth Tolling Agreement
TOLLING AGREEMENT

This Tolling Agreement ("Agreement") is entered into by and between the Overlying (Agricultural) Pool Committee ("Agricultural Pool") and the Appropriate Pool Committee ("Appropriate Pool"). The entities entering into this Agreement are each an individual "Party" and collectively the "Parties" to this Agreement.

WHEREAS, the Chino Groundwater Basin ("Chino Basin") has been adjudicated and is managed pursuant to the Chino Basin Judgment ("Judgment") and Court Approved Management Agreements; and

WHEREAS, the Agricultural Pool consists of the State of California and all overlying producers; and

WHEREAS, the Appropriate Pool consists of owners of appropriative rights in the Chino Basin; and

WHEREAS, on February 3, 2017, the Chino Basin Watermaster ("Watermaster") noticed an Appropriate Pool Application for Excess Carryover Water Local Storage Agreements (the "February Application"); and

WHEREAS, on May 4, 2017, Watermaster noticed Applications for Sale or Transfer of Water (the "May Applications"); and

WHEREAS, on May 3, 2017, the Agricultural Pool filed a Contest to the February Application; and

WHEREAS, on May 17, 2017, the Agricultural Pool filed a Contest to the May Applications; and

WHEREAS, the Parties entered into a tolling agreement to consolidate and toll the Agricultural Pool's Contests and to begin an open and transparent storage management planning process (First Tolling Agreement); and

---

1 Members of the Appropriate Pool have authorized execution of this Agreement on their behalf acting collectively through the Appropriate Pool pursuant to Committee voting procedures set forth in the Appropriate Pool Committee Pooling Plan (Judgment, Exhibit H). Such authorization does not assign, confer or abrogate the rights or exercise of rights of individual members of the Appropriate Pool.
WHEREAS, on June 8, 2018, Watermaster noticed Applications for Water Transactions (the "June Applications"); and

WHEREAS, the First Tolling Agreement expired on July 1, 2018; and

WHEREAS, beginning in July 2017, an open and transparent storage management planning process was initiated to identify and improve existing storage management practices; and

WHEREAS, on July 12, 2018, the Agricultural Pool filed a Contest to the June Applications; and

WHEREAS, the Parties entered into a second tolling agreement (Second Tolling Agreement) to extend the terms of the First Tolling Agreement; and

WHEREAS, the Second Tolling Agreement expired on January 31, 2019; and

WHEREAS, the Parties entered into a third tolling agreement (Third Tolling Agreement) to extend the terms of the Second Tolling Agreement; and

WHEREAS, the Third Tolling Agreement expires on July 31, 2019; and

WHEREAS, the Parties agree to work together for the benefit of the entire Chino Basin.

NOW, THEREFORE, the Parties agree that it is in the Parties' mutual interest to enter into this Agreement.

1. The "Effective Date" of this Agreement shall be the last date it is executed by a Party.

2. The term of this Agreement shall run from the Effective Date to December 31, 2019, unless otherwise terminated or extended by written agreement by the Parties pursuant to paragraph 13, below.

3. The Appropriative Pool shall hold in reserve 130,000 acre-feet ("AF") of stored that will not be produced for the term of the Agreement, except if in the event that the member of the Appropriative Pool has made a finding pursuant to Water Code section 350 that the ordinary demands and requirements of its customers cannot be satisfied by its other supplies such that, without access to this water, it would have insufficient supplies for human consumption, sanitation, and fire protection. Any challenge to such a determination under Water Code section
350 is not subject to this tolling agreement.

4. For the term of this Agreement, the Agricultural Pool and its members agree to toll the July 12, 2018 Contest, which includes the Agricultural Pool’s May 3, 2017 and May 17, 2017 contests, and not to oppose any Appropriative Pool member’s applications for storage agreements or transfers of stored water.

5. The Appropriative Pool waives completion of the Contest hearing and related actions within 180 days as otherwise required by Watermaster Regulations section 10.25(g) during the term of this Agreement. The Parties and Parties members’ rights and remedies arising under the Contest are fully reserved and tolled without prejudice during the Term.

6. The Parties agree to continue the open and transparent storage management planning process initiated under the First Tolling Agreement, including additional technical review and study of the effects of the entirety of water held and likely to accumulate in storage accounts.

7. The Appropriative Pool acknowledges that funding has been budgeted for work necessary for the storage management planning process.

8. The Parties shall not introduce amendments to the Rules and Regulations section on Storage (Article VIII Storage) during the term of this Agreement.

9. The signatories to this Agreement are duly authorized to execute and bind on behalf of the Parties.

10. The laws and courts of the State of California shall govern and control the interpretation and enforcement of this Agreement.

11. This Agreement contains all the terms and conditions agreed upon by the Parties relating to the matters covered herein and supersedes any and all prior and contemporaneous agreements, negotiations, correspondence, understandings, and/or communications between the Parties to this Agreement, whether oral or written, respecting the matters covered herein.

12. If any provision of this Agreement is held to be illegal or invalid by any court of competent jurisdiction, then such provision shall be severed and deleted, and neither such provision nor its severance and deletion shall affect the validity of the remaining provisions.
13. No agreement to modify, amend, extend, supersede, terminate or discharge this Agreement, or any portion thereof, is valid or enforceable unless it is in writing and signed by all Parties to this Agreement.

OVERLYING (AGRICULTURAL) POOL COMMITTEE:

[Signature] 6/13/19
Robert Feenstra, Chair Date

APPROPRIATIVE POOL COMMITTEE:

[Signature] 6/13/19
Van Jow, Chair Date
Exhibit 3:
June 15, 2017 Advisory Committee Meeting Minutes
The Advisory Committee meeting was held at the offices of the Chino Basin Watermaster located at 9641 San Bernardino Road, Rancho Cucamonga, CA on June 15, 2017.

### ADVISORY COMMITTEE MEMBERS PRESENT

#### NON-AGRICULTURAL POOL MEMBER PRESENT
- **Brian Geye, Chair**
  - Auto Club Speedway

#### AGRICULTURAL POOL MEMBERS PRESENT
- **Jeff Pierson, Vice-Chair**
  - Crops
- **Bob Feenstra**
  - Dairy
- **Lawrence Dimock**
  - State of California – CIM

#### APPROPRIATIVE POOL MEMBERS PRESENT
- **Darron Poulsen, Second Vice-Chair**
  - City of Pomona
- **Marty Zvirbulis**
  - Cucamonga Valley Water District
- **Cris Fealy**
  - Fontana Water Company
- **Seth Zielke**
  - Fontana Union Water Company
- **Rosemary Hoerning**
  - City of Upland
- **Dave Crosley**
  - City of Chino
- **Katie Gienger for Scott Burton**
  - City of Ontario
- **Van Jew**
  - Monte Vista Irrigation Company
- **Teri Layton**
  - San Antonio Water Company
- **Ron Craig**
  - City of Chino Hills
- **Robert Tock for Todd Corbin**
  - Jurupa Community Services District

#### WATERMASTER BOARD MEMBER PRESENT
- **Bob Kuhn**
  - Three Valleys Municipal Water District

#### WATERMASTER STAFF PRESENT
- **Peter Kavounas**
  - General Manager
- **Joseph Joswiak**
  - Chief Financial Officer
- **Edgar Tellez Foster**
  - Senior Environmental Engineer
- **Anna Truong**
  - Executive Services Director/Board Clerk
- **Justin Nakano**
  - Water Resources Senior Associate

#### WATERMASTER CONSULTANTS PRESENT
- **Brad Herrema**
  - Brownstein Hyatt Farber Schreck, LLP
- **Mark Wildermuth**
  - Wildermuth Environmental, Inc.
- **Garrett Rapp**
  - Wildermuth Environmental, Inc.

#### OTHERS PRESENT
- **Curtis Paxton**
  - Chino Basin Desalter Authority
- **Shaun Stone**
  - Inland Empire Utilities Agency
- **Eunice Ulloa**
  - Chino Basin Water Conservation District
- **Richard Rees**
  - AMEC
- **Eric Tarango**
  - Fontana Water Company
- **Sheri Rojo**
  - Basin Creek Consulting
- **Amanda Coker**
  - City of Chino
- **Raul Garibay**
  - City of Pomona
- **John Schatz**
  - John J. Schatz, Attorney at Law
CALL TO ORDER
Chair Geye called the Advisory Committee meeting to order at 9:08 a.m.

AGENDA - ADDITIONS/REORDER
None

I. CONSENT CALENDAR
   A. MINUTES
      1. Minutes of the Advisory Committee Meeting held May 18, 2017

   B. FINANCIAL REPORTS
      1. Cash Disbursements for the month of April 2017
      2. Watermaster VISA Check Detail for the month of April 2017
      3. Combining Schedule for the Period July 1, 2016 through April 30, 2017
      5. Budget vs. Actual Report for the Period July 1, 2016 through April 30, 2017

   C. COST-SHARING AGREEMENT BETWEEN CHINO BASIN WATERMASTER AND CITY OF CHINO HILLS REGARDING THE CHINO HILLS ASR PILOT PROJECT
      Approve the Cost Sharing Agreement Between Chino Basin Watermaster and City of Chino Hills Regarding the Chino Hills ASR Pilot Project and authorize the General Manager to sign the agreement on behalf of Watermaster.

   D. REQUEST FOR STORAGE AGREEMENTS
      Consideration of Local Storage Agreements – Storage of Excess Carryover Water by members of the Appropriate Pool in amounts as shown in the Assessment Package Approved November 17, 2016.

   E. WATER TRANSACTIONS
      1. Notice of Sale or Transfer – The purchase of 4,000,000 acre-feet of water from the City of Pomona by Cucamonga Valley Water District. This purchase is made from the City of Pomona’s Excess Carryover Account. Date of application: May 3, 2017.
      2. Notice of Sale or Transfer – The purchase of 500,000 acre-feet of water from West Valley Water District by Cucamonga Valley Water District. This purchase is made from West Valley Water District’s Excess Carryover Account. Date of application: May 3, 2017.
      3. Notice of Sale or Transfer – The purchase of 3,000,000 acre-feet of water from Cucamonga Valley Water District by Fontana Water Company. This purchase is made from Cucamonga Valley Water District’s Annual Production Right/Operating Safe Yield first, then any additional from storage. Date of application: May 3, 2017.
      4. Notice of Sale or Transfer – The purchase of 4,000,000 acre-feet of water from Cucamonga Valley Water District by Fontana Water Company. This purchase is made from Cucamonga Valley Water District’s Annual Production Right/Operating Safe Yield first, then any additional from storage. Date of application: May 3, 2017.
      5. Notice of Sale or Transfer – The purchase of 399,260 acre-feet of water from the City of Chino by the City of Ontario. This purchase is made from the City of Chino’s Excess Carryover Account. Date of application: May 2, 2017.

(0:00:21)
Motion by Mr. Darron Poulsen, seconded by Mr. Ron Craig, and by unanimous vote
   Moved to approve the Consent Calendar as presented.
II. BUSINESS ITEMS
A. FISCAL YEAR 2016/17 BUDGET TRANSFER (FORM T-17-05-01)
Approve Budget Transfer Form T-17-05-01 for FY 2016/17 as presented.

(0:00:46) Mr. Joswiak gave a report.

(0:01:19)
Motion by Vice-Chair Jeff Pierson, seconded by Mr. Marty Zvirbulis, and by unanimous vote
Moved to approve Business Item II.A. as presented.

B. FISCAL YEAR 2016/17 BUDGET AMENDMENT (FORM A-17-05-01)
Approve Budget Amendment Form A-17-05-01 for FY 2016/17 in the amount of $100,000 for the
increased cost associated with the Safe Yield Redetermination and Reset, along with other Agricultural
Pool matters, as presented.

(0:01:42) Mr. Joswiak gave a report.

(0:02:17)
Motion by Mr. Marty Zvirbulis, seconded by Mr. Cris Fealy, and by unanimous vote
Moved to approve Business Item II.B. as presented.

III. REPORTS/UPDATES
A. LEGAL COUNSEL REPORT
1. Overlying (Agricultural) Pool Committee’s Contests
2. Rules and Regulations Update
3. Outline Of Annual Report Presentation To Judge

(0:02:39) Mr. Herrema gave a report.

B. ENGINEER REPORT
1. 2016 Annual Report of the Prado Basin Habitat Sustainability Committee
2. Other Technical Support

(0:05:36) Mr. Wildermuth offered the same reports as was given at the Pool meetings last week. The
Committee declined to have the report provided again.

C. CFO REPORT
1. Exhibit “G” Transactions

(0:05:50) Mr. Joswiak offered the same reports as was given at the Pool meetings last week. The
Committee declined to have the report provided again.

D. GM REPORT
1. Storage Agreements
2. Water Transactions (June 8, 2017 Consent Calendar Items I.D.4 – 6)
3. Storage Workshop #2
4. Desalter Replenishment Assessments For Production Year 2013/14
5. SGMA Update
6. CSI Basin Improvement Project
7. DYY Program Update
8. Other

(0:06:07) Mr. Kavounas gave reports on Items III.D.1. – III.D.4.

(0:10:25) Mr. Kavounas introduced Mr. Tellez Foster to give a report on Item III.D.5.
(0:12:27) Mr. Kavounas introduced Mr. Nakano to give a report on Item III.D.6. A discussion ensued.

(0:26:48) Mr. Kavounas announced that there will be no standing Watermaster meetings in the month of August 2017.

E. INLAND EMPIRE UTILITIES AGENCY (WRITTEN)
   1. MWD Water Supply Conditions
   2. State and Federal Legislative Reports
   3. Community Outreach/Public Relations Report
   4. IEUA Water Forum Newsletter

(0:27:29) Mr. Stone gave an update regarding the Dry Year Yield deliveries. A discussion ensued.

F. OTHER METROPOLITAN MEMBER AGENCY REPORTS
   None

IV. INFORMATION
   1. Cash Disbursements for May 2017

V. COMMITTEE MEMBER COMMENTS
   None

VI. OTHER BUSINESS
   None

VII. CONFIDENTIAL SESSION - POSSIBLE ACTION
   None

ADJOURNMENT
Chair Geye adjourned the Advisory Committee meeting at 9:37 a.m.

Secretary:__________________________

Approved:_______ July 20, 2017____________
Exhibit 4:
August 23, 2018
Watermaster Board Meeting Minutes
MINUTES
CHINO BASIN WATERMASTER
WATERMASTER BOARD MEETING
August 23, 2018

The Watermaster Board meeting was held at the offices of the Chino Basin Watermaster located at 9641 San Bernardino Road, Rancho Cucamonga, CA on August 23, 2018.

WATERMASTER BOARD MEMBERS PRESENT
Robert DiPrimio, Chair
Fontana Water Company
Jeff Pierson, Vice-Chair
Agricultural Pool – Crops
Bob Kuhn, Secretary/Treasurer
Three Valleys Municipal Water District
Bob Bowcock
CalMat Co.
Tom Haughey for Eunice Ulloa
City of Chino
Paul Hofer
Agricultural Pool – Crops
Steve Elie
Inland Empire Utilities Agency
Gino Filippi
City of Upland
Don Galeano
Western Municipal Water District

WATERMASTER BOARD MEMBER ABSENT
Eunice Ulloa
City of Chino

WATERMASTER STAFF PRESENT
Peter Kavounas
General Manager
Joseph Joswiak
Chief Financial Officer
Edgar Tellez Foster
Senior Environmental Engineer
Anna Nelson
Executive Services Director/Board Clerk
Justin Nakano
Water Resources Senior Associate

WATERMASTER CONSULTANTS PRESENT
Scott Slater
Brownstein Hyatt Farber Schreck, LLP
Brad Herrema
Brownstein Hyatt Farber Schreck, LLP
Andy Malone
Wildermuth Environmental, Inc.

OTHERS PRESENT
Ron Craig
City of Chino Hills
Todd Corbin
Jurupa Community Services District
Rick Hansen
Three Valleys Municipal Water District
Curtis Paxton
Chino Basin Desalter Authority
Pete Hall
State of California – CIM
Courtney Jones
City of Ontario
Eduardo Espinoza
Cucamonga Valley Water District
Steve Sentes
Chino Basin Water Conservation District
David De Jesus
Three Valleys Municipal Water District
Amanda Coker
City of Chino
Kati Parker
Inland Empire Utilities Agency
Darron Poulsen
City of Pomona
Raul Garibay
City of Pomona
Bob Feenstra
Agricultural Pool – Dairy
Ryan Shaw
Western Municipal Water District
Teri Layton
San Antonio Water Company
Brian Geye
California Speedway Corporation
Manny Martinez
Monte Vista Water District
Betty Anderson
Jurupa Community Services District
Art Kidman
Kidman Gagen Law, LLP
Dave Crosley
City of Chino
CALL TO ORDER
Chair DiPrimio called the Watermaster Board meeting to order at 11:02 a.m.

PLEDGE OF ALLEGIANCE

PUBLIC COMMENTS
None

AGENDA – ADDITIONS/REORDER
None

I. CONSENT CALENDAR

A. MINUTES
Approve as presented:
1. Minutes of the Watermaster Board Special Meeting held July 23, 2018
2. Minutes of the Watermaster Board Meeting held July 26, 2018

B. FINANCIAL REPORTS
Receive and file as presented:
1. Cash Disbursements for the month of June 2018
2. Watermaster VISA Check Detail for the month of June 2018
3. Combining Schedule for the Period July 1, 2017 through June 30, 2018
4. Treasurer’s Report of Financial Affairs for the Period June 1, 2018 through June 30, 2018
5. Budget vs. Actual Report for the Period July 1, 2017 through June 30, 2018

C. WATER TRANSACTIONS
Approve the proposed transactions:
1. The transfer of 80,000 acre-feet of water from West End Consolidated Water Company to Golden State Water Company. This transfer is made from West End Consolidated Water Company’s Annual Production Right/Operating Safe Yield first, then any additional from Excess Carryover. Golden State Water Company is utilizing this transaction to produce its West End Consolidated Water Company shares.
2. The transfer of 853.677 acre-feet of water from West End Consolidated Water Company to City of Upland. This transfer is made from West End Consolidated Water Company’s Annual Production Right/Operating Safe Yield first, then any additional from Excess Carryover. The City of Upland is utilizing this transaction to produce its West End Consolidated Water Company shares.

D. APPLICATION FOR RECHARGE
Approve Fontana Water Company’s Application for Recharge and direct Watermaster staff to account for this supplemental water recharged in Fontana Water Company’s existing Local Supplemental Storage account.

(0:00:48)
Motion by Mr. Bob Bowcock, seconded by Mr. Paul Hofer, and by unanimous vote
Moved to approve the Consent Calendar as presented.
II. BUSINESS ITEMS

A. RIGHT OF ENTRY AGREEMENT BETWEEN CHINO BASIN WATERMASTER AND THE CITY OF POMONA FOR CONSTRUCTION AND OPERATION OF THE POMONA EXTENSOMETER

Approve the Right of Entry Agreement between the Chino Basin Watermaster and the City of Pomona for Construction and Operation of the Pomona Extensometer and authorize the General Manager to execute the agreement on behalf of Watermaster.

(0:01:30) Mr. Tellez Foster gave a presentation

Mr. Elie joined the meeting at 11:08 a.m.

(0:07:18)
Motion by Mr. Don Galleano, seconded by Vice-Chair Jeff Pierson, and by unanimous vote
Moved to approve Business Item II.A. as presented.

B. TASK ORDER NO. 3 UNDER MASTER AGREEMENT FOR COLLABORATIVE PROJECTS: POMONA EXTENSOMETER CONTRACT ADMINISTRATION

Approve Task Order No. 3 Under Master Agreement for Collaborative Projects: Pomona Extensometer Contract Administration and authorize the General Manager to execute the agreement on behalf of Watermaster.

(0:07:57)
Motion by Vice-Chair Jeff Pierson, seconded by Mr. Bob Kuhn, and by unanimous vote
Moved to approve Business Item II.B. as presented.

C. RIGHT OF ENTRY AGREEMENT BETWEEN CHINO BASIN WATERMASTER AND CHINO REAL ESTATE 13799 LLC (MONITORING WELL PRESERVATION AT FORMER CROWN COACH FACILITY)

Approve the Right of Entry Agreement between the Chino Basin Watermaster and Chino Real Estate 13799, LLC and authorize the General Manager to execute the agreement on behalf of Watermaster.

(0:08:35) Mr. Kavounas gave a report.

(0:09:13)
Motion by Mr. Bob Bowcock, seconded by Vice-Chair Jeff Pierson, and by unanimous vote
Moved to approve Business Item II.C. as presented.

III. REPORTS/UPDATES

A. LEGAL COUNSEL REPORT
   1. Appeal of April 28, 2017 Order
   2. August 24, 2018 Court Hearing
   3. Overlying (Agricultural) Pool Committee’s Consolidated and Amended Contests

(0:09:37) Mr. Slater gave a report on Item III.A.1. and announced that the motion to stay hearing was postponed to December 28, 2018. A discussion ensued.

(0:11:47) Mr. Corbin gave an update on the Safe Yield Reset appeal process. A discussion ensued.

(0:15:24) Mr. Slater gave reports on Items III.A.2. – III.A.3.

B. ENGINEER REPORT
   1. Storage Framework
   2. Fiscal Year 2017/18 GLMC Annual Report

(0:17:59) Mr. Malone gave a report. A discussion ensued.
C. CFO REPORT
   None

D. GM REPORT
   1. 2018 RMPU
   2. SGMA Update
   3. Other

   (0:21:48) Mr. Nakano gave a report on Item III.D.1.

   (0:22:50) Mr. Tellez Foster gave a report on Item III.D.2.

   (0:24:50) Mr. Kavounas announced the final Storage Framework Workshop #8 will be held on September 11, 2018 and shared thoughts on the Fiscal Year 2018/19 Assessment Package process. A discussion ensued.

IV. INFORMATION
   1. Cash Disbursements for July 2018

V. BOARD MEMBER COMMENTS
   None

VI. OTHER BUSINESS
   None

VII. CONFIDENTIAL SESSION - POSSIBLE ACTION
   Chair DiPrimio called for a confidential session at 11:36 a.m. to discuss the Appeal of April 28, 2017 Order and Advisory Committee Request For Watermaster Assistance. Chair DiPrimio announced that confidential session concluded at 12:09 p.m. with no reportable action.

   Mr. Galleano left the meeting at 11:55 a.m. before Confidential Session concluded.

ADJOURNMENT
   Chair DiPrimio adjourned the Watermaster Board meeting at 12:10 p.m.

   Secretary: ________________________________

Approved: _______ September 27, 2018 _________
Exhibit 5:  
2020 Storage Management Plan Final Report  
December 11, 2019
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Section 1 – Background ........................................................................................................................ 1-1
  1.1 Storage Agreements and Transfers from Storage Accounts.................................................... 1-2
  1.2 Existing Managed Storage and Proposed Storage and Recovery Programs ....................... 1-4
Section 2 – Storage Management Plan Description ........................................................................... 2-1
  2.1 Use of Storage Space by the Parties for Their Individual Conjunctive-Use Activities and by Entities Engaged in Storage and Storage and Recovery Programs ......................................................... 2-1
  2.2 Reservation of Existing Spreading Basin Facilities to Satisfy Watermaster Recharge and Replenishment Obligations ................................................................................................................. 2-1
  2.3 Storage Management Activities of the Parties ................................................................. 2-2
     2.3.1 Limitation of Transfers or Leases of Water Rights and Water Held in Managed Storage. 2-2
     2.3.2 Mitigation of Reduced Net Recharge and Safe Yield ....................................................... 2-2
  2.4 Storage and Recovery Programs ....................................................................................... 2-2
     2.4.1 Prioritization of Put and Take Operations in MZ2 and MZ3 ............................................ 2-2
     2.4.2 Evaluation of Storage and Recovery Program Impacts, MPI, and Mitigation ............... 2-3
     2.4.3 Adverse Impacts Due to a Storage and Recovery Program Must Be Mitigated ............ 2-3
  2.5 Storage Agreement Application Process ........................................................................... 2-4
  2.6 Storage Management Plan Update ................................................................................. 2-4

Appendix A – 2020 Storage Management Plan White Paper
Appendix C – 2019 Update of Water Demand, Water Supply and Managed Storage Projections through 2050
### List of Tables

| 1-1 | Ending balances in managed storage in the Chino Basin (af) |

### List of Figures

| 1-1 | Comparison of managed storage space used, managed storage space available, and projected maximum use of managed storage by the Parties |

### Acronyms, Abbreviations, and Initialisms

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<td>af</td>
<td>acre-feet</td>
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<td>DYYP</td>
<td>Dry Year Yield Program</td>
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<td>Material Physical Injury</td>
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The objective of this report is to describe the 2020 Storage Management Plan (SMP). The basis of the 2020 SMP was described in the Final 2020 Storage Management Plan White Paper, which has been incorporated into this document as Appendix A. The Watermaster stakeholders reviewed and commented on the draft White Paper and participated in two workshops that occurred in June and July 2019. The final technical requirements of the 2020 SMP were developed in part from the work conducted in the 2018 Storage Framework Investigation (SFI), the White Paper, and discussions with the Watermaster stakeholders. The draft versions 1 and 2 of the 2020 SMP were distributed to the Watermaster stakeholders on September 6, 2019 and October 24, 2019, respectively. The Watermaster stakeholders provided comments on these drafts and the complete set of comments and Watermaster staff responses are included in Appendices B1 and B2. Some of the comments resulted in updates to the 2020 SMP and they are included herein.

Groundwater pumping rights in the Chino Basin were adjudicated in the 1970s and settled in the 1978 stipulated agreement (Judgment). The Judgment established a Watermaster to administer the decree under the court’s continuing jurisdiction and empowered it to manage and control available storage capacity and to enter into agreements for the storage of water. As a prerequisite to implementing the Optimum Basin Management Program (OBMP) the Parties executed the Peace Agreement, providing direction and guidance to Watermaster on how storage should be prioritized and managed. The OBMP addresses the management of groundwater pumping, recharge, storage and recovery, and the transfer of water. The prevailing standard for all operations is the avoidance of “Material Physical Injury” (MPI) under Court-Approved Management Agreements executed contemporaneously.

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1 The abbreviation “SMP” means Storage Management Plan. When referring specifically to the 2020 Storage Management Plan the year “2020” precedes SMP (i.e. 2020 SMP).
2 Wildermuth Environmental, Inc. (2019). Final 2020 Storage Management Program White Paper. This report can be found here: https://cbwm.syncedtool.com/shares/folder/e83081106e3072/?folder_id=1847
5 The terms Party and Parties refer to a party to the Judgment, party to the Peace and or Peace II Agreement, or a party to all three.
6 Defined terms in the Court Approved Management Agreements will appear with the first letter of each word capitalized; a footnote with their definitions is included at the first use of the defined term.
7 "Material Physical Injury" means material injury that is attributable to the Recharge, Transfer, storage and recovery, management, movement or Production of water, or implementation of the OBMP, including, but not limited to, degradation of water quality, liquefaction, land subsidence, increases in pump lift (lower water levels), and adverse impacts associated with rising Groundwater. Material Physical Injury does not include "economic
Given the passage of twenty years since its approval, Watermaster has revisited the OBMP goals and objectives and plans to update the OBMP by June 2020 (hereafter, 2020 OBMPU). Updating the SMP is integral to the 2020 OBMPU. The 2020 SMP will be incorporated into the 2020 OBMPU and its implementation plan.

The term “managed storage” as used herein (and consistent with the 2018 SFI) refers to water stored by the Parties and other entities and includes Carryover, Local Storage, and Supplemental Water held in storage accounts by the Parties and Storage and Recovery Programs. Local Storage includes Excess Carryover for the Overlying Non-Agricultural Pool Parties and Excess Carryover and Supplemental Waters for the Appropriate Pool and Overlying Non-Agricultural Pool Parties.

1.1 Storage Agreements and Transfers from Storage Accounts

Since the Judgment came into effect, Watermaster developed rules and regulations, standard storage agreements, and related forms. There are three types of storage agreements that result in five types of storage accounts: Excess Carryover, Local Supplemental-Recycled, Local Supplemental-Imported, Pre-2000 Quantified Supplemental, and Storage and Recovery. An Excess Carryover account includes a Party's unproduced rights in the Safe Yield (Safe Yield for Overlying Non-Agricultural Pool Parties and Excess Carryover and Supplemental Waters for the Appropriate Pool and Overlying Non-Agricultural Pool Parties.

injury" that results from other than physical causes. Once fully mitigated, physical injury shall no longer be considered material. [Peace Agreement § 1.1(y).]
Parties) and Basin Water acquired from other Parties. A Local Supplemental Water account includes imported and recycled water that is recharged by a Party and similar water acquired from other Parties. A Storage and Recovery account includes Supplemental Water and is intended to produce a “broad and mutual benefit to the Parties to the Judgment.” Watermaster tracks the puts, takes, losses, and end of year storage totals for all of these storage accounts, and reports on this accounting in the annual assessment process. The losses assessed by Watermaster are based on the amount of water in managed storage (excluding Carryover) and they offset the increase in groundwater discharge to the Santa Ana River from the Chino Basin attributable to managed storage (excluding Carryover). Watermaster also assesses losses due to evaporation on the puts when water is recharged in spreading basins.

In evaluating applications for storage agreements, Watermaster must conduct an investigation to determine if the water stored and recovered under a proposed storage agreement has the potential to cause MPI to a Party or the basin. If Watermaster determines that implementation of the proposed storage agreement has the potential to cause MPI, the applicant must revise its application and demonstrate that there will be no MPI, or Watermaster must impose conditions in the storage agreement to ensure there is no MPI. Watermaster cannot approve a storage agreement that has the potential to cause MPI.

The Restated Judgment provides that the Basin’s groundwater storage capacity may be utilized for the storage and conjunctive use of supplemental water only under Watermaster control and regulation and that no use of such capacity be made except pursuant to written agreement with Watermaster (Restated Judgment, ¶ 11, 12; see also Peace Agreement, § 5.2(a)). The Pooling Plans of the Overlying (Non-Agricultural) Pool (Restated Judgment Exhibit “G”) and the Appropriative Pool (Restated Judgment Exhibit “H”) each require agreement with Watermaster as a condition of storing Excess Carryover water within the Basin.

Consistent with ¶’s 14 and 28 of the Restated Judgment and the Chino Basin Watermaster Rules and Regulations (“Rules and Regulations”), storage of water within the Basin has been accomplished pursuant to Watermaster’s existing Form 1 (Application for a Local Storage Agreement) and Form 8 (Standard Local Storage Agreement). The Board enters into storage agreements only after an application is noticed and considered by the Pool Committees, Advisory Committee, and Watermaster Board (see Rules and Regulations, Article X), and when a finding is made that storage will not result in MPI to any Party to the Judgment or the Basin. (Peace Agreement, § 5.2(b)(iv).)

The Form 1 Application for Local Storage Agreement was approved in 2001 and has not been amended since that time; it is the mechanism through which Parties may apply to enter into a Local Storage Agreement.

The Form 8 Local Storage Agreement, as it was similarly approved by the Court in 2001 and still exists today, provides for the storage of a set quantity of water for the duration of the Peace Agreement. While Watermaster tracks production on a quarterly basis and accounts for unproduced water and water entering storage annually, in the event that a Party wishes to increase its quantity of water in storage—either via recharge of Supplemental Water or the accrual of Excess Carryover water—in order to ensure that that the additional quantity of water

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14 See §5.2(c)(iv)(b) of the Peace Agreement
is stored in compliance with the provisions of the Restated Judgment, Peace Agreement, and Rules and Regulations, it must enter into a new storage agreement. In practice, this means that each of the members of the Overlying (Non-Agricultural) and Appropriative Pools must go through the application process each year in which their balances of stored water increase.

The Parties, amongst themselves, are actively involved in water transfers of annual unproduced rights in the Safe Yield and water in their storage accounts. Watermaster has an application and review process for transfers that is similar to the storage agreement application process. Transfers are one way that the Parties recover water held in storage accounts.

### 1.2 Existing Managed Storage and Proposed Storage and Recovery Programs

The Parties engage in conjunctive-use activities individually by storing Basin and Supplemental Waters that are in excess of their demands and subsequently recover that water as their individual needs arise. These activities collectively cause a temporary increase in managed storage. Table 1-1 summarizes the amount of water in managed storage by the Parties. Table 1-1 also shows the amount of water stored by the Metropolitan Water District of Southern California (Metropolitan) Dry-Year Yield Program (DYYP). The total volume of water in managed storage as of June 30, 2019 was 549,244 af.

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<td>19,231</td>
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</tbody>
</table>

The 2018 SFI projected that for the planned use of managed storage by the Parties up to 700,000 af that Hydraulic Control would be maintained, that there would be no MPI, and that there would be an adverse impact from the reduction of net recharge and Safe Yield attributable to the use of managed storage. The 2018 SFI made an identical finding for Storage and Recovery Programs that would operate in an identical manner to the existing Metropolitan DYYP and using the managed storage space between 700,000 af and 800,000 af.
As of June 30, 2019, the Parties’ aggregate amount of water in managed storage was 503,275 af (see Table 1.1). The Parties are projected to use in aggregate about 720,000 af of managed storage for their individual conjunctive-use operations based on the most recent planning information provided by them (See Appendix C). The projected average annual increase in managed storage by the Parties is about 21,600 afy through 2030, after which the aggregate amount of managed storage space used by the Parties is projected to decline through about 2070.

Metropolitan’s DYYP is the only active Storage and Recovery Program in the basin. The DYYP can store up to 100,000 af with maximum puts of 25,000 afy and maximum takes of 33,000 afy. The DYYP Storage and Recovery Program agreement provides that puts and takes can exceed these values if agreed to by Watermaster (as was done in fiscal years 2018 and 2009, respectively). As of June 30, 2019, there was 45,969 af stored in the DYYP account. The agreement that authorizes the DYYP will expire in 2028.

The combined use of managed storage by the Parties and Metropolitan’s DYYP is projected to reach a maximum of about 790,000 af assuming that the DYYP has 100,000 af in storage in 2028 and that subsequent to 2028 Metropolitan removes that water from managed storage at the contract rate of 33,300 afy starting in 2029.

Figure 1-1 compares the current amount of water in managed storage to the managed storage space available and the projected use of storage space by the Parties. The managed storage space used is 549,244 af. The amount of managed storage space available for use by the Parties pursuant the 2010 Peace II Project Subsequent Environmental Impact Report and its 2017 Addendum is 600,000 af. The storage space used by the Parties will exceed this 600,000 af limit by 120,000 af by 2030.\(^\text{15}\)

\(^{15}\) See Appendix C for updated groundwater pumping and managed storage projections.
The IEUA and some of the Parties are considering Storage and Recovery Programs with yet-to-be proposed operational parameters. According to the discussions in the development of the 2018 SFI, the amount of storage space required in aggregate for all contemplated Storage and Recovery Programs, including the DYYP, is projected to range between 200,000 and 300,000 af.
Section 2 – Storage Management Plan Description

This section describes the 2020 SMP based on the requirements of the Judgment, the Peace Agreement, the conclusions of the 2018 SFI, the 2020 SMP White Paper, and Watermaster stakeholder input from the 2020 SMP workshop process during the period of June through December 2019.

2.1 Use of Storage Space by the Parties for Their Individual Conjunctive-Use Activities and by Entities Engaged in Storage and Storage and Recovery Programs

An aggregate amount of 800,000 af is reserved for the Parties’ conjunctive-use activities (includes Carryover, Excess Carryover, and Supplemental Accounts) and Metropolitan’s DYYP. This amount is referred to as the “First Managed Storage Band” (FMSB).

The managed storage space between 800,000 and 1,000,000 af is reserved for Storage and Recovery Programs. Storage and Recovery Programs that utilize the managed storage space above 800,000 af will be required to mitigate potential MPI as if the 800,000 af were fully used. Renewal or extension of the DYYP agreement will require the DYYP to use storage space above 800,000 af.

The allocation of storage space for use by Parties and for Storage and Recovery Programs may be revised in subsequent updates of the SMP.

Note that the use of managed storage greater than 1,000,000 af may be possible provided the storing entity submits a bona fide Storage and Recovery Program application, demonstrates that the program has broad mutual benefit, demonstrates that program’s mitigation measures will meet the mitigation requirements of the Watermaster to ensure there will be no MPI and other adverse impacts, complies with CEQA, and obtains approval from the Watermaster.

2.2 Reservation of Existing Spreading Basin Facilities to Satisfy Watermaster Recharge and Replenishment Obligations

The Parties and IEUA, through the OBMP, have substantially increased storm and supplemental water recharge capacity in the Chino Basin. The increase in supplemental water recharge capacity was done to ensure that Watermaster could meet its future recharge and replenishment obligations pursuant to Court and Regional Board orders. Watermaster will include provisions in storage agreements to prioritize the use of spreading basins to satisfy

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16 A bona fide Storage and Recovery Program application includes the name of the person; the source, quantity and quality of the Supplemental Water; a description of the facilities proposed to be used, operating plan and duration of the proposed Storage and Recovery Program; CEQA documentation; and any other information Watermaster requires to evaluate the application.

17 Adverse impacts include reductions in net recharge and Safe Yield; and an increase in the groundwater discharge from the Chino North GMZ to the Santa Ana River contributing to a loss of Hydraulic Control.
Watermaster’s recharge and replenishment obligations over the use of spreading basins for other uses subject to limitations provided in existing agreements with the owners of the facilities.

2.3 Storage Management Activities of the Parties

2.3.1 Limitation of Transfers or Leases of Water Rights and Water Held in Managed Storage

Early in the OBMP implementation period, Watermaster determined that transfers or leases of water rights and water held in managed storage (hereafter transfers) from Parties that are situated such that they pump groundwater outside of MZ1 to Parties that pump in MZ1 for the purpose of replenishment have the potential to cause MPI.18

This limitation on transfers should be reconsidered if the land subsidence management plan for MZ1 includes consideration for such transfers, the land subsidence plan is implemented, and subsequent monitoring demonstrates the sufficiency of the land subsidence management plan.

2.3.2 Mitigation of Reduced Net Recharge and Safe Yield

The 2018 SFI demonstrated that storing water has the effect of reducing net recharge and Safe Yield. The reduction in net recharge caused by storage is an adverse impact. The Safe Yield, a prospective calculation, is based on projected estimates of net recharge that include the effects of managed storage on net recharge19. The reduction in Safe Yield due to projected storage management by the Parties is thus incorporated into the Safe Yield estimate. Watermaster considers this adverse impact to be mitigated by the prospective calculation of the Safe Yield.

2.4 Storage and Recovery Programs

2.4.1 Prioritization of Put and Take Operations in MZ2 and MZ3

Storage and Recovery programs are implemented through a series of “puts” and “takes” where water goes into storage during a put and is recovered from storage during a take. Based on the results of the 2018 SFI, these puts and takes should be prioritized to occur in MZ2 and MZ3 to avoid new land subsidence and interfering with land subsidence management in MZ1, to minimize pumping sustainability challenges, to minimize the impact of storage and recovery operations on solvent plumes, to preserve the state of Hydraulic Control, and to take advantage of the larger and more useful groundwater storage space in MZ2 and MZ3.

This spatial prioritization on puts and takes should be reconsidered if the land subsidence management plan for MZ1 includes consideration for Storage and Recovery programs, the land


19 Refer to the 2015 Reset Technical Memorandum and the April 2017 Court Order for additional information on the Safe Yield reset methodology. These documents can be found here: https://cbwm.syncedtool.com/shares/folder/e83081106c3072/?folder_id=1595.
subsidence management plan is implemented, and subsequent monitoring demonstrates the sufficiency of the land subsidence management plan.

2.4.2 Evaluation of Storage and Recovery Program Impacts, MPI, and Mitigation

The intent of this provision is to reaffirm the requirements of ¶ 12 of the Judgment and §5.2(c)(xiii) and 5.2(c)(ix) of the Peace Agreement, as to the review and approval of Storage and Recovery Program applications, and to require Storage and Recovery Program storage agreements to provide provisions that require Storage and Recovery Program participants to cease or modify their operations if Watermaster determines, subsequent to Watermaster and Court approval of a Storage and Recovery Program storage agreement, that the participant’s storage and recovery operations are causing or threaten to cause MPI. The types of MPI to be addressed include but are not limited to land subsidence, pumping sustainability, water quality, shallow groundwater, and liquefaction.

Watermaster will review each Storage and Recovery Program application, estimate the surface and ground water systems response, prepare a report that describes the response and potential MPI, and develop mitigation requirements to mitigate MPI caused by the proposed Storage and Recovery Program. The Storage and Recovery Program applicant will develop mitigation measures pursuant to these requirements and incorporate them into their Storage and Recovery Program application. Upon approval by Watermaster, these mitigation measures will be incorporated into the Storage and Recovery Program storage agreement.

Watermaster will periodically review current and projected basin conditions, compare this information to the projected basin conditions assumed in the evaluation of the Storage and Recovery Program application process, compare the projected Storage and Recovery Program operations to actual Storage and Recovery Program operations, and make findings regarding the efficacy of related MPI mitigation requirements and measures in the Storage and Recovery Program storage agreements. And, based on its review and findings, Watermaster may require changes in the Storage and Recovery Program storage agreements to mitigate MPI.

2.4.3 Adverse Impacts Due to a Storage and Recovery Program Must Be Mitigated

Adverse impacts include but are not limited to reductions in net recharge and Safe Yield and an increase in the groundwater discharge from the Chino North GMZ to the Santa Ana River contributing to a loss of Hydraulic Control. Watermaster will, as part of the Storage and Recovery Program application review process, make a projection of the program’s expected impact on net recharge and Safe Yield and on the state of Hydraulic Control.

The 2018 SFI concluded that the net recharge and Safe Yield of the basin would be reduced annually by about 2.0 percent (ranged from 1.5 to 2.4 percent) of the volume of water stored in a Storage and Recovery Program storage account. Watermaster will estimate the reduction in net recharge and Safe Yield for each Storage and Recovery Program and deduct it from water stored in each Storage and Recovery Program storage account to compensate for its impact on net recharge and Safe Yield.
Watermaster will review these impacts and develop mitigation requirements for the proposed Storage and Recovery Program. The Storage and Recovery Program applicant will develop mitigation measures pursuant to these requirements and incorporate them into their Storage and Recovery Program application. Upon approval by Watermaster, these mitigation measures will be incorporated into the Storage and Recovery Program storage agreement.

Watermaster will periodically review the current and projected net recharge loss rate and the state of Hydraulic Control, compare this information to the projected basin conditions assumed in the evaluation of the Storage and Recovery Program application process, compare the projected Storage and Recovery Program operations to actual Storage and Recovery Program operations, and make findings regarding the efficacy of the related mitigation measures and requirements in the Storage and Recovery Program storage agreement. And, based on its review and findings, Watermaster may require changes in the Storage and Recovery Program storage agreements to mitigate impacts on net recharge and Safe Yield and on the state of Hydraulic Control.

### 2.5 Storage Agreement Application Process

As part of the development of an updated Storage Management Plan, environmental review will be conducted as to the impacts of a planned quantity of storage space reserved for the Parties’ conjunctive-use activities and Metropolitan’s DYYP. As a means of streamlining the process through which Parties apply for, receive approval of, and enter into storage agreements with Watermaster, the existing Form 8 Local Storage Agreements will be modified to be consistent with an “evergreen agreement” paradigm.

Within an “evergreen agreement” paradigm, the forms of the agreements, as revised, will allow for the quantities stored pursuant to the agreements to increase, during the term of the agreements, to cover the amount of water that each Party to an agreement places into storage, as shown in each Watermaster-approved annual Assessment Package. The evergreen agreements will be valid for the duration of the Peace Agreement and will be automatically adjusted upon Watermaster’s approval of each subsequent Assessment Package so long as the cumulative amount of water in storage is less than the quantity reserved for the Parties’ conjunctive-use operations and Metropolitan’s DYYP (cumulatively, the FMSB) and Watermaster has made no finding that MPI is threatened to occur as a result of the increase in the quantity of water in storage.

### 2.6 Storage Management Plan Update

Watermaster will periodically review and update the SMP based on monitoring information obtained since the previous SMP was adopted, technology changes, and the “needs and requirements of the lands overlying the Chino Basin and the owners of the rights in the Safe Yield or Operating Safe Yield of the Basin.” The periodic review and update of the SMP will require the use of updated planning and hydrologic data and models, and it should be completed: at no less than a five-year frequency, when the Safe Yield is recalculated, or when

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20 Judgment, ¶12.
Watermaster determines a review and update is warranted based new information and/or the needs of the Parties or the Basin.

The projected aggregate amount of water in managed storage by the Parties in 2056 (planning horizon of the 2018 SFI) is about 340,000 af. The impacts to the Basin and the Parties from reducing managed storage below 340,000 af has not been estimated. Notwithstanding the SMP update frequency stated above, Watermaster should update the SMP at least five years before the aggregate amount of managed storage by the Parties is projected to fall below 340,000 af.
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Final 2020 Storage Management Plan White Paper

The objective of the 2020 Storage Management Plan white paper is to provide a concise compilation of technical storage management issues developed from the Storage Framework Investigation that should be considered in the 2020 Storage Management Plan. The draft 2020 Storage Management Plan white paper was distributed by the Chino Basin Watermaster on June 8, 2019 and it was reviewed at the June 20, 2019 Storage Management Plan workshop. The stakeholders were asked to provide comments on the draft white paper by July 5, 2019. These comments and Watermaster staff responses to them are included in Exhibit A attached herein. Some of those responses resulted in changes in the final white paper.

Background

Groundwater pumping rights in the Chino Basin were adjudicated in the 1970s and settled in the 1978 stipulated agreement (Judgment). The Judgment established a Watermaster to administer the decree under the court’s continuing jurisdiction and empowered it to manage and control available storage capacity and to enter into agreements for the storage of water. As a prerequisite to implementing the Optimum Basin Management Program (“OBMP”) the parties executed the Peace Agreement providing direction and guidance to the Watermaster on how storage should be prioritized and managed. The OBMP addresses the management of extraction, recharge, storage, recovery, and transfer of water. The prevailing standard for all operations is the avoidance of “undesirable results”—defined as “material physical injury”—under court approved management agreements executed contemporaneously and subsequent to the adoption of the OBMP Update in June 2020.1

Given the passage of twenty years since its approval, Watermaster has revisited the OBMP goals and objectives and plans to update the OBMP by June 2020. Updating the OBMP storage management plan is integral to the OBMP update. This background section provides the historical and institutional background for Watermaster’s storage management activities, managed storage conditions, and groundwater management challenges impacted by managed storage activities.

Judgment

There is a significant amount of unused storage space in the Chino Basin. Groundwater in storage was estimated to have declined by about 1,600,000 af over the period 1922 through 1978, the starting point of the Judgment implementation. This decline of groundwater in storage was recognized in the Judgment,2 and it requires that the use of this space be undertaken only under Watermaster control and regulation. Specifically, Judgment paragraphs 11 and 12 state:

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1 The Optimum Basin Management Program can be found here: [http://www.cbwm.org/rep_engineering.htm](http://www.cbwm.org/rep_engineering.htm).

2 Original judgment in Chino Basin Municipal Water District vs. City of Chino, et al., signed by Judge Howard B. Weiner, Case No. 164327. File transferred August 1989, by order of the Court, and assigned new case number RCV51010. The Restated Judgment can be found here:
“11. **Available Ground Water Storage Capacity.** There exists in Chino Basin a substantial amount of available ground water storage capacity which is not utilized for storage or regulation of Basin Waters\(^3\). Said reservoir capacity can appropriately be utilized for storage and conjunctive use of Supplemental Water\(^4\) with Basin Waters. It is essential that said reservoir capacity utilization for storage and conjunctive use of Supplemental Water be undertaken only under Watermaster control and regulation, in order to protect the integrity of both such Stored Water\(^5\) and Basin Water in storage and the Safe Yield\(^6\) of Chino Basin.

12. **Utilization of Available Ground Water Capacity.** Any person or public entity, whether a party to this action or not, may make reasonable beneficial use of the available ground water storage capacity of Chino Basin for storage of Supplemental Water; provided that no such use shall be made except pursuant to written agreement with Watermaster, as authorized by Paragraph 28. In the allocation of such storage capacity, the needs and requirements of lands overlying Chino Basin and the owners of rights in the Safe Yield or Operating Safe Yield\(^7\) of the Basin shall have priority and preference over storage for export.”

These paragraphs establish Watermaster’s control over the use of the storage space in the basin, require the accounting of Stored Water and Basin Water in storage, require accounting for the impacts of managed storage on Safe Yield and the prevention of unauthorized overdraft, require storing entities to obtain a storage agreement from Watermaster, and prioritize the use of storage space to meet the needs and requirements of the lands overlying the Chino Basin and of the Judgment parties over the use storage space to store water for export.

Judgment paragraphs 28 and 29 state:

“28. **Ground Water Storage Agreements.** Watermaster shall adopt, with the approval of the Advisory Committee, uniformly applicable rules and a standard form of agreement for storage of Supplemental Water, pursuant to criteria therefore set forth in Exhibit "I". Upon appropriate application by any person, Watermaster shall enter into such a storage agreement; provided that all such storage agreements shall first be approved by written order of the Court, and shall by their terms preclude operations which will have a substantial adverse impact on other producers.

29. **Accounting for Stored Water.** Watermaster shall calculate additions, extractions and losses and maintain an annual account of all Stored Water in Chino

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\(^3\) Basin Water is a defined term. Please see Storage Framework Appendix D for its definition.

\(^4\) Supplemental Water is a defined term. Please see Storage Framework Appendix D for its definition.

\(^5\) Stored Water is a defined term. Please see Storage Framework Appendix D for its definition.

\(^6\) Safe Yield is defined term. Please see Storage Framework Appendix D for its definition.

\(^7\) Operating Safe Yield is a defined term. Please see Storage Framework Appendix D for its definition.
Basin, and any losses of water supplies or Safe Yield of Chino Basin resulting from such Stored Water.”

These paragraphs require that Watermaster develop storage agreements for entities (Judgment parties and others) to store supplemental water in the basin, have the storage agreements approved by the Court, include terms in the storage agreements to ensure that storage “operations” do not cause “substantial adverse impact on other producers,” and collect information to enable it to account for “all Stored Water in Chino Basin, and any losses of water supplies or Safe Yield of Chino Basin resulting from such Stored Water.” Losses of water supplies or Safe Yield refer to storage losses and changes in Safe Yield caused by the management of storage.

**Optimum Basin Management Program and the Peace Agreements**

The Chino Basin OBMP set forth agreed goals and objectives in 1999. A year later, the Peace Agreement and the OBMP Implementation were approved by the Court in 2000. Many of the operable features of the OBMP were incorporated into the OBMP Implementation Plan, conditioned on compliance with the Peace Agreement. The OBMP Implementation Plan is Exhibit B to the Peace Agreement. The Peace Agreement is an agreement among the Judgment parties to implement the OBMP and was reviewed in a programmatic environmental impact report (PEIR), certified by the Inland Empire Utilities Agency (IEUA) in July 2000. The OBMP Implementation Plan contains a storage management plan that was developed to allow the parties and other entities to utilize the unused storage space in the basin and mitigate potential Material Physical Injury (MPI) from its use.

The OBMP storage management plan consists of managing groundwater production, replenishment, recharge, and storage such that total storage within the basin ranges from a low of 5,300,000 af to a high of 5,800,000 af. The following definitions are included in the OBMP Implementation Plan:

- Operational storage requirement (OSR) is the storage or volume in the Chino Basin that is necessary to maintain the Safe Yield. The OSR was estimated in the development of the OBMP to be about 5.3 million af. This storage value was set as the estimated storage in the basin in 1997.12
- Safe storage is an estimate of the maximum amount of storage space in the basin that can be used and not cause significant water-quality and/or high-groundwater related problems.

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9 The Peace Agreement is located here: [http://www.cbwm.org/docs/legaldocs/Peace_Agreement.pdf](http://www.cbwm.org/docs/legaldocs/Peace_Agreement.pdf)
10 The OBMP Implementation Plan is Appendix B to the Peace Agreement, and it is located here: [http://www.cbwm.org/docs/legaldocs/Implementation_Plan.pdf](http://www.cbwm.org/docs/legaldocs/Implementation_Plan.pdf)
11 Material Physical Injury is a defined term. Please see Storage Framework Appendix D for its definition.
problems. Safe storage was estimated in the development of the OBMP to be about 5.8 million af.

- Safe storage capacity (SSC) is the difference between safe storage and the OSR. The allocation and use of storage space in excess of the SSC will preemptively require mitigation; that is, mitigation must be defined and resources committed to mitigation prior to its allocation and use.

Safe storage is equal to the OSR plus the SSC. The SSC was estimated during the development of the OBMP to be equal to the calculated decline in storage (400,000 af) during the base period (1965 through 1974) used to estimate the Safe Yield\(^\text{13}\) in the Judgment plus an assumed additional decline in storage (100,000 af) in the intervening period up to the filing of the Judgment (1974 to 1978). The assumption underlying SSC was that it would be safe to store water in storage space that was recently created prior to implementing the Judgment.

Water occupying the SSC includes Carryover,\(^\text{14}\) Excess Carryover,\(^\text{15}\) Local Storage,\(^\text{16}\) and Supplemental Waters stored by the parties. Water stored for Storage and Recovery Programs is also included in the SSC.\(^\text{17}\) Carryover, Excess Carryover, Local Storage, and Supplemental Waters are referred to herein collectively as managed storage.

Subsequent to the approval of the PEIR in 2000, Watermaster and the Judgment parties developed revisions to the OBMP based on: new monitoring and borehole data collected since 1998, an improved hydrogeologic conceptualization of the basin and new numerical models that have improved the understanding of basin hydrology since 2000, and the need to expand the Chino Basin Desalters’ (desalters) capacity to the 40,000 afy of groundwater pumping required in the OBMP Implementation Plan. Concurrently, the IEUA and Watermaster worked with the Santa Ana Regional Water Quality Control Board (Regional Board) to revise the total dissolved solids (TDS) and nitrate objectives for the Chino North Management Zone\(^\text{18}\) to enable the reuse of the IEUA’s recycled water without desalting it for a period estimated to be at least 30 years and without impairing the beneficial use of Chino Basin groundwater. One of the Regional Board’s conditions for raising the TDS and nitrate objectives was the achievement of Hydraulic Control.\(^\text{19}\)

Hydraulic Control is the reduction of groundwater discharge from the Chino North Management Zone to the Santa Ana River to less than 1,000 afy. Hydraulic Control is a goal of the OBMP with the intent of maintaining and enhancing the Safe Yield of the basin by ensuring that agricultural

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\(^\text{13}\) Ibid, page 2-28 and Table 2-13

\(^\text{14}\) Carryover Water is a defined term. Please see Storage Framework Appendix D for its definition.

\(^\text{15}\) Excess Carryover Water is a defined term. Please see Storage Framework Appendix D for its definition.

\(^\text{16}\) Local Storage Water is a defined term. Please see Storage Framework Appendix D for its definition.

\(^\text{17}\) Storage and Recovery Program is a defined term. Please see Storage Framework Appendix D for its definition.

\(^\text{18}\) The Chino North Management Zone consists of the combination of OBMP Management Zones 1, 2, and 3, exclusive the Prado Basin flood pool area.

\(^\text{19}\) Hydraulic Control is a defined term. Please see Storage Framework Appendix D for its definition.
groundwater production in the southern half of the basin would be replaced by groundwater production for municipal uses as the land use in that area transitions from agricultural uses to urban uses. Through extensive investigations, it was determined that Hydraulic Control and the maintenance of Safe Yield required the expansion of desalter groundwater production to 40,000 afy and the reduction of basin water in storage by 400,000 af. These investigations included a recalculation of the total water in storage in the basin, based on the improved hydrogeologic understanding. The total storage in the Chino Basin for 2000 was estimated to be about 5,935,000 af, which is 635,000 af greater than that estimated for the OSR and 135,000 af greater than safe storage.\(^{20}\)

The OBMP Implementation Plan was amended in 2007, and the Peace II Agreement enabled the expansion of the Chino Desalter pumping capacity from 20,000 afy to 40,000 afy. The technical investigations conducted to support the expansion of desalter groundwater production to 40,000 afy and the use of 400,000 af of groundwater to partially meet the Replenishment Obligation for desalter production also indicated that the Safe Yield of the Chino Basin, at that time, was likely less than that stated in the Chino Basin Judgment and that it was projected to decline further in the future due to changes in cultural conditions in the watersheds overlying and tributary to the Chino Basin. The IEUA completed and subsequently certified a supplemental environmental impact report (SEIR) for the Peace II Agreement in 2010.

Starting in 2011, Watermaster began the technical effort to recalculate the Safe Yield. This work involved updating the hydrogeologic conceptual model of the basin, updating the historical hydrology, updating and recalibrating numerical models that simulate the surface and groundwater hydrology of the Chino Basin area, and projecting the surface and groundwater response of the basin to future management plans that included storage management. This work is documented in \textit{2013 Chino Basin Groundwater Model Update and Recalculation of Safe Yield Pursuant to the Peace Agreement} (WEI, 2015; hereafter, Safe Yield report). The results of that work yielded a reassessment of the hydrology of the basin from 1961 through 2011 and projections of basin hydrology through 2050, based on the best available planning information. The conclusions of the Safe Yield report, related to storage management, are:

- On July 1, 2000, the total water in storage in the basin was about 5,935,000 af, inclusive of the 236,000 af of managed storage. This is about 635,000 af greater than the OSR of 5,300,000 af that was established in the OBMP Implementation Plan.

- Managed storage was projected to increase from 487,000 af in 2016 to about 663,000 af by 2030 (exceeding the SSC by 163,000 af) and decline thereafter to zero af by 2051. Managed storage was projected to be used to meet future replenishment obligations.

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\(^{21}\) The 400,000 af of groundwater used for desalter replenishment is referred to as Re-Operation.
• Total storage was projected to fall below the OSR of 5.3 million af in 2041.

In 2017, the IEUA adopted an addendum to the Peace II SEIR, that provided a temporary increase in the SSC to 600,000 af through June 30, 2021 to provide time for Watermaster and the Judgment parties to update the OBMP storage management plan. The Storage Framework Investigation (2018) was conducted to provide technical support to update the storage management plan. In the absence of developing and adopting a new storage management plan by June 30, 2021, the SSC would again be limited to 500,000 af.

Storage Agreements
Since the Judgment came into effect, Watermaster developed rules and regulations, standard storage agreements, and related forms. There are three types of storage agreements that result in several types of storage accounts: Excess Carryover, Local Supplemental, Local Storage and Recovery. An Excess Carryover account includes a party’s unproduced rights in the Safe Yield (Safe Yield for Overlying Non-Agricultural Pool\(^2\) parties and Operating Safe Yield for Appropriative Pool\(^3\) parties) and Basin Water acquired from other parties. A Local Supplemental Water account includes imported and recycled water that is recharged by a party and similar water acquired from other parties. A Storage and Recovery account includes Supplemental Water and is intended to produce a “broad and mutual benefit to the Parties to the Judgment.” Watermaster tracks the puts, takes, losses, and end of year storage totals for all of these storage accounts, and reports on this accounting in the annual assessment process.

In evaluating applications for storage agreements, Watermaster must conduct an investigation to determine if the water stored and recovered under a proposed storage agreement will cause potential MPI to a party or the basin. If Watermaster determines that implementation of the proposed storage agreement will cause potential MPI, the applicant must revise its application so there is no MPI, or Watermaster must impose conditions in the storage agreement to ensure there is no MPI. Watermaster cannot approve a storage agreement that will result in MPI.

The parties, amongst themselves, are actively involved in water transfers of annual unproduced rights in the Safe Yield and water in their storage accounts. Watermaster has an application and review process for transfers that is similar to the storage agreement application process. Transfers are one way that the parties recover water held in storage accounts.

Existing Managed Storage and Proposed Storage and Recovery Programs
The Watermaster parties engage in conjunctive-use activities individually by storing Basin and Supplemental Waters that are in excess of their demands and subsequently recover that water as their individual needs arise. These activities collectively cause a temporary increase in managed storage. Table 1 summarizes the amount of water in managed storage by the Parties. Table 2-1 also shows the amount of water stored by the Metropolitan Water District of Southern California (Metropolitan) Dry-Year Yield Program (DYYP). The total volume of water in managed storage

\(^2\) Overlying Non-Agricultural Pool is a defined term. Please see Storage Framework Appendix D for its definition.

\(^3\) Appropriative Pool is a defined term. Please see Storage Framework Appendix D for its definition.
Final 2020 Storage Management Plan White Paper

storage as of June 30, 2018 was about 581,100 af. Table 1 does not reflect the anticipated reductions in managed storage that will occur to offset unassessed desalter replenishment obligations.24

24 The reconciliation of the water held in managed storage and the desalter replenishment obligation should be complete by the end of calendar year 2019, and the final Storage Management Plan report will include an updated version of this table that reflects these changes.
### Table 1 Ending Balances in Managed Storage in the Chino Basin

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<tr>
<th>Fiscal Year Ending June 30</th>
<th>Carryover Storage(^2) (af)</th>
<th>Excess Carryover (ECO)(^3) (af)</th>
<th>Local Supplemental Storage(^4) (af)</th>
<th>Subtotal (af)</th>
<th>Carryover Storage(^2) (af)</th>
<th>Local Storage(^5) (af)</th>
<th>Subtotal (af)</th>
<th>Total Managed Storage by Parties (af)</th>
<th>Dry Year Yield Program Storage(^6) (af)</th>
<th>Total Managed Storage (af)</th>
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1. Account balances are from Watermaster Assessment Packages and do not account for the desalter replenishment obligation or the change in Safe Yield.
2. The un-produced water in any year that may accrue to a member of the Non-Agricultural Pool or the Appropriative Pool and that is produced first each subsequent Fiscal Year or stored as Excess Carryover.
3. Carryover Water which in aggregate quantities exceeds a party’s share of Safe Yield in the case of the Non-Agricultural Pool, or the assigned share of Operating Safe Yield in the case of the Appropriative Pool, in any year.
4. Water imported to Chino Basin from outside the Chino Basin Watershed and recycled water.
5. Water held in a storage account pursuant to a Local Storage Agreement between a party to the Judgement and Watermaster. "Local Storage Agreement" means a Groundwater Storage Agreement for Local Storage.
6. Ending balance in the Dry Year Yield Program storage account.

Metropolitan’s DYYP is the only active Storage and Recovery Program in the basin. The DYYP can store up to 100,000 af with maximum puts of 25,000 afy and maximum takes of 33,000 afy. As of July 1, 2018, there were 41,380 af stored in the DYYP account. The agreement that authorizes the DYYP will expire in 2028.

The IEUA and some of the parties are proposing the implementation of Storage and Recovery Programs, including the Chino Basin Water Bank and the Chino Basin Program (CBP). The operational parameters of these proposed programs are not yet defined; that said, the amount of storage space required has been identified to range between 200,000 and 300,000 af.

**Current Groundwater Management Challenges and Their Relationship to Current Storage Management**

The results of the groundwater modeling work reported in the Safe Yield report projected, based on the best planning information available at that time, that the total storage in the basin will likely be relatively stable through the mid to late 2020s, and by 2050, groundwater levels were projected to decline over a broad area ranging from about 65 feet in the Pomona area to 50 feet.
in the Jurupa Community Services District (JCSD) and Desalter II well field areas.\textsuperscript{25} This decline in groundwater levels was projected to occur because managed storage was used to replenish desalter production and over-production by Appropriative Pool parties.

During the development of the \textit{2013 Amendment to the 2010 Recharge Master Plan Update} (2013 RMPU), the JCSD asserted that declining groundwater levels in the areas around and in the JCSD and Chino Basin Desalter Authority (CDA) well fields contributed to declining groundwater pumping capacity at JCSD and CDA wells. Loss in production capacity in this area is likely due to hydraulic interference among the wells and could be mitigated by reducing pumping at these wells, spreading out production over a greater area, and/or by increased recharge located proximate and tributary to the JCSD and CDA well fields. The projected decline in groundwater levels after the mid to late 2020s is projected to further exacerbate pumping sustainability challenges in this part of the basin.

The existing storage management plan is based on fixed amounts of water in storage, and its technical basis is not supported by new information available after the storage management plan was first developed (1999). Review of this new information (developed since 1999), indicates that it is possible to expand the SSC to enable greater use of storage space. This new information includes an updated hydrogeologic conceptual model; 20 years of intensive monitoring of basin operations (not available in 1999), including monitoring the basin response as managed storage approached the SSC of 500,000 af; and groundwater model-based projections of the basin response to future management plans where the managed storage exceeded 500,000 af. Re-Operation will reduce the amount of Basin Water in storage by 400,000 af. The current storage management plan does not account for Re-Operation.

The new information developed since 1999 suggests that the unanticipated use of managed storage to meet future desalter and other replenishment obligations could cause potential MPI: it has the potential to exacerbate land subsidence and pumping sustainability challenges, impact net recharge and Safe Yield, increase groundwater discharge through the CCWF, cause a loss of Hydraulic Control, and change the direction and speed of the contaminant plumes. The OBMP storage management plan needs to be updated to include features that will ensure there is no MPI to a party or the basin caused by the conjunctive-use activities of the parties and Storage and Recovery Programs.

\textbf{Storage Management Plan Requirements}

This section describes the technical features of the recommended storage management plan, based on the requirements of the Judgment, the Peace Agreement, and the conclusions of the Storage Framework Investigation.

\textsuperscript{25} See Figure 2-2 in the Storage Framework Investigation or Figure 7-5d from the Safe Yield report.
Allocation of Storage Space to the Parties Use of Managed Storage and Storage and Recovery Programs

The stakeholders desire to reserve storage space for the parties’ individual uses and for Storage and Recovery Programs to provide certainty to their water supply planning and operations.

Based on the best available planning information provided by the parties in the Storage Framework Investigation, the parties’ use of managed storage was projected to reach about 700,000 af in 2030 and decline monotonically thereafter. Therefore, it is logical to consider starting discussions for the parties use of managed storage with a limit of 700,000 af in the Storage Management Plan, and this will be adjusted in accordance with stakeholder input. Therefore, it is logical to consider establishing a limit for the parties’ use of managed storage at 700,000 af in the Storage Management Plan. Figure 1 below compares the current use of managed storage to the storage space permitted per the Peace Agreement and the expected maximum use of managed storage by the parties.
Alternatively, the Watermaster and the parties could establish a lower or higher limit, but additional engineering work will be required to assess the basin response and potential MPI for a higher limit.

The Storage Framework Investigation evaluated the use of 300,000 af of storage for Storage and Recovery Programs that was superimposed on the storage management activities of the parties. Therefore, it is logical to consider establishing an aggregate limit for all Storage and Recovery Programs at 300,000 af in the Storage Management Plan, and this limit will be adjusted in accordance with stakeholder input.
Reservation of Existing Spreading Basin Facilities to Satisfy Watermaster Recharge and Replenishment Obligations

The Judgment parties and IEUA, through the OBMP, have substantially increased the storm and supplemental water recharge capacity in the Chino Basin. The increase in supplemental water recharge capacity was done to ensure that Watermaster could meet its future recharge and replenishment obligations. Watermaster will include provisions in storage agreements that Watermaster will prioritize the use of spreading basins to satisfy Watermaster’s recharge and replenishment obligations over the use of spreading basins for other uses.

Storage Management Activities of the Parties

Limitation of Transfers or Leases of Water Rights and Water Held in Managed Storage

Early in the OBMP implementation period Watermaster determined that transfers or leases of water rights and water held in managed storage (hereafter transfers) from parties that are situated such that they pump groundwater outside of MZ1 to parties that pump in MZ1 for the purpose of replenishment have the potential to cause MPI.

This limitation on transfers should be reconsidered if the land subsidence management plan for MZ1 includes consideration for such transfers, the land subsidence plan is implemented, and subsequent monitoring demonstrates the sufficiency of the land subsidence management plan.

Mitigation of Reduced Net Recharge and Safe Yield

Currently, Watermaster assesses a 0.07 percent loss to storage accounts based on the estimated groundwater discharge from the Chino North Management Zone to the Santa Ana River. The Storage Framework Investigation demonstrated that storing water has the effect of reducing net recharge and Safe Yield. The Storage Framework Investigation estimate of reduced net recharge is inclusive of discharge from the Chino North Management Zone to the Santa Ana River. The reduction in net recharge caused by storage is an adverse impact.

There are two fundamental approaches to mitigate the reduction in net recharge caused by the parties’ storage management activities:

- In the first approach, the reduction net recharge would be embedded in Safe Yield, and it would be implicitly allocated to Appropriative Pool parties, based on their pro rata share of Operating Safe Yield.

- In the second approach, the reduction in net recharge would be debited to the storage accounts of the storing parties in the Appropriative and Overlying Non-agricultural pools, based on each parties’ amount of water in storage.

Watermaster and the parties need to determine which of the above approaches or variant of them to include in the storage management plan to ensure that the impact from the parties’ storage management activities are considered and addressed.
Storage and Recovery Programs

Prioritization of Put and Take Operations in MZ2 and MZ3

Storage and Recovery programs are implemented through a series of “puts” and “takes” where water goes into storage during a put and is recovered from storage during a take. Based on the results of the Storage Framework Investigation, these put and takes should be prioritized to occur in MZ2 and MZ3 to avoid new land subsidence and interfering with land subsidence management in MZ1, to minimize pumping sustainability challenges, to minimize the impact of storage and recovery operations on solvent plumes, to preserve the state of Hydraulic Control, and to take advantage of the larger and more useful groundwater storage space in MZ2 and MZ3.

This spatial prioritization on puts and takes should be reconsidered if the land subsidence management plan for MZ1 includes consideration for Storage and Recovery programs, the land subsidence plan is implemented, and subsequent monitoring demonstrates the sufficiency of the land subsidence management plan.

Evaluation of Storage and Recovery Program Impacts, MPI, and Mitigation

The intent of this provision is to reaffirm the requirements of Paragraph 12 of the Judgment and the Peace Agreement, as to the review of Storage and Recovery Program applications, and to require Storage and Recovery Program agreements to provide provisions that require Storage and Recovery Program proponents to cease or modify their operations if Watermaster determines, subsequent to Watermaster and Court approval of a Storage and Recovery Program storage agreement, that the proponent’s storage and recovery operations are causing or threaten to cause potential MPI. The potential MPIs to be addressed include but are not limited to: land subsidence, pumping sustainability, reductions in net recharge and safe yield, water quality impacts, shallow groundwater, and liquefaction.

Watermaster will review each Storage and Recovery Program application, estimate the surface and groundwater system response, prepare a report that documents the response and potential MPI, and develop mitigation measures to mitigate MPI caused by the proposed Storage and Recovery Program. Watermaster will incorporate these mitigation measures into the Storage and Recovery Program storage agreement.

Watermaster will periodically review current basin conditions, compare this information to the projected basin conditions prepared in the evaluation of the Storage and Recovery Program application process, compare the projected Storage and Recovery Program operations to actual Storage and Recovery Program operations, and make findings regarding the efficacy of related MPI mitigation requirements in the Storage and Recovery Program storage agreement. And, based on its review and findings, Watermaster may require changes in the Storage and Recovery Program operations to mitigate MPI.

Hydraulic Control Impacts Due to a Storage and Recovery Program Must Be Mitigated

Watermaster will, as part of the Storage and Recovery Program application review process, make a projection of the program’s expected impact on the state of Hydraulic Control. Watermaster will review these impacts and develop mitigation requirements for the proposed Storage and
Recovery Program. These mitigation requirements will be incorporated into the Storage and Recovery Program storage agreement.

Watermaster should periodically review the state of Hydraulic Control and update projections of the state of Hydraulic Control, compare this information to the projected Hydraulic Control assessment prepared in the evaluation of the Storage and Recovery Program application process, compare the projected Storage and Recovery Program operations to actual Storage and Recovery Program operations, and make findings regarding the efficacy of the related mitigation requirements in the Storage and Recovery Program storage agreement. And, based on its review and findings, Watermaster may require changes in the Storage and Recovery Program operations to mitigate impacts on the state of Hydraulic Control.

**Storage Agreement Application Process**

Watermaster and the parties should consider updating the storage agreement application process to incorporate changes in the technical features of storage management and to improve the efficiency of the application process.

**Storage Management Plan Update**

Watermaster should periodically review and update the storage management plan based on: monitoring information obtained since the previous storage management plan was adopted, technology changes, and the “needs and requirements of the lands overlying the Chino Basin and the owners of the rights in the Safe Yield or Operating Safe Yield of the Basin.” The assessment of technical storage management concerns and opportunities requires the use of updated hydrologic data and models and can be completed efficiently with the recalculation of Safe Yield on a ten-year frequency or more frequently.

The projected aggregate amount of managed storage by the parties in 2050 (planning horizon of the Storage Framework Investigation) is about 340,000 af. Notwithstanding the update frequency recommended above, Watermaster should consider updating the storage management plan before the aggregate amount of managed storage by the parties falls below 340,000 af if not done earlier in a periodic update of the storage management plan.
Appendix A

Exhibit A
Monte Vista Water District

Comment No. 1. Page 1, first full paragraph, text that reads: “As a prerequisite to implementing the Optimum Basin Management Program (“OBMP”) the parties executed an agreement providing direction and guidance to the Watermaster on how storage should be prioritized and managed.” Emphasis added. MVWD comment reads: “please state agreement and year.”

Response. The agreement referred to is the 2000 Peace Agreement. Text modified to refer to the Peace Agreement.

Comment No. 2. Page 1, third full paragraph, text that reads: “Groundwater storage was estimated to have declined by about 1,600,000 af over the period 1922 through 1978, the starting point of the Judgment implementation. This decline in groundwater storage was recognized in the Judgment, and it requires that the use of this space be undertaken only under Watermaster control and regulation.” Emphasis added. MVWD comment reads: Storage did not decline, groundwater in storage declined” and “change to “groundwater in storage”, respectively.

Response. Text changed as requested.

Comment No. 3. Page 7, second full paragraph, text that reads: “The IEUA and some of the parties are proposing the implementation of Storage and Recovery Programs, including the Chino Basin Water Bank, the Santa Ana River Conservation and Conjunctive-Use Program (SARCCUP), and the Chino Basin Program (CBP). MVWD comment reads: “It may be more contemporary to now delete the reference to SARCCUP.”

Response. Text changed as requested.

Comment No. 4. Page 7, last paragraph continuing to top of page 8, text that reads: “The results of the groundwater modeling work reported in the Safe Yield report projected, based on the best planning information available at that time, that the total storage in the basin will likely be relatively stable through the mid to late 2020s, and by 2050, groundwater levels were projected to decline over a broad area ranging from about -65 feet in the Pomona area to -50 feet in the Jurupa Community Services District (JCSD) and Desalter II well field areas.” MVWD comment reads: “Described as a decline, the negative signs cause a double negative.”

Response. Text changed to remove the negative signs.

Comment No. 5. Page 8, third full paragraph, text that reads: “The new information developed since 1999 suggests that the unanticipated use of managed storage to meet future desalter and other replenishment obligations could cause potential MPI: it has the potential to exacerbate land subsidence and pumping sustainability challenges, impact net recharge and Safe Yield,
increase groundwater discharge through the CCWF, cause a loss of Hydraulic Control, and change the direction and speed of the contaminant plumes.” MVWD comment reads: “Based on my 6/20 discussion with Andy I think he understands that it may be more clear if the phrase ‘to meet future desalter and other replenishment obligations’ is removed”.

Response. The text was not changed.

Comment No. 6. Page 9, last paragraph, text that reads: “Therefore, it is logical to consider establishing a limit for the parties’ use of managed storage at 700,000 af in the Storage Management Plan.” MVWD comment reads: “Change ‘logical’ to “conducive”. ‘Logical’ seems to give an 700k an aura of certainty higher that it deserves.”

Response. The text was changed to read: “Therefore, it is logical to consider starting discussions for the parties use of managed storage with a limit of 700,000 af in the Storage Management Plan, and this will be adjusted in accordance with stakeholder input.”

Comment No. 7. Page 10, second full paragraph, text that reads: “Therefore, it is logical to consider establishing an aggregate limit for all Storage and Recovery Programs at 300,000 af, provided that the aggregate storage limit for parties does not exceed 700,000 af.” MVWD comment reads: “This sentence/conclusion should probably be put on hold pending on how Watermaster stakeholders decide to be addressed, including mitigation measures.”

Response: Note that the subsequent sentence in the text reads: “Watermaster and the parties could establish a lower or higher aggregate storage limit for Storage and Recovery Programs, but additional engineering work will be required to assess the basin response and MPI for a higher aggregated storage limit.” This sentence responds to the comment. That said, the text was changed to read: “Therefore, it is logical to consider establishing an aggregate limit for all Storage and Recovery Programs at 300,000 af in the Storage Management Plan, and this limit will be adjusted in accordance with stakeholder input.”

Comment No. 8. Page 11, first paragraph, text that reads: “Watermaster has the right to the use existing spreading basins to meet its recharge and replenishment obligations over the use of these facilities by any party or person to accomplish supplemental water recharge.” MVWD comment reads: “Is it WM or WM stakeholders who have invested into the basins that have this right?”

Response: The OBMP identified that there was not enough supplemental water recharge capacity to meet future replenishment obligations. OBMP implementation led to the construction of recharge improvements that increased supplemental water recharge capacity for replenishment. The intent of constructing the recharge improvements is specific to increasing storm water recharge and providing Watermaster recharge capacity for replenishment. The text has been changed to read that Watermaster will include provisions in storage agreements that Watermaster will prioritize the use of spreading basins to satisfy Watermaster’s recharge and replenishment obligations over the use of spreading basins for other uses.
Comment No. 9. Page 11, second paragraph, text that reads: “Early in the OBMP implementation period Watermaster determined that transfers or leases of water rights and water held in managed storage (hereafter transfers) from parties that are situated such that they pump groundwater outside of MZ1 to parties that pump in MZ1 have the potential to cause MPI.” MVWD comment reads: “Transfers/leases into MZ1 do not have the potential to cause MPI. It can be said that physical pumping/production to some level has the potential to cause MPI. Transfer/leases and pumping/production are not one in the same.”

Response: The text will be revised to improve clarity and will read: “Early in the OBMP implementation period Watermaster determined that transfers or leases of water rights and water held in managed storage (hereafter transfers) from parties that are situated such that they pump groundwater outside of MZ1 to parties that pump in MZ1 for the purpose of replenishment have the potential to cause MPI.”

San Antonio Water Company
Comment No. 1. Page 1, first full paragraph, text that reads: “As a prerequisite to implementing the Optimum Basin Management Program (“OBMP”) the parties executed an agreement providing direction and guidance to the Watermaster on how storage should be prioritized and managed.” Emphasis added. SAWC comment reads: “Would you please direct me to document and page where this is referenced?”

Response. The agreement referred to is the 2000 Peace Agreement. Text will be modified to refer to the Peace Agreement.

Comment No. 2. Page 2, citation to Judgment Paragraph 28. SAWC comment reads: “Storage agreements are currently not going to court...correct? Are there concerns at this time because of that?”

Response: There are no concerns at time. The present storage agreement, procedures, and forms have been approved by the Court through the approval of the Peace Agreement and Watermaster Rules and Regulations.

Comment No. 3. Page 8, third full paragraph, text that reads: “The new information developed since 1999 suggests that the unanticipated use of managed storage to meet future desalter and other replenishment obligations could cause potential MPI: it has the potential to exacerbate land subsidence and pumping sustainability challenges, impact net recharge and Safe Yield, increase groundwater discharge through the CCWF, cause a loss of Hydraulic Control, and change the direction and speed of the contaminant plumes. The OBMP storage management plan needs to be updated to include features that will ensure there is no MPI to a party or the basin caused by the conjunctive-use activities of the parties and Storage and Recovery Programs.” SAWC comment reads: “I need further understanding. If the parties are not pumping the water and utilizing it as a transfer, why is there a problem? Wasn’t this thought about when the desalter replenishment obligation was discussed? Didn’t WEI do a study on the impact of this decision? Is it because the re-op schedule was changed?”
Response: The original storage management plan was developed for the OBMP in 1999, based on the best available information available to Watermaster. The overlying land and water use practices have evolved over time, and we have continued to refine our understanding of the Basin and its responsiveness to all known variables. Even since Re-Operation was approved by the Court in 2007, the collection and analysis of new data and the application of technology improvements have provided Watermaster and the parties the ability to develop a more refined evaluation of the potential the impacts to the basin from specific recharge, pumping, and storage activities. It is true, the length of time water is held in storage and the rate and location of its withdrawal have implications. Potential impacts attributable to proposed changes in the current baseline will be addressed using our improved knowledge and analytical tools and incorporated into the 2020 Storage Management Plan.

Comment No. 4. Page 11 first full paragraph, text that reads: “Watermaster has the right to the use existing spreading basins to meet its recharge and replenishment obligations over the use of these facilities by any party or person to accomplish supplemental water recharge.” SAWC comment reads: “Why does Watermaster get first use of basin? Didn’t the parties pay for the basin. Why is SAWC’s water not given priority over someone pumping rights they don’t have?”

Response: As to priority of use of the recharge basins, please see response to MVWD Comment No. 8. As to the question: “Why is SAWC’s water not given priority over someone pumping rights they don’t have?” This is not a storage management plan question

Comment No. 5. Page 11, first bulleted item following the fifth paragraph, text that reads: “In the first approach, the reduction net recharge would be embedded in Safe Yield, and it would be implicitly allocated to Appropriative Pool parties, based on their pro rata share of Operating Safe Yield.” SAWC’s comment reads: “Other options need to be considered such as time frame for storage if it makes sense.”

Response: The white paper refers to bookends on the approach to identify and mitigate a reduction in Safe Yield caused by the use of managed storage. The impact on Safe Yield from the duration that water is held in managed storage is included the bookend approaches and any variants of them.

Overlying Agricultural Pool
Comment No. 1. Page 1, first paragraph, text that reads: “The prevailing standard for all operations is the avoidance of “undesirable results”—defined as “material physical injury”—under court approved management agreements executed contemporaneously and subsequent to the adoption of the OBMP Update in June 2020.” Ag pool comment reads: “MPI is legally defined by Watermaster legal documents (court approved management agreements) and it does not include “undesirable results.” Ag Pool supports this concept however and recommends that WM bolster this in light of the defined term.”

No response required.
Comment No. 2. Page 3, first bullet after the second full paragraph, text that reads: “Operational storage requirement (OSR) is the storage or volume in the Chino Basin that is necessary to maintain the Safe Yield. The OSR was estimated in the development of the OBMP to be about 5.3 million af. This storage value was set as the estimated storage in the basin in 1997. “ Ag Pool comment reads: “Should there be a discussion on the relevance of OSR and SSC for the OBMP Update?”

Response: The relevancy of the original OBMP storage management plan will be described in the 2020 Storage Management Plan. The 2020 Storage Management Plan will be incorporated into the OBMP update.

Comment No. 3. Page 4, first full paragraph, text that reads: “Water occupying the SSC includes Carryover, Excess Carryover, Local Storage, and Supplemental Waters stored by the parties. Water stored for Storage and Recovery Programs is also included in the SSC. Carryover, Excess Carryover, Local Storage, and Supplemental Waters are referred to herein collectively as managed storage. “ Ag Pool comment reads: “Why is this (managed storage) defined that way?”

Response: Managed storage refers to all water that is stored by virtue of the management activities of the parties and Storage and Recovery Program entities, and it includes carryover water.

Comment No. 4. Page 4 last paragraph continuing onto Page 5, text that reads: “These investigations included a recalculation of the total water in storage in the basin, based on the improved hydrogeologic understanding. The total storage in the Chino Basin for 2000 was estimated to be about 5,935,000 af, which is 635,000 af greater than that estimated for the OSR and 135,000 af greater than safe storage.” Ag Pool Comment reads: “This should be explained. Consider adding a technical rationale for the revised total storage and reference where this rationale was developed.”

Response: The engineering work for the Peace II Agreement produced a new hydrogeologic conceptual model that resulted in an updated estimate of the water in storage in 2000. A footnote will be added to state this and provide a reference to the documentation for it.

Comment No. 5. Page 5, second bullet after the second full paragraph, text that reads: “Managed storage was projected to increase from 487,000 af in 2016 to about 663,000 af by 2030 (exceeding the SSC by 163,000 af) and decline thereafter to zero af by 2051. Managed storage was projected to be used to meet future replenishment obligations.” Ag Pool comment: “When and how will the storage be used? Should there be a schedule?”

Response. The cited text refers to description of how managed storage is projected to change based on the work done to recalculate the Safe Yield and reported in 2013 Chino Basin Groundwater Model Update and Recalculation of Safe Yield Pursuant to the Peace Agreement (WEI, 2015). The water in managed storage was assumed to be used for replenishment purposes based on the projected aggregate replenishment obligation. No schedule was recommended for
the use of managed storage in the report. The concept of a schedule should be addressed by the parties in the development of the 2020 Storage Management Plan.

**Comment No. 6.** Page 6, first paragraph, text that reads: “Since the Judgment came into effect, Watermaster developed rules and regulations, standard storage agreements, and related forms. There are three types of storage agreements that result in several types of storage accounts: Excess Carryover, Local Supplemental, Local Storage and Storage and Recovery. An Excess Carryover account includes a party’s unproduced rights in the Safe Yield (Safe Yield for Overlying Non-Agricultural Pool parties and Operating Safe Yield for Appropriative Pool parties) and Basin Water acquired from other parties. A Local Supplemental Water account includes imported and recycled water that is recharged by a party and similar water acquired from other parties. A Storage and Recovery account includes Supplemental Water and is intended to produce a “broad and mutual benefit to the Parties to the Judgment.” Watermaster tracks the puts, takes, losses, and end of year storage totals for all of these storage accounts, and reports on this accounting in the annual assessment process.”  
Ag Pool comment reads: “Should the different storage accounts be valued and used appropriately?”

Response: This question should be addressed by the parties in the development of the 2020 Storage Management Plan.

**Comment No. 7.** Page 6, second paragraph, text that reads: “In evaluating applications for storage agreements, Watermaster must conduct an investigation to determine if the water stored and recovered under a proposed storage agreement will cause MPI to a party or the basin. If Watermaster determines that implementation of the proposed storage agreement will cause MPI, the applicant must revise its application so there is no MPI, or Watermaster must impose conditions in the storage agreement to ensure there is no MPI. Watermaster cannot approve a storage agreement that will result in MPI.”  
Ag Pool comment reads: “What about storage absent agreements? Is it assumed that is MPI?”

Response: The paragraph describes an agreement approval process. Currently, all storage accounts have agreements in place.

**Comment No. 8.** Page 6, third paragraph, text reads: “The parties, amongst themselves, are actively involved in water transfers of annual unproduced rights in the Safe Yield and water in their storage accounts. Watermaster has an application and review process for transfers that is similar to the storage agreement application process. Transfers are one way that the parties recover water held in storage accounts.”  
Ag Pool comment reads: “Should the management plan curtail these? Should the parties be on notice that the ability to use a transfer is conditional on Watermaster’s continued finding that removal of water held in storage will not cause MPI?”

Response: Watermaster has an application and review process for transfers that is similar to the storage agreement application process. If Watermaster determines that a proposed transfer will cause MPI, the applicant must revise its application so there is no MPI, or Watermaster must impose conditions on the transfer to ensure there is no MPI. Watermaster cannot approve a
transfer that will result in MPI. These questions should be addressed by the parties in the development of the 2020 Storage Management Plan.

**Comment No. 9.** Page 6, fourth paragraph, text that reads: “Table 1 does not reflect the anticipated reductions in managed storage that will occur to offset unassessed desalter replenishment obligations.” Ag Pool comment reads: “Why not? Where is that analysis?”

Response. See footnote 23 in the June 8th initial draft of the 2020 Storage Management Plan White Paper (footnote 24 in the July 18th final draft). Watermaster is the process of updating assessment packages from prior years pursuant to the Court order that approved the Safe Yield for the period 2011 through 2020. It is anticipated that the assessment package update will be completed within the calendar year. Table 1 will be updated after the assessment packages are updated.

**Comment No. 10.** Page 7, first paragraph, text that reads: “Metropolitan’s DYYP is the only active Storage and Recovery Program in the basin. The DYYP can store up to 100,000 af with maximum puts of 25,000 afy and maximum takes of 33,000 afy. As of July 1, 2018, there were 41,380 af stored in the DYYP account. The agreement that authorizes the DYYP will expire in 2028.” Ag Pool comment reads: “Should all storage be managed like this one? Why or why not?”

Response: These questions should be addressed by the parties in the development of the 2020 Storage Management Plan.

**Comment No. 11.** Page 7, second paragraph, text that reads: “The IEUA and some of the parties are proposing the implementation of Storage and Recovery Programs, including the Chino Basin Water Bank, the Santa Ana River Conservation and Conjunctive-Use Program (SARCCUP), and the Chino Basin Program (CBP). The operational parameters of these proposed programs are not yet defined; that said, the amount of storage space required has been identified to range between 200,000 and 300,000 af.” Ag Pool comment reads: “What would be the impact. What are the proposed best management practices for this type of use?”

Response: Absent specific proposals for these proposed Storage and Recovery Programs, the Ag Pool questions cannot be answered. The CBP is currently being formulated, and the Ag Pool questions will be answered in detail in early 2020.

**Comment No. 12.** Page 8, first full paragraph, text that reads: “During the development of the 2013 Amendment to the 2010 Recharge Master Plan Update (2013 RMPU), the JCSD asserted that declining groundwater levels in the areas around and in the JCSD and Chino Basin Desalter Authority (CDA) well fields contributed to declining groundwater pumping capacity at JCSD and CDA wells. Loss in production capacity in this area is likely due to hydraulic interference among the wells and could be mitigated by reducing pumping at these wells, spreading out production over a greater area, and/or by increased recharge located proximate and tributary to the JCSD and CDA well fields. The projected decline in groundwater levels after the mid to late 2020s is projected to further exacerbate pumping sustainability challenges in this part of the basin.” Ag Pool comment: “Will these types of techniques be required in the plan?”
Response. This question should be addressed by the parties in the development of the 2020 Storage Management Plan.

Comment No. 12. Page 8, second full paragraph that reads: “The existing storage management plan is based on fixed amounts of water in storage, and its technical basis is not supported by new information available after the storage management plan was first developed (1999). Review of this new information (developed since 1999), indicates that it is possible to expand the SSC to enable greater use of storage space. This new information includes an updated hydrogeologic conceptual model; 20 years of intensive monitoring of basin operations (not available in 1999), including monitoring the basin response as managed storage approached the SSC of 500,000 af; and groundwater model-based projections of the basin response to future management plans where the managed storage exceeded 500,000 af. Re-Operation will reduce the amount of Basin Water in storage by 400,000 af. The current storage management plan does not account for Re-Operation. Ag Pool comment reads: “Detail of this is warranted.”

Response: Additional detail will be provided in draft Storage Management Plan document when it is prepared.

Comment No. 13. Page 8, third full paragraph that reads: “The new information developed since 1999 suggests that the unanticipated use of managed storage to meet future desalter and other replenishment obligations could cause potential MPI: it has the potential to exacerbate land subsidence and pumping sustainability challenges, impact net recharge and Safe Yield, increase groundwater discharge through the CCWF, cause a loss of Hydraulic Control, and change the direction and speed of the contaminant plumes. The OBMP storage management plan needs to be updated to include features that will ensure there is no MPI to a party or the basin caused by the conjunctive-use activities of the parties and Storage and Recovery Programs.” Ag Pool comment reads: “What are the proposed management techniques to avoid this?”

Response: The management features/requirements to avoid MPI are described in the 2020 Storage Management Plan White Paper, following the cited text, and they will be included in the Storage Management Plan.

Comment No. 14. Page 9, second paragraph that reads: “Based on the best available planning information provided by the parties in the Storage Framework Investigation, the parties’ use of managed storage was projected to reach about 700,000 af in 2030 and decline monotonically thereafter. Therefore, it is logical to consider establishing a limit for the parties’ use of managed storage at 700,000 af in the Storage Management Plan.” Ag Pool comment reads: “This seems a bit high and not specific enough to each pumper. An itemized list of each parties desire for storage would be useful. What the parties lay claim to cannot be used by water bankers including IEUA for their grant funding. Water bankers are going to want absolute certainty in what they can bank.

Response: These comments should be addressed by the parties in the development of the 2020 Storage Management Plan.
Comment No. 15. Page 10, first paragraph that reads: “Alternatively, the Watermaster and the parties could establish a lower or higher limit, but additional engineering work will be required to assess the basin response and MPI for a higher limit.” Ag Pool comment reads: “Why wouldn’t we do that now?”

Response: This question should be addressed by the parties in the development of the 2020 Storage Management Plan.

Comment No. 16. Page 10, second paragraph, text that reads: “The Storage Framework Investigation evaluated the use of 300,000 af of storage for Storage and Recovery Programs that was superimposed on the storage management activities of the parties. Therefore, it is logical to consider establishing an aggregate limit for all Storage and Recovery Programs at 300,000 af, provided that the aggregate storage limit for parties does not exceed 700,000 af. Watermaster and the parties could establish a lower or higher aggregate storage limit for Storage and Recovery Programs, but additional engineering work will be required to assess the basin response and MPI for a higher aggregated storage limit.” Ag Pool comment reads: “Again, should we do pumper and location specific analysis?”

Response: An MPI analysis is required for each Storage and Recovery Program proposal, and they will include a “pumper and location-specific analysis.”

Comment No. 17. Page 11, first paragraph, text that reads: “The Judgment parties and IEUA, through the OBMP, have substantially increased the storm and supplemental water recharge capacity in the Chino Basin. The increase in supplemental water recharge capacity was done to ensure that Watermaster could meet its future recharge and replenishment obligations. Watermaster has the right to the use existing spreading basins to meet its recharge and replenishment obligations over the use of these facilities by any party or person to accomplish supplemental water recharge.” Ag Pool comment reads: “Why is this important and should it be developed further?”

Response: This is important because Storage and Recovery Program agreements need to specify that Watermaster has priority use of the existing spreading basins for its recharge and replenishment obligations over the use of these facilities for storage and recovery operations. The intent is to avoid conflicts between the recharge capacity required by Watermaster to fulfill its obligations under the Judgment and the desire of Storage and Recovery Program proponents to use the same existing recharge facilities to conduct recharge for their storage and recovery programs. The need to develop this further should be addressed by the parties in the development of the 2020 Storage Management Plan.

Comment No. 18. Page 11, Second and third paragraphs, text that reads: “Early in the OBMP implementation period Watermaster determined that transfers or leases of water rights and water held in managed storage (hereafter transfers) from parties that are situated such that they pump groundwater outside of MZ1 to parties that pump in MZ1 have the potential to cause MPI. No such transfers have occurred since the OBMP was implemented in 2000. This limitation on transfers should be reconsidered if the land subsidence management plan for MZ1 includes
consideration for such transfers, the land subsidence plan is implemented, and subsequent monitoring demonstrates the sufficiency of the land subsidence management plan.” **Ag Pool comment reads:** “Why not include these requirements and potential uses in this plan? Additional details, analyses and monitoring would be needed to evaluate.”

Response: This requirement will be included in the 2020 Storage Management Plan. The ongoing monitoring and analysis for land subsidence and the implementation of future land subsidence plans will provide the information necessary to update the requirement.

**Comment No. 19.** Page 11, last paragraph, text that reads: “Watermaster and the parties need to determine which of the above approaches or variant of them to include in the storage management plan to ensure their storage management activities do not cause MPI.” **Ag Pool comment reads:** “What does Wildermuth (the expert) recommend? Should those that benefit the most pay the most?

Response: The specific approach in allocating mitigation liability for storage induced changes in net recharge and Safe Yield should be discussed and addressed by the parties.

**Comment No. 20.** Page 12, second paragraph, text that reads: “This limitation on puts and takes should be reconsidered if the land subsidence management plan for MZ1 includes consideration for Storage and Recovery programs, the land subsidence plan is implemented, and subsequent monitoring demonstrates the sufficiency of the land subsidence management plan.” **Ag Pool comment reads:** “What does Wildermuth recommend as the tool to accomplish this? This needs further evaluation during development of the plan and continued validation and adjustment during operations on annual basis.”

Response: This management requirement will be described in greater detail in the draft 2020 Storage Management Plan.

**Comment No. 21.** Page 12, third paragraph, text that reads: “The intent of this provision is to reaffirm the requirements of Paragraph 12 of the Judgment and the Peace Agreement, as to the review of Storage and Recovery Program applications, and to require Storage and Recovery Program agreements to provide provisions that require Storage and Recovery Program proponents to cease or modify their operations if Watermaster determines, subsequent to Watermaster and Court approval of a Storage and Recovery Program storage agreement, that the proponent’s storage and recovery operations are causing or threaten to cause MPI. The potential MPI to be addressed include but are not limited to: land subsidence, pumping sustainability, reductions in net recharge and safe yield, water quality impacts, shallow groundwater, and liquefaction.” **Ag Pool comment reads:** “Propose abandonment of the Watermaster rebuttable presumption of no MPI.”

Response: This comment should be addressed by the parties in the development of the 2020 Storage Management Plan.
Comment No. 22. Page 12, third paragraph, text that reads: “Watermaster will review each Storage and Recovery Program application, estimate the surface and groundwater system response, prepare a report that documents the response and potential MPI, and develop mitigation measures to mitigate MPI caused by the proposed Storage and Recovery Program. Watermaster will incorporate these mitigation measures into the Storage and Recovery Program storage agreement.” Ag Pool comment reads: “How will this requirement be reflected in the plan?”

Response: It will be explicitly stated. This requirement is in the Peace Agreement.

Comment No. 23. Page 12, fifth paragraph, text that reads: “Watermaster will periodically review current basin conditions, compare this information to the projected basin conditions prepared in the evaluation of the Storage and Recovery Program application process, compare the projected Storage and Recovery Program operations to actual Storage and Recovery Program operations, and make findings regarding the efficacy of related MPI mitigation requirements in the Storage and Recovery Program storage agreement. And, based on its review and findings, Watermaster may require changes in the Storage and Recovery Program operations to mitigate MPI.” Ag Pool comment reads: Will this be required by the plan?

Response: Yes.

Comment No. 24. Page 13, first full paragraph, text that reads: “Watermaster should periodically review the state of Hydraulic Control and update projections of the state of Hydraulic Control, compare this information to the projected Hydraulic Control assessment prepared in the evaluation of the Storage and Recovery Program application process, compare the projected Storage and Recovery Program operations to actual Storage and Recovery Program operations, and make findings regarding the efficacy of the related mitigation requirements in the Storage and Recovery Program storage agreement. And, based on its review and findings, Watermaster may require changes in the Storage and Recovery Program operations to mitigate impacts on the state of Hydraulic Control.” Ag Pool comment: Define “periodically.” The Ag Pool proposes that this be done on an annual basis and no less than every two years.

Response: This management requirement will be described in greater detail in the draft 2020 Storage Management Plan.

Comment No. 25. Page 13, second full paragraph, text that reads: “Watermaster and the parties should consider updating the storage agreement application process to incorporate changes in the technical features of storage management and to improve the efficiency of the application process.” Ag Pool comment reads: Why not require it now and include it in the plan?

Response: This comment should be addressed by the parties in the development of the 2020 Storage Management Plan.

Comment No. 26. Page 13, third full paragraph, text that reads: “Watermaster should periodically review and update the storage management plan based on: monitoring information obtained
since the previous storage management plan was adopted, technology changes, and the “needs and requirements of the lands overlying the Chino Basin and the owners of the rights in the Safe Yield or Operating Safe Yield of the Basin.” The assessment of technical storage management concerns and opportunities requires the use of updated hydrologic data and models and can be completed efficiently with the recalculation of Safe Yield on a ten-year frequency or more frequently.” Ag Pool comment reads: “Propose that Wildermuth define when this would be necessary and provide advice. Define "periodically."

Response: This management requirement will be described in greater detail in the draft 2020 Storage Management Plan.

Comment No. 27. Page 13, fourth full paragraph, text that reads: “The projected aggregate amount of managed storage by the parties in 2050 (planning horizon of the Storage Framework Investigation) is about 340,000 af. Notwithstanding the update frequency recommended above, Watermaster should consider updating the storage management plan before the aggregate amount of managed storage by the parties falls below 340,000 af if not done earlier in a periodic update of the storage management plan.” Ag Pool comment reads: “Consider adding a buffer of additional AF to provide time to adjust. Consider other potential factors as well, such a rate of decline and projected time of reaching this untested threshold. Repeat that the periodic update should be conducted on an annual basis, not on a regular basis to ensure that it does not fall below. How will storage be allocated among the parties. What happens if everyone wants 100k AF? Where is the substance of the plan?"

Response: As to the direct comment, the intent of the periodic review and update of the Storage Management Plan is to track the amount of water in managed storage, update the plan as necessary to avoid MPI, and to test the efficacy of the 340,000 af threshold. The frequency of the Storage Management Plan review and update will be established to ensure no MPI from the use of managed storage. This management requirement will be described in greater detail in the draft 2020 Storage Management Plan. The answers to the questions “How will storage be allocated among the parties. What happens if everyone wants 100k AF?” and “Where is the substance of the plan?” should be addressed by the parties in the development of the 2020 Storage Management Plan.

Overlying Non-Agricultural Pool

Comment No. 1. Background section, Overlying Non-ag Pool comment reads: “In this section, the report says that as a prerequisite to implementing the OBMP, “the parties executed an agreement.” Which agreement does this refer to? Which parties executed it?"

Response. The agreement referred to is the 2000 Peace Agreement. Text will be modified to refer to the Peace Agreement.

Comment No. 2. Judgment section, Overlying Non-ag Pool comment reads: “In this section, the draft says that groundwater storage “was estimated” to have declined by about 1,600,000 af over the period from 1922 through 1978. Who made this estimate? When? What is the source for this statement?"
Response: The change in storage was reported in 2013 Chino Basin Groundwater Model Update and Recalculation of Safe Yield Pursuant to the Peace Agreement (WEI, 2015).

Comment No. 3. Judgment section, Overlying Non-ag Pool comment reads: “In this section, the draft says that Section 11 and Section 12 of the Judgment require that use of storage be undertaken only under Watermaster control and regulation. Section 11 and Section 12 apply only to Supplemental Water. Is there a basis in the Judgment for control or regulation by Watermaster of carryover water? What is the basis?

Response: Watermaster does not require agreements for carryover. Paragraph 7 of Exhibit “G” (Overlying (Non-Agricultural) Pool Pooling Plan) and Paragraph 12 of Exhibit “H” (Appropriative Pool Pooling Plan) to the Restated Judgment both require a storage agreement with Watermaster as a condition of storing excess carryover.

Comment No. 4. Judgment section, Overlying Non-ag Pool comment reads: “In this section, the draft says that Section 28 requires Watermaster to develop and administer storage agreements for Supplemental Water. Section 28 requires Watermaster to administer Supplemental Water, but does not require or authorize Watermaster to develop or administer storage agreements for carryover water. Is there a basis in the Judgment for storage agreements for carryover water? What is the basis?

Response: See response to Comment No. 3 above.

Comment No. 5. Storage Agreement section, Overlying Non-ag Pool comment reads: “In this section, the report says that an Excess Carryover account includes a party’s unproduced rights in the Safe Yield “and Basin Water acquired from other parties.” What is intended by the words in italics? Should the italicized words be replaced with “and Excess Carryover acquired from other parties”?

Response: It includes a party’s unproduced safe yield rights and the unproduced rights acquired from other parties.

Comment No. 6. Storage Agreement section, Overlying Non-ag Pool comment reads: “In this section, the report says that, in evaluating applications for storage agreements, Watermaster must conduct an investigation to determine if the water stored and recovered under a proposed storage agreement will cause MPI to a party or the basin. As stated above, the Judgment appears to authorize control and regulation by Watermaster of Supplemental Water, but not carryover water. Is there a basis in the Judgment for investigations of MPI for storage of excess carryover? What is the basis?

Response: Paragraph 7 of Exhibit “G” (Overlying (Non-Agricultural) Pool Pooling Plan) and Paragraph 12 of Exhibit “H” (Appropriative Pool Pooling Plan) to the Restated Judgment both require a storage agreement with Watermaster as a condition of storing excess carryover.
Comment No. 7. Existing Managed Storage and Proposed Storage and Recovery Programs section. Overlying Non-ag comment reads: “In this section, the report introduces the term “managed storage” for the first time. Prior to this section, all storage was referred to as “storage.” The implication is that “managed storage” is a subset of “storage.” What is the difference between “storage” and “managed storage”?

Response: Managed storage is the aggregate of Carryover, Excess Carryover, Local Storage, and Supplemental Waters. This term was used throughout the Storage Framework Investigation presentations and report.

Comment No. 8. Storage Management Plan Requirements section. Overlying Non-ag comment reads: “In this section, the report says that it is “logical” to consider establishing an aggregate limit for all storage at 700,000 af. As stated above, the Judgment appears to authorize control and regulation by Watermaster of Supplemental Water, but not carryover water. Should limits on storage apply to Supplemental Water and perhaps other water, but not apply to carryover water?”

Response: The limits suggested in this section are intended to apply to all water held in managed storage, which includes carryover water.

Comment No. 9. Mitigation of Reduced Net Recharge and Safe Yield section. Overlying Non-ag comment reads: “In this Section, the report says that Watermaster assesses a 0.07 percent loss to storage accounts based on estimated losses of water in the Basin to the Santa Ana River. As stated above, the Judgment appears to authorize control and regulation by Watermaster of Supplemental Water, but not carryover water. Should such losses be assessed on Supplemental Water and perhaps other water, but not on carryover water?”

Response: Watermaster assesses these losses on excess carryover and supplemental water in storage.

Comment No. 10. Mitigation of Reduced Net Recharge and Safe Yield section. Overlying Non-ag comment reads: “In this Section, the report says that the “Storage Framework Investigation” demonstrated that storing water has the effect of reducing net recharge and Safe Yield. Where on Watermaster’s website can the Storage Framework Investigation currently be found? Where in the report is this effect “demonstrated.” If storage has this effect, should such reduction be attributed to Supplemental Water and perhaps other water, but not to carryover water?”

Response. Please see the Storage Framework Investigation Report located here: https://cbwm.syncedtool.com/shares/folder/e83081106c3072/?folder_id=1429

The effect of managed storage on net recharge was presented and discussed at several workshops that were conducted during the preparation of the Storage Framework Investigation and pdfs of the PowerPoint presentation from these workshops are located here: https://cbwm.syncedtool.com/shares/folder/e83081106c3072/?folder_id=1406
Comment No. 11. Mitigation of Reduced Net Recharge and Safe Yield section. Overlying Non-ag comment reads: “In this Section, the report says that reduction in net recharge caused by storage is an MPI. Carryover water is unproduced water, and unproduced water is a natural condition pre-dating existing development of the basin. How can a natural condition be an MPI?

Response: In a truly natural condition, basin storage will be maximized and all recharge to the basin is lost to rising groundwater and evapotranspiration by riparian vegetation. In a truly natural condition, net recharge is zero. Increasing the volume of water in managed storage has the effect of suppressing net recharge regardless of how you label the water that is included in the managed storage. That said, the text has been changed substituting the term “adverse impact” for MPI.

City of Ontario

Comment No. 1. Page 10, second paragraph. The City’s comment reads: “Paragraph 2 contemplates establishing an aggregate limit of 300kaf for all Storage & Recovery (S&R) programs, "provided that the aggregate storage limit for parties does not exceed" 700kaf. This is different from establishing an aggregate limit equal to the total space (1M af) less the volume used by parties (700kaf or less). In the case that parties use less than 700kaf, while S&R programs remain limited to 300kaf, how will the difference between the actual volume of stored water and 1M af be addressed?”

Response: The suggested aggregate allocation of 700 kaf to the parties for their individual conjunctive-use activities and the 300 kaf for Storage and Recovery Programs is based on the results of the Storage Framework Investigation. The allocation of managed storage space for these two types of uses should be discussed and agreed upon by the parties for inclusion in the 2020 Storage Management Plan.

Comment No. 2. Page 11, "Limitation of Transfers or Leases of Water Rights and Water Held in Managed Storage section." The City’s comment reads: “The second paragraph in this section states that the limit on certain transfers "should be reconsidered" under certain conditions. It seems logical that these conditions could also include mitigation such as may be required for S&R programs. In addition, S&R programs may be designed such that puts and takes aid in addressing land subsidence, plumes, etc.”

Response: This management requirement will be described in greater detail in the draft 2020 Storage Management Plan

Comment No. 3. Page 11, Mitigation of Reduced Net Recharge and Safe Yield section. City’s comment reads: “This section identifies "two fundamental approaches to mitigate the reduction in net recharge" caused by stored water. Are there additional approaches that can be explored? One such approach may be preemptive mitigation rather than allocation of effects.”
Response: The white paper refers to bookends on the approach to identify and mitigate a reduction in Safe Yield caused by the use of managed storage. The specific approach in allocating mitigation liability for storage induced changes in net recharge and Safe Yield should be discussed and addressed by the parties.

Comment No. 4. Page 12, Evaluation of Storage and Recovery Program Impacts, MPI, and Mitigation section. City’s comment reads: “The second paragraph in this section states that "Watermaster will review each Storage and Recovery Program application, estimate the surface and groundwater system response...." (emphasis added) It is unclear why it is necessary for Watermaster to evaluate surface water system responses.”

Response: The use of existing recharge facilities for Storage and Recovery Programs may conflict with the use of the same facilities for stormwater recharge and may reduce net recharge. The intent to is characterize this conflict and to subsequently develop conditions on the Storage and Recovery Program to mitigate it.

Comment No. 5. The City’s comment reads: “General: Please provide citations for all references to guidance documents, particularly when quotation marks are used. Example: Page 13, 1st paragraph under "Storage Management Plan Update."

Response: This request will be incorporated into the final version of the White Paper.

October 1, 2019 letter from the Overlying Agricultural Pool

Comment No. 1. Page 1, fourth paragraph. Ag pool comment reads: “In regard to use of storage space by the Parties and other entities, the Ag Pool proposes that a schedule be developed to dictate when, how and by whom storage will be used. The Ag Pool also proposes that different storage accounts be valued and used appropriately.”

Response. Please see Section 2.1 of the draft 2020 SMP, Version 2.

Comment No. 2. Page 1, fifth paragraph. Ag pool comment reads: “The Draft 2020 SMP introduces “three types of storage agreements that result in four types of storage accounts,” but only describes three of those four types of storage accounts. (Draft 2020 SMP, Section 1.1.) It also does not explain which type(s) of accounts are available to which Parties or Pools. Although this information is available in other documents, adding this information to the SMP would make for a more complete description of the types and ownerships of current and potential future accounts and would make this section more consistent with Table 1-1.”

Response. In Table 1-1, the column heading in the Overlying Non-Agricultural accounts for “Local Storage” has been changed to “Excess Carryover.”

Comment No. 3. Page 1, fifth paragraph. Ag pool comment reads: “This paragraph also states that the Watermaster tracks “losses” and reports its accounting in the annual assessment process. Would it be helpful to expand on the types of “losses” that Watermaster tracks? Are there losses other than storage losses?

Response. The text has been revised to include a description of the losses referred to in Section 1.1.

Comment No. 4. Page 1, sixth paragraph. Ag pool comment reads: “The Draft 2020 SMP also states that Watermaster must conduct an investigation to determine if the water stored and recovered under the proposed storage agreement will cause “potential MPI,” and that the Watermaster cannot approve a storage agreement that will “result in MPI.” (Draft 2020 SMP, Section 1.1.) Is the difference in wording intentional? If so, it would be helpful to explain the
difference in meaning/use and maybe add this clarification to Note 7 on page 1-1. “Potential MPI” is also used in the first paragraph of Section 2.3.3.2.”

Response The text was updated and now reads:

“In evaluating applications for storage agreements, Watermaster must conduct an investigation to determine if the water stored and recovered under a proposed storage agreement has the potential to cause MPI to a Party or the basin. If Watermaster determines that implementation of the proposed storage agreement has the potential to cause potential MPI, the applicant must revise its application and demonstrate that there will be no MPI, or Watermaster must impose conditions in the storage agreement to ensure there is no MPI. Watermaster cannot approve a storage agreement that has the potential to cause MPI.”

Comment No. 5. Page 2 first full paragraph. Ag pool comment reads: “The Draft 2020 SMP recommends that the Watermaster’s current limitation on transfers or leases of water rights and water held in managed storage from Parties that are situated such that they pump groundwater outside of MZ1 to Parties that pump in MZ1 for the purpose of replenishment “should be reconsidered if the land subsidence management plan for MZ1 includes consideration for such transfers, the land subsidence plan is implemented, and subsequent monitoring demonstrates the sufficiency of the land subsidence management plan.” (Draft 2020 SMP, Section 2.3.1.) The Watermaster has indicated that “[t]he ongoing monitoring and analysis for land subsidence and the implementation of future land subsidence plans will provide the information necessary to update the requirement.” (Comments and Responses on the June 8, 2019 Storage Management Plan White Paper, p. 10) However, the Draft 2020 SMP does not identify or discuss any parameters that will be used to determine whether the subsequent monitoring demonstrates the sufficiency of the land subsidence management plan. The Draft 2020 SMP also does not identify when such an evaluation would be made or if the limitation would be reinstated if conditions change in the future. Accordingly, the Draft 2020 SMP should be revised to include more detail on when and how the “sufficiency” of the plan will be determined.”

Response. Consider the timeline to reach a point where a land subsidence management plan for MZ1 has been functioning and monitoring and analysis can provide reliable information to assess the ability to allow transfers from Parties outside of MZ1 to Parties inside MZ1 that will not cause land subsidence. Given the present state of knowledge, it could take at least ten years to develop this plan and an agreement to implement it. It could take ten or more years of implementation and monitoring to assess the efficacy of the land subsidence management plan and additional investigations after that to determine if transfers from Parties outside of MZ1 to Parties inside MZ1 could be done without contributing to land subsidence. In sum, more than 20 years. Given this timeline, it is not appropriate to “identify or discuss any parameters that will be used to determine whether the subsequent monitoring demonstrates the sufficiency of the land
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subsidence management plan.” Rather, the land subsidence management plan should include monitoring and analysis to demonstrate whether or not these transfers could occur and the conditions under which transfers could occur pursuant to the Peace Agreement. The land subsidence management plan should include monitoring and analysis that will provide information to determine if Storage and Recovery Programs can be operated in MZ1 without causing land subsidence.

Comment No. 6. Page 2 second paragraph. Ag pool comment reads: “The Draft 2020 SMP identifies the two potential approaches to mitigate the reduction in net recharge caused by the Parties’ storage management activities but does not further discuss the approaches. Regarding the second identified potential approach, the Ag Pool maintains that working through this issue will require consideration of factors that may/may not be known at the time a storage agreement is proposed or executed, versus uncertainties that could affect the availability, quantity, or cost of water under future continued storage or take conditions. For example, might a Party’s interest in executing a storage agreement be affected if the debit associated with reduction in net recharge could not be quantified in advance?”

Response. A proposed approach has been incorporated into the draft 2020 SMP, Version 2.

Comment No. 7. Page 2 third paragraph. Ag pool comment reads: “The Draft 2020 SMP states that storage “put” and “takes” should be prioritized to occur in MZ2 and MZ3 to avoid new land subsidence and interfering with land subsidence management in MZ1, to minimize pumping sustainability challenges, to minimize the impact of storage and recovery operations on solvent plumes, to preserve the state of Hydraulic Control, and to take advantage of the larger and more useful groundwater storage space in MZ2 and MZ3. Nonetheless, the Draft 2020 SMP again recommends that such prioritization “should be reconsidered if the land subsidence management plan for MZ1 includes consideration for such transfers, the land subsidence plan is implemented, and subsequent monitoring demonstrates the sufficiency of the land subsidence management plan” without further detail. (Draft 2020 SMP, Section 2.3.3.1.) The Draft 2020 SMP should be revised to include more detail on when and how the “sufficiency” of the plan will be determined.”

Response. See response to comment No. 5.

Comment No. 8. Page 2 fourth paragraph. Ag pool comment reads: “Section 1.2, paragraph 1 identifies MWD’s “Dry-Year Yield Program (DYYP).” The Ag Pool suggests adding a definition for MWD’s DYYP that is more robust than the brief description contained in the paragraph under Table 1-1. Additionally, the paragraph indicates a maximum put of 25,000 afy and a maximum take of 33,000 afy under the DYYP. However, Table 1-1 shows the maximums were
exceeded twice, in 2009 (40,383 take) and 2018 (35,065 put). An explanation of these apparent exceedances would be helpful.”

Response. The text has been modified to explain the put exceeding 25,000 afy in fiscal year 2018 and the take exceeding 33,000 af in fiscal year 2009.

Comment No. 9. Page 2 fifth paragraph. Ag pool comment reads: “Section 1.2, paragraph 4 refers to “managed storage space available.” The Ag Pool suggests that Watermaster consider clarifying whether this is physical space available (without resulting in MPI), space available through existing approvals, both, or something else.”

Response. It’s physical space available to the Parties and it was authorized in the 2010 Peace II Project Subsequent Environmental Impact Report and its 2017 Addendum. Other than the impact from the use of managed storage on net recharge and Safe Yield, no MPI is projected to occur.

Comment No. 10. Page 2 sixth paragraph. Ag pool comment reads: “The Draft 2020 SMP states that the “Watermaster will periodically review current and projected basin conditions, compare this information to the projected basin conditions prepared in the evaluation of the Storage and Recovery Program application process, compare the projected Storage and Recovery Program operations to actual Storage and Recovery Program operations, and make findings regarding the efficacy of related MPI mitigation measures and requirements in the Storage and Recovery Program storage agreement. And, based on its review and findings, Watermaster may require changes in the Storage and Recovery Program agreements to mitigate MPI.” (Draft 2020 SMP, Section 2.3.3.2.) The Ag Pool proposes that Watermaster’s review of Hydraulic Control be conducted on an annual basis and no less than every two years.”

Response. Presently Watermaster evaluates the state of hydraulic control on a one- to two-year frequency and reports the results of the evaluation to the Regional Board pursuant to its Maximum Benefit commitments.

Comment No. 11. Page 3 first full paragraph. Ag pool comment reads: “Sections 2.3.3.2 and 2.3.3.3 refer to Watermaster developing mitigation measures and incorporating such measures into a storage agreement. Is it appropriate that Watermaster develop the mitigation measures (given that doing so might affect the feasibility or cost of a Party’s storage program) or should Watermaster simply identify the potential MPI that must be mitigated and leave it to the Party to develop and propose mitigation measures that Watermaster finds sufficient and acceptable?”

Response. The text in Section 2.3.3.2 was modified to read:
“Watermaster will review each Storage and Recovery Program application, estimate the surface and groundwater system response, prepare a report that describes the response and potential MPI, and develop mitigation requirements to mitigate MPI caused by the proposed Storage and Recovery Program. The Storage and Recovery Program applicant will develop mitigation measures pursuant to these requirements and incorporate them into their Storage and Recovery Program application. Upon approval by Watermaster, these mitigation measures will be incorporated into the Storage and Recovery Program storage agreement.”

The text in Section 2.3.3.3 was modified to read:

“Watermaster will, as part of the Storage and Recovery Program application review process, make a projection of the program’s expected impact on the state of Hydraulic Control. Watermaster will review these impacts and develop mitigation requirements for the proposed Storage and Recovery Program. The Storage and Recovery Program applicant will develop mitigation measures pursuant to these requirements and incorporate them into their Storage and Recovery Program application. Upon approval by Watermaster, these mitigation measures will be incorporated into the Storage and Recovery Program storage agreement.”

Comment No. 12. Page 3 second paragraph. Ag pool comment reads: “The Draft 2020 SMP states that the Watermaster will “periodically” update the SMP and suggests “it can be completed efficiently with the recalculation of Safe Yield on a ten-year frequency.” The Draft 2020 SMP also suggests that Watermaster should consider updating the SMP at least five years before the aggregate amount of managed storage by the Parties falls below 340,000 af if not done earlier in a periodic update of the SMP. The Ag Pool proposes that a projection of anticipated managed storage should be made at least every 5 years if the SMP is updated every 10 years. This will facilitate identification of an interim trigger to update the SMP based on managed storage falling below the 340,000 af threshold.”

Response. The text was modified to read:

“Watermaster will periodically review and update the SMP based on: monitoring information obtained since the previous SMP was adopted, technology changes, and the “needs and requirements of the lands overlying the Chino Basin and the owners of the rights in the Safe Yield or Operating Safe Yield of the Basin.” The periodic review and update of the SMP will require the use of updated planning and hydrologic data and models, and it should be completed: at no less than a five-year frequency; when the Safe Yield is recalculated; or when Watermaster determines a review and update is warranted based new information and/or the needs of the Parties or the Basin.
The projected aggregate amount of water in managed storage by the Parties in 2056 (planning horizon of the 2018 SFI) is about 340,000 af. The impacts to the Basin and the Parties from reducing managed storage below 340,000 af has not been estimated. Notwithstanding the SMP update frequency stated above, Watermaster should update the SMP at least five years before the aggregate amount of managed storage by the Parties is projected to fall below 340,000 af.”

Comment No. 13. Page 3 third paragraph. Ag pool comment reads: “The storage agreement application process section of the Draft 2020 SMP was left blank to be filled by Watermaster staff in the next draft. The Ag Pool proposes that the storage agreements include limits for the parties’ use of managed storage. The storage agreements should also include a provision that places applicants on notice that water transfers between parties and its storage and extraction are subject to the continued finding of no MPI by Watermaster. The pumping sustainability issues should also be addressed in the storage agreements by including identification and analysis of production locations. The Draft 2020 SMP also did not address Ag Pool’s proposed abandonment of the Watermaster rebuttable presumption of no MPI. Accordingly, Ag Pool restates its proposal to abandon the Watermaster’s rebuttable presumption of no MPI.”

Response. Watermaster will present its proposed storage application process in the draft 2020 SMP Report, Version 3 in November.
Comment No. 1. Comment refers to Section 2.2 referenced immediately above. IEUA comment reads: “Will there be a prioritization of Basins and resulting operation scheme?”

Response. There is an existing hierarchal scheme for the use of spreading basins that includes the following: (1) flood control, (2) maximizing storm water recharge, (3) Watermaster replenishment and recharge, (4) IEUA recycled water recharge, and (5) maintenance. Use of spreading basins by Storage and Recovery Programs would come after the five higher priority uses have been satisfied.

Comment No. 2. Comment refers to Section 2.3.2 on page 2-2: “Two potential approaches were identified in the 2019 SFI and 2020 SMP White Paper to mitigate the reduction in net recharge caused by the Parties storage management activities.” IEUA comment reads: “Should this include S&R programs or is it implicit?”

Response. Section 2.3.2 refers to mitigation of the reduction in net recharge and Safe Yield due to the use of managed storage by the Parties. Mitigation for the reduction of net recharge and Safe Yield due to the use of managed storage by a Storage and Recovery Program is explicitly described in Section 2.3.3.2 of the draft 2020 SMP Report, Version 2.

Comment No. 3. Comment refers to Section 2.3.4 on page 2-3 and refers to a future section of the 2020 SMP that is not yet written. IEUA comment reads: “A flow chart may be helpful for this section once it is prepared?”

Response. A flow chart may be included in the draft 2020 SMP, Version 3.

Comment No. 4. Comment refers to Section 2.3.4 on page 2-3 and refers to a future section of the 2020 SMP that is not yet written. IEUA comment reads: “So are the S&R Programs going to be analyzed with boundary conditions of managed storage between 720kaf and 340kaf? Or based on annual projections as provided herein?”

Response. No. Storage and Recovery Programs will be evaluated for their use of storage space in excess of that used by the Parties. Presently, the managed storage use by the Parties is projected to reach a maximum value of 720,000.

November 19, 2019 comment letter from the Overlying Agricultural Pool (OAP)

Comment No. 1. Section 1.1. OAP comment reads: “The introduction and descriptions of storage agreements and accounts remain unclear. The text refers to three types of agreements and four types of accounts. The text names four types of accounts, but only describes three. The relationship between types of accounts and their corresponding agreements should be clarified.”

Response. The text of SMP document was revised and it now reads:

“Since the Judgment came into effect, Watermaster developed rules and regulations, standard storage agreements, and related forms. There are three types of storage agreements that result in five types of storage accounts: Excess Carryover, Local Supplemental-Recycled, Local Supplemental-Imported, Pre-2000 Quantified Supplemental, and Storage and Recovery. An Excess Carryover account includes a Party’s unproduced rights in the Safe Yield (Safe Yield for Overlying Non-Agricultural Pool Parties and Operating Safe Yield for Appropriative Pool Parties) and Basin Water acquired from other Parties. Local Supplemental Water accounts includes imported and recycled water that is recharged by a Party and similar water acquired from other Parties. A Storage and Recovery account includes Supplemental Water and is intended to produce a “broad and mutual benefit to the Parties to the Judgment.” Watermaster tracks the puts, takes, losses, and end of year storage totals for all of these storage accounts, and reports on this accounting in the annual assessment process. The losses assessed by Watermaster are based on the amount of water in managed storage (excluding Carryover) and they offset the increase in groundwater discharge to the Santa Ana River from the Chino Basin attributable to managed storage (excluding Carryover). Watermaster also assesses losses due to evaporation on the puts when water is recharged in spreading basins.” (emphasis added)

Comment No. 2. Section 1.1. OAP comment reads: “The response to OAP Comment No.3 indicates the “text has been revised to include a description of the losses referred to in Section 1.1.” (Appendix B Response to Comments on 2020 SMP V1, p. B-1.) The noted revisions and description are not apparent. Where in the text can they be found? There is a storage loss factor
for flow out of the Chino North Management Zone (described in the White Paper). Are other losses calculated and tracked?"

Response. See text revision in the response to Comment No. 1 above.

Comment No. 3. Section 1.1. OAP comment reads: *Details, such as the date it was approved by the court and its purpose, are provided for Form 8, however, corresponding information about Form 1 is not provided. Consider adding such information or explaining why the information is not relevant for Form 1.*

Response. The text of SMP document was revised to include the following paragraph in Section 1.1:

“The Form 1 Application for Local Storage Agreement was approved in 2001 and has not been amended since that time; it is the mechanism through which Parties may apply to enter into a Local Storage Agreement.”

Comment No. 4. Section 2.1. OAP comment reads: *This section does not describe how storage may be allocated among the Parties. Watermaster counsel has indicated Watermaster has no priority for allocation of storage but what will happen if it becomes a limited resource? Is it first come first serve until fully allocated with the hope that it will not be fully allocated?*

Response. Watermaster anticipates, based on the Parties’ projections, that 800,000 AF would be adequate to satisfy the Parties’ storage activities and the DYYP until 2030. Watermaster plans to evaluate projections periodically and update the SMP no less frequently than every 5 years having the opportunity to adjust and avoid limiting the Parties use.

Comment No. 5. Section 2.1. OAP comment reads: *It is clear that a storing entity must prepare an evaluation of managed storage above 1,000,000 acre-feet (af) “to ensure that there will be no material injury.” The OAP suggests making it clear (as we understand from the workshops) that the evaluation will be both a technical evaluation in addition to CEQA compliance. The OAP suggests including clarification that the evaluation needs to address potential Material Physical Injury (MPI) as well as adverse impacts (Safe Yield reduction and loss of hydraulic control).*

Response: The text of SMP document was revised and it now reads:

“Note that the use of managed storage greater than 1,000,000 af may be possible provided the storing entity submits a bona fide Storage and Recovery Program application, demonstrates that the program has broad mutual benefit,
demonstrates that program’s mitigation measures will meet the mitigation requirements of the Watermaster to ensure there will be no MPI and other adverse impacts, complies with CEQA and obtains approval from the Watermaster.” (emphasis added)

Comment No. 6. Section 2.3.2. OAP comment reads: “Future evaluations of storage impacts to Safe Yield will be done in the Safe Yield reset or interim corrections. It may be helpful in this section to reference the 2015 Reset Technical Memorandum and the April 2017 Court order for additional information on the Safe Yield reset methodology.”

Response. A footnote was added to this section that reads:

“Refer to the 2015 Reset Technical Memorandum and the April 2017 Court Order for additional information on the Safe Yield reset methodology. These documents can be found here: https://cbwm.syncedtool.com/shares/folder/e83081106c3072/?folder_id=1595.”

Comment No. 7. Section 2.4.2. OAP comment reads: “The Draft SMP Version 2 states, “...recharge loss rate... may be adjusted from time-to time...” What is the mechanism for developing and approving this adjustment, and can it only be done under the condition of additional evaluation of Safe Yield?”

Response. Watermaster may adopt uniform rules to address triggers, notice, opportunity to respond and to implement corrective actions. Moreover, as part of the Storage and Recovery application and approval process, each Storage and Recovery application may have customized conditions responsive to the characteristics of the specific project.

Comment No. 8. Section 2.4.2. OAP comment reads: “The Draft SMP Version 2 states, “Watermaster will periodically review current and projected basin conditions...” Periodically is subject to interpretation. Will this review be done at a minimum frequency, based on threshold changes in amounts of water in storage, or combined with other reviews (e.g., SMP updates, additional Safe Yield evaluations”

Response. Watermaster will periodically review current and projected basin conditions when it updates the SMP as described in Section 2.6. Watermaster could conduct additional reviews if routine assessments of monitoring and planning data indicate changed conditions from that which was assumed in the evaluation of existing Storage and Recovery Program, when the Safe Yield is recalculated and when new Storage and Recovery Program applications are submitted to Watermaster.
Comment No. 9. Section 2.4.3. OAP comment reads: “The Draft SMP Version 2 states, “Watermaster will periodically review current and projected state of Hydraulic Control...” Periodically is subject to interpretation. Will this review be done at a minimum frequency, based on threshold changes in amounts of water in storage, or combined with other reviews (e.g., SMP updates, additional Safe Yield evaluations)?”

Response. Hydraulic Control is evaluated annually in the Max Benefit Report to the Regional Board.

Comment No. 10. Section 2.4.3. OAP comment reads: “Please clarify that loss of Hydraulic Control is not an MPI, if that is what is intended. Loss of Hydraulic Control appears to have a higher threshold of impact than impacts to Safe Yield in the SMP because loss of Hydraulic Control “must be mitigated” as indicated in the section heading. The OAP suggests additional discussion of this need for a higher level of mitigation in the text of this section.”

Response. The text of SMP document was revised in multiple locations to state that loss of Hydraulic Control is an adverse impact and not MPI.

Comment No. 11. Section 2.6. OAP comment reads: “This section identifies the need for Watermaster to “update the SMP at least five years before the aggregate amount of managed storage by the Parties is projected to fall below 340,000 af.” Watermaster has indicated in its response to comments that this threshold of 340,000 af includes Storage and Recovery programs. The 340,000 af threshold was established because impacts to the basin (e.g. subsidence induced by groundwater withdrawal) due to reducing managed storage below this threshold have not been evaluated. It could be termed “the band of storage management untested for MPI.” We suggest that it may be appropriate to discuss this issue in Section 2.4.2 because there is additional risk in any storage and recovery program that relies on this untested band of storage management.”

Response. The 340,000 af threshold includes managed storage by the Parties and does not include Storage and Recovery programs.
November 21, 2019 comment email from the Overlying Non-Agricultural Pool (ONAP)

Comment No. 1. Page 1-2 – Last sentence of Background section. ONAP comment reads: “This sentence omits that Non-Agricultural Pool Parties can have Supplemental Waters. Please make the correction.”

Response: The text of SMP document was revised and it now reads:

“Local Storage includes Excess Carryover for the Overlying Non-Agricultural Pool Parties and Excess Carryover and Supplemental Waters for the Appropriative Pool and Overlying Non-Agricultural Pool Parties.”

Comment No. 2. Page 1-4 and Page 2-1 – Conjunctive-Use. ONAP comment reads: “Section 1.2 and Section 2.1 talk about conjunctive-use. How is conjunctive-use defined? What is included and excluded?”

Response: First sentence of Section 1.2 describes conjunctive use.

Comment No. 3. Page 2-3 & 2-4 – Local Storage Applications/Agreements. ONAP comment reads: “Section 2.5 addresses the evergreen concept and the need for a revised Form 8. Will a new Form 1 also be needed? Will input from the Pools be considered in crafting revised forms?”

Response: Proposed revised Forms, to the extent desired, will be considered and approved through the Pool Committee, Advisory Committee, and Board process.

Comment No. 4. Section 2.5. ONAP comment reads: “Section 2.5 also comments that the evergreen agreements would be valid for the duration of the Peace Agreement. What happens upon expiration and how much advance notice will Parties have?”

Response: The expiration of the Peace Agreement will be known at least five years in advance. Accordingly, the effect of the expiration of the Peace Agreement and storage agreements can be considered and addressed at the time an intervening SMP update is undertaken.

Comment No. 5. Page 2-4 – MPI. ONAP comment reads: “The last sentence in Section 2.5 discusses MPI. Please provide a summary of what MPI may be caused by water in storage if
the Parties do not exceed the proposed First Managed Storage Band of 800,000 AF. What MPI could be caused over 800,000 AF?”

Response: The Storage Framework Investigation indicated there is no MPI within the FMSB; storage used above 800,000 AF will need to be evaluated for MPI (land subsidence, water quality, and pumping sustainability) and other adverse effects (e.g. reduction in Safe Yield, loss of Hydraulic Control).
November 19, 2019 comment letter from the City of Chino

Comment No. 1. Section 1.2 (Page 1-5 2nd paragraph) and Section 2.1 (page 2-1 paragraphs 1 and 2). City’s comment reads: “Section 1.2 indicates the combined use of managed storage and the existing Dry Year Yield (DYY) conjunctive use program is projected to reach a maximum of ~790,000 AF, assuming there is 100,000 AF in the DYY in 2028. Section 2.1 paragraph 1 indicates the First Managed Storage Band (FMSB, upper threshold = 800,000 AF) includes the DYY. Section 2.1 paragraph 2 indicates that extension of the DYY (beyond 2028) will require the DYY to use storage space above the 800,000 AF band threshold. (a) Does this mean that if the DYY is extended (beyond 2028) that the 100,000 AF of space below the 800,000 AF threshold (within FMSB) previously reserved for DYY use prior to 2028 is immediately available for managed storage use in 2029 and no longer available for the DYY? (b) Does this mean that any extension of the DYY program beyond 2028 would likely be required to mitigate impacts in-advance? (c) Do the terms of the existing DYY agreement require that the water in the DYY account be entirely depleted (withdrawn) prior to 2028 agreement expiration?”

Response. (a) – Yes. (b) – Any Storage and Recovery Program would be approved only if any projected MPI and adverse impacts are addressed such that the Program could be undertaken without MPI or adverse impacts. (c) – The storage agreement does not address this issue; the Operating Committee is currently reviewing. The SMP is planned to be updated at a frequency no less than every 5 years so any changes regarding the DYYP agreement could be addressed in later updates if necessary.

Comment No. 2. City’s comment reads: “Expanding on Comment No. 1 (above), the possibility of adjusting the FMSB upper threshold up or down, based on the Parties’ needs, was discussed at the November 6th SMP Workshop #3. Please expand on the timing of the modifications to the FMSB and what the process would be to make changes to the FMSB. For example, would changes to the FMSB upper threshold require consent from all three Pools and would unanimous consent be required from the Appropriative and Overlying Non-Agricultural Pool members?”

Response. The Restated Judgment gives Watermaster control over storage; Watermaster plans to update the SMP as described in Section 2.6 and at that time will seek input including water demand and supply projections from the Parties. The FMSB was defined based on the Parties’ input, which would be considered again at the time of any SMP update.

Comment No. 3. Section 2.3.2. City’s comment reads: “Section 2.3.2 indicates that reduction in Safe Yield (SY) due to projected managed storage volume is incorporated into the SY estimate, and that this adverse impact (i.e. reduced Safe Yield) is mitigated by the prospective calculation
of SY. (a) Please provide a tabulation or other form of explanation that illustrates the impact/mitigation below the FMBS threshold of 800,000 AF. Presumably, other factors (besides managed storage) may also have the effect of reducing Safe Yield. (b) Can it be determined what portion of estimated SY reduction is due to storage management and what portion of estimated SY reduction is due to other factors? (c) If yes, then how can these factors (i.e. managed storage and other cultural condition factors) be described in separate quantitative terms to allow for a practical means to reconcile the associated impacts on an annual basis?

For example, if SY (net recharge) is reduced as a result of increasing storage volumes (assuming no corresponding implementation of a plan for optimizing production that would be necessary to maintain SY), can this cause & effect be expressed algebraically? (d) If yes, then what is the algebraic formula? If no, then what practical method(s) may be used to quantify the cause & effect on an annual basis as storage volumes fluctuate?”

Response. (a) – This information has not been developed by Watermaster or its consultants. (b) – Theoretically, yes. (c) – Technical work could be done to develop methods to allocate the projected changes in net recharge and Safe Yield based on changes in cultural conditions and the individual Parties pumping, recharge and the storage activities. (d) – This would be determined in the work described in (c). This scope of work is highly impractical as there are many variables to consider and thus has not been considered or budgeted.

Comment No. 4. City’s comment reads: “Expanding on Comment No. 3 (above), Storage Framework Investigation (SFI) Figure 5-7 depicts a projected inflection point at approximately Year 2040 when the net recharge begins to steadily increase. SFI Figure 6-3 describes managed storage volumes in Year 2040 to be well above 500,000 AF (depending on assumed operating scenario), and then dropping to approximately 340,000 AF in the Year 2056. Please provide an explanation of the circumstances depicted by these two figures, and how/why Safe Yield (net recharge) is projected to increase in the future when there is a significant amount of managed storage.”

Response. As to Figure 5-7, the following observations can be made from the review of 2018 SFI report Tables 3-4 and 3-5. In Scenario 1A, total groundwater pumping is projected to increase from about 146,000 afy in 2018 to about 154,000 afy in 2030 (~ 8,000 afy increase) and thereafter gradually increase to about 177,000 afy by 2040 (~23,000 afy increase). Projected pumping is less than pumping rights through 2030 and storage is projected to increase through 2030. After 2030, pumping exceeds pumping rights and storage is projected to decrease. The net recharge projection generally declines with increasing storage and increases with decreasing storage. There is a time lag between the onset of the decrease in storage and increase in net recharge that is attributable to the basin dynamics – in 2032 the rate of decline in net recharge declines and by about 2040 the net recharge starts to increase. Inspection of the water budget shown in Table 3-5 indicates that the total recharge during the 2018 through 2050 period is fairly consistent and averages about 200,000 afy; and that the total discharge increases gradually over the same period from about 190,000 afy to 218,000 afy tracking the projected pumping. Cultural
conditions have some effect in that the deep infiltration of precipitation and applied water decreased by about 5,000 afy from 2018 to 2050 and however this effect has been offset by a projected increase in storm water recharge in 2021.

As to Figure 6-3 the projected decline in managed storage occurs because 80 percent of the projected replenishment obligation, estimated to be about 17,000 afy after 2030, is satisfied from managed storage.

Comment No. 5. Sections 2.4.2 and 2.4.3. City’s comment reads: “Both discussions end with an indication that Watermaster may require changes in Storage and Recovery (S/R) agreements to mitigate impacts. What processes of Watermaster notification and S/R Party response are contemplated to allow S/R Parties to modify their behavior to avoid or minimize further mitigation after they have presumably already provided mitigation at the time their S/R agreements were initially approved?”

Response. Watermaster may adopt uniform rules to address triggers, notice, opportunity to respond and to implement corrective actions. Moreover, as part of the Storage and Recovery application and approval process, each Storage and Recovery application may have customized conditions responsive to the characteristics of the specific project.

Comment No. 6. White Paper. City’s comment reads: “The SFI (page 1-5) indicates the Chino Basin Groundwater Model and Recalculation of Safe Yield Pursuant to the Peace Agreement (Safe Yield report) assessed the hydrology of the Chino Basin, and concluded that managed storage was projected to increase from 487,000 AF in Year 2016 to approximately 663,000 AF by Year 2030 and then decline thereafter to zero (0.0) AF by Year 2051. This was restated in the White Paper at the bottom of page 5. However, as described in Comment No. 4 (above), the subsequent SFI analysis (Figure 6-3) indicates managed storage is projected to be approximately 340,000 AF in Year 2056. (a) Does the SFI analysis update/replace the conclusion of the Safe Yield report with respect to the projected volume of managed storage in future years? Please explain.”

“The White Paper (page 3) indicates the Operational Storage Requirement (OSR) is the volume of storage necessary to maintain the Safe Yield (SY), and that during the development of the Optimum Basin Management Program (OBMP ~ Year 2000) the OSR was estimated to be 5.3 MAF. The White Paper also indicates the Safe Storage Capacity (SSC) in addition to the OSR was estimated (~ Year 2000) to be 500,000 AF (the SSC is the amount of storage for which it was believed significant water quality impacts would not be triggered by groundwater level). More recent Storage Framework Investigation (SFI) analyses seem to indicate that the SSC is ~ 800,000 AF. SMP Section 2.6 indicates it is projected that the aggregate amount of managed storage by the Parties is approximately 340,000 AF in Year 2056 and that impacts resulting from an aggregate managed storage volume less than 340,000 AF has not been estimated.
However, recent SMP workshop discussions seem to suggest that if the aggregate managed storage volume is less than 340,000 AF, then it is believed that new land subsidence may result. (b) What relationships exist between the originally estimated 5.3 MAF OSR, the originally estimated 500,000 AF SSC, the 800,000 AF SFI FMSB, and the projected 340,000 AF managed storage volume?”

Response. (a) – Yes. The 2018 SFI uses updated water demand and supply projections. (b) – The estimated 5,300,000 af OSR and 500,000 af SSC described in the Peace Agreement IP have no relationship to 800,000 af FMSB described in the 2020 SMP. The storage management plan in the 2020 SMP is a completely different management paradigm than that described in the Peace Agreement IP. The 2018 SFI and 2020 SMP are based on 20 years of monitoring, a significantly updated hydrogeologic understanding of the basin and improved modeling.

Comment No. 7. Section 2.3.2. City’s comment reads: “Comment No. 3 (above), pertaining to Section 2.3.2, describes a circumstance that might generally be regarded as an adverse impact since SY is reduced. Maintenance of the 340,000 AF threshold described in Comment No. 6 (above) would seem to represent a positive impact i.e. prevents triggering the "onset of new land subsidence" that would likely occur when managed storage falls below that critical managed storage volume. If true, then how might this positive impact be quantified?”

Response. Quantification of a benefit on preventing the occurrence of new land subsidence by maintaining managed storage in excess of 340,000 af is beyond the scope of the 2018 SFI.
November 19, 2019 comment letter from the City of Ontario

1. Storage Bands

   a. **Section 1.2 describes end conditions for the volume of water in the DYYP account in 2028 and the subsequent extraction. This paragraph (the second paragraph on page 1-5) does not accurately characterize the agreement between Metropolitan Water District and the Parties to the DYYP. Parties are not obligated to perform (i.e. remove water from the DYYP storage account) after 2028.**

      Response. The DYYP agreement does not address this issue; the Operating Committee is currently reviewing. The SMP is planned to be updated at a frequency no less than every 5 years so any changes regarding the DYYP agreement could be addressed at later updates if necessary.

   b. **Section 2.1 states that “the managed storage space between 800,000 and 1,000,000 af is reserved for Storage and Recovery Programs” (emphasis added).**

      i. **If, due to changing conditions or water resource management, Parties desire to store more than 800,000 af, will Watermaster authorize storage agreements for Parties to do so?**

         Response. Yes, but this will require future technical evaluations and an SMP revision that would occur in periodic update of the SMP as described in Section 2.6.

      ii. **Does this statement indicate that Watermaster intends to reserve space above 800,000 af for Storage and Recovery Programs which may never come to fruition?**

         Response. No, Watermaster anticipates, based on Parties’ projections, that 800,000 AF would be adequate to satisfy Parties’ storage activities and the DYYP until 2030. Watermaster plans to evaluate projections periodically and update the SMP no less frequently than every 5 years having the opportunity to adjust and avoid limiting the Parties use.

   c. **Section 2.1 states that “renewal or extension of the DYYP agreement will require the DYYP to use storage space above 800,000 af.” It is unclear why this is required.**

      Response. The FMSB for the 2020 SMP includes the projected managed storage requirement of the Parties and the DYYP. The DYYP is included in the FMSB because it is
an existing Storage and Recovery Program, it places contractual requirements on the Parties and it will terminate in 2028. Renewal or extension of the DYYP will trigger a new Storage and Recovery Program application process and the terms of the renewed or extended DYYP storage agreement will need to be consistent with the SMP at the time the new Storage and Recovery Program application is considered by Watermaster. Storage and Recovery Programs utilize storage above the FMSB. The 800,000 afy contained in the FMSB will be revised no later than 2025 and it may be increased or decreased based on the managed storage requirements of the Parties.

**d. In the last paragraph of Section 2.1, it is noted that “the use of managed storage greater than 1,000,000 af may be possible provided the storing entity...demonstrates that the program has broad mutual benefit.”**

**i. What is the basis for this requirement? The Peace Agreement does not require all Storage and Recovery Programs provide broad mutual benefit. Broad mutual benefit is only necessary if Watermaster acts to condition, curtail or prohibit Local Storage to provide priority to Storage and Recovery Program(s).**

Response. Section 5.2(c)(iv)(b) of the Peace Agreement provides that Watermaster shall prioritize its efforts to regulate and condition the storage and recovery of water developed in a Storage and Recovery Program for the mutual benefit of the Parties to the Judgment and give first priority to Storage and Recovery Programs that provide broad mutual benefits.

**ii. How is broad mutual benefit demonstrated and/or determined?**

Response. Broad mutual benefit will be determined at the time that application(s) for Storage and Recovery Program storage agreements are received, and it may be determined through Activity B as it is being contemplated in the 2020 OBMP Update.

2. **Use of Spreading Basins**

**a. In Appendix B, Watermaster’s response to Inland Empire Utilities Agency’s (IEUA) Comment No. 1 states that “there is an existing hierarchal scheme for the use of spreading basins.” The listed “hierarchal scheme” includes first flood control, second stormwater recharge, third Watermaster replenishment and recharge, and fourth IEUA recycled water recharge. Who developed the hierarchal scheme for the use of spreading basins and where is this scheme documented? To which basins does it apply? Basins may be owned by San Bernardino County Flood Control District, Chino Basin Water Conservation District, or IEUA.**

Response. The priorities are established in Section III of the “Agreement for Operation
and Maintenance of Facilities to Implement the Chino Basin Recharge Master Plan”. They are also specified by basin in the Operations Manual.

b. Additionally, basins and basin improvements in some cases were funded 50% by IEUA to increase recycled water recharge. How does the stated hierarchal scheme recognize the priority of the Parties that have invested financially in the basins?

Response. See response to comment 2.a. above.

3. Mitigation

a. What is the benchmark for mitigation impacts to net recharge and Safe Yield? In other words, is the demonstrated reduction compared against 140,000 afy, 135,000 afy, or another value, such as a theoretical Safe Yield absent stored water?

Response. The benchmark is estimated net recharge and Safe Yield absent stored water.

b. The Storage Framework Investigation concluded that the reduction in Safe Yield (as a percentage of average annual storage space used) ranged from 1.50% to 2.41% for bands 2, 3 and 4. The Storage Management Plan states this value as 2.0 percent. Please clarify if the 2.0 percent is an average across the three bands or if Watermaster is using a different methodology to set the 2.0 percent impact.

Response. It is an average. For clarity the text of SMP document was revised and it now reads:

“The 2018 SFI concluded the that the net recharge and Safe Yield of the basin would be reduced annually by about 2.0 percent (ranged from 1.5 to 2.4 percent) of the volume of water stored in a Storage and Recovery Program.” (emphasis added)

c. Section 2.4.1 suggests prioritizing puts and takes in MZ2 and MZ3, in part due to impacts on “solvent plumes.” Solvent plumes are also present in MZ2 and could be impacted by puts and takes in that zone, as could pumping depressions. Each Storage and Recovery
Program should be individually analyzed to determine acceptable put and take locations.

Response. Comment noted.

d. For the process described in the second paragraph of Section 2.4.2, please describe if Watermaster will estimate lifetime reduction in net recharge at the onset of a Storage and Recovery Program, to be deducted annually similar to Local Storage losses, or if another method is envisioned.

Response. Watermaster will prepare an initial estimate of “rate” of reduction in net recharge and Safe Yield attributable to a specific Storage and Recovery Program during the application process. Watermaster may update the rate periodically as described in the fourth paragraph of Section 2.4.2 (SMP version 2) and through periodic updates of the SMP as described in Section 2.6.

4. Scope and Timing of Environmental Review

The Appropriative Pool formally requested that Watermaster proceed with the environmental review of storage management, including working with the Appropriative Pool’s technical consultant. Watermaster has indicated that it intends to incorporate the Storage Management Plan into the current Optimum Basin Management Plan (OBMP) update effort, and then pursue environmental review on the package. However, the OBMP update effort is not subject to the same demonstrated time sensitivities as the Storage Management Plan, and negotiations have not yet begun on the activities to be included in an implementation plan. Ontario requests that Watermaster, responsive to the Pool’s request, perform environmental review of the Storage Management Plan independent of and ahead of any environmental review that may be needed for the OBMP update.

Response. Comment noted.

5. Frequency of Updates

What is the basis for setting the minimum frequency at every five years? Performing the update every ten years concurrently with Safe Yield recalculations will provide a timelier and more comprehensive picture of storage projections. The five-year requirement is excessive and presents an unnecessary cost to the paying stakeholders. If conditions change or if the need arises, additional updates can be performed. Ontario recommends a minimum frequency of every ten years for updates.
Response. Comment noted.

6. Characterization of Material Physical Injury

a. In Footnote 7 defining Material Physical Injury, storage and recovery is incorrectly listed as “Storage, and Recovery.” In the definition in Peace I, the term “storage and recovery” is not capitalized (in other words, is not a defined term) and is not separated into two actions by the placement of the comma.

Response. The text of SMP document was revised and it now reads:

"Material Physical Injury" means material injury that is attributable to the Recharge, Transfer, storage and recovery, management, movement or Production of water, or implementation of the OBMP, including, but not limited to, degradation of water quality, liquefaction, land subsidence, increases in pump lift (lower water levels), and adverse impacts associated with rising Groundwater.” (emphasis added)

b. Section 1.2 states that “for the planned use of managed storage by the Parties up to 700,000 af...there would be no MPI with the exception of a reduction of net recharge and Safe Yield....” A reduction of net recharge and Safe Yield is not included in the definition of Material Physical Injury.

Response. The SMP document has been revised to characterize the reduction in net recharge and Safe Yield attributable to managed storage activities as an adverse impact. The text now reads:

“The 2018 SFI projected that for the planned use of managed storage by the Parties up to 700,000 af that Hydraulic Control would be maintained, that there would be no MPI and that there would be an adverse impact from the reduction of net recharge and Safe Yield attributable to the use of managed storage.” (emphasis added)

c. Section 2.4.2 includes “reduction in Safe Yield” in the list of “MPIs to be addressed” in the first paragraph. A reduction in Safe Yield is not included in the definition of Material Physical Injury.

Response. The SMP document has been revised to characterize the reduction in net recharge and Safe Yield attributable to managed storage activities as an adverse impact.
7. Types of Storage Accounts Storage Agreements

a. Section 1.1 lists “four types of storage accounts” under “three types of storage agreements.” It is unclear what the three types of storage agreements are, and the four types of storage accounts include “Local Storage” separate from “Local Supplemental” and “Excess Carryover.” By definition, Local Storage includes Excess Carryover and Local Supplemental. Please clarify this statement.

Response. The text of the SMP document was revised and now reads:

“Since the Judgment came into effect, Watermaster developed rules and regulations, standard storage agreements, and related forms. There are three types of storage agreements that result in five types of storage accounts: Excess Carryover, Local Supplemental-Recycled, Local Supplemental-Imported, Pre-2000 Quantified Supplemental, and Storage and Recovery. An Excess Carryover account includes a Party’s unproduced rights in the Safe Yield (Safe Yield for Overlying Non-Agricultural Pool Parties and Operating Safe Yield for Appropriative Pool Parties) and Basin Water acquired from other Parties. Local Supplemental Water accounts includes imported and recycled water that is recharged by a Party and similar water acquired from other Parties. A Storage and Recovery account includes Supplemental Water and is intended to produce a “broad and mutual benefit to the Parties to the Judgment. Watermaster tracks the puts, takes, losses, and end of year storage totals for all of these storage accounts, and reports on this accounting in the annual assessment process.” (emphasis added)

b. Please include a citation for the quotation at the top of page 1-3.

Response. The SMP document was revised to include the citation. The citation reads: “See paragraph 5.2(c)(iv)(b) of the Peace Agreement”
November 22, 2019 comment letter from the City of Upland

Comment No. 1. Section 1.2, Page 1-4. City’s comment reads: “Reduction of net recharge appears to be characterized herein as Material Physical Injury (MPI). (a) However, in Section 2.3.2 and at the November 6, 2019 2020 SMP workshop, reduction of net recharge is characterized as an adverse impact and mitigated for within the Safe Yield recalculation. (b) With the typical duration between Safe Yield recalculations being approximately 10-years, why isn’t the mitigation for reduction of net recharge calculated annually to respond to the annual fluctuations in storage volume (as proposed in Section 2.4.2 for Storage and Recovery Programs)? (c) What are the advantages and disadvantages for mitigating for reduction in net recharge being embedded in Safe Yield versus on an annual basis?”

Response. (a) – The text in the SMP has been modified to describe reductions in net recharge and Safe Yield as an adverse impact. (b) The Court’s April 2017 order establishes the SY recalculation methodology; the recalculation considers the volume of wet water in Storage over the coming decade. (c) See part (b).

Comment No. 2. Section 1.2, Page 1-5. City’s comment reads: “Generally, what is the technical basis for allowing the Dry Year Yield Program (DYYP) to exceed puts and takes? What was the technical basis for allowing the DYYP takes to exceed 40,000 acre-feet (AF) in 2009? Is that approved by Watermaster as an administrative procedure or is that circulated through the Pools and board for approval?”

Response. When MWD wants to exceed the 25,000 AF of annual put set forth in the DYYP agreement, the Parties consider the request through the regular Watermaster process.

Comment No. 3. Section 2.1, Page 2-1. City’s comment reads: “Regarding storage greater than 1,000,000 AF, consider revising and elaborating on that process. More specifically, what constitutes a “bona fide” application. In addition, please consider adding the required CEQA analysis to store above 1,000,000 AF.”

Response. The text in the SMP document was revised to include a footnote containing a definition of a bona fide Storage and Recovery Program application. The footnote reads:

“A bona fide Storage and Recovery Program application includes the name of the person; the source, quantity and quality of the Supplemental Water; a description of the facilities proposed to be used, operating plan and duration of the proposed Storage and Recovery Program; CEQA documentation; and any other information Watermaster requires to evaluate the application.”
The SMP text was also revised to include a requirement to complete a CEQA process for Storage and Recovery Program application that wish to use managed storage space in excess of 1,000,000 af.

Comment No. 4. Section 2.2, Page 2-1. City’s comment reads: “The City’s “Upland Basin” is used by Watermaster and IEUA pursuant to an agreement between the three agencies. The agreement stipulates a specific quantity of storage space allocated to Watermaster and IEUA. To date, the agencies have worked cooperatively under said agreement to optimize basin usage, including storage above the dead storage quantity and allowing others to use the City’s basin for recharge. The priority of additional recharge above the 200,000 AF in the agreement is subject to negotiation. This section needs to be clarified to recognize that use of some spreading basins is subject to separate agreement(s).”

Response. The text of the SMP document was revised and it now reads:

“Watermaster will include provisions in storage agreements to prioritize the use of spreading basins to satisfy Watermaster’s recharge and replenishment obligations over the use of spreading basins for other uses subject to limitations provided in existing agreements with the owners of the facilities.” (emphasis added)

Comment No. 5. Section 2.3.1, Pages 2-1 and 2-2. City’s comment reads: “The limitations placed on agencies within MZ1 due to the potential to cause MPI will likely be in effect for “more than 20-years” according to Watermaster (Appendix B, Comment No. 5, Page B-2) appear to pose a long-term constraint on the ability of agencies within MZ1 to manage water. This limitation on transfers should also allow for a reconsideration on a case by case basis, over the next 20-years or more, by Watermaster to ensure there will be no MPI.

For example, if a proposed transfer or lease from a Party that pumps outside of MZ1 to a Party that pumps in MZ1 demonstrates groundwater levels remain greater than the new land subsidence metric (i.e. new land subsidence won’t occur per 2018 SFI Section 2.2.1), then consideration should be given by Watermaster.”

Response. Comment noted.

Comment No. 6. Section 2.3.2, Page 2-2. City’s comment reads: “Same comments as above regarding mitigation for reduction of net recharge.”

Response. Comment noted.
Comment No. 7. Section 2.5, Page 2-4. City’s comment reads: “Define the term “evergreen agreement”. Please provide clarification on the automatic adjustment (i.e. can be adjusted both up and down).”

Response. Evergreen in this context signifies an agreement to store water that accommodates changes in the quantity of water in storage within FMSB, without requiring a new storage application.
November 20, 2019 comment letter from the Monte Vista Water District

Comment No. 1. MVWD comment: “The SMP should specify which portions are proposed for incorporation into the 2020 Optimum Basin Management Program (OBMP) Implementation Plan as an amendment to the Peace Agreement. It may make more sense for Peace Agreement Parties to negotiate an amendment to the Peace Agreement (OBMP Implementation Plan) prior to approving the SMP, as the SMP must be consistent with the Peace Agreement, whether or not it is amended and only through consent of the Peace Agreement Parties.”

Response. The entire document is planned to be included in the 2020 OBMP IP.

Comment No. 2. MVWD comment: “The SMP should acknowledge the priority of storage for Storage and Recovery Programs to the extent that Local Storage may be curtailed or prohibited (Peace Agreement 5.2 (b)(xi)).”

Response. The SMP has been drafted to provide the Parties with the use of all necessary storage for Local and Storage and Recovery activities consistent with the Parties’ preferences and needs.

Comment No. 3. MVWD comment: “The SMP should direct Watermaster to fully mitigate any reduction in Safe Yield due to either historical or projected storage activities in a manner that is equitably applied to all applicable storage activities so that Safe Yield is kept whole in respect to these storage activities.”

Response. Watermaster considers that the effects of storage activities in Safe Yield are addressed by the recalculation of Safe Yield pursuant to the Technical Memorandum methodology approved by the Court’s April 28, 2017 order. Watermaster staff has been informed that the Appropriate Pool has reached agreement among Parties on how to compensate for individual storage activity effects on Safe Yield reduction.

Comment No. 4. MVWD comment: “The SMP should focus on water stored in the basin that is subject to an agreement with Watermaster under the Judgment. This includes Local Storage (Excess Carryover and Supplemental), Storage and Recovery, and Preemptive Replenishment. Carryover is part of a producing Party’s annual production right and not subject to an agreement with Watermaster. If Carryover is in excess of a Party’s annual share of safe yield, the Party may then store the excess Carryover in a Local Storage (Excess Carryover) account under agreement with Watermaster. In contrast, water under a preemptive replenishment agreement is water stored in the basin under agreement with Watermaster; therefore, its management should be included in the SMP.”
Response. The Safe Storage Capacity identified in the OBMP IP included Carryover, which is “wet water” in storage. Similarly, the SMP provides for management of water in storage regardless of whether an agreement with Watermaster is required.

Comment No. 5. MVWD comment: “For purposes of brevity and to avoid any potential confusion, the SMP should avoid describing the process and requirements for determining material physical injury (MPI), and instead refer to relevant sections of the Peace Agreement and Rules and Regulations governing MPI determination.”

Response. Comment noted.

Comment No. 6. MVWD comment: “The SMP should, under the principle of "beneficiary pays," include the implementation of a storage assessment as a more equitable way to allocate Chino Basin Watermaster costs related to storage.”

Response. The judgment provides for Watermaster costs to be recovered using production-based assessments.


MVWD prepared a redline version of the 2020 SMP Version 2 document. The document has been modified to reflect comments received from various parties, this includes MVWD’s edits consistent with the overall document philosophy. Watermaster’s staff general responses to the suggested redline document are listed below:

1. Information included in the Background section is considered useful to the reader.
2. Carryover is “wet water” in the basin and was included in the Safe Storage Capacity in the OBMP IP. While Carryover does not require a storage agreement with Watermaster it is within Watermaster’s management and control, thus it is included in managed storage.
3. Preemptive replenishment accounts will no longer be used after current balances have been depleted.
4. The rebuttable presumption of no MPI was eliminated as part of the Second Amendment to the Peace Agreement.
5. Watermaster estimates the amount of storage to be used by Parties based on their projections will be 800,000 af including DYP and not 720,000 af.
6. Watermaster is tasked with evaluating transfers and put and take operations before approving them.
7. The SMP provides a high-level description of Storage and Recovery Program requirements including Hydraulic Control impacts, this is intended to be helpful to future Storage and
Recovery Program applications.
8. Watermaster considers it necessary that the SMP be updated at the indicated frequency.
November 20, 2019 comment letter from the Chino Basin Water Bank

Comment No. 1. Comment reads: “Based on our understand that the storage space used by the Parties is projected to reach 720 KAF and the combined use of managed storage by the Parties and Metropolitan’s DYYP is projected to reach a maximum of about 790 KAF, how was the 800 KAF for the S&R Program derived?”

Response: Please see Appendix C of the final SMP report. The projected use of managed storage space by the Parties and Metropolitan is just under 800,000 af. The value of 800,000 af was arrived at by rounding up.

Comment No. 2. Comment reads: “Why are S&R required to mitigate MPI as if the 800 KAF were fully used, when it potentially is not?”

Response: This is based on the Peace Agreement paragraph 5.2(c)(xiii) and (ix) that require Watermaster to condition Storage and Recovery Program storage agreements to protect the Parties and the basin from any potential MPI and to consider Broad Mutual Benefits.

Comment No. 3. Comment reads: “How do the estimated net recharge of 2.41% and 1.5% as average storage used translate to the annual loss percentages?”

Response: See response to City of Ontario’s comment No. 3.b.

Comment No. 4. Comment reads: “What process does Watermaster propose to adjust loss percentages in the future so that S&R Programs will have adequate time to prepare prior to changing conditions going into effect?”

Response: Watermaster may adopt uniform rules to address triggers, notice, opportunity to respond and to implement corrective actions. Moreover, as part of the Storage and Recovery application and approval process, each Storage and Recovery application may have customized conditions responsive to the characteristics of the specific project.
Appendix C – 2019 Update of Water Demand, Water Supply and Managed Storage Projections through 2050

During the development of the 2020 SMP, Watermaster requested the Appropriative Pool Parties to review their water demand, associated water supply plan and their plans to use their stored water that were used in the 2018 SFI and update them if warranted. The planning period for the 2020 SMP is 2020 through 2050. Table C-1 shows the projected groundwater pumping by all Parties along with the recent historical pumping. The groundwater pumping projections for the Appropriative Pool Parties were unchanged from those used in the 2018 SFI except for three Parties: Cities of Chino and Pomona and the Monte Vista Water District (MVWD). The table below summarizes the differences between the pumping projections used in the 2018 SFI and the 2020 SMP. In summary the projected pumping in the 2020 SMP is less than that assumed in the 2018 SMP.

Comparison of total projected pumping for the 2018 SFI and 2020 SMP (afy)

<table>
<thead>
<tr>
<th>Year</th>
<th>2018 SFI</th>
<th>2020 SMP</th>
<th>2020 SMP – 2018 SFI</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020</td>
<td>144,527</td>
<td>139,519</td>
<td>-5,008</td>
</tr>
<tr>
<td>2025</td>
<td>149,468</td>
<td>144,596</td>
<td>-4,872</td>
</tr>
<tr>
<td>2030</td>
<td>154,302</td>
<td>151,808</td>
<td>-2,494</td>
</tr>
<tr>
<td>2035</td>
<td>167,772</td>
<td>164,600</td>
<td>-3,172</td>
</tr>
<tr>
<td>2040</td>
<td>176,765</td>
<td>173,805</td>
<td>-2,960</td>
</tr>
</tbody>
</table>

Table C-2 lists the projected time series of managed storage by the Parties through 2050 based on the pumping projections in Table C-1. Table C-2 is constructed as follows.

- Column 1 lists the planning fiscal year ending on June 30.
- Column 2 list the projected total annual pumping based on the updated total pumping projections listed in Table C-1.
- Columns 3, 4 and 5 contain the projected annual Safe Yield from Scenario 1A of the 2018 SFI, Reoperation water used to partially offset annual Desalter replenishment obligation and the projected annual recycled water recharge.
- Column 6 lists the total annual pumping right which is equal to the sum of columns 3, 4 and 5.
- Column 7 lists the net annual replenishment obligation and is equal to the projected total annual groundwater pumping minus the projected total annual pumping rights. A negative value means that pumping is less than pumping rights and the difference results in an increase in managed storage. A positive value indicates that pumping exceeds pumping rights and a replenishment obligation has occurred that must offset through wet-water recharge and or from managed storage.
Column 8 lists the annual amount of the replenishment obligation that is satisfied from storage. In the 2018 SFI it was determined that about 80 percent of the replenishment obligation would be satisfied from water in storage accounts and that assumption has not changed.

Column 9 lists the annual amount of the replenishment obligation that is satisfied through wet-water recharge.

Column 10 lists the time history of end-of-year managed storage. The end-of-year managed storage is numerically equal to the end-of-year managed storage at the end of the prior year minus the net replenishment obligation (column 7) plus wet-water replenishment (column 9).

The maximum managed storage by the Parties is reached is 713,100 af in 2030. After 2030, the managed storage is projected to decline annually and reach about 484,000 af by 2050.

Metropolitan’s Dry-Year Yield Program (DYYP) is the only active Storage and Recovery Program in the basin. The DYYP can store up to 100,000 af with maximum puts of 25,000 afy and maximum takes of 33,000 afy. The DYYP storage and recovery agreement provides that puts and takes can exceed these values if agreed to by Watermaster (as was done in fiscal years 2018 and 2009, respectively). The agreement that authorizes the DYYP will expire in 2028.

The combined use of managed storage by the Parties and Metropolitan’s DYYP is projected to reach a maximum of about 791,300 af assuming that the DYYP has 100,000 af in storage in 2028 and that subsequent to 2028 Metropolitan removes that water from managed storage at the contract rate of 33,300 afy starting in 2029. This is illustrated in the table below.

<table>
<thead>
<tr>
<th>Year</th>
<th>Parties</th>
<th>Metropolitan</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2026</td>
<td>664,842</td>
<td>100,000</td>
<td>764,842</td>
</tr>
<tr>
<td>2027</td>
<td>678,623</td>
<td>100,000</td>
<td>778,623</td>
</tr>
<tr>
<td>2028</td>
<td>691,254</td>
<td>100,000</td>
<td>791,254</td>
</tr>
<tr>
<td>2029</td>
<td>702,734</td>
<td>66,667</td>
<td>769,434</td>
</tr>
<tr>
<td>2030</td>
<td>713,063</td>
<td>33,333</td>
<td>746,463</td>
</tr>
<tr>
<td>2031</td>
<td>713,061</td>
<td>67</td>
<td>713,128</td>
</tr>
</tbody>
</table>
### Table C-1 Historical and Projected Groundwater Pumping in the Chino Basin

(af)

<table>
<thead>
<tr>
<th>Producer</th>
<th>Historical Pumping</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
<th>Min</th>
<th>Max</th>
<th>Mean</th>
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<tbody>
<tr>
<td><strong>Overlying Agricultural Pool</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aggregate Agricultural Pool Pumping</td>
<td></td>
<td>23,946</td>
<td>22,063</td>
<td>17,361</td>
<td>16,904</td>
<td>17,786</td>
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<td>15,572</td>
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<td>Ameron</td>
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<td>59</td>
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<td>29</td>
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<td>-</td>
<td>-</td>
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<td>59</td>
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<td>Angelica Textile Service</td>
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<td>48</td>
<td>37</td>
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<td>-</td>
<td>-</td>
<td>-</td>
<td>20</td>
<td>48</td>
</tr>
<tr>
<td>California Speedway Corporation</td>
<td></td>
<td>509</td>
<td>436</td>
<td>454</td>
<td>300</td>
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<td>438</td>
<td>389</td>
<td>300</td>
<td>509</td>
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<td>1,419</td>
<td>1,187</td>
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<td>General Electric Company</td>
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<td>1,667</td>
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<td>NRG California South LP</td>
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<td>221</td>
<td>204</td>
<td>211</td>
<td>212</td>
<td>18</td>
<td>18</td>
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<td>Riboli Family and San Antonio Winery, Inc.</td>
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<td>5</td>
<td>6</td>
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<tr>
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<td>23</td>
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<td>TAMCO</td>
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<td>10</td>
<td>10</td>
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<td>14</td>
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<td><strong>Subtotal Overlying Non-Agricultural Pool Pumping</strong></td>
<td></td>
<td>3,685</td>
<td>3,834</td>
<td>3,371</td>
<td>2,670</td>
<td>3,636</td>
<td>2,919</td>
<td>3,010</td>
<td>2,670</td>
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<td>3,304</td>
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<td><strong>Appropriative Pool</strong></td>
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<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Arrowhead Mountain Spring Water Company</td>
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<td>379</td>
<td>426</td>
<td>356</td>
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<td>308</td>
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<td>426</td>
<td>362</td>
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<td>City of Chino</td>
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<td>6,725</td>
<td>6,546</td>
<td>5,010</td>
<td>4,972</td>
<td>5,162</td>
<td>4,315</td>
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<td>7,022</td>
<td>5,679</td>
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<tr>
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*Increase relative to 2018 SFI projection*  
*Decrease relative to 2018 SFI projection*
Table C-2 Projected Groundwater Pumping, Pumping Rights, Replenishment and End-of-Year Volume in Managed Storage – SFI Scenario 1A Revised

(af)

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<th>Fiscal Year ending June 30</th>
<th>Projected Groundwater Pumping per 2020 SMP Survey for Normal Year</th>
<th>Safe Yield¹</th>
<th>Reoperation Water Use to Offset the Dealer Replenishment Obligation</th>
<th>Recycled Water Recharge</th>
<th>Total</th>
<th>Net Replenishment Obligation²</th>
<th>Replenishment from Storage³</th>
<th>Replenishment with Wet-Water Recharge</th>
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503,275  af is the estimated volume in managed storage on June 30, 2019
1 – Safe yield estimate from net recharge estimated in Scenario 1A.
2 – This is the annual net replenishment obligation based on the assumptions described in the 2018 SFI report; negative values mean aggregate underproduction and an increase in stored water accounts.
3 – 80 percent of a positive replenishment obligation is satisfied from storage and 20 percent is satisfied by wet-water recharge.